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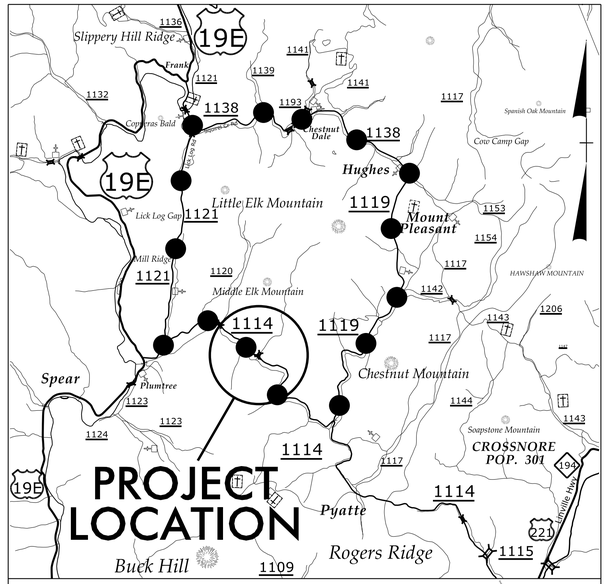
This file or an individual page shall not be considered a certified document.

09/08/99

TIP PROJECT: B-5380

CONTRACT: C203804

See Sheet 1-A For Index of Sheets



VICINITY MAP

OFF-SITE DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

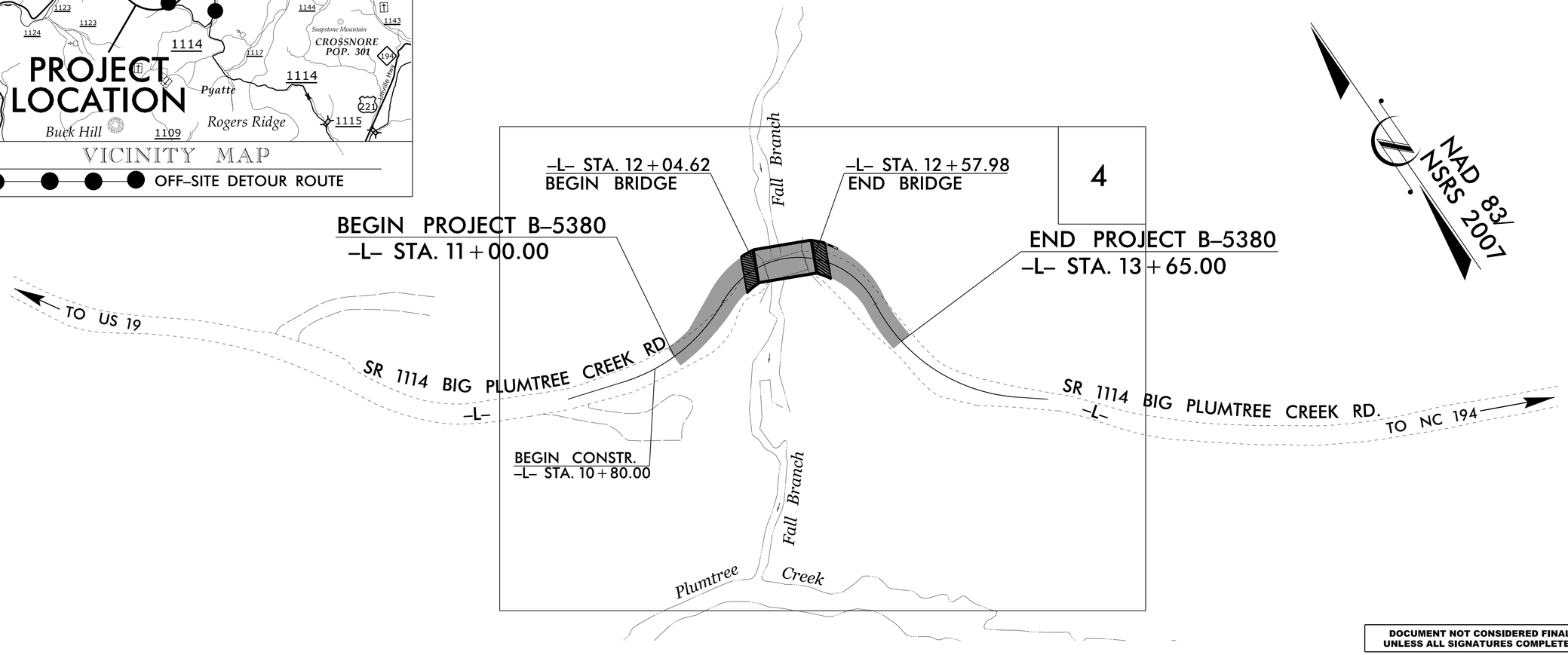
AVERY COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5380	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
46095.1.1	BRZ-1114(7)	PE
46095.2.1		R/W & UTIL
46095.3.1		CONST.

LOCATION: REPLACE BRIDGE NO. 141 ON SR 1114 OVER FALL BRANCH

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

PLANS 20 10 0 20 40

PROFILE (HORIZONTAL) 20 10 0 20 40

PROFILE (VERTICAL) 4 2 0 4 8

DESIGN DATA

ADT 2016 = 215
ADT 2036 = 286
K = 12 %
D = 55 %
T = 19 % *
V = 25 MPH
* TTST = 1% DUAL 18%
FUNC CLASS =
LOCAL RURAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5380 = 0.040 MILES
LENGTH STRUCTURE TIP PROJECT B-5380 = 0.010 MILES
TOTAL LENGTH TIP PROJECT B-5380 = 0.050 MILES

Prepared in the Office of:

DIVISION OF HIGHWAYS

1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: OCTOBER 27, 2015

LETTING DATE: OCTOBER 18, 2016

GREG BREW, PE
PROJECT ENGINEER

BRYAN KEY, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

DocuSigned by: Shown, Marc 48024AEC0A0B4C2...

