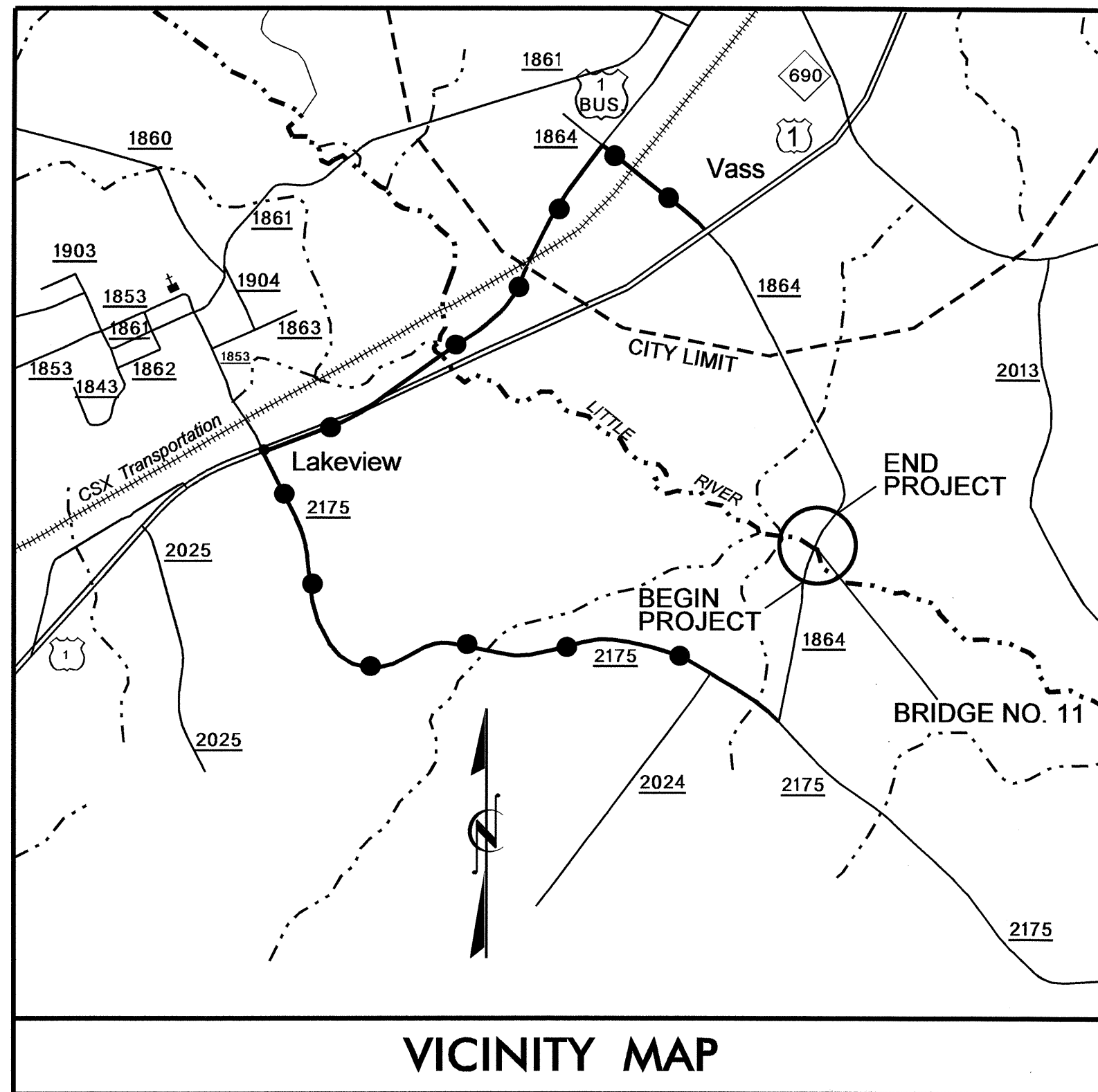


CONTRACT: C202433 TIP PROJECT: B-4584

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4584		
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33785.1.1	BRZ-1864(1)	P.E.	
33785.2.1	BRZ-1864(1)	UTIL. & RW	
33785.3.1	BRZ-1864(1)	CONST.	

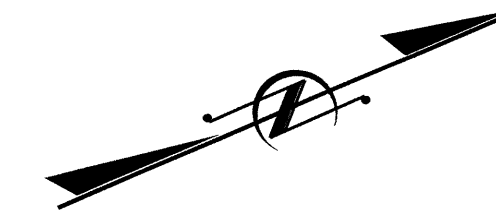
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
MOORE COUNTY

LOCATION: BRIDGE NO. 11 OVER LITTLE RIVER ON SR 1864 (LONG POINT RD.)
TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

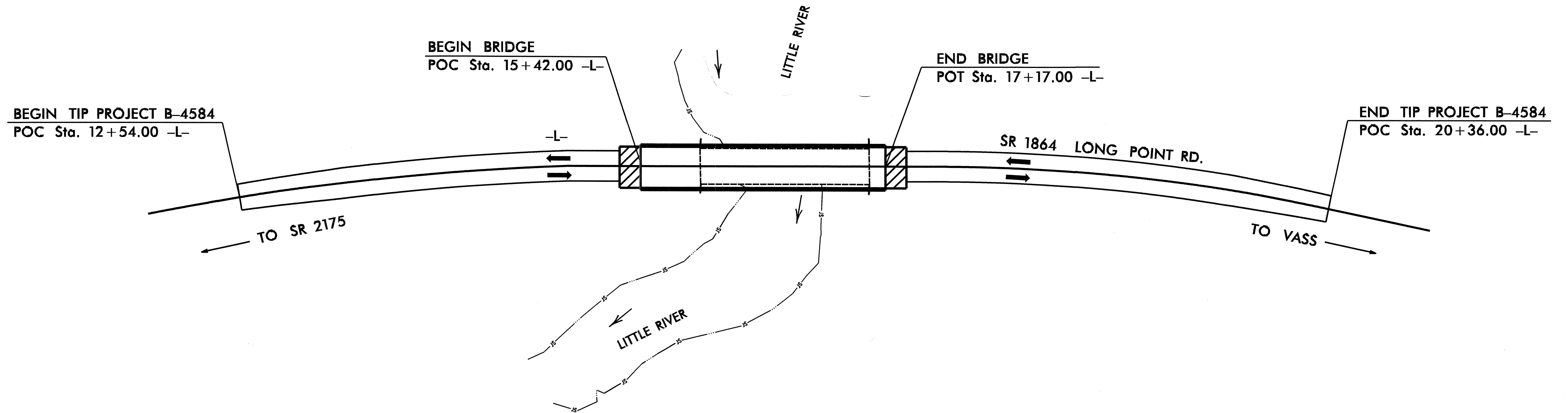


LEGEND ●—●—●—●— Offsite Detour Route

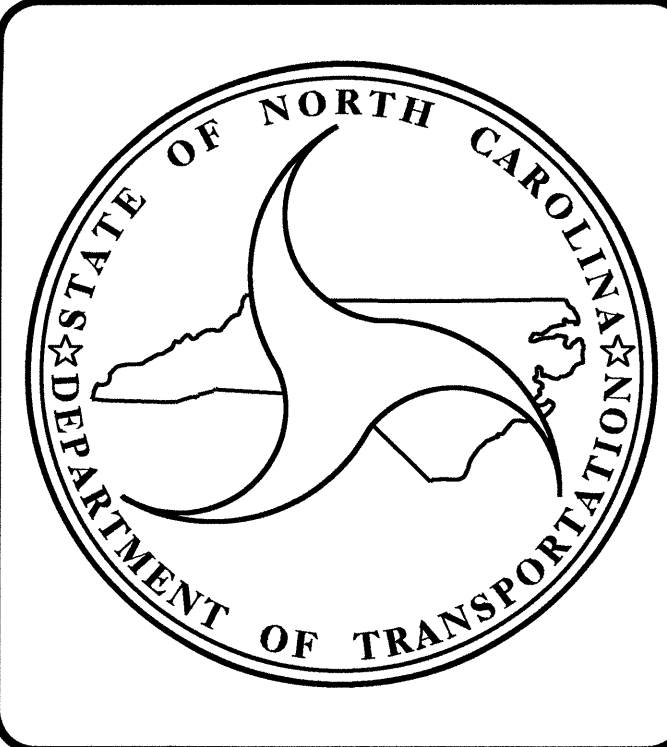
VICINITY MAP



STRUCTURE



* DESIGN EXCEPTION REQUIRED FOR CREST VERTICAL CURVE K VALUE



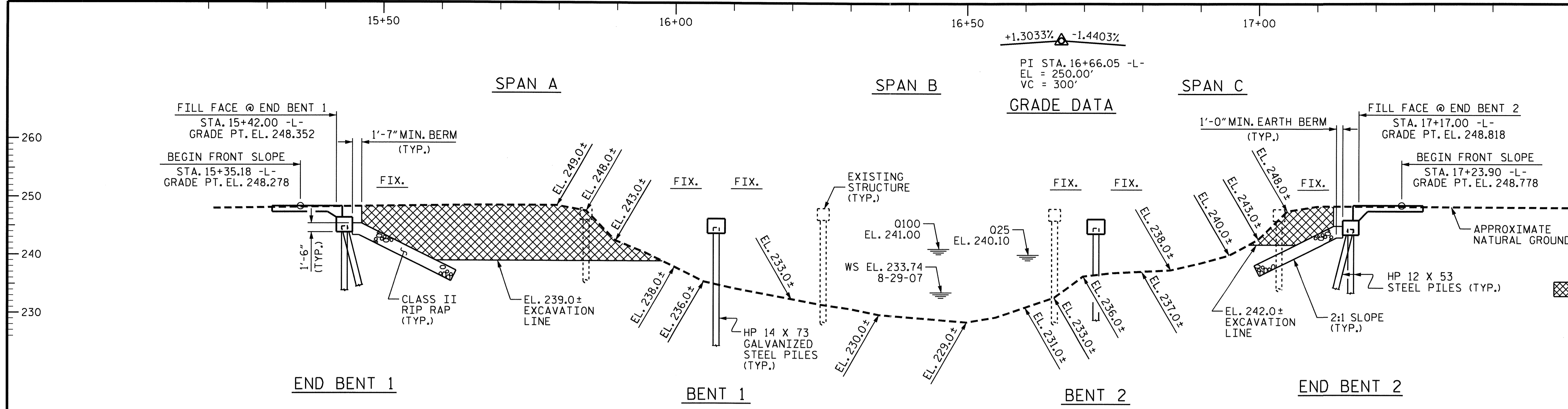
DESIGN DATA	
ADT 2010	= 900
ADT 2030	= 1,600
DHV	= 13 %
D	= 60 %
T	= 3 % *
* V	= 60 MPH
FUNC. CLASS	= RURAL LOCAL
* TTST	1% DUAL 2%

PROJECT LENGTH	
LENGTH ROADWAY TIP PROJECT B-4584	= 0.115 mi.
LENGTH STRUCTURE TIP PROJECT B-4584	= 0.033 mi.
TOTAL LENGTH TIP PROJECT B-4584	= 0.148 mi.

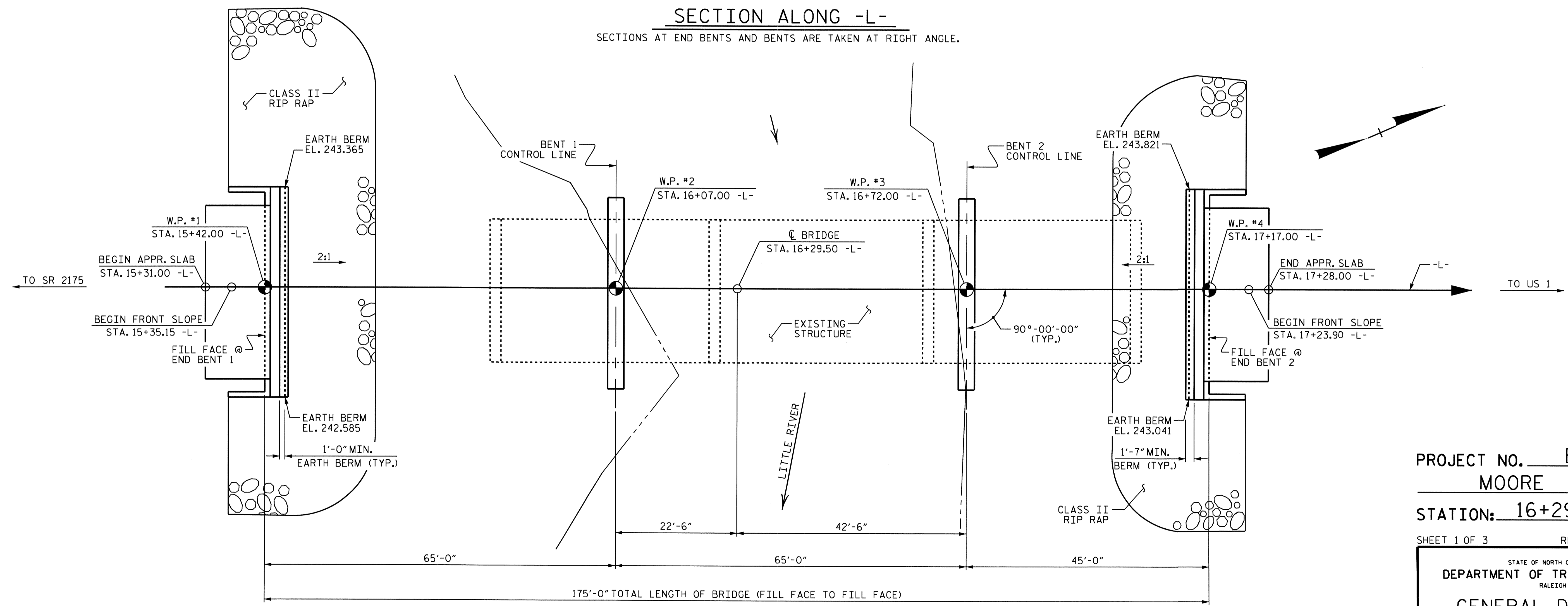
Prepared In the Office of:	
DIVISION OF HIGHWAYS	
2006 STANDARD SPECIFICATIONS	
LETTING DATE :	JUNE 15, 2010
J. C. FRYE, P.E. PROJECT ENGINEER	T. H. FANG, P.E. PROJECT DESIGN ENGINEER

STRUCTURE DESIGN UNIT
1000 BIRCH RIDGE DR. RALEIGH, N.C. 27610

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA	
STATE DESIGN ENGINEER	P.E.
DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	
APPROVED	DATE
DIVISION ADMINISTRATOR	



SECTION ALONG -L-
SECTIONS AT END BENTS AND BENTS ARE TAKEN AT RIGHT ANGLE.



PLAN
FOR CLARITY, PILES NOT SHOWN IN PLAN VIEW

PROJECT NO. B-4584
MOORE COUNTY
STATION: 16+29.50 -L-

SHEET 1 OF 3 REPLACES BRIDGE #11

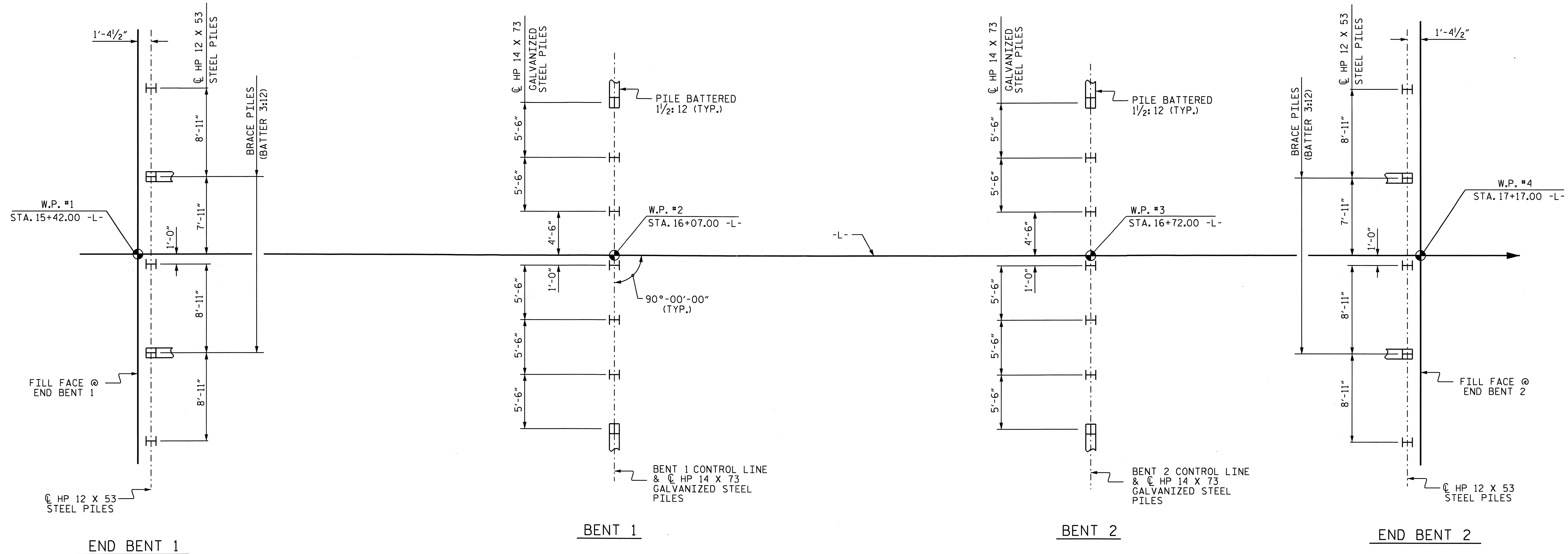
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
BRIDGE OVER LITTLE RIVER
ON SR 1864 BETWEEN
SR 2175 AND US 1

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

DRAWN BY : E.C. LOCKLEAR DATE : 11-6-08
CHECKED BY : T.H. FANG DATE : 11-10-08

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 11915
JOHN R. FANG
3/2/10

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 16301
T.H. FANG
3/2/10



FOUNDATION LAYOUT

DIMENSIONS LOCATING PILES ARE SHOWN TO THE CENTERLINE OF PILES.

NOTES

FOR PILES, SEE SPECIAL PROVISIONS.

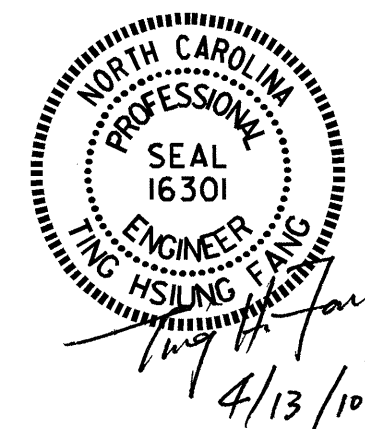
PILES AT END BENTS 1 AND 2 TO ARE DESIGNED FOR A FACTORED RESISTANCE OF 105 TONS PER PILE. DRIVE PILES TO A REQUIRED DRIVING RESISTANCE OF 175 TONS PER PILE.

PILES AT BENTS 1 AND 2 TO ARE DESIGNED FOR A FACTORED RESISTANCE OF 165 TONS PER PILE. DRIVE PILES TO A REQUIRED DRIVING RESISTANCE OF 275 TONS PER PILE.

INSTALL PILES AT BENTS 1 AND 2 TO A TIP ELEVATION NO HIGHER THAN 210 FT.

THE SCOUR CRITICAL ELEVATION FOR BENTS 1 & 2 IS ELEVATION 224 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

GALVANIZE THE FULL LENGTH OF EACH INTERIOR BENT PILE IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS AND THE PILES PROVISION.



PROJECT NO. B-4584
MOORE COUNTY
 STATION: 16+29.50 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 BRIDGE OVER LITTLE RIVER
 ON SR 1864 BETWEEN
 SR 2175 AND US 1

DRAWN BY : J. E. JONES DATE : 3/10/09
 CHECKED BY : T. H. FANG DATE : 5/17/09

13-APR-2010 12:11
 K:\TIPProjects-B\B4584\Structures\Final Plans\b4584_sd.gdn
 tfang

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			21

TOTAL BILL OF MATERIAL															
	REMOVAL OF EXISTING STRUCTURE	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12 X 53 STEEL PILES		HP 14 X 73 GALVANIZED STEEL PILES		VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLABS	
	LUMP SUM	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	NO.	LIN. FT.	NO.	LIN. FT.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	NO.	LIN. FT.
SUPERSTRUCTURE										345.5			LUMP SUM	33	1897.5
END BENT 1			14.6		2034	5	200				155	170			
BENT 1			10.0		2108			7	280						
BENT 2			10.0		2108			7	280						
END BENT 2			14.6		2034	5	225				95	105			
TOTAL	LUMP SUM	LUMP SUM	49.2	LUMP SUM	8284	10	425	14	560	345.5	250	275	LUMP SUM	33	1897.5

NOTES:

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

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

FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.

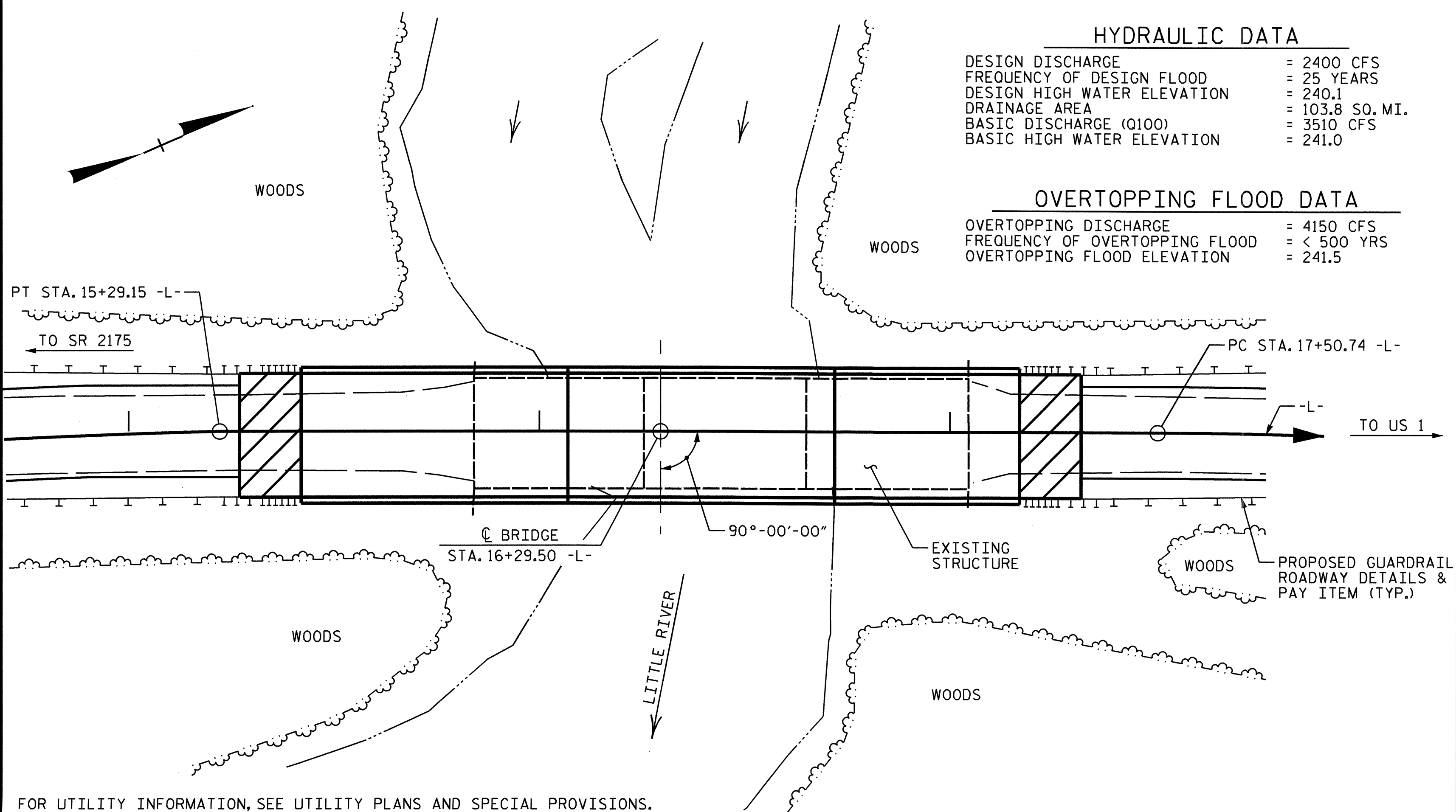
THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES", MAY, 2001.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.

IN AS MUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STATION 16+29.50 -L-".

THE EXISTING STRUCTURE CONSISTING OF 3 SPANS: 1 @ 40'-4", 1 @ 40'-0" & 1 @ 40'-4"; 24'-3" CLEAR ROADWAY WIDTH AND DOUBLE TIMBER DECK ON I-BEAMS; END BENTS; TIMBER CAPS ON TIMBER PILES, INTERIOR BENTS; RC CAPS ON TIMBER PILES AND LOCATED AT CENTER LINE OF THE PROPOSED STRUCTURE SITE 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.

BENCH MARK #1: RR SPIKE IN BASE OF 15" GUM, 71.00' LEFT OF STA. 15+64.12 -L- POT, EL. 238.240'.



HYDRAULIC DATA	
DESIGN DISCHARGE	= 2400 CFS
FREQUENCY OF DESIGN FLOOD	= 25 YEARS
DESIGN HIGH WATER ELEVATION	= 240.1
DRAINAGE AREA	= 103.8 SQ. MI.
BASIC DISCHARGE (Q100)	= 3510 CFS
BASIC HIGH WATER ELEVATION	= 241.0

OVERTOPPING FLOOD DATA	
OVERTOPPING DISCHARGE	= 4150 CFS
FREQUENCY OF OVERTOPPING FLOOD	= < 500 YRS
OVERTOPPING FLOOD ELEVATION	= 241.5

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

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON SHEET S-1 SHALL BE EXCAVATED FOR A DISTANCE OF 30 FT. EACH SIDE AT END BENT 1; 30 FT LEFT SIDE AND 25 FT. RIGHT SIDE AT END BENT 2 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 SPECIFICATION.

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

FOR CURING CONCRETE, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR VERTICAL CONCRETE BARRIER RAIL, SEE SPECIAL PROVISIONS.

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

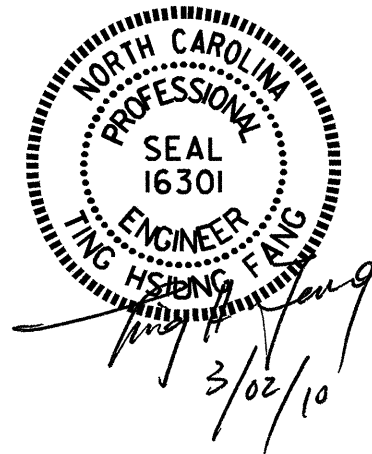
PROJECT NO. B-4584
MOORE COUNTY
 STATION: 16+29.50 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 BRIDGE OVER LITTLE RIVER
 ON SR 1864 BETWEEN
 SR 2175 AND US 1

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			21



DRAWN BY : E.C. LOCKLEAR DATE : 11-6-08
 CHECKED BY : T.H. FANG DATE : 12-7-09

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE CORED SLAB UNITS

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			
						MOMENT					SHEAR					MOMENT								
						LIVE-LOAD FACTORS (γ _{LL})	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)	LIVE-LOAD FACTORS (γ _{LL})	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.082	--	1.75	0.279	1.59	C	EL	21.406	0.545	1.2	C	EL	2.141	0.80	0.272	1.08	B	EL	31.938		
	HL-93 (OPERATING)	N/A	--	1.556	--	1.35	0.279	2.06	C	EL	21.406	0.545	1.56	C	EL	2.141	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.387	49.933	1.75	0.279	1.94	C	EL	21.406	0.545	1.41	C	EL	2.141	0.80	0.272	1.39	B	EL	31.938		
	HS-20 (OPERATING)	36.000	--	1.828	65.809	1.35	0.279	2.52	C	EL	21.406	0.545	1.83	C	EL	2.141	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500	--	2.991	40.378	1.40	0.279	4.7	C	EL	21.406	0.545	3.87	C	EL	2.141	0.80	0.279	2.99	C	EL	21.406	
		SNGARBS2	20.000	--	2.306	46.11	1.40	0.279	3.81	C	EL	17.125	0.545	2.85	C	EL	2.141	0.80	0.272	2.31	B	EL	31.938	
		SNAGRIS2	22.000	--	2.199	48.376	1.40	0.279	3.69	C	EL	17.125	0.545	2.68	C	EL	2.141	0.80	0.272	2.20	B	EL	31.938	
		SNCOTTS3	27.250	--	1.494	40.703	1.40	0.279	2.35	C	EL	21.406	0.545	1.94	C	EL	2.141	0.80	0.279	1.49	C	EL	21.406	
		SNAGGRS4	34.925	--	1.281	44.74	1.40	0.279	2.08	C	EL	21.406	0.545	1.68	C	EL	2.141	0.80	0.272	1.28	B	EL	31.938	
		SNS5A	35.550	--	1.252	44.501	1.40	0.279	2.02	C	EL	21.406	0.545	1.74	C	EL	2.141	0.80	0.272	1.25	B	EL	31.938	
		SNS6A	39.950	--	1.154	46.117	1.40	0.279	1.91	C	EL	21.406	0.545	1.62	C	EL	2.141	0.80	0.272	1.15	B	EL	31.938	
		SNS7B	42.000	--	1.1	46.18	1.40	0.279	1.82	C	EL	21.406	0.545	1.64	C	EL	2.141	0.80	0.272	1.10	B	EL	31.938	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000	--	1.409	46.511	1.40	0.279	2.35	C	EL	21.406	0.545	1.9	C	EL	2.141	0.80	0.272	1.41	B	EL	31.938	
		TNT4A	33.075	--	1.417	46.875	1.40	0.279	2.37	C	EL	21.406	0.545	1.82	C	EL	2.141	0.80	0.272	1.42	B	EL	31.938	
		TNT6A	41.600	--	1.164	48.441	1.40	0.279	1.99	C	EL	21.406	0.545	1.77	C	EL	2.141	0.80	0.272	1.16	B	EL	31.938	
		TNT7A	42.000	--	1.173	49.279	1.40	0.279	2.04	C	EL	21.406	0.545	1.64	C	EL	2.141	0.80	0.272	1.17	B	EL	31.938	
		TNT7B	42.000	--	1.221	51.3	1.40	0.279	2.12	C	EL	21.406	0.545	1.57	C	EL	2.141	0.80	0.272	1.22	B	EL	31.938	
		TNAGRIT4	43.000	--	1.156	49.72	1.40	0.279	2.02	C	EL	21.406	0.545	1.5	C	EL	2.141	0.80	0.272	1.16	B	EL	31.938	
TNAGT5A	45.000	--	1.088	48.943	1.40	0.279	1.88	C	EL	21.406	0.545	1.54	C	EL	2.141	0.80	0.272	1.09	B	EL	31.938			
TNAGT5B	45.000	--	③	1.072	48.247	1.40	0.279	1.83	C	EL	21.406	0.545	1.43	C	EL	2.141	0.80	0.272	1.07	B	EL	31.938		

LOAD FACTORS:

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

	YEAR	ADTT
CURRENT	2010	16
FUTURE	2030	29

NOTES:

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

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

COMMENTS:

- 1.
- 2.
- 3.
- 4.

CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93)

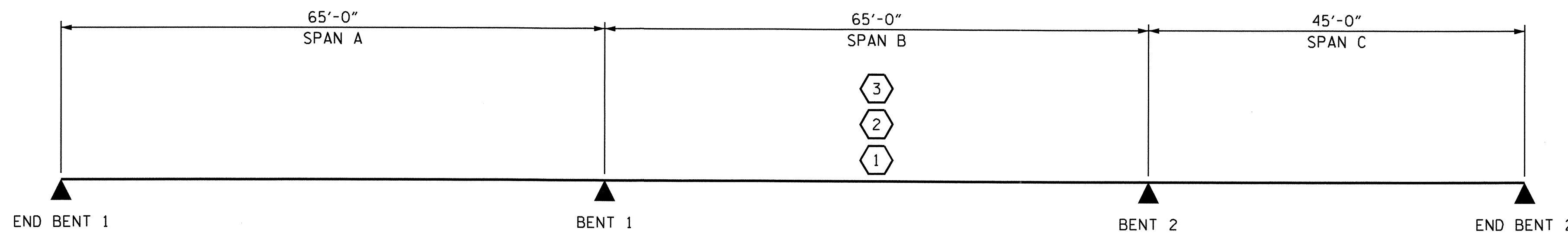
② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

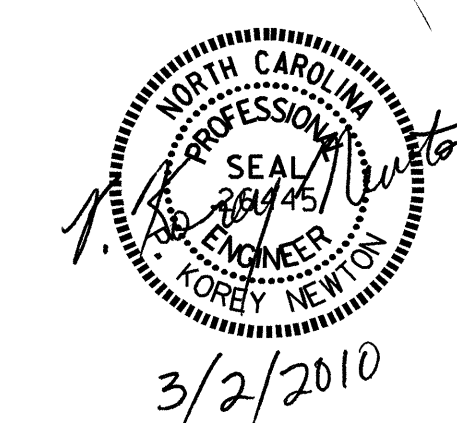
GIRDER LOCATION

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



LRFR SUMMARY

PROJECT NO. B-4584
MOORE COUNTY
 STATION: 16+29.50 -L-



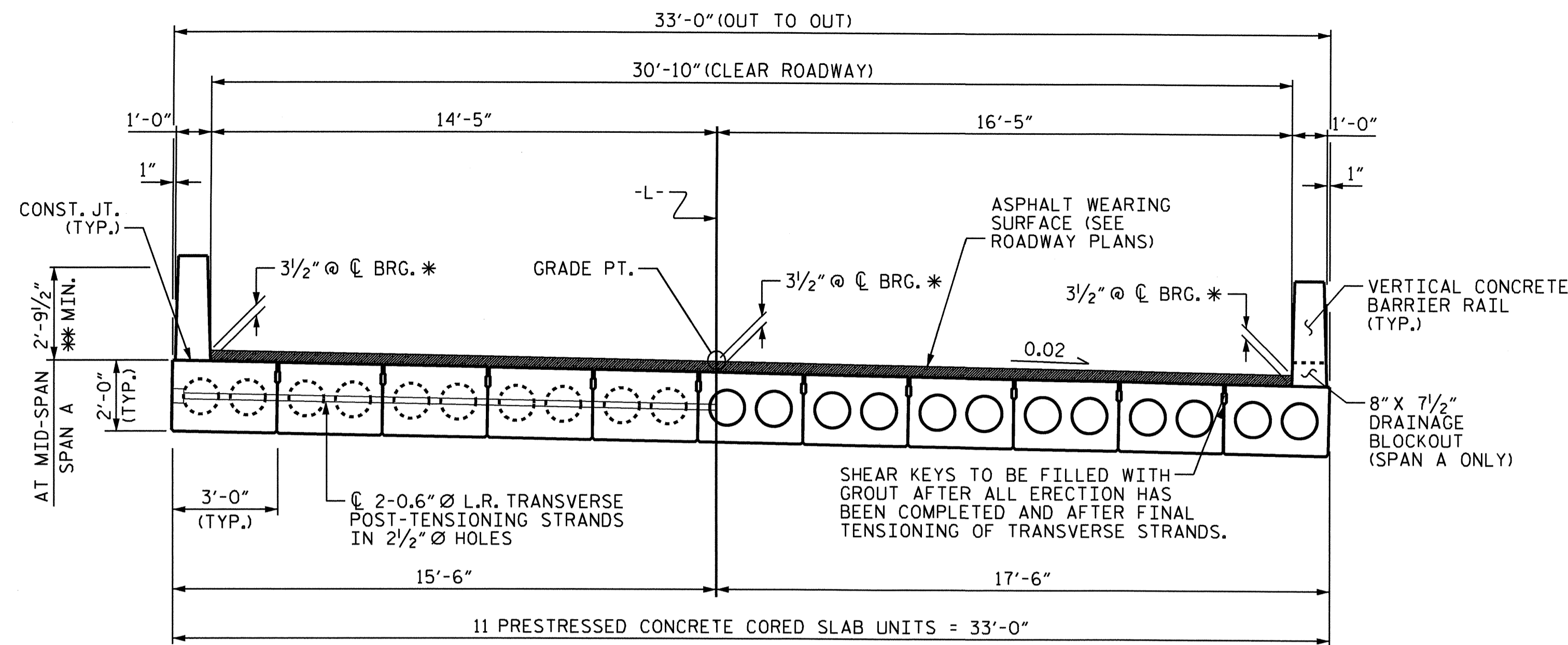
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 LRFR SUMMARY FOR
 PRESTRESSED CONCRETE
 CORED SLAB UNITS
 (NON-INTERSTATE TRAFFIC)

ASSEMBLED BY : P. K. NEWTON	DATE : 12/16/09
CHECKED BY : J. A. YANACCONI	DATE : 12/16/09
DRAWN BY : MAA I/OB	REV. 11/12/08RR MAA/GM
CHECKED BY : GM/DI 2/08	

02-MAR-2010 11:32
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 knewton

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			21

STD. NO. LRFR1



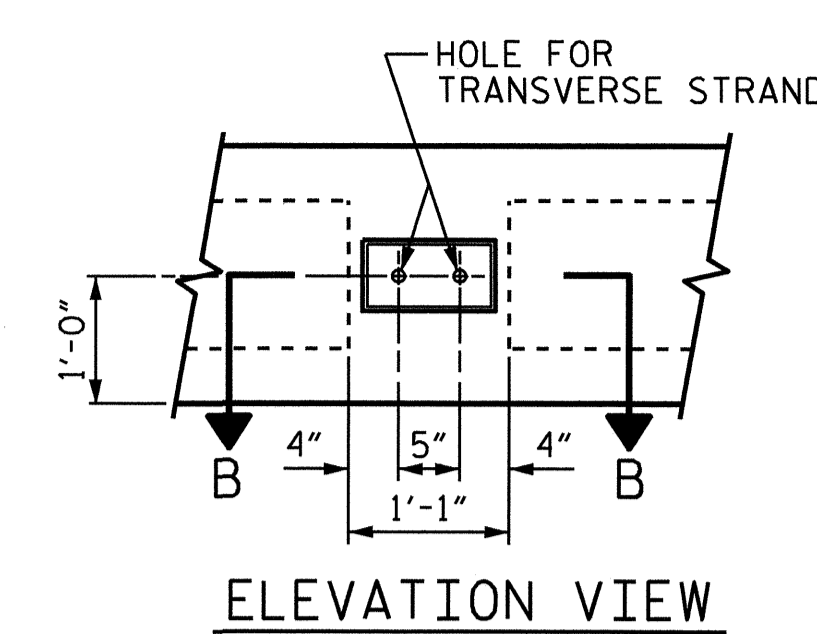
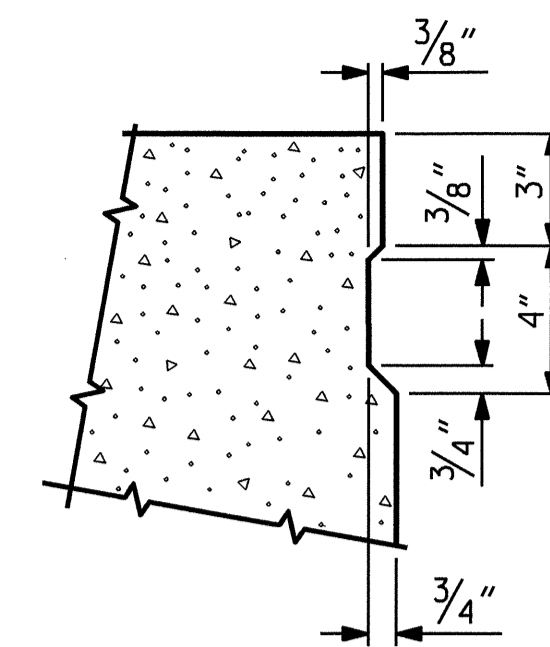
TYPICAL SECTION

THE MINIMUM HEIGHT OF THE BARRIER RAIL IS SHOWN. THE HEIGHT OF THE BARRIER RAIL VARIES WHILE THE TOP OF THE BARRIER RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE.

