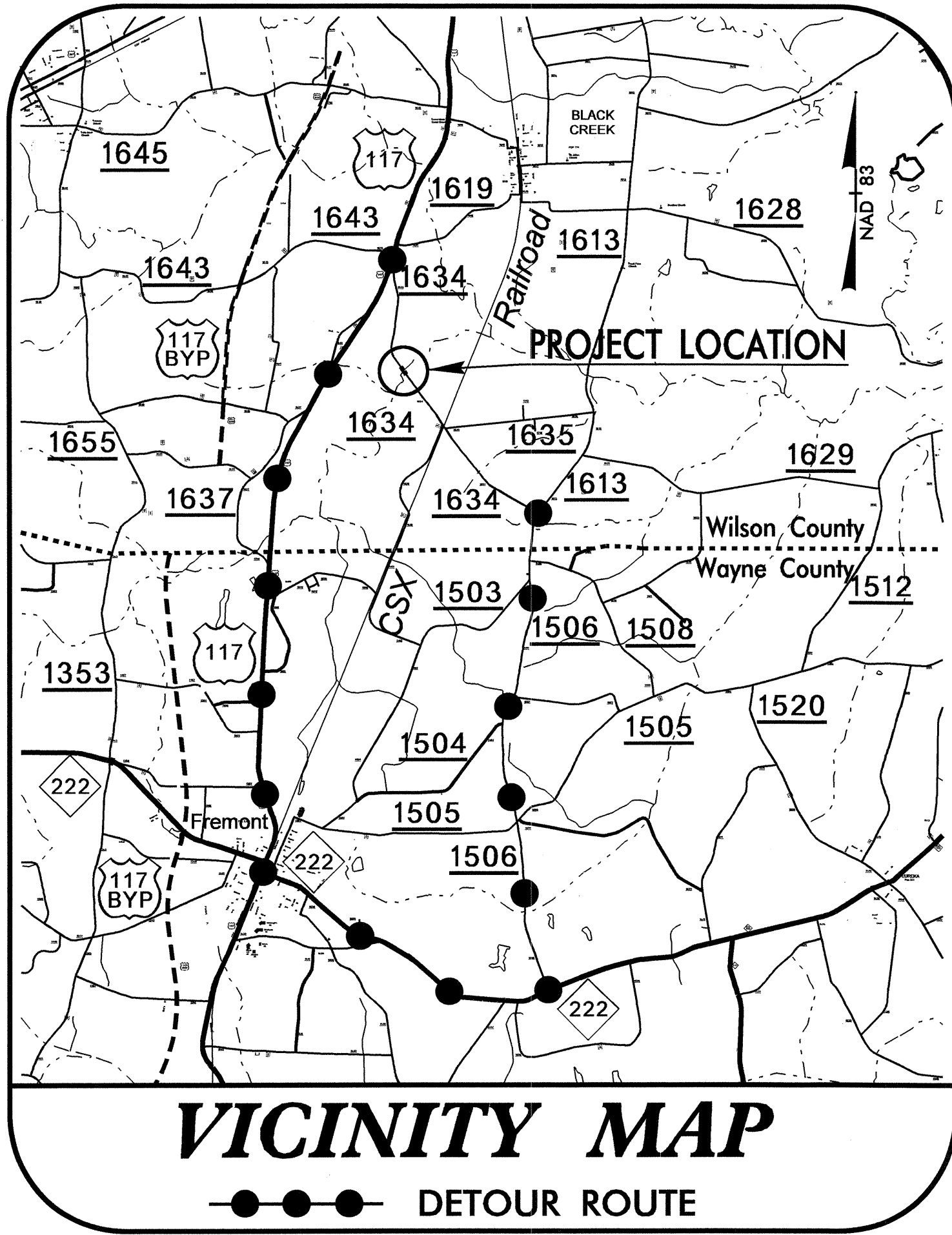


**CONTRACT: C202726 TIP PROJECT: B-4328**



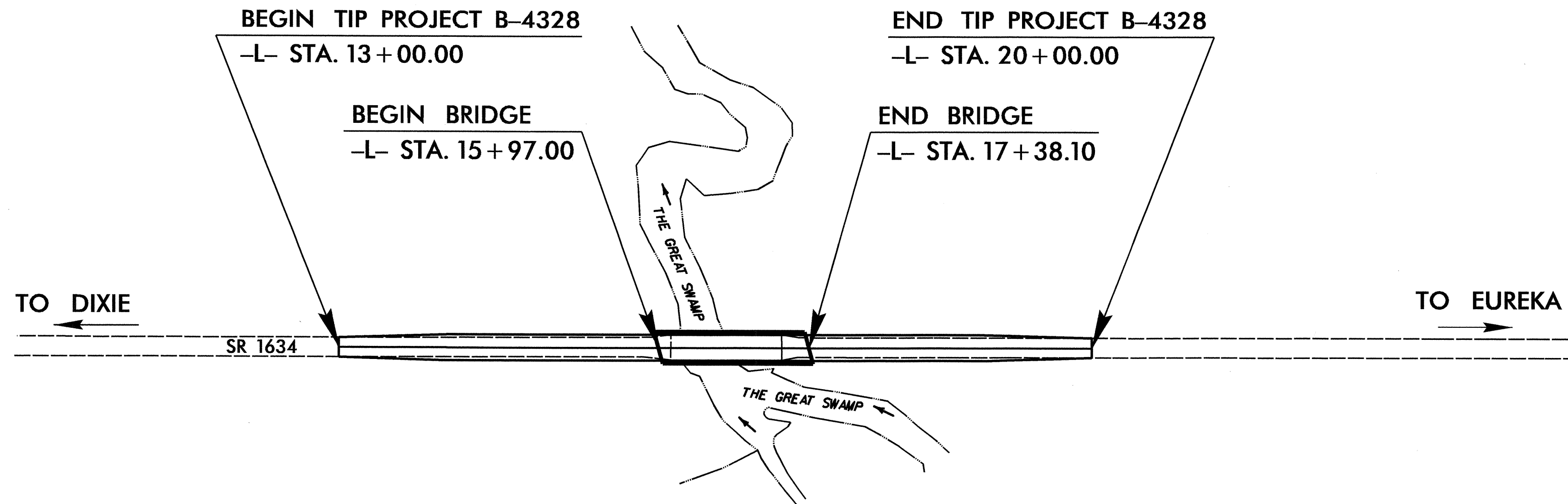
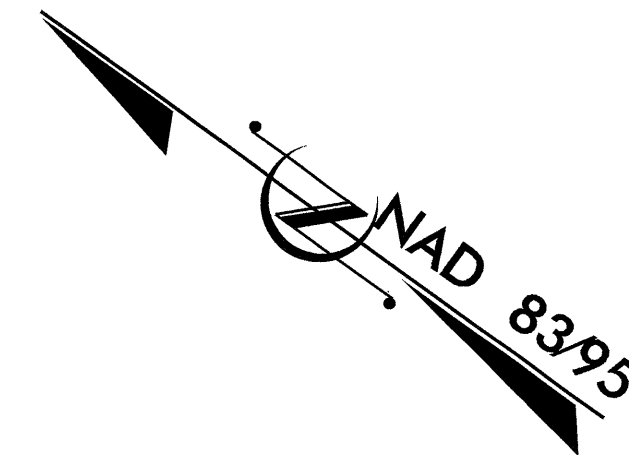
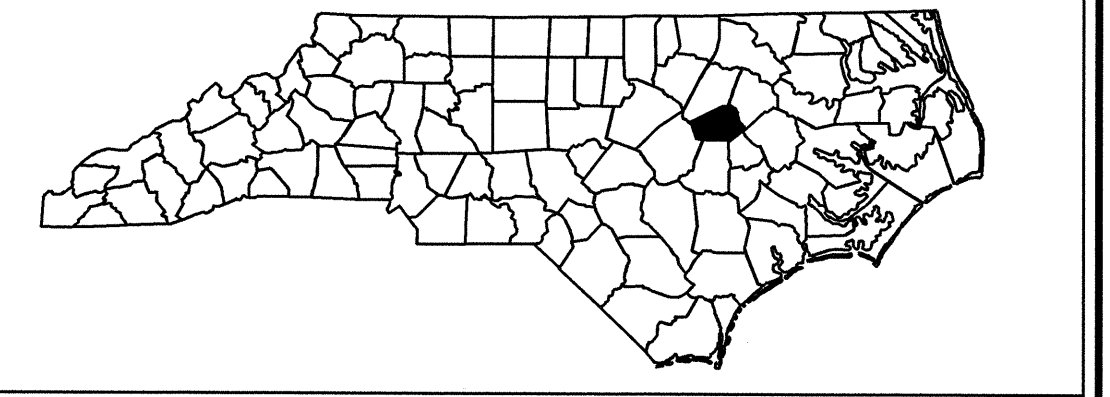
STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS

**WILSON COUNTY**

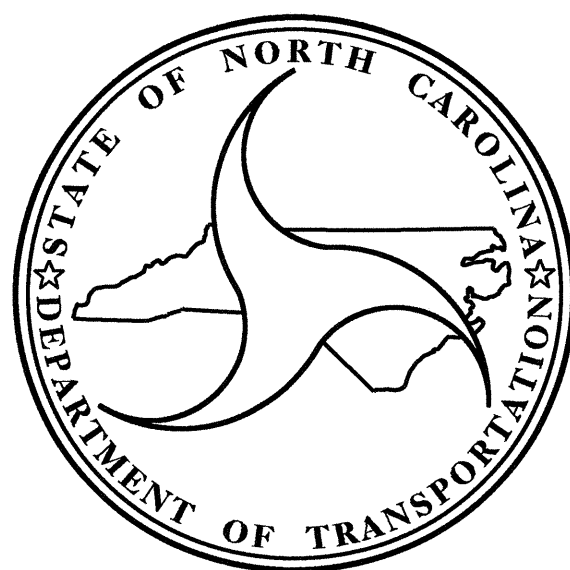
**LOCATION: BRIDGE No. 3 OVER GREAT SWAMP ON SR 1634**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4328		
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33665.1.1	BRZ-1634 (4)	PE	
33665.2.1	BRZ-1634 (4)	R/W & UTIL.	
33665.3.1	BRZ-1634 (4)	CONST.	



**STRUCTURE**



**DESIGN DATA**

ADT 2011 = 1,090  
 ADT 2030 = 2,000  
 DHV = 13 %  
 D = 60 %  
 T = 3 % \*  
 V = 60 MPH  
 \* TTST 1% DUAL 2 %  
 FUNC. CLASS = LOCAL

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT B-4328 = 0.106 MI.  
 LENGTH OF STRUCTURE TIP PROJECT B-4328 = 0.027 MI.  
 TOTAL LENGTH OF TIP PROJECT B-4328 = 0.133 MI.

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**  
 1000 BIRCH RIDGE DR. RALEIGH, NC 27610

2006 STANDARD SPECIFICATIONS

LETTING DATE:  
 NOVEMBER 15, 2011

**N. N. BULLOCK, PE**  
 PROJECT ENGINEER

**A. K. PASCHAL, PE**  
 PROJECT DESIGN ENGINEER

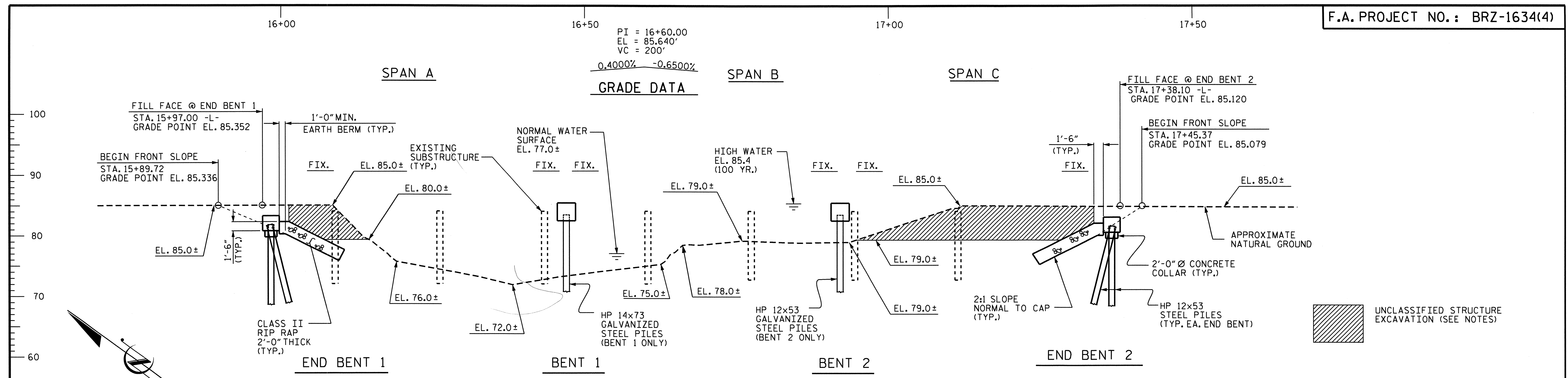
**STRUCTURE DESIGN UNIT**

DIVISION OF HIGHWAYS  
 STATE OF NORTH CAROLINA

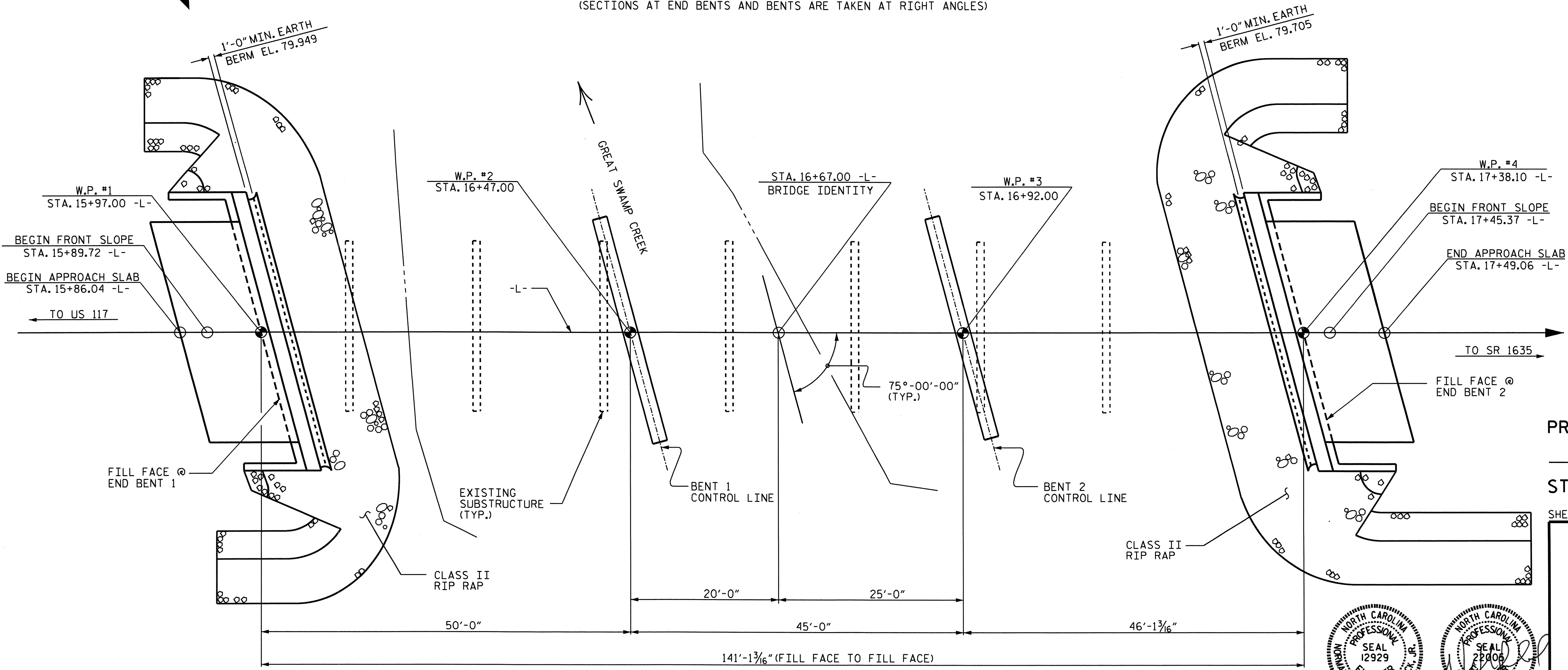
STATE DESIGN ENGINEER  
**DEPARTMENT OF TRANSPORTATION**  
**FEDERAL HIGHWAY ADMINISTRATION**

APPROVED  
 DIVISION ADMINISTRATOR

DATE



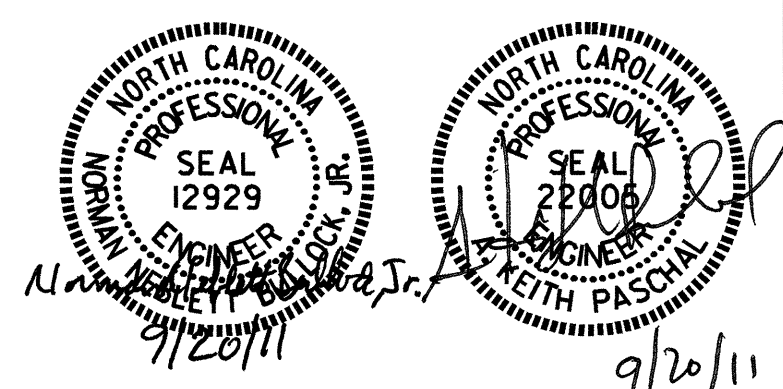
SECTION ALONG -L-  
(SECTIONS AT END BENTS AND BENTS ARE TAKEN AT RIGHT ANGLES)



PLAN  
(PILES ARE NOT SHOWN FOR CLARITY)

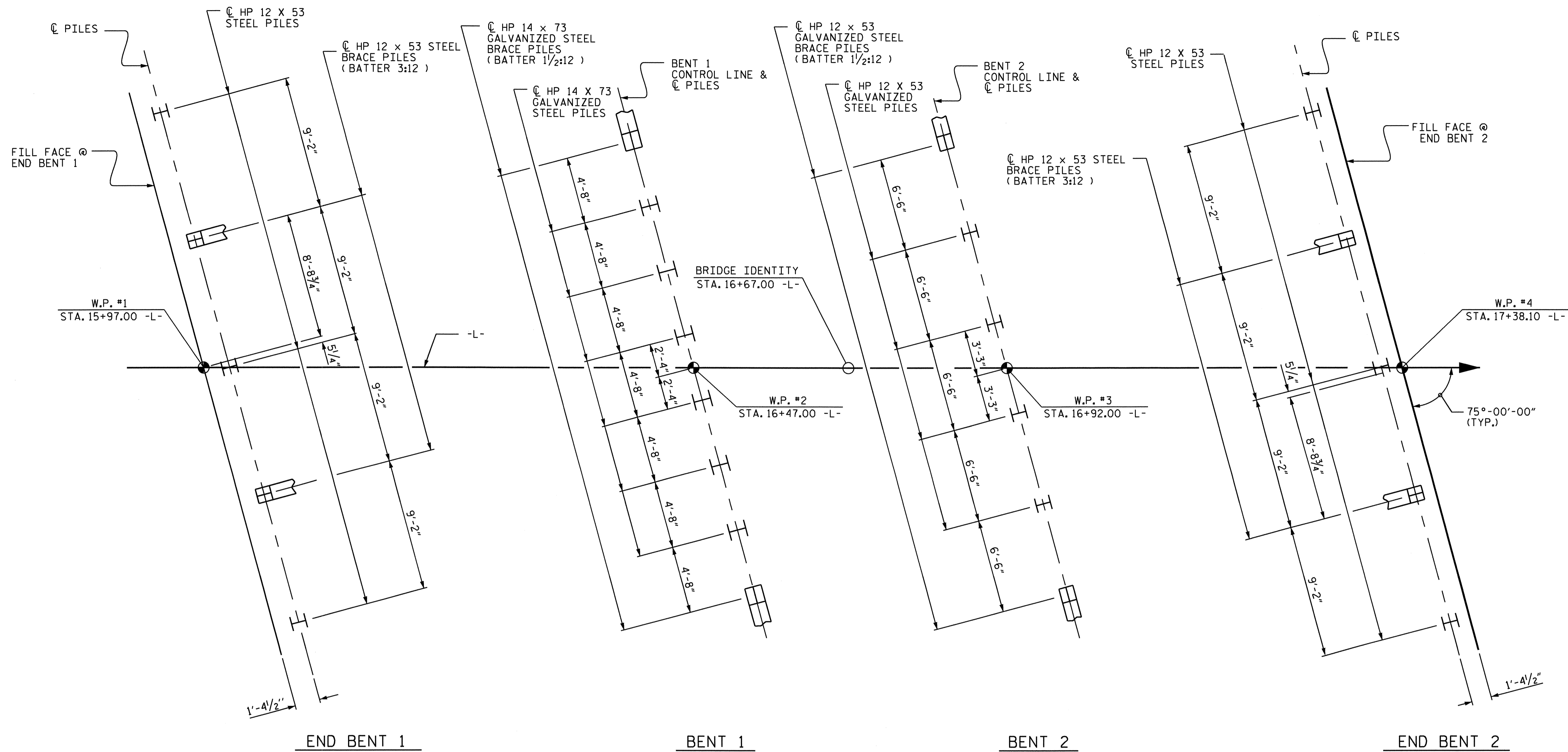
PROJECT NO. B-4328  
WILSON COUNTY  
 STATION: 16+67.00 -L-  
 SHEET 1 OF 3 REPLACES BRIDGE NO. 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 BRIDGE ON SR 1634  
 OVER GREAT SWAMP CREEK  
 BETWEEN US 117 AND SR 1635



DRAWN BY : M. E. FOWLER DATE : 6/23/10  
 CHECKED BY : J. G. KHARVA DATE : 6/1/11

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	DATE:	S-1
1			3		TOTAL SHEETS
2			4		23



**FOUNDATION LAYOUT**

( DIMENSIONS LOCATING END BENT & BENT PILES ARE SHOWN TO CENTERLINE OF PILES )

**FOUNDATION NOTES :**

FOR PILES, SEE SPECIAL PROVISIONS.

PILES AT END BENT 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 95 TONS PER PILE. DRIVE PILES TO A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE.

PILES AT BENT 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 95 TONS PER PILE. DRIVE PILES TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. THIS REQUIRED DRIVING RESISTANCE INCLUDES ADDITIONAL RESISTANCE FOR DOWNDRAW OR SCOUR.

PILES AT BENT 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 125 TONS PER PILE. DRIVE PILES TO A REQUIRED DRIVING RESISTANCE OF 210 TONS PER PILE. THIS REQUIRED DRIVING RESISTANCE INCLUDES ADDITIONAL RESISTANCE FOR DOWNDRAW OR SCOUR.

PILES AT END BENT 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 95 TONS PER PILE. DRIVE PILES TO A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE.

INSTALL PILES AT BENT 1 TO A TIP ELEVATION NO HIGHER THAN 42.00 FT.

INSTALL PILES AT BENT 2 TO A TIP ELEVATION NO HIGHER THAN 50.00 FT.

THE SCOUR CRITICAL ELEVATION FOR BENT 1 IS ELEVATION 60.0 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

THE SCOUR CRITICAL ELEVATION FOR BENT 2 IS ELEVATION 74.0 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

IT HAS BEEN ESTIMATED THAT A HAMMER WITH AN EQUIVALENT RATED ENERGY IN THE RANGE OF 45 TO 70 FT-KIPS PER BLOW WILL BE REQUIRED TO DRIVE PILES AT END BENT 1, BENT 1, BENT 2 AND END BENT 2. THIS ESTIMATED ENERGY RANGE DOES NOT RELEASE THE CONTRACTOR FROM PROVIDING DRIVING EQUIPMENT IN ACCORDANCE WITH THE PILES PROVISION.

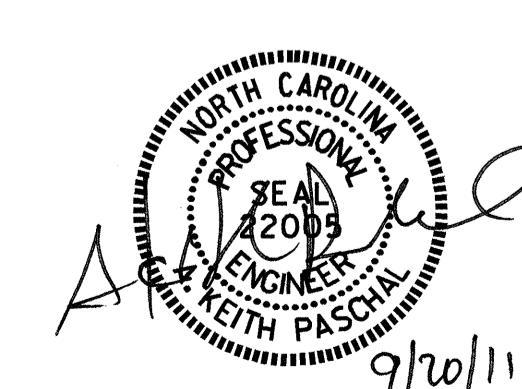
DRAWN BY : M. E. FOWLER DATE : 7/2/10  
 CHECKED BY : J. G. KHARVA DATE : 6/01/11

15-SEP-2011 08:59  
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 jmya

PROJECT NO. B-4328  
WILSON COUNTY  
 STATION: 16+67.00 -L-

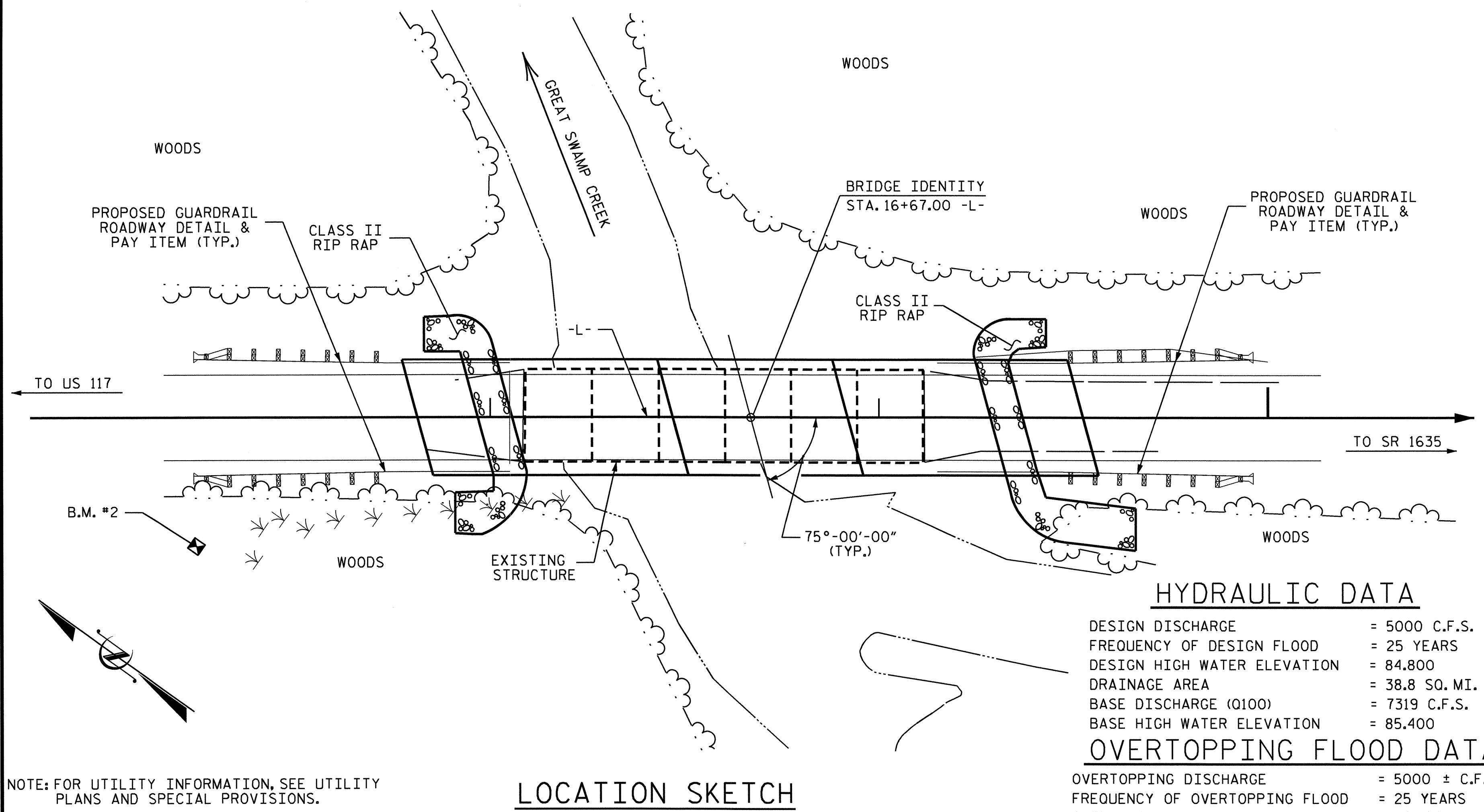
SHEET 2 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 BRIDGE ON SR 1634  
 OVER GREAT SWAMP CREEK  
 BETWEEN US 117 AND SR 1635



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

TOTAL SHEETS: 23



NOTE: FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH

HYDRAULIC DATA

DESIGN DISCHARGE = 5000 C.F.S.  
 FREQUENCY OF DESIGN FLOOD = 25 YEARS  
 DESIGN HIGH WATER ELEVATION = 84.800  
 DRAINAGE AREA = 38.8 SQ. MI.  
 BASE DISCHARGE (Q100) = 7319 C.F.S.  
 BASE HIGH WATER ELEVATION = 85.400

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 5000 ± C.F.S.  
 FREQUENCY OF OVERTOPPING FLOOD = 25 YEARS  
 OVERTOPPING FLOOD ELEVATION = 84.800

NOTES:

ASSUMED LIVE LOAD = HL 93 OR ALTERNATE LOADING.  
 FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.  
 FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.  
 THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.  
 THE EXISTING STRUCTURE CONSISTING OF SIX (2 @ 17'-8" AND 4 @ 17'-0") REINFORCED CONCRETE DECK ON TIMBER JOIST SPANS, WITH A ROADWAY WIDTH OF 24'-0" SUPPORTED BY TIMBER CONCRETE CAP WITH TIMBER PILE END BENTS AND BENTS AND LOCATED AT THE PROPOSED STRUCTURE SHALL BE REMOVED.  
 REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.  
 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.  
 THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 35 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.

THIS BRIDGE SHALL BE CONSTRUCTED USING TOP-DOWN CONSTRUCTION METHODS. THE USE OF A TEMPORARY CAUSEWAY OR WORK BRIDGE IS NOT PERMITTED.  
 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 SPICE OF THIRTY BAR DIAMETERS. THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS PAY ITEMS.  
 THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES", MAY, 2001.  
 FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.  
 FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.  
 FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.  
 FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.  
 FOR CURING CONCRETE, SEE SPECIAL PROVISIONS.  
 FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.  
 ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.

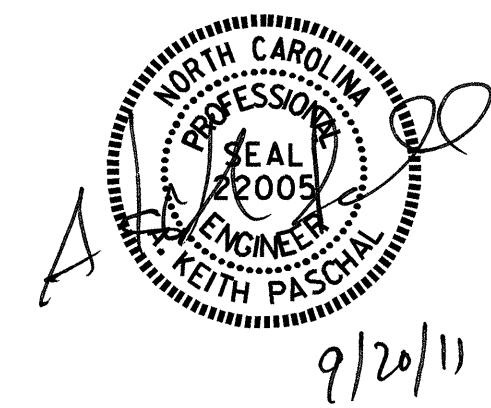
TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12 x 53 STEEL PILES		▲ HP 12 x 53 GALVANIZED STEEL PILES		▲ HP 14 x 73 GALVANIZED STEEL PILES		PILE REDRIVES	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" x 1'-9" PRESTRESSED CONCRETE CORED SLABS	
	LUMP SUM	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	NO.	LIN. FT.	NO.	LIN. FT.	NO.	LIN. FT.	NO.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	NO.	LIN. FT.
SUPERSTRUCTURE				LUMP SUM									277.54			LUMP SUM	33	1523.61
END BENT 1		LUMP SUM	14.5		2067	5	250					3		109	121			
BENT 1			12.7		2041					8	440	4						
BENT 2			12.7		2043			6	360			3						
END BENT 2		LUMP SUM	14.5		2067	5	250					3		133	148			
TOTAL	LUMP SUM	LUMP SUM	54.4	LUMP SUM	8218	10	500	6	360	8	440	13	277.54	242	269	LUMP SUM	33	1523.61

▲ FOR INTERIOR BENTS 1 & 2, ONLY PARTIAL GALVANIZING OF THE PILES IS REQUIRED. SEE INTERIOR BENT SHEETS FOR REQUIRED GALVANIZED LENGTHS. PAYMENT FOR PARTIALLY GALVANIZED PILES WILL BE MADE UNDER CONTRACT UNIT PRICE FOR GALVANIZED STEEL PILES.

PROJECT NO. B-4328  
 WILSON COUNTY  
 STATION: 16+67.00 -L-

SHEET 3 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

GENERAL DRAWING  
 BRIDGE ON SR 1634  
 OVER GREAT SWAMP CREEK  
 BETWEEN US 117 AND SR 1635

DRAWN BY : M. E. FOWLER DATE : 6/24/10  
 CHECKED BY : J. G. KHARVA DATE : 6/01/11

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			23

LOAD FACTORS:

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

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		
						MOMENT					SHEAR					MOMENT								
						LIVELOAD FACTORS	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)	LIVELOAD FACTORS	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION		DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93(Inv)	N/A	1	1.045	--	1.75	0.277	1.47	A	EL	21.918	0.54	1.05	A	EL	2.192	0.80	0.277	1.10	C	EL	21.918		
	HL-93(Oper)	N/A	--	1.355	--	1.35	0.277	1.91	A	EL	21.918	0.54	1.35	A	EL	2.192	N/A	--	--	--	--	--		
	HS-20(Inv)	36.000	2	1.244	44.778	1.75	0.277	1.82	A	EL	21.918	0.54	1.24	A	EL	2.192	0.80	0.277	1.35	C	EL	21.918		
	HS-20(Oper)	36.000	--	1.612	58.046	1.35	0.277	2.35	A	EL	21.918	0.54	1.61	A	EL	2.192	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13.500	--	2.626	35.446	1.4	0.277	4.58	A	EL	21.918	0.54	3.49	A	EL	2.192	0.80	0.277	2.63	C	EL	21.918	
		SNGARBS2	20.000	--	2.122	42.434	1.4	0.277	3.63	A	EL	21.918	0.54	2.55	A	EL	2.192	0.80	0.277	2.12	C	EL	21.918	
		SNAGRIS2	22.000	--	2.08	45.769	1.4	0.277	3.52	A	EL	17.534	0.54	2.39	A	EL	2.192	0.80	0.277	2.08	C	EL	21.918	
		SNCOTTS3	27.250	--	1.311	35.725	1.4	0.277	2.28	A	EL	21.918	0.54	1.75	A	EL	2.192	0.80	0.277	1.31	C	EL	21.918	
		SNAGGRS4	34.925	--	1.158	40.427	1.4	0.277	1.99	A	EL	21.918	0.54	1.5	A	EL	2.192	0.80	0.277	1.16	C	EL	21.918	
		SNS5A	35.550	--	1.128	40.084	1.4	0.277	1.94	A	EL	21.918	0.54	1.54	A	EL	2.192	0.80	0.277	1.13	C	EL	21.918	
		SNS6A	39.950	--	1.062	42.444	1.4	0.277	1.82	A	EL	21.918	0.54	1.43	A	EL	2.192	0.80	0.277	1.06	C	EL	21.918	
	SNS7B	42.000	3	1.013	42.538	1.4	0.277	1.73	A	EL	21.918	0.54	1.43	A	EL	2.192	0.80	0.277	1.01	C	EL	21.918		
	TTST	TNAGRIT3	33.000	--	1.304	43.034	1.4	0.277	2.23	A	EL	21.918	0.54	1.68	A	EL	2.192	0.80	0.277	1.30	C	EL	21.918	
		TNT4A	33.075	--	1.318	43.587	1.4	0.277	2.25	A	EL	21.918	0.54	1.62	A	EL	2.192	0.80	0.277	1.32	C	EL	21.918	
		TNT6A	41.600	--	1.106	46.023	1.4	0.277	1.88	A	EL	21.918	0.54	1.56	A	EL	2.192	0.80	0.277	1.11	C	EL	21.918	
		TNT7A	42.000	--	1.128	47.371	1.4	0.277	1.91	A	EL	21.918	0.54	1.45	A	EL	2.192	0.80	0.277	1.13	C	EL	21.918	
		TNT7B	42.000	--	1.174	49.314	1.4	0.277	1.99	A	EL	21.918	0.54	1.37	A	EL	2.192	0.80	0.277	1.17	C	EL	21.918	
		TNAGRIT4	43.000	--	1.118	48.093	1.4	0.277	1.89	A	EL	21.918	0.54	1.32	A	EL	2.192	0.80	0.277	1.12	C	EL	21.918	
TNACT5A		45.000	--	1.041	46.826	1.4	0.277	1.76	A	EL	21.918	0.54	1.35	A	EL	2.192	0.80	0.277	1.04	C	EL	21.918		
TNACT5B	45.000	--	1.016	45.715	1.4	0.277	1.73	A	EL	21.918	0.54	1.26	A	EL	2.192	0.80	0.277	1.02	C	EL	21.918			

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)

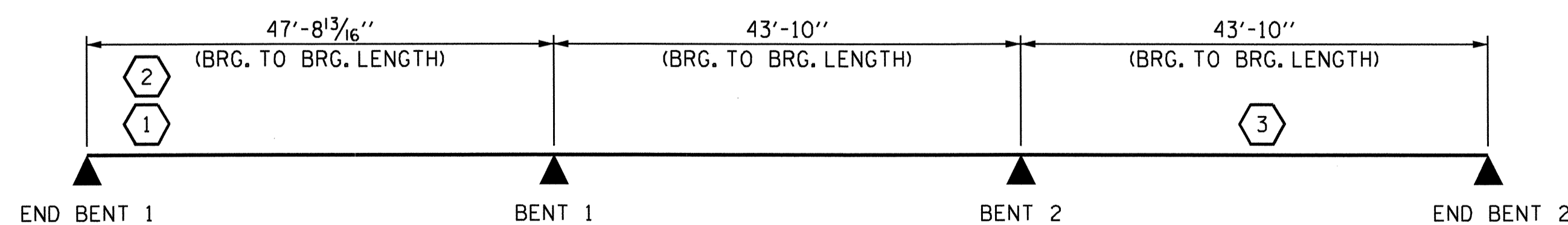
③ LEGAL LOAD RATING \*\*

\*\* SEE CHART FOR VEHICLE TYPE

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GIRDER LOCATION

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



LRFR SUMMARY

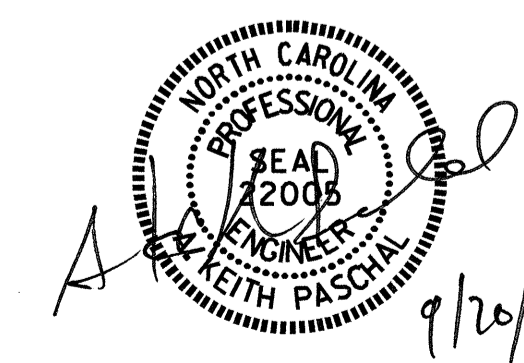
PROJECT NO. B-4328  
WILSON COUNTY  
 STATION: 16+67.00 -L-

