

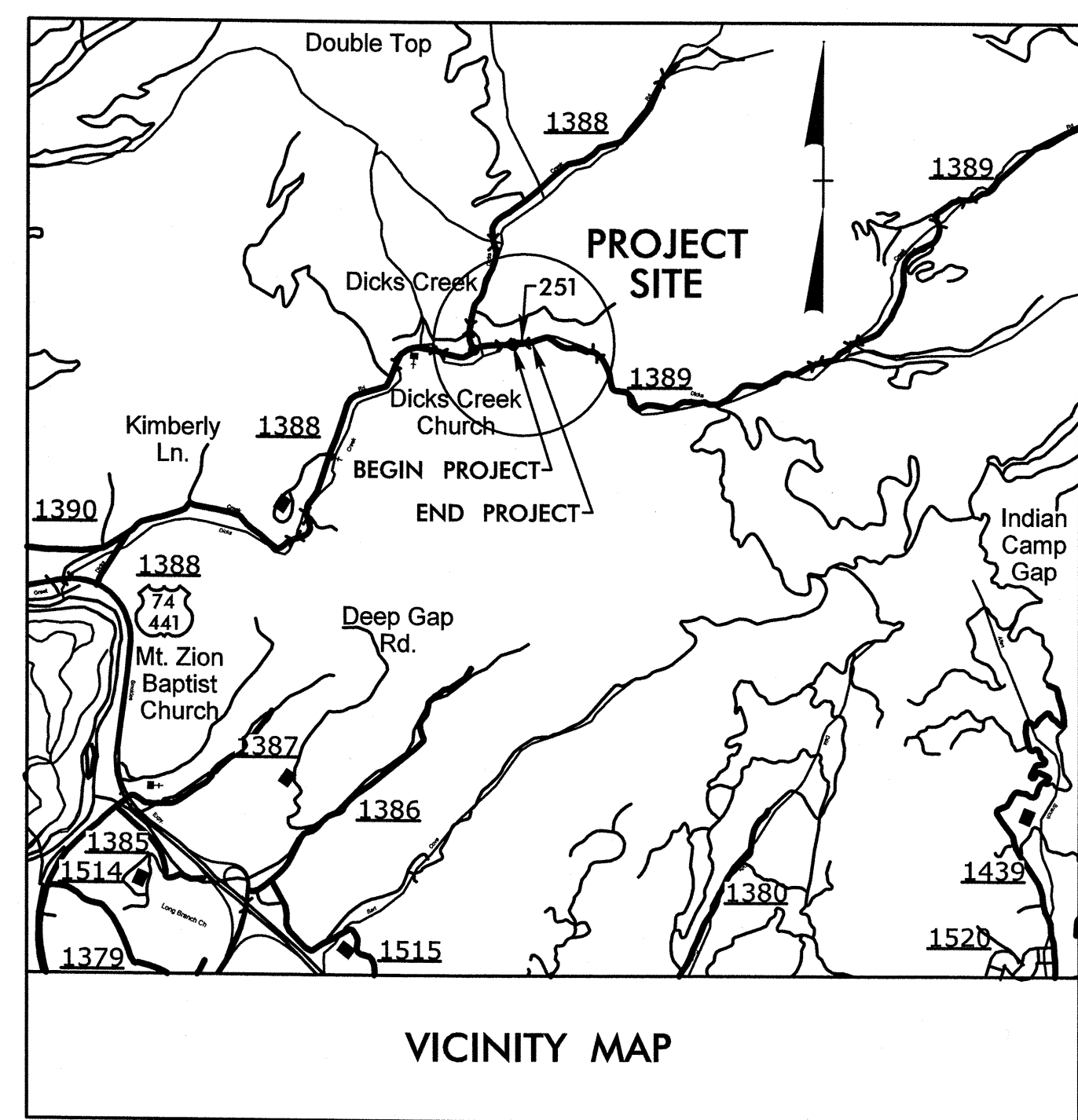
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t.roque

09/08/99

TIP PROJECT: 17BP.14.R.52

CONTRACT: DN00178

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



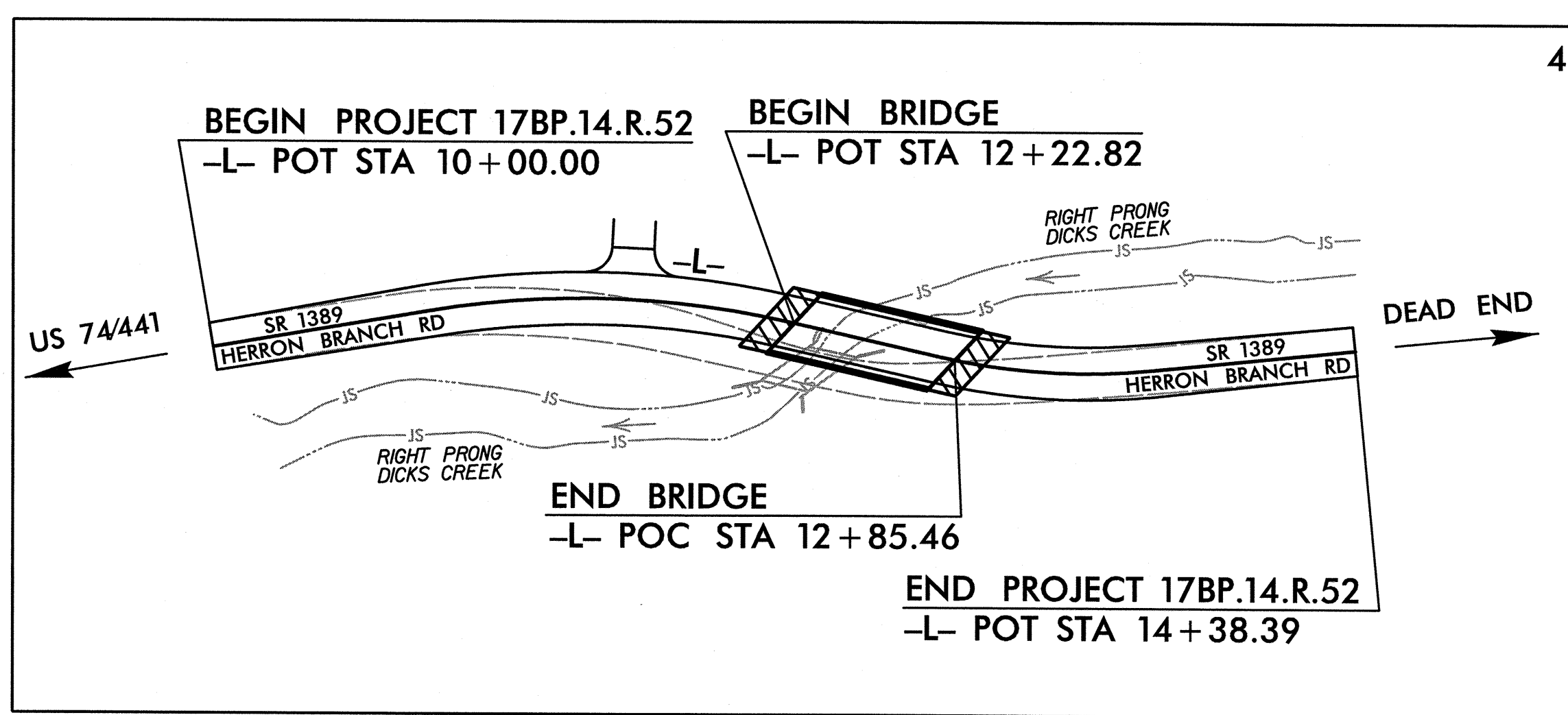
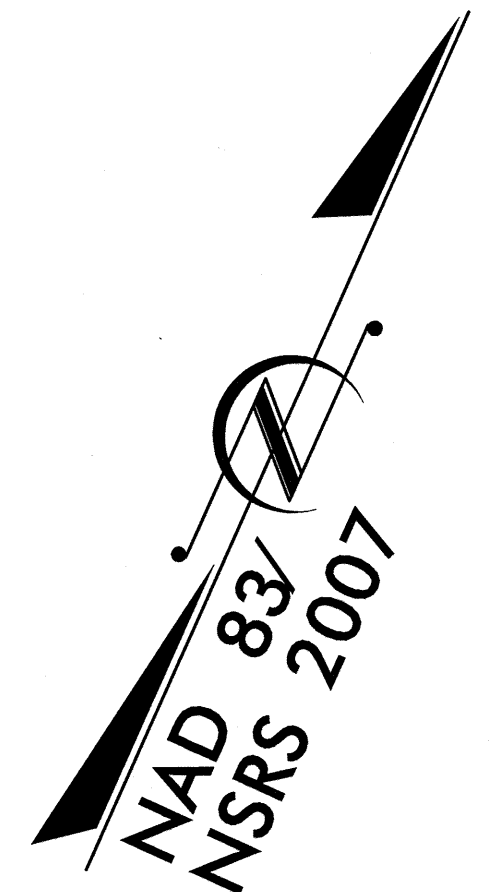
VICINITY MAP

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS JACKSON COUNTY

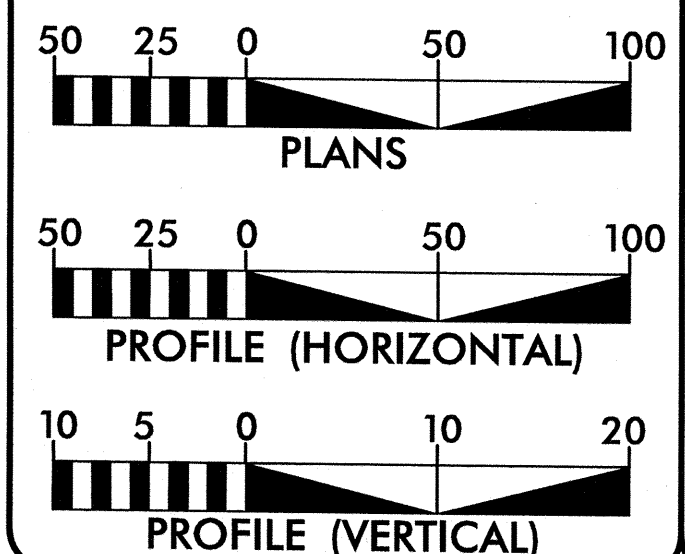
LOCATION: BRIDGE NO. 251 OVER RIGHT PRONG DICK'S CREEK ON SR 1389 (HERRON BRANCH RD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.52	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.14.R.52		PE, RW, UTIL	
17BP.14.R.52		CONST	



GRAPHIC SCALES



DESIGN DATA

ADT XXXX = 50
V = 25 MPH
FUNC CLASS = LOCAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY STATE PROJECT 17BP.14.R.52 = 0.071 MILES
LENGTH STRUCTURES STATE PROJECT 17BP.14.R.52 = 0.012 MILES
TOTAL LENGTH STATE PROJECT 17BP.14.R.52 = 0.083 MILES

NCDOT CONTACT: JOSHUA DEYTON, PE
PROJECT ENGINEER

Prepared In the Office of:

AECOM
NC FIRM LICENSE No: F-0342
701 Corporate Center Drive, Suite 475
Raleigh, NC 27607
(919) 854-6200 - (919) 854-6259(FAX)

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 29, 2012

LETTING DATE:
JUNE 25, 2013

LEN HILL, PE
PROJECT ENGINEER

CLAUDETTE M.K. ROQUE, PE
PROJECT DESIGN ENGINEER

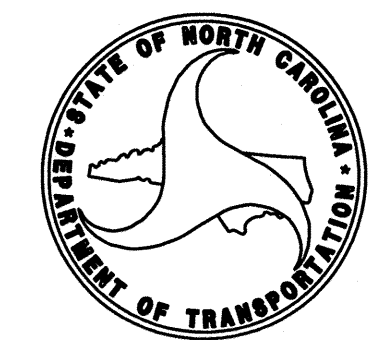
HYDRAULICS ENGINEER

Signature: *[Signature]* 6/5/13
P.E.

Signature: *[Signature]* 6/4/13
P.E.

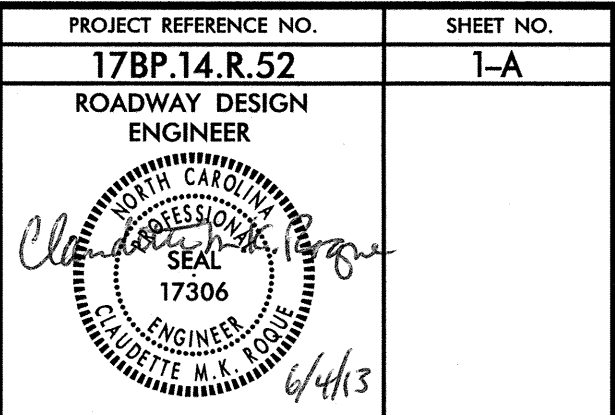
Signature: *[Signature]* P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA



STATE HIGHWAY DESIGN ENGINEER P.E.

INDEX OF SHEETS, LIST OF STANDARD DRAWINGS & GENERAL NOTES



INDEX OF SHEETS	
SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARDS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
1-D	CENTERLINE COORDINATE LIST
2 THRU 2-A	TYPICAL SECTIONS, PAVEMENT SCHEDULE, AND WEDGING DETAIL
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES, SUMMARY OF GUARDRAIL, SUMMARY OF PAVEMENT REMOVAL, SUMMARY OF BREAKING EXISTING PAVEMENT, AND EARTHWORK SUMMARY
4	PLAN AND PROFILE SHEET
TMP-1 THRU TMP-4	TRANSPORTATION MANAGEMENT PLANS
PMP-1	PAVEMENT MARKING PLANS AND SIGNING PLANS
SIG-1 THRU SIG-2	TEMPORARY SIGNAL PLANS
EC-1 THRU EC-3	EROSION CONTROL PLANS
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-7	CROSS-SECTIONS
TS-01	STRUCTURE PLANS TITLE SHEET
S-01 THRU S-19	STRUCTURE PLANS
SN	STRUCTURE PLANS - STANDARD NOTES SHEET

GENERAL NOTES:	2012 SPECIFICATIONS EFFECTIVE: 01-17-12 REVISED: 07/30/12
GRADE LINE: GRADING AND SURFACING:	THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.
CLEARING:	CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD 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 NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".
SUBSURFACE PLANS:	NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.
END BENTS:	THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.
RIGHT-OF-WAY MARKERS:	ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

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
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
422.11	Reinforced 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	
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.52	1-B

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	
County Line	
Township Line	
City Line	
Reservation Line	
Property Line	
Existing Iron Pin	EP
Property Corner	X
Property Monument	ECM
Parcel/Sequence Number	(23)
Existing Fence Line	X-X-X
Proposed Woven Wire Fence	o
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: Boundary or Site	☠
Potential Soil Contamination: Boundary or Site	?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	Ⓢ
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	CSX TRANSPORTATION
RR Signal Milepost	MILEPOST 35
Switch	SWITCH
RR Abandoned	—
RR Dismantled	—

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	—
Proposed Right of Way Line	—
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	E
Proposed Temporary Construction Easement	E
Proposed Temporary Drainage Easement	TDE
Proposed Permanent Drainage Easement	PDE
Proposed Permanent Drainage / Utility Easement	DUE
Proposed Permanent Utility Easement	PUE
Proposed Temporary Utility Easement	TUE
Proposed Aerial Utility Easement	AUE
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	—
Existing Curb	—
Proposed Slope Stakes Cut	C
Proposed Slope Stakes Fill	F
Proposed Curb Ramp	CR
Curb Cut Future Ramp	CCFR
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	Ⓢ
Storm Sewer	S

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	P
Designated U/G Power Line (S.U.E.*)	P

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	T
Designated U/G Telephone Cable (S.U.E.*)	T
Recorded U/G Telephone Conduit	TC
Designated U/G Telephone Conduit (S.U.E.*)	TC
Recorded U/G Fiber Optics Cable	T FO
Designated U/G Fiber Optics Cable (S.U.E.*)	T FO

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

SURVEY CONTROL SHEET 49-0251
-FINAL-

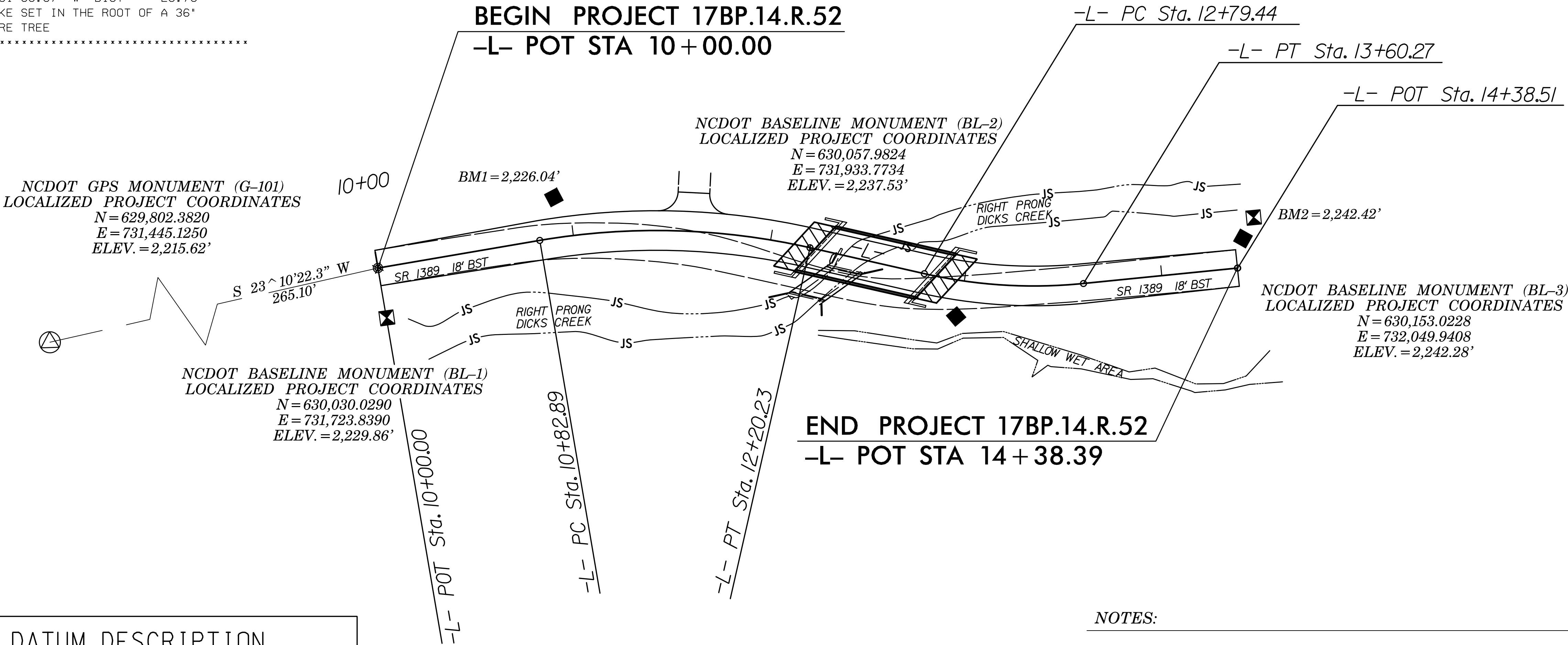
BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1		BL-1	630030.0290	731723.8390	2229.86	10+92.92	20.34 LT
2		BL-2	630057.9824	731933.7734	2237.53	12+98.44	18.30 RT
3		BL-3	630153.0228	732049.9408	2242.28	OUTSIDE PROJECT LIMITS	

BM1 ELEVATION = 2226.04
N 629940 E 731672
L STATION 10+00.00 26 RIGHT
8" SPIKE SET IN THE ROOT OF A 32" WHITE
OAK TREE

BM2 ELEVATION = 2242.42
N 630165 E 732051
L STATION 14+39.00
N 06+31'35.37" W DIST 26.76
8" SPIKE SET IN THE ROOT OF A 36"
SYCAMORE TREE

-FINAL- ROW MARKER IRON PIN AND CAP-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	10+90.00	-20.92	630028.8619	731720.9223
L	10+90.00	-30.00	630036.5119	731716.0311
L	12+20.23	-30.00	630089.0243	731846.4295
L	13+50.00	-22.48	630114.4456	731966.3531

-FINAL- ROW MARKER IRON PIN AND CAP-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	10+90.00	-20.92	630028.8619	731720.9223
L	10+90.00	-30.00	630036.5119	731716.0311
L	12+20.23	-30.00	630089.0243	731846.4295
L	13+50.00	-22.48	630114.4456	731966.3531



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "490251 (G101)" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 629802.3820(++) EASTING: 731445.1250(++) ELEVATION: 2215.62(++) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999774381 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "490251 (G101)" TO -L- STATION 10+00.00 IS S 53°10'22.3" W 265.10' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: [HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/) THE FILES TO BE FOUND ARE AS FOLLOWS: 490251_LS_CONTROL.TXT

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

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

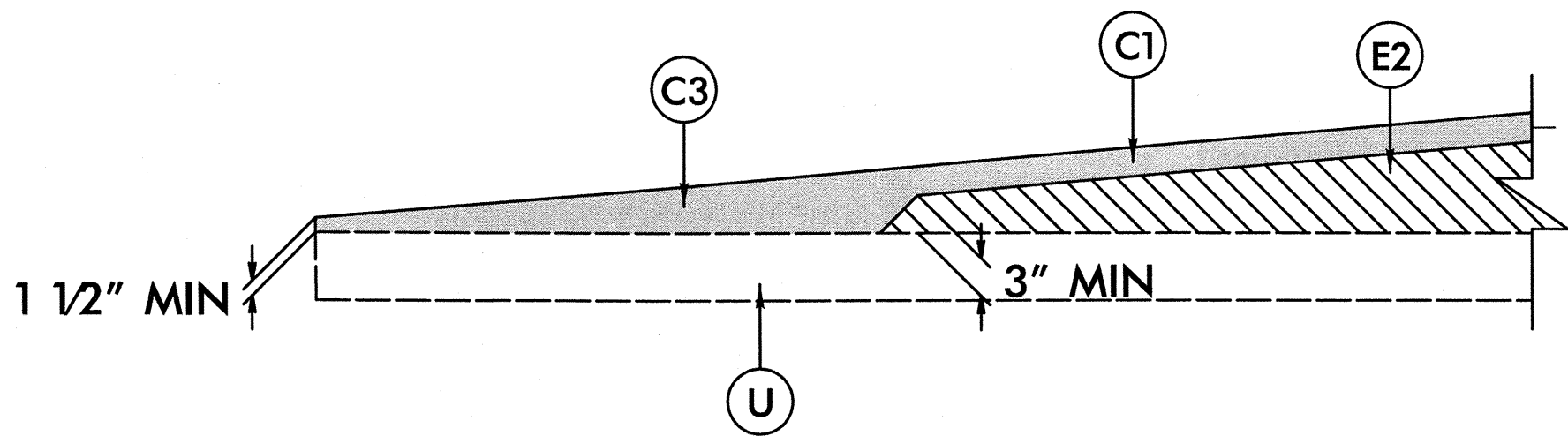
CENTERLINE COORDINATE LIST

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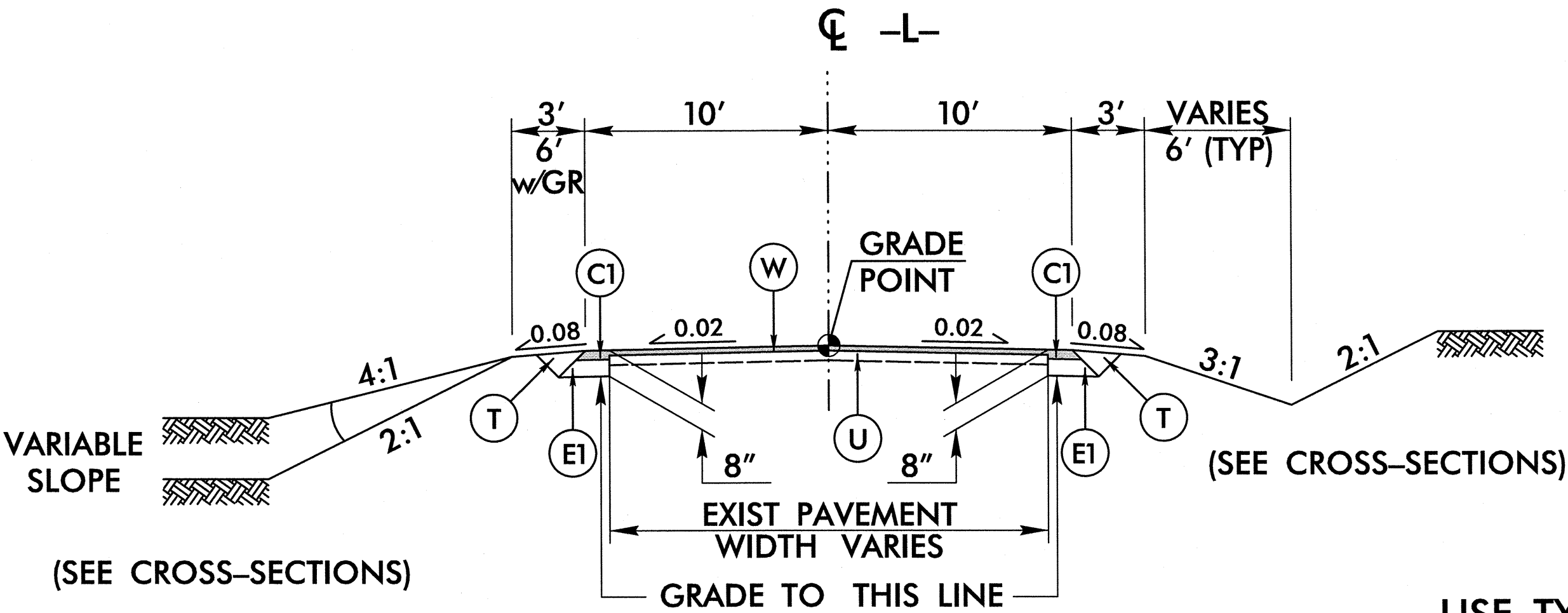
8/17/99

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 3¾" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 210 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL ON THIS SHEET)

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

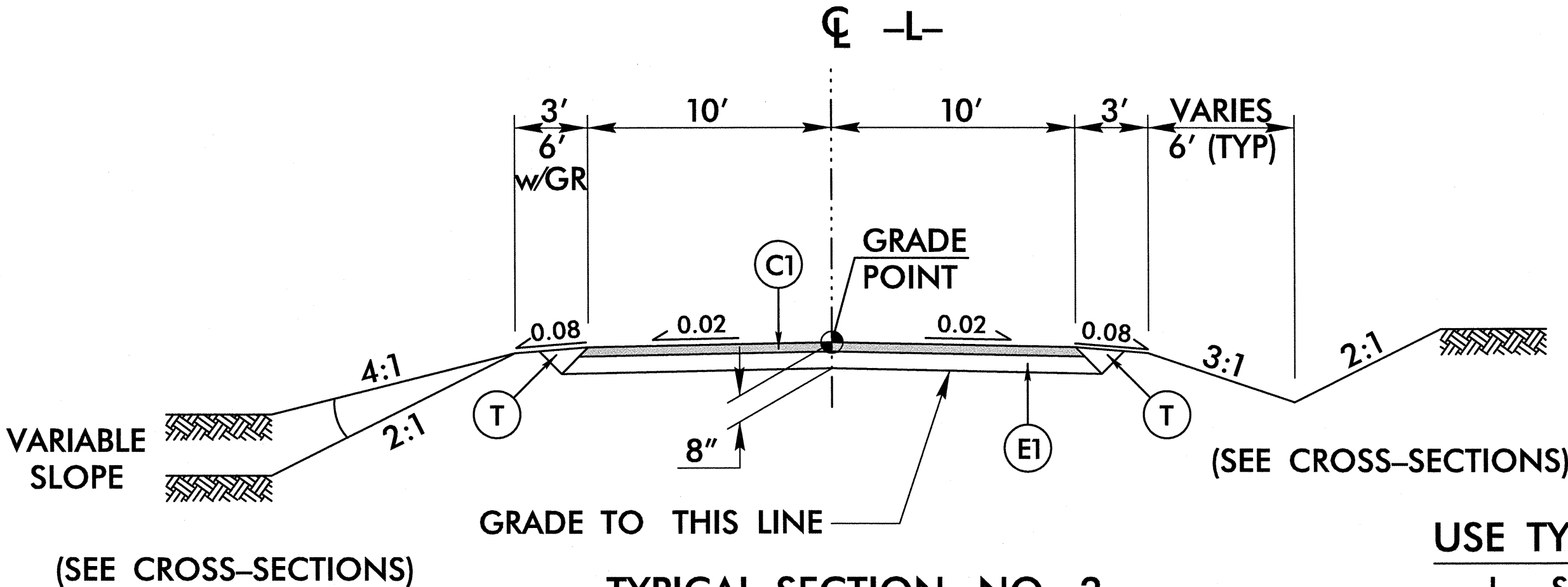


WEDGING DETAIL FOR RESURFACING
USE IN CONJUNCTION WITH
TYPICAL SECTION NO. 1



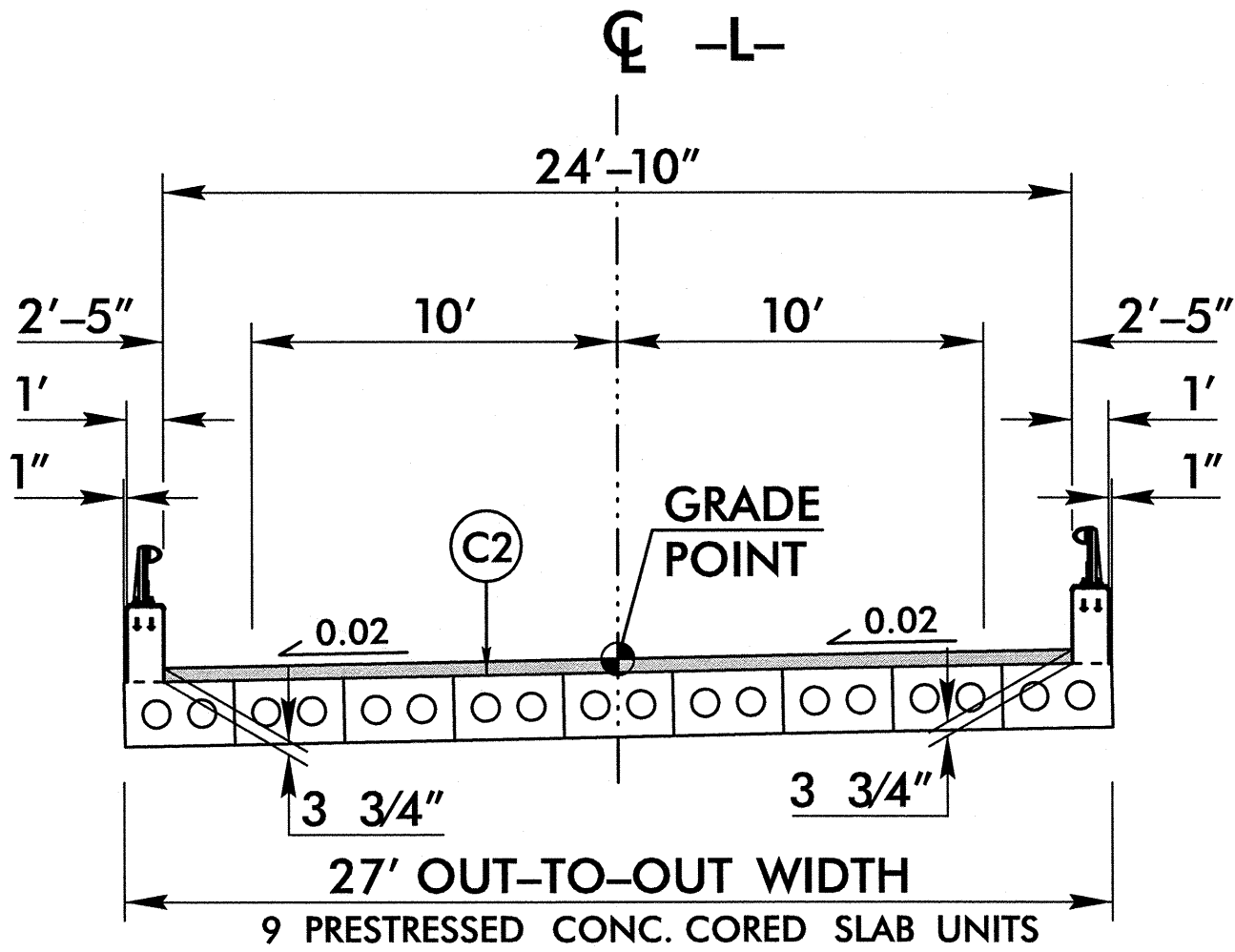
TYPICAL SECTION NO. 1
-L- (HERRON BRANCH RD)

USE TYPICAL SECTION NO. 1
-L- STA 10+00.00 TO STA 10+80.00
-L- STA 13+60.00 TO STA 14+38.39



TYPICAL SECTION NO. 2
-L- (HERRON BRANCH RD)

USE TYPICAL SECTION NO. 2
-L- STA 10+80.00 TO STA 12+22.82 (BEG BRIDGE)
-L- STA 12+85.46 (END BRIDGE) TO STA 13+60.00



BRIDGE TYPICAL SECTION
FOR BR 251 OVER RIGHT PRONG DICKS CREEK

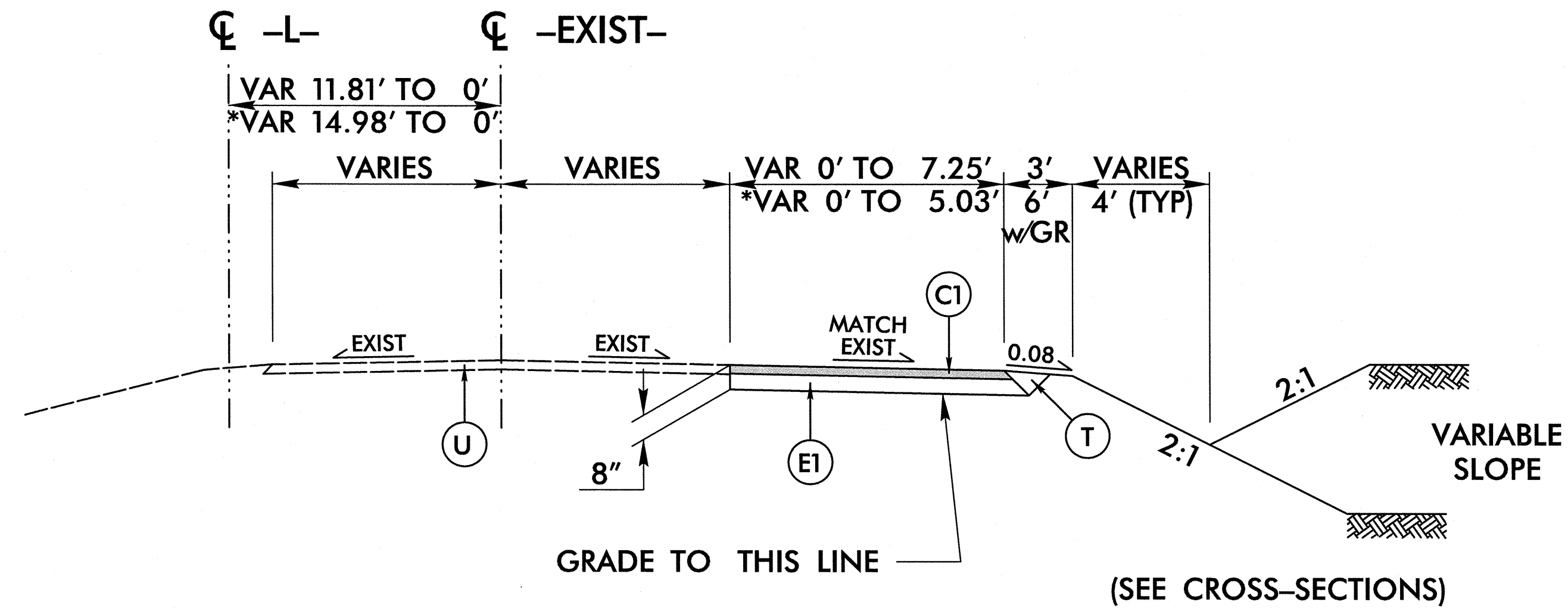
USE BRIDGE TYPICAL SECTION
-L- STA 12+22.82 (BEG BRIDGE) TO STA 12+85.46 (END BRIDGE)

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.52	2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
Prepared in the Office of:	
NC FIRM LICENSE No. F-0346 701 Corporate Center, Suite 475 (919) 854-8200 • (919) 854-8259 FAX	

USER: r00000
DATE: 6/4/2013
TIME: 3:54:49 PM
DGN: R:\Roadway\Proj\148-0251\rdy_jpy.dgn

PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	3 3/4" S9.5B
C3	VAR. S9.5B
E1	5" B25.0B
E2	VAR. B25.0B
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

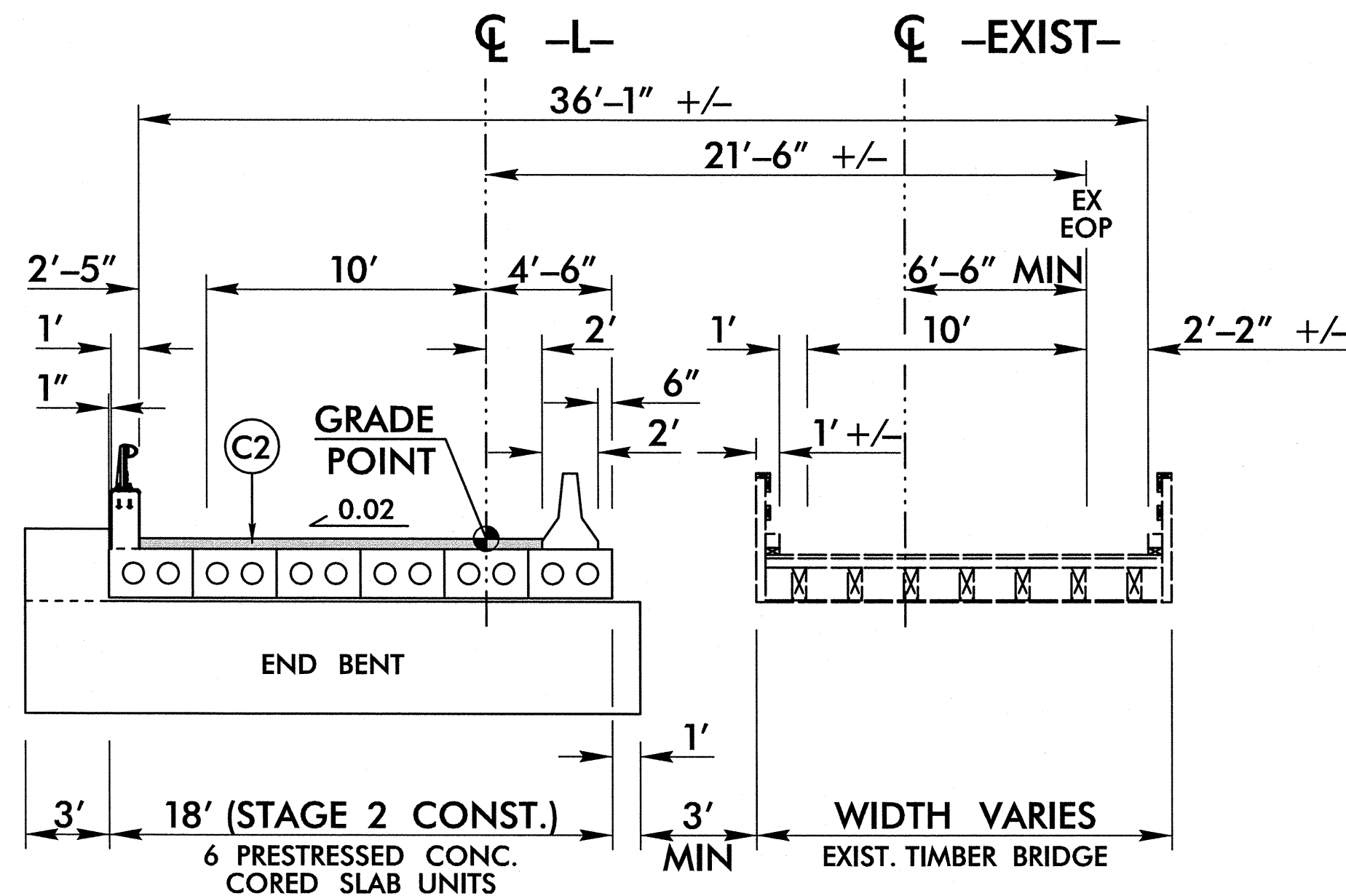
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 3
PHASE 1 TEMP WIDENING
(SEE TM PLANS FOR PHASING)

USE TYPICAL SECTION NO. 3

-L- STA 10+00.00 TO STA 11+85.00
*-L- STA 12+37.81 TO STA 14+38.39



BRIDGE PHASE 2 STAGE 2 CONST.
FOR TEMP 1-LN 2-WAY TRAFFIC
(SEE TM PLANS FOR PHASING)

PROJECT REFERENCE NO. 17BP.14.R.52	SHEET NO. 2-A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER <i>Charles E. Seal</i> SEAL 17305 ENGINEER 6/4/13	PAVEMENT DESIGN ENGINEER
Prepared in the Office of: AECOM 701 Corporate Center Drive, Suite 475 Raleigh, NC 27601 (919) 854-6200 • (919) 854-6259(FAX)	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.52	3

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - DN00178

ITEM NUMBER	SEC #	QUANTITY	UNIT	DESCRIPTION	ITEM NUMBER	SEC #	QUANTITY	UNIT	DESCRIPTION
0000100000-N	800	1	LS	MOBILIZATION	3656000000-E	876	210.00	SY	GEOTEXTILE FOR DRAINAGE
0000400000-N	801	1	LS	CONSTRUCTION SURVEYING	6000000000-E	1605	800.00	LF	TEMPORARY SILT FENCE
0008000000-E	200	1.00	ACR	SUPPLEMENTARY CLEARING & GRUBBING	6006000000-E	1610	115.00	TON	EROSION CONTROL STONE, CLASS A
0030000000-N	SP	1	LS	BRIDGE APPROACH FILL - SUBREGIONAL TIER AT STATION 12+54.00	6009000000-E	1610	25.00	TON	EROSION CONTROL STONE, CLASS B
0043000000-N	226	1	LS	GRADING	6012000000-E	1610	25.00	TON	SEDIMENT CONTROL STONE
	200	0.10	ACR	CLEARING AND GRUBBING	6015000000-E	1615	0.50	ACR	TEMPORARY MULCHING
	225	200.00	CY	UNCLASSIFIED EXCAVATION	6018000000-E	1620	50.00	LB	SEED FOR TEMPORARY SEEDING
	230	200.00	CY	BORROW EXCAVATION	6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING
	250	530.00	SY	REMOVAL OF EXISTING ASPHALT PAVEMENT	6024000000-E	1622	100.00	LF	TEMPORARY SLOPE DRAINS
	250	120.00	SY	BREAKING OF EXISTING ASPHALT PAVEMENT	6029000000-E	SP	100.00	LF	SAFETY FENCE
	500	690.00	SY	FINE GRADING	6030000000-E	1630	40.00	CY	SILT EXCAVATION
0057000000-E	226	50.00	CY	UNDERCUT EXCAVATION	6036000000-E	1631	2500.00	SY	MATTING FOR EROSION CONTROL :
0195000000-E	265	50.00	CY	SELECT GRANULAR MATERIAL	6042000000-E	1632	65.00	LF	1/4" HARDWARE CLOTH
0196000000-E	270	50.00	SY	GEOTEXTILE FOR SOIL STABILIZATION	6071010000-E	SP	155.00	LF	WATTLE
0199000000-E	SP	1,070	SF	TEMPORARY SHORING	6071020000-E	SP	10.00	LB	POLYACRYLAMIDE (PAM)
0318000000-E	300	3.00	TON	FOUNDATION CONDITIONING MATERIAL,MINOR STRUCTURES	6084000000-E	1660	0.50	ACR	SEEDING AND MULCHING
0320000000-E	300	9.00	SY	FOUNDATION CONDITIONING GEOTEXTILE	6090000000-E	1661	50.00	LB	SEED FOR REPAIR SEEDING
0343000000-E	310	24.00	LF	15" SIDE DRAIN PIPE	6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
1099700000-E	505	50.00	TON	CLASS IV SUBGRADE STABILIZATION	6096000000-E	1662	50.00	LB	SEED FOR SUPPLEMENTAL SEEDING
1121000000-E	520	10.00	TON	AGGREGATE BASE COURSE	6108000000-E	1665	0.50	TON	FERTILIZER TOPDRESSING
1220000000-E	545	50.00	TON	INCIDENTAL STONE BASE	6117000000-N	SP	15	EA	RESPONSE FOR EROSION CONTROL
1489000000-E	610	210.00	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B					
1519000000-E	610	195.00	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	8035000000-N	402	1	LS	REMOVAL OF EXISTING STRUCTURE AT STATION 12+54.00
1575000000-E	620	25.00	TON	ASPHALT BINDER FOR PLANT MIX	8121000000-N	412	1	LS	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION 12+54.00
1693000000-E	654	5.00	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR	8182000000-E	420	42.20	CY	CL A CONC (BRG)
3030000000-E	862	50.00	LF	STEEL BM GUARDRAIL	8210000000-N	422	1	LS	BRIDGE APPROACH SLABS, STATION 12+54.00
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS	8217000000-E	425	5210.00	LBS	REINFORCING STEEL (BRIDGE)
3165000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350 (TL-2)	8364000000-E	450	192.00	LF	HP12X53 STL PILES
3215000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III	8391000000-N	450	12	EA	STL PILE POINTS
					8392500000-E	450	120.00	LF	PREDRILLING FOR PILES
4400000000-E	1110	32.00	SF	WORK ZONE SIGNS (STATIONARY)	8468000000-E	460	104.15	LF	ONE BAR METAL RAIL
4405000000-E	1110	140.00	SF	WORK ZONE SIGNS (PORTABLE)	8517000000-E	460	120.00	LF	1'-0" x 1'-9 3/4" CONC PARAPET
4430000000-N	1130	50	EA	DRUMS	8608000000-E	876	69.00	TONS	RIP RAP CLASS II (2'-0" THICK)
4465000000-N	1160	2	EA	TEMPORARY CRASH CUSHIONS	8622000000-E	876	76.00	SY	GEOTEXTILE FOR DRAINAGE
4470000000-N	1160	2	EA	RESET TEMPORARY CRASH CUSHION	8657000000-N	430	1	LS	ELASTOMERIC BEARINGS
4490000000-E	1170	70.00	LF	PORTABLE CONCRETE BARRIER (ANCHORED)	8763000000-E	430	540.00	LF	3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLABS
4505000000-E	1170	20.00	LF	RESET PORTABLE CONCRETE BARRIER (ANCHORED)					
4685000000-E	1205	880.00	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)					
4686000000-E	1205	880.00	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)					
4835000000-E	1205	18.00	LF	PAINT PAVEMENT MARKING LINES (24")					
4870000000-E	1205	18.00	LF	REMOVAL OF PAVEMENT MARKING LINES (24")					
7980000000-N	SP	1	EA	PORTABLE TRAFFIC SIGNAL SYSTEM (ACTUATED)					