7/25/2016

NORTH CAROLINA PROFESSIONAL SEAL 020870 ENGINEER MARC T. SHOWN P.E.

SIGNATURE:

ROADWAY DESIGN ENGINEER

DocuSigned by: 329D39A94F124FC...

7/27/2016

NORTH CAROLINA PROFESSIONAL SEAL 026964 ENGINEER Bryan C. Key P.E.

SIGNATURE:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

19-JUL-2016 11:44
R:\Roadway\Proj\B5380_Rdy_tsh.dgn
$$$$USERNAME$$$$

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-5380	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 026964 ENGINEER Brandon C. Jones

DocuSigned by: 326D39A94F124FC...

9/12/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INDEX OF SHEETS

EFF. 01-17-2012
REV. 02-29-2016

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	
422.11	Bridge Approach Fills - Sub Regional Tier
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
840.00	Concrete Base Pad for Drainage Structures
840.20	Frames and Wide Slot Flat Grates
840.22	Frames and Wide Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
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
862.01	Guardrail Placement
862.02	Guardrail Installation
876.02	Guide for Rip Rap at Pipe Outlets

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012
REVISED: 10-31-2014

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 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

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

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.

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.

RIGHT-OF-WAY MARKERS:

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

04/06/15

PROJECT REFERENCE NO.	SHEET NO.
B-5380	1B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale **S.U.E. = Subsurface Utility Engineering*

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
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

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
- U/G Power Line LOS B (S.U.E.*) — P
- U/G Power Line LOS C (S.U.E.*) — P
- U/G Power Line LOS D (S.U.E.*) — P

TELEPHONE:

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

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E.*) — W
- U/G Water Line LOS C (S.U.E.*) — W
- U/G Water Line LOS D (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Cable LOS B (S.U.E.*) — TV
- U/G TV Cable LOS C (S.U.E.*) — TV
- U/G TV Cable LOS D (S.U.E.*) — TV
- U/G Fiber Optic Cable LOS B (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS C (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS D (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) — G
- U/G Gas Line LOS C (S.U.E.*) — G
- U/G Gas Line LOS D (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
- SS Forced Main Line LOS B (S.U.E.*) — FSS
- SS Forced Main Line LOS C (S.U.E.*) — FSS
- SS Forced Main Line LOS D (S.U.E.*) — FSS

MISCELLANEOUS:

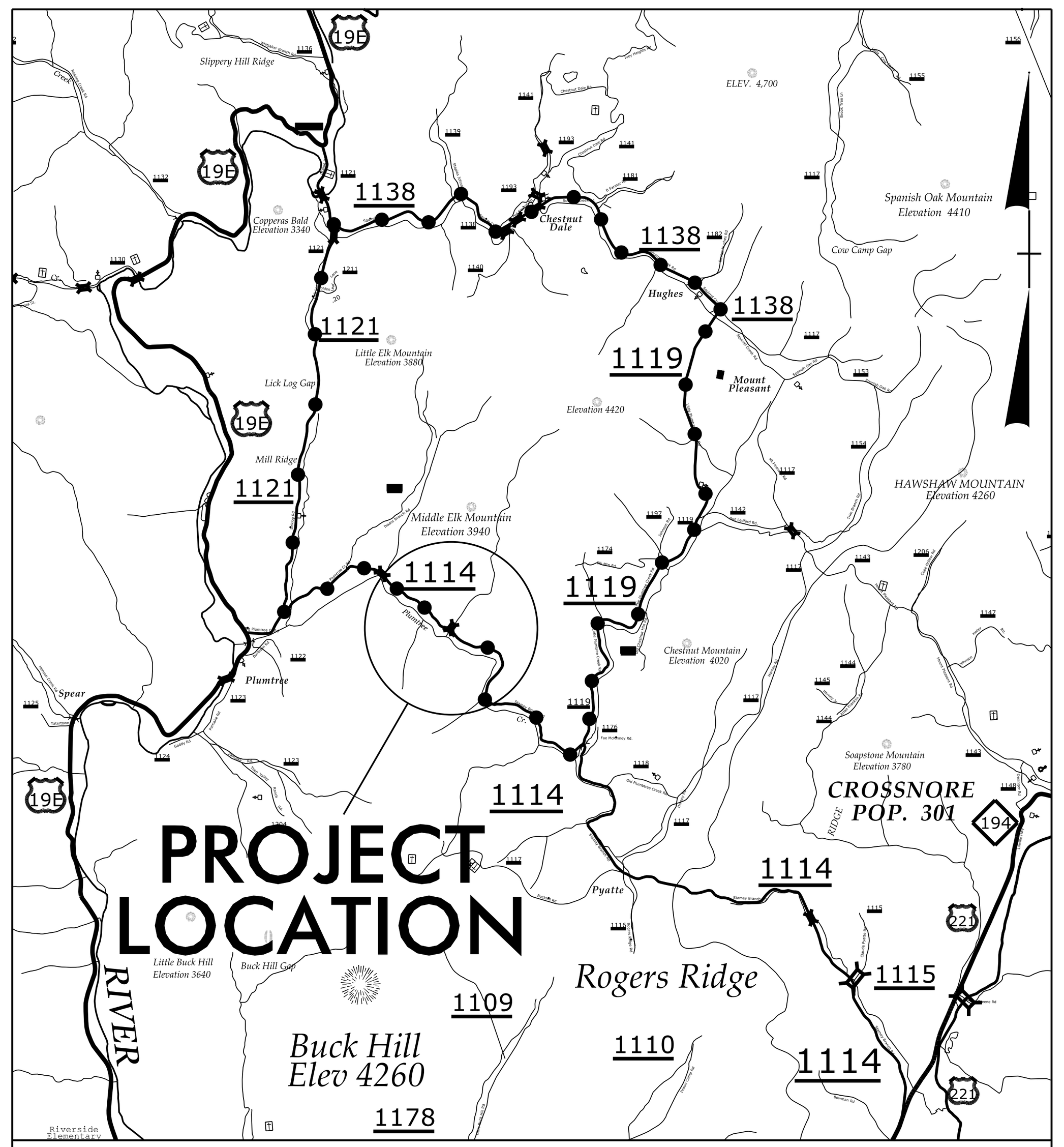
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line LOS B (S.U.E.*) — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole LOS A (S.U.E.*)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