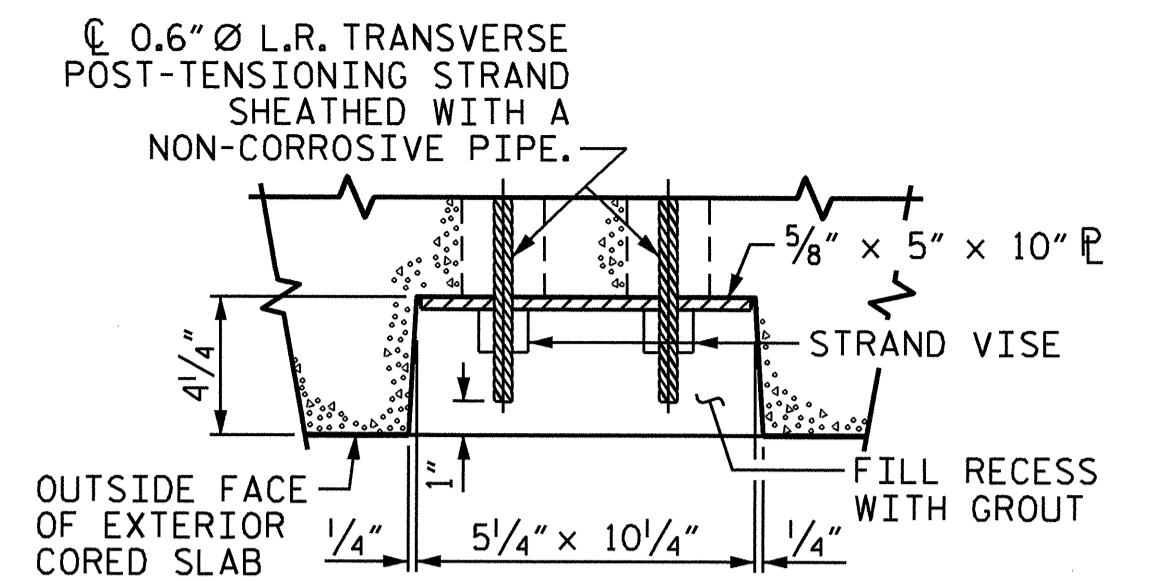
* SEE ASPHALT WEARING SURFACE THICKNESS TABLE
* SEE RAIL HEIGHT TABLE

SHEAR KEY DETAIL

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



ELEVATION VIEW



SECTION B-B

GROUTED RECESS AT END OF POST-TENSIONED STRAND CORED SLABS

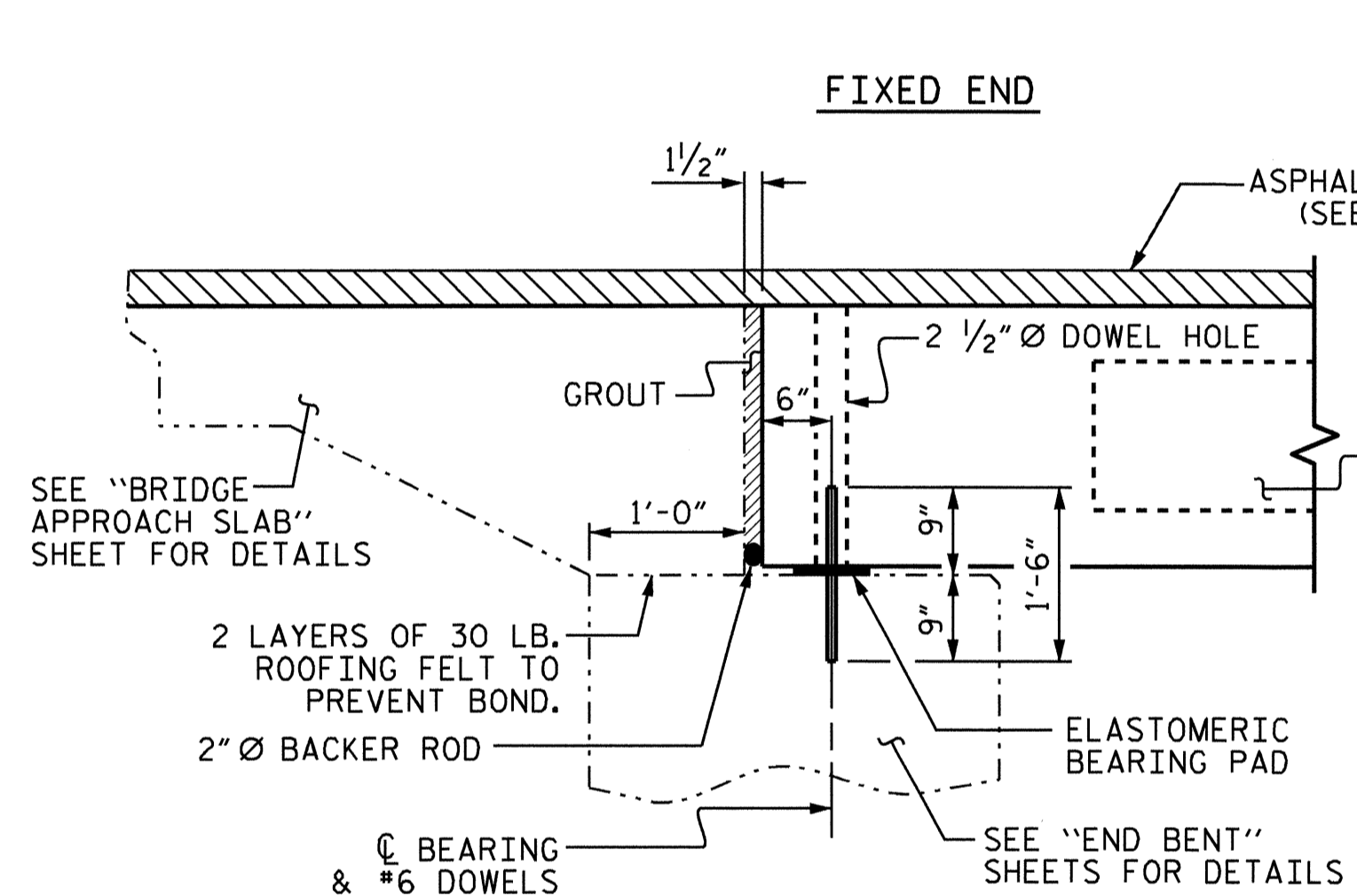
RAIL HEIGHT TABLE
BASED ON PREDICTED FINAL CAMBER AND THEORETICAL GRADE LINE ELEVATIONS.

SPAN	** AT ̄ BEARINGS	** AT MID-SPAN
A	2'-11 1/2"	2'-9 1/2"
B	2'-11 1/2"	2'-9 5/8"
C	2'-11 1/2"	2'-11"

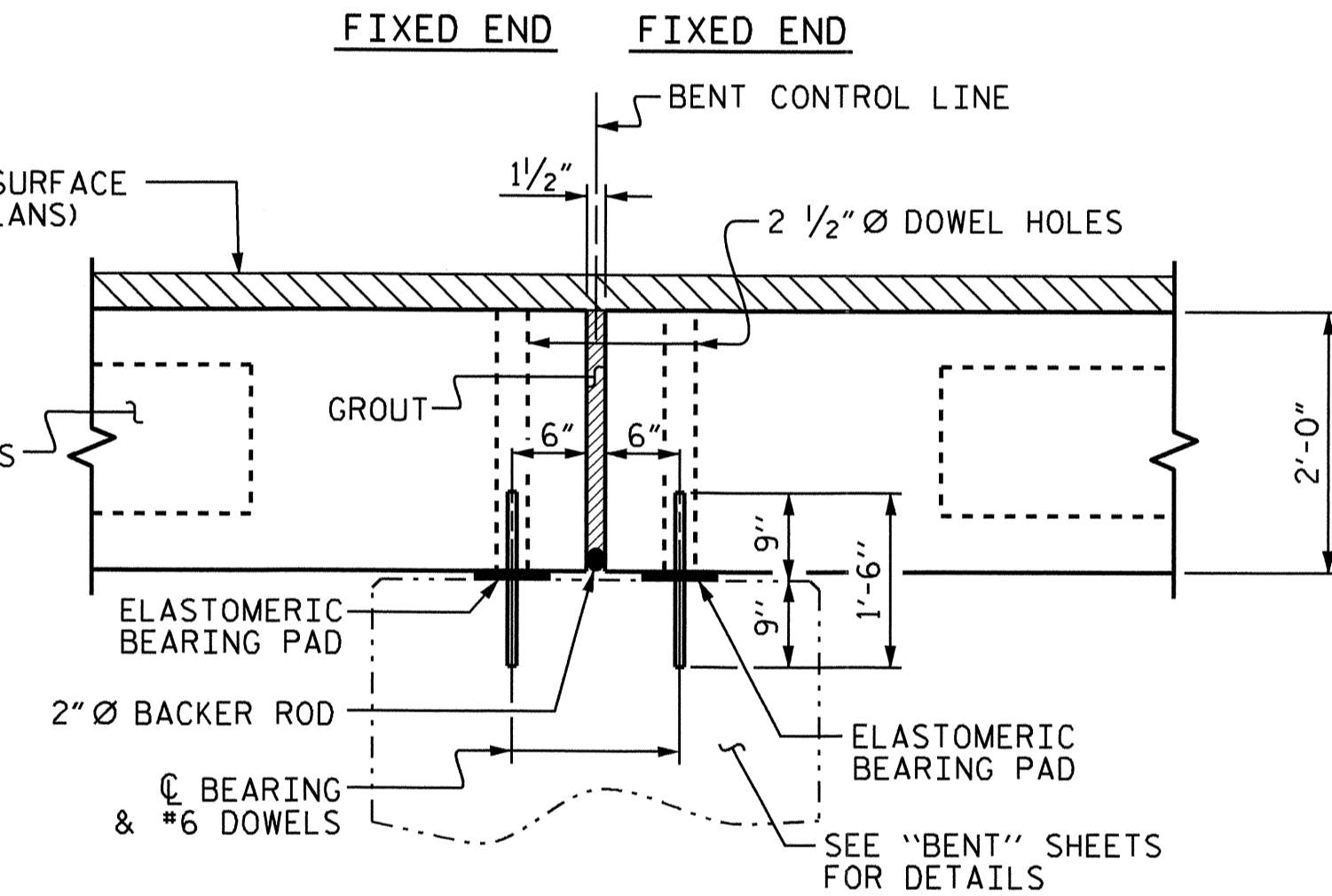
ASPHALT WEARING SURFACE THICKNESS TABLE
BASED ON PREDICTED FINAL CAMBER AND THEORETICAL GRADE LINE ELEVATIONS.

SPAN	* AT ̄ BEARINGS		* AT MID-SPAN	
	GUTTERS	GRADE PT.	GUTTERS	GRADE PT.
A	3 1/2"	3 1/2"	1 1/2"	1 1/2"
B	3 1/2"	3 1/2"	1 5/8"	1 5/8"
C	3 1/2"	3 1/2"	3"	3"

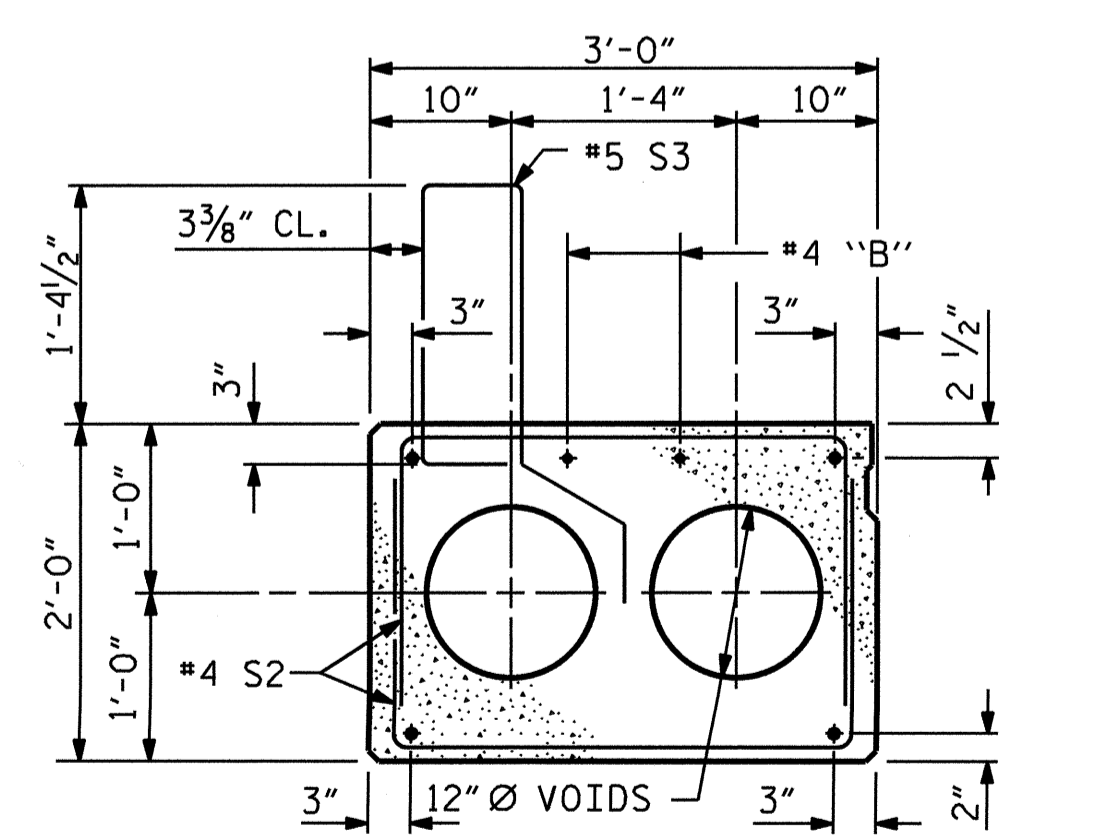
NOTE: THICKNESS VARIES BETWEEN ̄ BEARING AND MID-SPAN FOR ALL SPANS.



SECTION AT END BENTS

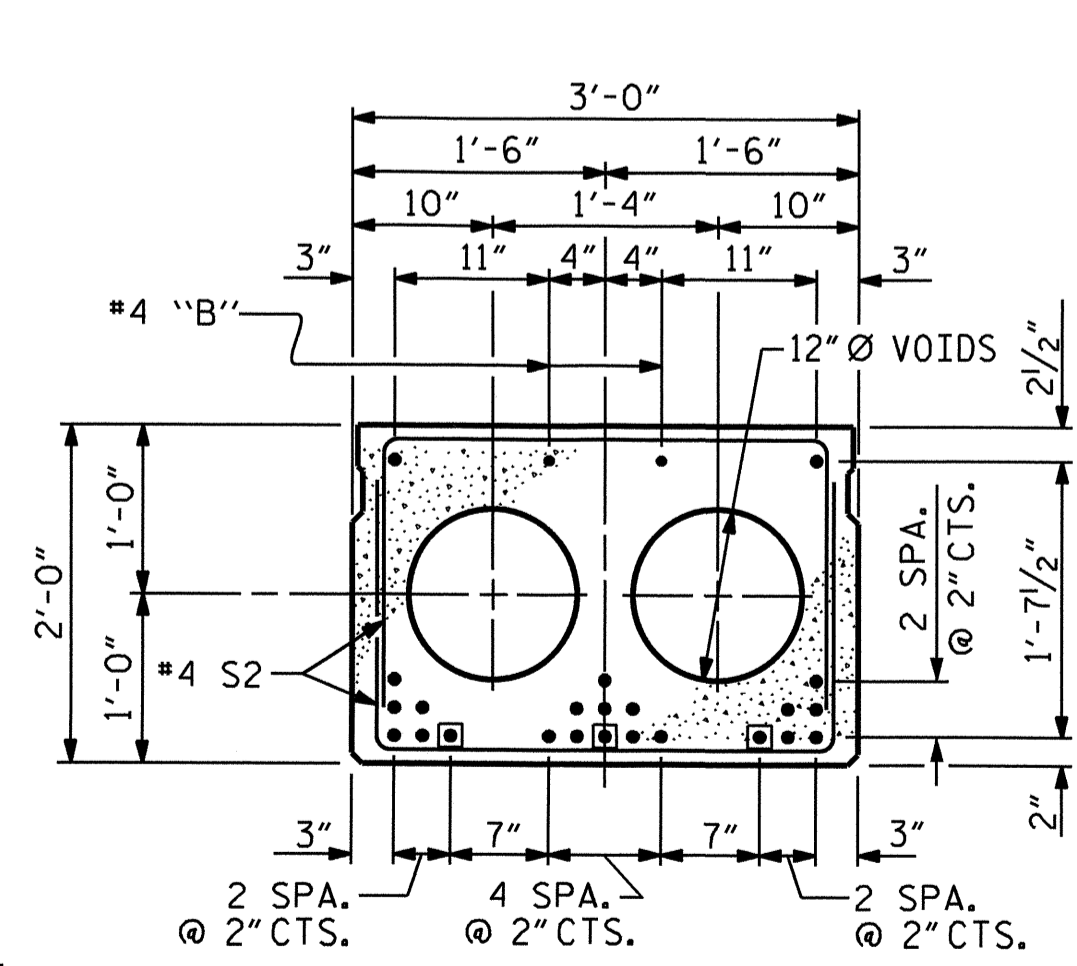


SECTION AT BENTS

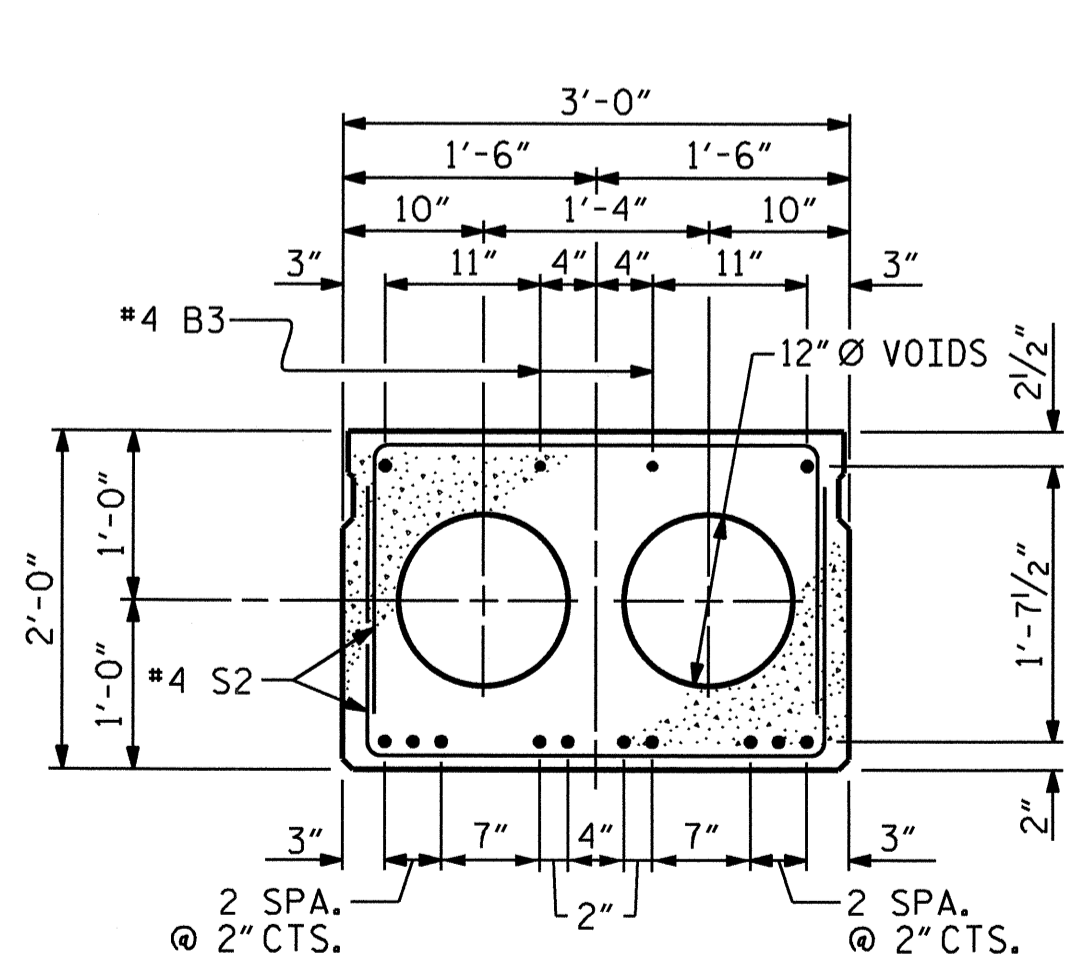


EXTERIOR SLAB SECTION

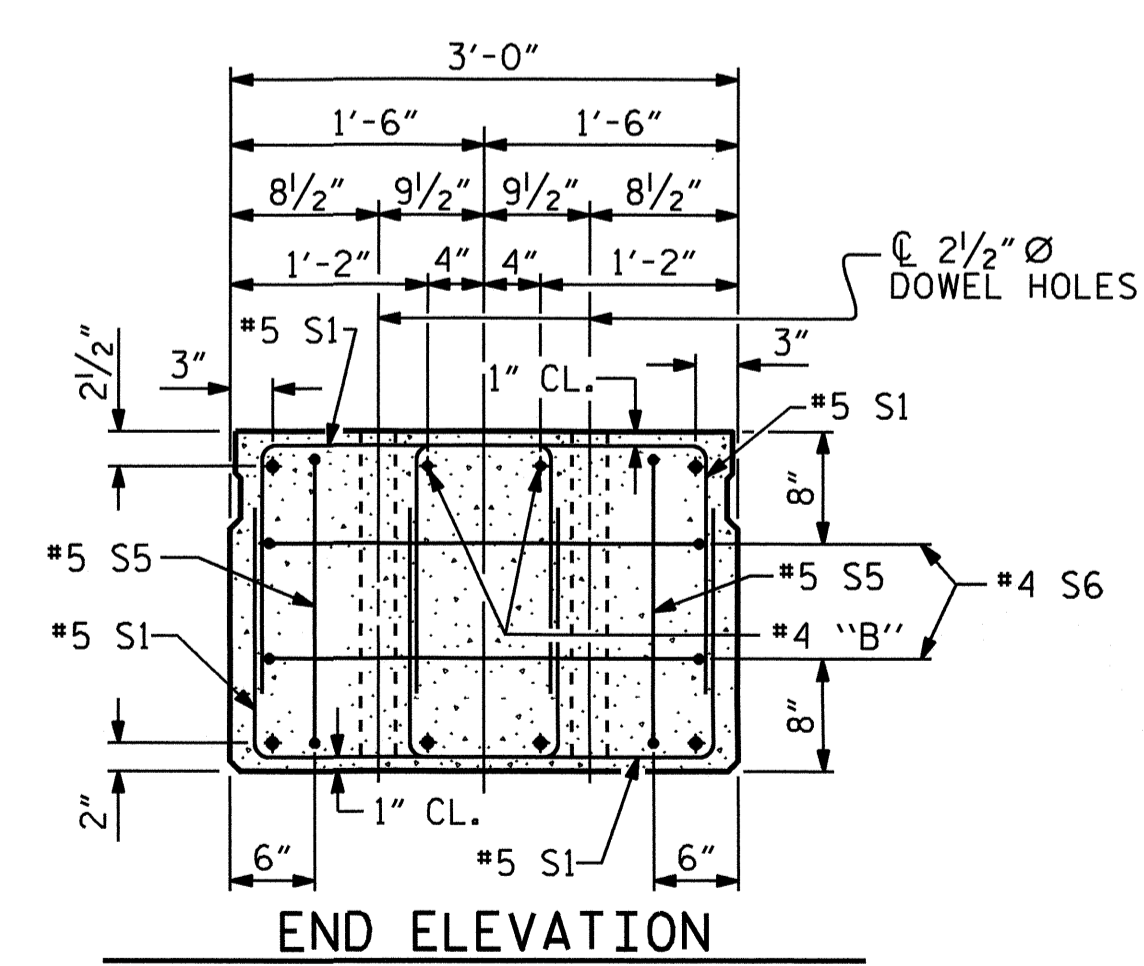
(FOR PRESTRESSED STRAND LAYOUT, SEE INTERIOR SLAB SECTION.)



INTERIOR SLAB SECTION (23 STRANDS, 3 SHEATHED) (SPANS A & B)

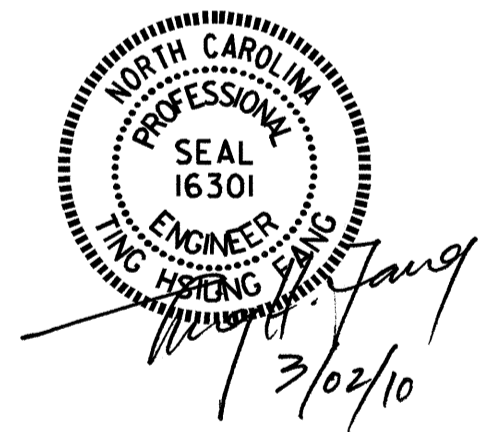


INTERIOR SLAB SECTION (12 STRANDS) (SPAN C)



END ELEVATION

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



PROJECT NO. B-4584
MOORE COUNTY
STATION: 16+29.50-L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
3'-0" X 2'-0"
PRESTRESSED CONCRETE
CORED SLAB UNIT

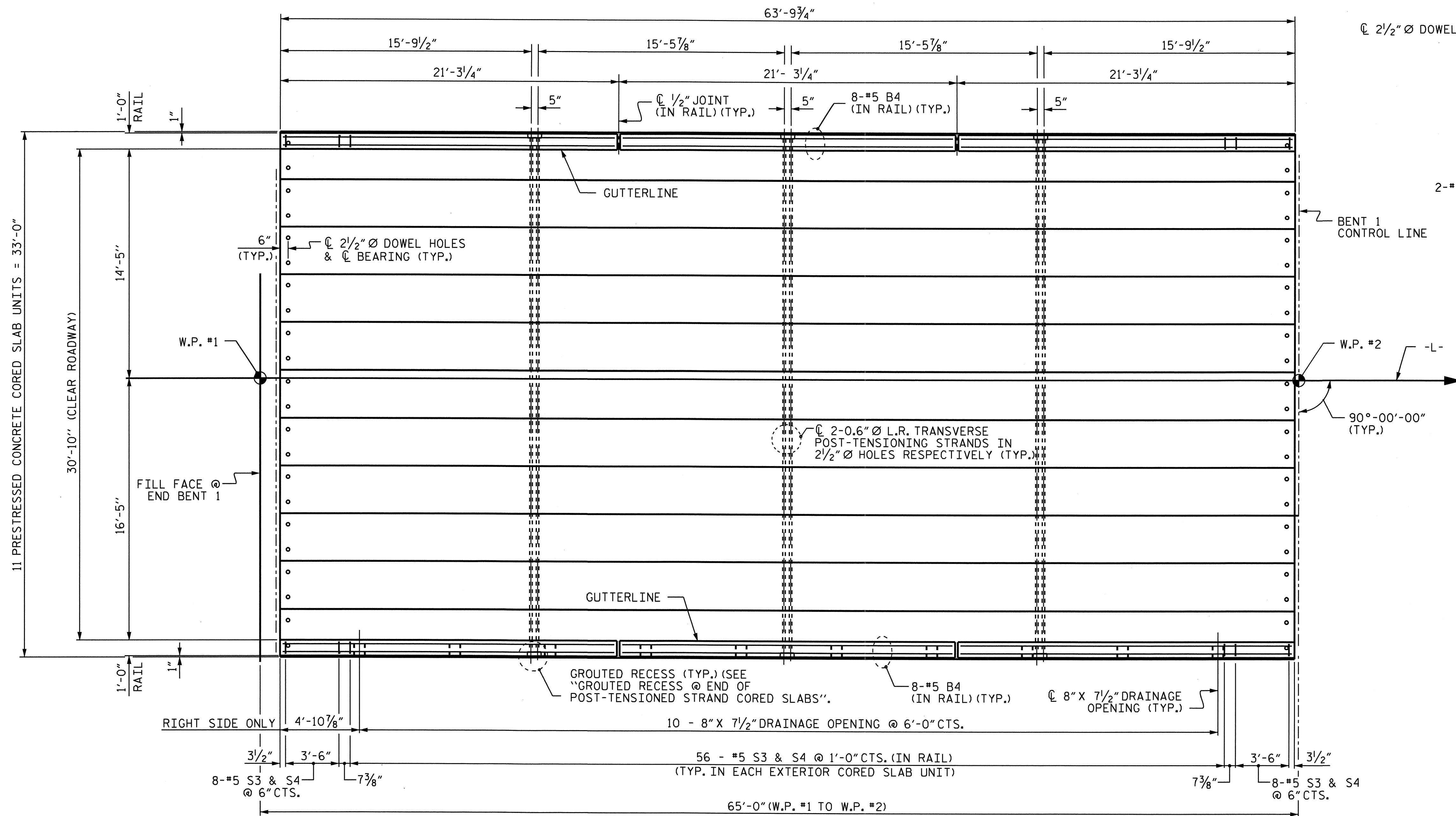
ASSEMBLED BY : E.C. LOCKLEAR DATE : 1/9/09
CHECKED BY : T.H. FANG DATE : 12/9/09
DRAWN BY : WJH 4/89 REV. 10/17/00 RWW/LES
CHECKED BY : FCJ 5/89 REV. 7/10/01RR RWW/LES
REV. 5/1/06 TLA/GM

0.6" Ø LOW RELAXATION STRAND LAYOUT

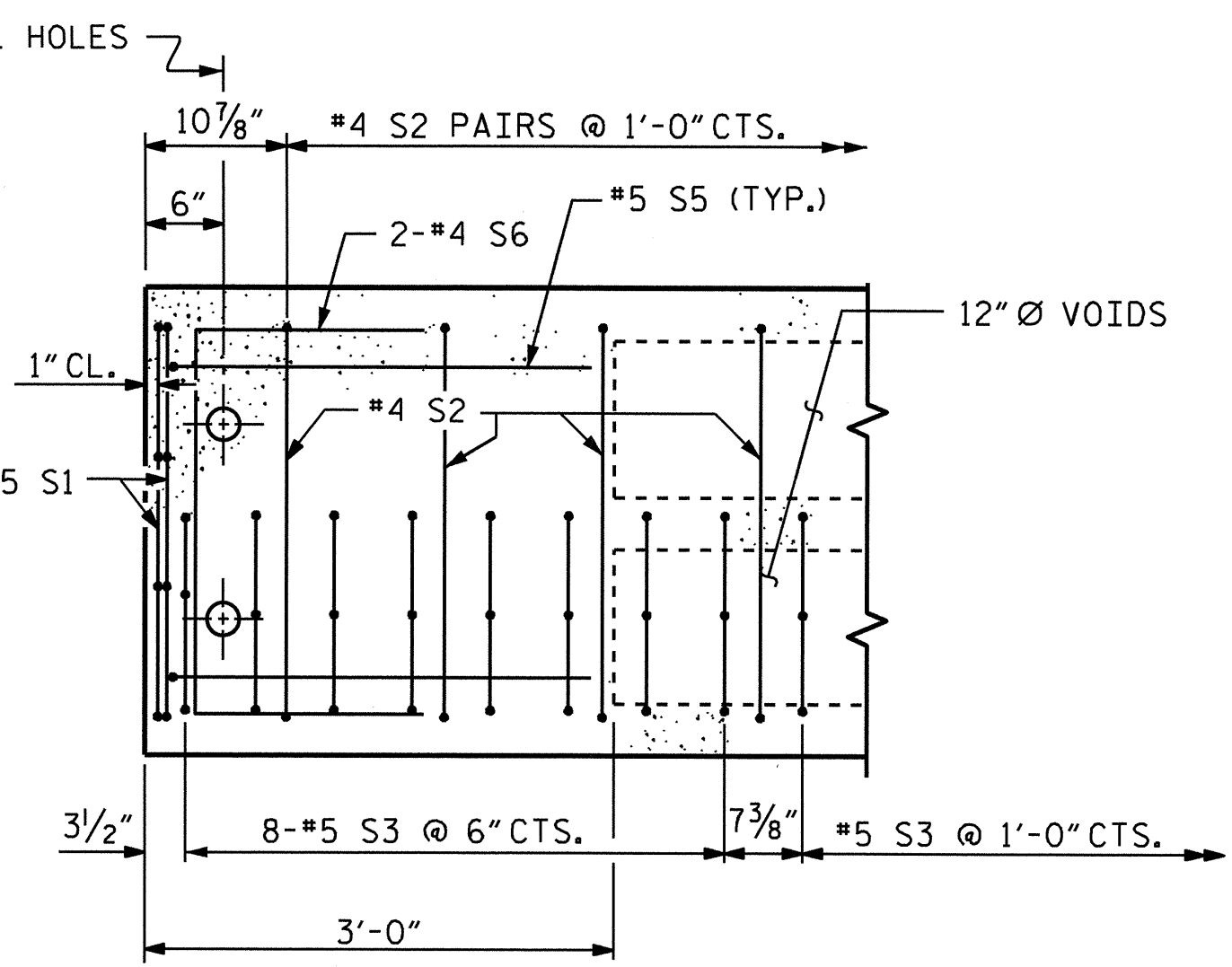
☐ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 4'-0" FROM END OF CORED SLAB UNIT, SEE STANDARD SPECIFICATIONS ARTICLE 1078-7.

