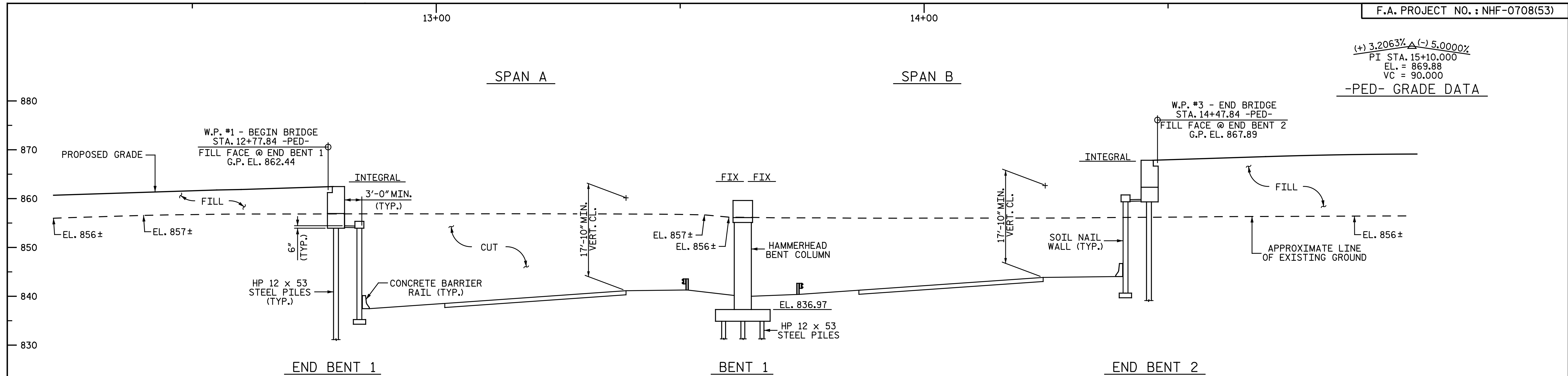


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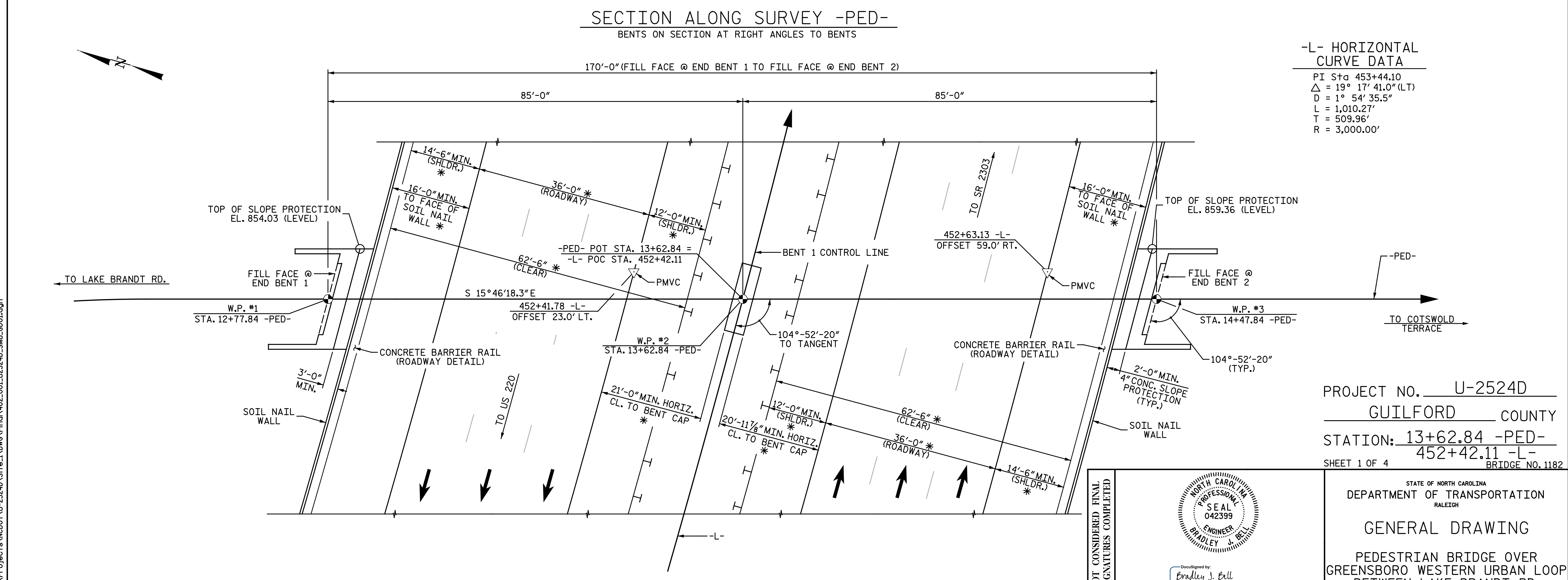
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(+) 3.2063% (-) 5.0000%  
 PI STA. 15+10.000  
 EL. = 869.88  
 VC = 90.000  
 -PED- GRADE DATA

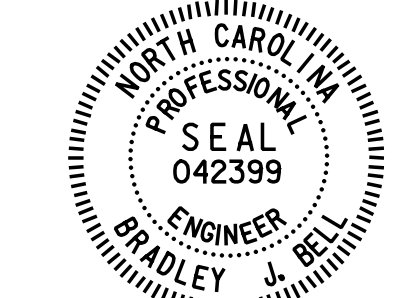
-L- HORIZONTAL CURVE DATA  
 PI Sta 453+44.10  
 $\Delta = 19^\circ 17' 41.0''$  (LT)  
 D = 1° 54' 35.5"  
 L = 1,010.27'  
 T = 509.96'  
 R = 3,000.00'



PROJECT NO. U-2524D  
 GUILFORD COUNTY  
 STATION: 13+62.84 -PED-  
 452+42.11 -L-  
 SHEET 1 OF 4 BRIDGE NO. 1182

DRAWN BY: CEM / JNA DATE: 1-8-16  
 CHECKED BY: A. M. HOUSTON DATE: 2-5-16

PILES NOT SHOWN IN PLAN VIEW FOR CLARITY  
 PMVC - DENOTES POINT OF MINIMUM VERTICAL CLEARANCE  
 \* - DENOTES RADIAL DIMENSION



DocuSigned by:  
 Bradley J. Bell  
 C41A5F8E3C3434  
 5/25/2016

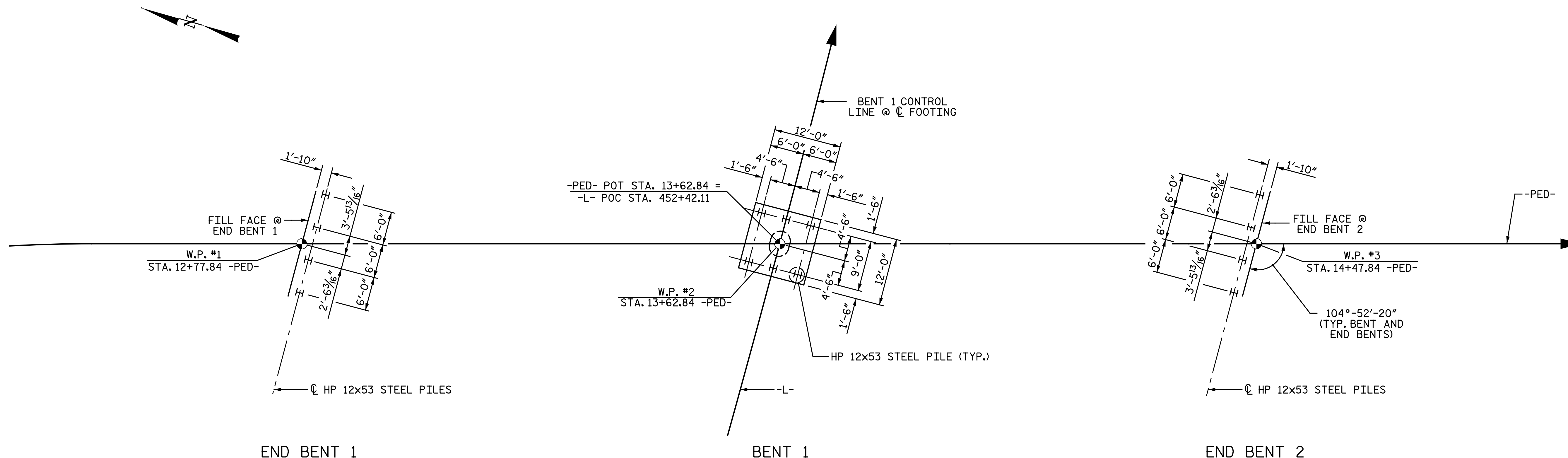
**Michael Baker International**  
 Michael Baker Engineering  
 8000 Regency Parkway, Suite 600  
 Cary, North Carolina 27518  
 NC License No.: F-1084

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 GENERAL DRAWING  
 PEDESTRIAN BRIDGE OVER  
 GREENSBORO WESTERN URBAN LOOP  
 BETWEEN LAKE BRANDT RD.  
 AND COTSWOLD TERRACE

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

TOTAL SHEETS: 33

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### FOUNDATION LAYOUT

DIMENSIONS LOCATING PILES ARE SHOWN TO THE PILE CENTERLINES.  
ALL PILES ARE VERTICAL HP 12 x 53 STEEL PILES.

#### NOTES:

- FOR PILES, SEE GEOTECHNICAL SPECIAL PROVISIONS AND SECTION 450 OF THE STANDARD SPECIFICATIONS.
- PILES AT END BENT NO.1 AND END BENT NO.2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 60 TONS PER PILE.
- PILES AT BENT NO.1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 105 TONS PER PILE.
- DRIVE PILES AT END BENT NO.1 AND END BENT NO.2 TO A REQUIRED DRIVING RESISTANCE OF 100 TONS PER PILE.
- DRIVE PILES AT BENT NO.1 TO A REQUIRED DRIVING RESISTANCE OF 175 TONS PER PILE.
- DRIVE PILES AT END BENT NO.1 AND END BENT NO.2 BEFORE BEGINNING CONSTRUCTION OF THE SOIL NAIL WALLS.

PROJECT NO. U-2524D  
GUILFORD COUNTY  
 STATION: 13+62.84 -PED-  
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 SHEET 2 OF 4

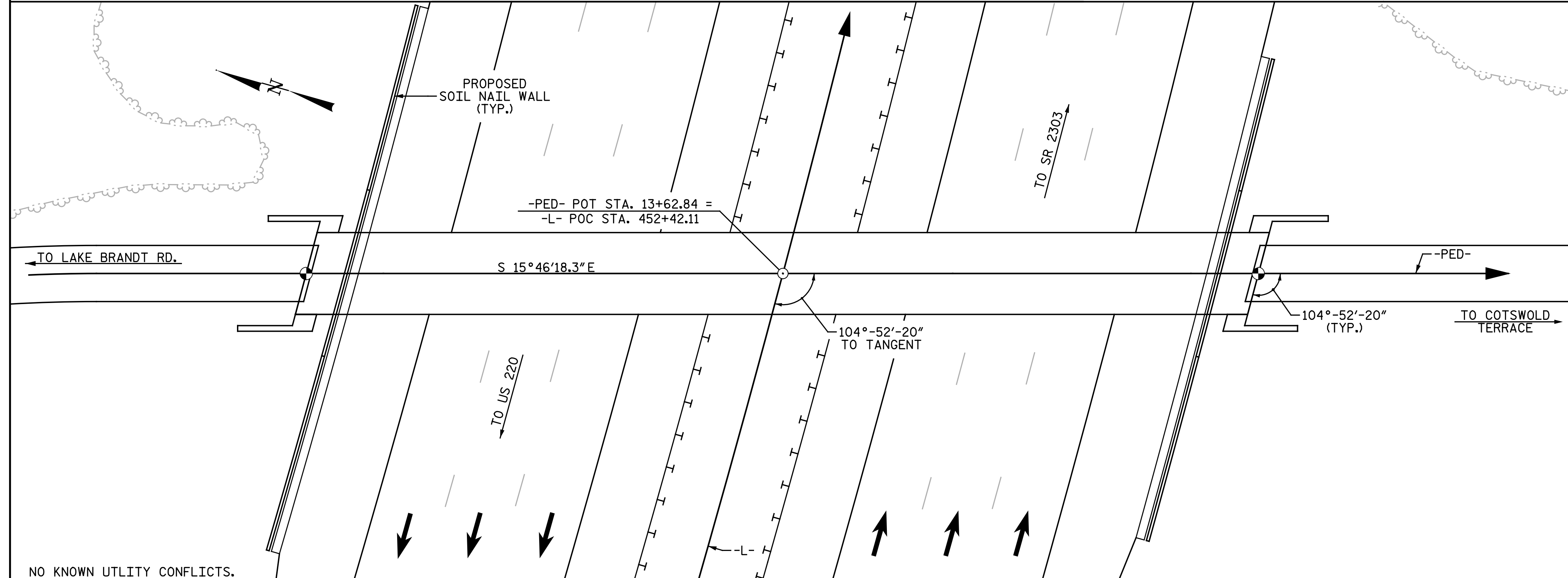
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DRAWN BY : N. B. SPEAKS DATE : 2-3-16  
 CHECKED BY : A. M. HOUSTON DATE : 2-5-16

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			DEPARTMENT OF TRANSPORTATION RALEIGH <b>GENERAL DRAWING</b> PEDESTRIAN BRIDGE OVER GREENSBORO WESTERN URBAN LOOP BETWEEN LAKE BRANDT RD. AND COTSWOLD TERRACE	
	DocuSigned by: Bradley J. Bell 5/5/2016		REVISIONS	
	<b>Michael Baker INTERNATIONAL</b> Michael Baker Engineering 8000 Regency Parkway, Suite 600 Cary, North Carolina 27518 NC License No.: F-1084		SHEET NO. <b>S2-2</b> TOTAL SHEETS <b>33</b>	



BM #15 - RR SPIKE SET IN 30" OAK TREE STA. 206+31.00 -L-, 484.00' RIGHT, EL. 858.80



LOCATION SKETCH

**NOTES:**

- ASSUMED LIVE LOAD = H-10 OR PEDESTRIAN LOADING.
- THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
- THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.
- FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.
- 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 EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.
- FOR PLACING LOAD ON STRUCTURAL MEMBERS, SEE SPECIAL PROVISIONS.
- 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 SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.
- NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.
- PRESTRESSED CONCRETE DECK PANELS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.
- REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.
- THE CLASS AA CONCRETE IN THE BRIDGE DECK SHALL CONTAIN FLY ASH OR GROUND GRANULATED BLAST FURNACE SLAG AT THE SUBSTITUTION RATE SPECIFIED IN ARTICLE 1024-1 AND IN ACCORDANCE WITH ARTICLES 1024-5 AND 1024-6 OF THE STANDARD SPECIFICATIONS. NO PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE COST OF THE REINFORCED CONCRETE DECK SLAB.

**TOTAL BILL OF MATERIAL**

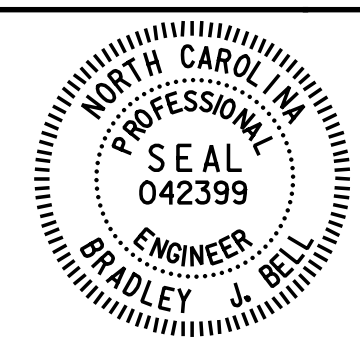
	VINYL COATED CHAIN LINK FENCE, 79" FABRIC	FOUNDATION EXCAVATION FOR BENT 1 AT STA. 13+62.84 -PED-	REINFORCED CONCRETE DECK SLAB	CLASS A CONCRETE	REINFORCING STEEL	54" PRESTRESSED CONCRETE GIRDERS	HP 12 X 53 STEEL PILES	TWO BAR METAL RAIL	1'-2' X 2'-6" CONCRETE PARAPET	4" SLOPE PROTECTION	ELASTOMERIC BEARINGS	
	LIN. FT.	LUMP SUM	SQ. FT.	CU. YDS.	LBS.	NO.	LIN. FT.	NO.	LIN. FT.	SQ. YDS.	LUMP SUM	
SUPERSTRUCTURE	323.39		2,479		6,898	4	333.6		324.4	340.0	LUMP SUM	
END BENT 1				11.9	1,644		4	200		7		
BENT 1		LUMP SUM		38.7	5,710		6	240				
END BENT 2				11.9	1,644		4	220		7		
TOTAL	323.39	LUMP SUM	2,479	62.5	15,896	4	333.6	14	660	324.4	340.0	LUMP SUM

PROJECT NO. U-2524D  
GUILFORD COUNTY  
 STATION: 13+62.84 -PED-  
452+42.11 -L-  
 SHEET 3 OF 4

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DRAWN BY : N. B. SPEAKS DATE : 11-10-15  
 CHECKED BY : A. M. HOUSTON DATE : 2-8-16

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 Bradley J. Bell  
 C41A3F8E3A3434  
 5/5/2016

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 8000 Regency Parkway, Suite 600  
 Cary, North Carolina 27518  
 NC License No.: F-1084

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 PEDESTRIAN BRIDGE OVER  
 GREENSBORO WESTERN URBAN LOOP  
 BETWEEN LAKE BRANDT RD.  
 AND COTSWOLD TERRACE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-3
1			3			TOTAL SHEETS
2			4			33

## LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS

LEVEL	VEHICLE	WEIGHT (TONS)	CONTROLLING LOAD RATING <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">#</span>	MINIMUM RATING FACTOR (RF)	TONS = W × RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE					COMMENT NUMBER		
						LIVE-LOAD FACTORS (γ <sub>LL</sub> )	MOMENT					SHEAR					LIVE-LOAD FACTORS (γ <sub>LL</sub> )	MOMENT					
							DISTRIBUTION FACTOR (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FT)	DISTRIBUTION FACTOR (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FT)		DISTRIBUTION FACTOR (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FT)
LOAD DESIGN RATING	H-10 ( INVENTORY )	10.00	1	3.73	37.30	1.75	0.73	3.73	A	E	81.98	0.73	5.59	A	E	77.92	0.80	0.73	4.20	A	E	41.70	1,3
	H-10 ( OPERATING )	10.00		4.83	48.30	1.35	0.73	4.83	A	E	81.98	0.73	7.25	A	E	77.92	N/A	--	--	--	--	--	1,2,3
	PEDESTRIAN ( INVENTORY )	N/A	2	1.30	--	1.75	0.50	1.30	A	E	81.98	0.50	2.76	A	E	75.06	0.80	0.50	2.48	A	E	81.98	1,3
	PEDESTRIAN ( OPERATING )	N/A		1.68	--	1.35	0.50	1.68	A	E	81.98	0.50	3.58	A	E	75.06	N/A	--	--	--	--	--	1,2,3