SURVEY CONTROL SHEET B-5380

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
B53802	GPS B5380-2	844594.3471	1115855.3700	2997.87	OUTSIDE PROJECT LIMITS	
B53801	GPS B5380-1	844401.4276	1116122.7327	3023.84	OUTSIDE PROJECT LIMITS	
BL3	BL-3	844018.1780	1116492.6629	3047.69	OUTSIDE PROJECT LIMITS	
BL4	BL-4	843786.1380	1116672.2059	3064.10	OUTSIDE PROJECT LIMITS	
BL5	BL-5	843730.0415	1116973.9194	3064.79	12+67.82	12.69 RT
BL6	BL-6	843561.2862	1117024.9809	3072.18	14+49.54	9.94 RT

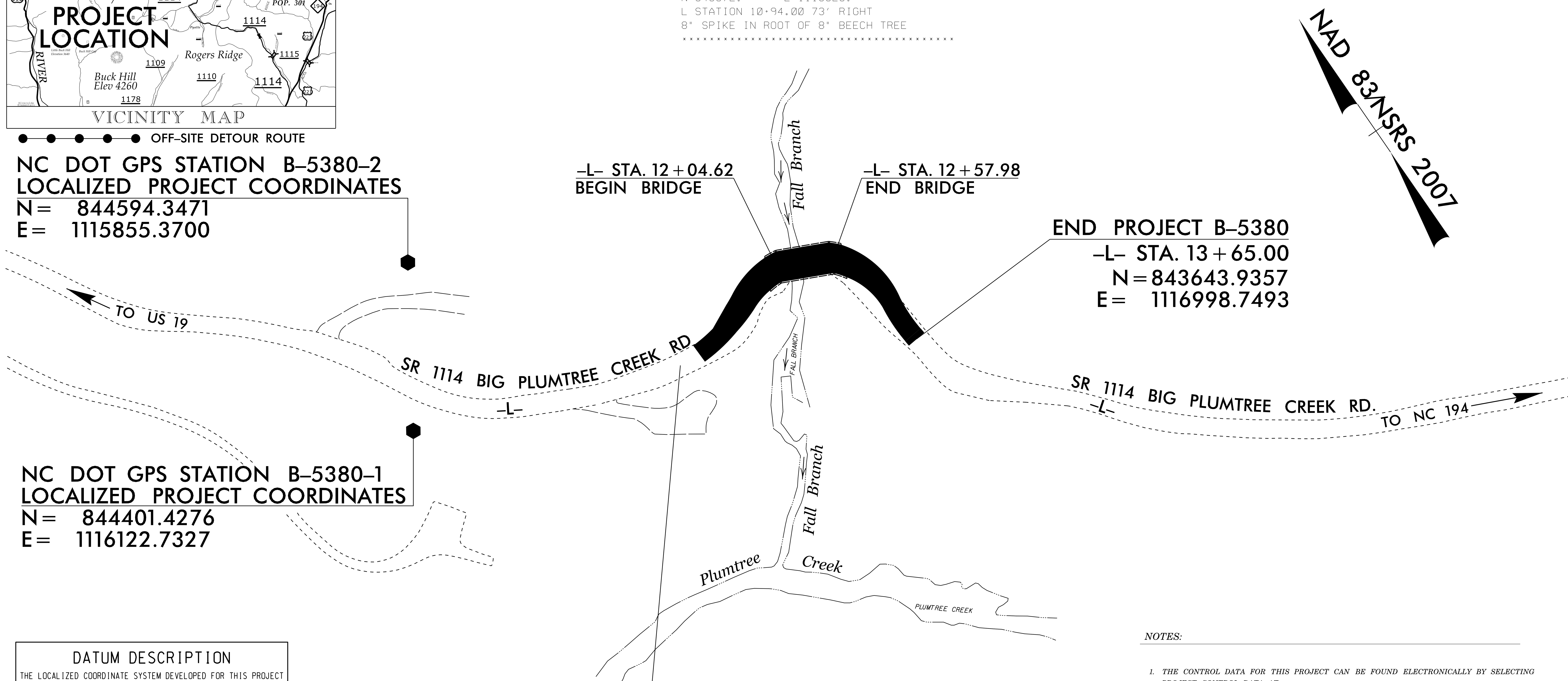
BM#1 ELEVATION = 3040.50'
N 843672. E 1116823.
L STATION 10+94.00 73' RIGHT
8" SPIKE IN ROOT OF 8" BEECH TREE

See Sheet 1-A For Index of Sheets



VICINITY MAP

●—●—●—●—● OFF-SITE DETOUR ROUTE



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B5380-2"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 844594.3471(ft) EASTING: 1115855.3700(ft)
ELEVATION: 2997.87 (ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998274139
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5380-2" TO -L- STATION 11+00.00 IS
S 48°20'02" E 1276.87'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

NOTES:

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

   THE FILES TO BE FOUND ARE AS FOLLOWS: B5380_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.
SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

6/2/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
B-5380	2A-1

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 026964 ENGINEER

DocuSigned by: C. Bryon Key

12/7/2016

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 022896 ENGINEER

DocuSigned by: Mark S. Morrison

12/7/2016

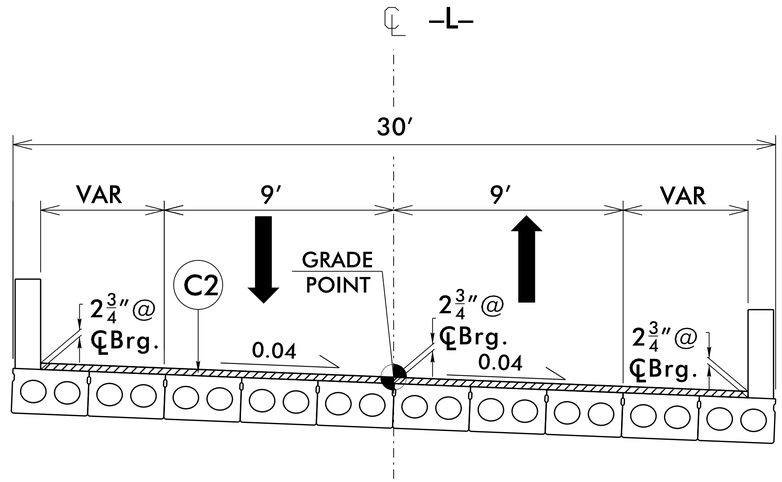
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PAVEMENT SCHEDULE