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

S-5
TOTAL SHEETS 21

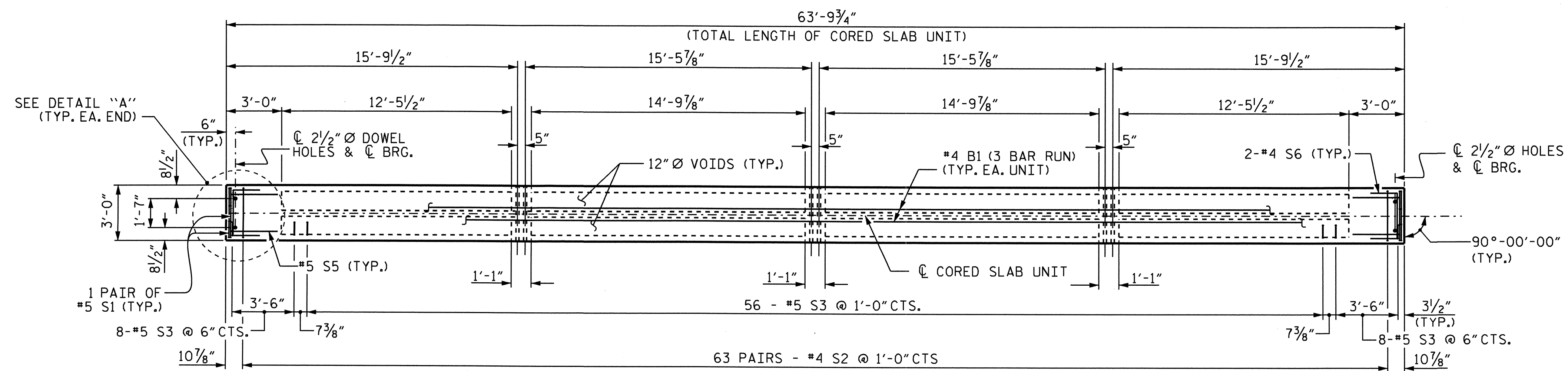


PLAN OF SPAN A

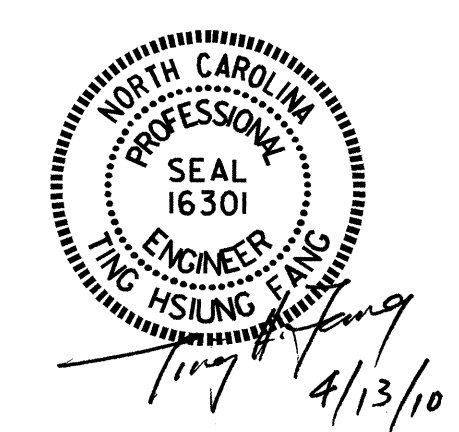


DETAIL "A"
PART PLAN-EXTERIOR SECTION

NOTE: EXTERIOR SECTION SHOWN-INTERIOR SECTION SIMILAR EXCEPT OMIT S3 BARS.



PLAN OF EXTERIOR CORED SLAB UNIT
PLAN FOR INTERIOR CORED SLAB IDENTICAL EXCEPT OMIT #5 S3 BARS.

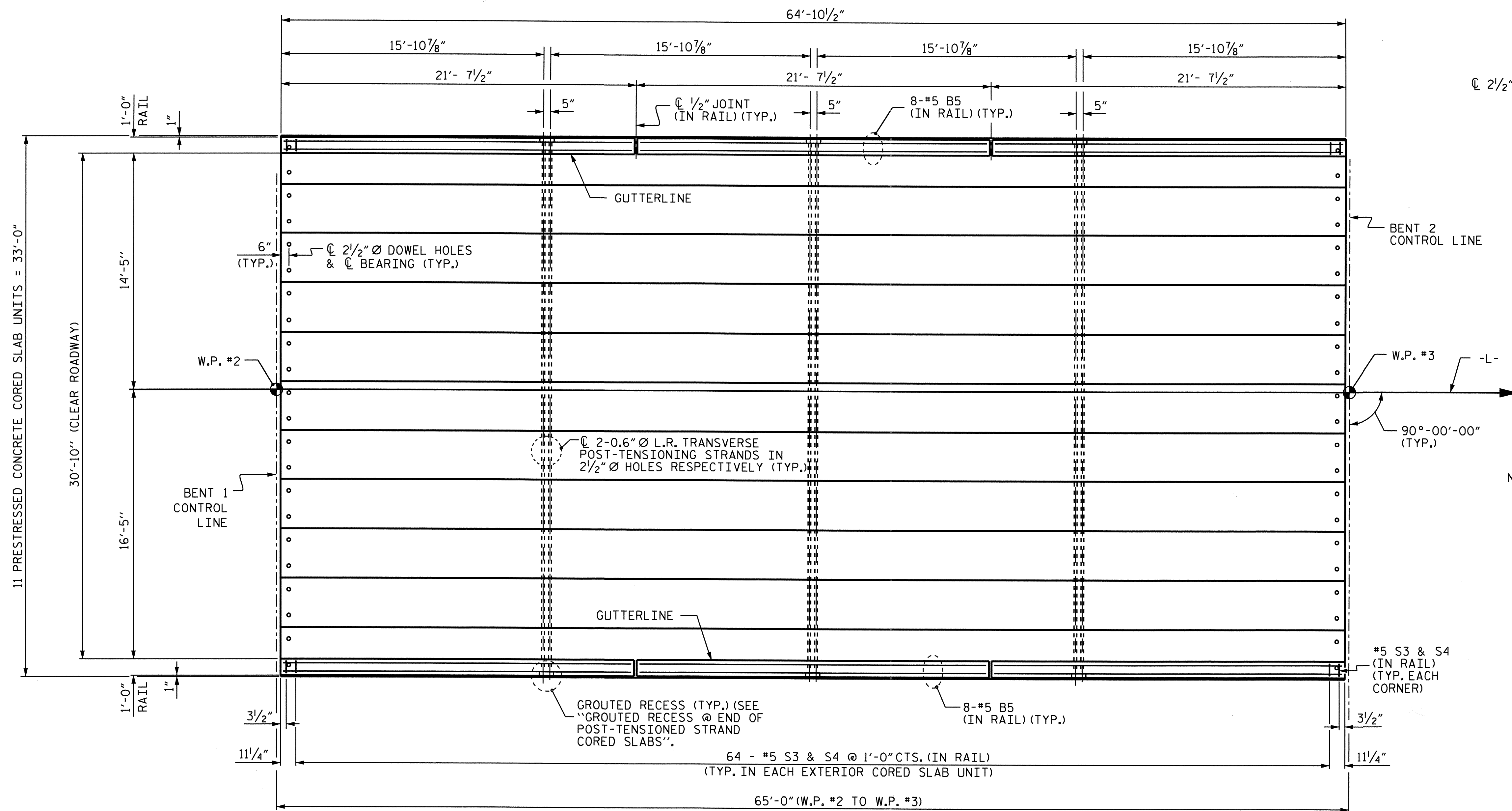


PROJECT NO. B-4584
MOORE COUNTY
 STATION: 16+29.50 -L-
 SHEET 1 OF 3

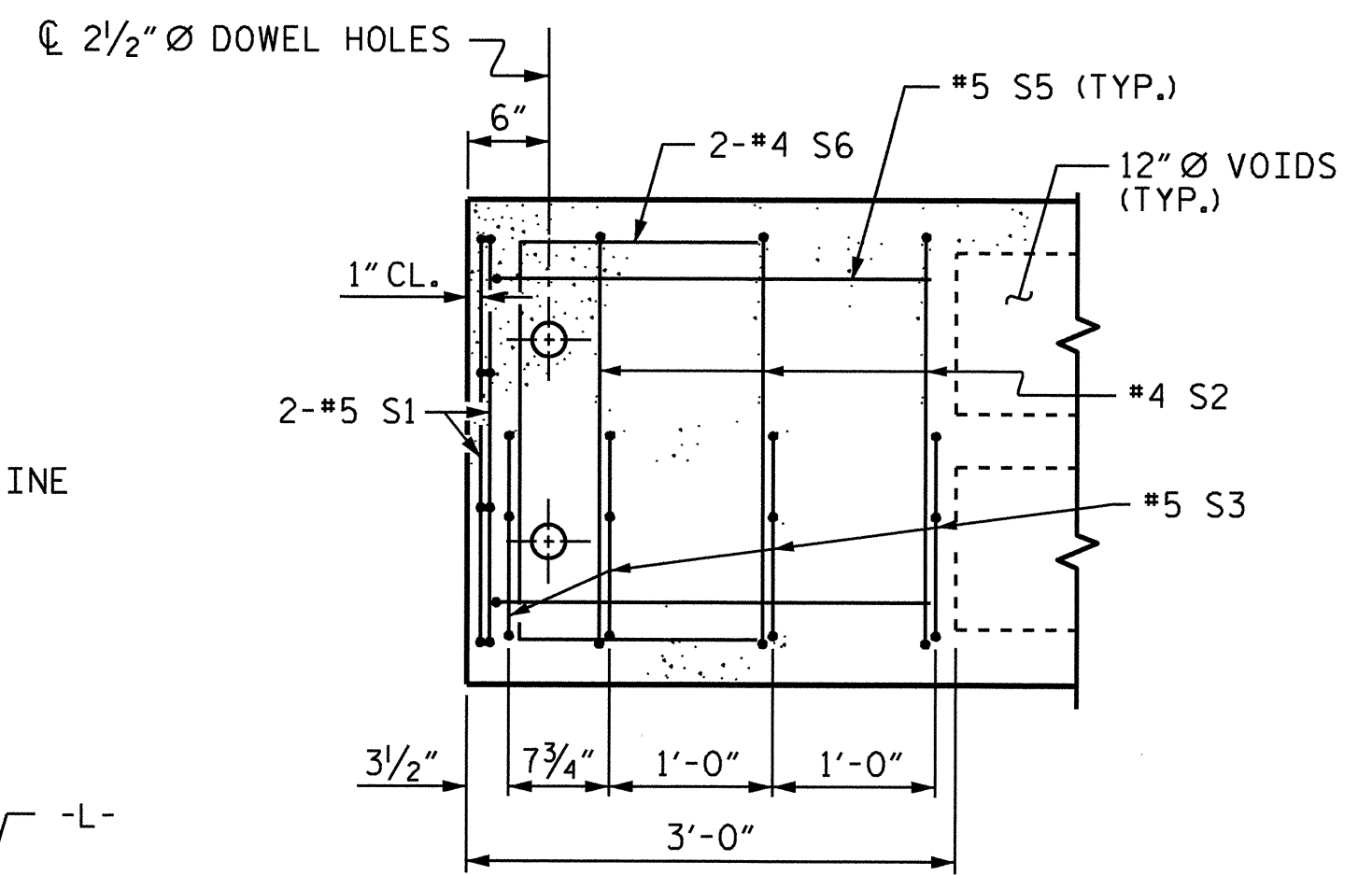
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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			21

DRAWN BY: E. C. LOCKLEAR DATE: 1/09/09
 CHECKED BY: T. H. FANG DATE: 11/17/09

13-APR-2010 11:53
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 T.fang



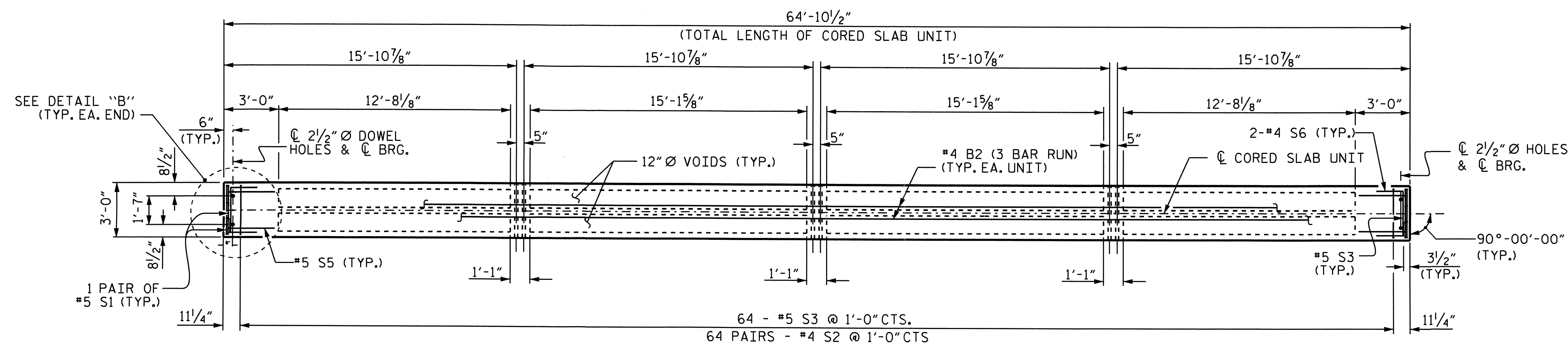
PLAN OF SPAN B



DETAIL "B"

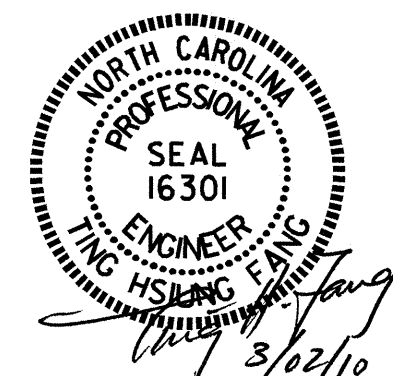
PART PLAN-EXTERIOR SECTION

NOTE: EXTERIOR SECTION SHOWN-INTERIOR SECTION SIMILAR EXCEPT OMIT S3 BARS.



PLAN OF EXTERIOR CORED SLAB UNIT

PLAN FOR INTERIOR CORED SLAB IDENTICAL EXCEPT OMIT #5 S3 BARS.



PROJECT NO. B-4584
MOORE COUNTY
 STATION: 16+29.50 -L-

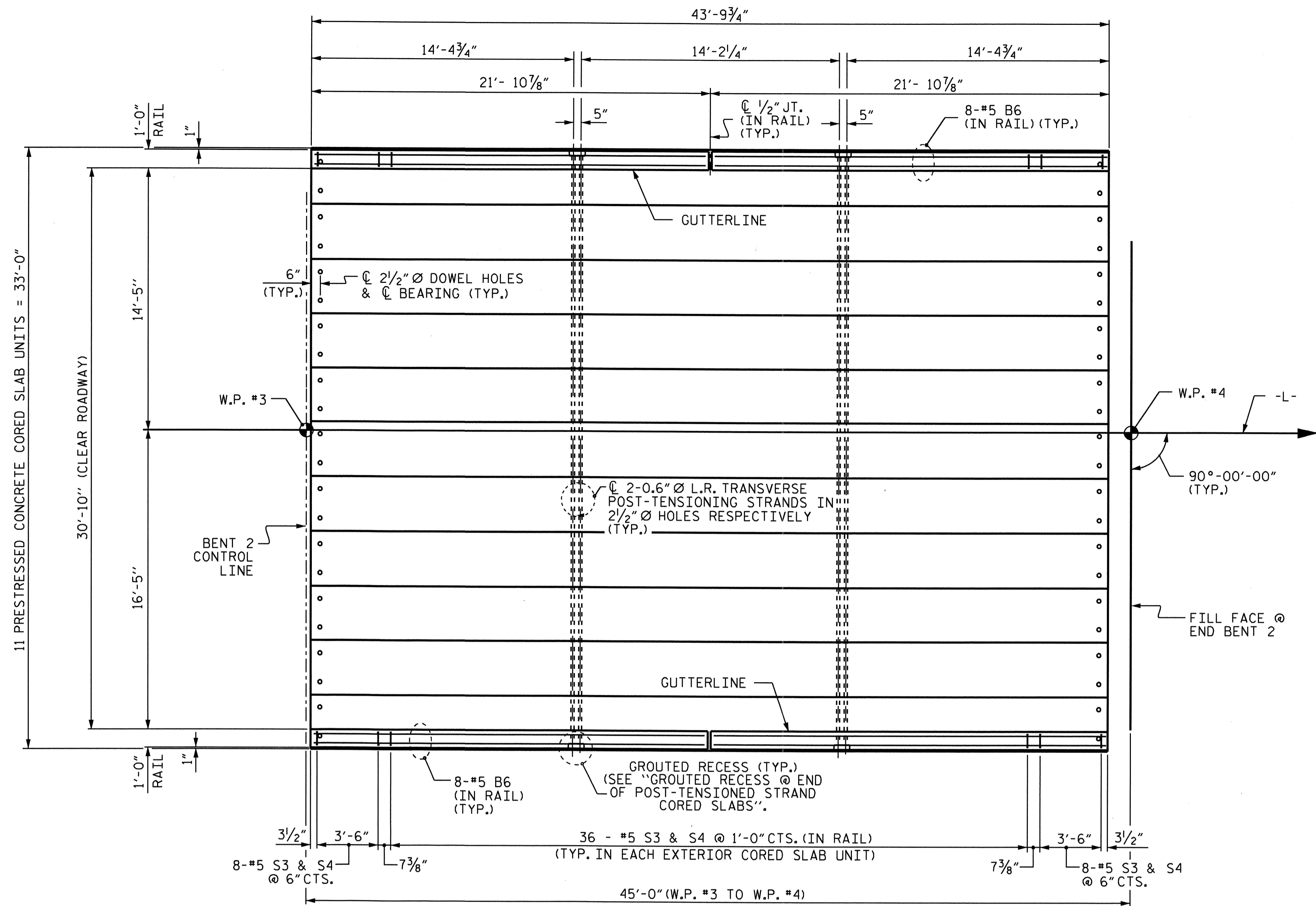
SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 PLAN OF SPAN
 SPAN B

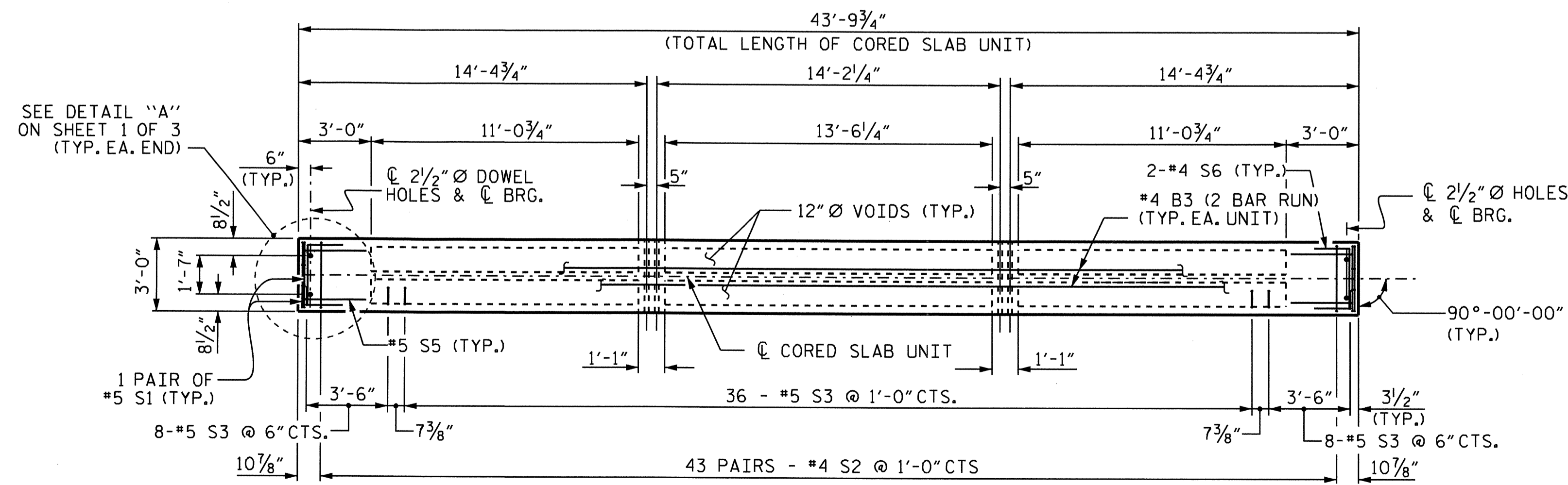
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NO.	BY:	DATE:	NO.	DATE:
1			3	
2			4	

S-7
TOTAL SHEETS
21

DRAWN BY: E. C. LOCKLEAR DATE: 1/09/09
 CHECKED BY: T. H. FANG DATE: 11/17/09



PLAN OF SPAN C

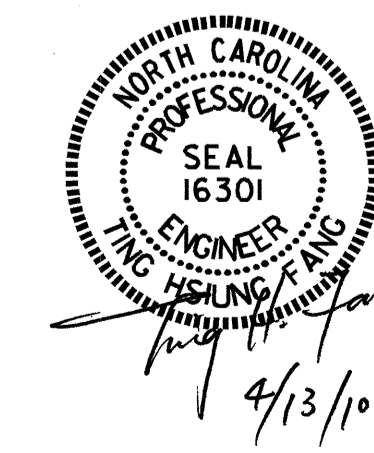


PLAN OF EXTERIOR CORED SLAB UNIT
 PLAN FOR INTERIOR CORED SLAB IDENTICAL EXCEPT OMIT #5 S3 BARS.

PROJECT NO. B-4584
MOORE COUNTY
 STATION: 16+29.50 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 PLAN OF SPAN
 SPAN C



DRAWN BY: E. C. LOCKLEAR DATE: 1/09/09
 CHECKED BY: T. H. FANG DATE: 11/17/09

13-APR-2010 11:53
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 T.Fang

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS
2			4			21

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.

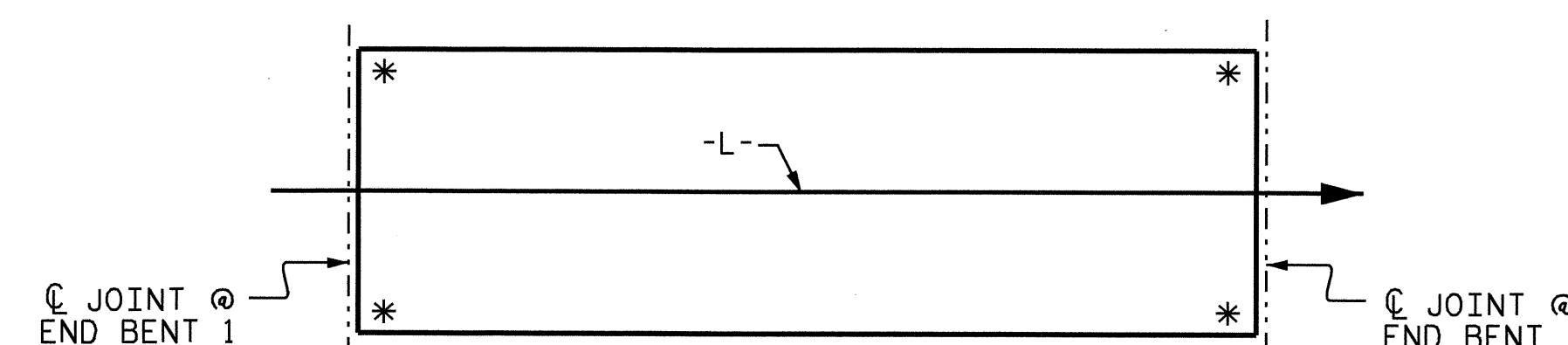
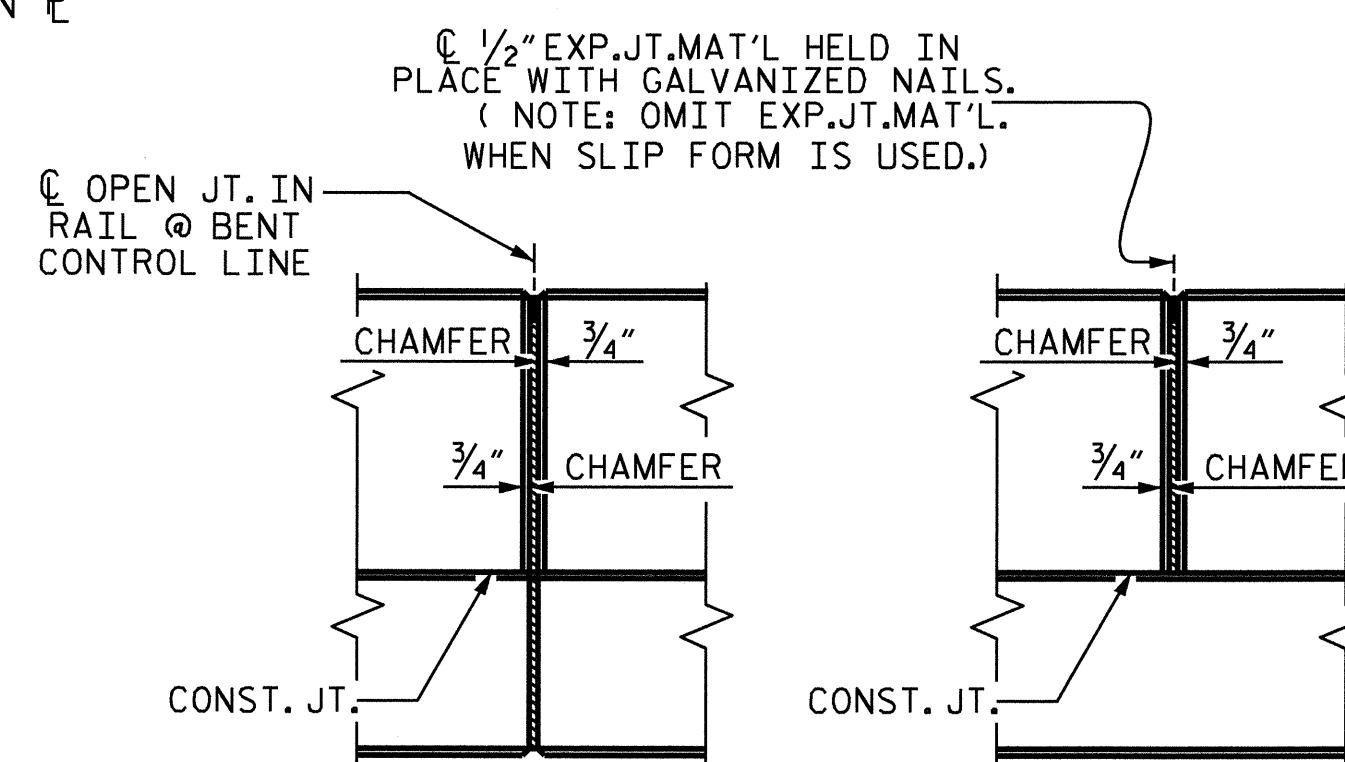
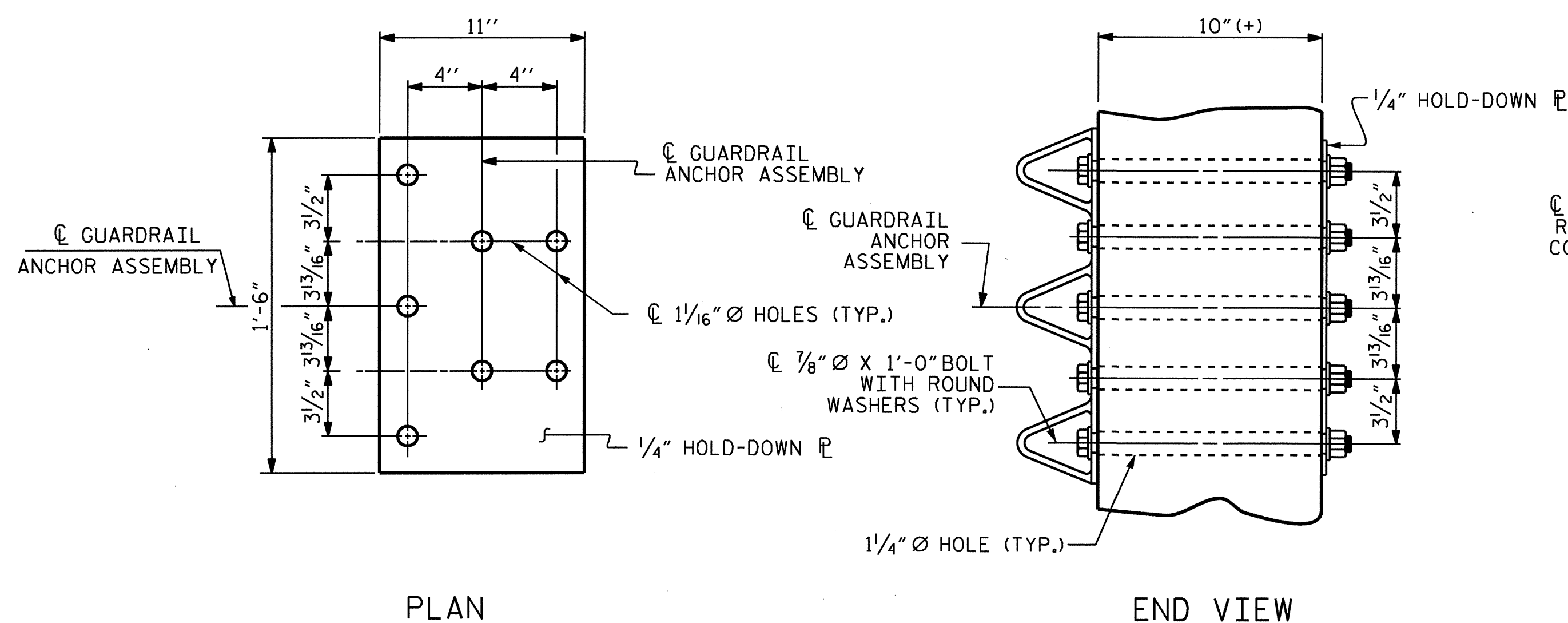
AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

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 VERTICAL CONCRETE BARRIER RAIL TO CLEAR ASSEMBLY BOLTS.

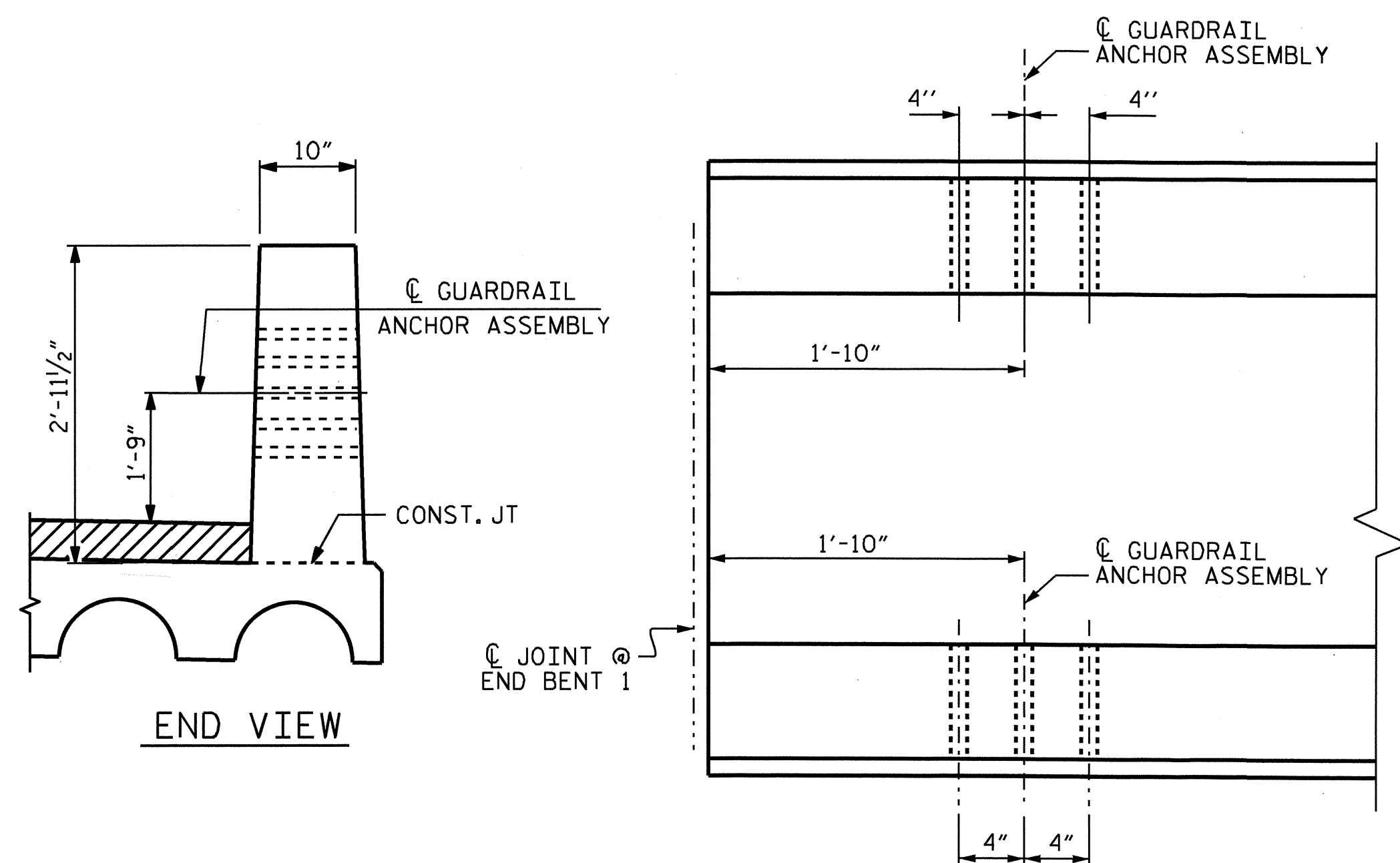
THE 1 1/4" Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

FOR VERTICAL CONCRETE BARRIER RAIL, SEE SPECIAL PROVISIONS.