**LOAD FACTORS:**

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ <sub>DC</sub>	γ <sub>DW</sub>
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

**NOTES:**

MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.  
 ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

**COMMENTS:**

1. ALL DISTANCES ARE MEASURED FROM THE CENTERLINE OF SUBSTRUCTURE UNIT.
2. SERVICE III LIMIT STATE NOT APPLICABLE AT THE OPERATING LEVEL.
3. SPAN A AND B ARE SIMILAR

# CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (H-10)

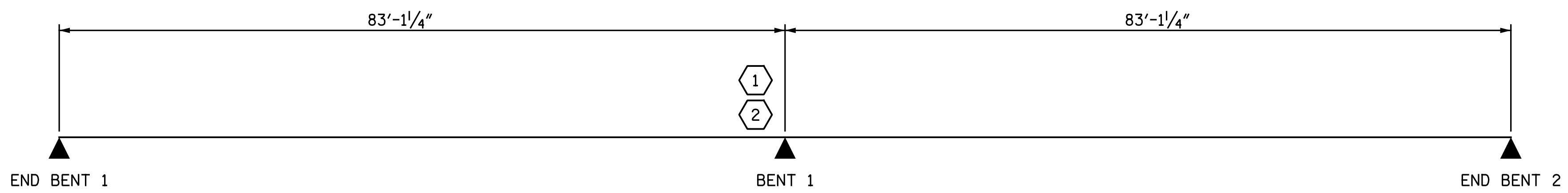
2 DESIGN LOAD RATING (PEDESTRIAN)

---

GIRDER LOCATION

---

E - EXTERIOR GIRDER



PROJECT NO. U-2524D  
GUILFORD COUNTY  
 STATION: 13+62.84 -PED-  
452+42.11 -L-  
 SHEET 4 OF 4

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 CHECKED BY : A. M. HOUSTON DATE : 2-9-16

LRFR SUMMARY

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NORTH CAROLINA PROFESSIONAL SEAL 042399 ENGINEER BRADLEY J. BELL

DocuSigned by: Bradley J. Bell C41A3F8E6C3A34... 5/5/2016

Michael Baker INTERNATIONAL

Michael Baker Engineering  
 8000 Regency Parkway, Suite 600  
 Cary, North Carolina 27518  
 NC License No.: F-1084

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

GENERAL DRAWING

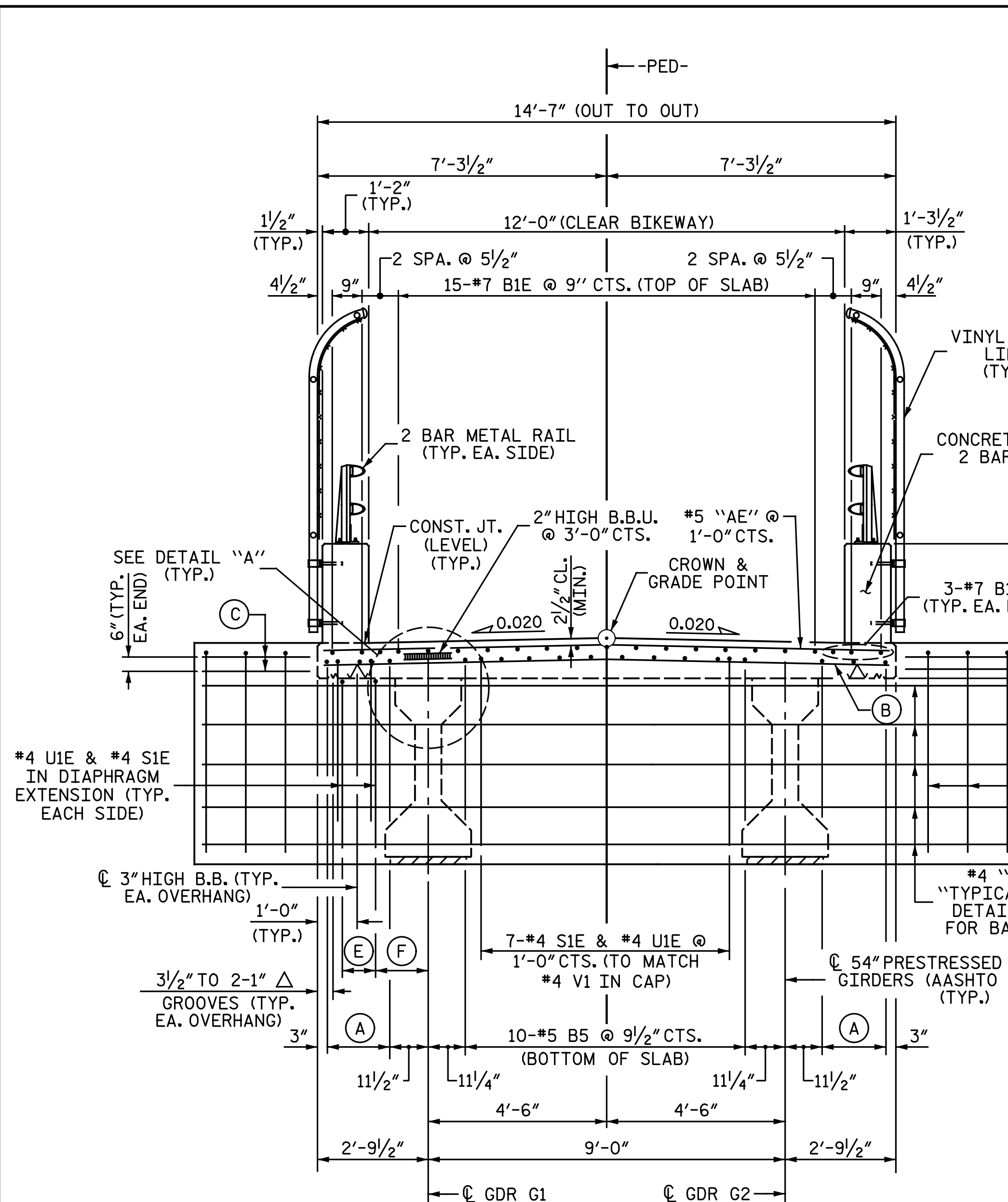
LRFR SUMMARY FOR PRESTRESSED CONCRETE GIRDERS

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

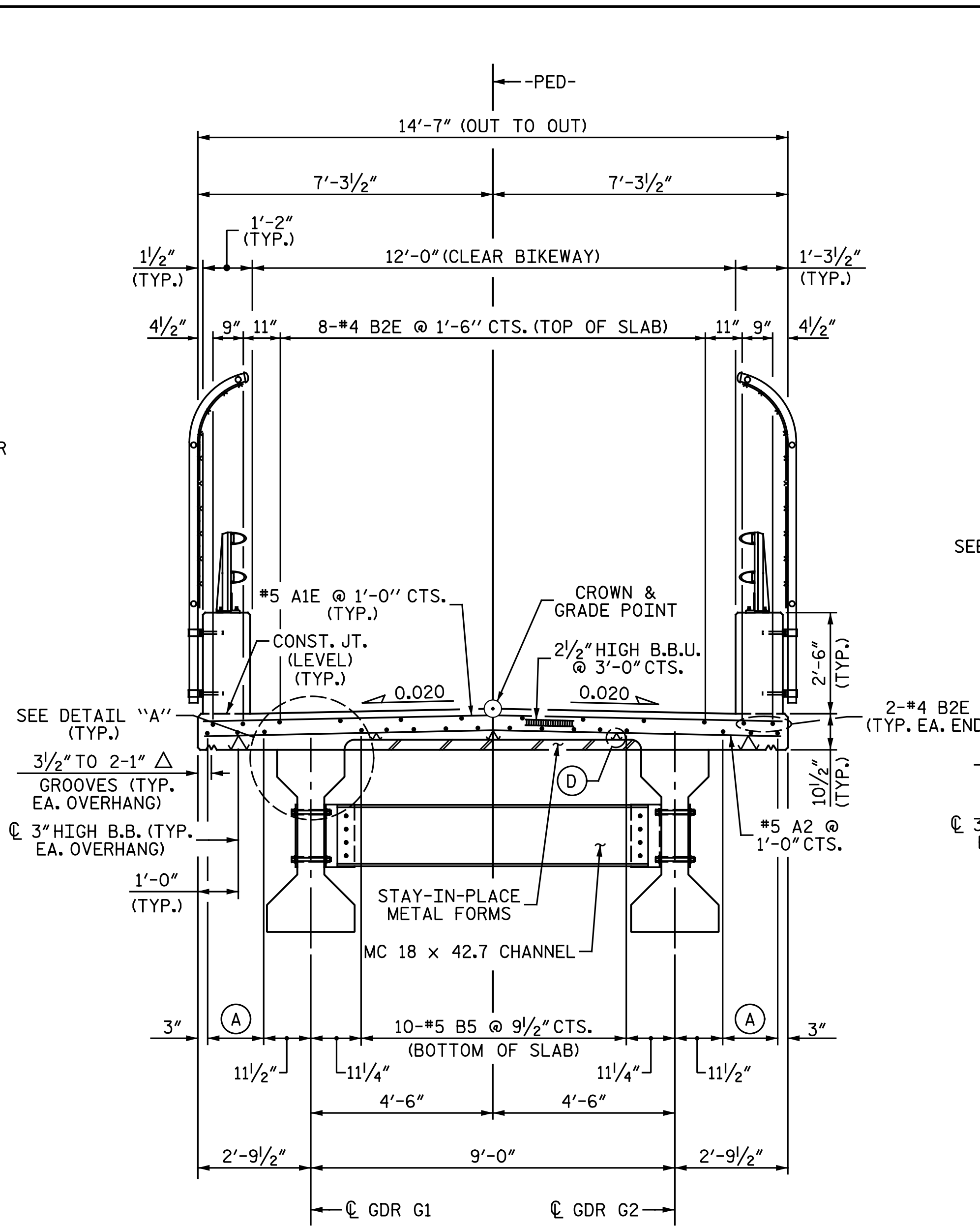
SHEET NO. S2-4

TOTAL SHEETS 33

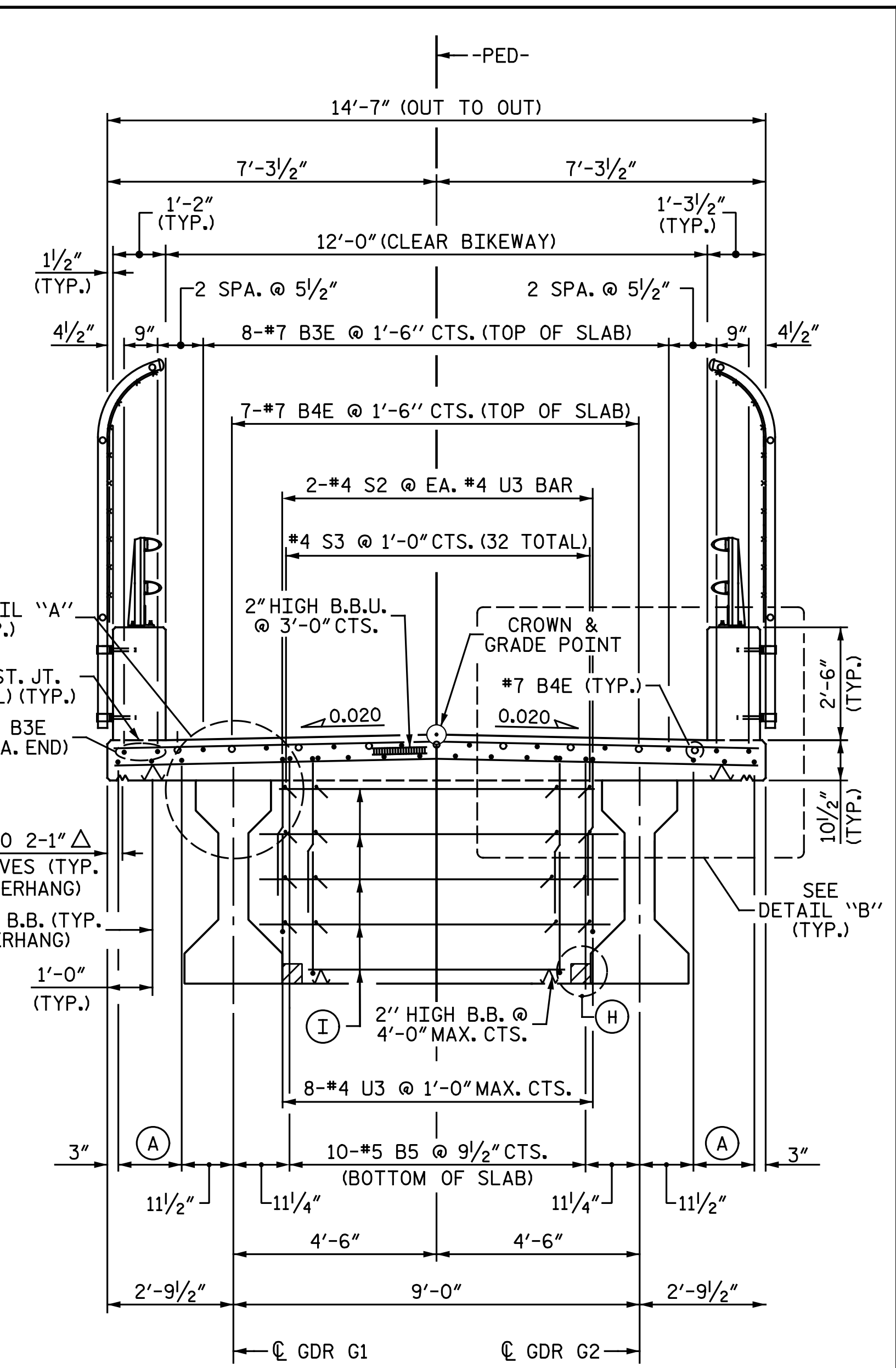




TYPICAL SECTION @ INTEGRAL END BENT

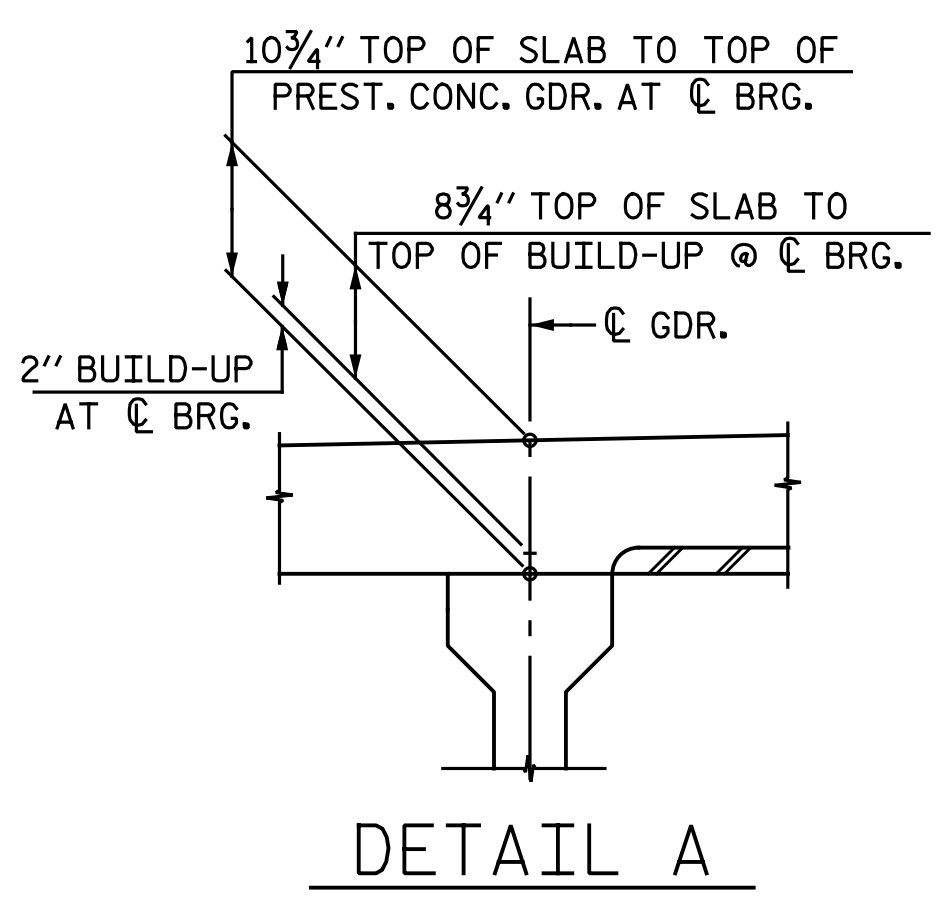


TYPICAL SECTION @ INTERMEDIATE DIAPHRAGM



TYPICAL SECTION @ BENT DIAPHRAGM

- (A) 3-#5 B5 BARS @ 9/2" CTS. (BOTTOM OF SLAB)
- (B) #5 "A" @ 1'-0" CTS.
- (C) #4 K10E (EA. FACE) (TYP. EA. SIDE)
- (D) 1/4" HIGH B.B.U. (SEE NOTES ON "TYPICAL SECTION DETAILS" SHEET)
- (E) 11 5/8" (TYP. EA. SIDE)
- (F) 1'-5 5/16" (TYP. EA. SIDE)
- (G) #4 U2E @ 1'-0" CTS. (TYP. EA. SIDE) (TO MATCH #4 V1 IN CAP)
- (H) CONTINUOUS BENT DIAPHRAGM BLOCKOUT (SEE "TYPICAL SECTION DETAILS" SHEET)
- (I) #4 "K" (SEE "TYPICAL SECTION DETAILS" SHEET FOR BAR LAYOUT)



DETAIL A

NOTES:

- FOR DETAILS OF VINYL COATED CHAIN LINK FENCING, SEE "BRIDGE MOUNTED VINYL COATED CHAIN LINK FENCE" SHEET.
- FOR DETAILS OF CONCRETE PARAPET FOR 2 BAR METAL RAIL, SEE "CONCRETE PARAPET DETAILS" SHEET.
- FOR DETAILS OF 2 BAR METAL RAIL, SEE "2 BAR METAL RAIL" SHEETS.
- FOR DETAILS OF INTERMEDIATE DIAPHRAGMS, SEE "INTERMEDIATE STEEL DIAPHRAGMS FOR TYPE IV PRESTRESSED CONCRETE GIRDERS" SHEET.
- FOR ADDITIONAL NOTES AND DETAIL "B", SEE "TYPICAL SECTION DETAILS" SHEET.