FINAL PAVEMENT DESIGN

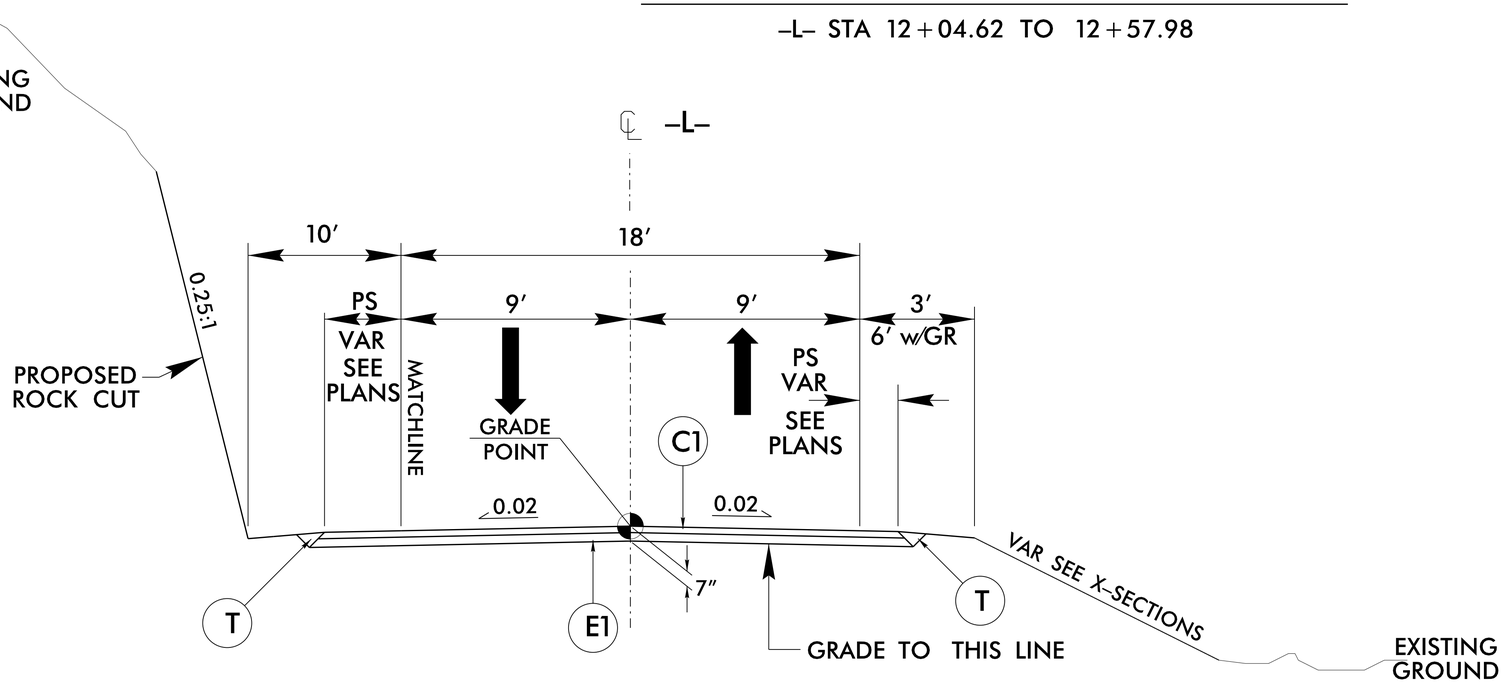
C1	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. APPROX. 4½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
T	EARTH MATERIAL.