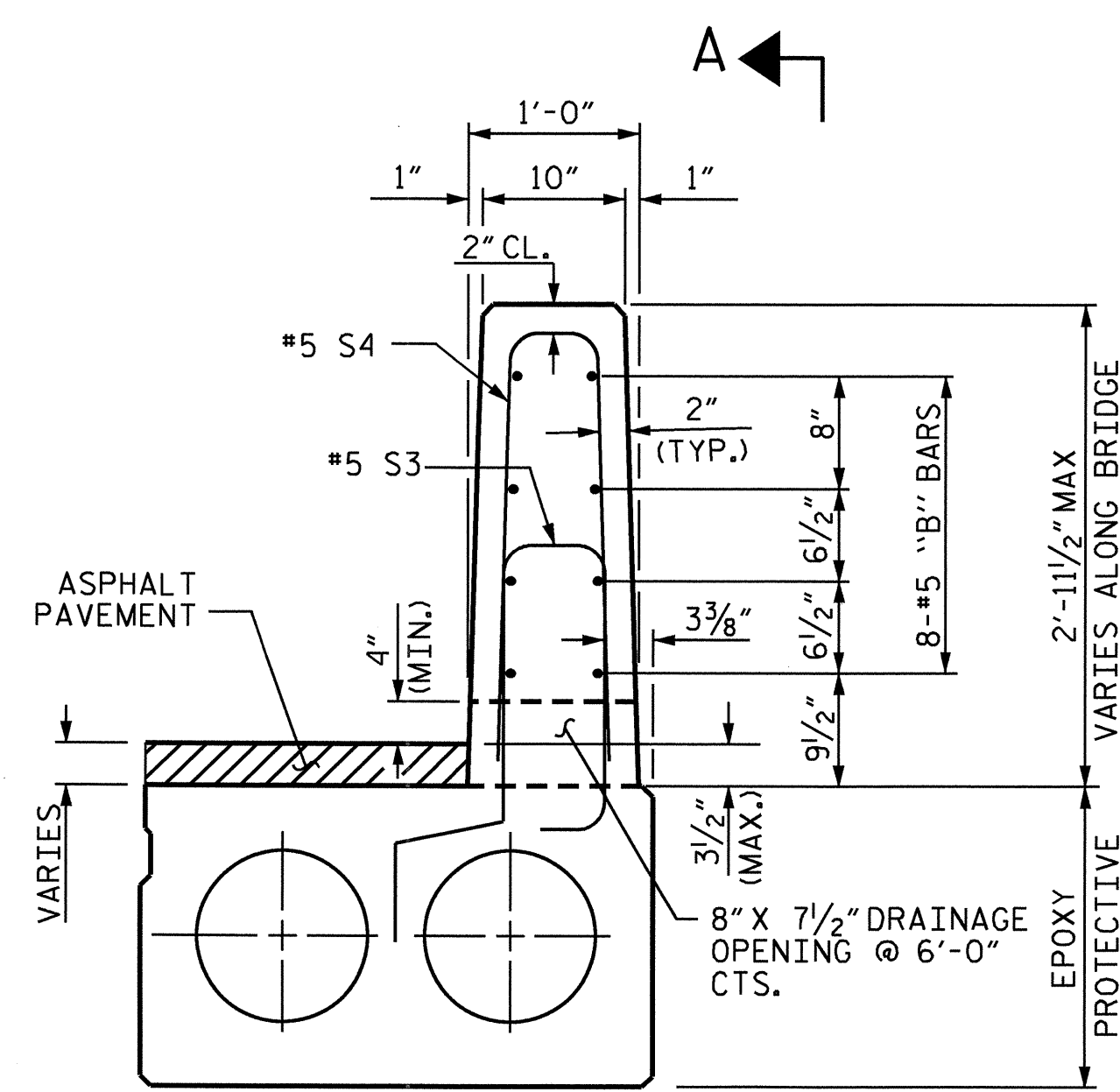


SKETCH SHOWING POINTS OF ATTACHMENT
* LOCATION OF GUARDRAIL ATTACHMENT

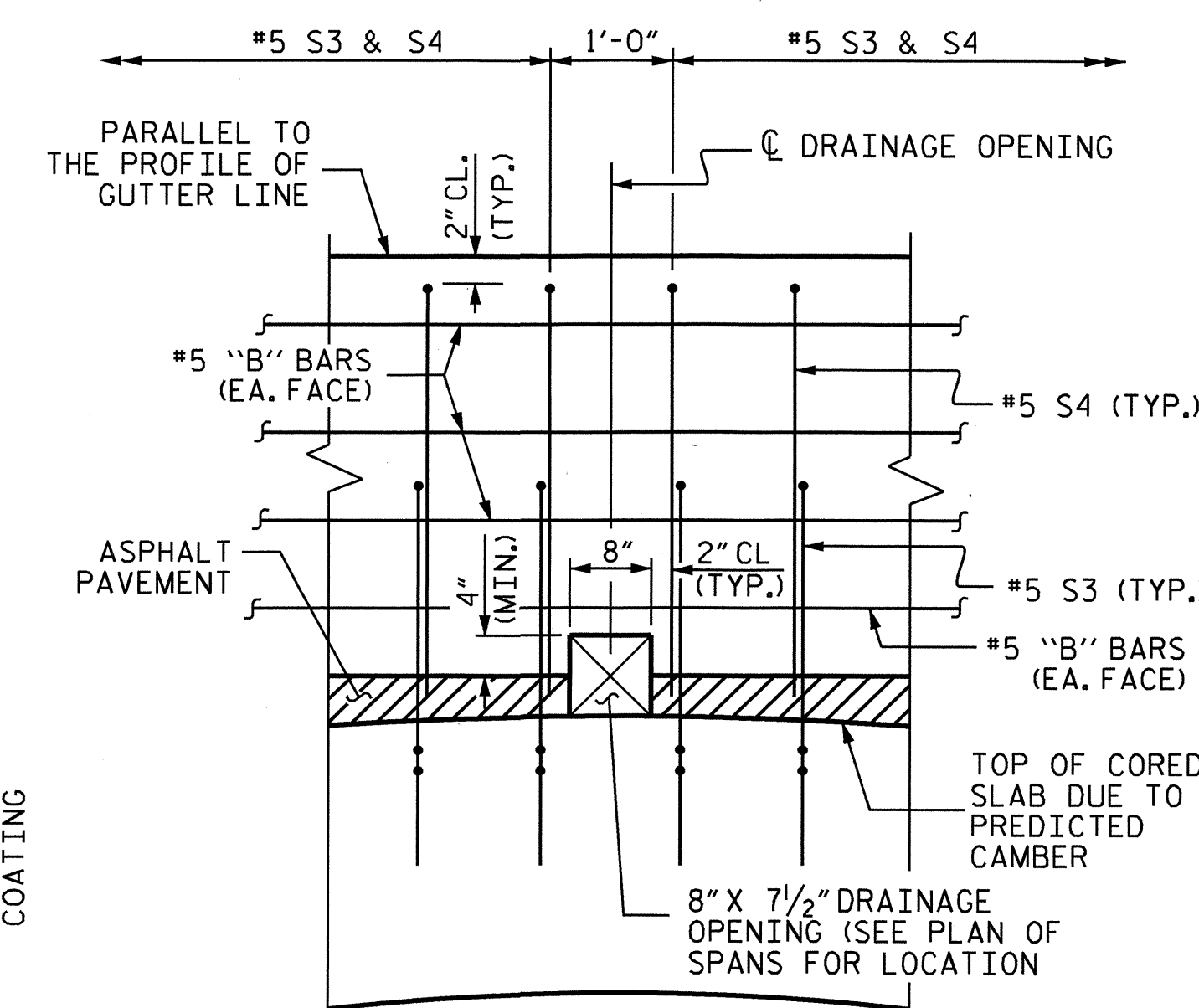
GUARDRAIL ANCHOR ASSEMBLY DETAILS



LOCATION OF GUARDRAIL ANCHOR
END BENT 1 SHOWN, END BENT 2 SIMILAR.



SECTION THRU RAIL
WITH DRAINAGE OPENINGS



VIEW A-A

VERTICAL CONCRETE BARRIER RAIL DETAILS

FOR PLAN VIEW OF VERTICAL CONCRETE BARRIER RAIL, SEE "PLAN OF SPAN" SHEETS.



PROJECT NO. B-4584
MOORE COUNTY
STATION: 16+29.50 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

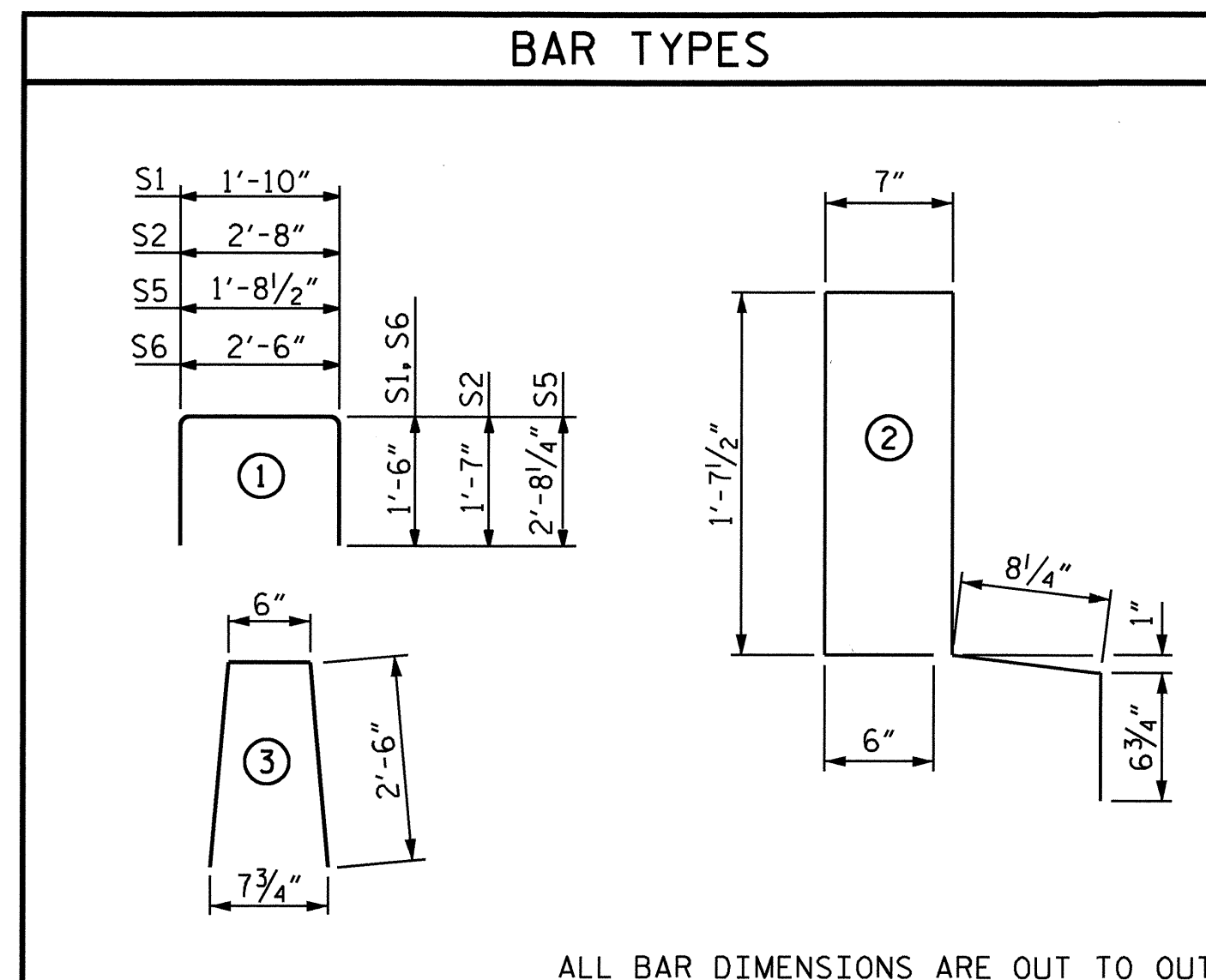
VERTICAL CONCRETE BARRIER RAIL AND GUARDRAIL ANCHORAGE DETAILS

ASSEMBLED BY : E.C. LOCKLEAR	DATE: 3/3/09
CHECKED BY : T. H. FANG	DATE: 11/18/09
DRAWN BY : EEM 6/94	REV. 8/16/99 RWW/LES
CHECKED BY : RGW 6/94	REV. 10/17/00 RWW/LES
	REV. 5/7/03 RWW/JTE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS
2			4			21

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL								
BAR	NUMBER PER SPAN			SIZE	TYPE	LENGTH	WEIGHT	
	SPAN A	SPAN B	SPAN C					
*B4	48			#5	STR	20'-11"	1047	
*B5		48		#5	STR	21'-3"	1064	
*B6			32	#5	STR	21'-6"	718	
*S4	144	132	104	#5	3	5'-6"	2180	
* EPOXY COATED REINFORCING STEEL							5009	LBS.
CLASS AA CONCRETE							34.0	CU. YDS.
TOTAL LIN. FT. OF VERTICAL CONCRETE BARRIER RAIL							345.50	LIN. FT.

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



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR ONE CORED SLAB UNIT

SPAN A							
BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B1	6	#4	STR	22'-4"	90	22'-4"	90
S1	8	#5	1	4'-10"	40	4'-10"	40
S2	126	#4	1	5'-10"	491	5'-10"	491
*S3	72	#5	2	5'-7"	419		
S5	4	#5	1	7'-1"	30	7'-1"	30
S6	4	#4	1	5'-6"	15	5'-6"	15

REINFORCING STEEL	666 LBS.	666 LBS.
* EPOXY COATED REINFORCING STEEL	419 LBS.	
6000 P.S.I. CONCRETE	10.9 CU. YDS.	10.9 CU. YDS.
0.6" Ø L.R. STRANDS No. 23		

SPAN B							
BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B2	6	#4	STR	22'-9"	91	22'-9"	91
S1	8	#5	1	4'-10"	40	4'-10"	40
S2	128	#4	1	5'-10"	499	5'-10"	499
*S3	66	#5	2	5'-7"	384		
S5	4	#5	1	7'-1"	30	7'-1"	30
S6	4	#4	1	5'-6"	15	5'-6"	15

REINFORCING STEEL	675 LBS.	675 LBS.
* EPOXY COATED REINFORCING STEEL	384 LBS.	
6000 P.S.I. CONCRETE	11.1 CU. YDS.	11.1 CU. YDS.
0.6" Ø L.R. STRANDS No. 23		

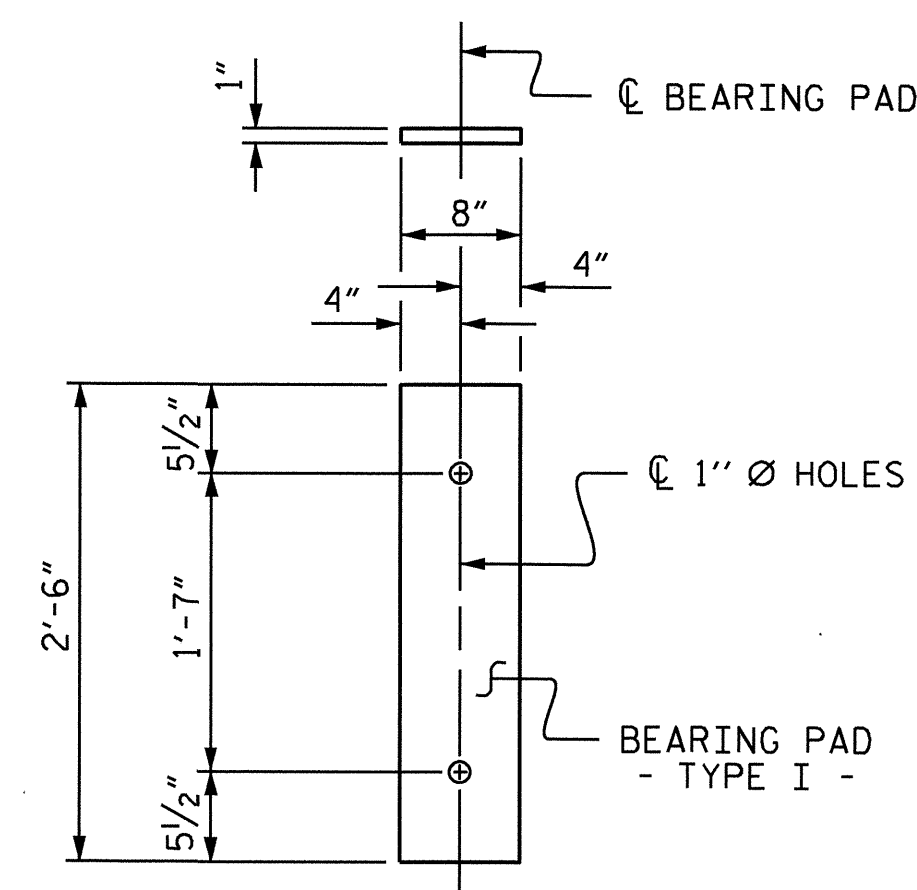
SPAN C							
BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B3	4	#4	STR	22'-8"	61	22'-8"	61
S1	8	#5	1	4'-10"	40	4'-10"	40
S2	86	#4	1	5'-10"	335	5'-10"	335
*S3	52	#5	2	5'-7"	303		
S5	4	#5	1	7'-1"	30	7'-1"	30
S6	4	#4	1	5'-6"	15	5'-6"	15

REINFORCING STEEL	481 LBS.	481 LBS.
* EPOXY COATED REINFORCING STEEL	303 LBS.	
5000 P.S.I. CONCRETE	7.6 CU. YDS.	7.6 CU. YDS.
0.6" Ø L.R. STRANDS No. 12		

DEAD LOAD DEFLECTION AND CAMBER			
	SPAN A	SPAN B	SPAN C
CAMBER (SLAB ALONE IN PLACE)	3" ↑	3 1/16" ↑	1 3/16" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **	1/2" ↓	9/16" ↓	1/8" ↓
FINAL CAMBER	2 1/2" ↑	2 1/2" ↑	1 1/16" ↑

** INCLUDES FUTURE WEARING SURFACE

CORED SLABS REQUIRED				
SPAN A				
UNIT TYPE	NUMBER	LENGTH	TOTAL LENGTH	
EXTERIOR	2	63'-9 3/4"	127'-7 1/2"	
INTERIOR	9	63'-9 3/4"	574'-3 3/4"	
TOTAL	11	63'-9 3/4"	701'-11 1/4"	
SPAN B				
UNIT TYPE	NUMBER	LENGTH	TOTAL LENGTH	
EXTERIOR	2	64'-10 1/2"	129'-9"	
INTERIOR	9	64'-10 1/2"	583'-10 1/2"	
TOTAL	11	64'-10 1/2"	713'-7 1/2"	
SPAN C				
UNIT TYPE	NUMBER	LENGTH	TOTAL LENGTH	
EXTERIOR	2	43'-9 3/4"	87'-7 1/2"	
INTERIOR	9	43'-9 3/4"	394'-3 3/4"	
TOTAL	11	43'-9 3/4"	481'-11 1/4"	
TOTAL CORED SLAB UNITS	NO. 33	1,897.5	LIN. FT.	



**FIXED END
(TYPE I - 66 REQ'D)
ELASTOMERIC BEARING DETAILS**

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 GROUT.

THE 2" Ø BACKER ROD SHALL CONFORM TO THE REQUIREMENTS OF TYPE M BOND BREAKER, SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.

WHEN CORED SLABS ARE CAST, A POSITIVE HOLD-DOWN SYSTEM SHALL BE EMPLOYED TO PREVENT VOIDS FROM RISING OR MOVING SIDEWAYS. THIS SYSTEM SHALL BE DESIGNED TO BE LEFT IN PLACE UNTIL THE CONCRETE HAS REACHED RELEASE STRENGTH. AT LEAST THREE 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 5100 PSI FOR SPANS A & B, 4000 PSI FOR SPAN B.

TRANSVERSE POST TENSIONING OF THE CORED SLAB SECTIONS SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, EXCEPT THAT THE 0.6" Ø STRANDS SHALL BE TENSIONED TO 43,950 POUNDS.

ALL REINFORCING STEEL IN VERTICAL CONCRETE BARRIER RAILS 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 AND EXTERIOR UNIT WHERE DRAINS ARE LOCATED.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

APPLY EPOXY PROTECTIVE COATING TO THE EXTERIOR FACE OF EXTERIOR CORED SLAB UNITS.

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

THE #4 S2 STIRRUPS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO THE GROUTED RECESSES.

ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.

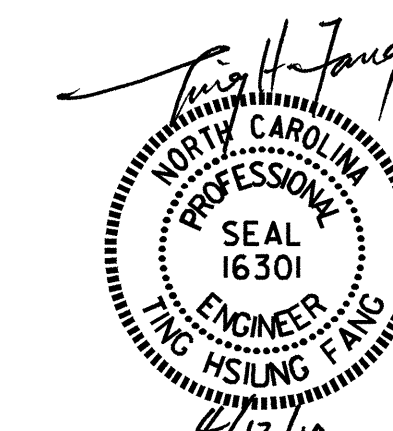
SPLICE CHART

BAR	SIZE	LENGTH
B1, B2, B3	#4	1'-9"

PROJECT NO. B-4584
MOORE COUNTY
 STATION: 16+29.50 -L-

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE

BILL OF MATERIAL



ASSEMBLED BY : E.C. LOCKLEAR	DATE : 1-09-09
CHECKED BY : T. H. FANG	DATE : 12-11-09
DRAWN BY : WJH 4/89	REV. 7/10/01 RWW/LES
CHECKED BY : FCJ 5/89	REV. 5/7/03RRR RWW/JTE
	REV. 5/1/06 TLA/GM

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
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2			4		
TOTAL SHEETS					21

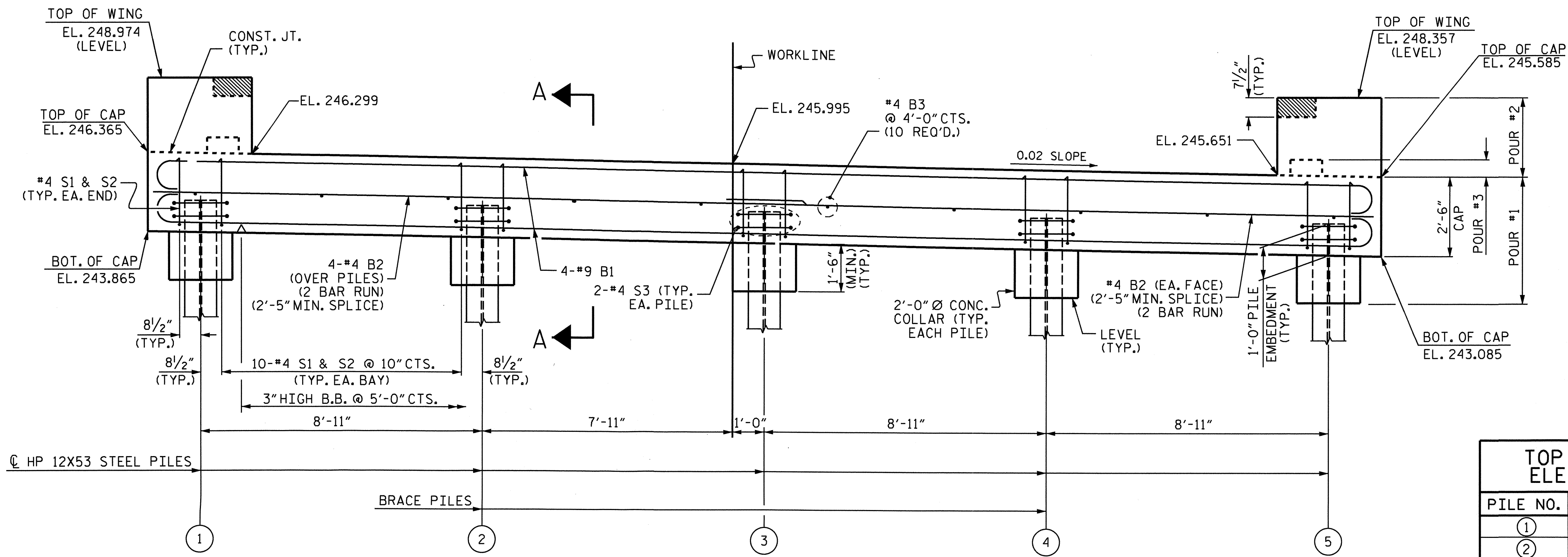
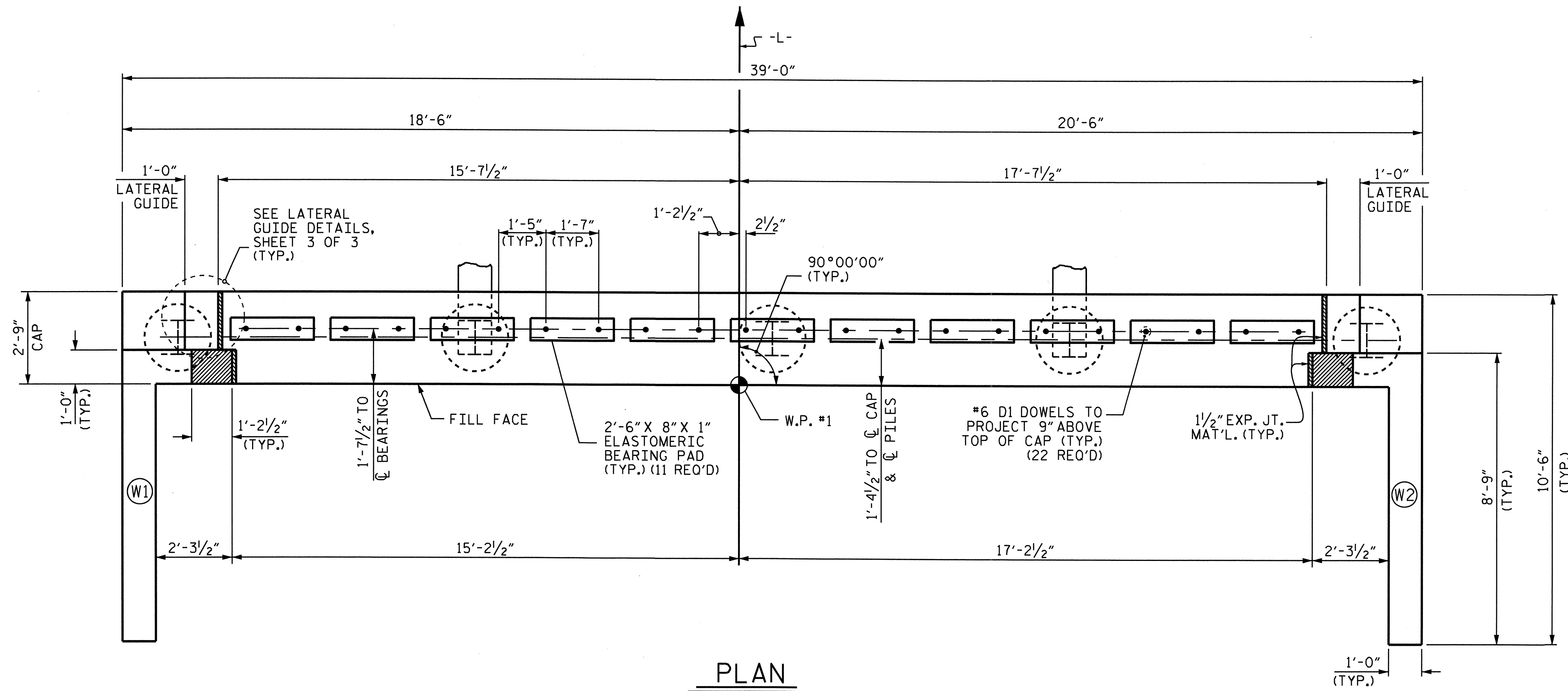
NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR #6 DOWELS

THE LATERAL GUIDE AT EACH END OF THE CAP IS NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.

THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

THE CONTRACTOR SHALL PROVIDE FOR INSTALLATION OF THE 4" DIAMETER DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS. SEE THE ROADWAY PLANS. REINFORCING STEEL IN THE WING WALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.



WINGS NOT SHOWN FOR CLARITY FOR REINFORCING STEEL & DETAILS OF WINGS, SEE SHEET 2 OF 3.

TOP OF PILE ELEVATIONS	
PILE NO.	ELEVATION
①	244.841
②	244.663
③	244.485
④	244.306
⑤	244.128

PROJECT NO. B-4584

MOORE COUNTY

STATION: 16+29.50 -L-

SHEET 1 OF 3

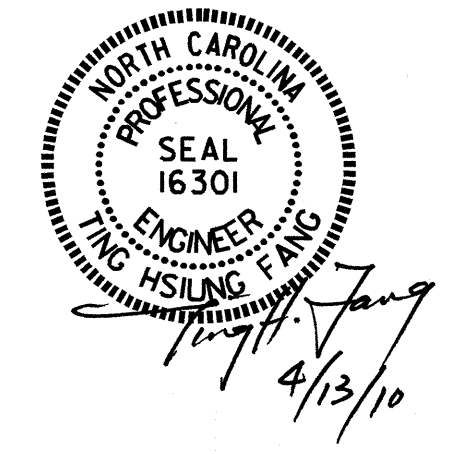
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