SUMMARY OF EARTHWORK						
LINE	Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
L Phase 1	10+00.00	14+38.39	40	25	0	15
L Phase 2	10+00.00	14+38.39	92	184	92	0
L Phase 3	10+00.00	14+38.39	57	161	104	0
TOTAL			189	370	196	15
ADJUSTMENTS DUE TO						
Est. Loss Due To Clearing And Grubbing			0		0	
Shoulder Material						
Rock Waste To Replace Borrow						
Adjust For Rock Swell That Replaces Borrow						
Eliminate Shrinkage For Mat'l That Is Now Rock						
Earth Waste to Replace Borrow					-15	-15
PROJECT TOTAL			189	370	181	0
Est. 5% to Replace Topsoil in Borrow Pits					9	
GRAND TOTAL			189		190	
SAY			200		200	
Est. Drainage Ditch Excav.			0 CY			
Select Granular Material			50 CY			
Estimate Undercut			50 CY			

SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL				
LINE	Station	Station	LOC LT/RT/CL	YD ²
-L-	10+80.00	11+30.00	CL-RT	98.98
-L-	11+90.00	12+29.26	RT	51.84
-L-	12+36.17	13+60.00	RT-CL	215.24
-L-Temp	10+00.00	11+85.00	RT	94.52
-L-Temp	12+37.81	14+38.39	RT	63.17
			TOTAL:	523.75
			SAY:	530

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

SUMMARY OF BREAKING				
EXISTING ASPHALT PAVEMENT				
LINE	Station	Station	LOC LT/RT/CL	YD ²
-L-	11+30.00	11+90.00	CL-RT	114.48
			TOTAL:	114.48
			SAY:	120

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

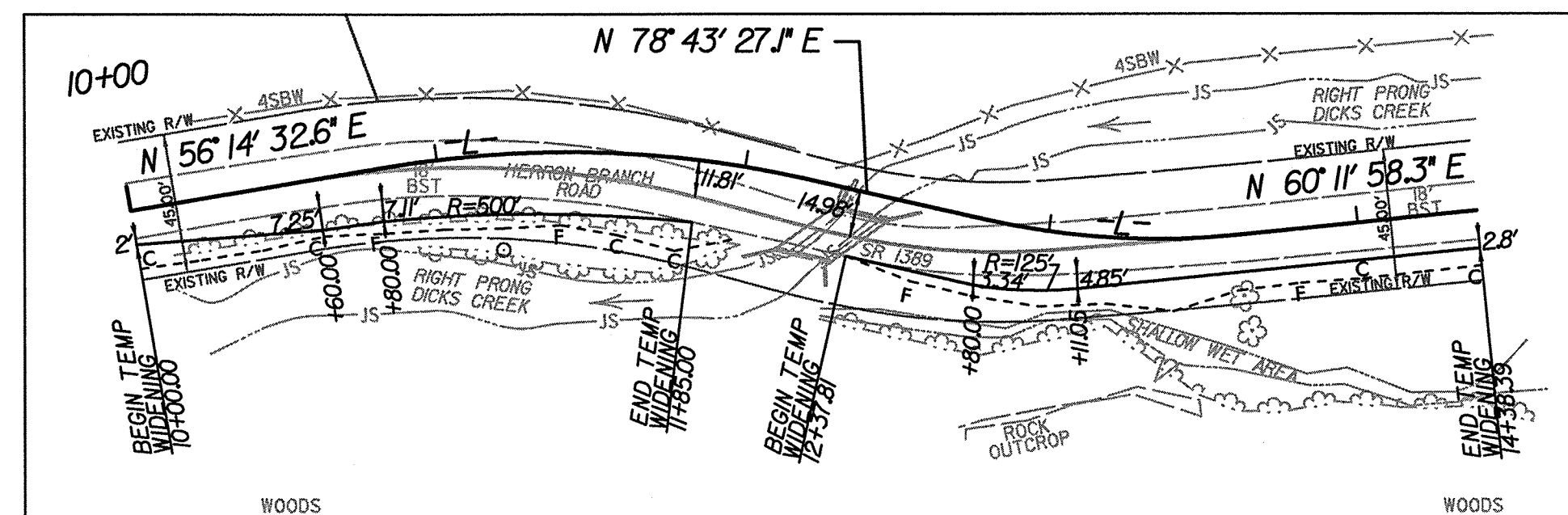
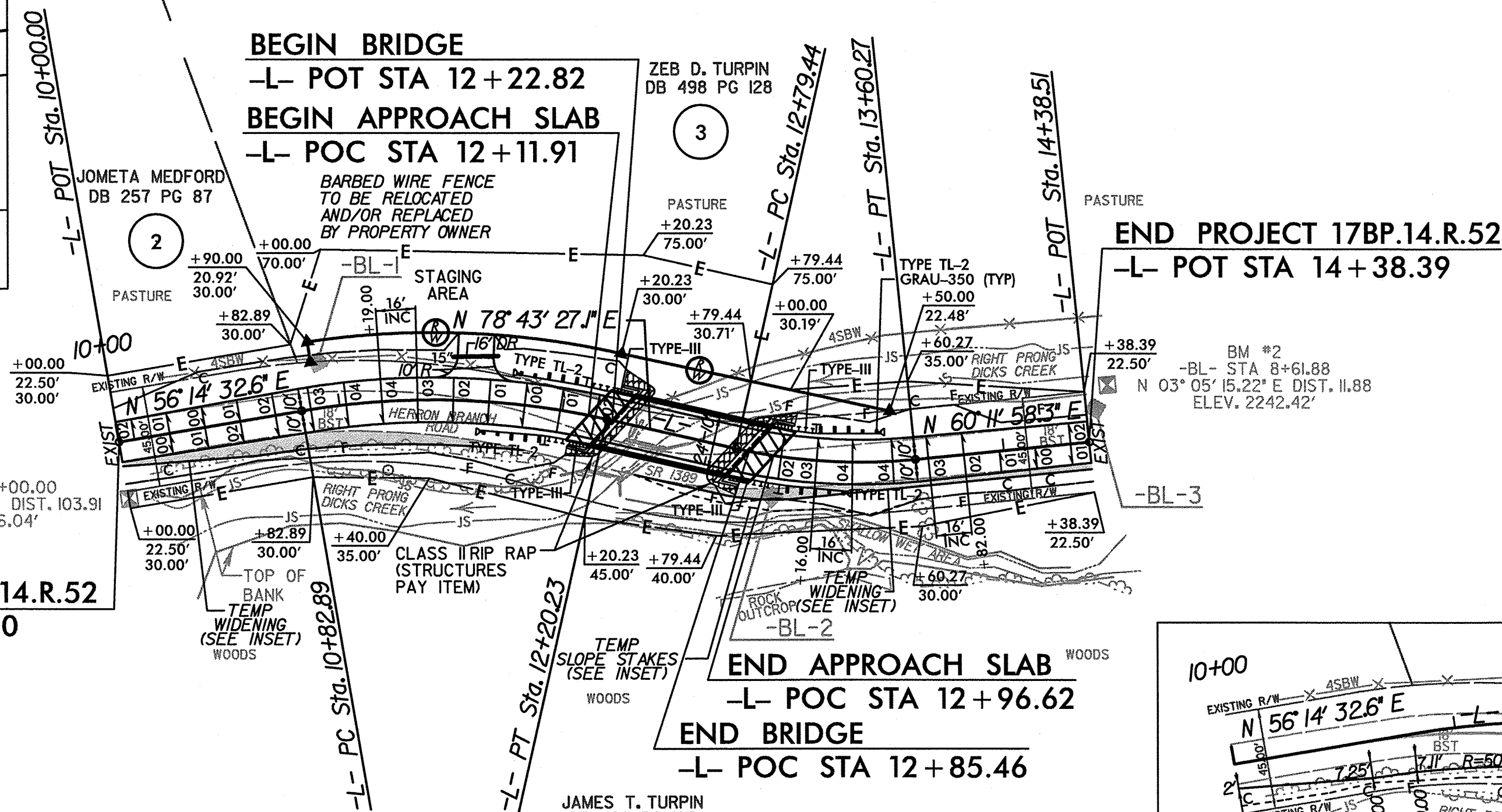
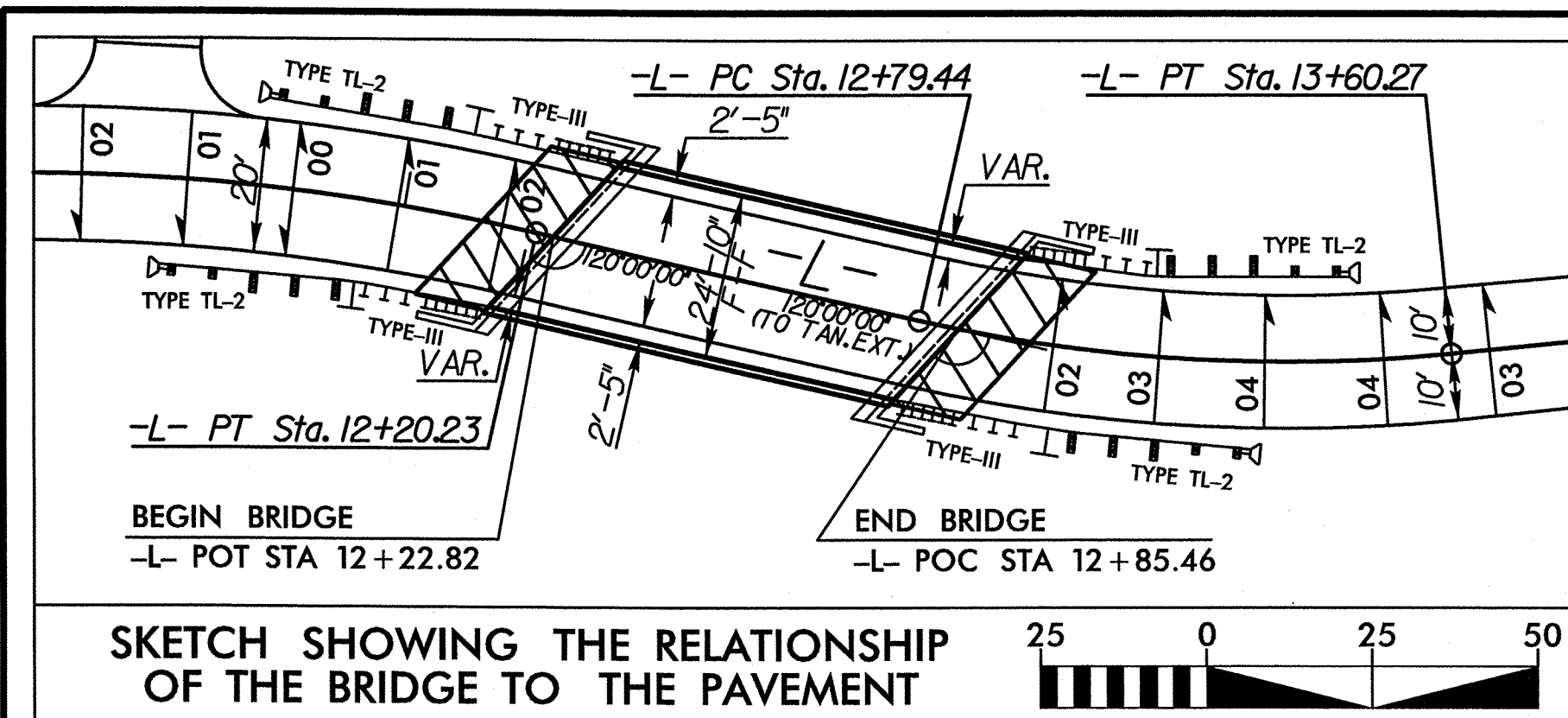
LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

[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	

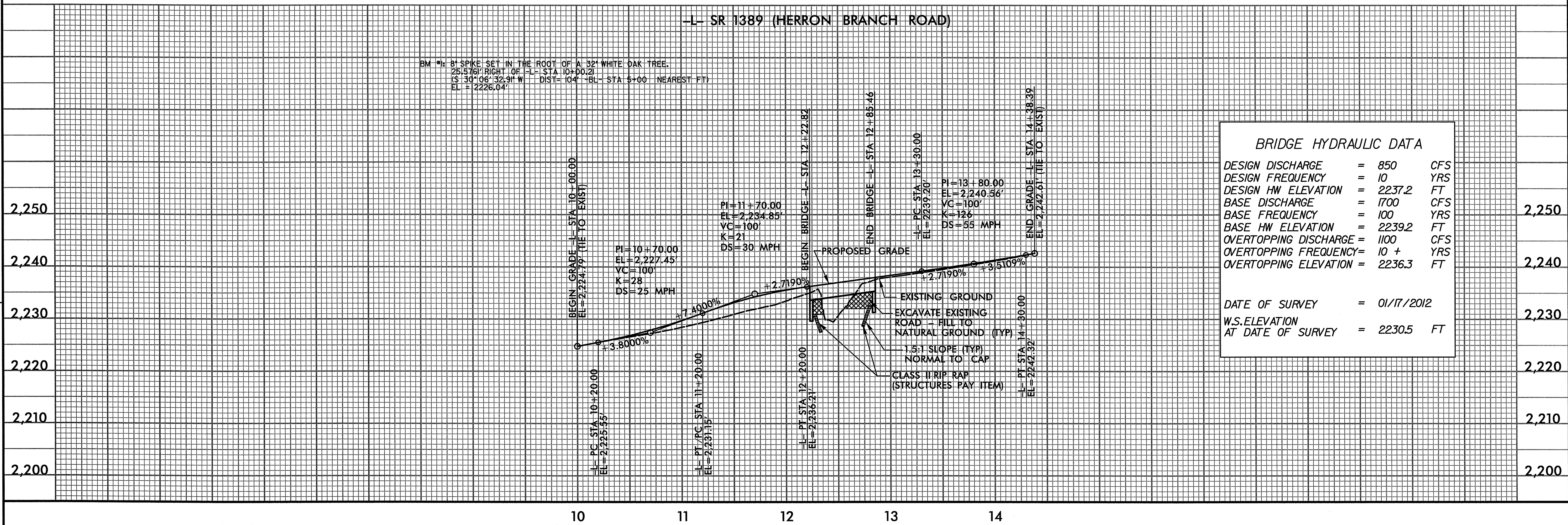
GUARDRAIL SUMMARY

[illegible]



INSET FOR TEMP WIDENING (PHASE 1)

-L-	
<i>PI Sta 11+52.45</i>	<i>PI Sta 13+20.21</i>
$\Delta = 22^{\circ} 28' 54.6''$ (RT)	$\Delta = 18^{\circ} 31' 28.8''$ (LT)
$D = 16' 22'' 12.8''$	$D = 22' 55'' 05.9''$
$L = 137.33'$	$L = 80.83'$
$T = 69.56'$	$T = 40.77'$
$R = 350.00'$	$R = 250.00'$
$e = 0.04$ ft/ft	$e = 0.04$ ft/ft
Runoff = 64'	Runoff = 64'



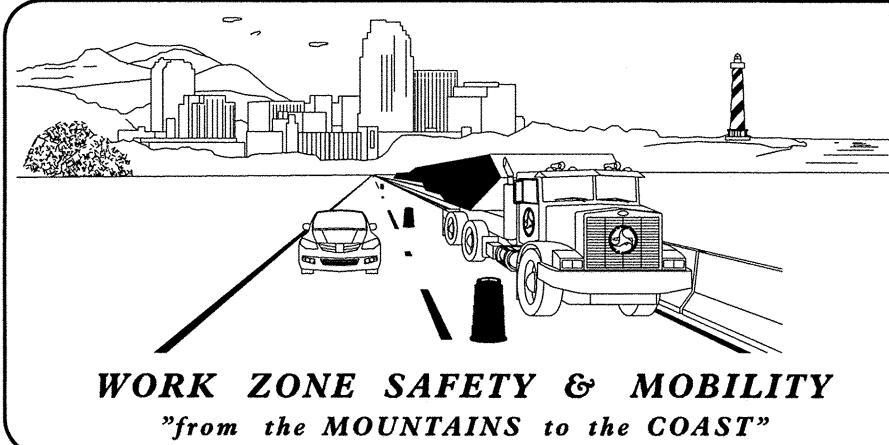
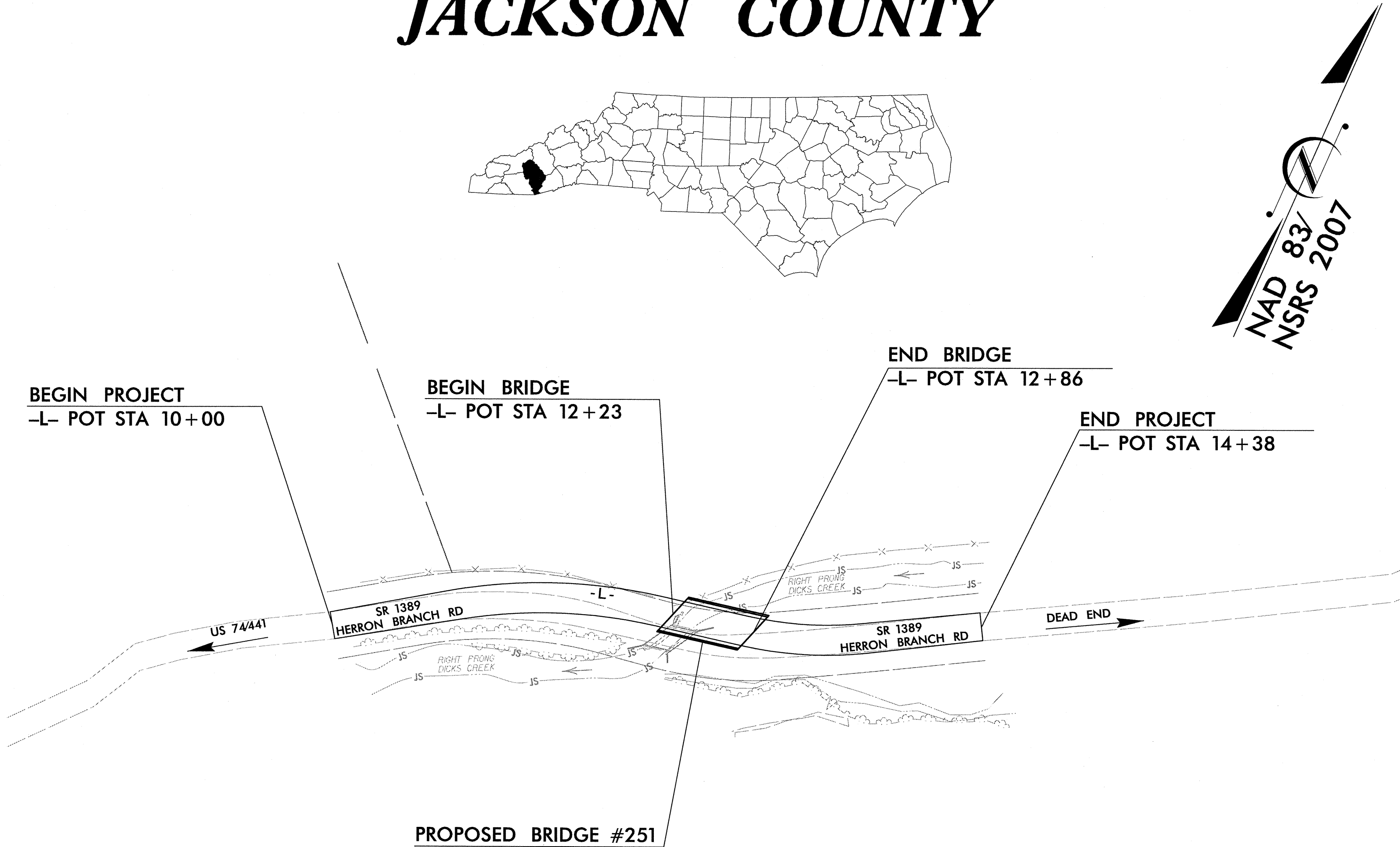
BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	850	CFS
DESIGN FREQUENCY	=	10	YRS
DESIGN HW ELEVATION	=	2237.2	FT
BASE DISCHARGE	=	1700	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	2239.2	FT
OVERTOPPING DISCHARGE	=	1100	CFS
OVERTOPPING FREQUENCY	=	10 +	YRS
OVERTOPPING ELEVATION	=	2236.3	FT

DATE OF SURVEY = 01/17/2012
W.S.ELEVATION AT DATE OF SURVEY = 2230.5 FT

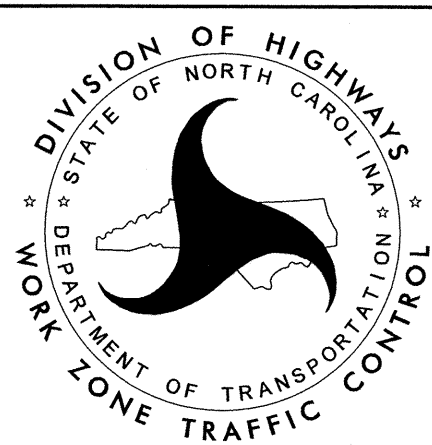
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN
JACKSON 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

J.S. BOURNE, PE STATE TRAFFIC MANAGEMENT ENGINEER
K.J. VAN METRE, PE TRAFFIC CONTROL PROJECT ENGINEER
T.E. HILDEBRAND, PE TRAFFIC CONTROL PROJECT DESIGN ENGINEER
TRAFFIC CONTROL DESIGN ENGINEER



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, AND INDEX OF SHEETS
TMP-1A	GENERAL NOTES
TMP-2	TEMPORARY TRAFFIC CONTROL PHASE I DETAIL
TMP-3	TEMPORARY TRAFFIC CONTROL PHASE II DETAIL
TMP-4	TEMPORARY TRAFFIC CONTROL PHASE III DETAIL
PMP-1	PAVEMENT MARKING PLAN

NOTE: WRITTEN PHASING FOR THE TRAFFIC CONTROL PLAN
APPEARS ON THE OVERVIEW SHEETS

ROADWAY STANDARD
DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR 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
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1160.01	TEMPORARY CRASH CUSHION
1170.01	PORTABLE CONCRETE BARRIER
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES

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Suite 475 Raleigh, NC 27607
Phone: 919-854-6200

APPROVED:
DATE: 6/4/2013

SEAL



SHEET NO.
TMP-1
17BP.14.R.52
TIP PROJECT:

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.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
HERRON BRANCH RD	7:00AM - 9:00AM AND 4:00PM - 6:00PM, MONDAY THRU FRIDAY.

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

HERRON BRANCH RD
TO BE DETERMINED BY DIVISION PERSONNEL.

LANE AND SHOULDER CLOSURE REQUIREMENTS

C) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

F) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

G) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

H) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

I) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 100 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

J) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

K) 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.

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

M) 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.

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

O) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

P) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRANSPORTATION MANAGEMENT PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE / RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

Q) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS: (SEE ALSO 1101.05)

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

TRAFFIC CONTROL DEVICES

R) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

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

T) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

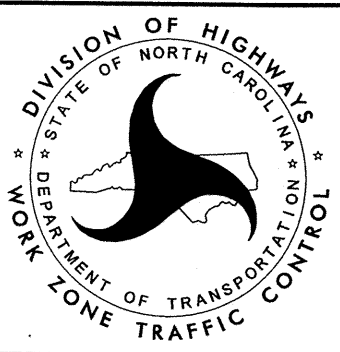
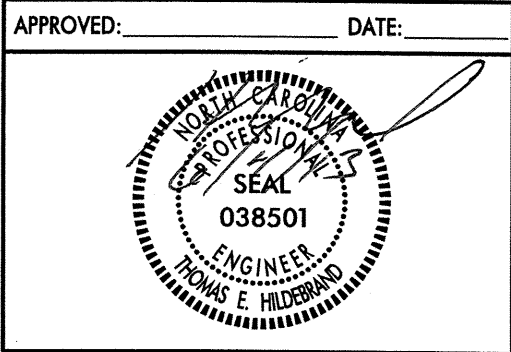
U) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

MISCELLANEOUS

V) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 50 FT AND 100 FT RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

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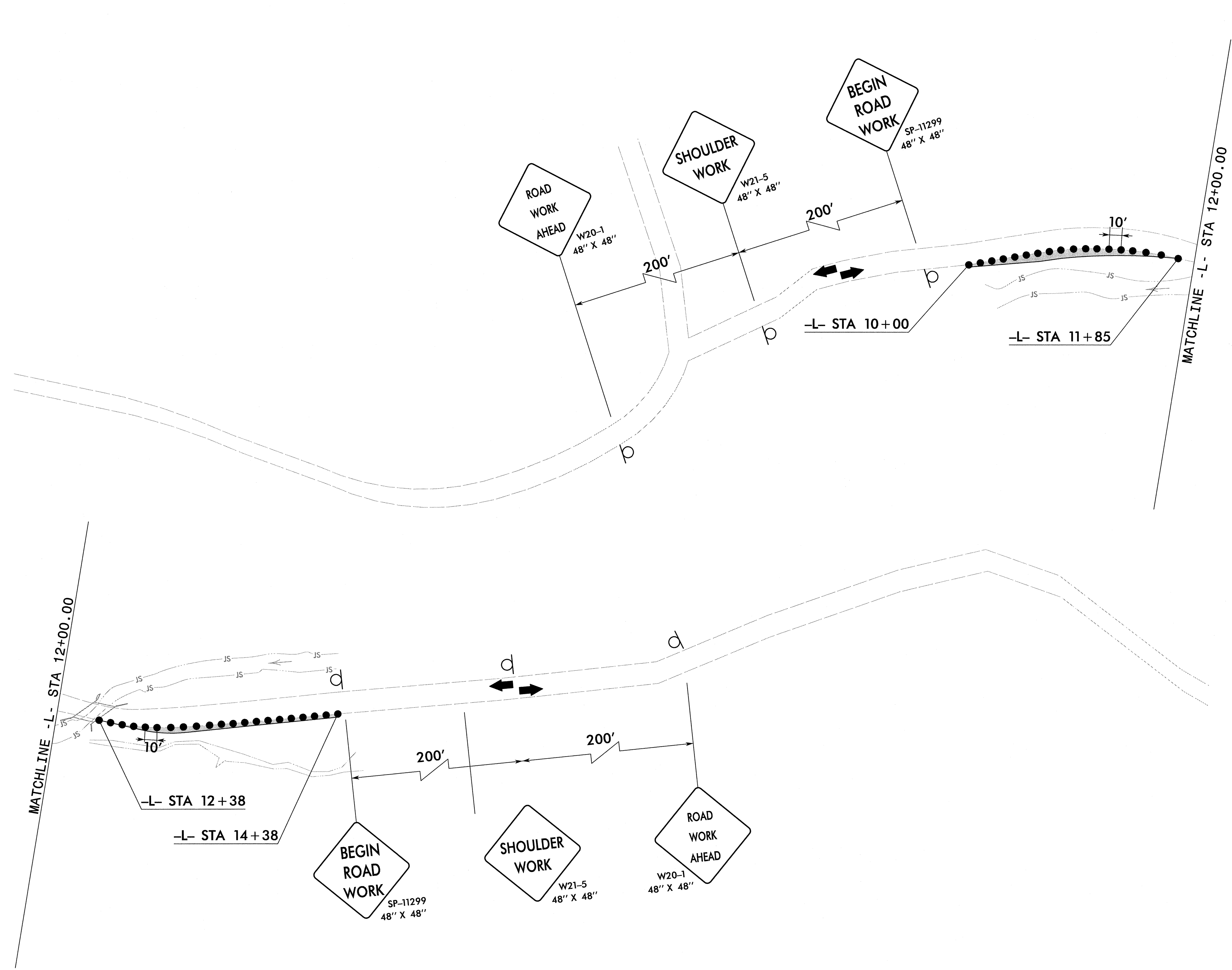


GENERAL NOTES

SCALE:	
DATE:	2/21/2013
DRAWN BY:	TEH
DESIGN BY:	KJUV
REVIEWED BY:	

REVISIONS

NO.	DESCRIPTION
1	



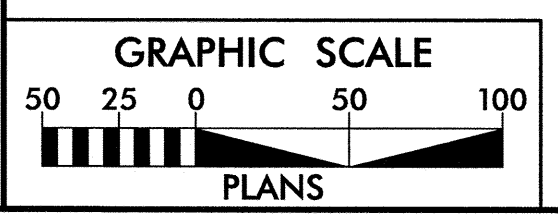
PHASING NOTES

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY.

STAGE 2: PLACE ADVANCED WARNING SIGNS, TRAFFIC CONTROL DEVICES AND CONSTRUCT TEMP. WIDENING.

LEGEND

	EXISTING ROADWAY
	PROPOSED CONSTRUCTION
	COMPLETED ROADWAY



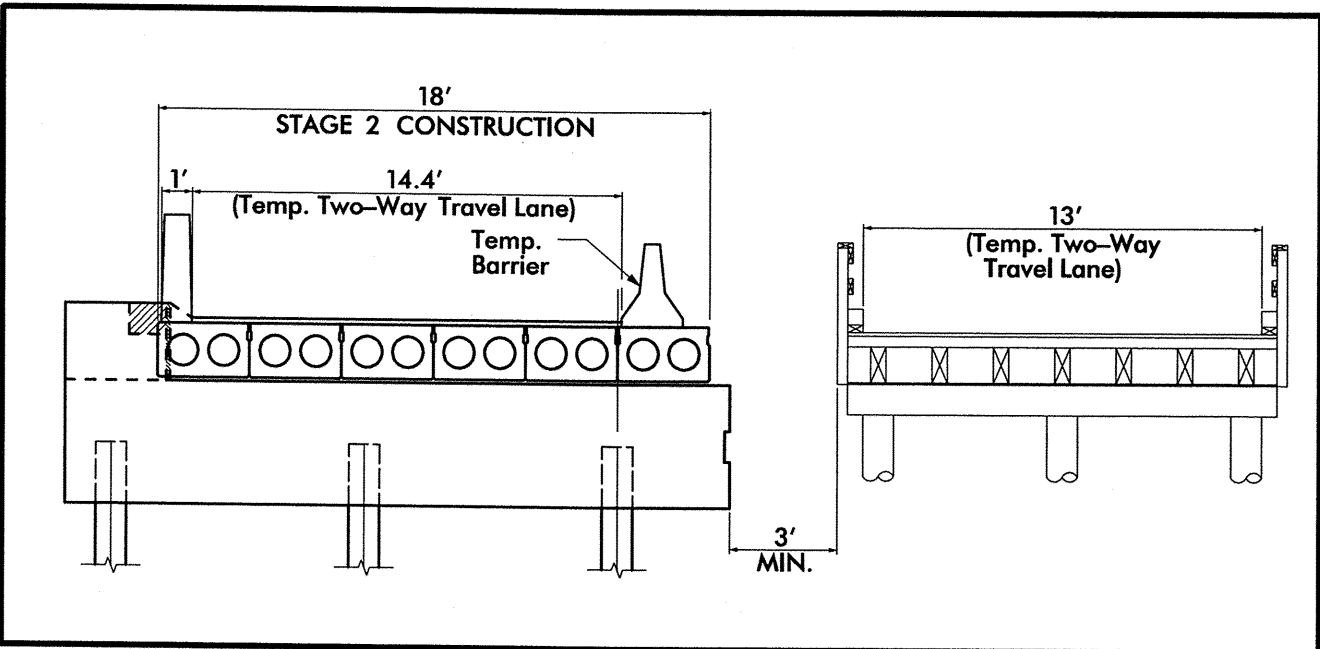
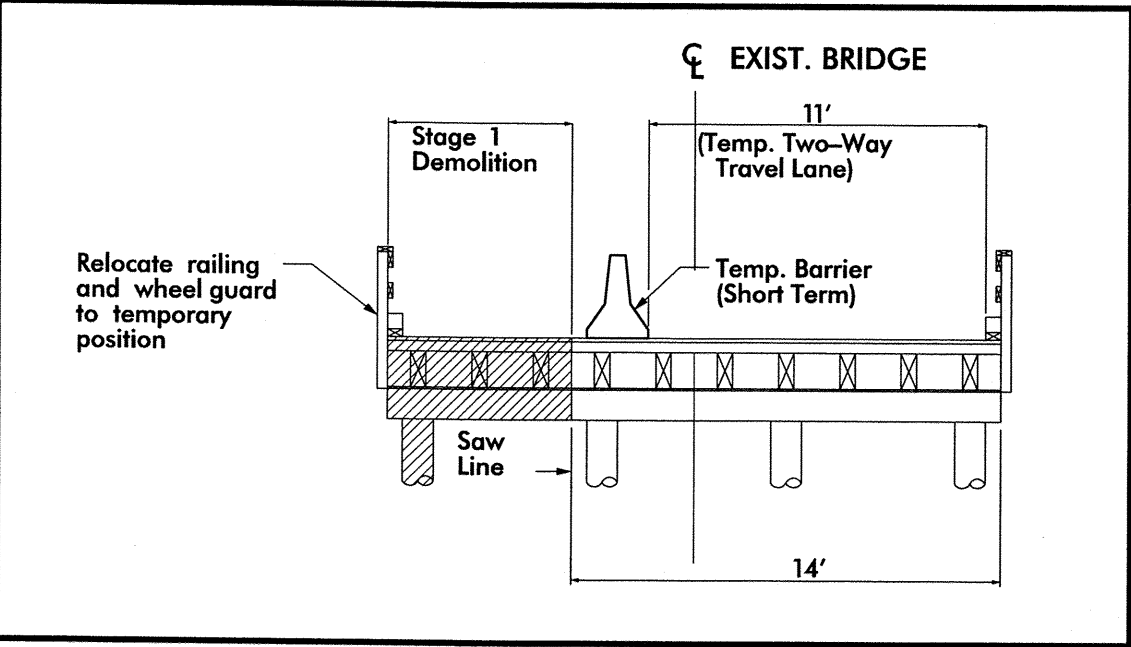
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Phone: 919-854-6200

APPROVED:	DATE:
PHASE I DETAIL	
SCALE:	REVISIONS
DATE: 2/21/2013	
DRAWN BY: TEH	
DESIGNED BY: KJV	
REVIEWED BY:	

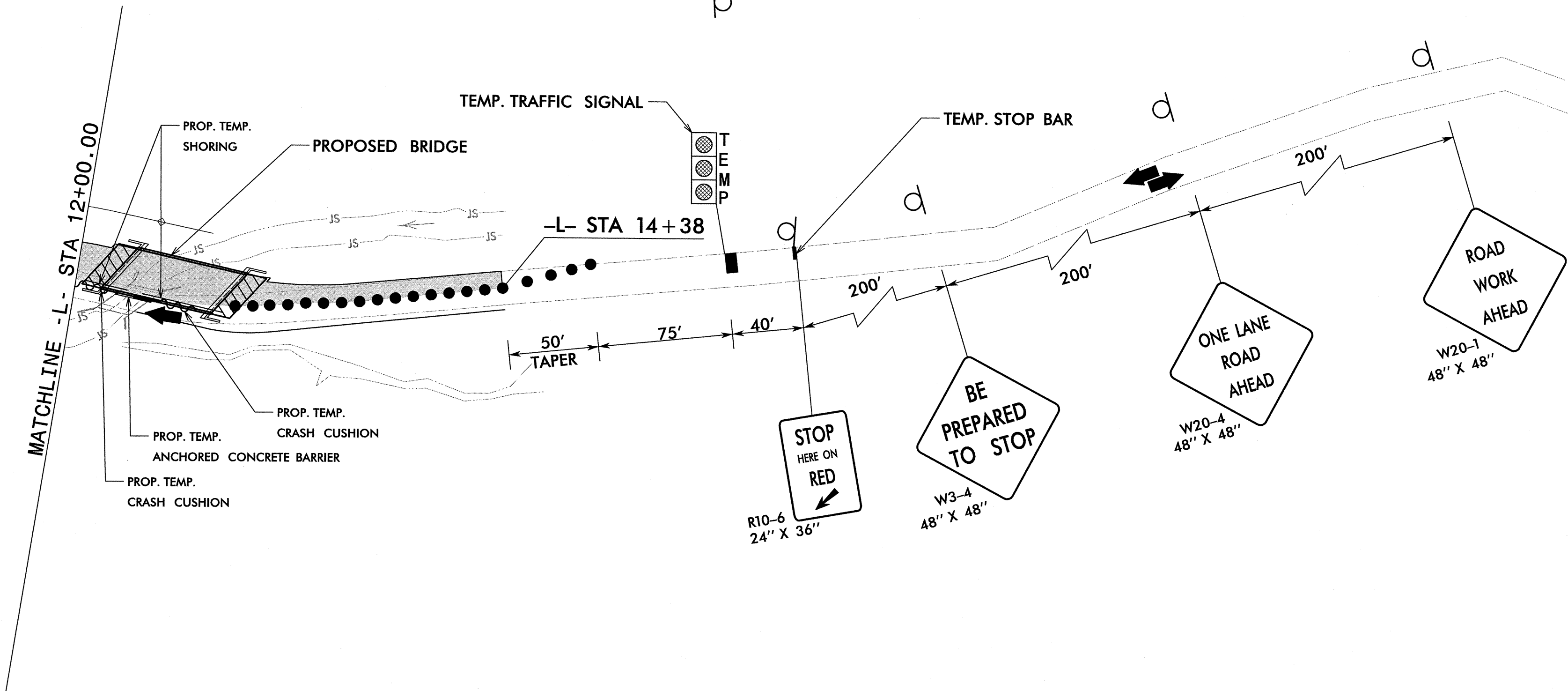
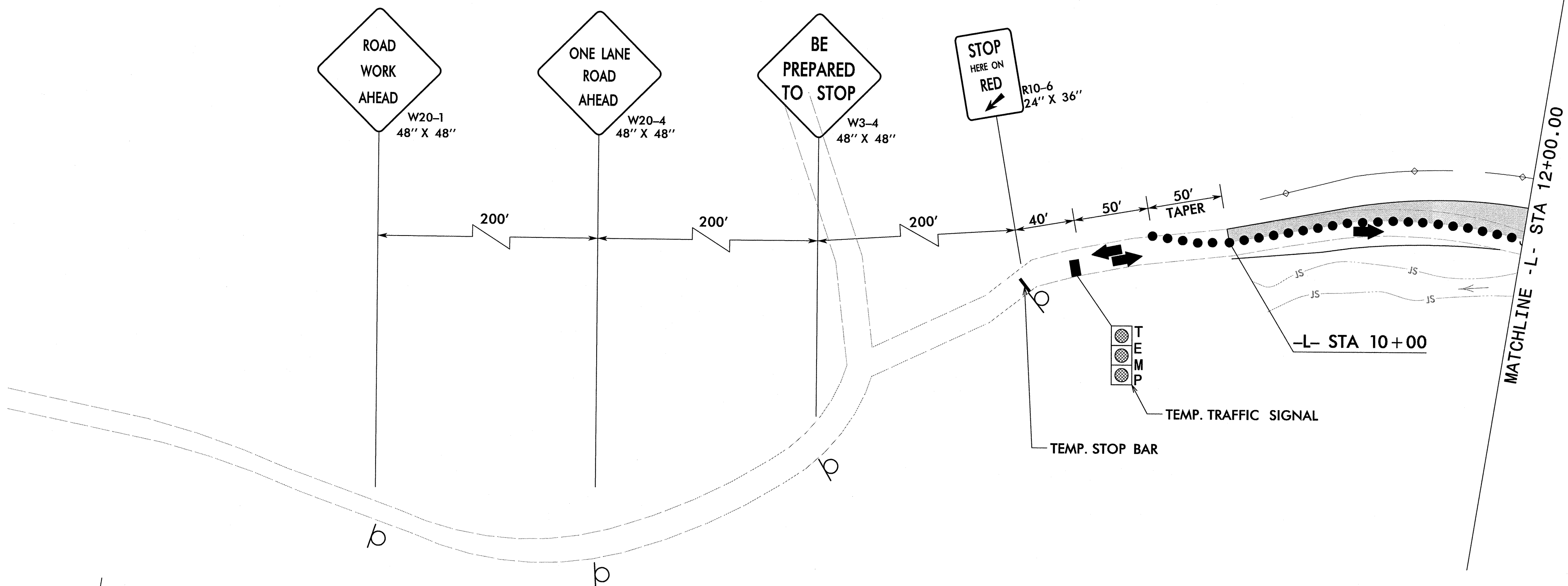
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mdebranst

TYPICAL SECTION VIEW



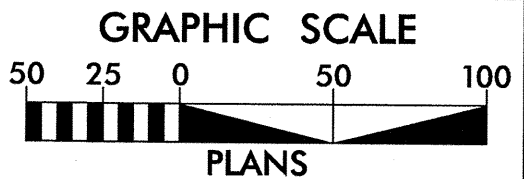
PHASING NOTES

- STAGE 1: INSTALL TEMP. SIGNALS, TEMP. STOP BARS, ADVANCED WARNING SIGNS AND TRAFFIC CONTROL DEVICES.
- STAGE 2: REMOVE PART OF EXISTING BRIDGE, PLACE TEMP. BARRIER AND RELOCATE RAILING.
- STAGE 3: CONSTRUCT PART OF PROPOSED BRIDGE AND ROADWAY.