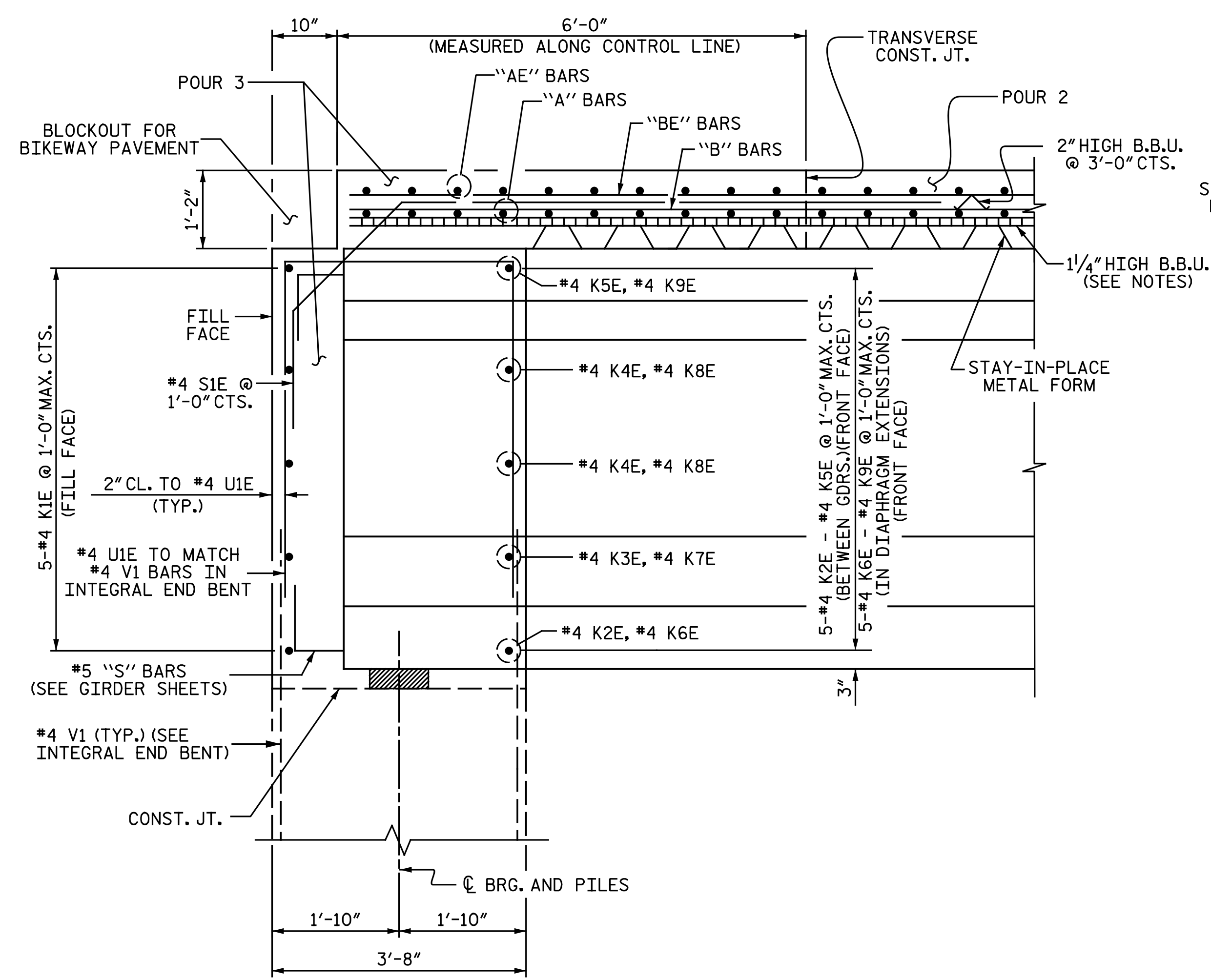
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 GUILFORD COUNTY  
 STATION: 13+62.84 -PED-

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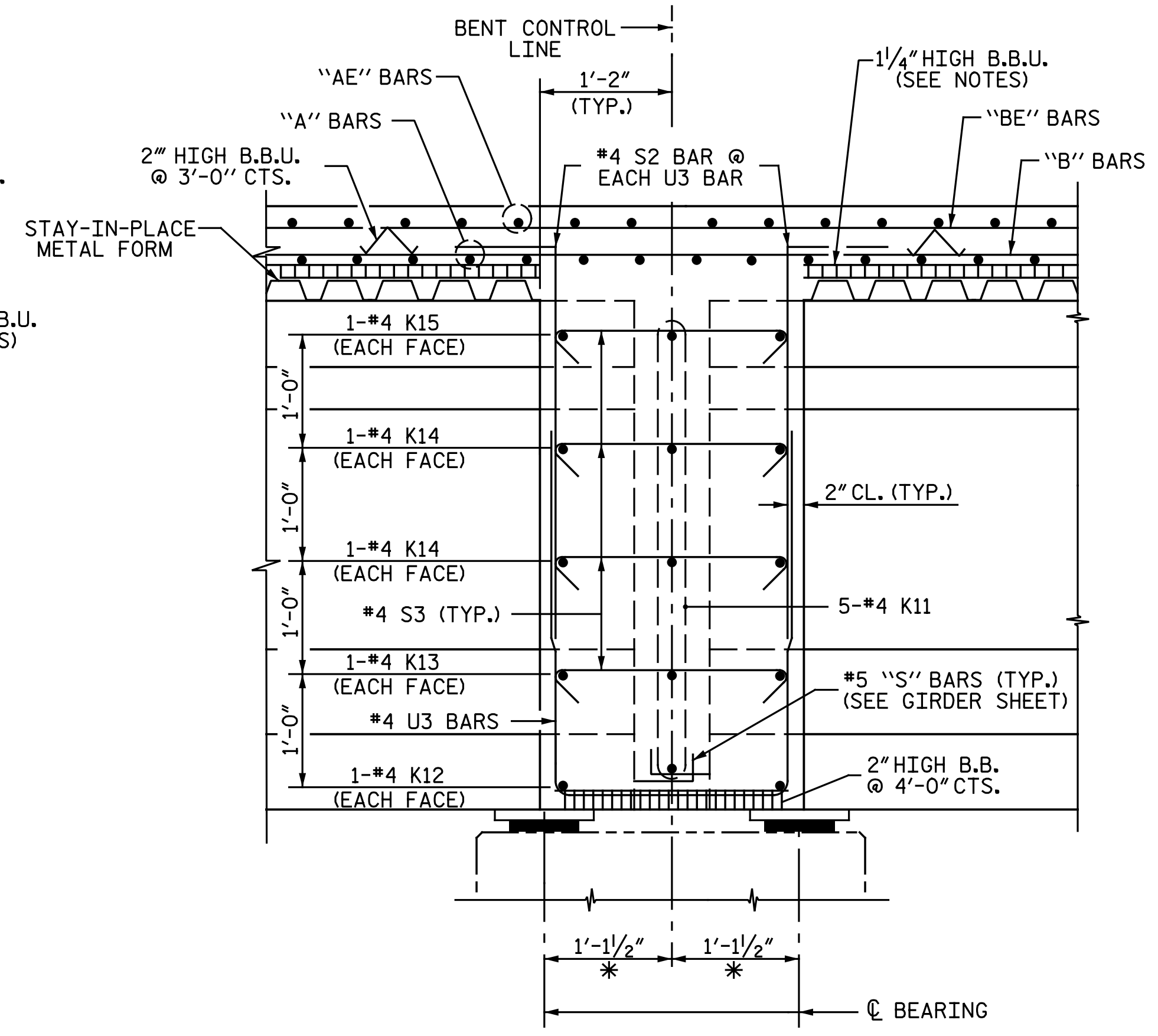
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 CHECKED BY: A. M. HOUSTON DATE: 2-8-16

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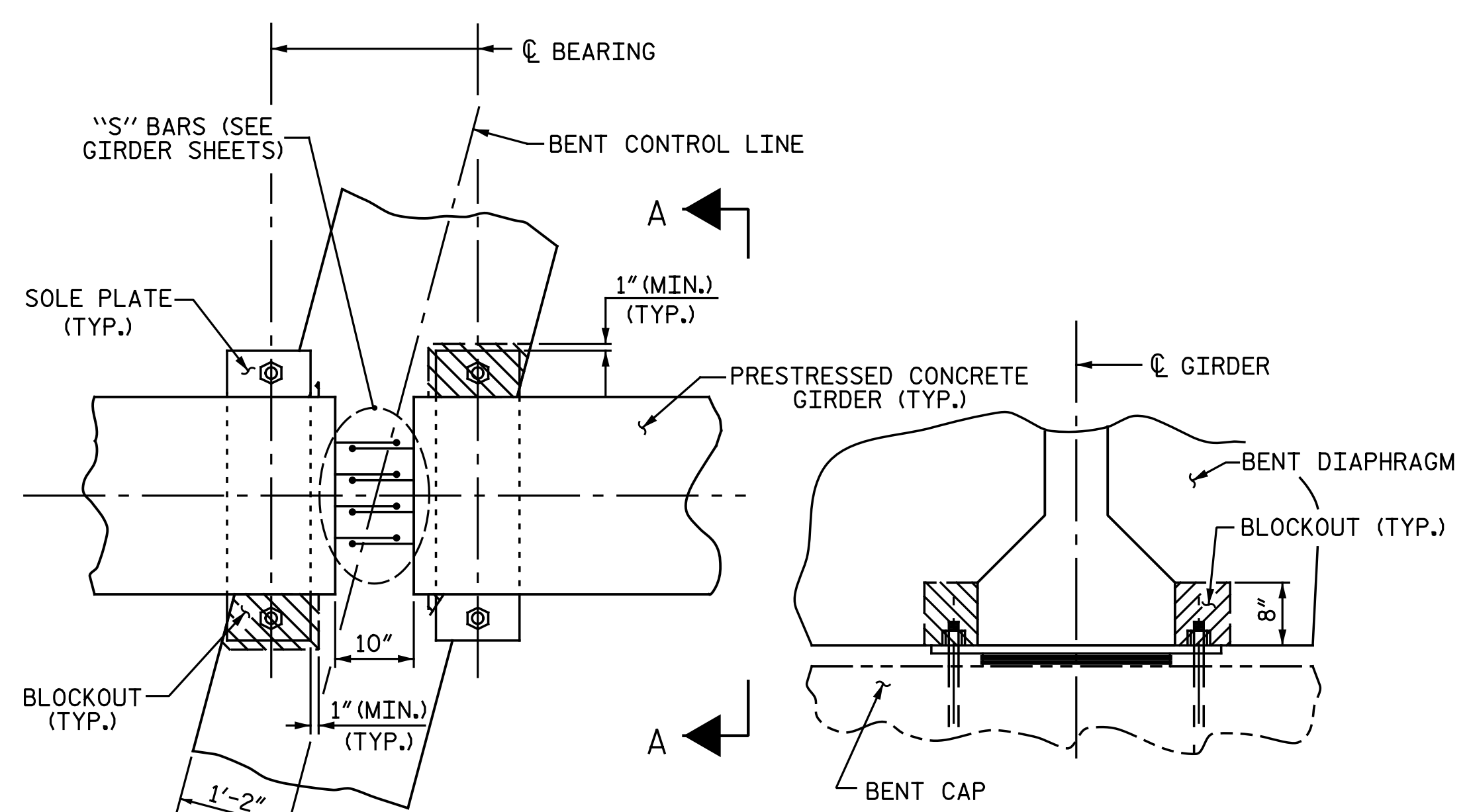
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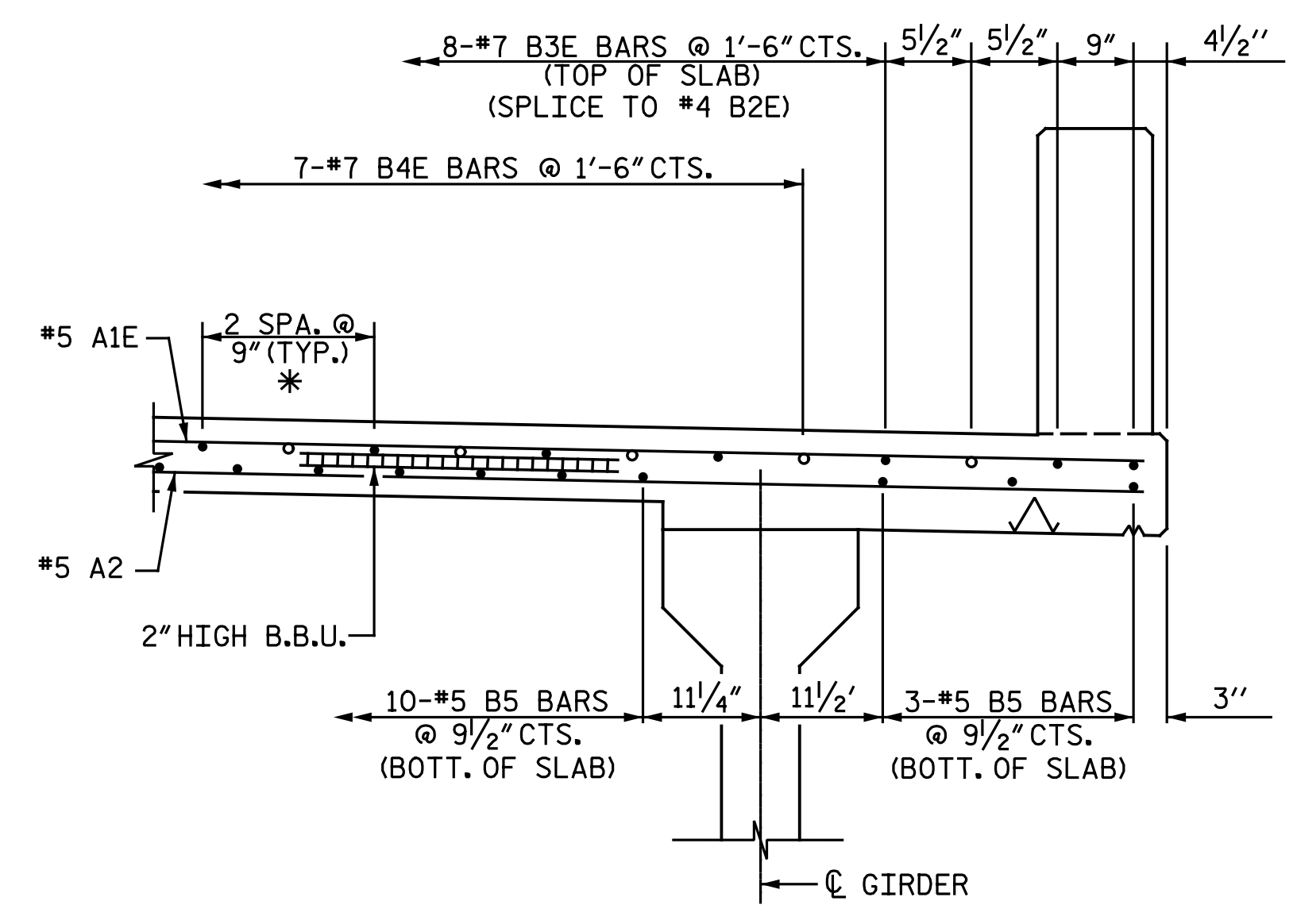
SECTION THRU INTEGRAL END BENT  
(DIMENSIONS SHOWN ARE NORMAL TO END BENT)  
(END BENT 1 SHOWN, END BENT 2 SIMILAR)



SECTION THRU BENT DIAPHRAGM  
\* DIMENSION ALONG CL GIRDER



PLAN  
BENT DIAPHRAGM BLOCKOUT DETAIL



DETAIL "B"

- \* TYP. SPACING OF NON-CONTINUOUS "BE" BARS BETWEEN CONTINUOUS "BE" BARS.
  - o INDICATES NON-CONTINUOUS REINFORCING STEEL OVER BENT.
  - INDICATES CONTINUOUS REINFORCING STEEL FROM END BENT 1 TO END BENT 2.
- 2 BAR METAL RAIL AND VINYL COATED CHAIN LINK FENCE NOT SHOWN FOR CLARITY.

NOTES:

PROVIDE 1/4" HIGH BEAM BOLSTERS UPPER AT 4'-0" CTS. ATOP THE METAL STAY-IN-PLACE FORMS TO SUPPORT THE BOTTOM MAT OF 'A' BARS. WHEN USING REMOVABLE FORMS, PROVIDE CONTINUOUS HIGH CHAIRS FOR METAL DECK (C.H.C.M.) @ 4'-0" CTS. WITH A HEIGHT TO SUPPORT THE BOTTOM MAT OF 'A' BARS ABOVE THE TOP OF THE REMOVABLE FORM.

LONGITUDINAL STEEL MAY BE SHIFTED SLIGHTLY, AS NECESSARY, TO AVOID INTERFERENCE WITH STIRRUPS IN PRESTRESSED CONCRETE GIRDERS.

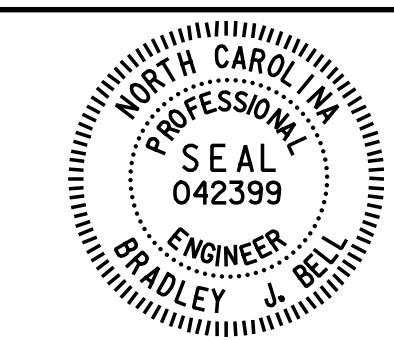
PREVIOUSLY CAST CONCRETE IN A CONTINUOUS UNIT SHALL HAVE ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI BEFORE ADDITIONAL CONCRETE IS CAST IN THE UNIT.