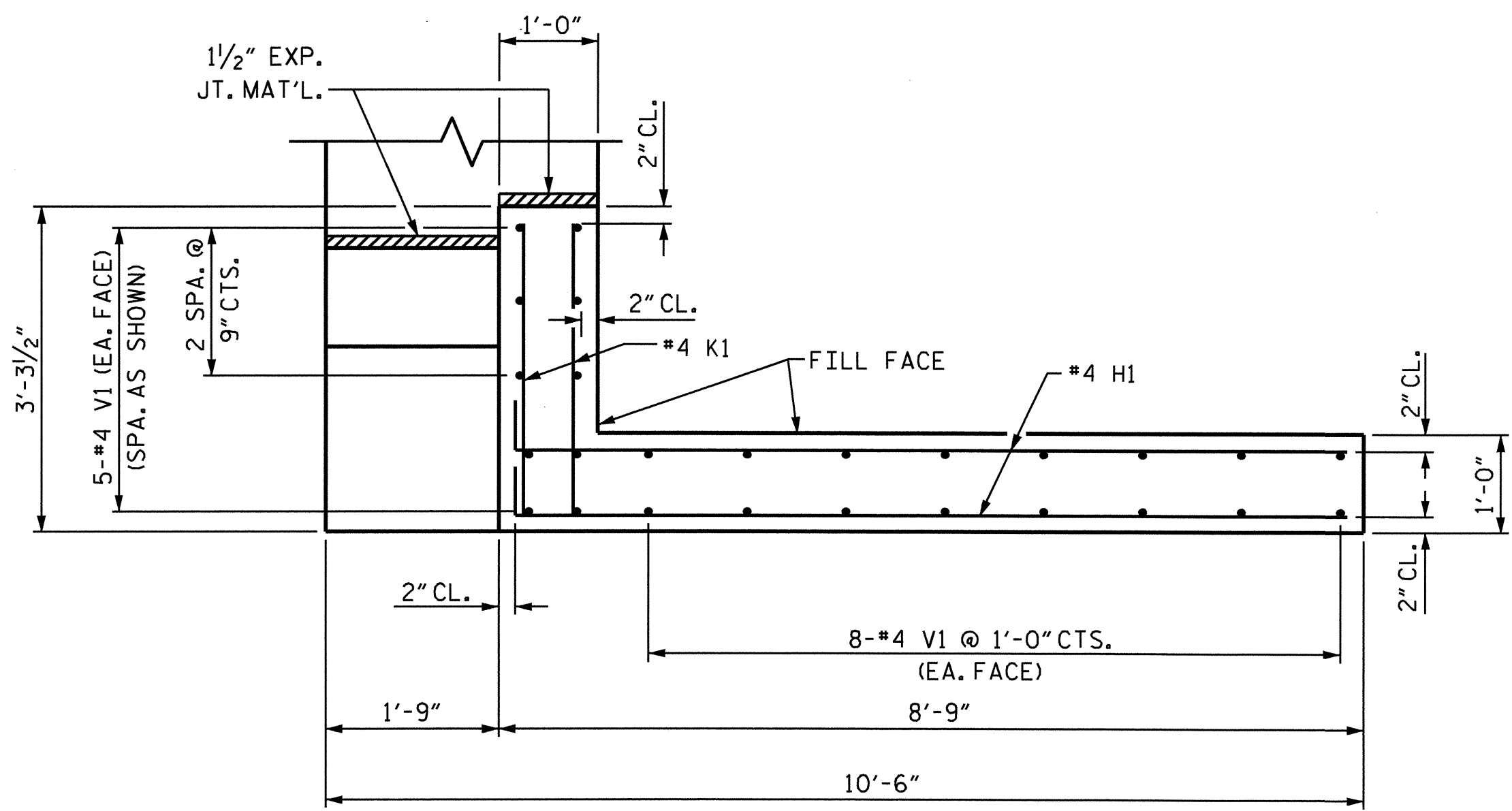
SUBSTRUCTURE
END BENT 1

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			21

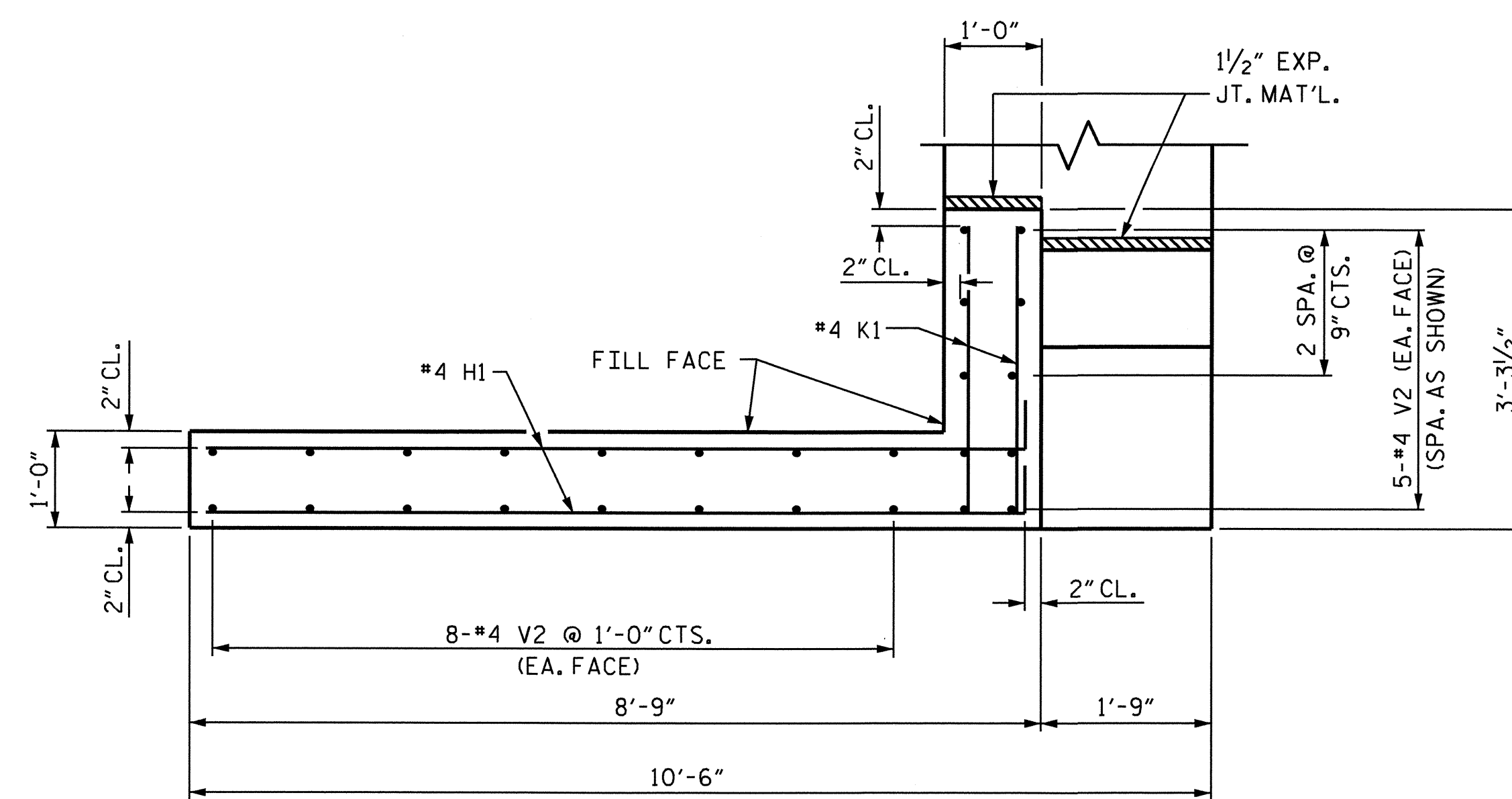
DRAWN BY : S. DOMBROWSKI DATE : 3/4/09

CHECKED BY : T. H. FANG DATE : 11/4/09

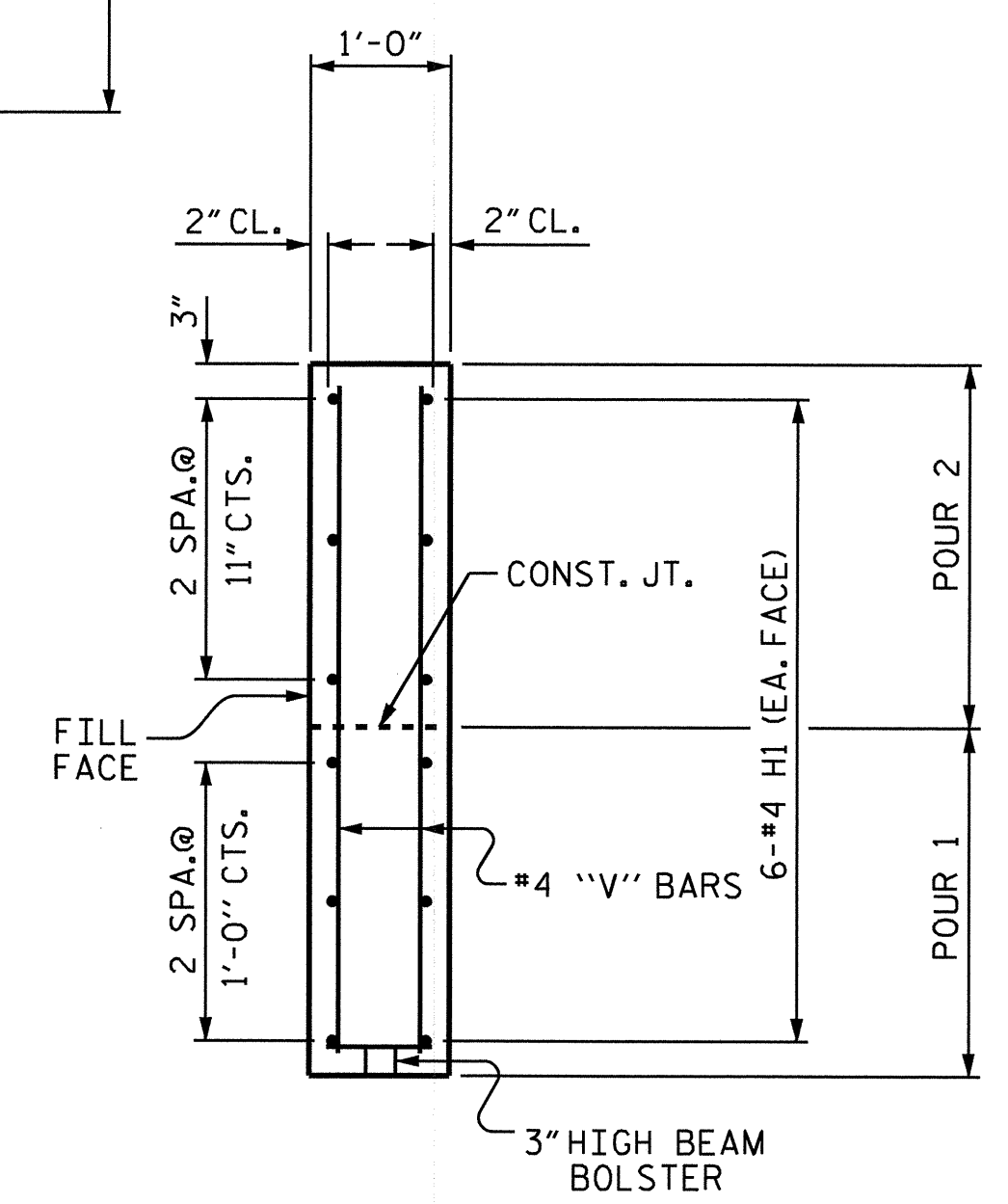




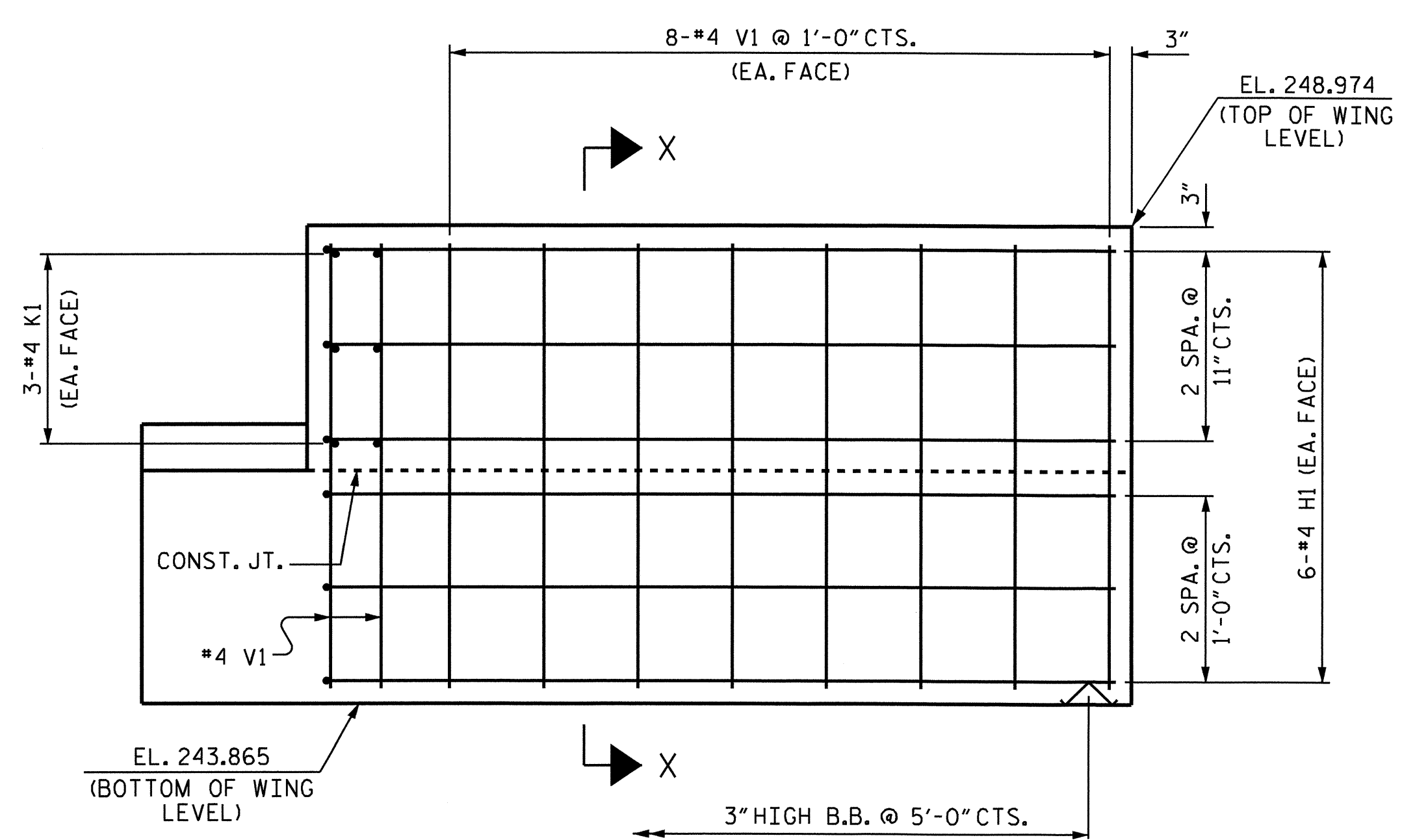
PLAN OF WING W1



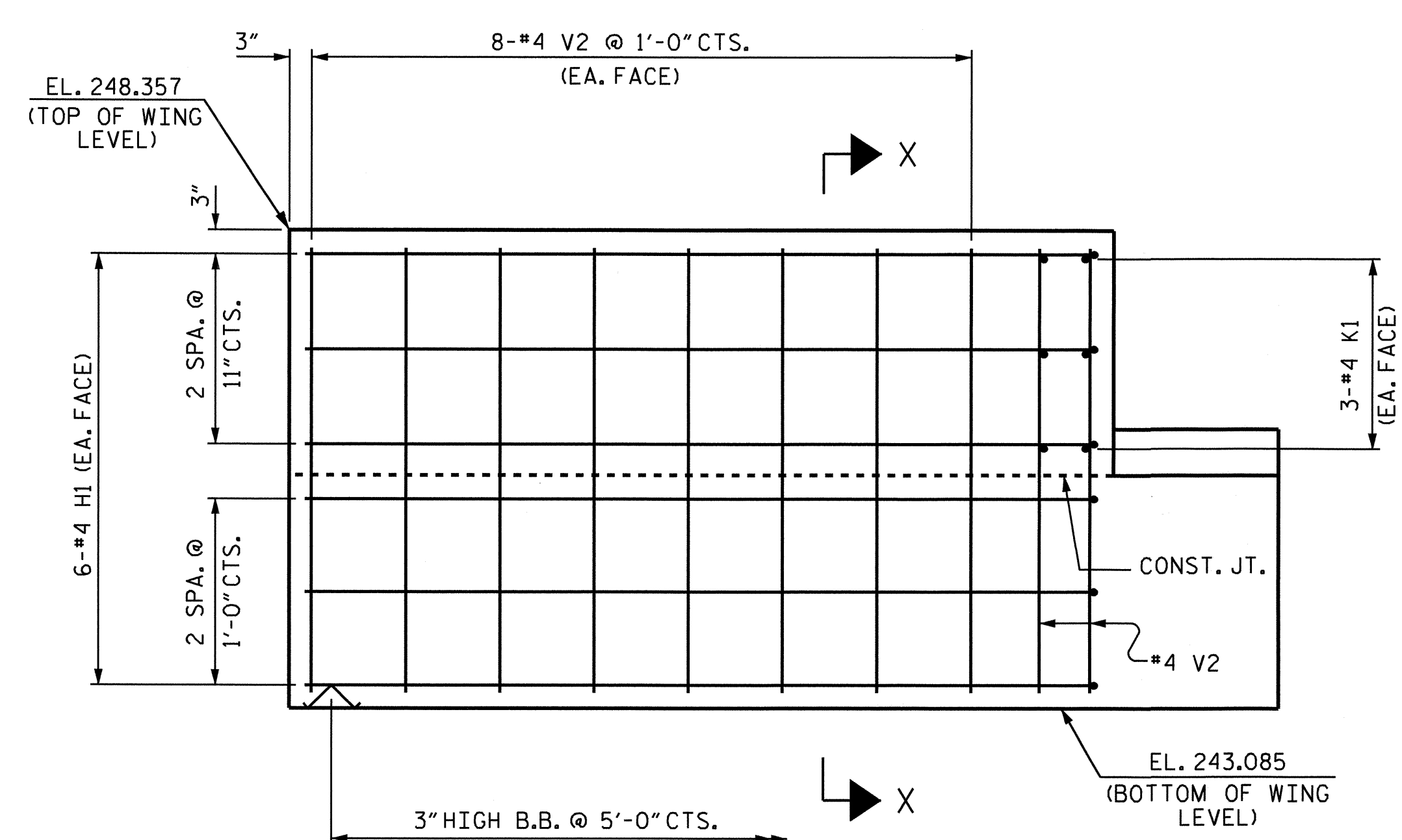
PLAN OF WING W2



SECTION X-X



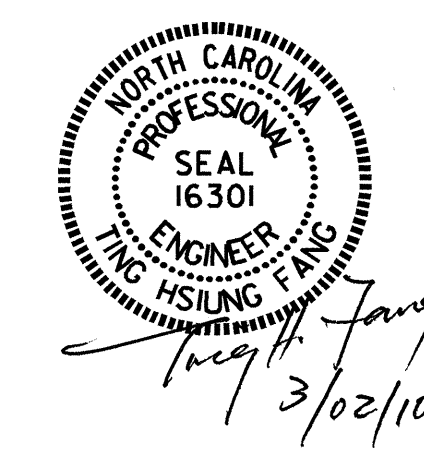
ELEVATION OF WING W1



ELEVATION OF WING W2

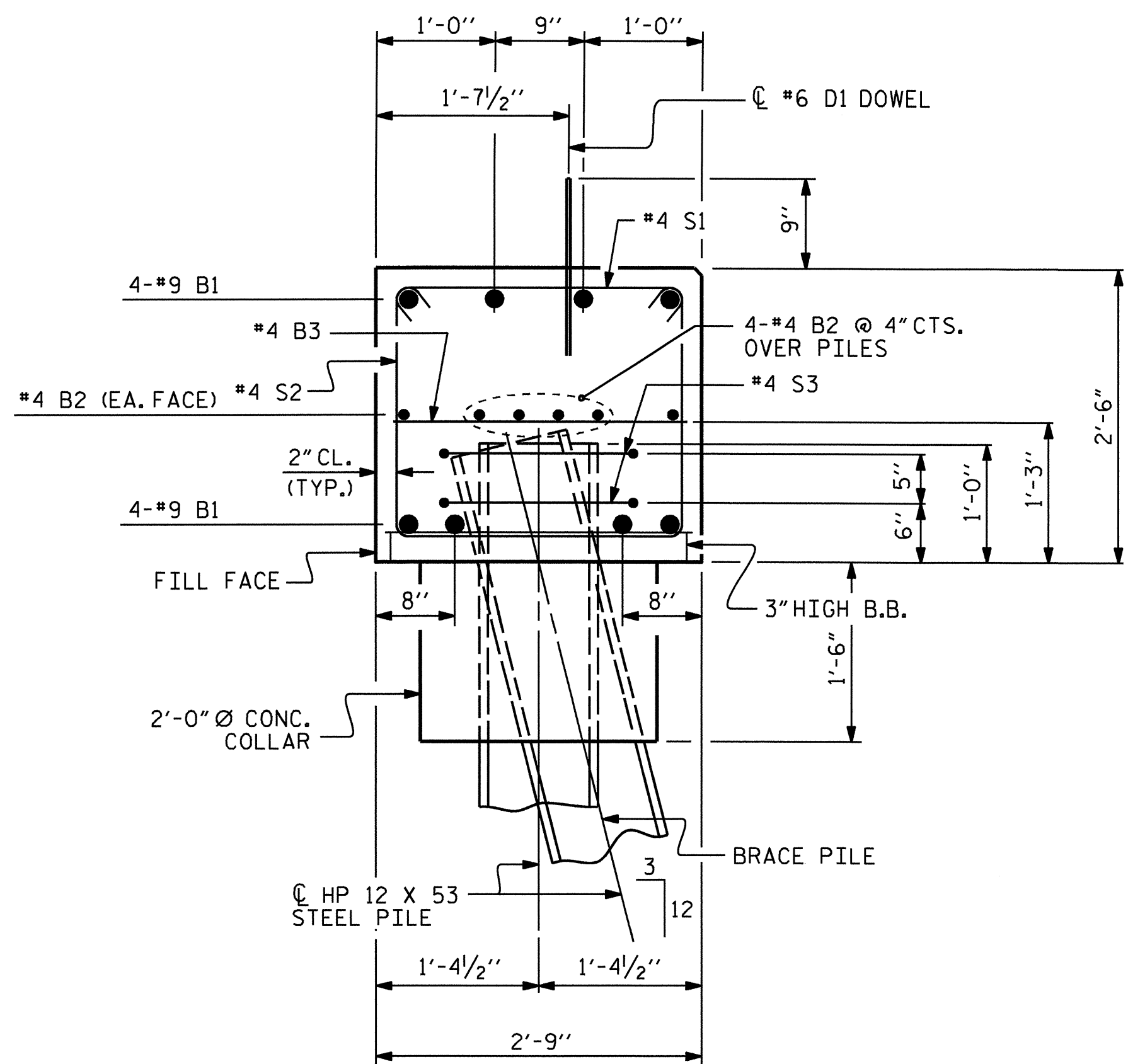
PROJECT NO. B-4584
MOORE COUNTY
 STATION: 16+29.50 -L-
 SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT 1

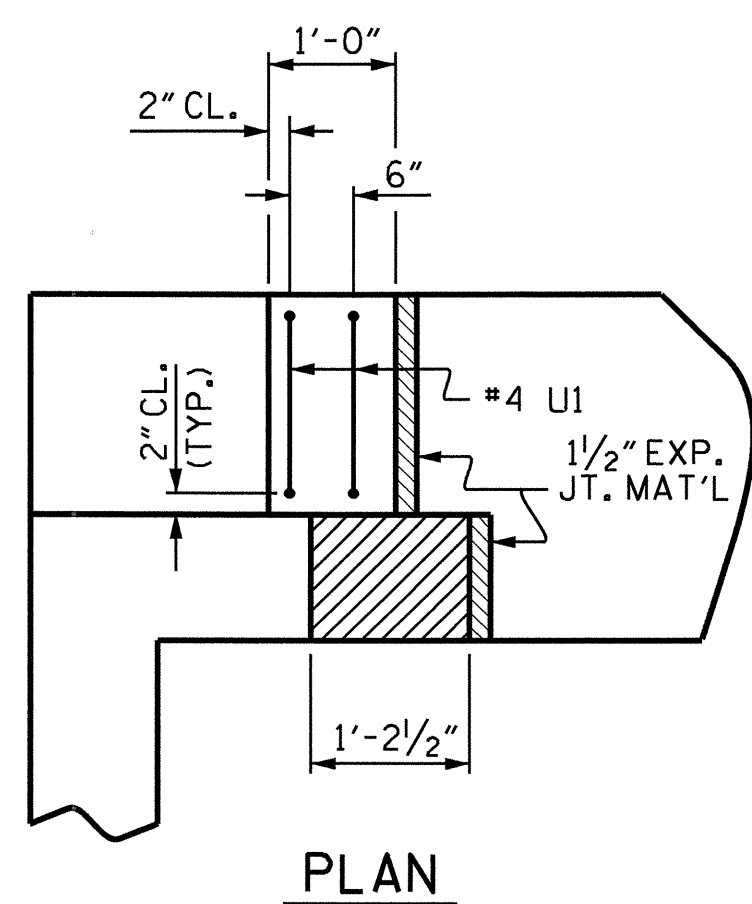


DRAWN BY: E. C. LOCKLEAR DATE: 3/4/09
 CHECKED BY: T. H. FANG DATE: 11/23/09

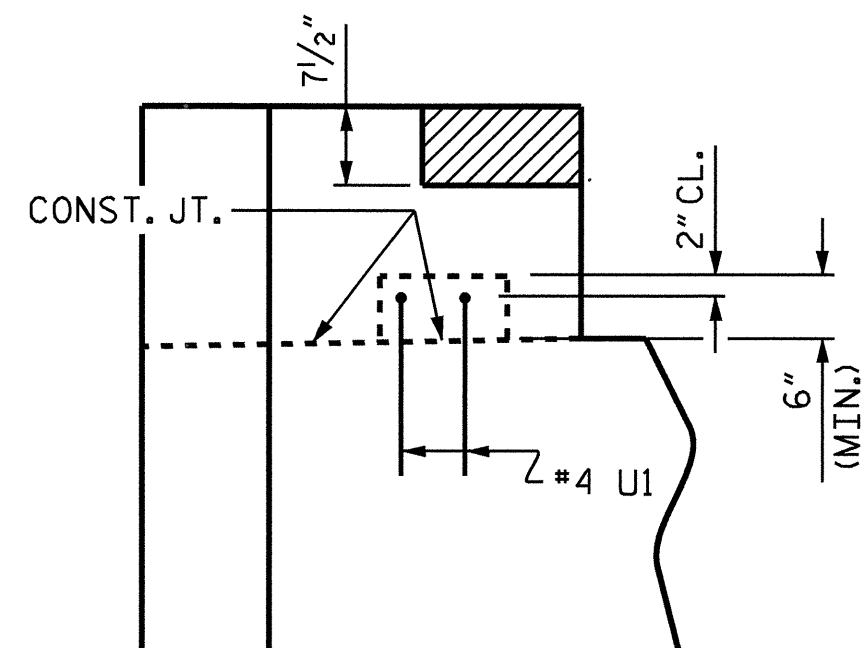
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-12	
1			3			TOTAL SHEETS	21
2			4				



SECTION A-A



PLAN



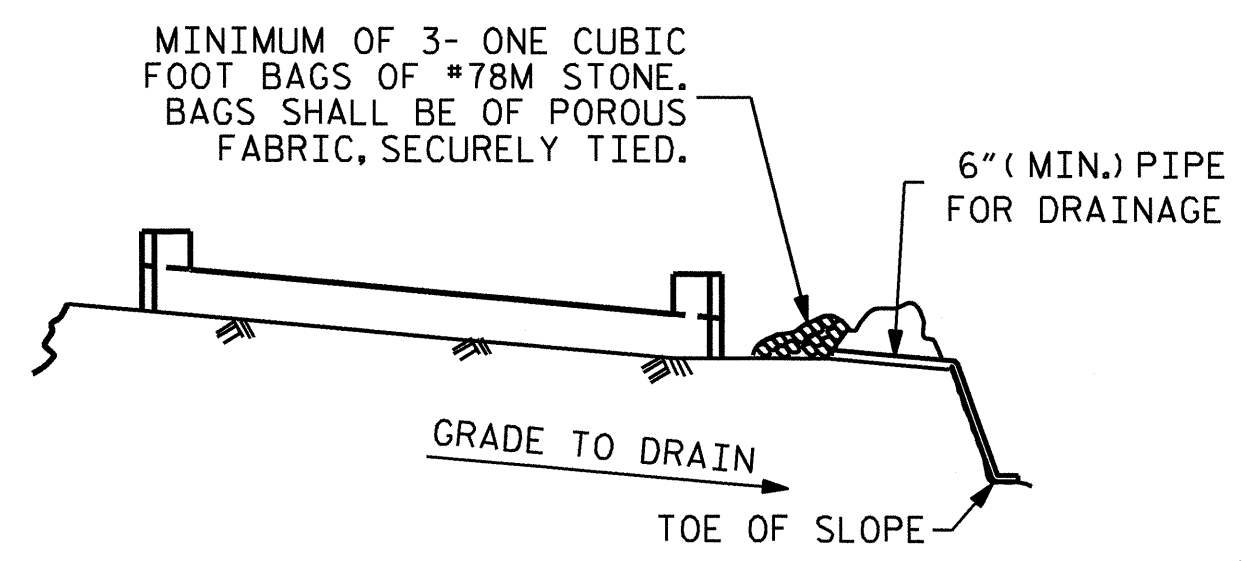
ELEVATION

LATERAL GUIDE DETAILS

(EACH END SIMILAR)

BILL OF MATERIAL					
END BENT 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9		41'-0"	1115
B2	12	#4	STR	20'-7"	165
B3	10	#4	STR	2'-5"	16
D1	22	#6	STR	1'-6"	50
H1	24	#4	2	9'-1"	146
K1	12	#4	STR	2'-11"	23
S1	42	#4	4	3'-2"	89
S2	42	#4	3	7'-5"	208
S3	10	#4	5	6'-6"	43
U1	4	#4	6	4'-5"	12
V1	26	#4	STR	4'-9"	82
V2	26	#4	STR	4'-11"	85
REINFORCING STEEL					2034 LBS.
CLASS A CONCRETE BREAKDOWN:					
POUR #1 (CONCRETE COLLARS, CAP & LOWER WINGS)				12.3 C.Y.	
POUR #2 (UPPER WINGS)				2.2 C.Y.	
POUR #3 (LATERAL GUIDES)				0.1 C.Y.	
TOTAL CLASS A CONCRETE:				14.6 C.Y.	
HP 12X53 STEEL PILES:					
NO. 5					200 LIN. FT.

ALL BAR DIMENSIONS ARE OUT TO OUT.



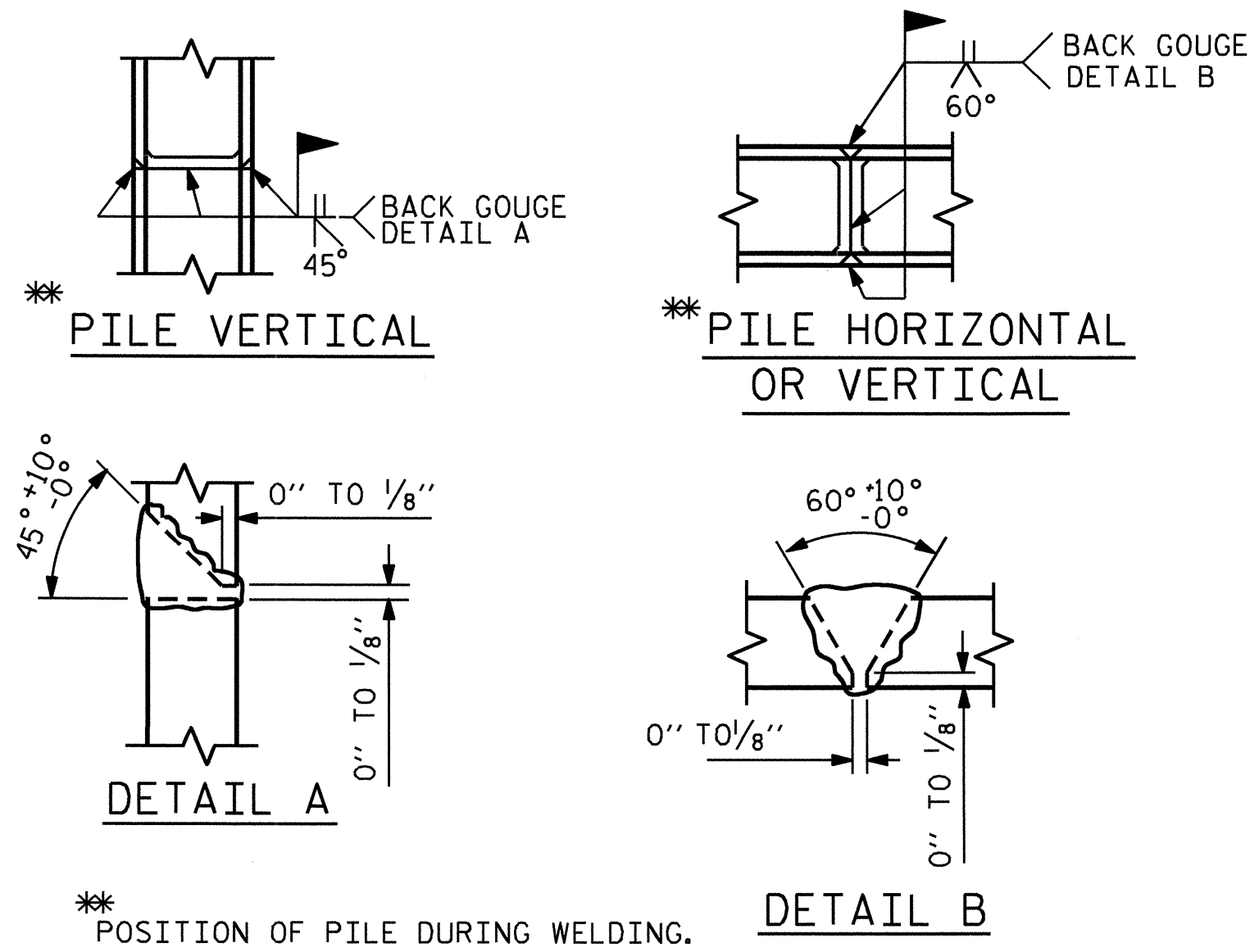
MINIMUM OF 3- ONE CUBIC FOOT BAGS OF #78M STONE. BAGS SHALL BE OF POROUS FABRIC, SECURELY TIED.

BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

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.

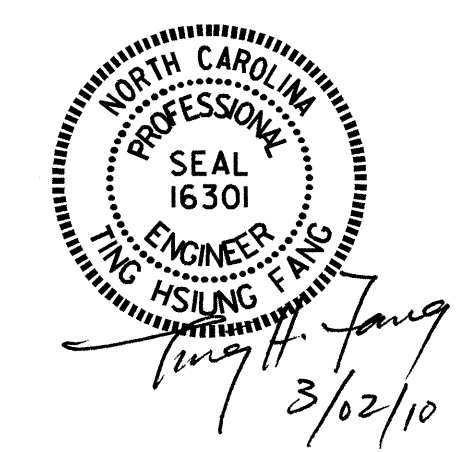
TEMPORARY DRAINAGE AT END BENT



PILE SPLICE DETAILS

PROJECT NO. B-4584
MOORE COUNTY
 STATION: 16+29.50 -L-
 SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT 1



DRAWN BY: E. C. LOCKLEAR DATE: 3/4/09
 CHECKED BY: T. H. FANG DATE: 11/4/09

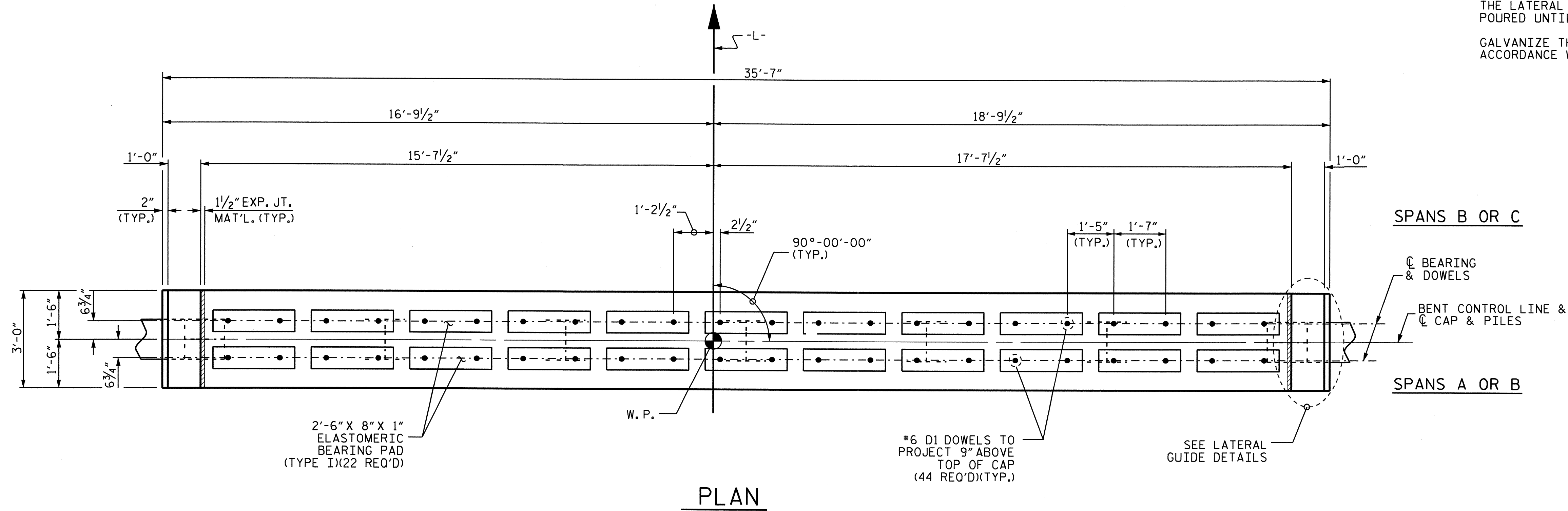
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-13
1			3			TOTAL SHEETS
2			4			21

NOTES

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

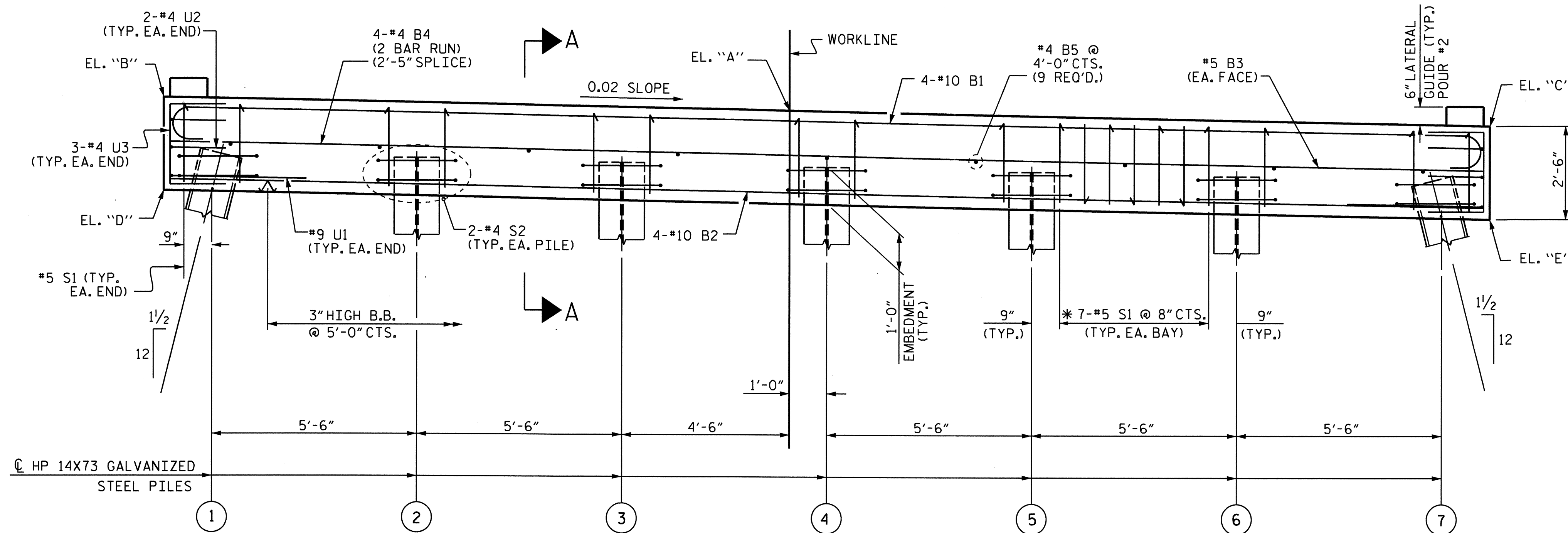
THE LATERAL GUIDE AT EACH END OF THE CAP IS NOT TO BE POURED UNTIL AFTER CORED SLAB UNITS ARE IN PLACE.

GALVANIZE THE FULL LENGTH OF EACH INTERIOR BENT PILE IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS.



