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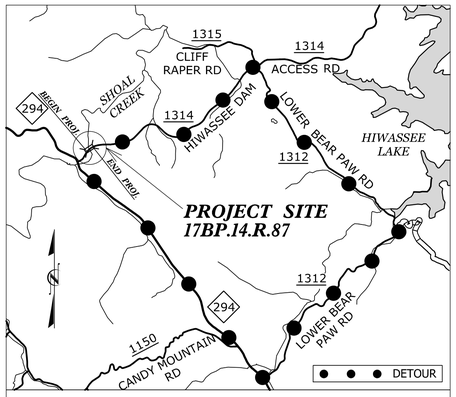
09/08/99

TIP PROJECT: 17BP.14.R.87

CONTRACT: DN00262

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CHEROKEE COUNTY

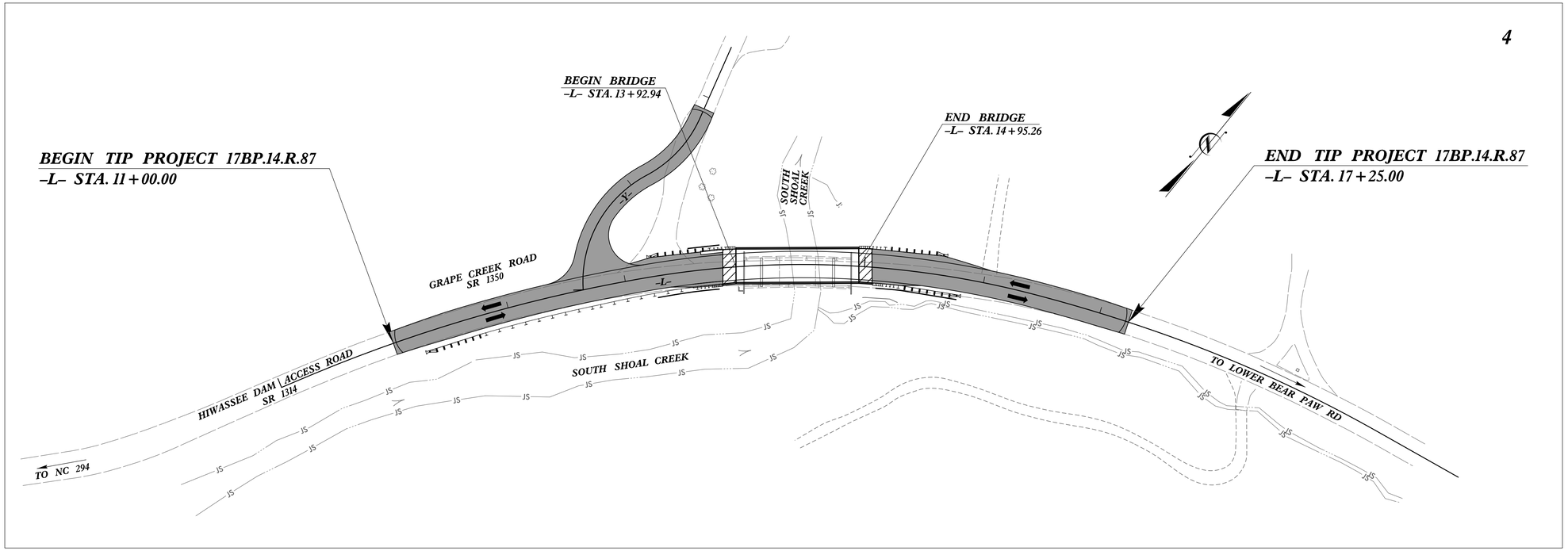
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.87	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
17BP.14.R.87	N/A	PE
17BP.14.R.87	N/A	RIGHT-OF-WAY
17BP.14.R.87	N/A	CONSTRUCTION

LOCATION: REPLACEMENT OF BRIDGE NO. 126 ON HIWASSEE DAM ACCESS RD. (SR 1314) OVER SOUTH SHOAL CREEK

TYPE OF WORK: GRADING, PAVING, TRAFFIC CONTROL, DRAINAGE, BRIDGE & RETAINING WALLS

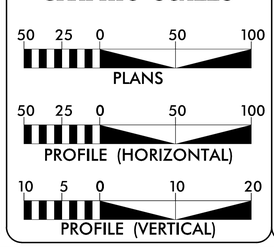
4



CONTACT: JOSHUA B. DEYTON, P.E.
NCDOT HIGHWAY DIVISION 14

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2010 = 1100
ADT 2025 = 2200
DHV = NA %
D = NA %
T = 6% % *
V = 45 MPH
* TTST = NA DUAL NA
FUNC CLASS = LOCAL
SUB REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT 17BP.14.R.87 = 0.099 MILE
LENGTH OF STRUCTURE PROJECT 17BP.14.R.87 = 0.019 MILE
TOTAL LENGTH PROJECT 17BP.14.R.87 = 0.118 MILE

Prepared in the Office of:
WSP USA
434 FAYETTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601
TEL: 1.919.836.4040
FAX: 1.919.836.4099
LICENSE NO. F-0165

For The
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: APRIL 30, 2015

LETTING DATE: DECEMBER 12, 2017

RONYELL THIGPEN, PE
PROJECT ENGINEER

JENNIFER L. STARNES, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

DocuSigned by: Rana Stansell 11/2/2017
CBF73E7A0769487...
SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 27876 ENGINEER RANA STANSELL P.E.

ROADWAY DESIGN ENGINEER

DocuSigned by: Ronyell Thigpen 11/2/2017
9C2B41A2DB5E447...
SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 33290 ENGINEER RONYELL A THIGPEN P.E.

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

11/2/2017
W:\Raleigh Office NCDOT\7BP GROUP I\7BP.14.R.87_I90126\Roadway\Proj\7BP.14.R.87_RDY_TSH.dgn
USHC0407

8/17/99

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LICENSE NO. F-0165

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.87	1A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 33290 ENGINEER RONNELL A THIGPEN

DocuSigned by: Ronnell Thigpen 11/2/2017

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INDEX OF SHEETS

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01–17–12
REVISED: 11–01–11

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED 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 II.

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.

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.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE:

UTILITY	UTILITY OWNER
Power	Tri State EMC
Phone	Frontier Communications

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 CONTRACT IN ACCORDANCE WITH SECTION 801 OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES

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	
200.02	Method of Clearing – Method II
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 6 – ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 – INCIDENTALS	
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
876.02	Guide for Rip Rap at Pipe Outlets

12/2/2016

PROJECT REFERENCE NO.	SHEET NO.
17BPJ4R87	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
- Computed 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 — S
- Potential Contamination Area: Soil — S
- Known Contamination Area: Water — W
- Potential Contamination Area: Water — W
- 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 & PROJECT CONTROL:

- Secondary Horiz and Vert Control Point
- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Exist Permanent Easment Pin and Cap
- New Permanent Easement Pin and Cap
- Vertical Benchmark
- Existing Right of Way Marker
- Existing Right of Way Line
- New Right of Way Line — RW
- New Right of Way Line with Pin and Cap — RW
- New Right of Way Line with Concrete or Granite R/W Marker — RW
- New Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- New Control of Access — CA
- Existing Easement Line — E
- New Temporary Construction Easement — E
- New Temporary Drainage Easement — TDE
- New Permanent Drainage Easement — PDE
- New Permanent Drainage / Utility Easement — DUE
- New Permanent Utility Easement — PUE
- New Temporary Utility Easement — TUE
- New Aerial Utility Easement — AUE

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

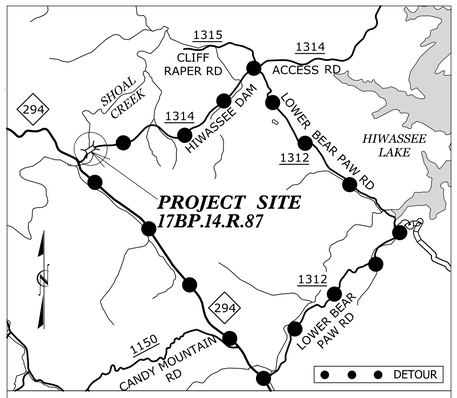
MISCELLANEOUS:

- 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.

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.87	1C-1

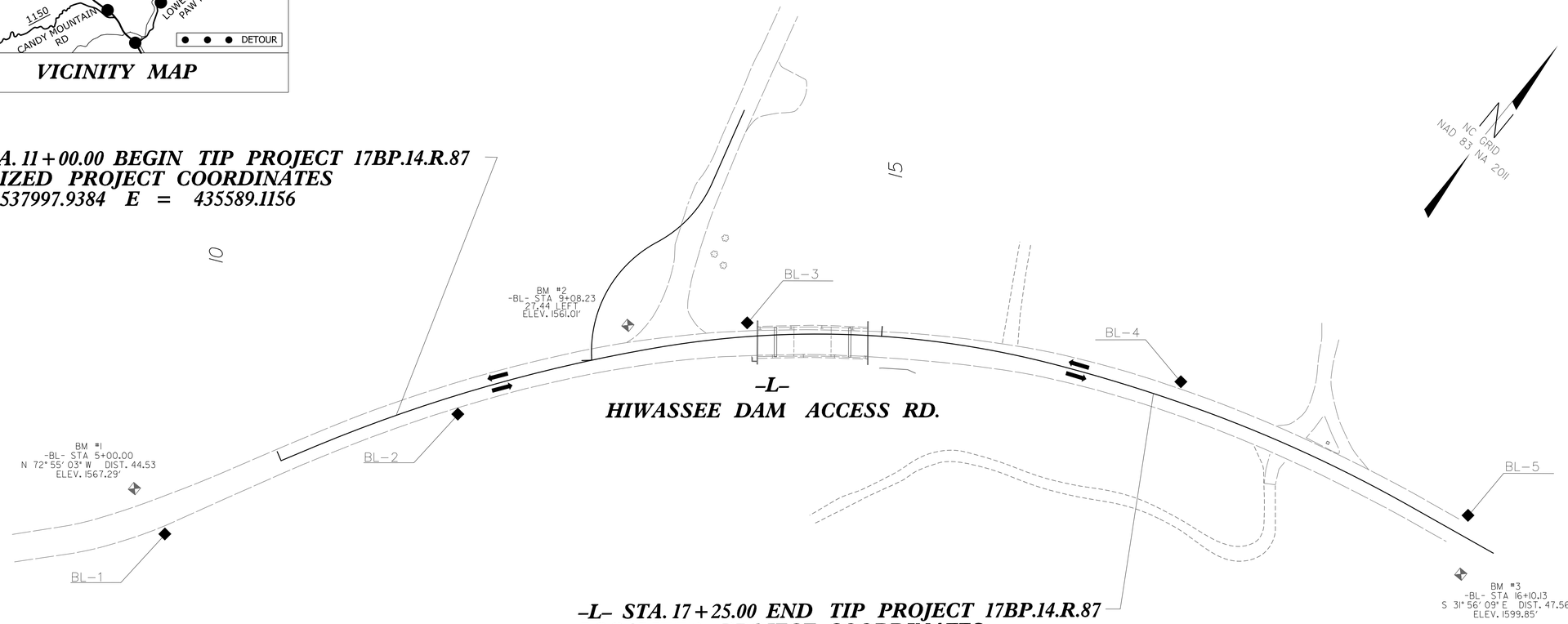
SURVEY CONTROL SHEET 17BP.14.R.87

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	L OFFSET
1		-BL-1	537805.3930	435505.1880	1566.81	OUTSIDE LIMITS	OUTSIDE LIMITS
2		-BL-2	538029.9540	435627.4930	1560.81	11+47.90	15.18 RT
3		-BL-3	538234.7790	435762.1210	1565.53	13+92.31	10.72 LT
4		-BL-4	538419.1250	436063.7270	1585.33	17+43.15	15.77 LT
5		-BL-5	538481.8970	436311.7430	1601.18	OUTSIDE LIMITS	OUTSIDE LIMITS