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

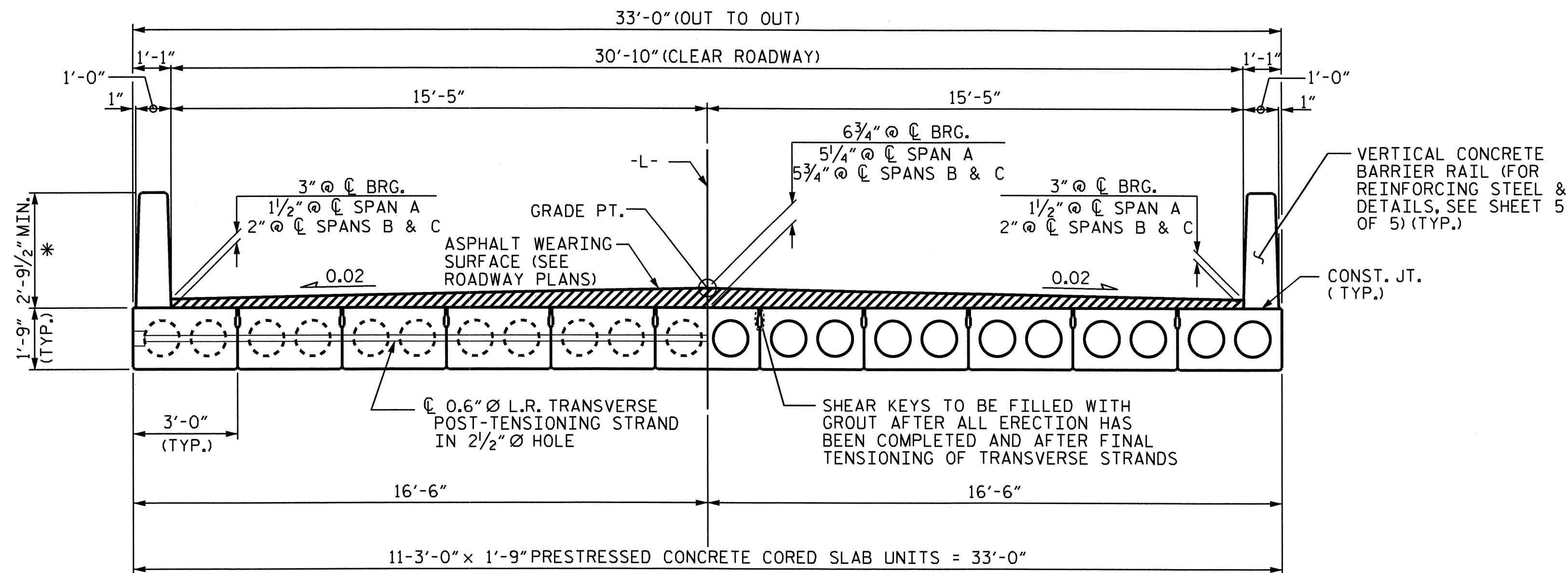
STANDARD  
 LRFR SUMMARY FOR  
 PRESTRESSED  
 CONCRETE GIRDERS  
 (NON-INTERSTATE TRAFFIC)

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

TOTAL SHEETS  
**23**



ASSEMBLED BY : J. MYA DATE : 6-3-11  
 CHECKED BY : J. G. KHARVA DATE : 6-13-11  
 DRAWN BY : MAA 1/08 REV. 11/12/08R MAA/GM  
 CHECKED BY : GM/DI 2/08

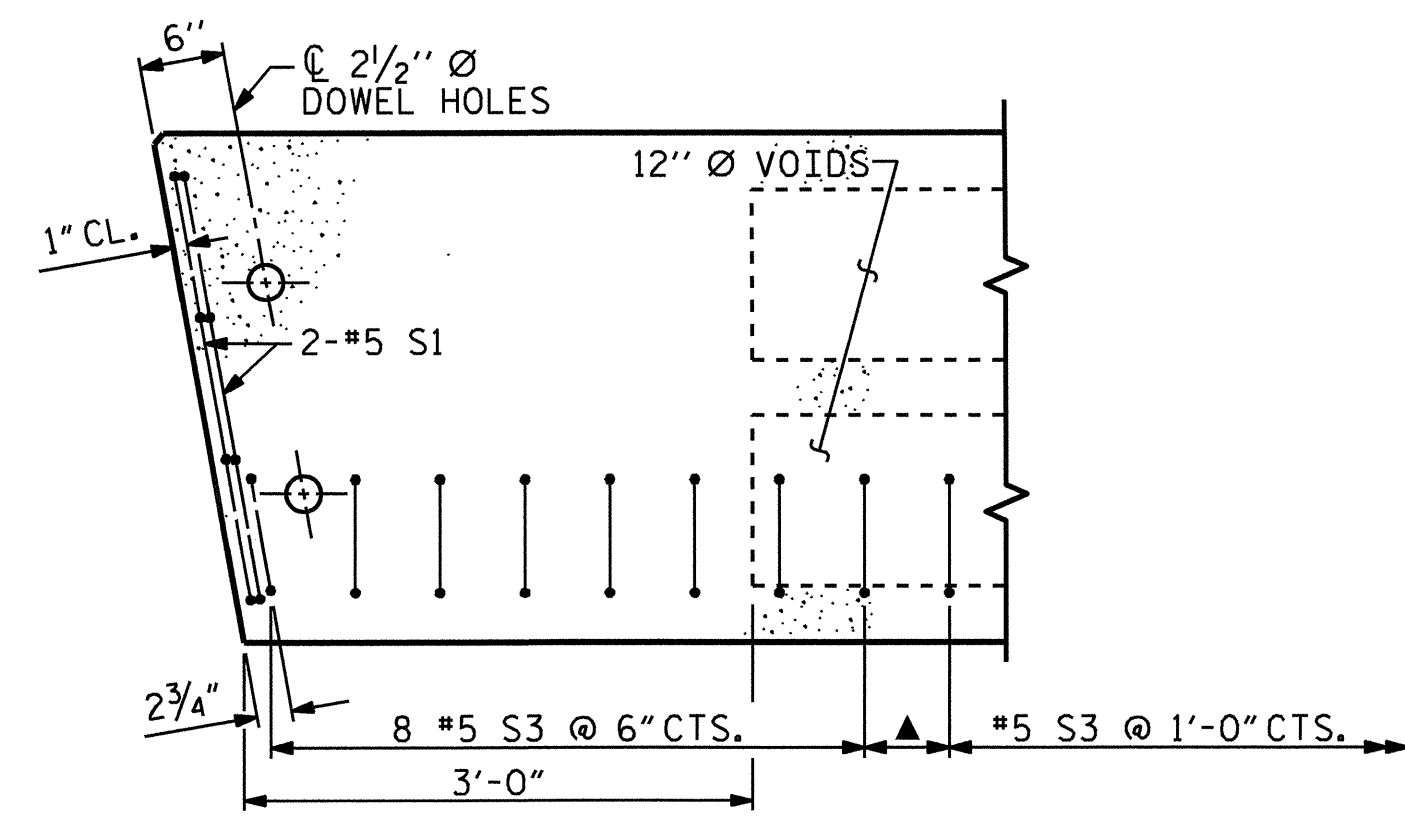


HALF SECTIONS @ DIAPHRAGMS

HALF SECTIONS @ VOIDS

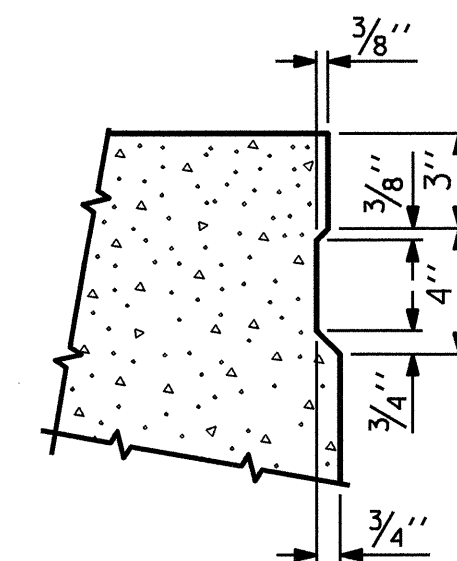
**TYPICAL SECTION**

\* 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.



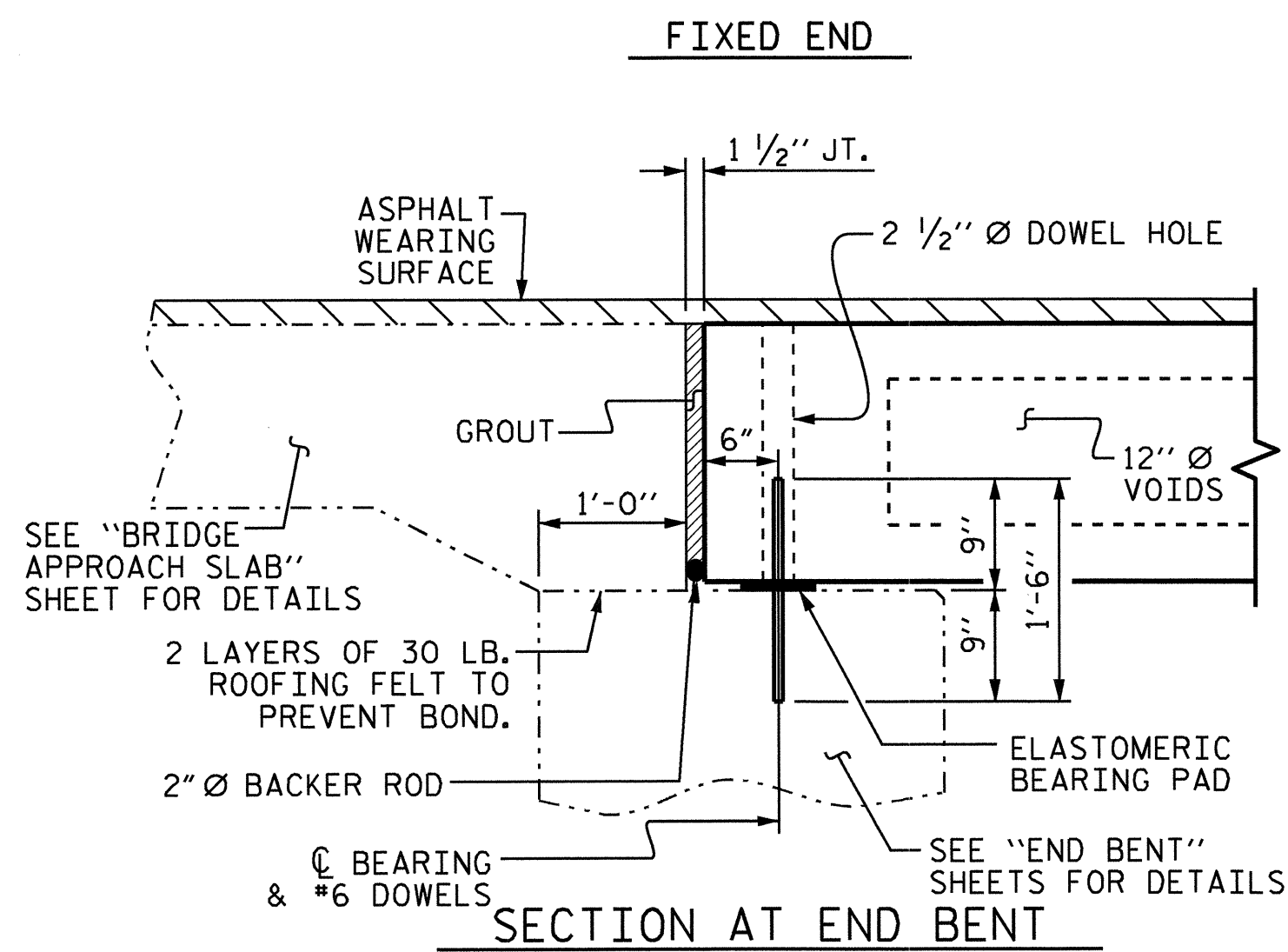
**PART PLAN-EXTERIOR SECTION**

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

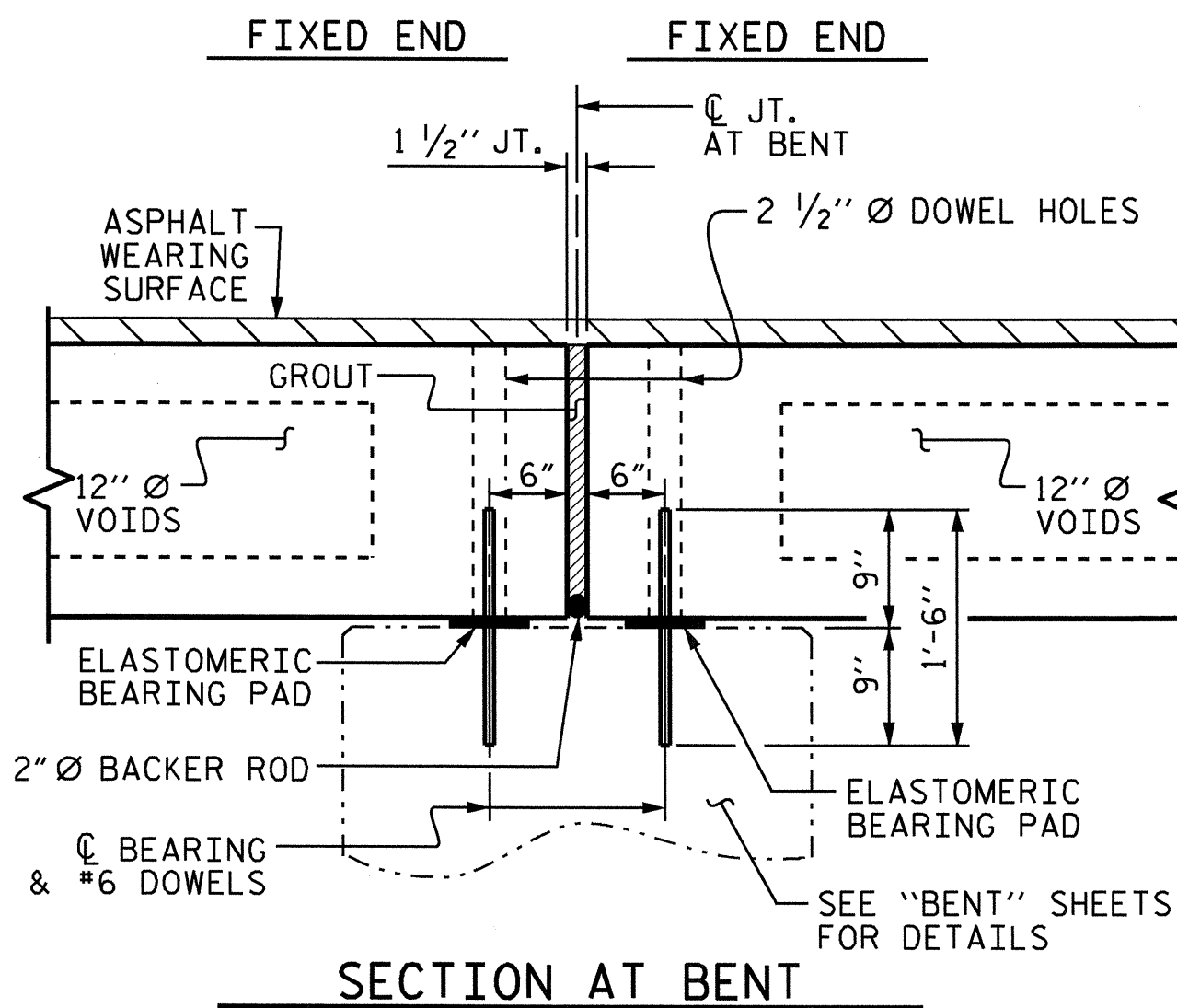


**SHEAR KEY DETAIL**

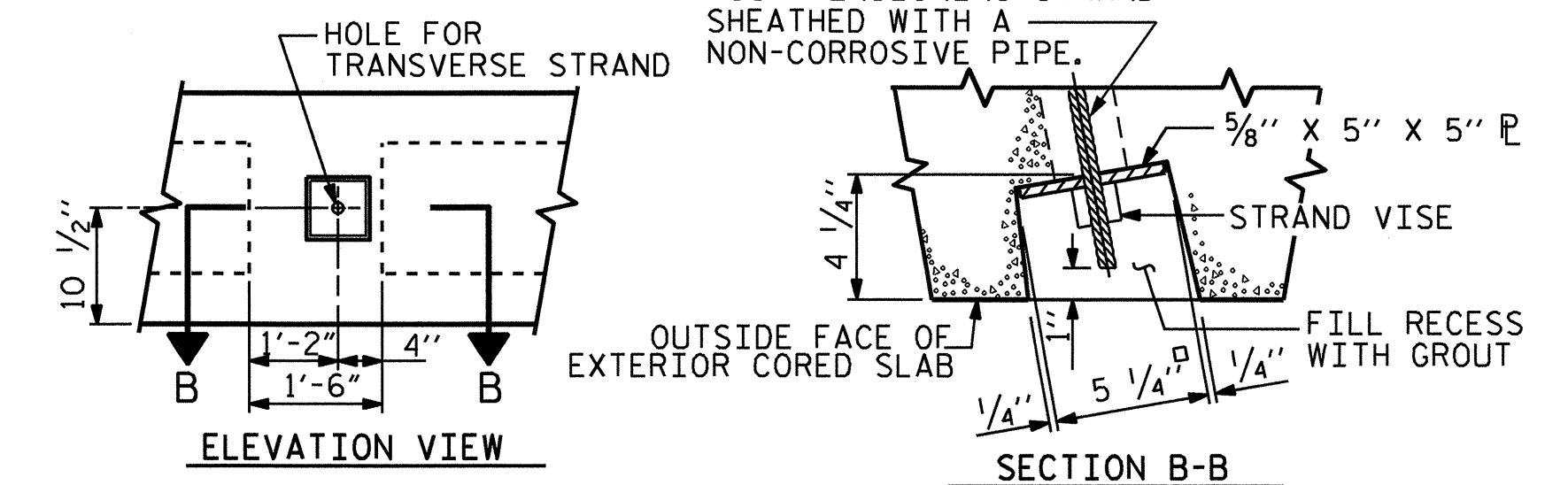
NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF EXTERIOR CORED SLABS.



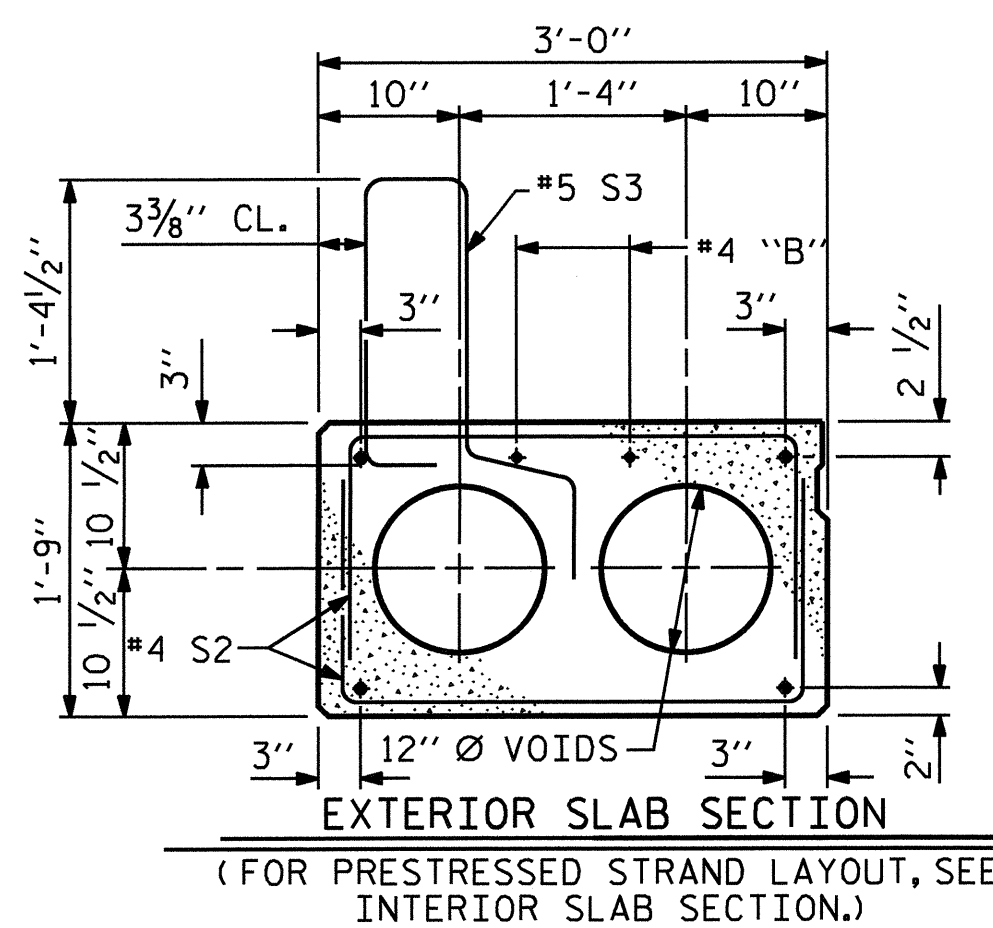
**SECTION AT END BENT**



**SECTION AT BENT**

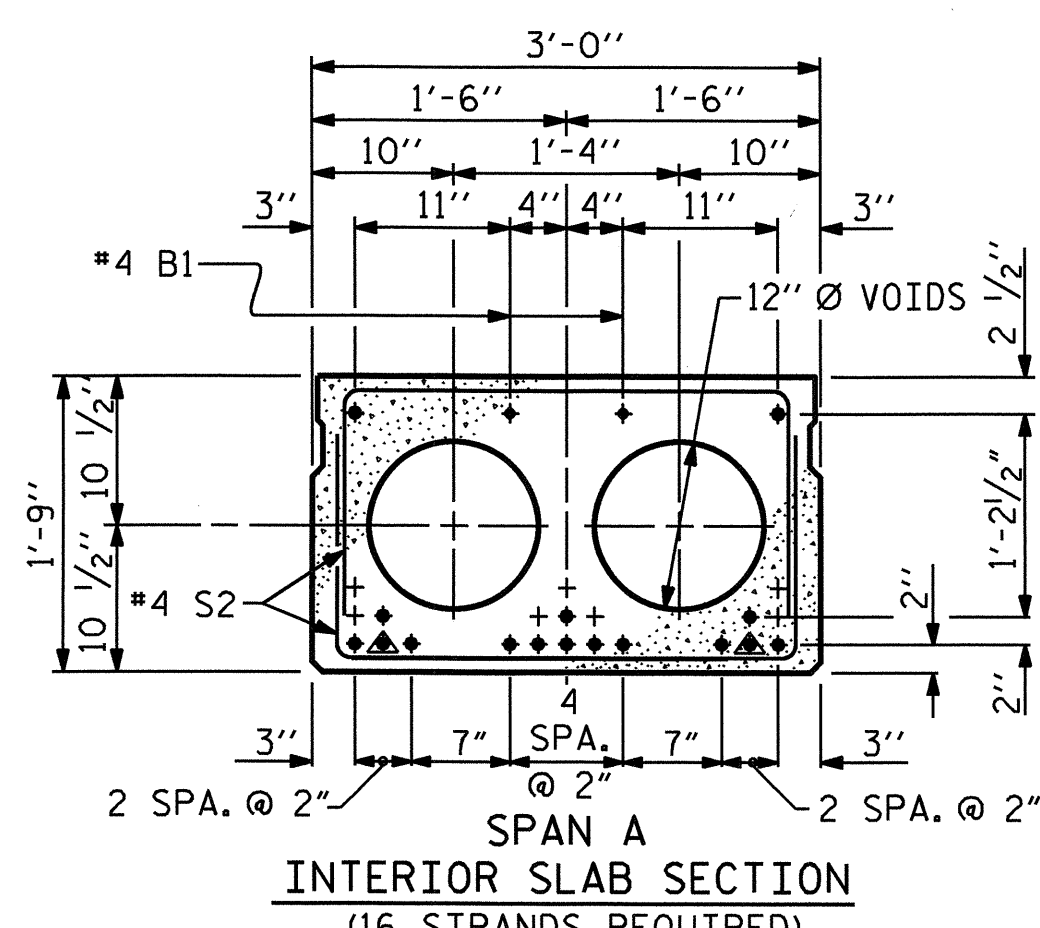


**GROUTED RECESS AT END OF POST-TENSIONED STRAND-CORED SLABS**



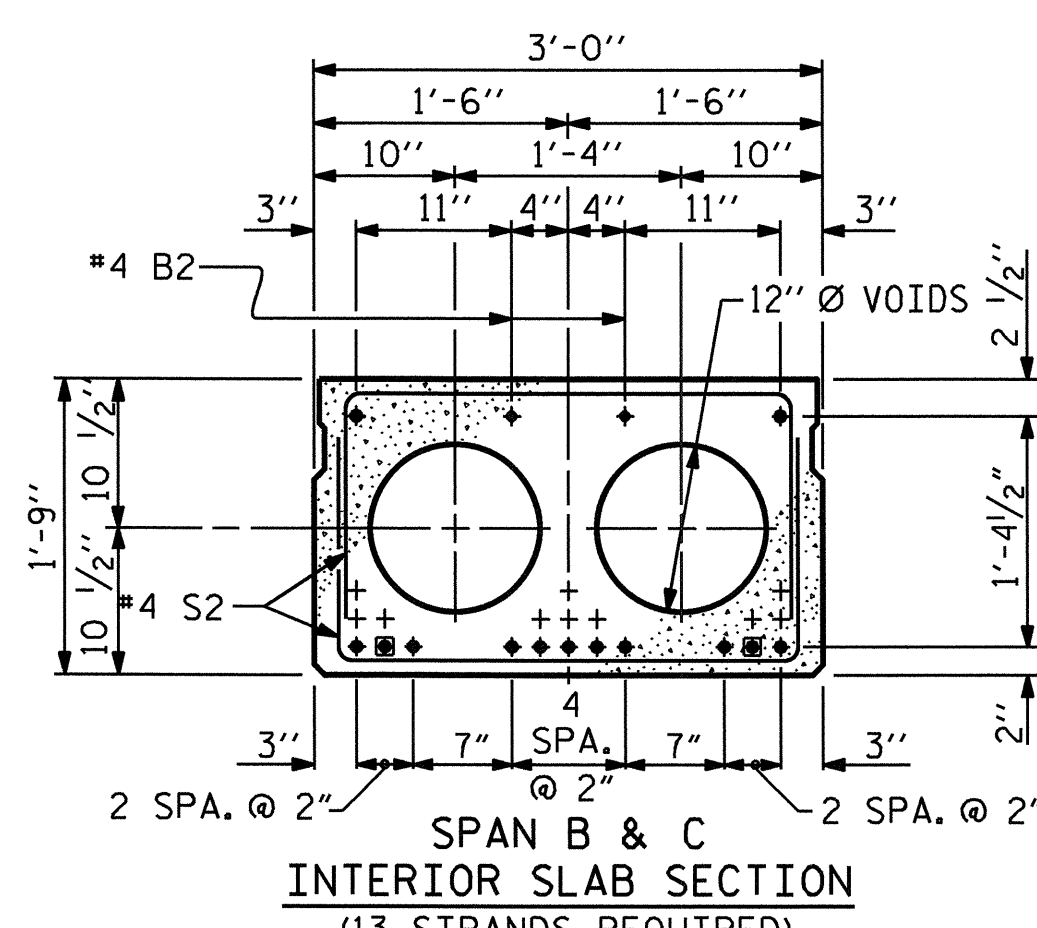
**EXTERIOR SLAB SECTION**

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



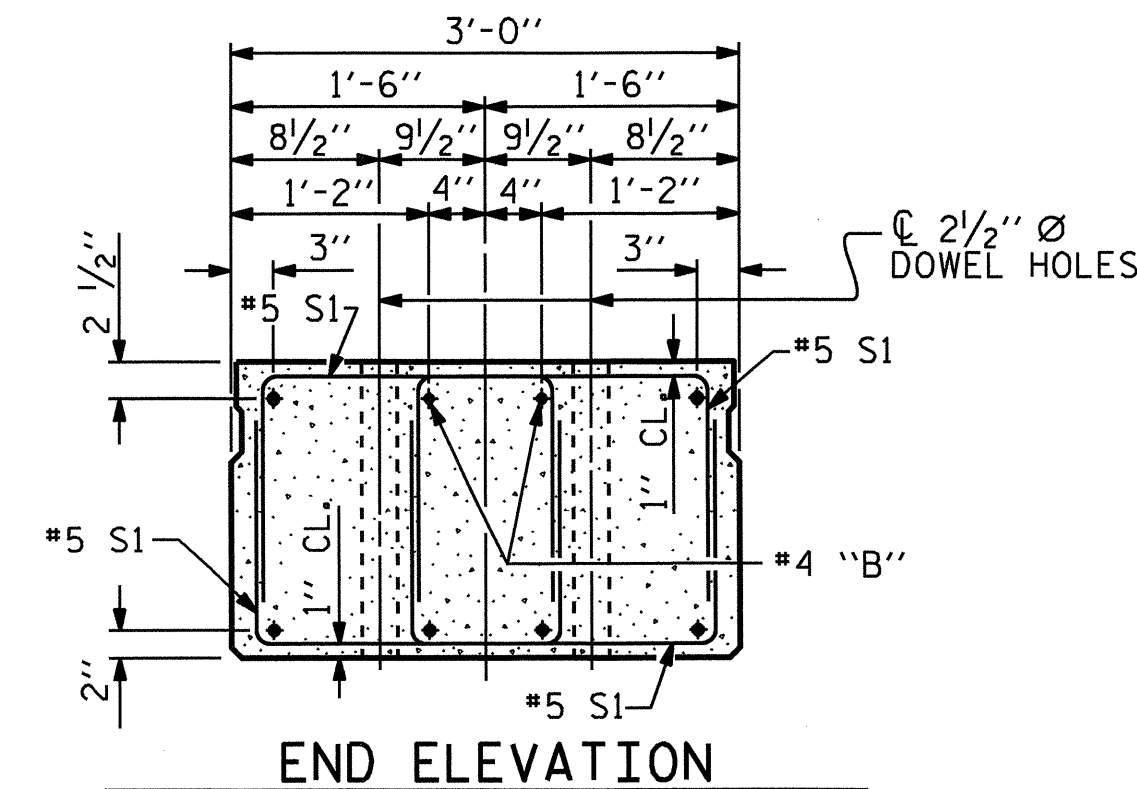
**SPAN A INTERIOR SLAB SECTION**

(16 STRANDS REQUIRED)



**SPAN B & C INTERIOR SLAB SECTION**

(13 STRANDS REQUIRED)



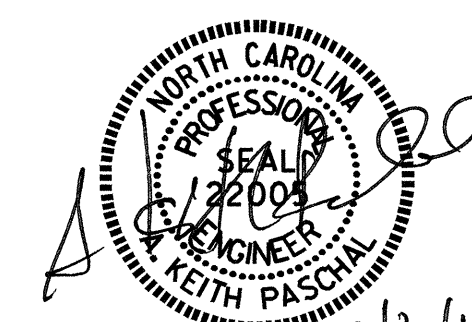
**END ELEVATION**

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

ASSEMBLED BY : M. E. FOWLER	DATE : 12/9/09
CHECKED BY : J. D. HAWK	DATE : 3/01/10
DRAWN BY : WJH 4/89	REV. 10/17/00 RWW/LES
CHECKED BY : FCJ 5/89	REV. 7/10/01RR RWW/LES
	REV. 5/1/06R TLA/GM

BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 2'-0" AND 4'-0" FROM END OF CORED SLAB UNIT, SEE STRAND SPECIFICATIONS ARTICLE 1078-7

**0.6" Ø LOW RELAXATION STRAND LAYOUT**

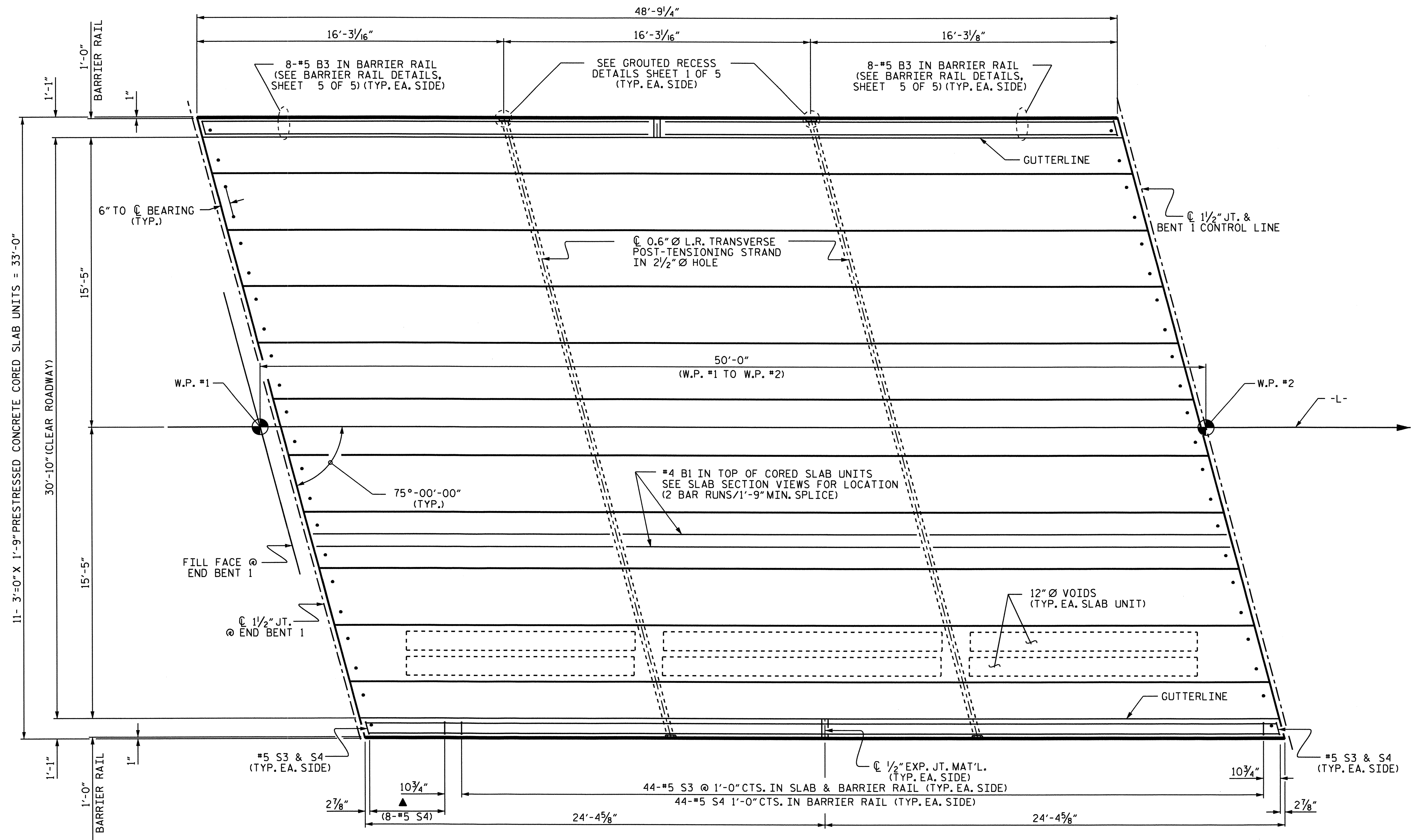


PROJECT NO. B-4328  
WILSON COUNTY  
 STATION: 16+67.00 -L-

SHEET 1 OF 5

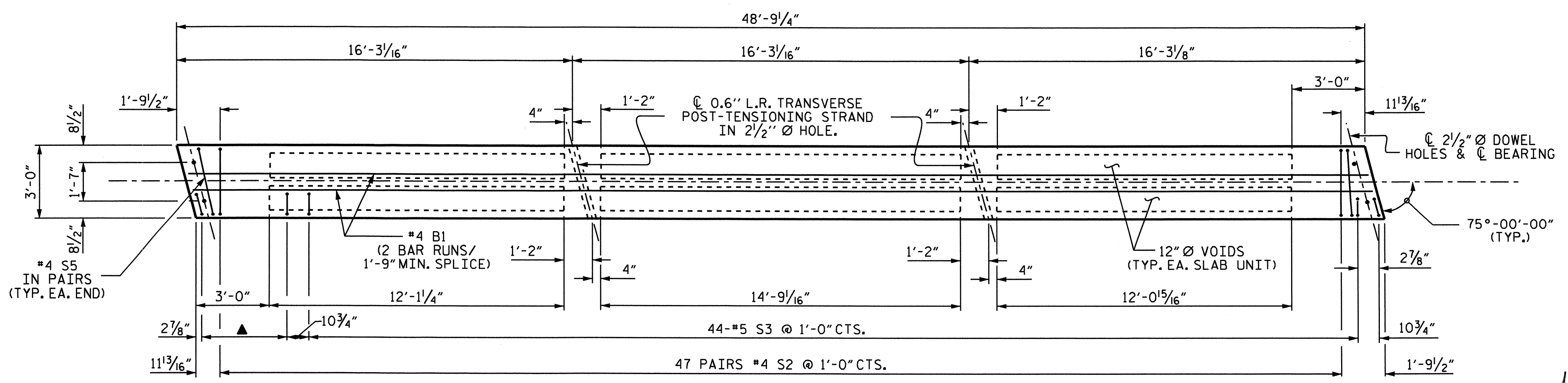
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO. <b>S-5</b>
STANDARD 3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLAB UNIT						
REVISIONS						TOTAL SHEETS <b>23</b>
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

(SHT 4A) STD. NO. PCS2



▲ SEE PART PLAN-EXTERIOR SECTION ON SHEET 1 OF 5 FOR ADDITIONAL #5 S3 BARS

PLAN OF SPAN A

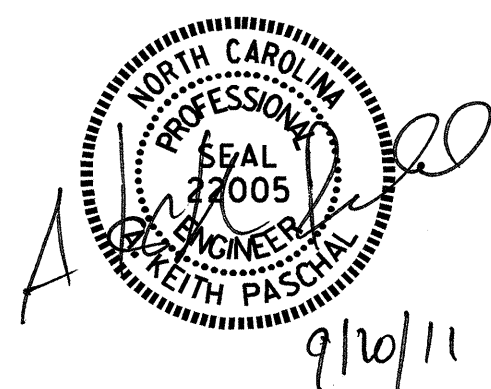


PLAN OF CORED SLAB UNIT

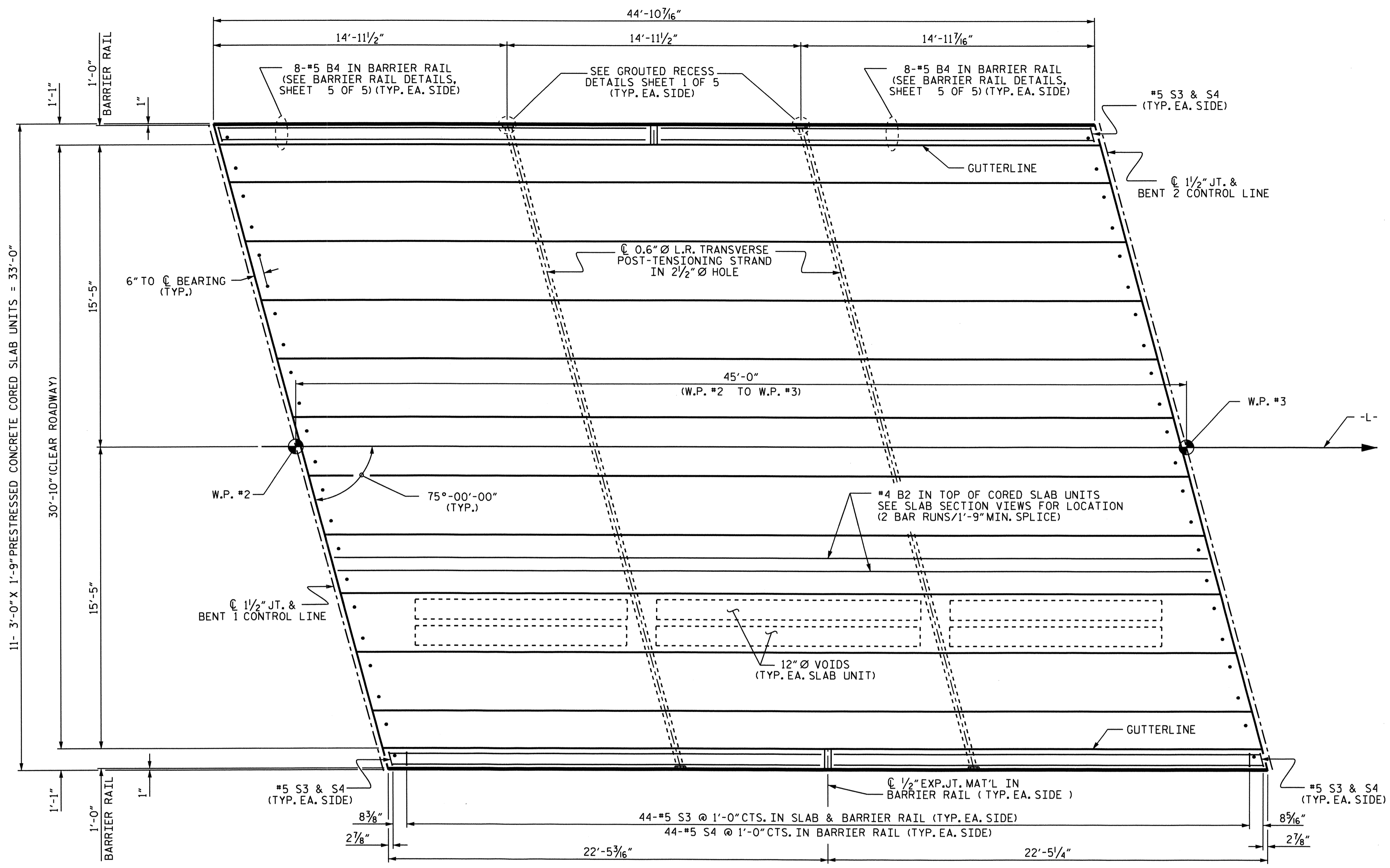
EXTERIOR UNIT SHOWN, INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S3 BARS. FOR LOCATION OF ADDITIONAL REINFORCING STEEL AT END OF SLAB UNIT, SEE "PART-PLAN EXTERIOR SECTION" SHEET 1 OF 5.

