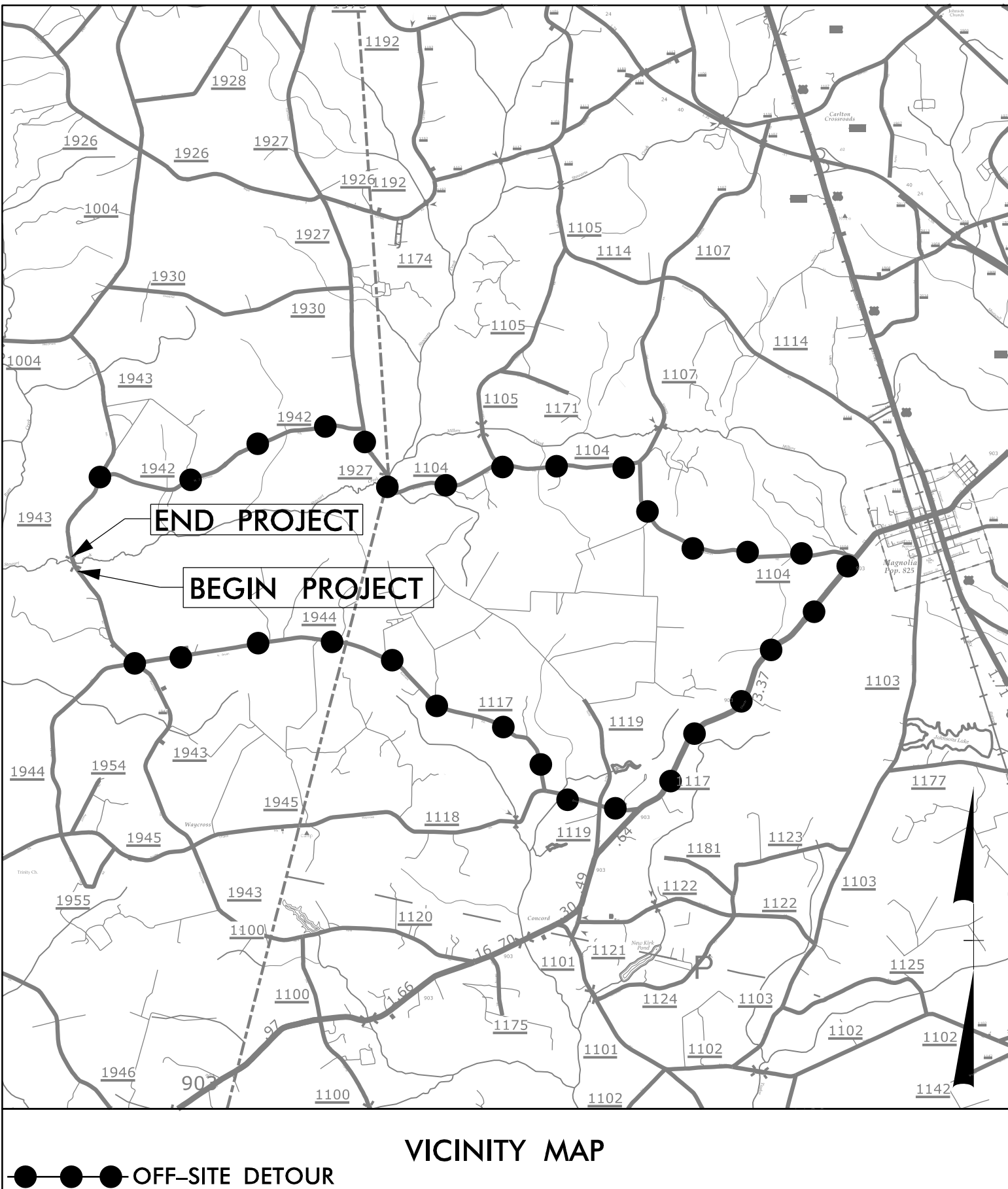


09/05/2015

PROJECT: 17BP.3.R.12

CONTRACT:



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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS


SAMPSON COUNTY

LOCATION: BRIDGE NO. 30 OVER STEWART CREEK
ON SR 1943 (WAYCROSS ROAD)

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


NAD 83/NSRS 2007

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.3.R.12	1	40
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

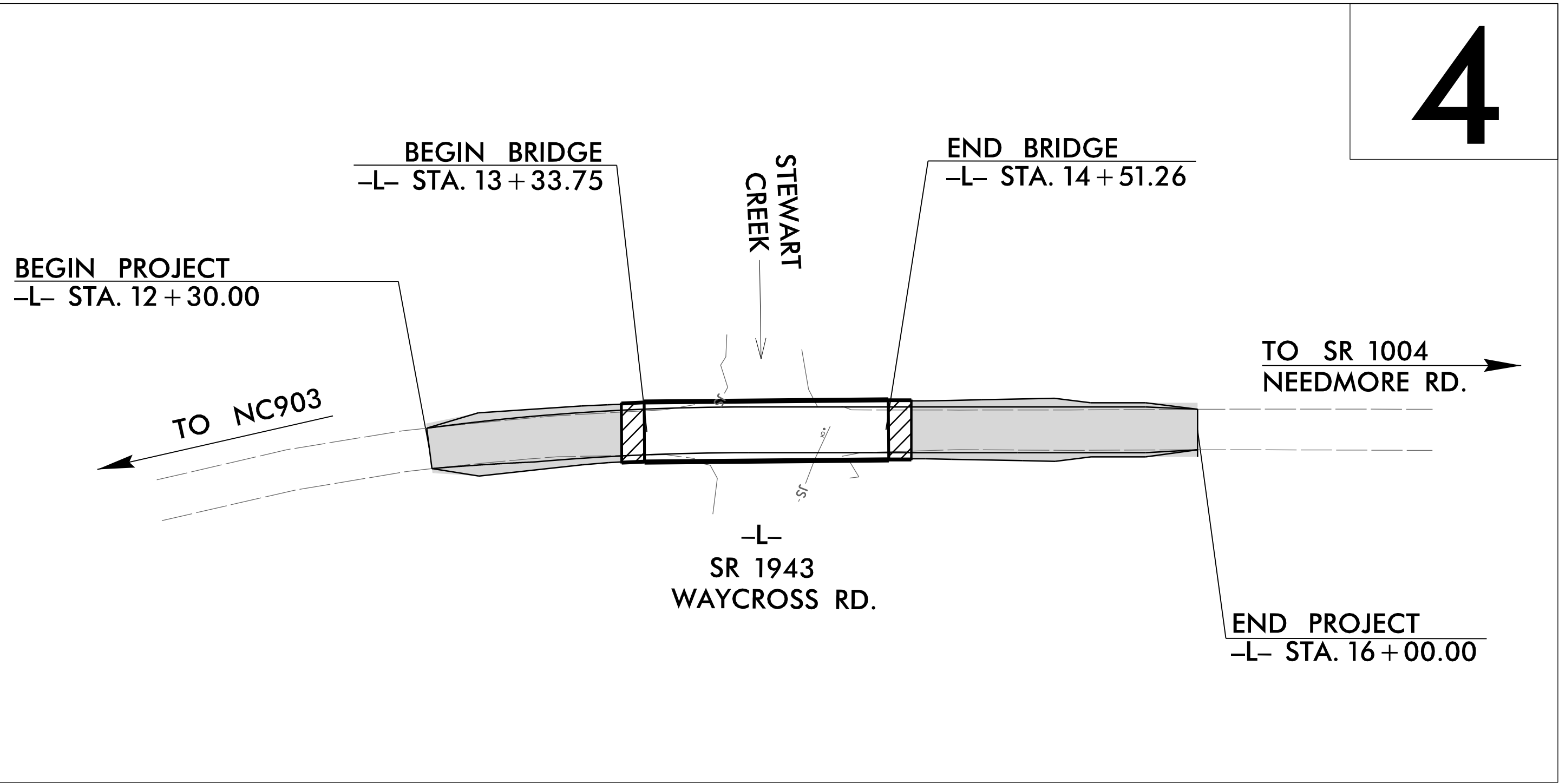


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421 FAYETTEVILLE ST., STE 400
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T 919.380.8750

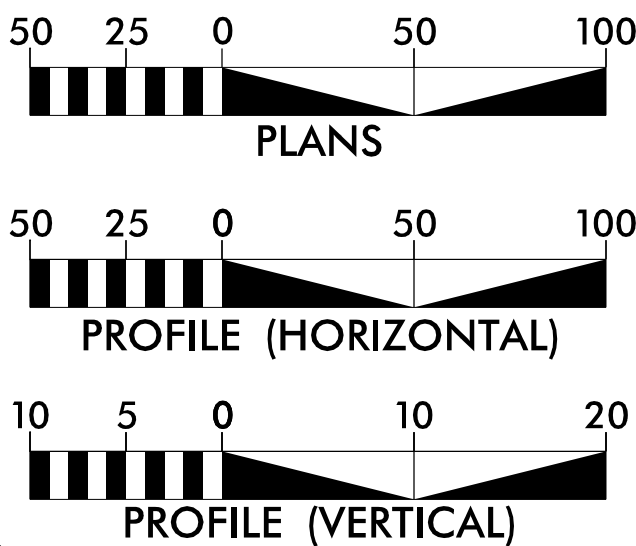
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www.stewartinc.com
PROJECT #1812002



**ECOLOGICAL
ENGINEERING**
1151 SE Cary Parkway, Suite 101 • Cary NC 27518



GRAPHIC SCALES



DESIGN DATA

ADT 2008 = 710
ADT 2030 = UNKNOWN
DHV = UNKNOWN
D = UNKNOWN
T = 6%
V = 55 MPH
CLASS = MINOR COLL.
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT 17BP.3.R.12 = 0.048 MI
LENGTH STRUCTURE PROJECT 17BP.3.R.12 = 0.022 MI
TOTAL LENGTH PROJECT 17BP.3.R.12 = 0.070 MI

Prepared in the Office of:
STEWART
For
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBRUARY 2013

LETTING DATE:
APRIL 4, 2013

BEN CRAWFORD, PE
PROJECT ENGINEER

MICHAEL TAYLOR, PE
PROJECT DESIGN ENGINEER

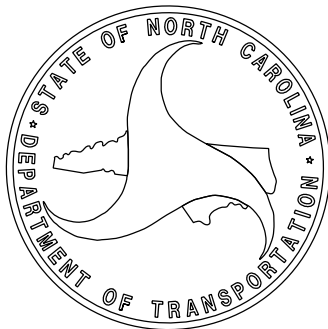
AMANDA GLYNN, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER

Professional Engineer Seal for Benjamin R. Crawford, No. 25506, State of North Carolina, dated 2/28/13.

Professional Engineer Seal for Michael Taylor, No. 32606, State of North Carolina, dated 2/28/13.




STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS


INDEX OF SHEETS, GENERAL NOTES, AND LIST OF
STANDARD DRAWINGS

PROJECT REFERENCE NO.
17BP.3.R.12

SHEET NO.
1A

ROADWAY DESIGN
ENGINEER


2/28/13
Benjamin R. Crawford



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Raleigh, NC 27603
T 919.386.9792
www.stewartinc.com

STEWART

INDEX OF SHEETS	
SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
3	SUMMARY OF QUANTITIES
3A	EARTHWORK, DRAINAGE, GUARDRAIL, SHOULDER BERM GUTTER, ASPHALT PAVEMENT REMOVAL, AND ROW DATA SUMMARIES
4	PLAN & PROFILE SHEET
TMP-1 THRU TMP-2	TRANSPORTATION MANAGEMENT PLANS
SD-1	SIGN DESIGN PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
UO-1 THRU UO-2	UTILITY BY OTHERS PLANS
X-1 THRU X-3	CROSS-SECTIONS
S-1 THRU S-19	STRUCTURE PLANS

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	
422.10	Reinforced Bridge Approach Fills
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
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
876.02	Guide for Rip Rap at Pipe Outlets

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 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.

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.

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

FOUR COUNTY EMC

STAR TELEPHONE MEMBERSHIP CORP

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

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



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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	(23)
Existing Fence Line	-x-x-x-
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	-----
False Sump	◇

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
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	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	-----
Proposed Control of Access	-----
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage /Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----
Proposed Permanent Easement with Iron Pin and Cap Marker	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Curb Ramp	-----
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	-----

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR:	
Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	-----
Paved Ditch Gutter	-----
Storm Sewer Manhole	-----
Storm Sewer	-----

UTILITIES:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

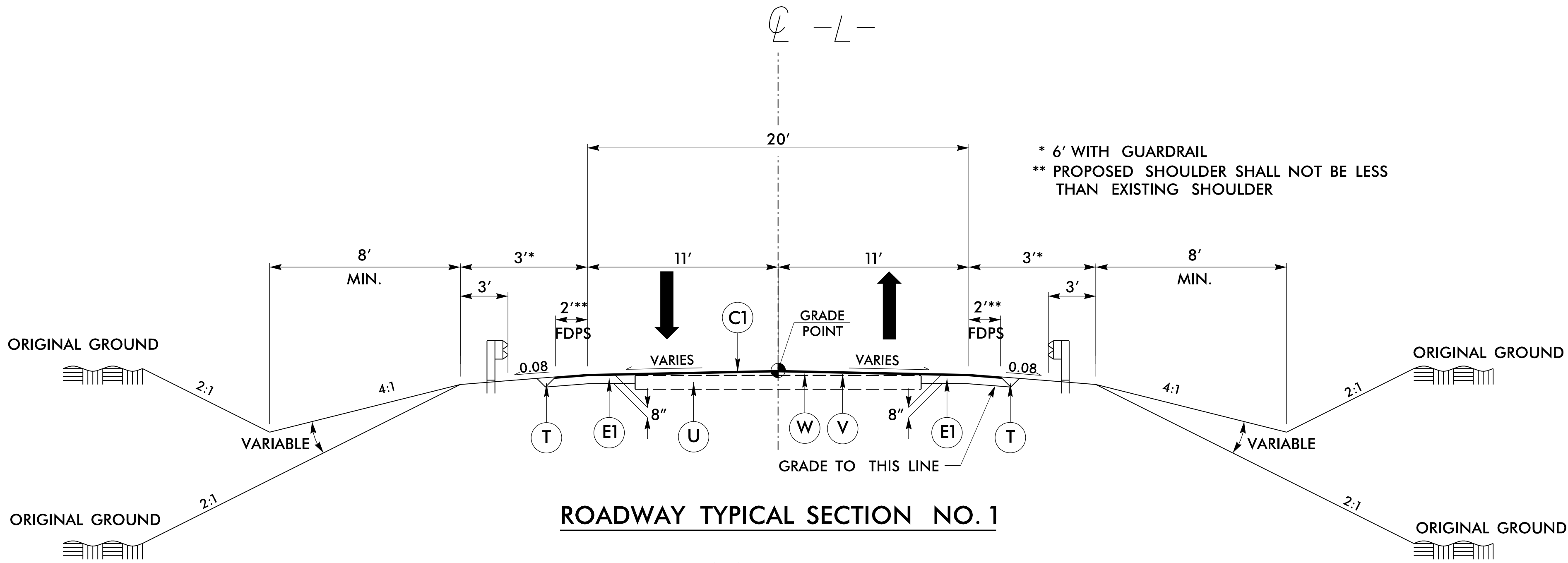
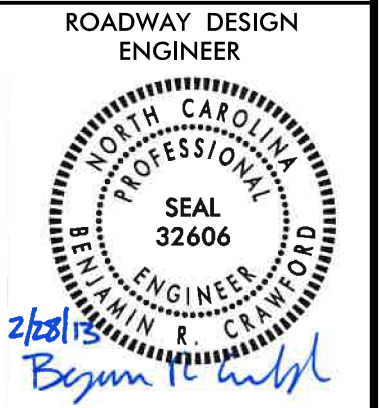
Utility Pole	-----
Utility Pole with Base	-----
Utility Located Object	-----
Utility Traffic Signal Box	-----
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	-----
Underground Storage Tank, Approx. Loc.	-----
A/G Tank; Water, Gas, Oil	-----
Geoenvironmental Boring	-----
U/G Test Hole (S.U.E.*)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

8/17/99

BRIDGE 810030

PROJECT REFERENCE NO.	SHEET NO.
17BP.3.R.12	2
RW SHEET NO.	

SEAL ONLY FOR
ROADWAY DESIGN
ELEMENTS

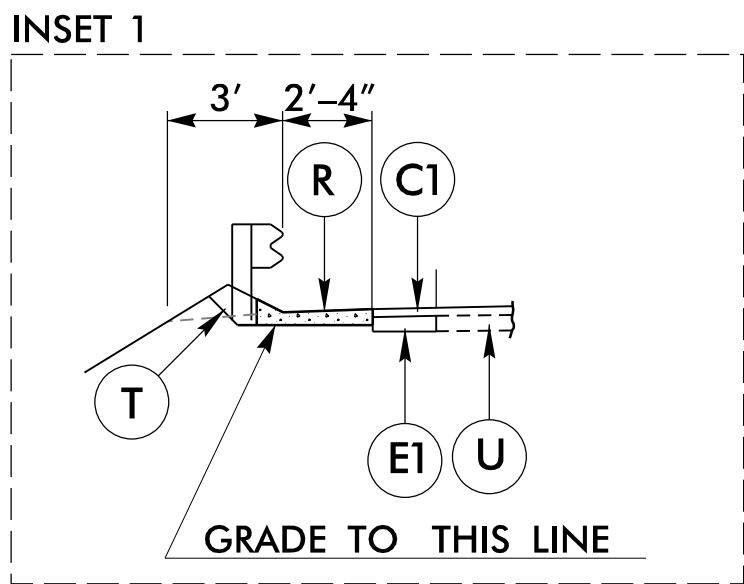


ROADWAY TYPICAL SECTION NO. 1

USE ROADWAY TYPICAL SECTION

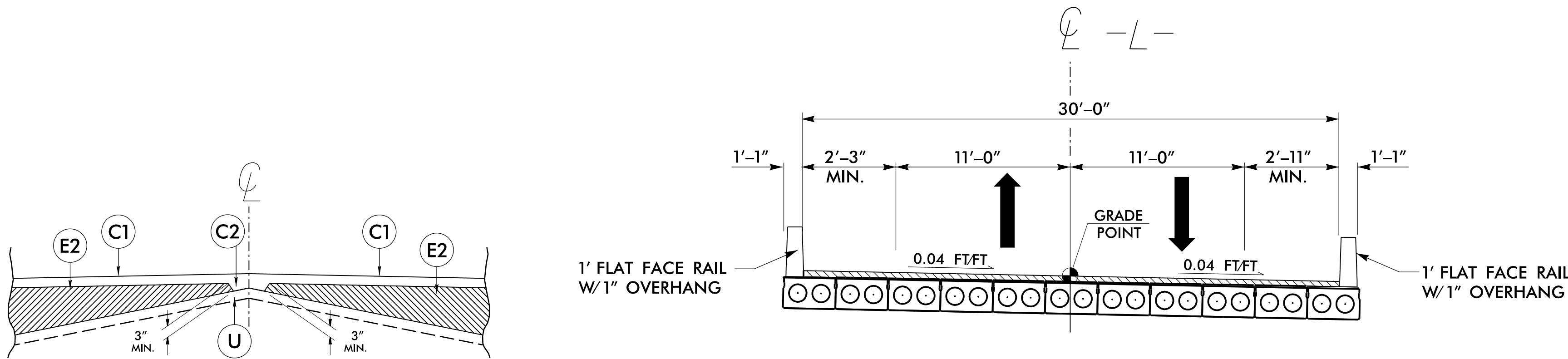
-L- STA. 12+30.00 TO -L- STA. 13+33.75 (BEGIN BRIDGE)
-L- STA. 14+51.26 (END BRIDGE) TO -L- STA. 16+00.00

NOTES: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
SEE STRUCTURE PLANS FOR ASPHALT DEPTHS.



USE INSET 1

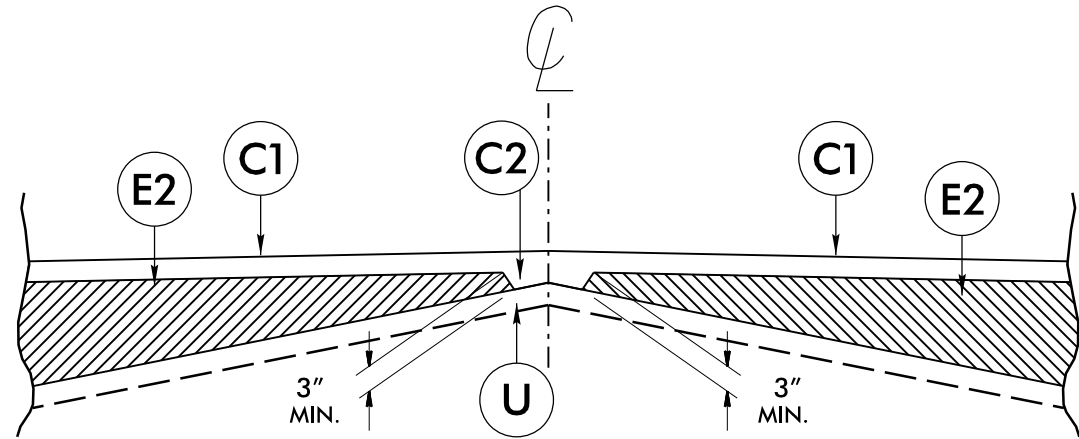
-L- STA. 13+02.88 TO -L- STA. 13+22.26 (BEGIN APP. SLAB) RT
-L- STA. 14+62.26 (END APP. SLAB) TO -L- STA. 14+75.00 RT



BRIDGE 30 TYPICAL SECTION

USE BRIDGE TYPICAL SECTION

-L- STA. 13+33.75 TO -L- STA. 14+51.26
BRIDGE TYPE = 21" CORED SLAB



DETAIL SHOWING METHOD OF WEDGING

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 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.
R	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLING
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)

5/28/99

BRIDGE 810030

PROJECT REFERENCE NO.	SHEET NO.
17BP.3.R.12	3

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

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

Item Number	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0029000000-N	SP	Lump Sum		REINF BRG APPR ***** (-L- STA. 13+92.51)
0043000000-N	226	Lump Sum		GRADING
0335200000-E	310	12	LF	15" DRAINAGE PIPE
1330000000-E	607	330	SY	INCIDENTAL MILLING
1489000000-E	610	80	TON	ASP CONC BASE CRS B25.0B
1525000000-E	610	220	TON	ASP CONC SURF CRS SF9.5A
1575000000-E	620	19	TON	ASP FOR PLANT MIX
2286000000-N	806	1	EA	MASNRY DRAINAGE STRUCT
2355000000-N	840	1	EA	FRAME W/GRATE 840.29 STD
2556000000-E	840	39	LF	SHOULDER BERM GUTTER
3030000000-E	846	50	LF	STL BM GUARDRAIL
3150000000-N	862	3	EA	ADDIT GUARDRAIL POSTS
3215000000-N	862	4	EA	GR ANCHOR TYPE III
3270000000-N	862	4	EA	GR ANCHOR TYPE 350
3649000000-E	862	1	TON	RIP RAP, CLASS B
3656000000-E	876	5	SY	GEOTEXTILE FOR DRAINAGE
4400000000-E	876	440	SF	WORK ZONE SIGNS (STAT)

Item Number	Sec #	Quantity	Unit	Description
4410000000-E	1110	94	SF	WORK ZONE SIGNS (BARR)
4422000000-N	1110	40	DAY	PORT CHANGE MSG SIGN (SHORT TERM)
4445000000-E	1145	64	LF	BARRICADES (TYPE III)
4810000000-E	1205	2960	LF	PAINT PVMT MARKINGS 4"
4900000000-N	1251	5	EA	PERM RAISED PVMT MARKERS
6000000000-E	1605	690	LF	TEMPORARY SILT FENCE
6012000000-E	1610	5	TON	SEDIMENT CONTROL STONE
6015000000-E	1610	1	ACR	TEMPORARY MULCHING
6018000000-E	1615	50	LB	SEED FOR TEMP SEEDING
6021000000-E	1620	0.25	TON	FERT FOR TEMP SEEDING
6024000000-E	1620	200	LF	TEMPORARY SLOPE DRAINS
6029000000-E	1622	790	LF	SAFETY FENCE
6036000000-E	SP	1125	SY	MATTING FOR EROS CONTROL
6042000000-E	1631	25	LF	1/4" HARDWARE CLOTH
6048000000-E	SP	71	SY	FLOAT TURBIDITY CURTAIN
6071012000-E	1632	285	LF	COIR FIBER WATTLE
6071020000-E	SP	10	LB	POLYACRYLAMIDE (PAM)
6084000000-E	SP	3	ACR	SEEDING AND MULCHING
6090000000-E	1660	50	LB	SEED FOR REPAIR SEEDING

Item Number	Sec #	Quantity	Unit	Description
6093000000-E	1660	0.25	TON	FERT FOR REPAIR SEEDING
6096000000-E	1661	50	LB	SEED FOR SUPP SEEDING
6108000000-E	1661	1	TON	FERTILIZER TOPDRESSING
6117000000-N	1662	4	EA	RESPONSE FOR EROS CONTROL
8035000000-N	1665	1	LS	REMV EXIST STR ***** (-L- STA. 13+92.51)
8112730000-N	1667	2	EA	PDA TESTING
8121000000-N	SP	1	LS	UNCL STR EXCAV STA ***** (-L- STA. 13+92.51)
8182000000-E	1670	59.8	CY	CLASS A CONCRETE (BRIDGE)
8210000000-N	402	1	LS	BRG APPR SLAB ***** (-L- STA. 13+92.51)
8217000000-E	450	8804	LB	REINF STEEL (BRIDGE)
8364000000-E	412	525	LF	HP12X53 PILES
8384000000-E	420	910	LF	HP14X73 PILES
8393000000-N	422	14	EA	PILE REDRIVES
8505000000-E	425	230.75	LF	VERT CONC BARRIER RAIL
8608000000-E	450	130	TON	RIP RAP II (2'-0")
8657000000-N	450	1	LS	ELASTOMERIC BEARINGS
8762000000-E	450	1150	LF	3'-0"X 1'-9"PRESTR SLABS

3/14/2013 810030.rdw psh_03.dgn
USER: bccawford

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
-L- STA. 12 + 30.00	-L- STA. 13 + 33.75	0	147	147	
-L- STA. 14 + 51.26	-L- STA. 16 + 00.00	3	155	152	
PROJECT TOTAL:		3	302	299	
EST 5% TO REPLACE TOP SOIL ON BORROW PIT				15	
GRAND TOTAL:		3		314	

[illegible]

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD ¹
-L-	13 + 22.75	13 + 58.78	CL	90
-L-	14 + 28.46	14 + 62.26	CL	78
TOTAL:				168

SURVEY LINE	STATION	STATION	LOCATION	LENGTH (FT)
-L-	13 + 02.88	13 + 22.26	RT	20
-L-	14 + 62.26	14 + 81.40	RT	19
TOTAL:				39

REVISIONS

[illegible]

"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





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 GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND 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	M-350	III	CAT-I	VI MOD	BIC	AT-1	EA	G	NG						
-L-	12 + 52.30	BRIDGE (13 + 33.75)	RT	81.25					2.91'	6'		62.5'		1.25'			1		1													
-L-	12 + 55.14	BRIDGE (13 + 33.75)	LT	81.25					2.91'	6'		62.5'		1.25'			1		1													
-L-	BRIDGE (14 + 51.26)	15 + 31.40	RT	81.25					2.92'	6'		62.5'		1.25'			1		1													
-L-	BRIDGE (14 + 51.26)	15 + 31.15	LT	81.25					2.92'	6'		62.5'		1.25'			1		1													
TOTAL				325													4		4													
TOTAL				325																												
DEDUCTIONS FOR ANCHOR UNITS				275																												
TOTAL				50																												
ADDITIONAL GUARDRAIL POSTS = 3																																

DEDUCTIONS FOR ANCHOR UNITS			
4	TYPE III @	18.75' =	75
4	GRAU 350 @	50' =	200
TOTAL		=	275

8/17/99

BRIDGE 810030

NOTE: PARCEL 3 NOT USED

PROJECT REFERENCE NO.		SHEET NO.	
17BP.3.R.12		4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
			
 STEWART		 ECOLOGICAL ENGINEERING	

NAD 83/NSRS 2007

PI Sta 12+49.41
 $\Delta = 12^{\circ}54'25.3"$ (RT)
 $D = 4'46'28.7"$
 $L = 270.32'$
 $T = 135.74'$
 $R = 1,200.00'$
 $SE = .04$
 $RUNOFF = 84'$

POT Sta. 10+00.00

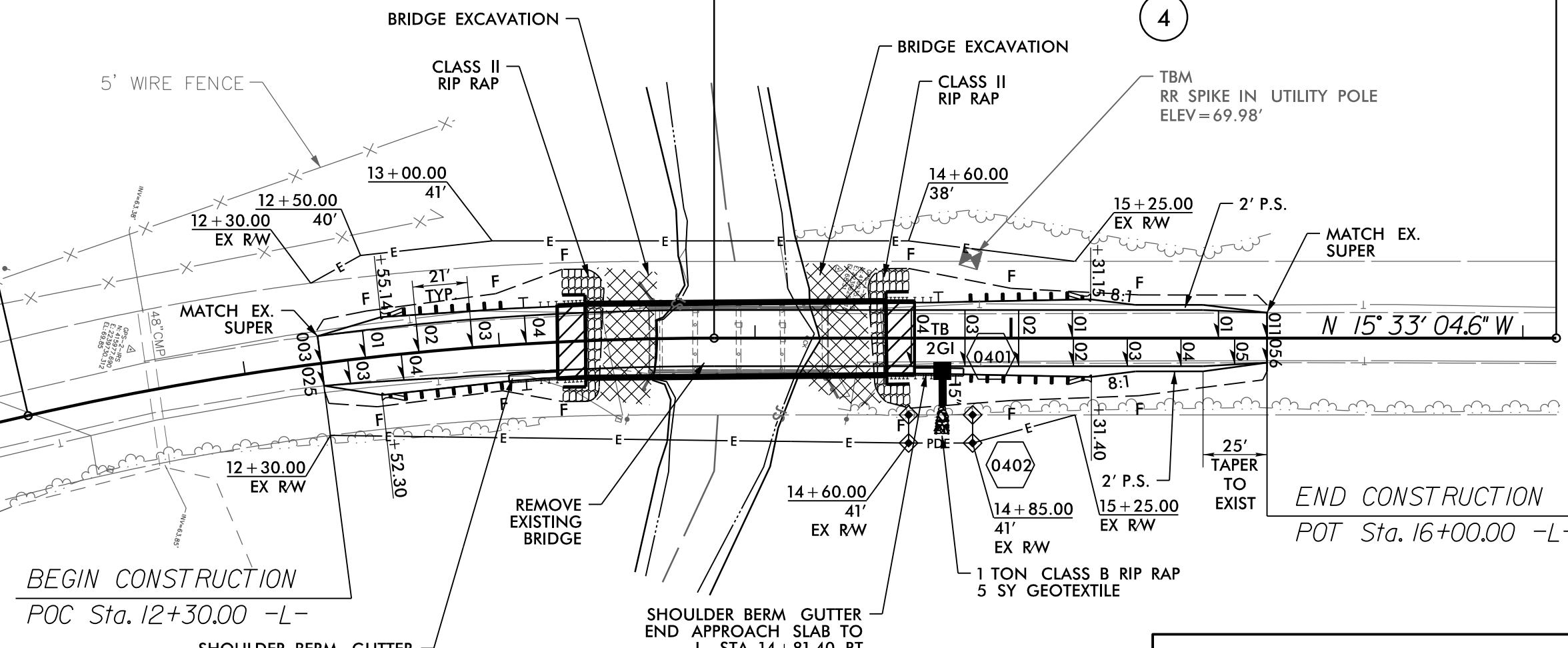
PC Sta. 11+13.68

PT Sta. 13+84.00

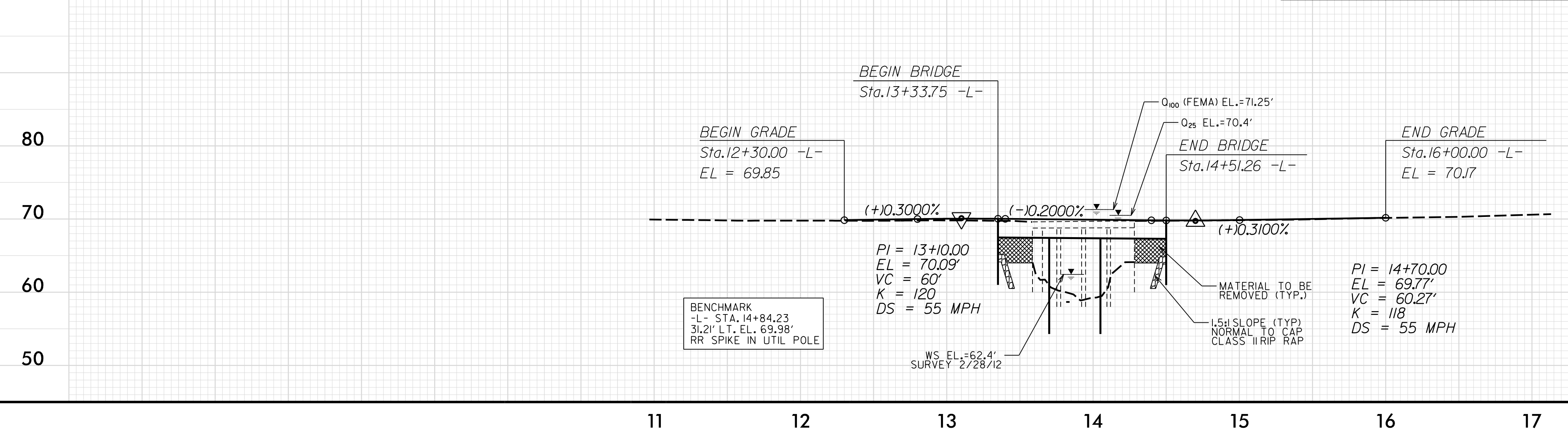
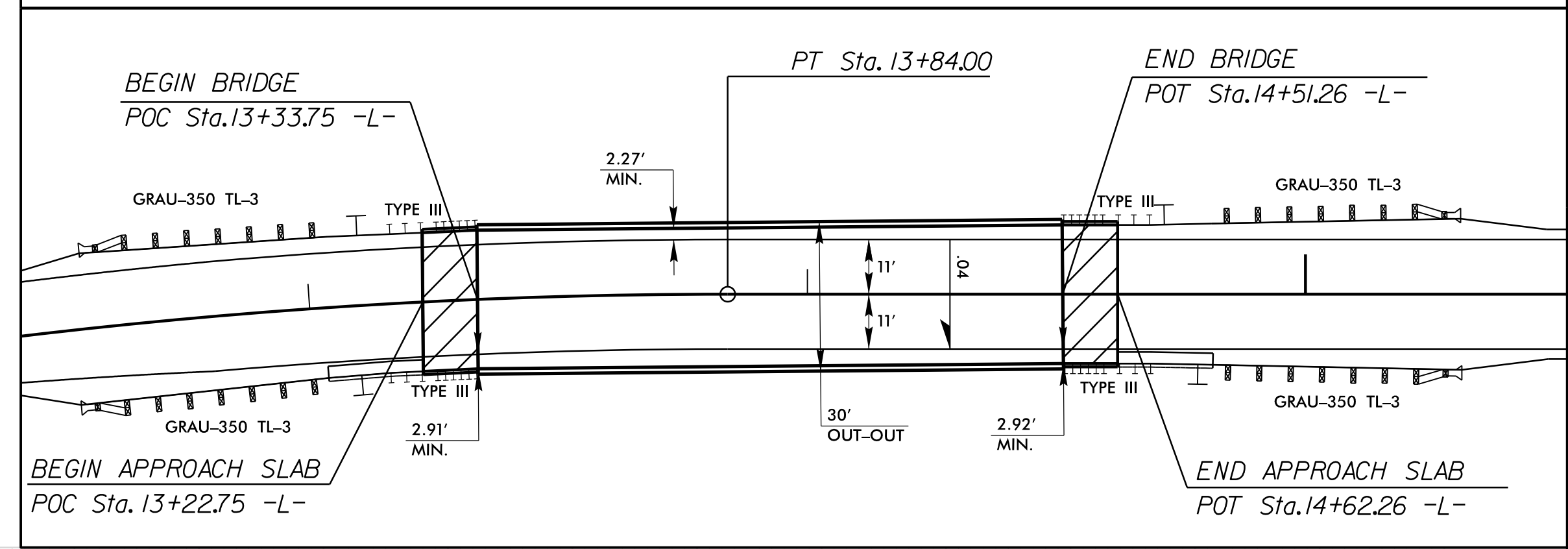
POT Sta. 17+13.05