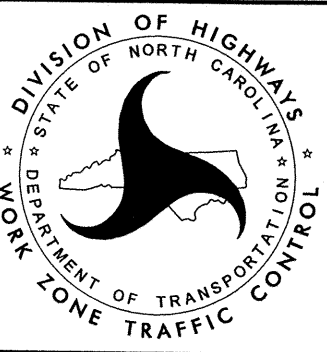
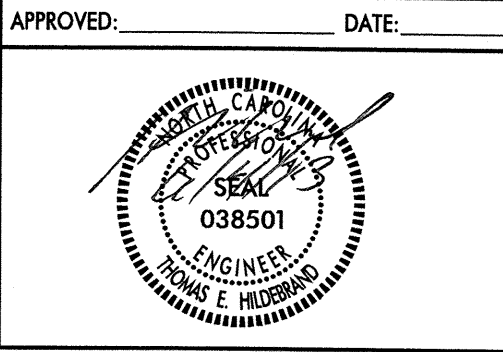


LEGEND

- EXISTING ROADWAY
- PROPOSED CONSTRUCTION
- COMPLETED ROADWAY



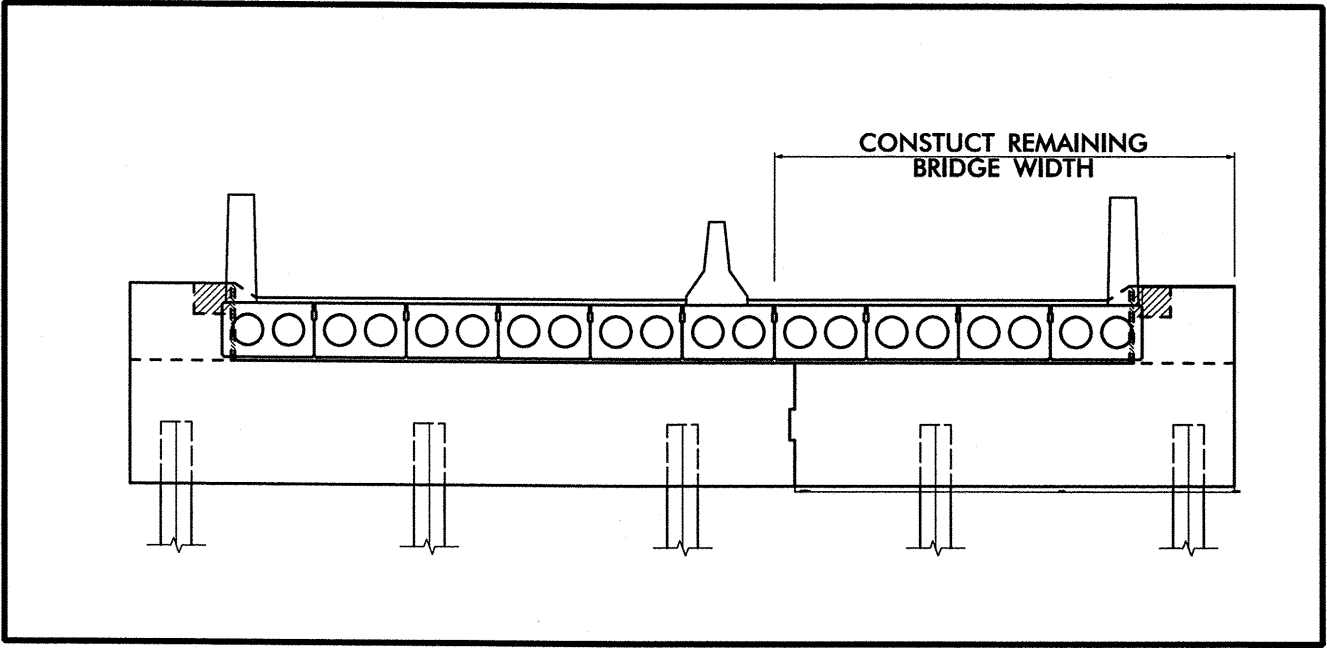
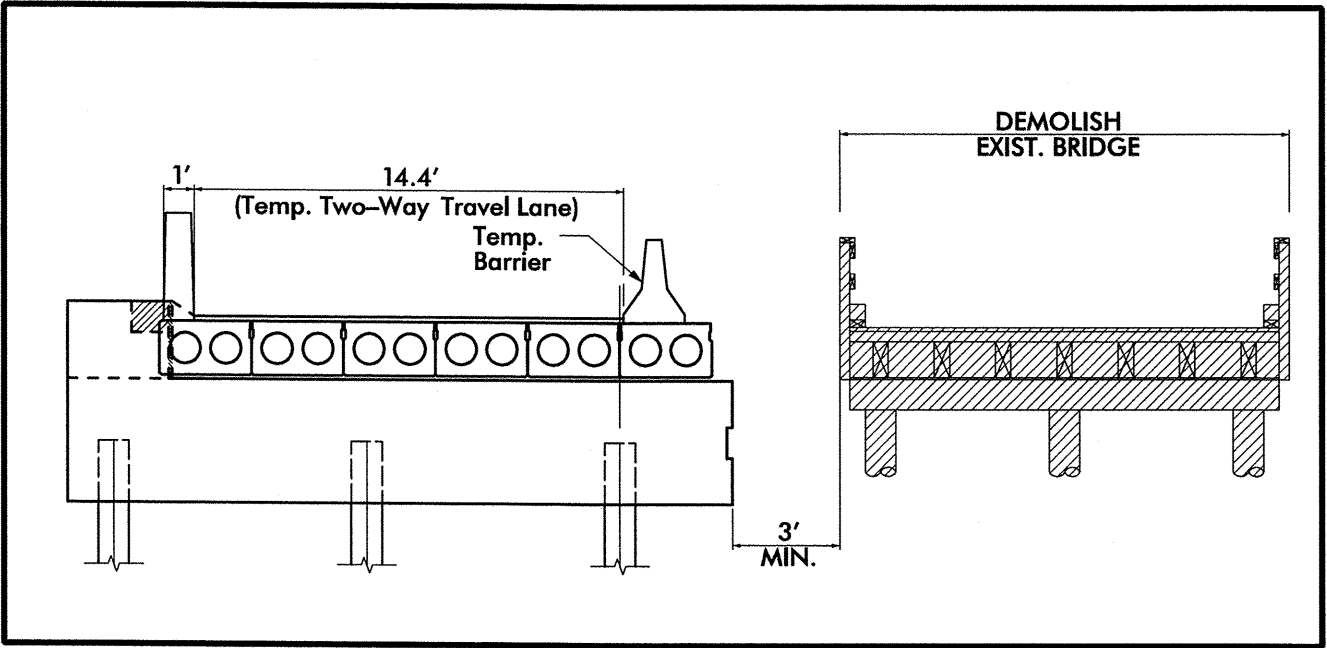
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Suite 475 Raleigh, NC 27607
Phone: 919-854-6200



PHASE II DETAIL

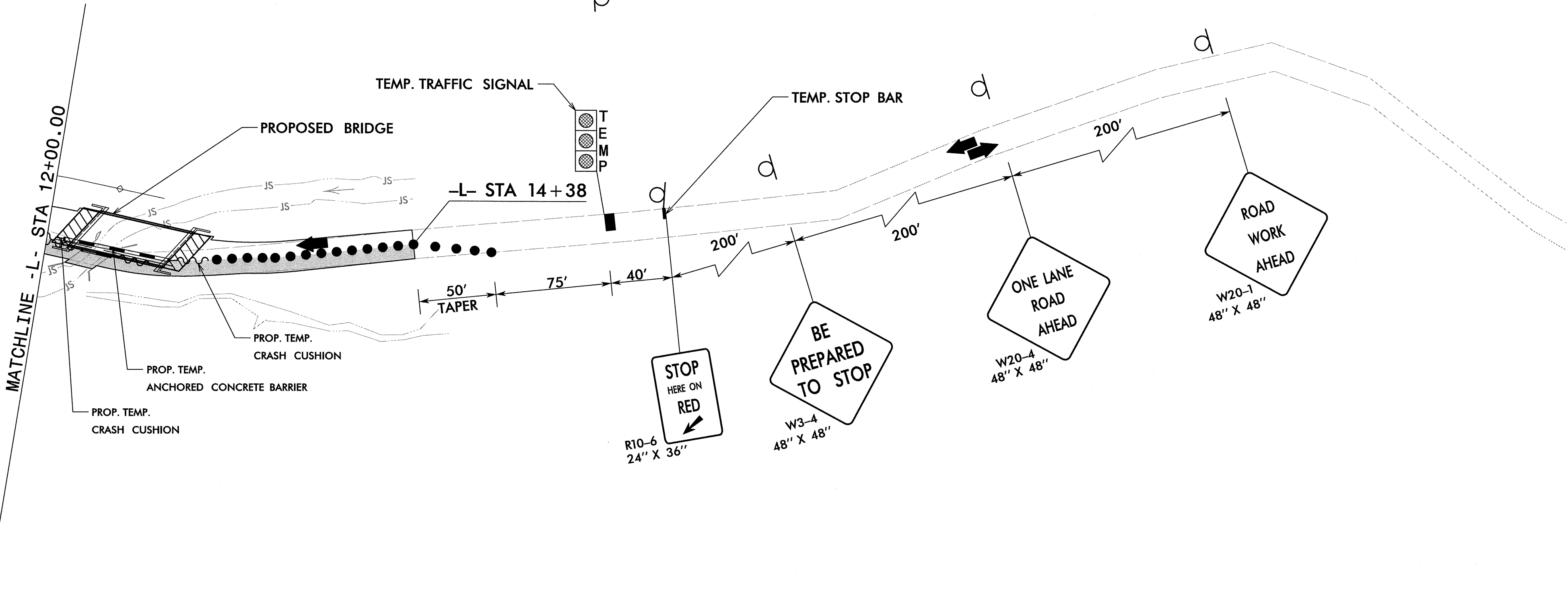
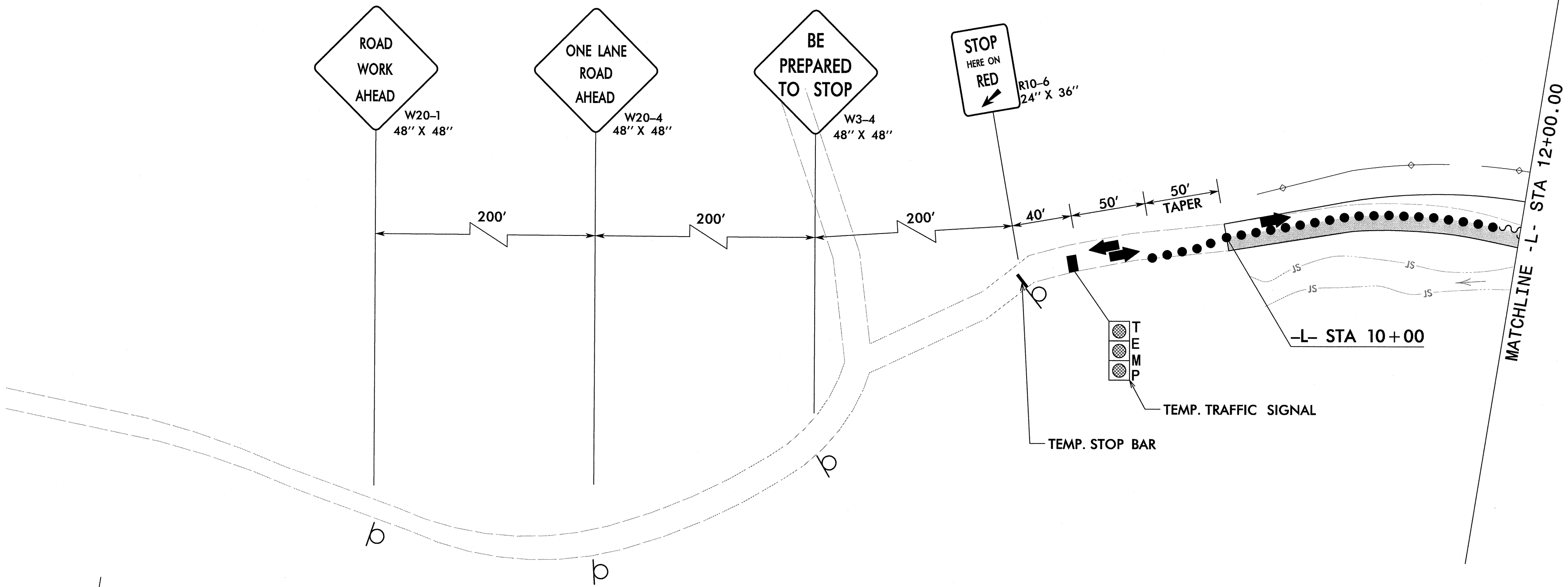
DATE	REVISIONS
2/21/2013	
TEH	
KJV	

TYPICAL SECTION VIEW



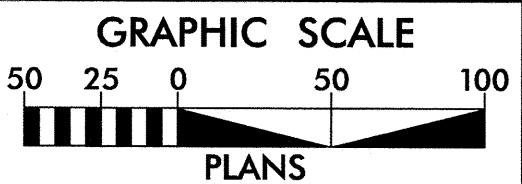
PHASING NOTES

- STAGE 1: SHIFT TRAFFIC TO ROADWAY AND BRIDGE CONSTRUCTED DURING PHASE II.
- STAGE 2: REMOVE REMAINING EXISTING BRIDGE.
- STAGE 3: CONSTRUCT REMAINING PORTION OF PROPOSED BRIDGE AND ROADWAY.
- STAGE 4: REMOVE TEMP. SIGNALS, TEMP. STOP BARS, ADVANCED WARNING SIGNS AND TRAFFIC CONTROL DEVICES.
- STAGE 5: OPEN PROJECT TO FINAL TRAFFIC PATTERN.



LEGEND

- EXISTING ROADWAY
- PROPOSED CONSTRUCTION
- COMPLETED ROADWAY



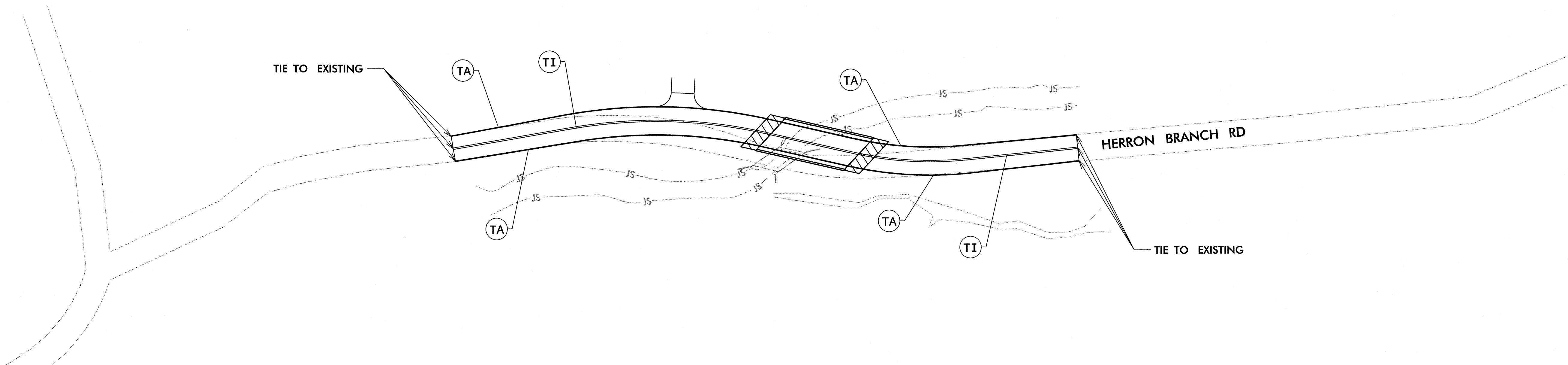
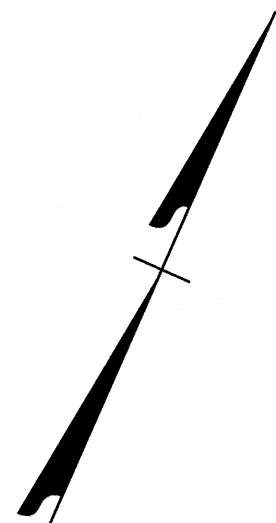
AECOM
NC Firm License No.: F-0342
701 Corporate Center Drive
Suite 475 Raleigh, NC 27607
Phone: 919-854-6200

APPROVED: _____	DATE: _____			PHASE III DETAIL	
SCALE: _____				REVISIONS	
DATE: 2/21/2013				DESIGN BY: KJV	
DESIGNED BY: KJV				REVIEWED BY: _____	

PROJECT MARKING SCHEDULE

BRIDGE 251

SYMBOL DESCRIPTION	PAY ITEM	PAY ITEM QUANTITY
	THERMOPLASTIC(4", 120 MILS)	
TI YELLOW DOUBLE CENTER		880 LF
	THERMOPLASTIC(4", 90 MILS)	
TA WHITE EDGELINE		880 LF



LEGEND

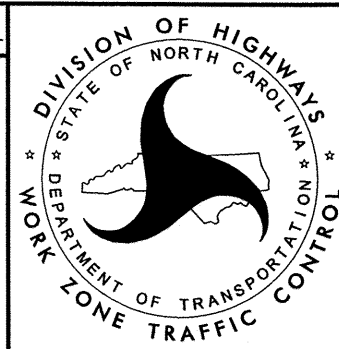
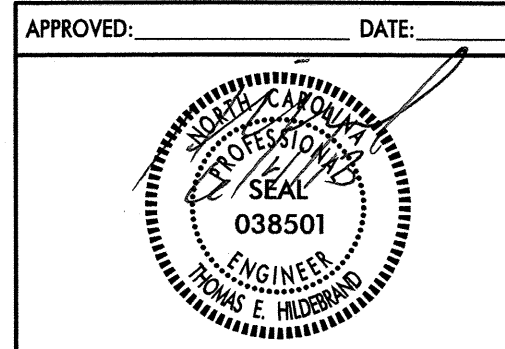
TA WHITE EDGELINE
TI YELLOW DOUBLE CENTER

GRAPHIC SCALE



AECOM

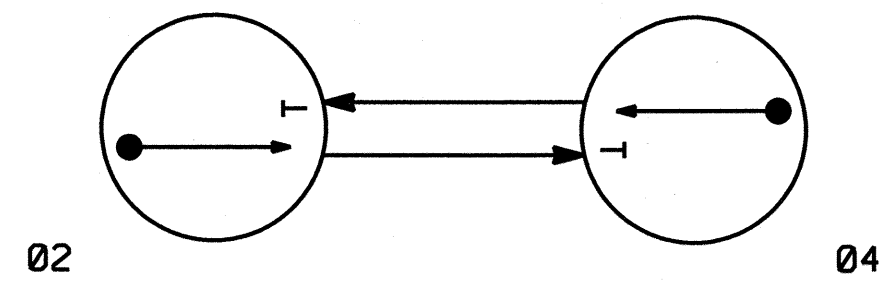
NC Firm License No.: F-0342
701 Corporate Center Drive
Suite 475 Raleigh, NC 27607
Phone: 919-854-6200



PAVEMENT MARKING PLAN

SCALE:	DATE: 2/21/2013	REVISIONS
DWG. BY: TEH		
DESIGN BY: KJV		
REVIEWED BY:		

PHASING DIAGRAM



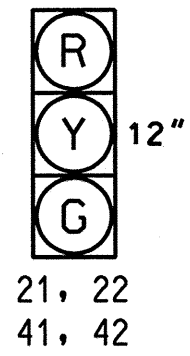
PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)

SIGNAL FACE	PHASE		
	Ø2	Ø4	FLASH
21, 22	G	R	R
41, 42	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.



LOOP & DETECTOR INSTALLATION CHART					
INDUCTIVE LOOPS					DETECTOR PROGRAMMING
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE CALLING EXTENSION
2A	6X40	-5	2-4-2	X	2 X X
4A	6X40	-5	2-4-2	X	4 X X

2 Phase Actuated Temporary Signal

NOTES

- SEE SPECIAL PROVISION FOR DETAILS ON PORTABLE TRAFFIC SIGNAL SYSTEM.
- MICROWAVE DETECTION OR VIDEO DETECTION MAY BE USED IN LIEU OF LOOP DETECTION AS SHOWN ON THE PLAN.
- TEMPORARY WOOD POLES WITH SPAN WIRE AND SIGNAL HEADS MAY BE USED IN LIEU OF THE TRAILER MOUNTED SIGNAL AS SHOWN ON THE PLAN.

SEE SHEET TMP-3 FOR TRAFFIC CONTROL SIGNAGE

DICK'S CREEK RD

TEMP. TRAILER MOUNTED TRAFFIC SIGNAL

TEMP. STOP BAR

25 MPH +4%

MATCHLINE -L- STA 12+00.00

PROPOSED BRIDGE

TEMP. STOP BAR

TEMP. TRAILER MOUNTED TRAFFIC SIGNAL

25 MPH -5%

SEE SHEET TMP-3 FOR TRAFFIC CONTROL SIGNAGE

HERRON BRANCH RD

MATCHLINE -L- STA 12+00.00

TIMING CHART

PHASE	Ø2	Ø4
MINIMUM GREEN*	15 SEC.	15 SEC.
VEHICLE EXTENSION *	5 SEC.	5 SEC.
YELLOW CHANGE INT.	3.0 SEC.	3.5 SEC.
RED CLEARANCE	20.4 SEC.	20.4 SEC.
MAXIMUM GREEN*	30 SEC.	30 SEC.
RECALL POSITION	RECALL	NONE

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 4 lower than what is shown.

LEGEND

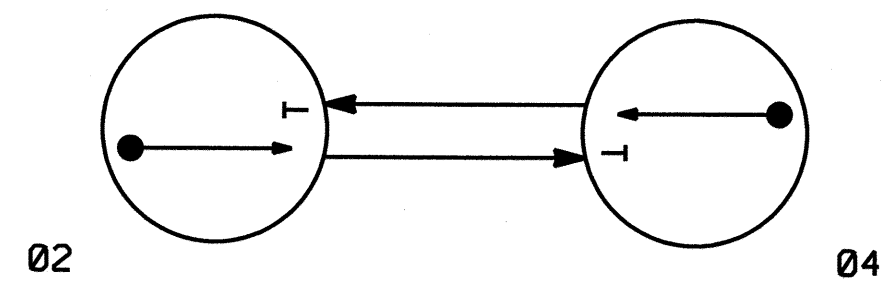
- PROPOSED: Traffic Signal Head, Directional Arrow, Inductive Loop Detector, Trailer Mounted Signal
- EXISTING: Traffic Signal Head, Directional Arrow, Inductive Loop Detector, Trailer Mounted Signal

TEMPORARY SIGNAL

AECOM
NC Firm License No.: F-0342
701 Corporate Center Drive
Suite 475 Raleigh, NC 27607
Phone: 919-854-6200

	TEMPORARY SIGNAL BRIDGE 251 PHASE 2 CONSTRUCTION		SEAL
	JACKSON COUNTY DIVISION 14 PLAN DATE: OCTOBER 2012 PREPARED BY: S. W. COX REVIEWED BY: C. N. MUSSMAN REVISIONS: _____ INIT. DATE		SIGNATURE: _____ DATE: 6-5-13 SIG. INVENTORY NO. N/A

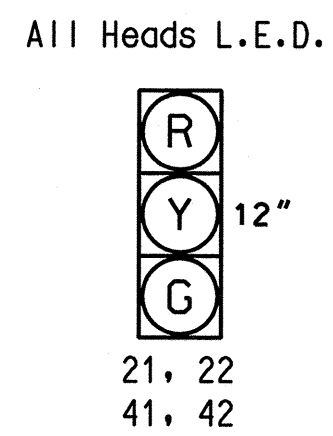
PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND
← ● DETECTED MOVEMENT
← UNDETECTED MOVEMENT (OVERLAP)

SIGNAL FACE	PHASE		
	02	04	FLASH
21, 22	G	R	R
41, 42	R	G	R

SIGNAL FACE I.D.



LOOP & DETECTOR INSTALLATION CHART						
INDUCTIVE LOOPS				DETECTOR PROGRAMMING		
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING EXTENSION
2A	6X40	-5	2-4-2	X	2	X X
4A	6X40	-5	2-4-2	X	4	X X

2 Phase Actuated Temporary Signal

NOTES

1. SEE SPECIAL PROVISION FOR DETAILS ON PORTABLE TRAFFIC SIGNAL SYSTEM.
2. MICROWAVE DETECTION OR VIDEO DETECTION MAY BE USED IN LIEU OF LOOP DETECTION AS SHOWN ON THE PLAN.
3. TEMPORARY WOOD POLES WITH SPAN WIRE AND SIGNAL HEADS MAY BE USED IN LIEU OF THE TRAILER MOUNTED SIGNAL AS SHOWN ON THE PLAN.

SEE SHEET TMP-3 FOR TRAFFIC CONTROL SIGNAGE

25 MPH +4%

TEMP. TRAILER MOUNTED TRAFFIC SIGNAL

TEMP. STOP BAR

DICK'S CREEK RD

PROPOSED BRIDGE

TEMP. TRAILER MOUNTED TRAFFIC SIGNAL

TEMP. STOP BAR

25 MPH -5%

HERRON BRANCH RD

SEE SHEET TMP-3 FOR TRAFFIC CONTROL SIGNAGE

MATCHLINE -L- STA 12+00.00

MATCHLINE -L- STA 12+00.00

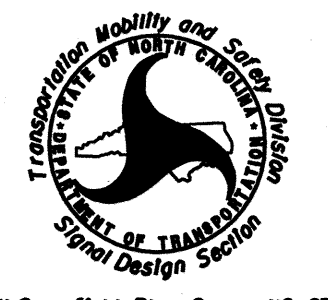
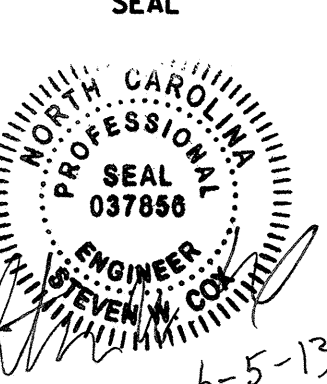
TIMING CHART		
PHASE	02	04
MINIMUM GREEN*	15 SEC.	15 SEC.
VEHICLE EXTENSION *	5 SEC.	5 SEC.
YELLOW CHANGE INT.	3.0 SEC.	3.5 SEC.
RED CLEARANCE	20.4 SEC.	20.4 SEC.
MAXIMUM GREEN*	30 SEC.	30 SEC.
RECALL POSITION	RECALL	NONE

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 4 lower than what is shown.

LEGEND	
PROPOSED	EXISTING
○ → Traffic Signal Head	● →
→ Directional Arrow	→
□ Inductive Loop Detector	□
Trailer Mounted Signal	N/A

TEMPORARY SIGNAL

AECOM
NC Firm License No.: F-0342
701 Corporate Center Drive
Suite 475 Raleigh, NC 27607
Phone: 919-854-6200

 750 N. Greenfield Pkwy, Garner, NC 27529	TEMPORARY SIGNAL BRIDGE 251 PHASE 3 CONSTRUCTION		 6-5-13
	JACKSON COUNTY DIVISION 14 PLAN DATE: OCTOBER 2012 REVIEWED BY: C. N. MUSSMAN PREPARED BY: S. W. COX REVIEWED BY: S. NANDAGIRI		
SCALE 0 50' 1" = 50'	SIGNATURE _____ DATE _____ SIG. INVENTORY NO. N/A		

EROSION CONTROL PLAN

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.

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.

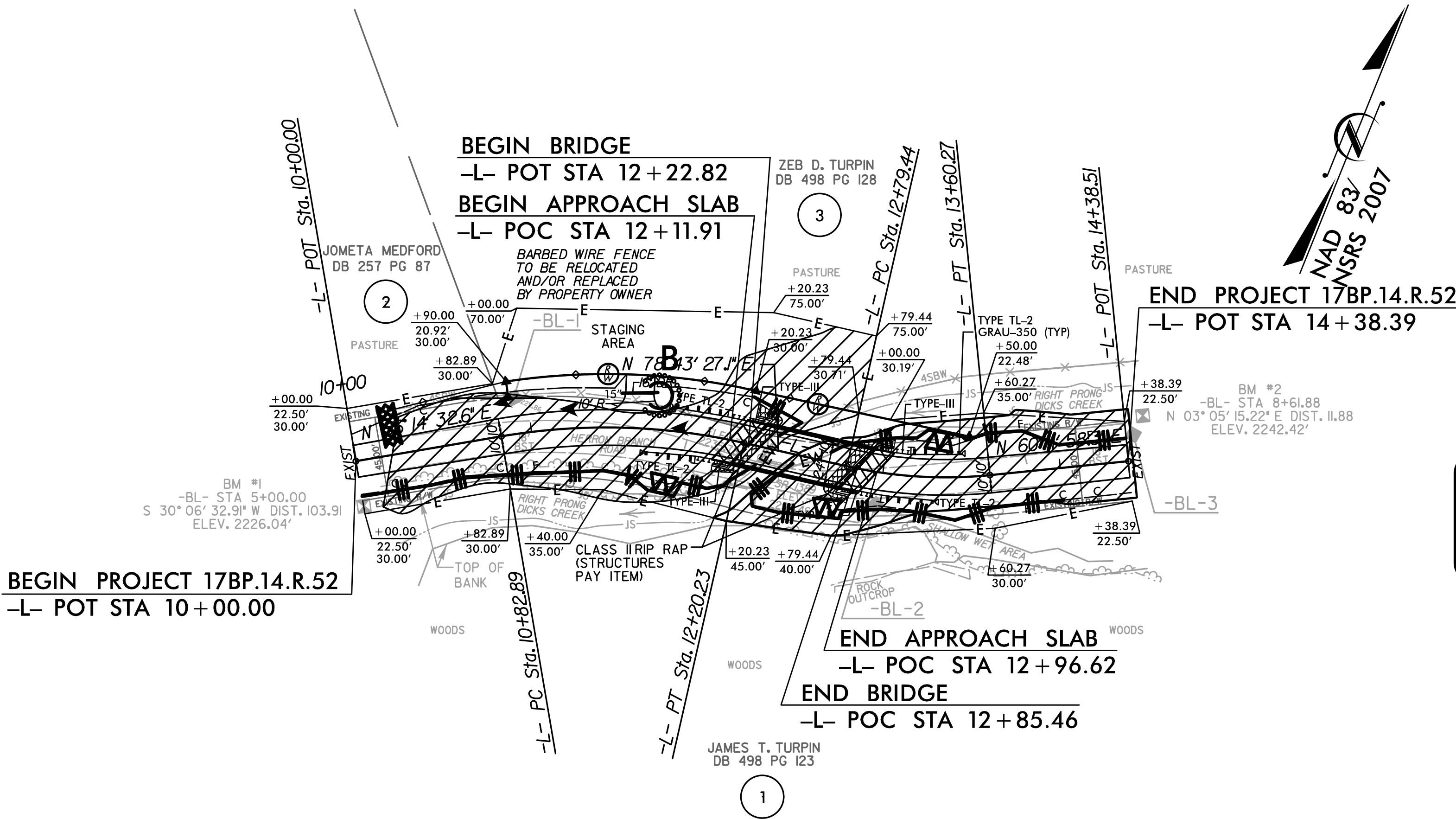
NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

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

Rene Remy CPESC, CPSWQ
LEVEL III NAME

3135
LEVEL III CERTIFICATION NO.

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		



-L-	
PI Sta 11+52.45	PI Sta 13+20.21
$\Delta = 22^\circ 28' 54.6''$ (RT)	$\Delta = 18^\circ 31' 28.8''$ (LT)
$D = 16^\circ 22' 12.8''$	$D = 22^\circ 55' 05.9''$
$L = 137.33'$	$L = 80.83'$
$T = 69.56'$	$T = 40.77'$
$R = 350.00'$	$R = 250.00'$
$e = 0.04$ ft/ft	$e = 0.04$ ft/ft
Runoff = 64'	Runoff = 64'

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	△ △ △ △ △
1622.01	Temporary Berms and Slope Drains	→ → →
1630.02	Silt Basin Type B	▨
1630.03	Temporary Silt Ditch	— TD —
1630.05	Temporary Diversion	→ TD →
1633.01	Temporary Rock Silt Check Type-A	▨ ▨ ▨
1633.02	Temporary Rock Silt Check Type-B	▶
	Excelsior Wattles	— EW —
1635.02	Rock Pipe Inlet Sediment Trap Type-B	○ ○ ○ ○ ○



8/17/99

REVISIONS

USER: rmgf
DATE: 5/31/2013
TIME: 2:04:42 PM
DRI: R:\Environmental\Design\15-0251_rnw.dgn

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.52	EC-2
Prepared in the Office of: AECOM 101 Corporate Center Drive, Suite 475 Raleigh, NC 27607 (919) 854-6200 • (919) 854-6259(FAX)	

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.

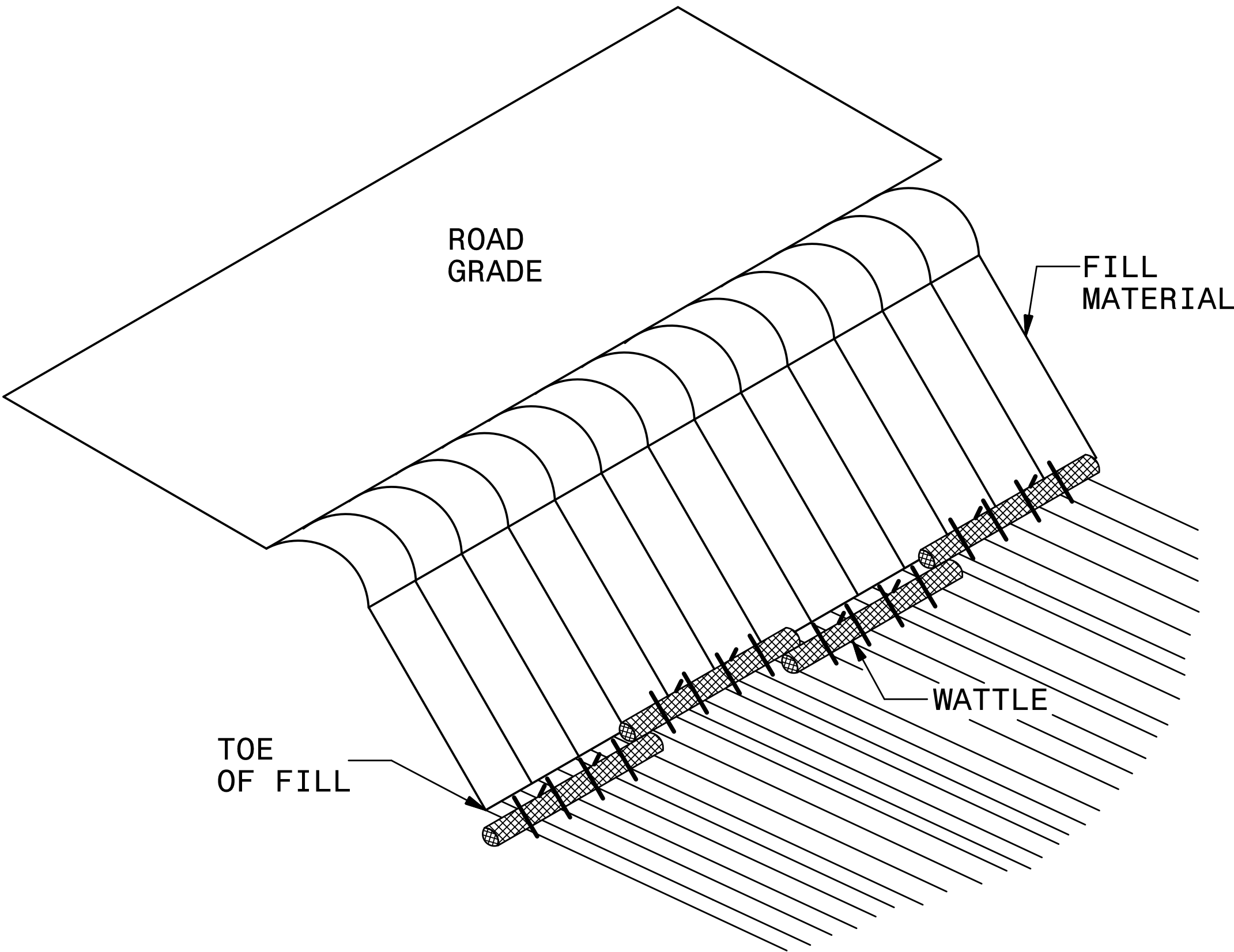
MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
1	-L-	14+00	14+20	L	15
			SUBTOTAL		15
			ADDITIONAL MATTING TO BE INSTALLED		2485
			TOTAL		2500
			SAY		2500

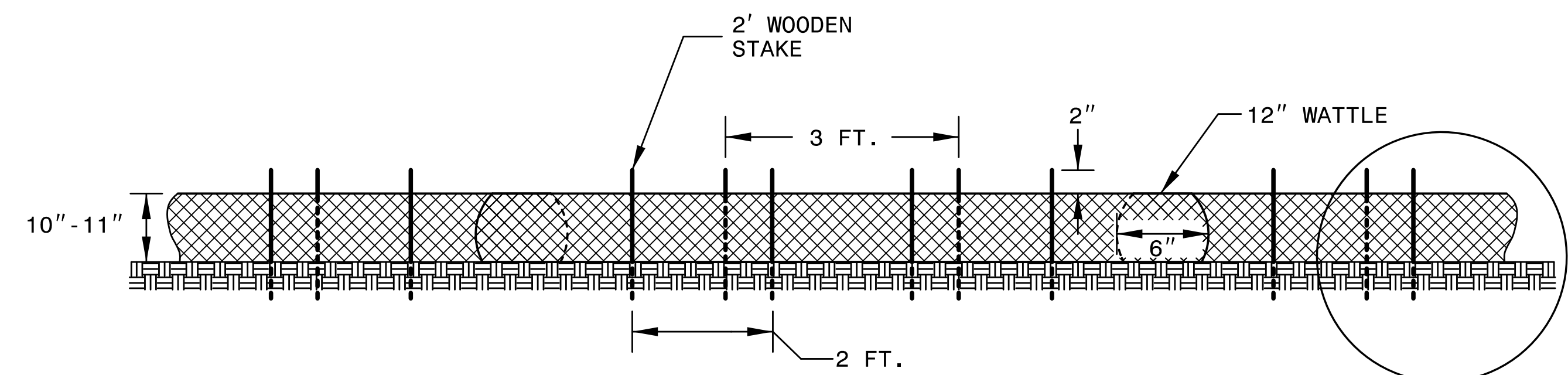
PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
1	-L-	10+20	12+20	R	180
			SUBTOTAL		180
			ADDITIONAL PERM TO BE INSTALLED		0
			TOTAL		180
			SAY		180

WATTLE BARRIER DETAIL



ISOMETRIC VIEW



FRONT VIEW

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR 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.

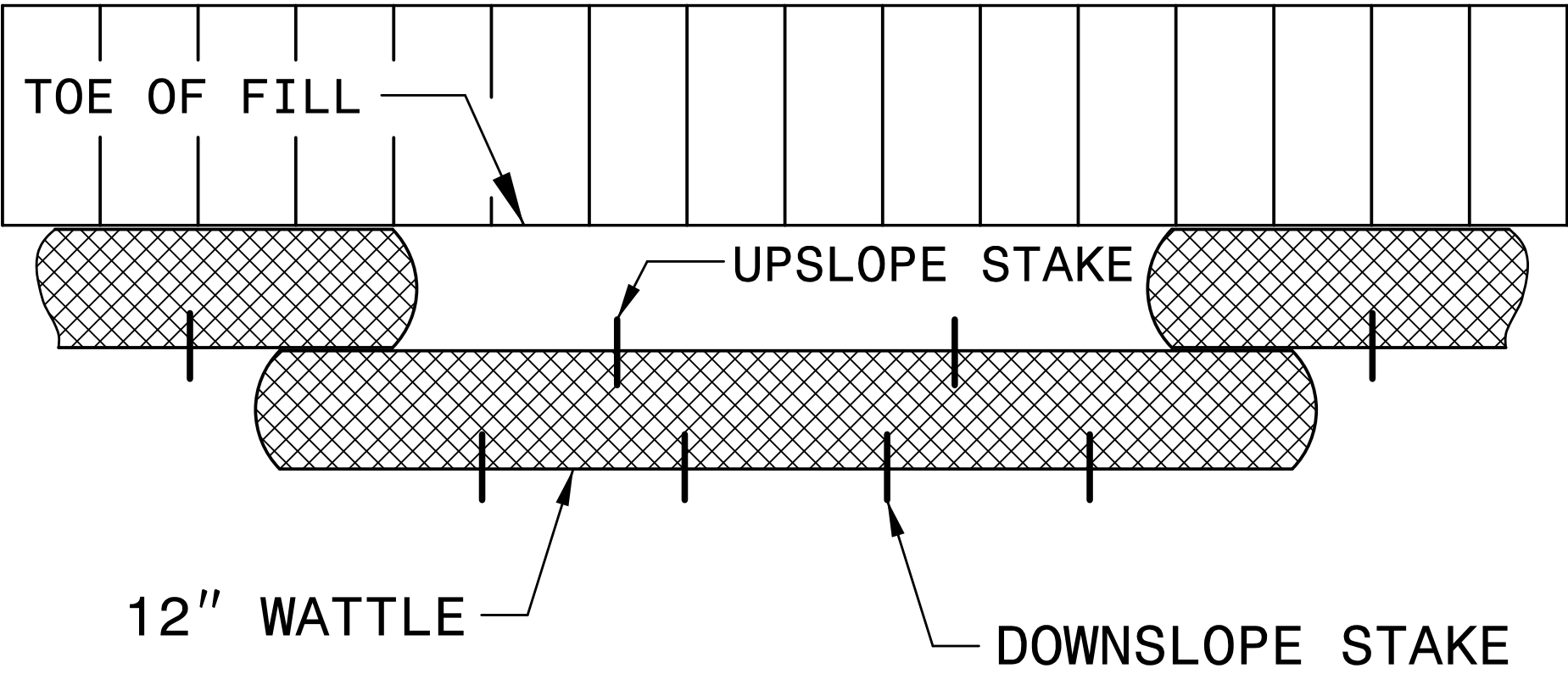
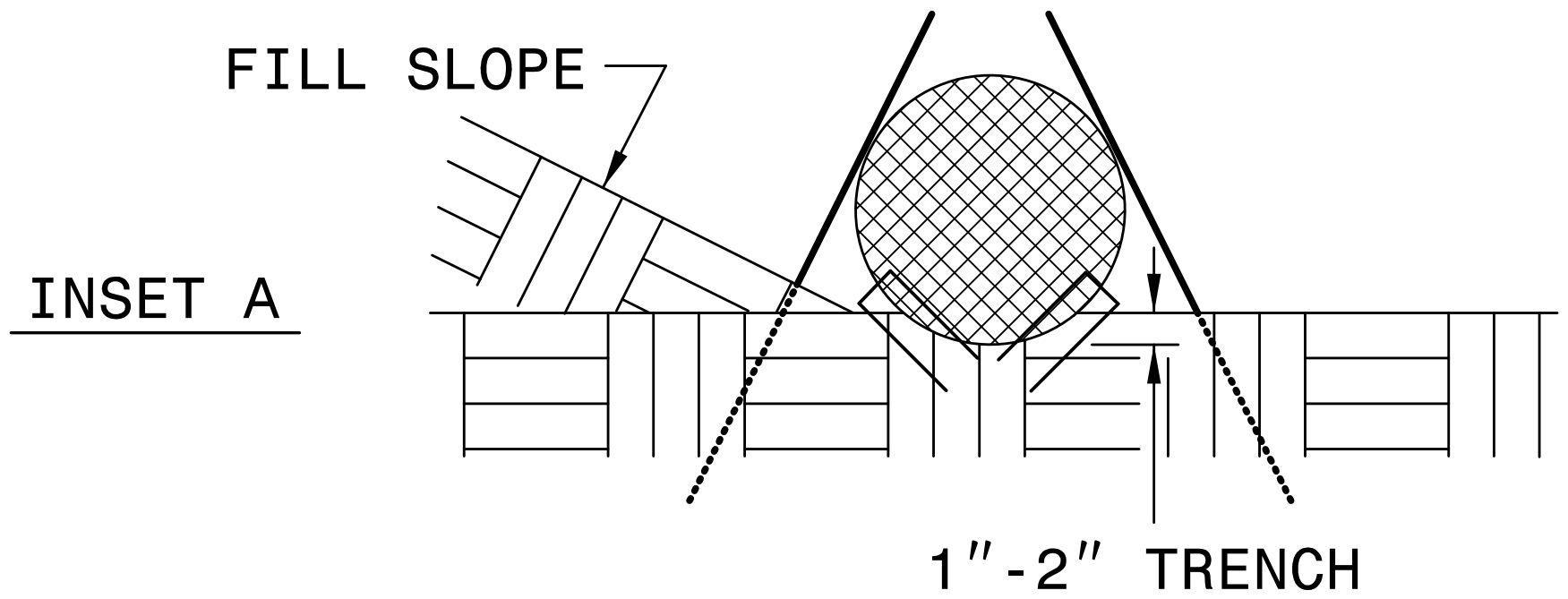
USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

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

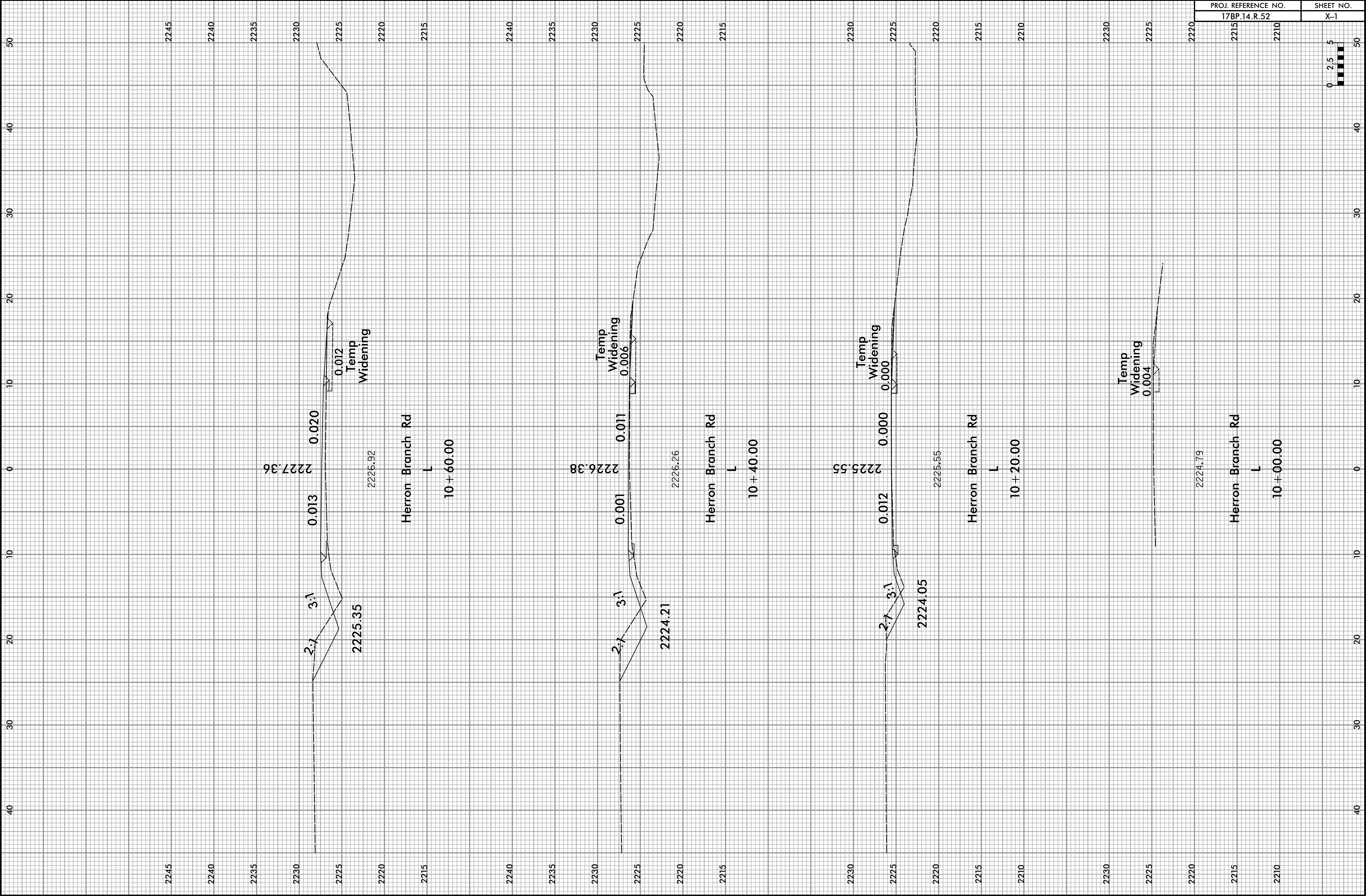
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