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

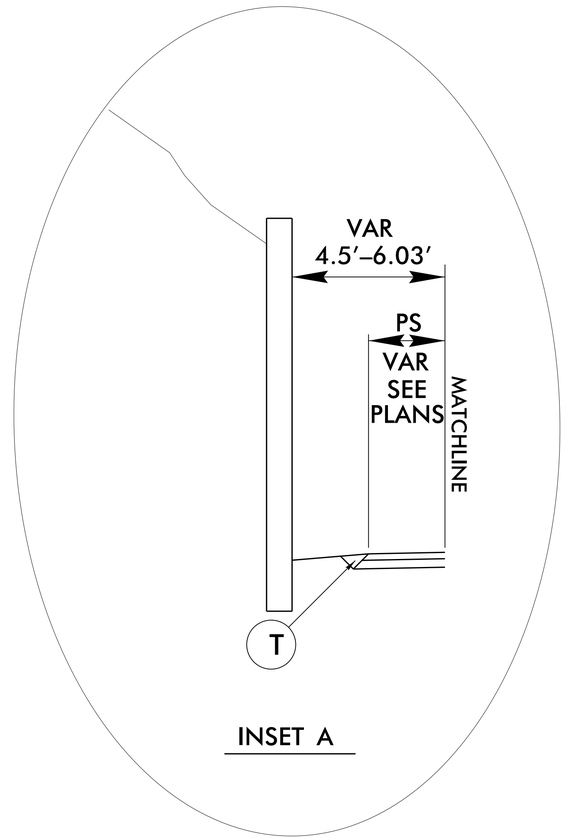


TYPICAL SECTION ON STRUCTURE

–L– STA 12+04.62 TO 12+57.98



TYPICAL SECTION NO. 1



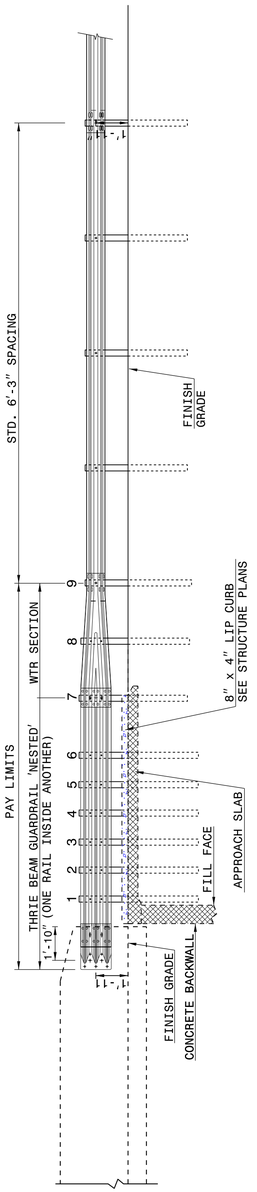
INSET A

USE INSET A –L– STA. 12+73.00–13+50.00

USE TYPICAL SECTION NO. 1

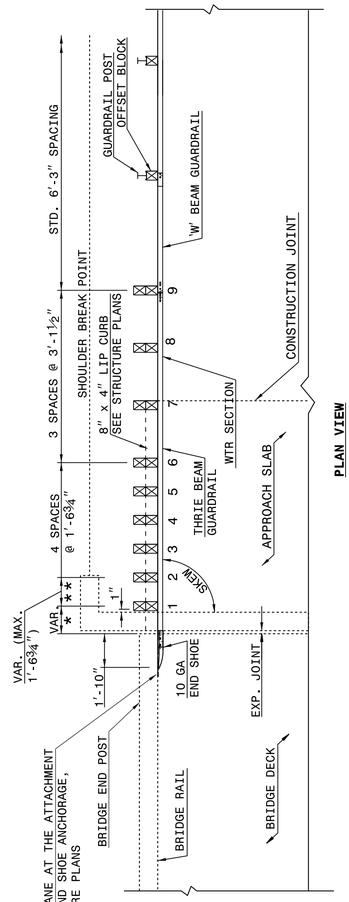
–L– STA 11+00.00 TO BEGIN BRIDGE STA 12+04.62
–L– END BRIDGE STA 12+57.98 TO STA 13+50.00

PROJECT REFERENCE NO.	SHEET NO.
B–5380	2C–1



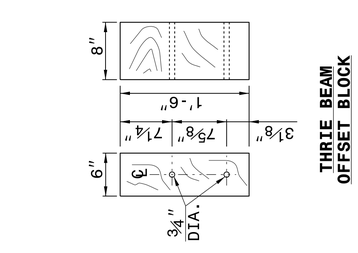
ELEVATION

NOTE:
-SKEW ANGLES OF 90° 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 1½" 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 3 FOR POST SECTIONS 1 THRU 9.

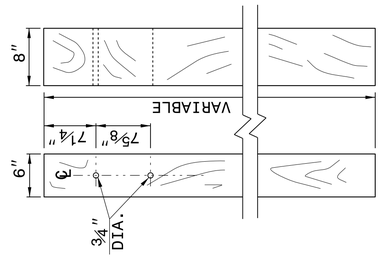


PLAN VIEW

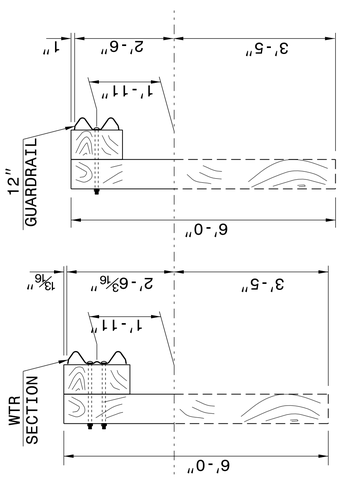
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER



THRIE BEAM OFFSET BLOCK

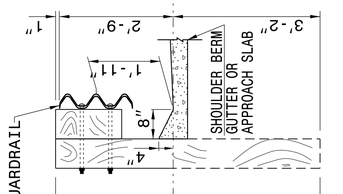


THRIE BEAM LINE POST

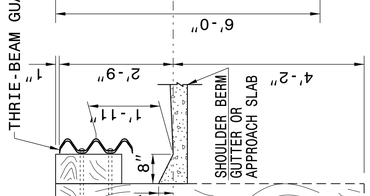


SECTION OF 'W' BEAM POST 9

SECTION OF WTR BEAM POST 8

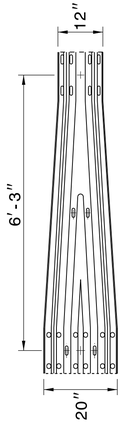


SECTION OF THRIE BEAM POST 7

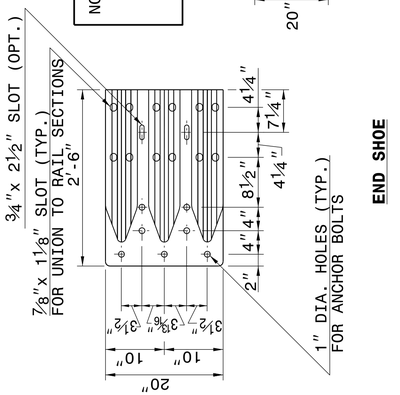


SECTION OF THRIE BEAM POSTS 1 THRU 6

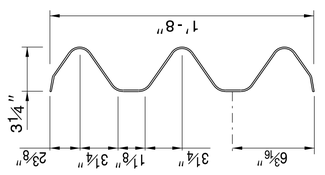
NOTE: THE MID POST AND OFFSET BLOCK OF THE WTR SECTION WILL REQUIRE SPECIAL BOLT HOLE DRILLING IN THE THRIE BEAM OFFSET BLOCK AND LINE POST.