CONCRETE PARAPET IN A CONTINUOUS UNIT SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE IN THE UNIT HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

FOR ADDITIONAL INFORMATION ON DECK SLAB REINFORCING, SEE "PLAN OF SPAN" SHEETS.

PROJECT NO. U-2524D  
GUILFORD COUNTY  
STATION: 13+62.84 -PED-

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Bradley J. Bell  
C41A5F8E3A3434  
5/5/2016

Michael Baker International

Michael Baker Engineering  
8000 Regency Parkway, Suite 600  
Cary, North Carolina 27518  
NC License No.: F-1084

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
SUPERSTRUCTURE  
TYPICAL SECTION  
DETAILS

REVISIONS

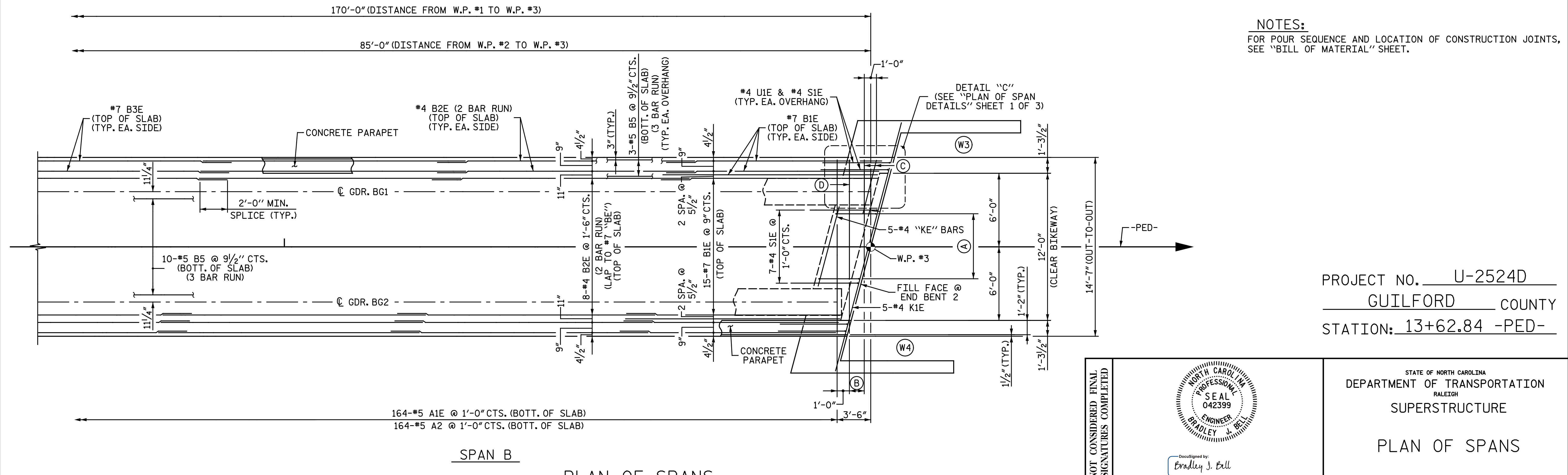
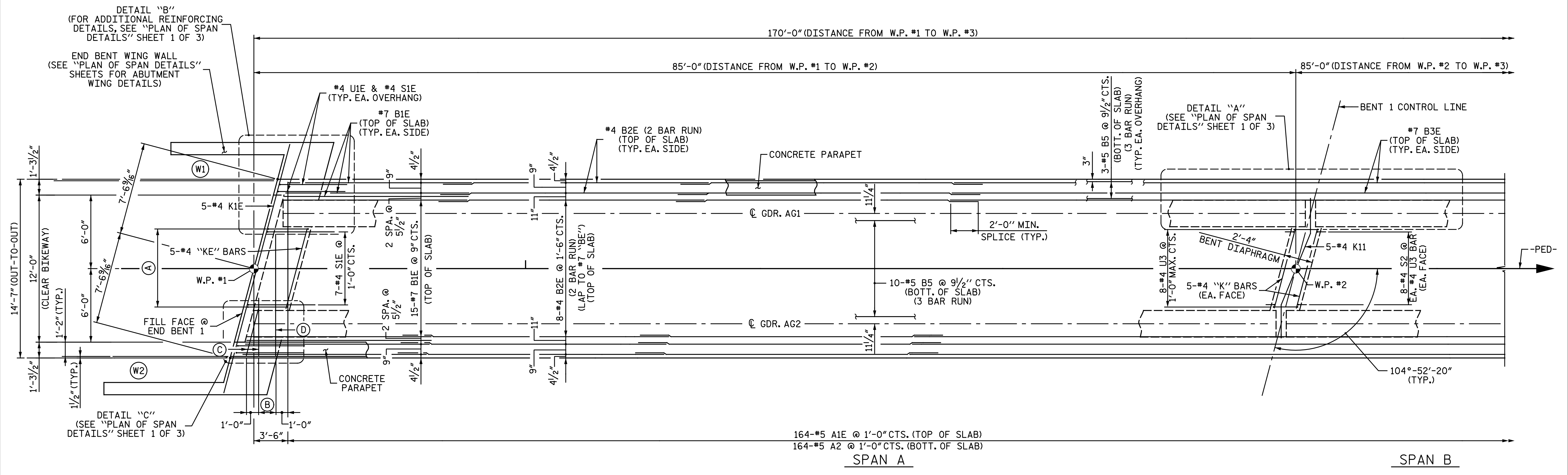
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S2-6  
TOTAL SHEETS  
33

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CHECKED BY: A. M. HOUSTON DATE: 2-9-16

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**NOTES:**  
 FOR POUR SEQUENCE AND LOCATION OF CONSTRUCTION JOINTS, SEE "BILL OF MATERIAL" SHEET.

PROJECT NO. U-2524D  
GUILFORD COUNTY  
 STATION: 13+62.84 -PED-

**PLAN OF SPANS**

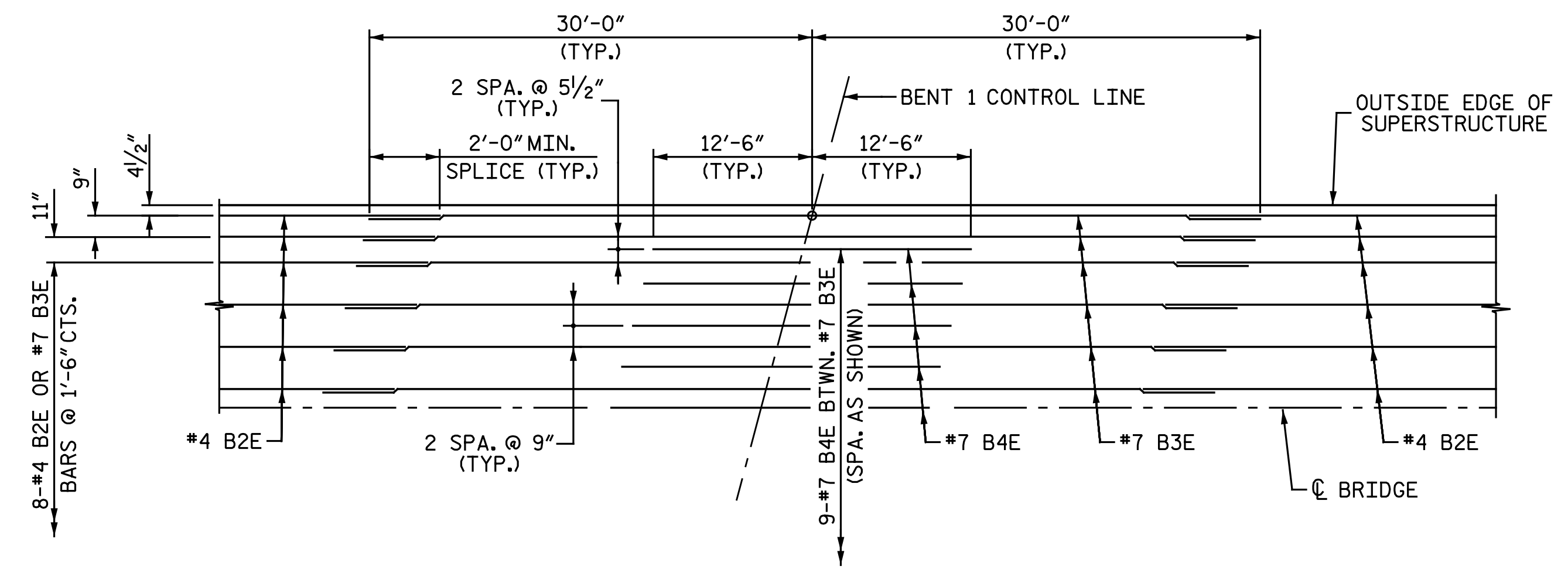
- (A) 7-#4 U1E @ 1'-0" CTS. (TO MATCH #4 V1 BARS IN INTEGRAL END BENT)
- (B) #5 A101E THRU #5 A103E @ 1'-0" CTS. (TOP OF SLAB)  
 #5 A201E THRU #5 A203E @ 1'-0" CTS. (BOTTOM OF SLAB)
- (C) #5 A103E (TOP OF SLAB)  
 #5 A203E (BOTTOM OF SLAB)
- (D) #5 A101E (TOP OF SLAB)  
 #5 A201E (BOTTOM OF SLAB)

DRAWN BY : N. B. SPEAKS DATE : 11-12-15  
 CHECKED BY : A. M. HOUSTON DATE : 2-9-16

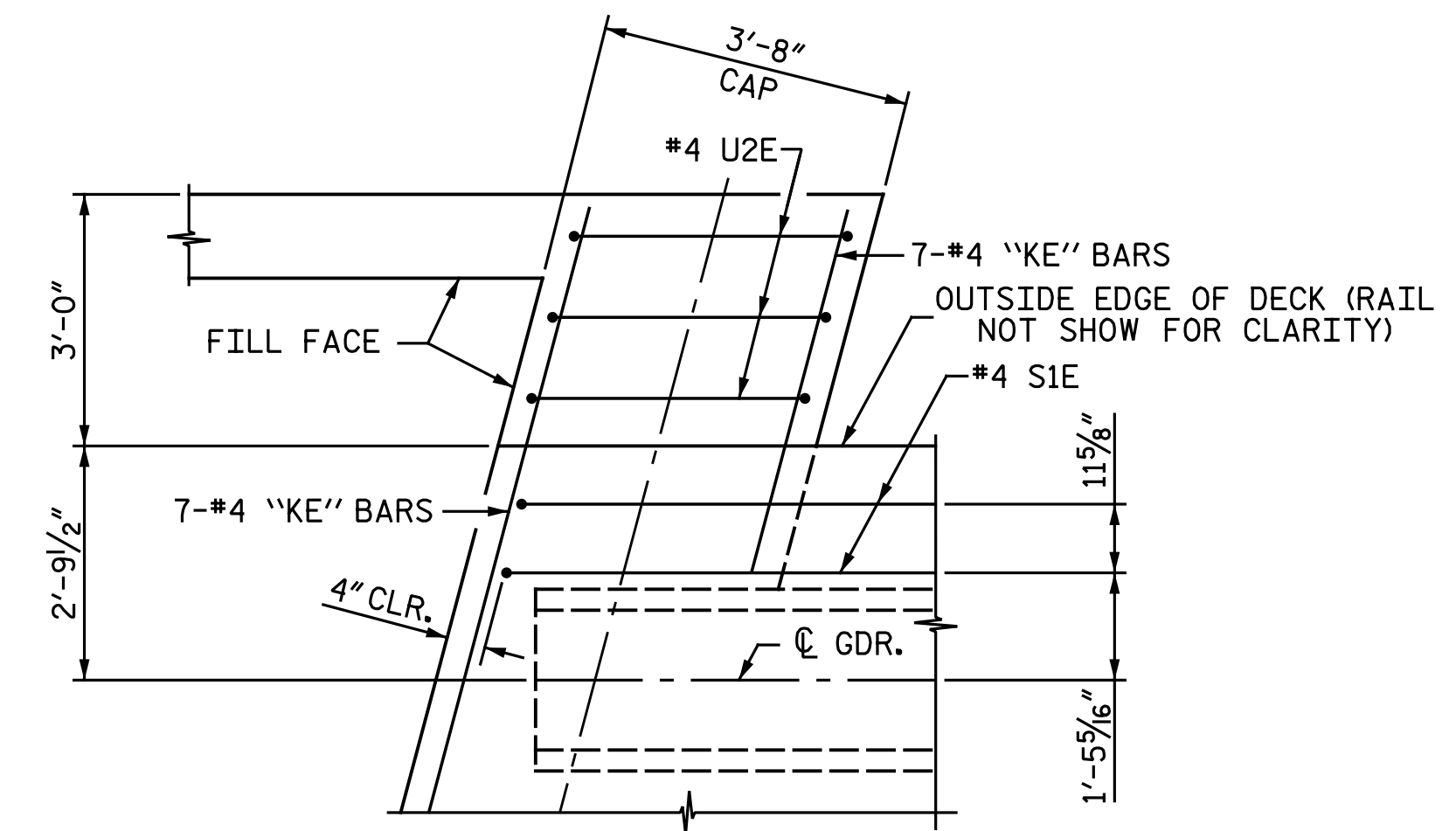
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	 Documented by: <i>Bradley J. Bell</i> 5/5/2016	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUPERSTRUCTURE PLAN OF SPANS						
		REVISIONS						
			Michael Baker Engineering 8000 Regency Parkway, Suite 600 Cary, North Carolina 27518 NC License No.: F-1084					
		NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
		1			3			S2-7
		2			4			TOTAL SHEETS 33

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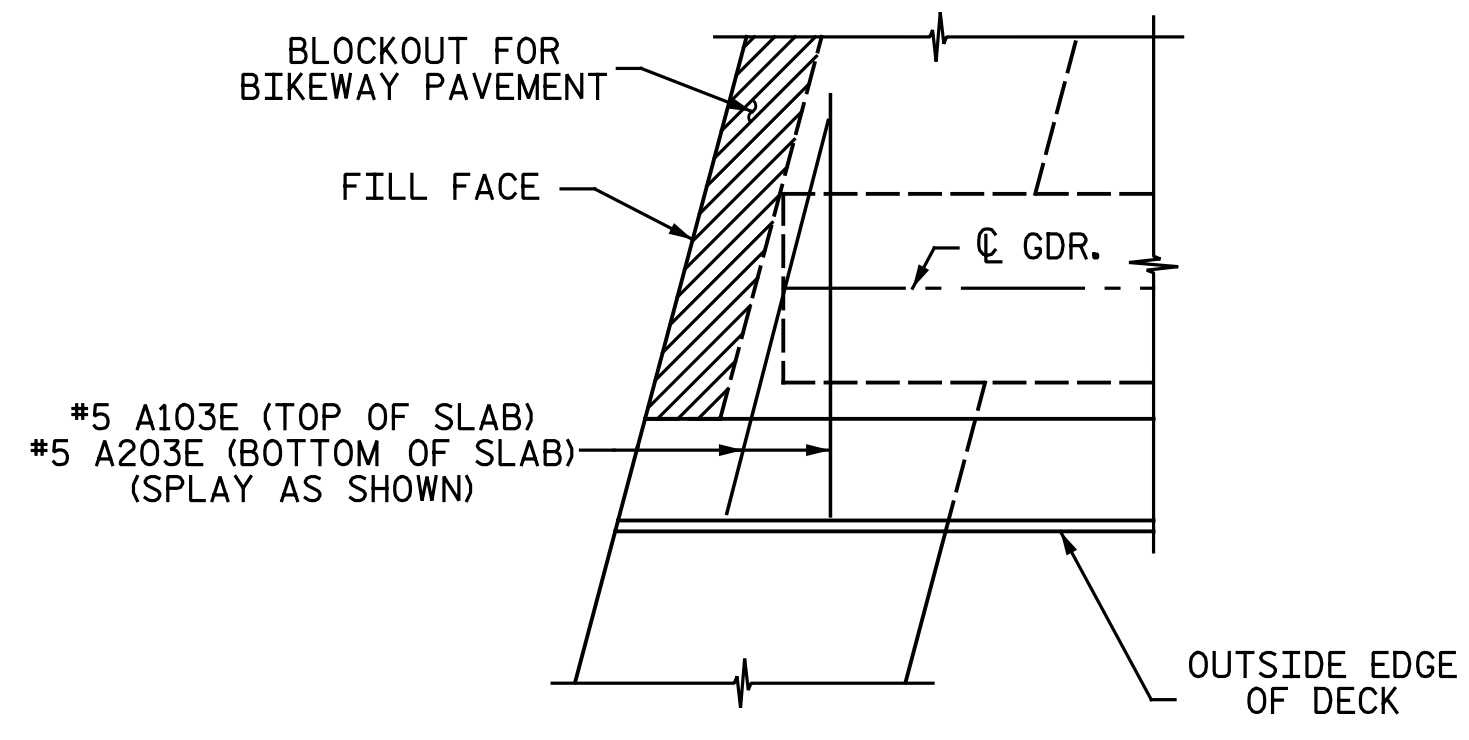