ELEVATION		
POINT	BENT 1	BENT 2
"A"	246.477	246.591
"B"	246.813	246.926
"C"	246.101	246.215
"D"	244.313	244.426
"E"	243.601	243.715

TOP OF PILE ELEVATIONS		
PILE NO.	BENT 1	BENT 2
①	245.297	245.410
②	245.187	245.300
③	245.077	245.190
④	244.967	245.080
⑤	244.857	244.970
⑥	244.747	244.860
⑦	244.637	244.750



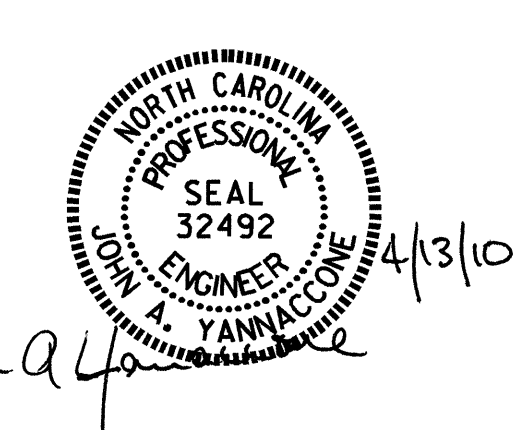
* INVERT ALTERNATE STIRRUPS

ELEVATION

PROJECT NO. B-4584
MOORE COUNTY
 STATION: 16+29.50 -L-

SHEET 1 OF 2

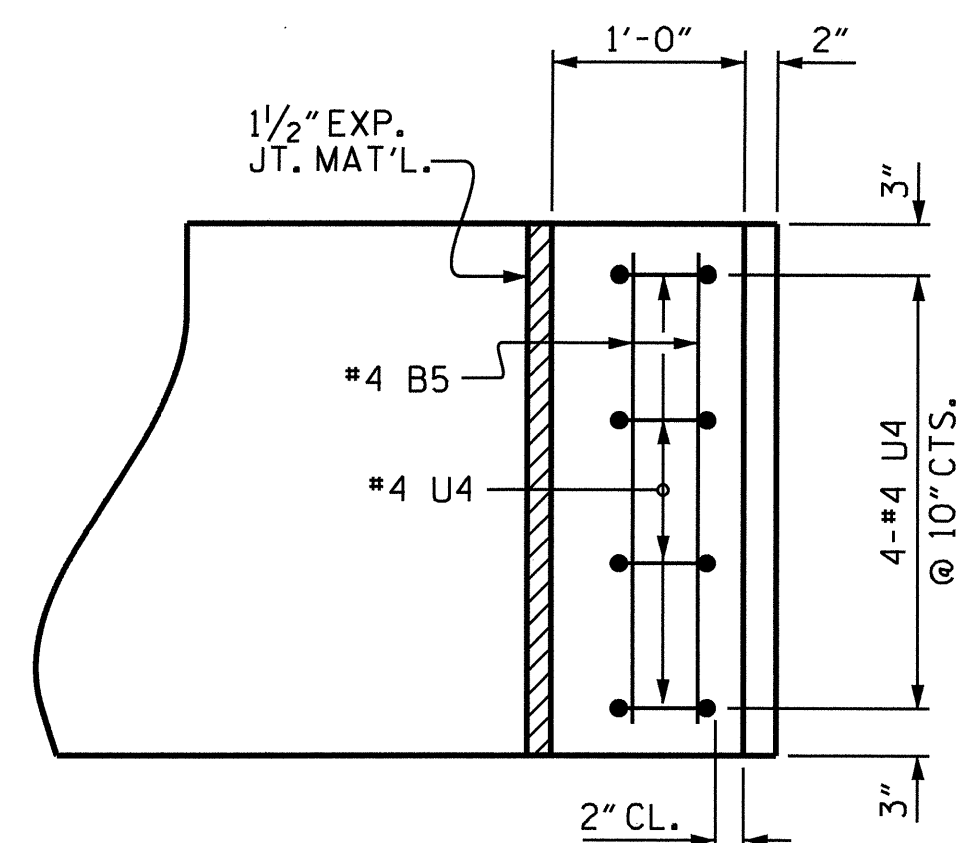
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 BENTS 1 & 2



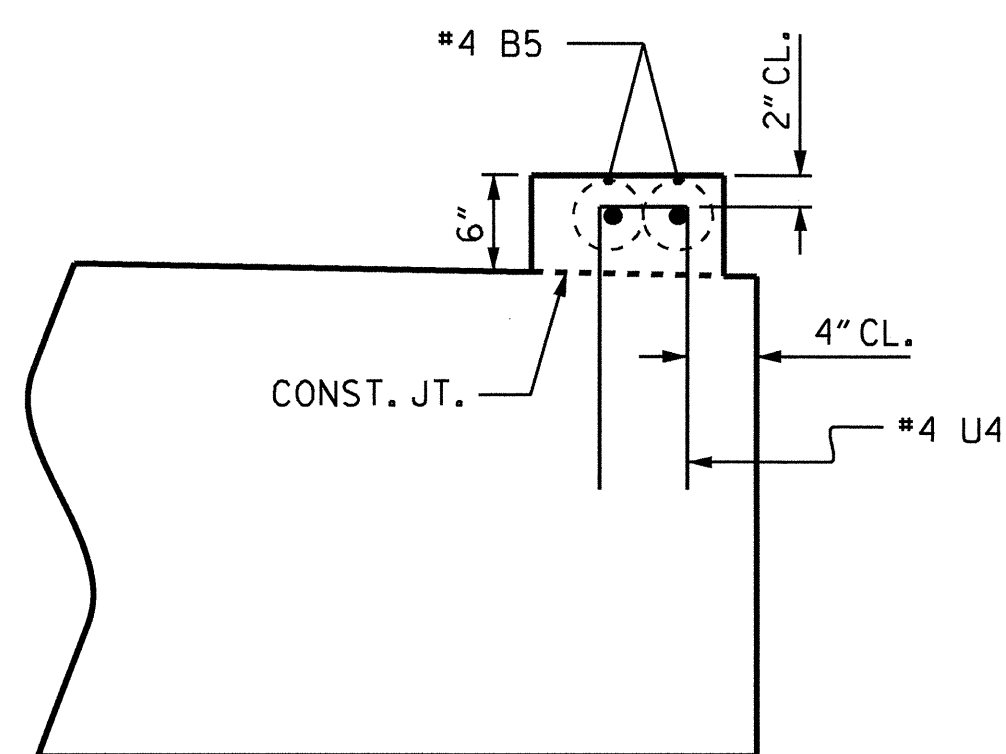
DRAWN BY : J. A. YANNACCONI DATE : 4-13-09
 CHECKED BY : T. H. FANG DATE : 11-18-09

13-APR-2010 11:57
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 JFang

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-14
1			3			TOTAL SHEETS
2			4			21



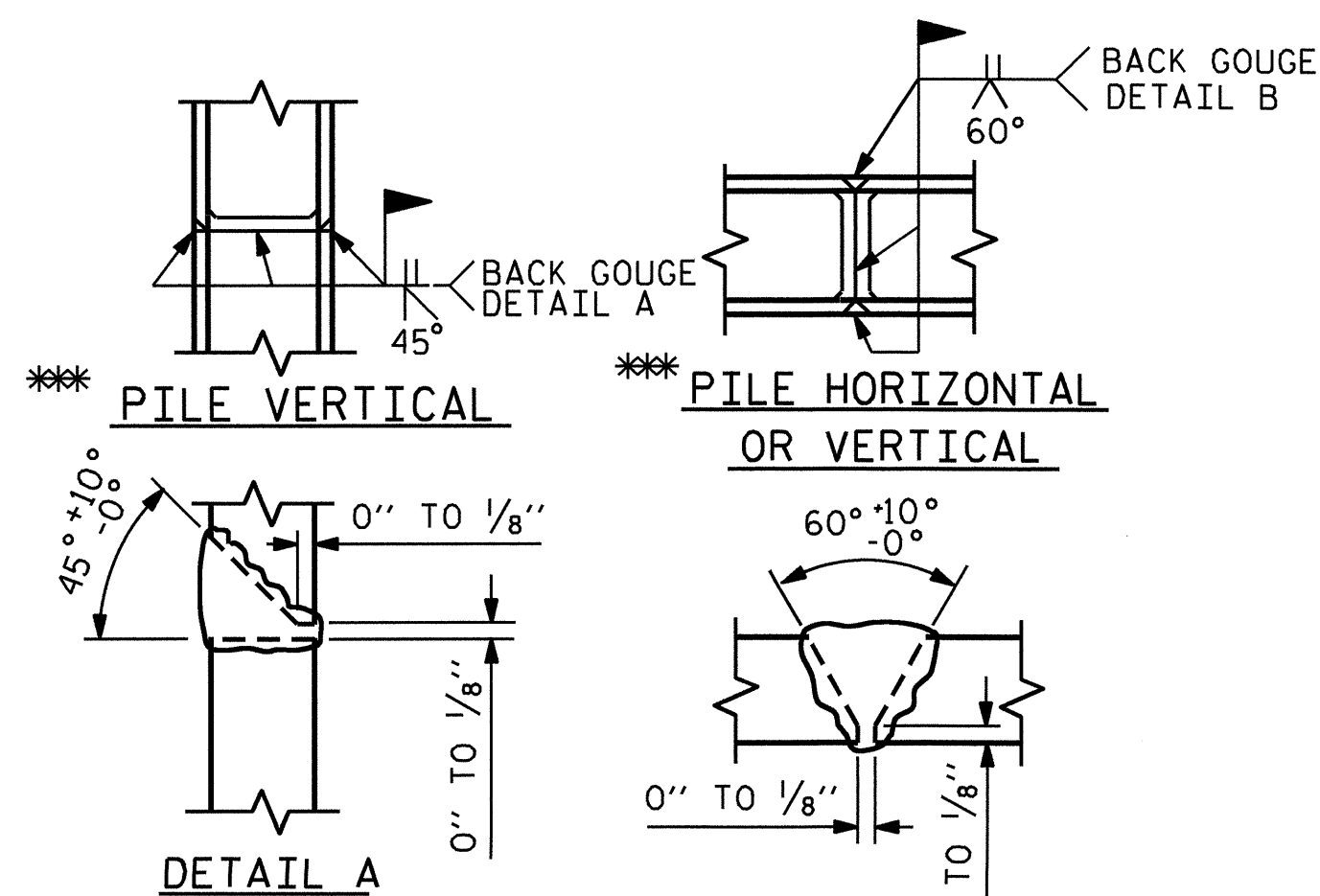
PLAN



ELEVATION

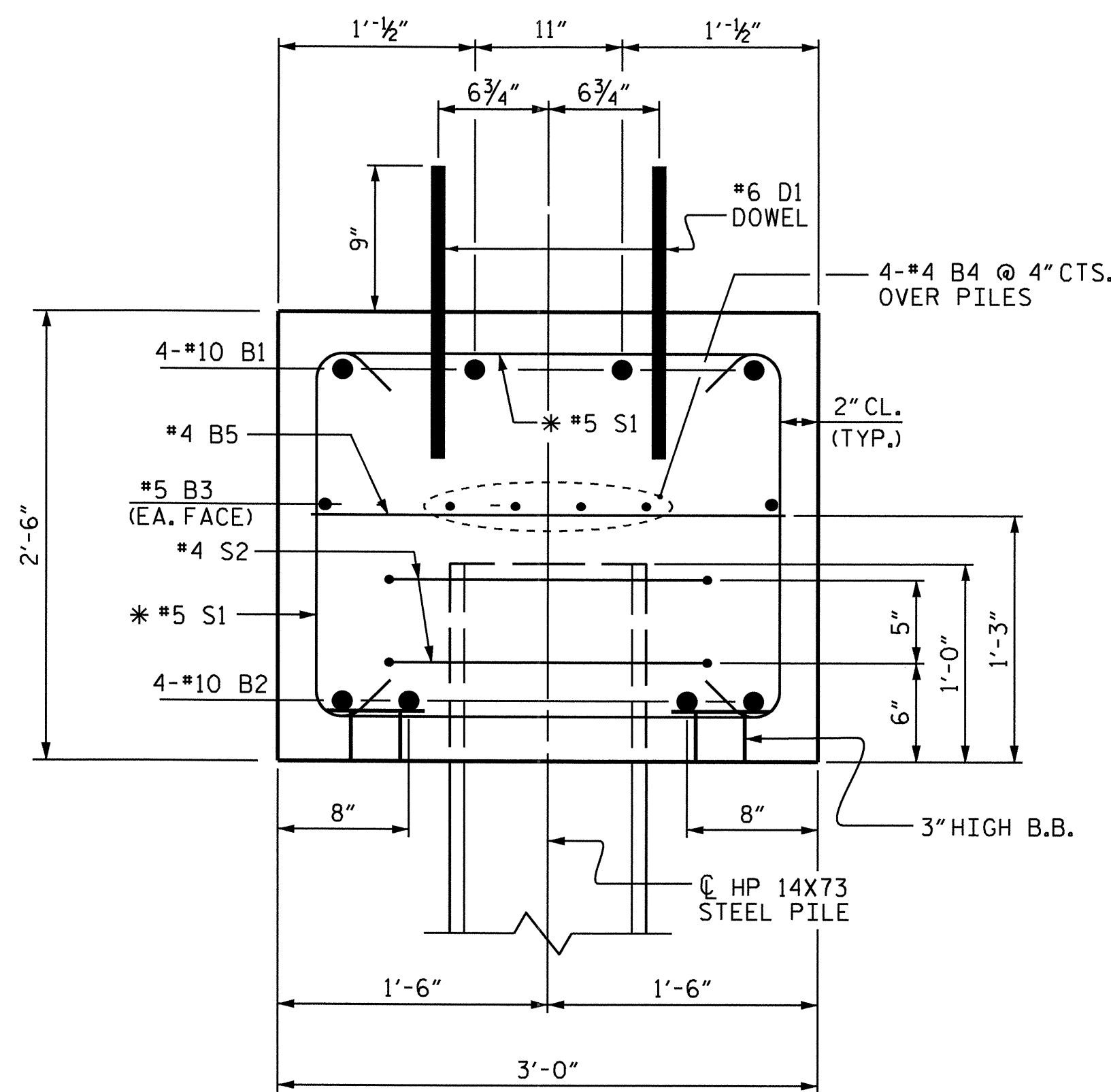
LATERAL GUIDE DETAILS

(EACH END SIMILAR)



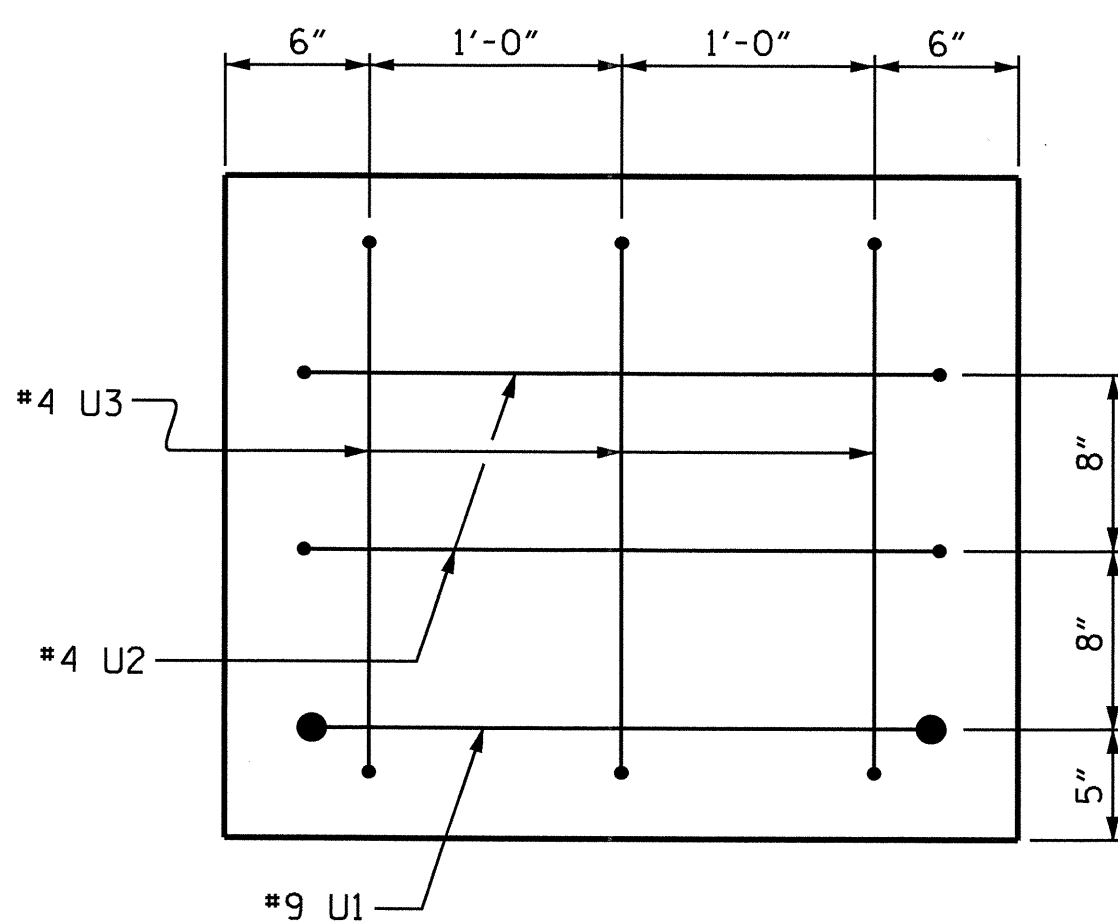
*** POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS



SECTION A-A

* INVERT ALTERNATE STIRRUPS



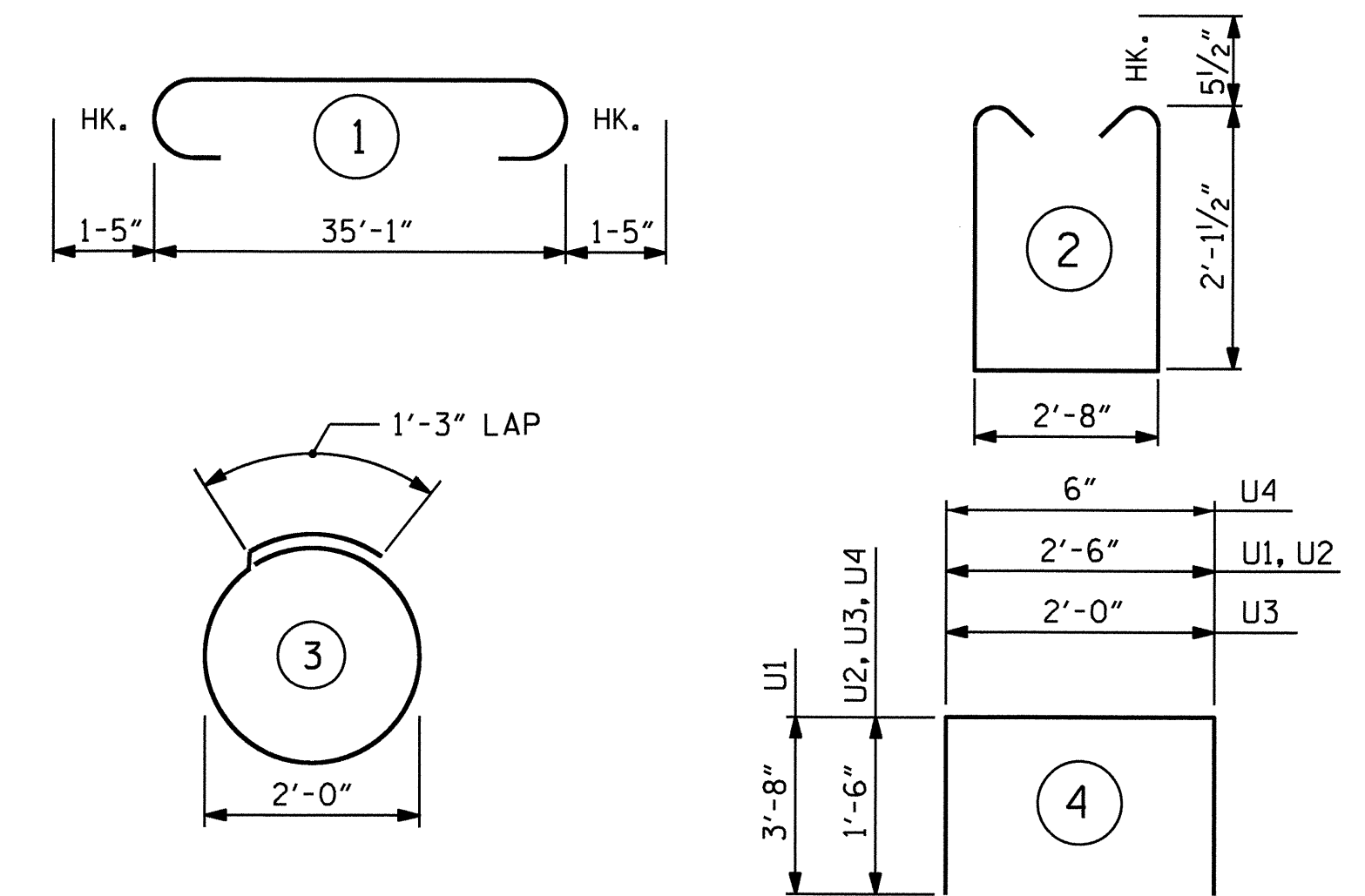
END VIEW

(TYP. EA. END)

BILL OF MATERIAL

BENT 1						BENT 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	4	#10	1	37'-11"	653	B1	4	#10	1	37'-11"	653
B2	4	#10	STR	35'-3"	607	B2	4	#10	STR	35'-3"	607
B3	2	#5	STR	35'-3"	74	B3	2	#5	STR	35'-3"	74
B4	8	#4	STR	18'-10"	101	B4	8	#4	STR	18'-10"	101
B5	13	#4	STR	2'-8"	23	B5	13	#4	STR	2'-8"	23
D1	44	#6	STR	1'-6"	99	D1	44	#6	STR	1'-6"	99
S1	44	#5	2	7'-10"	359	S1	44	#5	2	7'-10"	359
S2	14	#4	3	7'-7"	71	S2	14	#4	3	7'-7"	71
U1	2	#9	4	9'-10"	67	U1	2	#9	4	9'-10"	67
U2	4	#4	4	5'-6"	15	U2	4	#4	4	5'-6"	15
U3	6	#4	4	5'-0"	20	U3	6	#4	4	5'-0"	20
U4	8	#4	4	3'-6"	19	U4	8	#4	4	3'-6"	19
TOTAL REINFORCING STEEL LBS. 2108						TOTAL REINFORCING STEEL LBS. 2108					
CLASS A CONCRETE BREAKDOWN						CLASS A CONCRETE BREAKDOWN					
POUR #1 (CAP) 9.9 C.Y.						POUR #1 (CAP) 9.9 C.Y.					
POUR #2 (LAT. GUIDES) 0.1 C.Y.						POUR #2 (LAT. GUIDES) 0.1 C.Y.					
TOTAL CLASS A CONCRETE 10.0 C.Y.						TOTAL CLASS A CONCRETE 10.0 C.Y.					
HP 14X73 GALVANIZED STEEL PILES NO. 7 280 LIN. FT.						HP 14X73 GALVANIZED STEEL PILES NO. 7 280 LIN. FT.					

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

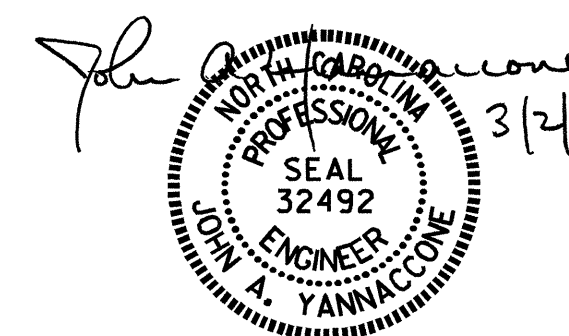
PROJECT NO. B-4584
MOORE COUNTY
 STATION: 16+29.50 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE

BENTS 1 & 2



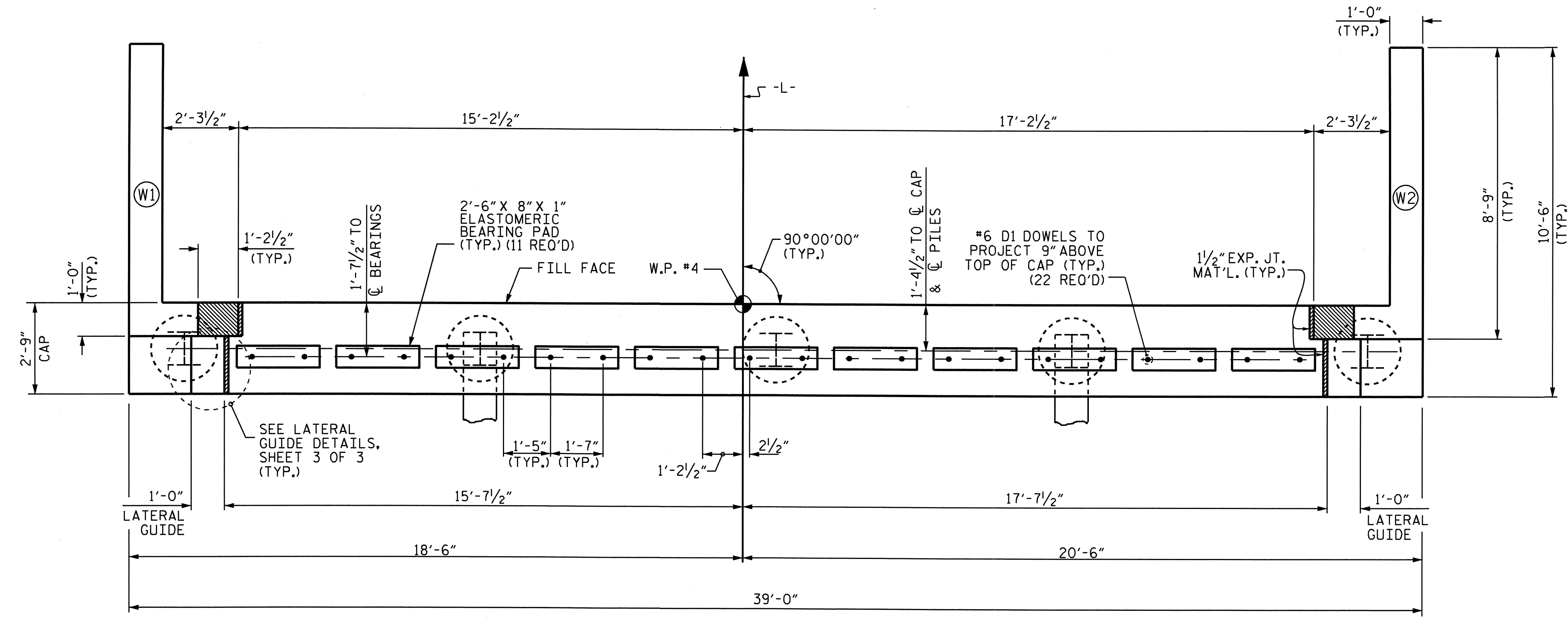
DRAWN BY : J. A. YANNACCONI DATE : 4/15/09
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02-MAR-2010 11:16
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 jayannaccone

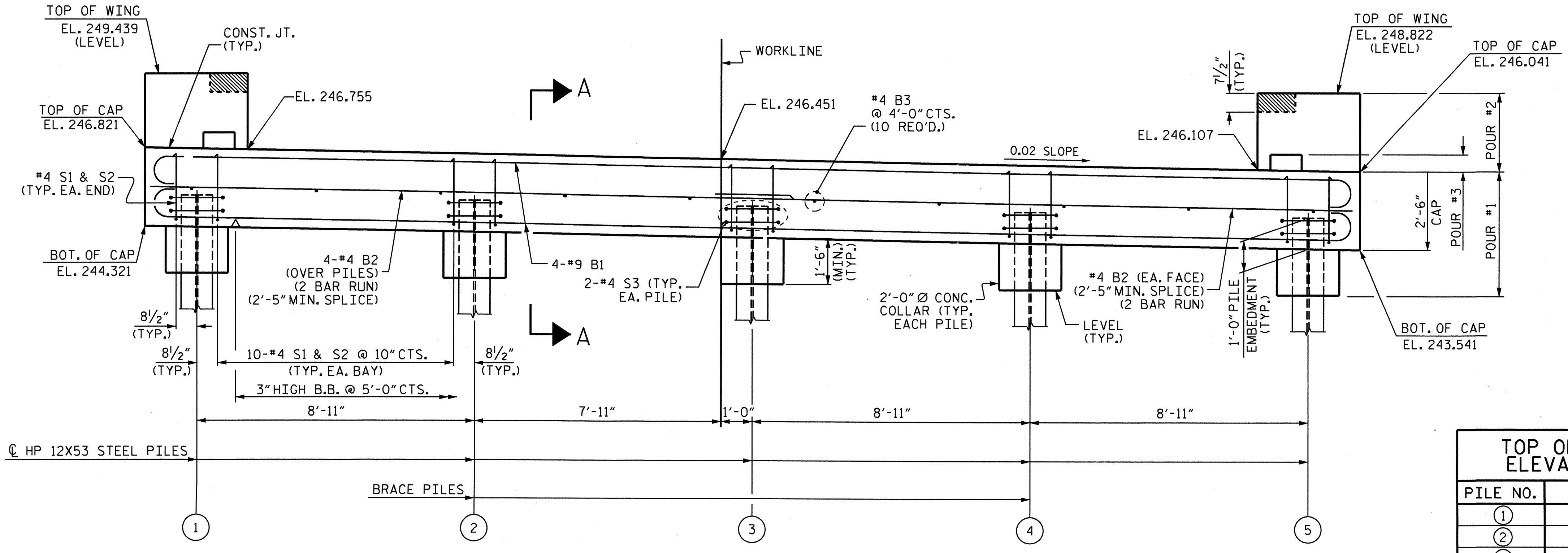
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-15
1			3			TOTAL SHEETS
2			4			21

NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR #6 DOWELS
 THE LATERAL GUIDE AT EACH END OF THE CAP IS NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.
 THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.
 THE CONTRACTOR SHALL PROVIDE FOR INSTALLATION OF THE 4" DIAMETER DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS. SEE THE ROADWAY PLANS. REINFORCING STEEL IN THE WING WALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.



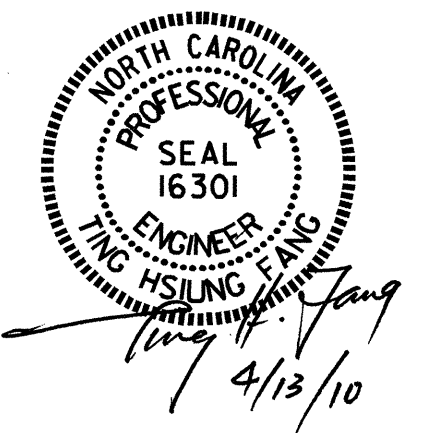
PLAN



ELEVATION

WINGS NOT SHOWN FOR CLARITY FOR REINFORCING STEEL & DETAILS OF WINGS, SEE SHEET 2 OF 3.

TOP OF PILE ELEVATIONS	
PILE NO.	ELEVATION
①	245.298
②	245.119
③	244.941
④	244.763
⑤	244.584

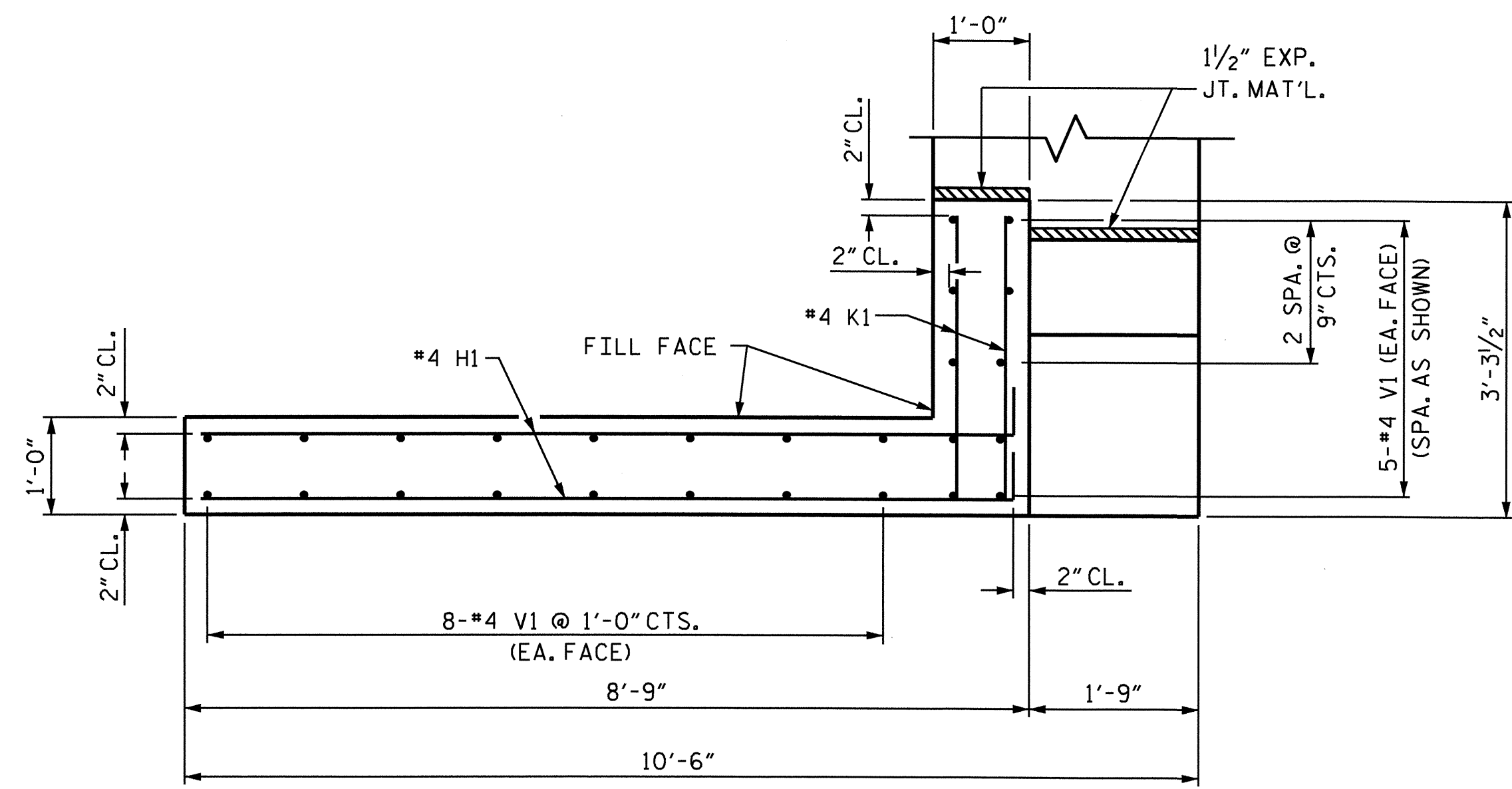


PROJECT NO. B-4584
MOORE COUNTY
 STATION: 16+29.50 -L-
 SHEET 1 OF 3

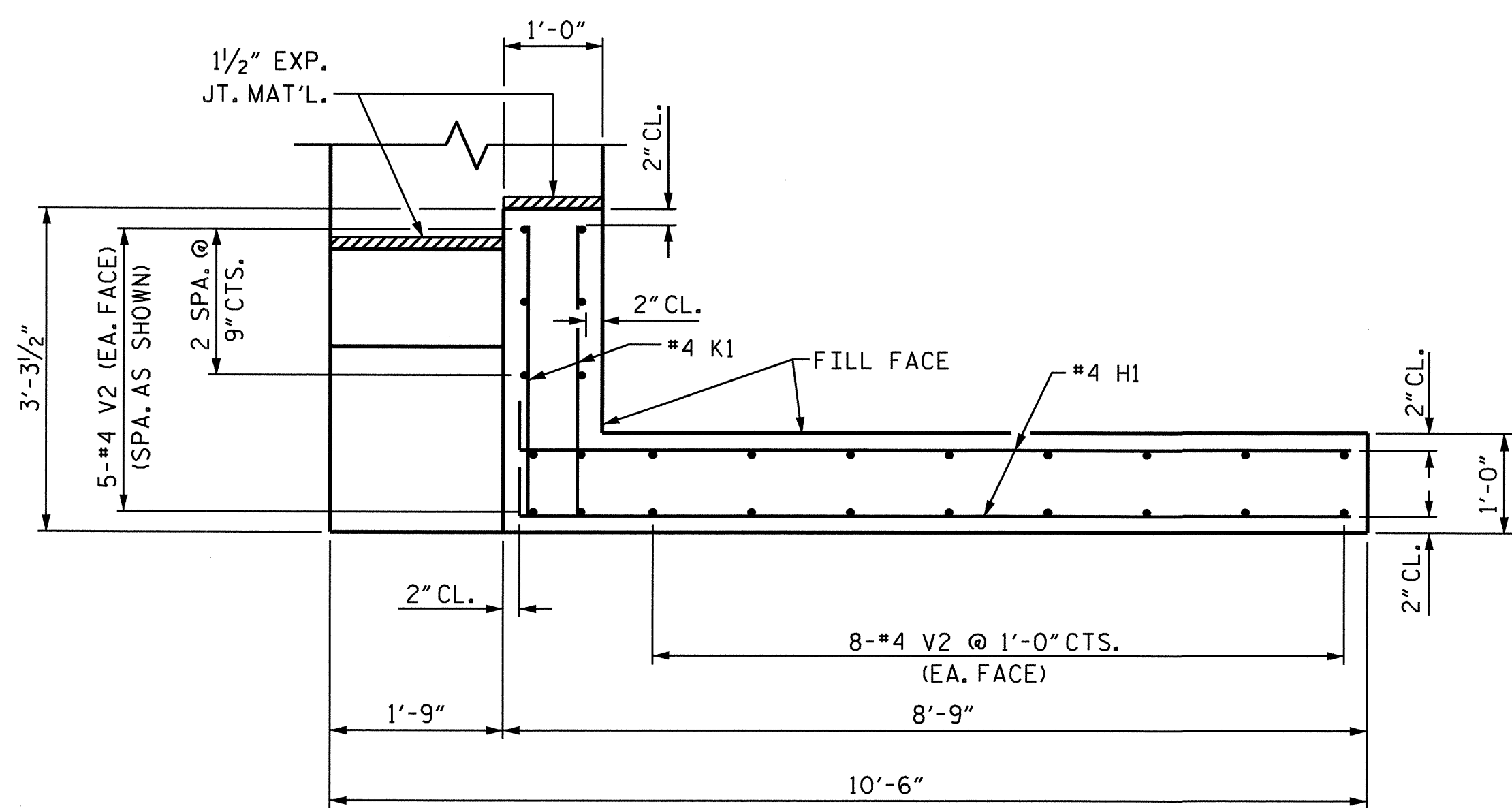
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUBSTRUCTURE
END BENT 2