PROJECT NO. B-4328  
WILSON COUNTY  
 STATION: 16+67.00 -L-  
 SHEET 2 OF 5

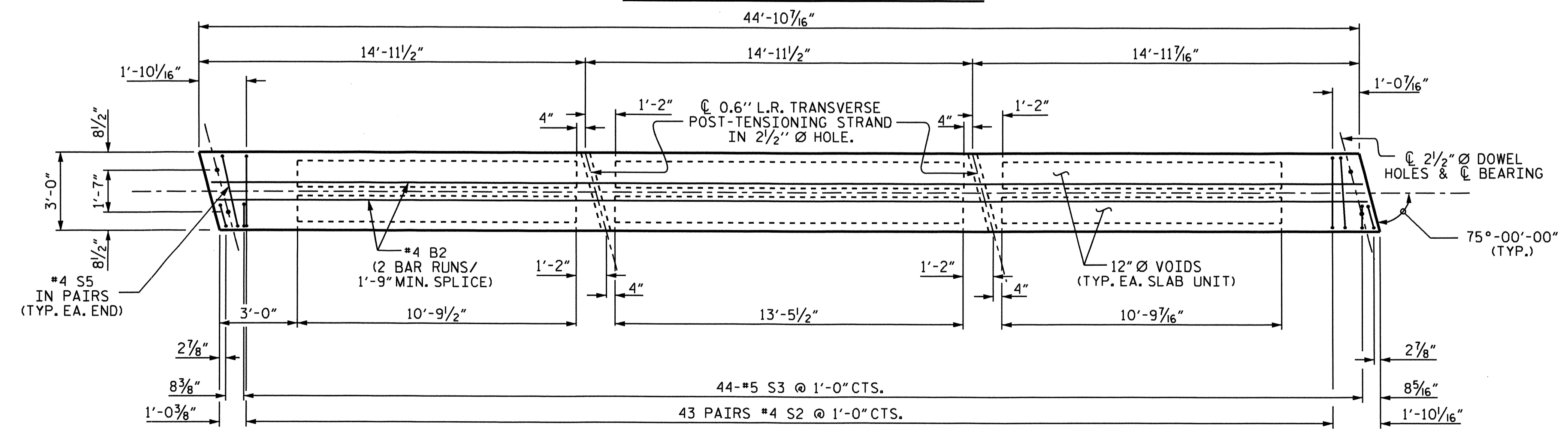
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE PLAN OF SPAN A					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS 23



DRAWN BY : M.E. FOWLER DATE : 12/9/09  
 CHECKED BY : J.D. HAWK DATE : 3/01/10



PLAN OF SPAN B

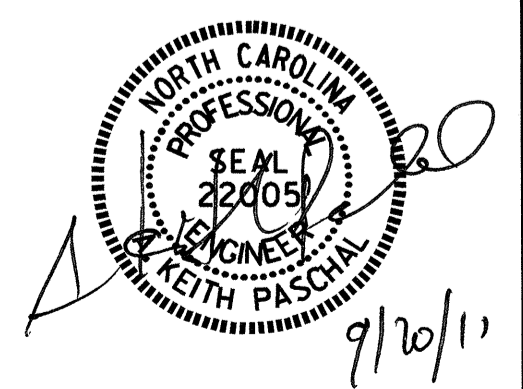


PLAN OF CORED SLAB UNIT

EXTERIOR UNIT SHOWN, INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S3 BARS.

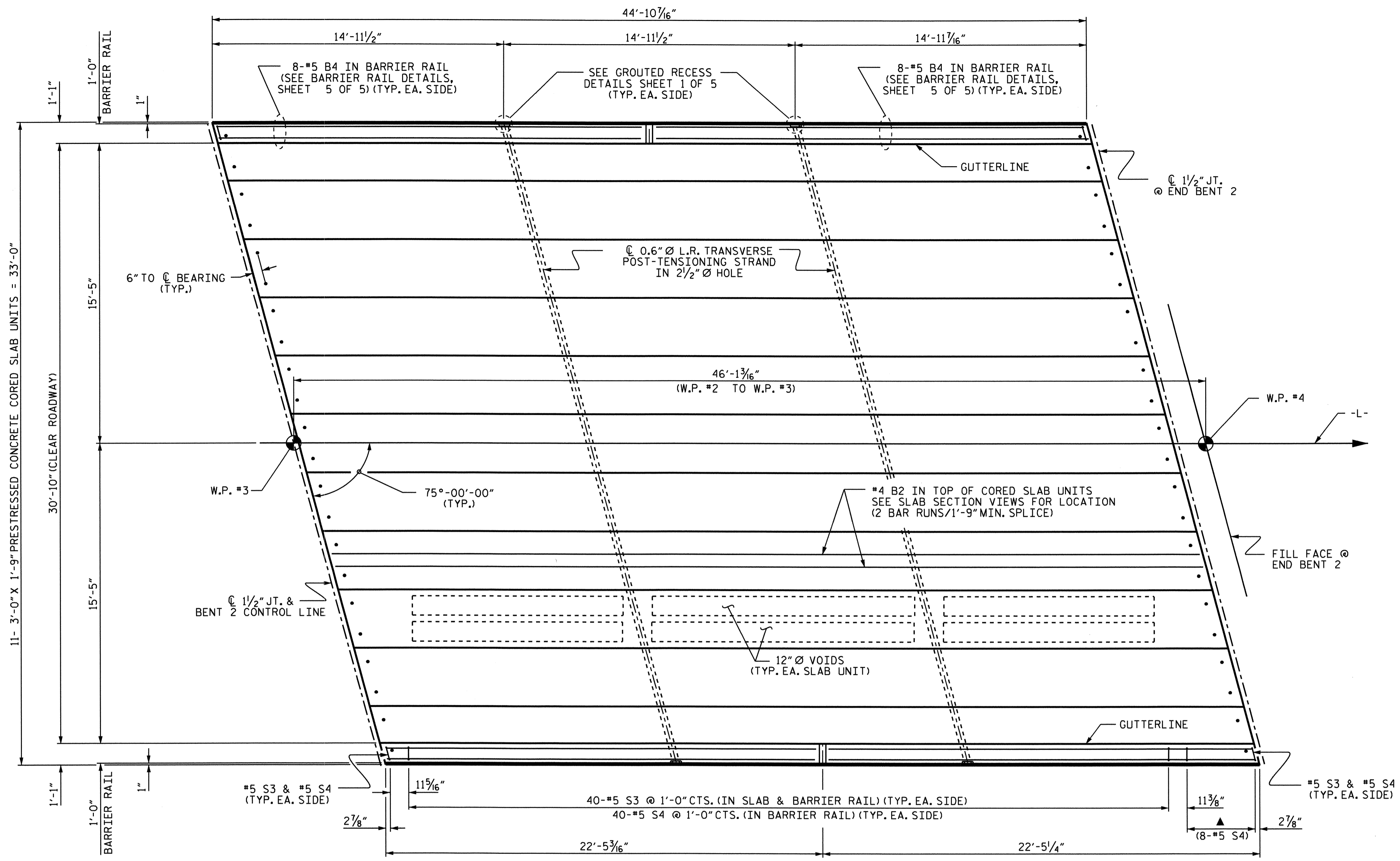
PROJECT NO. B-4328  
WILSON COUNTY  
 STATION: 16+67.00 -L-  
 SHEET 3 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE PLAN OF SPAN B					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS
					23



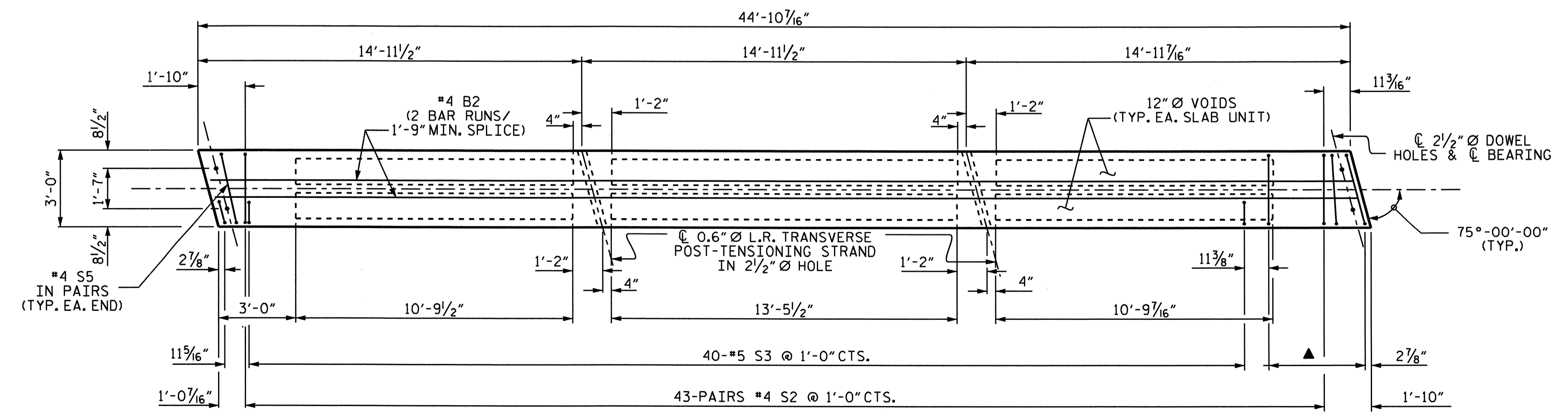
DRAWN BY: M. E. FOWLER DATE: 12/9/09  
 CHECKED BY: J. D. HAWK DATE: 3/01/10





PLAN OF SPAN C

▲ SEE PART PLAN-EXTERIOR SECTION ON SHEET 1 OF 5 FOR ADDITIONAL #5 S3 BARS

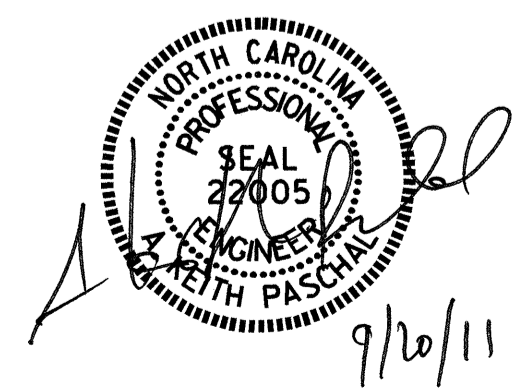


PLAN OF CORED SLAB UNIT

EXTERIOR UNIT SHOWN, INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S3 BARS. FOR LOCATION OF ADDITIONAL REINFORCING STEEL AT END OF SLAB UNIT, SEE "PART-PLAN EXTERIOR SECTION" SHEET 1 OF 5.

PROJECT NO. B-4328  
 WILSON COUNTY  
 STATION: 16+67.00 -L-  
 SHEET 4 OF 5

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

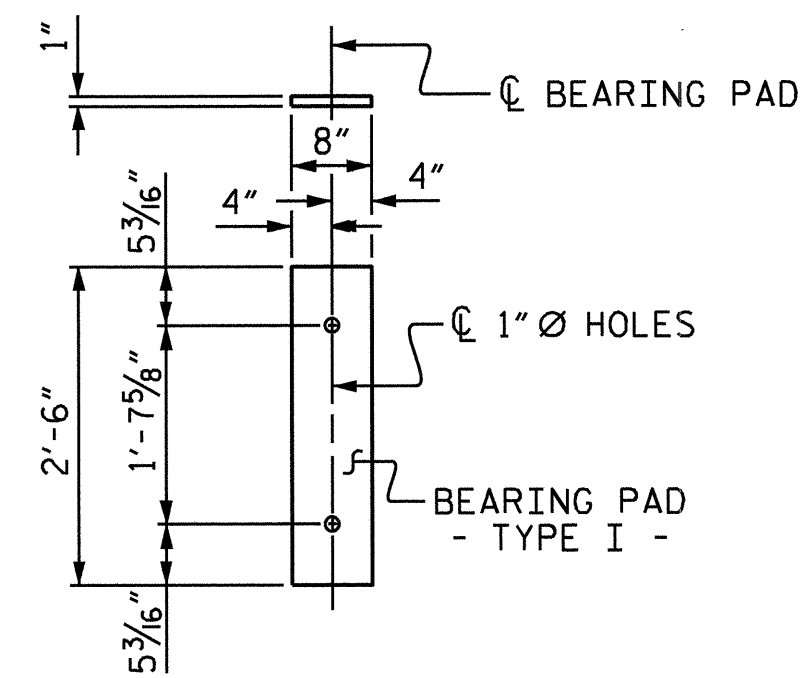


DRAWN BY: M. E. FOWLER DATE: 12/9/09  
 CHECKED BY: J. D. HAWK DATE: 3/01/10

15-SEP-2011 08:59  
 R:\Structures\Final Plans\B4328.sd.CS.dgn  
 jmya

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS
2			4			23

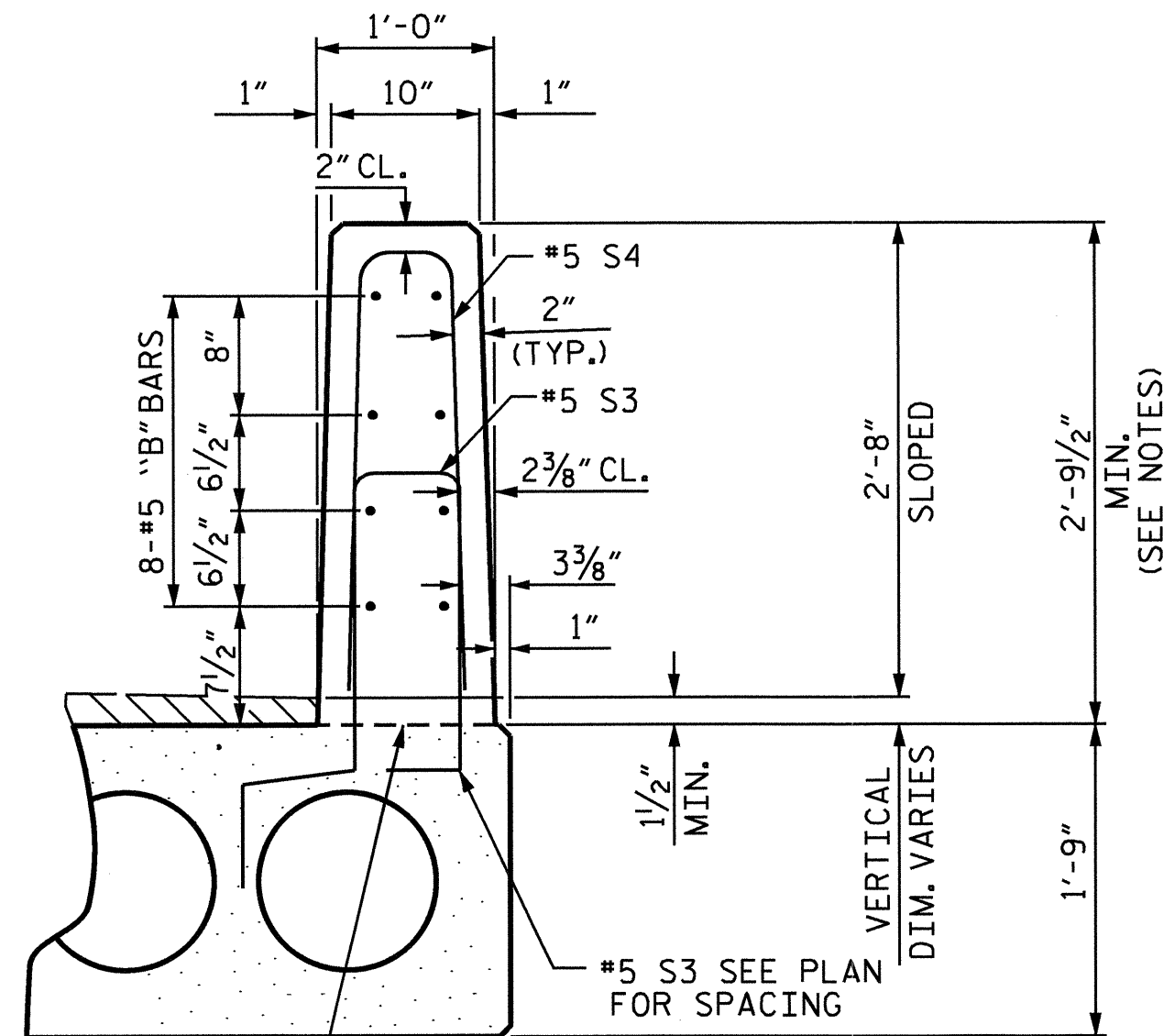
BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL								
BAR	BARS PER SPAN			TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	SPAN A	SPAN B	SPAN C					
* B3	32			32	#5	STR	24'-0"	801
* B4		32	32	64	#5	STR	22'-1"	1474
* S4	106	92	98	296	#5	2	5'-6"	1698
* EPOXY COATED REINFORCING STEEL LBS.								3973
CLASS AA CONCRETE CU.YDS.								26.9
TOTAL LIN. FT. OF CONCRETE BARRIER RAIL LIN. FT.								277.54



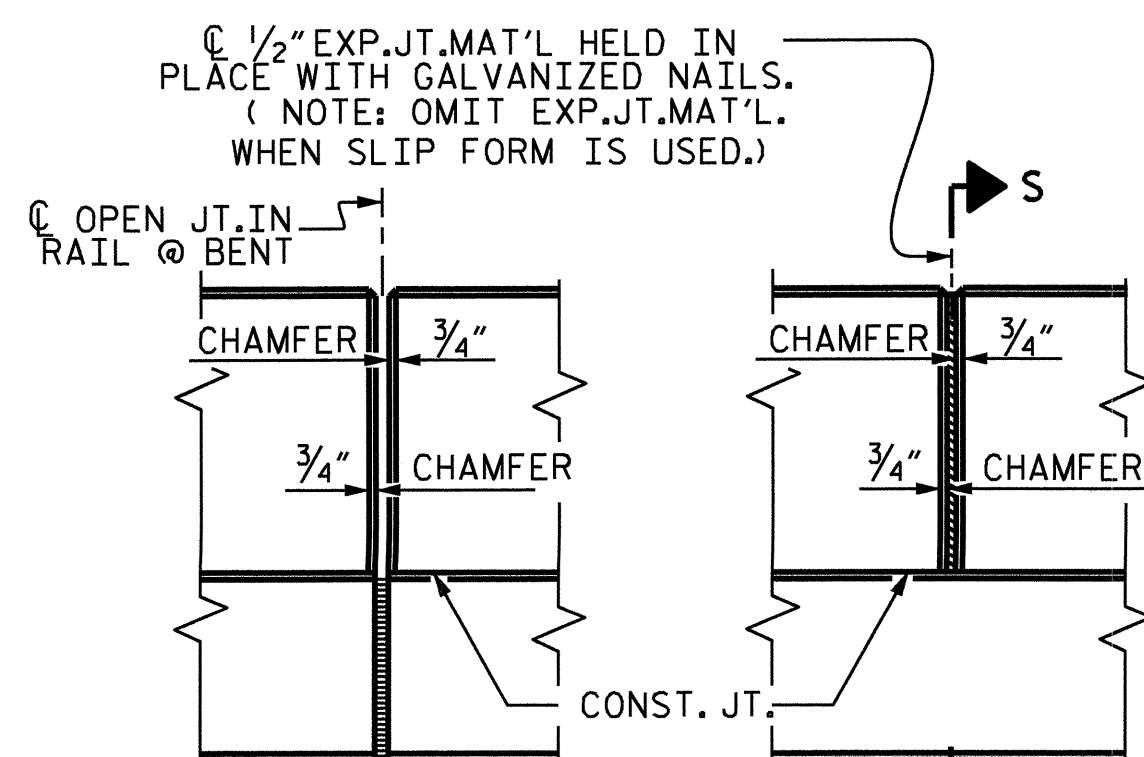
FIXED END  
(TYPE I - 66 REO'D.)

### ELASTOMERIC BEARING DETAILS

ELASTOMER IN ALL BEARINGS SHALL BE 50 DUROMETER HARDNESS.

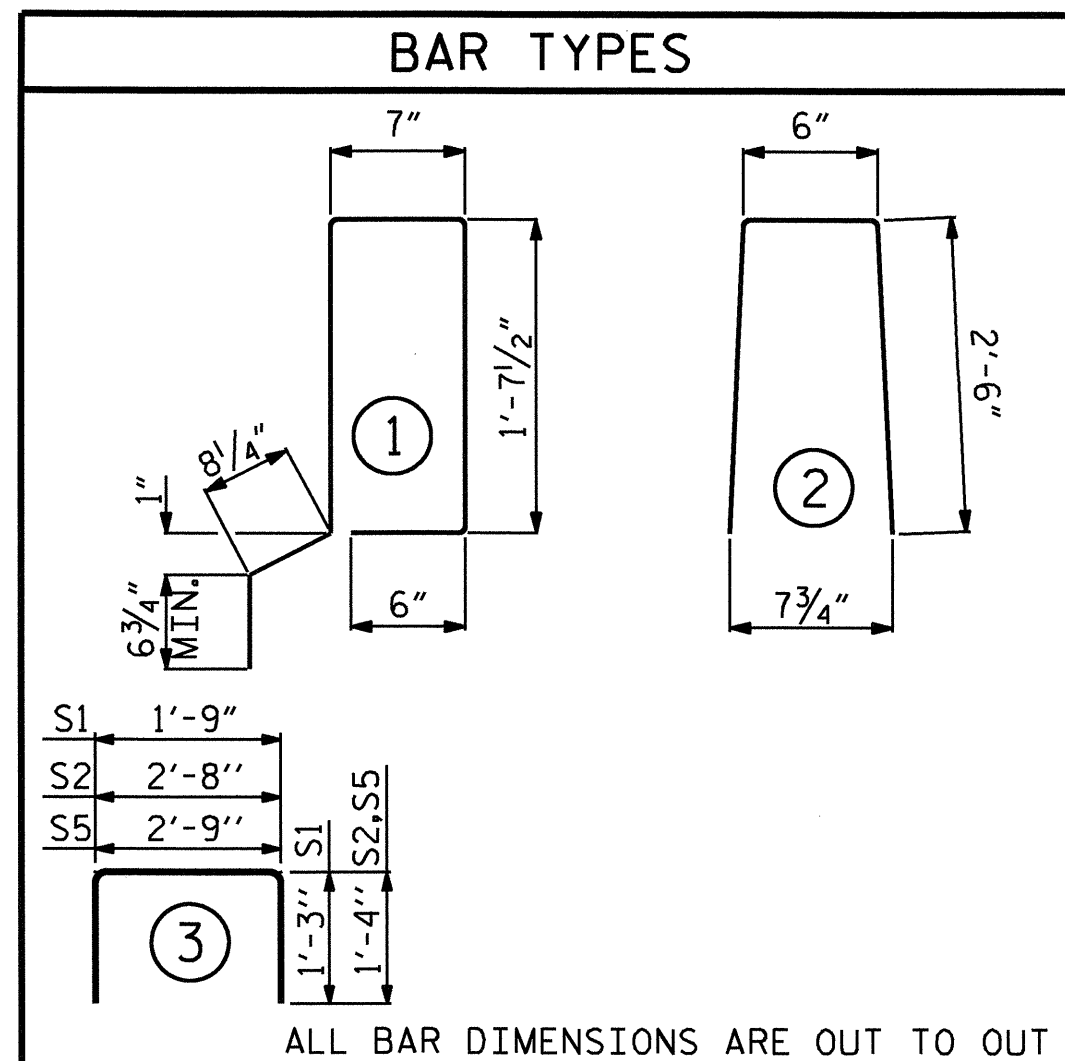


SECTION THRU RAIL



ELEVATION AT EXPANSION JOINTS

### VERTICAL CONCRETE BARRIER RAIL DETAILS



### CORED SLABS REQUIRED

SPAN A	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR C.S.	2	48'-9 1/4"	97'-6 1/2"
INTERIOR C.S.	9	48'-9 1/4"	438'-11 1/4"
TOTAL	11		536'-5 3/4"

### CORED SLABS REQUIRED

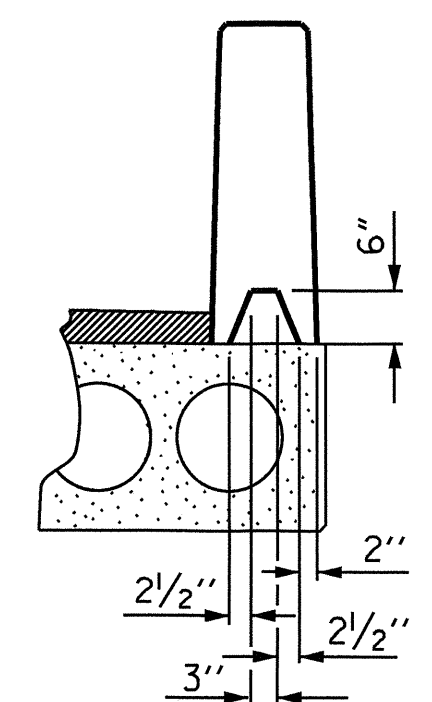
SPAN B	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR C.S.	2	44'-10 1/16"	89'-8 7/8"
INTERIOR C.S.	9	44'-10 1/16"	403'-9 5/16"
TOTAL	11		493'-6 13/16"

### CORED SLABS REQUIRED

SPAN C	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR C.S.	2	44'-10 1/16"	89'-8 7/8"
INTERIOR C.S.	9	44'-10 1/16"	403'-9 5/16"
TOTAL	11		493'-6 13/16"

### 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



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

### SPAN A

#### BILL OF MATERIAL FOR ONE CORED SLAB SECTION

BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B1	4	#4	STR	25'-1"	67	25'-1"	67
S1	8	#5	3	4'-3"	35	4'-3"	35
S2	94	#4	3	5'-4"	335	5'-4"	335
* S3	53	#5	1	5'-7"	309		
S5	4	#4	3	5'-5"	15	5'-5"	15
REINFORCING STEEL LBS.				452		452	
* EPOXY COATED REINFORCING STEEL LBS.				309			
6000 P.S.I. CONCRETE CU. YDS.				7.2		7.1	
0.6" Ø L.R. STRANDS No.				16		16	

#### DEAD LOAD DEFLECTION AND CAMBER

		3'-0" x 1'-9"
SPAN A		0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)		1 3/16" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **		3/16" ↓
FINAL CAMBER		1/2" ↑

\*\* INCLUDES FUTURE WEARING SURFACE

### SPAN B

#### BILL OF MATERIAL FOR ONE CORED SLAB SECTION

BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B2	4	#4	STR	23'-2"	62	23'-2"	62
S1	8	#5	3	4'-3"	35	4'-3"	35
S2	86	#4	3	5'-4"	306	5'-4"	306
* S3	46	#5	1	5'-7"	268		
S5	4	#4	3	5'-5"	15	5'-5"	15
REINFORCING STEEL LBS.				418		418	
* EPOXY COATED REINFORCING STEEL LBS.				268			
6000 P.S.I. CONCRETE CU. YDS.				6.6		6.6	
0.6" Ø L.R. STRANDS No.				13		13	

#### DEAD LOAD DEFLECTION AND CAMBER

		3'-0" x 1'-9"
SPAN B		0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)		1/4" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **		1/4" ↓
FINAL CAMBER		1" ↑

\*\* INCLUDES FUTURE WEARING SURFACE

### SPAN C

#### BILL OF MATERIAL FOR ONE CORED SLAB SECTION

BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B2	4	#5	STR	23'-2"	62	23'-2"	62
S1	8	#5	3	4'-3"	35	4'-3"	35
S2	86	#4	3	5'-4"	306	5'-4"	306
* S3	49	#5	1	5'-7"	285		
S5	4	#4	3	5'-5"	15	5'-5"	15
REINFORCING STEEL LBS.				418		418	
* EPOXY COATED REINFORCING STEEL LBS.				285			
6000 P.S.I. CONCRETE CU. YDS.				6.6		6.6	
0.6" Ø L.R. STRANDS No.				13		13	

#### DEAD LOAD DEFLECTION AND CAMBER

		3'-0" x 1'-9"
SPAN C		0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)		1/4" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **		1/4" ↓
FINAL CAMBER		1" ↑

\*\* INCLUDES FUTURE WEARING SURFACE

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

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 4800 PSI.

ALL REINFORCING STEEL IN 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.

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

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

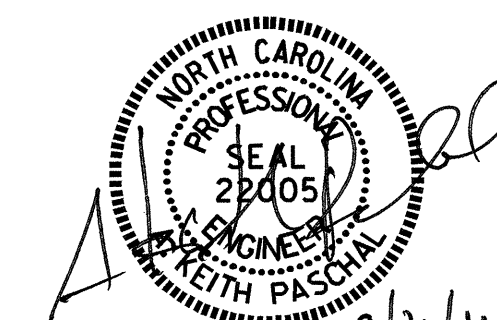
FOR VERTICAL CONCRETE BARRIER RAIL, SEE SPECIAL PROVISIONS.

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.

PROJECT NO. B-4328  
WILSON COUNTY  
STATION: 16+67.00 -L-

SHEET 5 OF 5

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



ASSEMBLED BY : M. E. FOWLER	DATE : 12/9/09
CHECKED BY : J. D. HAWK	DATE : 3/01/10
DRAWN BY : WJH 4/89	REV. 7/10/01 RWW/LES
CHECKED BY : FCJ 5/89	REV. 5/7/03RRR RWW/JTE
	REV. 5/1/06R TLA/GM

NOTES

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

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

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

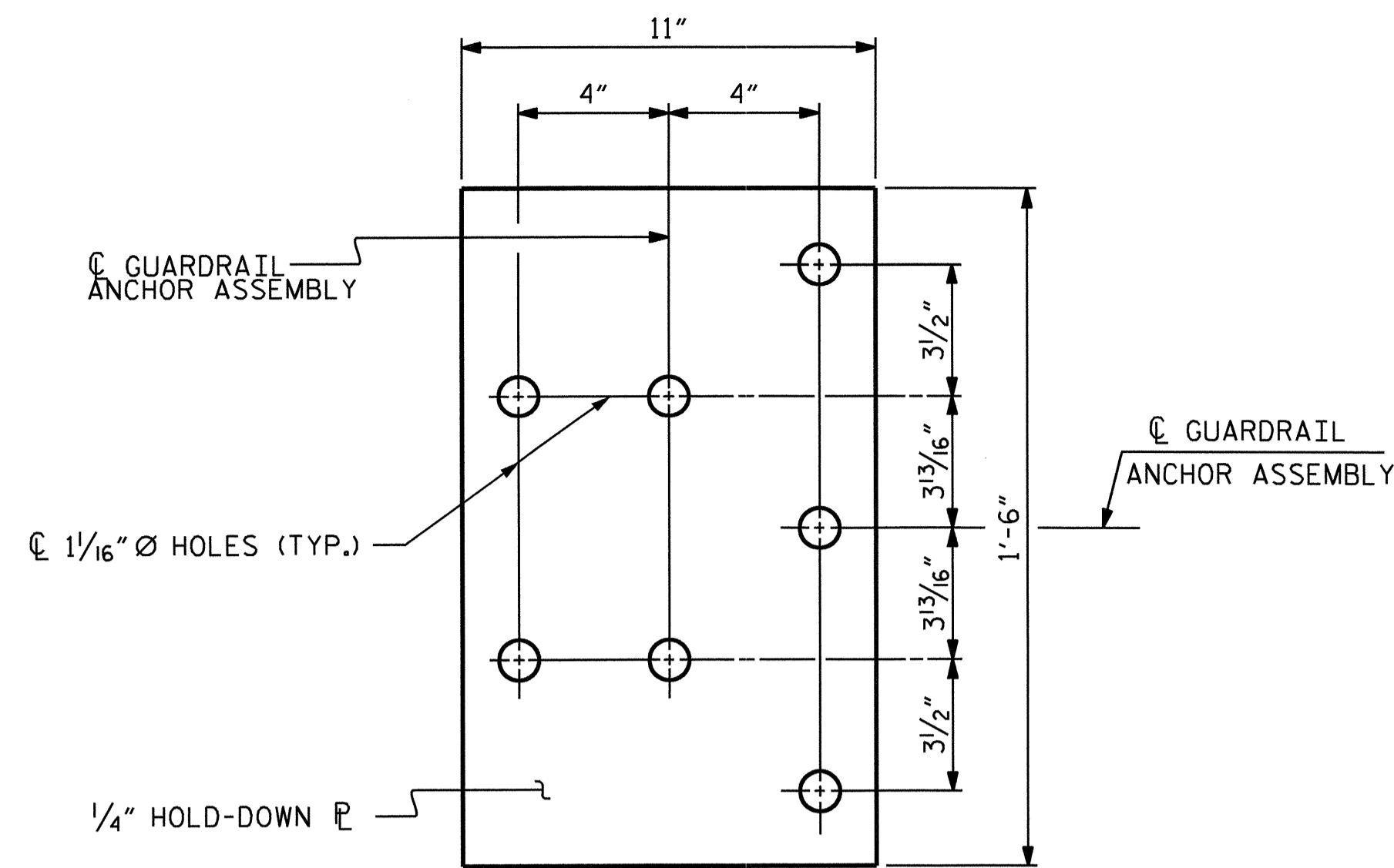
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

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

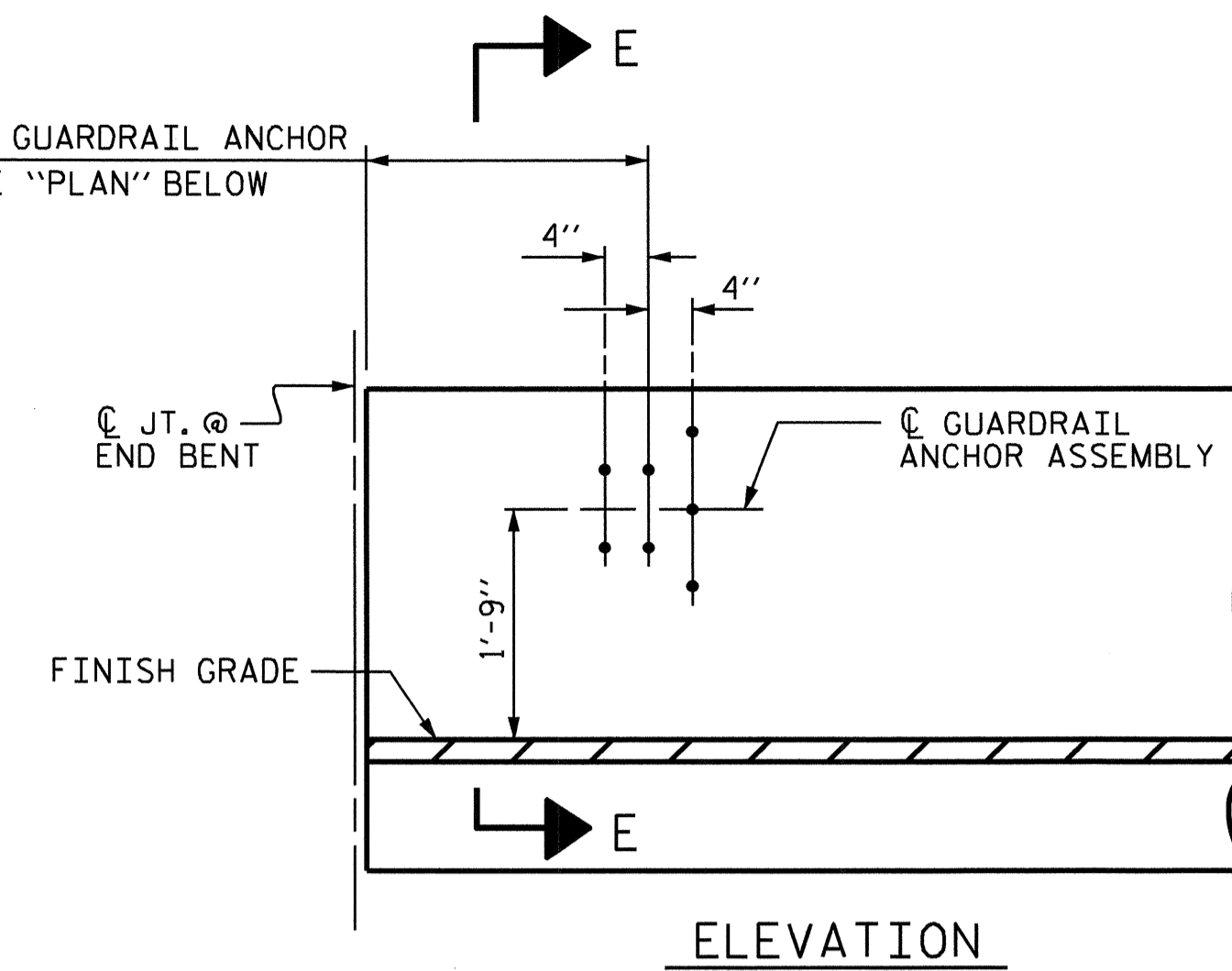
THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE VERTICAL CONCRETE BARRIER RAIL TO CLEAR ASSEMBLY BOLTS.