1
L. WADDELL MERRITT
DB 904 PG 794
PIN 17070060001

PRESTAGE FARMS, INC.
DB 1123 PG 743
PIN 18008476001



BRIDGE SKETCH

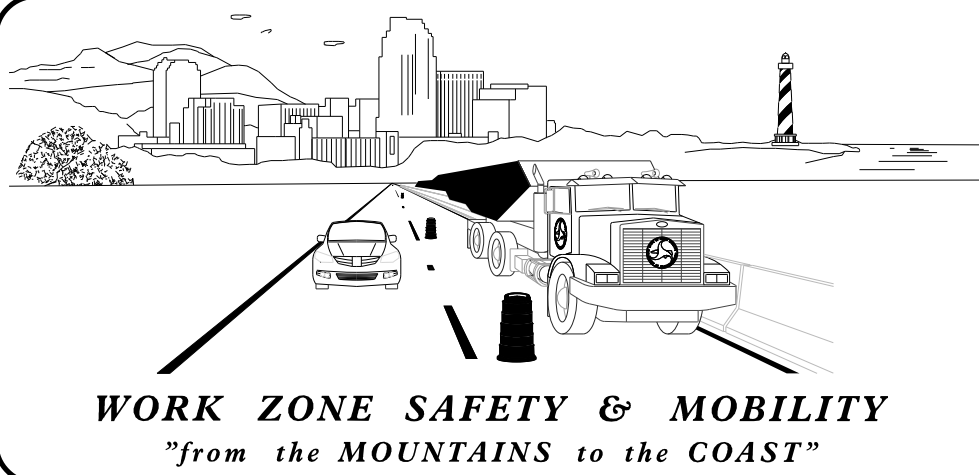
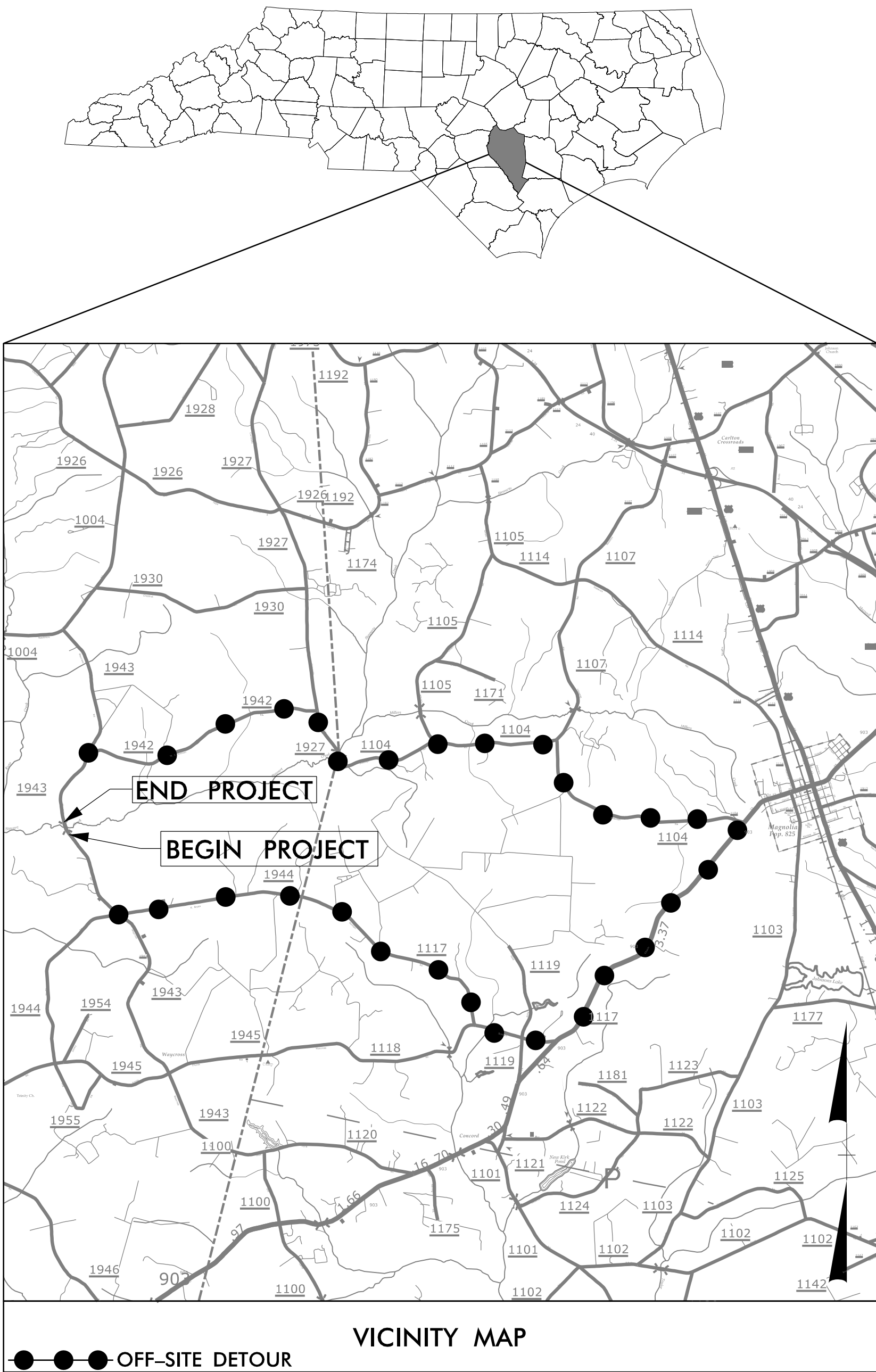


BRIDGE HYDRAULIC DATA			
DESIGN DISCHARGE	= 2,800	CFS	
DESIGN FREQUENCY	= 25	YRS	
DESIGN HW ELEVATION	= 70.4	FT	
BASE DISCHARGE	= 4,533	CFS	
BASE FREQUENCY	= 100 (FEMA)	YRS	
BASE HW ELEVATION	= 71.25	FT	
OVERTOPPING DISCHARGE	= 2,625	CFS	
OVERTOPPING FREQUENCY	= 25 (-)	YRS	
OVERTOPPING ELEVATION	= 69.8	FT	
DATE OF SURVEY	= 2/28/2012		
W.S. ELEVATION AT DATE OF SURVEY	= 62.4	FT	

REVISIONS

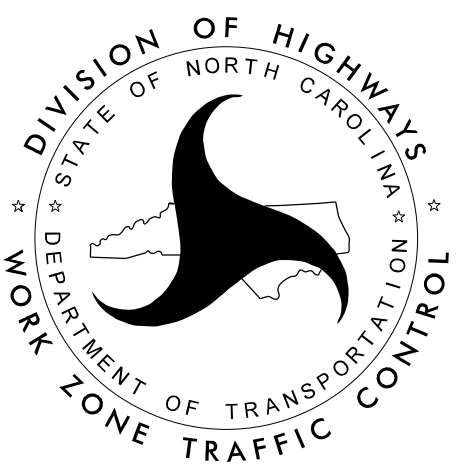
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN
SAMPSON COUNTY



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

KATHERINE HITE, PE DIVISION TRAFFIC ENGINEER



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, INDEX OF SHEETS, AND LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1A	TRANSPORTATION OPERATIONS PLAN: (GENERAL NOTES, MANAGEMENT STRATEGIES, AND PHASING)
TMP-2	OFF-SITE DETOUR
SD-1	SPECIAL SIGN DESIGN

ROADWAY STD. DRAWINGS

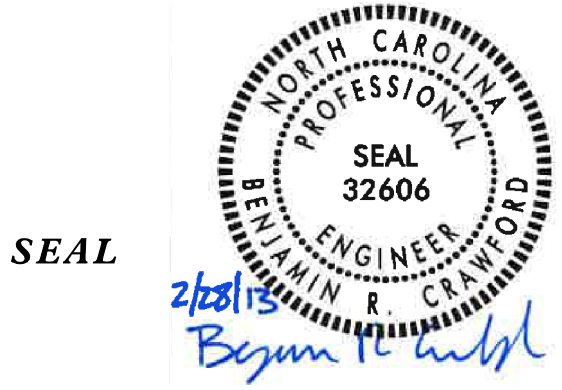
THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANAUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)
1261.01	GUARDRAIL AND BARRIER DELINEATORS SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS TYPE
1262.01	GUARDRAIL END DELINEATION



BEN CRAWFORD, PE TRAFFIC CONTROL PROJECT ENGINEER

JONATHAN HEFNER, PE TRAFFIC CONTROL DESIGN ENGINEER



SHEET NO.
TMP-1

17BP.3.R.12

TIP PROJECT:

GENERAL NOTES / LOCAL 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 TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- B) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- C) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.
- PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.
- D) 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 OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- E) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

- G) INSTALL PAVEMENT MARKINGS ON THE FINAL SURFACE AS FOLLOWS:

<u>ROAD NAME</u>	<u>MARKINGS</u>	<u>MARKERS</u>
SR 1943 (WAYCROSS ROAD)	PAINT	RAISED

- H) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

MANAGEMENT STRATEGIES

- CLOSE SR 1943 (WAYCROSS ROAD) TO THROUGH TRAFFIC BETWEEN SR 1944 AND SR 1942.
- DIRECT THROUGH TRAFFIC TO OFF SITE DETOUR.
- MAINTAIN LOCAL TRAFFIC.

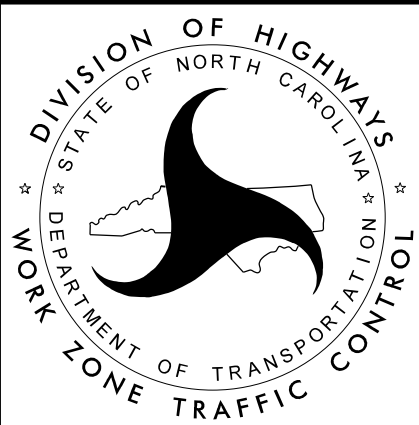
PHASING

- STEP 1 INSTALL CHANGEABLE MESSAGE SIGNS TWO WEEKS PRIOR TO CLOSURE. CHANGEABLE MESSAGE SIGNS MAY BE REMOVED TWO WEEKS AFTER CLOSURE. INSTALL DETOUR SIGNING AS SHOWN ON SHEET TMP-2 IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9. SIGNS SHALL BE COVERED IF DETOUR IS NOT OPENED WITHIN 3 DAYS OF SIGN INSTALLATION.
- STEP 2 INSTALL BARRICADES AND CLOSE SR 1943 (WAYCROSS ROAD) TO THROUGH TRAFFIC AS SHOWN ON TMP-2 AND IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9.
- STEP 3 PERFORM THE FOLLOWING WORK WITHIN THE ROAD CLOSURE:
- REMOVE THE EXISTING STRUCTURE.
 - CONSTRUCT THE PROPOSED STRUCTURE.
 - CONSTRUCT THE PROPOSED ROADWAY SECTION -L- UP TO AND INCLUDING THE FINAL LAYER OF SURFACE, THE FINAL PAVEMENT MARKINGS, AND THE FINAL PAVEMENT MARKERS FROM -L- STA. 12+30 TO -L- STA. 16+00.
- STEP 5 REMOVE ALL ROAD CLOSURE SIGNS AND BARRICADES AND OPEN SR 1943 (WAYCROSS ROAD) TO THROUGH TRAFFIC.

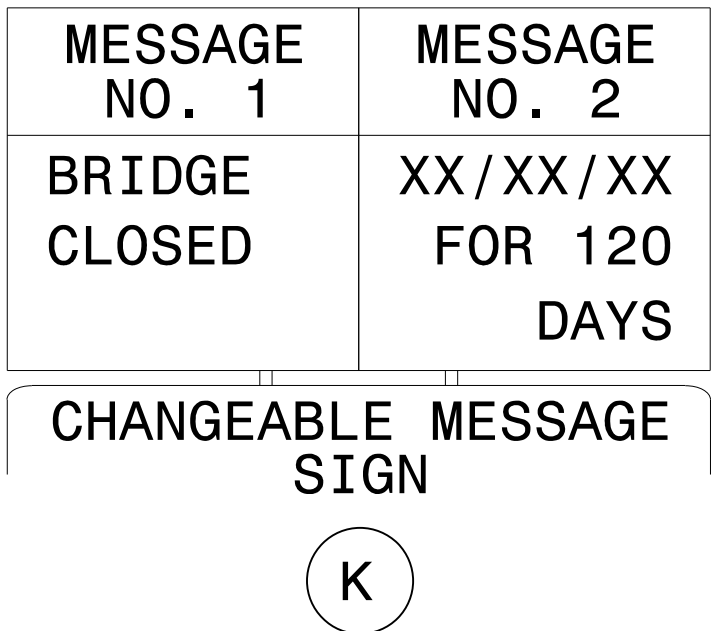
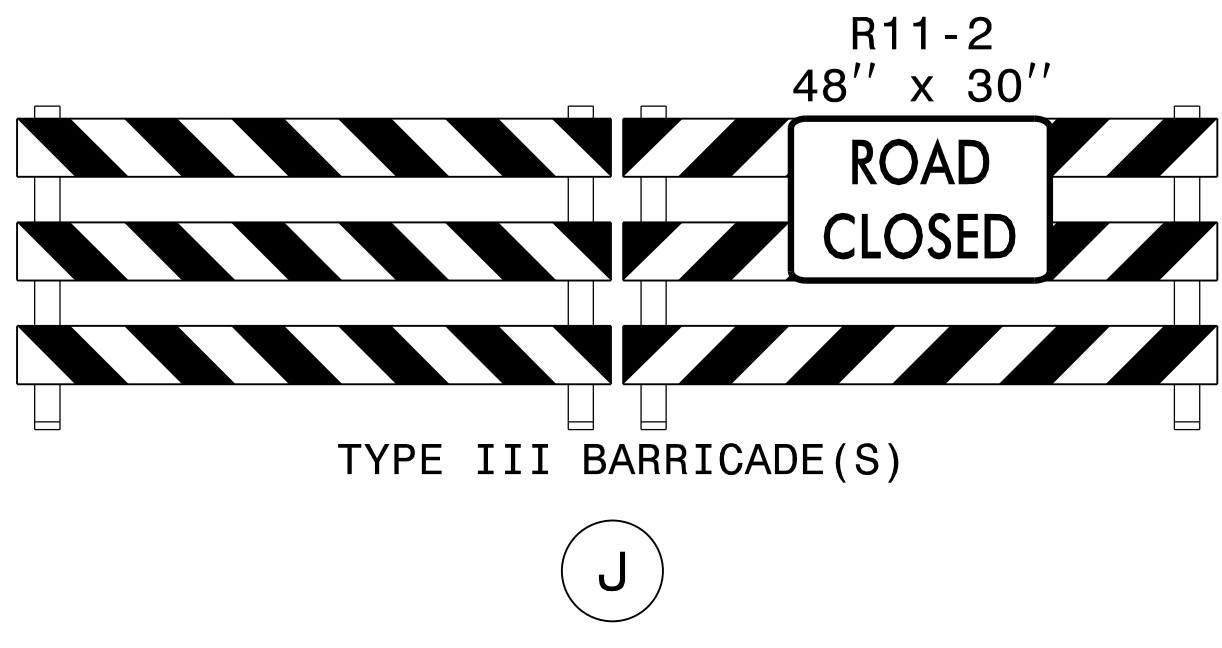
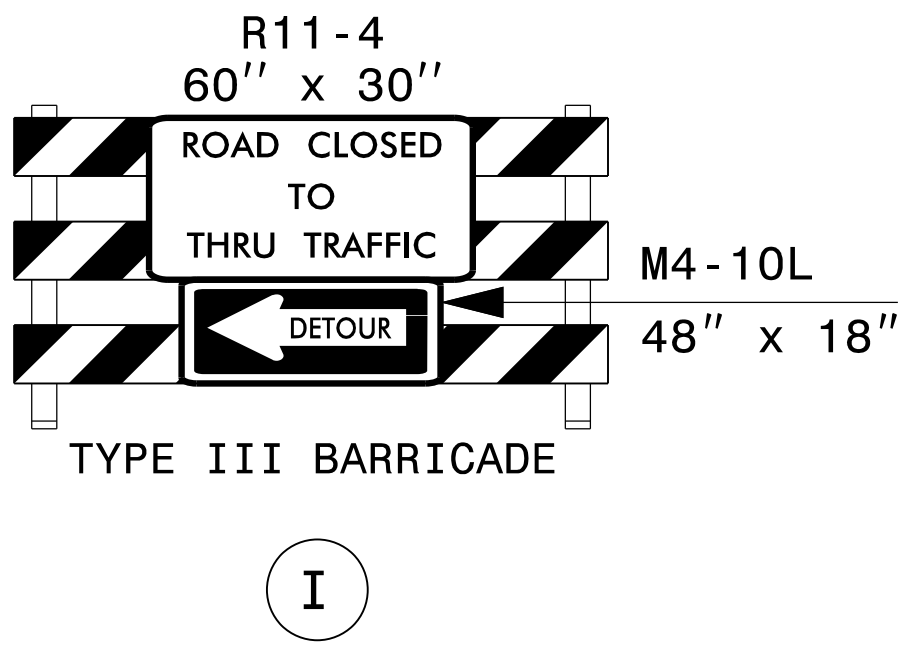
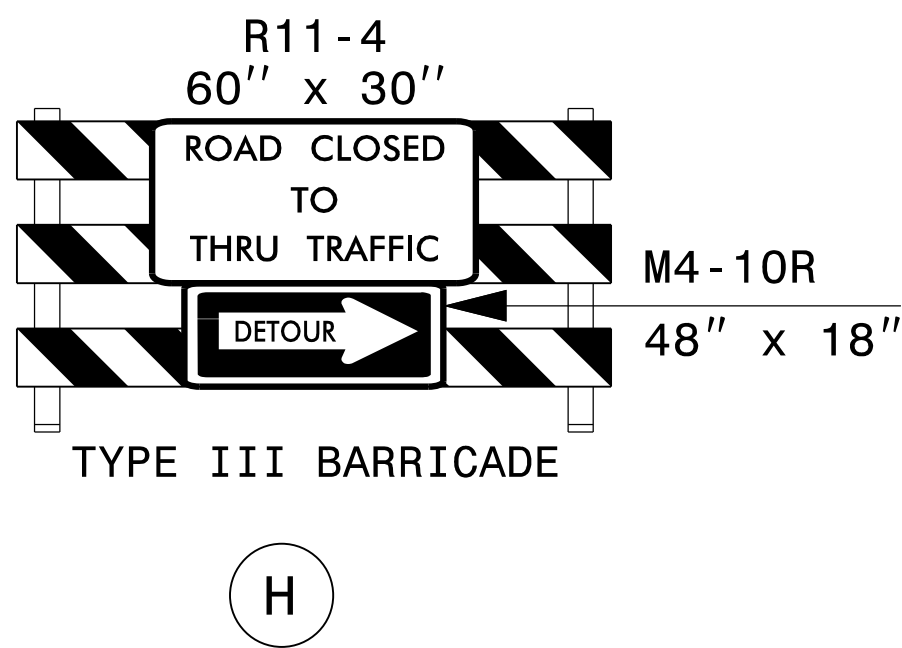
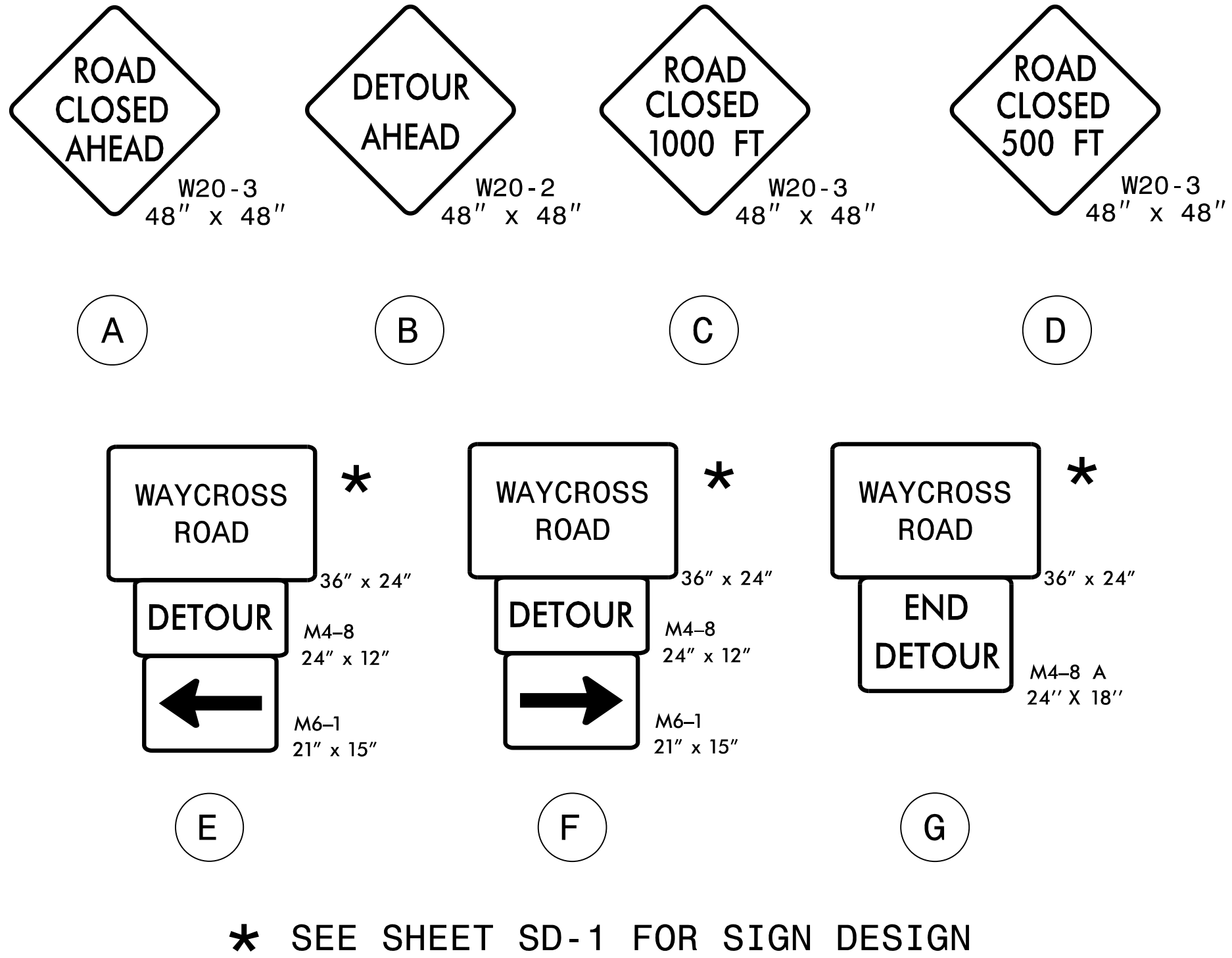
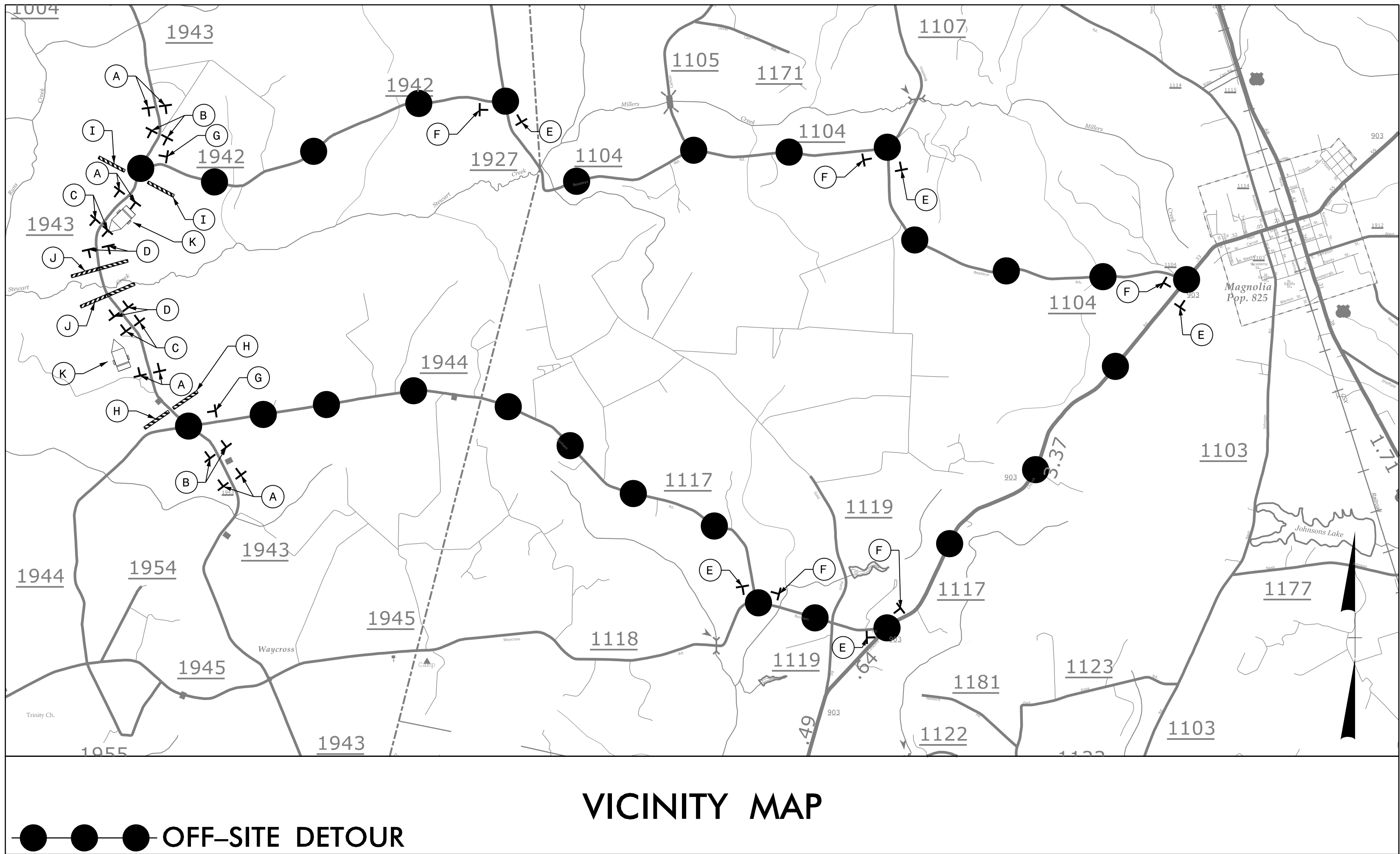


STEWART

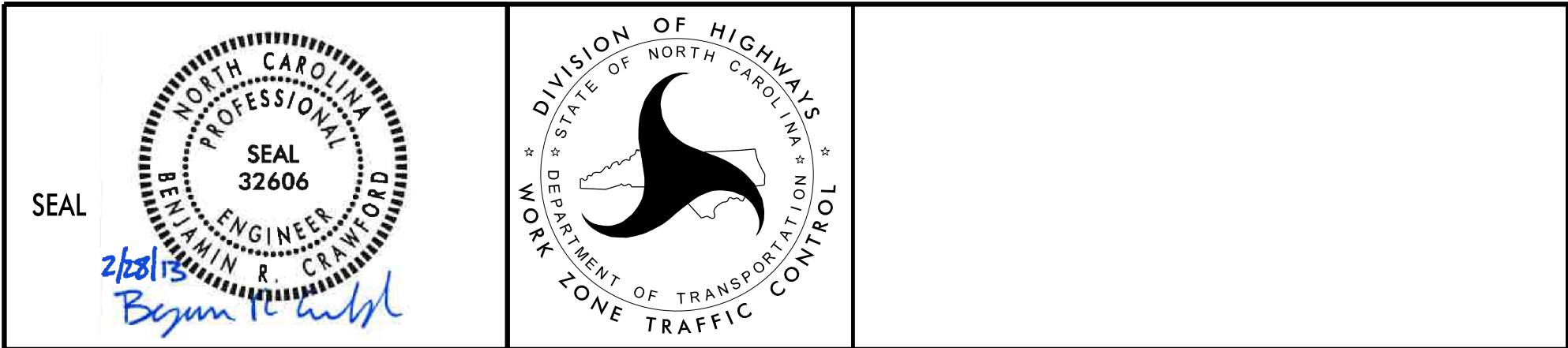
Firm License No. C-1051
421 Fayetteville St,
Suite 400
Raleigh, NC 27601
T 919.380.8750
www.stewartinc.com