VICINITY MAP

–L– STA. 11+00.00 BEGIN TIP PROJECT 17BP.14.R.87
LOCALIZED PROJECT COORDINATES
N = 537997.9384 E = 435589.1156



–L– STA. 17+25.00 END TIP PROJECT 17BP.14.R.87
LOCALIZED PROJECT COORDINATES
N = 538397.9373 E = 436052.1910

NOTES:

1. ***THE CONTROL DATA FOR THIS PROJECT WAS PROVIDED BY NCDOT. CONTROL POINTS PROVIDED ARE AS FOLLOWS:***
   BL–1
   BL–2
   BL–3
   BL–4
   BL–5
2. ***SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT.***
3. ⬢ ***INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY NCDOT.***
   ◆ ***INDICATES CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY NCDOT.***

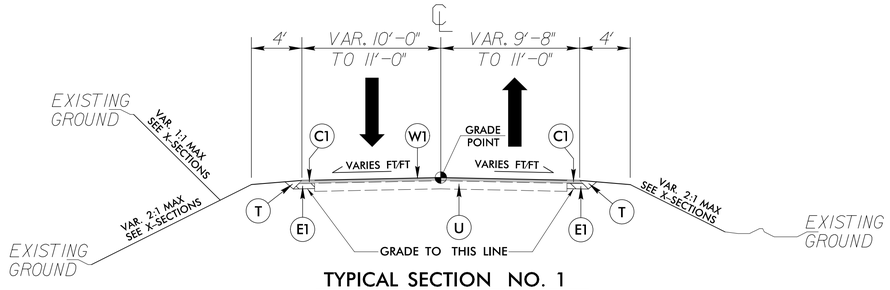
DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "190126 G-102" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 537536.596(ft) EASTING: 435207.362(ft) ELEVATION: 1578.84(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998046864
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "190126 G-102" TO –L– STATION IS

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

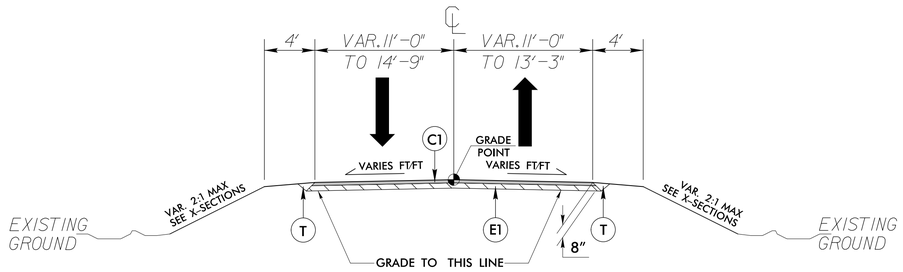
8/17/99

REVISIONS



TYPICAL SECTION NO. 1

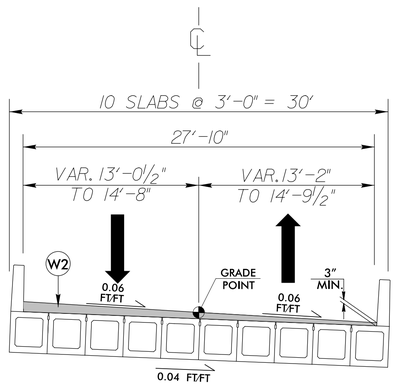
–L– STA. 11+00.00 TO STA. 12+00.00
–L– STA. 16+25.00 TO 17+25.00



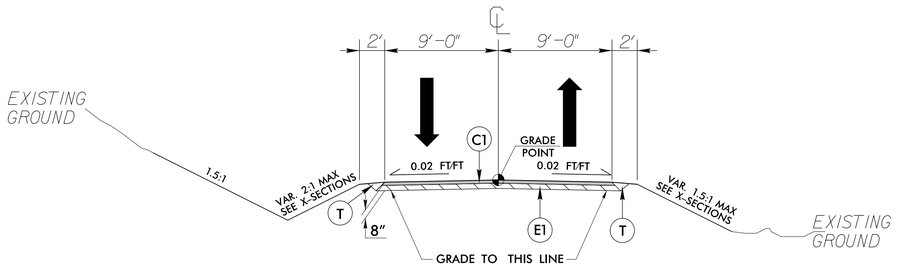
TYPICAL SECTION NO. 2

(USE IN CONJUNCTION WITH DETAIL A)

–L– STA. 12+00.00 TO STA. 13+92.94 (BEGIN BRIDGE)
–L– STA. 14+95.26 (END BRIDGE) TO 16+25.00

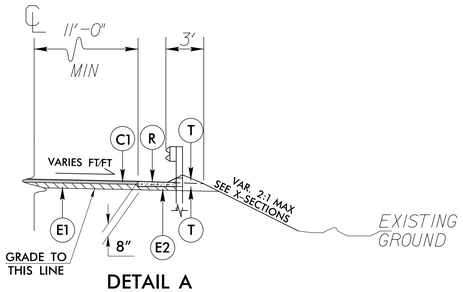


BRIDGE TYPICAL SECTION



TYPICAL SECTION NO. 3

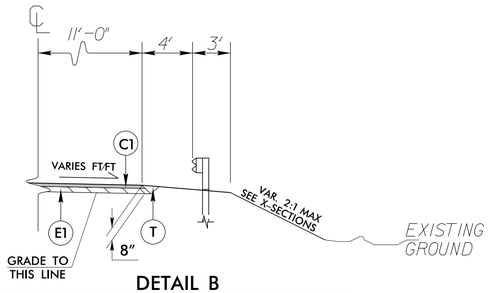
–Y– STA. 10+11.23 TO STA. 11+90.00



DETAIL A

SHOULDER BERM GUTTER SECTION

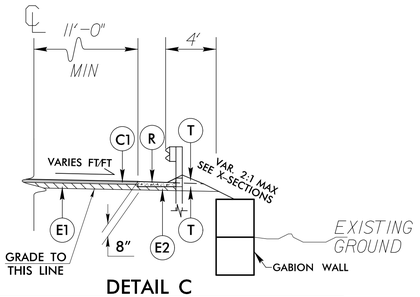
–L– STA. 13+65.00 TO 13+83.13 (LT)
–L– STA. 13+55.64 TO 13+81.00 (RT)



DETAIL B

GUARDRAIL

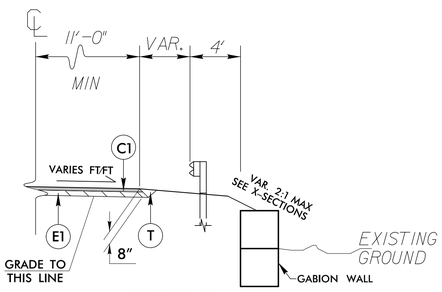
–L– STA. 13+20.00 TO 13+95.00 (LT)
–L– STA. 14+93.00 TO 15+68.00 (LT)
–L– STA. 11+24.00 TO 13+93.00 (RT)
–L– STA. 14+95.00 TO 16+00.00 (RT)



DETAIL C

RETAINING WALL SECTION WITH SBG

–L– STA. 13+65.00 TO 13+80.46 (LT)
–L– STA. 13+55.64 TO 13+77.39 (RT)



DETAIL D

RETAINING WALL SECTION

–L– STA. 13+55.00 TO 13+65.00 (LT)
–L– STA. 13+25.00 TO 13+55.64 (RT)
–L– STA. 15+10.81 TO 15+79.80 (RT)

WSP USA
434 FAYETTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601
TEL: 1.919.836.4040
FAX: 1.919.836.4099
LICENSE NO. F-0165

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.87	2A-1

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 33290 ENGINEER RONYELL A THIGPEN

DocuSigned by: Ronyell Thigpen 11/2/2017

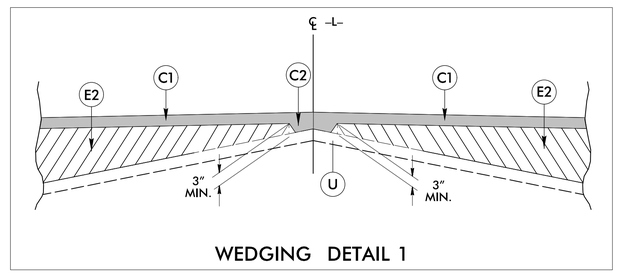
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PAVEMENT SCHEDULE

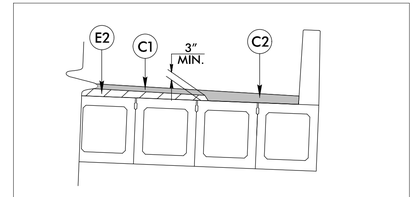
C1	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1″ DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1″ IN DEPTH OR GREATER THAN 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.
R	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W1	WEDGING (SEE WEDGING DETAIL 1 THIS SHEET).
W2	WEDGING (SEE WEDGING DETAIL 2 THIS SHEET).

NOTES:

1. ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



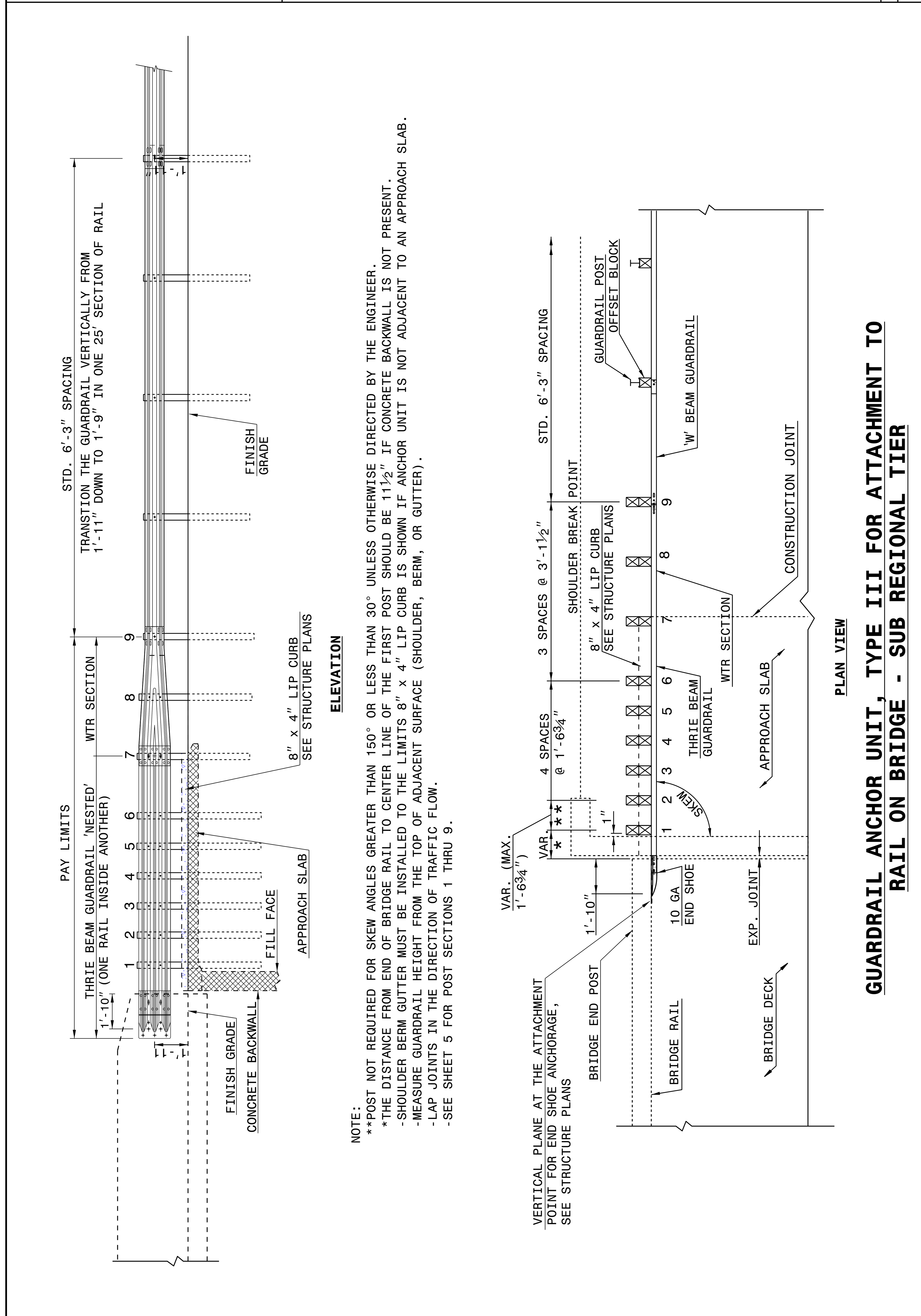
WEDGING DETAIL 1



WEDGING DETAIL 2

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.87	2C-1

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

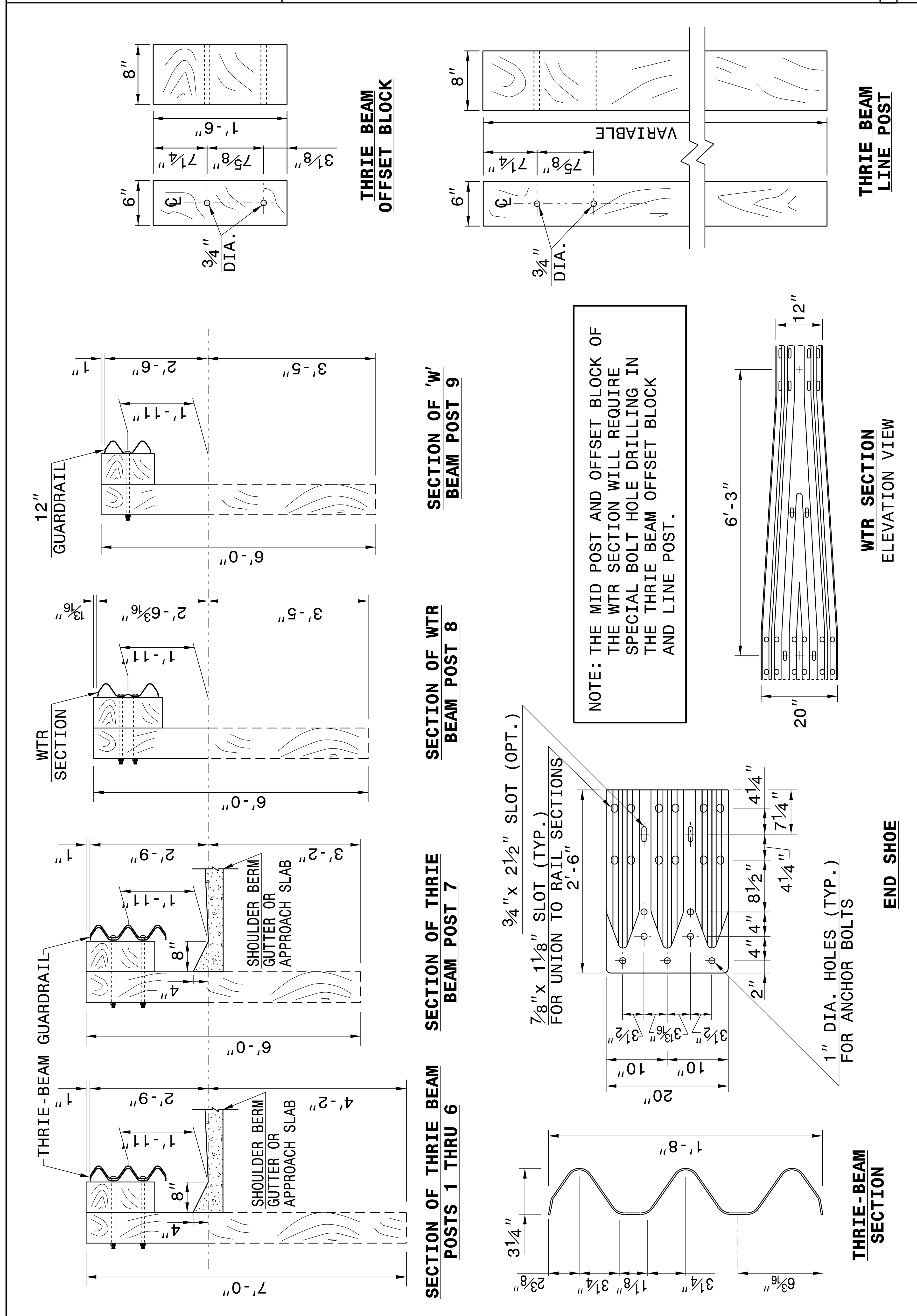


STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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



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:
FILE SPEC.:

6/21/00

COMPUTED BY: BENJAMIN WHITE, PE DATE:
CHECKED BY: JASON GADDY, PE DATE:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.87	3B-1

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV. (CY)	EMBANK. +% (CY)	BORROW (CY)	WASTE (CY)
–L– 11+00.00	–L– 13+92.94	109	728	619	
BRIDGE					
–L– 14+95.26	–L– 17+25.00	38	437	399	
SUBTOTAL 1:		147	1165	1018	
–Y– 10+11.23	–Y– 11+90.00	378	201		177
SUBTOTAL 2:		378	201		177
SUBTOTAL SUMMARIES 1–2		525	1366	1018	177
EARTH TO REPLACE BORROW:				–177	–177
PROJECT TOTALS		525	1366	841	0
EST 5% TOPSOIL FOR BORROW PITS				42	
GRAND TOTALS:		525	1366	883	0
SAY:		530		890	

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

LINE	STATION	STATION	LENGTH
–L–	13+65.00 (LT)	13+83.13 (LT)	18.13 LF
–L–	13+55.64 (RT)	13+81.00 (RT)	25.36 LF
		TOTAL:	43.49 LF
		SAY:	44.00 LF

PAVEMENT REMOVAL SUMMARY

LINE	STATION	STATION	LOCATION LT/RT/CL	YD^2
–L–	12+00.00	13+98.94	CL	438.54
–L–	14+89.56	16+73.49	CL	317.08
–Y–	10+16.78	11+90.00	CL	352.28
			TOTAL:	1107.90 SY
			SAY:	1110 SY

CONTINGENCY ITEMS

ITEM	QUANTITY	UNIT
INCIDENTAL STONE BASE	50	TONS
FOUNDATION CONDITIONING MATERIAL	20	TONS
FOUNDATION CONDITIONING GEOTEXTILE	40	SY
UNDERCUT EXCAVATION	50	CY

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & 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"	C.S. PIPE (UNLESS NOTED OTHRWISE) 12"	15"	18"	24"	30"	36"	42"	48"	CLASS IV R.C. PIPE 12"	15"	18"	24"	30"	36"	42"	48"	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE
										.064	.064	.064	.079	.079	.109	.109		.064	.064	.064	.079	.079	.109	.109										
10+26 –Y–		CL	0404			1560.49	1557.75	5.2			54																						
13+67 –L–		CL	0401	0402	1565.77	1561.77	1561.65	0.5																		28							
13+71 –L–		LT	0402	0403	1566.19	1556.19	1553.15	19.4										16															
PROJECT TOTAL											54							16								28							

STATION	ENDWALLS: STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	CU. YDS. C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. *FT. A	LIN. *FT. B	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	C.B. STD. 840.01 OR STD. 840.02	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. 840.24	J.B. STD. 840.31 OR 840.32	T.B.D.I. STD. 840.35	G.D.I. FRAME WITH TWO GRATES STD. 840.29	15" C.S. ELBOW	CONC. COLLARS CL. "B" C.Y. STD. 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
10+26 –Y–			1																														DRIVEWAY PIPE
13+67 –L–			1																						1	1							
13+71 –L–			1	5																					1	1			2				
PROJECT TOTAL			2	5																					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

NOTE: Invert Elevations are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300–5".

"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

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	ANCHORS TYPE III	ANCHORS GRAU 350	ANCHORS M-350	ANCHORS XIII	ANCHORS CAT-1	ANCHORS VI MOD	ANCHORS BIC	ANCHORS AT-1	IMPACT ATTENUATOR TYPE 350 EA	IMPACT ATTENUATOR TYPE 350 G	IMPACT ATTENUATOR TYPE 350 NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
–L–	13+20.96	13+93.91	LT	75'				13+93.91	4'–0"	7'–0"	50'–0"		1'–0"			1	1													
–L–	11+23.42	13+80.83	RT	256.25'			12+25.00		4'–0"	7'–0"	50'–0"		1'–0"			1	1													
–L–	15+07.34	15+83.14	RT	75'				15+07.34	4'–0"	7'–0"		50'–0"		1'–0"		1	1													
–L–	14+94.29	15+67.23	LT	75'			14+94.29		4'–0"	7'–0"		50'–0"		1'–0"		1	1													
			SUBTOTAL	481.25'												4	4													
			LESS DEDUCTIONS																											
			GRAU–350 (4 x 50)=	200'																										
			TYPE III (4 x 18.75)=	75'																										
			SUBTOTAL	275'																										
			TOTALS	206.25'												4	4													
			SAY	225.00'			ADDITIONAL GUARDRAIL POSTS = 5									4	4													

6/21/00
6/14/2017
R:\Raleigh Office NCDOT\17BP GROUP 1\17BP.14.R.87_190126\Roadway\Proj\17BP.14.R.87_ROY_SUM_03A.dgn
dbtab

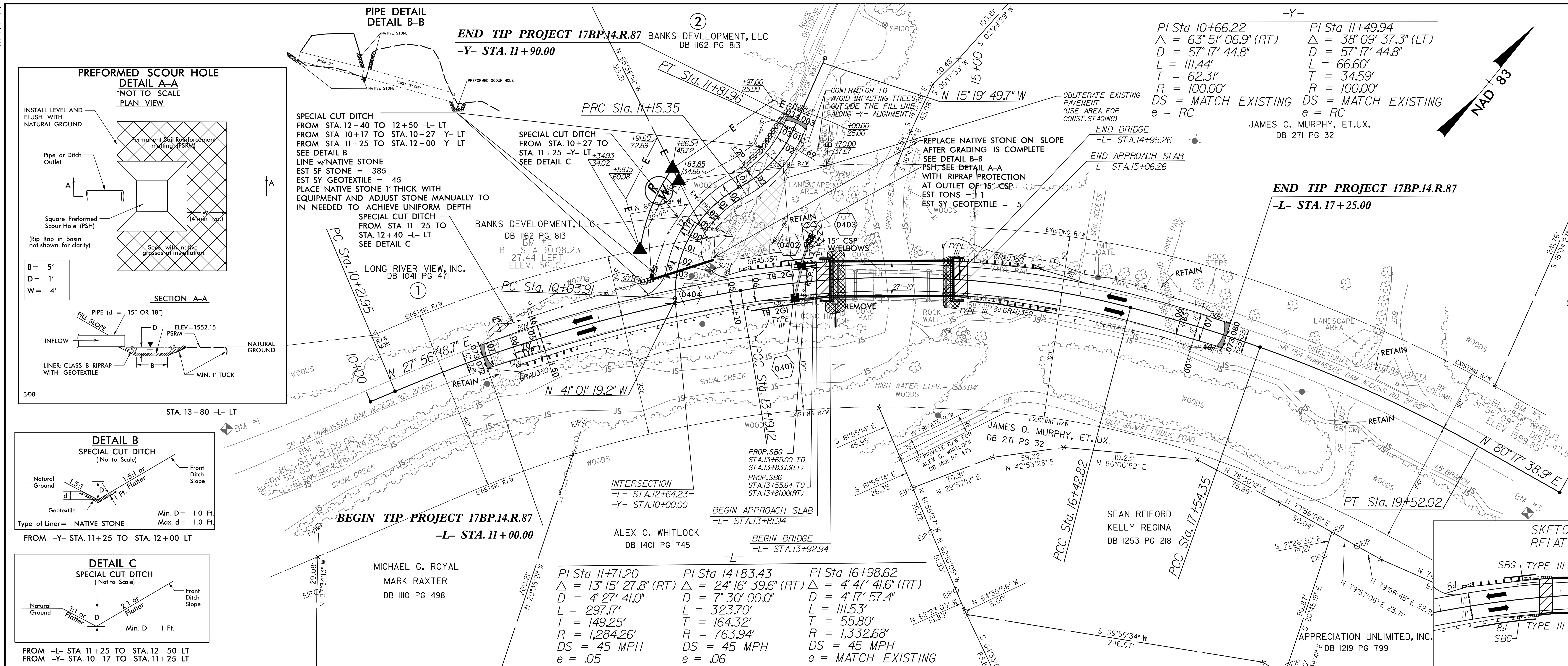
PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.87	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — SEAL 33290, NORTH CAROLINA PROFESSIONAL ENGINEER, RONYELL A. THIGPEN — Ronyell Thigpen 11/2/2017