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

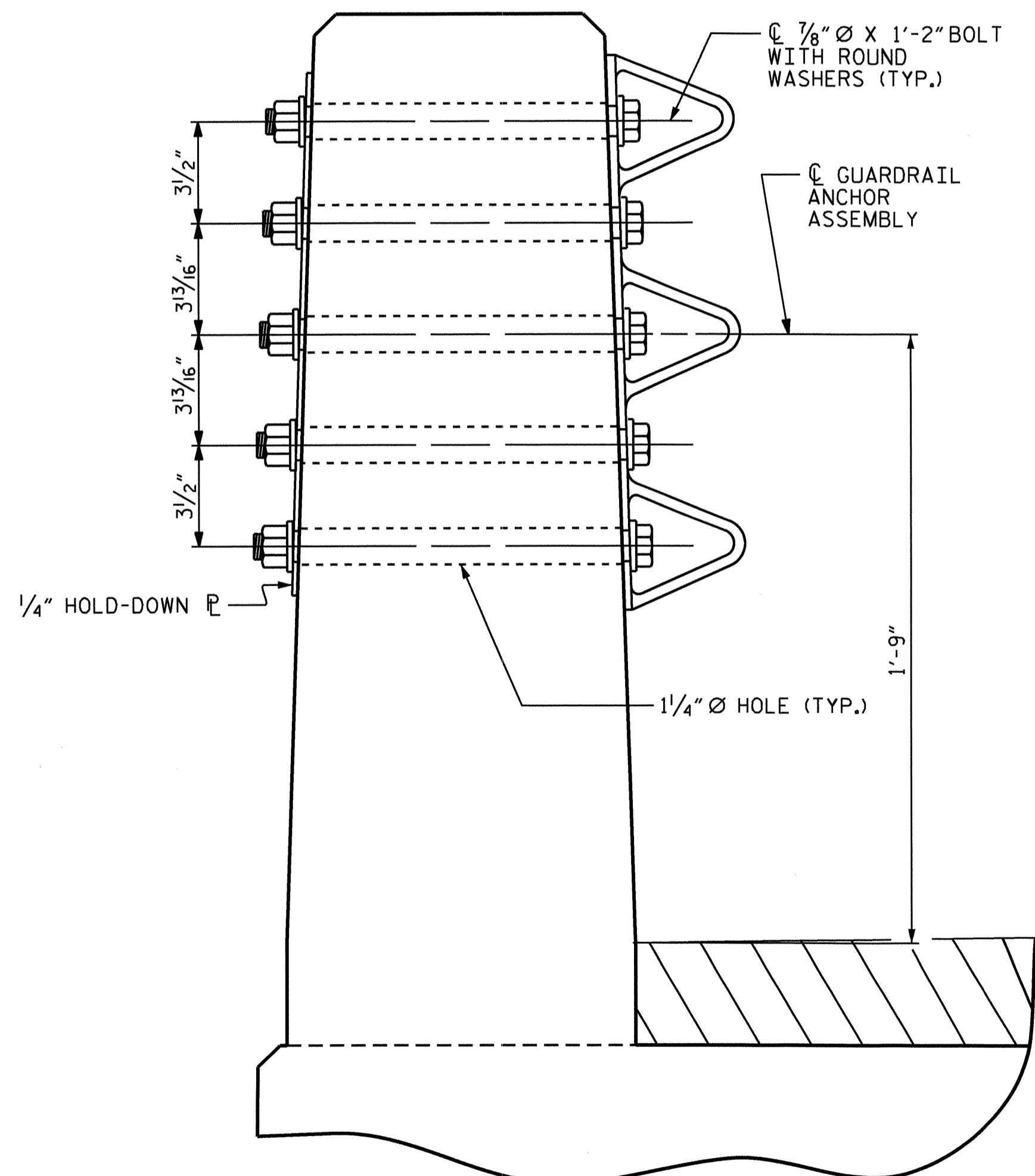


PLAN

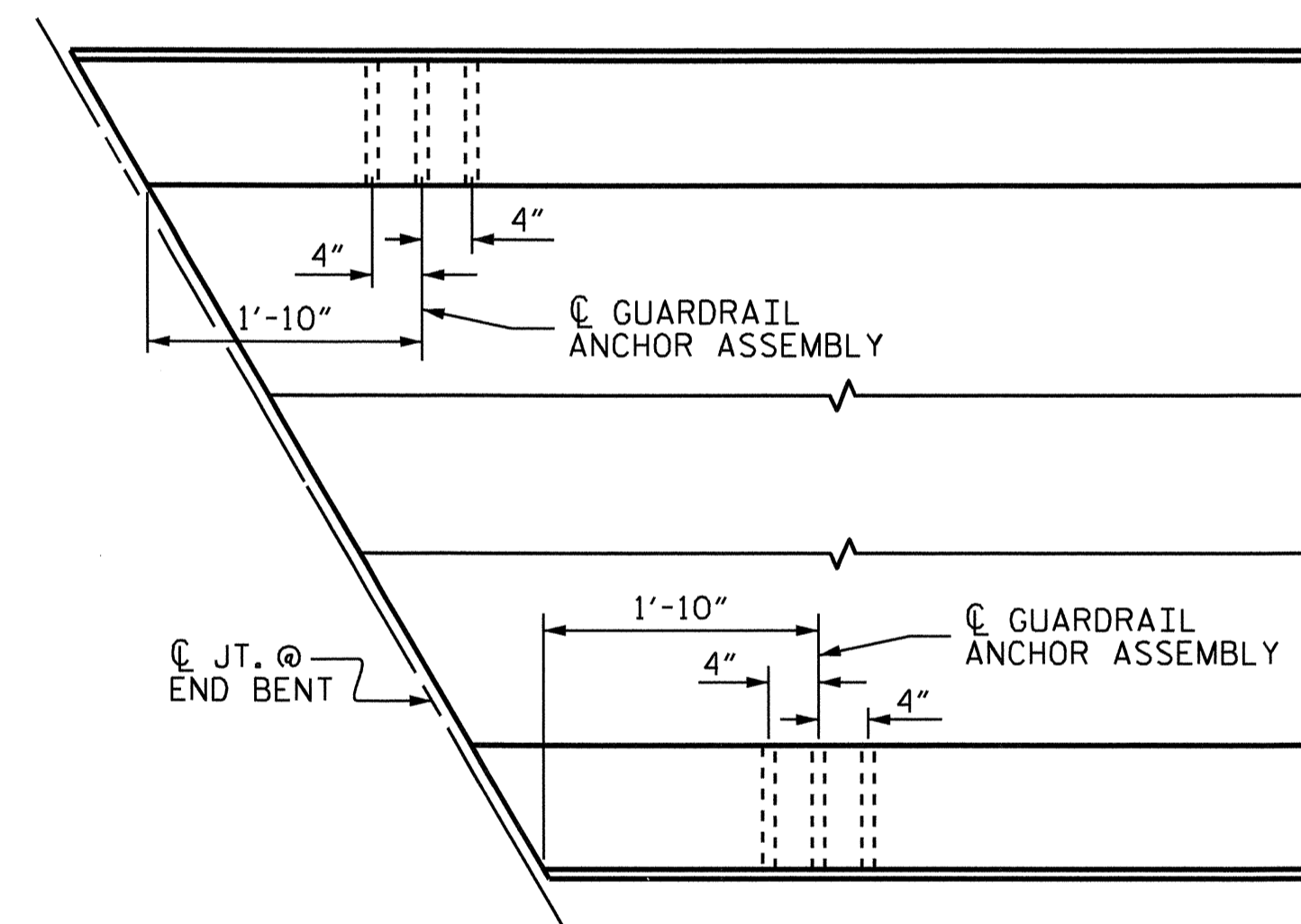
FOR LOCATION OF GUARDRAIL ANCHOR ASSEMBLY, SEE "PLAN" BELOW



ELEVATION



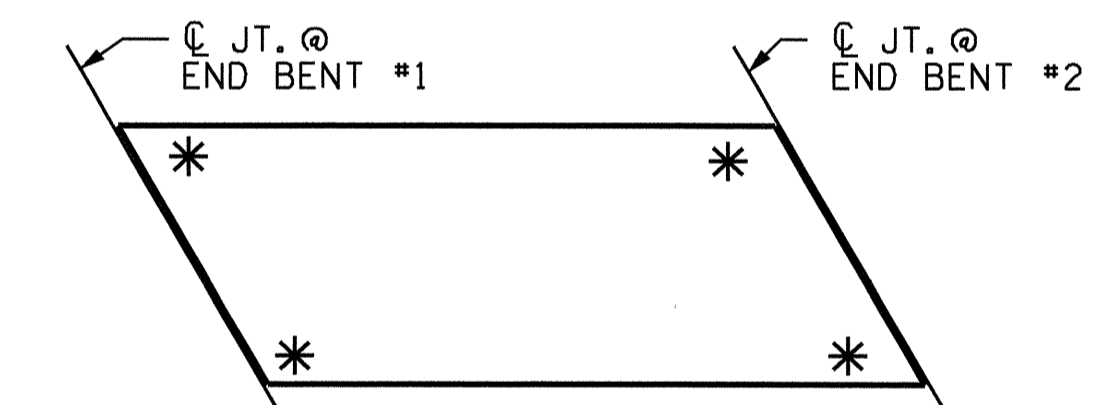
SECTION E-E  
GUARDRAIL ANCHOR ASSEMBLY DETAILS



PLAN

LOCATION OF ANCHORS FOR GUARDRAIL

END BENT #1 SHOWN, END BENT #2 SIMILAR.

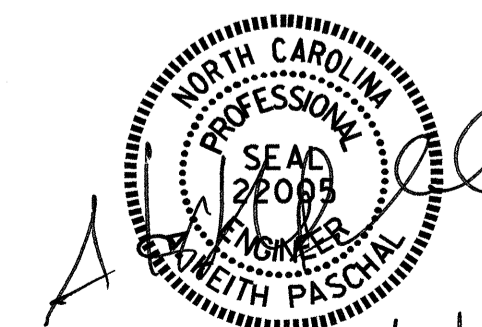


SKETCH SHOWING POINTS OF ATTACHMENT

\* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. B-4328  
WILSON COUNTY  
 STATION: 16+67.00 -L-

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 GUARDRAIL ANCHORAGE  
 FOR VERTICAL CONCRETE  
 BARRIER RAIL



ASSEMBLED BY : M. FOWLER	DATE : 12/9/09
CHECKED BY : J. D. HAWK	DATE : 3/1/10
DRAWN BY : MAA 5/10	ADDED 5/6/10
CHECKED BY : GM 5/10	

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			23
2			4			

(SHT 3) STD. NO. GRA3

**NOTES**

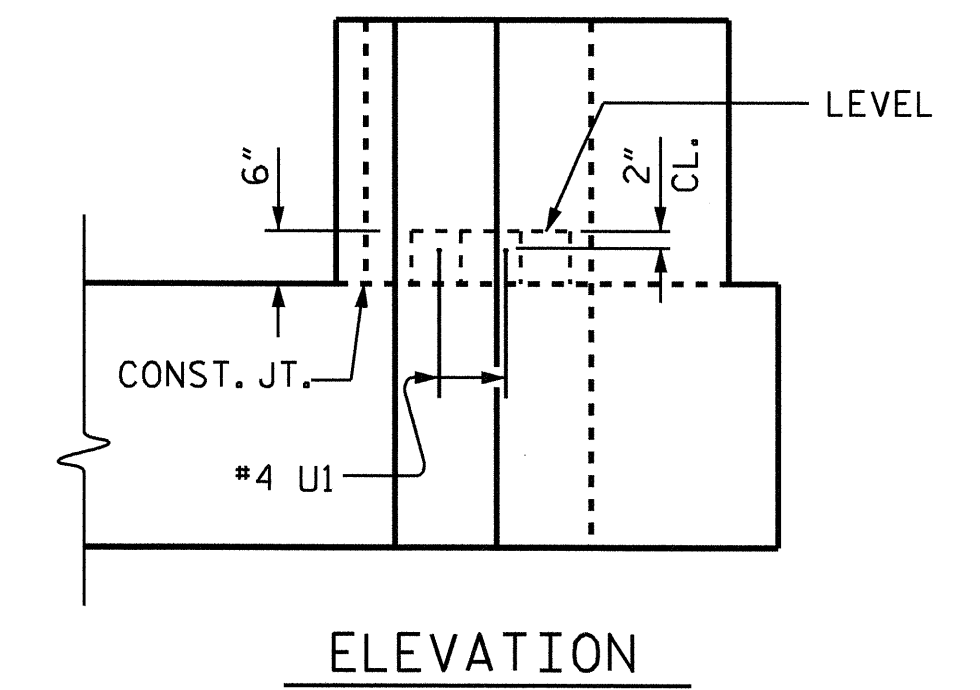
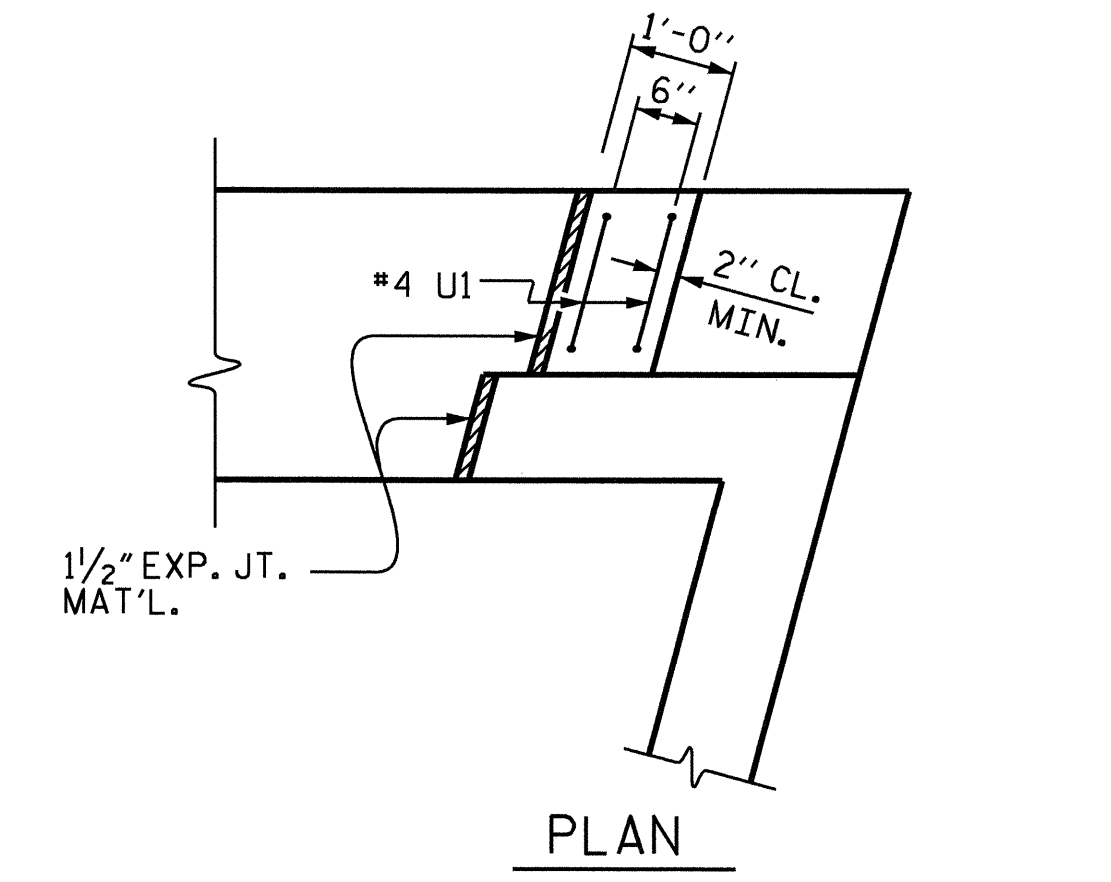
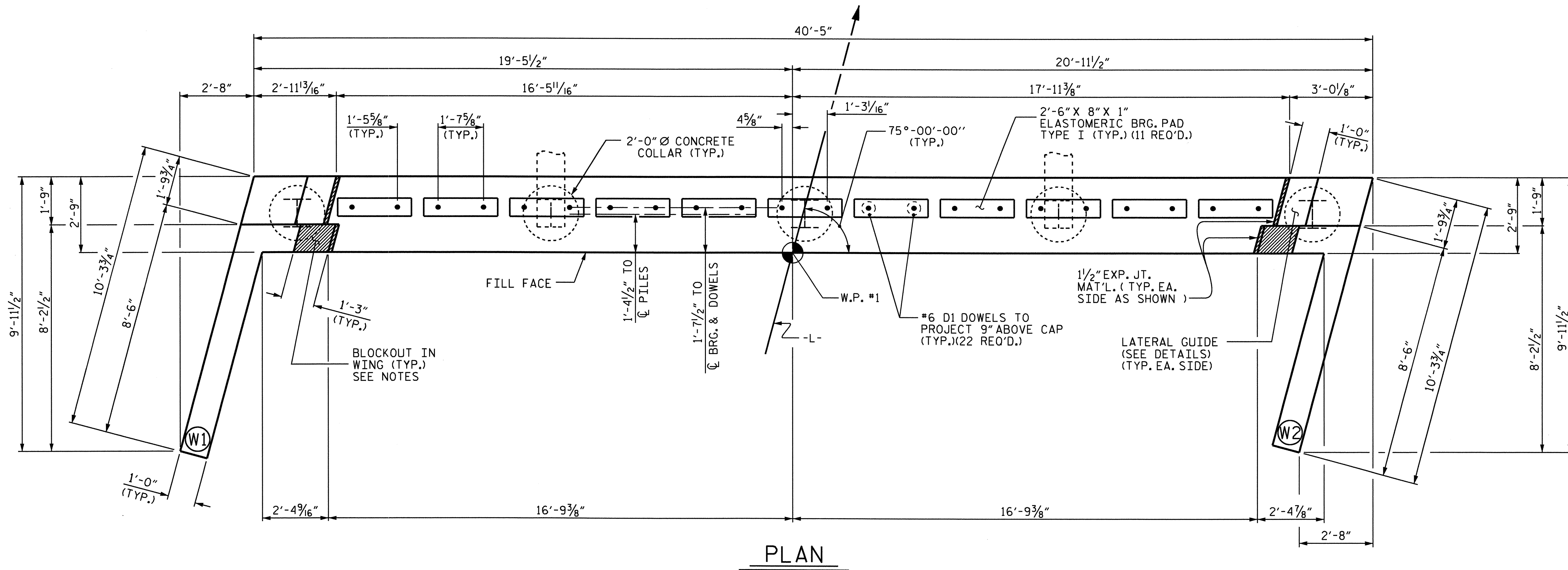
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.

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

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

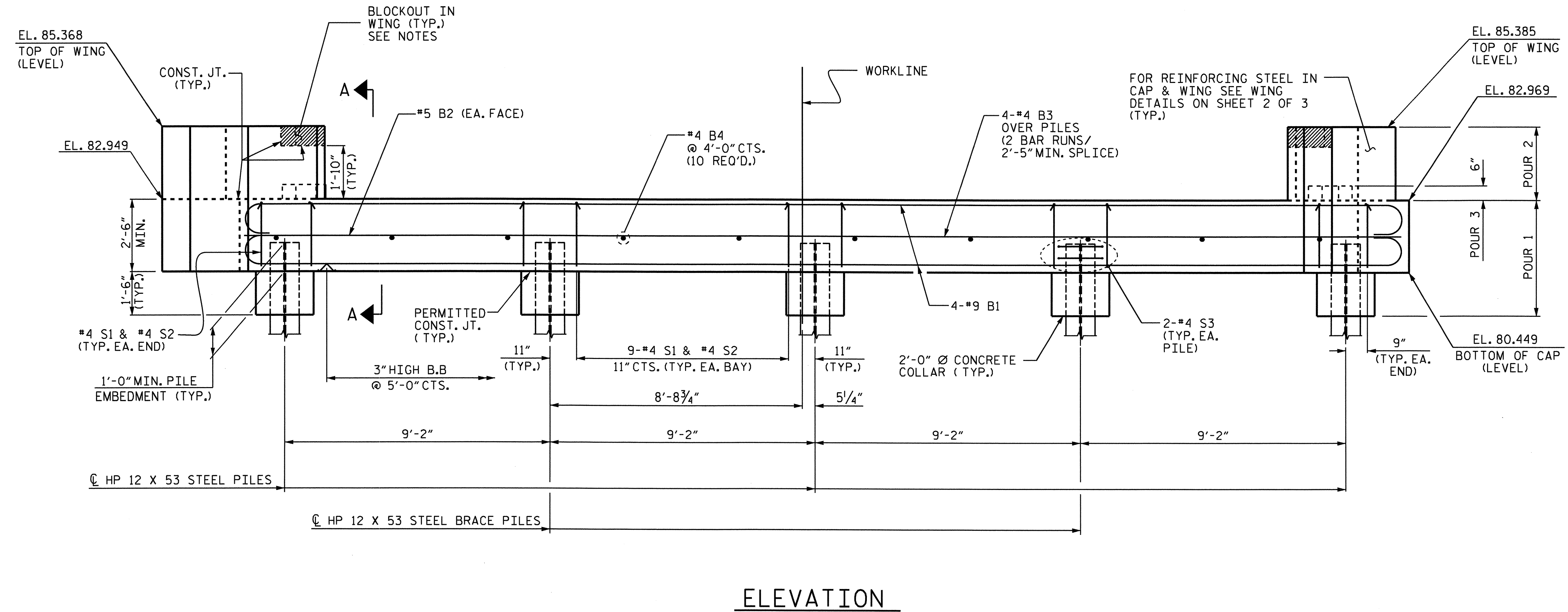
THE CONTRACTOR SHALL PROVIDE FOR INSTALLATION OF THE 4" DIAMETER DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS. SEE THE ROADWAY PLANS. REINFORCING STEEL IN THE WING WALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.

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



**LATERAL GUIDE DETAILS**

(RIGHT LATERAL GUIDE SHOWN, LEFT LATERAL GUIDE SIMILAR)

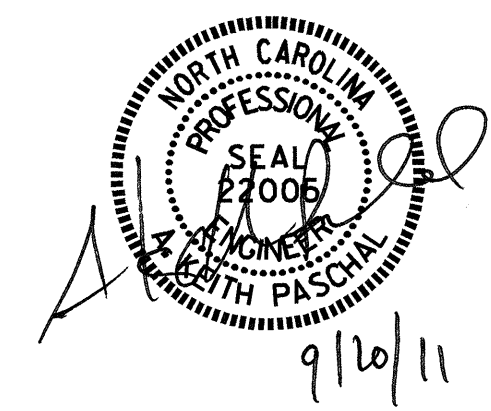


PROJECT NO. B-4328  
WILSON COUNTY  
 STATION: 16+67.00 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

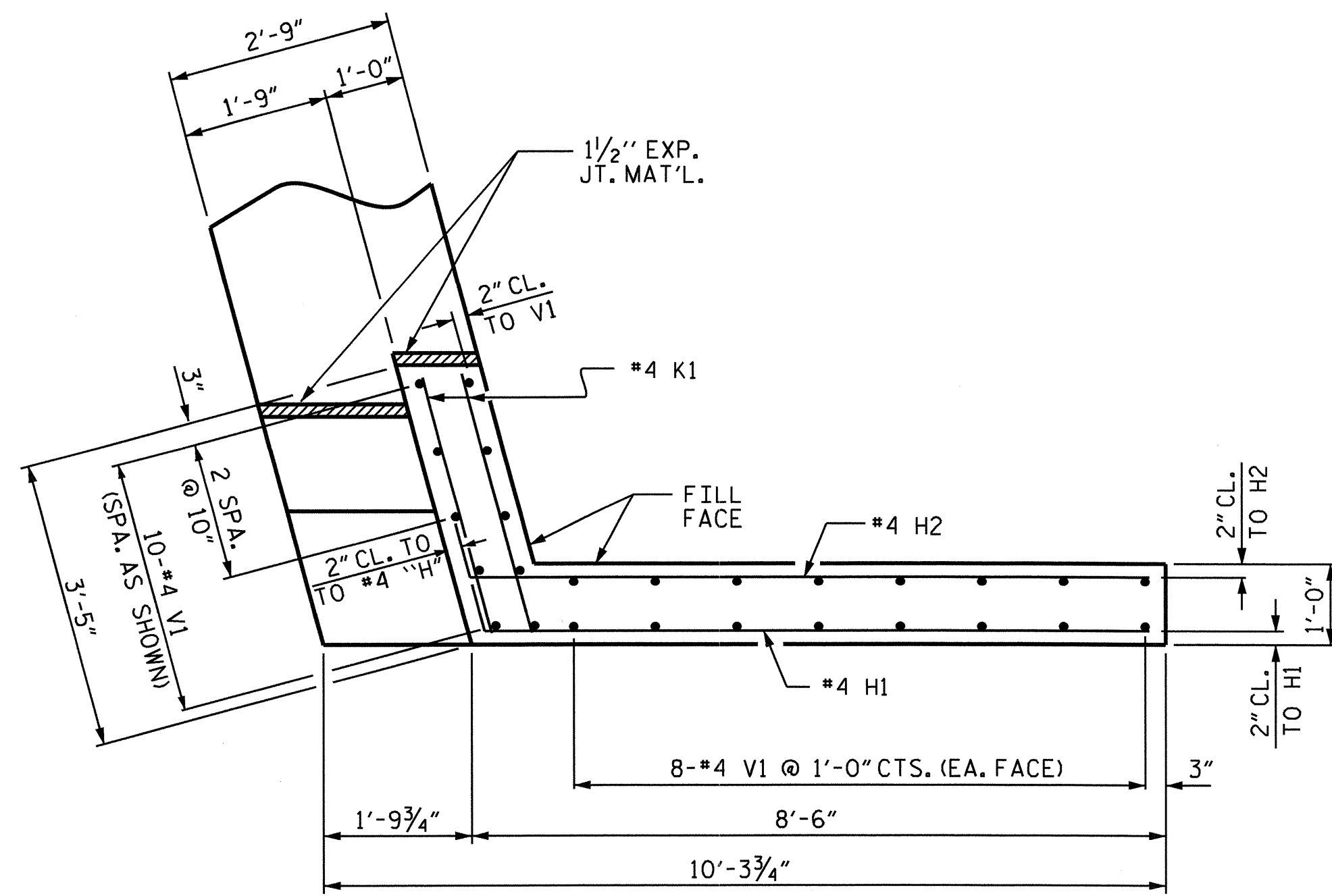
**SUBSTRUCTURE  
 END BENT 1**



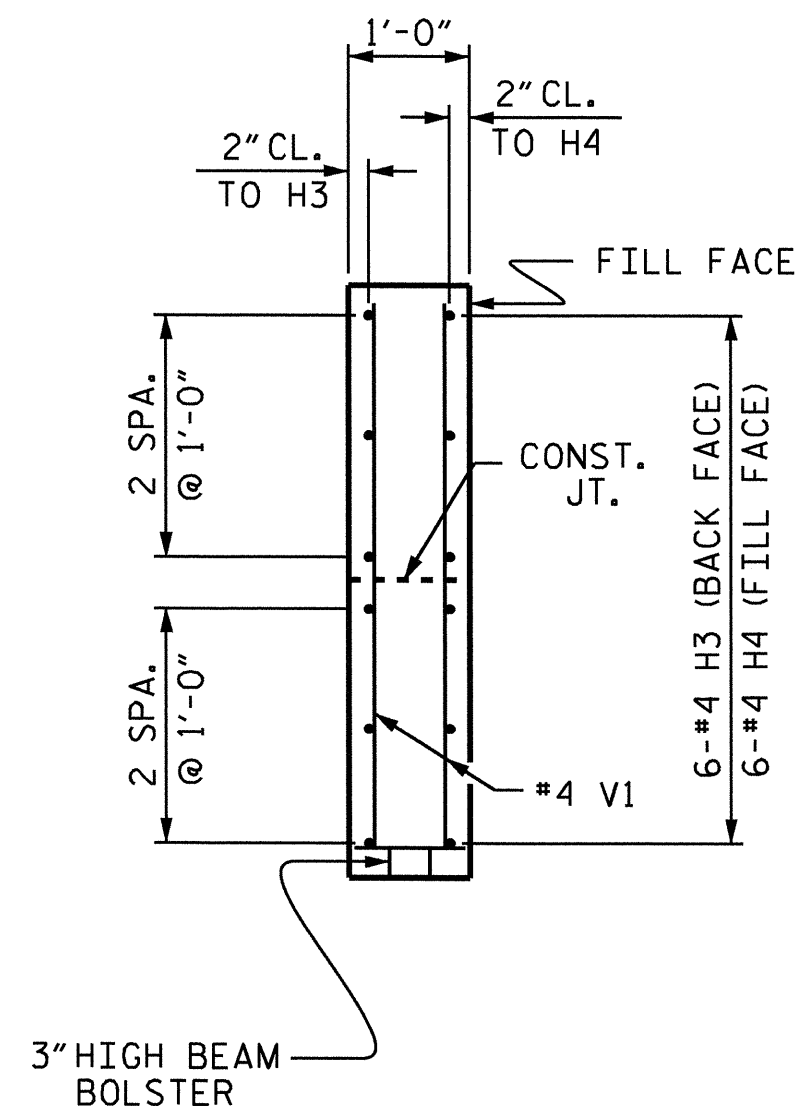
DRAWN BY: J. G. KHARVA DATE: 6/02/11  
 CHECKED BY: J. MYA DATE: 6/10/11

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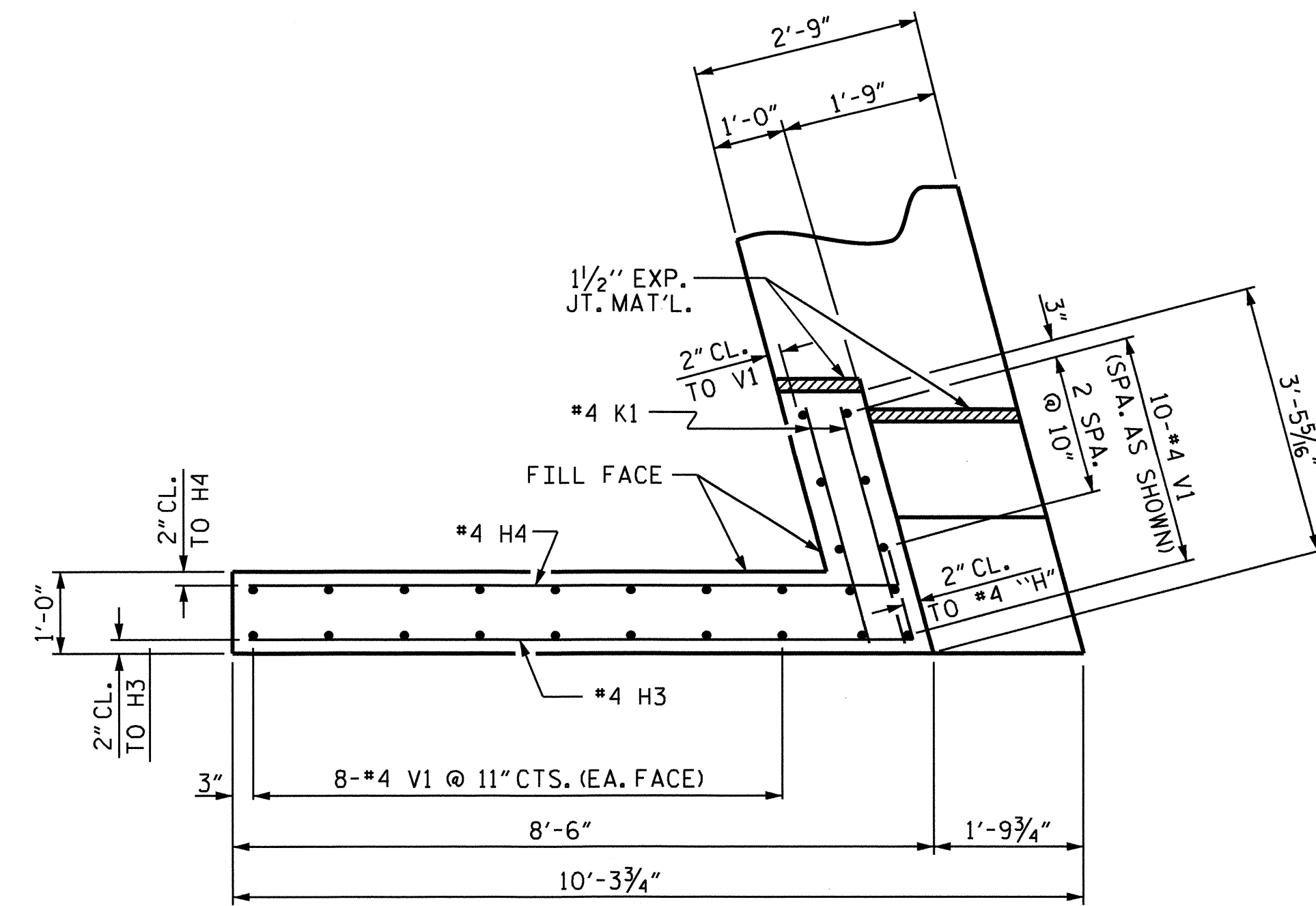
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			23



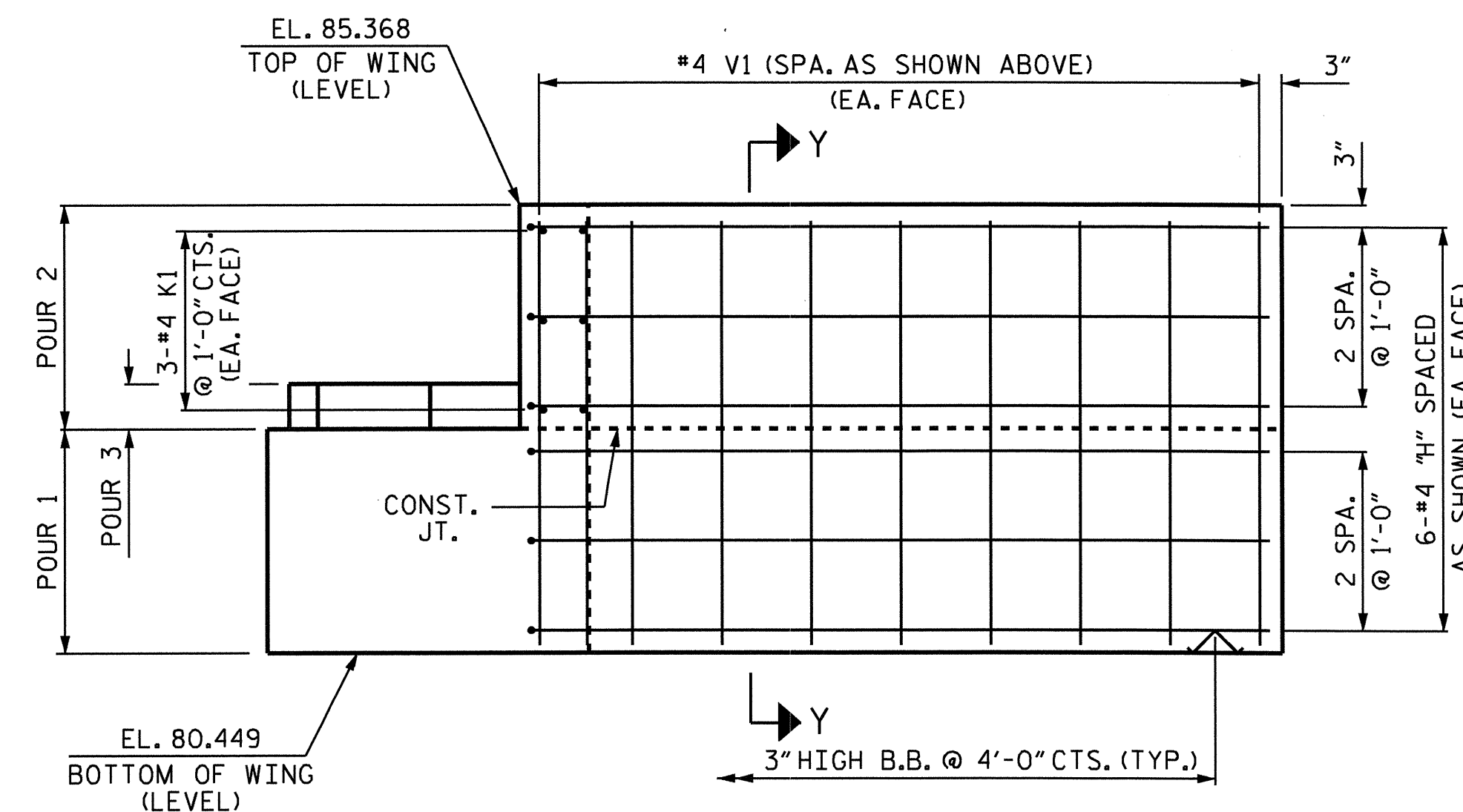
PLAN OF WING (W1)