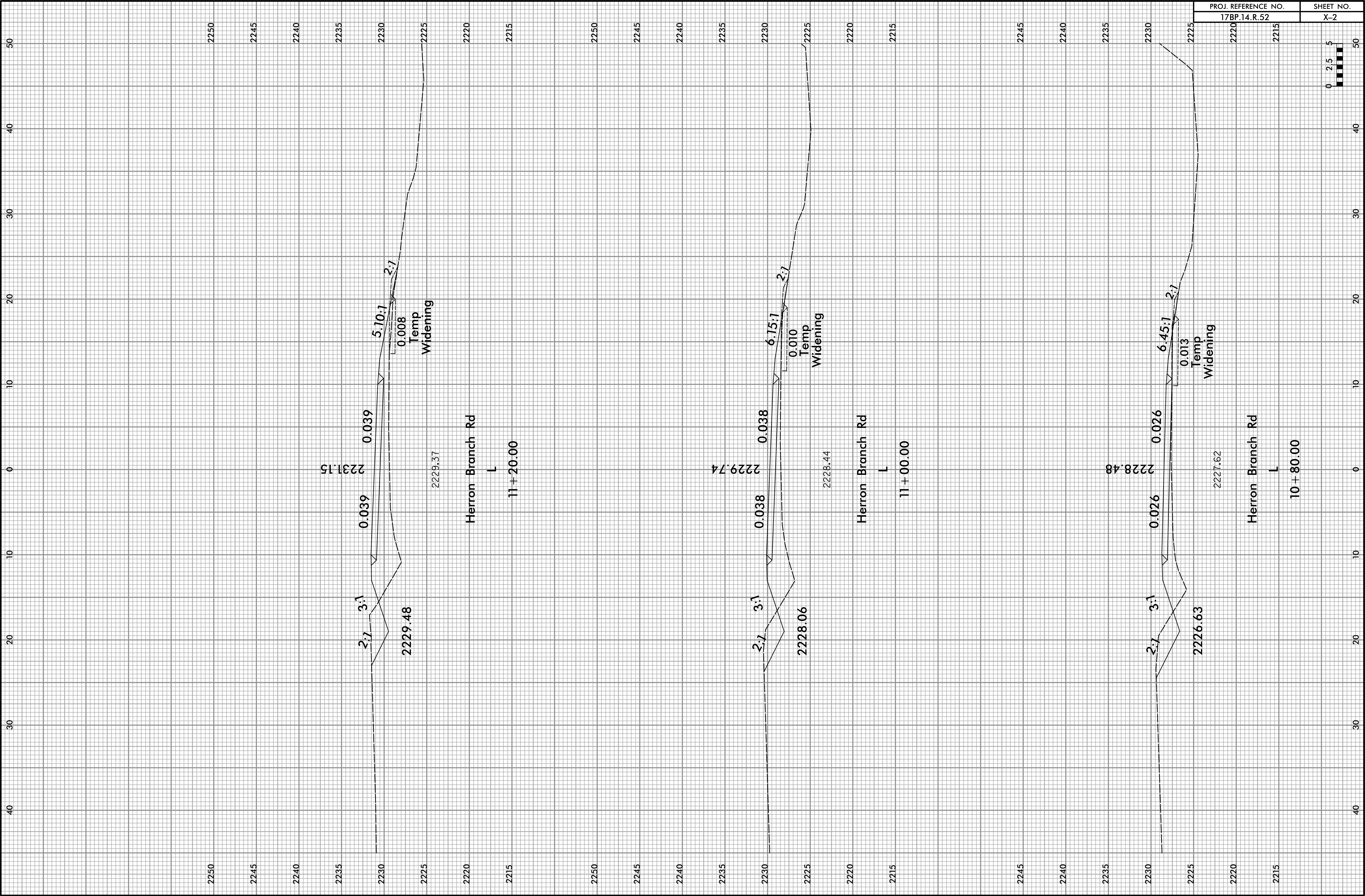
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

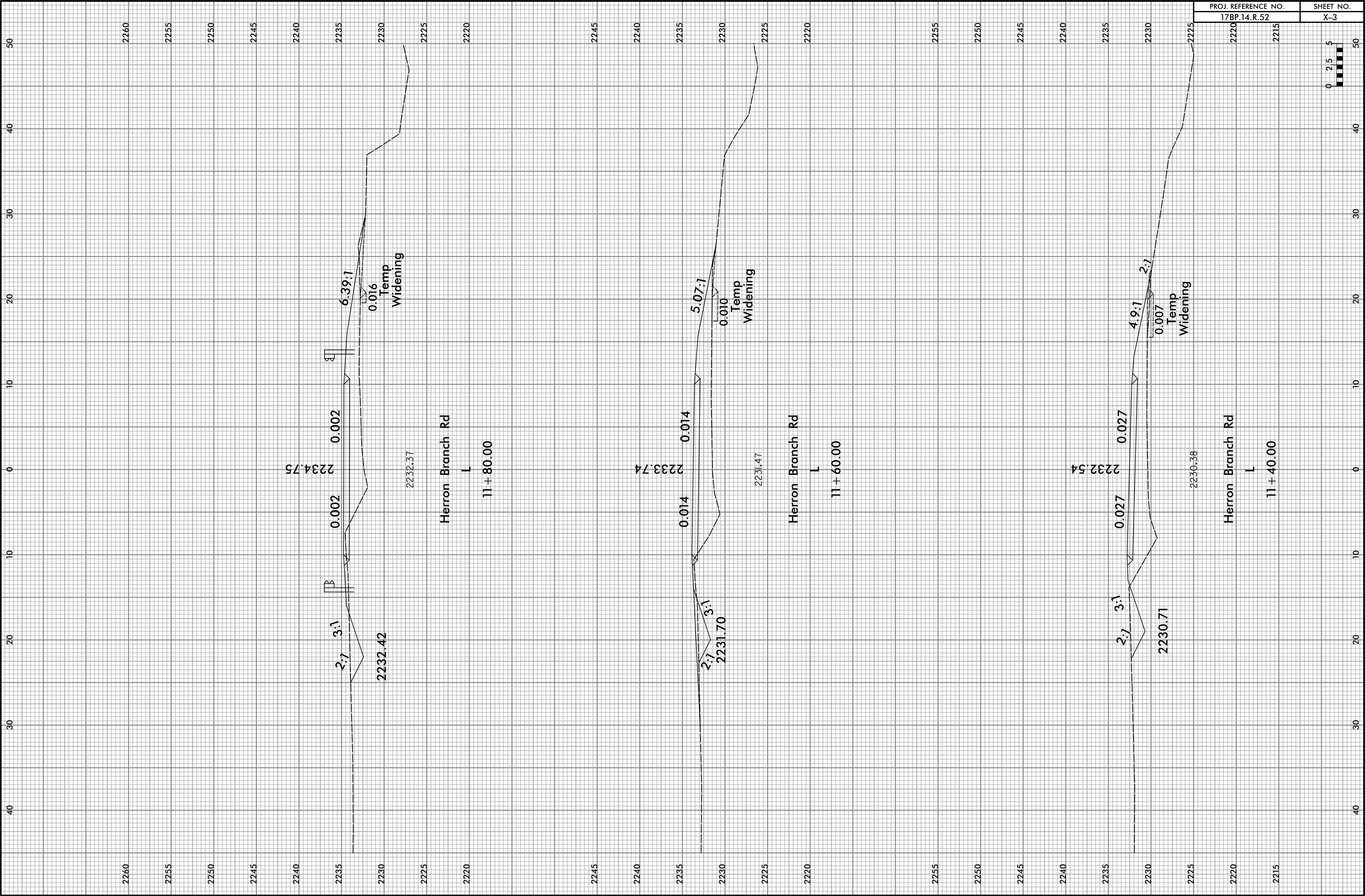
FOR BREAKS ALONG LARGE SLOPES, USE MAXIMUM SPACING OF 20 FT.

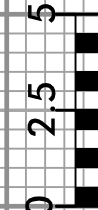


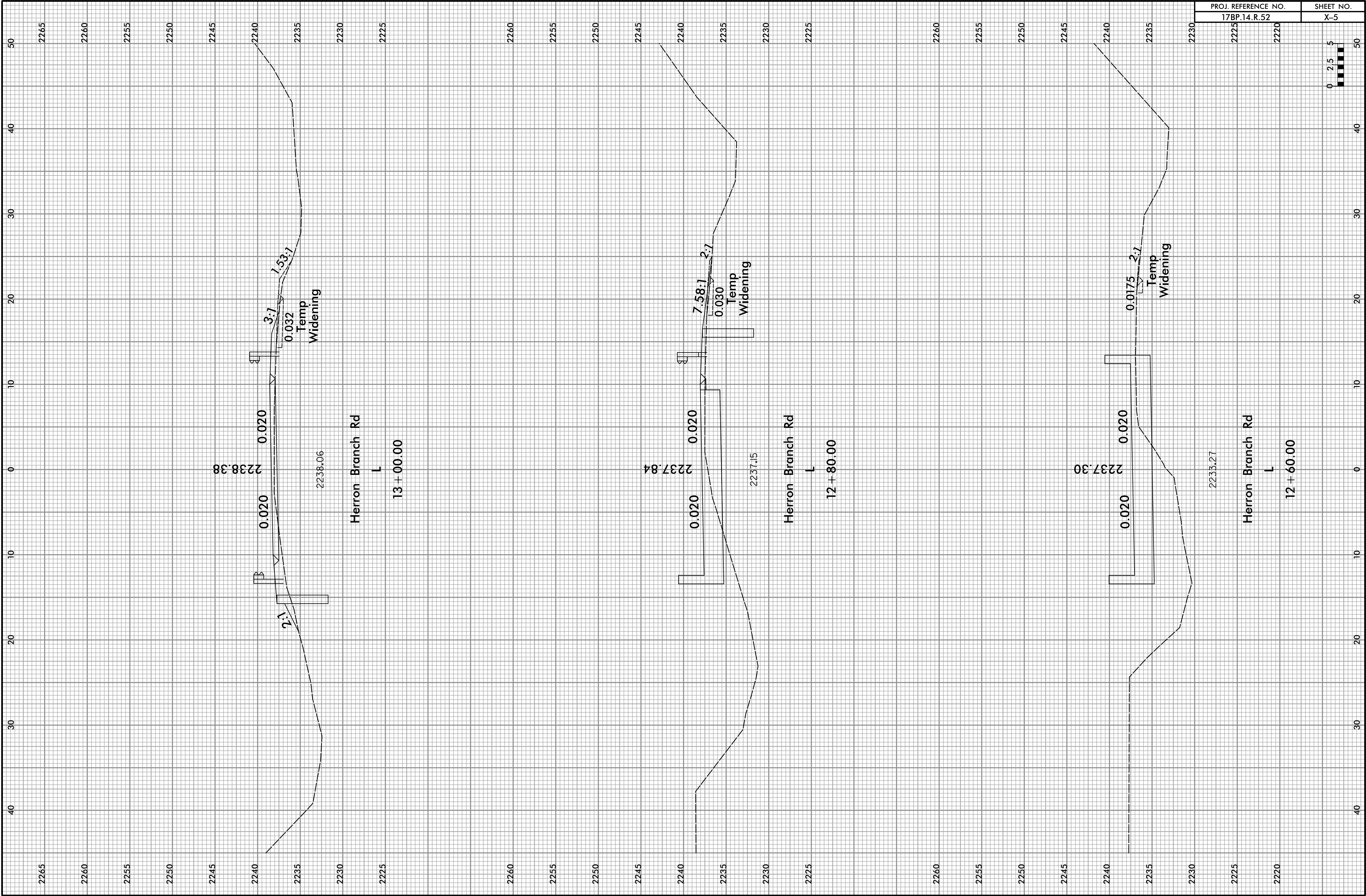
TOP VIEW

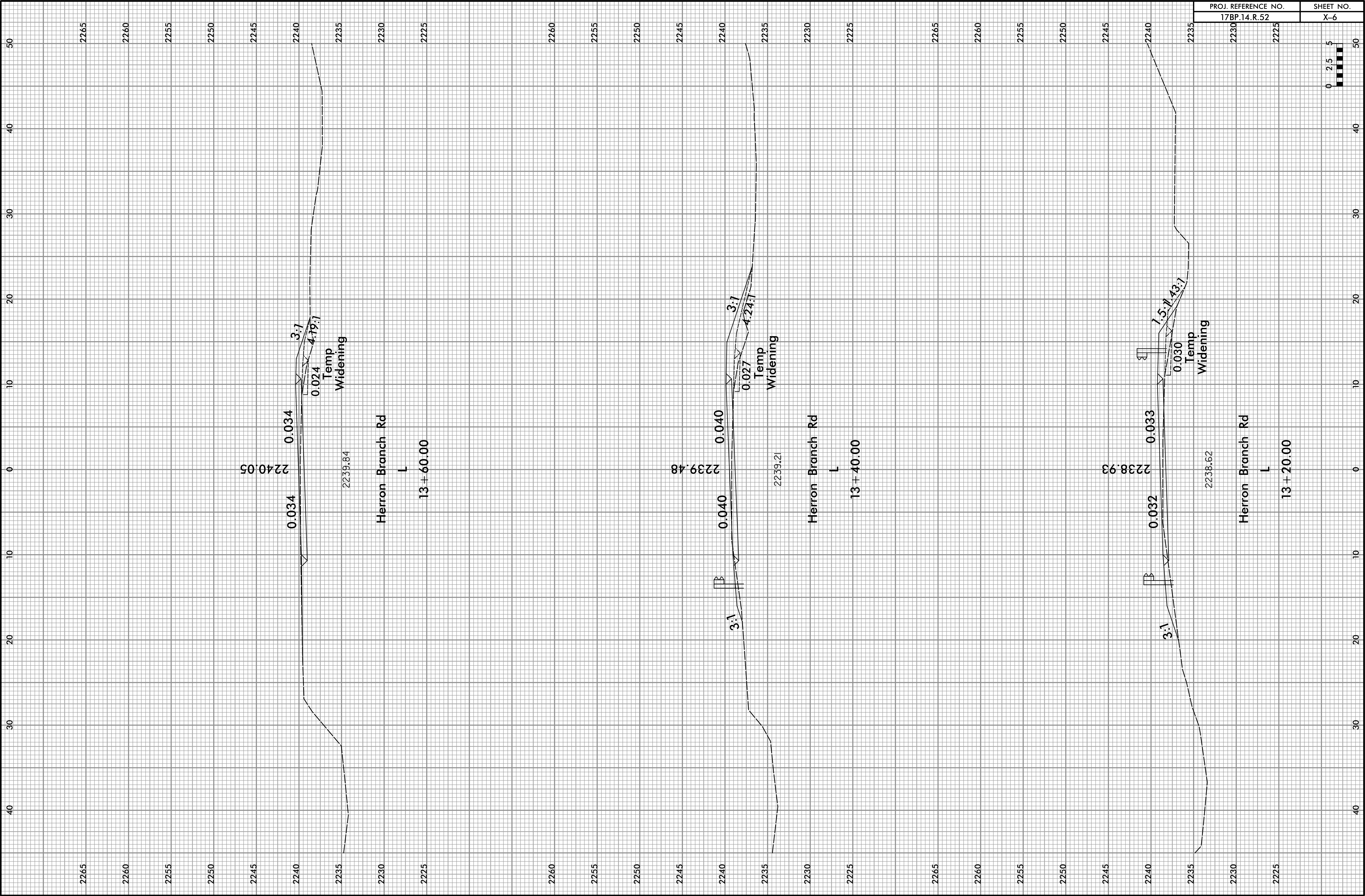


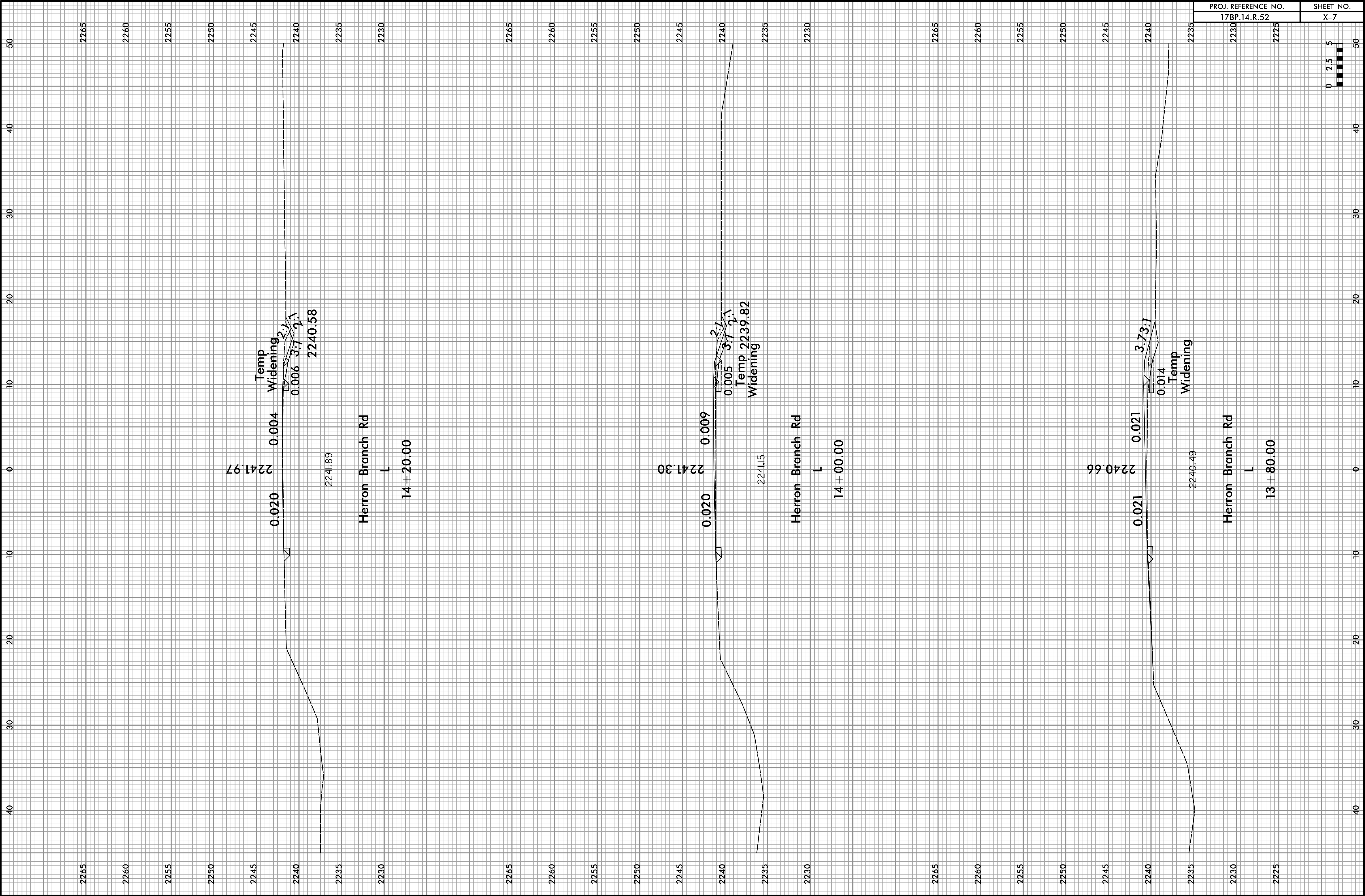








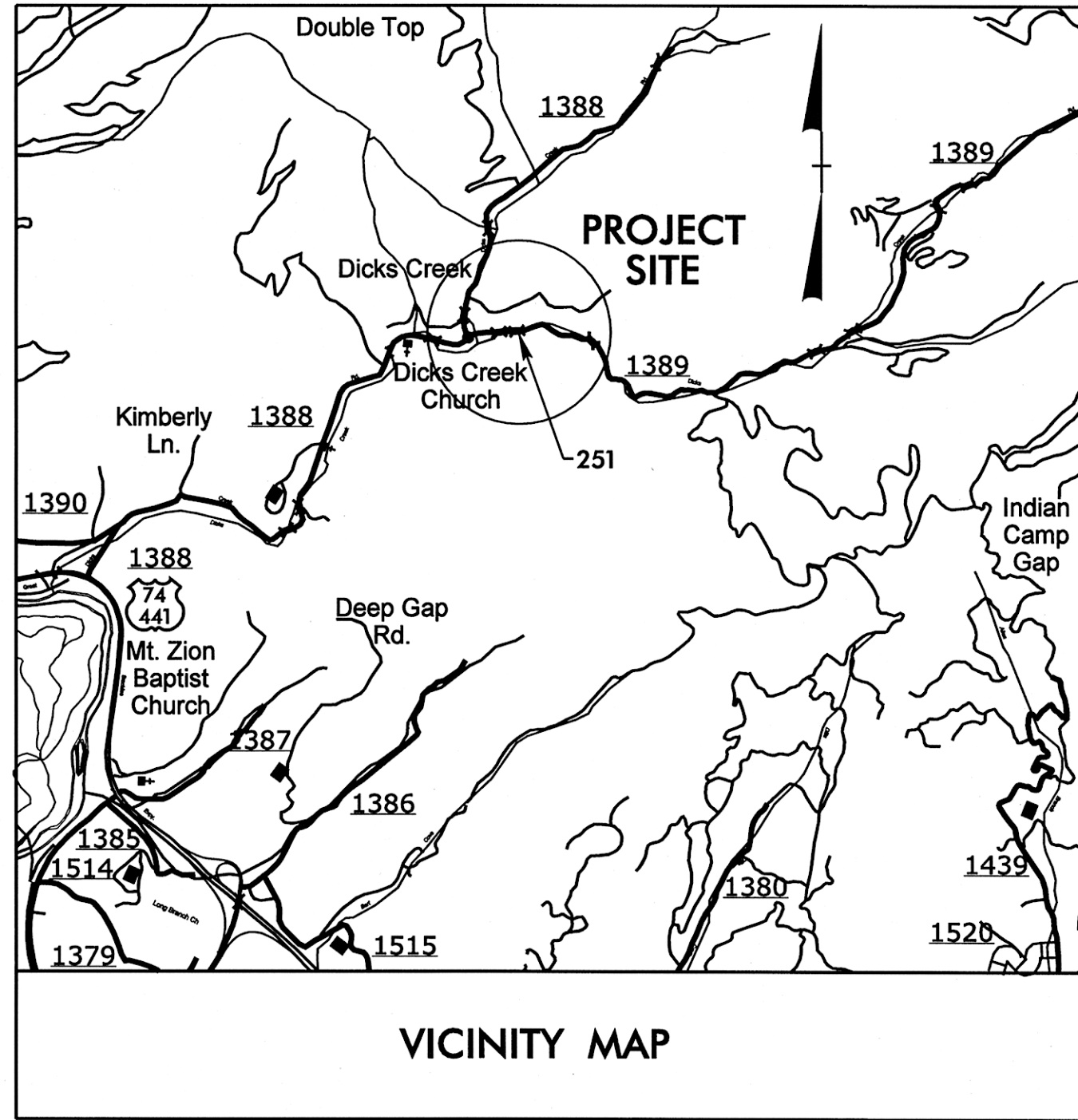




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BEL/SEM

CONTRACT:

TIP PROJECT: 17BP.14.R.52



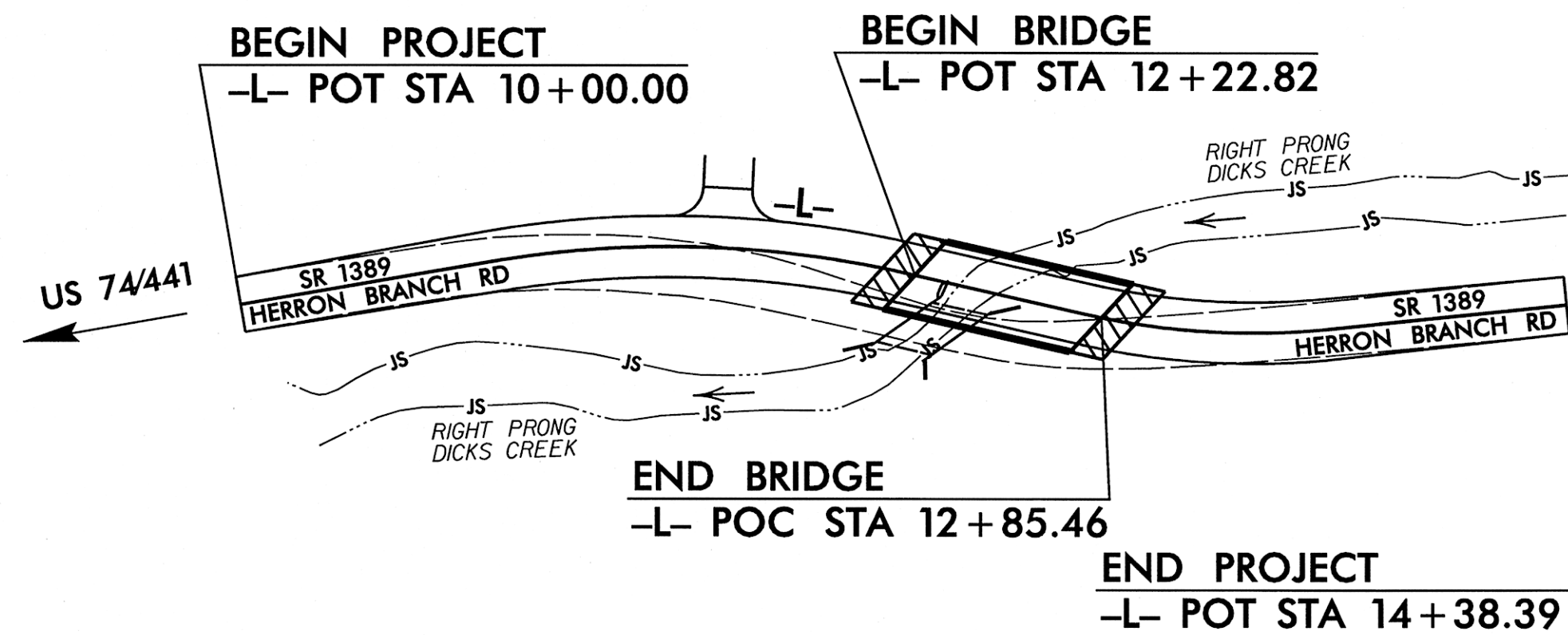
STRUCTURE

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

JACKSON COUNTY

**LOCATION: BRIDGE NO. 251 OVER RIGHT PRONG
DICK'S CREEK ON SR 1389 (HERRON BRANCH RD)**

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE



NAD 83/
NSRS 2007

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

DESIGN DATA

ADT XXXX = 50
V = 25 MPH
FUNC CLASS = LOCAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY STATE PROJECT 17BP.14.R.52 = 0.071 MILES
LENGTH STRUCTURES STATE PROJECT 17BP.14.R.52 = 0.012 MILES
TOTAL LENGTH STATE PROJECT 17BP.14.R.52 = 0.083 MILES

NCDOT CONTACT: JOSHUA DEYTON, PE
PROJECT ENGINEER

Prepared In the Office of:

AECOM

NC FIRM LICENSE No: F-0342
701 Corporate Center Drive, Suite 475
Raleigh, NC 27607
(919) 854-6200 ~ (919) 854-6259 (FAX)

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 29, 2012

LETTING DATE:
FY 2013

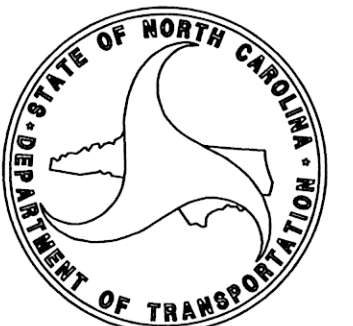
LEN HILL, PE
PROJECT ENGINEER

CLAUDETTE M.K. ROQUE, PE
PROJECT DESIGN ENGINEER

BRIDGE ENGINEER

John C. Morrison
SIGNATURE: P.E.

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**



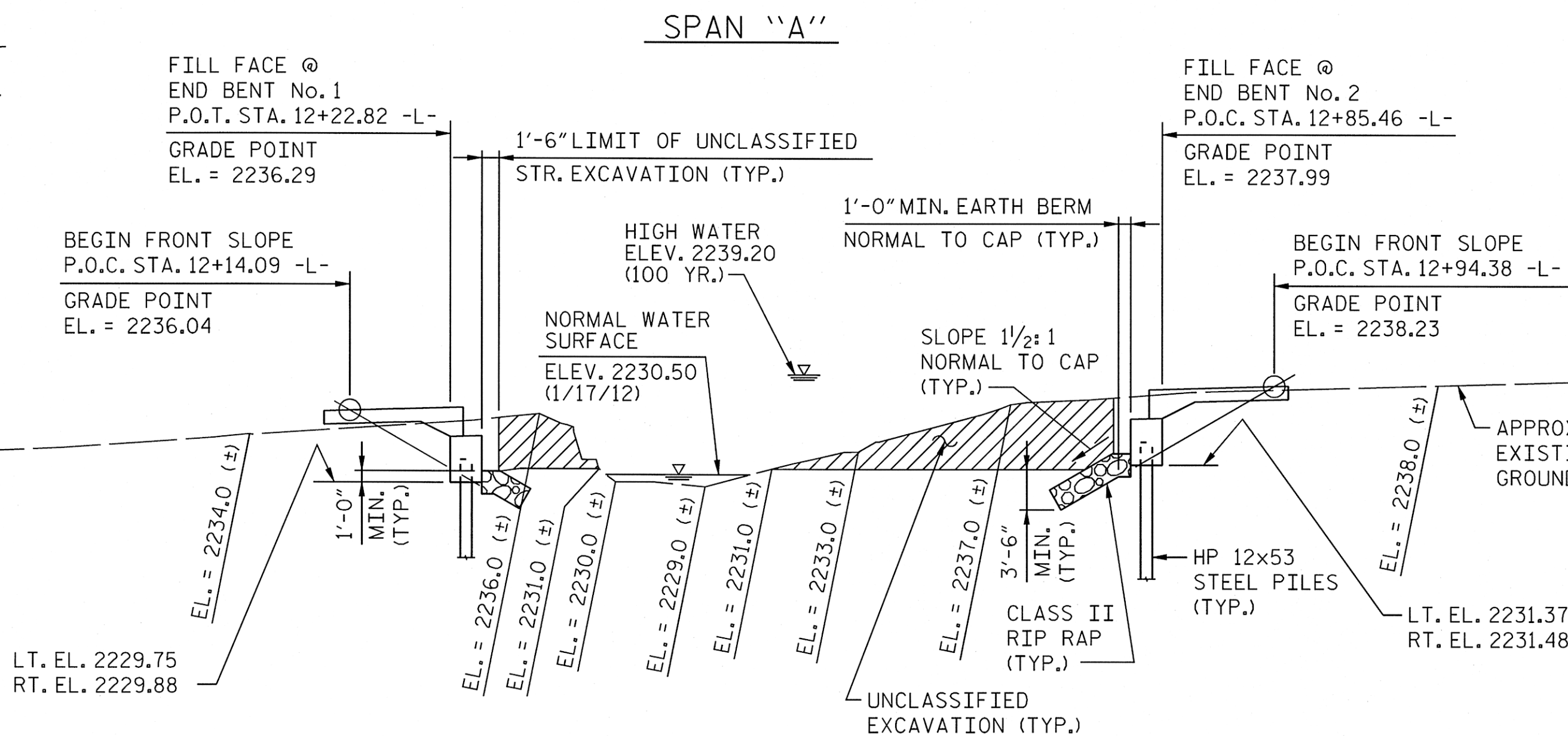
P.E.
STATE HIGHWAY DESIGN ENGINEER

DATE: 2/14/2013
TIME: 10:41:28 AM

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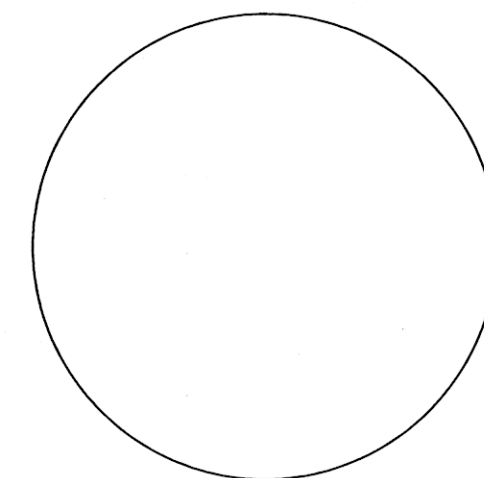
2250
2240
2230
2220
2210

(+)-7.4000% (+)-2.7190%
PI = 11+70.00 -L-
EL = 2234.85'
VC = 100'
GRADE DATA



SECTION ALONG C -L-
(SECTIONS AT END BENTS ARE AT RIGHT ANGLES)

I HEARBY CERTIFY THESE PLANS
ARE THE AS-BUILT PLANS



HORIZONTAL CURVE DATA -L-

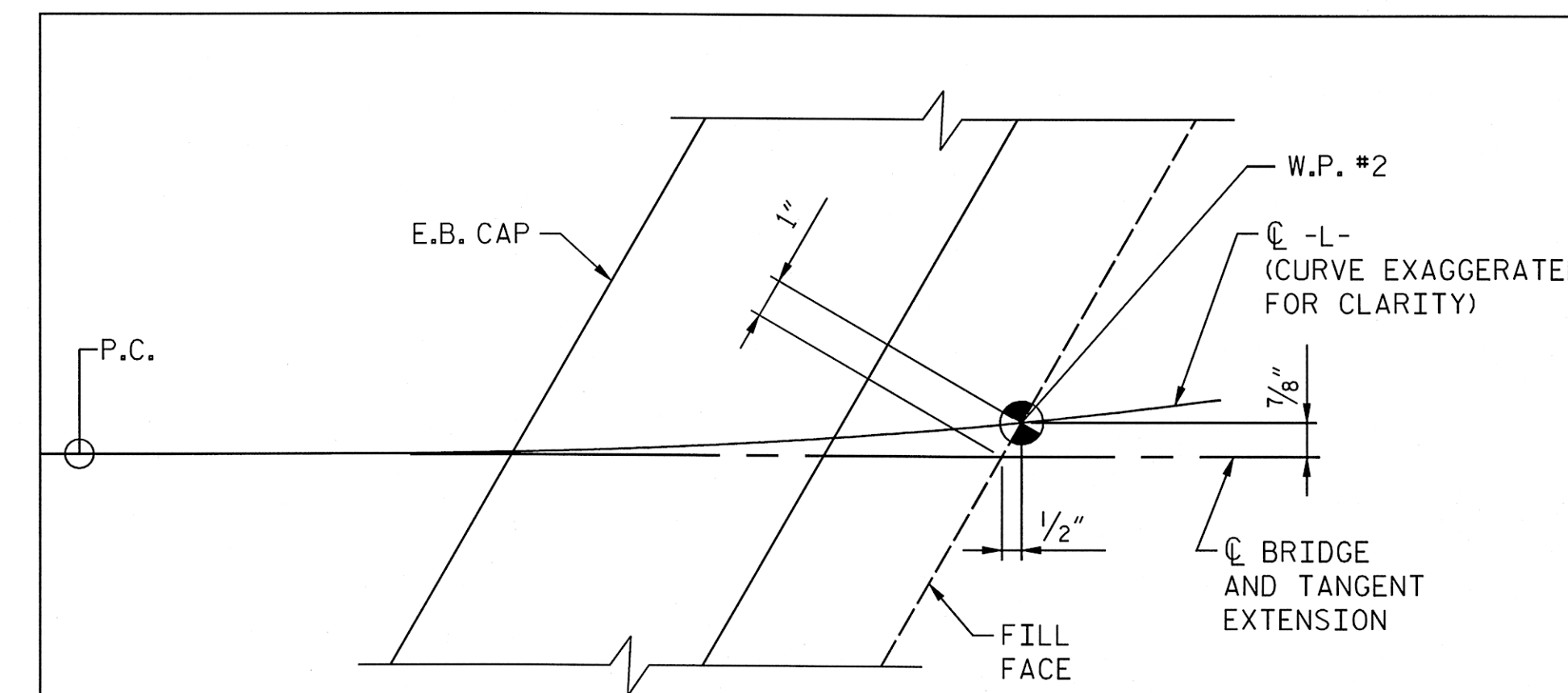
PI STA. 11+52.45	PI STA. 13+20.21
$\Delta = 22^\circ 28' 54.6''$ (RT)	$\Delta = 18^\circ 31' 28.8''$ (LT)
D = 16°22'12.8"	D = 22°55'05.9"
L = 137.33'	L = 80.83'
T = 69.56'	T = 40.77'
R = 350.00'	R = 250.00'

HYDRAULIC DATA

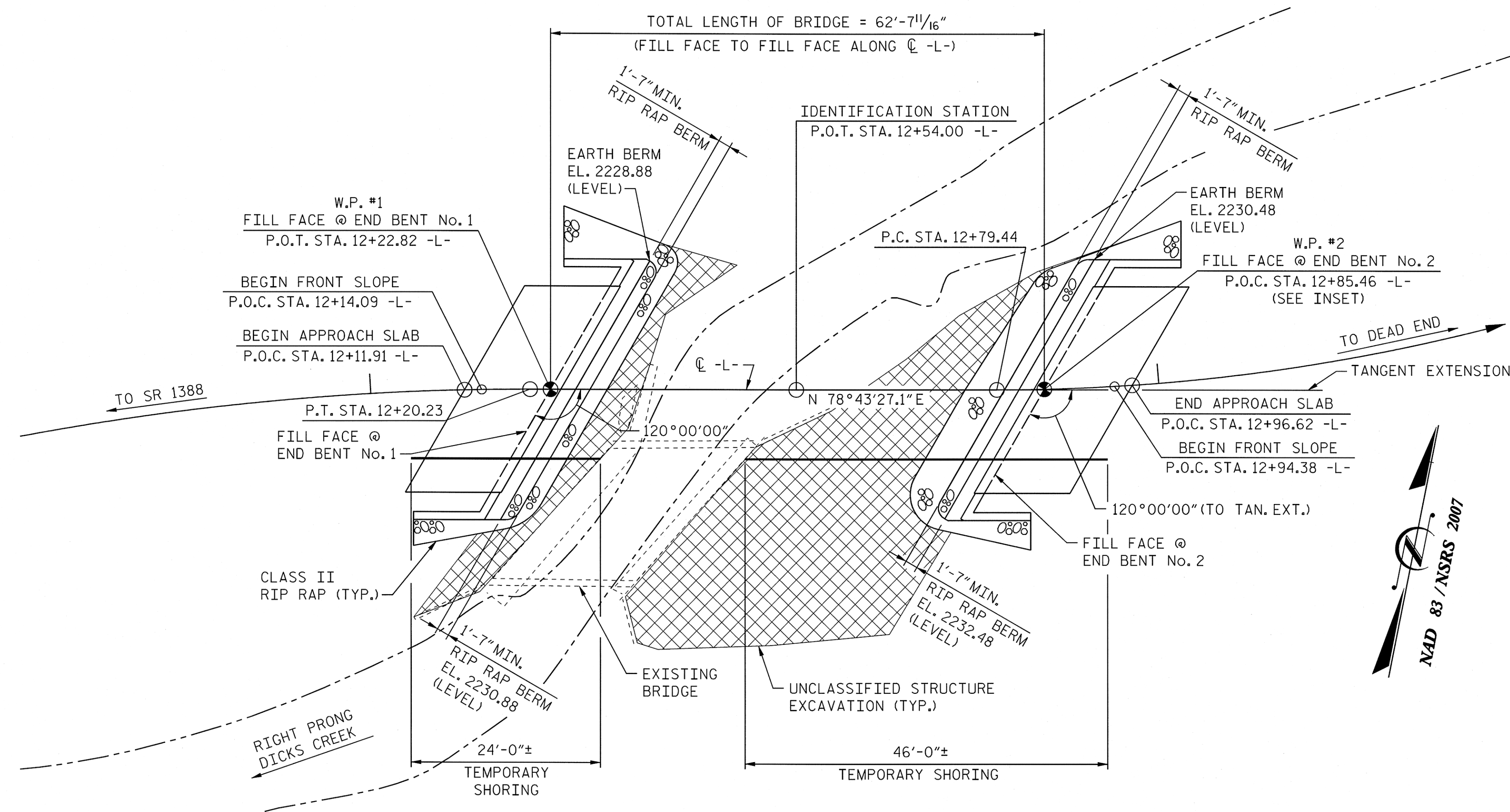
DESIGN DISCHARGE	850 CFS
FREQUENCY OF DESIGN FLOOD	10 YR.
DESIGN HIGH WATER ELEVATION	2237.20
DRAINAGE AREA	4.40 SQ. MI.
BASE DISCHARGE (Q 100)	1,700 CFS
BASE HIGH WATER ELEVATION	2239.20

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	1100 CFS
FREQUENCY OF OVERTOPPING FLOOD	10+ YR.
OVERTOPPING FLOOD ELEVATION	2236.30



INSET SHOWING W.P. #2



PLAN
(PILES NOT SHOWN FOR CLARITY)



PROJECT NO. 17BP.14.R.52
JACKSON COUNTY
STATION: 12+54.00 -L-

SHEET 1 OF 2 REPLACES BRIDGE NO. 251

AECOM
AECOM TECHNICAL SERVICES, INC.
701 CORPORATE CENTER DRIVE, SUITE 475
RALEIGH, NC 27607
(919) 854-4200 www.aecom.com
AECOM License No. F-0342



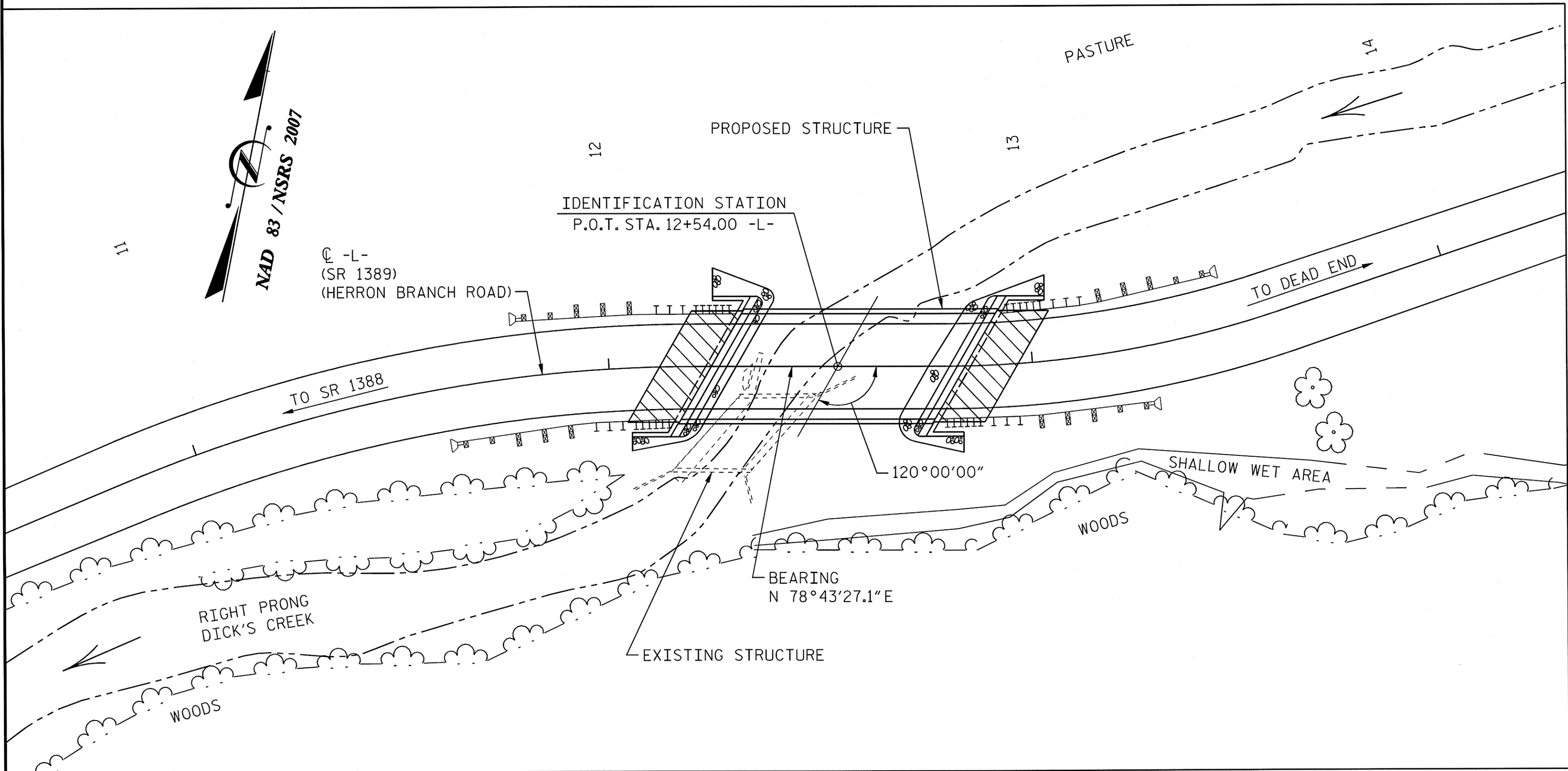
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
FOR BRIDGE ON SR 1389
OVER RIGHT PRONG DICK'S CREEK
BETWEEN SR 1388 & DEAD END ROAD
24'-10" CLEAR ROADWAY - 120° SKEW

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:

SHEET NO.
S-01
TOTAL
SHEETS

DRAWN BY : MTB DATE : 10/12
CHECKED BY : JCM DATE : 10/12

BENCH MARK: BM#1 - 8" SPIKE SET IN THE ROOT OF A 32" WHITE OAK TREE,
25.5761' RIGHT OF -L- STA. 10+00.21
(S 30°06'32.91" W DIST. = 104' -BL- STA. 5+00 NEAREST FT.)
ELEV. 2226.04', NAVD 1988



LOCATION SKETCH

NOTES:

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR SEISMIC PERFORMANCE ZONE 1.