HYDRAULICS ENGINEER — SEAL 27876, NORTH CAROLINA PROFESSIONAL ENGINEER — Rana Stansell 11/2/2017

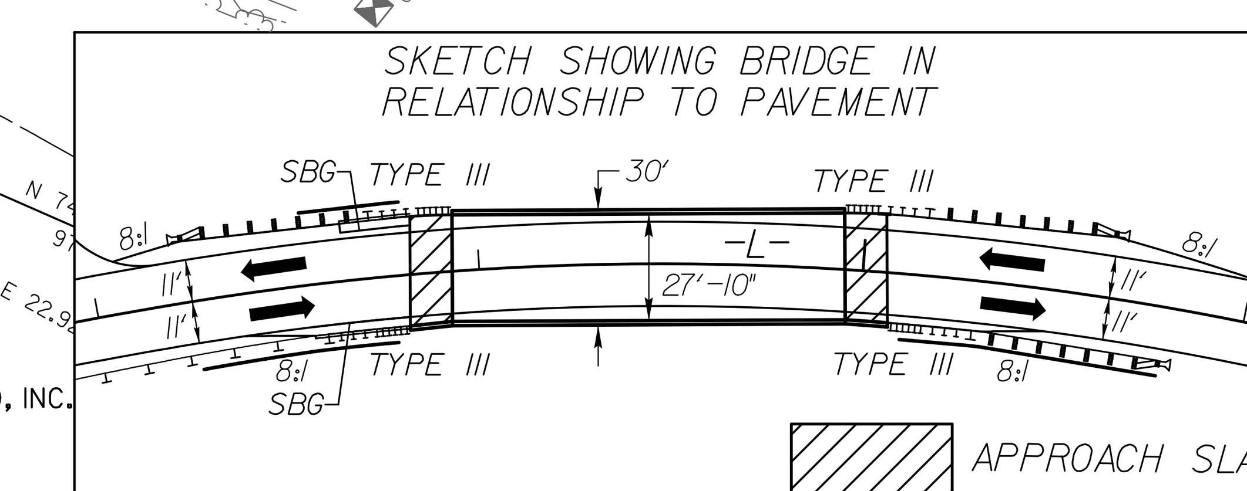
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

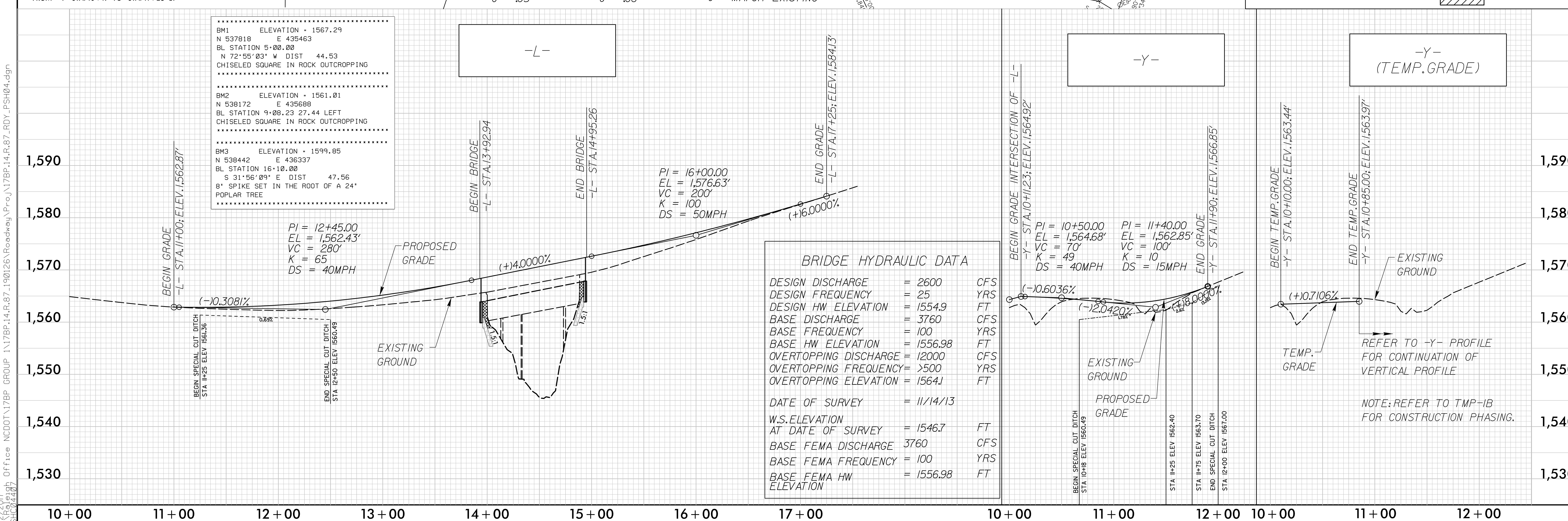
WSP USA
434 FAYETTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601
TEL: 1.919.836.4040
FAX: 1.919.836.4099
LICENSE NO. F-0165



NOTE:

1. SEE SHEETS S-1 THRU S-18 FOR STRUCTURE PLANS
2. SEE SHEETS W-1 THRU W-4 FOR RETAINING WALL PLANS





BM1 ELEVATION = 1567.29
N 537818 E 435463
BL STATION 5+00.00
N 72°55'03" W DIST 44.53
CHISELED SQUARE IN ROCK OUTCROPPING

BM2 ELEVATION = 1561.01
N 538172 E 435688
BL STATION 9+08.23 27.44 LEFT
CHISELED SQUARE IN ROCK OUTCROPPING

BM3 ELEVATION = 1599.85
N 538442 E 436337
BL STATION 16+10.00
S 31°56'09" E DIST 47.56
8" SPIKE SET IN THE ROOT OF A 24" POPLAR TREE

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	2600	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	1554.9	FT
BASE DISCHARGE	=	3760	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	1556.98	FT
OVERTOPPING DISCHARGE	=	12000	CFS
OVERTOPPING FREQUENCY	=	>500	YRS
OVERTOPPING ELEVATION	=	1564.1	FT
DATE OF SURVEY	=	11/14/13	
W.S. ELEVATION AT DATE OF SURVEY	=	1546.7	FT
BASE FEMA DISCHARGE		3760	CFS
BASE FEMA FREQUENCY	=	100	YRS
BASE FEMA HW ELEVATION	=	1556.98	FT

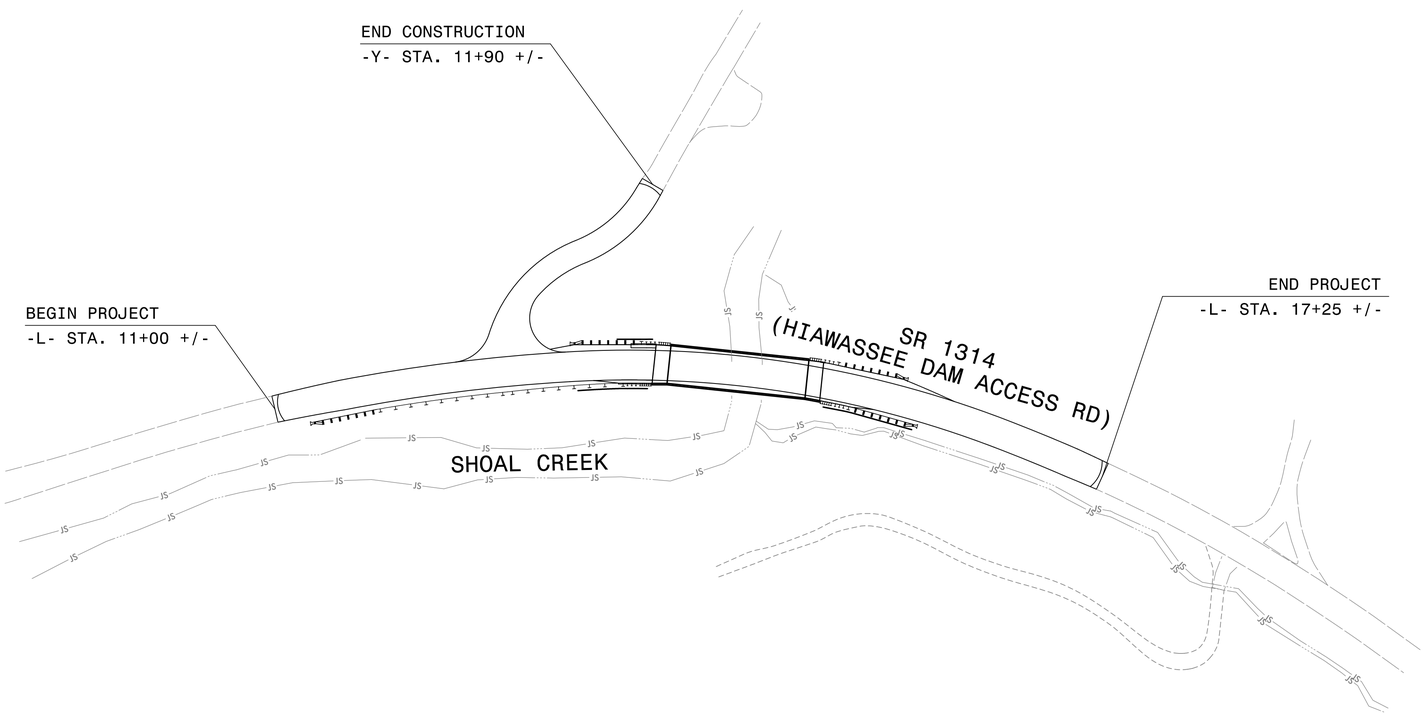
REFER TO -Y- PROFILE FOR CONTINUATION OF VERTICAL PROFILE

NOTE: REFER TO TMP-1B FOR CONSTRUCTION PHASING.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

CHEROKEE COUNTY



INDEX OF SHEETS

SHEET NO.
TMP-1

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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*
DON PARKER, P.E.	*TRAFFIC CONTROL PROJECT ENGINEER*
	TRAFFIC CONTROL PROJECT DESIGN ENGINEER
	TRAFFIC CONTROL DESIGN ENGINEER

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

WSP USA Inc.
1001 MOREHEAD SQUARE DRIVE
SUITE 610
CHARLOTTE, NC 28203
TEL:1.704.342.5401

WSP.COM

LICENSE NO. F-0165

APPROVED: DocuSigned by: 6E04D032FEE4460...