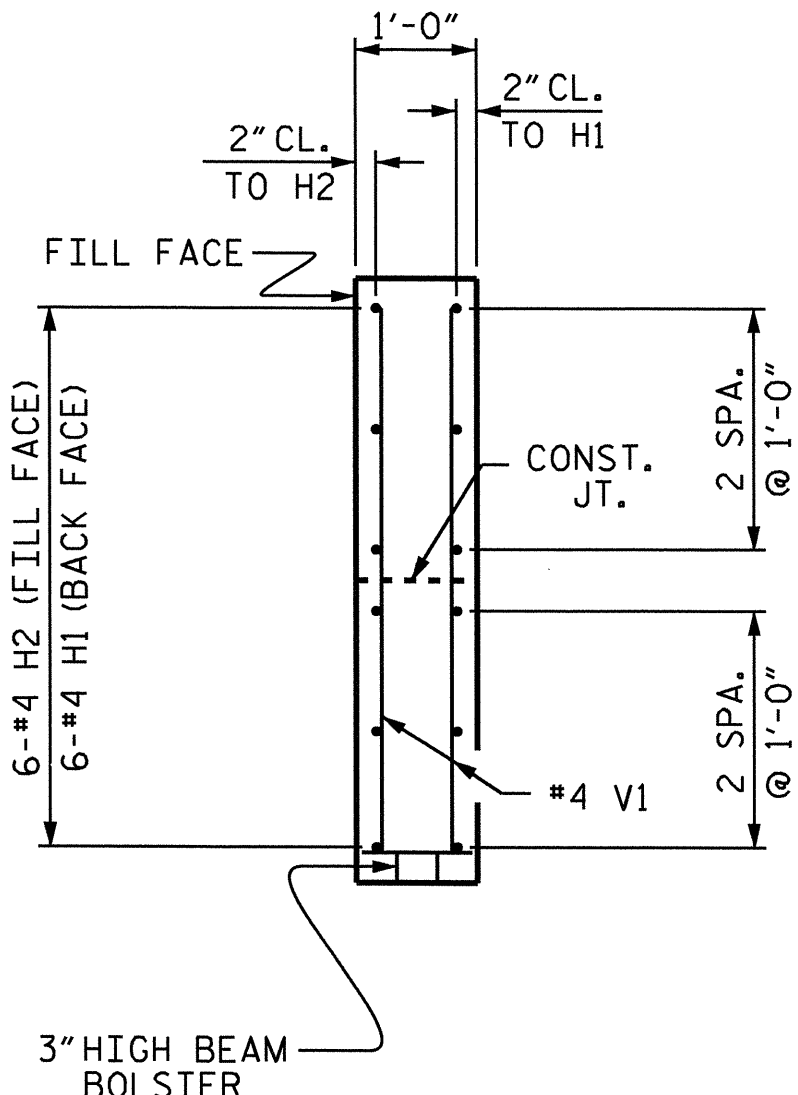
SECTION X-X



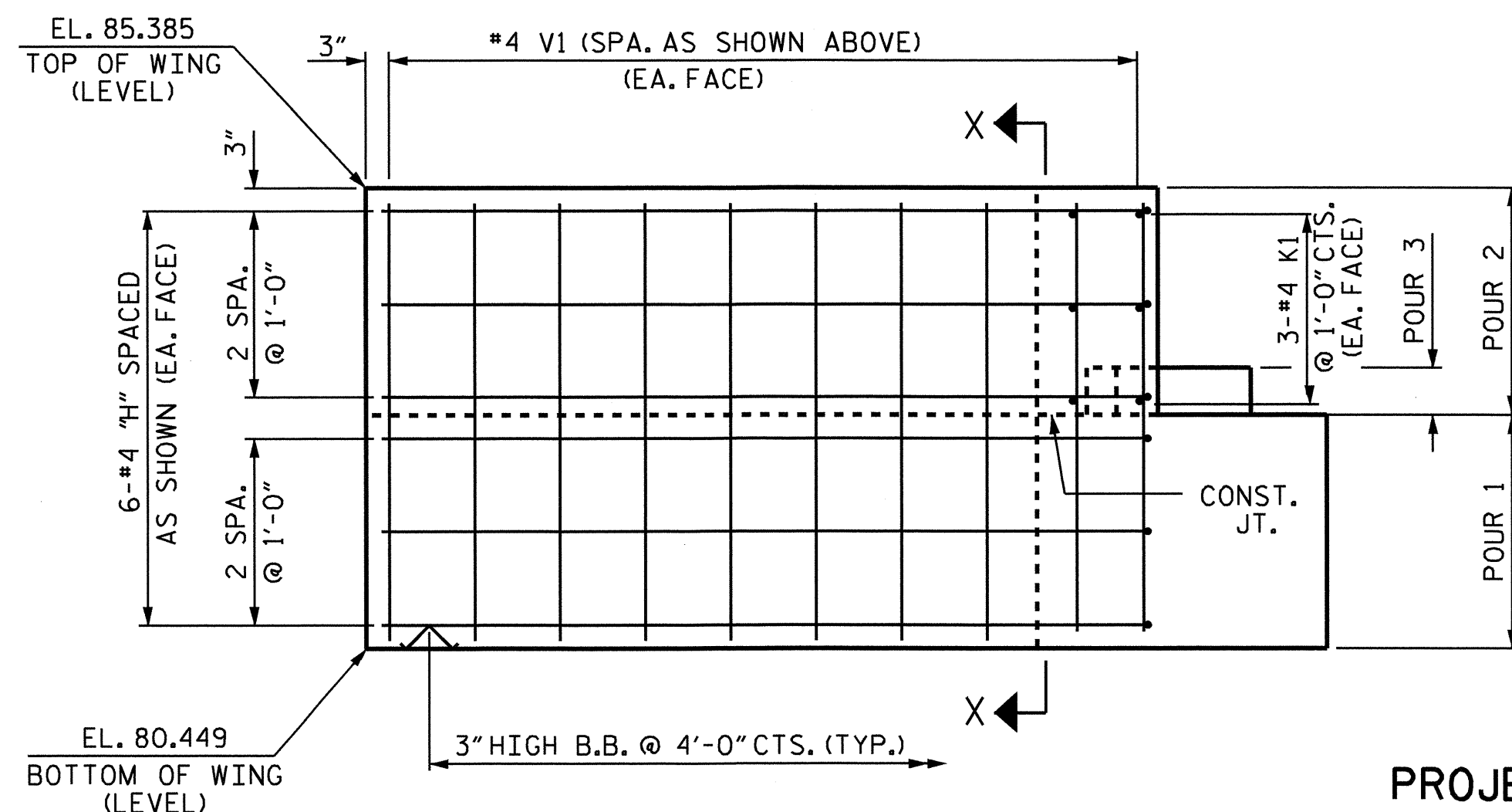
PLAN OF WING (W2)



ELEVATION OF WING (W1)



SECTION Y-Y



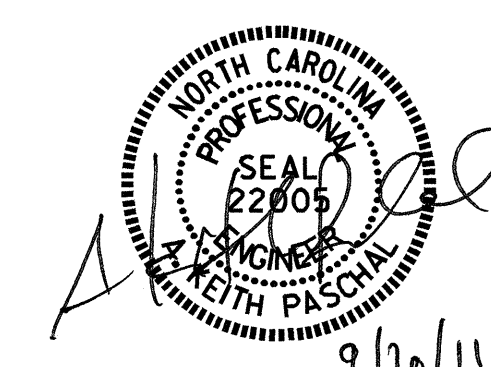
ELEVATION OF WING (W2)

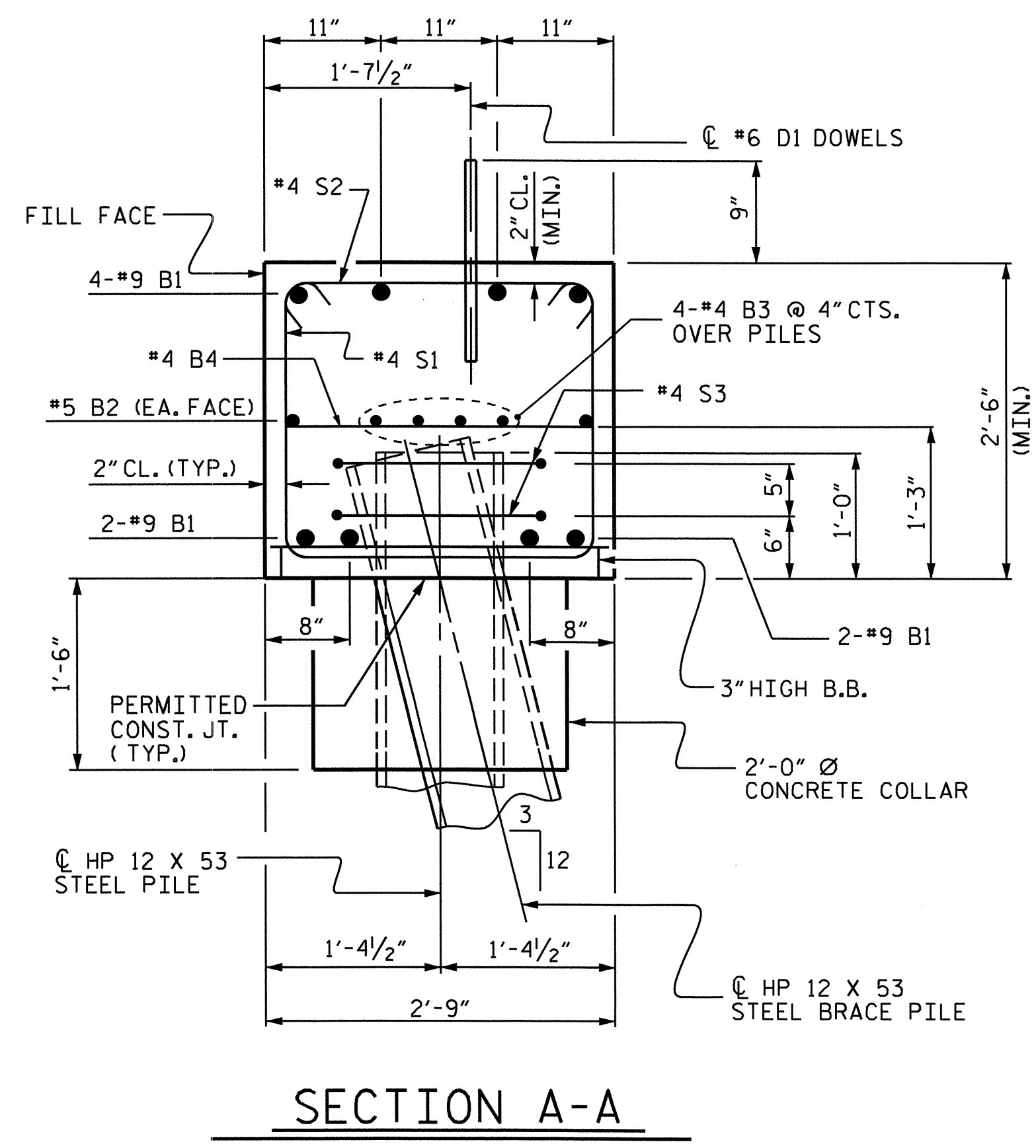
PROJECT NO. B-4328  
 WILSON COUNTY  
 STATION: 16+67.00 -L-  
 SHEET 2 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE END BENT 1					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					S-12
TOTAL SHEETS					23

DRAWN BY: J. G. KHARVA DATE: 6/02/11  
 CHECKED BY: J. MYA DATE: 6/10/11

15-SEP-2011 08:59  
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 jmyc

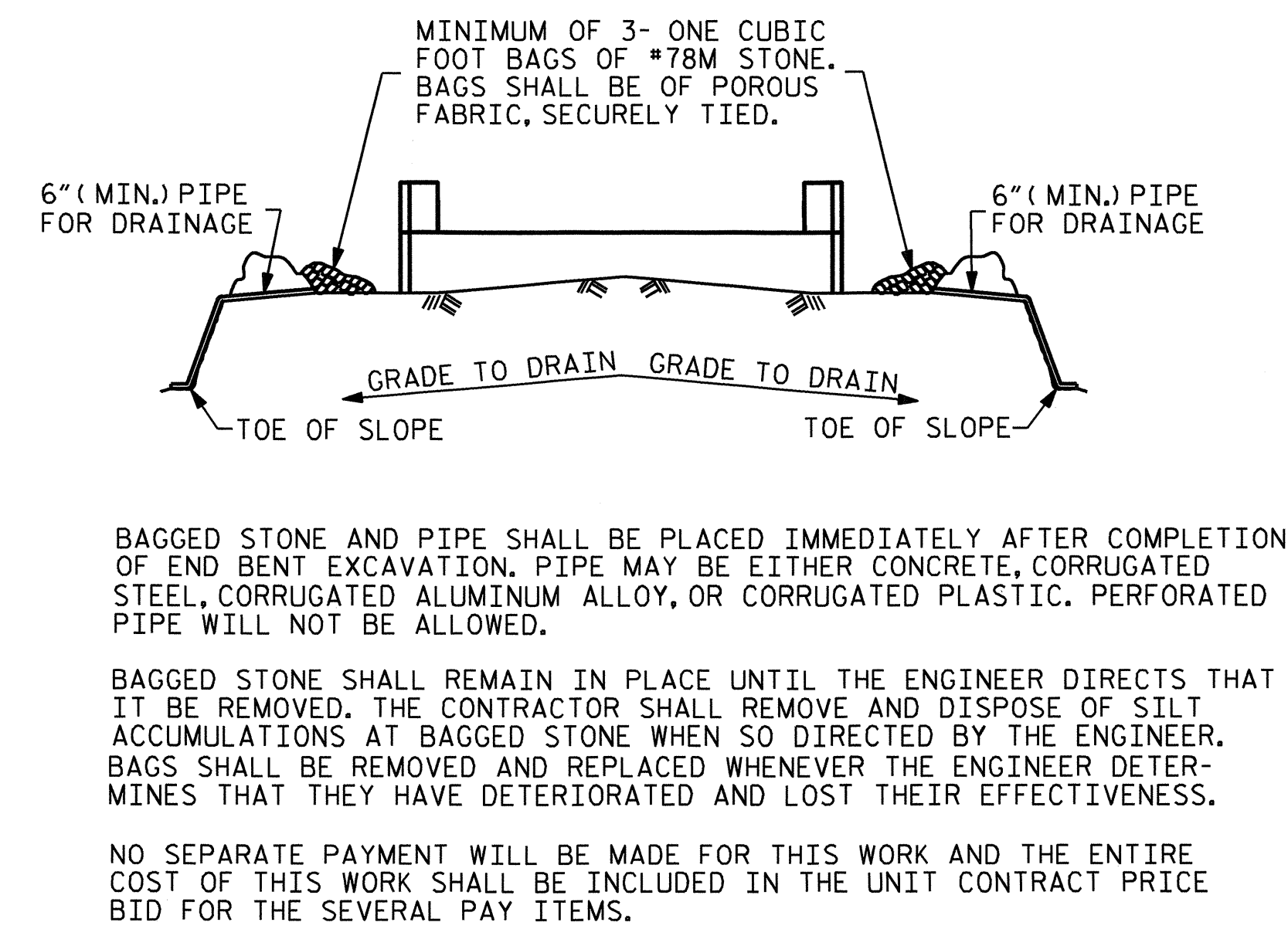
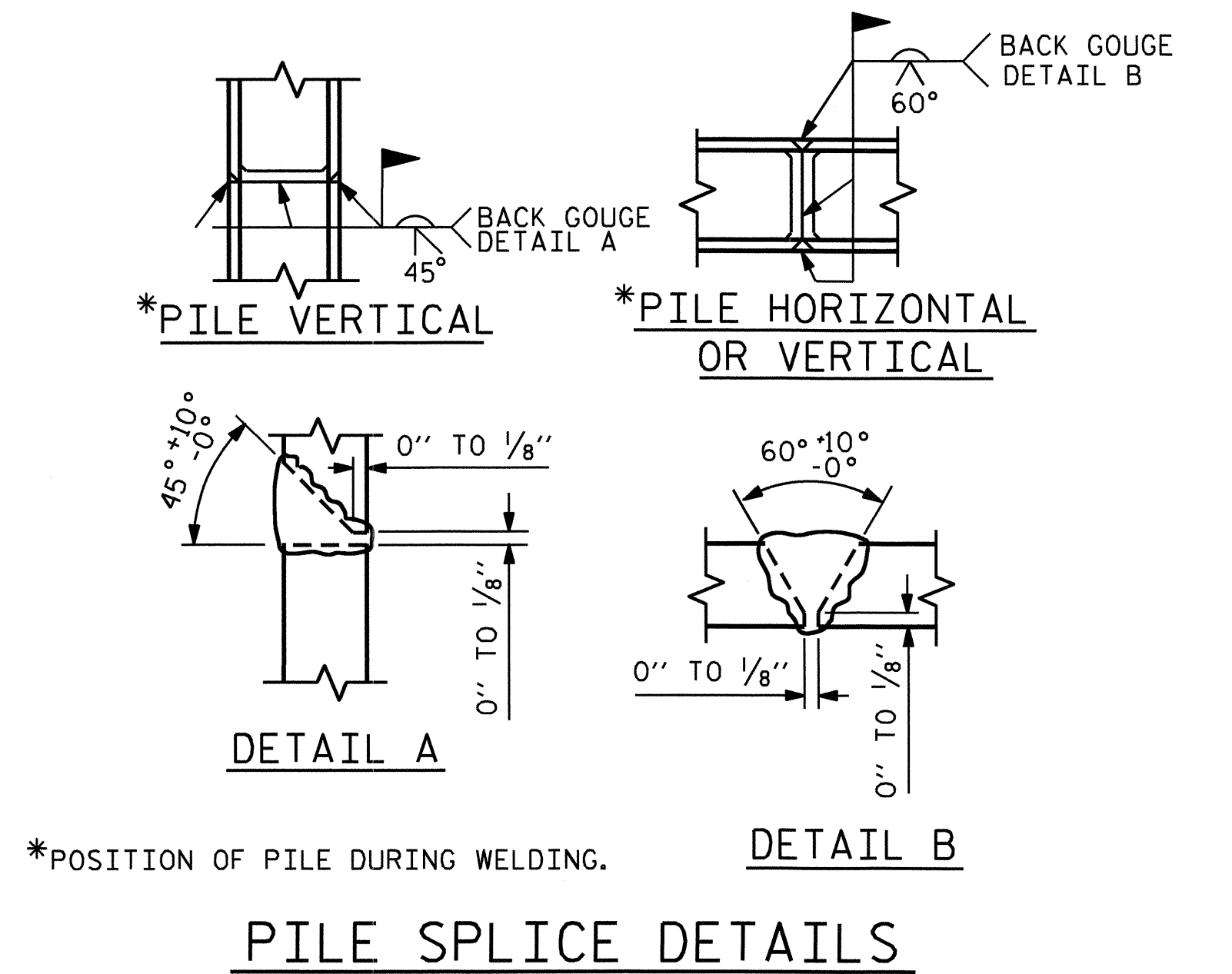




BAR TYPES

ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
END BENT 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9		42'-6"	1156
B2	2	#5	STR	40'-1"	84
B3	8	#4	STR	21'-3"	114
B4	10	#4	STR	2'-5"	16
D1	22	#6	STR	1'-6"	50
H1	6	#4	3	8'-10"	35
H2	6	#4	3	9'-0"	36
H3	6	#4	2	8'-9"	35
H4	6	#4	2	8'-7"	34
K1	12	#4	STR	3'-1"	25
S1	38	#4	5	7'-5"	188
S2	38	#4	4	3'-2"	80
S3	10	#4	7	6'-6"	43
U1	4	#4	6	4'-5"	12
V1	52	#4	STR	4'-7"	159
TOTAL REINFORCING STEEL = 2067 LBS					
CLASS A CONCRETE BREAKDOWN					
POUR 1 (CAP, COLLARS & LOWER PART OF WINGS)				12.5 C.Y.	
POUR 2 (UPPER PART OF WINGS)				1.9 C.Y.	
POUR 3 (LATERAL GUIDES)				0.1 C.Y.	
TOTAL CLASS A CONCRETE				14.5 C.Y.	
HP 12 X 53 STEEL PILES					
NO. : 5				250 LIN. FT.	
PILE REDRIVES					
NO. : 3					



PROJECT NO. B-4328  
WILSON COUNTY  
 STATION: 16+67.00 -L-  
 SHEET 3 OF 3

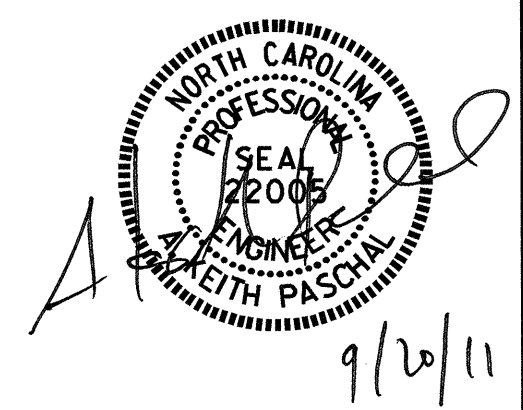
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

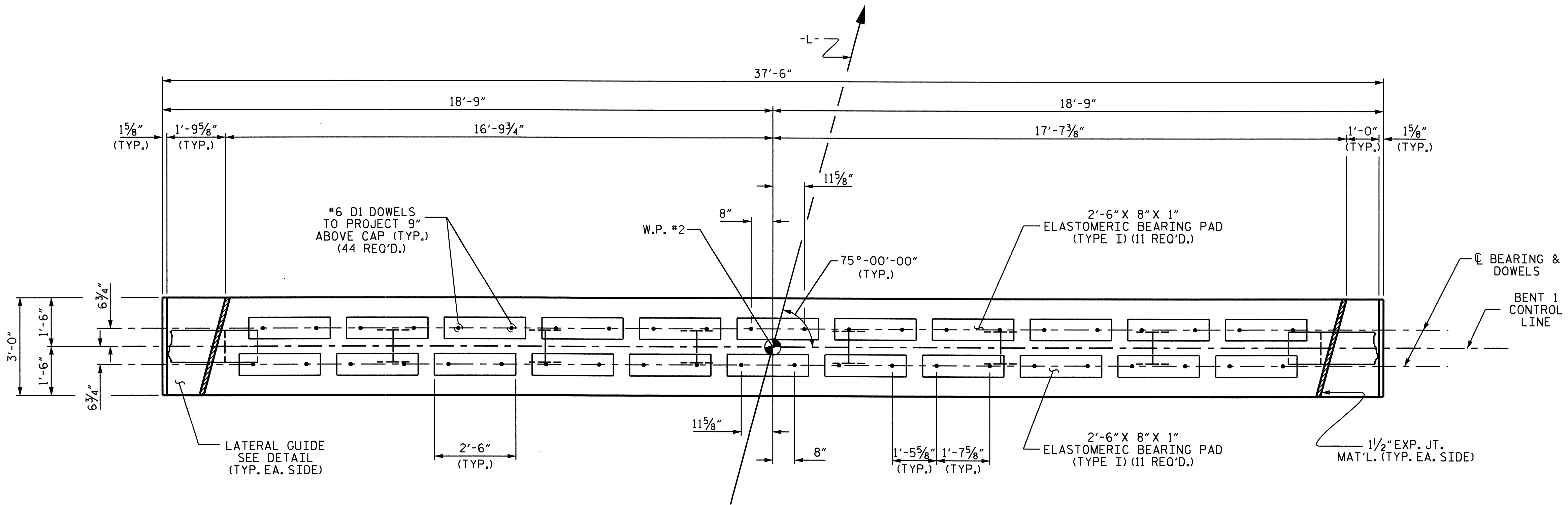
SUBSTRUCTURE  
 END BENT 1

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

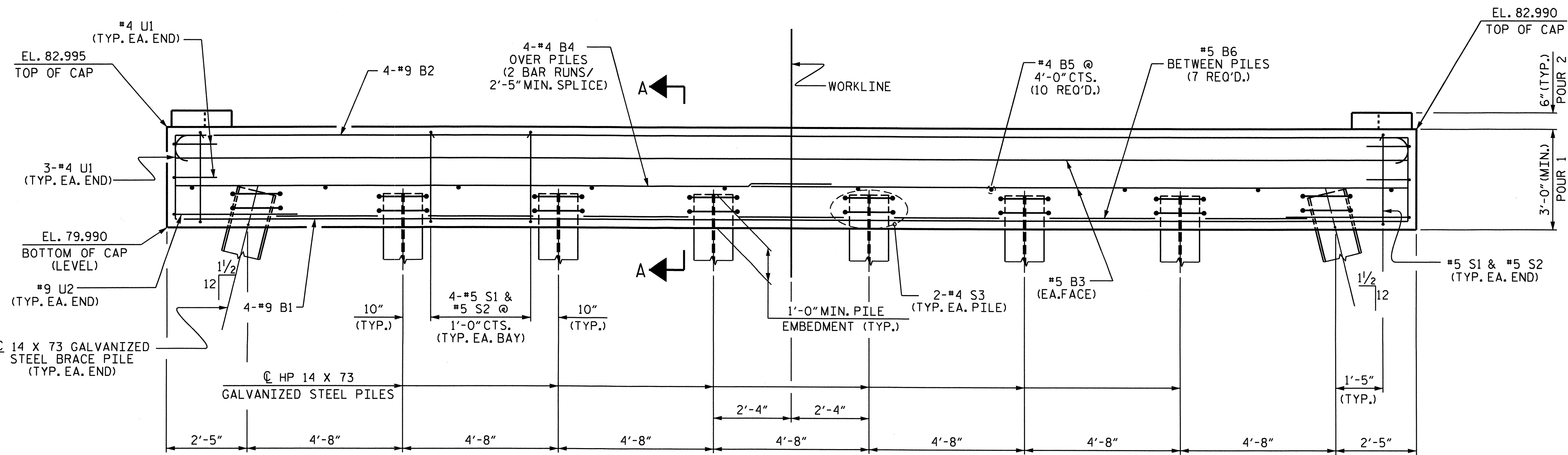
S-13  
TOTAL SHEETS: 23

DRAWN BY : J. G. KHARVA DATE : 6/02/11  
 CHECKED BY : J. MYA DATE : 6/10/11





**PLAN**



**ELEVATION**

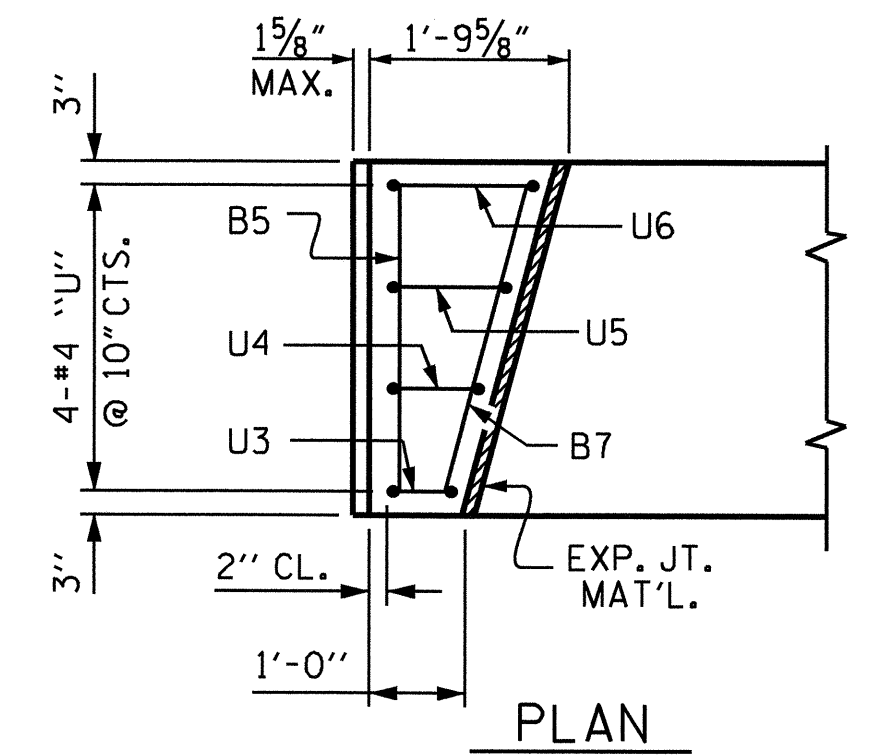
**NOTES**

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

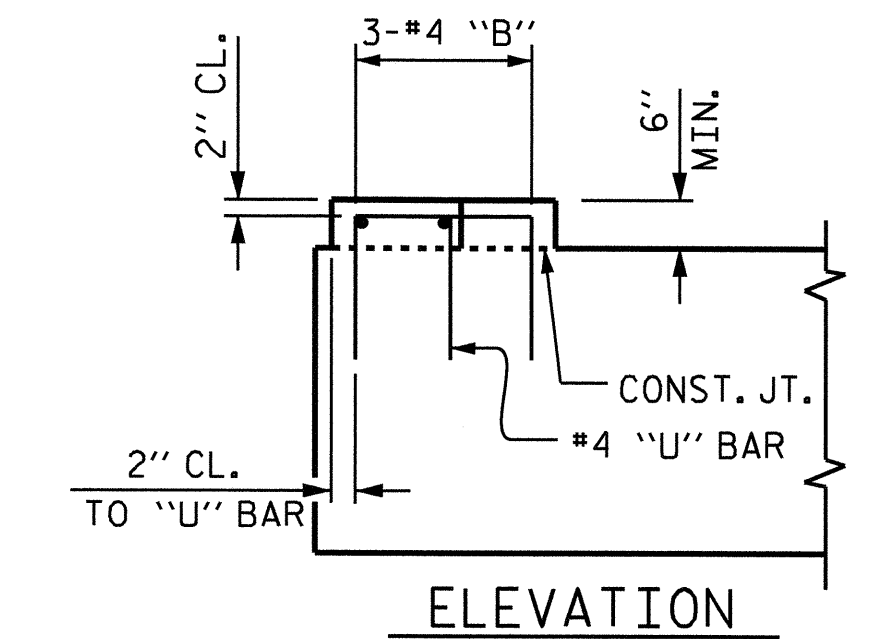
THE LATERAL GUIDE AT EACH END OF THE CORED SLAB IS NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.

A MINIMUM OF 30'-0" OF THE TOP OF EACH PILE SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS.

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



**PLAN**



**ELEVATION**

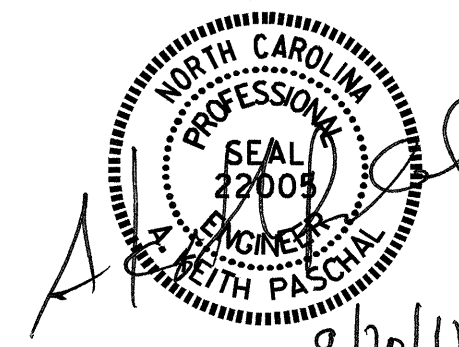
**LATERAL GUIDE DETAIL**

(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)

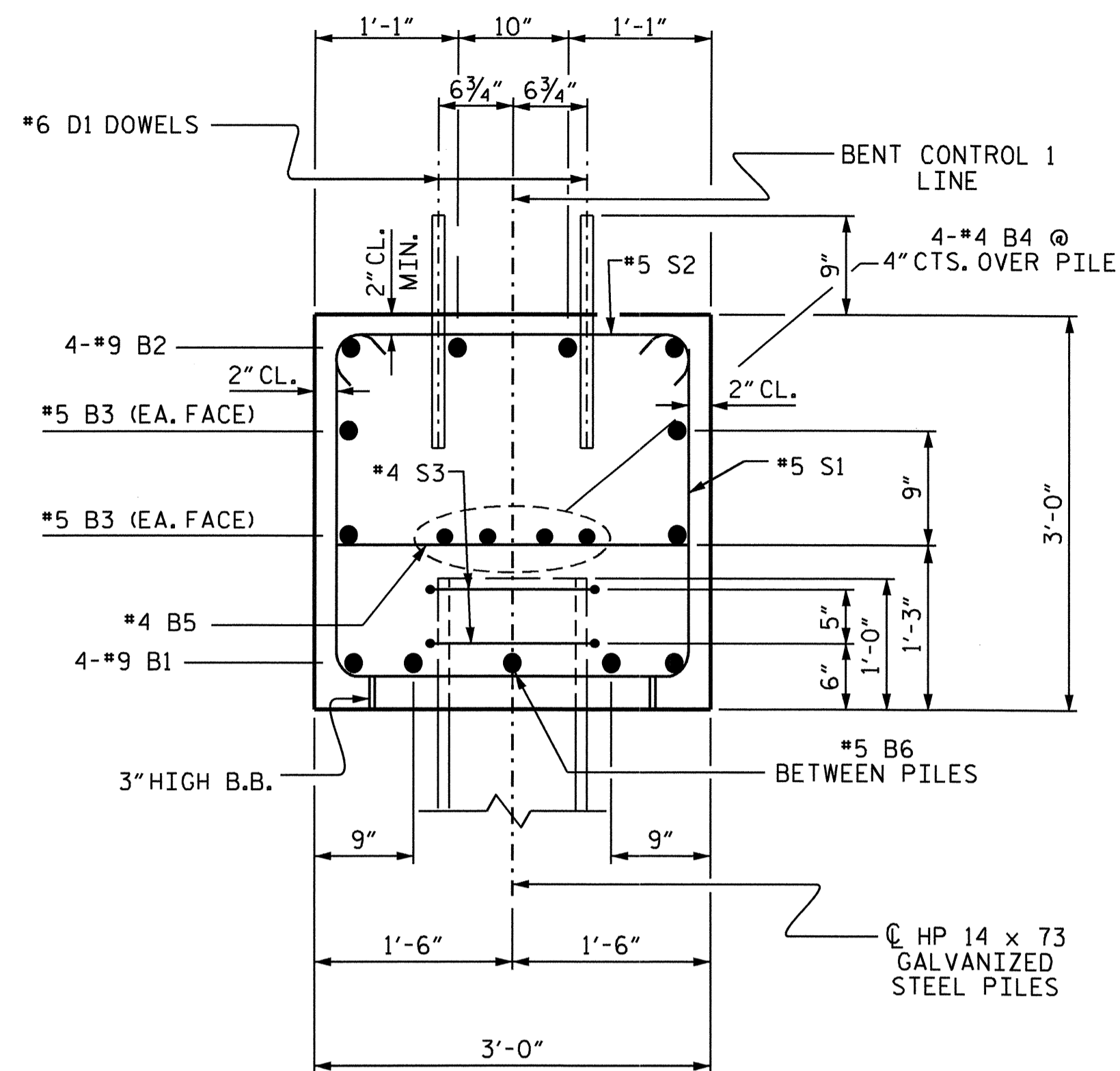
PROJECT NO. B-4328  
WILSON COUNTY  
 STATION: 16+67.00 -L-

SHEET 1 OF 2

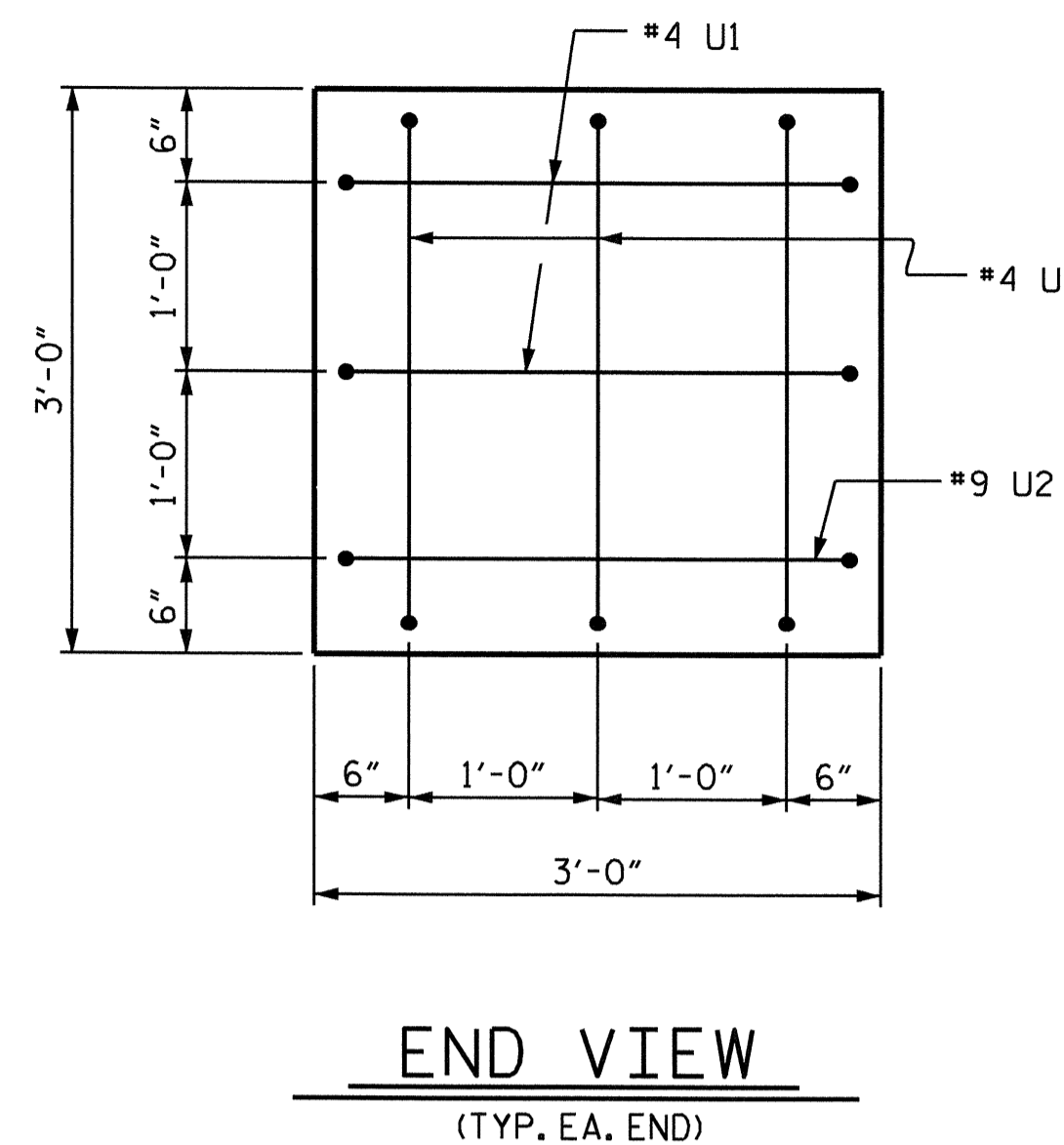
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH				SHEET NO.
SUBSTRUCTURE BENT 1				S-14
REVISIONS				TOTAL SHEETS
NO.	BY:	DATE:	NO.	DATE:
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2			4	
				23