AFTER SERVING AS TEMPORARY STRUCTURE, THE EXISTING STRUCTURE CONSISTING OF 1 @ 18'-6" SPAN, 17'± CLEAR ROADWAY WIDTH, TIMBER FLOOR ON TIMBER JOIST, ON TIMBER CAPS W/ TIMBER POSTS AND SILLS AND LOCATED AT EXISTING CROSSING FOR PROPOSED STRUCTURE, SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMITATION MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED 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 401-2 OF THE STANDARD SPECIFICATIONS.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 25 FT± EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

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 COSTS INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

STEEL SHEET PILING REQUIRED FOR SHORING SHALL BE HOT ROLLED.

FOR LIMITS OF TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS. FOR PAY ITEM FOR TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE ROADWAY PLANS.

NO KNOWN UTILITY CONFLICTS.

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

PILES AT END BENT NO.1 AND END BENT NO.2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 85 TONS PER PILE.

DRIVE PILES AT END BENT NO.1 AND END BENT NO.2 TO A REQUIRED DRIVING RESISTANCE OF 145 TONS PER PILE.

PREDRILLING FOR PILES IS REQUIRED AT END BENT NO.1. PREDRILL PILE LOCATIONS TO EL. 2220.0 FT. WITH EQUIPMENT THAT WILL RESULT IN A MAXIMUM PREDRILLING DIAMETER OF 12 INCHES. FOR PREDRILLING FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

PREDRILLING FOR PILES IS REQUIRED AT END BENT NO.2. PREDRILL PILE LOCATIONS TO EL. 2223.0 FT. WITH EQUIPMENT THAT WILL RESULT IN A MAXIMUM PREDRILLING DIAMETER OF 12 INCHES. FOR PREDRILLING FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

STEEL H-PILE POINTS ARE REQUIRED FOR ALL STEEL H-PILES AT END BENT NO.1 AND END BENT NO.2. FOR STEEL PILE POINTS, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

FOR PILE DRIVING CRITERIA, SEE SPECIAL PROVISIONS.

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

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

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

DECK DRAINS SHALL BE ALLOWED.

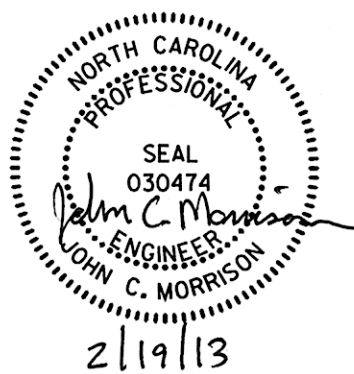
FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

PROJECT NO. 17BP.14.R.52

JACKSON COUNTY

STATION: 12+54.00 -L-

SHEET 2 OF 2 REPLACES BRIDGE NO. 251



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE ON SR 1389
OVER RIGHT PRONG DICK'S CREEK
BETWEEN SR 1388 & DEAD END ROAD
24'-10" CLEAR ROADWAY - 120° SKEW

REVISIONS						SHEET NO. S-02 TOTAL SHEETS
NO.	BY:	DATE:	NO.	BY:	DATE:	

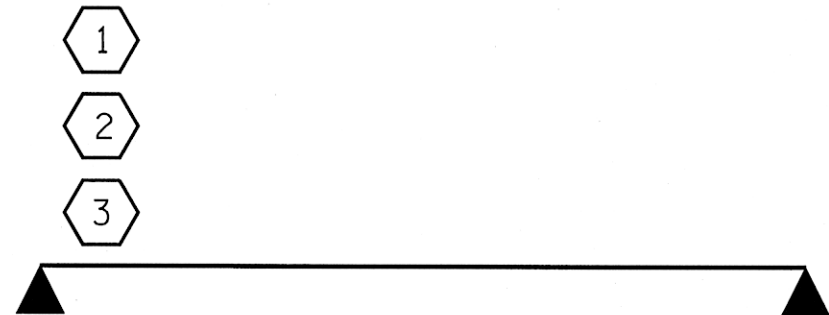
TOTAL BILL OF MATERIAL																
	REMOVAL OF EXISTING STRUCTURE	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	3'-0" x 2'-0" PRESTRESSED CONCRETE CORED SLAB UNITS		HP 12x53 STEEL PILES		PREDRILLING FOR PILES	STEEL PILE POINTS	ONE BAR METAL RAIL	1'-0" x 1'-11 ¹ / ₄ " CONCRETE PARAPET	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS
	LUMP SUM	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	NO.	LIN. FT.	NO.	LIN. FT.	LIN. FT.	EACH	LIN. FT.	LIN. FT.	TONS	SQ. YD.	LUMP SUM
SUPERSTRUCTURE	LUMP SUM	—	—	LUMP SUM	—	9	540	—	—		—	104.15	120	—	—	LUMP SUM
END BENT No.1	—	LUMP SUM	21.1	—	2605	—	—	6	96	60	6	—	—	31	34	—
END BENT No.2	—	LUMP SUM	21.1	—	2605	—	—	6	96	60	6	—	—	38	42	—
TOTAL	LUMP SUM	LUMP SUM	42.2	LUMP SUM	5210	9	540	12	192	120	12	104.15	120	69	76	LUMP SUM

DRAWN BY : MTB DATE : 02/13
CHECKED BY : JCM DATE : 02/13

DATE: 2/14/2013
TIME: 10:47:53 AM

USER: BEUSEM
D016: G:\620238712\400-Teel\Info_Disc_Files\450-NCDOT\Std\Tech\DefFiles\BRC_25\Structures\B251\Trl_24ka_casyp.dgn

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	1.133	--	1.75	0.249	1.48	60'	EL	29.423	0.649	1.13	60'	EL	5.885	0.80	0.249	1.52	60'	EL	29.423		
		HL-93(0pr)	N/A	--	1.468	--	1.35	0.249	1.91	60'	EL	29.423	0.649	1.47	60'	EL	5.885	N/A	--	--	--	--	--		
		HS-20(Inv)	36.000	2	1.364	49.098	1.75	0.249	1.87	60'	EL	29.423	0.649	1.36	60'	EL	5.885	0.80	0.249	1.92	60'	EL	29.423		
		HS-20(0pr)	36.000	--	1.768	63.645	1.35	0.249	2.42	60'	EL	29.423	0.649	1.77	60'	EL	5.885	N/A	--	--	--	--	--		
LEGAL LOAD RATING		SV	SNSH	13.500	--	3.938	53.159	1.4	0.249	5.03	60'	EL	29.423	0.649	3.94	60'	EL	5.885	0.80	0.249	4.13	60'	EL	29.423	
			SNGARBS2	20.000	--	2.837	56.744	1.4	0.249	3.85	60'	EL	29.423	0.649	2.84	60'	EL	5.885	0.80	0.249	3.17	60'	EL	29.423	
			SNAGRIS2	22.000	--	2.648	58.256	1.4	0.249	3.69	60'	EL	29.423	0.649	2.65	60'	EL	5.885	0.80	0.249	3.03	60'	EL	29.423	
			SNCOTTS3	27.250	--	1.97	53.671	1.4	0.249	2.5	60'	EL	29.423	0.649	1.97	60'	EL	5.885	0.80	0.249	2.06	60'	EL	29.423	
			SNAGGRS4	34.925	--	1.661	58.001	1.4	0.249	2.13	60'	EL	29.423	0.649	1.66	60'	EL	5.885	0.80	0.249	1.75	60'	EL	29.423	
			SNS5A	35.550	--	1.696	60.293	1.4	0.249	2.08	60'	EL	29.423	0.649	1.7	60'	EL	5.885	0.80	0.249	1.71	60'	EL	29.423	
			SNS6A	39.950	--	1.558	62.257	1.4	0.249	1.93	60'	EL	29.423	0.649	1.56	60'	EL	5.885	0.80	0.249	1.58	60'	EL	29.423	
			SNS7B	42.000	--	1.51	63.41	1.4	0.249	1.84	60'	EL	29.423	0.649	1.55	60'	EL	5.885	0.80	0.249	1.51	60'	EL	29.423	
		TTST	TNAGRIT3	33.000	--	1.846	60.907	1.4	0.249	2.36	60'	EL	29.423	0.649	1.85	60'	EL	5.885	0.80	0.249	1.94	60'	EL	29.423	
			TNT4A	33.075	--	1.787	59.108	1.4	0.249	2.37	60'	EL	29.423	0.649	1.79	60'	EL	5.885	0.80	0.249	1.95	60'	EL	29.423	
			TNT6A	41.600	--	1.607	66.863	1.4	0.249	1.96	60'	EL	29.423	0.649	1.67	60'	EL	5.885	0.80	0.249	1.61	60'	EL	29.423	
			TNT7A	42.000	--	1.598	67.1	1.4	0.249	1.97	60'	EL	29.423	0.649	1.6	60'	EL	5.885	0.80	0.249	1.62	60'	EL	29.423	
			TNT7B	42.000	--	1.499	62.942	1.4	0.249	2.06	60'	EL	29.423	0.649	1.5	60'	EL	5.885	0.80	0.249	1.69	60'	EL	29.423	
			TNAGRIT4	43.000	--	1.447	62.223	1.4	0.249	1.95	60'	EL	29.423	0.649	1.45	60'	EL	5.885	0.80	0.249	1.60	60'	EL	29.423	
			TNAGT5A	45.000	--	1.455	65.474	1.4	0.249	1.83	60'	EL	29.423	0.649	1.45	60'	EL	5.885	0.80	0.249	1.50	60'	EL	29.423	
			TNAGT5B	45.000	3	1.374	61.845	1.4	0.249	1.8	60'	EL	29.423	0.649	1.37	60'	EL	5.885	0.80	0.249	1.48	60'	EL	29.423	



LRFR SUMMARY
FOR SPAN 'A'

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.

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.14.R.52
JACKSON COUNTY
STATION: 12+54.00 -L-

AECOM
AECOM TECHNICAL SERVICES, INC.
701 CORPORATE CENTER DRIVE, SUITE 475
RALEIGH, NC 27607
(919) 864-6200
www.aecom.com
AECOM License No. F-0342

NORTH CAROLINA
PROFESSIONAL
SEAL
030474
J. C. MORRISON
CIVIL ENGINEER
2/19/13

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
LRFR SUMMARY FOR
60' CORED SLAB UNIT
60° SKEW & 120° SKEW
(NON-INTERSTATE TRAFFIC)

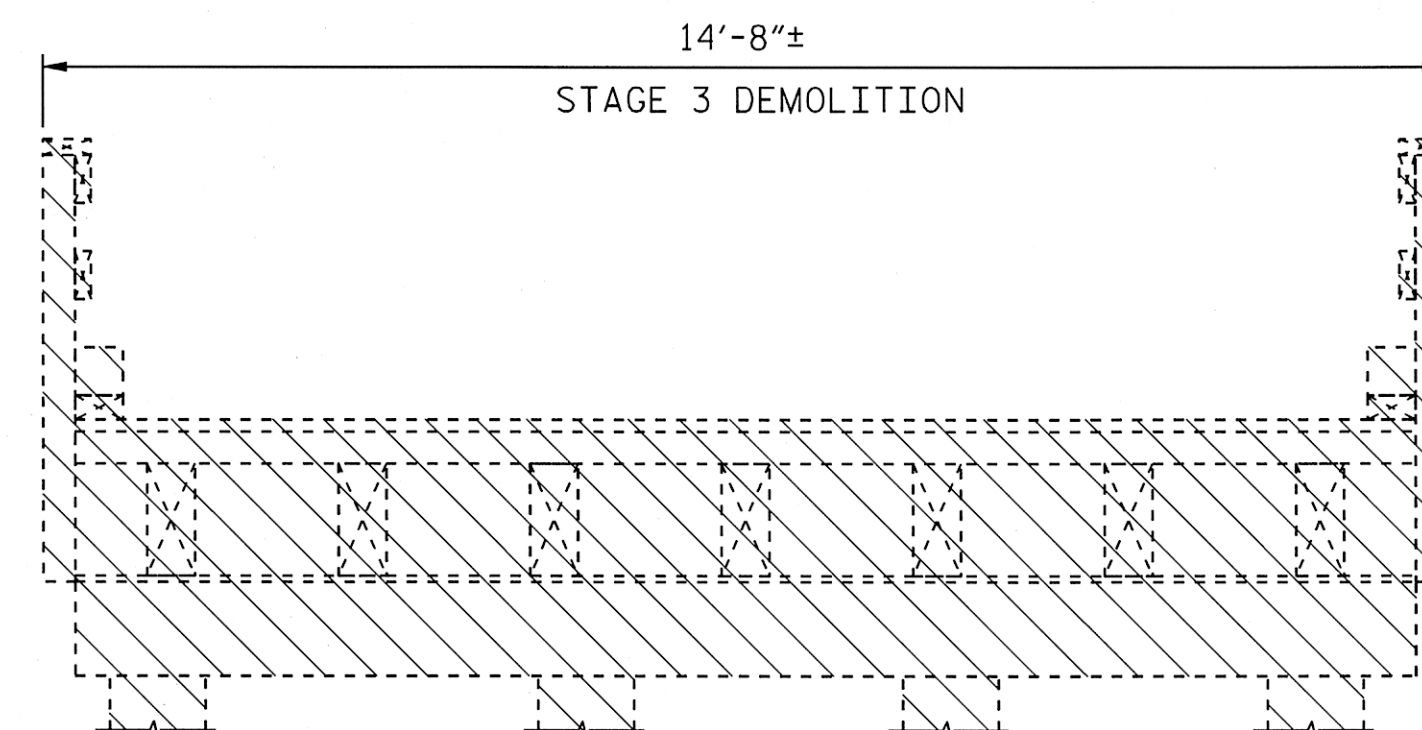
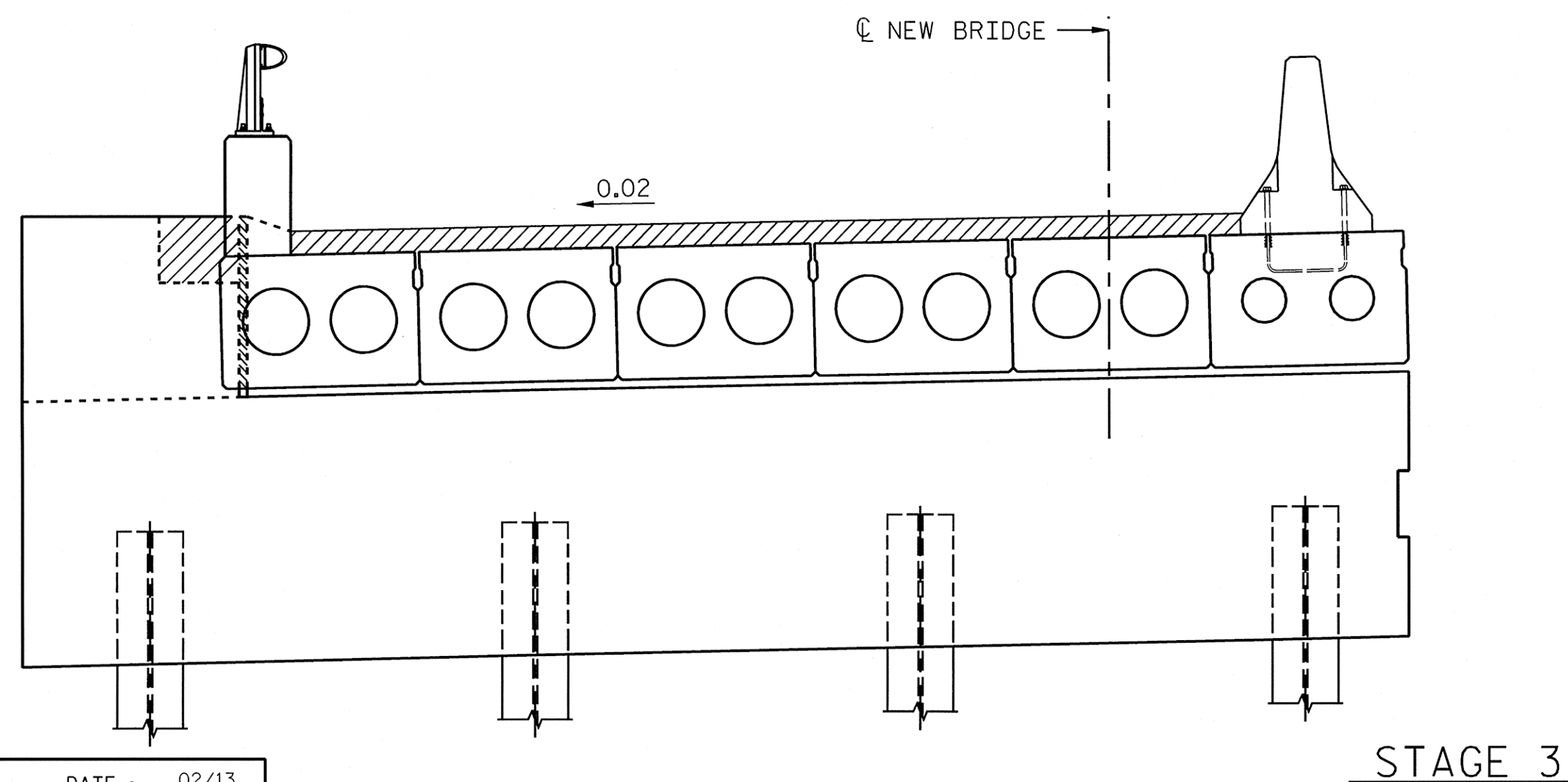
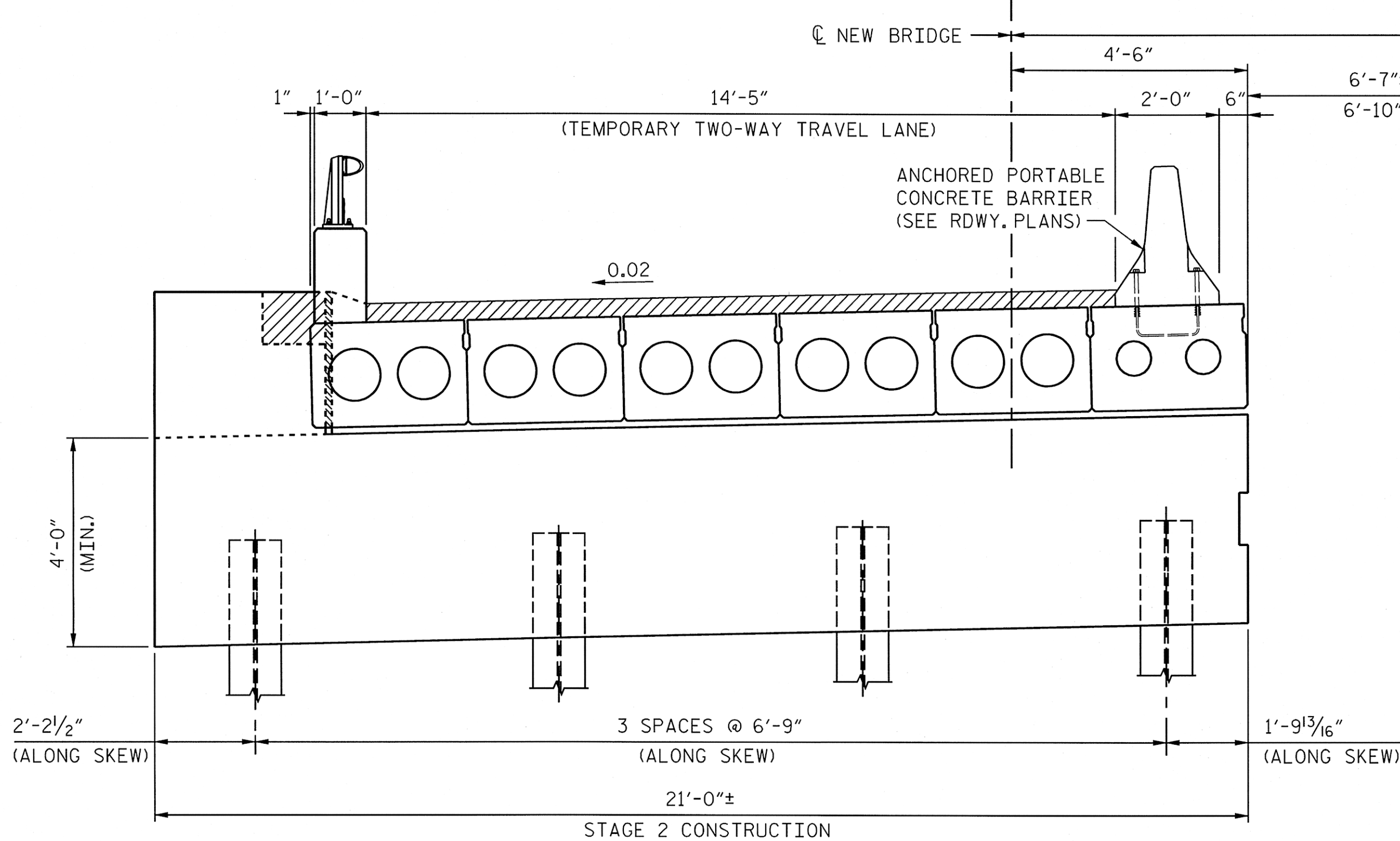
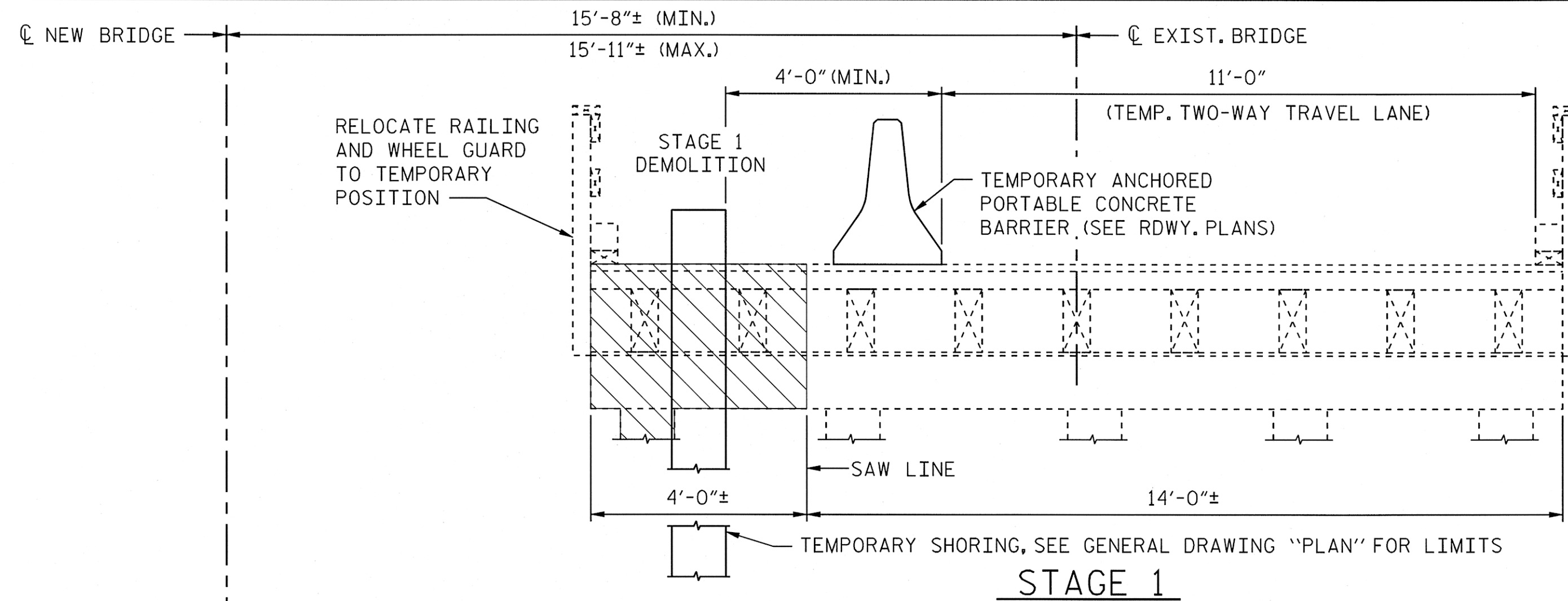
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NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO.
S-03
TOTAL SHEETS

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CHECKED BY :	JCM	DATE :	10/12
DRAWN BY :	CVC	6/10	
CHECKED BY :	DNS	6/10	

DATE: 2/14/2013
TIME: 10:49:57 AM

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D001: C:\60258772\400_Tech\Info_Disc_Files\60258772\400_Tech\Structures\B251_Pressed\Jgn



NOTES:

FOR STAGE 1, USE SHORT-TERM 11'-0" TEMPORARY LANE OR SHORT/OVERNIGHT CLOSURE TO CUT AND REMOVE DECK AND RELOCATE EXISTING RAILING.

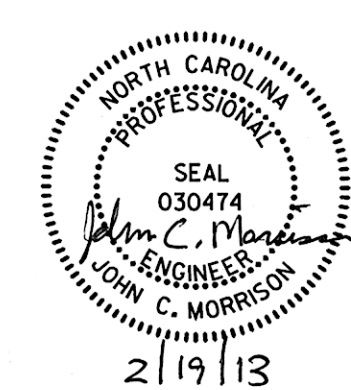
IF EXISTING PILE OR POST PLACEMENT CONFLICTS WITH SAW LINE, REMOVE DECK, BEAMS AND BEARING STRIP, BUT LEAVE POST AND CAPS IN PLACE UNTIL STAGE 3.

DIMENSIONS ARE NORMAL TO CL BRIDGE UNLESS OTHERWISE NOTED.

PROJECT NO. 17BP.14.R.52
JACKSON COUNTY
STATION: 12+54.00 -L-

SHEET 1 OF 2

AECOM
AECOM TECHNICAL SERVICES, INC.
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

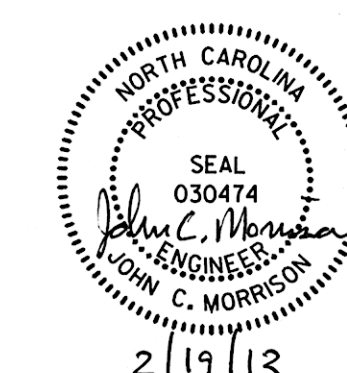
BRIDGE CONSTRUCTION
STAGING FOR MAINTENANCE
OF TRAFFIC

REVISIONS						SHEET NO. S-04
NO.	BY:	DATE:	NO.	BY:	DATE:	
						TOTAL SHEETS

DRAWN BY : MTB DATE : 02/13
CHECKED BY : JCM DATE : 02/13



SHEET 2 OF 2



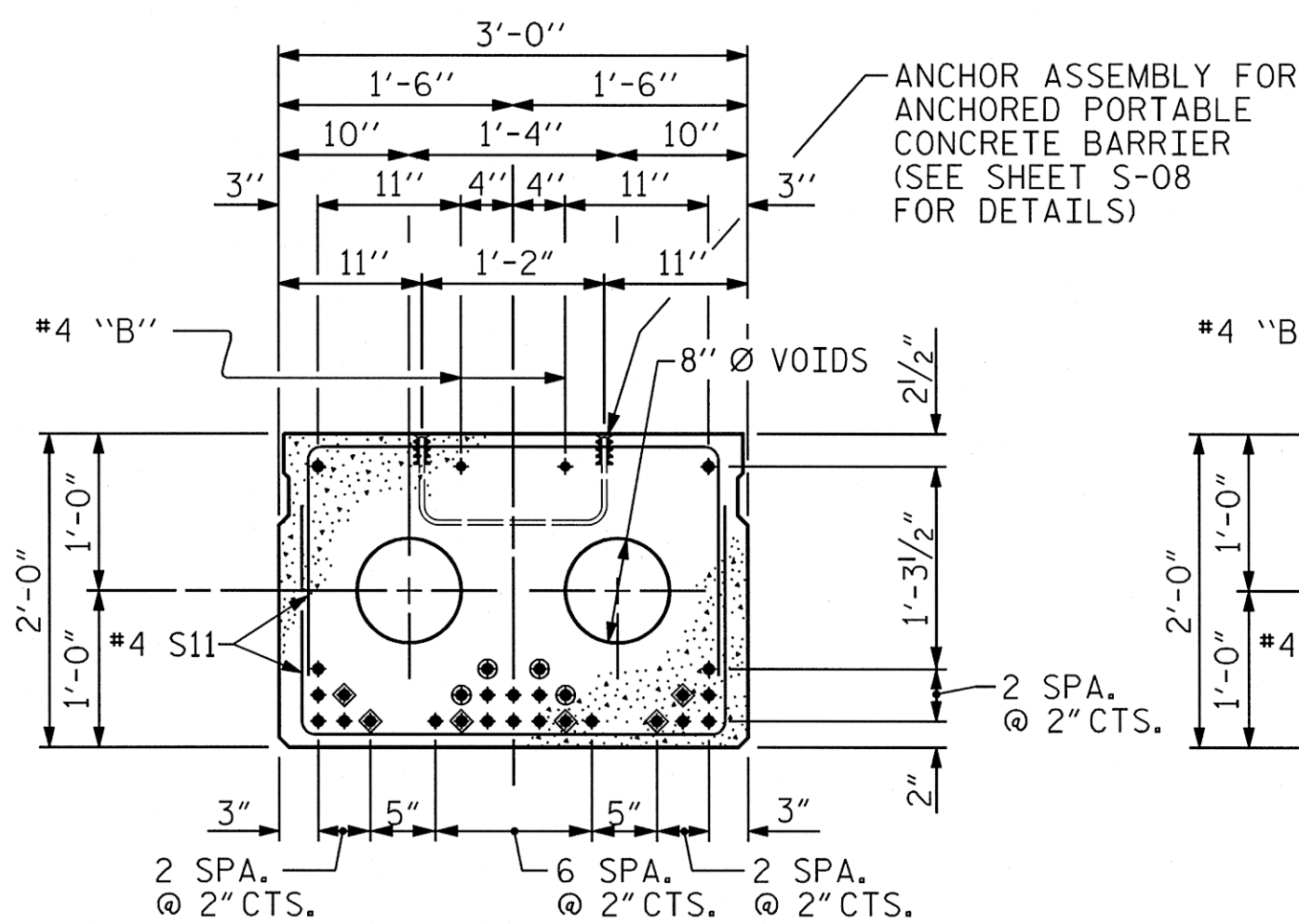
BRIDGE CONSTRUCTION
STAGING FOR MAINTENANCE
OF TRAFFIC

REVISIONS						SHEET NO. S-05
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						TOTAL SHEETS

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CHECKED BY : JCM DATE : 02/13

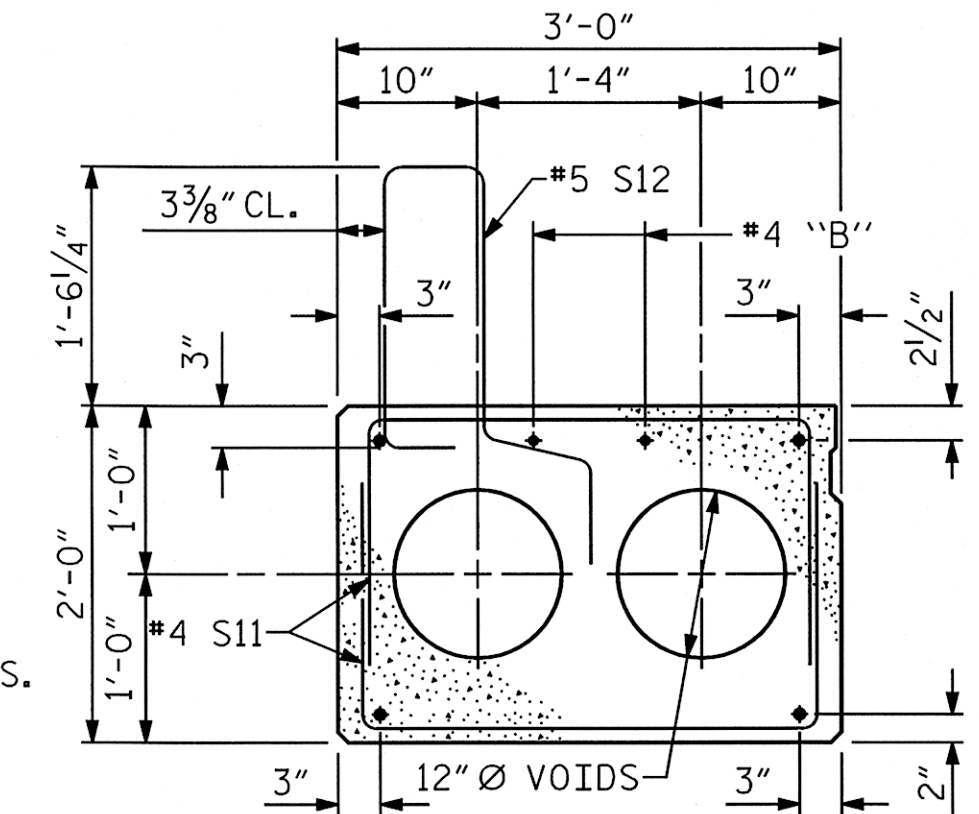
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Technical drawing of a square concrete slab with two circular voids. The drawing shows dimensions for the overall slab (3'-0" x 3'-0"), the voids (12" diameter), and the reinforcement layout. Reinforcement includes #4 bars at the top and bottom, #4 S11 bars around the perimeter, and #6 bars in the center. There are also 2 SPA bars at 2" CTS. and 6 SPA bars at 2" CTS. The drawing also indicates 12" diameter voids and 2 SPA bars at 2" CTS. The drawing is labeled 'S.' on the left and '2 SPA. @ 2" CTS.' on the right.

INTERIOR SLAB SECTION
(24 STRANDS REQUIRED)



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

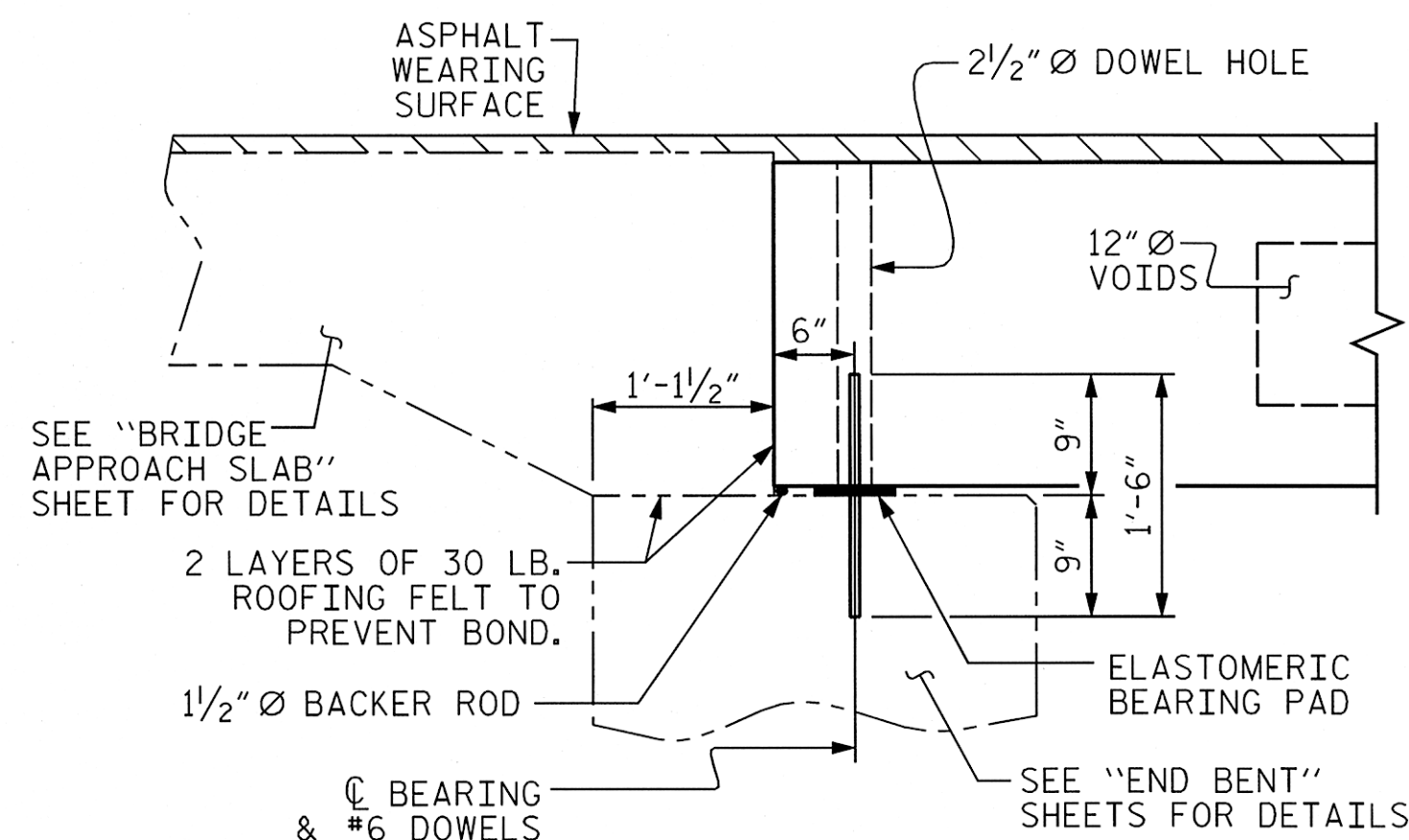
HALF SECTION
AT INTERMEDIATE DIAPHRAGMS

TYPICAL SECTION

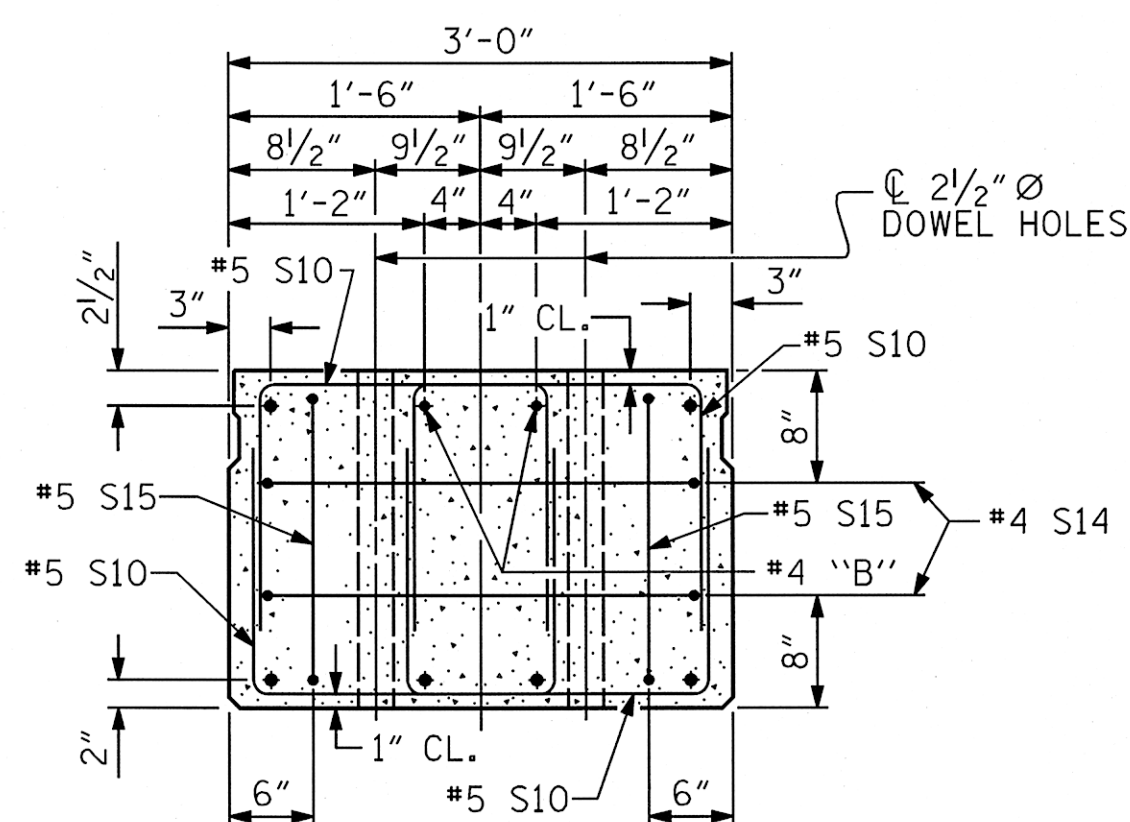
HALF SECTION
THROUGH VOIDS

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

FIXED END

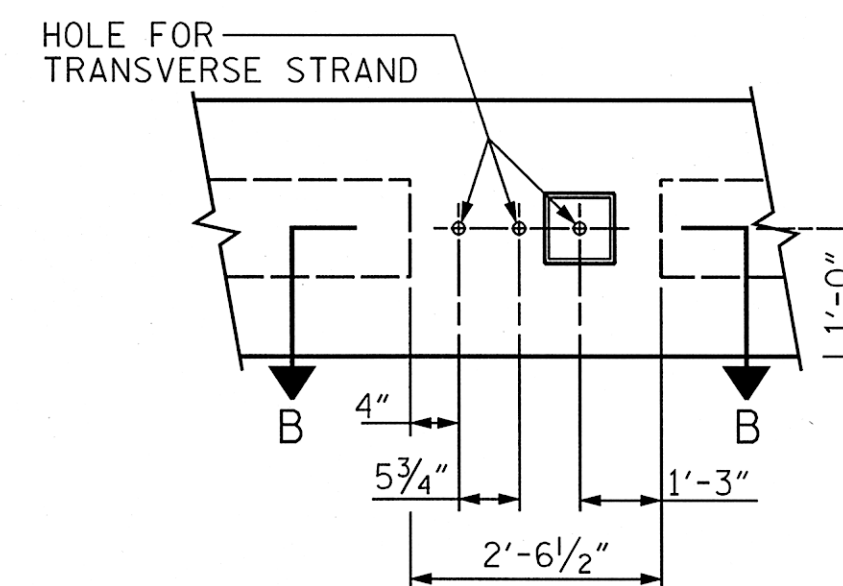


SECTION AT END BENT



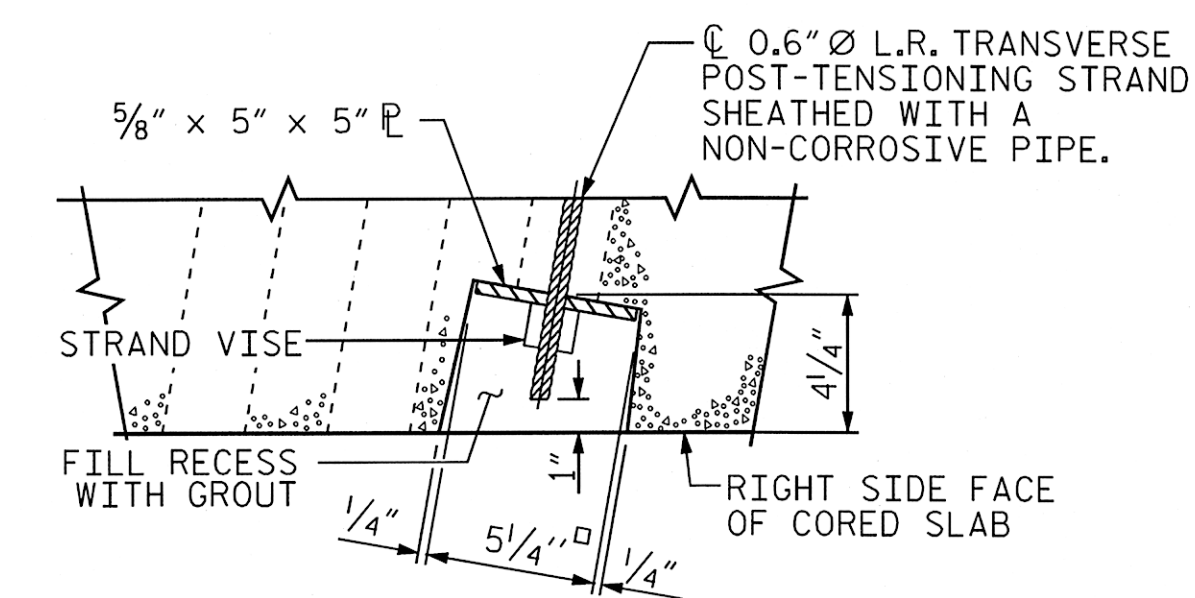
END ELEVATION

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.