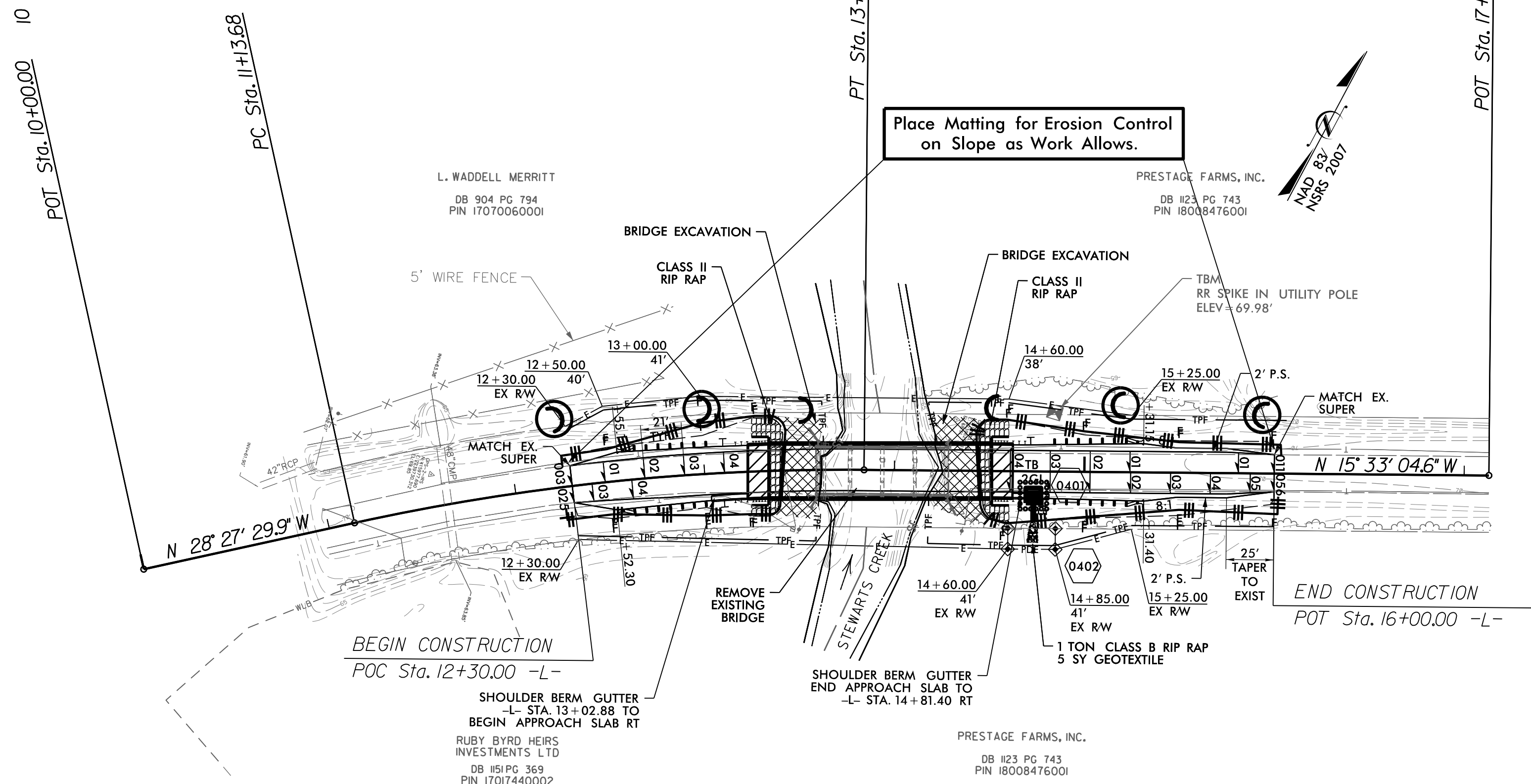
TRANSPORTATION
OPERATIONS
PLAN



NOTE:
SEE ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9 FOR SIGN SPACING

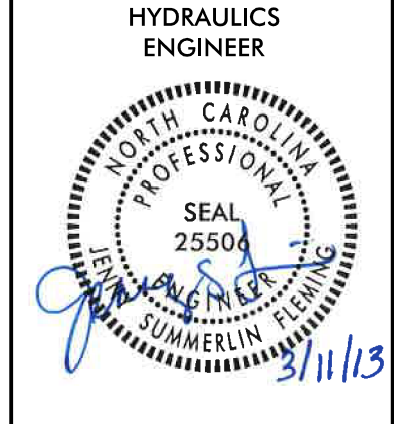


Erosion Control Plan



Jenny Fleming, PE
LEVEL III NAME

3340
LEVEL III CERTIFICATION NO.



ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

2012 STANDARD SPECIFICATIONS

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.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

2012 STANDARD DRAWINGS			
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		

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	▲ ▲ ▲ ▲ ▲
1622.01	Temporary Berms and Slope Drains	— TSD —
1630.02	Silt Basin Type B	TD
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1630.06	Special Stilling Basin	TD
1632.03	Rock Inlet Sediment Trap Type C	□
1633.01	Temporary Rock Silt Check Type-A	▨
1633.01	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	▨
1633.02	Temporary Rock Silt Check Type-B	▶
SPEC. PROV.	Coir Wattle	⤿
SPEC. PROV.	Coir Wattle Barrier	—
SPEC. PROV.	Coir Wattle with Polyacrylamide (PAM)	⤿
1634.02	Temporary Rock Sediment Dam Type-B	▢
1635.01	Rock Pipe Inlet Sediment Trap Type-A	⤿
SPEC. PROV.	Safety Fence	— TPF —

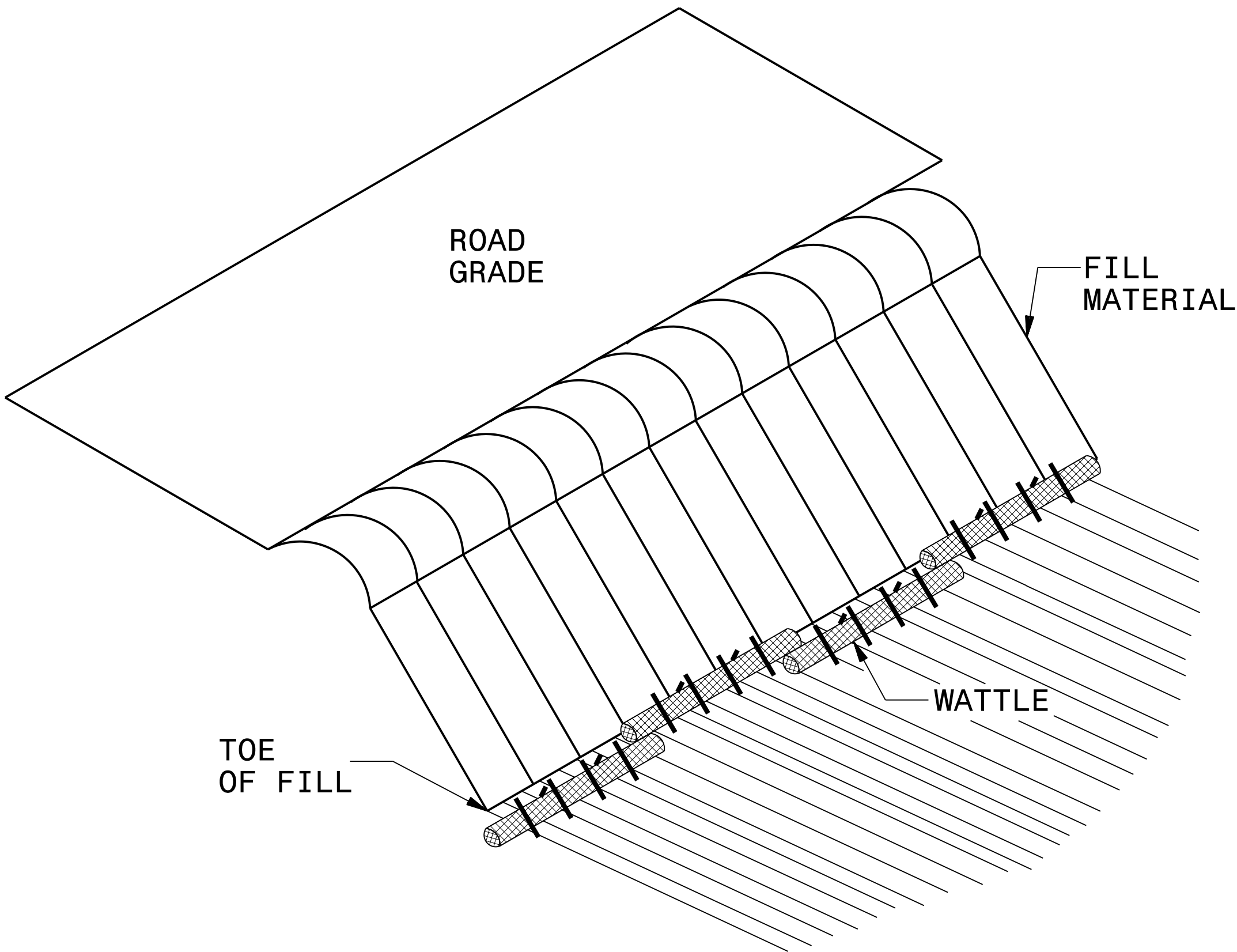
NOTE: USE WOODEN STAKES WITH ORANGE FLAGGING UNDER THE BRIDGE TO DELINEATE PERMITTED DISTURBED AREA. THIS WORK IS INCIDENTAL TO THE SAFETY FENCE.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

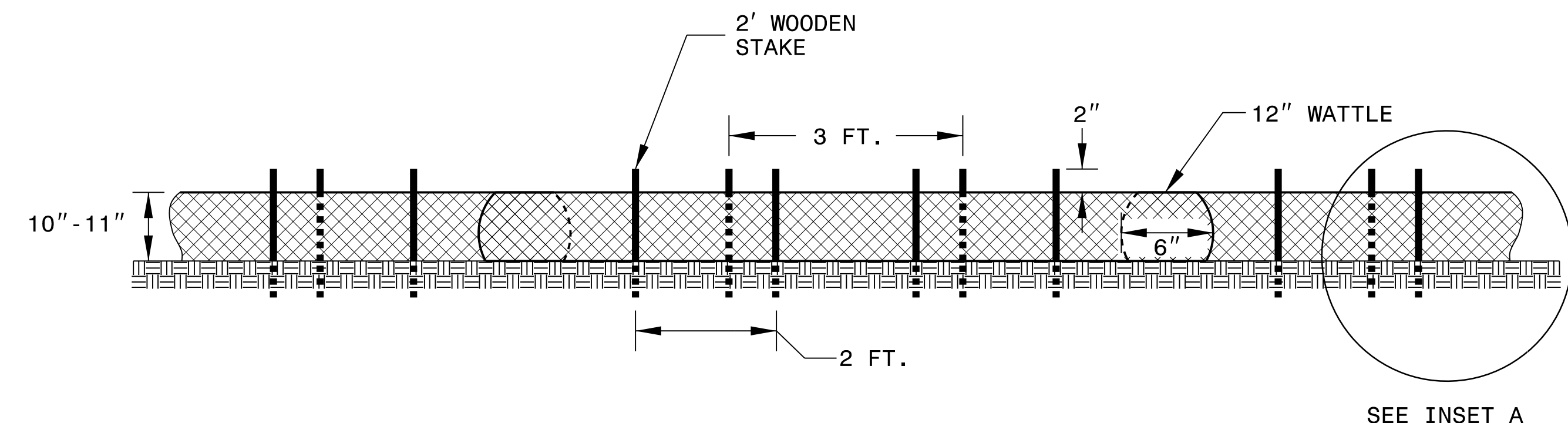
SOIL STABILIZATION TIMEFRAMES

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.

COIR FIBER WATTLE BARRIER DETAIL

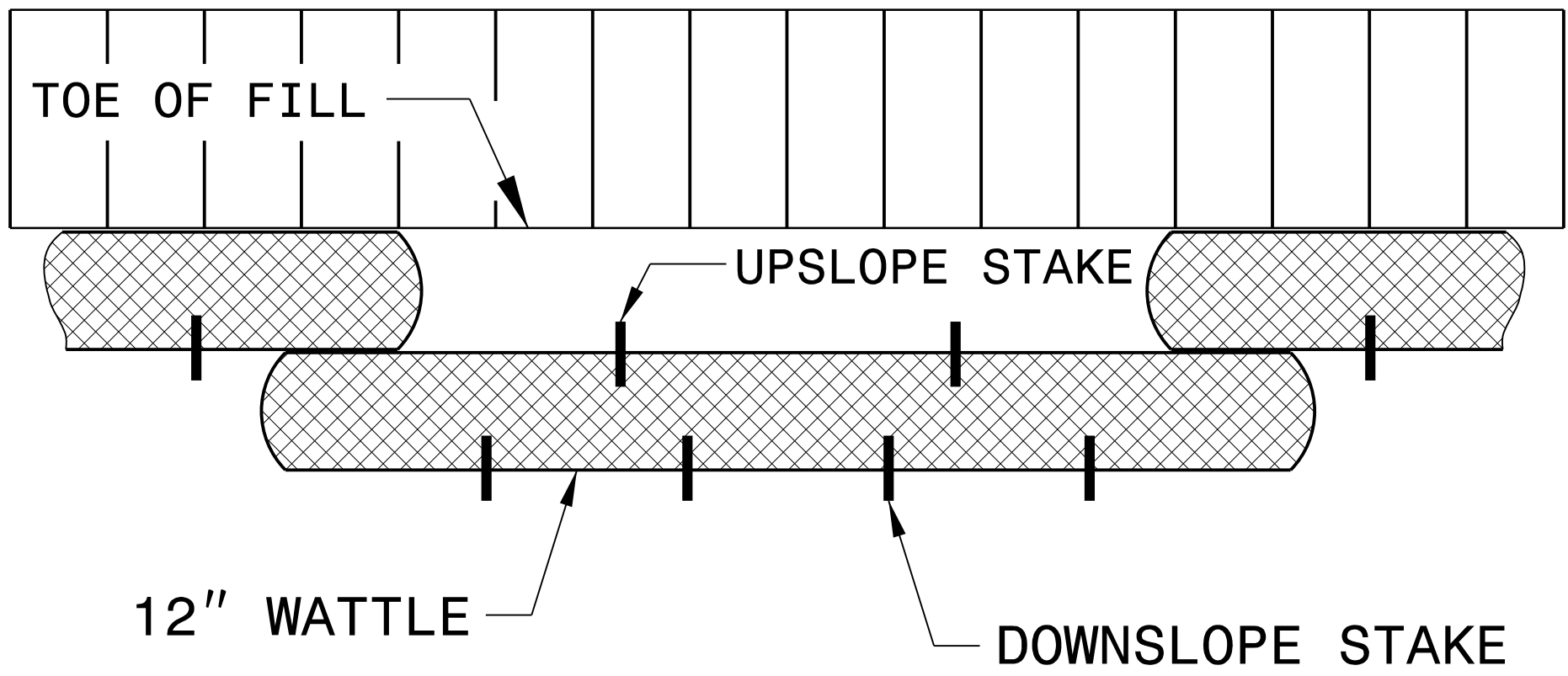
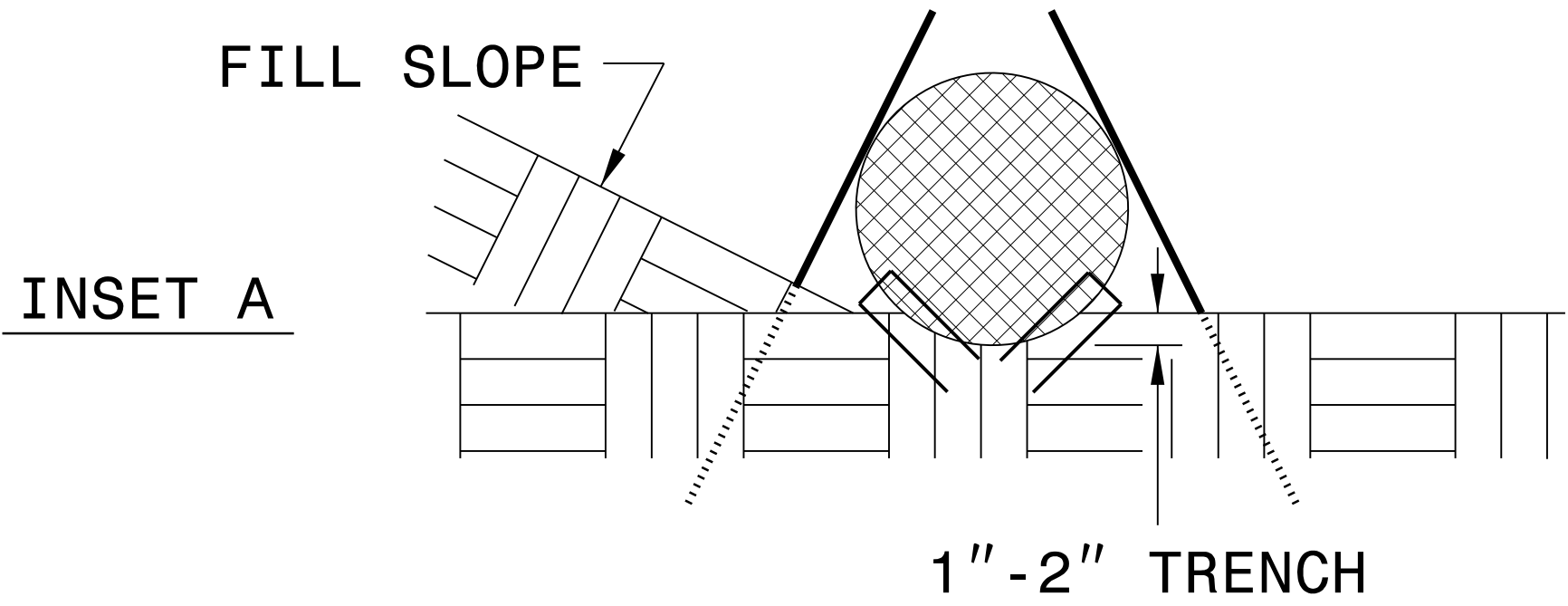


ISOMETRIC VIEW



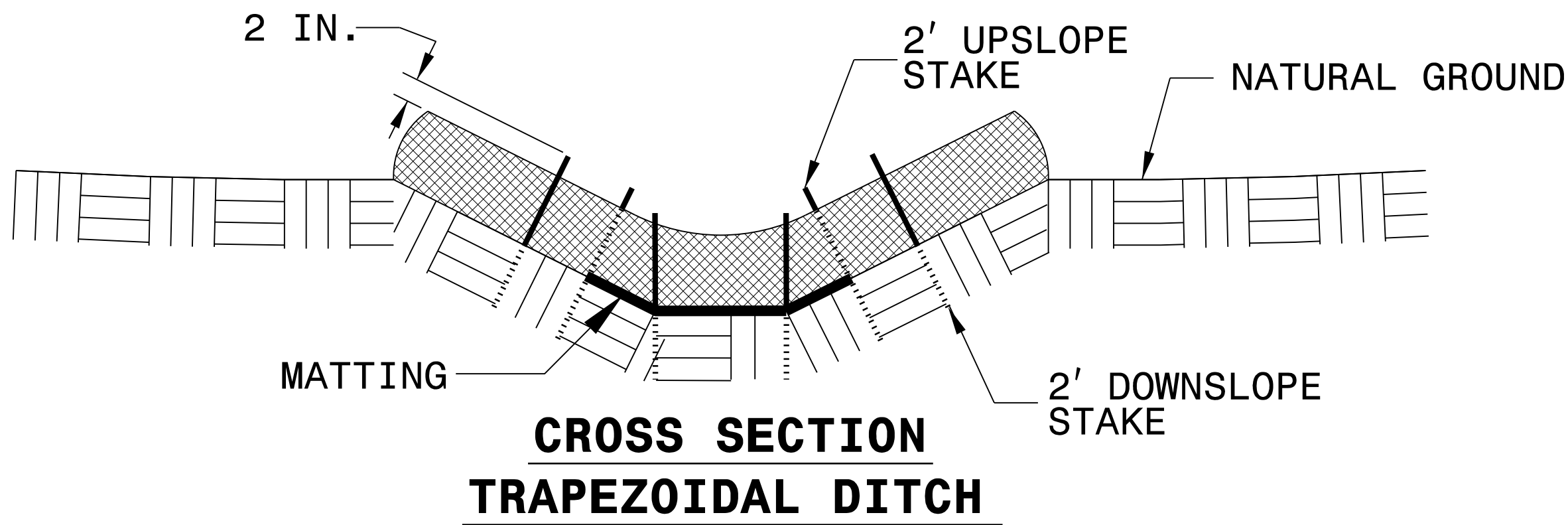
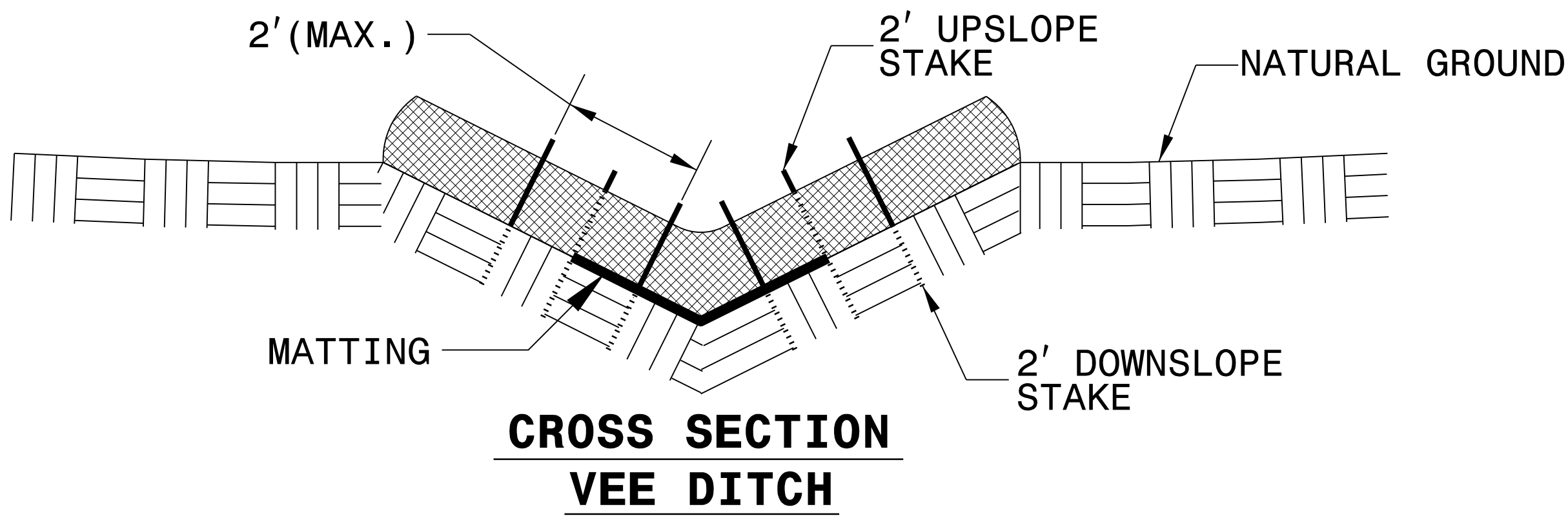
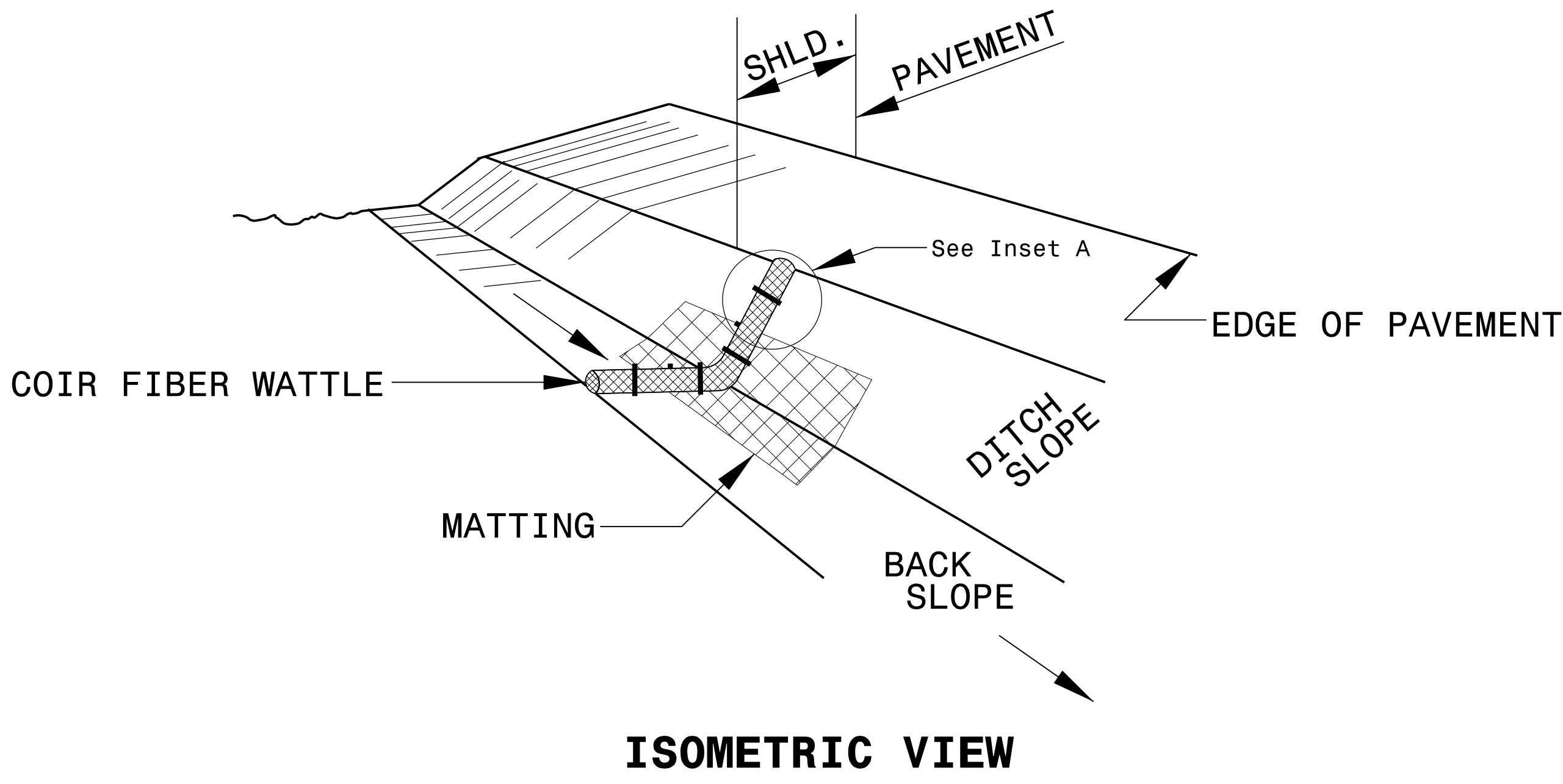
FRONT VIEW

- NOTES:**
- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT) WATTLE AND LENGTH OF 10 FT.
 - EXCAVATE A 1 TO 2 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.



TOP VIEW

COIR FIBER WATTLE DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

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

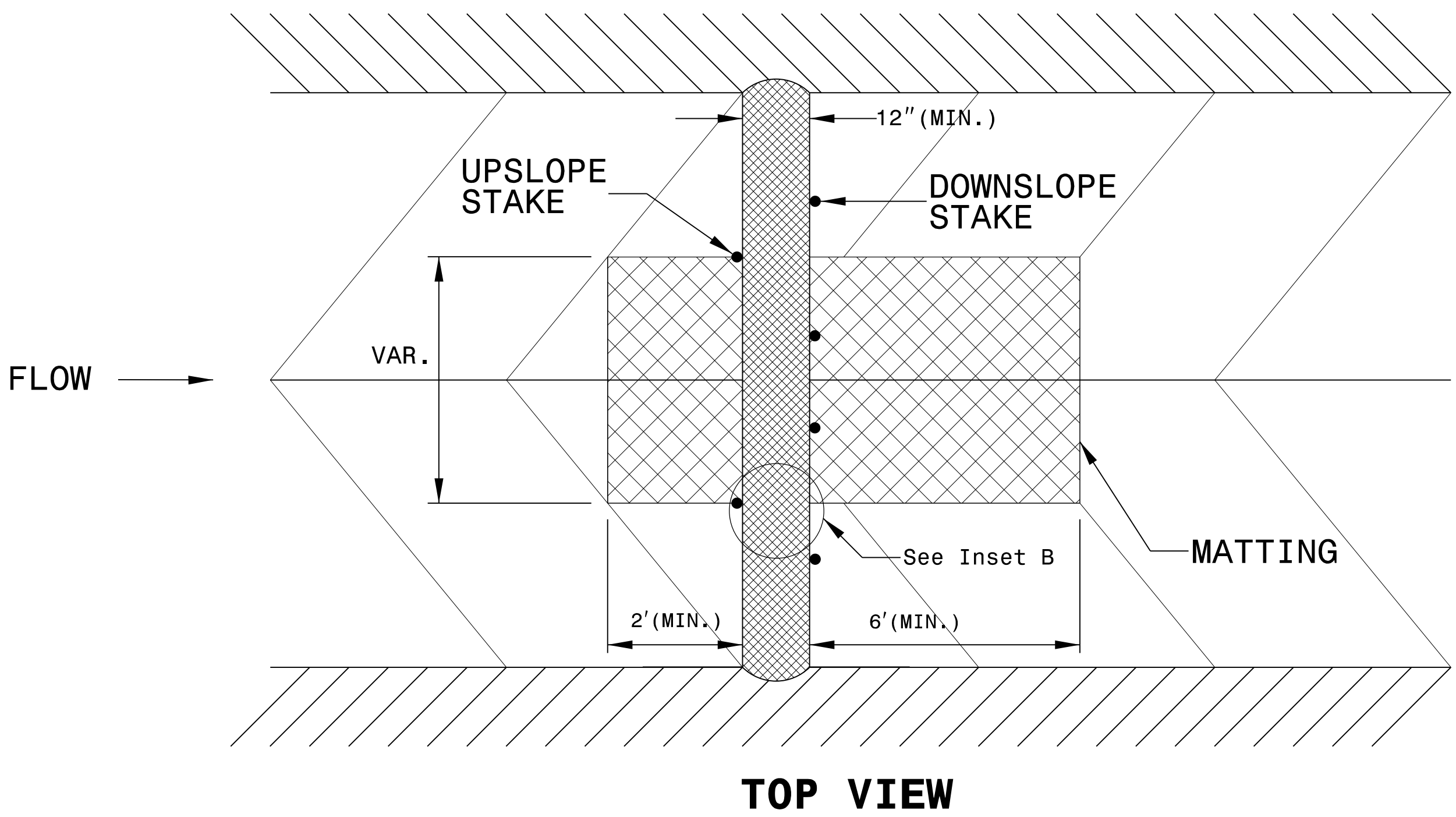
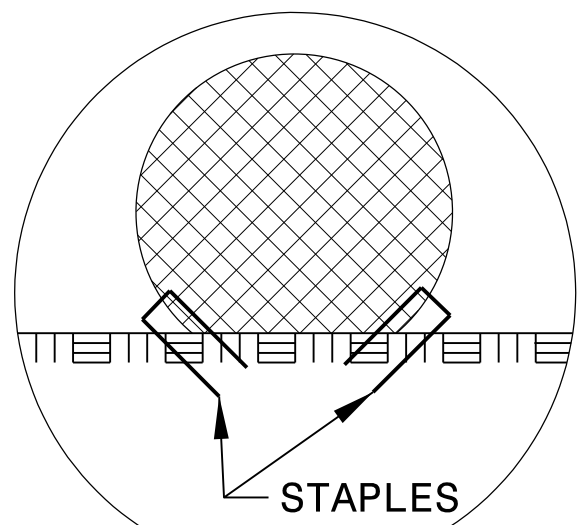
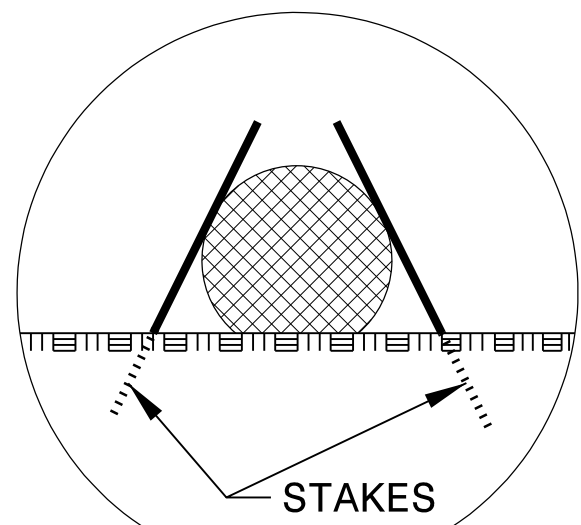
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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