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-16
1			3			TOTAL SHEETS
2			4			21

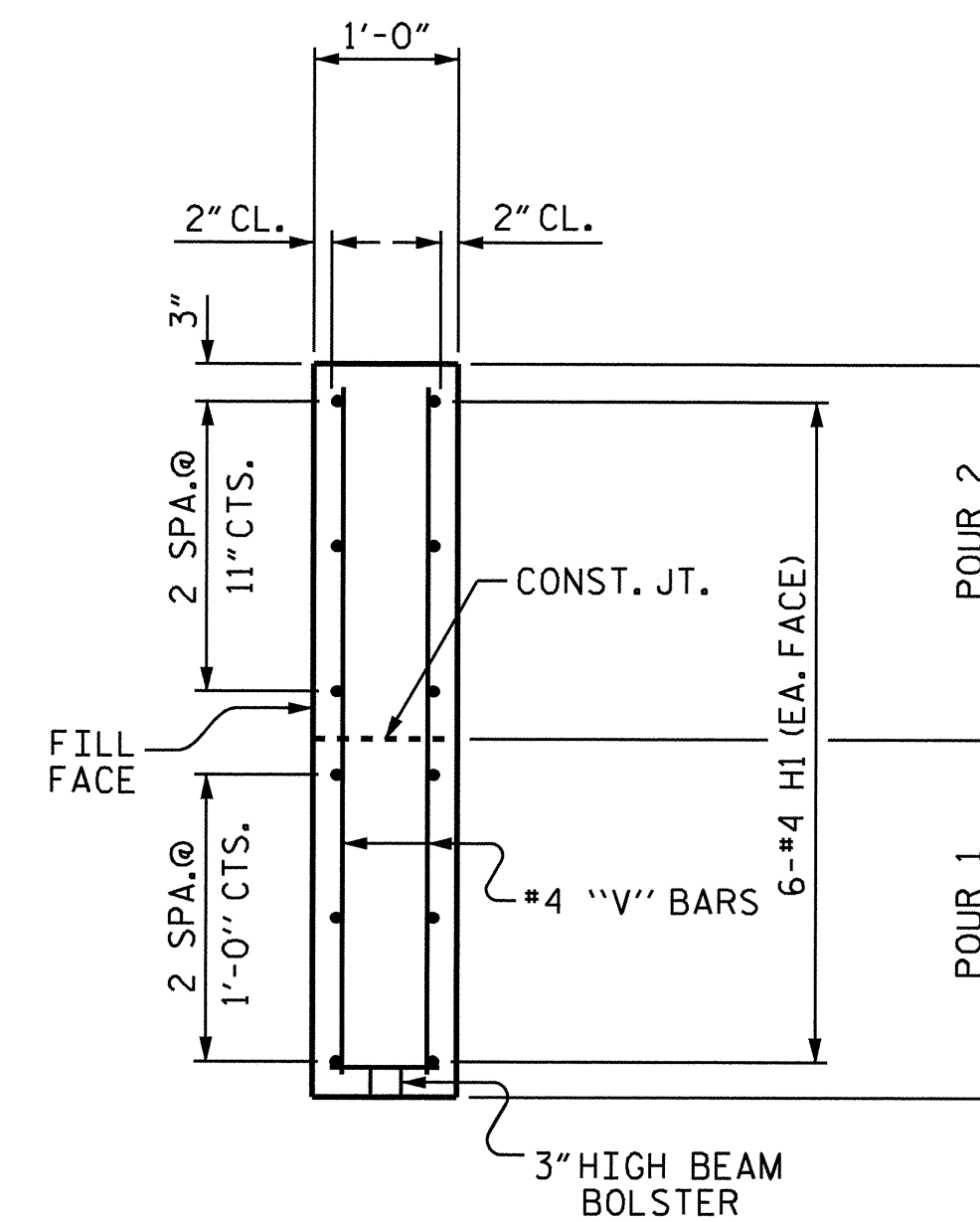
DRAWN BY : S. DOMBROWSKI DATE : 3/4/09
 CHECKED BY : T. H. FANG DATE : 11/4/09



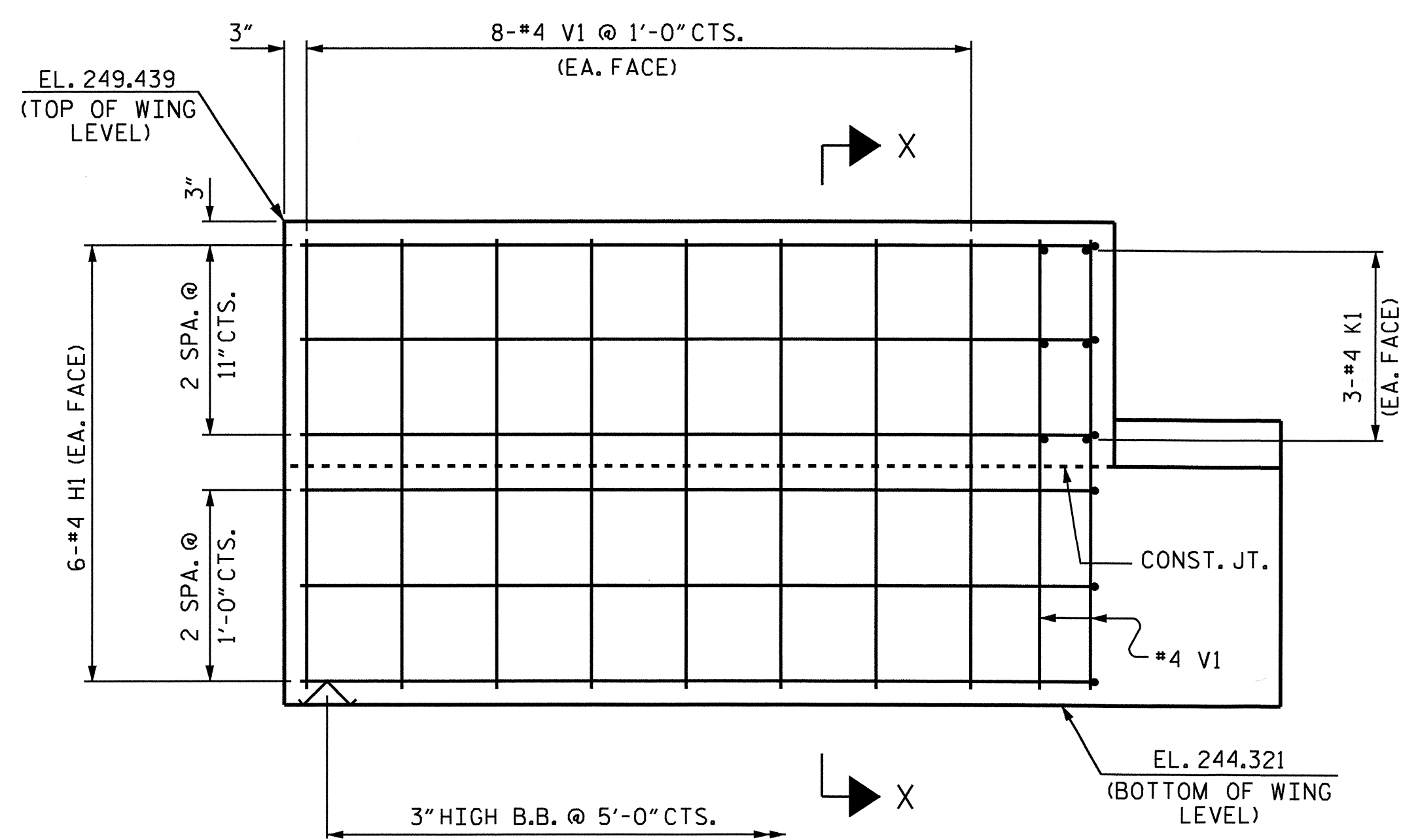
PLAN OF WING W1



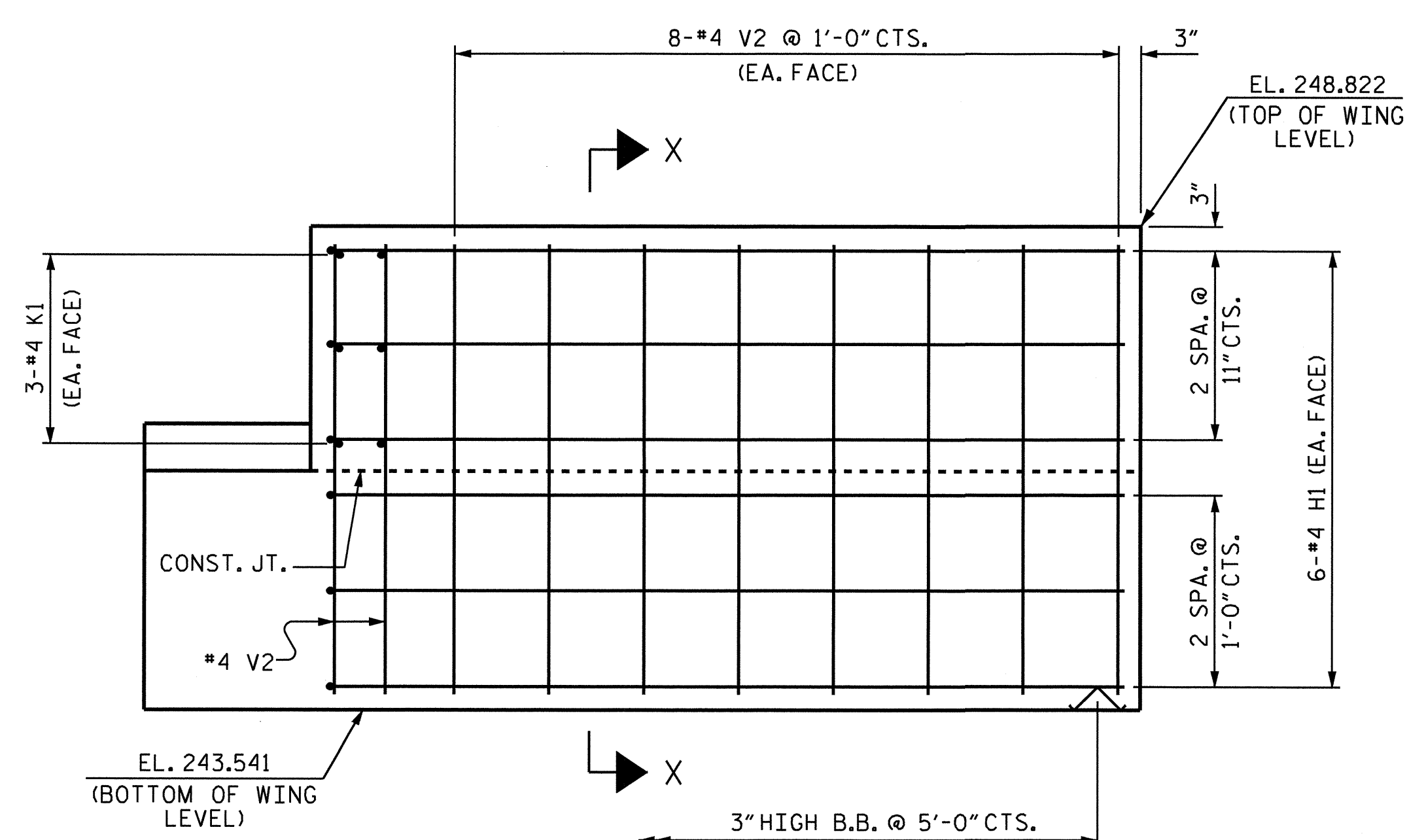
PLAN OF WING W2



SECTION X-X



ELEVATION OF WING W1



ELEVATION OF WING W2

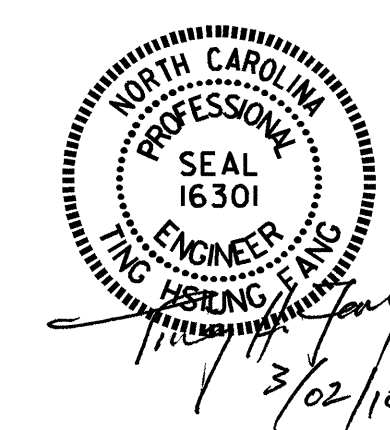
PROJECT NO. B-4584
MOORE COUNTY
 STATION: 16+29.50 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE

END BENT 2

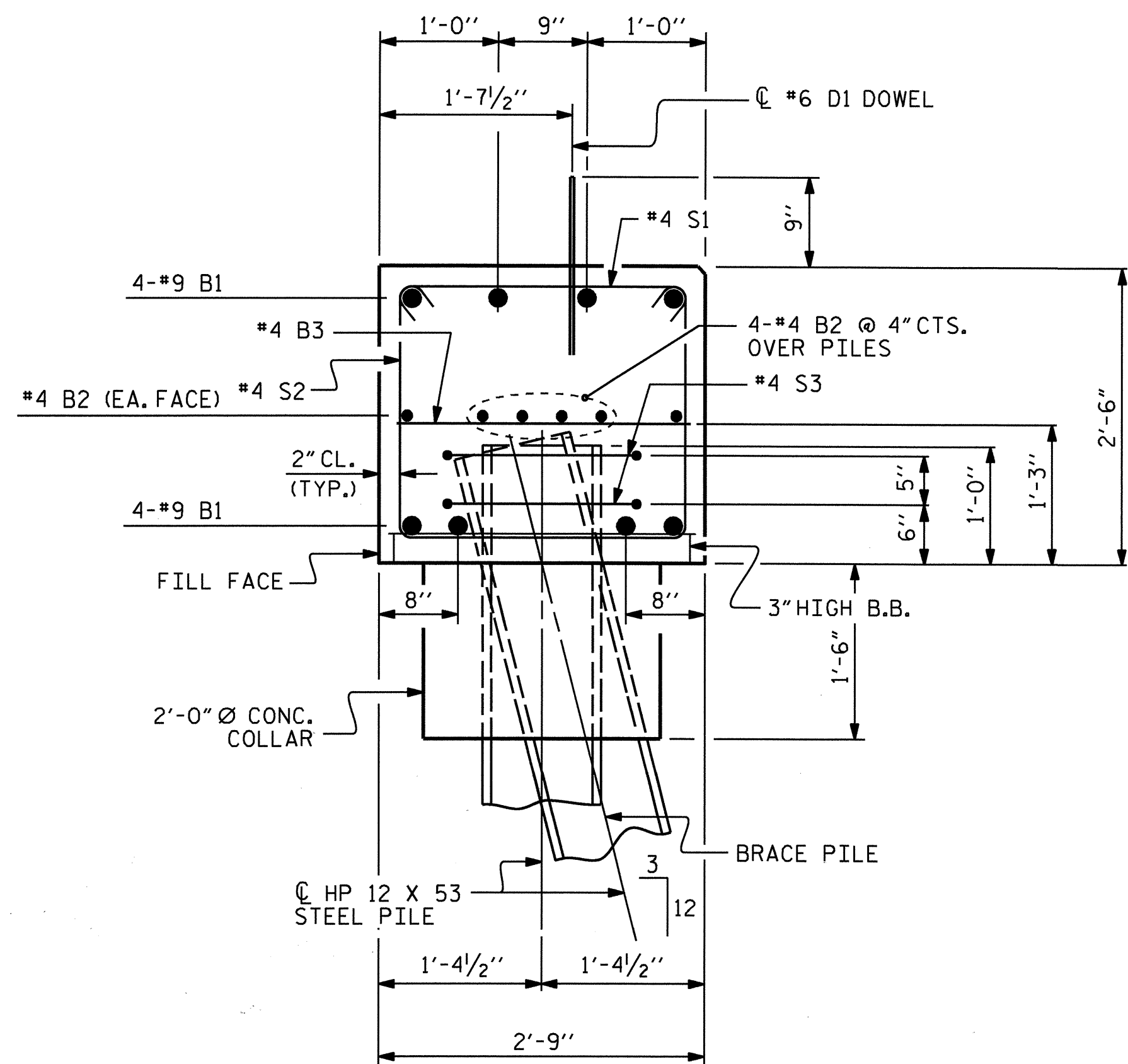


DRAWN BY : E. C. LOCKLEAR DATE : 3/4/09
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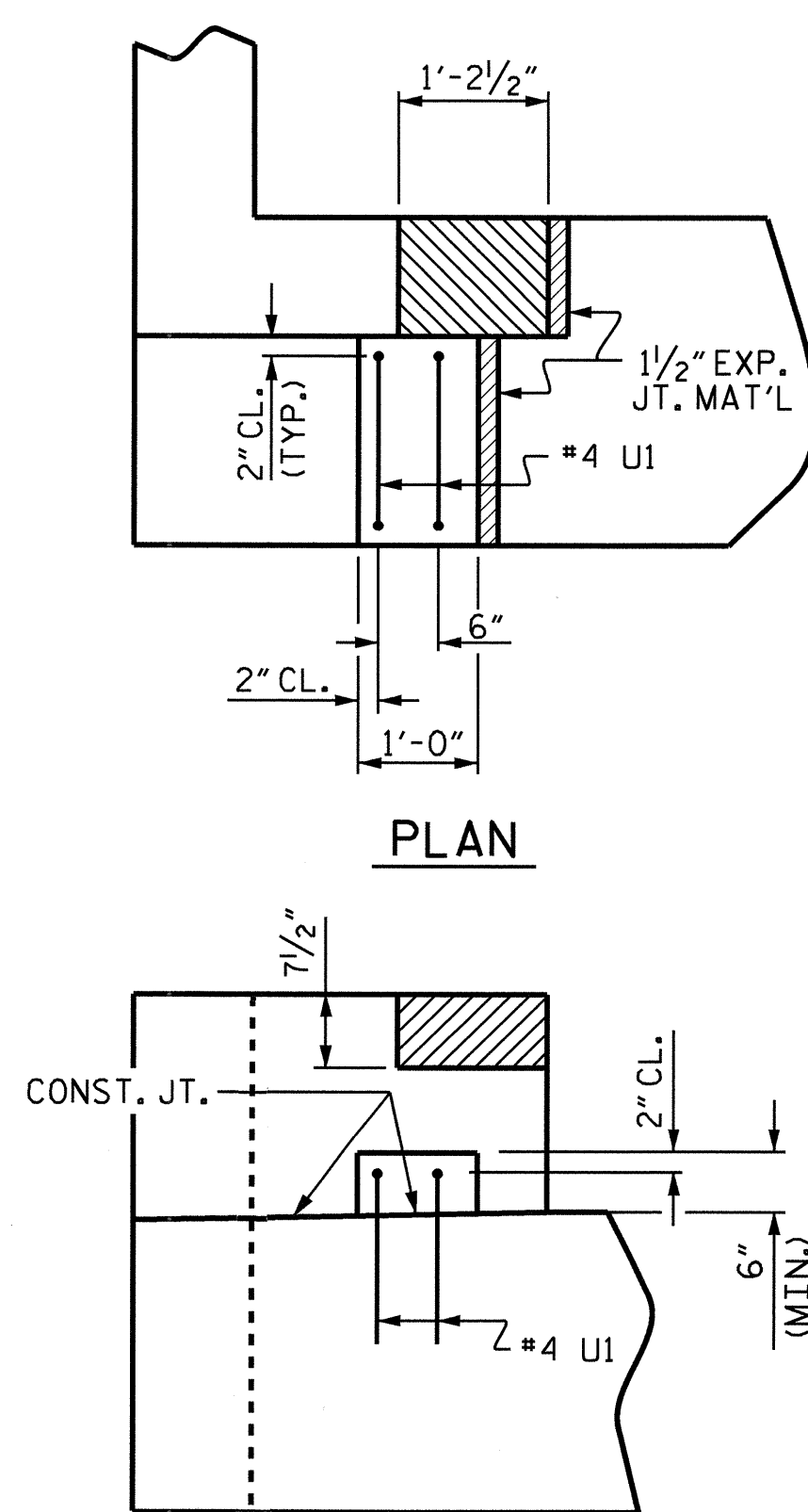
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 jayannoccone

REVISIONS						SHEET NO.	
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1			3			TOTAL SHEETS	21
2			4				

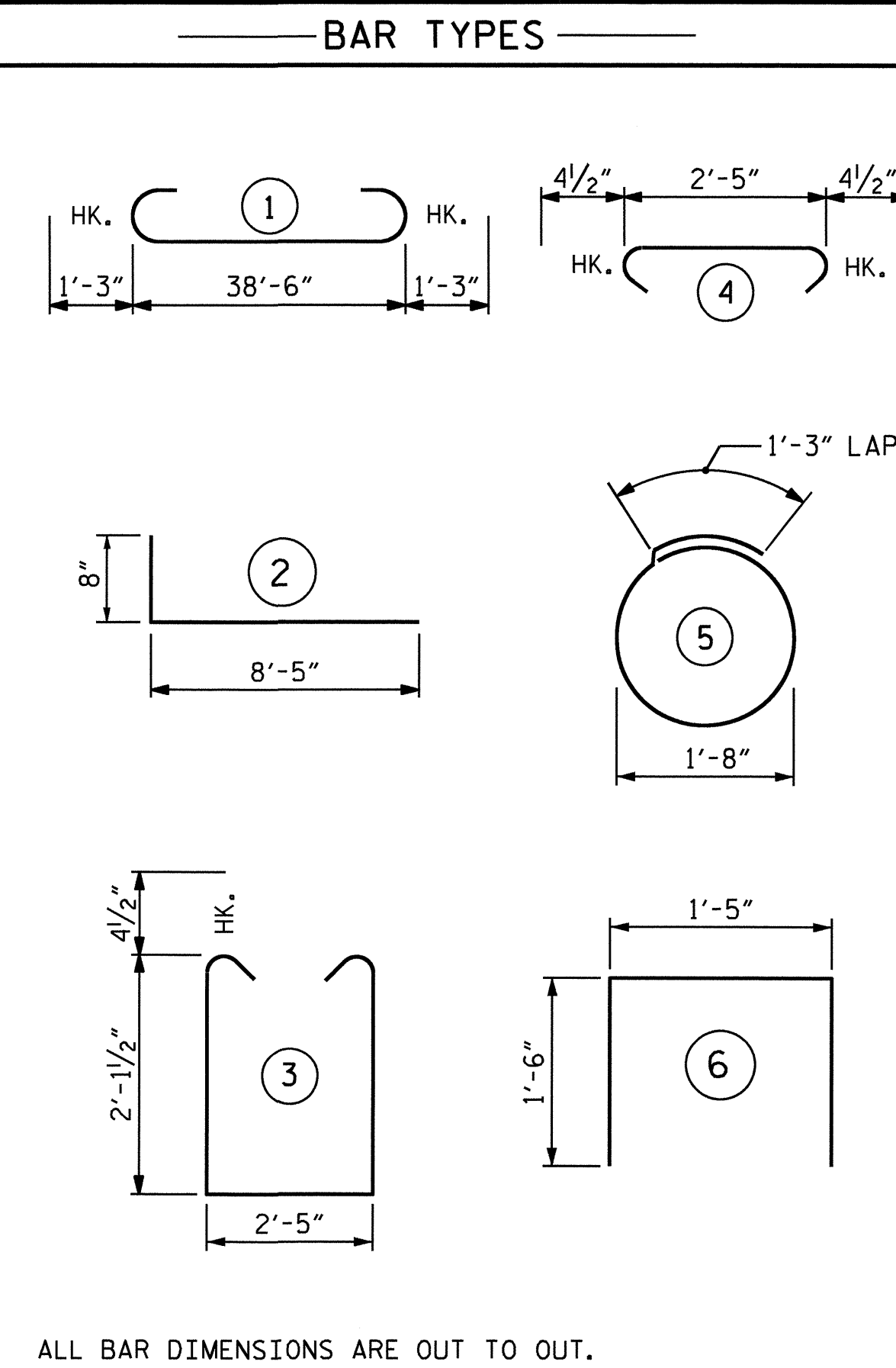
NC005



SECTION A-A



ELEVATION
LATERAL GUIDE DETAILS
(EACH END SIMILAR)



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

END BENT 2

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	41'-0"	1115
B2	12	#4	STR	20'-7"	165
B3	10	#4	STR	2'-5"	16
D1	22	#6	STR	1'-6"	50
H1	24	#4	2	9'-1"	146
K1	12	#4	STR	2'-11"	23
S1	42	#4	4	3'-2"	89
S2	42	#4	3	7'-5"	208
S3	10	#4	5	6'-6"	43
U1	4	#4	6	4'-5"	12
V1	26	#4	STR	4'-9"	82
V2	26	#4	STR	4'-11"	85

REINFORCING STEEL 2034 LBS.

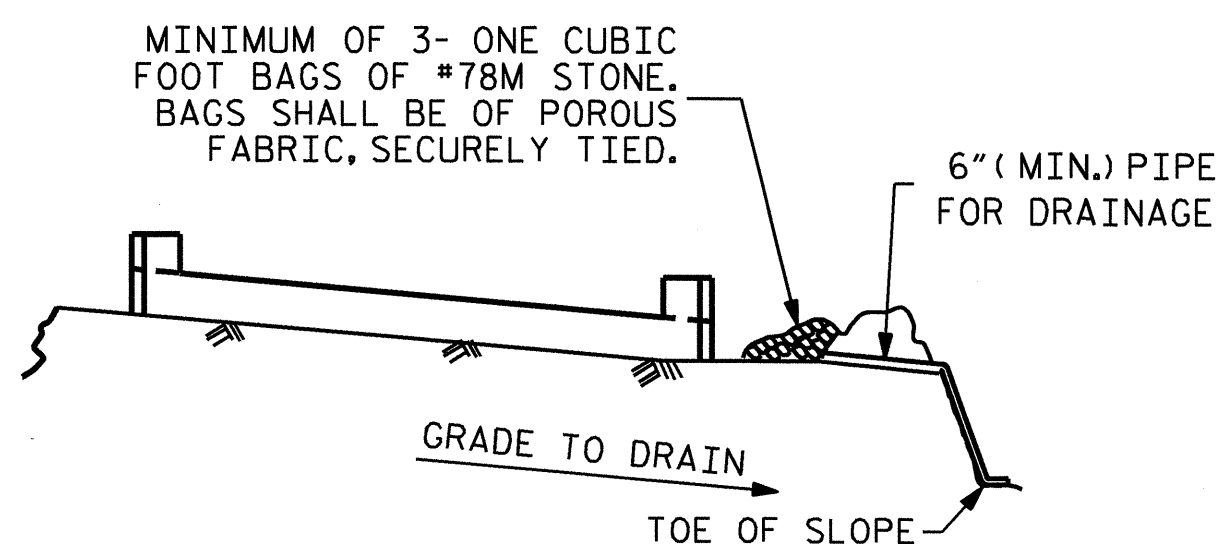
CLASS A CONCRETE BREAKDOWN:

POUR #1 (CONCRETE COLLARS, CAP & LOWER WINGS)	12.3 C.Y.
POUR #2 (UPPER WINGS)	2.2 C.Y.
POUR #3 (LATERAL GUIDES)	0.1 C.Y.

TOTAL CLASS A CONCRETE: 14.6 C.Y.

HP 12X53 STEEL PILES:

NO. 5 225 LIN. FT.

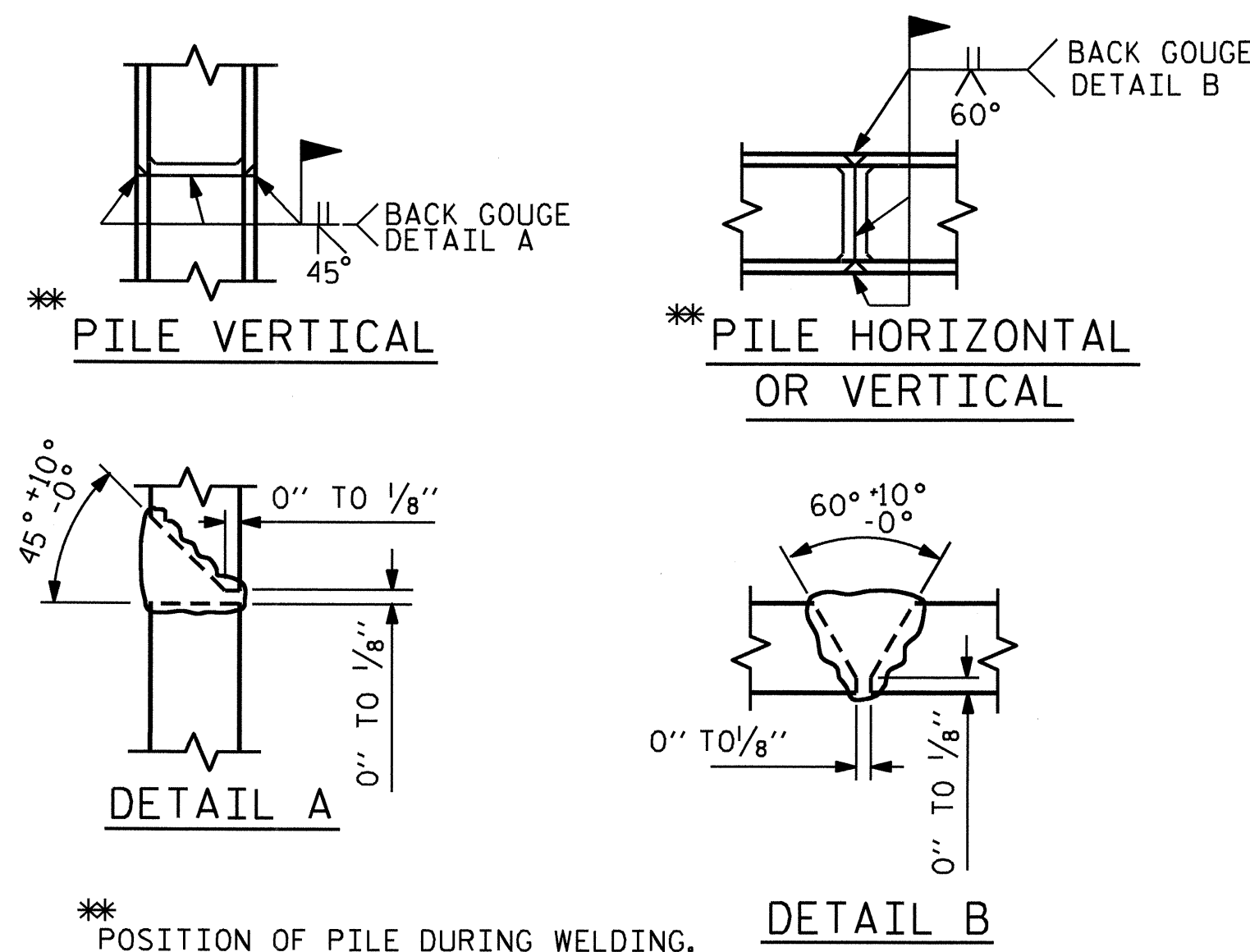


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

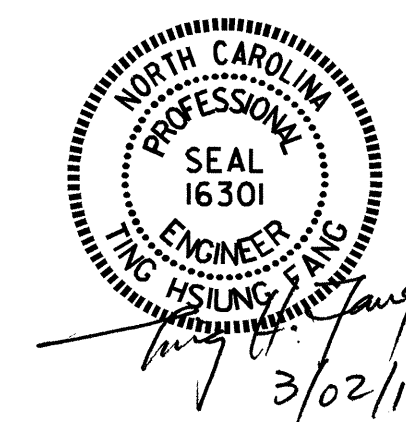
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

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



PILE SPLICE DETAILS



PROJECT NO. B-4584

MOORE COUNTY

STATION: 16+29.50 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE

END BENT 2

REVISIONS

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

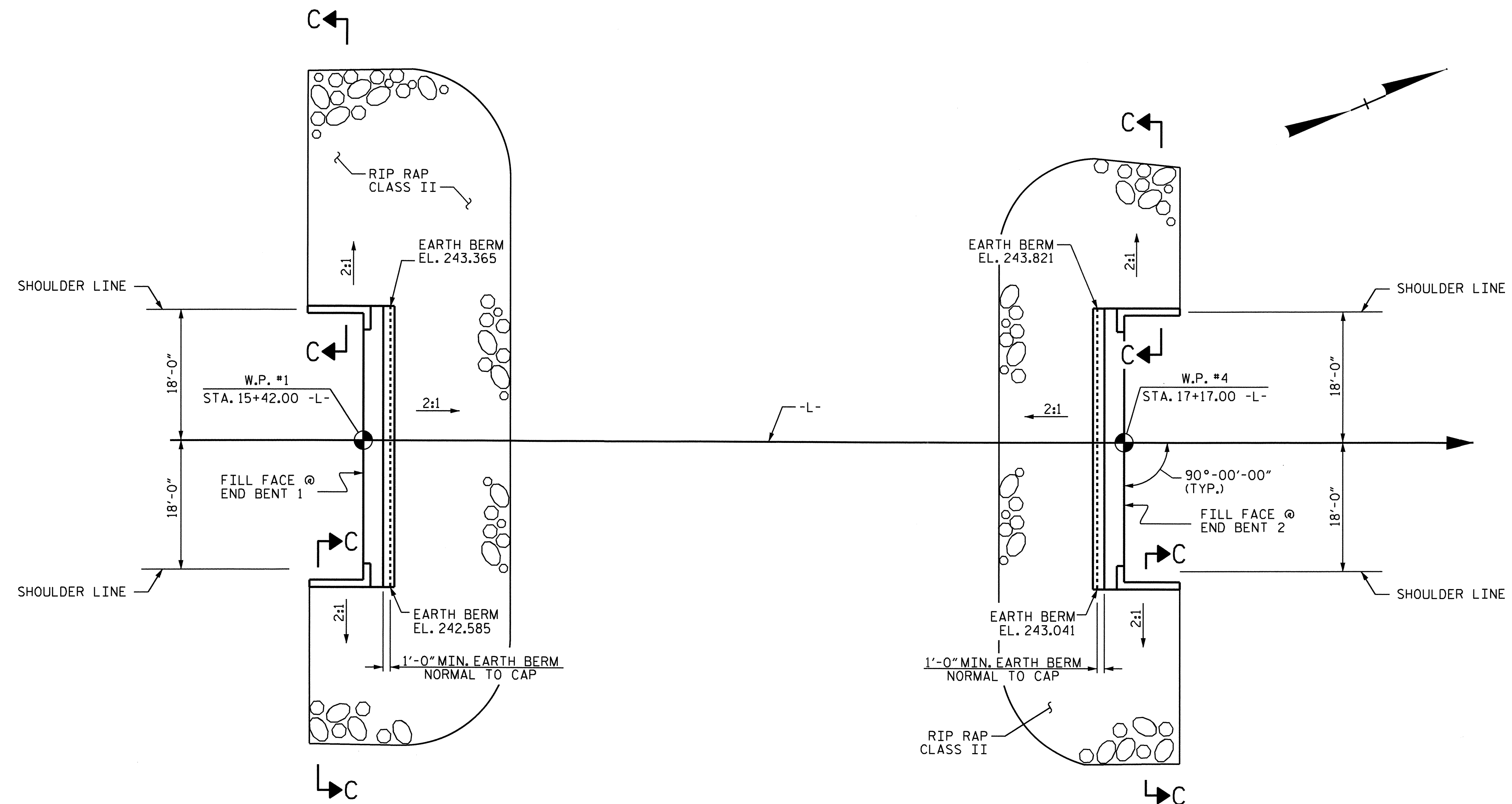
SHEET NO.