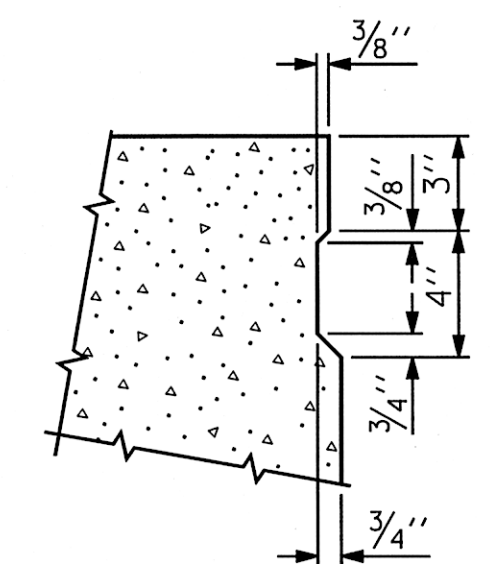


ELEVATION VIEW

CORED SLAB UNIT #6

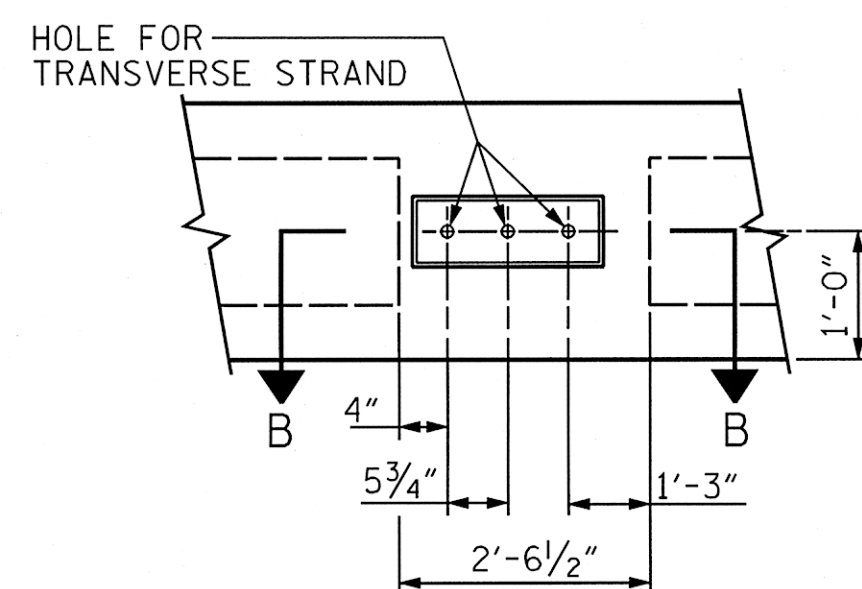


SECTION B-B

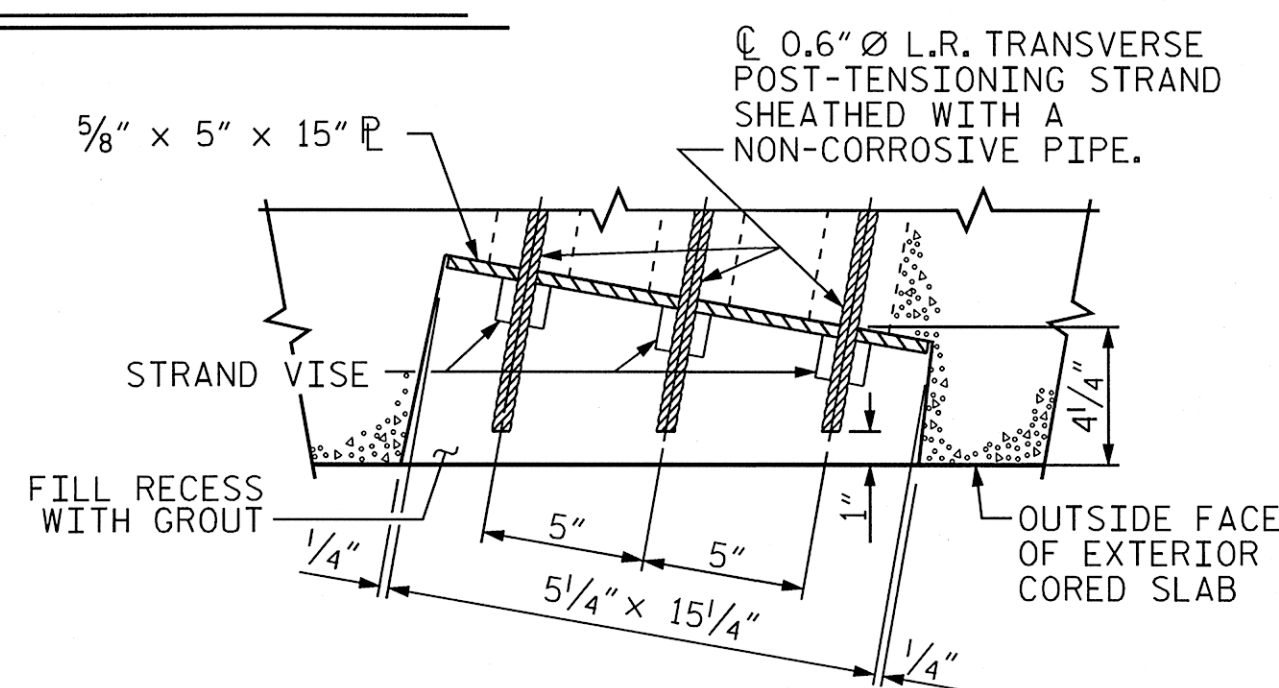


SHEAR KEY DETAIL

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

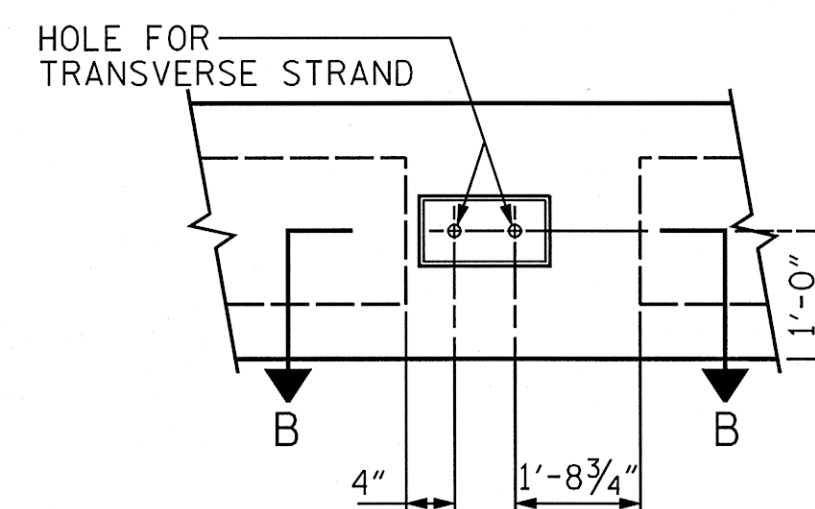


ELEVATION VIEW



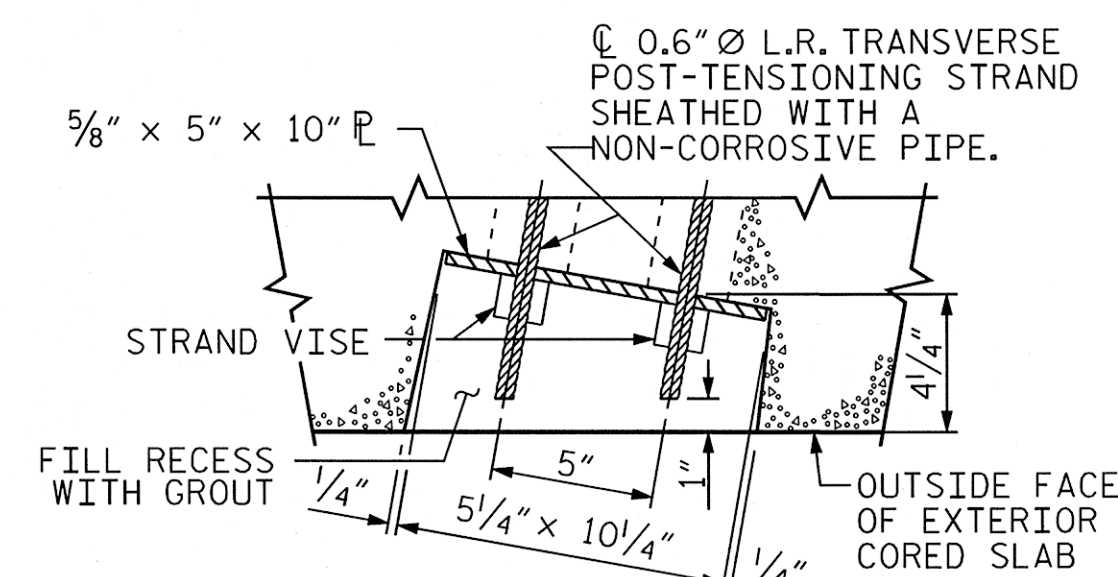
SECTION B-B

CORED SLAB UNIT #1



ELEVATION VIEW

CORED SLAB UNIT #9



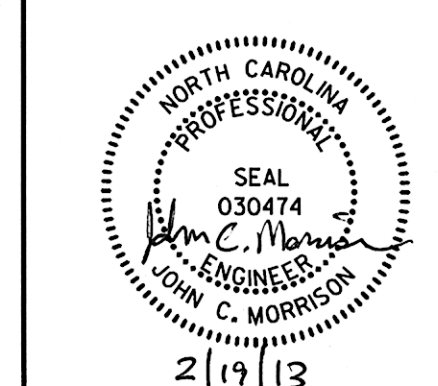
SECTION B-B

PROJECT NO. 17BP.14.R.52

JACKSON COUNTY

STATION: 12+54.00 -L-

SHEET 1 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

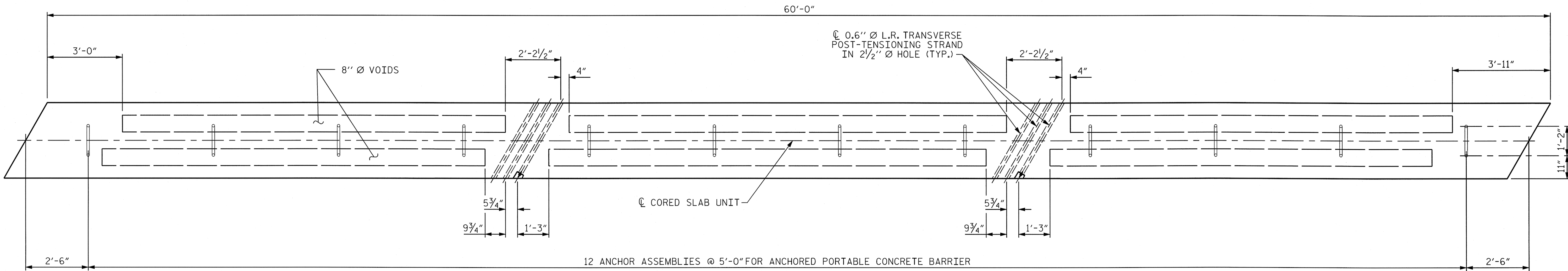
3'-0" X 2'-0"
PRESTRESSED CONCRETE
CORED SLAB UNIT

REVISIONS						SHEET NO. S-06
NO.	BY:	DATE:	NO.	BY:	DATE:	
						TOTAL SHEETS

DRAWN BY : MTB DATE : 02/13
CHECKED BY : JCM DATE : 02/13

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

DATE: 2/14/2013
TIME: 10:59:00 AM
USER: BEJUSLEW
D:\2012\38712\400_1\Tech_Info_Disc_1\Files\450_MCDOT\Struct\TechDraws\25\Structures\6251_SpanAnchor.dgn



PLAN OF CORED SLAB UNIT #6
(SHOWING LOCATION OF ANCHOR ASSEMBLIES)

ANCHOR ASSEMBLY NOTES:

THE ANCHOR ASSEMBLY FOR PORTABLE CONCRETE BARRIER SHALL CONSIST OF THE FOLLOWING COMPONENTS:

- A. FERRULES SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF AASHTO M169, GRADE 12L14 AND SHALL HAVE A MINIMUM LENGTH OF THREADS OF 2 1/2".
- B. 2- 7/8" Ø x 1'-0" ANCHOR BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. ANCHOR BOLTS SHALL BE GALVANIZED. AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS MAY BE USED AS AN ALTERNATE FOR THE 7/8" Ø x 1'-0" GALVANIZED BOLTS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.
- C. WIRE STRUTS SHOWN IN THE ANCHOR ASSEMBLY DETAIL ARE MINIMUM ALLOWABLE SIZE AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 100,000 P.S.I.

ANCHOR ASSEMBLY WITH BOLTS SHALL ASSEMBLED IN THE SHOP. BOLT THREADS MAY BE RECUT AS NECESSARY TO INSURE FIT.

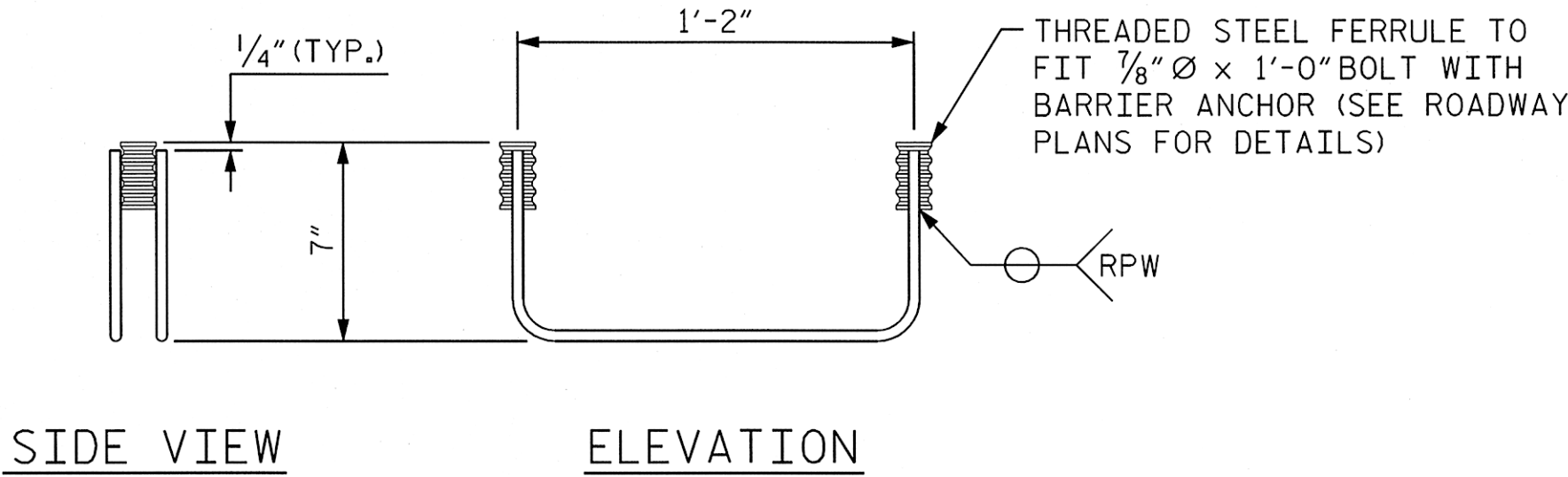
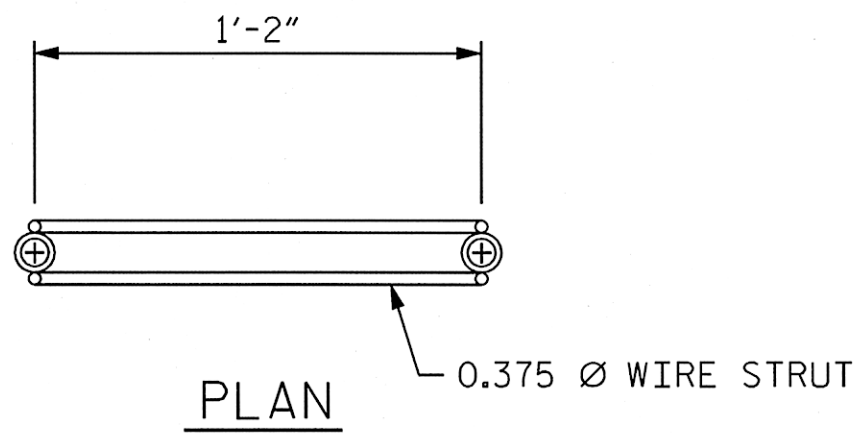
THE COST OF THE ANCHOR ASSEMBLY COMPLETE IN PLACE, SHALL BE INCLUDED, AS APPLICABLE, IN THE UNIT CONTRACT PRICE BID FOR 3'-0" x 2'-0" PRESTRESSED CONCRETE CORED SLAB OR LUMP SUM FOR THE APPROACH SLABS.

FERRULES TO BE PLUGGED DURING CASTING OF THE CORED SLAB UNITS OR POURING OF THE APPROACH SLABS AS RECOMMENDED BY THE MANUFACTURER.

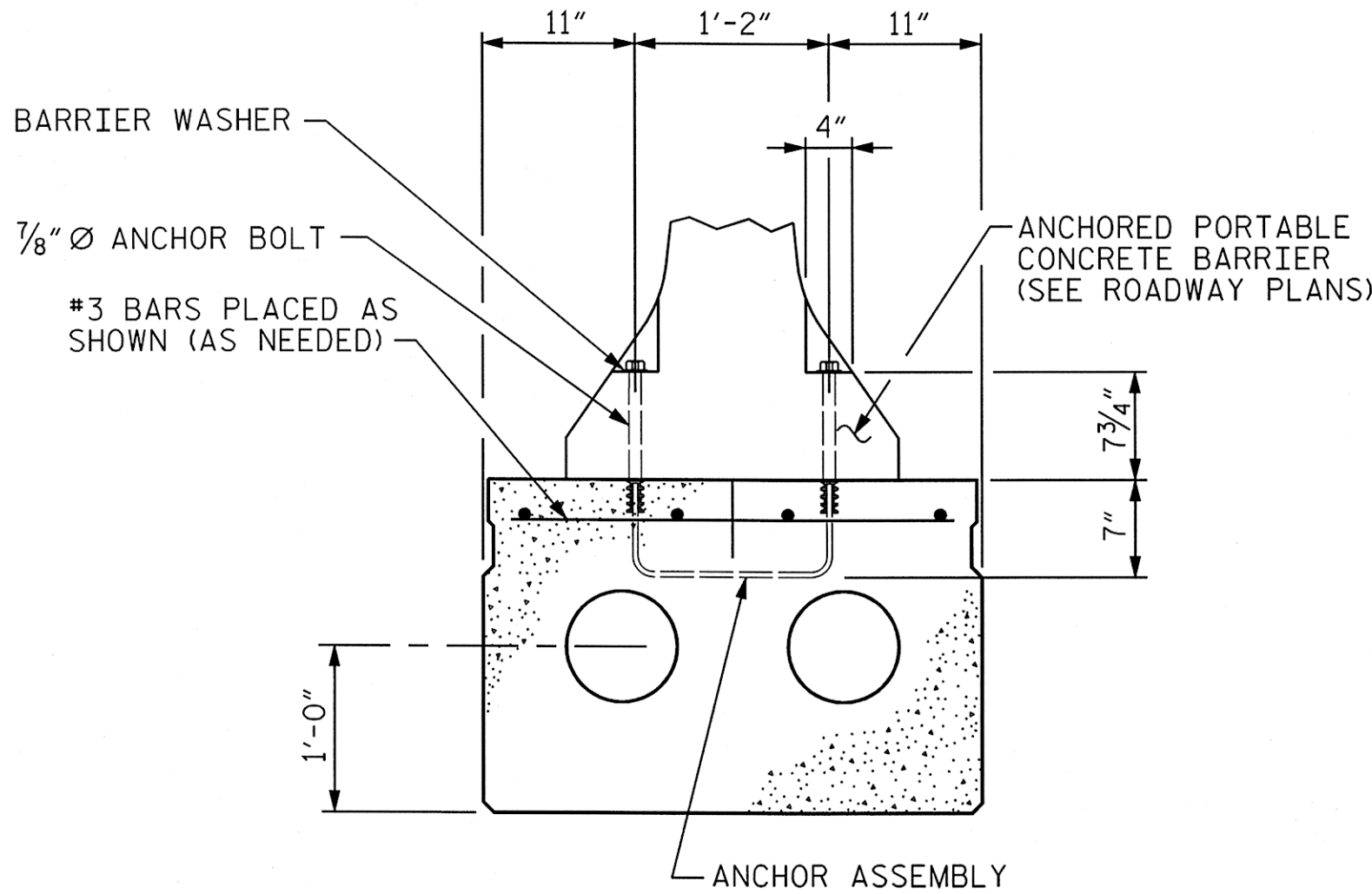
AT THE CONTRACTOR'S OPTION, FERRULES WITH OPEN OR CLOSED ENDS MAY BE USED.

FOR 4" x 3 1/2" x 1/2" BARRIER WASHER TO BE USED WITH THE ANCHOR ASSEMBLY, SEE ROADWAY PLANS.

PAYMENT FOR THE ANCHORED PORTABLE CONCRETE BARRIER AND BARRIER WASHER ARE INCLUDED IN THE TRAFFIC CONTROL PLANS.



ANCHOR ASSEMBLY FOR
ANCHORED PORTABLE CONCRETE BARRIER
(12 ASSEMBLIES REQUIRED IN CORED SLAB UNIT #6)
(4 ASSEMBLIES REQUIRED IN APPROACH SLABS)

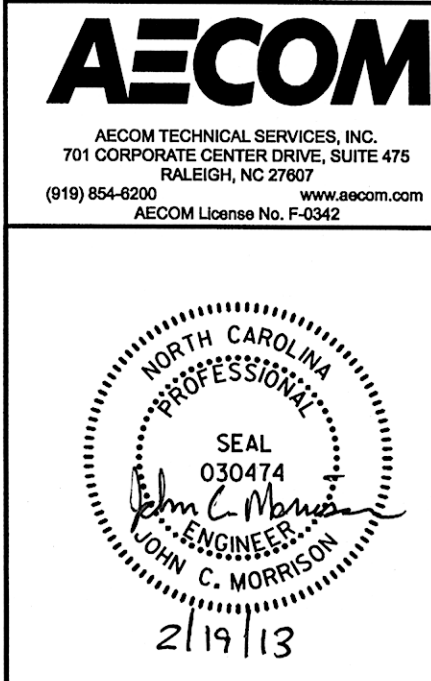


SECTION - CORED SLAB UNIT #6
(SHOWING PLACEMENT OF ANCHOR ASSEMBLY)

THE #3 BARS ARE INCIDENTAL AND THEIR COST SHALL BE INCLUDED IN THE PRICE BID FOR THE PRESTRESSED CONCRETE CORED SLAB

PROJECT NO. 17BP.14.R.52
JACKSON COUNTY
STATION: 12+54.00 -L-

SHEET 3 OF 4



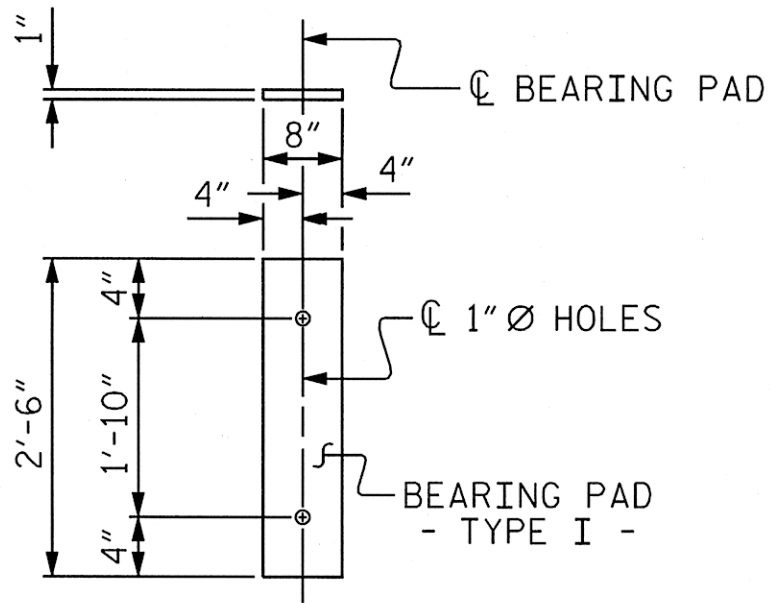
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

3'-0" X 2'-0"
PRESTRESSED CONCRETE
CORED SLAB UNIT
120° SKEW

REVISIONS						SHEET NO. S-08
NO.	BY:	DATE:	NO.	BY:	DATE:	
						TOTAL SHEETS

DATE: 2/14/2013
TIME: 11:00:39 AM

USER: BEJUSLEM
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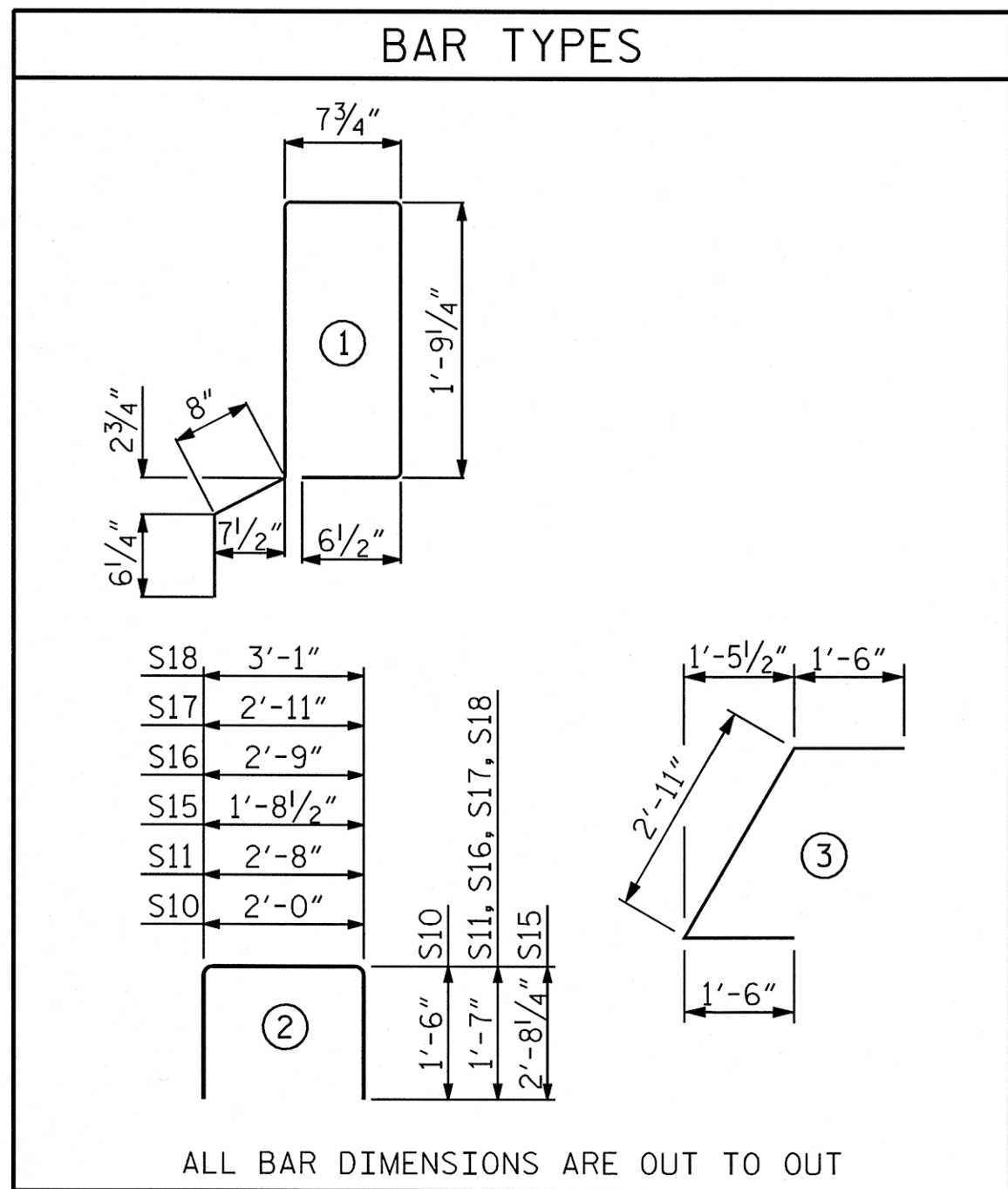
FIXED END
(TYPE I - 18 REQ'D)

ELASTOMERIC BEARING DETAILS

ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.

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

CORED SLABS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
60' UNIT			
EXTERIOR C.S.	2	60'-0"	120'-0"
INTERIOR C.S.	7	60'-0"	420'-0"
TOTAL	9	60'-0"	540'-0"



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 SIDWAYS. 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.

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.

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

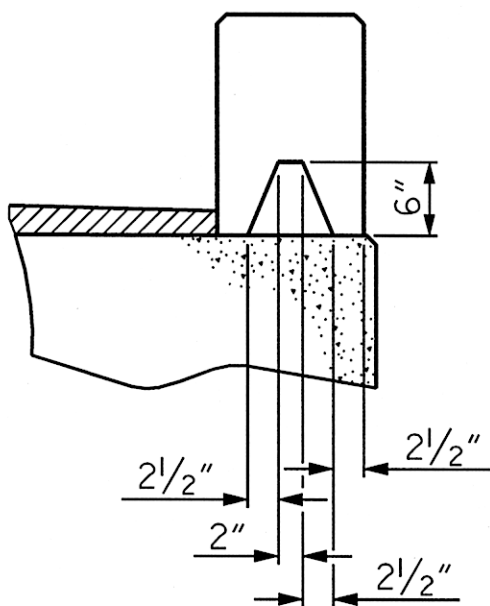
TRANSVERSE POST TENSIONING OF THE CORED SLAB UNITS SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

MAINTAIN A SYMMETRIC TENSION FORCE BETWEEN EACH PAIR OF TRANSVERSE POST TENSIONING STRANDS IN THE DIAPHRAGM.

THE #4 S11 STIRRUPS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO THE GROUTED RECESS.

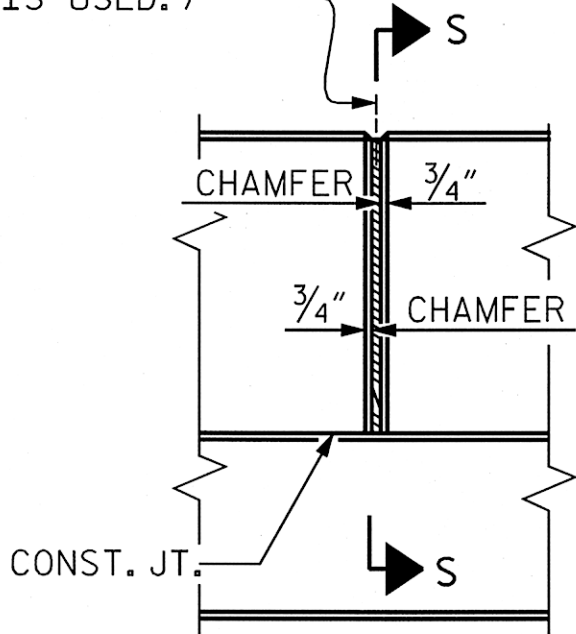
FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR BILL OF MATERIAL FOR CONCRETE PARAPET AND END POSTS, SEE "SUPERSTRUCTURE CONCRETE AND END POSTS DETAILS" SHEET.



SECTION S-S
AT DAM IN OPEN JOINT
(THIS IS TO BE USED ONLY
WHEN SLIP FORM IS USED)

CL 1/2" EXP. JT. MAT'L HELD IN
PLACE WITH GALVANIZED NAILS.
(NOTE: OMIT EXP. JT. MAT'L
WHEN SLIP FORM IS USED.)



ELEVATION AT EXPANSION JOINTS

CONCRETE PARAPET SECTION

BILL OF MATERIAL FOR ONE 60' CORED SLAB UNIT							
				EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B20	6	#4	STR	21'-2"	85	21'-2"	85
S10	8	#5	2	5'-0"	42	5'-0"	42
S11	146	#4	2	5'-10"	569	5'-10"	569
*S12	69	#5	1	5'-11"	426		
S14	4	#4	3	5'-11"	16	5'-11"	16
S15	4	#5	2	7'-1"	30	7'-1"	30
S16	4	#4	2	5'-11"	16	5'-11"	16
S17	4	#4	2	6'-1"	16	6'-1"	16
S18	4	#4	2	6'-3"	17	6'-3"	17
REINFORCING STEEL				LBS.	791	LBS.	791
* EPOXY COATED REINFORCING STEEL				LBS.	426		
6000 P.S.I. CONCRETE				CU. YDS.	10.7		10.7 *
0.6" Ø L.R. STRANDS				No.	24		24

* 15.4 CU. YDS. AT CORED SLAB UNIT #6 ONLY.

GUTTERLINE ASPHALT THICKNESS & RAIL HEIGHT		
27' SUPER ELEV	ASPHALT OVERLAY THICKNESS @ MID-SPAN	RAIL HEIGHT @ MID-SPAN
60' UNITS	2 3/8"	1'-8 3/8"
65' UNITS	2 3/8"	3'-8 5/8"
70' UNITS	1 3/4"	3'-8"

CONCRETE RELEASE STRENGTH	
UNIT	PSI
60' UNITS	4800
70' UNITS	5500

PROJECT NO. 17BP.14.R.52
JACKSON COUNTY
STATION: 12+54.00 -L-

SHEET 4 OF 4

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

3'-0" X 2'-0"
PRESTRESSED CONCRETE
CORED SLAB UNIT

REVISIONS						SHEET NO. S-09
NO.	BY:	DATE:	NO.	BY:	DATE:	
						TOTAL SHEETS

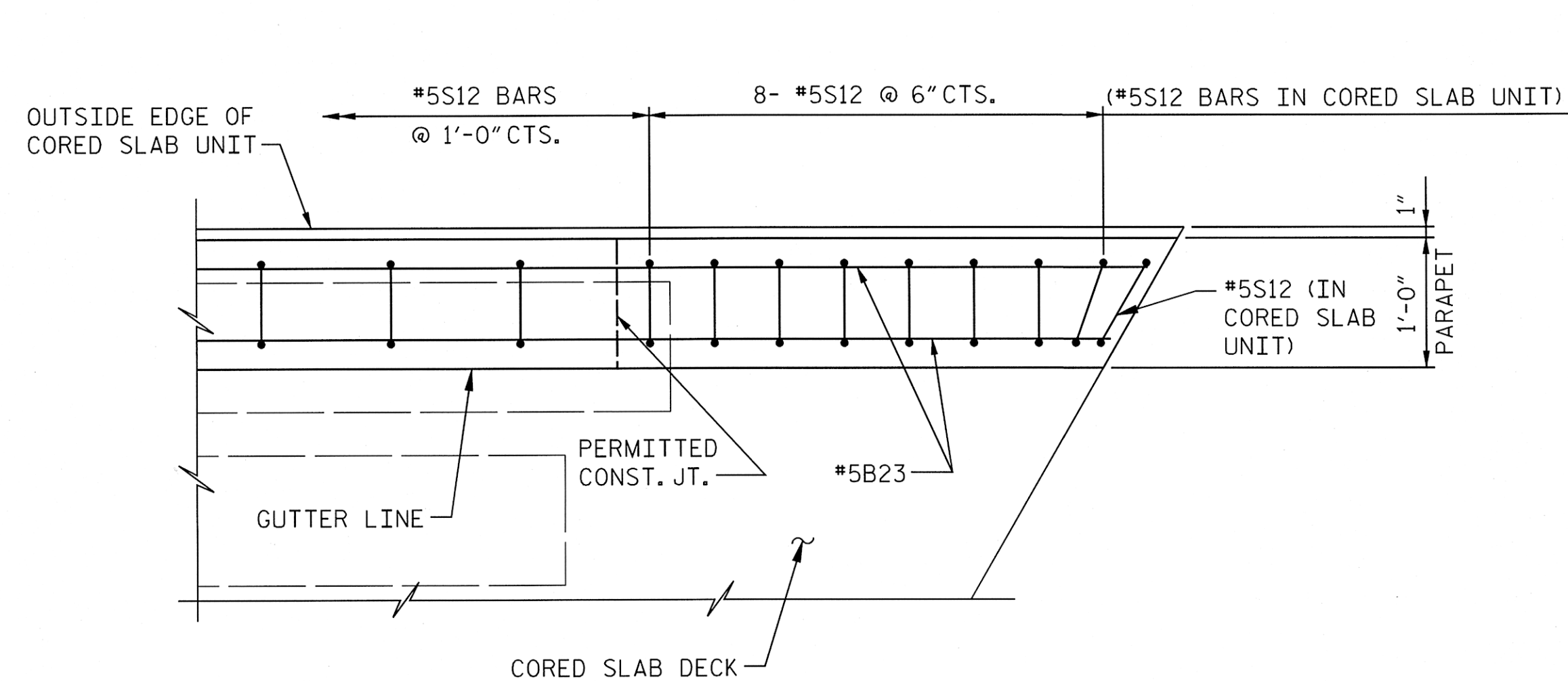
DRAWN BY : MTB DATE : 02/13
CHECKED BY : JCM DATE : 02/13

DEAD LOAD DEFLECTION AND CAMBER	
	3'-0" x 2'-0"
60' CORED SLAB UNIT	0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	3 3/8" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	1/2" ↓
FINAL CAMBER	2 7/8" ↑

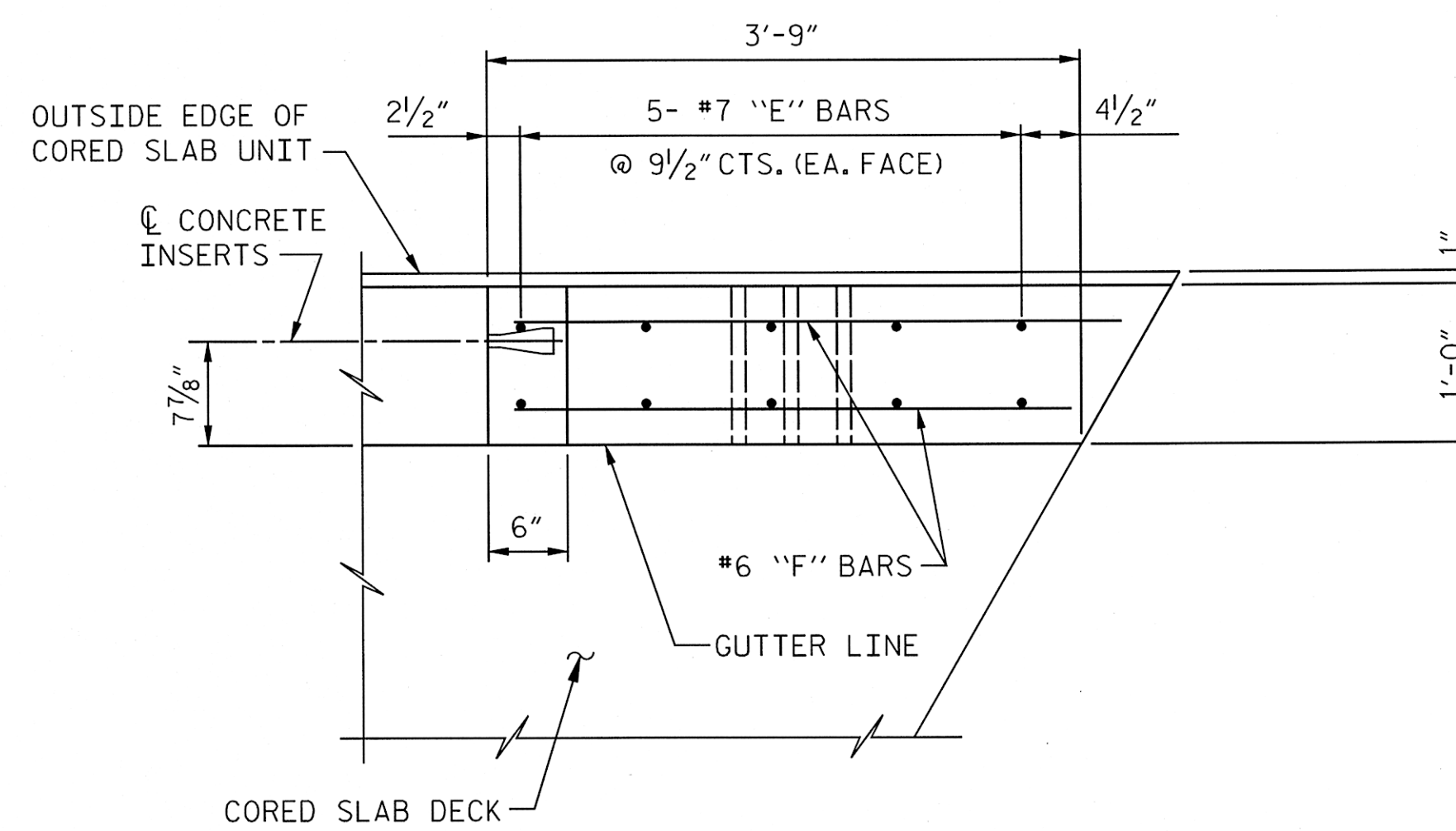
** INCLUDES FUTURE WEARING SURFACE

DATE: 2/14/2013
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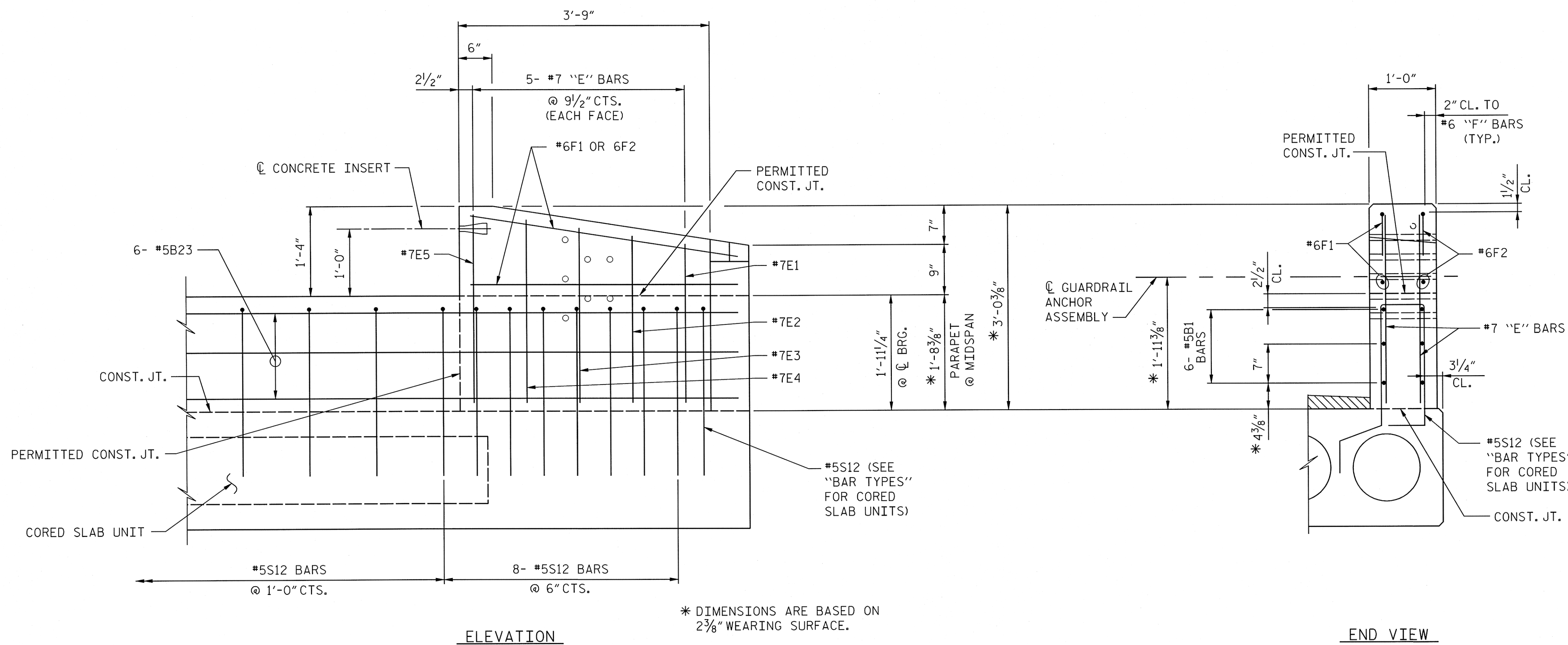
USER: B25131.EV
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PLAN OF PARAPET
(*7 "E" BARS NOT
SHOWN FOR CLARITY)



PLAN OF END POST



* DIMENSIONS ARE BASED ON
2 3/8" WEARING SURFACE.