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

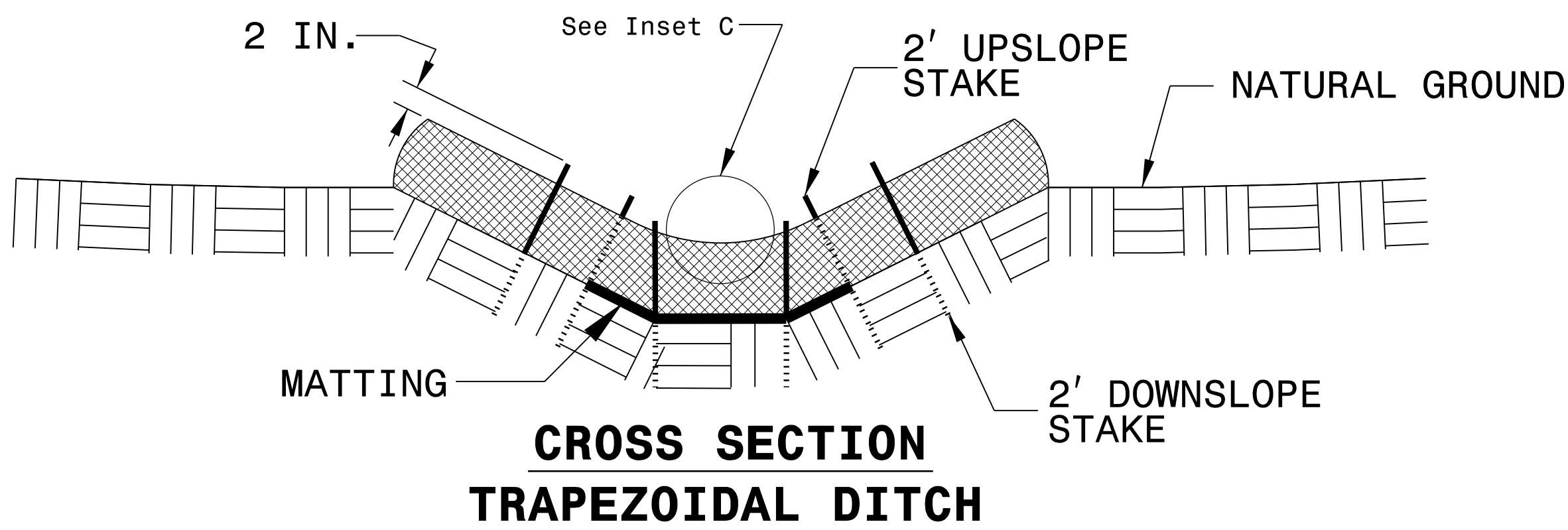
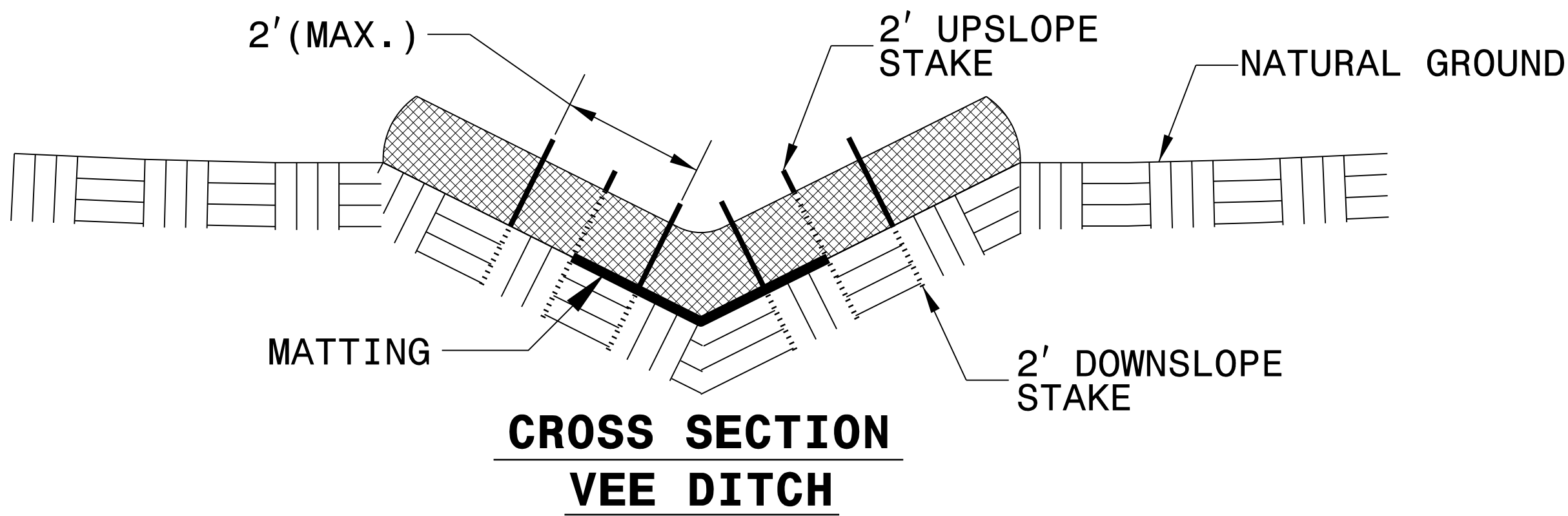
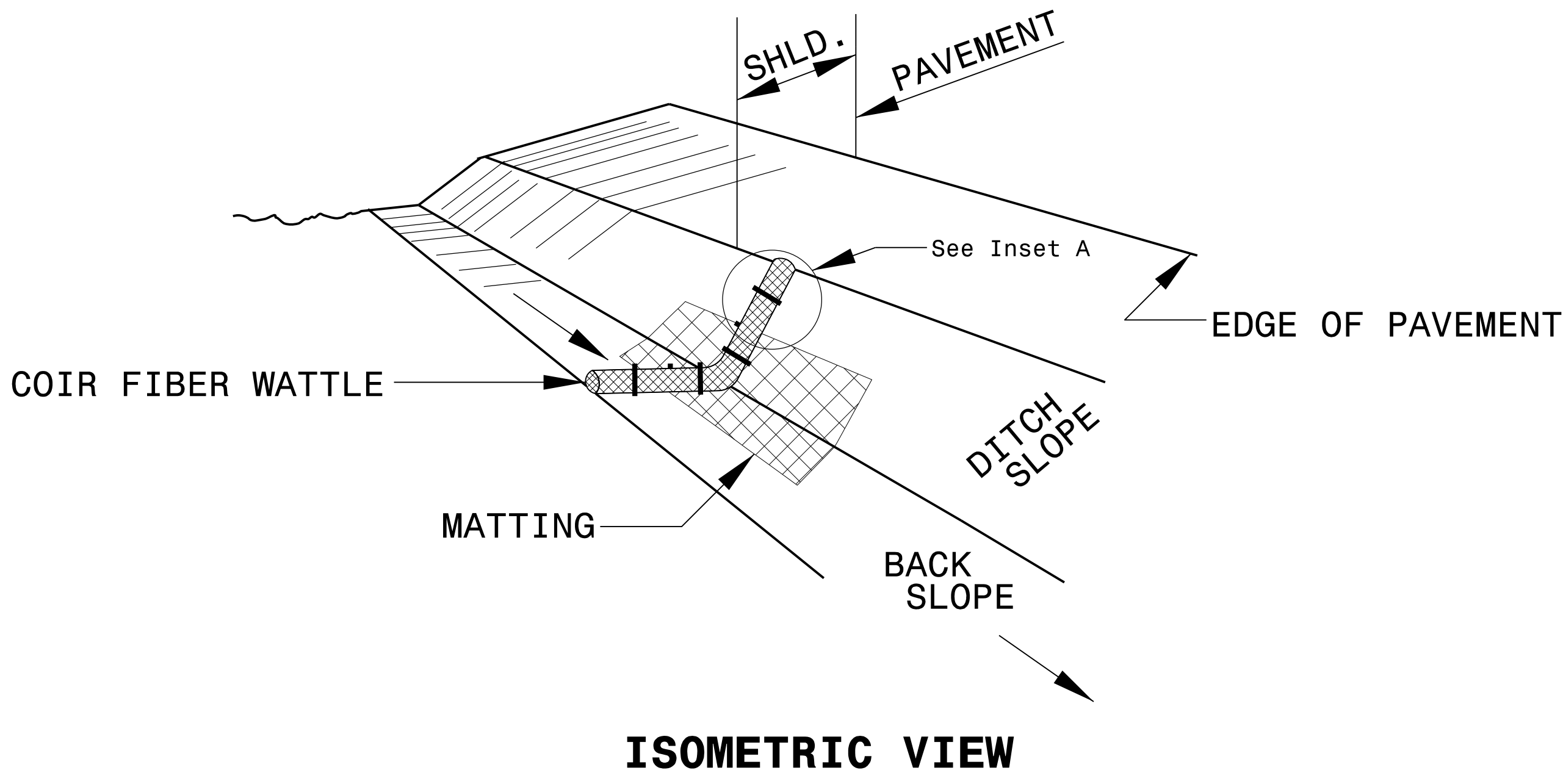
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

PROJECT REFERENCE NO.	SHEET NO.
17BP.3.R12	EC-05
RW SHEET NO.	HYDRAULICS ENGINEER
	



NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

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

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

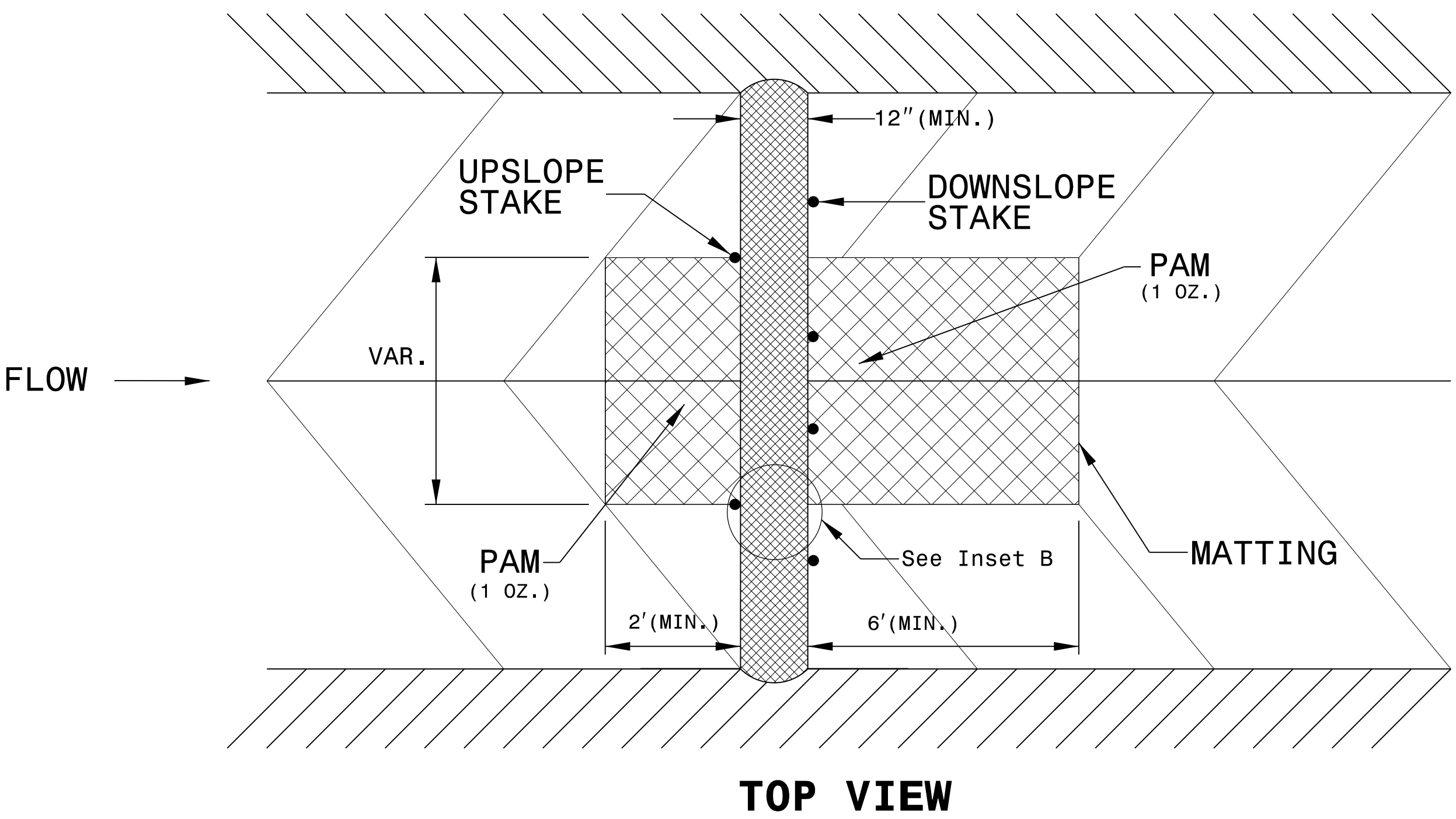
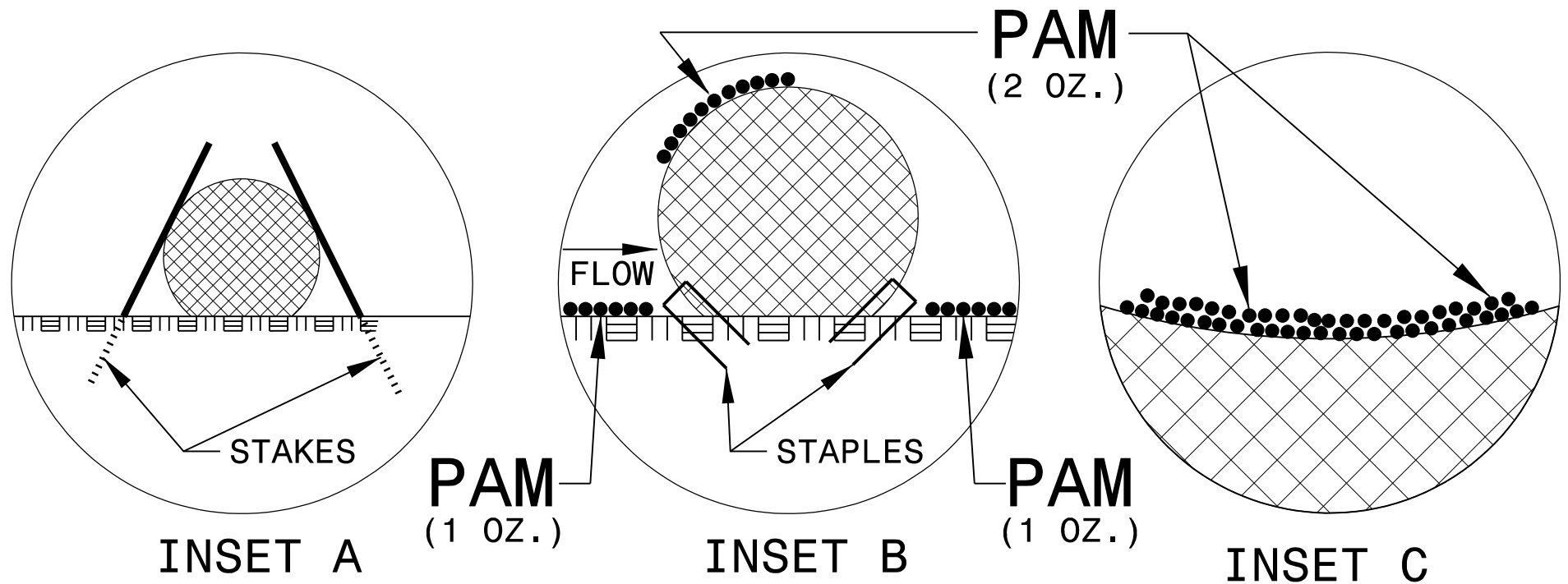
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

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

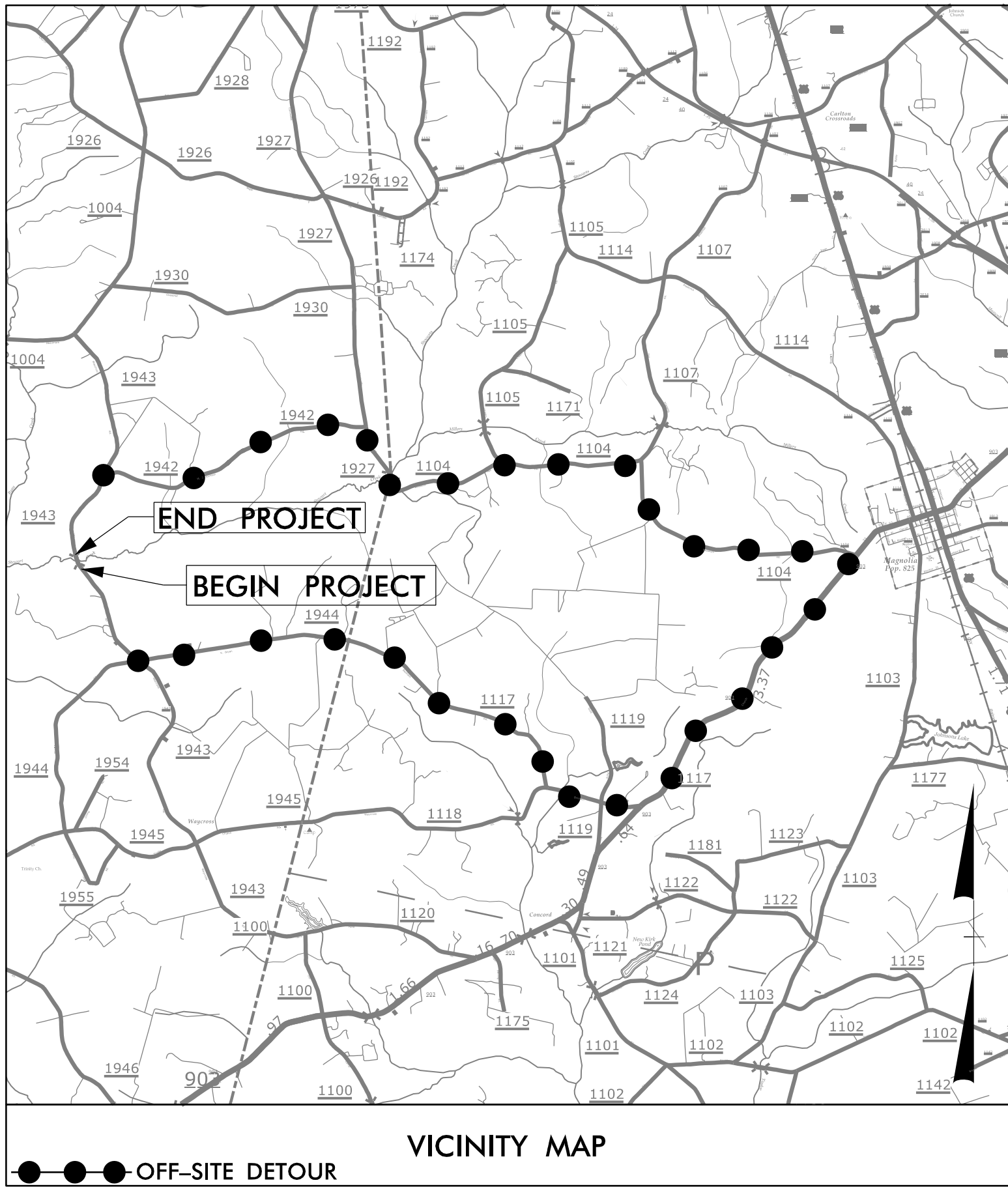
INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.		UO-1	2
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	

TIP PROJECT: 17BP.R.3.9

CONTRACT: _____



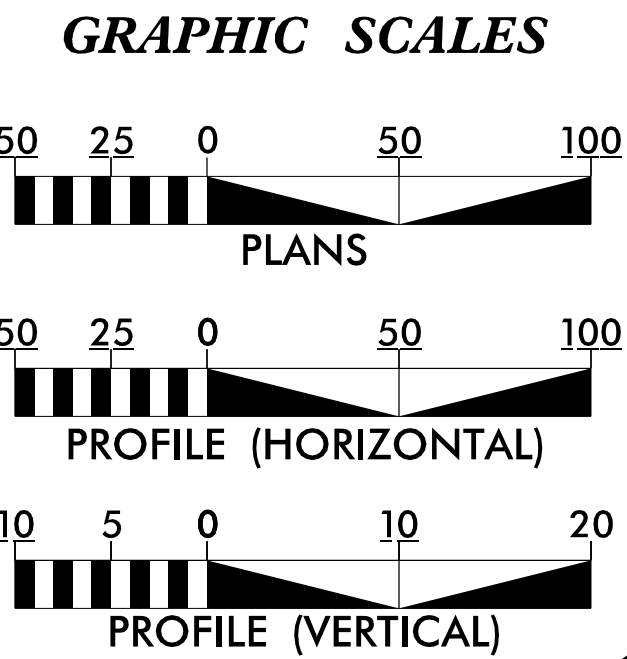
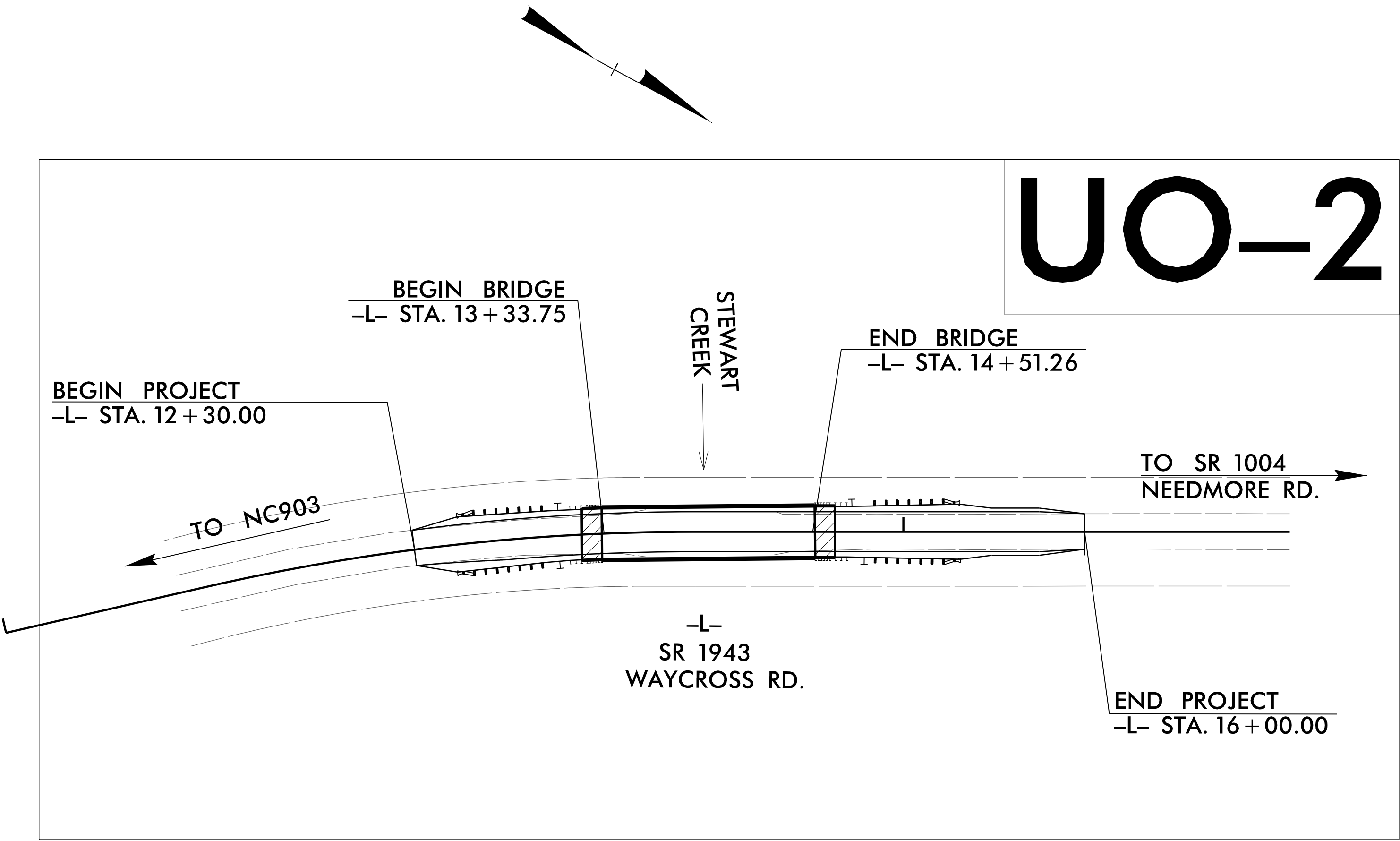
See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SAMPSON COUNTY

LOCATION: BRIDGE NO. 254 OVER TURKEY CREEK ON SR 1909

TYPE OF WORK: PERMANENT TELECOMMUNICATION FACILITIES AND
TEMPORARY ELECTRIC FACILITIES RELOCATIONS



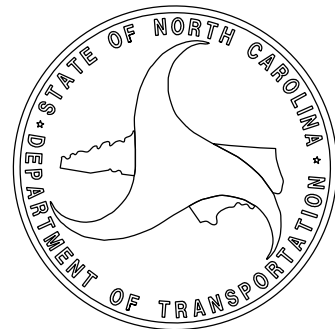
INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	UTILITY RELOCATION PLAN

- UTILITY OWNERS ON PROJECT
- 1) ELECTRIC – FOUR COUNTY ELECTRIC
 - 2) TELECOMMUNICATIONS – STAR TELEPHONE

Prepared in the Office of:
STEWART ENGINEERING
For
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEN CRAWFORD, PE
PROJECT ENGINEER

PROJECT DESIGN ENGINEER
AMANDA GLYNN
DIVISION BRIDGE
PROGRAM MANAGER
NCDOT CONTACT



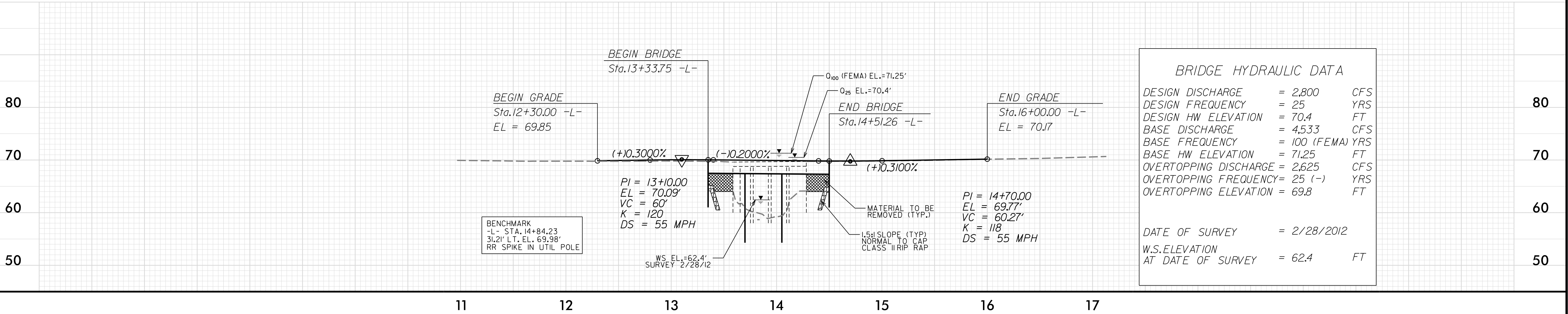
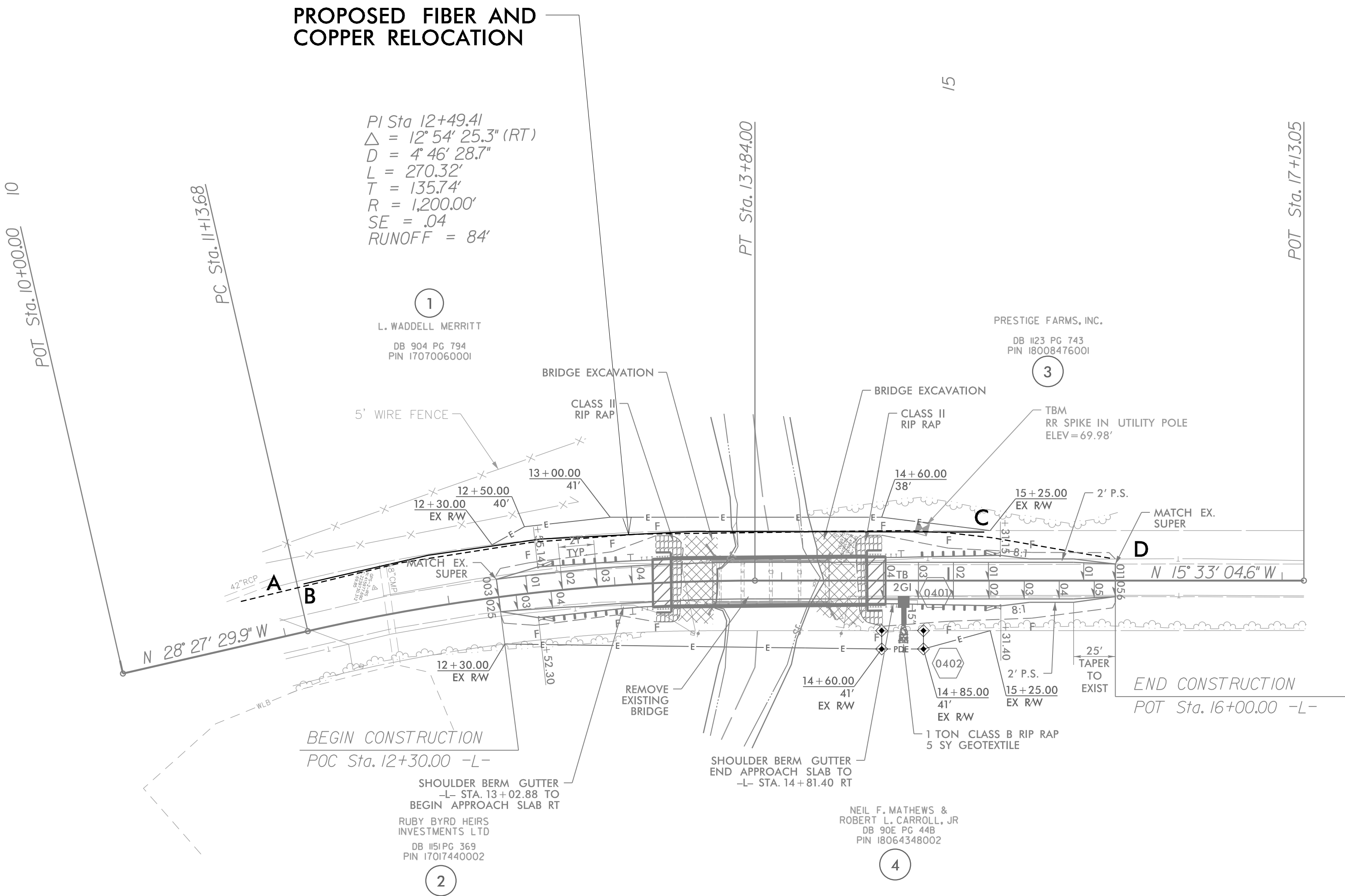
UTILITIES BY OTHERS

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

NOTES: STAR TELEPHONE WILL BE PLACING (1) 2" HDPE CONDUIT SDR RATING 11 FROM POINT B TO POINT C. MINIMUM OF 6' BELOW CREEK BED. STAR TELEPHONE WILL BE PLACING (1) BFO-24 FIBER OPTIC CABLE AND (1) BFC-12 PR COPPER CABLE FROM POINT A TO POINT D

STAR WILL REMOVE EXISTING FACILITIES IN CONFLICT

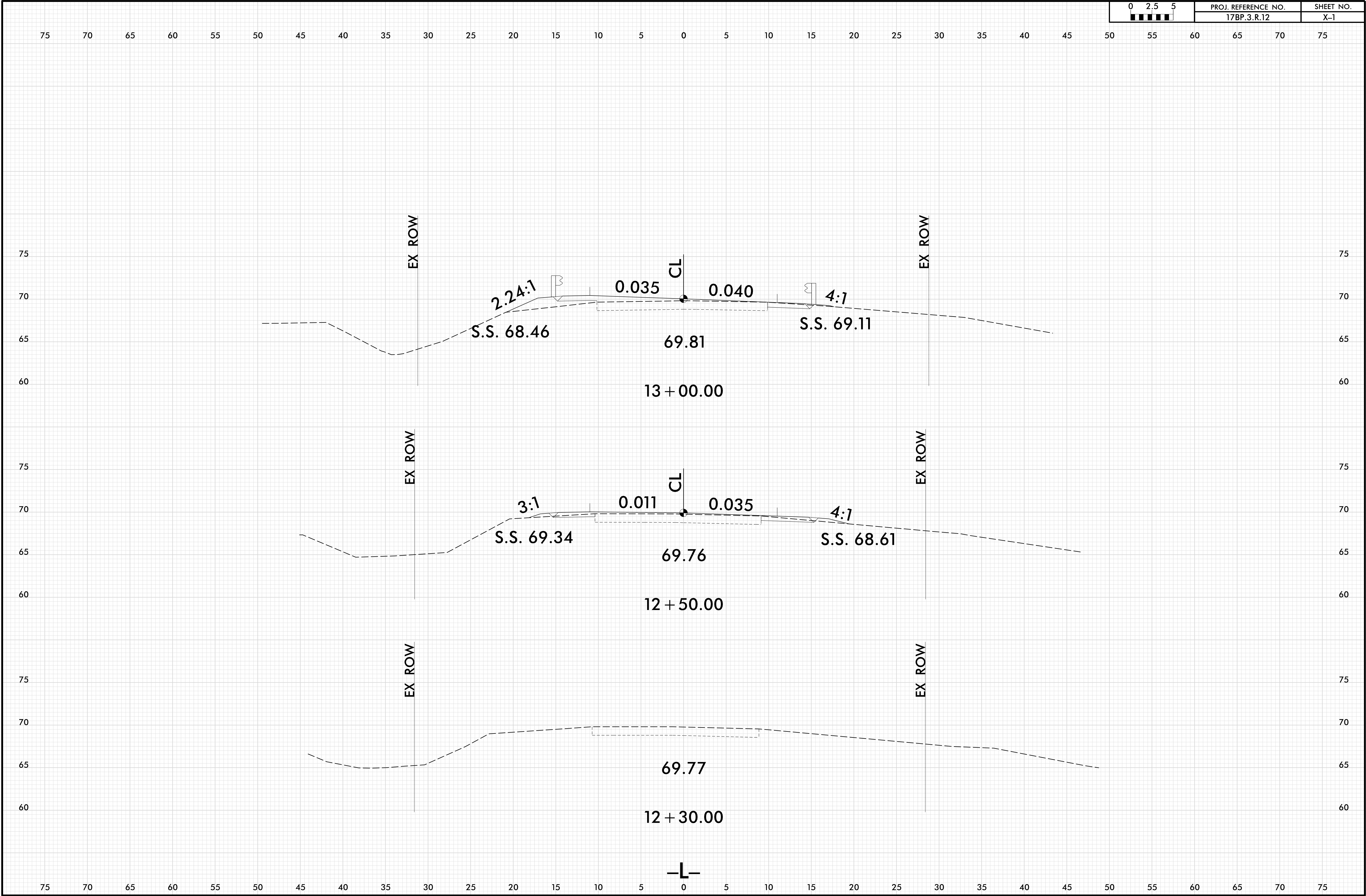
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----- PROPOSED COPPER