DATE: 11/3/2017

NORTH CAROLINA PROFESSIONAL SEAL 037467 ENGINEER RICHARD A ODINSKI

PROJECT: 17BP.14.R.87

PROJ. REFERENCE NO.	SHEET NO.
17BP.14.R.87	TMP-1A

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 JANUARY 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
1130.01	DRUM
1145.01	BARRICADES

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- WORK AREA

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM
- SKINNY DRUM
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

WSP USA Inc.
1001 MOREHEAD SQUARE DRIVE
SUITE 610
CHARLOTTE, NC 28203
TEL:1.704.342.5401

WSP.COM

LICENSE NO. F-0165

APPROVED: DocuSigned by: 6E04DD32EE4B8D... DATE: 11/3/2017

NORTH CAROLINA PROFESSIONAL SEAL 037467 ENGINEER RICHARD A ODINSKI

TRANSPORTATION MANAGEMENT PLAN
ROADWAY STANDARD DRAWINGS & LEGEND

PROJECT NOTES

PROJ. REFERENCE NO.	SHEET NO.
17BP.14.R.87	TMP-1B

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. PROVIDE SIGNING REQUIRED FOR THE OFFSITE DETOUR AS SHOWN IN THE TRAFFIC CONTROL PLANS.

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

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

LOCAL NOTES

E) NOTIFY THE CHEROKEE COUNTY SCHOOLS TRANSPORTATION DIRECTOR THIRTY (30) CALENDAR DAYS PRIOR TO CLOSURE OF THE ROAD.

F) NOTIFY THE CHEROKEE COUNTY EMERGENCY MANAGEMENT SERVICES DIRECTOR THIRTY (30) CALENDAR DAYS PRIOR TO CLOSURE OF THE ROAD.

G) ACCESS TO ALL RESIDENTS AND BUSINESSES WITHIN THE PROJECT LIMITS MUST BE MAINTAINED AT ALL TIMES.

CONSTRUCTION PHASING

STEP 1:

USING RSD 1101.03, SHEET 1 OF 9, AND SHEETS TMP-2 AND TMP-3, INSTALL ROAD CLOSURE AND DETOUR SIGNS. KEEP SIGNS COVERED UNTIL DETOUR ROUTE IS READY FOR OPERATION.

STEP 2:

PLACE TYPE III BARRICADES TO CLOSE SR 1314 TO THRU TRAFFIC AND DETOUR TRAFFIC USING OFFSITE ROUTE.

STEP 3:

CONSTRUCT PROPOSED IMPROVEMENTS, INCLUDING ROADWAY, STRUCTURE, AND FINAL PAVEMENT MARKINGS.

STEP 4:

REMOVE ALL SIGNS AND DEVICES, AND OPEN SR 1314 TO TRAFFIC.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

WSP USA Inc.
1001 MOREHEAD SQUARE DRIVE
SUITE 610
CHARLOTTE, NC 28203
TEL:1.704.342.5401

WSP.COM

LICENSE NO. F-0165

APPROVED: DocuSigned by: DATE: 3/3/2017

NORTH CAROLINA PROFESSIONAL SEAL 037467 ENGINEER RICHARD A ODINSKI

TRANSPORTATION MANAGEMENT PLAN PROJECT NOTES

PROJ. REFERENCE NO.	SHEET NO.
17BP.14.R.87	TMP-2

SIGN NUMBER: SP-1
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 4′-0″
HEIGHT: 2′-0″
TOTAL AREA: 8.0 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0.47″
WIDTH: 0.63″
RADII: 1.5″

NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

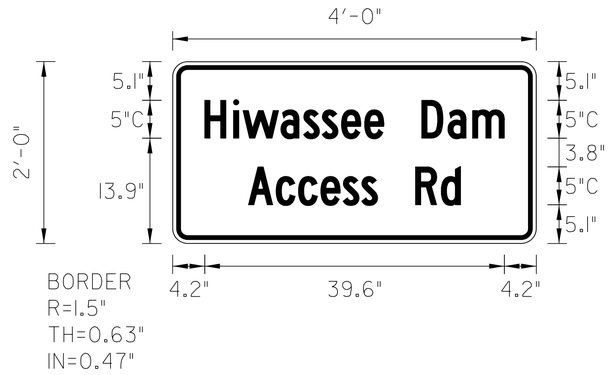
SYMBOL	X	Y	WID	HT

MAT′L: 0.080″ (2.0 mm) ALUMINUM

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluoresent orange retroreflective sheeting.

DESIGN BY: Z. Teng
PROJECT ID: 17BP.14.R.87
CHECKED BY: B. DEHLER
DIV: DIV
DATE: Feb 14, 2014



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner

Series/Size
Text Length

	H	i	w	a	s	s	e	e	D	a	m															C 2000
	4.2	8	9.3	14.3	17.3	19.7	22.3	25.3	32.9	36.3	39.6															39.6
	A	c	c	e	s	s		R	d																	C 2000
	10	13.7	16.6	19.6	22.5	25	27.1	32.1	35.5																	28

FILENAME: Hiwassee Dam Access Rd

NORTH CAROLINA D.O.T. SIGN DETAIL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