ELEVATION

END VIEW

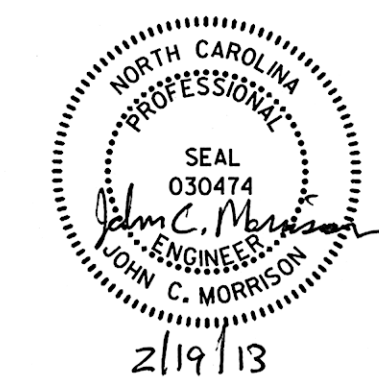
PARAPET AND END POST FOR ONE BAR RAIL

DRAWN BY : MTB DATE : 02/13
CHECKED BY : JCM DATE : 02/13

ONE BAR METAL RAIL					
BILL OF MATERIAL FOR TWO PARAPETS AND FOUR END POSTS					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B23	48	#5	STR	16'-11"	847
* E1	8	#7	STR	2'-4"	38
* E2	8	#7	STR	2'-5"	40
* E3	8	#7	STR	2'-6"	41
* E4	8	#7	STR	2'-8"	44
* E5	8	#7	STR	2'-9"	45
* F1	8	#6	STR	3'-6"	42
* F2	8	#6	STR	3'-10"	46
* EPOXY COATED REINFORCING STEEL					
				LBS.	1143
CLASS AA CONCRETE				C.Y.	9.2
CONCRETE PARAPET				L.F.	120.00

PROJECT NO. 17BP.14.R.52
JACKSON COUNTY
STATION: 12+54.00 -L-

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
CONCRETE PARAPET
AND END POST DETAILS

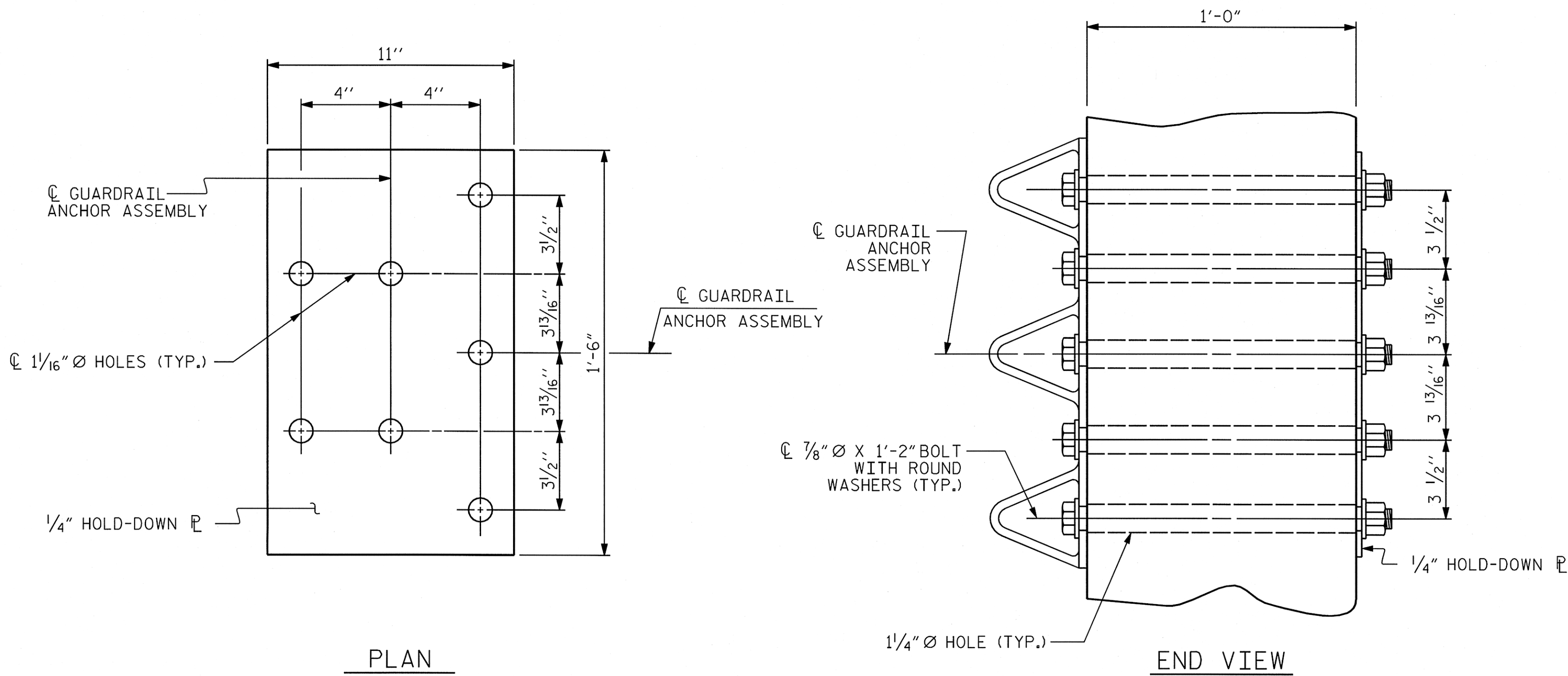
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NO.	BY:	DATE:	NO.	BY:	DATE:	
						TOTAL SHEETS



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TIME: 11:04:41 AM

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GUARDRAIL ANCHOR ASSEMBLY DETAILS

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.

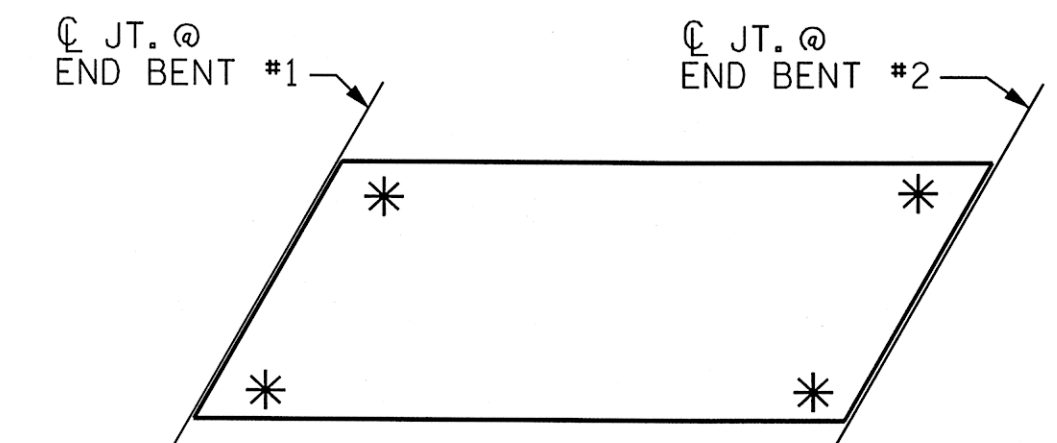
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF THE PARAPET. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLIES WITH BOLTS, NUTS AND WASHERS COMPLETE IN PLACE, SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.

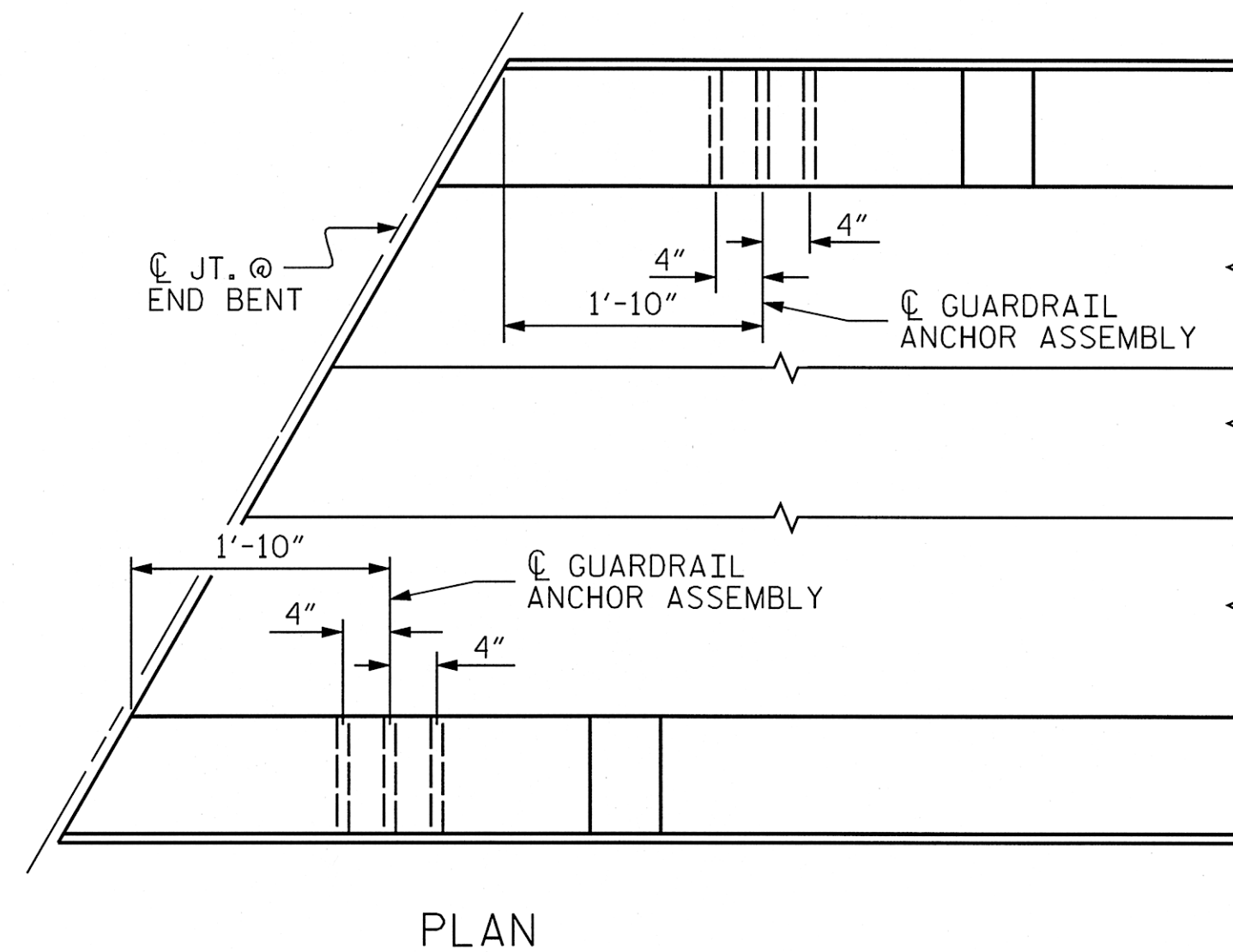
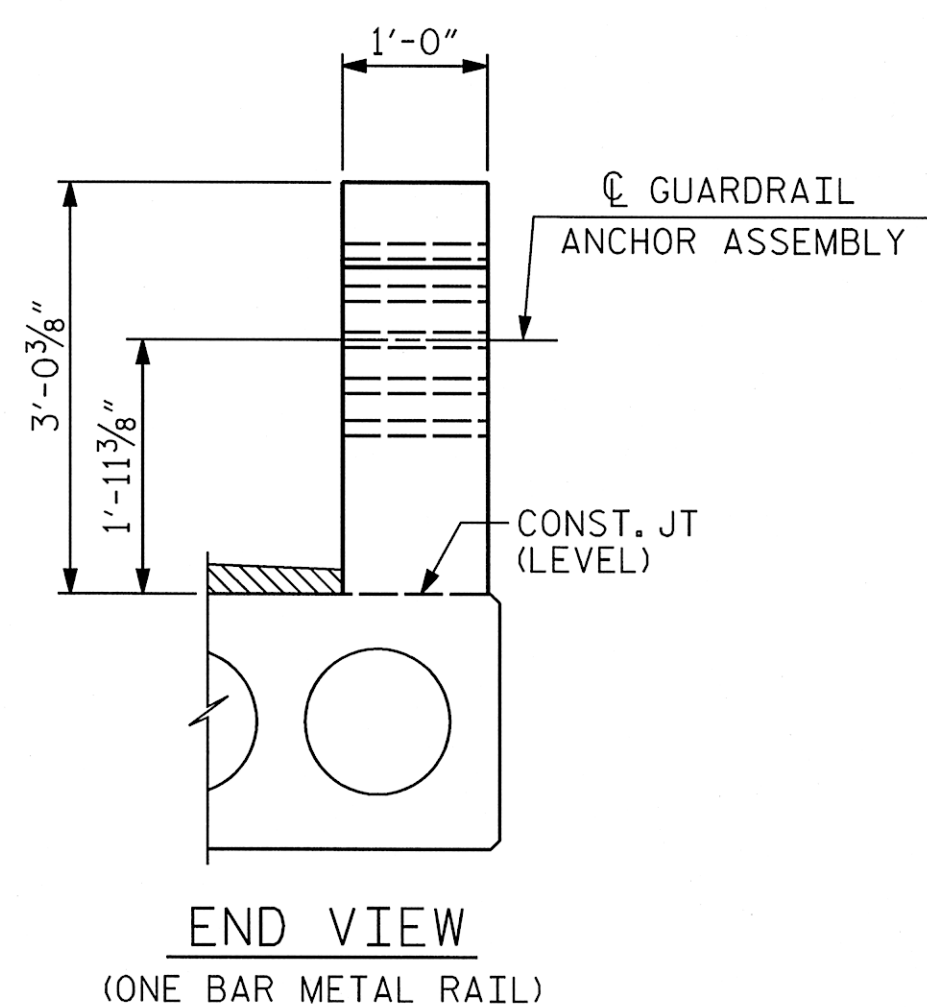
THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE END POST TO CLEAR ASSEMBLY BOLTS.

THE 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.



SKETCH SHOWING POINTS OF ATTACHMENT

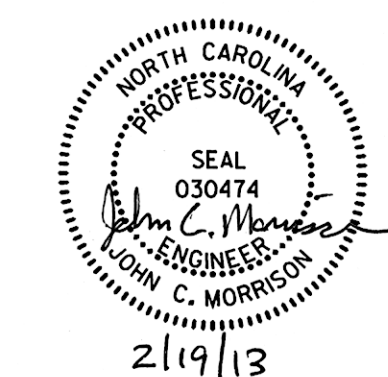
* LOCATION OF GUARDRAIL ATTACHMENT



LOCATION OF GUARDRAIL ANCHOR AT END POST

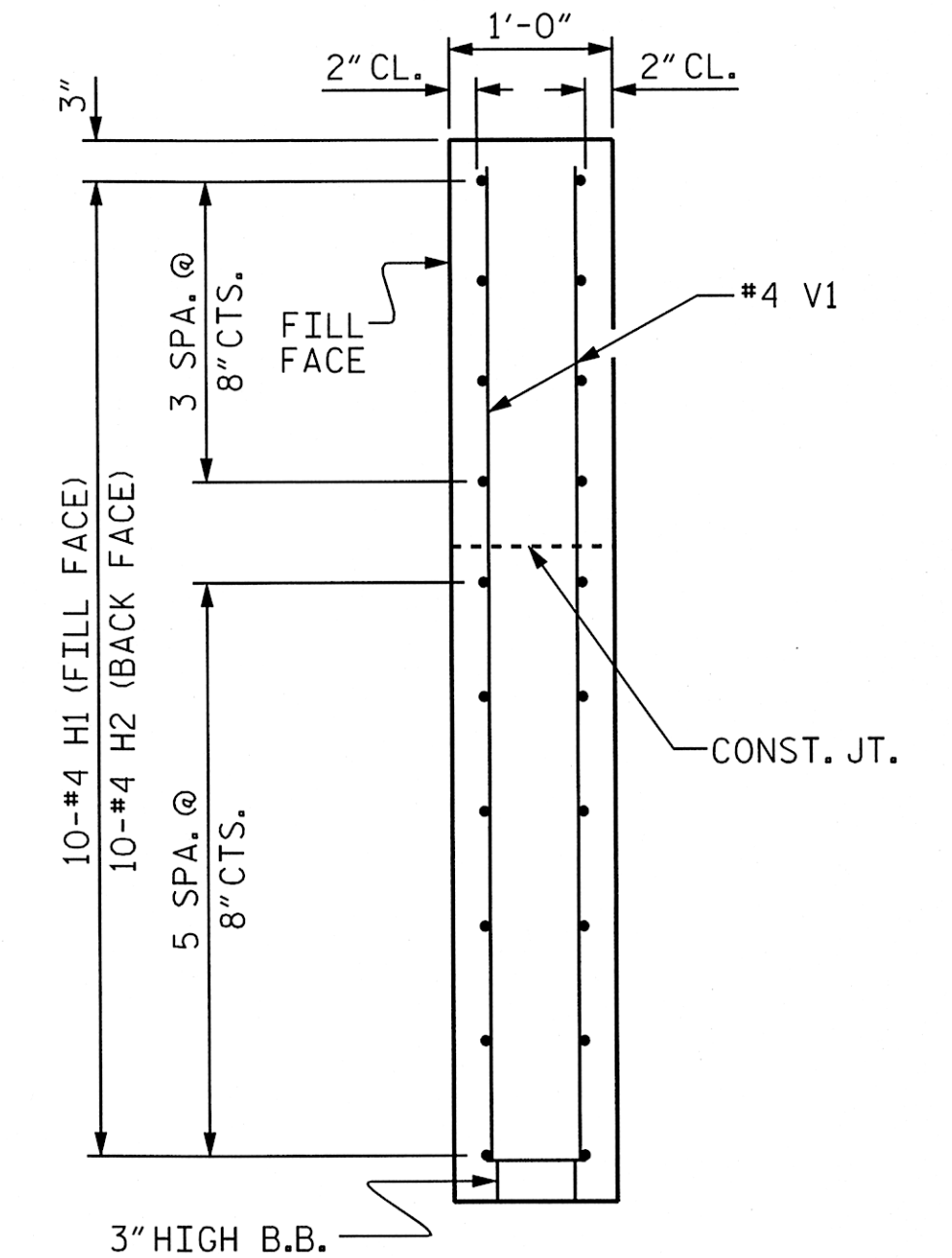
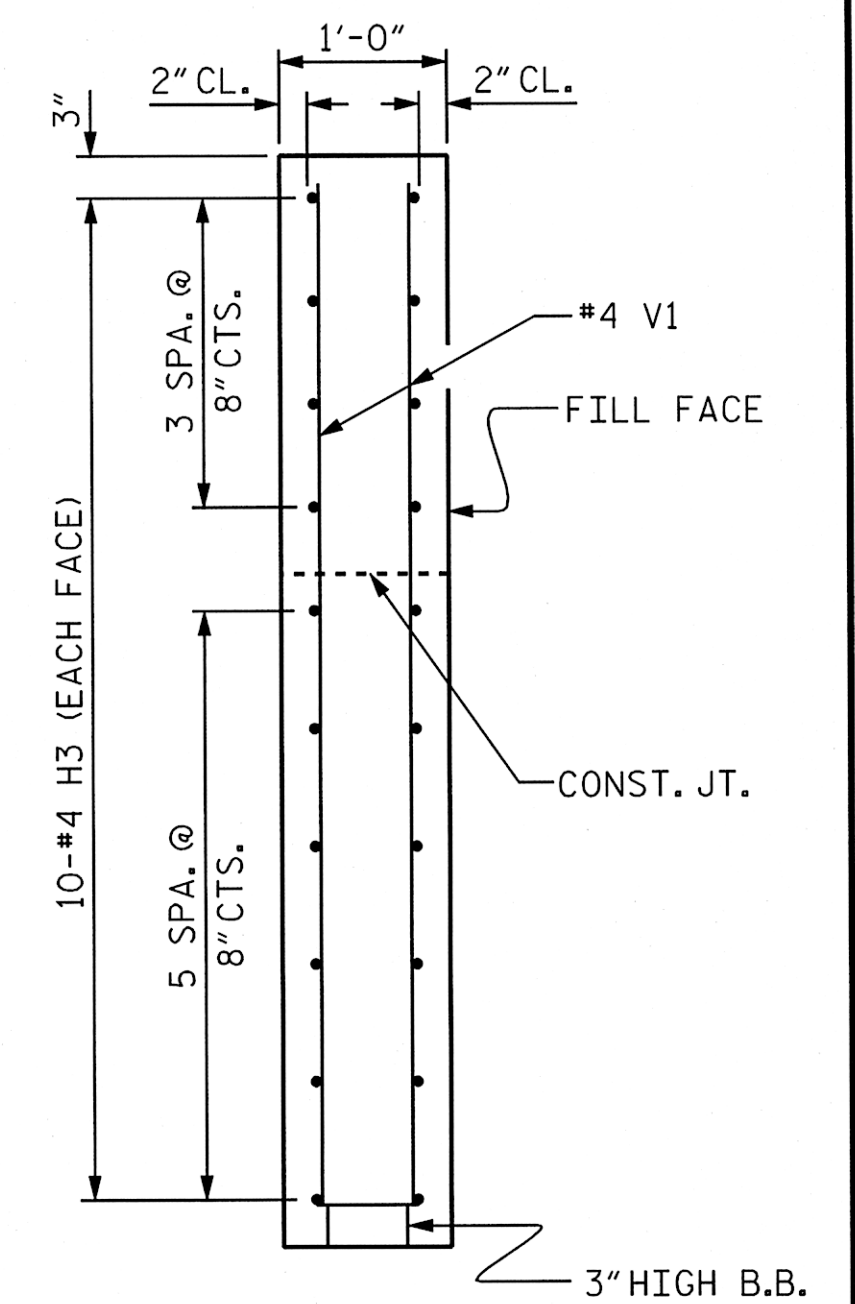
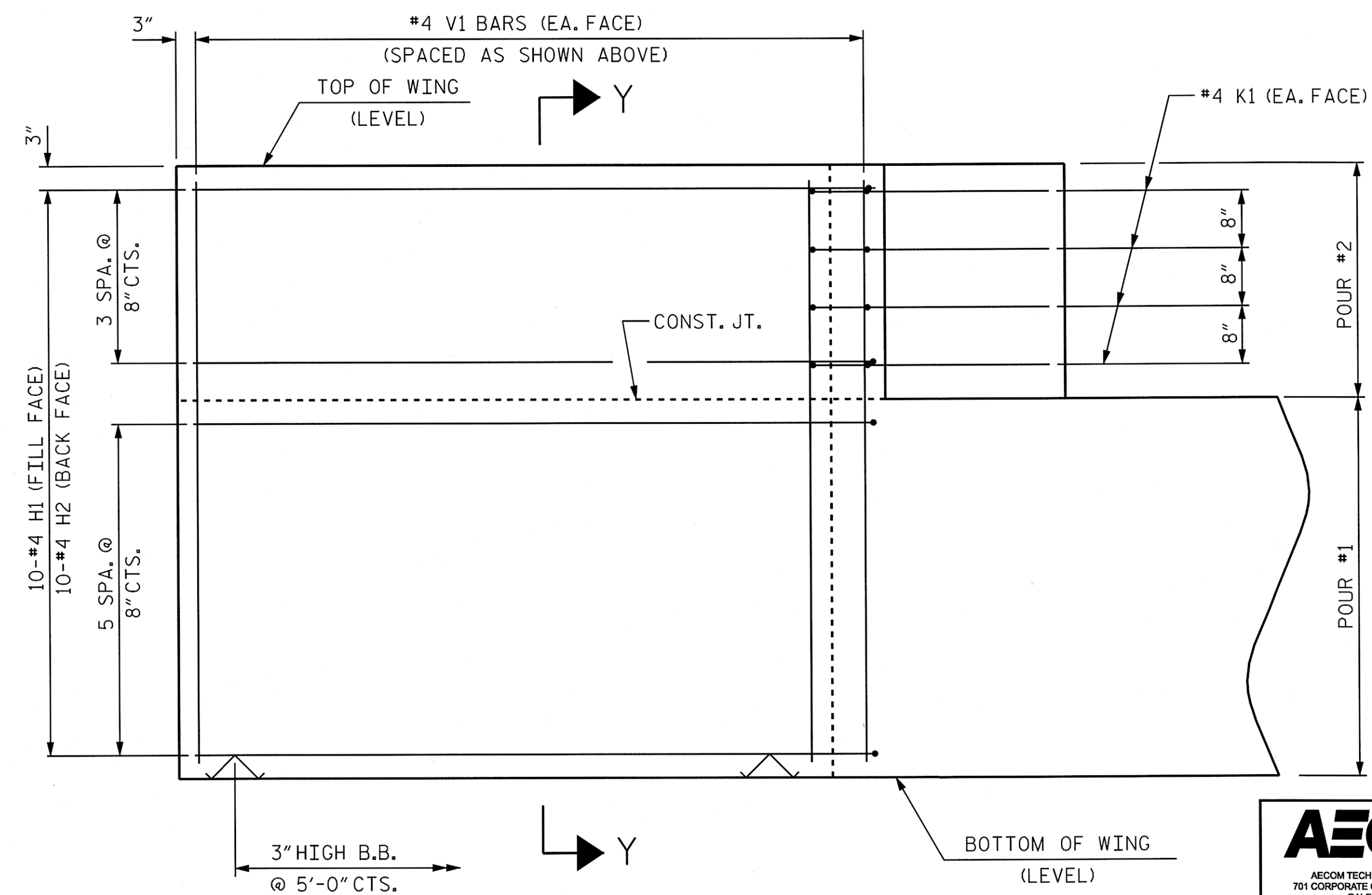
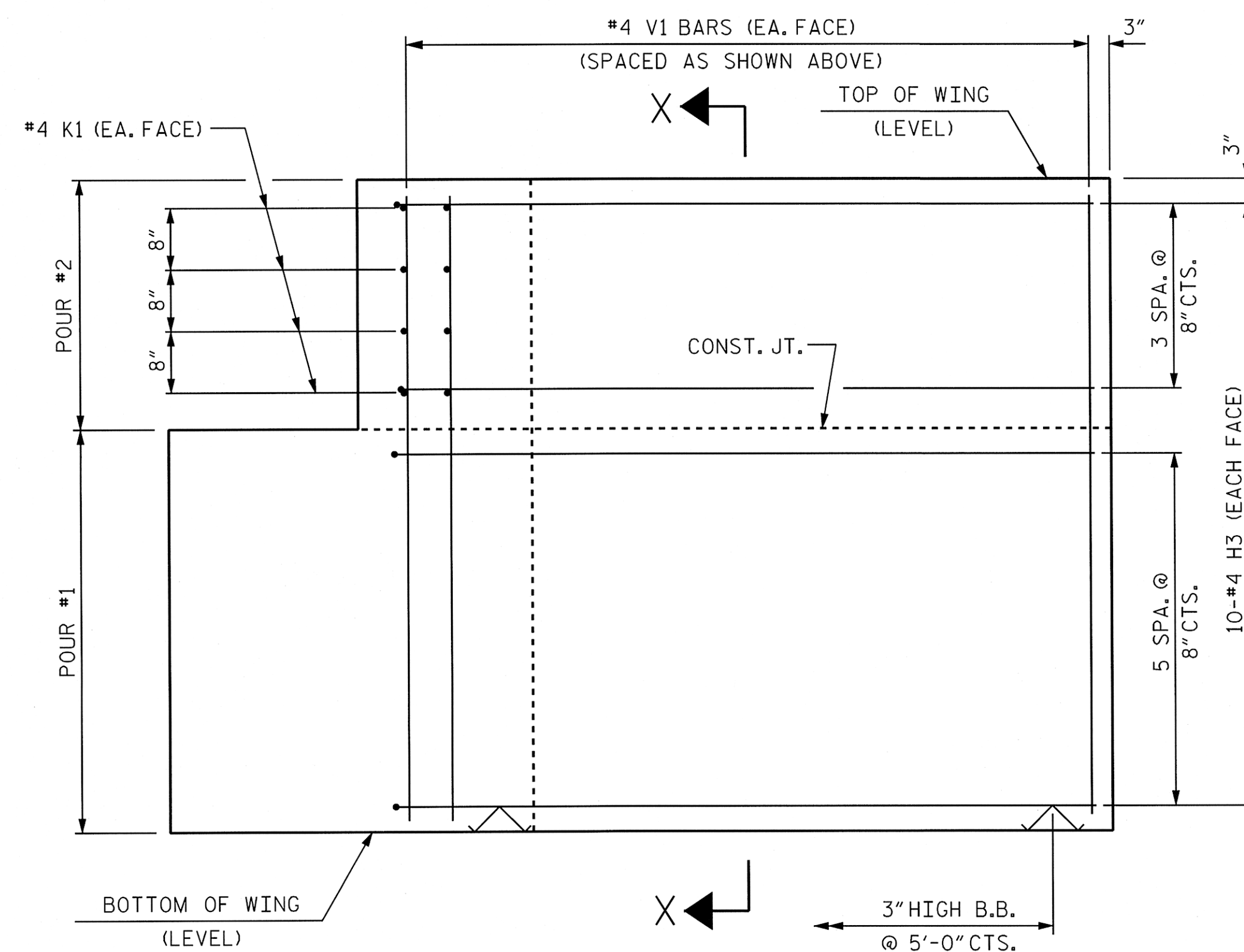
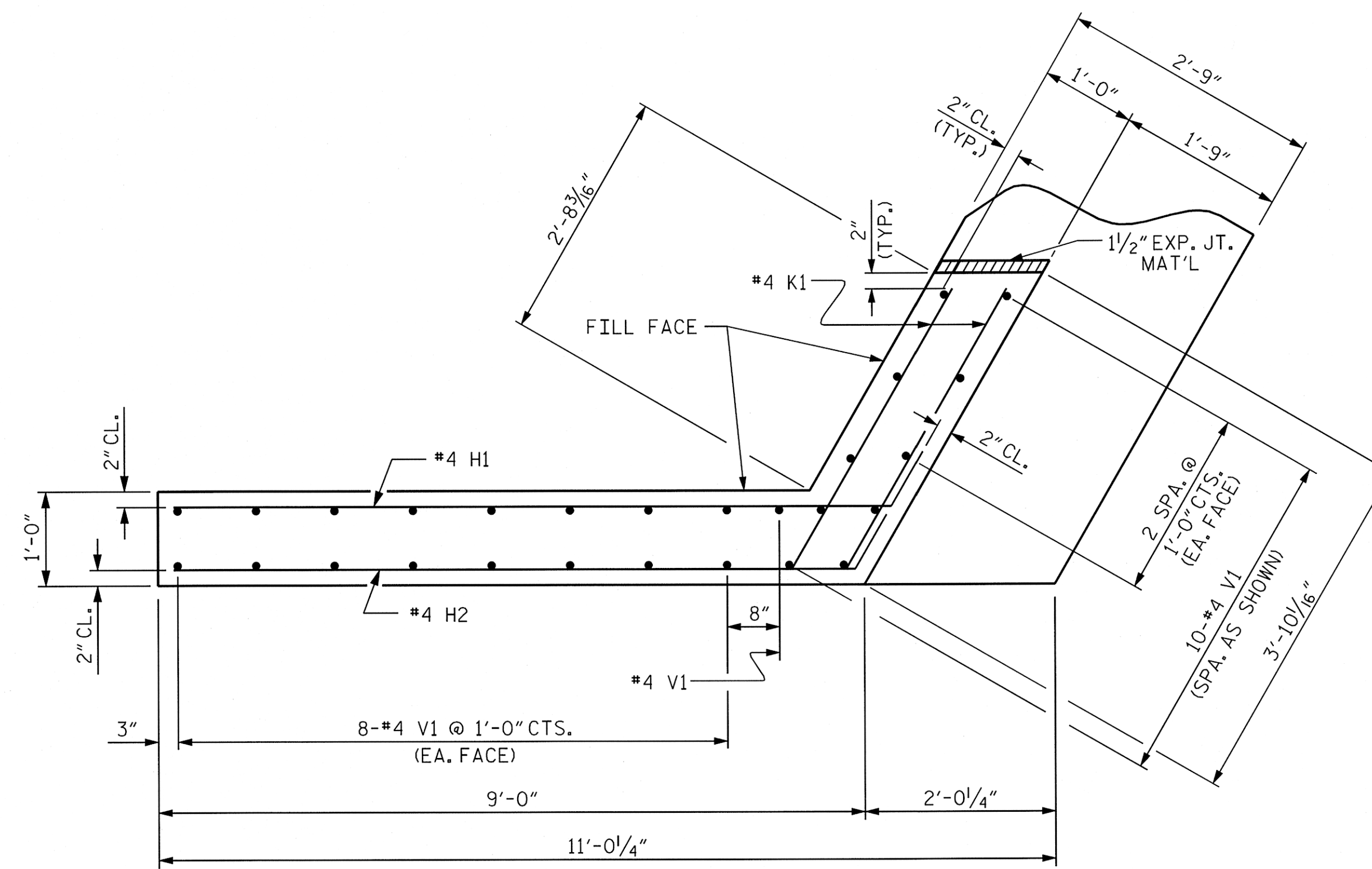
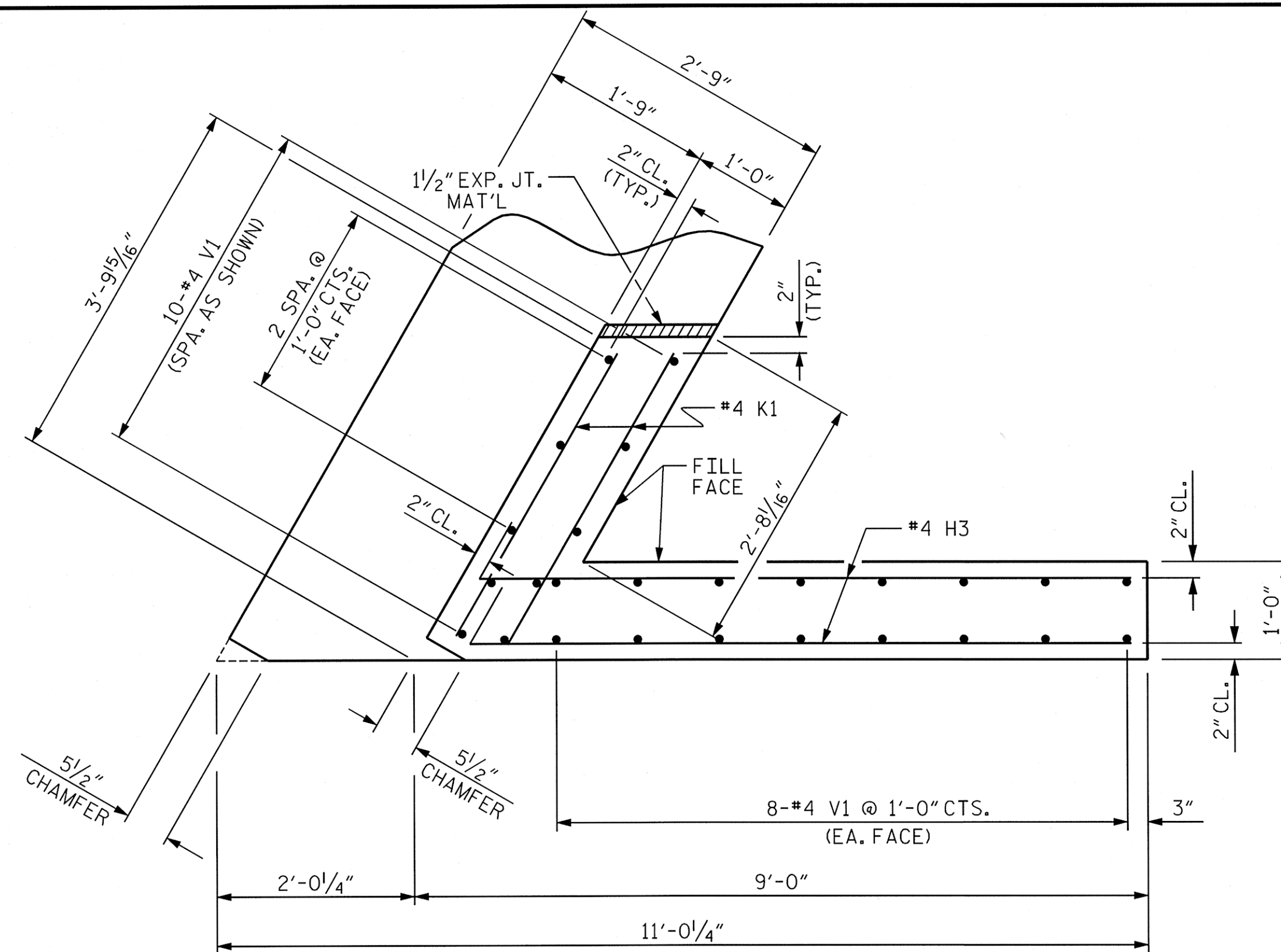
PROJECT NO. 17BP.14.R.52
JACKSON COUNTY
STATION: 12+54.00 -L-

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
GUARDRAIL ANCHORAGE
DETAILS
FOR METAL RAILS

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



PROJECT NO. 17BP.14.R.52
JACKSON COUNTY
 STATION: 12+54.00 -L-

SHEET 3 OF 4

AECOM

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT
WING DETAILS

ASSEMBLED BY :	MTB	DATE :	02/13
CHECKED BY :	JCM	DATE :	02/13
DRAWN BY :	WJH 12/II		
CHECKED BY :	AAC 12/II		

WING DETAILS

A circular professional engineer seal for the State of North Carolina. The outer ring contains the text "NORTH CAROLINA" at the top and "PROFESSIONAL" at the bottom. Inside the ring, the word "SEAL" is at the top, followed by the license number "030474". Below the number is a handwritten signature "John C. Morrison". Underneath the signature is the word "ENGINEER". At the bottom of the seal is the name "JOHN C. MORRISON". A date stamp "2/19/13" is written at the very bottom of the page.

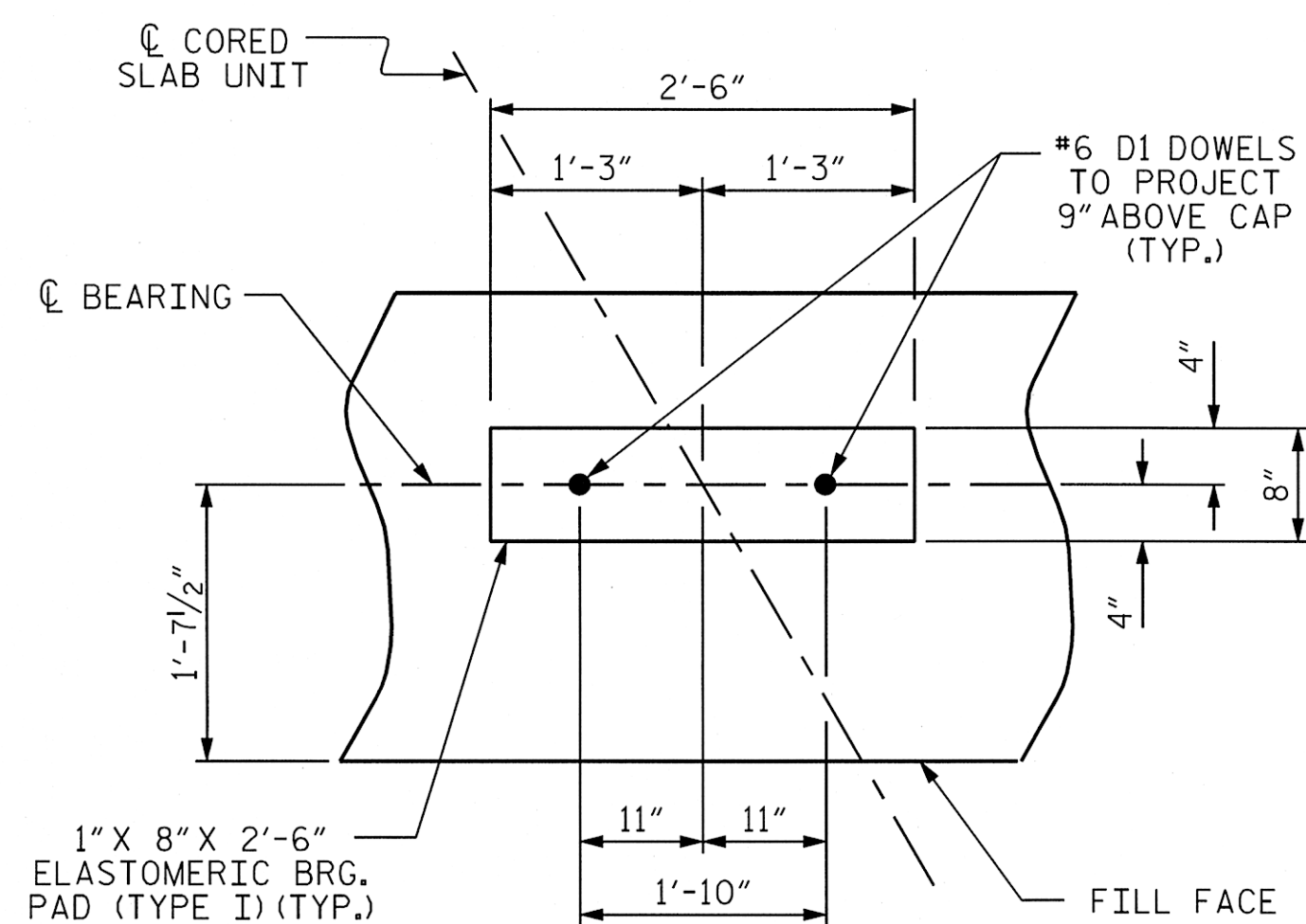
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO.
S-16

STD. NO. EB-27-120S4

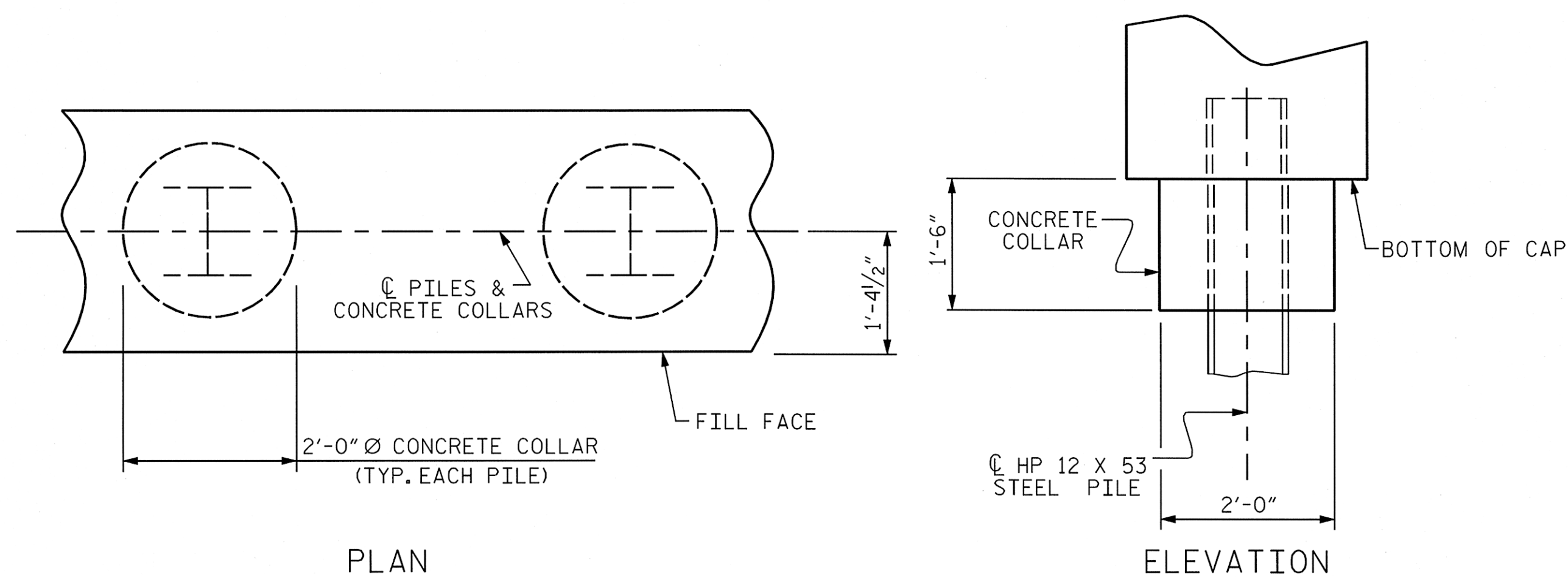
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT



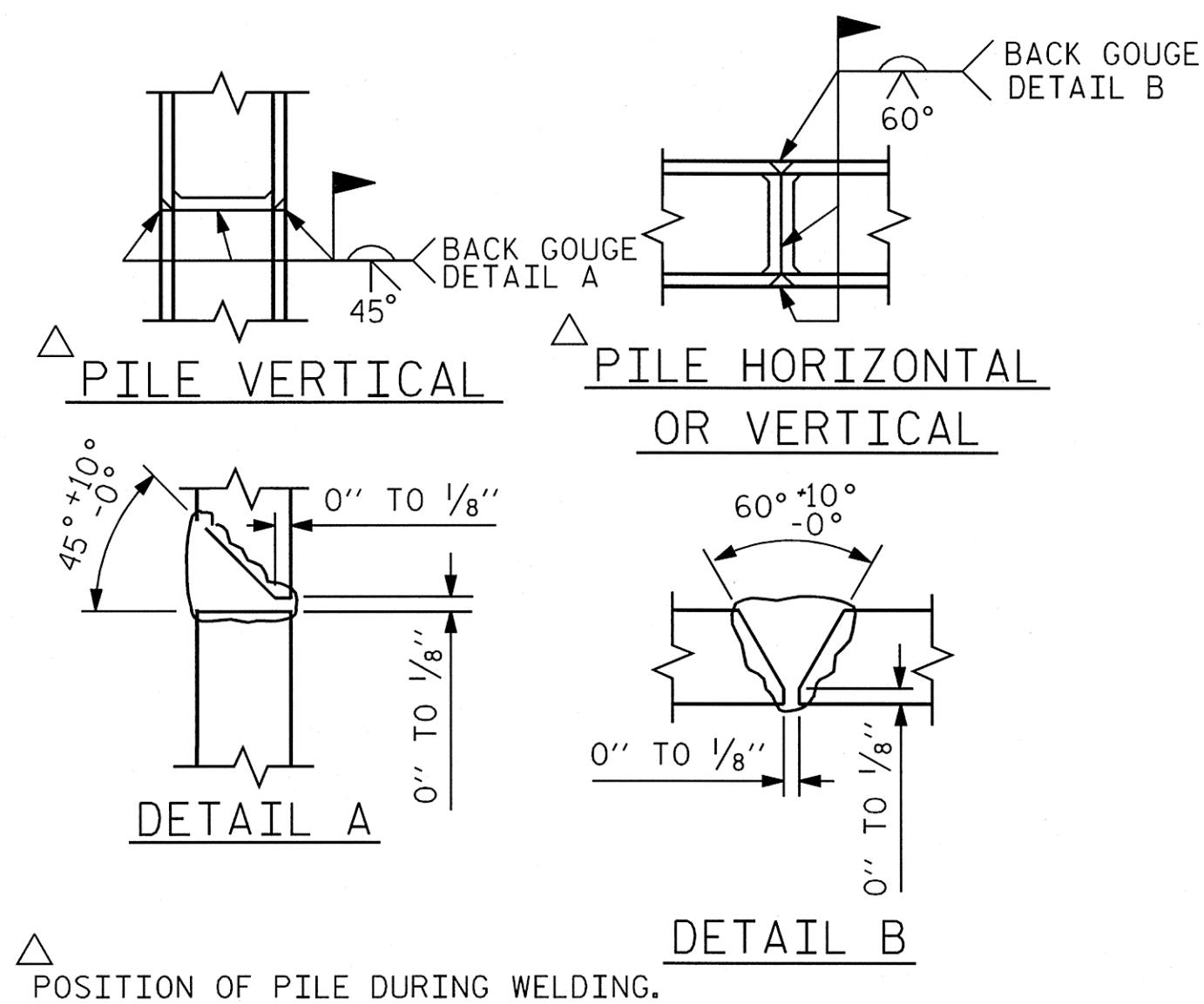
DETAIL ``A''

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

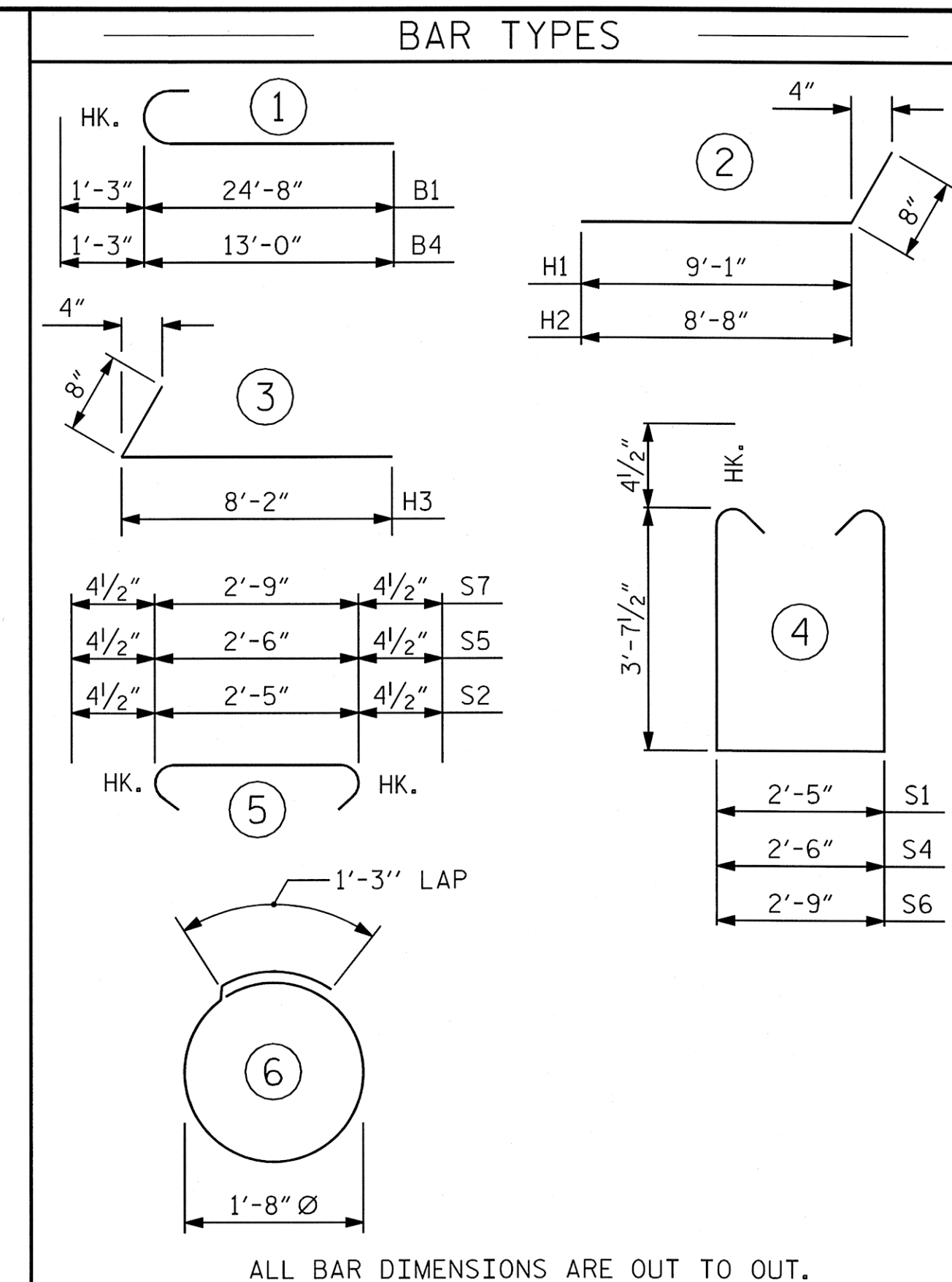


CORROSION PROTECTION FOR STEEL PILES DETAIL

(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: 6 LIN. FT.= 96	END BENT No.2 HP 12 X 53 STEEL PILES NO: 6 LIN. FT.= 96
STEEL PILE POINTS NO: 6	STEEL PILE POINTS NO: 6

*MECHANICAL COUPLERS ARE REQUIRED. ADJUST BAR LENGTHS AS NECESSARY FOR THE APPROVED SPLICE MECHANISM USED. FOR MECHANICAL SPLICES, SEE SECTION 425-5(B) OF THE STANDARD SPECIFICATIONS.