**DETAIL "A"**  
 LONGITUDINAL REINFORCEMENT IN TOP OF SLAB.  
 REINFORCING IS SYMMETRICAL ABOUT BRIDGE C.



**DETAIL "B"**  
 WING W1 SHOWN  
 (WINGS W2, W3, AND W4 SIMILAR)



**DETAIL "C"**  
 BEGIN BRIDGE SHOWN.  
 END BRIDGE SIMILAR BY ROTATION.

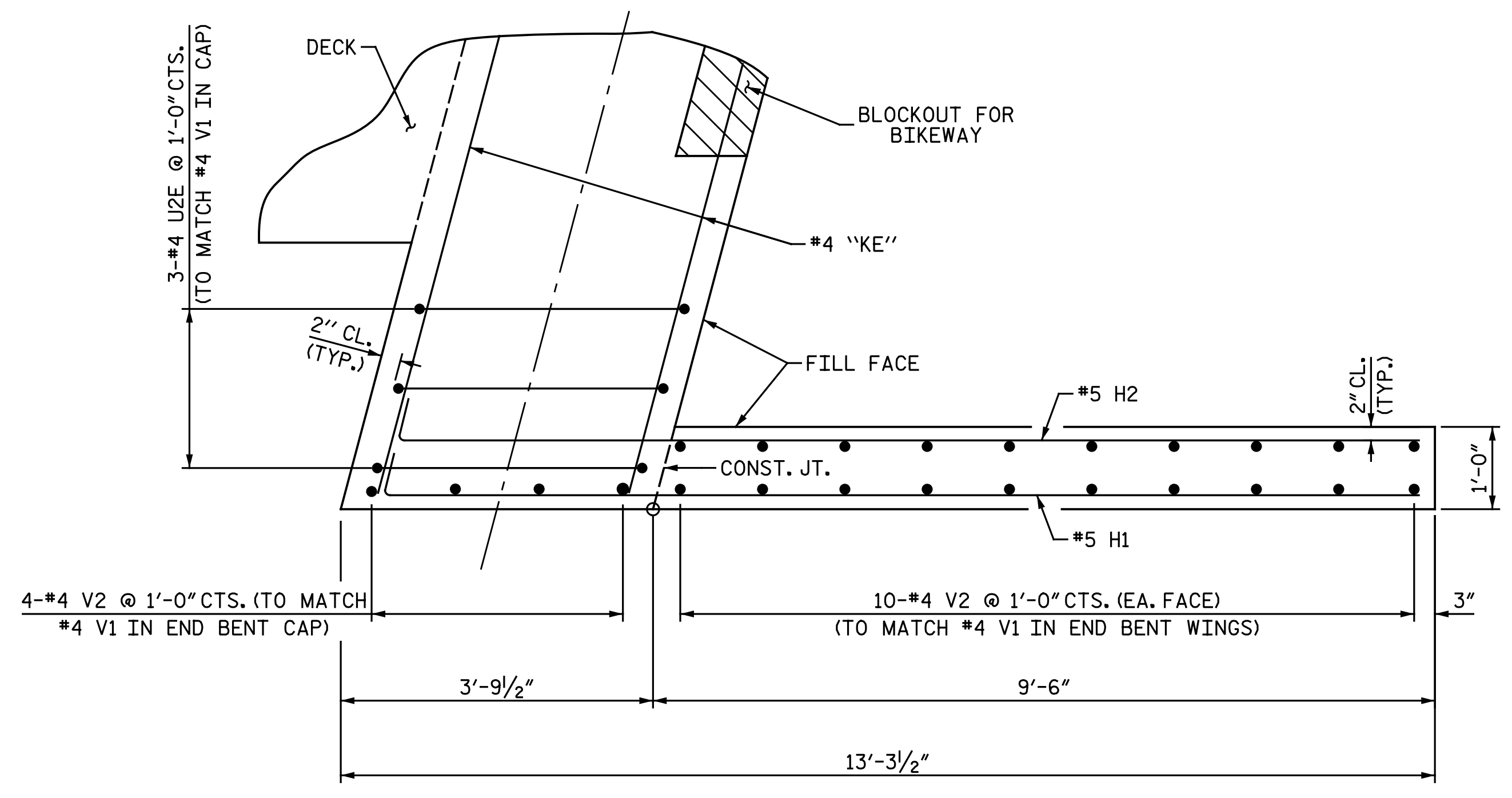
PROJECT NO. U-2524D  
GUILFORD COUNTY  
 STATION: 13+62.84 -PED-  
 SHEET 1 OF 3

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUPERSTRUCTURE PLAN OF SPAN DETAILS			
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	NO.	BY:	DATE:	NO.	BY:	DATE:
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2			4			

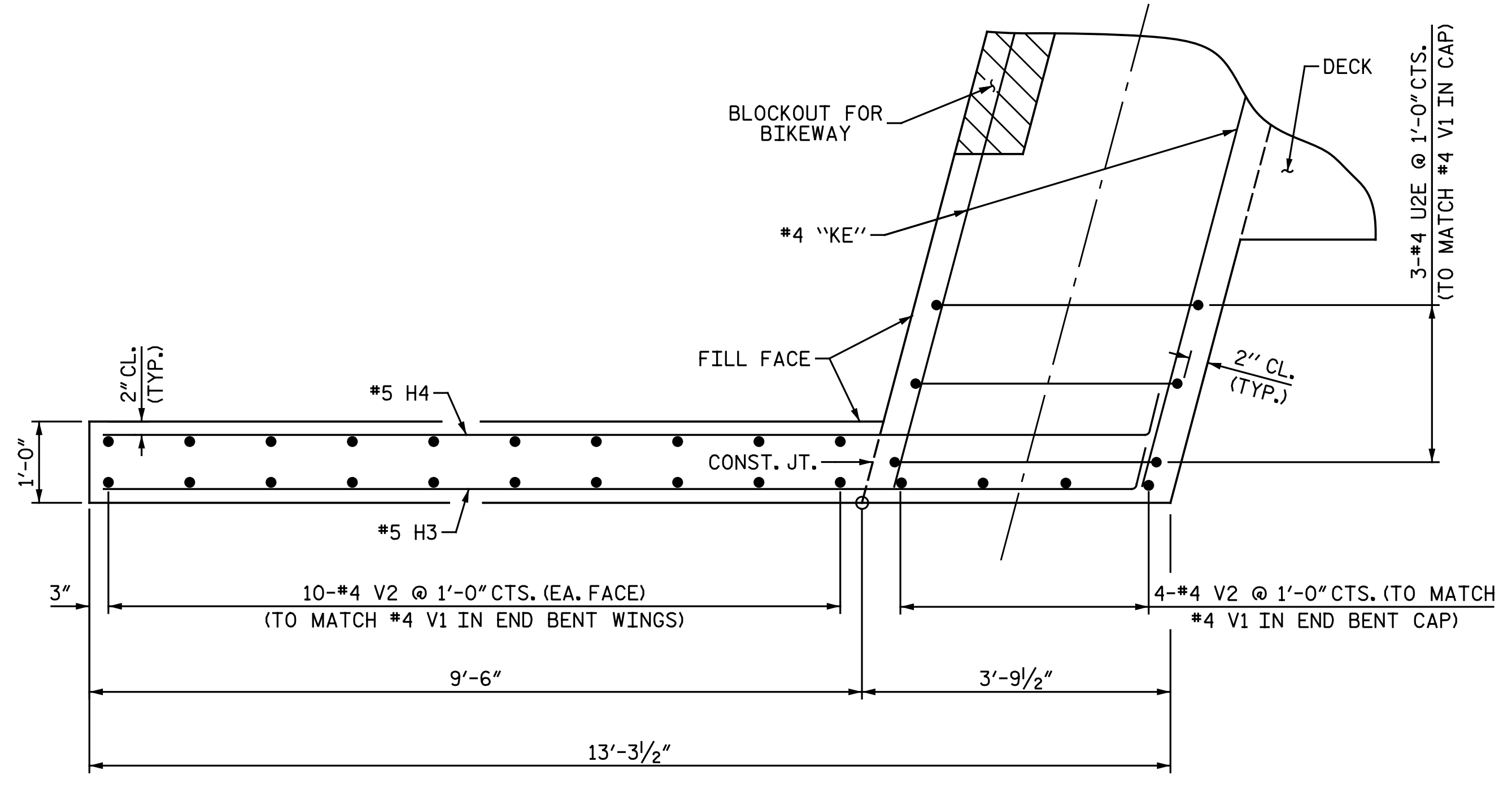
**Michael Baker International**  
 Michael Baker Engineering  
 8000 Regency Parkway, Suite 600  
 Cary, North Carolina 27518  
 NC License No.: F-1084

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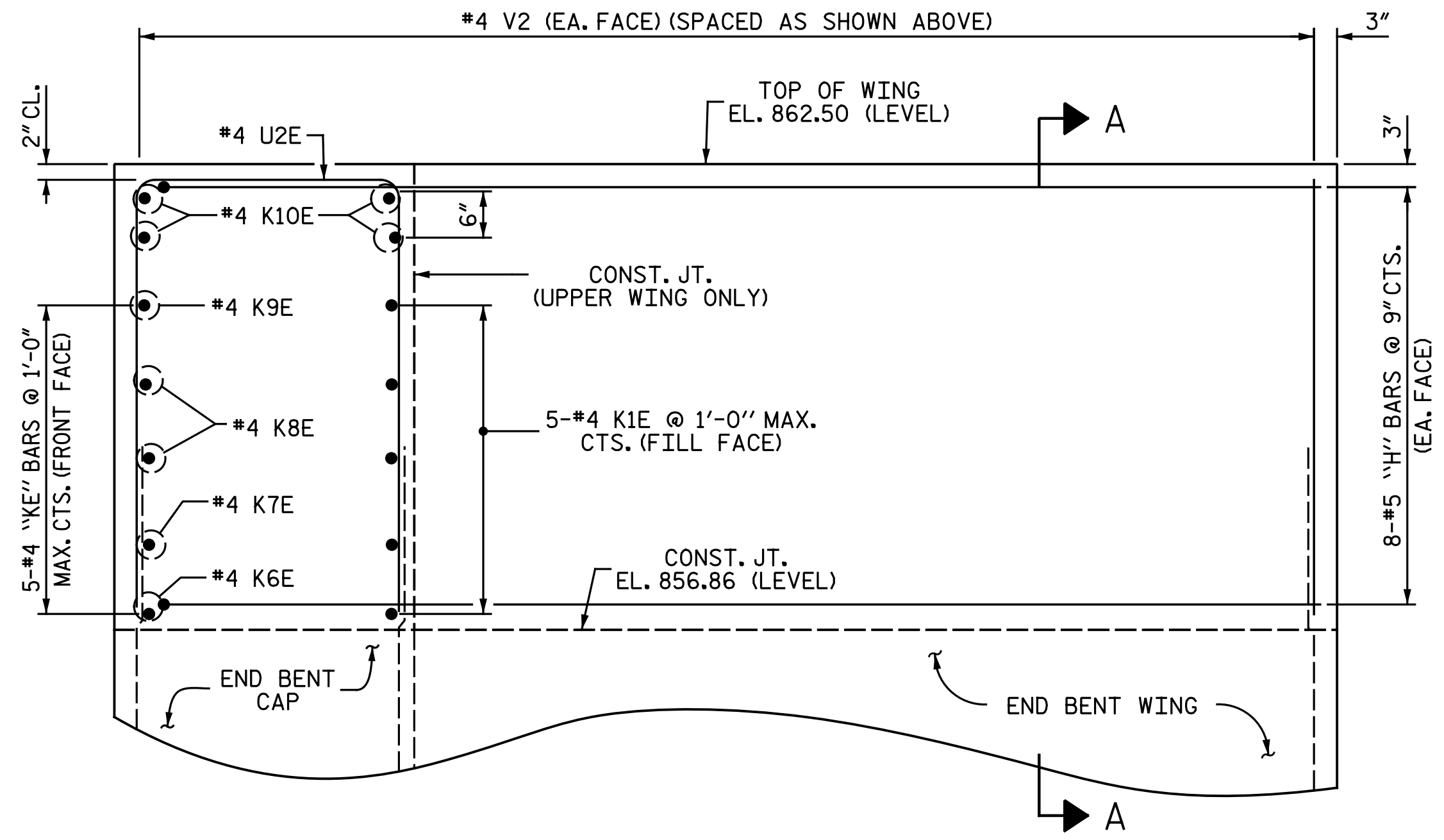
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 CHECKED BY : A. M. HOUSTON DATE : 2-10-16



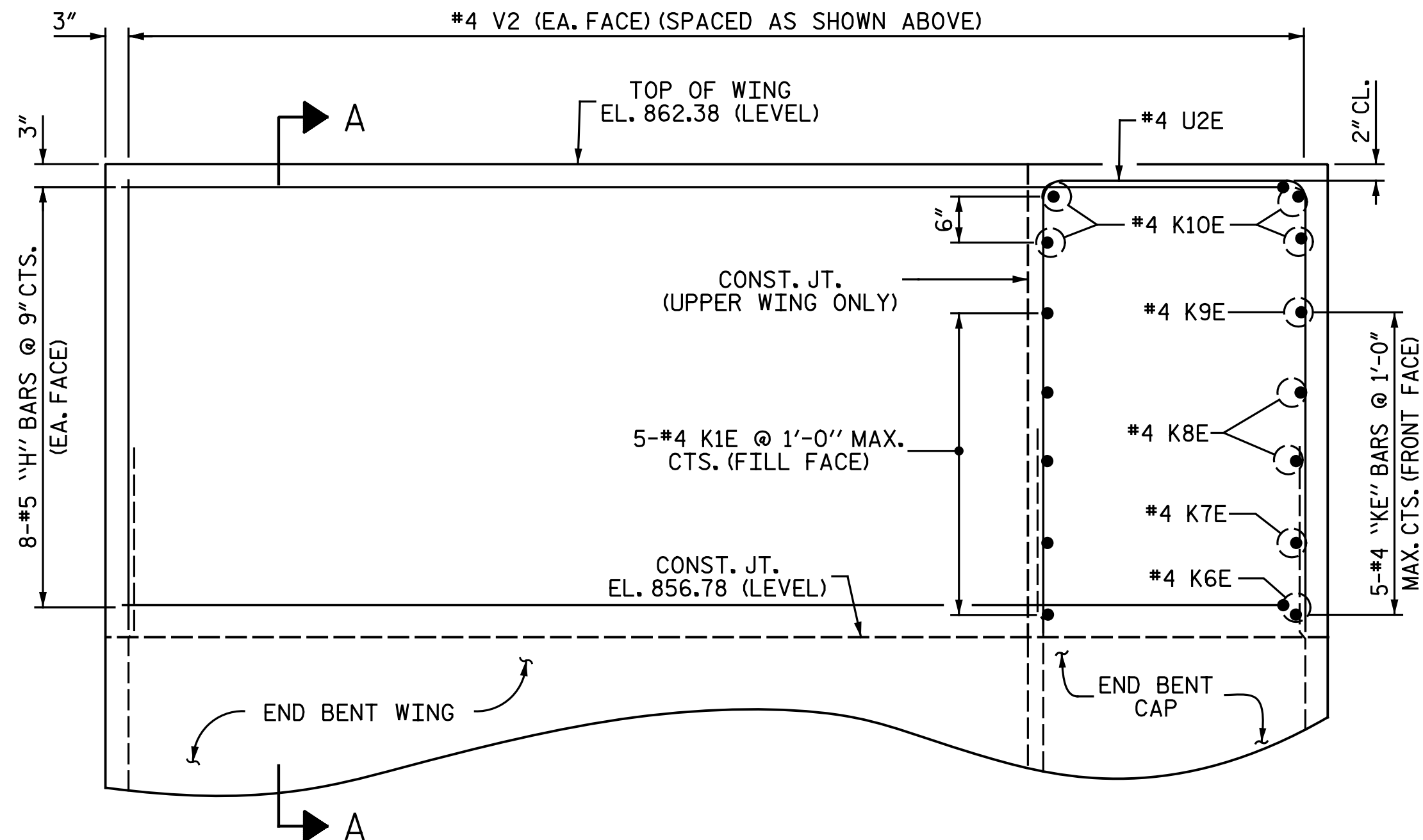
PLAN OF WING (W1)



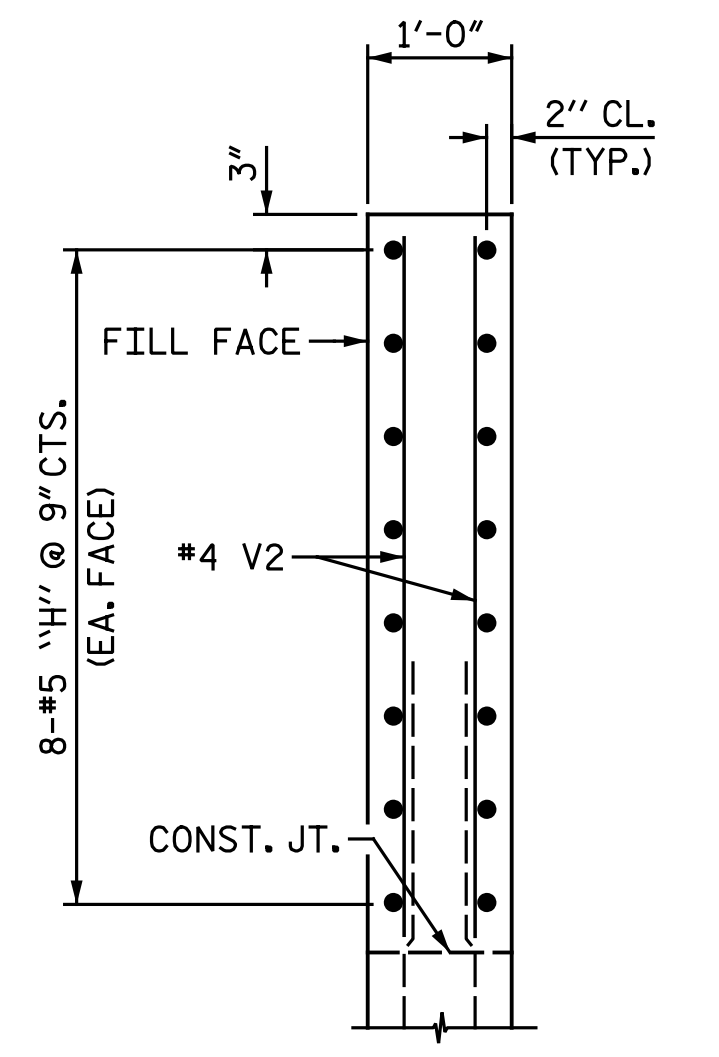
PLAN OF WING (W2)