8/23/99

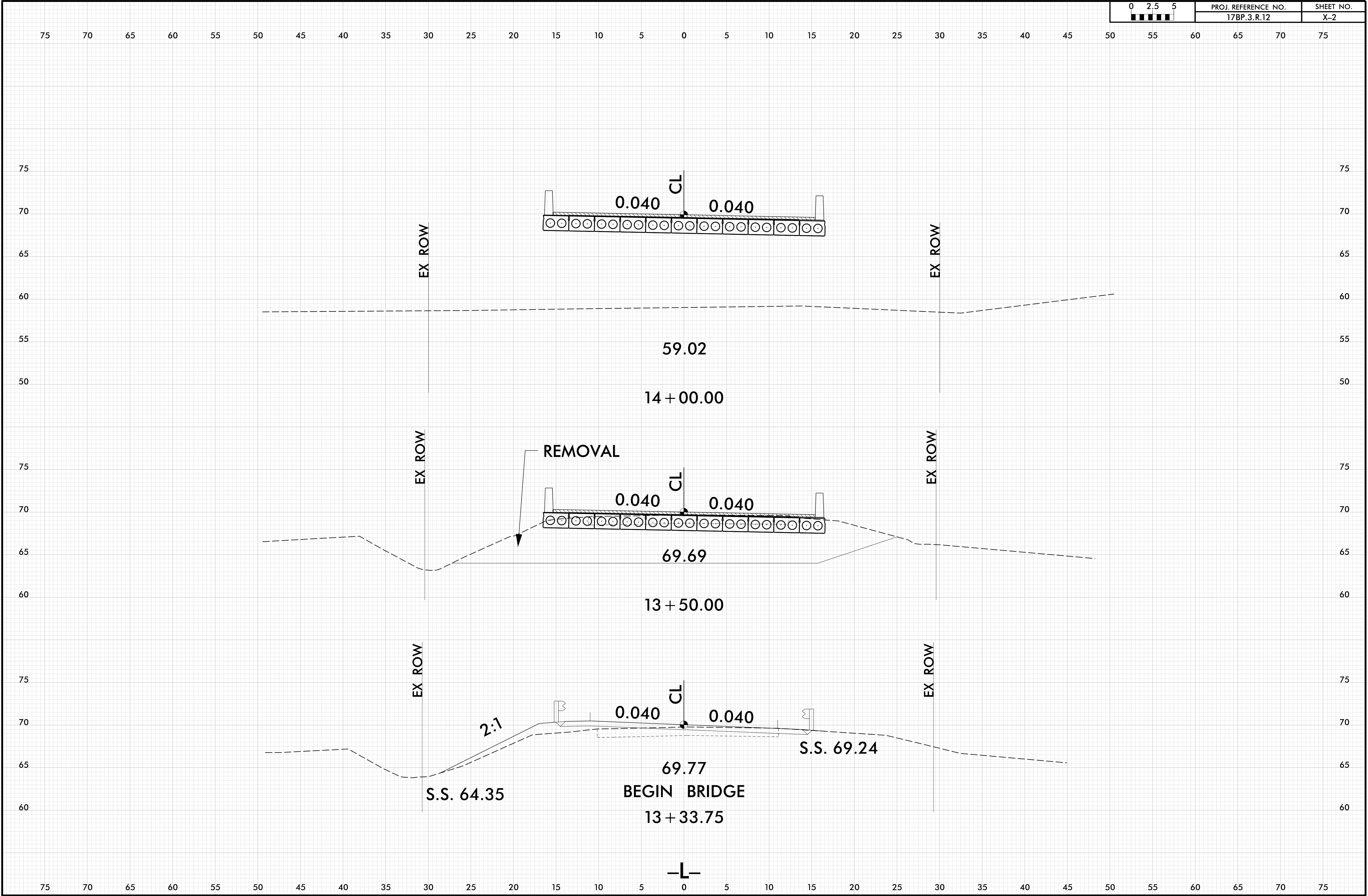
3/1/2013
J:\Roadway\XSC\810030.RDY_XPL.dgn
J:\Roadway\810030

<div>02.55</div>	PROJ. REFERENCE NO.	SHEET NO.
	17BP.3.R.12	X-1



8/23/99

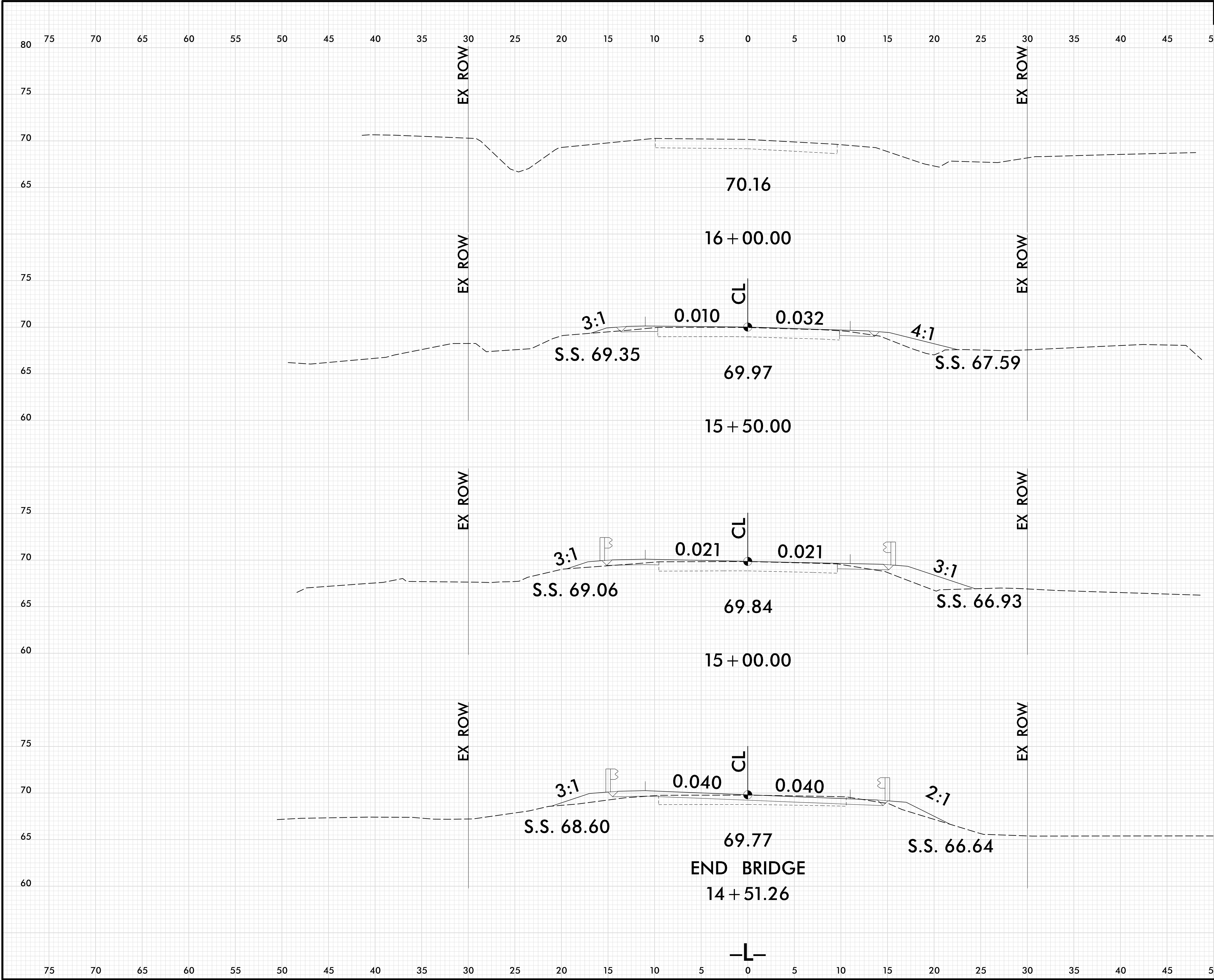
3/1/2013
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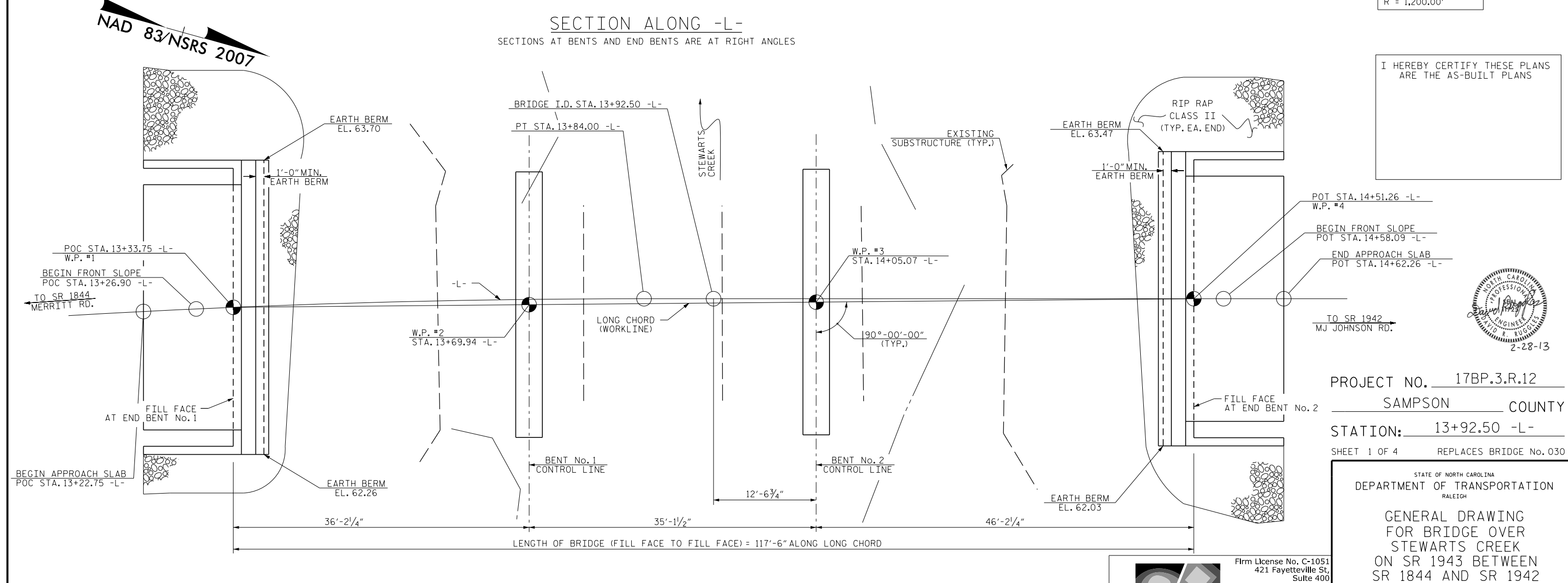
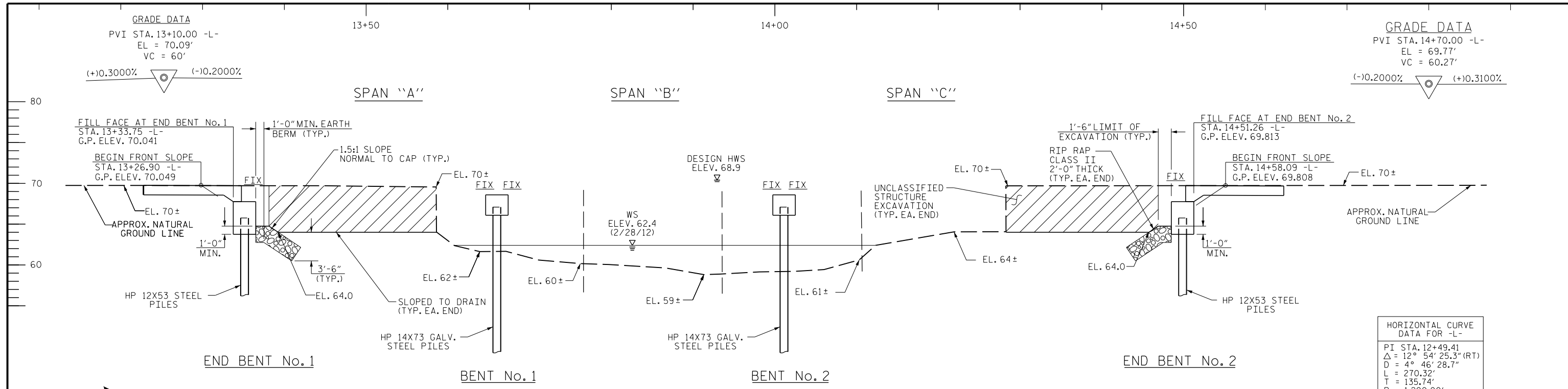


8/23/99

3/1/2013
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<div>02.55</div>	PROJ. REFERENCE NO.	SHEET NO.
	17BP.3.R.12	X-3





I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS



PROJECT NO. 17BP.3.R.12
SAMPSON COUNTY
STATION: 13+92.50 -L-
SHEET 1 OF 4 REPLACES BRIDGE No. 030

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-1
2			4			
TOTAL SHEETS 19						

DRAWN BY : JMA
CHECKED BY : PLJ
DATE : 6/25/12
DATE : 6/27/12

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Raleigh, NC 27601
T 919.380.8750
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GENERAL NOTES:

1. ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

2. THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

3. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES", MAY 2001.

4. REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

5. THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 20 FT. EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

6. FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

7. FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
8. FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

9. FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

10. FOR ALL OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

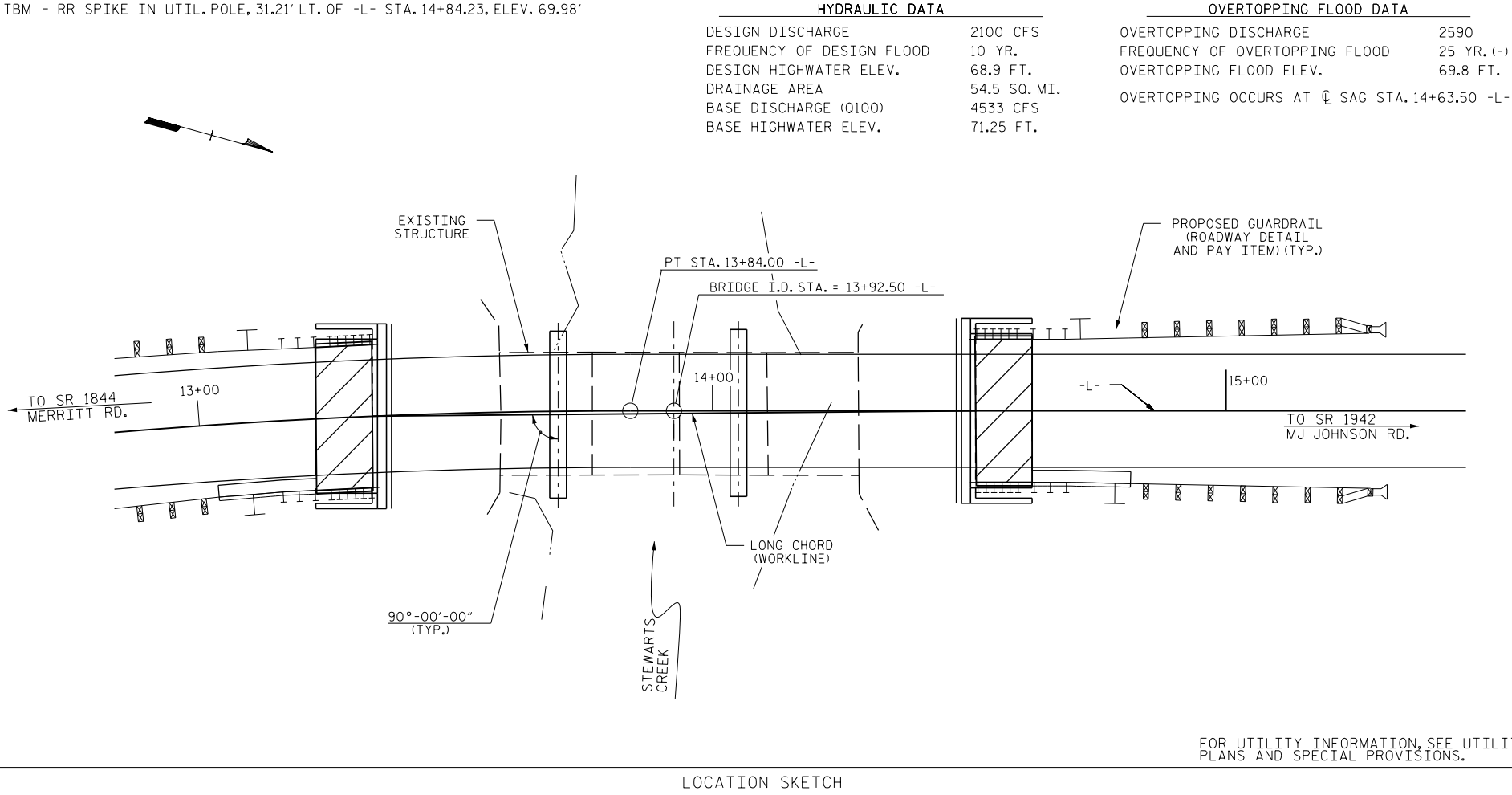
11. FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

12. THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

13. ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.

	REMOVAL OF EXISTING STRUCTURE AT STATION 13+92.50 -L-	PDA TESTING	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION 13+92.50 -L-	CLASS A CONCRETE	BRIDGE APPROACH SLABS AT STATION 13+92.50 -L-	REINFORCING STEEL	HP 12X53 STEEL PILES		HP 14X73 GALV. STEEL PILES		PILE REDRIVES	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	ELASTOMERIC BEARINGS	3'-0" x 1'-9" PRESTRESSED CONCRETE CORED SLABS	
	LUMP SUM	EACH	LUMP SUM	CY	LUMP SUM	LBS	No.	LF	No.	LF	EACH	LF	TON	LUMP SUM	No.	LF
SUPERSTRUCTURE	LUMP SUM	_____	_____	_____	LUMP SUM	_____	—	_____	—	_____	_____	230.75	_____	LUMP SUM	30	1150
END BENT No. 1	_____	_____	LUMP SUM	20.0	_____	2443	5	250	—	_____	3	_____	65	_____	—	_____
BENT No. 1	_____	1	_____	9.9	_____	1959	—	_____	7	455	4	_____	_____	_____	—	_____
BENT No. 2	_____	1	_____	9.9	_____	1959	—	_____	7	455	4	_____	_____	_____	—	_____
END BENT No. 2	_____	_____	LUMP SUM	20.0	_____	2443	5	275	—	_____	3	_____	65	_____	—	_____
TOTAL	LUMP SUM	2	LUMP SUM	59.8	LUMP SUM	8804	10	525	14	910	14	230.75	130	LUMP SUM	30	1150

TBM - RR SPIKE IN UTIL. POLE, 31.21' LT. OF -L- STA. 14+84.23, ELEV. 69.98'



DRAWN BY : PLJ
CHECKED BY : DRR
DATE : 2/26/13
DATE : 2/27/13



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PROJECT NO. 17BP.3.R.12
SAMPSON COUNTY
STATION: 13+92.50 -L-

SHEET 2 OF 4

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
GENERAL DRAWING FOR BRIDGE OVER STEWARTS CREEK ON SR 1943 BETWEEN SR 1844 AND SR 1942					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-2					TOTAL SHEETS 19

LOAD AND RESISTANCE FACTOR RATING (LRFD) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS																								
LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING	MINIMUM RATING FACTORS (RF)	TONS = W X RF	STRENGTH I LIMIT STATE											SERVICE III LIMIT STATE						COMMENT NUMBER	
						LIVELOAD FACTORS	MOMENT					SHEAR					LIVELOAD FACTORS	MOMENT						
							DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		
DESIGN LOAD RATING	HL-93(Inv)	N/A	1	1.032	--	1.75	0.28	1.36	35'	EL	17	0.561	1.03	35'	EL	1.7	0.80	0.28	1.05	35'	EL	17		
	HL-93(0pr)	N/A	--	1.338	--	1.35	0.28	1.77	35'	EL	17	0.561	1.34	35'	EL	1.7	N/A	--	--	--	--	--		
	HS-20(Inv)	36.000	2	1.189	42.810	1.75	0.28	1.79	35'	EL	13.6	0.561	1.19	35'	EL	1.7	0.80	0.28	1.39	35'	EL	17		
	HS-20(0pr)	36.000	--	1.542	55.494	1.35	0.28	2.32	35'	EL	13.6	0.561	1.54	35'	EL	1.7	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13.500	--	2.400	32.402	1.4	0.28	3.89	35'	EL	17	0.561	3.06	35'	EL	1.7	0.80	0.28	2.40	35'	EL	17	
		SNGARBS2	20.000	--	2.052	41.044	1.4	0.28	3.29	35'	EL	13.6	0.561	2.32	35'	EL	1.7	0.80	0.28	2.05	35'	EL	13.6	
		SNAGRIS2	22.000	--	2.053	45.174	1.4	0.28	3.26	35'	EL	13.6	0.561	2.21	35'	EL	1.7	0.80	0.28	2.05	35'	EL	13.6	
		SNCOTTS3	27.250	--	1.202	32.744	1.4	0.28	1.95	35'	EL	17	0.561	1.54	35'	EL	1.7	0.80	0.28	1.20	35'	EL	17	
		SNAGGRS4	34.925	--	1.111	38.816	1.4	0.28	1.8	35'	EL	17	0.561	1.38	35'	EL	1.7	0.80	0.28	1.11	35'	EL	17	
		SNS5A	35.550	--	1.079	38.354	1.4	0.28	1.75	35'	EL	17	0.561	1.46	35'	EL	1.7	0.80	0.28	1.08	35'	EL	17	
		SNS6A	39.950	--	1.041	41.601	1.4	0.28	1.69	35'	EL	17	0.561	1.37	35'	EL	1.7	0.80	0.28	1.04	35'	EL	17	
		SNS7B	42.000	3	1.000	41.734	1.4	0.28	1.61	35'	EL	17	0.561	1.4	35'	EL	1.7	0.80	0.28	1.00	35'	EL	17	
	TTST	TNAGRIT3	33.000	--	1.286	42.439	1.4	0.28	2.08	35'	EL	17	0.561	1.6	35'	EL	1.7	0.80	0.28	1.29	35'	EL	17	
		TNT4A	33.075	--	1.285	42.512	1.4	0.28	2.08	35'	EL	17	0.561	1.51	35'	EL	1.7	0.80	0.28	1.29	35'	EL	17	
		TNT6A	41.600	--	1.126	46.84	1.4	0.28	1.82	35'	EL	17	0.561	1.48	35'	EL	1.7	0.80	0.28	1.13	35'	EL	17	
		TNT7A	42.000	--	1.163	48.833	1.4	0.28	1.89	35'	EL	17	0.561	1.37	35'	EL	1.7	0.80	0.28	1.16	35'	EL	17	
		TNT7B	42.000	--	1.144	48.061	1.4	0.28	1.85	35'	EL	17	0.561	1.33	35'	EL	1.7	0.80	0.28	1.14	35'	EL	17	
		TNAGRIT4	43.000	--	1.158	49.810	1.4	0.28	1.86	35'	EL	13.6	0.561	1.28	35'	EL	1.7	0.80	0.28	1.16	35'	EL	17	
		TNAGT5A	45.000	--	1.068	48.071	1.4	0.28	1.73	35'	EL	17	0.561	1.35	35'	EL	1.7	0.80	0.28	1.07	35'	EL	17	
		TNAGT5B	45.000	--	1.031	46.373	1.4	0.28	1.67	35'	EL	17	0.561	1.21	35'	EL	1.7	0.80	0.28	1.03	35'	EL	17	

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ_{DC}	γ_{DW}
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

NOTES:

MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

1.
2.
3.
4.

CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (HL-93)

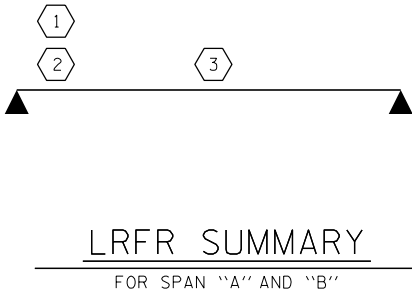
2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

I - INTERIOR GIRDER
EL - EXTERIOR LEFT GIRDER
ER - EXTERIOR RIGHT GIRDER



PROJECT NO. 17BP.3.R.12
SAMPSON COUNTY
STATION: 13+92.50 -L-
SHEET 3 OF 4



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STEWART

ASSEMBLED BY : JMA	DATE : 6/25/12
CHECKED BY : PLJ	DATE : 6/27/12
DRAWN BY : CVC 6/10	
CHECKED BY : DNS 6/10	

REVISIONS						SHEET NO. S-3
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 19
2			4			

LOAD AND RESISTANCE FACTOR RATING (LRFD) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS																								
LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING	MINIMUM RATING FACTORS (RF)	TONS = W X RF	STRENGTH I LIMIT STATE											SERVICE III LIMIT STATE						COMMENT NUMBER	
						LIVELOAD FACTORS	MOMENT					SHEAR					LIVELOAD FACTORS	MOMENT						
							DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		
DESIGN LOAD RATING	HL-93(Inv)	N/A	1	1.088	--	1.75	0.277	1.34	45'	EL	22	0.539	1.23	45'	EL	2.2	0.80	0.277	1.09	45'	EL	22		
	HL-93(0pr)	N/A	--	1.590	--	1.35	0.277	1.74	45'	EL	22	0.539	1.59	45'	EL	2.2	N/A	--	--	--	--	--		
	HS-20(Inv)	36.000	2	1.336	48.104	1.75	0.277	1.65	45'	EL	22	0.539	1.45	45'	EL	2.2	0.80	0.277	1.34	45'	EL	22		
	HS-20(0pr)	36.000	--	1.882	67.763	1.35	0.277	2.14	45'	EL	22	0.539	1.88	45'	EL	2.2	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13.500	--	2.611	35.252	1.4	0.277	4.02	45'	EL	22	0.539	4.01	45'	EL	2.2	0.80	0.277	2.61	45'	EL	22	
		SNGARBS2	20.000	--	2.108	42.166	1.4	0.277	3.25	45'	EL	22	0.539	2.94	45'	EL	2.2	0.80	0.277	2.11	45'	EL	22	
		SNAGRIS2	22.000	--	2.067	45.466	1.4	0.277	3.15	45'	EL	17.6	0.539	2.77	45'	EL	2.2	0.80	0.277	2.07	45'	EL	22	
		SNCOTTS3	27.250	--	1.304	35.527	1.4	0.277	2.01	45'	EL	22	0.539	2.01	45'	EL	2.2	0.80	0.277	1.30	45'	EL	22	
		SNAGGRS4	34.925	--	1.150	40.181	1.4	0.277	1.77	45'	EL	22	0.539	1.74	45'	EL	2.2	0.80	0.277	1.15	45'	EL	22	
		SNS5A	35.550	--	1.121	39.841	1.4	0.277	1.73	45'	EL	22	0.539	1.79	45'	EL	2.2	0.80	0.277	1.12	45'	EL	22	
		SNS6A	39.950	--	1.056	42.175	1.4	0.277	1.63	45'	EL	22	0.539	1.67	45'	EL	2.2	0.80	0.277	1.06	45'	EL	22	
		SNS7B	42.000	3	1.006	42.268	1.4	0.277	1.55	45'	EL	22	0.539	1.68	45'	EL	2.2	0.80	0.277	1.01	45'	EL	22	
	TTST	TNAGRIT3	33.000	--	1.296	42.759	1.4	0.277	2	45'	EL	22	0.539	1.96	45'	EL	2.2	0.80	0.277	1.30	45'	EL	22	
		TNT4A	33.075	--	1.309	43.305	1.4	0.277	2.02	45'	EL	22	0.539	1.88	45'	EL	2.2	0.80	0.277	1.31	45'	EL	22	
		TNT6A	41.600	--	1.099	45.712	1.4	0.277	1.69	45'	EL	22	0.539	1.83	45'	EL	2.2	0.80	0.277	1.10	45'	EL	22	
		TNT7A	42.000	--	1.120	47.043	1.4	0.277	1.73	45'	EL	22	0.539	1.69	45'	EL	2.2	0.80	0.277	1.12	45'	EL	22	
		TNT7B	42.000	--	1.166	48.975	1.4	0.277	1.8	45'	EL	22	0.539	1.61	45'	EL	2.2	0.80	0.277	1.17	45'	EL	22	
		TNAGRIT4	43.000	--	1.111	47.757	1.4	0.277	1.71	45'	EL	22	0.539	1.55	45'	EL	2.2	0.80	0.277	1.11	45'	EL	22	
		TNAGT5A	45.000	--	1.033	46.505	1.4	0.277	1.59	45'	EL	22	0.539	1.59	45'	EL	2.2	0.80	0.277	1.03	45'	EL	22	
		TNAGT5B	45.000	--	1.009	45.408	1.4	0.277	1.56	45'	EL	22	0.539	1.47	45'	EL	2.2	0.80	0.277	1.01	45'	EL	22	

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ_{DC}	γ_{DW}
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

NOTES:

MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

1.
2.
3.
4.

CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (HL-93)

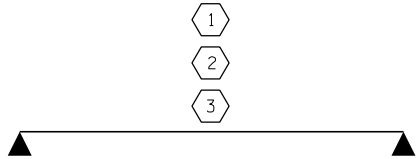
2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

I - INTERIOR GIRDER
EL - EXTERIOR LEFT GIRDER
ER - EXTERIOR RIGHT GIRDER



LRFR SUMMARY
FOR SPAN "C"

PROJECT NO. 17BP.3.R.12
SAMPSON COUNTY
STATION: 13+92.50 -L-

SHEET 4 OF 4





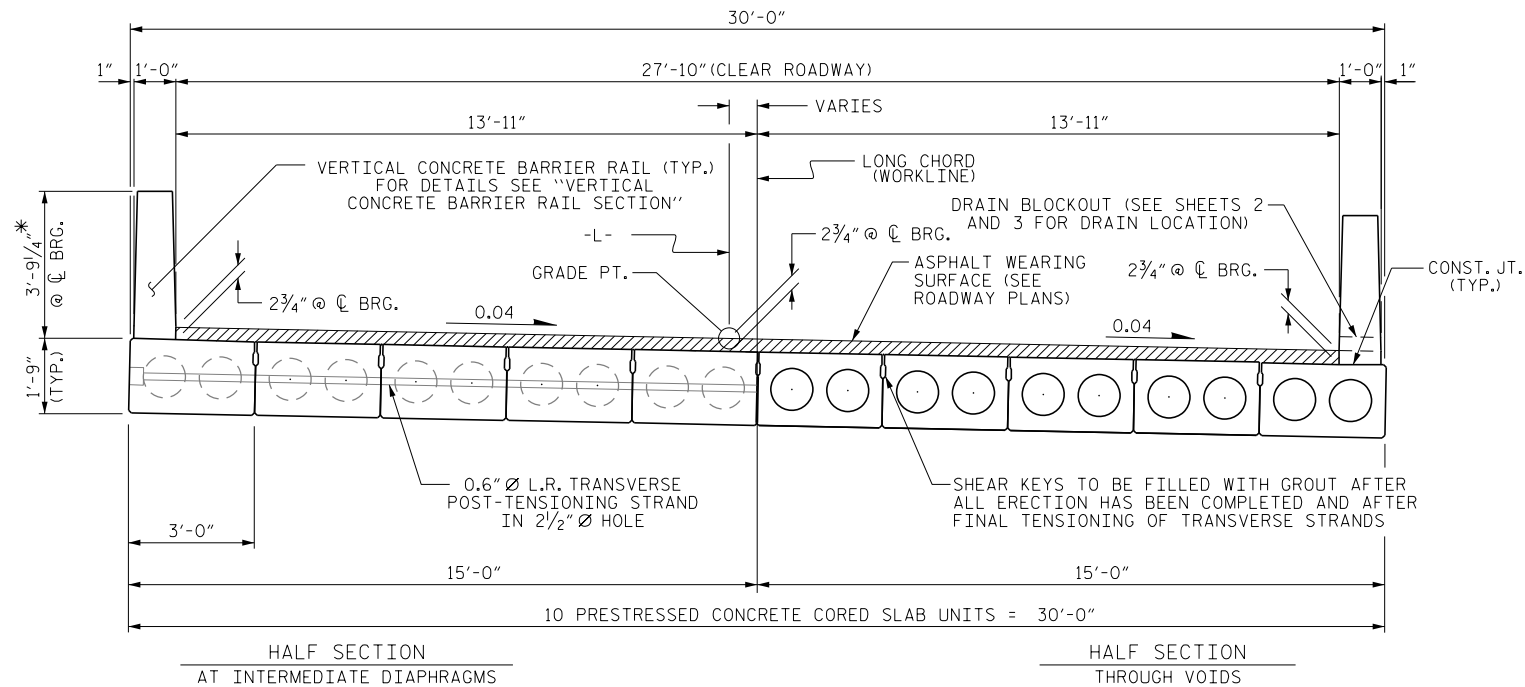
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T 919.380.8750
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STEWART

ASSEMBLED BY : JMA	DATE : 6/25/12
CHECKED BY : PLJ	DATE : 6/27/12
DRAWN BY : CVC 6/10	
CHECKED BY : DNS 6/10	

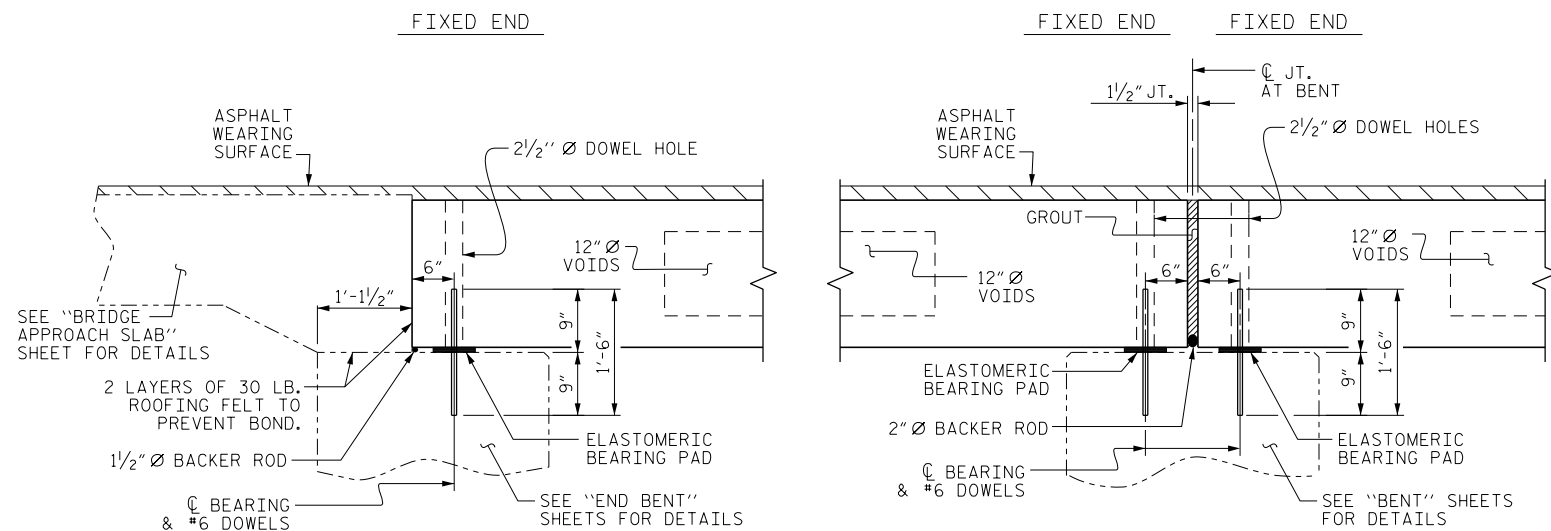
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
LRFR SUMMARY FOR
45' CORED SLAB UNIT
90° SKEW
(NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO. S-4
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 19
2			4			



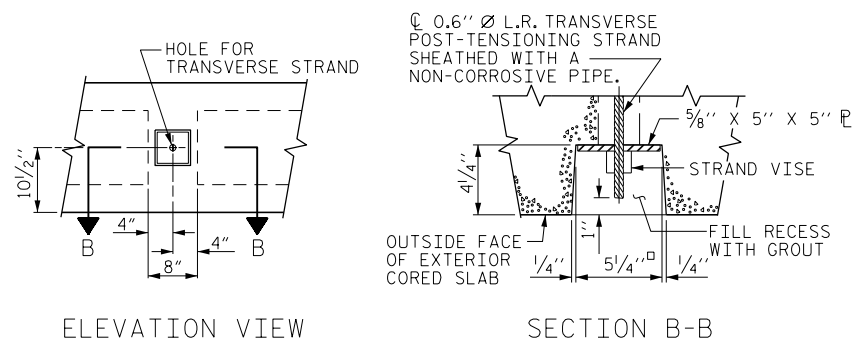
TYPICAL SECTION

* - THE MAXIMUM BARRIER RAIL HEIGHT AND ASPHALT THICKNESS IS SHOWN. THE HEIGHT OF THE BARRIER RAIL AND ASPHALT THICKNESS VARIES WHILE THE TOP OF THE BARRIER RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE. FOR RAIL HEIGHT DETAILS AND ASPHALT THICKNESS SEE THE "VERTICAL CONCRETE BARRIER RAIL SECTION" DETAIL.

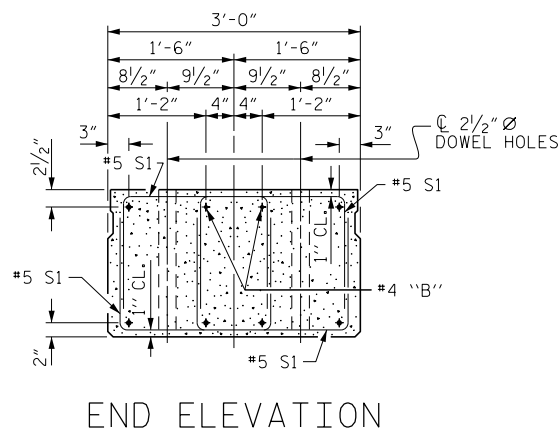


SECTION AT END BENT

SECTION AT BENT

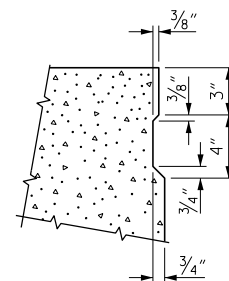


GROUTED RECESS AT END OF POST-TENSIONED STRAND OF CORED SLABS



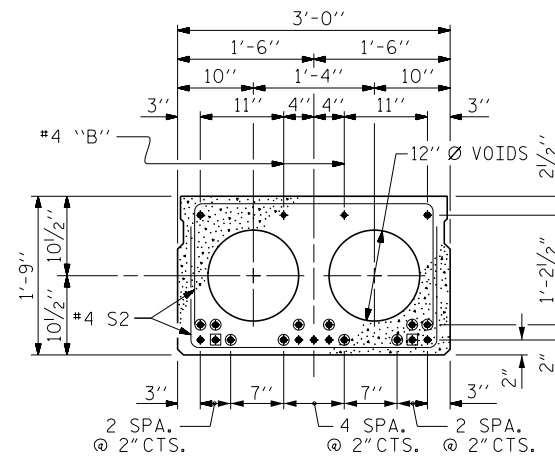
END ELEVATION

SHOWING PLACEMENT OF DOUBLE STIRRUPS AND LOCATION OF DOWEL HOLES. (STRAND LAYOUT NOT SHOWN.) INTERIOR SLAB UNIT SHOWN-EXTERIOR SLAB UNIT SIMILAR EXCEPT SHEAR KEY LOCATION.



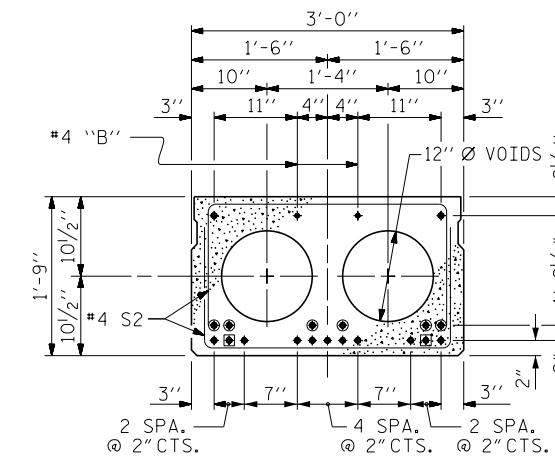
SHEAR KEY DETAIL

NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF EXTERIOR CORED SLABS.



INTERIOR SLAB SECTION (35' UNIT)

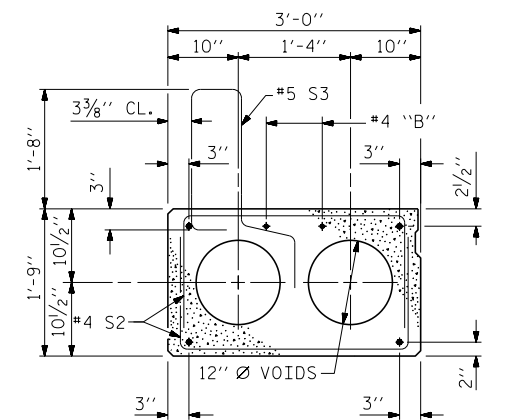
(9 STRANDS REQUIRED)



INTERIOR SLAB SECTION (45' UNIT)

(13 STRANDS REQUIRED)

0.6" Ø LOW RELAXATION STRAND LAYOUT



EXT. SLAB SECTION

(FOR PRESTRESSED STRAND LAYOUT, SEE INTERIOR SLAB SECTION.)

- ☑ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 2'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.
- ☑ OPTIONAL FULL LENGTH DEBONDED STRANDS. THESE STRANDS ARE NOT REQUIRED. IF THE FABRICATOR CHOOSES TO INCLUDE THESE STRANDS IN THE CORED SLAB UNIT, THE STRANDS SHALL BE DEBONDED FOR THE FULL LENGTH OF THE UNIT AT NO ADDITIONAL COST. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

DEBONDING LEGEND

PROJECT NO. 17BP.3.R.12

SAMPSON COUNTY

STATION: 13+92.50 -L-

SHEET 1 OF 5



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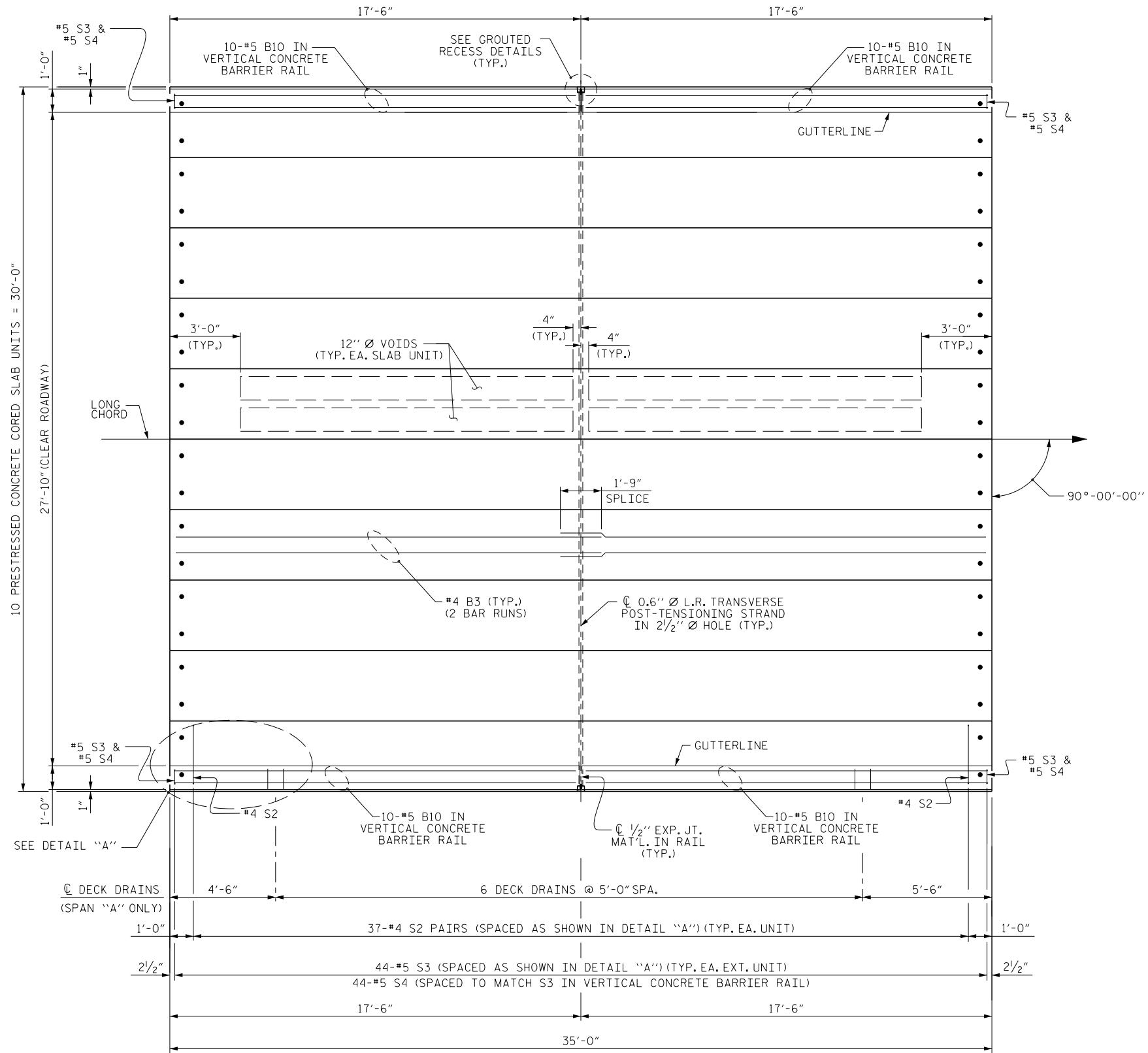
STEWART

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
3'-0" X 1'-9"
PRESTRESSED CONCRETE
CORED SLAB UNIT
90° SKEW

REVISIONS						SHEET NO. S-5
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 19
2			4			

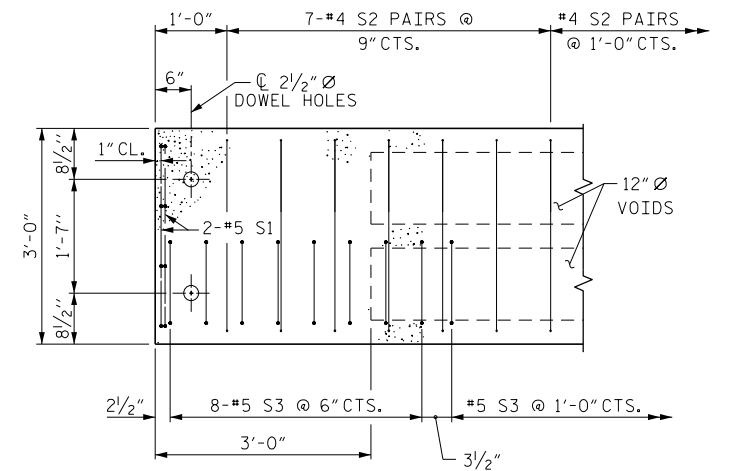
STD. NO. 21" PCS2_30_90S

ASSEMBLED BY :	PLJ	DATE :	11/14/12
CHECKED BY :	DRR	DATE :	11/14/12
DRAWN BY :	DGE	5/09	REV. 12/11
CHECKED BY :	BCH	6/09	MAA/AAC



PLAN OF UNIT

8" x 4" DRAIN SLOTS ARE TO BE INSTALLED AT 5'-0" CTS. IN ACCORDANCE WITH THE FOLLOWING: RIGHT SIDE ONLY STA. 13+40.00 -L- TO STA. 13+65.00 -L- AND STA. 14+10.00 -L- TO STA. 14+45.00 -L- DECK DRAINS REQUIRED = 14. SEE "VERTICAL CONCRETE BARRIER RAIL SECTION" ON SHEET 4 OF 5 FOR DETAILS.



DETAIL "A"

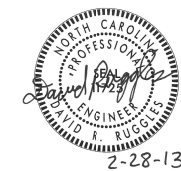
NOTE: EXTERIOR UNIT SHOWN - INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S3 BARS.

PROJECT NO. 17BP.3.R.12

SAMPSON COUNTY

STATION: 13+92.50 -L-

SHEET 2 OF 5



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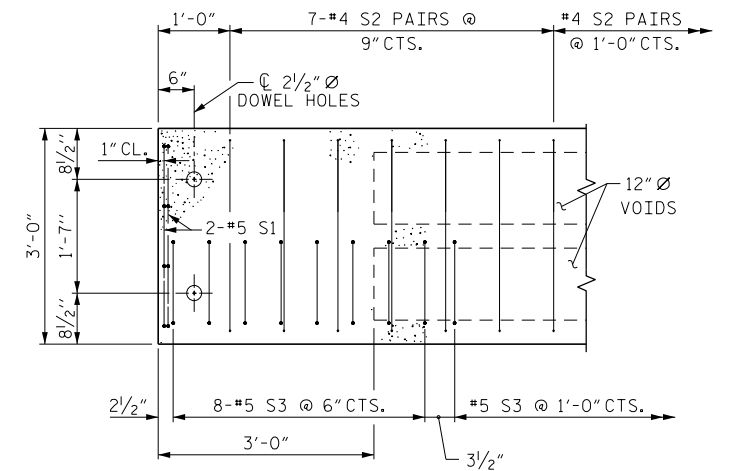
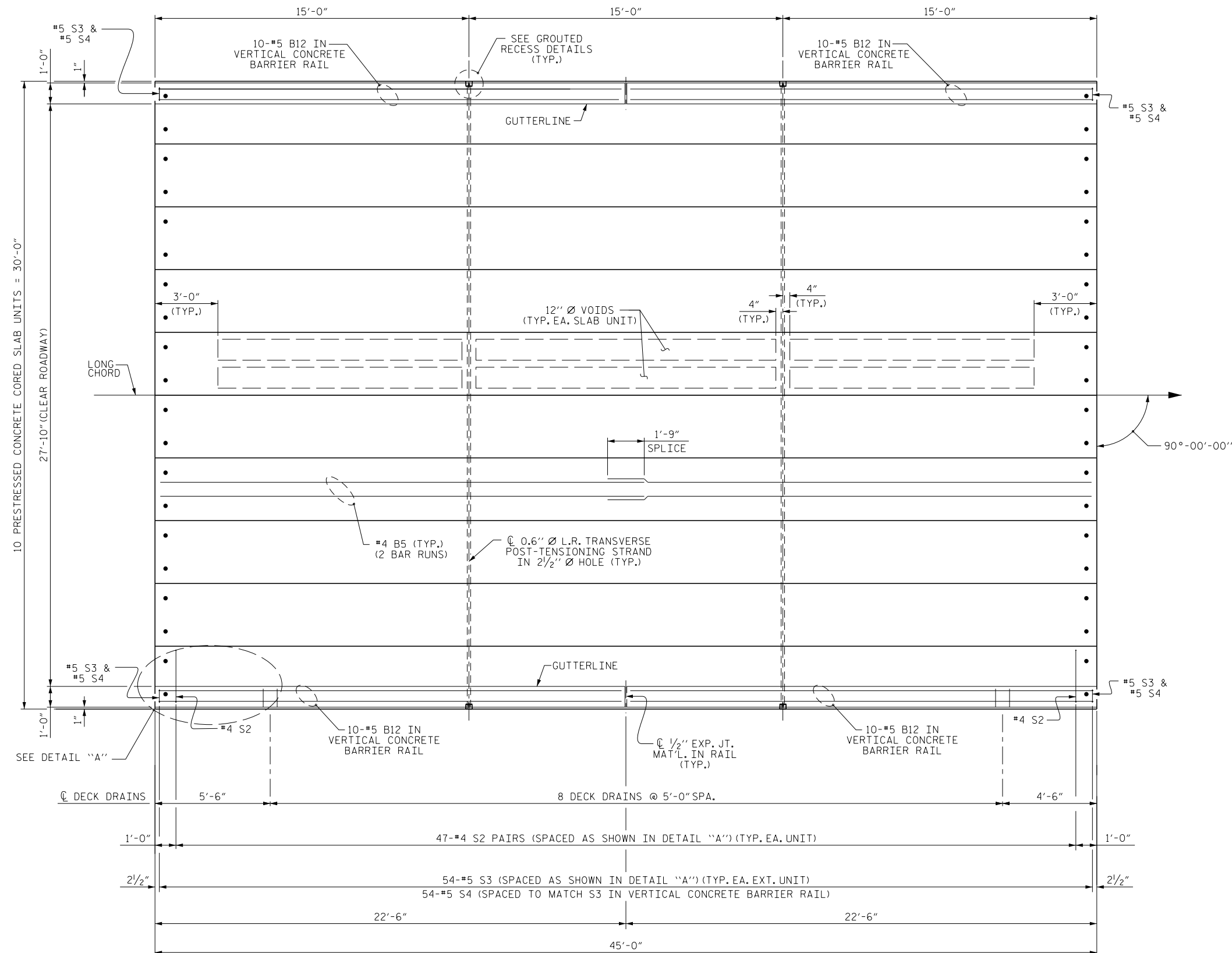
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF 35' UNIT
27'-10" CLEAR ROADWAY
90° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-6
2			4			
						TOTAL SHEETS
						19

ASSEMBLED BY :	JMA	DATE :	6/25/12
CHECKED BY :	PLJ	DATE :	6/27/12
DRAWN BY :	DGE 3/09	REV.	12/5/11 MAA/AAC
CHECKED BY :	BCH 3/09		

STD. NO. 21" PCS_30_90S_35L



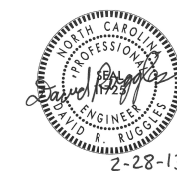
DETAIL "A"

NOTE: EXTERIOR UNIT SHOWN - INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S3 BARS.

PLAN OF UNIT

8" x 4" DRAIN SLOTS ARE TO BE INSTALLED AT 5'-0" CTS. IN ACCORDANCE WITH THE FOLLOWING: RIGHT SIDE ONLY STA. 13+40.00 -L- TO STA. 13+65.00 -L- AND STA. 14+10.00 -L- TO STA. 14+45.00 -L-. DECK DRAINS REQUIRED = 14. SEE VERTICAL CONCRETE BARRIER RAIL SECTION ON SHEET 4 OF 5 FOR DETAILS.

ASSEMBLED BY :	PLJ	DATE :	11/14/12
CHECKED BY :	DRR	DATE :	11/14/12
DRAWN BY :	DGE 3/09	REV.	12/5/11 MAA/AAC
CHECKED BY :	BCH 3/09		



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STATION: 13+92.50 -L-

SHEET 3 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF 45' UNIT
27'-10" CLEAR ROADWAY
90° SKEW

REVISIONS						SHEET NO. S-7
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 19
2			4			

STD. NO. 21" PCS_30_90S_45L

BILL OF MATERIAL FOR ONE 35' CORED SLAB UNIT							
				EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B3	4	#4	STR	18'-3"	49	18'-3"	49
S1	8	#5	3	4'-3"	35	4'-3"	35
S2	74	#4	3	5'-4"	264	5'-4"	264
* S3	44	#5	1	6'-2"	283		
REINFORCING STEEL				LBS.	348	348	
* EPOXY COATED REINFORCING STEEL				LBS.	283		
5000 P.S.I. CONCRETE				CU. YDS.	5.1	5.1	
0.6" Ø L.R. STRANDS				No.	9	9	

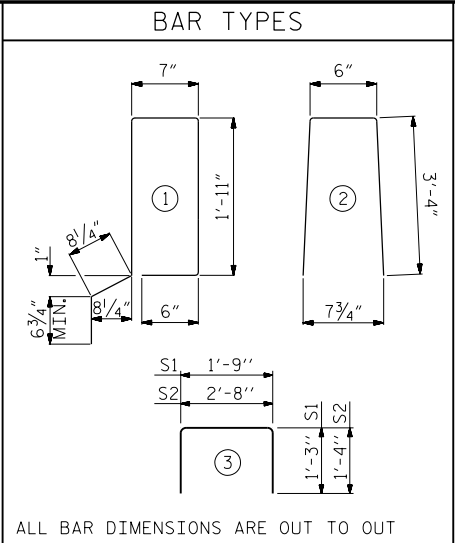
BILL OF MATERIAL FOR ONE 45' CORED SLAB UNIT							
				EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B5	4	#4	STR	23'-3"	62	23'-3"	62
S1	8	#5	3	4'-3"	35	4'-3"	35
S2	94	#4	3	5'-4"	335	5'-4"	335
* S3	54	#5	1	6'-2"	347		
REINFORCING STEEL LBS.					432	432	
* EPOXY COATED REINFORCING STEEL LBS.					347		
6500 P.S.I. CONCRETE CU. YDS.					6.5	6.5	
0.6" Ø L.R. STRANDS No.					13	13	

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	35' UNIT					
*B10	40	80	#5	STR	17'-1"	1426
* S4	88	176	#5	2	7'-2"	1316
* EPOXY COATED REINFORCING STEEL				LBS.	2742	
CLASS AA CONCRETE				CU.YDS.	18.4	
TOTAL VERTICAL CONCRETE BARRIER RAIL				LN. FT.	140.50	

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	45' UNIT					
*B12	40	40	#5	STR	22'-1"	921
*S4	108	108	#5	2	7'-2"	807
* EPOXY COATED REINFORCING STEEL				LBS.		1728
CLASS AA CONCRETE				CU.YDS.		11.8
TOTAL VERTICAL CONCRETE BARRIER RAIL				LN. FT.		90.25

GUTTERLINE ASPHALT THICKNESS & RAIL HEIGHT		
27'-10" CLEAR ROADWAY	ASPHALT OVERLAY THICKNESS	RAIL HEIGHT
	@ MID-SPAN	@ MID-SPAN
	SUPERED SECTION	
35' UNITS	2 $\frac{3}{8}$ "	3'-8 $\frac{7}{8}$ "
45' UNIT	1 $\frac{1}{2}$ "	3'-8"

GRADE 270 STRANDS	
	0.6" Ø L.R.
AREA (SQUARE INCHES)	0.217
ULTIMATE STRENGTH (LBS. PER STRAND)	58,600
APPLIED PRESTRESS (LBS. PER STRAND)	43,950



NOTES

ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL REINFORCING STEEL CAST WITH THE CORED SLAB SECTIONS SHALL BE GRADE 60 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE CORED SLABS.

RECESSES FOR TRANSVERSE STRANDS SHALL BE GROUTED AFTER THE TENSIONING OF THE STRANDS.

THE 2 1/2" Ø DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH NON-SHRINK GROUT.

THE BACKER RODS SHALL CONFORM TO THE REQUIREMENTS OF TYPE M BOND BREAKER. SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.

WHEN CORED SLABS ARE CAST, AN INTERNAL HOLD-DOWN SYSTEM SHALL BE EMPLOYED TO PREVENT VOIDS FROM RISING OR MOVING SIDEWAYS. AT LEAST SIX WEEKS PRIOR TO CASTING CORED SLABS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND COMMENT, DETAILED DRAWINGS OF THE PROPOSED HOLD-DOWN SYSTEM. IN ADDITION TO STRUCTURAL DETAILS, LOCATION AND SPACING OF THE HOLD-DOWNS SHALL BE INDICATED.

ALL REINFORCING STEEL IN THE VERTICAL CONCRETE BARRIER RAIL SHALL BE EPOXY COATED.

PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE CORED SLAB UNIT ENDS.

APPLY EPOXY PROTECTIVE COATING TO CORED SLAB UNIT ENDS.

GROOVED CONTRACT JOINTS, 1/2" IN DEPTH, SHALL BE TOoled IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF BARRIER RAIL SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

TRANSVERSE POST TENSIONING OF THE CORED SLAB UNITS SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE CORED SLAB UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN THE REQUIRED STRENGTH SHOWN IN THE "CONCRETE RELEASE STRENGTH" TABLE.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THE DRAIN OPENING AT THE GUTTERLINE SHALL BE 4"X 8". THE HEIGHT OF THE BLOCKOUT IN THE VERTICAL CONCRETE BARRIER RAIL SHALL EXTEND FROM THE TOP OF THE CORED SLAB UNIT TO THE TOP OF THE DRAIN OPENING.

APPLY EPOXY PROTECTIVE COATING TO EXTERIOR FACE OF THE EXTERIOR CORED SLAB UNITS THAT REQUIRE DRAINS IN THE BARRIER RAIL.

CORED SLABS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
35' UNIT			
EXTERIOR C.S.	4	35'-0"	140'-0"
INTERIOR C.S.	16	35'-0"	560'-0"
TOTAL	20		700'-0"
45' UNIT			
EXTERIOR C.S.	2	45'-0"	90'-0"
INTERIOR C.S.	8	45'-0"	360'-0"
TOTAL	10		450'-0"

CONCRETE RELEASE STRENGTH	
UNIT	PSI
35' & 45' UNITS	4000

PROJECT NO. 17BP.3.R.12
SAMPSON COUNT
 STATION: 13+92.50 -L-

SHEET 4 OF 5



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REVISIONS						SHEET S-
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEET 19
2			4			

STD. NO. 21" PCS3_33_90S

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 7 - 7/8" Ø BOLTS WITH NUTS AND WASHERS.

THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

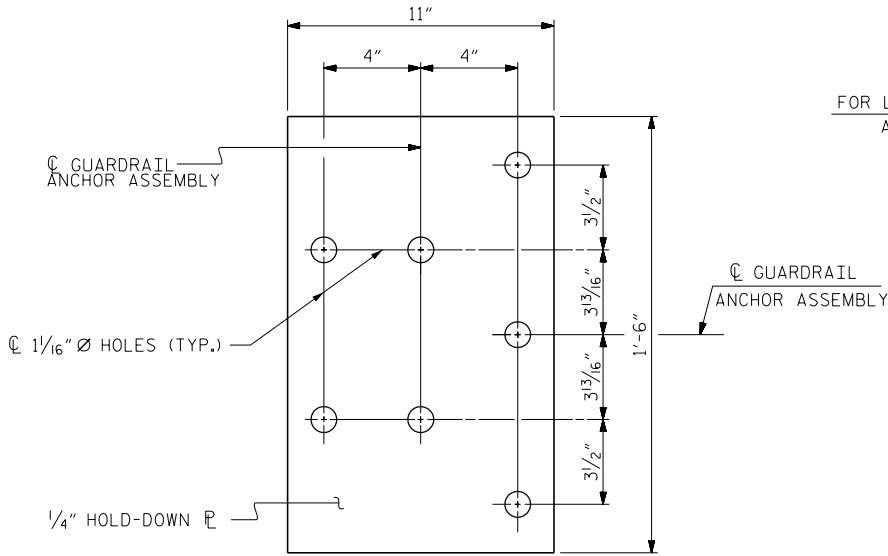
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR VERTICAL CONCRETE BARRIER RAIL.

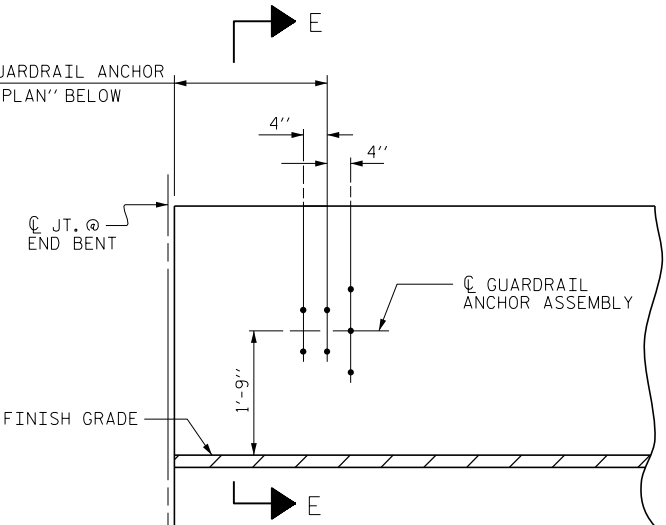
THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE VERTICAL CONCRETE BARRIER RAIL TO CLEAR ASSEMBLY BOLTS.