WTR SECTION
ELEVATION VIEW



END SHOE



THRIE-BEAM SECTION

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: _____
FILE SPEC.: _____

$$$$USERNAME$$$$
$$$$SYSTIME$$$$
$$$$DATE$$$$
$$$$DESIGNATION$$$$

COMPUTED BY:	SEC	DATE:	7/8/15
CHECKED BY:	DK	DATE:	5/26/2016

PROJECT NO.	SHEET NO.
B-5380	3B-1

STATE OF NORTH CAROLINA

"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

GUARDRAIL SUMMARY

G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS									IMPACT ATTENUATOR TYPE 350		SINGLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GRAU 350 TL2	TYPE III	XIII	CAT-1	VI MOD	BIC		G	NG				
-L-	11+37.54	11+87.54	RT	50				BRIDGE									1	1										
-L-	12+77.81	13+33.61	RT	50			BRIDGE										1	1										
			TOTAL:	100													2	2										
		LESS ANCHOR UNITS																										
	2	GRAU 350 TL2 @ 25'		50			5 ADDITIONAL GUARDRAIL POSTS																					
	2	TYPE III @ 18.75'		37.5																								
			GRAND TOTAL:	12.5																								
			SAY:	25																								

SUMMARY OF EARTHWORK

CUBIC YARDS

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
-L-	-L-				
-L- 11+00.00	-L- 12+04.62	665	2		663
-L- 12+57.98	-L- 13+65.00	26	26		
SUBTOTALS:		691	29		663
LOSS DUE TO CLEARING AND GRUBBING		-50			-50
APPLY ROCK SWELL FACTOR TO PERMANETLY WASTED HARD ROCK					86
APPLY EARTH SHRINKAGE TO PERMANENTLY WASTED HARD ROCK					77
SUBTOTALS:		641	29		776
PROJECT TOTALS:		641	29		776
PROJECT TOTALS:		641	29		776
GRAND TOTALS:		641	29		776
SAY:		700			

Note: Approximate quantities only. Unclassified Excavation, Fine Grading, and Clearing and Grubbing will be paid for at the contract lump sum price for grading.

Note: 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.

COMPUTED BY:	SEC	DATE:	7/8/15
CHECKED BY:	DK	DATE:	5/24/2016

PROJECT NO.	SHEET NO.
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Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads

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

STATION / SIZE / THICKNESS OR GAUGE	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"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
13+53	LT	402		3067.7															
13+53	LT	402	404		3064.28	3064.03													
13+00	LT	404		3067.58															
13+00	LT	404	406		3064.03	3063.81													
12+78	LT	406		3067.74															
12+78	RT	406	408		3063.81	3063.15													
12+79	RT	408		3066.97															
12+79	RT	408	410		3063.15	3052				24									
SHEET TOTALS										24									

STATION	C.S. PIPE 12" .064	15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	R.C. PIPE CLASS III 12"	15"	18"	24"	30"	36"	42"	48"
13+53																
13+53																
13+00																
13+00																
12+78																
12+78																
12+79																
12+79																
SHEET TOTALS																

STATION	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"	48"	** " R.C. PIPE (CLASS V)	***" RC PIPE CULVERTS, CONTRACTOR DESIGN	***" RC PIPE CULVERTS, CONTRACTOR DESIGN	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE
13+53																1		
13+53			56															
13+00																1		
13+00			24															
12+78																1		
12+78			24															
12+79																1		
12+79																		
SHEET TOTALS			104													4		

STATION	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME WITH TWO GRATES 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 FLAT GRATES STD. 840.20	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. 840.24	J.B. STD. 840.31 OR 840.32	TRAFFIC BEARING G.D.I. STD. 840.35 OR 840.46			
13+53												1					1			
13+53																				
13+00													1				1			
13+00																				
12+78												1					1			
12+78																				
12+79												1					1			
12+79																				
SHEET TOTALS												3	1				4			

STATION	DRAINAGE PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
13+53					
13+53					
13+00					
13+00					
12+78					
12+78					
12+79	2 @ 18"				PIPE ELBOW ALTERNATE
12+79					
SHEET TOTALS	2 @ 18"				

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

COMPUTED BY: SEC	DATE: 10/20/15
CHECKED BY: DK	DATE: 5/26/2016

PROJECT NO.	SHEET NO.
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SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				SD	250
				TOTAL LF:	250

***UD = Underdrain**
***BD = Blind Drain**
***SD = Subsurface Drain**

SUMMARY OF PRE-SPLITTING OF ROCK

LINE	Beginning Rock Cut Slope (H:V)	Approx. Station	Ending Rock Cut Slope (H:V)	Approx. Station	Location LT/RT	Pre-splitting of Rock SY
-L-	.25:1	11+00	.25:1	12+00	LT	255
					TOTAL SY:	255

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type ASU/AST	Aggregate Thickness INCHES	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY			ASU		50	80	100		
				TOTAL CY/TONS/SY:	50	80	100*	0	0