ELEVATION OF WING (W1)  
BLOCKOUT NOT SHOWN



ELEVATION OF WING (W2)  
BLOCKOUT NOT SHOWN



SECTION A-A

PROJECT NO. U-2524D  
 GUILFORD COUNTY  
 STATION: 13+62.84 -PED-  
 SHEET 2 OF 3

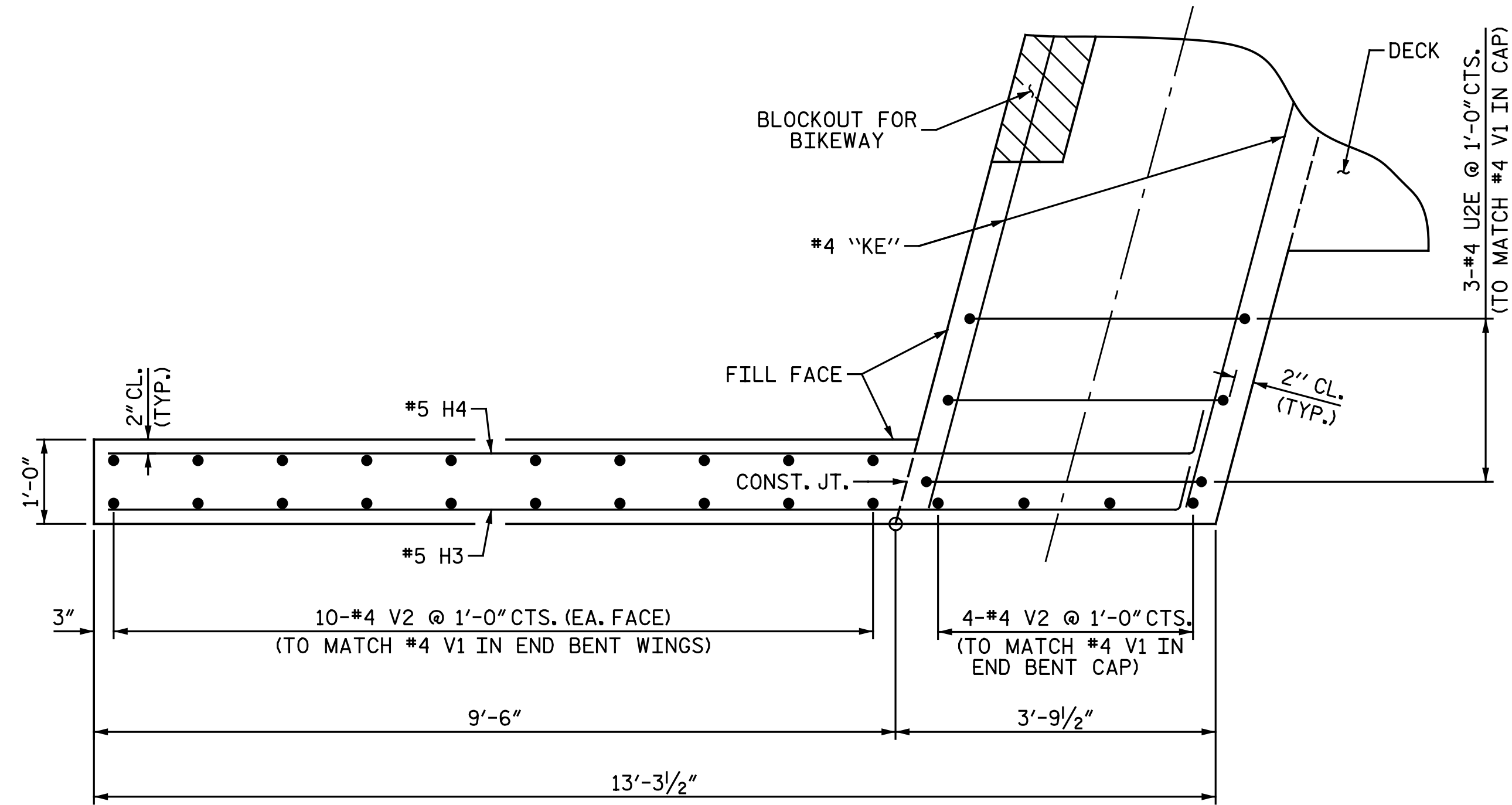
UPPER WINGS AT INTEGRAL END BENT 1  
 FOR LOWER WING REINFORCING STEEL AND DETAILS, SEE "INTEGRAL END BENT 1 DETAILS" SHEETS.

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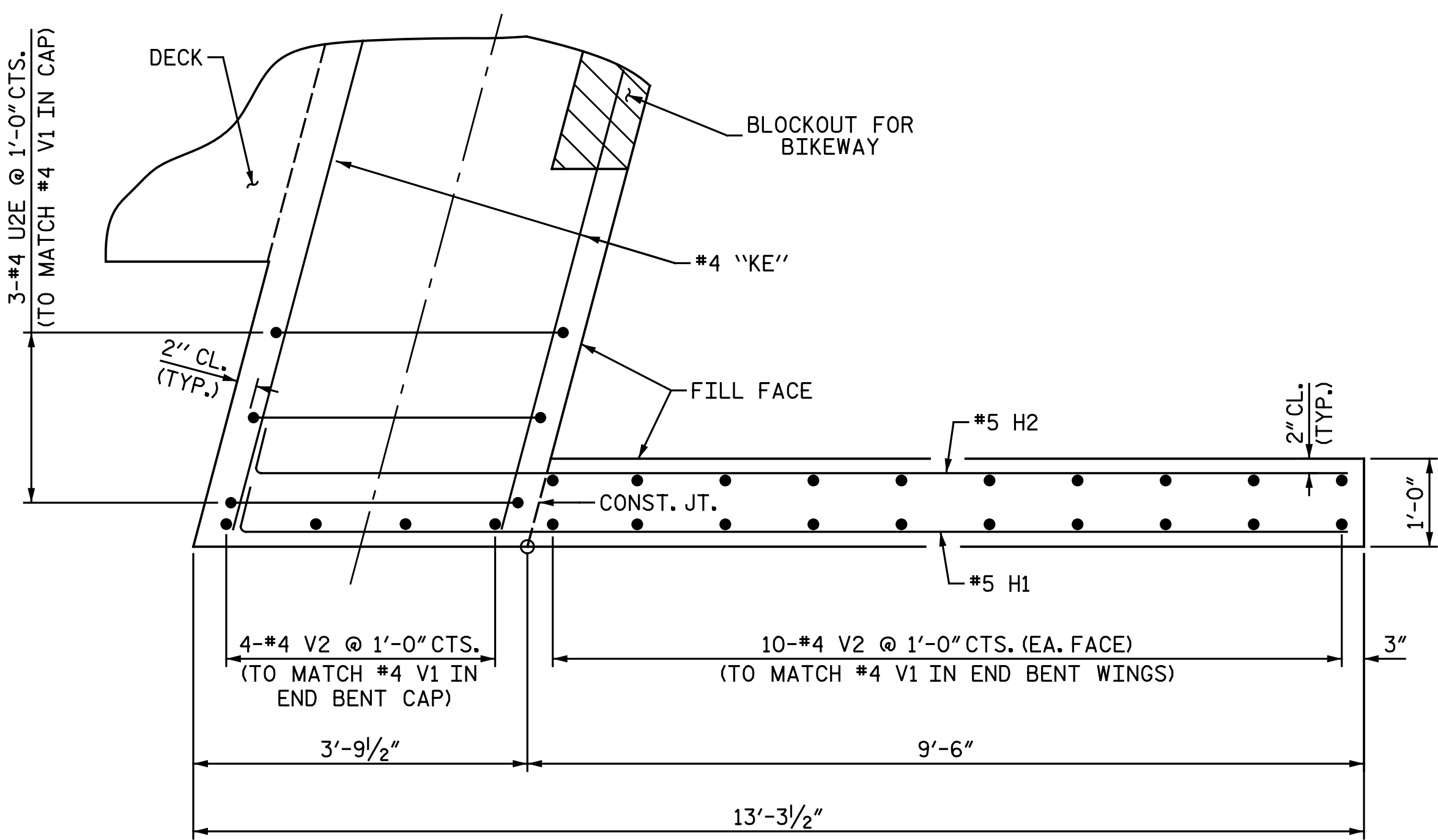
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 CHECKED BY : A. M. HOUSTON DATE : 2-8-16

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1			3			TOTAL SHEETS
2			4			33

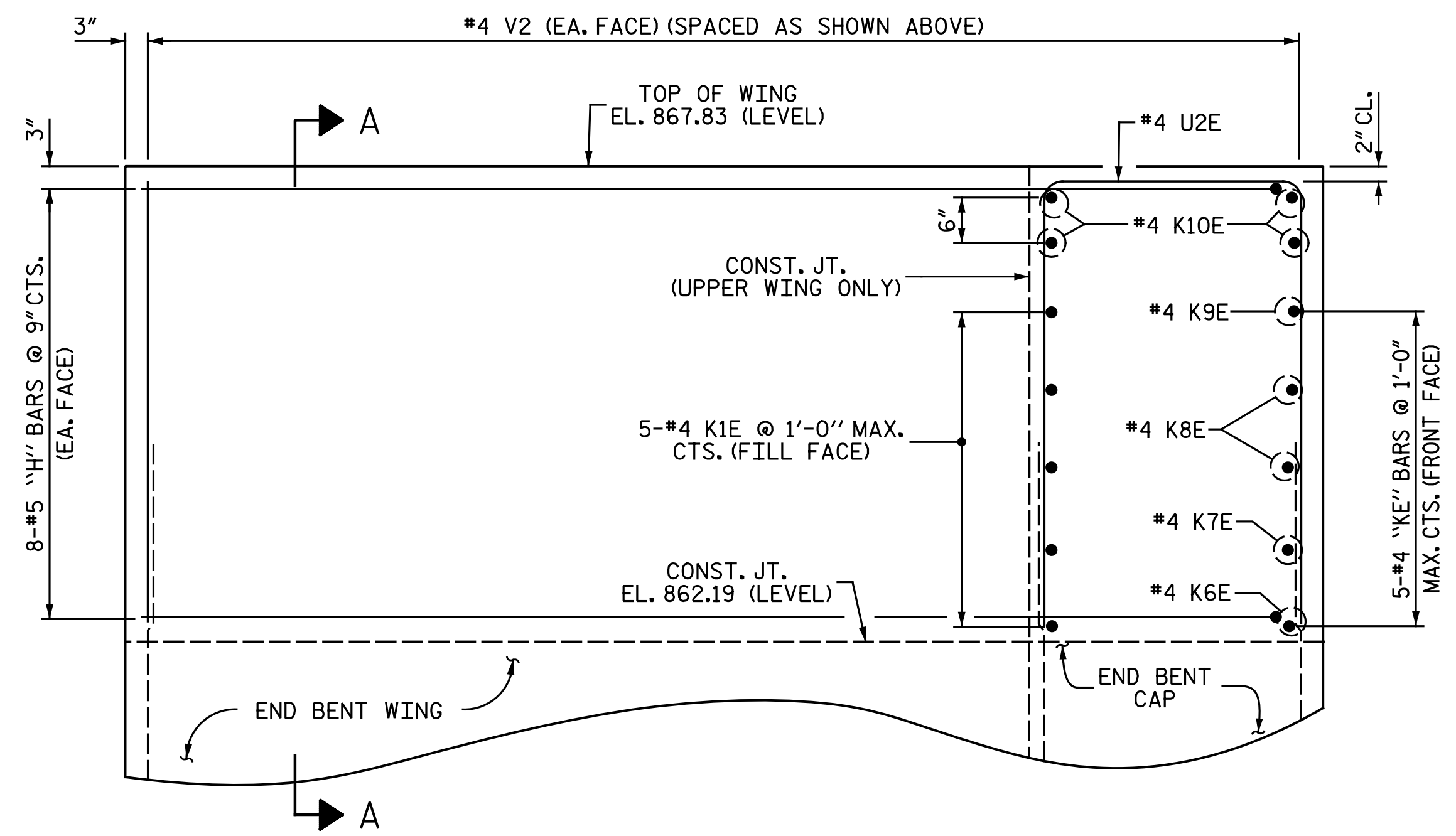




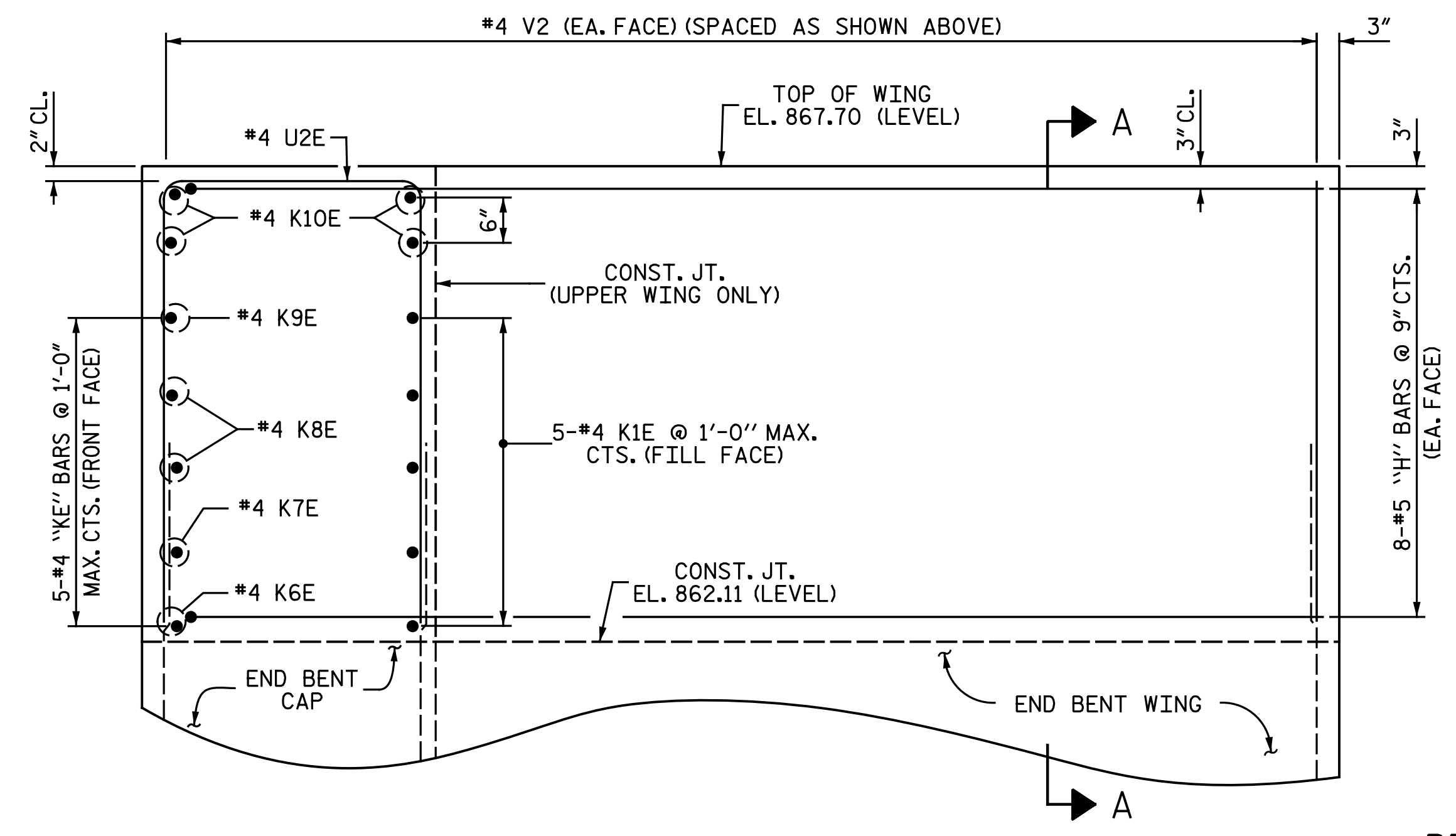
PLAN OF WING (W3)



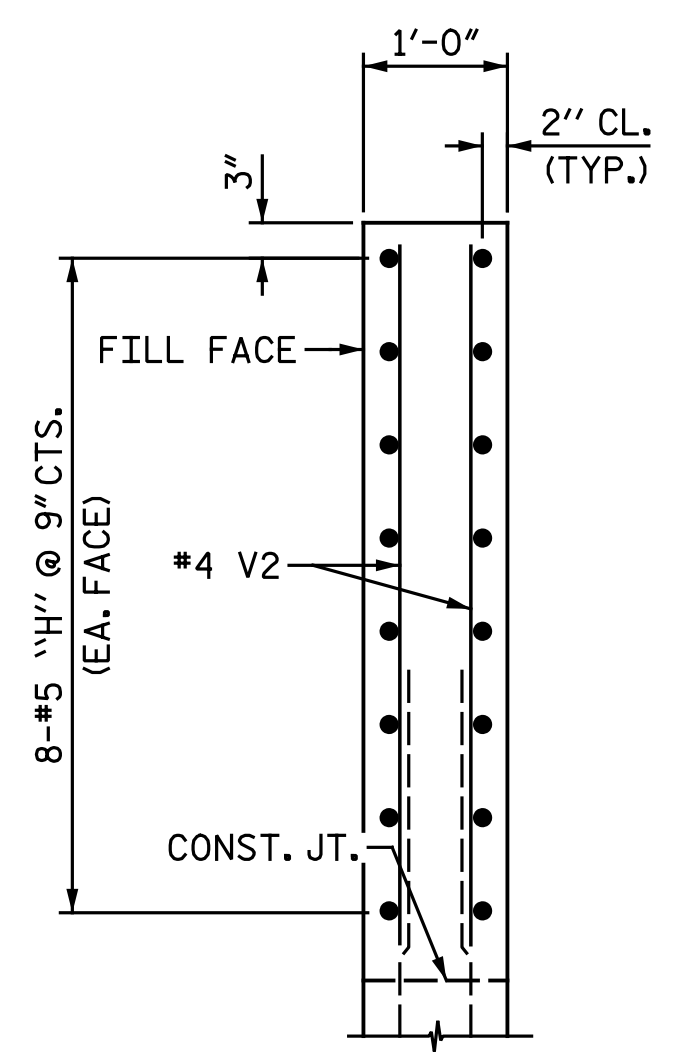
PLAN OF WING (W4)



ELEVATION OF WING (W3)  
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ELEVATION OF WING (W4)  
BLOCKOUT NOT SHOWN



SECTION A-A

UPPER WINGS AT INTEGRAL END BENT 2

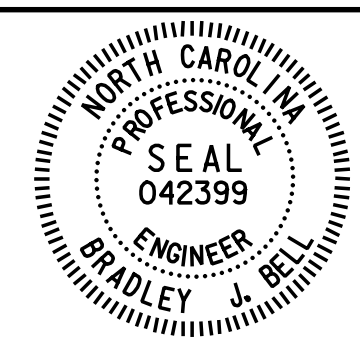
FOR LOWER WING REINFORCING STEEL AND DETAILS, SEE "INTEGRAL END BENT 2 DETAILS" SHEETS.