THE 1 1/4" Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

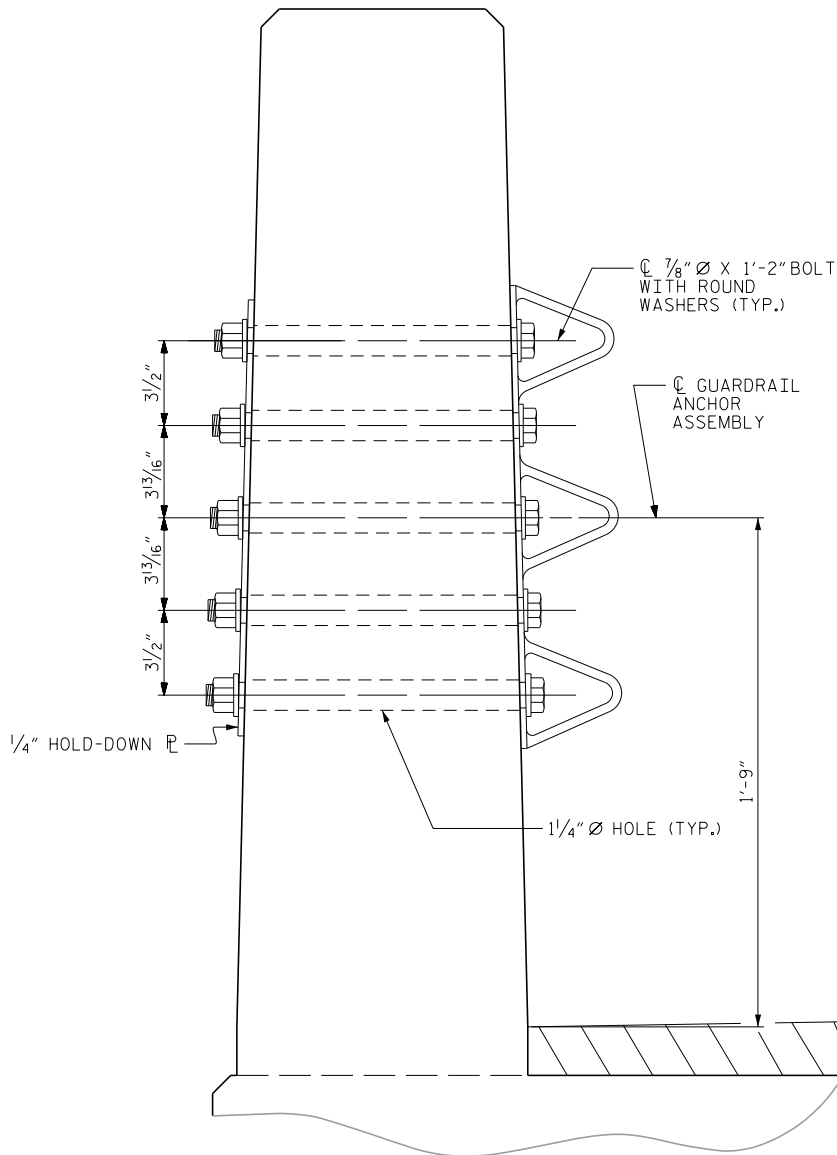


PLAN

FOR LOCATION OF GUARDRAIL ANCHOR ASSEMBLY, SEE "PLAN" BELOW

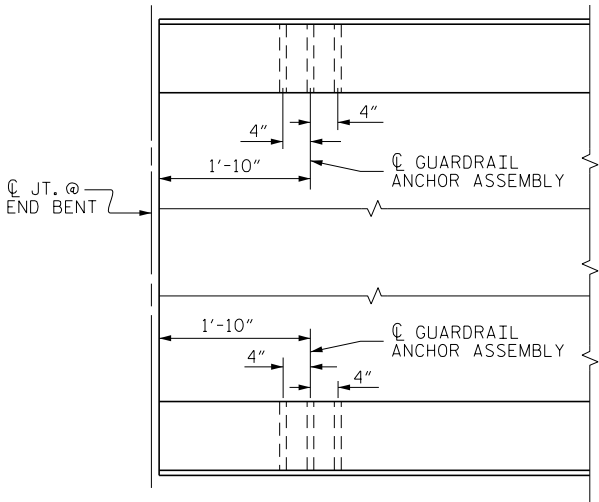


ELEVATION



SECTION E-E

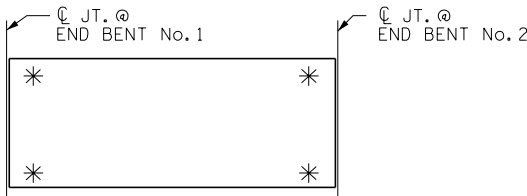
GUARDRAIL ANCHOR ASSEMBLY DETAILS



PLAN

LOCATION OF ANCHORS FOR GUARDRAIL

END BENT No. 1 SHOWN, END BENT No. 2 SIMILAR.



SKETCH SHOWING POINTS OF ATTACHMENT

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. 17BP.3.R.12

SAMPSON COUNTY

STATION: 13+92.50 -L-

SHEET 5 OF 5



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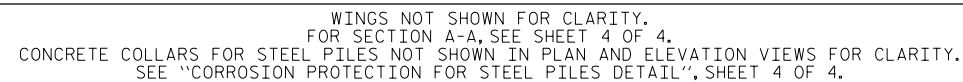
STANDARD
GUARDRAIL ANCHORAGE
FOR VERTICAL CONCRETE
BARRIER RAIL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-9
2			4			
TOTAL SHEETS						19

(SHT 1) STD. NO. GRA3

ASSEMBLED BY : JMA	DATE : 6/25/12
CHECKED BY : PLJ	DATE : 6/27/12
DRAWN BY : MAA 5/10	ADDED 5/6/10
CHECKED BY : GM 5/10	REV. 10/1/11
	REV. 12/5/11
	MAA/GM
	MAA/GM


INSTALL THE 4" DIA. DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS. SEE THE ROADWAY PLANS. REINFORCING STEEL IN THE WING WALL MAYBE BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			19

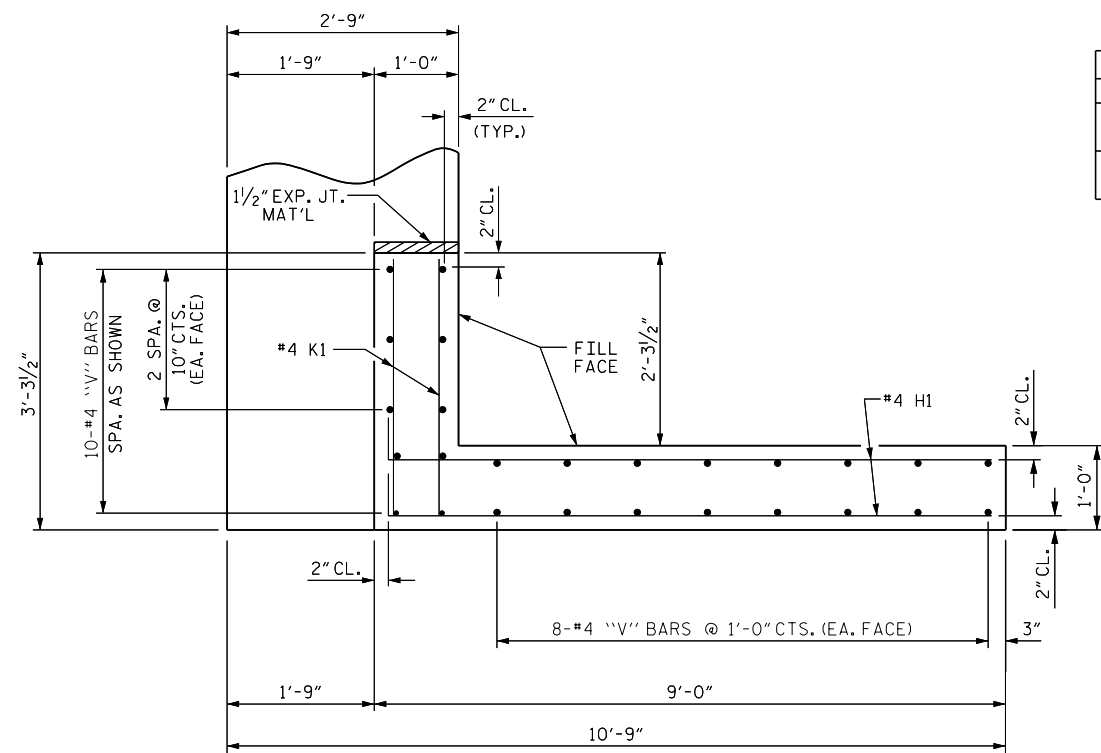
ASSEMBLED BY :	JMA	DATE :	6/25/12
CHECKED BY :	PLJ	DATE :	6/27/12
DRAWN BY :	WJH 12/II		
CHECKED BY :	AAC 12/II		

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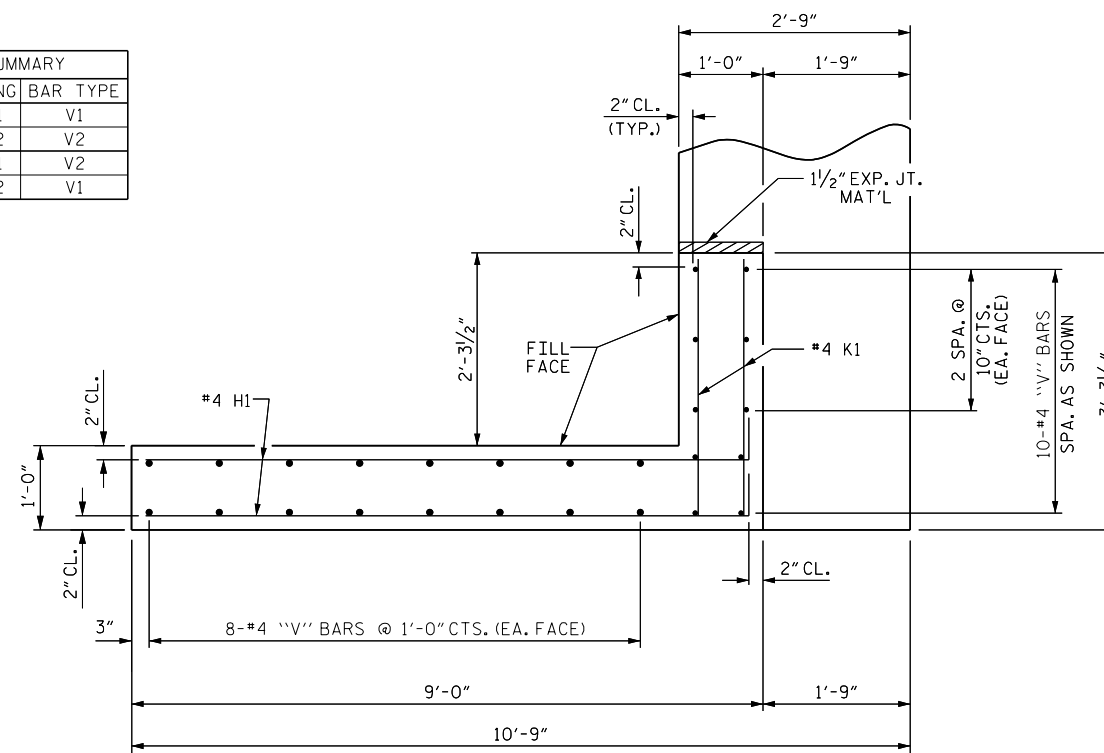
STEWART

STD. NO. EB_33_90S4

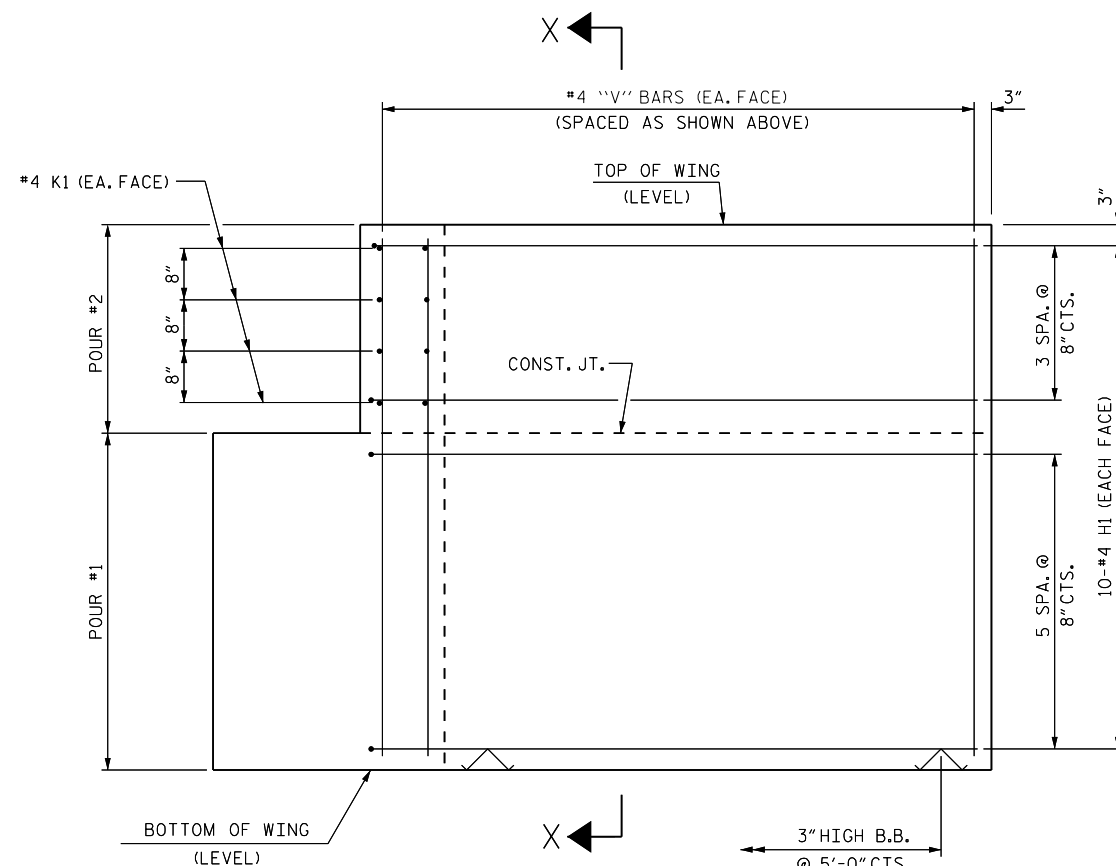


PLAN OF WING (W1)

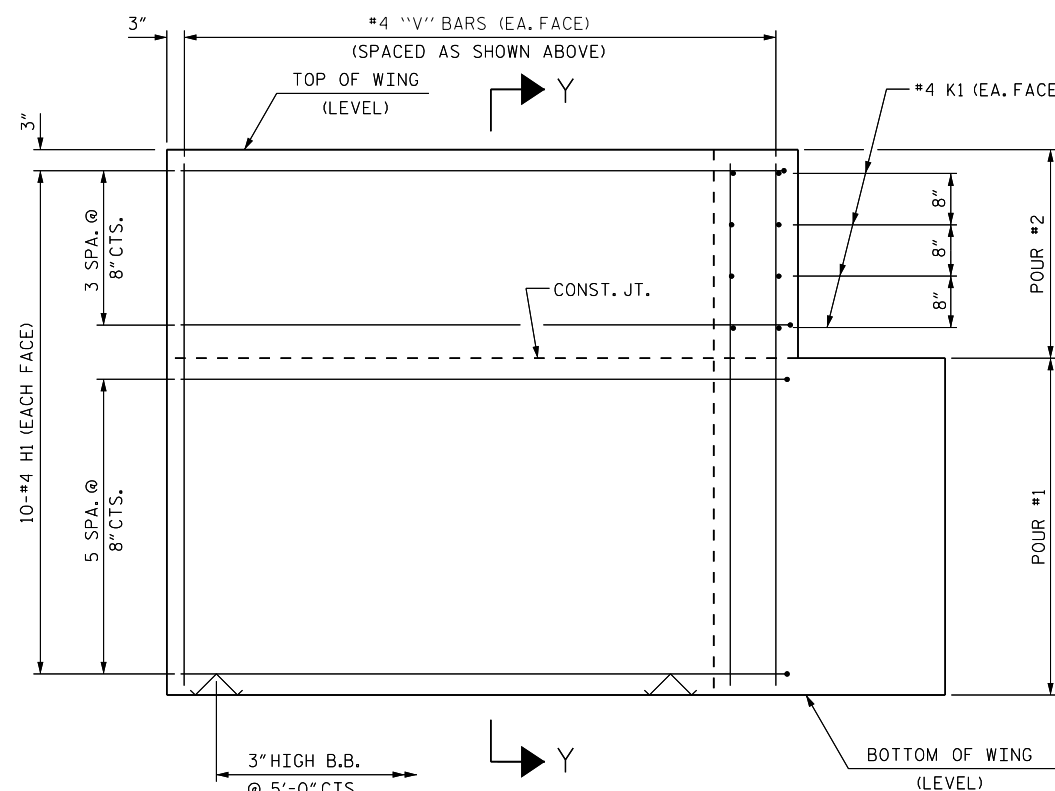
"V" BAR SUMMARY		
	WING	BAR TYPE
END BENT 1	W1	V1
	W2	V2
END BENT 2	W1	V2
	W2	V1



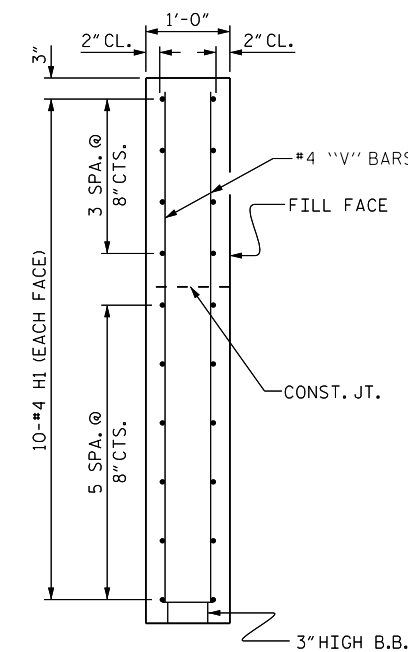
PLAN OF WING (W2)



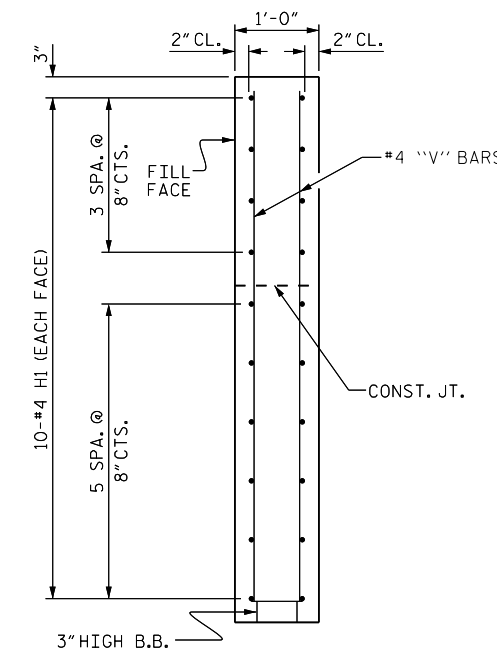
ELEVATION OF WING (W1)



ELEVATION OF WING (W2)



SECTION X-X



SECTION Y-Y

PROJECT NO. 17BP.3.R.12

SAMPSON COUNTY

STATION: 13+92.50 -L-

SHEET 3 OF 4



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RALEIGH

SUBSTRUCTURE
END BENT
WING DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-12
2			4			

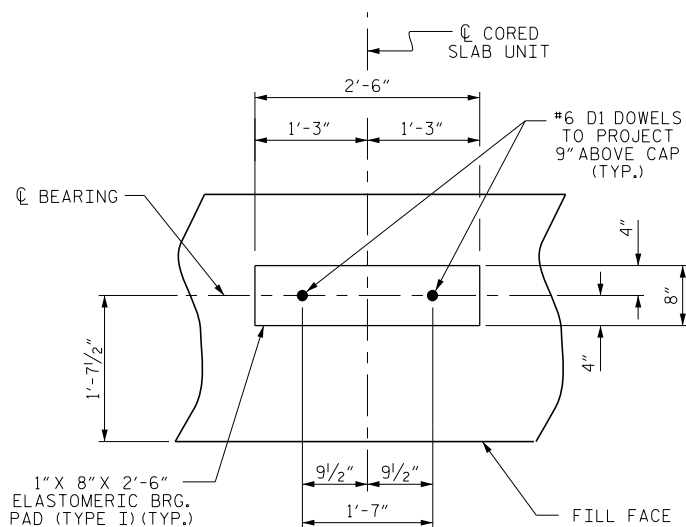
TOTAL SHEETS
19

ASSEMBLED BY : JMA	DATE : 6/25/12
CHECKED BY : PLJ	DATE : 6/27/12
DRAWN BY : WJH 12/II	
CHECKED BY : AAC 12/II	

WING DETAILS

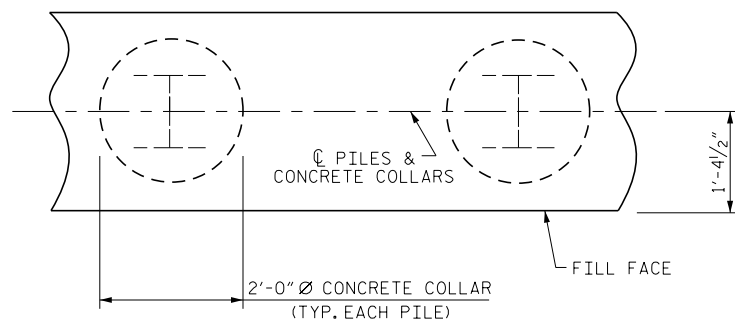
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT



DETAIL "A"

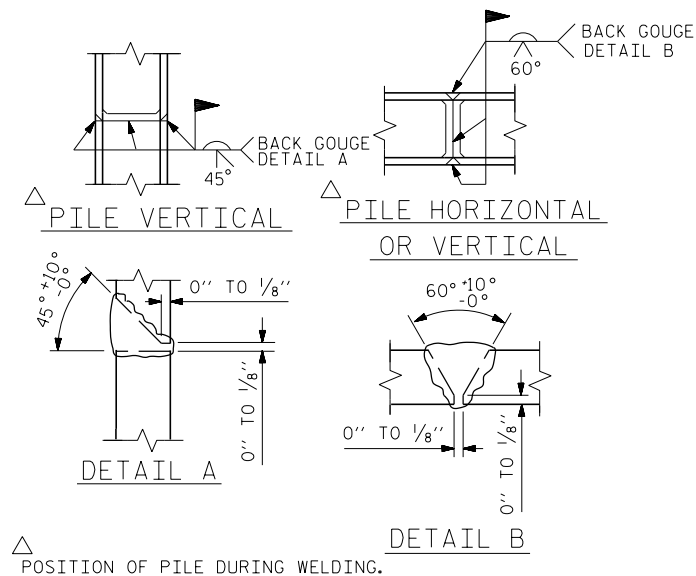
(END BENT No.1 SHOWN,END BENT No.2 SIMILAR BY ROTATION)



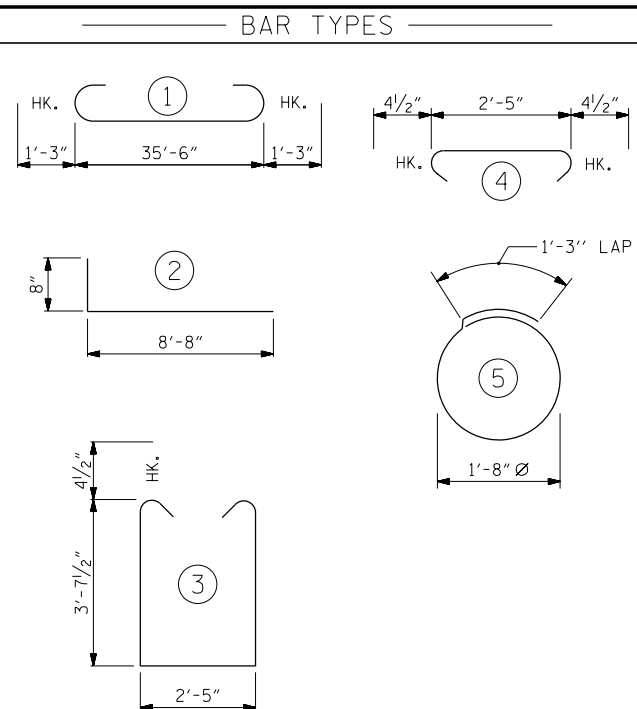
PLAN

CORROSION PROTECTION FOR STEEL PILES DETAIL

(END BENT No.1 SHOWN,END BENT No.2 SIMILAR BY ROTATION)



PILE SPLICE DETAILS



ALL BAR DIMENSIONS ARE OUT TO OUT.

END BENT No. 1 HP 12 X 53 STEEL PILES NO: 5 LIN. FT.= 250	END BENT No. 2 HP 12 X 53 STEEL PILES NO: 5 LIN. FT.= 275
PILE REDRIVES EA. 3	PILE REDRIVES EA. 3

BILL OF MATERIAL					
FOR ONE END BENT					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	38'-0"	1034
B2	28	#4	STR	19'-1"	357
B3	9	#4	STR	2'-5"	15
D1	20	#6	STR	1'-6"	45
H1	40	#4	2	9'-4"	249
K1	16	#4	STR	2'-11"	31
S1	46	#4	3	10'-5"	320
S2	46	#4	4	3'-2"	97
S3	20	#4	5	6'-6"	87
V1	26	#4	STR	5'-10"	101
V2	26	#4	STR	6'-2"	107

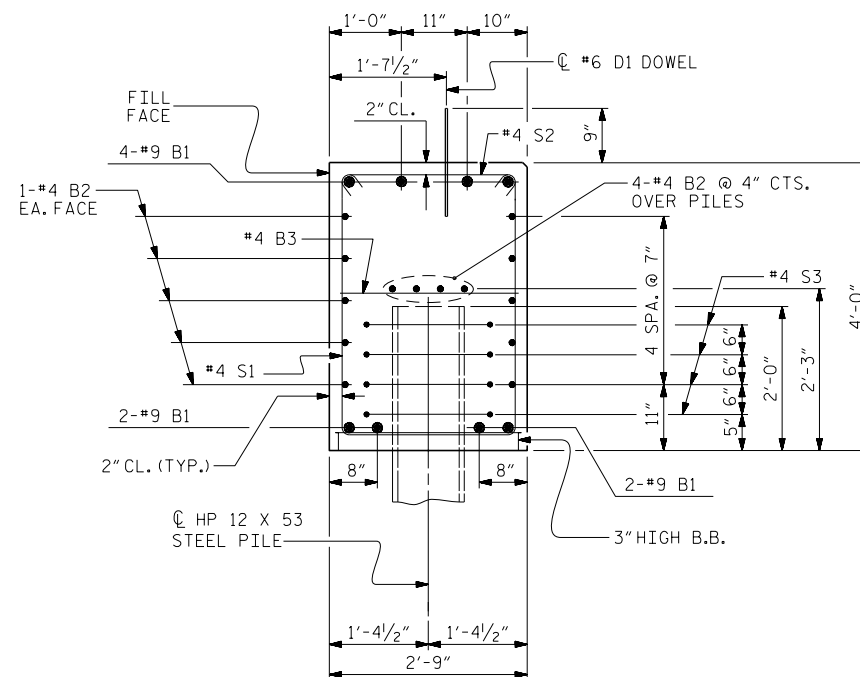
REINFORCING STEEL (FOR ONE END BENT)	2443 LBS.
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CLASS A CONCRETE BREAKDOWN
(FOR ONE END BENT)

POUR #1	CAP, LOWER PART OF WINGS & COLLARS	17.9 C.Y.
---------	---------------------------------------	-----------

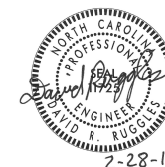
POUR #2 UPPER PART OF WINGS	2.1 C.Y.
-----------------------------	----------

TOTAL CLASS A CONCRETE	20.0 C.Y.
------------------------	-----------



SECTION A-A

(CONCRETE COLLAR NOT SHOWN FOR CLARITY.
SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL.")



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PROJECT NO. 17BP.3.R.12

SAMPSON COUNTY

STATION: 13+92.50 -L-

SHEET 4 OF 4

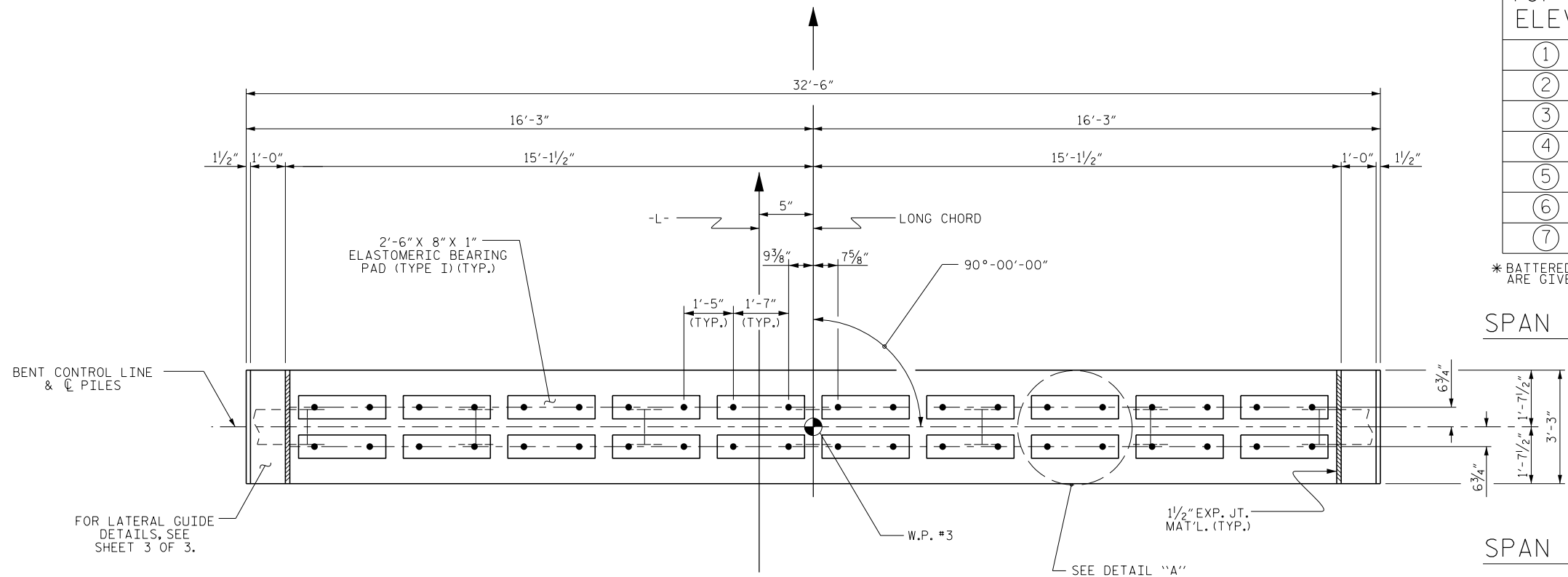
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT No. 1 & 2
DETAILS

ASSEMBLED BY :	JMA	DATE :	6/25/12
CHECKED BY :	PLJ	DATE :	6/27/12
DRAWN BY :	WJH 12/II		
CHECKED BY :	AAC 12/II		

REVISIONS						SHEET NO. S-13
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 19
2			4			



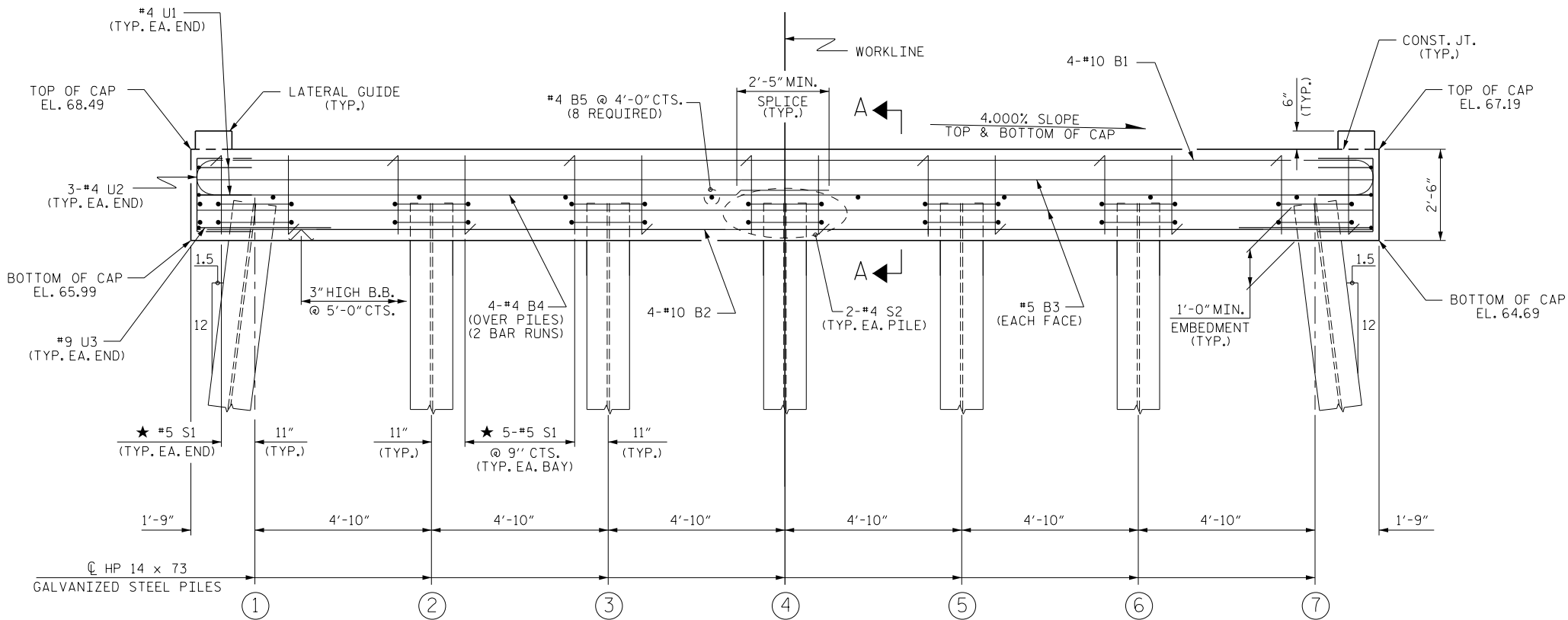
TOP OF PILE ELEVATIONS	
①	* 66.96
②	66.75
③	66.55
④	66.36
⑤	66.17
⑥	65.97
⑦	* 65.85

* BATTERED PILE ELEVATIONS ARE GIVEN AT C OF PILE

SPAN "C"

SPAN "B"

PLAN



ELEVATION

FOR SECTION A-A, SEE SHEET 3 OF 3

NOTES

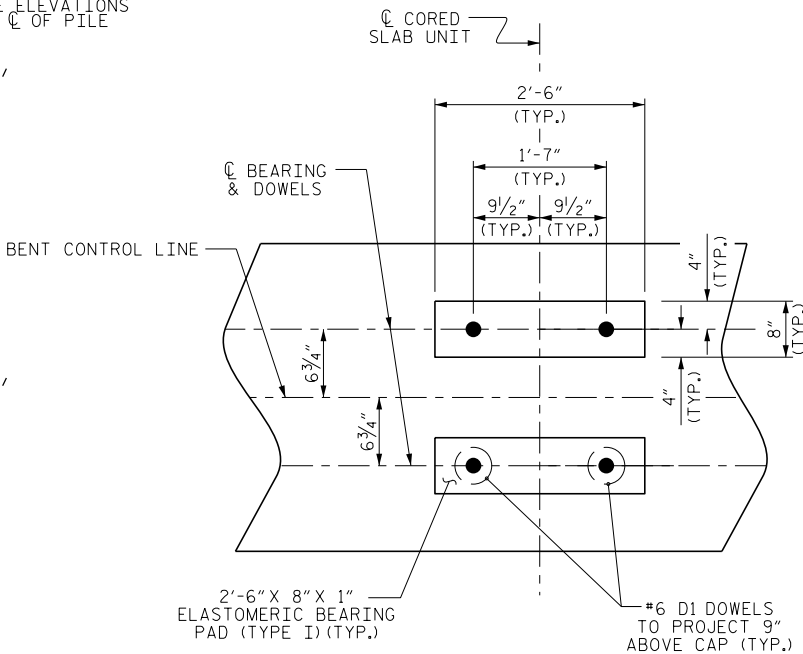
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.