WSP USA Inc.
1001 MOREHEAD SQUARE DRIVE
SUITE 610
CHARLOTTE, NC 28203
TEL:1.704.342.5401
WSP.COM
LICENSE NO. F-0165

APPROVED: DocuSigned by: DATE: 11/3/2017

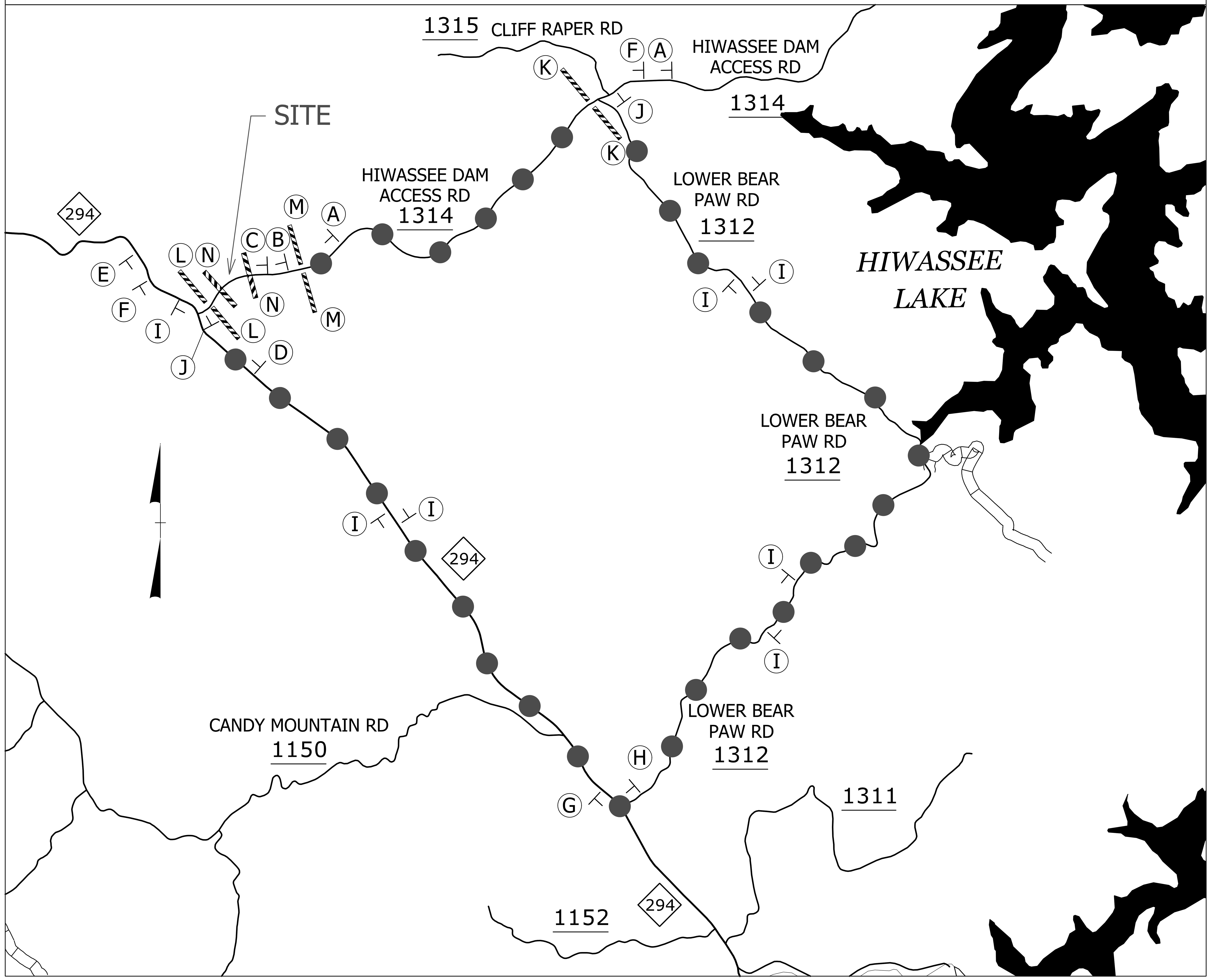
NORTH CAROLINA PROFESSIONAL SEAL 037467 ENGINEER RICHARD A ODINSKI

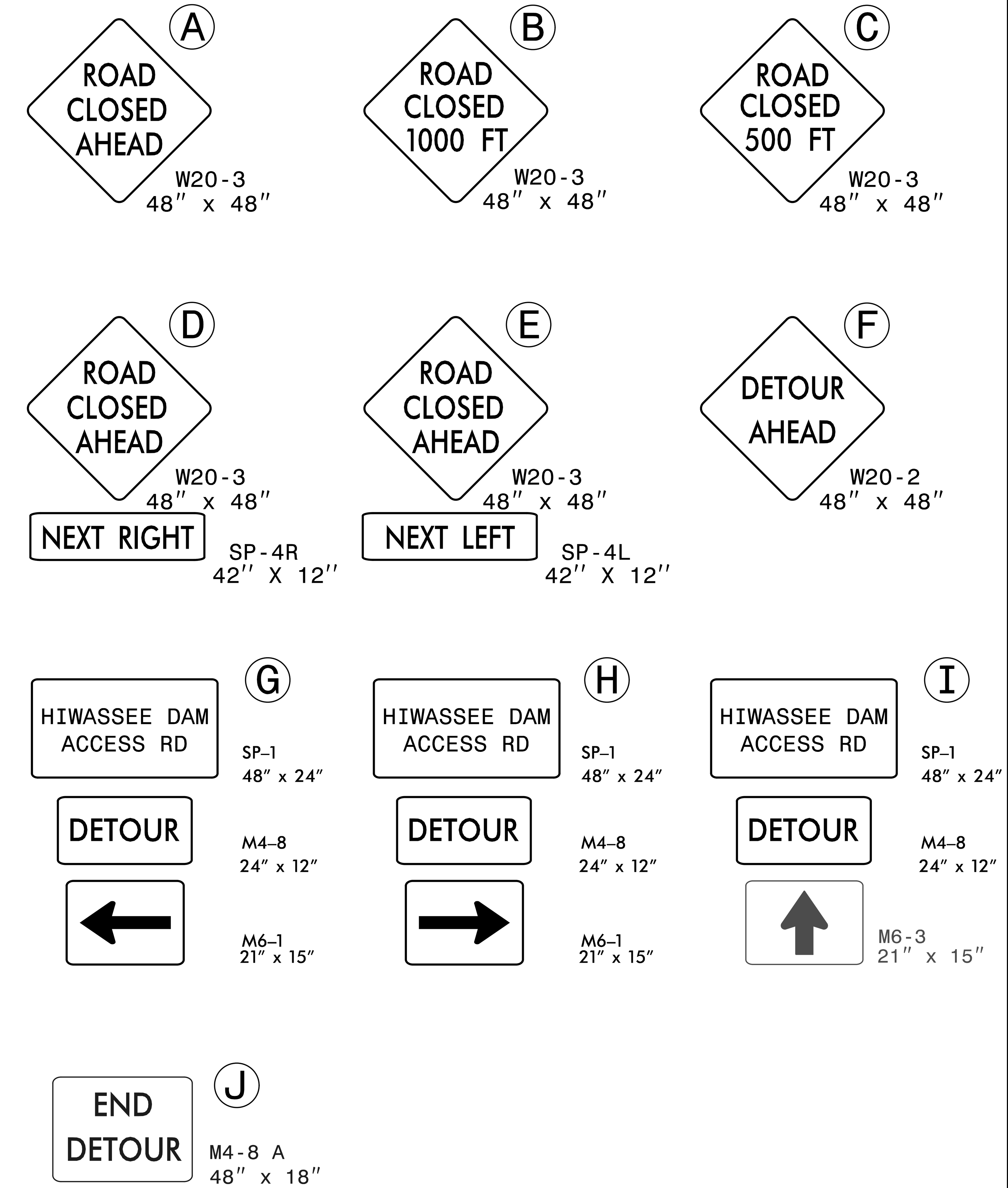
TRANSPORTATION MANAGEMENT PLAN SPECIAL SIGN DESIGN

PROJ. REFERENCE NO.	SHEET NO.
17BP.14.R.87	TMP-3

PROPOSED DETOUR ROUTE

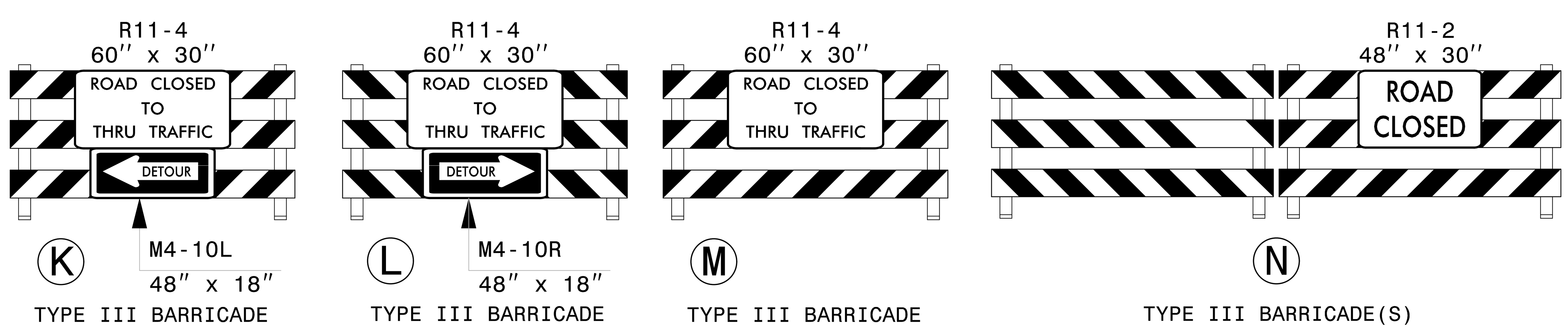
● ● ● DETOUR





A
ROAD CLOSED AHEAD
W20-3
48″ x 48″
B
ROAD CLOSED 1000 FT
W20-3
48″ x 48″
C
ROAD CLOSED 500 FT
W20-3
48″ x 48″
D
ROAD CLOSED AHEAD
W20-3
48″ x 48″
NEXT RIGHT
SP-4R
42″ X 12″
E
ROAD CLOSED AHEAD
W20-3
48″ x 48″
NEXT LEFT
SP-4L
42″ X 12″
F
DETOUR AHEAD
W20-2
48″ x 48″
G
HIWASSEE DAM ACCESS RD
SP-1
48″ x 24″
DETOUR
M4-8
24″ x 12″
M6-1
21″ x 15″
H
HIWASSEE DAM ACCESS RD
SP-1
48″ x 24″
DETOUR
M4-8
24″ x 12″
M6-1
21″ x 15″
I
HIWASSEE DAM ACCESS RD
SP-1
48″ x 24″
DETOUR
M4-8
24″ x 12″
M6-3
21″ x 15″
END DETOUR
J
M4-8 A
48″ x 18″

NOTES:
1. SEE NCDOT RSD 1101.03, SHEET 1 OF 9, FOR MORE INFORMATION ON BARRICADE PLACEMENT AND ROAD CLOSED SIGN LOCATIONS.
2. SIGN LOCATIONS ARE APPROXIMATE. FIELD LOCATE ALL SIGNS IN COORDINATION WITH ENGINEER.



R11-4
60″ x 30″
ROAD CLOSED TO THRU TRAFFIC
DETOUR
M4-10L
48″ x 18″
K
TYPE III BARRICADE
R11-4
60″ x 30″
ROAD CLOSED TO THRU TRAFFIC
DETOUR
M4-10R
48″ x 18″
L
TYPE III BARRICADE
R11-4
60″ x 30″
ROAD CLOSED TO THRU TRAFFIC
M
TYPE III BARRICADE
R11-2
48″ x 30″
ROAD CLOSED
N
TYPE III BARRICADE(S)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

WSP

WSP USA Inc.
1001 MOREHEAD SQUARE DRIVE
SUITE 610
CHARLOTTE, NC 28203
TEL:1.704.342.5401

WSP.COM

LICENSE NO. F-0165

APPROVED: DocuSigned by: 6E04DD32FEE446D... DATE: 11/3/2017

NORTH CAROLINA PROFESSIONAL SEAL 037467 ENGINEER RICHARD A ODYNSKI

TRANSPORTATION MANAGEMENT PLAN OFFSITE DETOUR

PROJ. REFERENCE NO.	SHEET NO.
17BP.14.R.87	PMP-1

PAVEMENT MARKING SCHEDULE
TIP PROJECT # 17BP.14.R.87

SYMBOL	DESCRIPTION	FINAL PAVEMENT MARKINGS	PAY ITEM QUANTITY BREAKDOWN	TOTAL QUANTITY
PI	YELLOW DOUBLE CENTER	PAINT (4", 2 COATS)	1250 LF	2500 LF
PA	WHITE EDGELINE	PAINT (4", 2 COATS)	1166 LF	2332 LF
P8	2FT – 6FT /SP WHITE MINISKIP	PAINT (4", 2 COATS)	82 LF	41 LF

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
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS

GENERAL NOTES / LOCAL NOTES

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.

PAVEMENT MARKINGS AND MARKERS

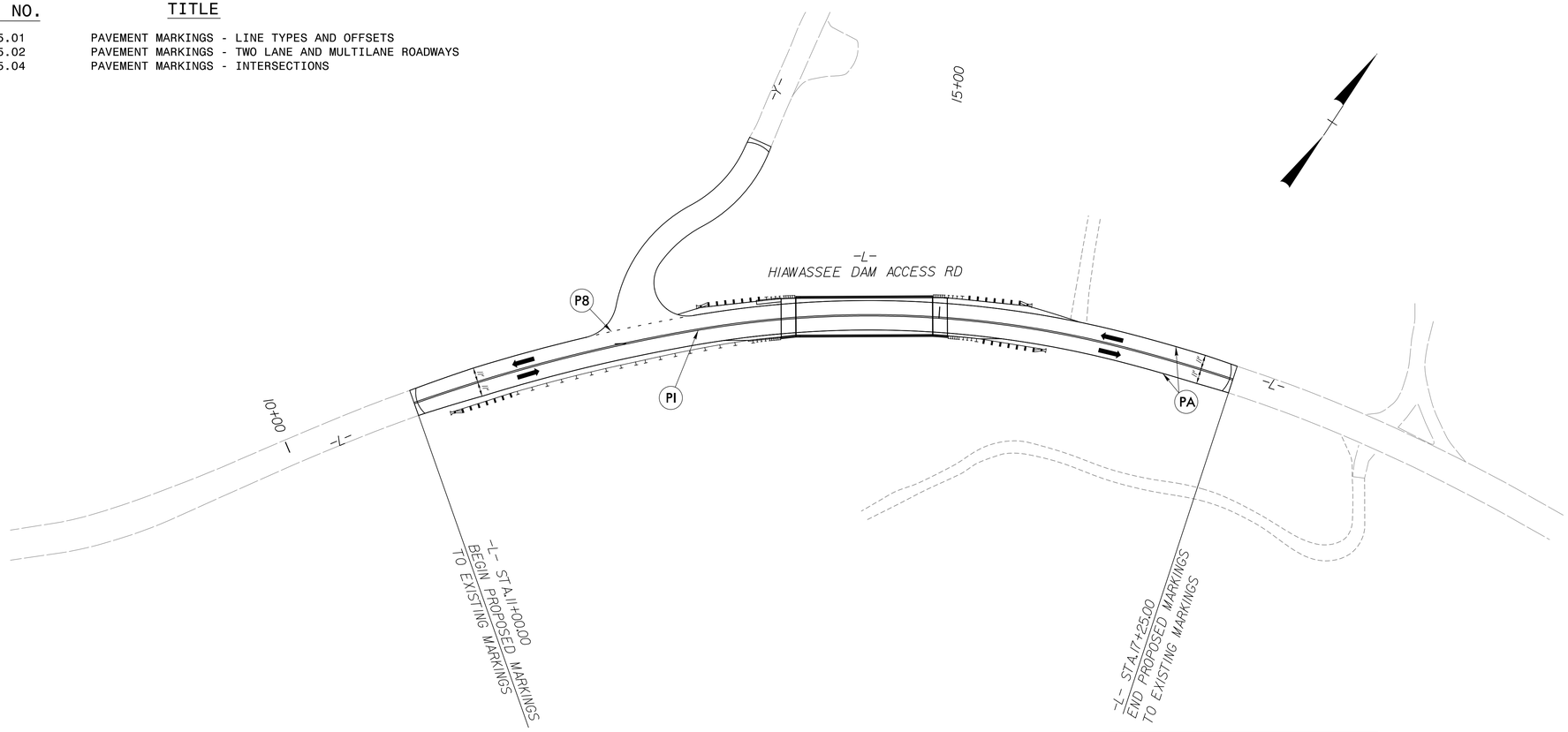
A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
Hiawassee Dam Access Road	Paint	None

B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

C) REMOVE /REPLACE ANY CONFLICTING /DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

D) ALL PAVEMENT MARKINGS ARE EXISTING UNLESS OTHERWISE NOTED.