PROJECT NO. U-2524D  
GUILFORD COUNTY  
STATION: 13+62.84 -PED-  
SHEET 3 OF 3

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CHECKED BY : A. M. HOUSTON DATE : 2-9-16

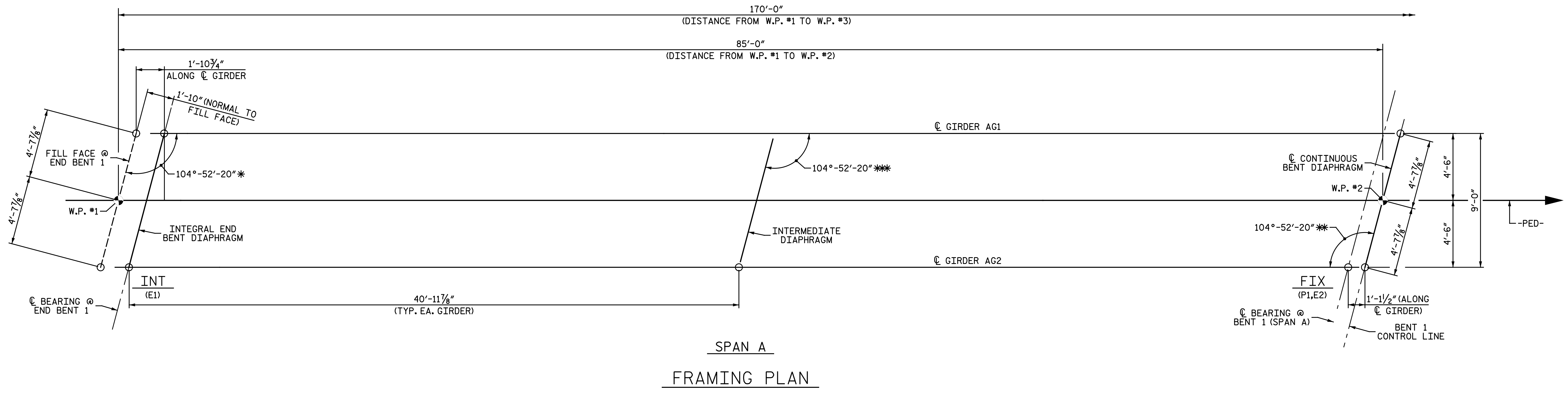
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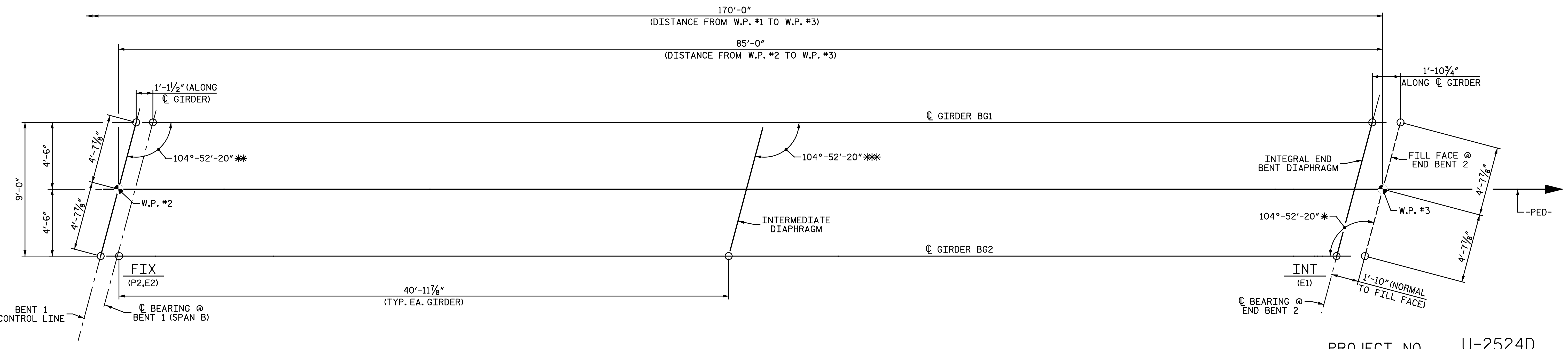
DocuSigned by:  
Bradley J. Bell  
C41A3F8E3C3A34...  
5/5/2016

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Cary, North Carolina 27518  
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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUPERSTRUCTURE PLAN OF SPAN DETAILS					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S2-10					TOTAL SHEETS 33



SPAN A  
FRAMING PLAN



SPAN B  
FRAMING PLAN

PROJECT NO. U-2524D  
GUILFORD COUNTY  
 STATION: 13+62.84 -PED-

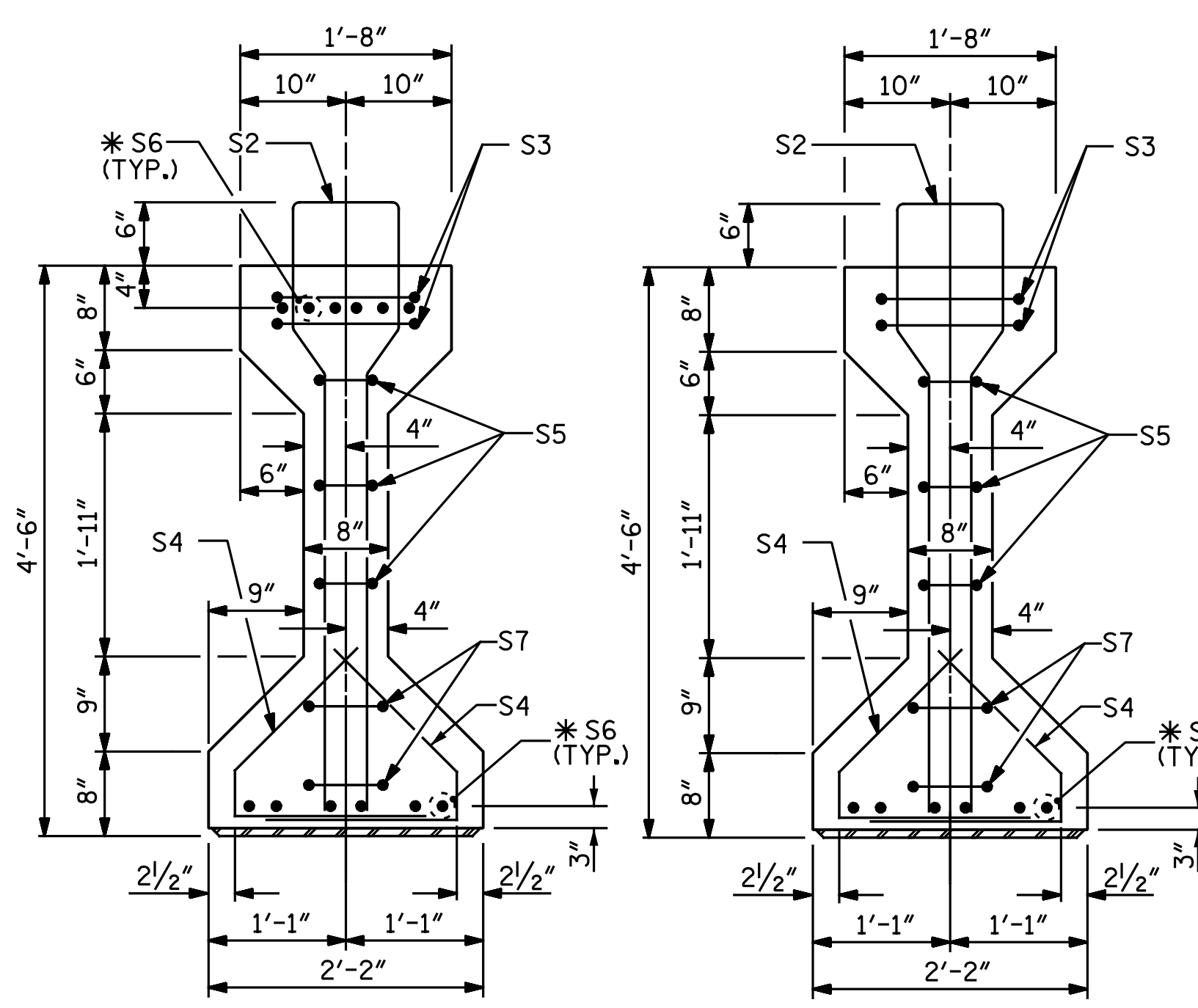
- NOTES:**
- FOR STEEL DIAPHRAGM DETAILS, SEE "INTERMEDIATE STEEL DIAPHRAGMS FOR TYPE IV PRESTRESSED CONCRETE GIRDERS" SHEET.
  - \* ANGLE SHOWN IS FROM  $\text{\O}$  GIRDER TO FILL FACE AT END BENT (TYPICAL EACH GIRDER)
  - \*\* ANGLE SHOWN IS FROM  $\text{\O}$  GIRDER TO BENT CONTROL LINE (TYPICAL EACH GIRDER)
  - \*\*\* ANGLE SHOWN IS FROM  $\text{\O}$  GIRDER TO INTERMEDIATE DIAPHRAGM (TYPICAL EACH GIRDER)

DRAWN BY : M. D. MAYHEW DATE : 8-27-15  
 CHECKED BY : A. M. HOUSTON DATE : 2-9-16

cmayhew 12:03:18 PM 5/5/2016 Y:\Projects\NCDOT\U-2524D\Site\1.DWG\Final\402.012.U2524D\_SML.FP.dgn

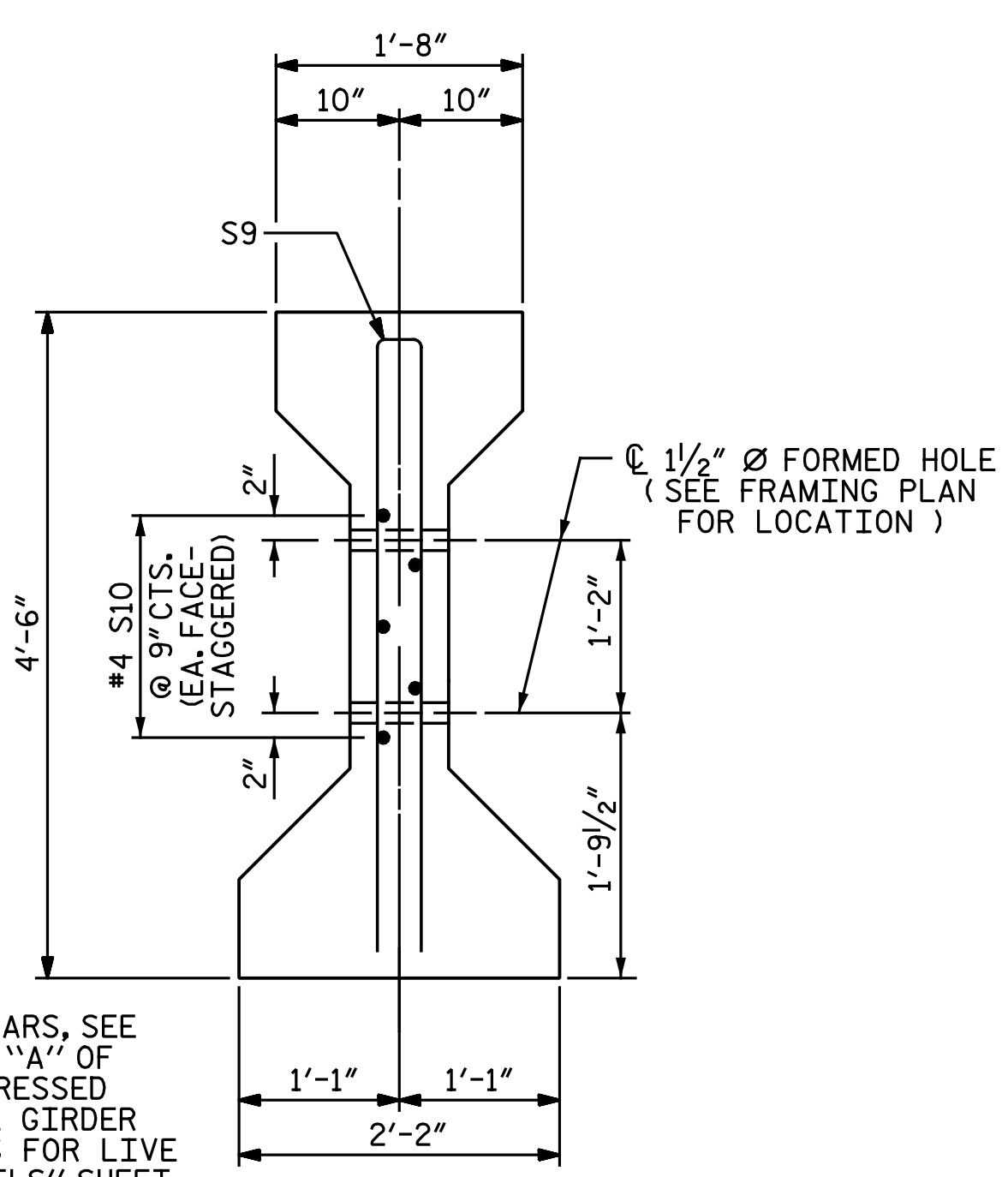
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		Michael Baker Engineering 8000 Regency Parkway, Suite 600 Cary, North Carolina 27518 NC License No.: F-1084																							
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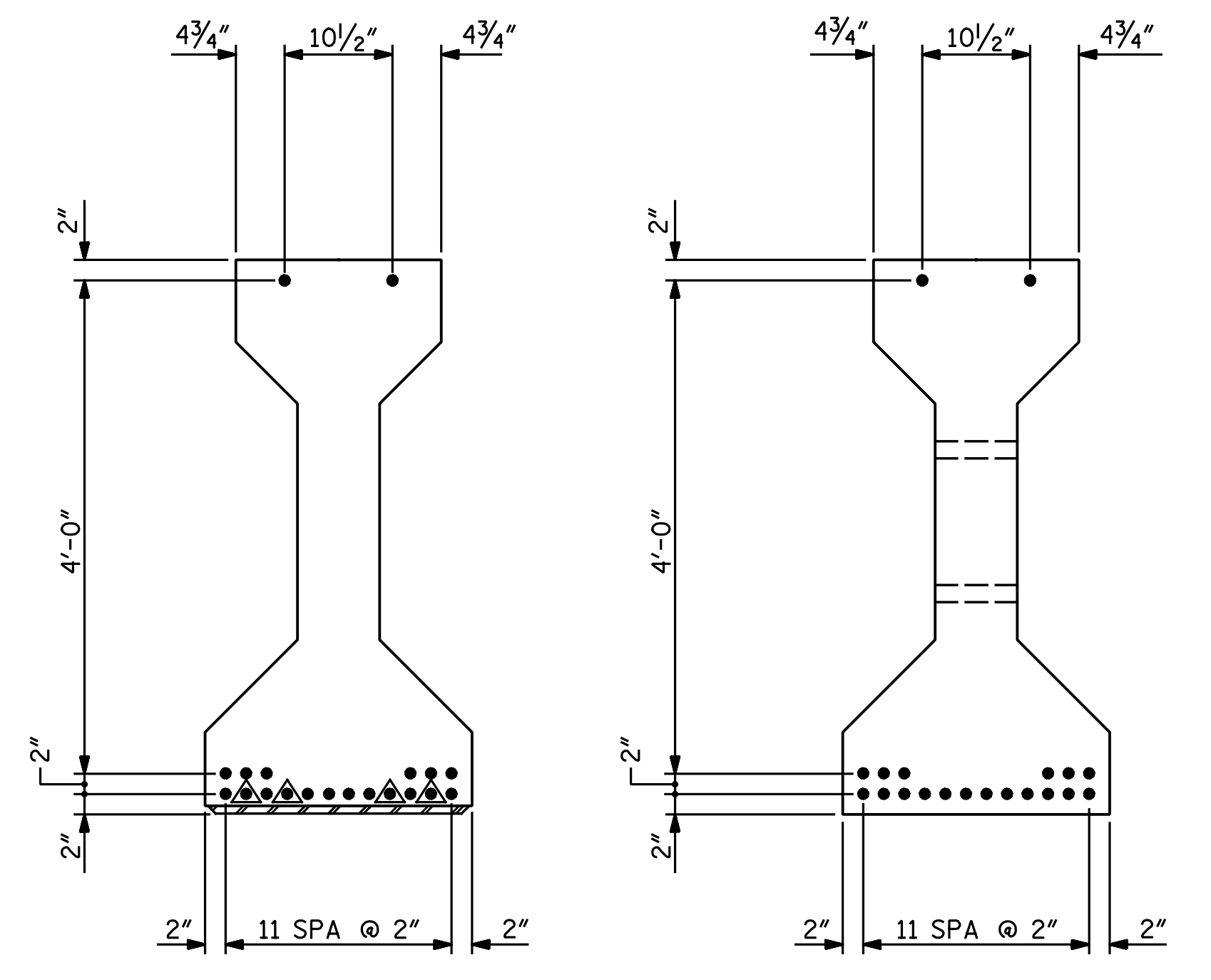