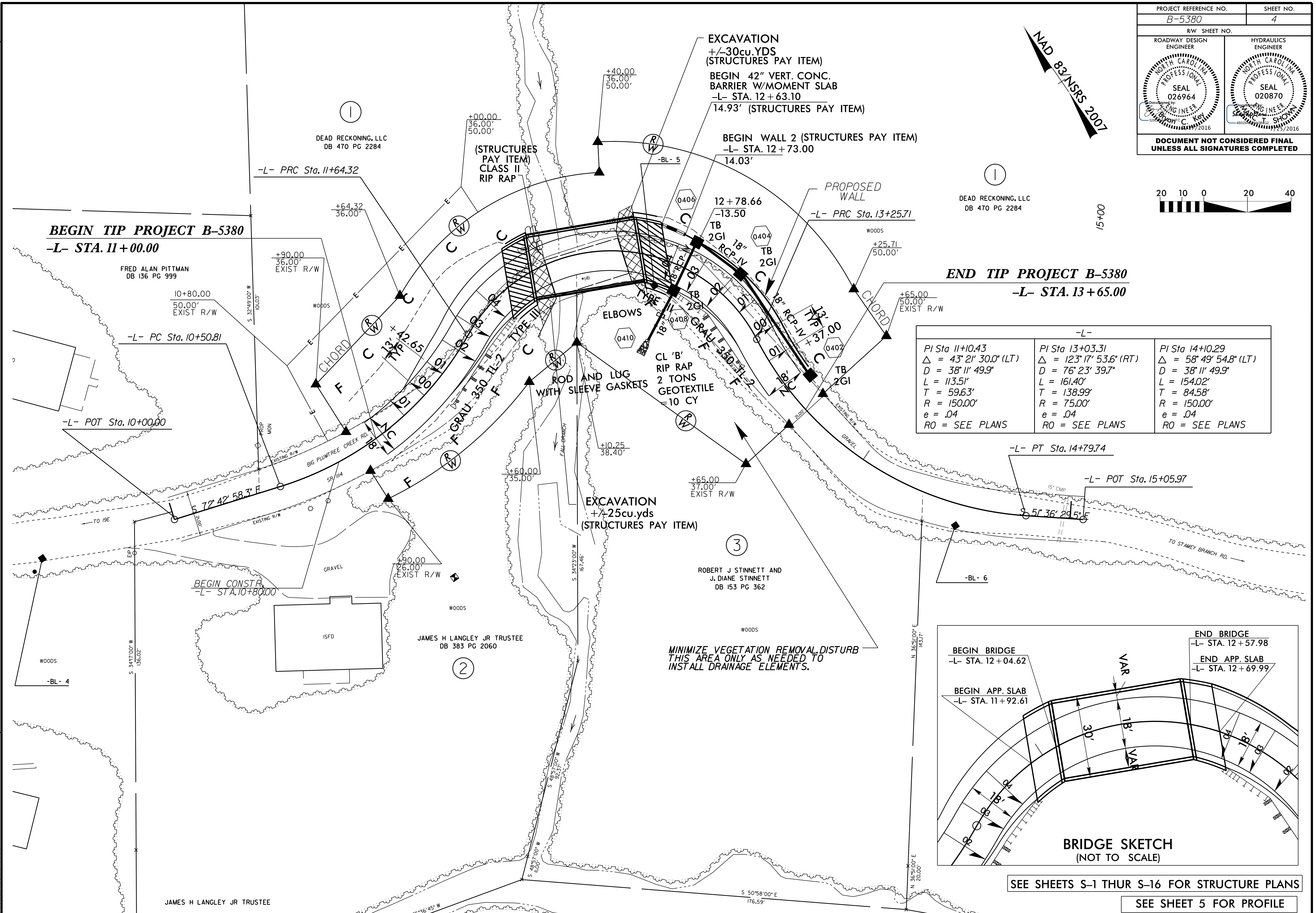
ASU = Aggregate Subgrade, AST = Aggregate Stabilization
***Total square yards of Geotextile for Soil Stabilization is only the estimated quantity for ASU/AST and may only represent a portion of the geotextile quantity shown in the Item Sheets of the Proposal.**

PROJECT REFERENCE NO.	SHEET NO.
B-5380	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026964 ENGINEER — Bryan C. Key — 2016

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 020870 ENGINEER — T. SHOWN — 2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



NAD 83/NSRS 2007
20 10 0 20 40
BEGIN TIP PROJECT B-5380
-L- STA. 11+00.00
END TIP PROJECT B-5380
-L- STA. 13+65.00
EXCAVATION
+/-30cu.YDS
(STRUCTURES PAY ITEM)
BEGIN 42" VERT. CONC. BARRIER W/MOMENT SLAB
-L- STA. 12+63.10
14.93' (STRUCTURES PAY ITEM)
BEGIN WALL 2 (STRUCTURES PAY ITEM)
-L- STA. 12+73.00
14.03'
PROPOSED WALL
-L- PRC Sta. 13+25.71
(STRUCTURES PAY ITEM) CLASS II RIP RAP
-L- PRC Sta. 11+64.32
DEAD RECKONING, LLC
DB 470 PG 2284
FRED ALAN PITTMAN
DB 136 PG 999
-L- PC Sta. 10+50.81
-L- POT Sta. 10+00.00
10+80.00
50.00'
EXIST R/W
+90.00
36.00'
EXIST R/W
+64.32
36.00'
+00.00
36.00'
50.00'
+40.00
36.00'
50.00'
12+78.66
-13.50
+25.71
50.00'
+65.00
50.00'
EXIST R/W
TB 2GI
18" RCP-IV
ELBOWS
CL 'B' RIP RAP 2 TONS GEOTEXTILE =10 CY
ROD AND LUG WITH SLEEVE GASKETS
GRAU 350 TL-2
TYPE III
CHORD
BIG PLUMTREE CREEK RD.
SR 1114
TO 19E
GRAVEL
WOODS
BEGIN CONSTR.
-L- STA.10+80.00
+90.00
26.00'
EXIST R/W
+60.00
35.00'
+10.25
38.40'
+65.00
37.00'
EXIST R/W
EXCAVATION
+/-25cu.yds
(STRUCTURES PAY ITEM)
ROBERT J STINNETT AND
J. DIANE STINNETT
DB 153 PG 362
JAMES H LANGLEY JR TRUSTEE
DB 383 PG 2060
ISFD
MINIMIZE VEGETATION REMOVAL.DISTURB THIS AREA ONLY AS NEEDED TO INSTALL DRAINAGE ELEMENTS.
-L- PT Sta. 14+79.74
-L- POT Sta. 15+05.97
S 72° 42' 58.3" E
S 51° 36' 29.5" E
TO STAMEY BRANCH RD.
-BL- 4
-BL- 5
-BL- 6
15+00
JAMES H LANGLEY JR TRUSTEE
S 50°58'00" E
176.59'
N 75°36'45" W
BRIDGE SKETCH
(NOT TO SCALE)
BEGIN BRIDGE
-L- STA. 12+04.62
END BRIDGE
-L- STA. 12+57.98
END APP. SLAB
-L- STA. 12+69.99
BEGIN APP. SLAB
-L- STA. 11+92.61
VAR
30'
18'