BILL OF MATERIAL					
FOR ONE END BENT					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	25'-11"*	705
B2	14	#4	STR	24'-8"*	231
B3	10	#4	STR	2'-5"	16
B4	8	#9	1	14'-3"*	388
B5	14	#4	STR	13'-0"*	122
D1	18	#6	STR	1'-6"	41
H1	10	#4	2	9'-9"	65
H2	10	#4	2	9'-4"	62
H3	20	#4	3	8'-10"	118
K1	16	#4	STR	3'-3"	35
S1	51	#4	4	10'-5"	355
S2	51	#4	5	3'-2"	108
S3	24	#4	6	6'-6"	104
S4	2	#4	4	10'-6"	14
S5	2	#4	5	3'-3"	4
S6	2	#4	4	10'-9"	14
S7	2	#4	5	3'-6"	5
V1	53	#4	STR	6'-2"	218

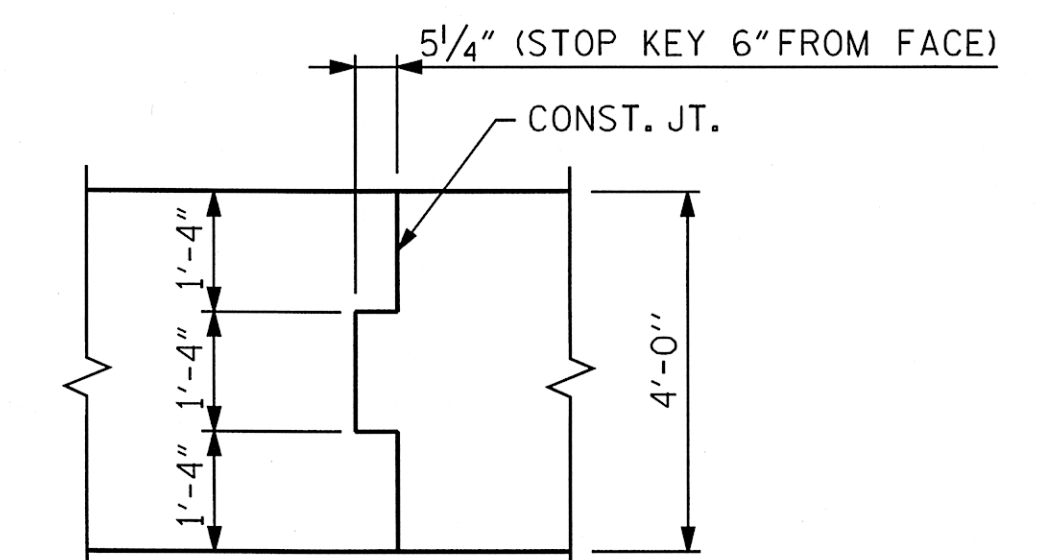
REINFORCING STEEL (FOR ONE END BENT)	2605 LBS.
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CLASS A CONCRETE BREAKDOWN
(FOR ONE END BENT)

POUR #1	CAP, LOWER PART OF WINGS & COLLARS	18.7 C.Y.
---------	---------------------------------------	-----------

POUR #2 UPPER PART OF WINGS	2.4 C.Y.
-----------------------------	----------

TOTAL CLASS A CONCRETE	21.1 C.Y.
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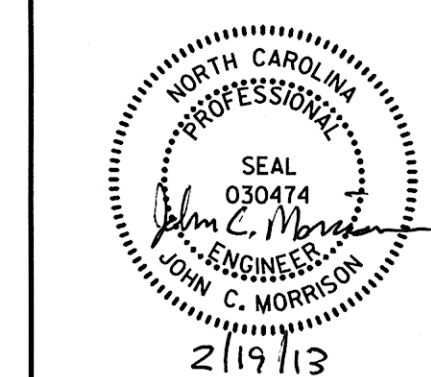
CONST. JT. DETAIL

PROJECT NO. 17BP.14.R.52

JACKSON COUNTY

STATION: 12+54.00 -L-

SHEET 4 OF 4



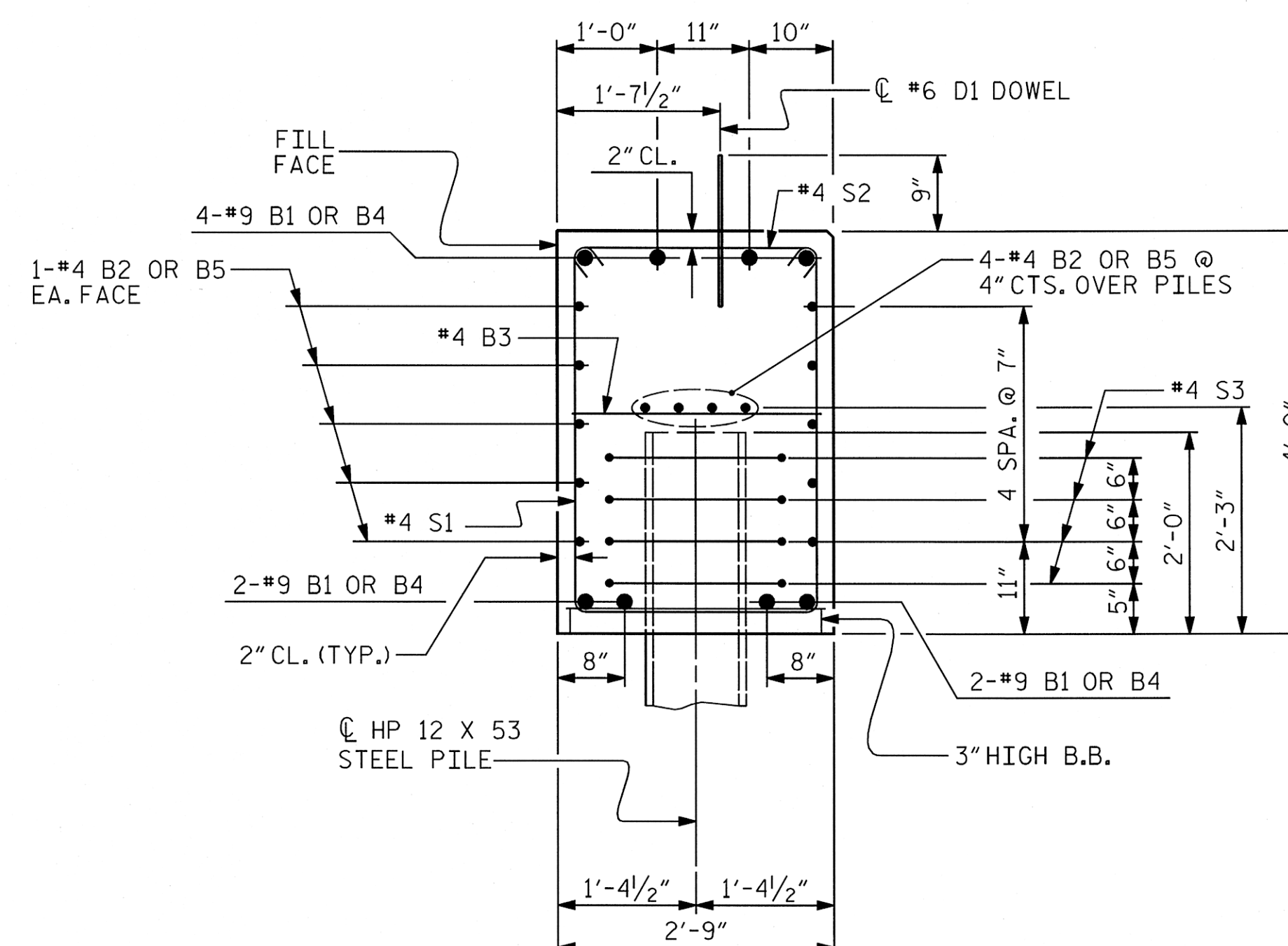
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT No. 1 & 2
DETAILS

REVISIONS						SHEET NO. S-17
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			

STD. NO. EB_27_120S4



SECTION A-A

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

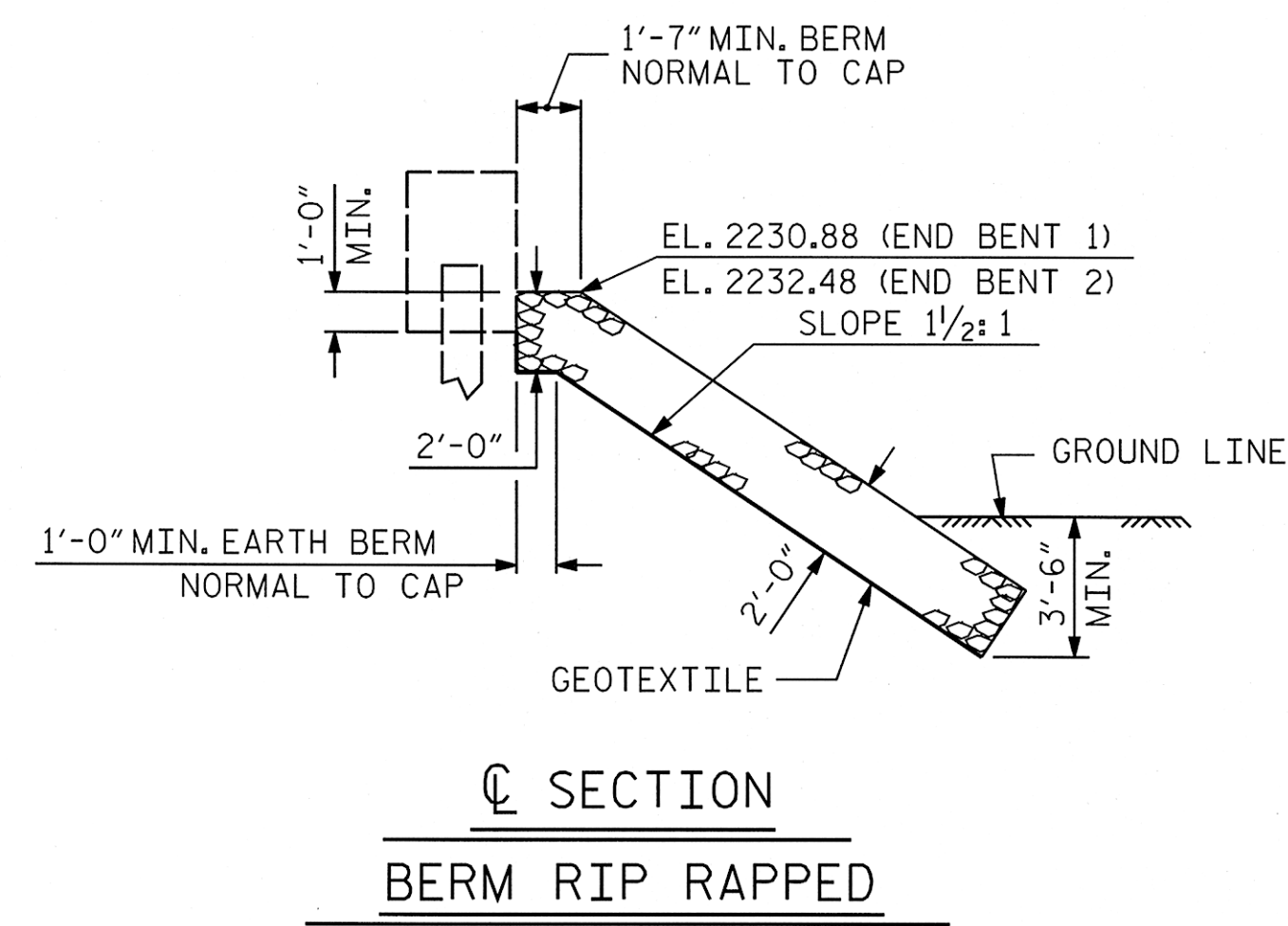
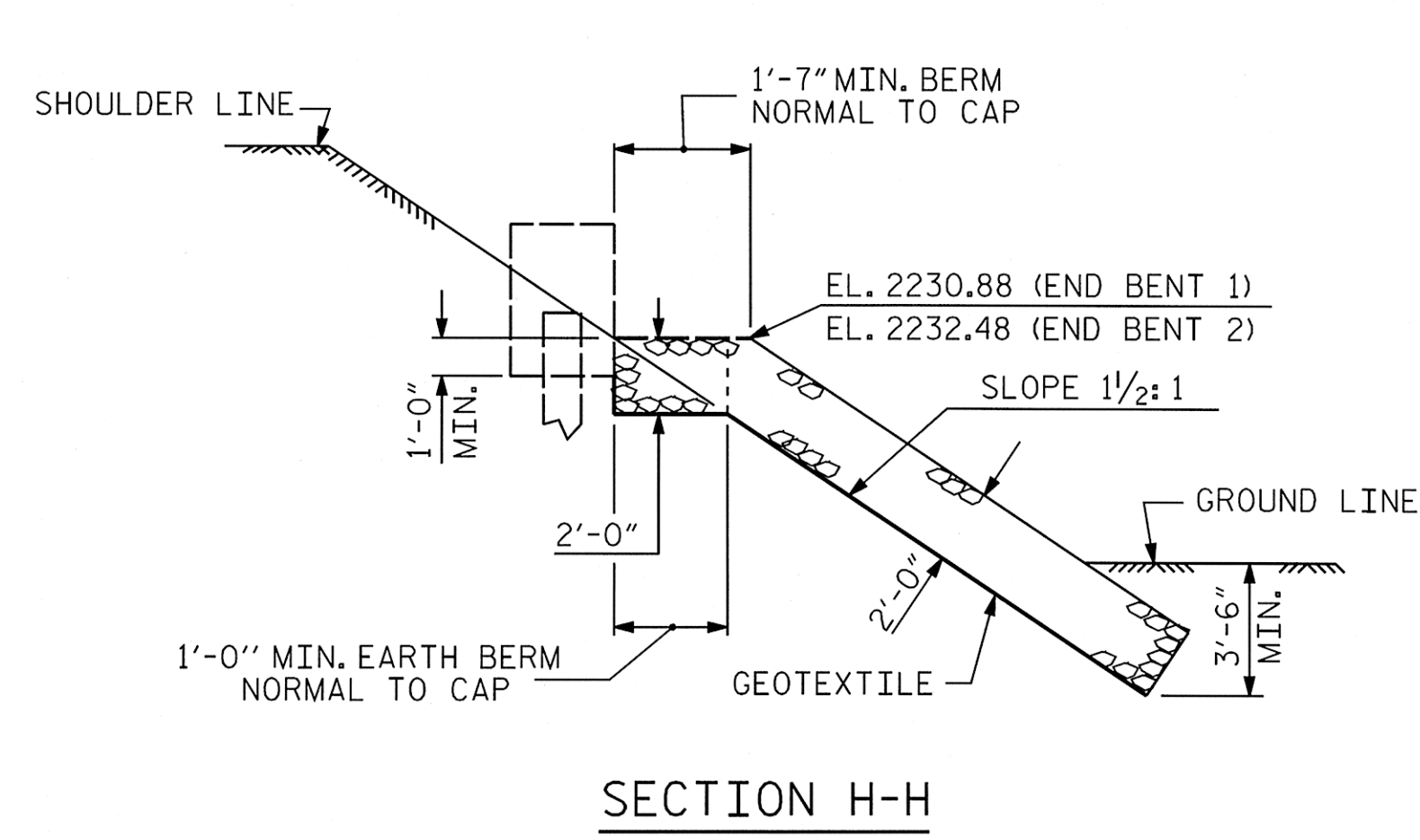
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CHECKED BY :	JCM	DATE :	02/13
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CHECKED BY :	AAC	I2/II	

DATE: 2/14/2013
TIME: 11:21:07 AM

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ESTIMATED QUANTITIES		
BRIDGE @ STA. 12+54.00 - L -	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	31	34
END BENT 2	38	42

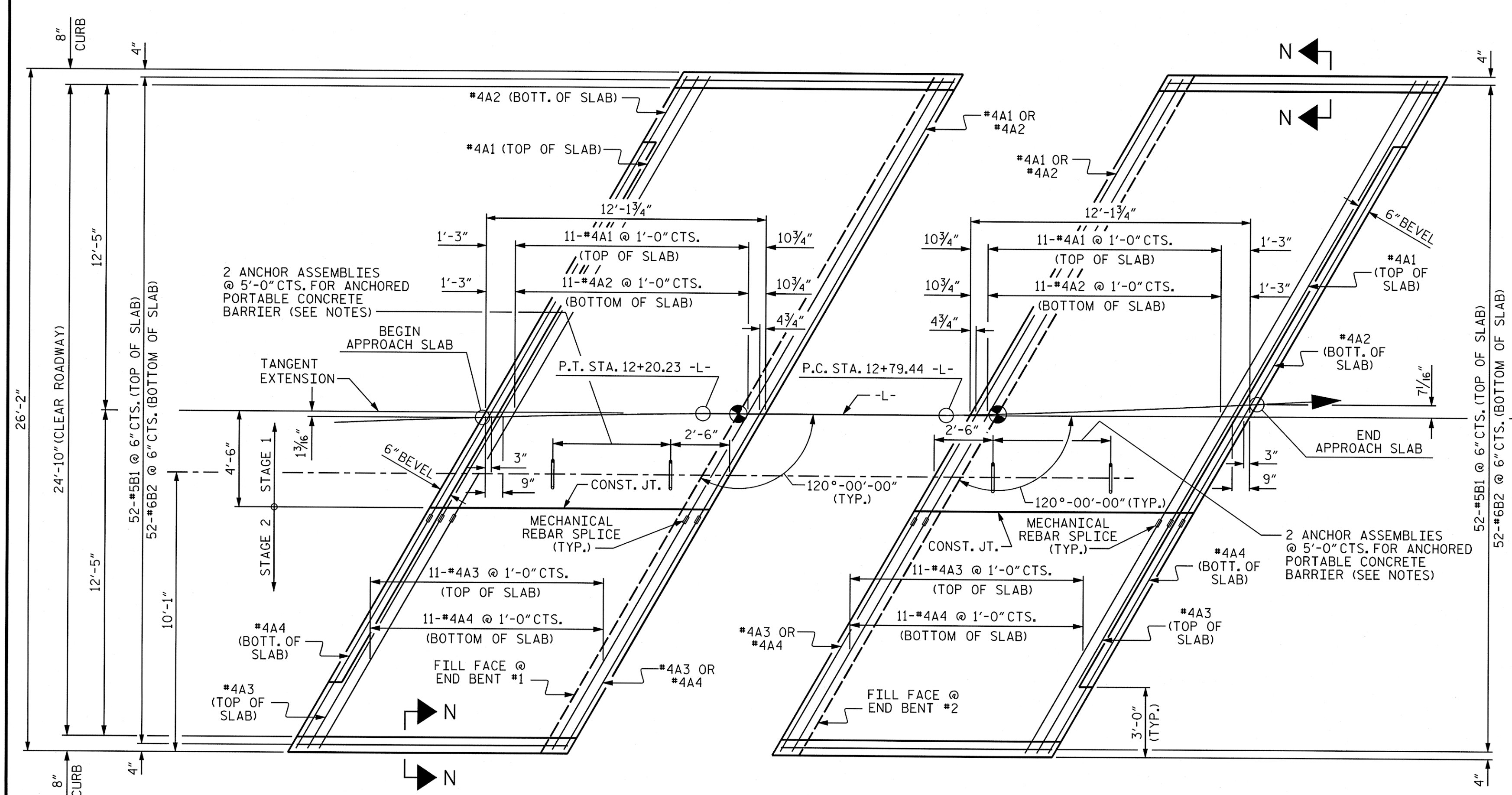


PROJECT NO. 17BP.14.R.52
JACKSON COUNTY
 STATION: 12+54.00 -L-

 AECOM TECHNICAL SERVICES, INC. 701 CORPORATE CENTER DRIVE, SUITE 475 RALEIGH, NC 27607 www.aecom.com (919) 854-6200 www.aecom.com AECOM License No. F-C365	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH																									
 21913	RIP RAP DETAILS																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="6" style="padding: 5px;">REVISIONS</th> </tr> <tr> <th style="width: 10%;">NO.</th> <th style="width: 15%;">BY:</th> <th style="width: 15%;">DATE:</th> <th style="width: 10%;">NO.</th> <th style="width: 15%;">BY:</th> <th style="width: 15%;">DATE:</th> </tr> <tr> <td style="text-align: center;">1</td> <td></td> <td></td> <td style="text-align: center;">3</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">2</td> <td></td> <td></td> <td style="text-align: center;">4</td> <td></td> <td></td> </tr> </table>		REVISIONS						NO.	BY:	DATE:	NO.	BY:	DATE:	1			3			2			4			SHEET NO. S-18 TOTAL SHEETS
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1			3																							
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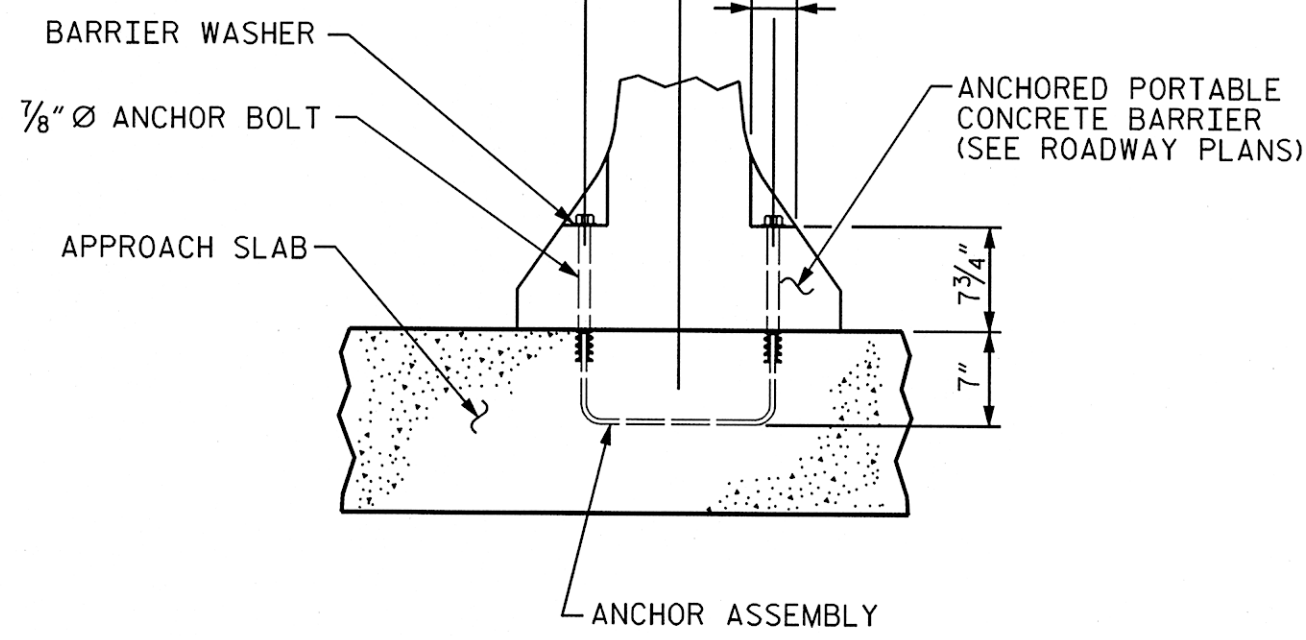
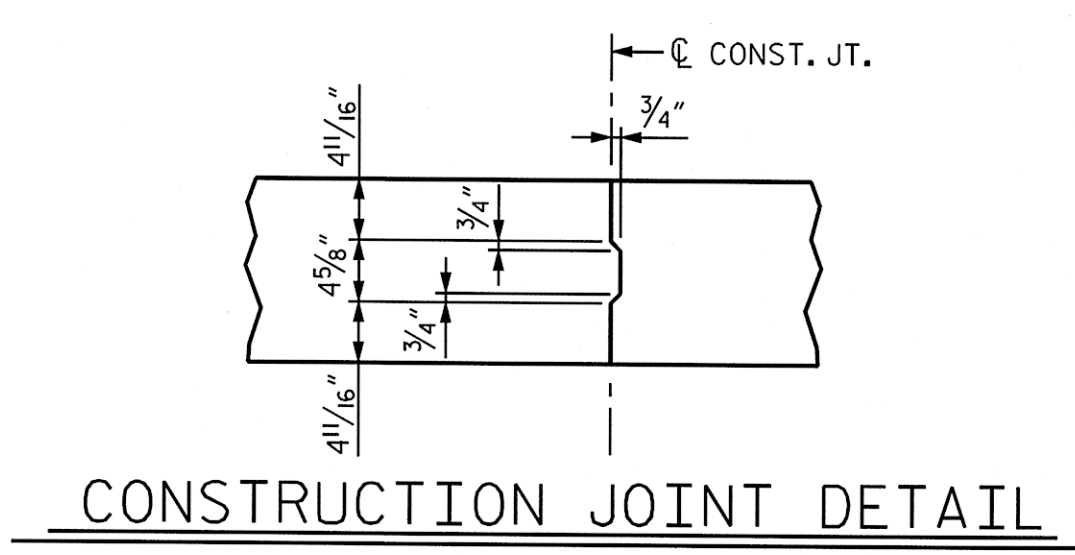
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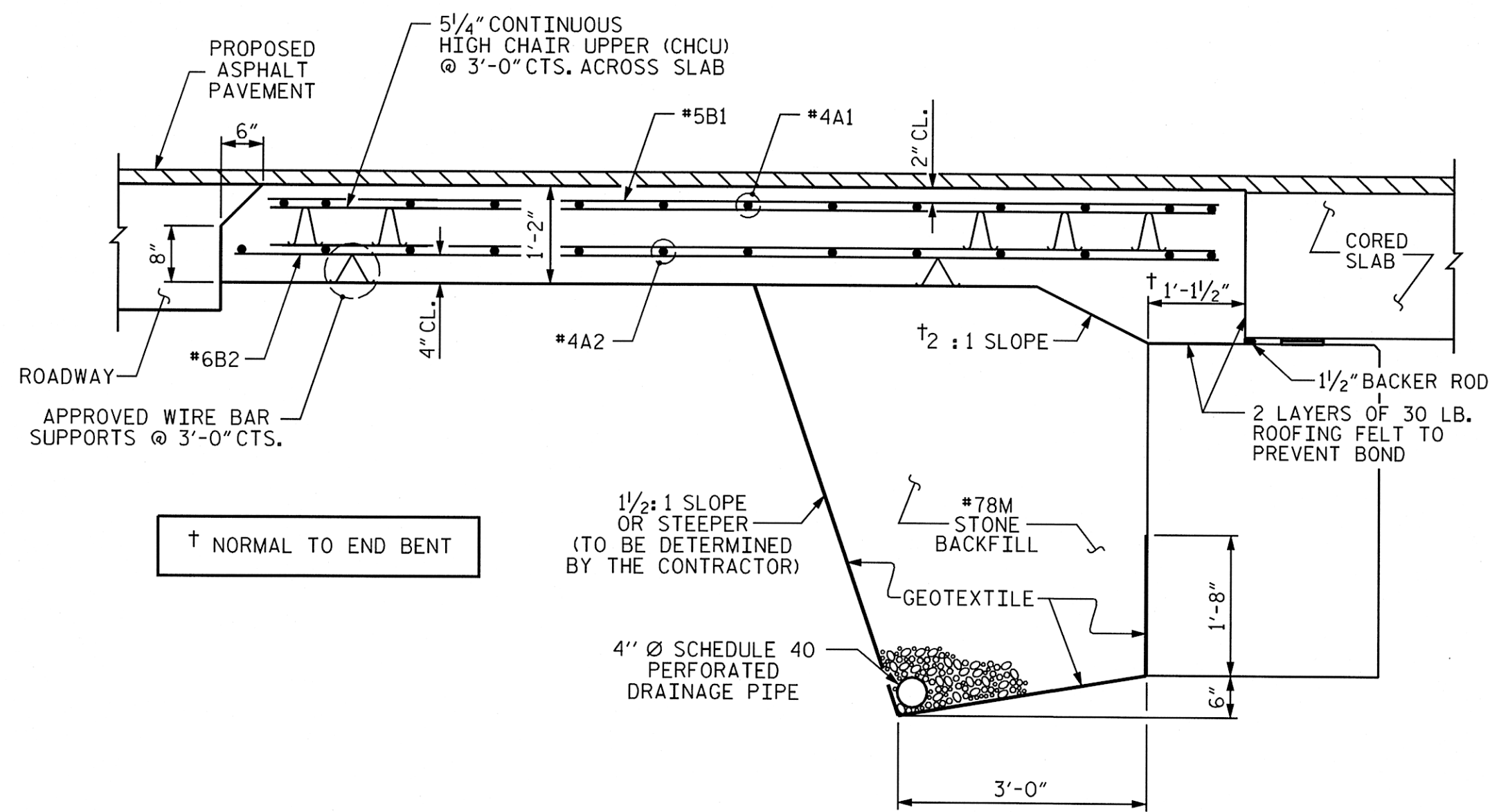


PLAN @ END BENT #1
DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS

PLAN @ END BENT #2



ANCHOR ASSEMBLY PLACEMENT DETAIL
(SHOWING PLACEMENT OF ANCHOR ASSEMBLY)



SECTION THRU SLAB

ASSEMBLED BY : MTB
CHECKED BY : JCM
DATE : 02/13
DATE : 02/13
DRAWN BY : SHS/MAA 5-09
CHECKED BY : BCH 5-09
REV. 12-11
MAA/AAC

NOTES

FOR BRIDGE APPROACH FILL INCLUDING GEOTEXTILE, 4"Ø DRAINAGE PIPE, AND #78M STONE BACKFILL, SEE ROADWAY PLANS.

GEOTEXTILE SHALL BE TYPE IIN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 1056.

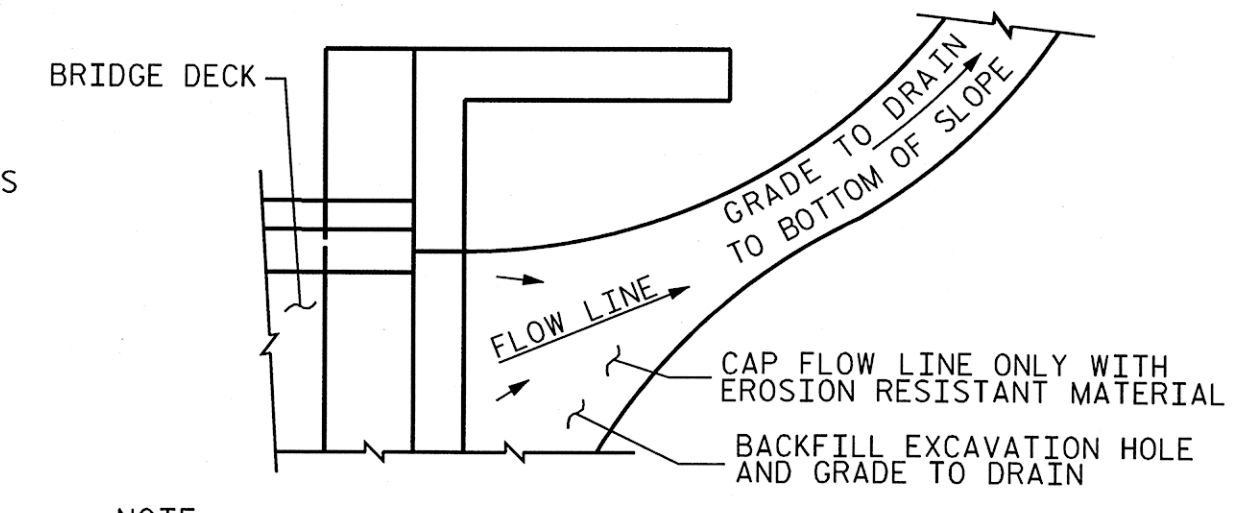
#78M STONE BACKFILL (CLASS V SELECT MATERIAL) SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 1016.

#78M STONE BACKFILL IS TO BE CONTINUOUS ALONG FILL FACE OF BACKWALL FROM OUTSIDE EDGE TO OUTSIDE EDGE OF APPROACH SLAB.

FOR THE 4"Ø DRAINAGE PIPE OUTLET(S), SEE ROADWAY STANDARD DRAWINGS.

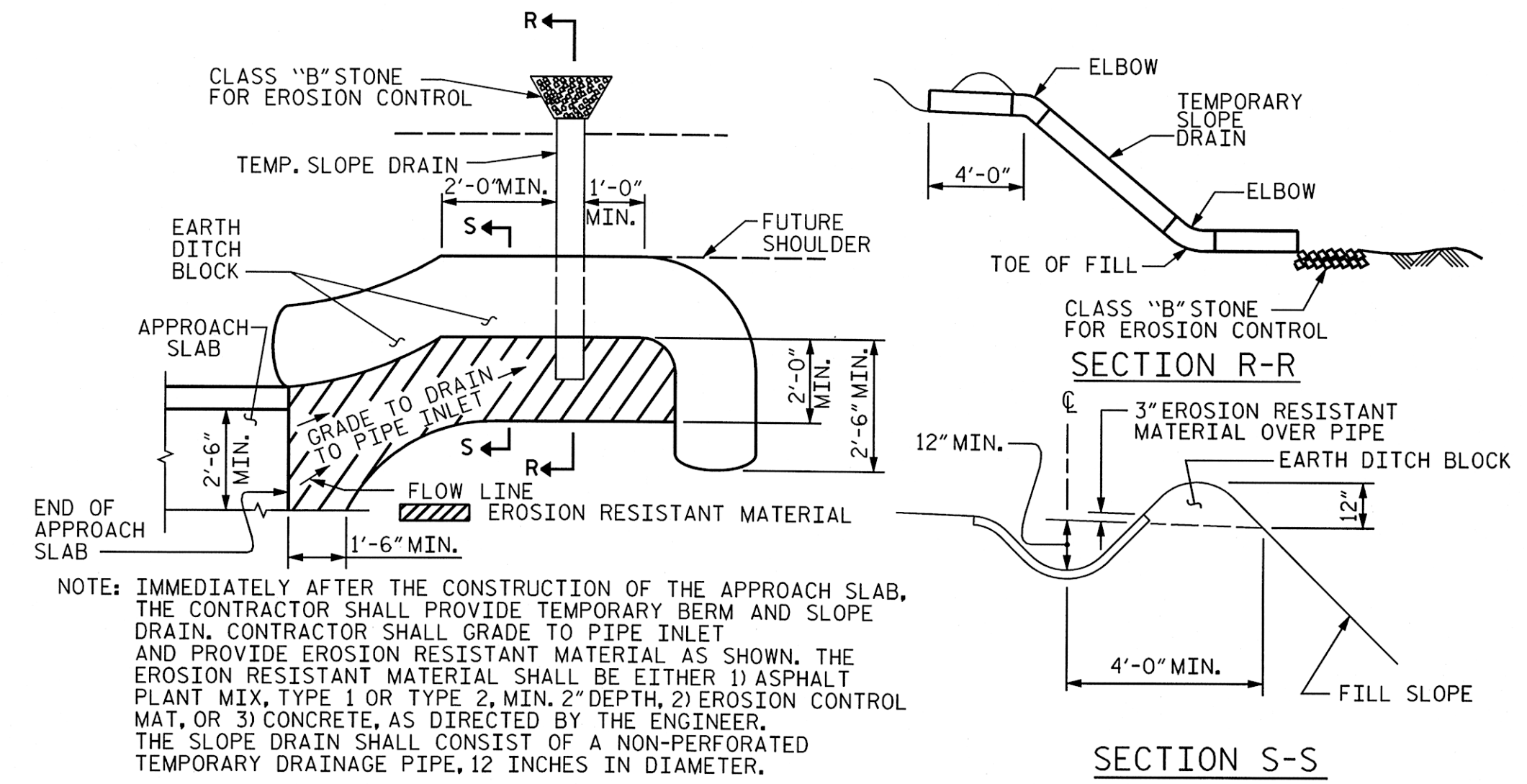
AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.

APPROACH SLAB GROOVING IS NOT REQUIRED.



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.

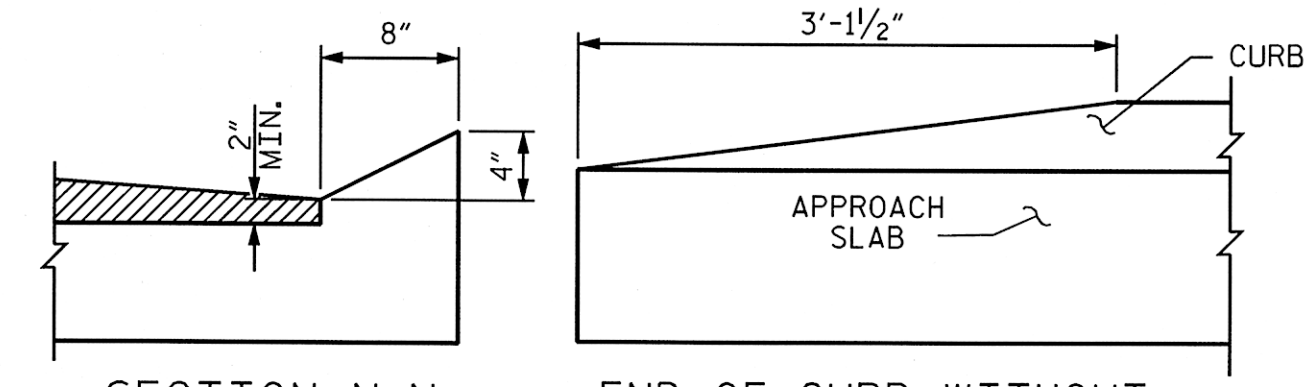
TEMPORARY DRAINAGE DETAIL



NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN. 2" DEPTH, 2) EROSION CONTROL MAT, OR 3) CONCRETE, AS DIRECTED BY THE ENGINEER. THE SLOPE DRAIN SHALL CONSIST OF A NON-PERFORATED TEMPORARY DRAINAGE PIPE, 12 INCHES IN DIAMETER.

PLAN VIEW

TEMPORARY BERM AND SLOPE DRAIN DETAILS
(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



SECTION N-N
END OF CURB WITHOUT SHOULDER BERM GUTTER

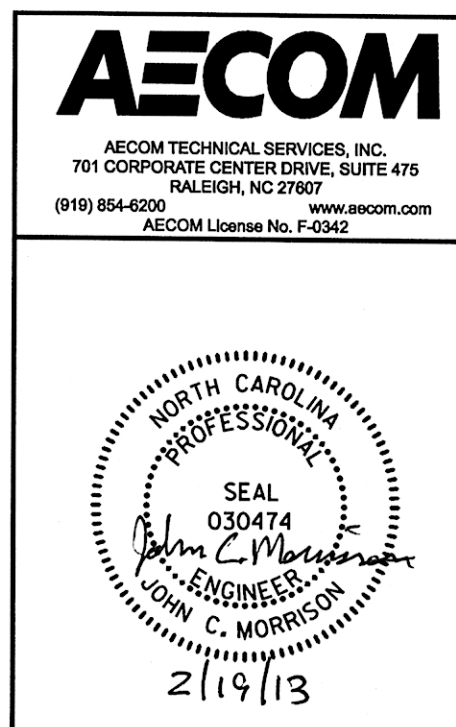
CURB DETAILS

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

BILL OF MATERIAL					
APPROACH SLAB AT EB #1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	13	#4	STR	20'-9" **	180
A2	13	#4	STR	20'-9" **	180
*A3	13	#4	STR	9'-0" **	78
A4	13	#4	STR	9'-0" **	78
*B1	52	#5	STR	11'-1"	601
B2	52	#6	STR	11'-7"	905
REINFORCING STEEL					LBS. 1163
*EPOXY COATED REINFORCING STEEL					LBS. 859
CLASS AA CONCRETE					C. Y. 16.7
APPROACH SLAB AT EB #2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	13	#4	STR	20'-9" **	180
A2	13	#4	STR	20'-9" **	180
*A3	13	#4	STR	9'-0" **	78
A4	13	#4	STR	9'-0" **	78
*B1	52	#5	STR	11'-1"	601
B2	52	#6	STR	11'-7"	905
REINFORCING STEEL					LBS. 1163
*EPOXY COATED REINFORCING STEEL					LBS. 859
CLASS AA CONCRETE					C. Y. 16.7

**MECHANICAL COUPLERS ARE REQUIRED. ADJUST BAR LENGTHS AS NECESSARY FOR THE APPROVED SPLICE MECHANISM USED. FOR MECHANICAL SPLICES, SEE SECTION 425-5(B) OF THE STANDARD SPECIFICATIONS.

PROJECT NO. 17BP.14.R.52
JACKSON COUNTY
STATION: 12+54.00 -L-



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH			
STANDARD BRIDGE APPROACH SLAB FOR PRESTRESSED CONCRETE CORED SLAB UNIT (SUB-REGIONAL TIER) 120° SKEW			
REVISIONS			SHEET NO.
NO.	BY:	DATE:	NO.
1			3
2			4
			S-19
			TOTAL SHEETS

DATE: 2/14/2003
TIME: 11:06:31 AM

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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 ¾"Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8"Ø STUDS FOR 4 - ¾"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 ¾"Ø STUDS BASED ON THE RATIO OF 3 - 7/8"Ø STUDS FOR 4 - ¾"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.

ENGLISH

JANUARY, 1990