DRAWN BY : M. E. FOWLER DATE : 6/8/10  
 CHECKED BY : J. D. HAWK DATE : 5/10/11

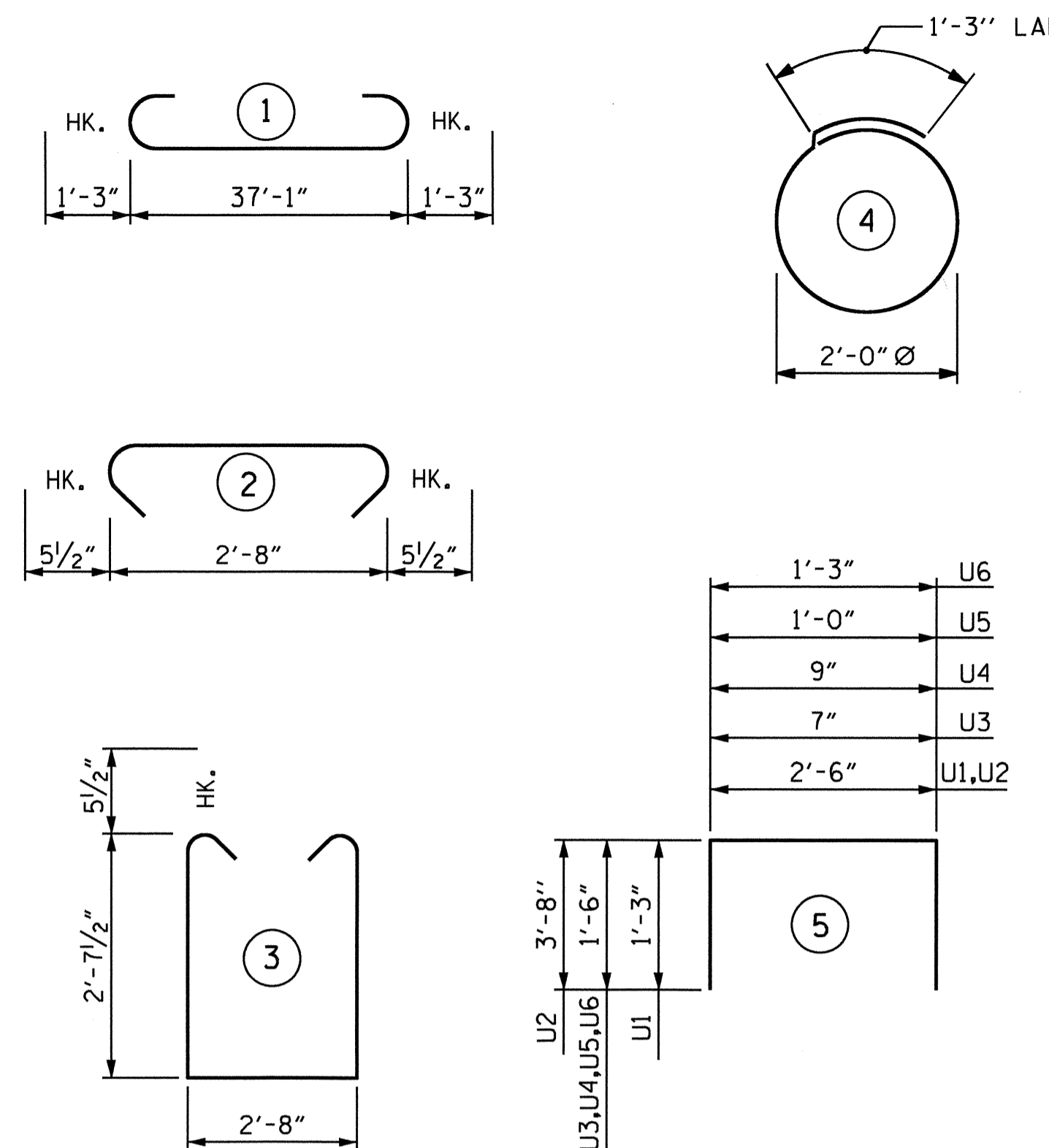


SECTION A-A



END VIEW  
(TYP. EA. END)

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

BENT 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	4	#9	STR	37'-2"	505
B2	4	#9	1	39'-7"	538
B3	4	#5	STR	37'-2"	155
B4	8	#4	STR	19'-10"	106
B5	12	#4	STR	2'-8"	21
B6	7	#5	STR	3'-2"	23
B7	2	#4	STR	2'-9"	4

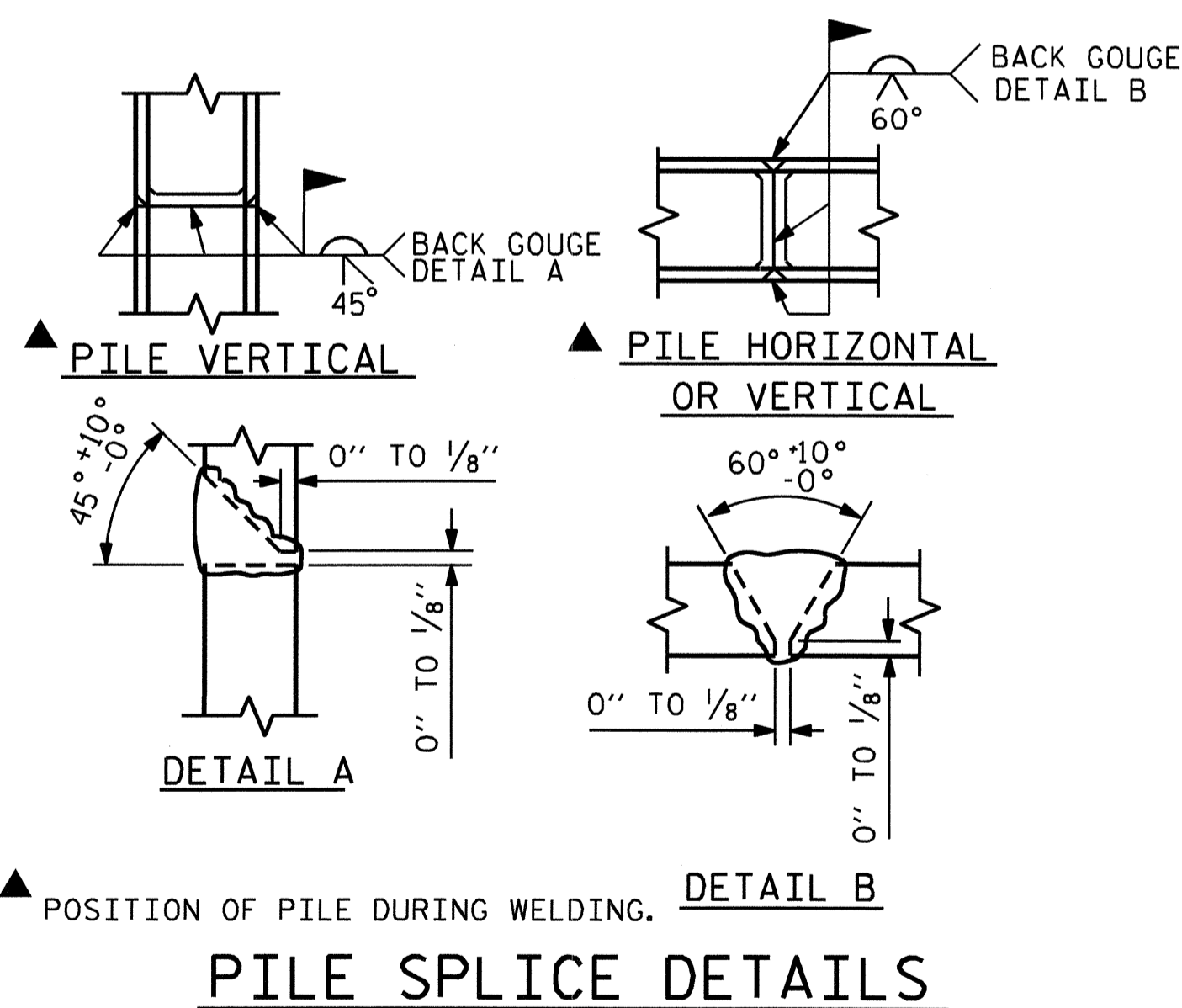
D1	44	#6	STR	1'-6"	99
S1	30	#5	3	8'-10"	276
S2	30	#5	2	3'-7"	112
S3	16	#4	4	7'-7"	81

U1	10	#4	5	5'-0"	33
U2	2	#9	5	9'-10"	67
U3	2	#4	5	3'-7"	5
U4	2	#4	5	3'-9"	5
U5	2	#4	5	4'-0"	5
U6	2	#4	5	4'-3"	6

REINFORCING STEEL 2041 LBS.

CLASS AA CONCRETE	
POUR 1 (CAP)	C.Y. 12.5
POUR 2 (LATERAL GUIDES)	C.Y. 0.2
TOTAL	C.Y. 12.7

HP 14 X 73 GALVANIZED STEEL PILES	
NO. : 8	LIN. FT. 440
PILE REDRIVES	NO: 4



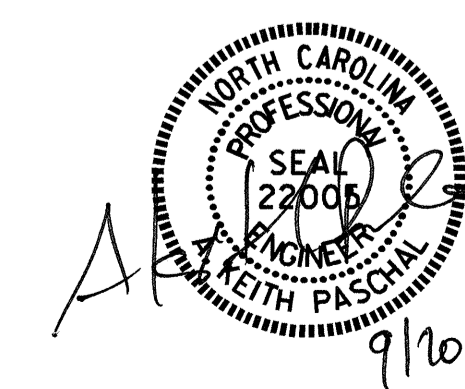
PILE SPLICE DETAILS

PROJECT NO. B-4328  
WILSON COUNTY  
STATION: 16+67.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

SUBSTRUCTURE  
BENT 1



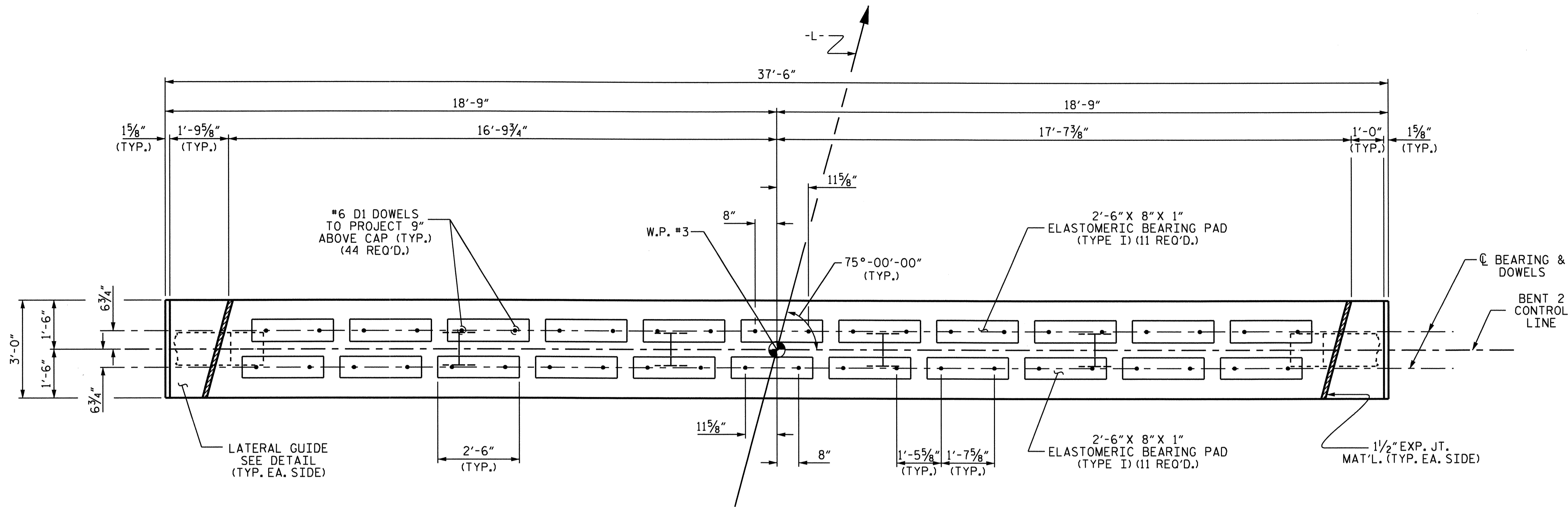
DRAWN BY : M. E. FOWLER DATE : 6/8/10  
CHECKED BY : J. D. HAWK DATE : 5/10/11

15-SEP-2011 08:59  
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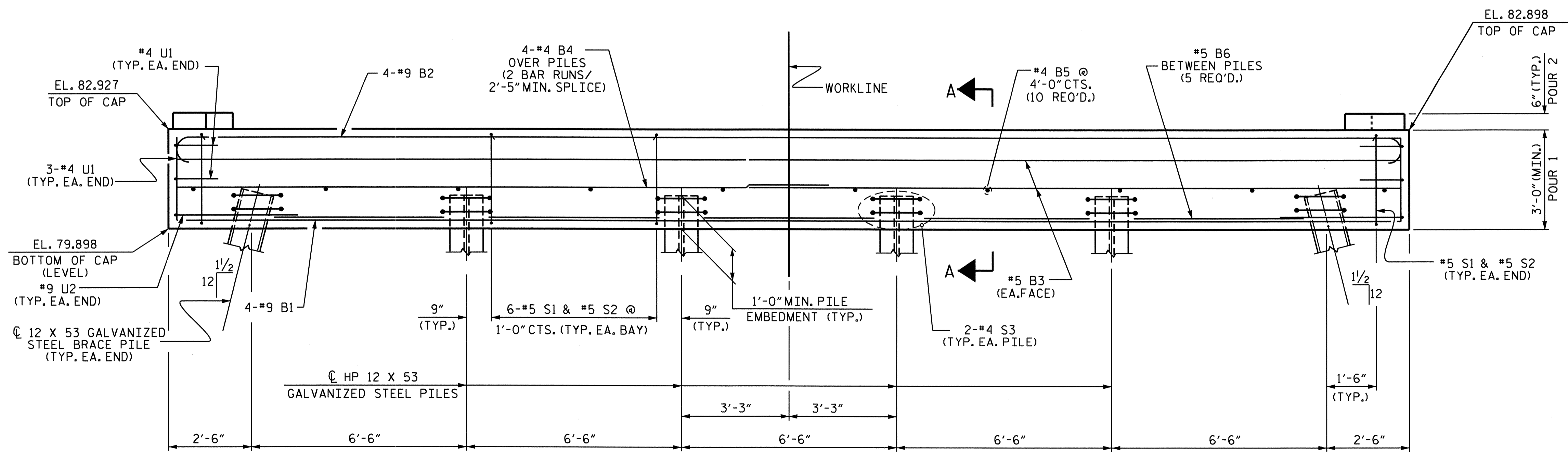
REVISIONS				SHEET NO.
NO.	BY:	DATE:	NO.	DATE:
1			3	
2			4	

S-15  
TOTAL SHEETS  
23





PLAN



ELEVATION

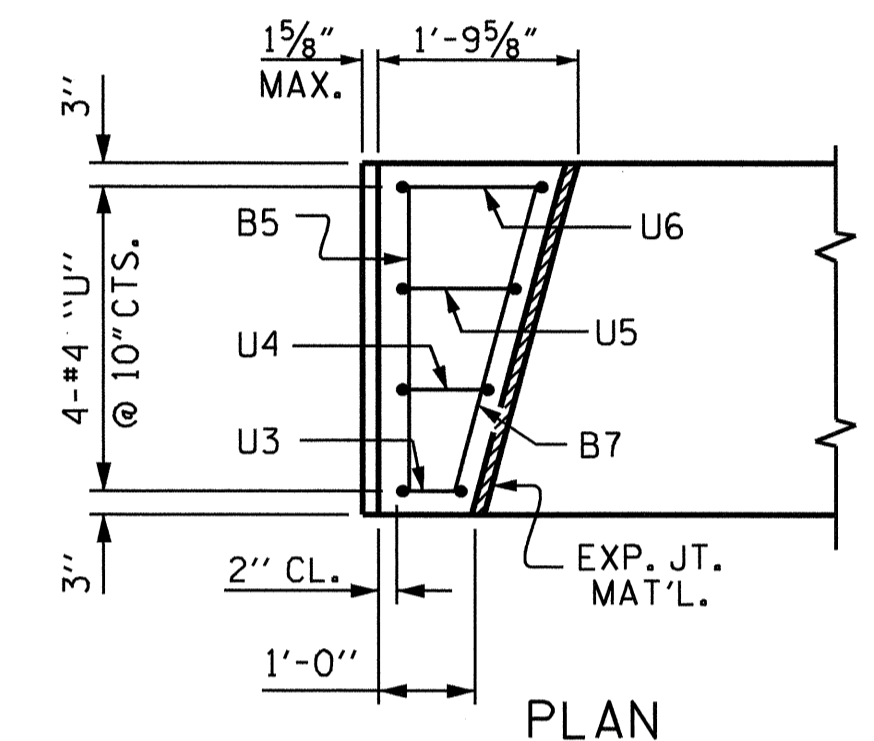
NOTES

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

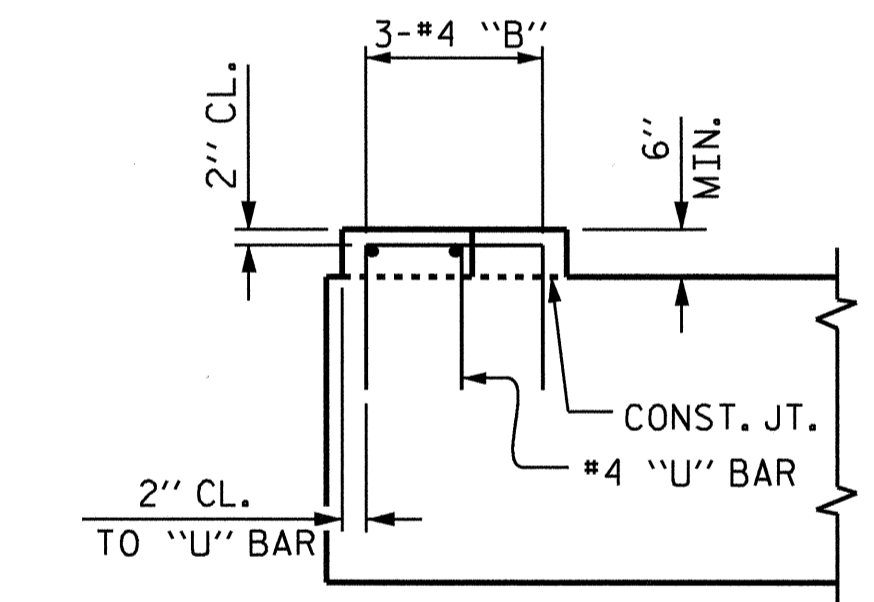
THE LATERAL GUIDE AT EACH END OF THE CORED SLAB IS NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.

A MINIMUM OF 30'-0" OF THE TOP OF EACH PILE SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS.

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



PLAN



ELEVATION

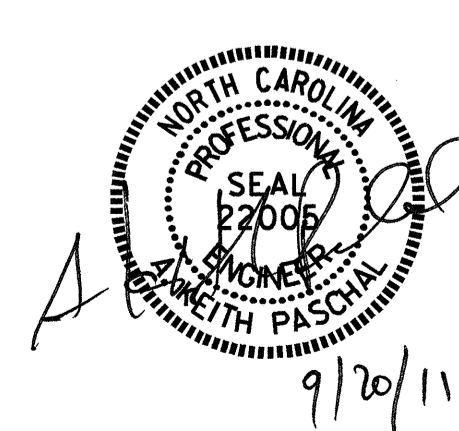
LATERAL GUIDE DETAIL

(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)

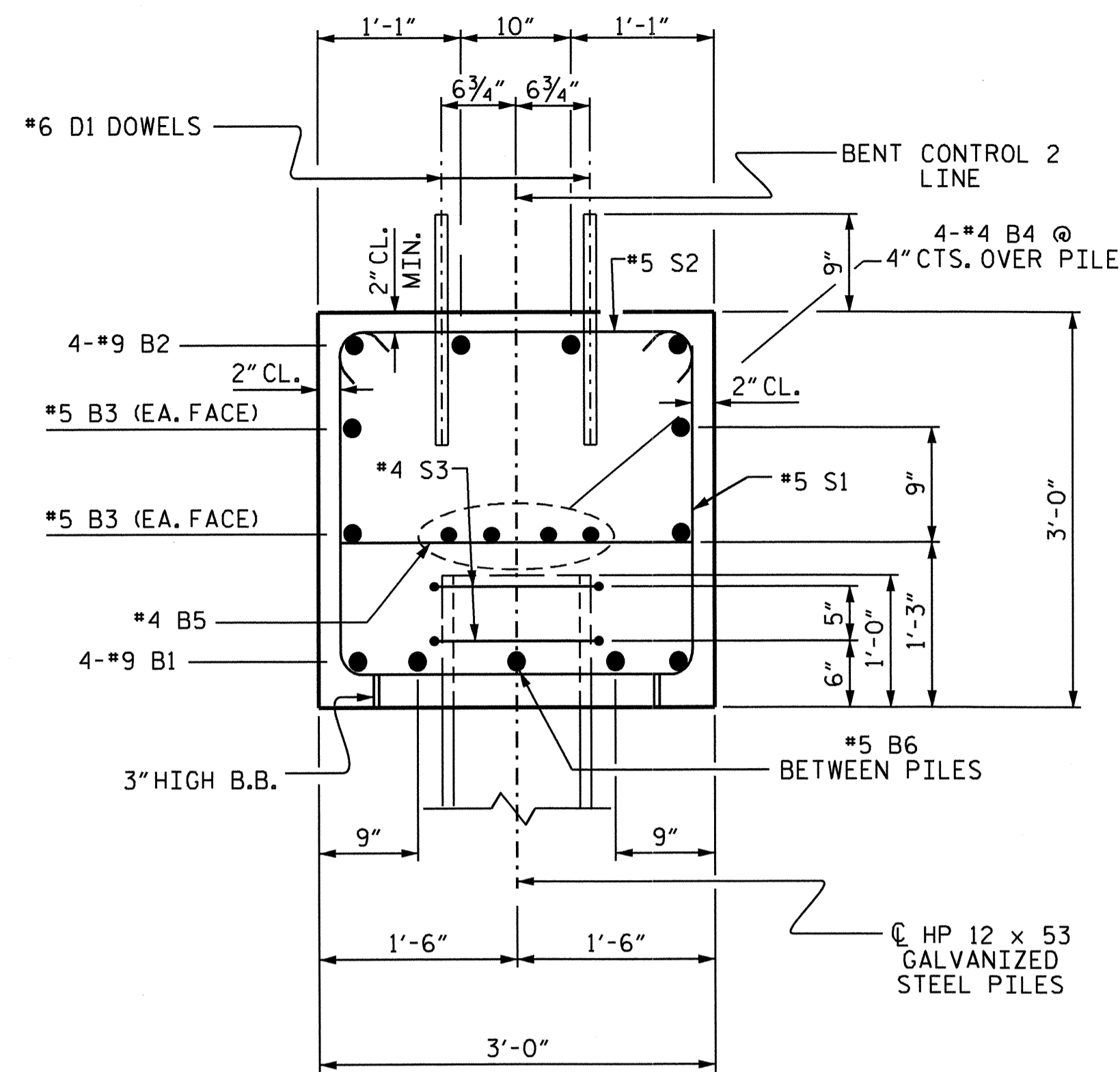
PROJECT NO. B-4328  
 WILSON COUNTY  
 STATION: 16+67.00 -L-

SHEET 1 OF 2

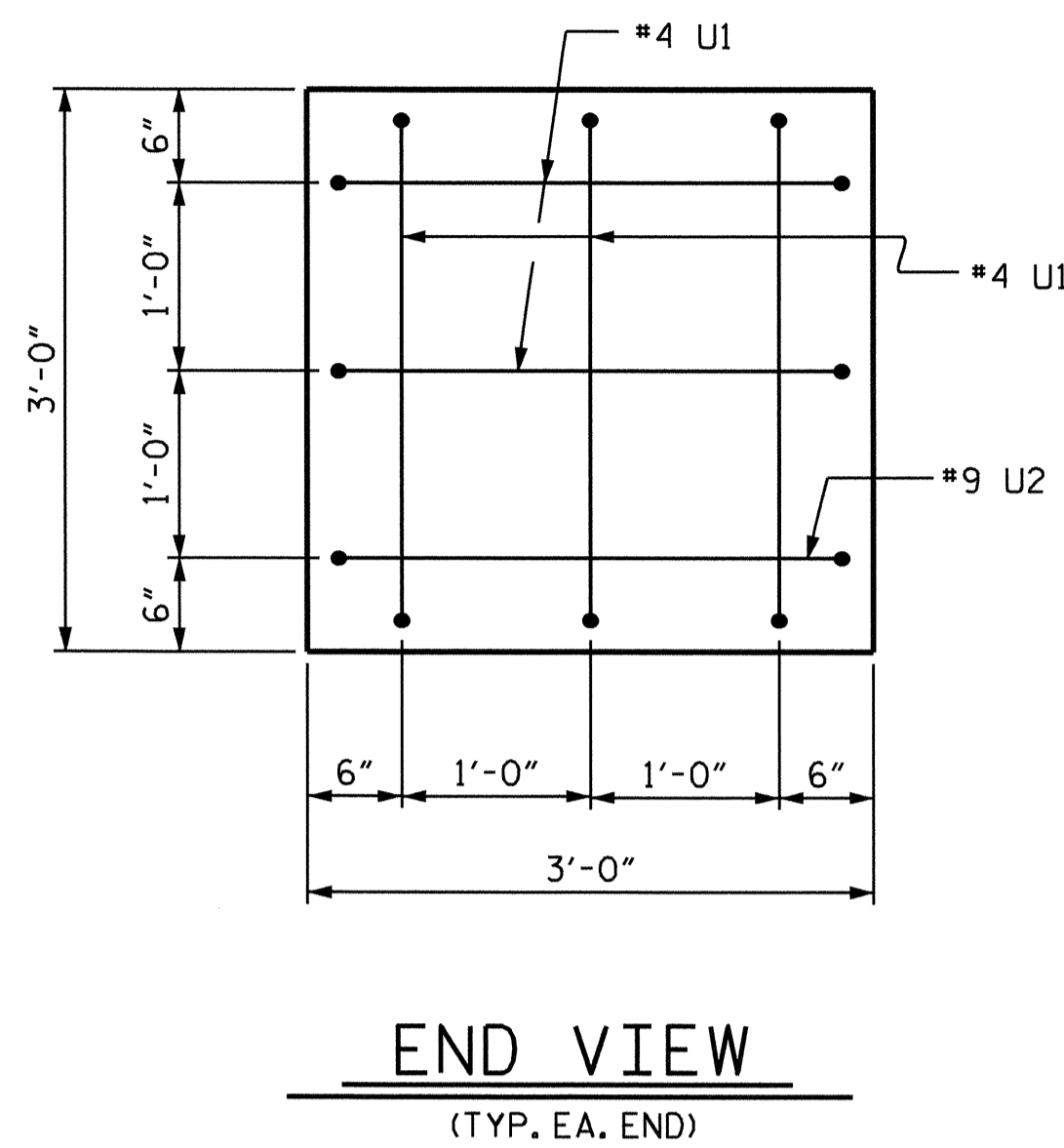
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE BENT 2					
REVISIONS					SHEET NO. S-16
NO.	BY:	DATE:	NO.	BY:	
1			3		
2			4		
TOTAL SHEETS					23



DRAWN BY: M. E. FOWLER DATE: 6/8/10  
 CHECKED BY: J. D. HAWK DATE: 5/10/11

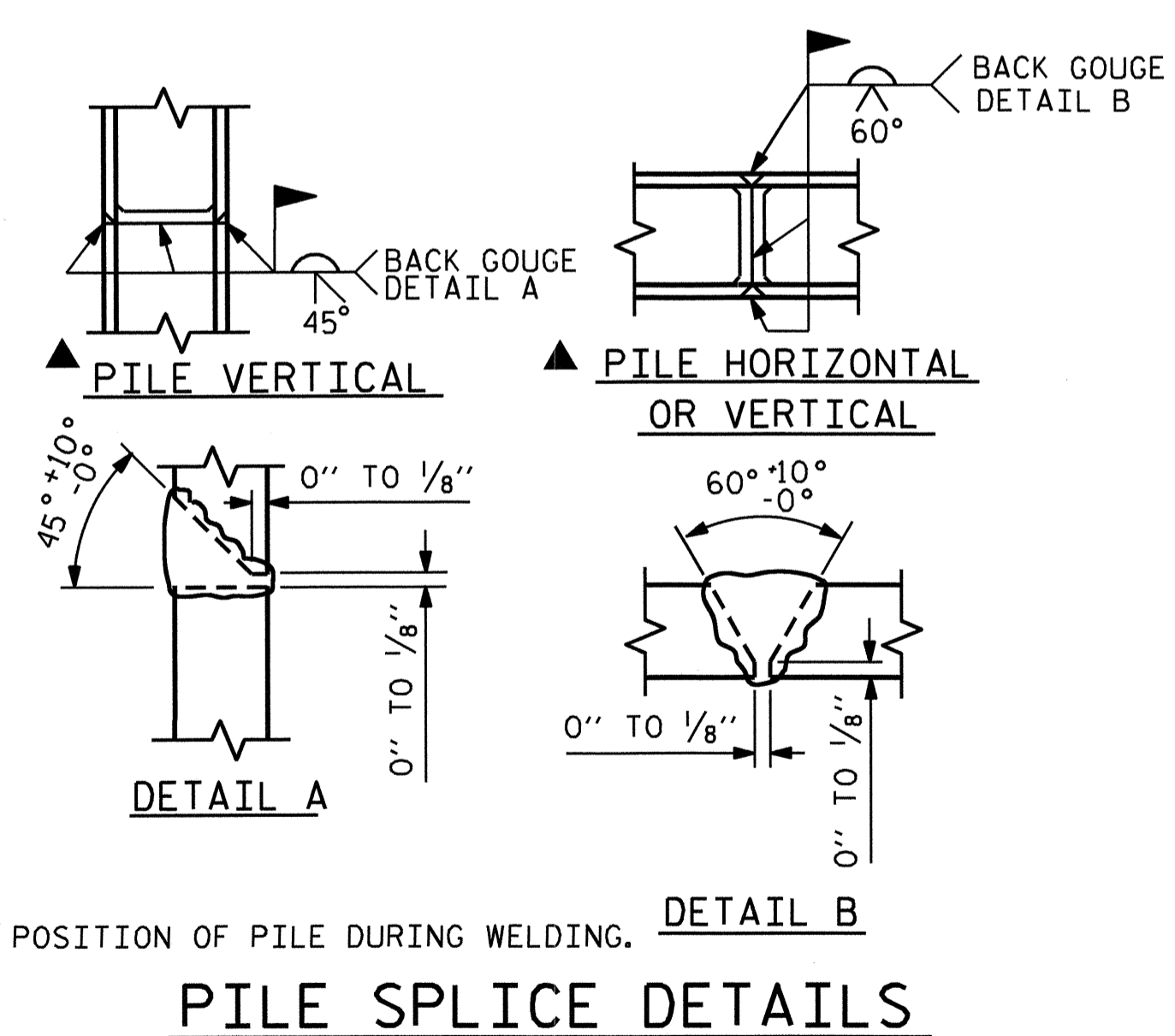


SECTION A-A



END VIEW  
(TYP. EA. END)

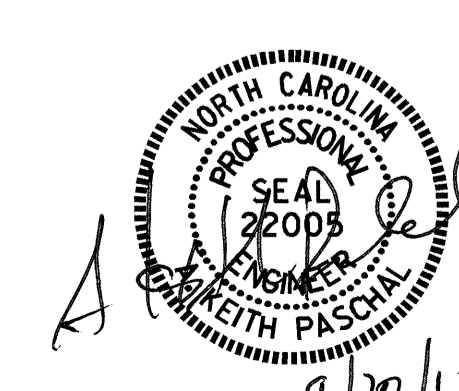
BAR TYPES					BILL OF MATERIAL	
					BENT 2	
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
B1	4	#9	STR	37'-2"	505	
B2	4	#9	1	39'-7"	538	
B3	4	#5	STR	37'-2"	155	
B4	8	#4	STR	19'-10"	106	
B5	12	#4	STR	2'-8"	21	
B6	5	#5	STR	5'-2"	27	
B7	2	#4	STR	2'-9"	4	
D1	44	#6	STR	1'-6"	99	
S1	32	#5	3	8'-10"	295	
S2	32	#5	2	3'-7"	120	
S3	12	#4	4	6'-6"	52	
U1	10	#4	5	5'-0"	33	
U2	2	#9	5	9'-10"	67	
U3	2	#4	5	3'-7"	5	
U4	2	#4	5	3'-9"	5	
U5	2	#4	5	4'-0"	5	
U6	2	#4	5	4'-3"	6	
REINFORCING STEEL					2043 LBS.	
CLASS AA CONCRETE						
POUR 1 (CAP)					C.Y.	12.5
POUR 2 (LATERAL GUIDES)					C.Y.	0.2
TOTAL					C.Y.	12.7
HP 12 X 53 GALVANIZED STEEL PILES						
NO. : 6					LIN. FT. 360	
PILE REDRIVES					NO: 3	



PILE SPLICE DETAILS

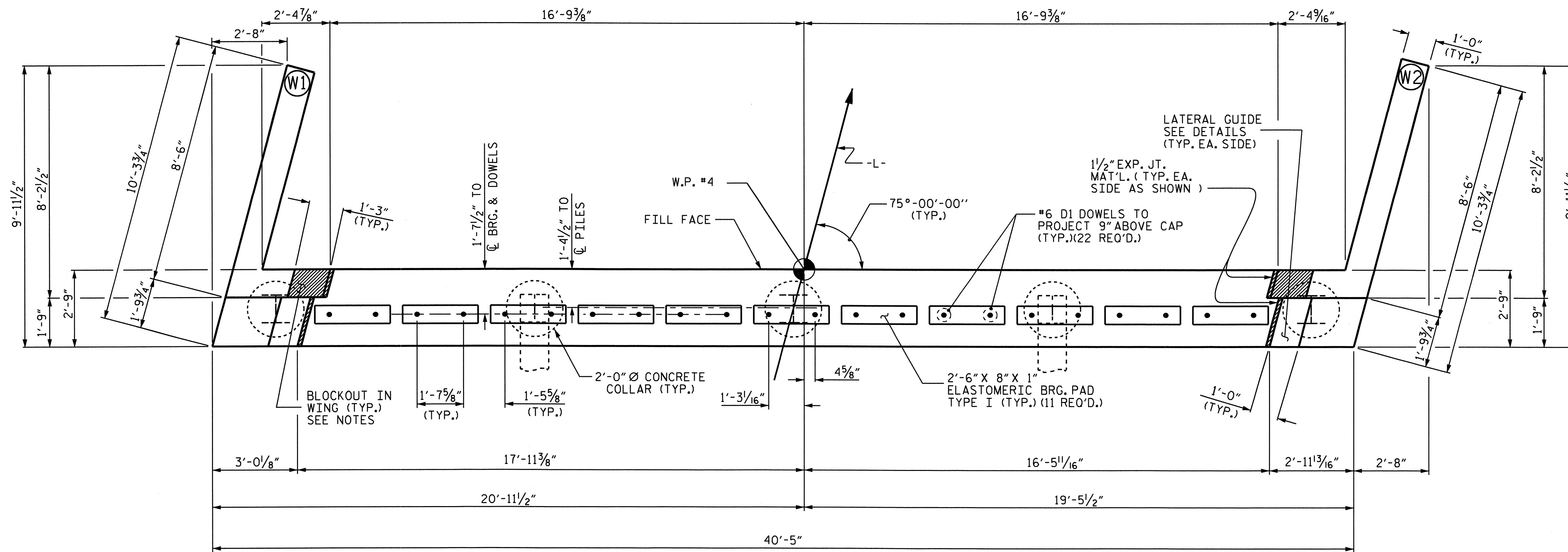
PROJECT NO. B-4328  
 WILSON COUNTY  
 STATION: 16+67.00 -L-  
 SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SUBSTRUCTURE  
 BENT 2

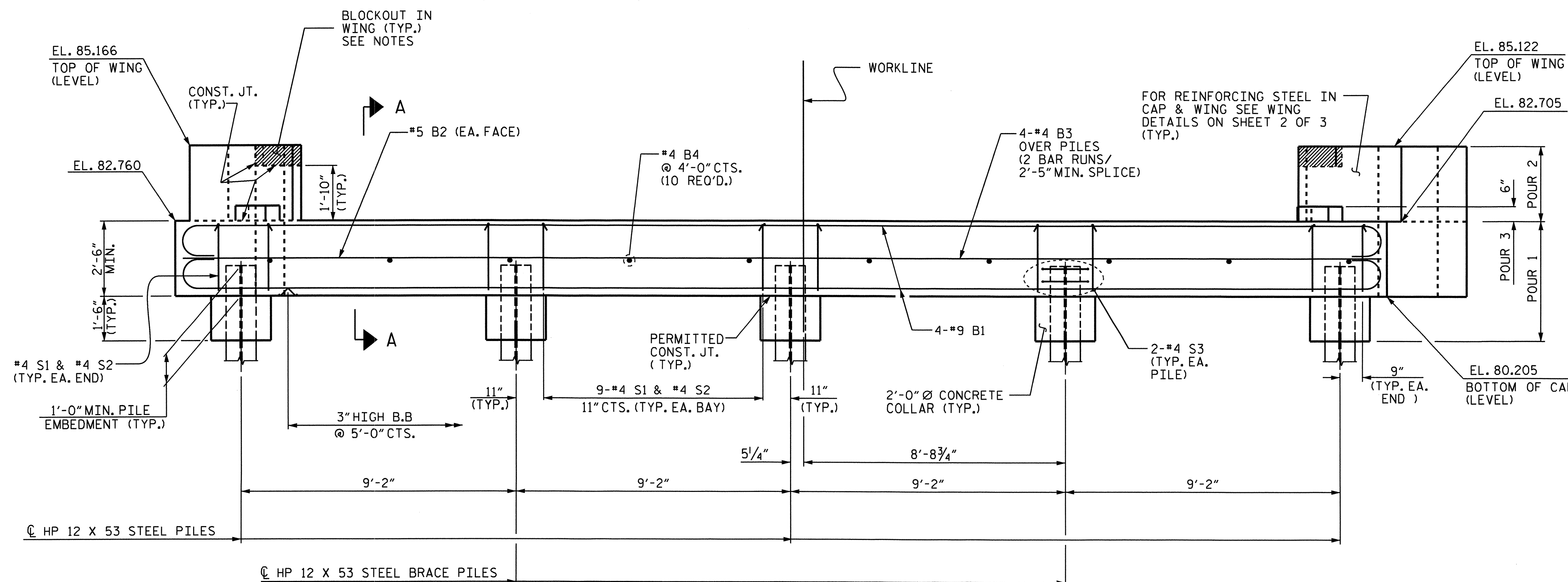


REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-17
1			3			TOTAL SHEETS
2			4			23

DRAWN BY: M. E. FOWLER DATE: 6/8/10  
 CHECKED BY: J. D. HAWK DATE: 5/10/11



PLAN



ELEVATION

NOTES

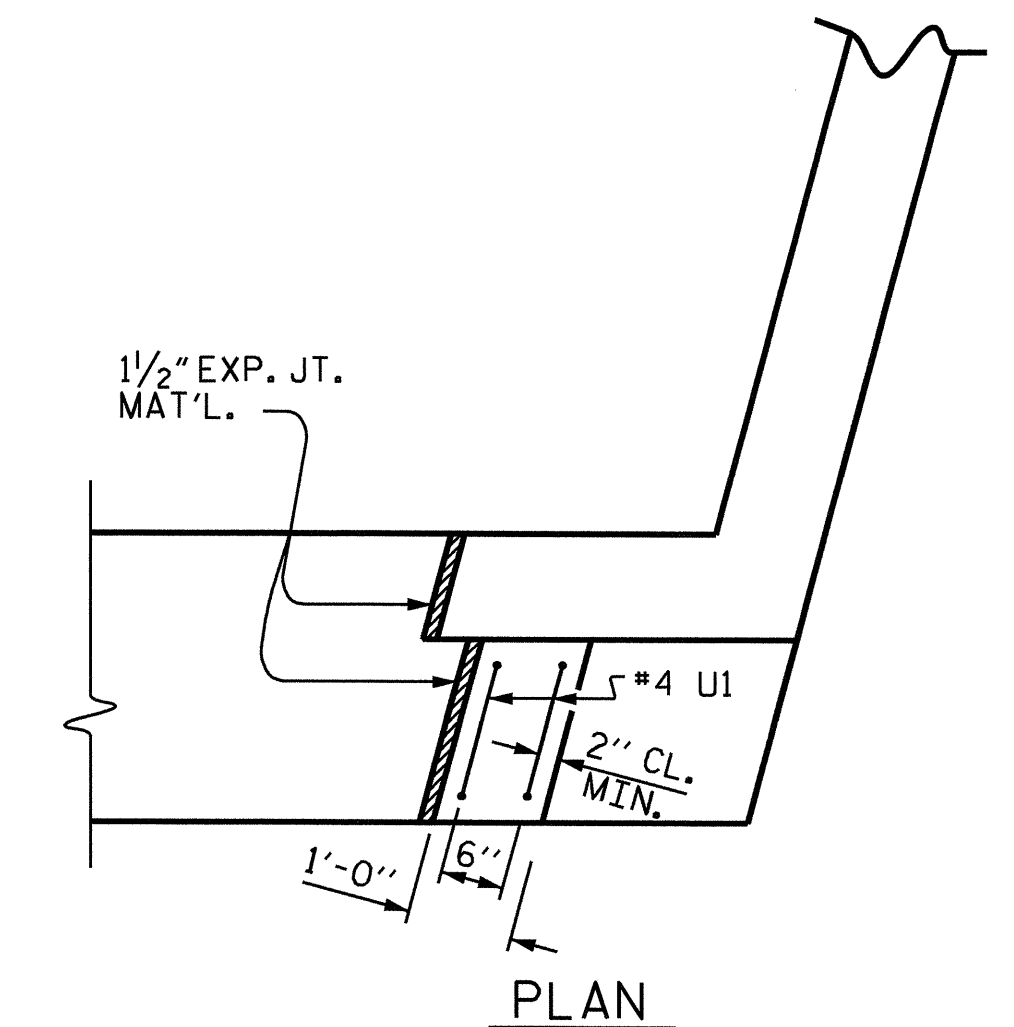
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.