S-18

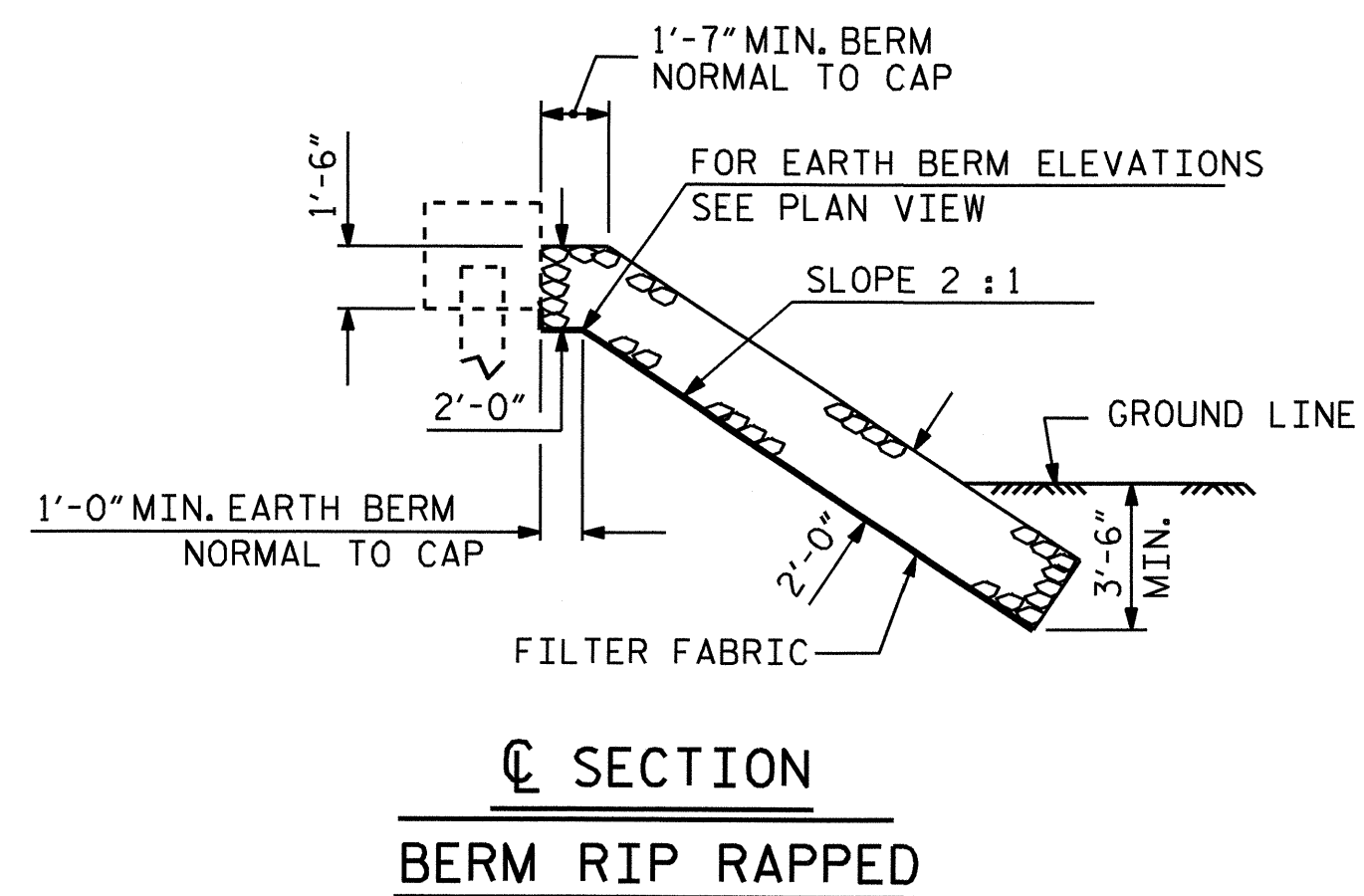
TOTAL SHEETS 21

DRAWN BY: E. C. LOCKLEAR DATE: 3/4/09
CHECKED BY: T. H. FANG DATE: 11/4/09

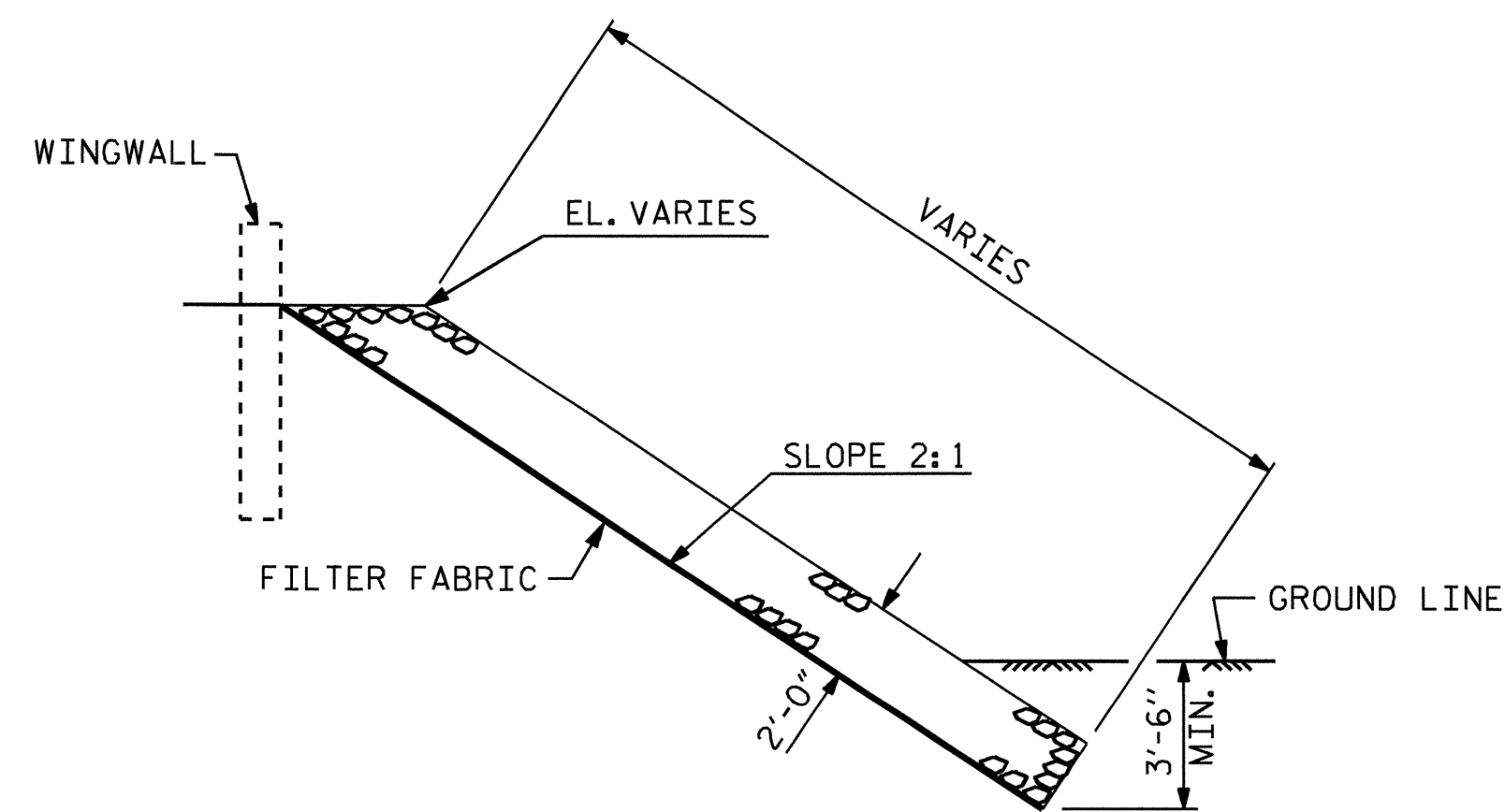
ESTIMATED QUANTITIES		
BRIDGE @ STA. 16+29.50 -L-	RIP RAP CLASS II	FILTER FABRIC FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	155	170
END BENT 2	95	105



PLAN



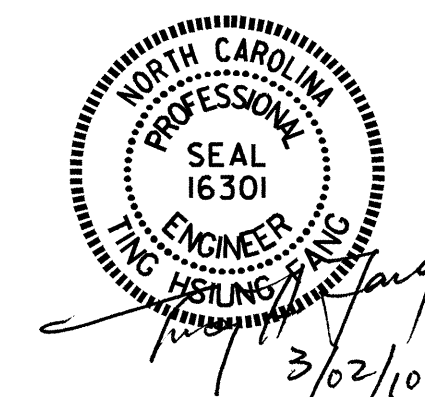
SECTION C-C
BERM RIP RAPPED



SECTION C-C

PROJECT NO. B-4584
MOORE COUNTY
 STATION: 16+29.50 -L-

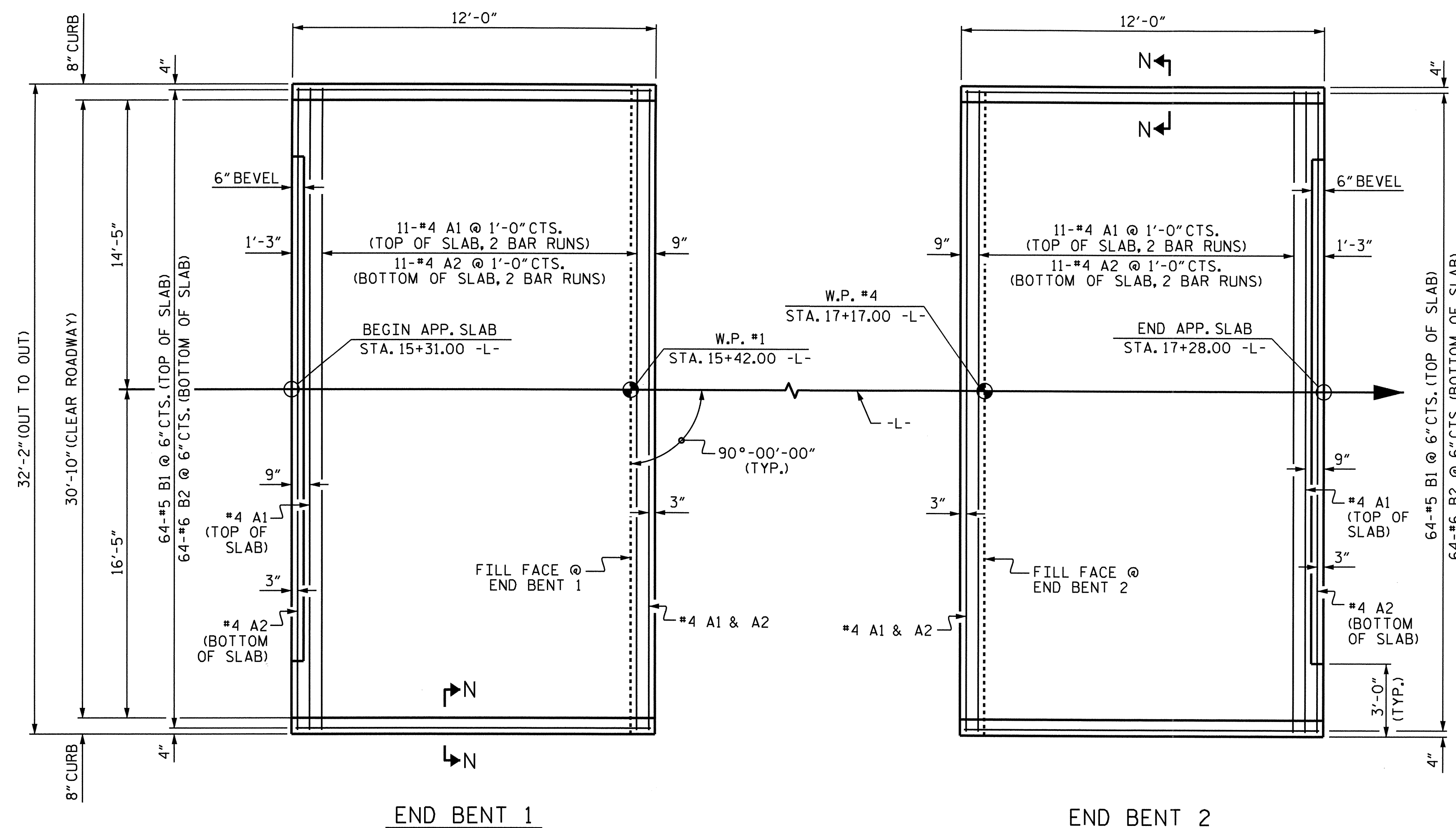
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					SHEET NO.
STANDARD					S-19
= RIP RAP DETAILS =					TOTAL SHEETS
REVISIONS					21
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		



ASSEMBLED BY :	J. E. JONES	DATE :	3/24/09
CHECKED BY :	T. H. FANG	DATE :	12/14/09
DRAWN BY :	REK 1/84	REV. 8/16/99	RWW/LES
CHECKED BY :	RDU 1/84	REV. 10/17/00	RWW/LES
		REV. 5/1/06	TLA/GM

02-MAR-2010 11:16
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 jayonnaccone

STD. NO. RR2

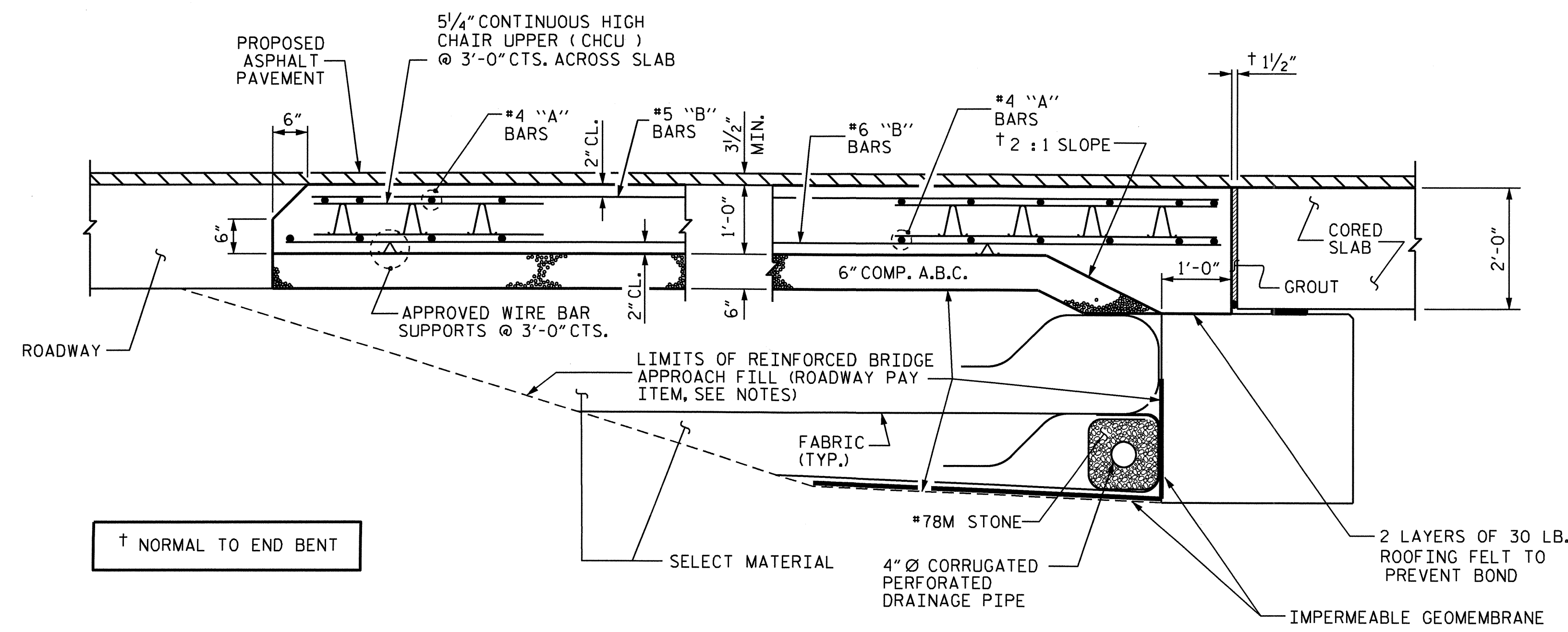


END BENT 1

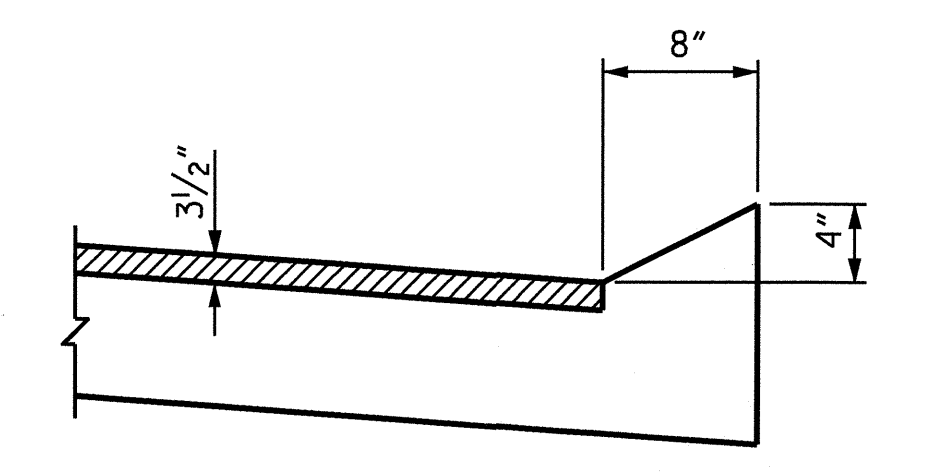
END BENT 2

PLAN

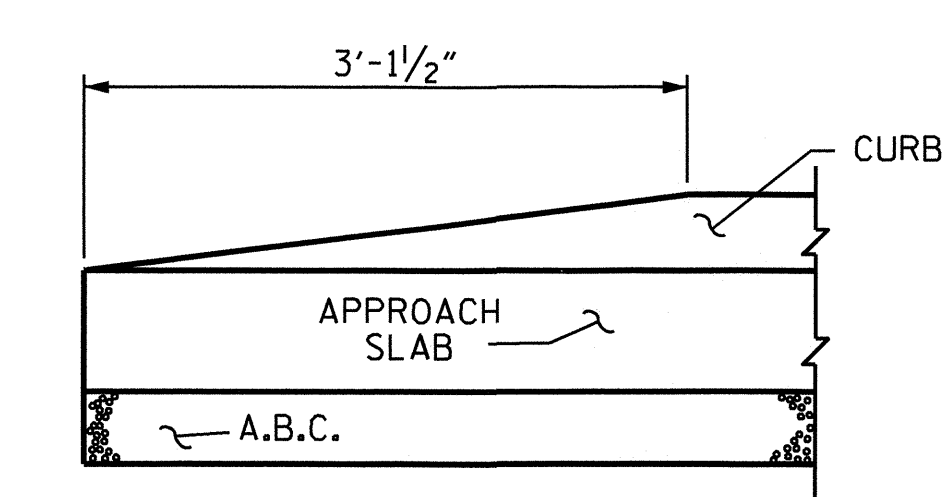
DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS.



SECTION THRU SLAB



SECTION N-N



END OF CURB WITHOUT SHOULDER BERM GUTTER

CURB DETAILS

NOTES

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

APPROACH SLABS SHALL NOT BE CONSTRUCTED UNTIL AFTER CORED SLAB UNITS ARE IN PLACE.

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.

THE 6" COMP. A.B.C. SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB AND SHALL EXTEND 1'-0" OUTSIDE OF EACH EDGE OF THE APPROACH SLAB.

THE CONTRACTOR MAY USE 4" TYPE B-25.0B ASPHALT CONCRETE BASE COURSE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE BASE COURSE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB, AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB.

THE CONTRACTOR MAY USE 5" CLASS "A" CONCRETE BASE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE CONCRETE BASE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB, AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB. THE CONCRETE SHALL BE FINISHED TO A SMOOTH SURFACE AND A LAYER OF 30 LB ROOFING FELT SHALL BE PLACED BETWEEN THE CONCRETE BASE AND THE APPROACH SLAB TO PREVENT BOND. THE APPROACH SLAB SHALL NOT BE CAST UNTIL THE CONCRETE BASE HAS REACHED AN AGE OF THREE CURING DAYS.

FOR JOINT DETAILS, SEE "PRESTRESSED CONCRETE CORED SLAB UNIT" SHEETS.

THE JOINT AT THE END BENT SHALL BE GROUTED AS SOON AS PRACTICAL AFTER THE CONSTRUCTION OF THE APPROACH SLABS.

APPROACH SLAB GROOVING IS NOT REQUIRED.

BILL OF MATERIAL

FOR ONE APPROACH SLAB (2 REQUIRED)

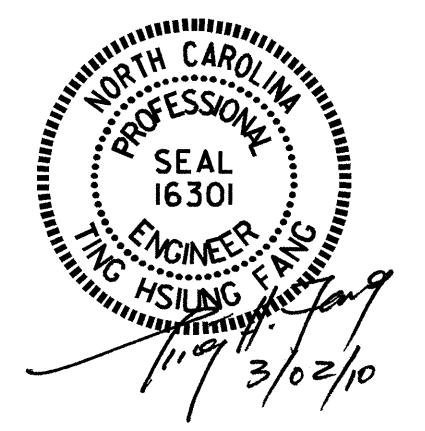
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	26	#4	STR	16'-11"	294
A2	26	#4	STR	16'-10"	292
*B1	64	#5	STR	11'-2"	745
B2	64	#6	STR	11'-8"	1121

REINFORCING STEEL LBS. 1413
*EPOXY COATED REINFORCING STEEL LBS. 1039

CLASS AA CONCRETE C. Y. 17.1

SPLICE CHART

#4 A1	2'-0"
#4 A2	1'-9"



PROJECT NO. B-4584

MOORE COUNTY

STATION: 16+29.50 -L-

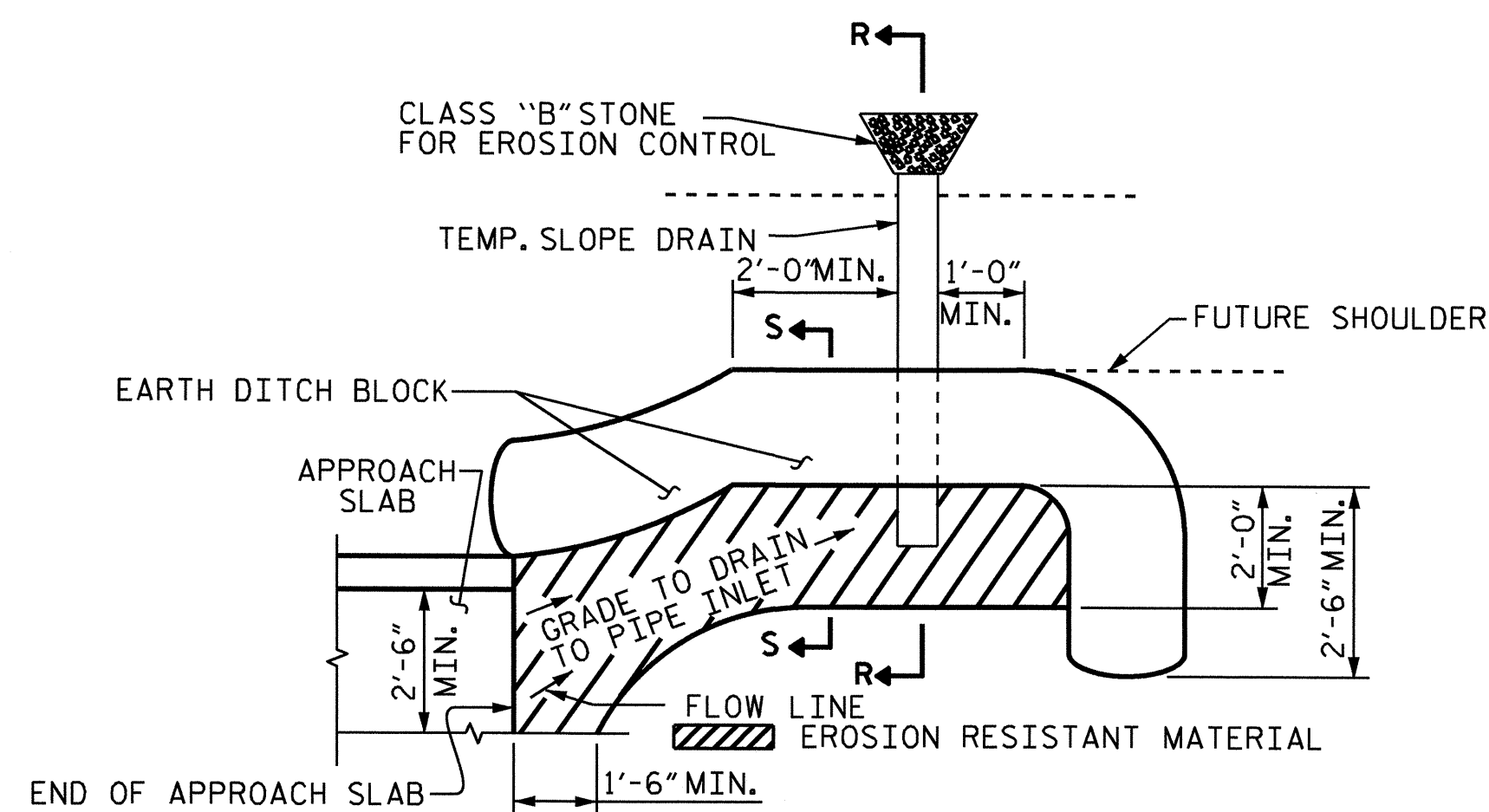
SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD

BRIDGE APPROACH SLAB
FOR PRESTRESSED CONCRETE
CORED SLAB

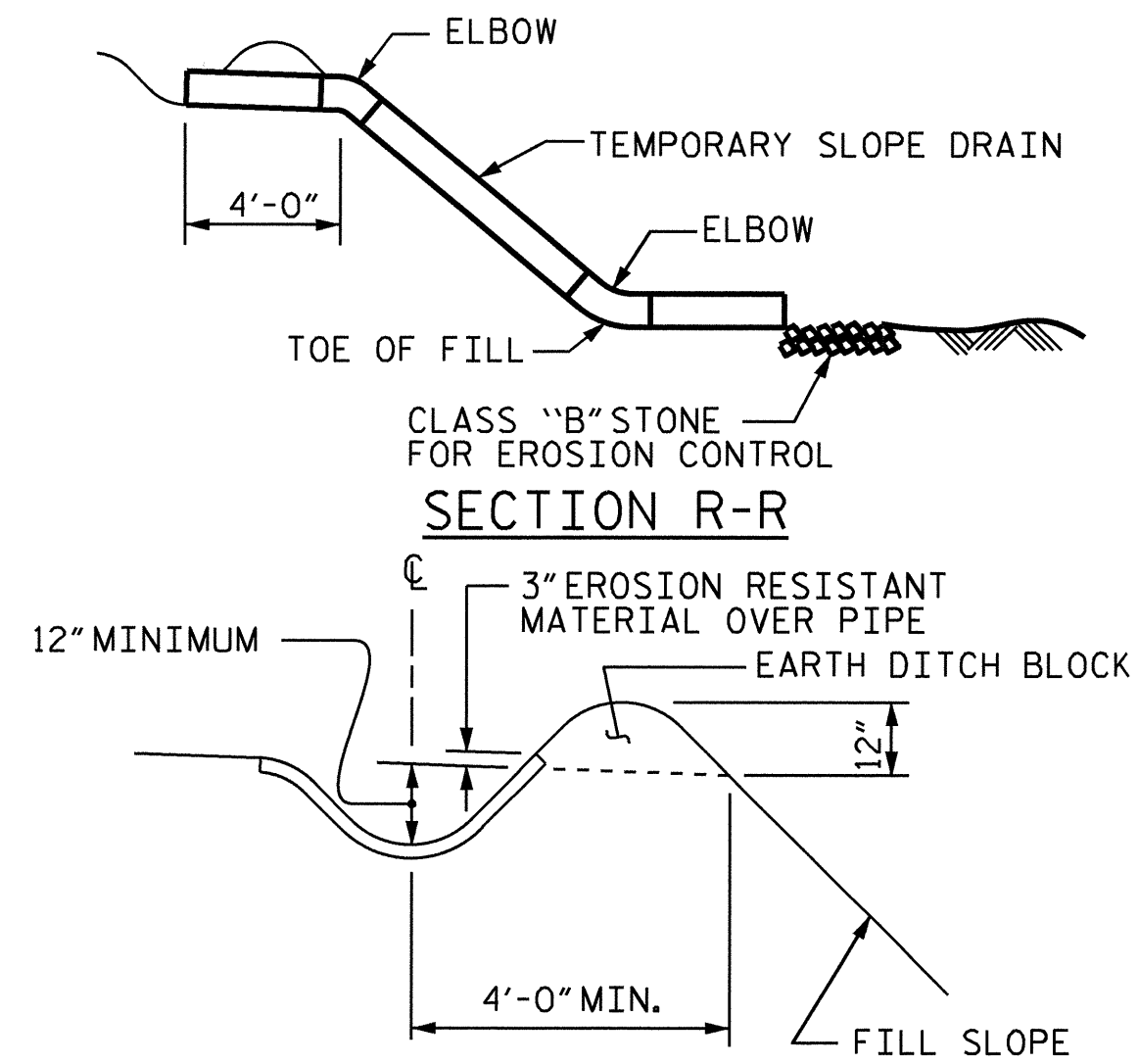
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-20
1			3			TOTAL SHEETS
2			4			21

ASSEMBLED BY : E.C. LOCKLEAR	DATE : 3-10-09
CHECKED BY : T. H. FANG	DATE : 11-23-09
DRAWN BY : FCJ 6/87	REV. 7/10/01 LES/RDR
CHECKED BY : EGA 6/87	REV. 5/7/03R RWW/JTE
	REV. 5/1/06R KMM/GM



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

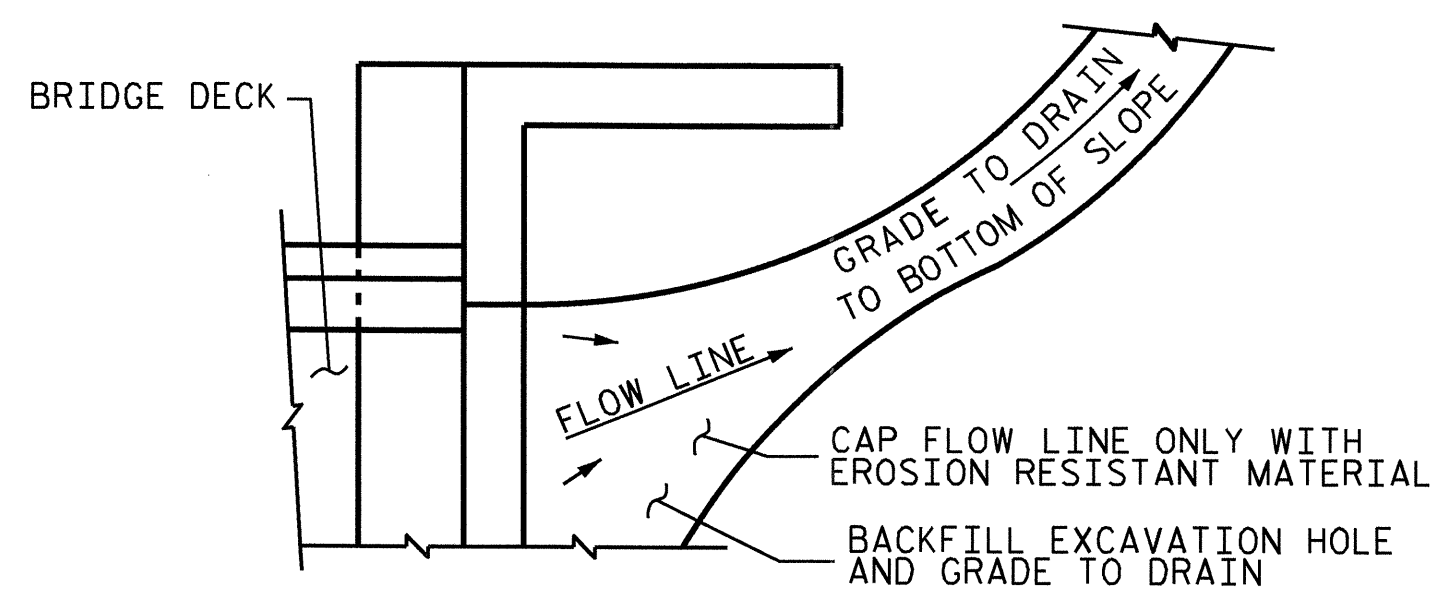


SECTION R-R

SECTION S-S

TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



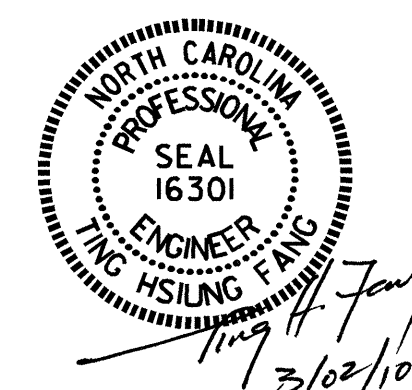
NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT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

TEMPORARY DRAINAGE DETAIL

PROJECT NO. B-4584
MOORE COUNTY
 STATION: 16+29.50 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 BRIDGE APPROACH
 SLAB DETAILS



ASSEMBLED BY : E.C. LOCKLEAR	DATE : 3-10-09
CHECKED BY : T. H. FANG	DATE : 11-23-09
DRAWN BY : FCJ 11/88	REV. 10/17/00 RWW/LES
CHECKED BY : ARB 11/88	REV. 5/7/03 RWW/JTE
	REV. 5/1/06R MAA/KMM

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-21
1			3			TOTAL SHEETS
2			4			21

STD. NO. BAS10

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 2006 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

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

CONCRETE:

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

CONCRETE CHAMFERS:

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

DOWELS:

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

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

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE. ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

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

SPECIAL NOTES:

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

ENGLISH

JANUARY, 1990

STD. NO. SN