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1001 MOREHEAD SQUARE DRIVE
SUITE 610
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TEL:1.704.342.5401

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APPROVED: Docusigned by: 6E04DD32FEE446D... DATE: 11/3/2017

SEAL 037467 ENGINEER RICHARD A ODYNSKI NORTH CAROLINA PROFESSIONAL

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

PAVEMENT MARKING PLAN

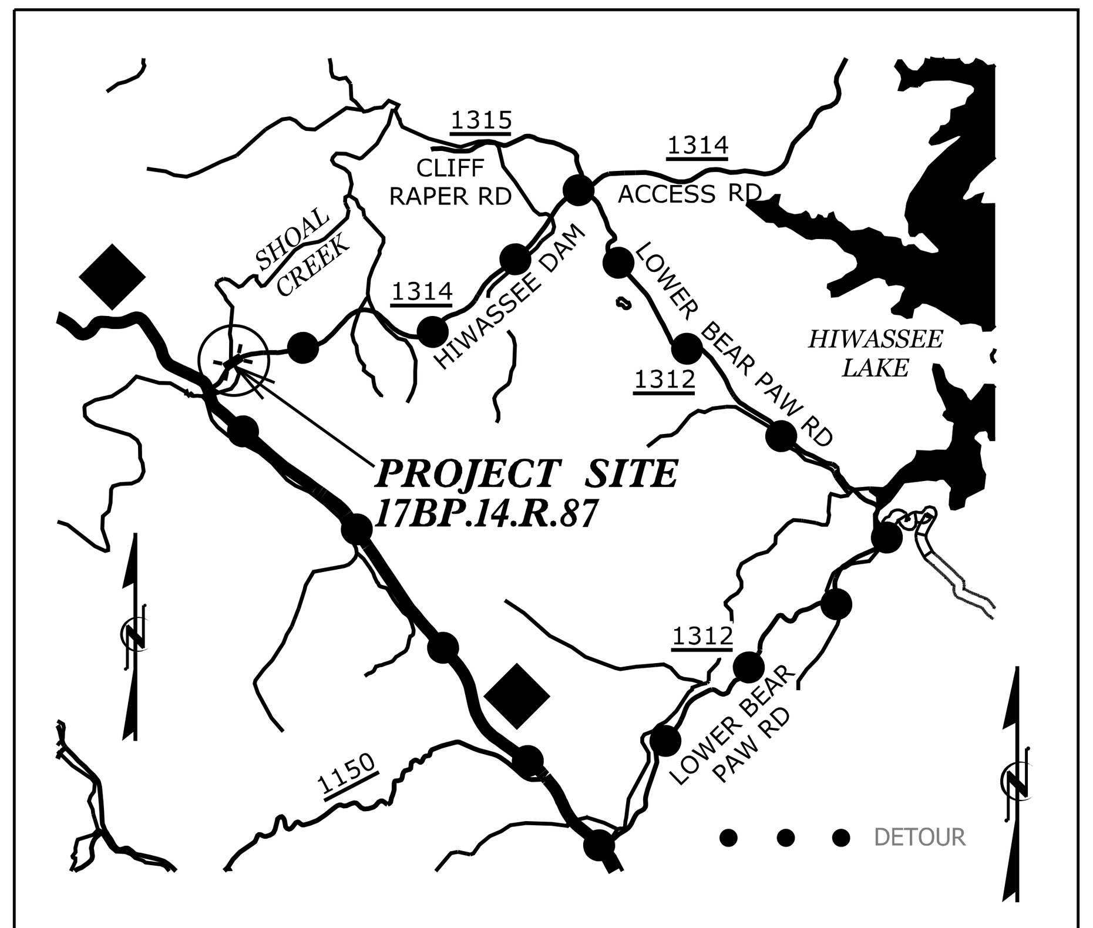
6/14/2017
T:\NCDOT Div 14 LBR\Group 1\Cherokee 126\17BP.14.R.87_TC_PMP.dgn
odynskira

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.87	EC-1	

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

TIP PROJECT: 17BP.14.R.87

See Sheet 1-A For Index of Sheets



VICINITY MAP

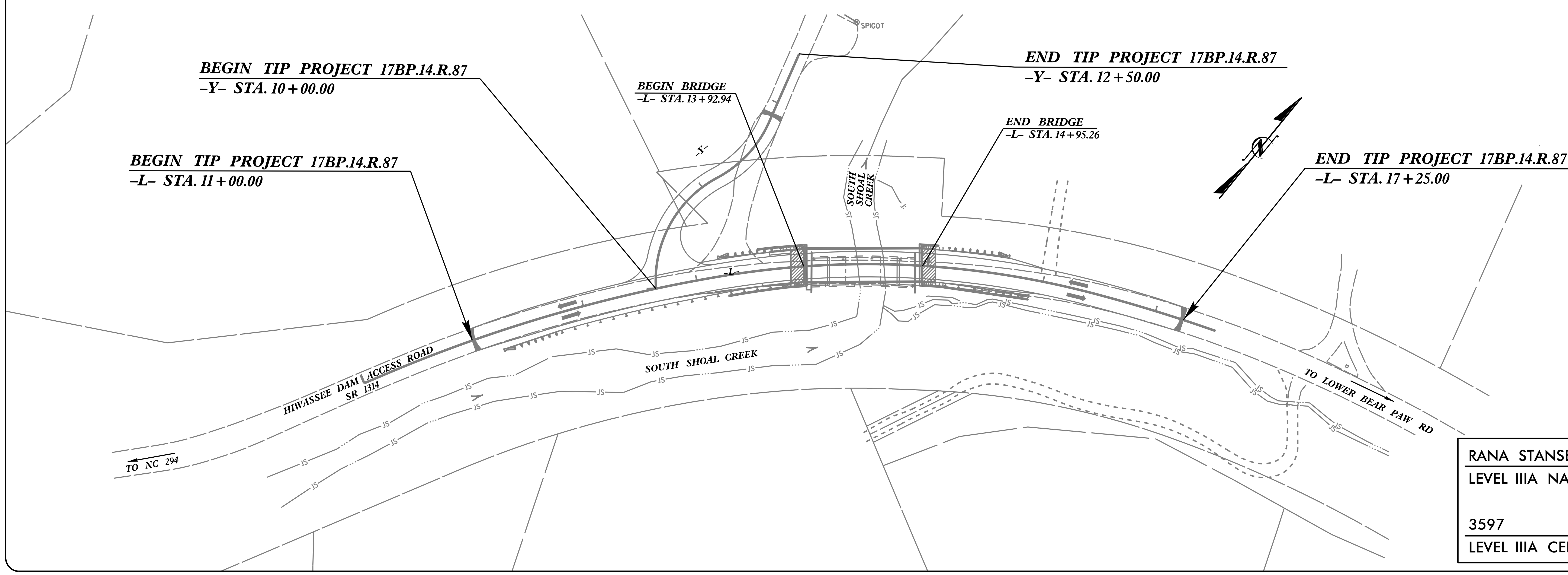
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

CHEROKEE COUNTY

LOCATION: *REPLACEMENT OF BRIDGE NO. 126 ON HIWASSEE DAM ACCESS RD. (SR 1314) OVER SOUTH SHOAL CREEK*

TYPE OF WORK: *GRADING, PAVING, TRAFFIC CONTROL, DRAINAGE, & STRUCTURES*



EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	
1630.05	Temporary Diversion	
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	
	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.

RANA STANSELL, PE
LEVEL IIIA NAME

3597
LEVEL IIIA CERTIFICATION NO.

GRAPHIC SCALE

0 30
PLANS

0 50
PROFILE (HORIZONTAL)

0 10
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.

WSP
Transportation & Infrastructure
15401 Weston Parkway Suite 100
Cary, NC 27513 - 919.678.0035
www.wspgroup.com
LICENSE NO. F-0891

2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

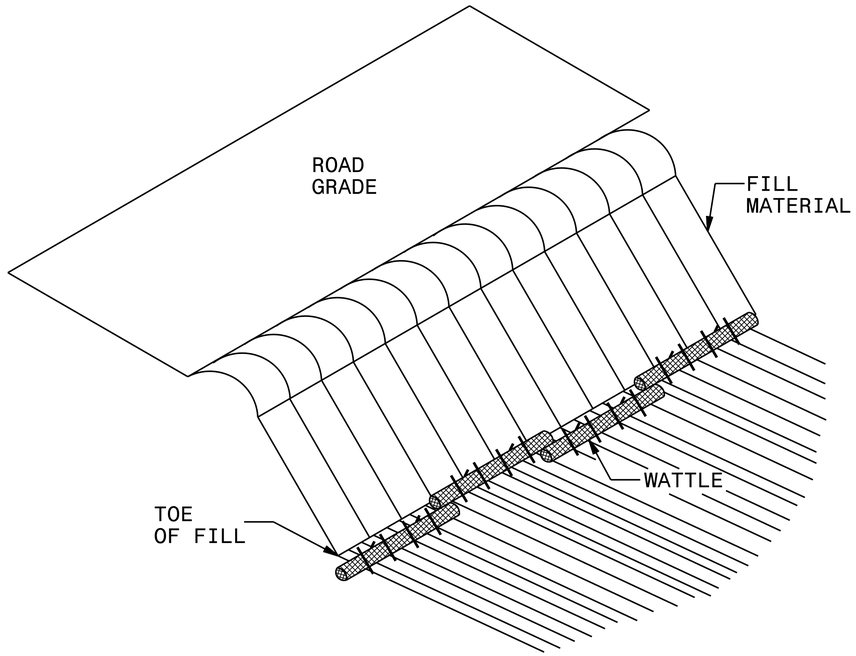
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

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		

10/2/2015

PROJECT REFERENCE NO.	SHEET NO.
17BPJ4.R.87	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE BARRIER DETAIL



ISOMETRIC VIEW

NOTES:

USE MINIMUM 18 IN. NOMINAL DIAMETER EXCELSIOR 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.

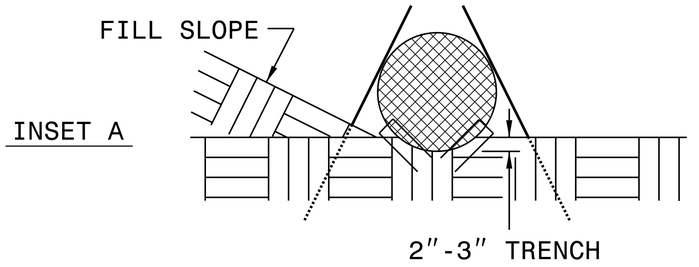
USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

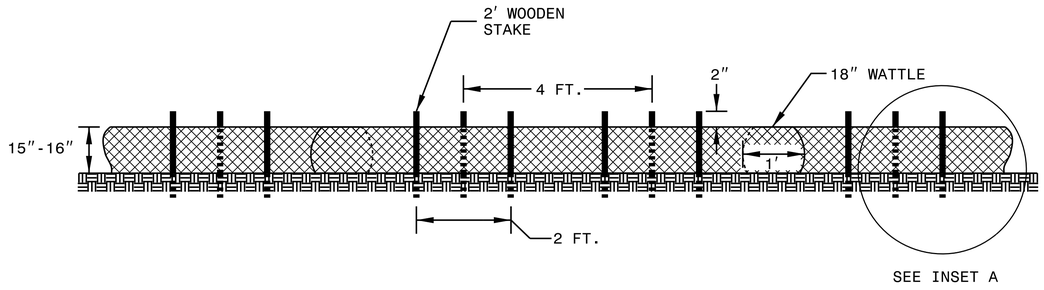
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

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

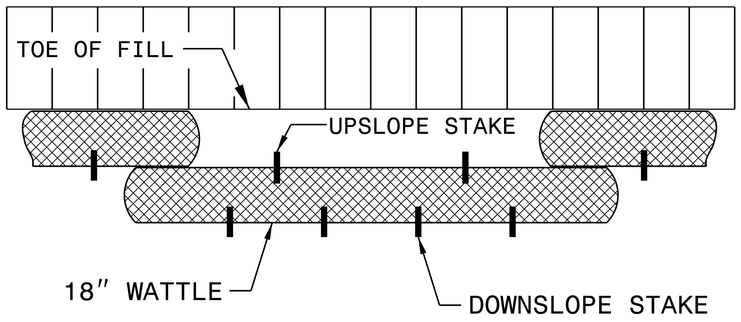
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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