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

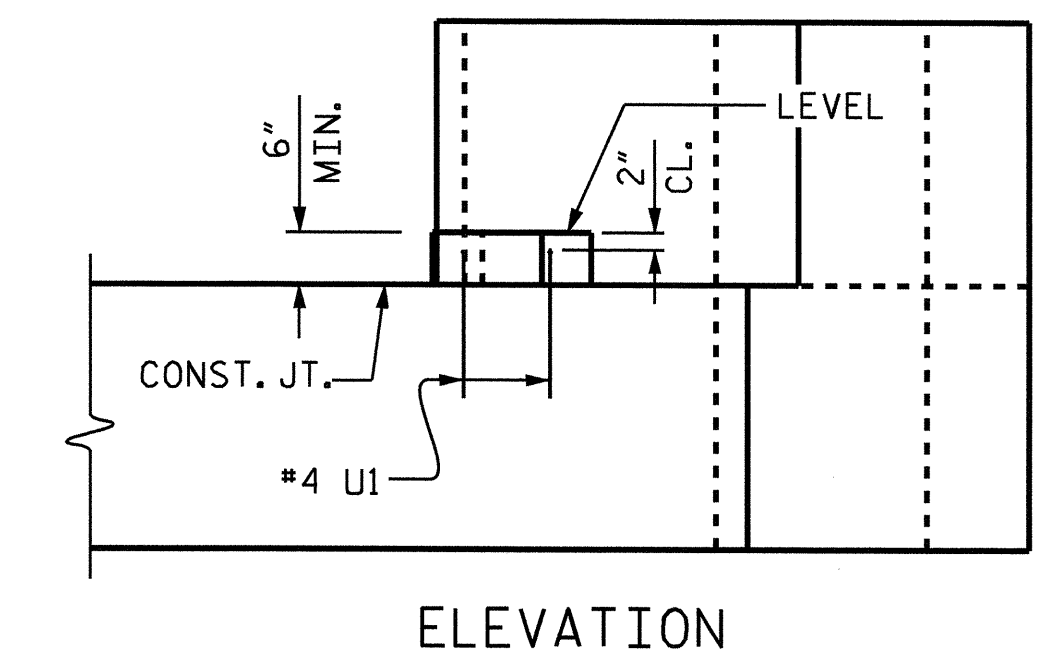
THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

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.

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



PLAN



ELEVATION

LATERAL GUIDE DETAILS

(RIGHT LATERAL GUIDE SHOWN, LEFT LATERAL GUIDE SIMILAR)

PROJECT NO. B-4328

WILSON COUNTY

STATION: 16+67.00 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

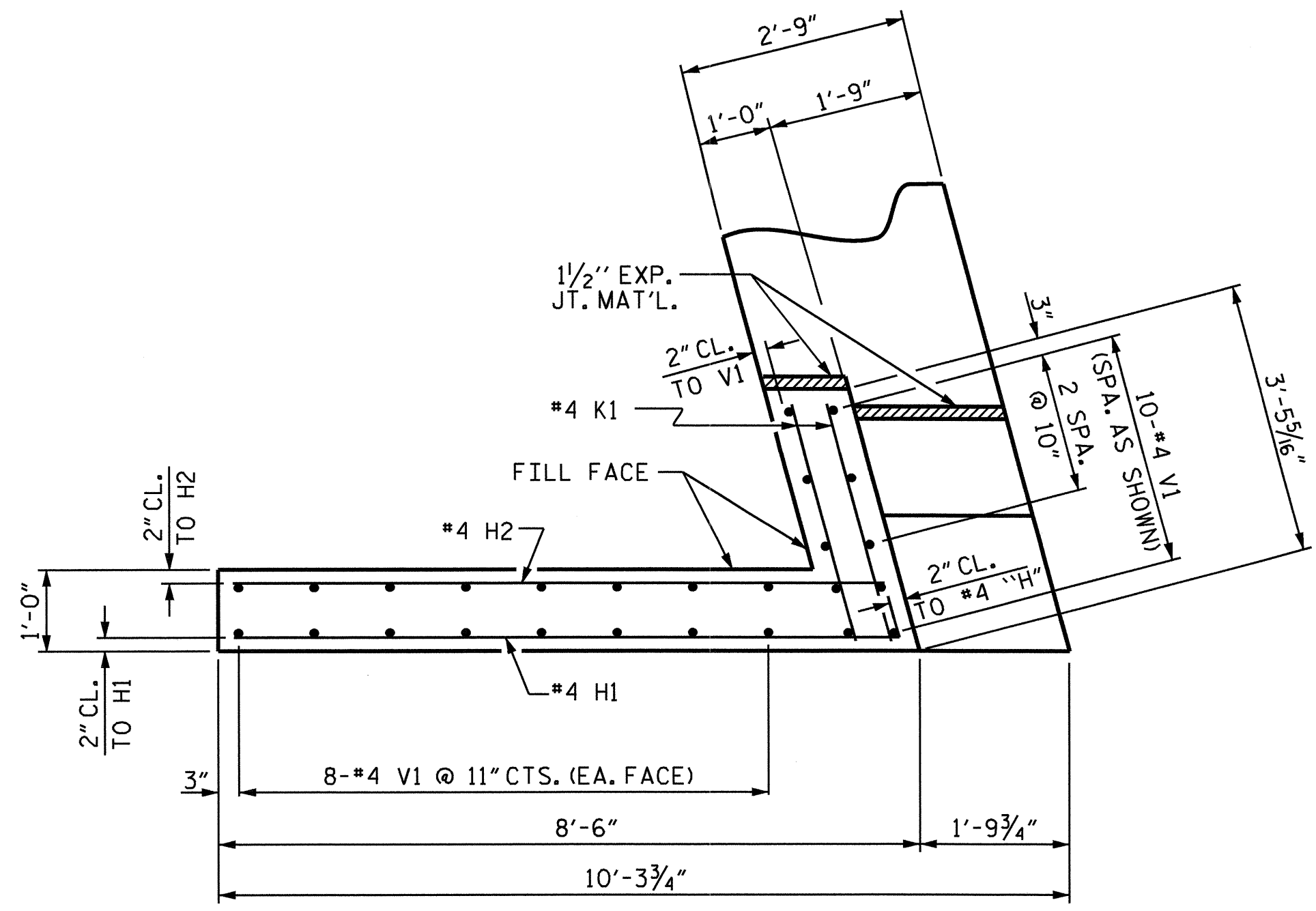
SUBSTRUCTURE  
END BENT 2



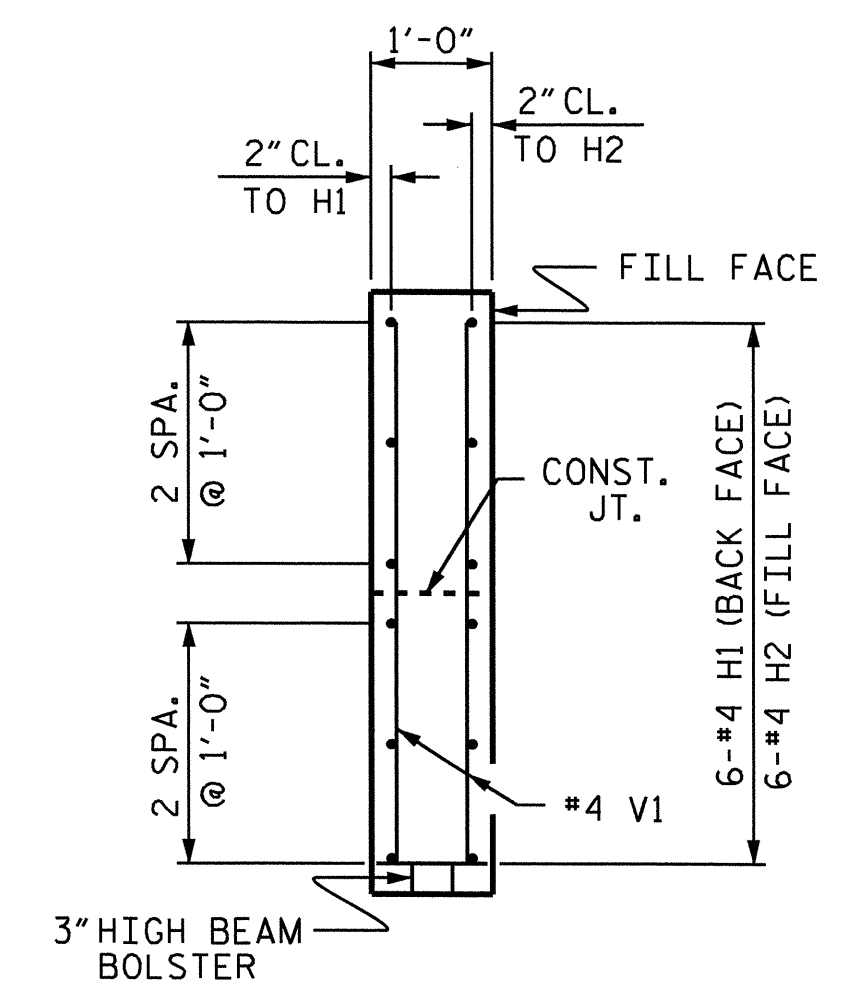
DRAWN BY: J. G. KHARVA DATE: 6/02/11  
CHECKED BY: J. MYA DATE: 6/10/11

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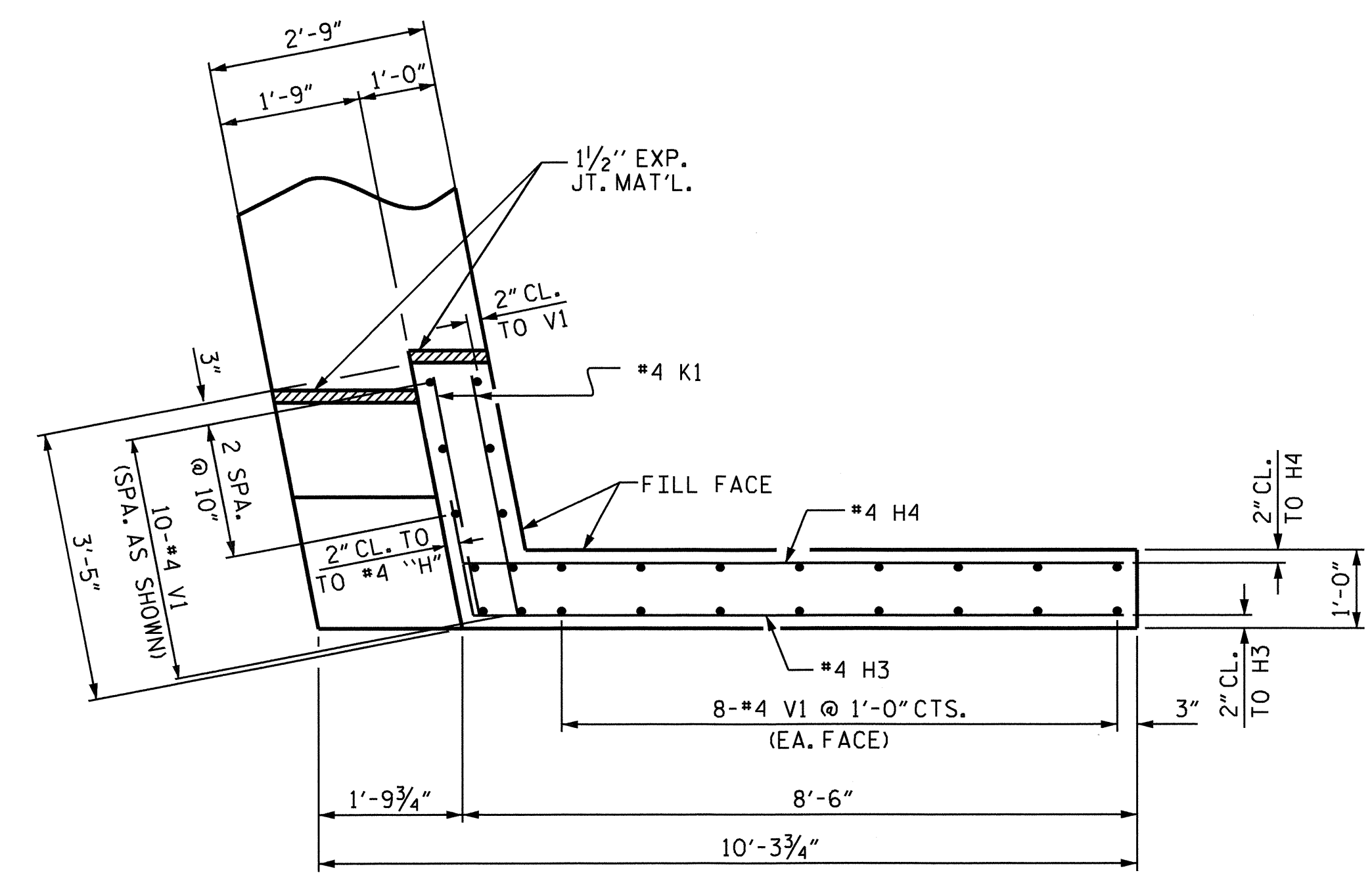
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-18	
1			3			TOTAL SHEETS	
2			4			23	



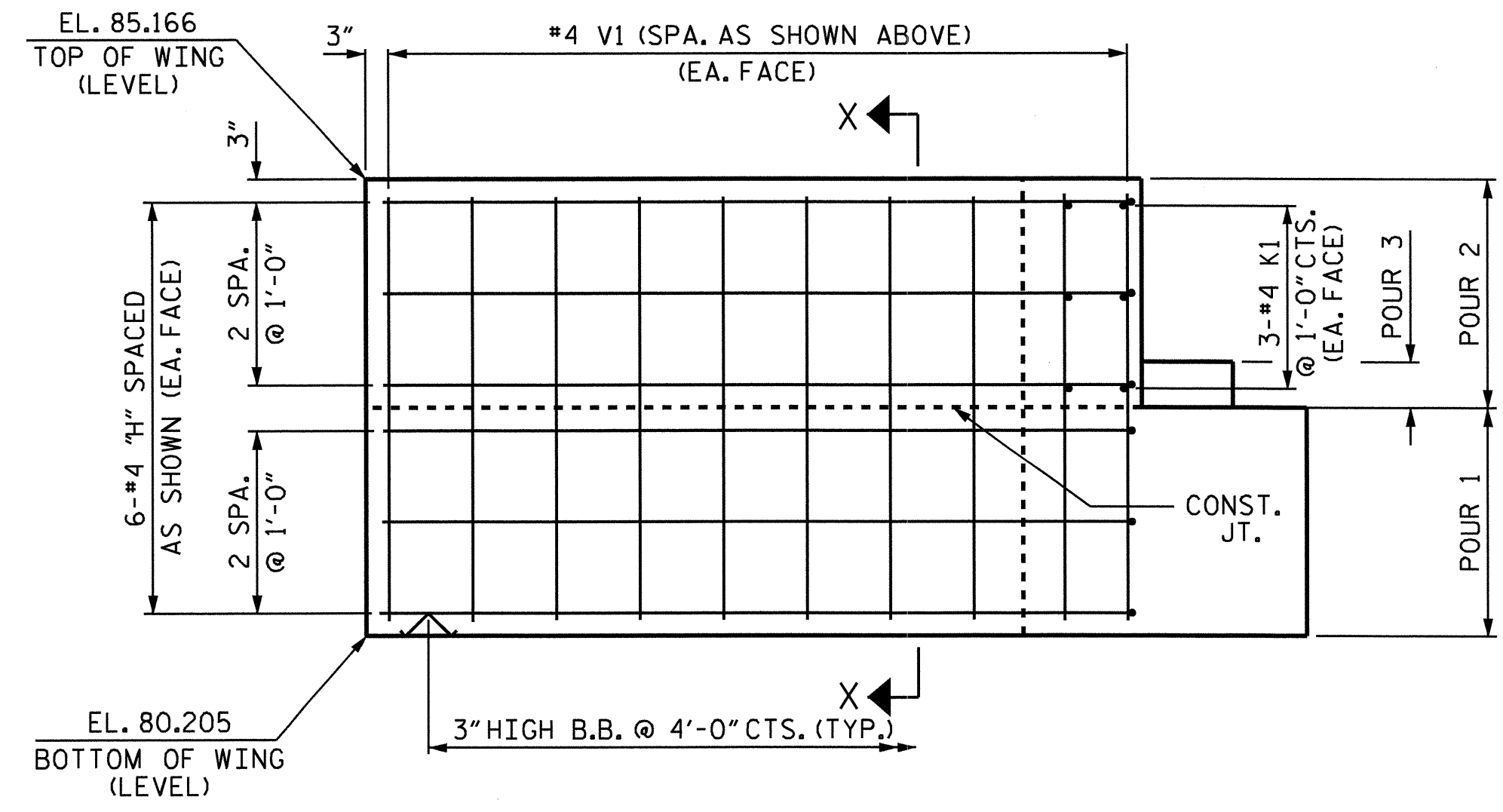
PLAN OF WING (W1)



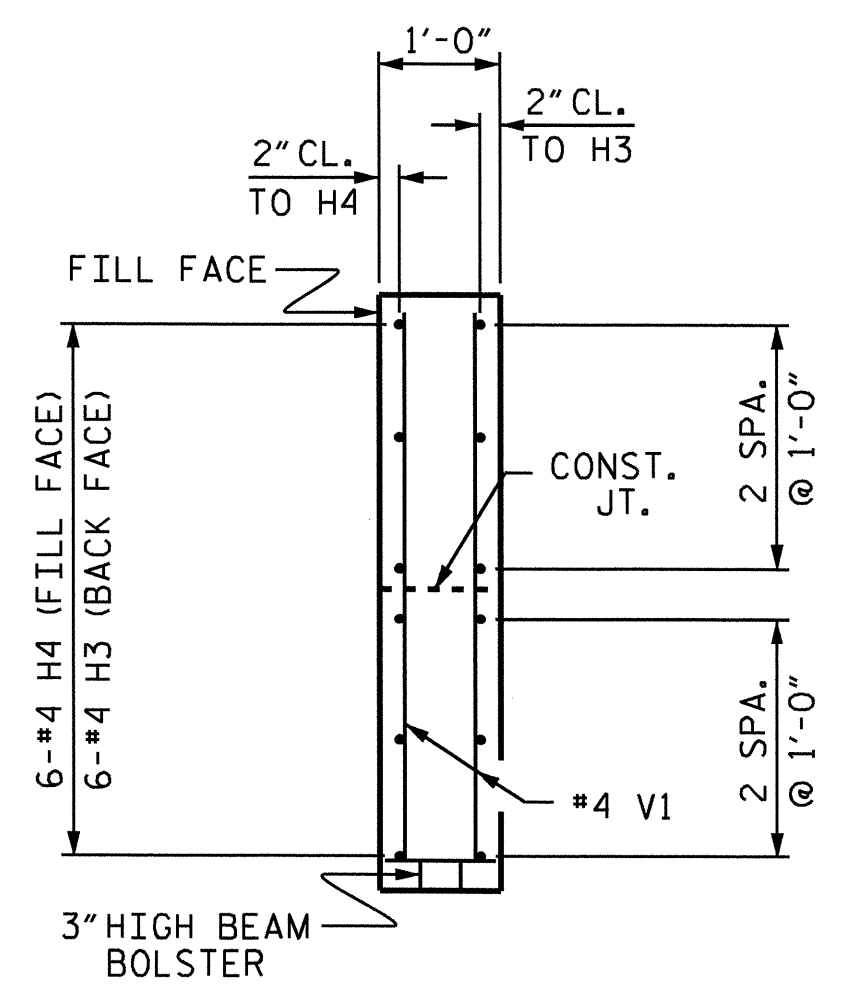
SECTION X-X



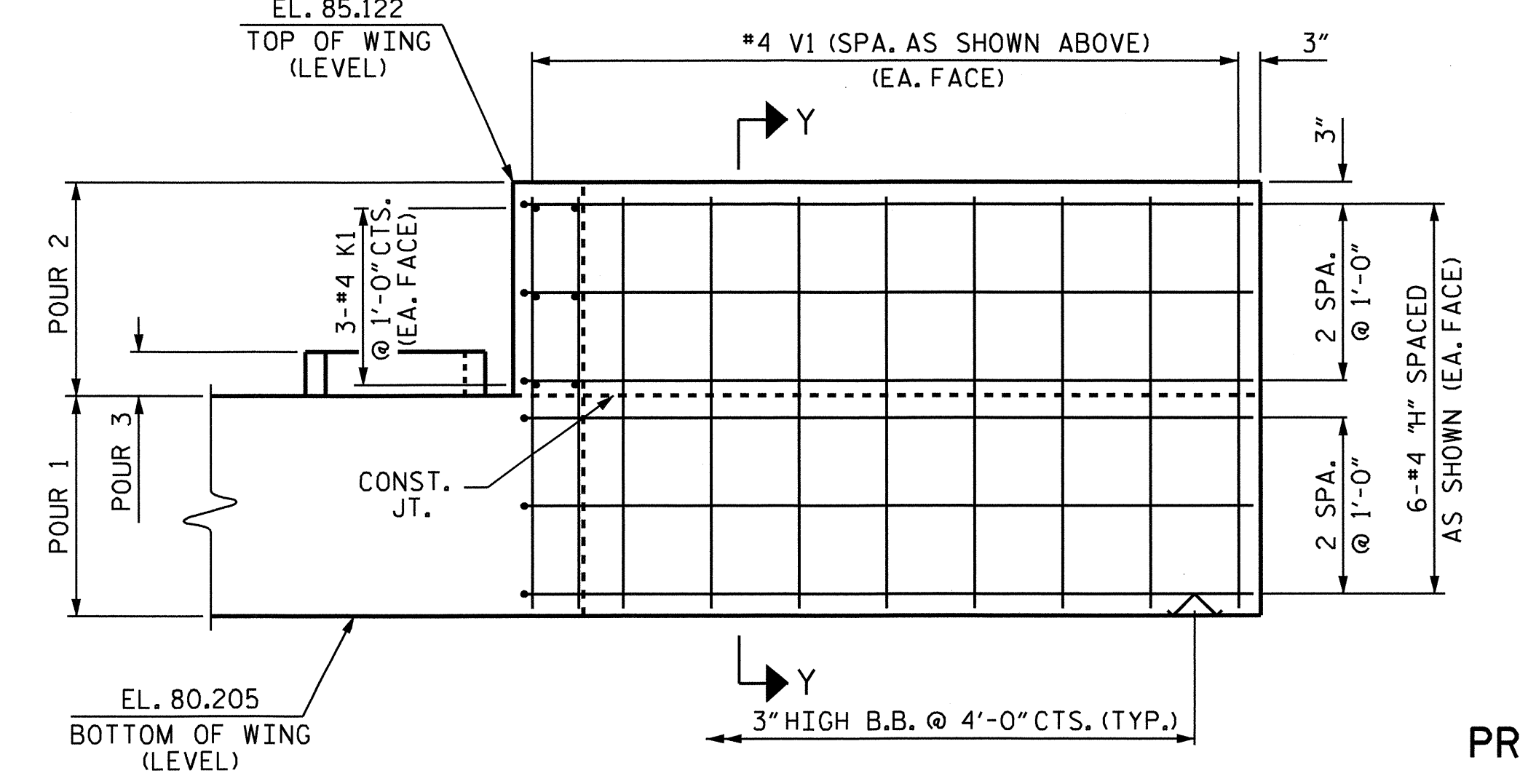
PLAN OF WING (W2)



ELEVATION OF WING (W1)



SECTION Y-Y



ELEVATION OF WING (W2)

PROJECT NO. B-4328  
 WILSON COUNTY  
 STATION: 16+67.00 -L-

SHEET 2 OF 3

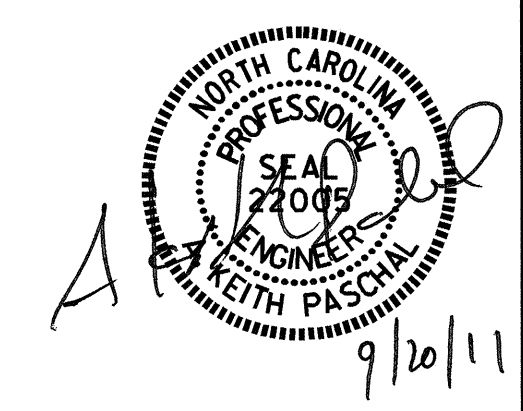
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

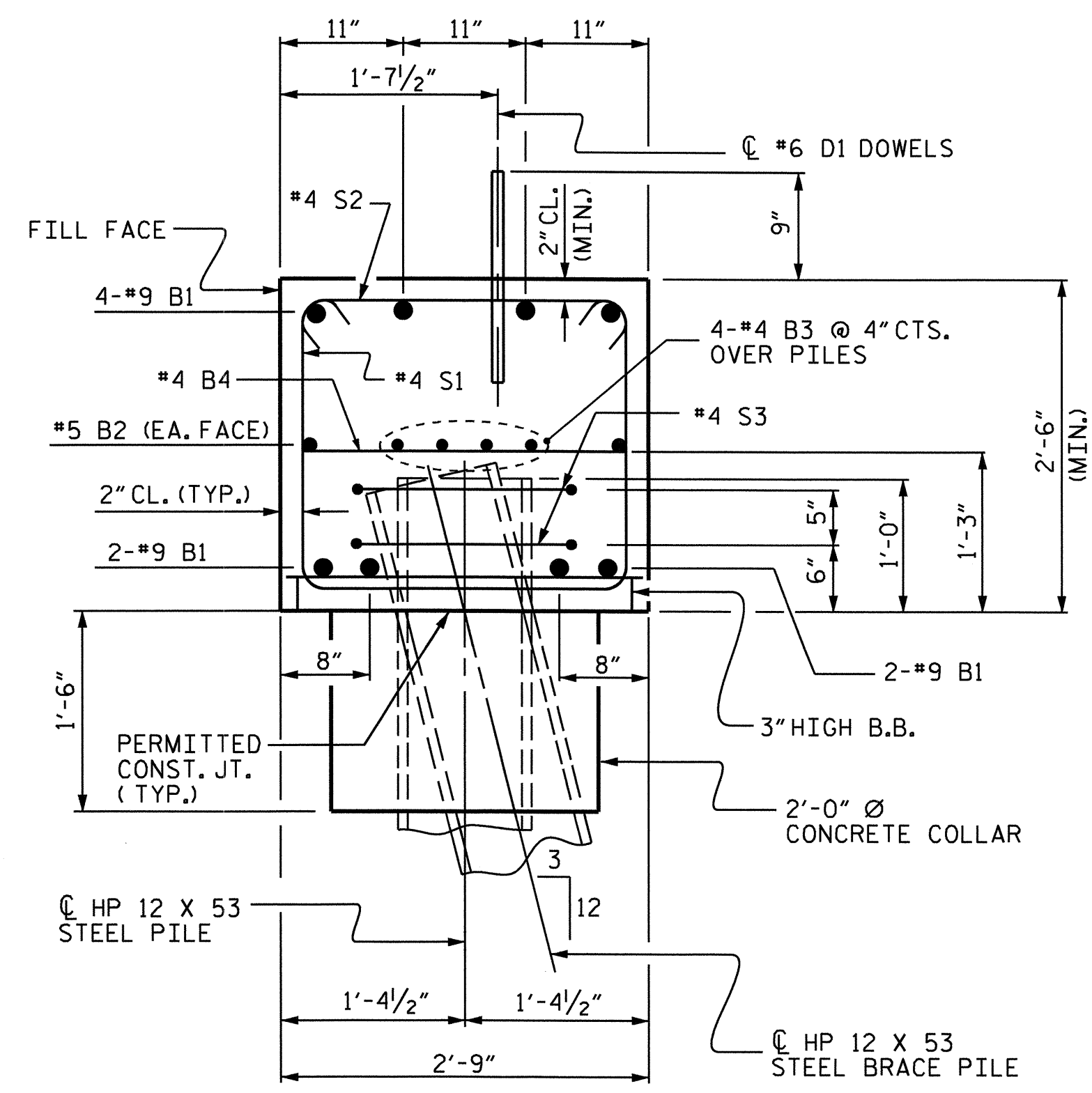
SUBSTRUCTURE  
 END BENT 2

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-19
1			3			TOTAL SHEETS
2			4			23

DRAWN BY: J. G. KHARVA DATE: 6/02/11  
 CHECKED BY: J. MYA DATE: 6/10/11

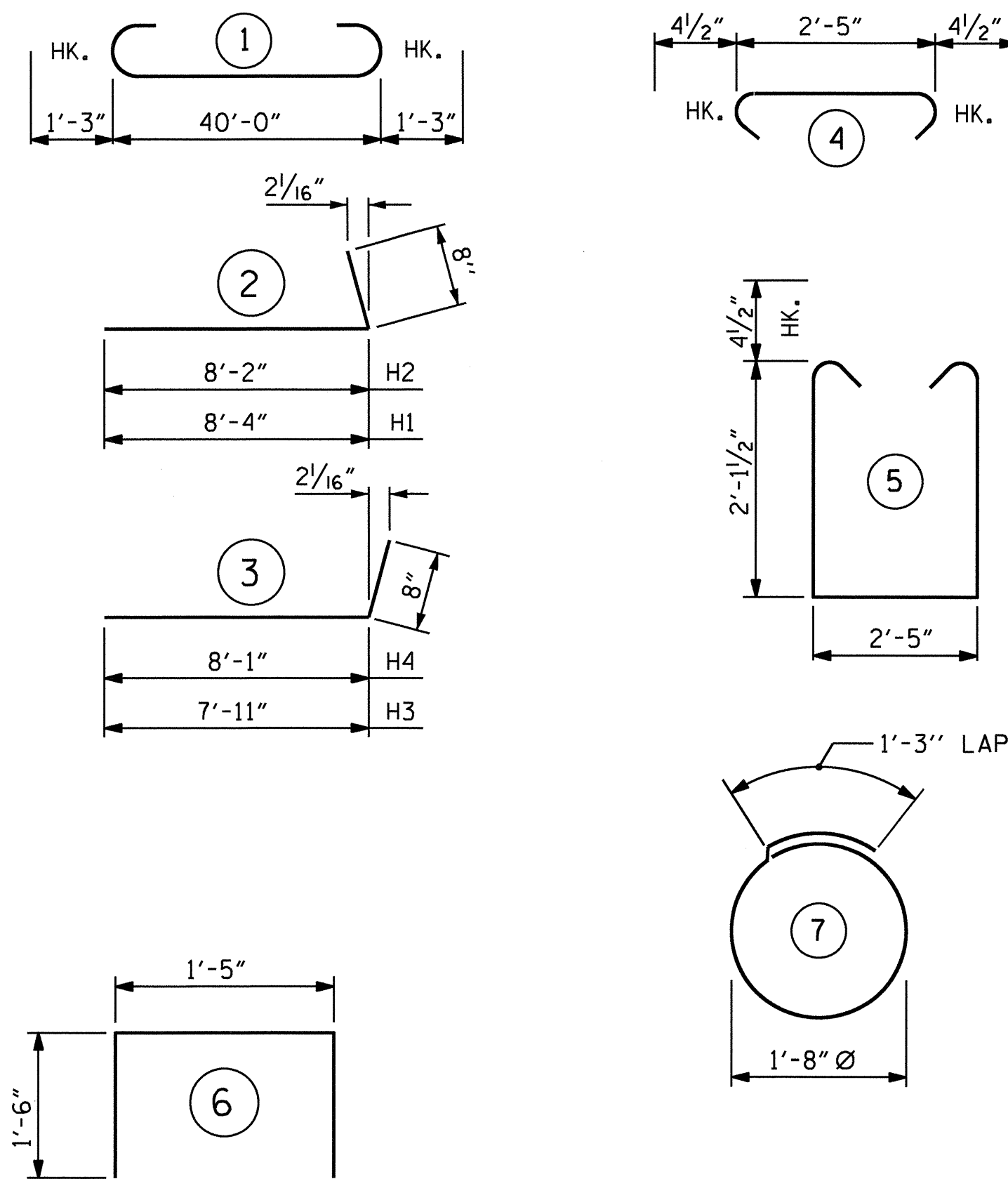
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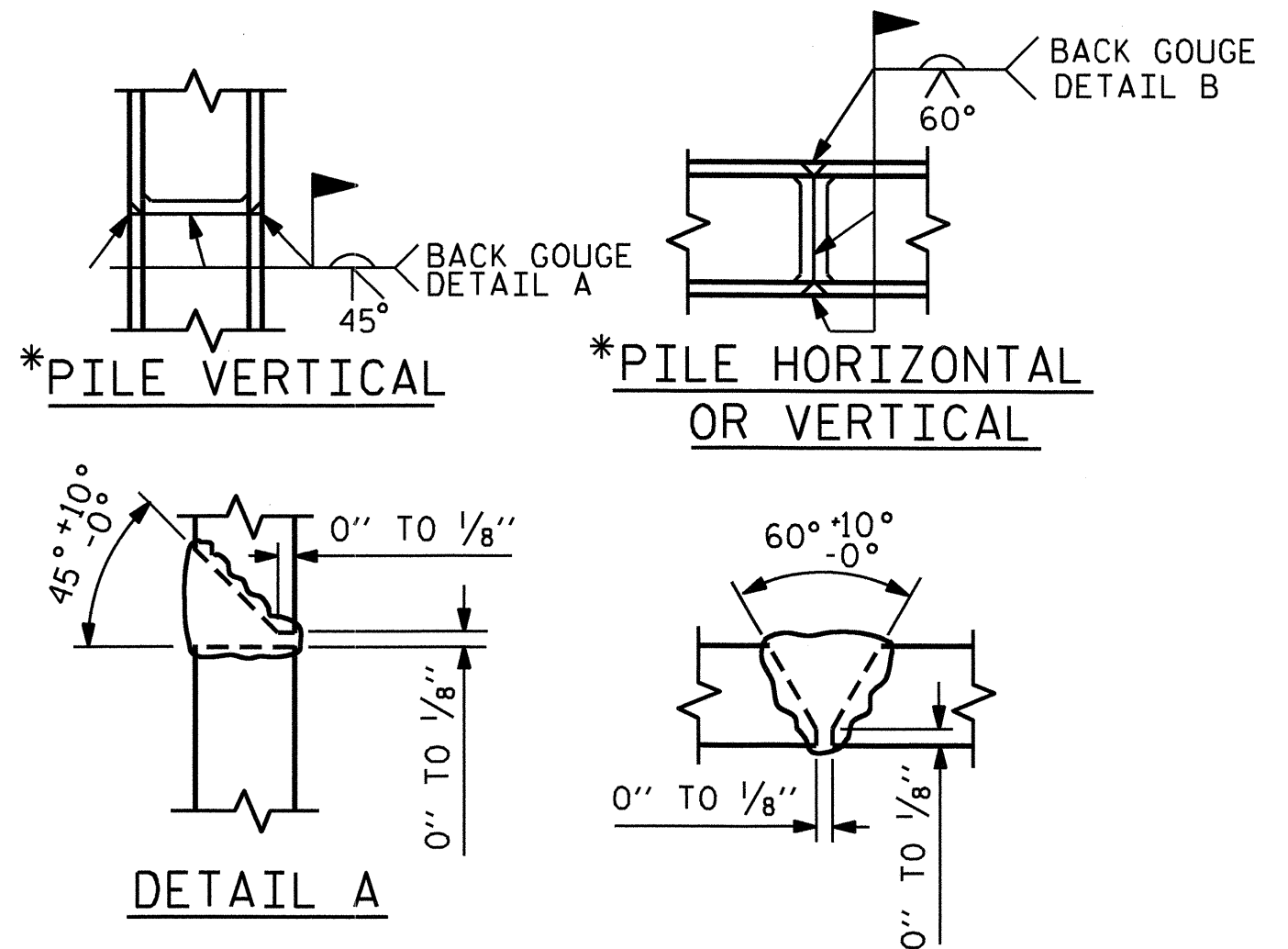