THE LATERAL GUIDES ARE NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.

★ INVERT ALTERNATE STIRRUPS.

GALVANIZE THE TOP OF EACH INTERIOR BENT PILE A MINIMUM OF 28 FEET. GALVANIZE IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS.

THE CONTRACTOR HAS THE OPTION TO OMIT THE LATERAL GUIDE IF APPROVED BY THE ENGINEER.



DETAIL "A"

(DIMENSIONS ARE TYPICAL EACH BEARING)

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SHEET 2 OF 3



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SUBSTRUCTURE
BENT No. 2

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

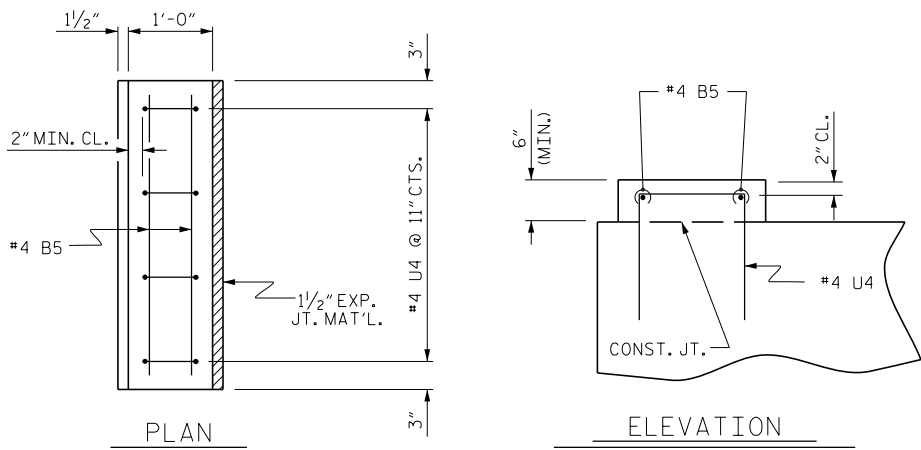
SHEET NO.

S-15

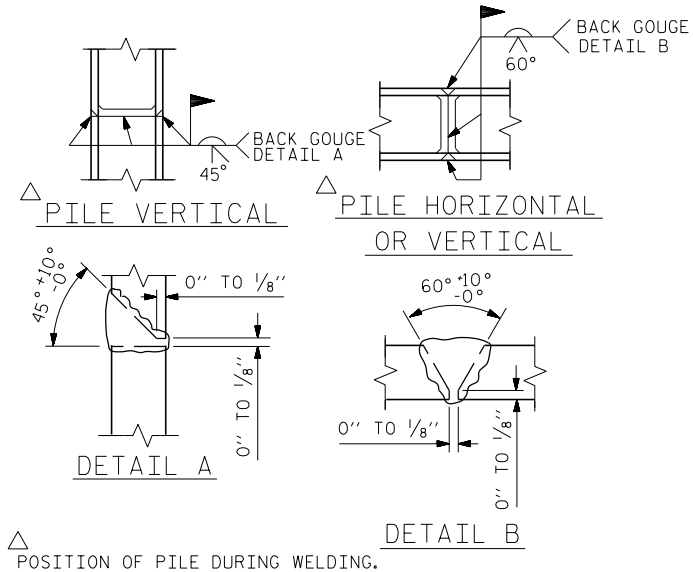
TOTAL SHEETS

19

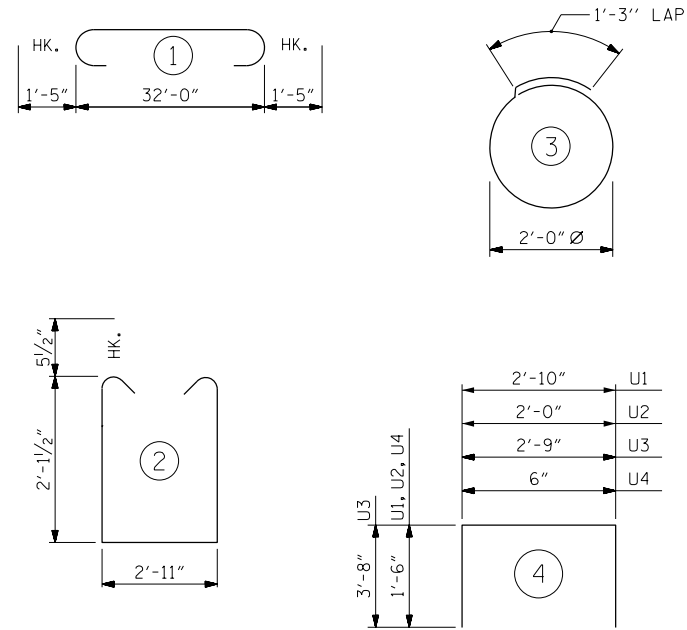
ASSEMBLED BY : JMA DATE : 6/25/12
CHECKED BY : PLJ DATE : 6/27/12
DRAWN BY : DGE 05/10
CHECKED BY : MKT 05/10



LATERAL GUIDE DETAILS
(LEFT LATERAL GUIDE SHOWN, RIGHT SIDE SIMILAR)

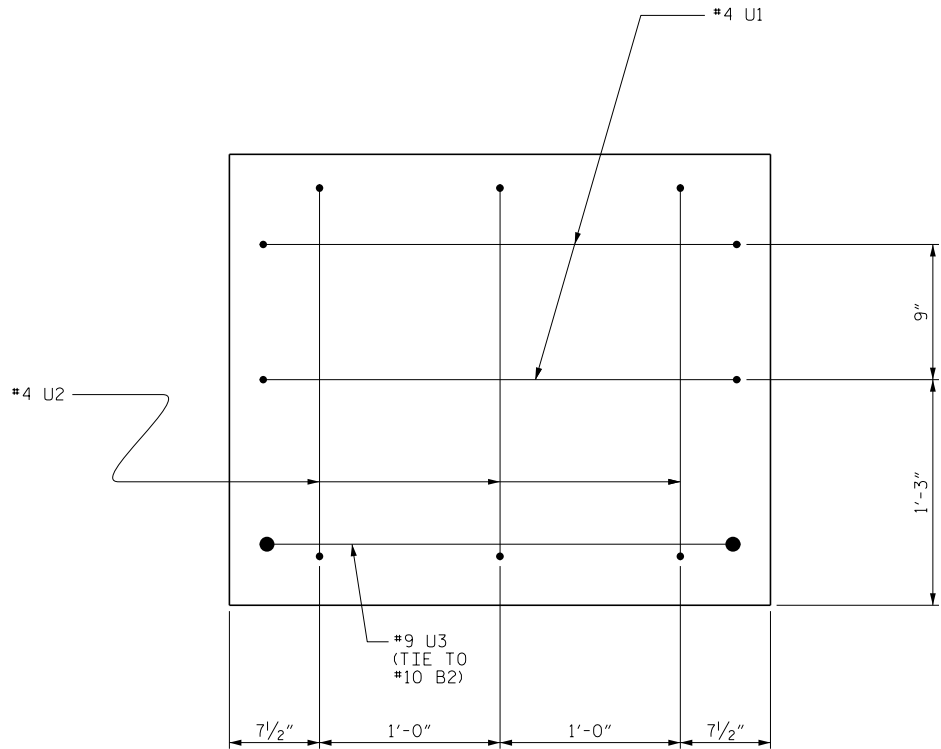


PILE SPLICE DETAILS
SCALE- 3/4" = 1'-0"

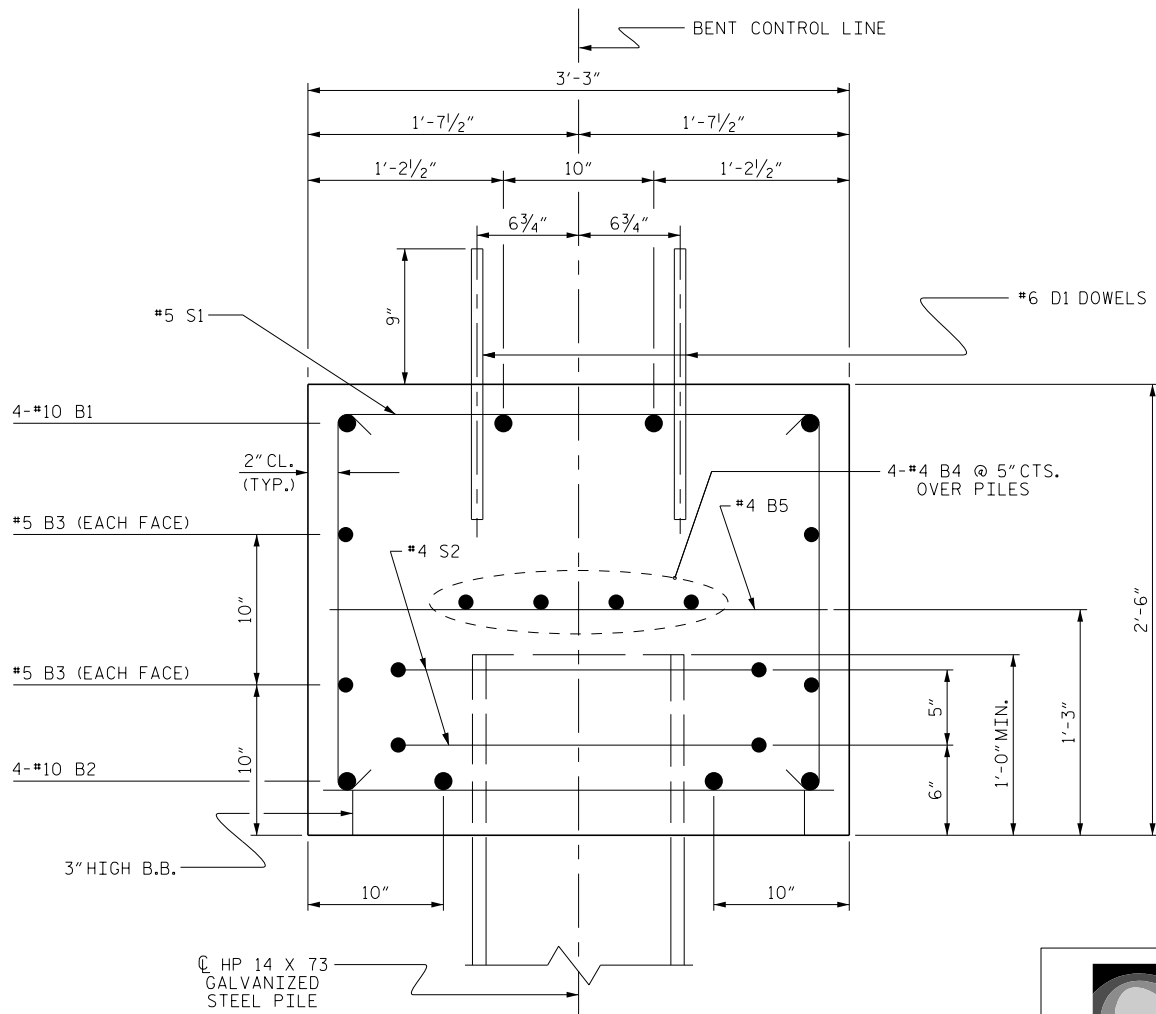


ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
FOR ONE BENT					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	4	#10	1	34'-10"	600
B2	4	#10	STR	32'-2"	554
B3	4	#5	STR	32'-2"	134
B4	8	#4	STR	17'-4"	93
B5	12	#4	STR	2'-11"	23
D1	40	#6	STR	1'-6"	90
S1	32	#5	2	8'-1"	270
S2	14	#4	3	7'-7"	71
U1	4	#4	4	5'-10"	16
U2	6	#4	4	5'-0"	20
U3	2	#9	4	10'-1"	69
U4	8	#4	4	3'-6"	19
REINFORCING STEEL				1959 LBS	
(FOR ONE BENT)					
CLASS A CONCRETE BREAKDOWN					
(FOR ONE BENT)					
POUR #1 (CAP)				9.8 C.Y.	
POUR #2 (LATERAL GUIDES)				0.1 C.Y.	
TOTAL CLASS A CONCRETE				9.9 C.Y.	
HP 14 X 73 GALVANIZED STEEL PILES					
BENT 1					
No. 7			LIN. FT.	455	
BENT 2					
No. 7			LIN. FT.	455	
PILE REDRIVES					
BENT 1				EA.	4
BENT 2				EA.	4
PDA TESTING					
BENT 1				EA.	1
BENT 2				EA.	1



END OF CAP VIEW
(TYPICAL BOTH ENDS)



SECTION A-A



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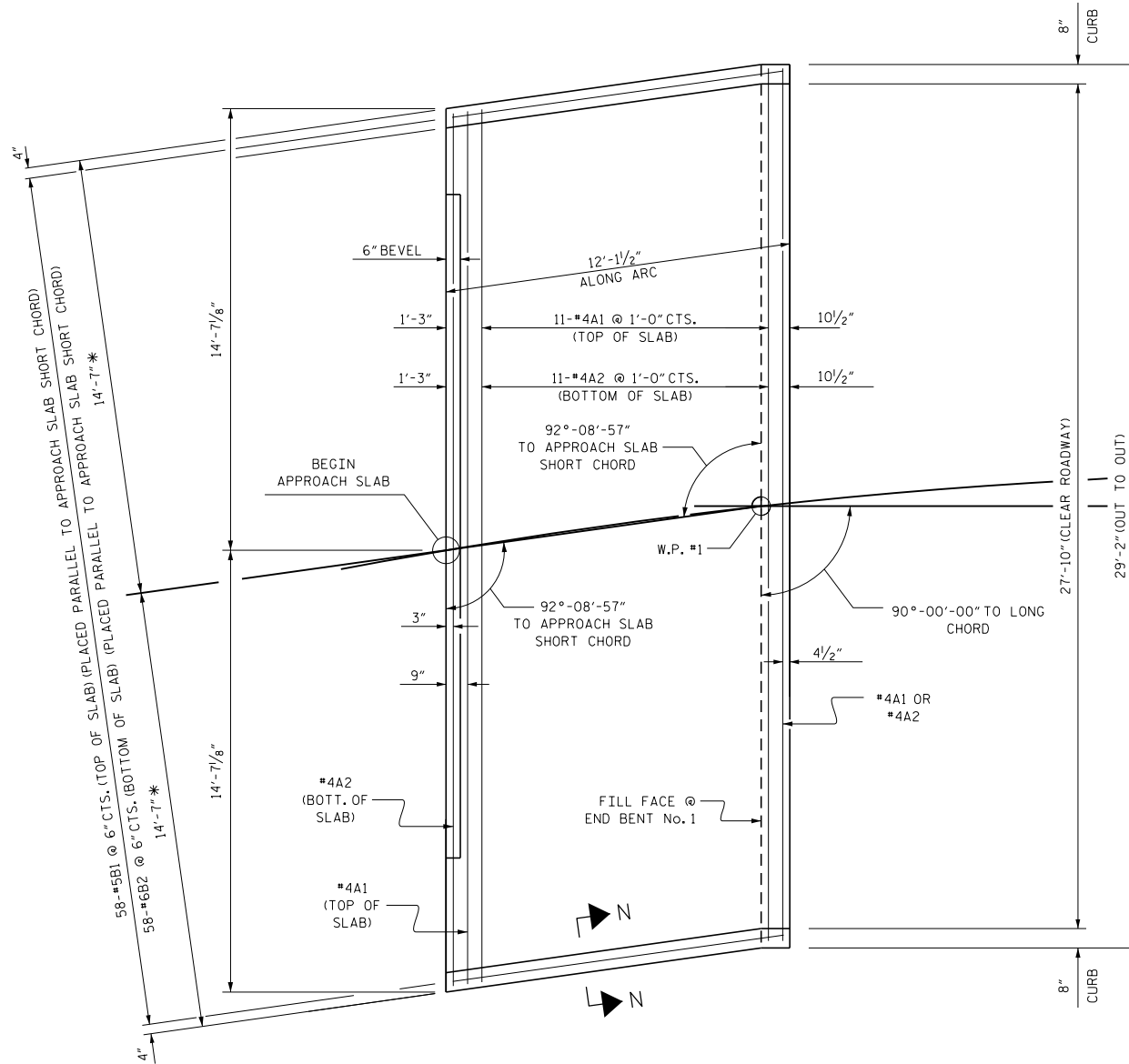
SAMPSON COUNTY

STATION: 13+92.50 -L-

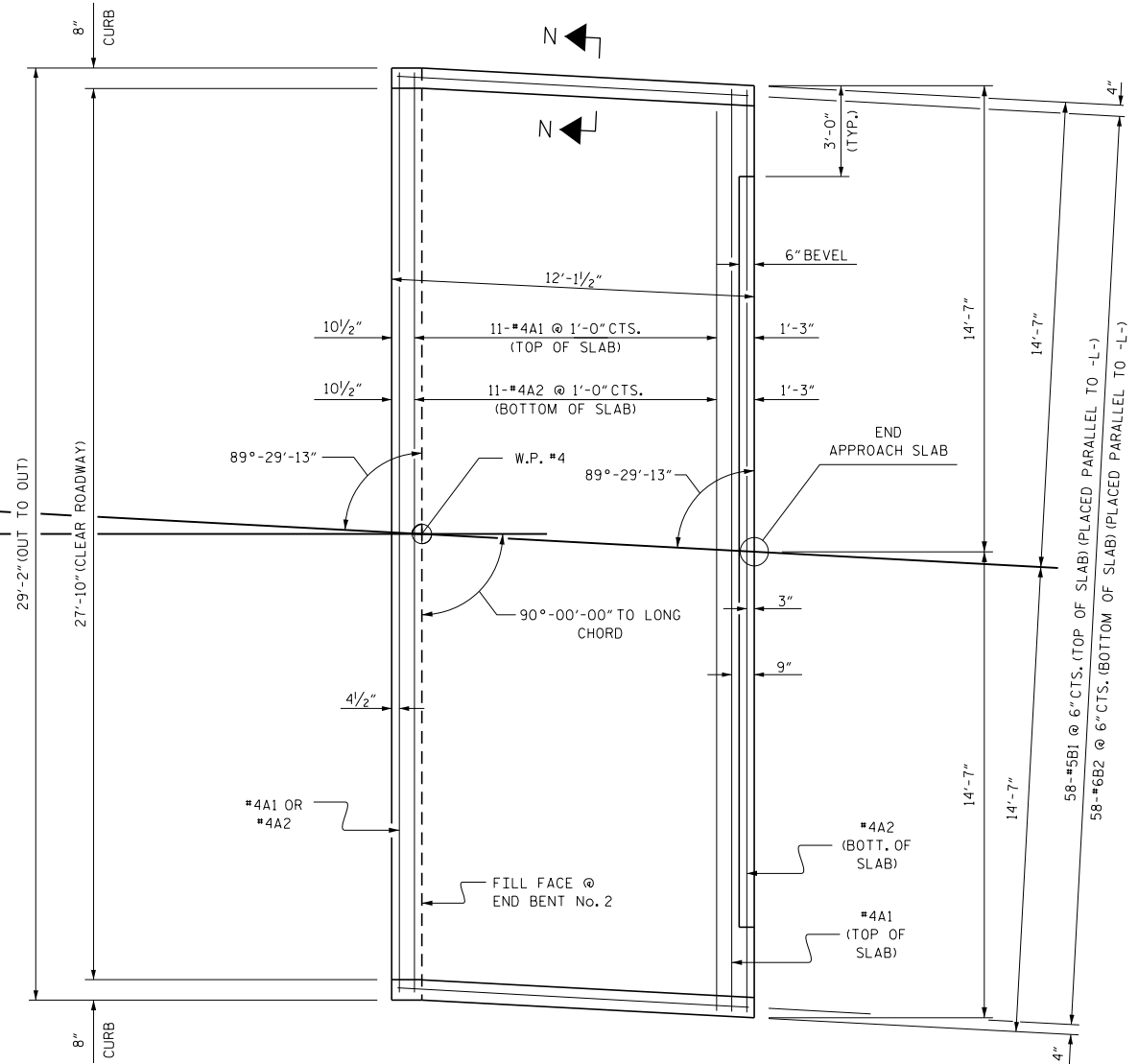
SHEET 3 OF 3

REVISIONS						SHEET NO. S-16
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 19
2			4			

DRAWN BY : JMA	DATE : 6/25/12
CHECKED BY : PLJ	DATE : 6/27/12
DRAWN BY : DGE 05/10	
CHECKED BY : MKT 05/10	



PLAN @ END BENT No. 1

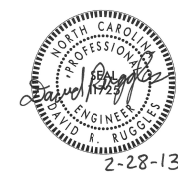


PLAN @ END BENT No. 2

PLAN OF APPROACH SLABS

BEGIN AND END APPROACH SLABS ARE PARALLEL TO FILL FACE.
EDGES OF APPROACH SLAB ARE PARALLEL TO -L- TANGENT.

* MEASURED RADIALLY



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SHEET 1 OF 2

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BRIDGE APPROACH SLAB
FOR PRESTRESSED CONCRETE
CORED SLAB UNIT

90° SKEW

REVISIONS					SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			19
2			4			

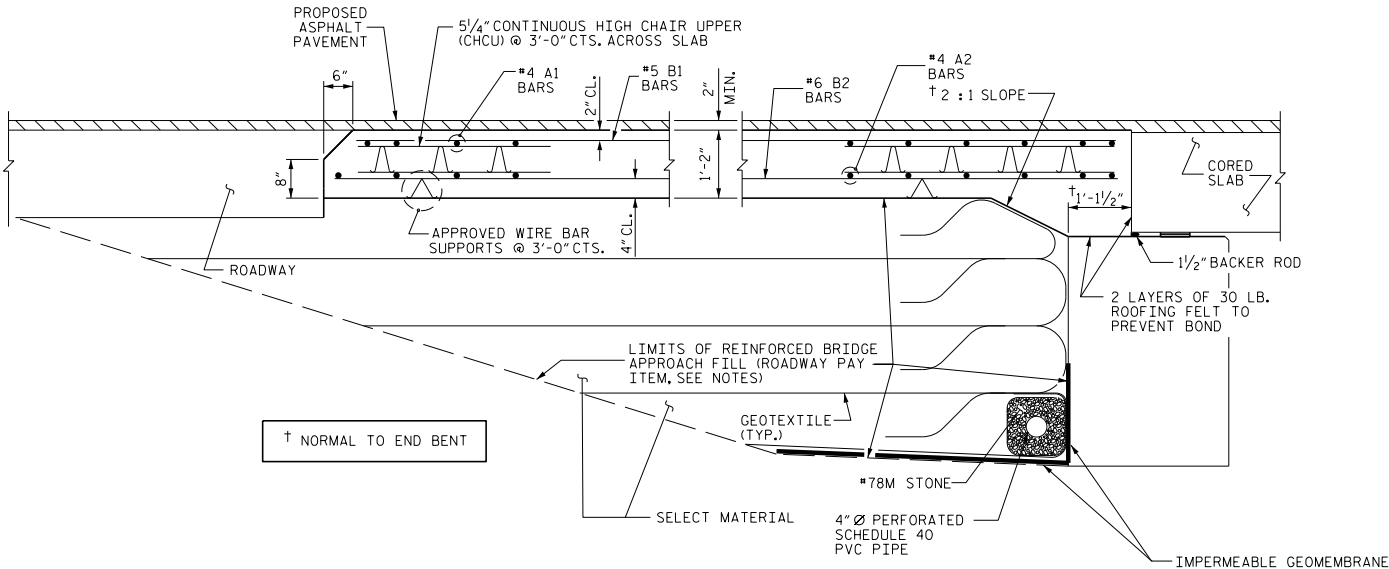
ASSEMBLED BY : PLJ
CHECKED BY : DRR
DATE : 2/26/13
DATE : 2/27/13

NOTES

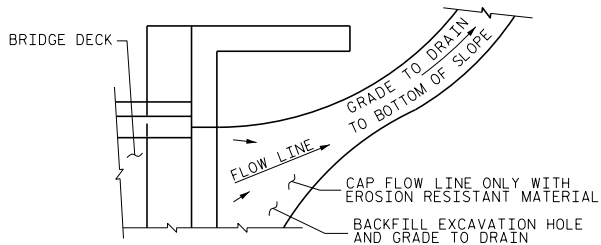
FOR REINFORCED BRIDGE APPROACH FILL INCLUDING GEOTEXTILE, IMPERMEABLE GEOMEMBRANE, 4" Ø DRAINAGE PIPE, #78M STONE, AND SELECT MATERIAL, SEE ROADWAY PLANS.

AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.

APPROACH SLAB GROOVING IS NOT REQUIRED.

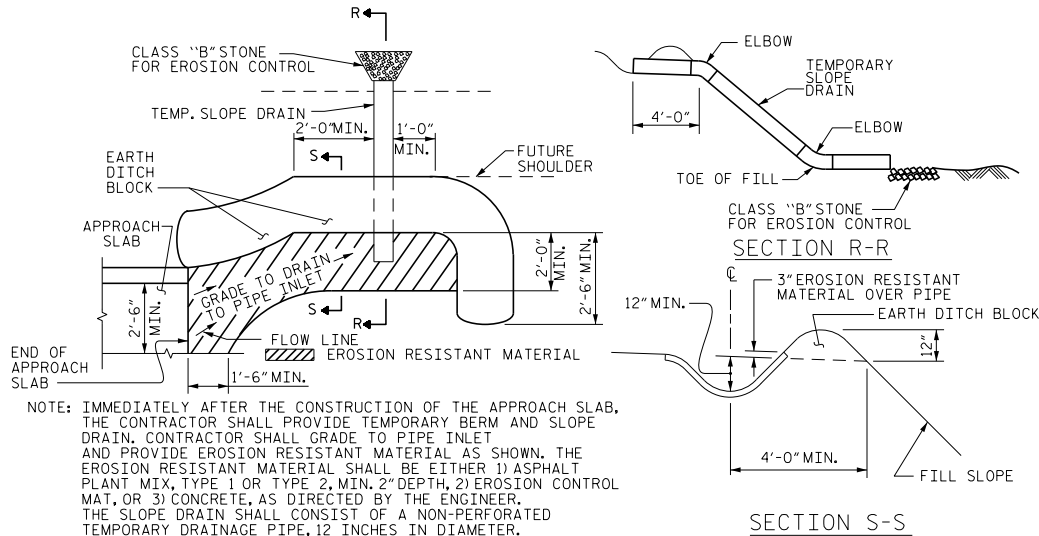


SECTION THRU SLAB



NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT TO THE STRUCTURE. THE CONTRACTOR WILL BE REQUIRED TO REMOVE THESE MATERIALS PRIOR TO CONSTRUCTION OF THE APPROACH SLAB.

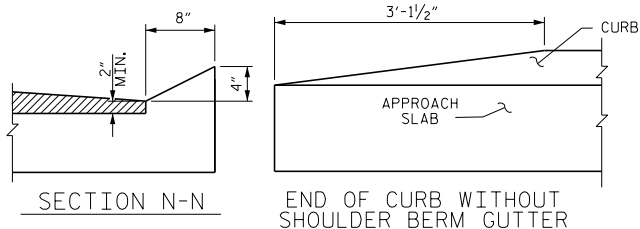
TEMPORARY DRAINAGE DETAIL



PLAN VIEW

TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



CURB DETAILS

SPlice LENGTHS		
BAR SIZE	EPOXY COATED	UNCOATED
#4	2'-0"	1'-9"
#5	2'-6"	2'-2"
#6	3'-10"	2'-7"



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SHEET 2 OF 2

REVISIONS						SHEET NO. S-18
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1			3			TOTAL SHEETS 19
2			4			

ASSEMBLED BY : PLJ	DATE : 2/26/13
CHECKED BY : DRR	DATE : 2/27/13
DRAWN BY : SHS/MAA 5-09	REV. 12-11 MAA/AAC
CHECKED BY : BCH 5-09	

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	- - - - -	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	- - - - -	SEE PLANS
IMPACT ALLOWANCE	- - - - -	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF		
STRUCTURAL STEEL - AASHTO M270 GRADE 36	-	20,000 LBS.PER SQ. IN.
- AASHTO M270 GRADE 50W	-	27,000 LBS.PER SQ. IN.
- AASHTO M270 GRADE 50	-	27,000 LBS.PER SQ. IN.
REINFORCING STEEL IN TENSION		
GRADE 60	- -	24,000 LBS.PER SQ. IN.
CONCRETE IN COMPRESSION	- - - - -	1,200 LBS.PER SQ. IN.
CONCRETE IN SHEAR	- - - - -	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR		
UNTREATED - EXTREME FIBER STRESS	- - - - -	1,800 LBS.PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	- - - -	375 LBS.PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	- - - - -	30 LBS.PER CU.FT.
		(MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES"OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS,CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS,ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4"WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2"RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4"FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4"RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS,SHALL BE EMBEDDED AT LEAST 12"INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE. ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES,ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB,THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS,VERTICAL CURVE ORDINATE,AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES,DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION,VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS,AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS,SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK,THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER. DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS. WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES,THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION,HE MAY SUBSTITUTE 7/8"Ø SHEAR STUDS FOR THE 3/4"Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8"Ø STUDS FOR 4 - 3/4"Ø STUDS,AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8"Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4"Ø STUDS BASED ON THE RATIO OF 3 - 7/8"Ø STUDS FOR 4 - 3/4"Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0". EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE,THE CONTRACTOR MAY,AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16"IN THICKNESS,AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2"OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED. WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES,ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING,GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB,UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB. METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED.CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED.CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY,IN CASE OF DISCREPANCY,THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS,BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON,AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

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CHECKED BY :	PLJ	DATE :	5/28/12
DRAWN BY :	SHS/MAA 5-09	REV. 12-11	MAA/AAC
CHECKED BY :	BCH 5-09		

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD NOTES					
REVISIONS					SHEET NO. S-19
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS 19