-L-		
PI Sta 11+10.43	PI Sta 13+03.31	PI Sta 14+10.29
△ = 43° 21' 30.0" (LT)	△ = 123° 17' 53.6" (RT)	△ = 58° 49' 54.8" (LT)
D = 38° 11' 49.9"	D = 76° 23' 39.7"	D = 38° 11' 49.9"
L = 113.51'	L = 161.40'	L = 154.02'
T = 59.63'	T = 138.99'	T = 84.58'
R = 150.00'	R = 75.00'	R = 150.00'
e = .04	e = .04	e = .04
RO = SEE PLANS	RO = SEE PLANS	RO = SEE PLANS

SEE SHEETS S-1 THUR S-16 FOR STRUCTURE PLANS

SEE SHEET 5 FOR PROFILE

REVISIONS

8/17/99

25-JUL-2016 12:03 R:\Roadway\Proj\B5380_Rdy_psh4.dgn

PROJECT REFERENCE NO.	SHEET NO.
B-5380	5

ROADWAY DESIGN ENGINEER — SEAL 026964 — NORTH CAROLINA PROFESSIONAL ENGINEER — Bryan C. Key

HYDRAULICS ENGINEER — SEAL 020870 — NORTH CAROLINA PROFESSIONAL ENGINEER — MARC T. SHOWN

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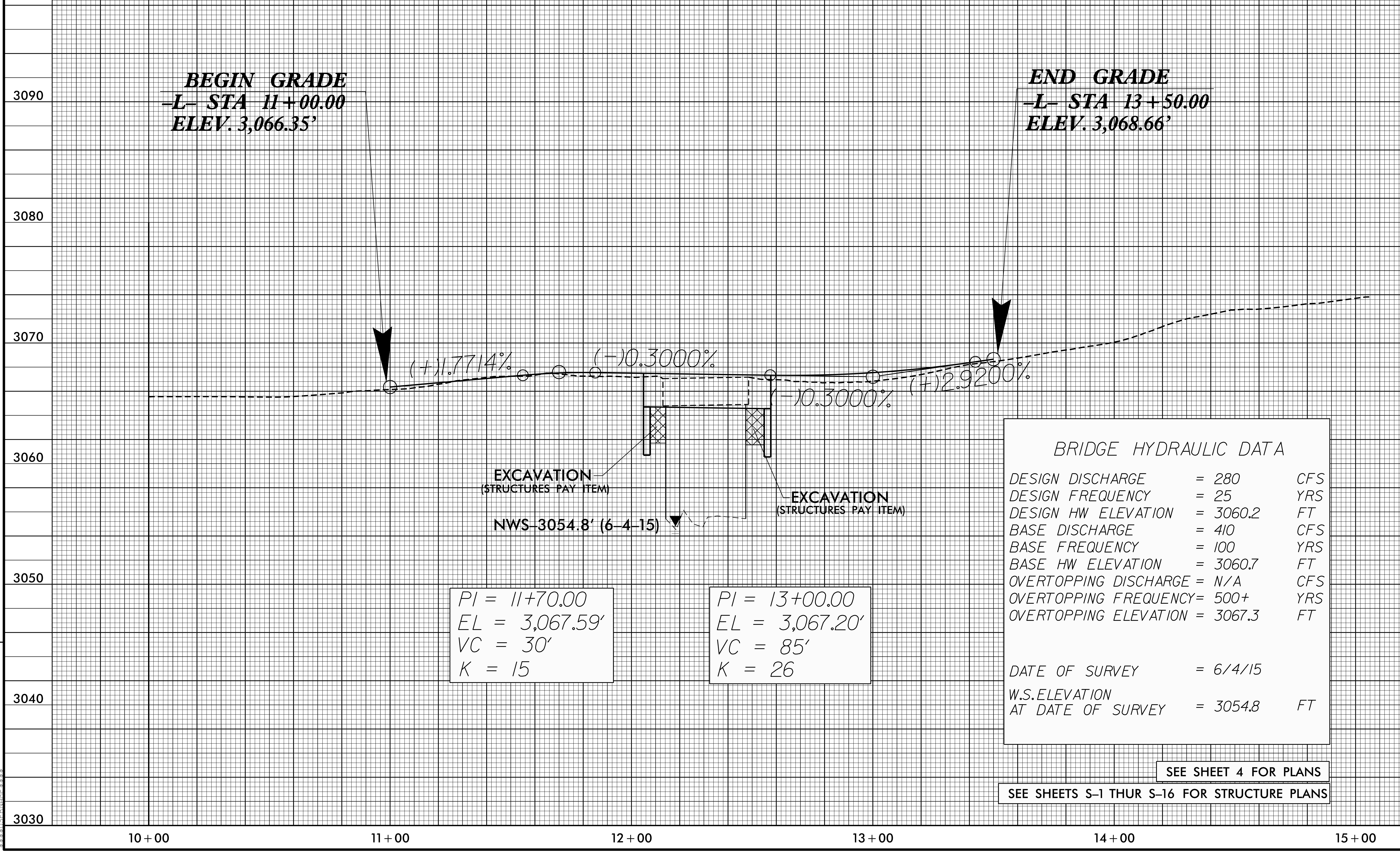
-L- SR 1114 BIG PLUMTREE CREEK RD.



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	280	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	3060.2	FT
BASE DISCHARGE	=	410	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	3060.7	FT
OVERTOPPING DISCHARGE	=	N/A	CFS
OVERTOPPING FREQUENCY	=	500+	YRS
OVERTOPPING ELEVATION	=	3067.3	FT
DATE OF SURVEY	=	6/4/15	
W.S. ELEVATION AT DATE OF SURVEY	=	3054.8	FT

SEE SHEET 4 FOR PLANS

SEE SHEETS S-1 THUR S-16 FOR STRUCTURE PLANS