SECTION A-A

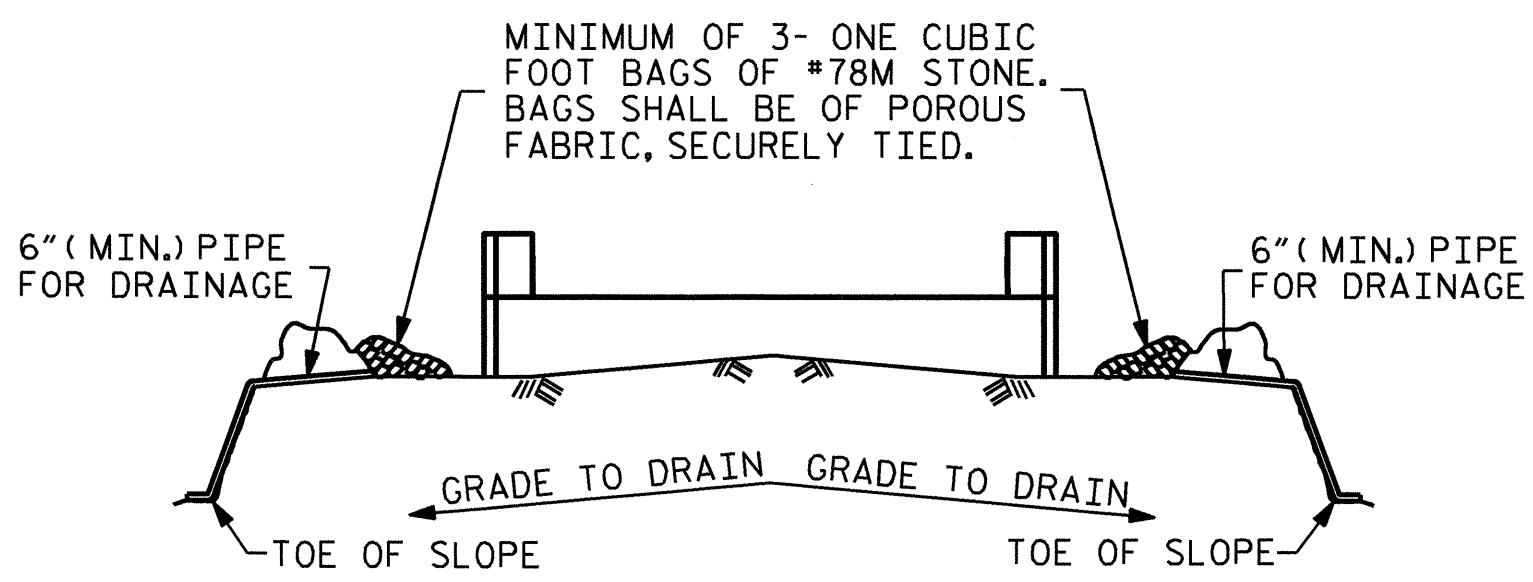
BAR TYPES						BILL OF MATERIAL					
						END BENT 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	42'-6"	1156	H1	6	#4	2	9'-0"	36
B2	2	#5	STR	40'-1"	84	H2	6	#4	2	8'-10"	35
B3	8	#4	STR	21'-3"	114	H3	6	#4	3	8'-7"	34
B4	10	#4	STR	2'-5"	16	H4	6	#4	3	8'-9"	35
D1	22	#6	STR	1'-6"	50	K1	12	#4	STR	3'-1"	25
H1	6	#4	2	9'-0"	36	S1	38	#4	5	7'-5"	188
H2	6	#4	2	8'-10"	35	S2	38	#4	4	3'-2"	80
H3	6	#4	3	8'-7"	34	S3	10	#4	7	6'-6"	43
H4	6	#4	3	8'-9"	35	U1	4	#4	6	4'-5"	12
K1	12	#4	STR	3'-1"	25	V1	52	#4	STR	4'-7"	159
TOTAL REINFORCING STEEL = 2067 LBS						CLASS A CONCRETE BREAKDOWN					
POUR 1 (CAP, COLLARS & LOWER PART OF WINGS) 12.5 C.Y.						POUR 2 (UPPER PART OF WINGS) 1.9 C.Y.					
POUR 3 (LATERAL GUIDES) 0.1 C.Y.						TOTAL CLASS A CONCRETE 14.5 C.Y.					
HP 12 X 53 STEEL PILES NO. : 5 250 LIN. FT.						PILE REDRIVES NO. : 3					



ALL BAR DIMENSIONS ARE OUT TO OUT.



PILE SPLICE DETAILS



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.

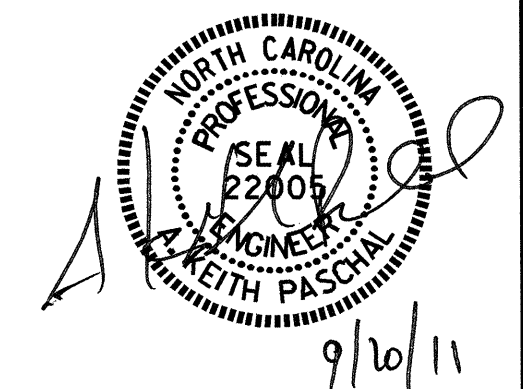
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT

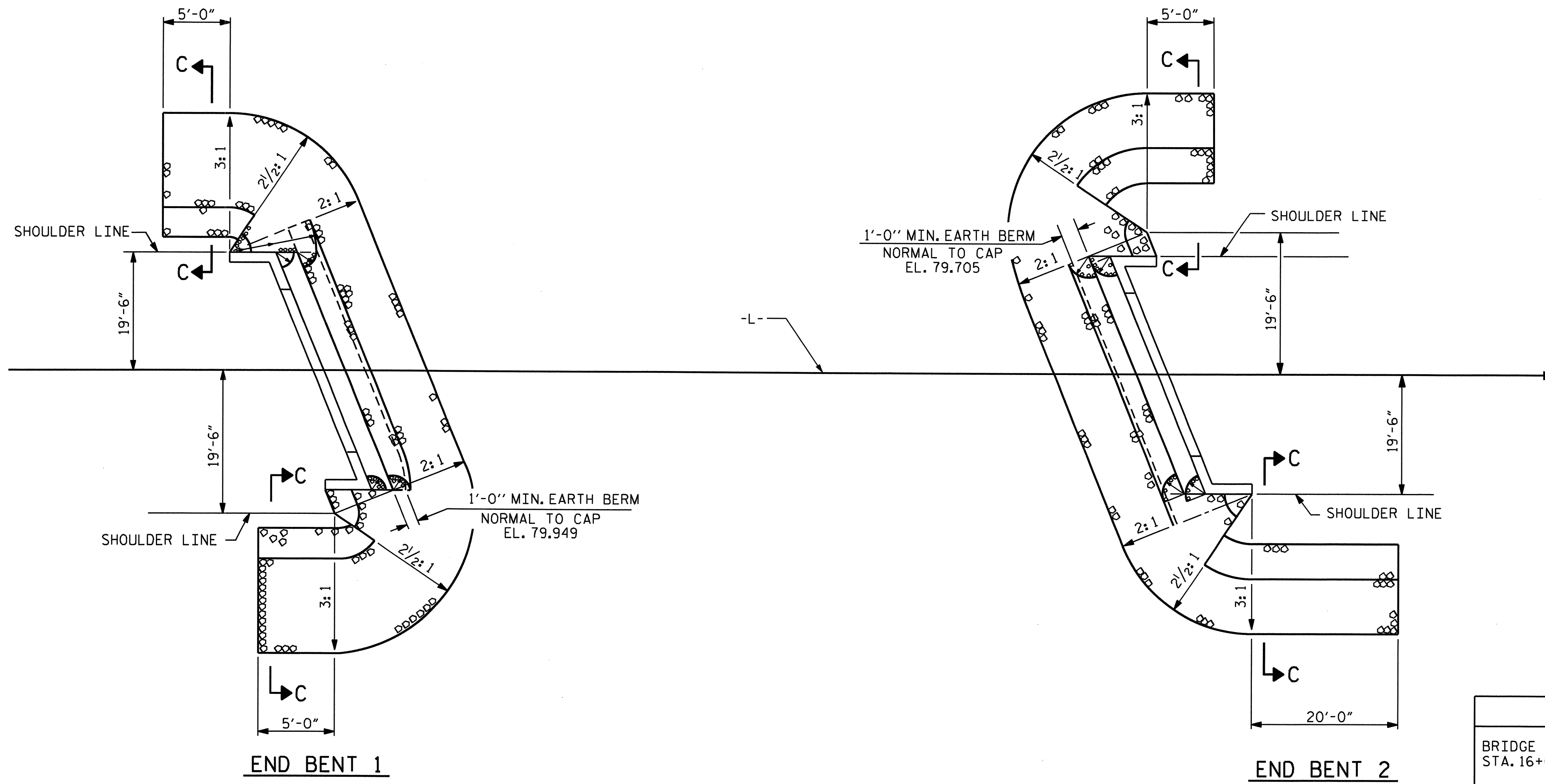
PROJECT NO. B-4328  
WILSON COUNTY  
 STATION: 16+67.00 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE END BENT 2					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					23



DRAWN BY : J. G. KHARVA DATE : 6/02/11  
 CHECKED BY : J. MYA DATE : 6/10/11

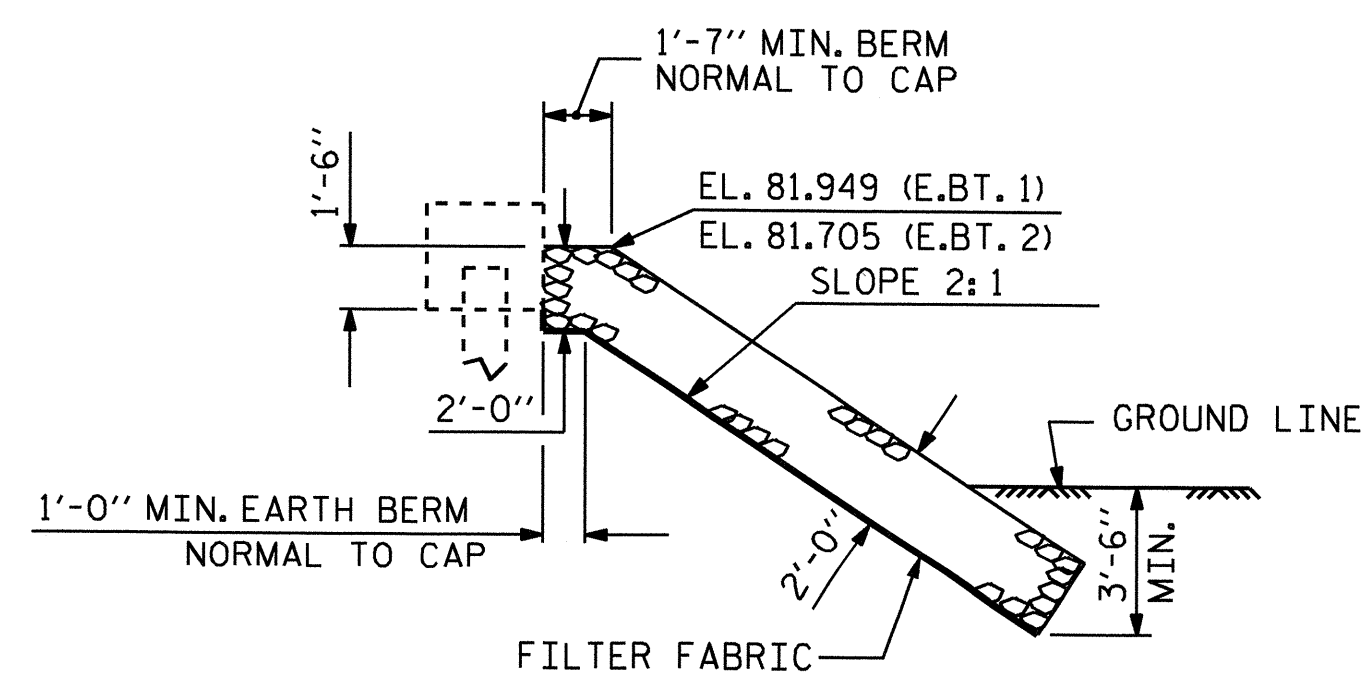


END BENT 1

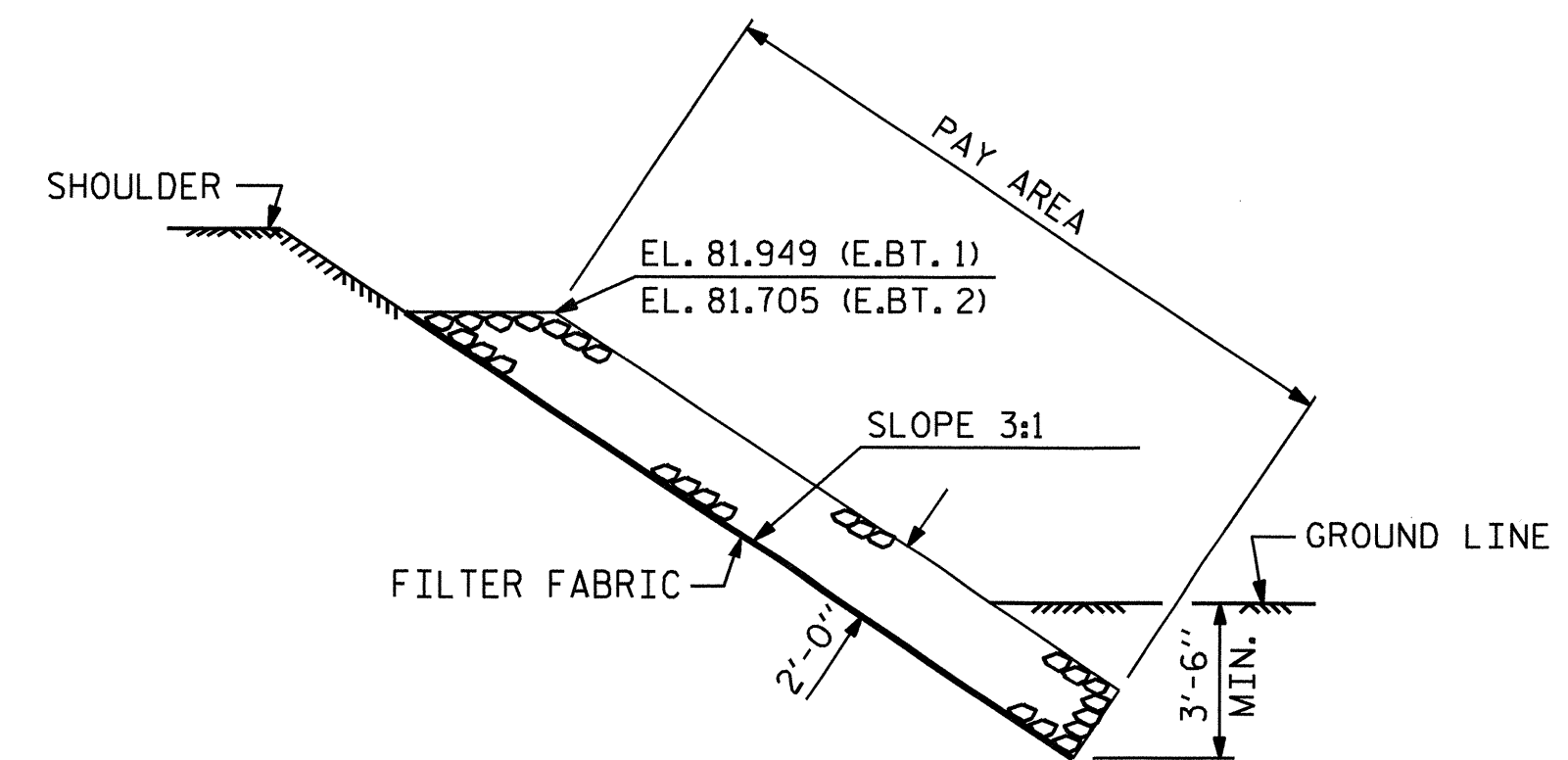
END BENT 2

PLAN

ESTIMATED QUANTITIES		
BRIDGE @ STA. 16+67.00 -L-	RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	109	121
END BENT 2	133	148
TOTAL	242	269



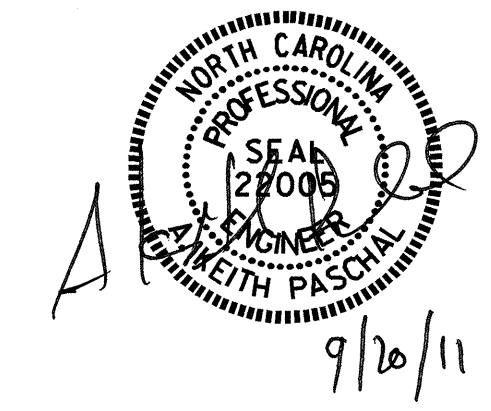
SECTION C-C  
BERM RIP RAPPED



SECTION C-C

PROJECT NO. B-4328  
WILSON COUNTY  
 STATION: 16+67.00 -L-

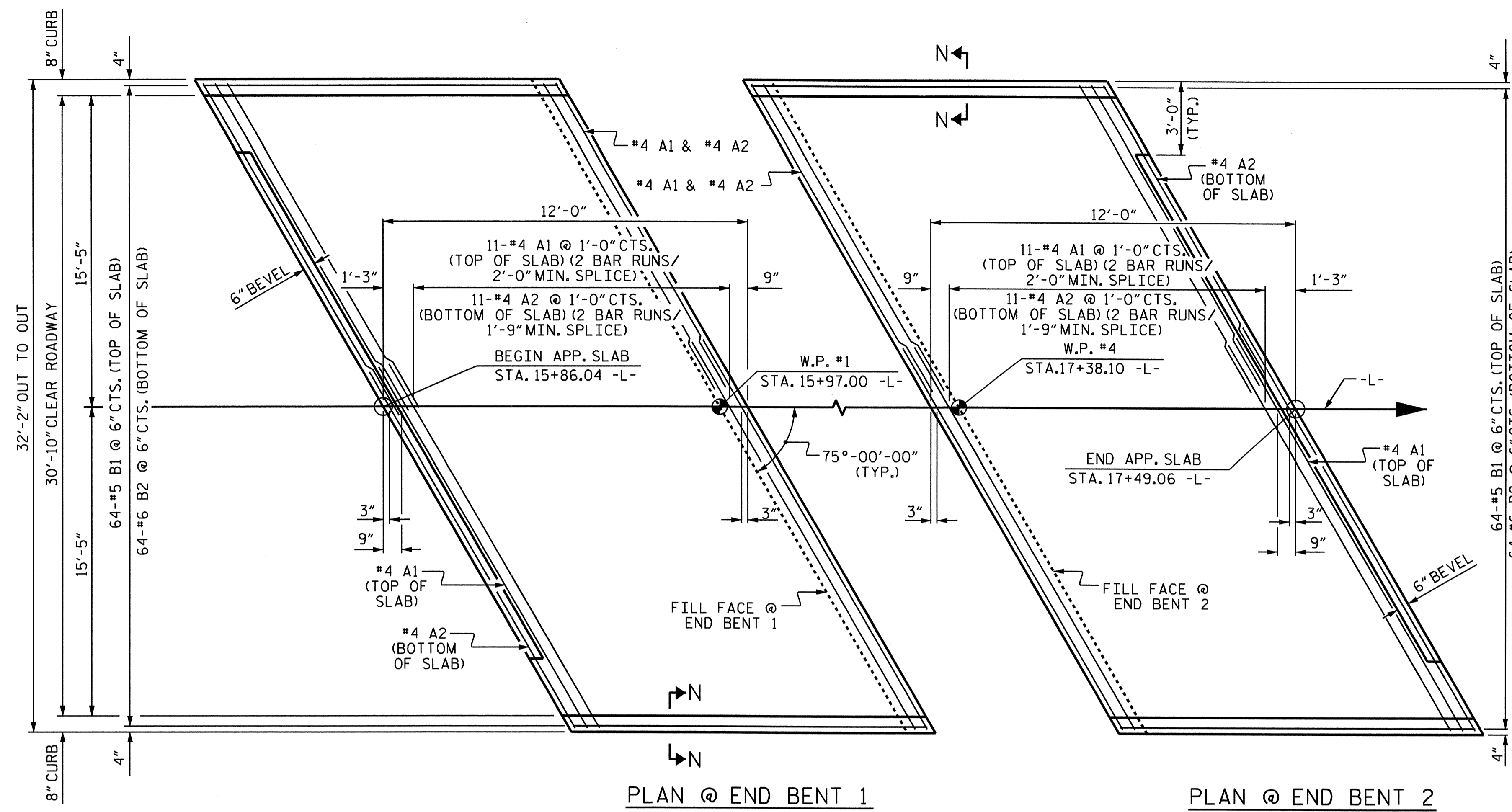
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 RIP RAP DETAILS



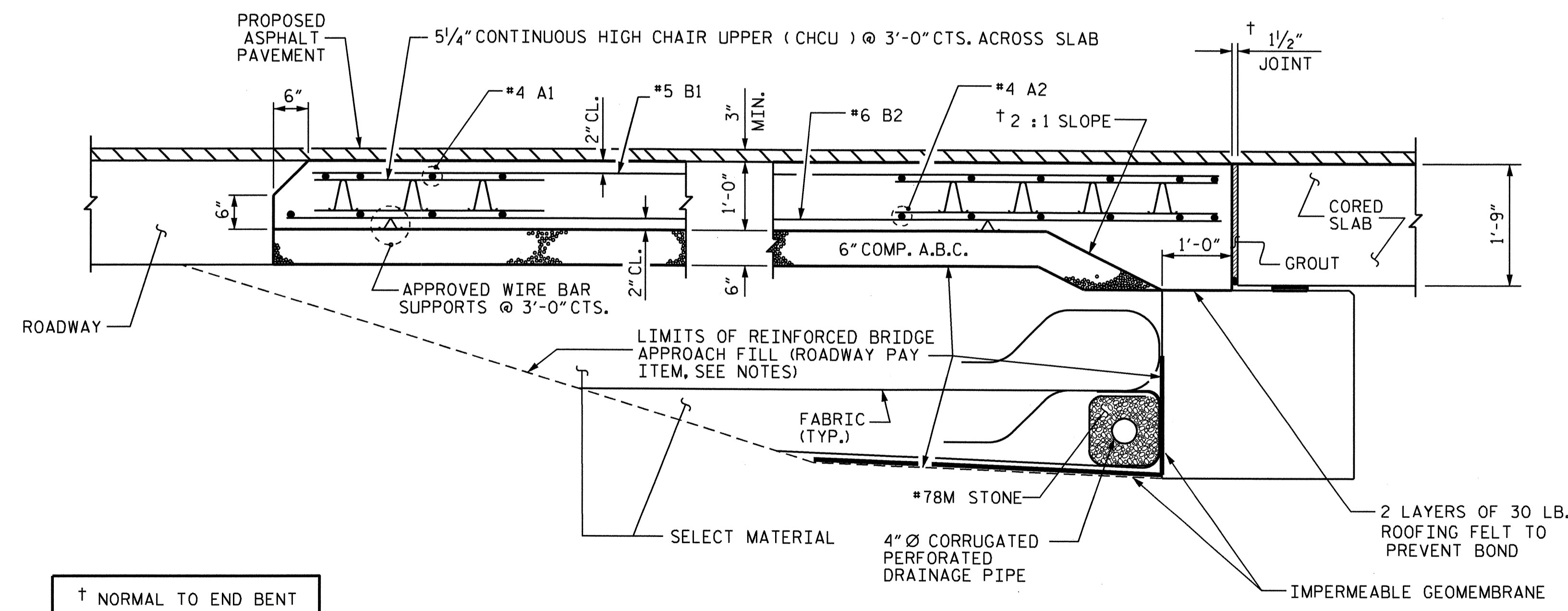
ASSEMBLED BY : M. E. FOWLER	DATE : 6/23/10
CHECKED BY : J. MYA	DATE : 5/11
DRAWN BY : REK 1/84	REV. 8/16/99 RWW/LES
CHECKED BY : RDU 1/84	REV. 10/17/00 RWW/LES
	REV. 5/1/06 TLA/GM

REVISIONS						SHEET NO. S-21
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			23

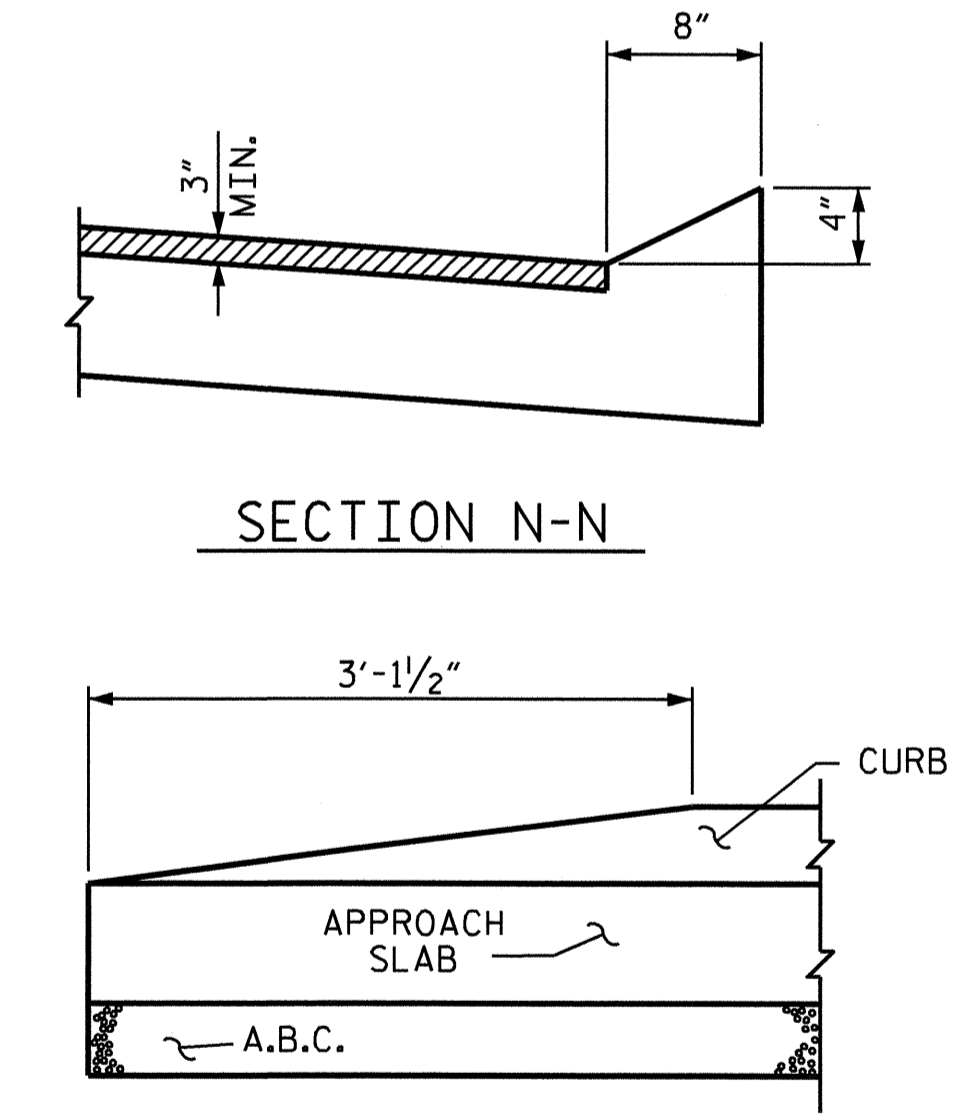
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 jmyo



PLAN @ END BENT 1 PLAN @ END BENT 2  
DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS



SECTION THRU SLAB



CURB DETAILS  
(OMIT TAPER WHEN SHOULDER BERM GUTTER IS REQUIRED)

NOTES

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

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

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.

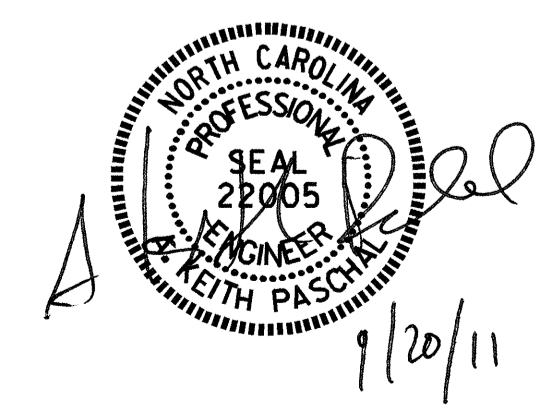
BILL OF MATERIAL					
FOR ONE APPROACH SLAB (2 REQ'D.)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	26	#4	STR	17'-6"	304
A2	26	#4	STR	17'-5"	303
* B1	64	#5	STR	11'-2"	745
B2	64	#6	STR	11'-8"	1122
REINFORCING STEEL				LBS.	1425
* EPOXY COATED REINFORCING STEEL				LBS.	1049
CLASS AA CONCRETE				C. Y.	15.9

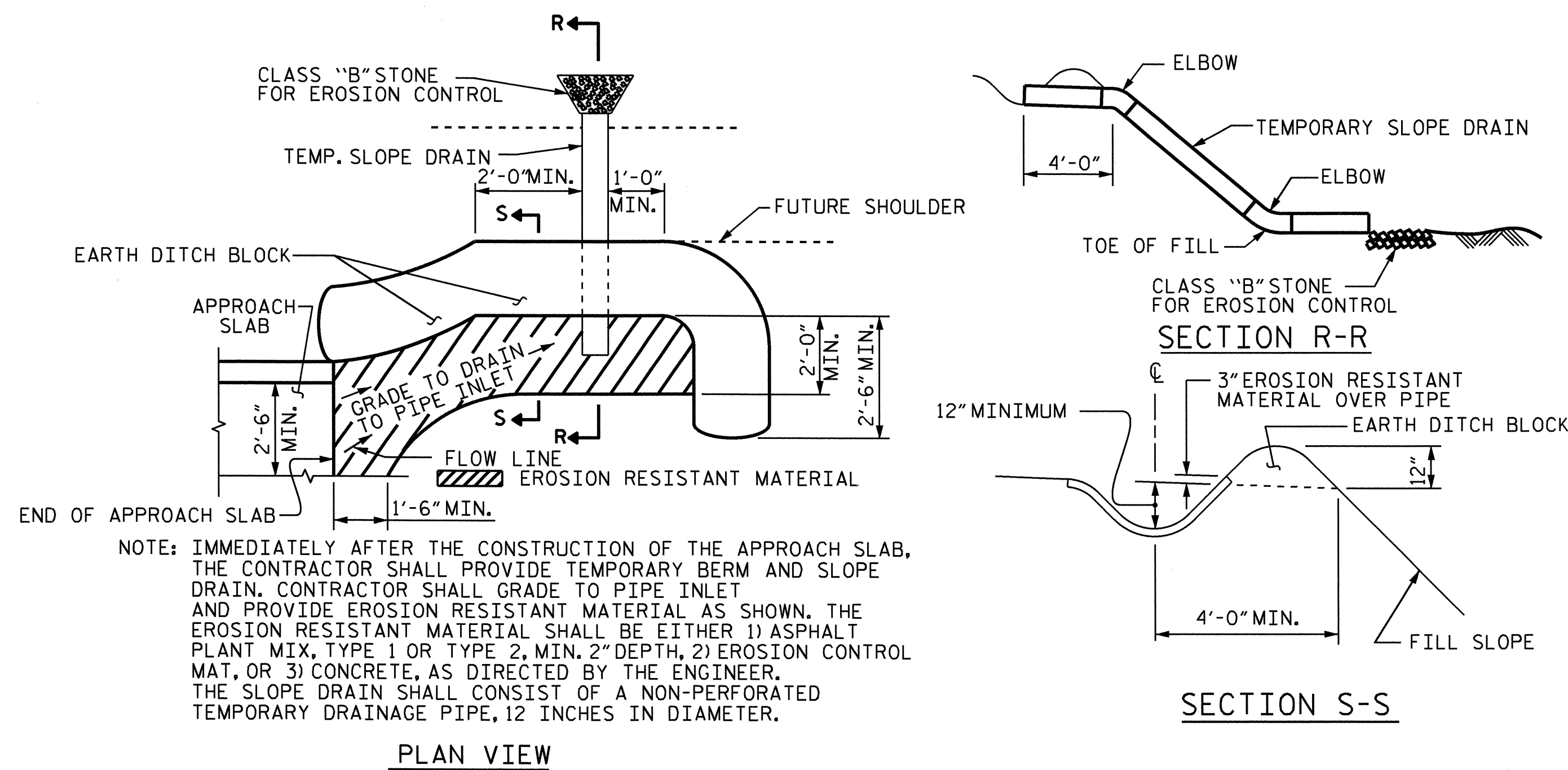
ASSEMBLED BY : M. E. FOWLER DATE : 3/4/09  
 CHECKED BY : J. MYA DATE : 5/11/11  
 DRAWN BY : KMM 3-08  
 CHECKED BY : GM 3-08

PROJECT NO. B-4328  
 WILSON COUNTY  
 STATION: 16+67.00 -L-

SHEET 1 OF 2  
 STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 BRIDGE APPROACH SLAB  
 FOR PRESTRESSED CONCRETE  
 CORED SLAB UNIT  
 (SUB-REGIONAL TIER)

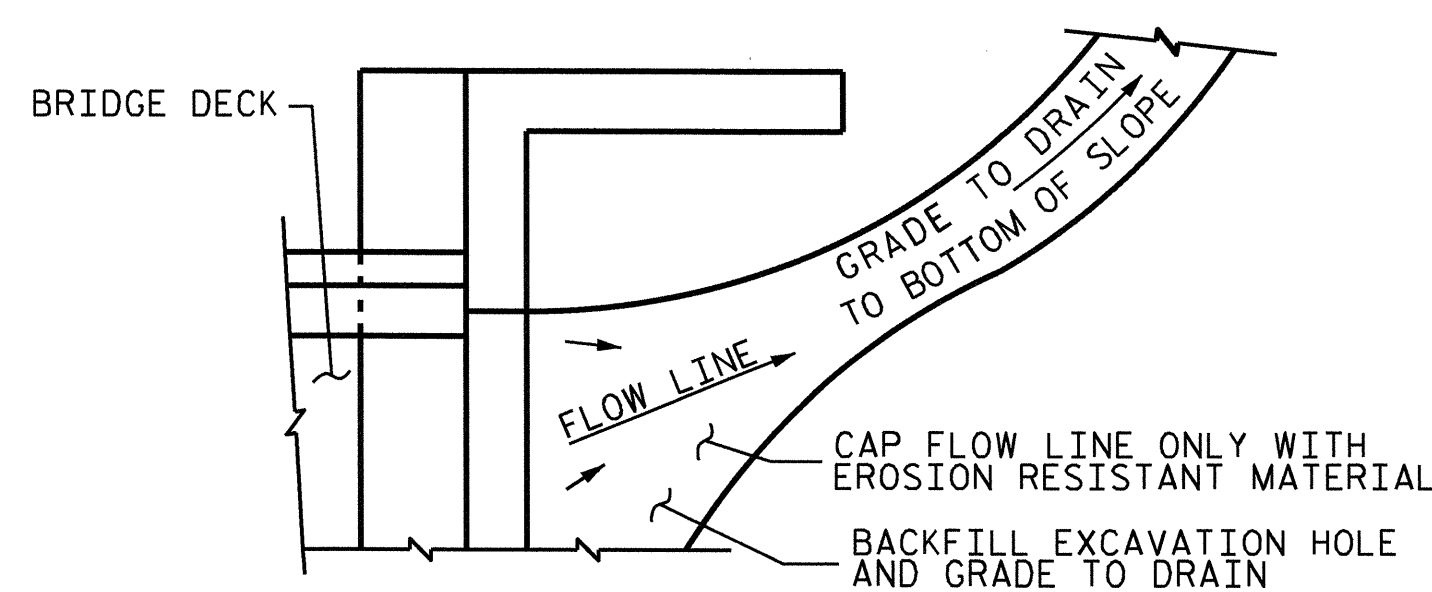
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-22
1			3			TOTAL SHEETS 23
2			4			





### TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



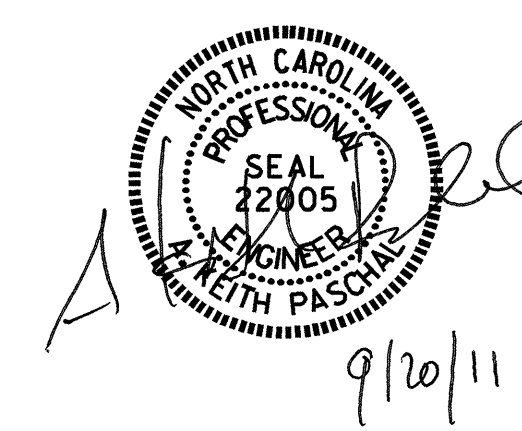
NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT 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-4328  
WILSON COUNTY  
 STATION: 16+67.00 -L-

SHEET 2 OF 2

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



ASSEMBLED BY :	M. E. FOWLER	DATE :	3/4/09
CHECKED BY :	J. MYA	DATE :	5/11/11
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-23
1			3			TOTAL SHEETS
2			4			23



## 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