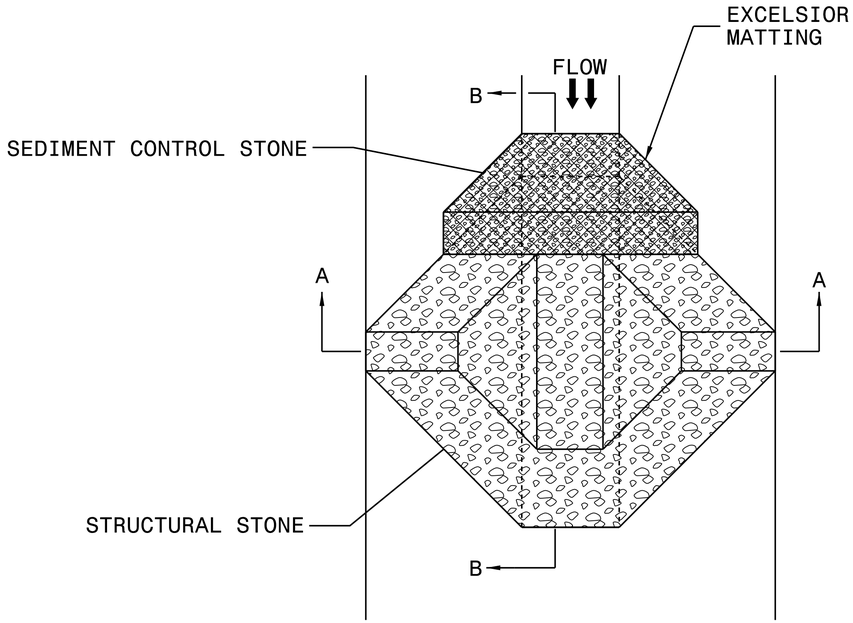
FRONT VIEW



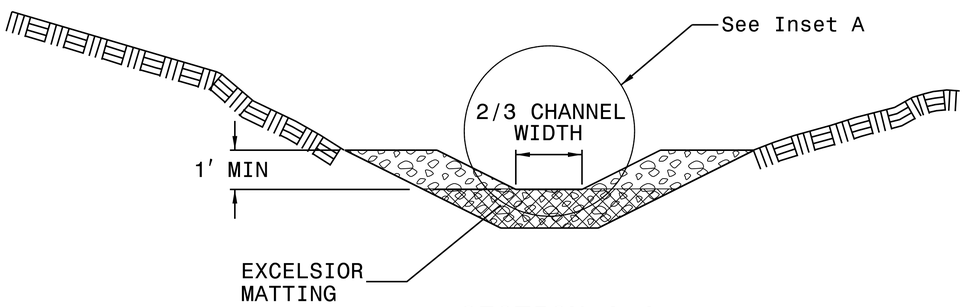
TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.87	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN



SECTION A-A

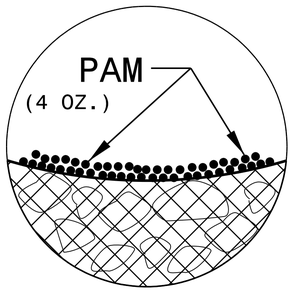
NOTES:

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

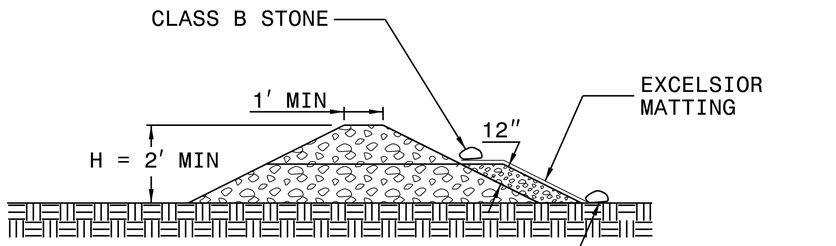
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION B-B

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
17BPJ4R87	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

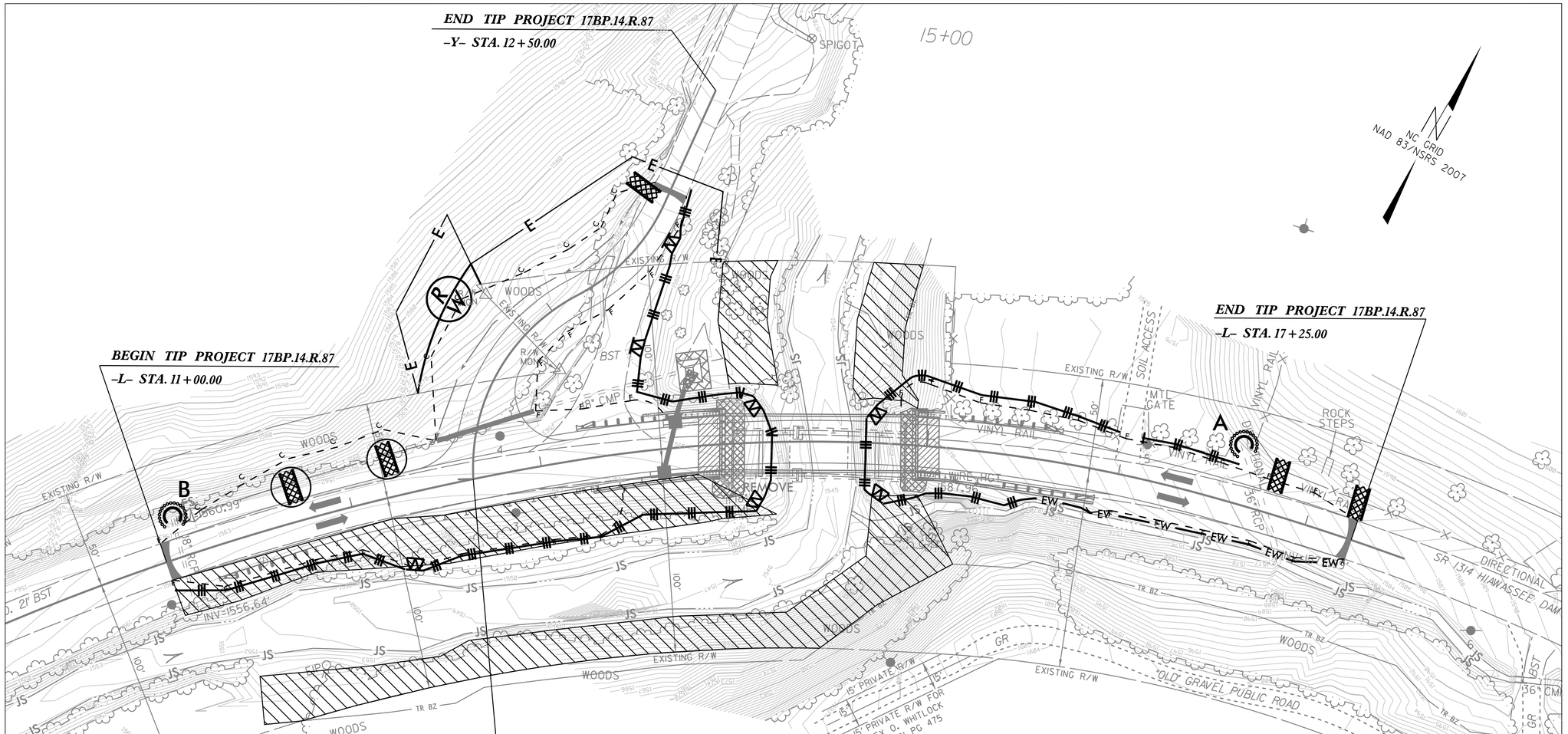
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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.
17BP.14.R.87	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL PLAN



INTERSECTION
-L- STA.12+64.23=
-Y- STA.10+00.00

CONTRACTOR SHALL INSTALL AN ONSITE CONCRETE WASHOUT STRUCTURE PER THE NCDOT DETAIL AND SPECIAL PROVISIONS. ACTUAL LOCATION OF THE STRUCTURE SHALL BE DETERMINED IN THE FIELD. CONCRETE WASHOUT STRUCTURE SHALL BE MAINTAINED BY THE CONTRACTOR. ALL CONCRETE TRUCKS SHALL USE THE CONCRETE WASHOUT STRUCTURE. NO WASHOUT OF CONCRETE TRUCKS SHALL BE ALLOWED EXCEPT IN THE CONCRETE WASHOUT STRUCTURE.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

NOTE:

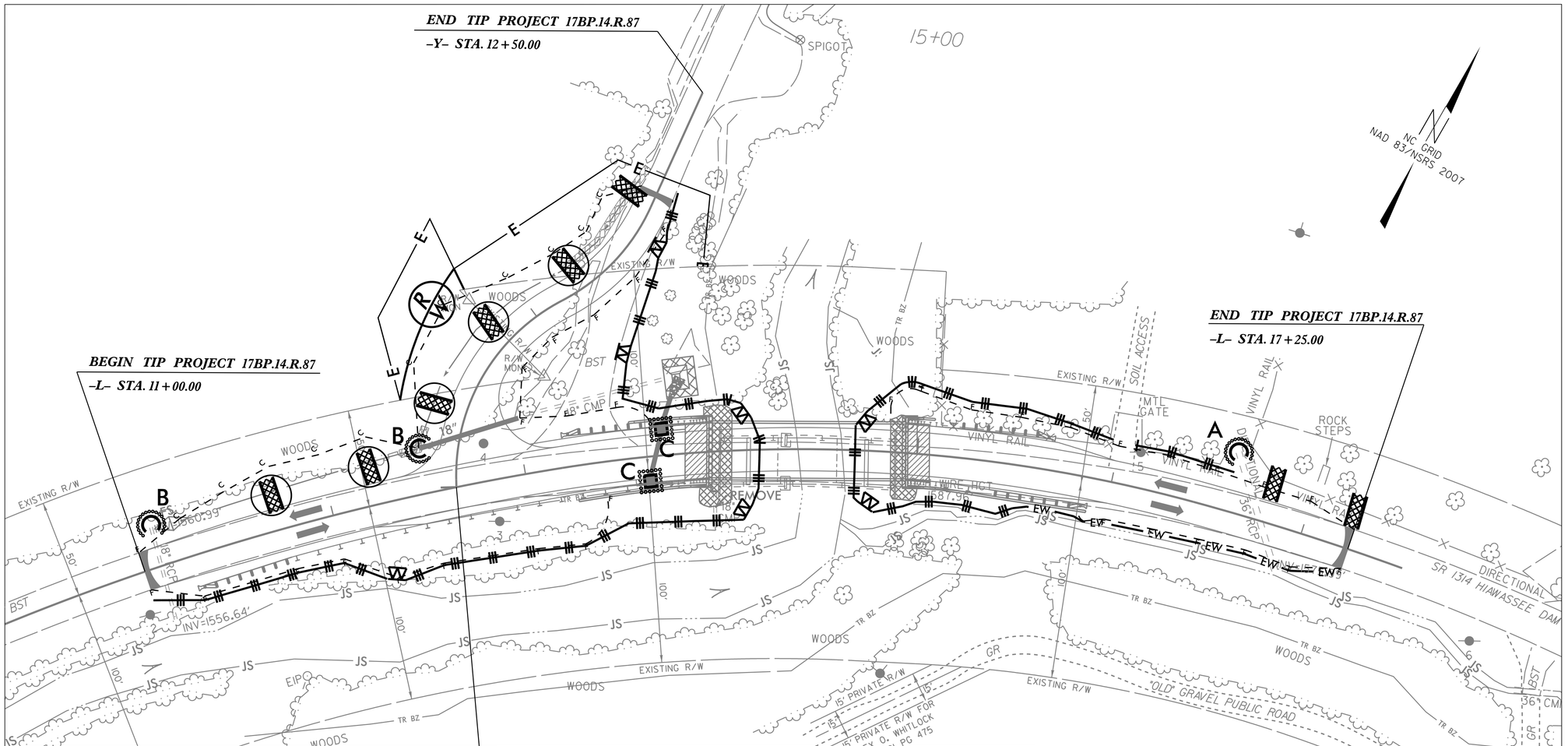
PLACE TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

BRIDGE REMOVAL AND CULVERT CONSTRUCTION SHALL BE PER REQUIREMENTS IN THE NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL

TROUT STREAM BUFFER ZONE

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.87	EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL PLAN



INTERSECTION
-L- STA.12+64.23=
-Y- STA.10+00.00

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.
STA 11+25 TO 12+40 -L- LT
STA 10+27 TO 11+25 -Y- LT

INSTALL NATIVE STONE FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.
STA 12+40 TO 12+50 -L- LT
STA 10+17 TO 10+27 -Y- LT
STA 11+25 TO 12+00 -Y- LT

For Slopes Excavated Greater Than 10 feet Install Matting for Erosion Control on Entire Slope as Work Allows.

Place Matting for Erosion Control on Slope as Work Allows.
Sta. 12+00 to Sta. 13+50 RT -L-
Sta. 12+00 to Sta. 12+50 LT -L-
Sta. 13+00 to Sta. 13+75 LT -L-
Sta. 15+00 to Sta. 15+50 LT -L-