SECTION A-A

SECTION B-B

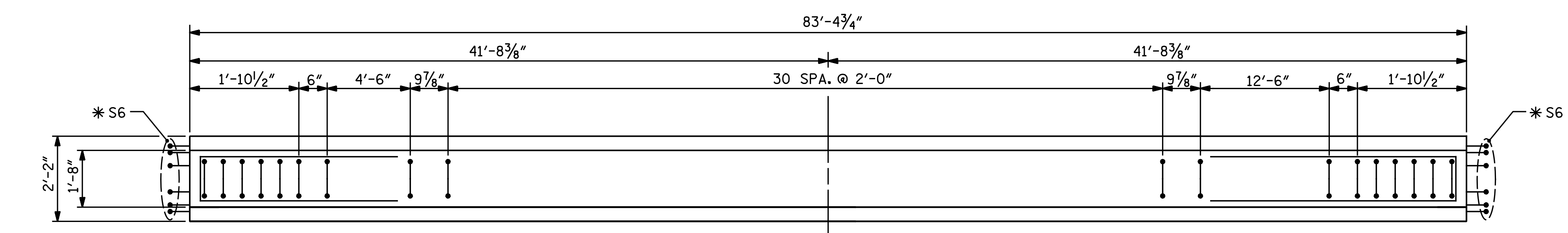


SECTION C-C  
(S1 BARS NOT SHOWN)

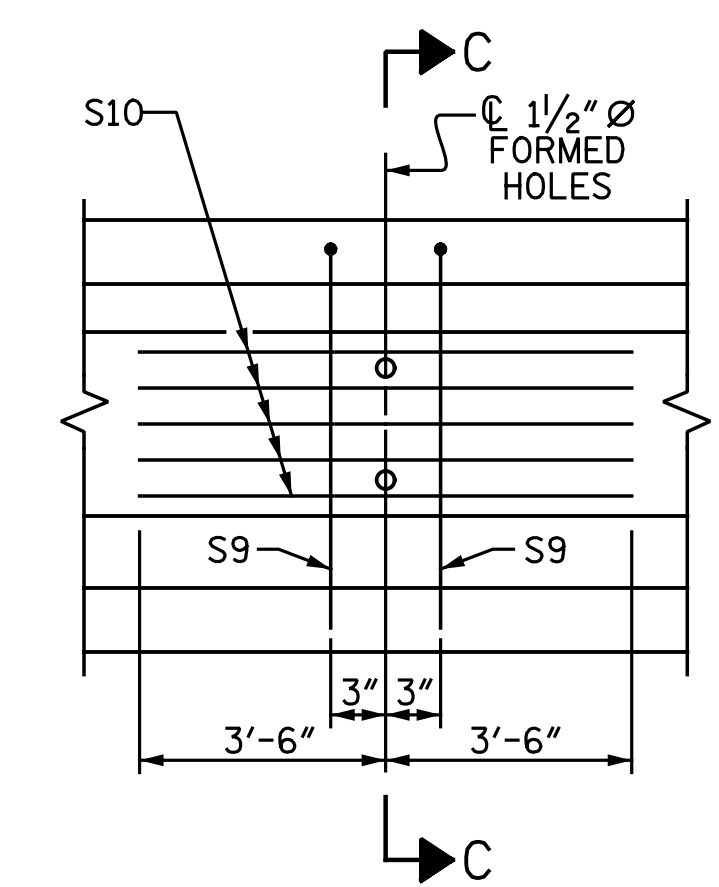


AT END OF GIRDER AT C OF GIRDER  
0.6" Ø LOW RELAXATION STRAND LAYOUT

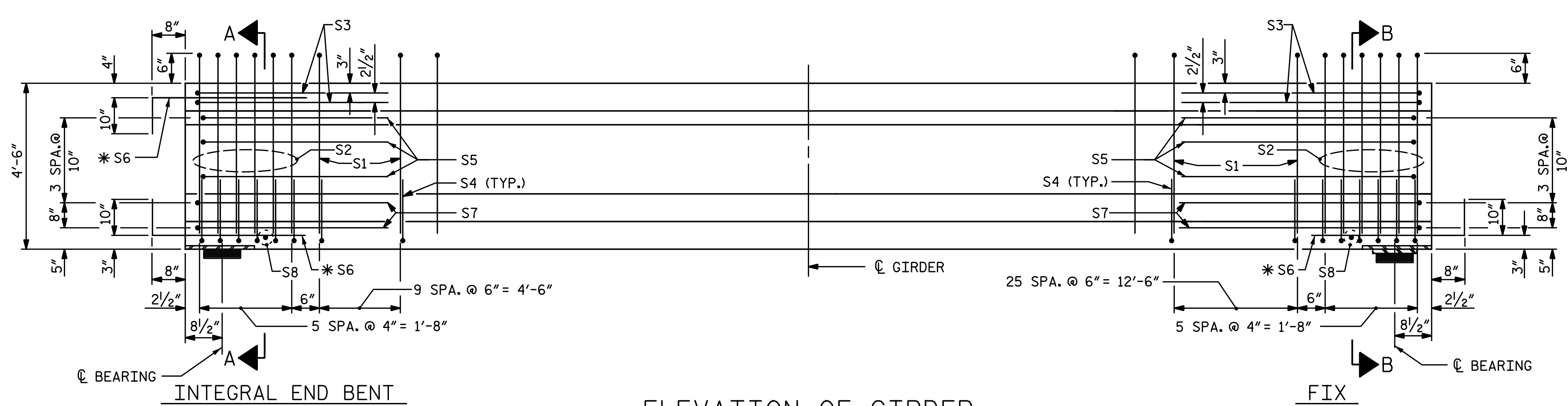
▲ STRANDS DEBONDED FOR 6'-0" FROM END OF GIRDER



PLAN OF GIRDER



PARTIAL ELEVATION  
SHOWING INTERMEDIATE DIAPHRAGM  
REINFORCING STEEL FOR BOTH GIRDERS



ELEVATION OF GIRDER

(SEE PARTIAL ELEVATION FOR ADDITIONAL "S" BARS)

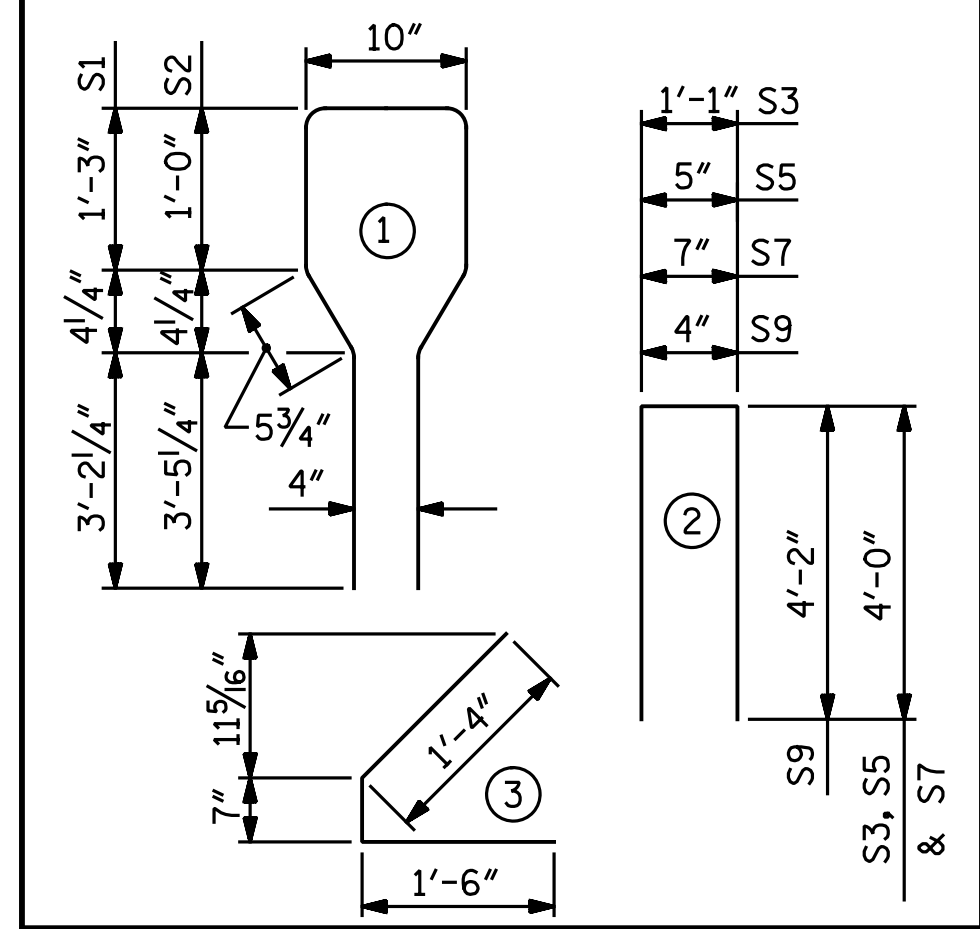
0.6" Ø L. R. GRADE 270 STRANDS		
AREA (SQUARE INCHES)	ULTIMATE STRENGTH (LBS. PER STRAND)	APPLIED PRESTRESS (LBS. PER STRAND)
0.217	58,600	43,950

REINFORCING STEEL FOR ONE GIRDER					
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
S1	67	#4	1	10'-8"	477
S2	12	#6	1	10'-8"	192
S3	4	#4	2	9'-1"	24
S4	96	#4	3	3'-5"	219
S5	6	#4	2	8'-5"	34
*S6	18	#5	STR	3'-8"	69
S7	4	#4	2	8'-7"	23
S8	2	#3	STR	1'-10"	1
S9	2	#5	2	8'-8"	18
S10	5	#4	STR	7'-0"	23

\* NOTE: S6 BARS SHALL BE BENT BEFORE SHIPMENT. HEAT BENDING SHALL NOT BE ALLOWED.

BAR TYPES

ALL BAR DIMENSIONS ARE OUT-TO-OUT



QUANTITIES FOR ONE GIRDER

	REINFORCING STEEL LB.	6,000 PSI CONCRETE C.Y.	0.6" Ø L. R. STRANDS No.
ALL	1,080	16.9	20

GIRDERS REQUIRED

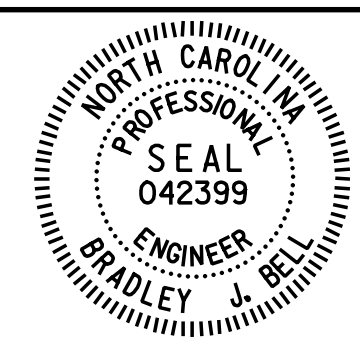
NUMBER	LENGTH	TOTAL LENGTH
2	83'-4 3/4"	166'-9 1/2"

PROJECT NO. U-2524D  
GUILFORD COUNTY  
STATION: 13+62.84 -PED-

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CHECKED BY: A. M. HOUSTON DATE: 2-9-16

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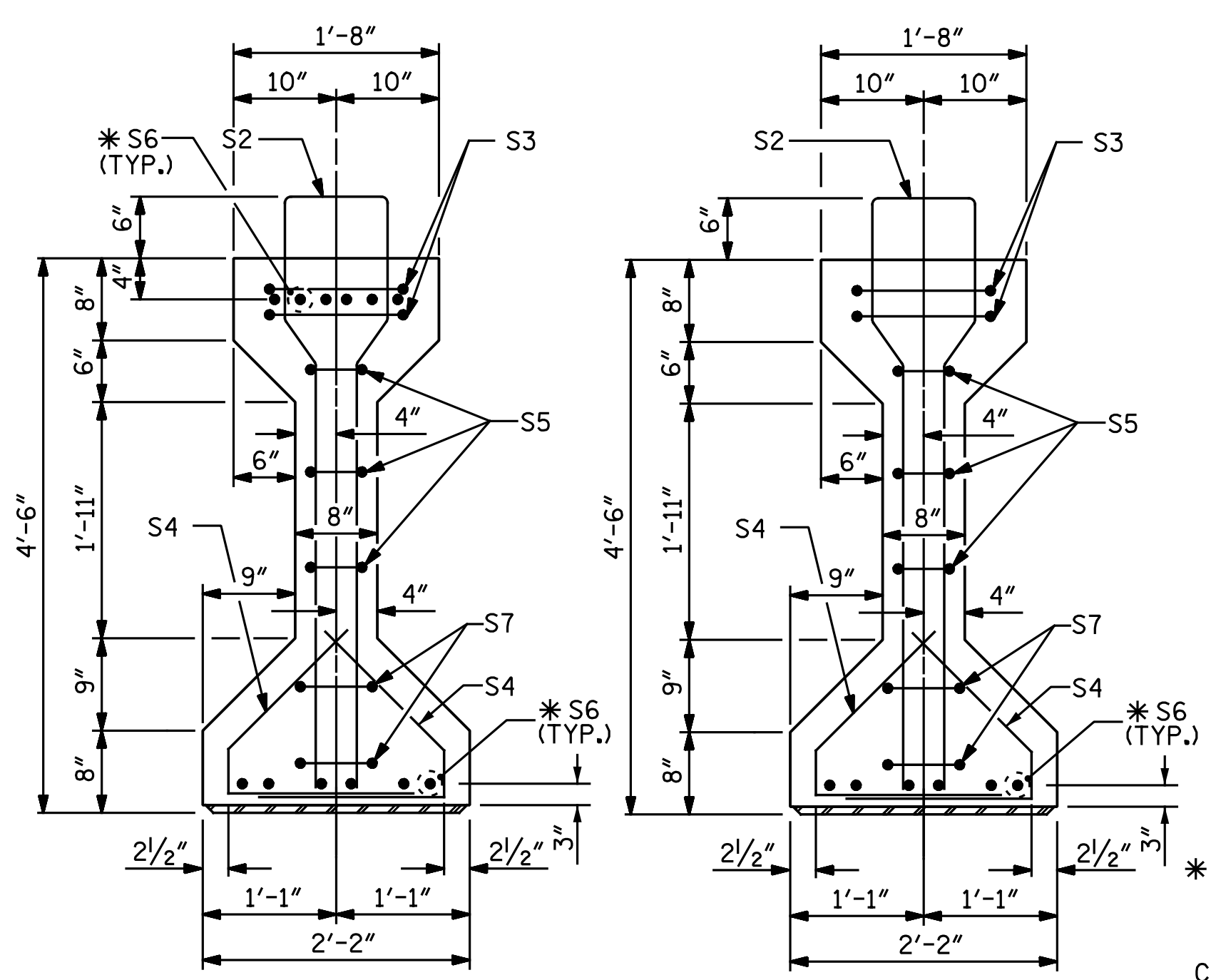
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Bradley J. Bell  
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5/5/2016

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INTERNATIONAL

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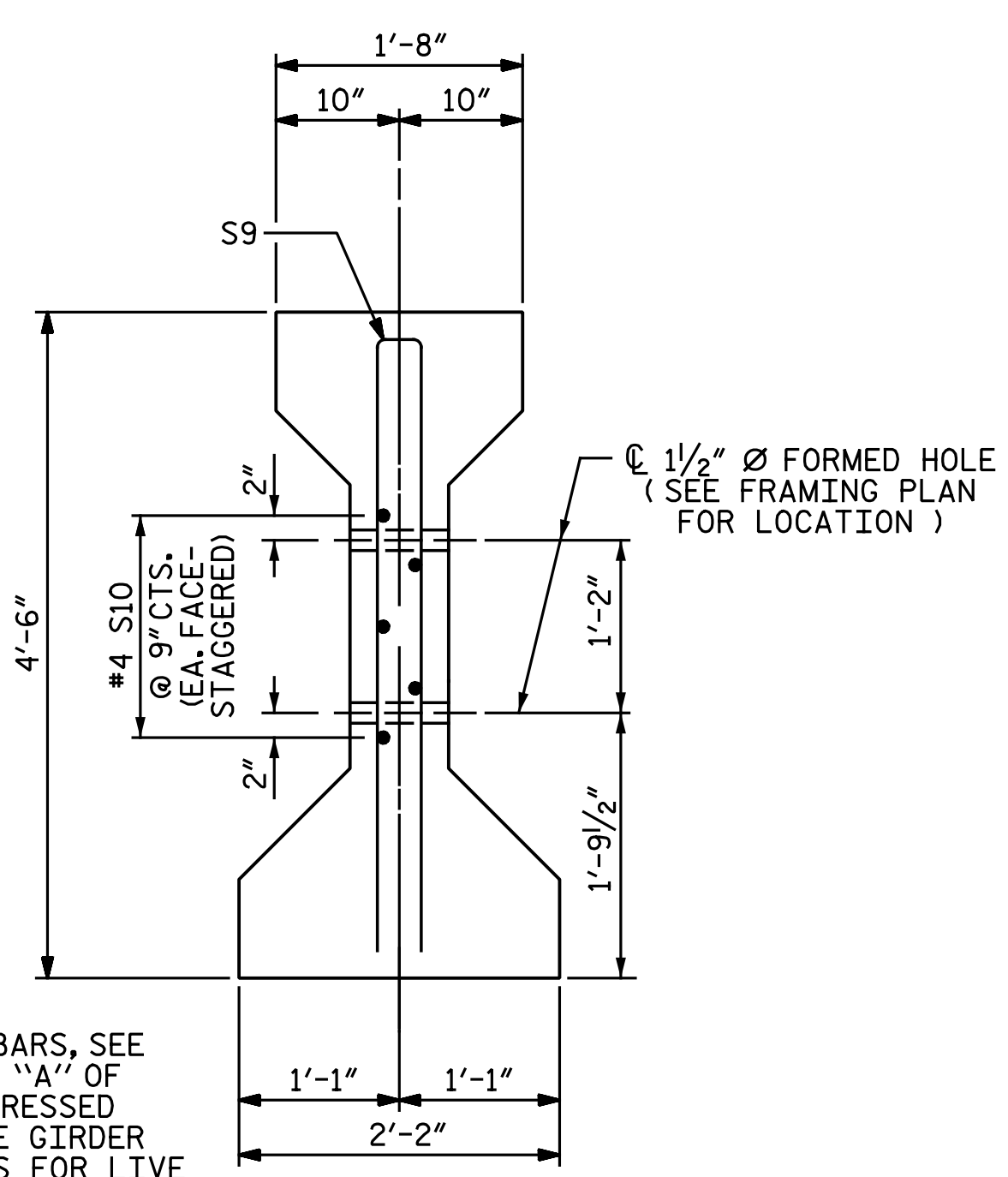
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DEPARTMENT OF TRANSPORTATION  
RALEIGH  
SUPERSTRUCTURE  
AASHTO TYPE IV  
PRESTRESSED CONCRETE GIRDER  
CONTINUOUS FOR LIVE LOAD

SPAN A					
REVISIONS			SHEET NO.		
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS
					33



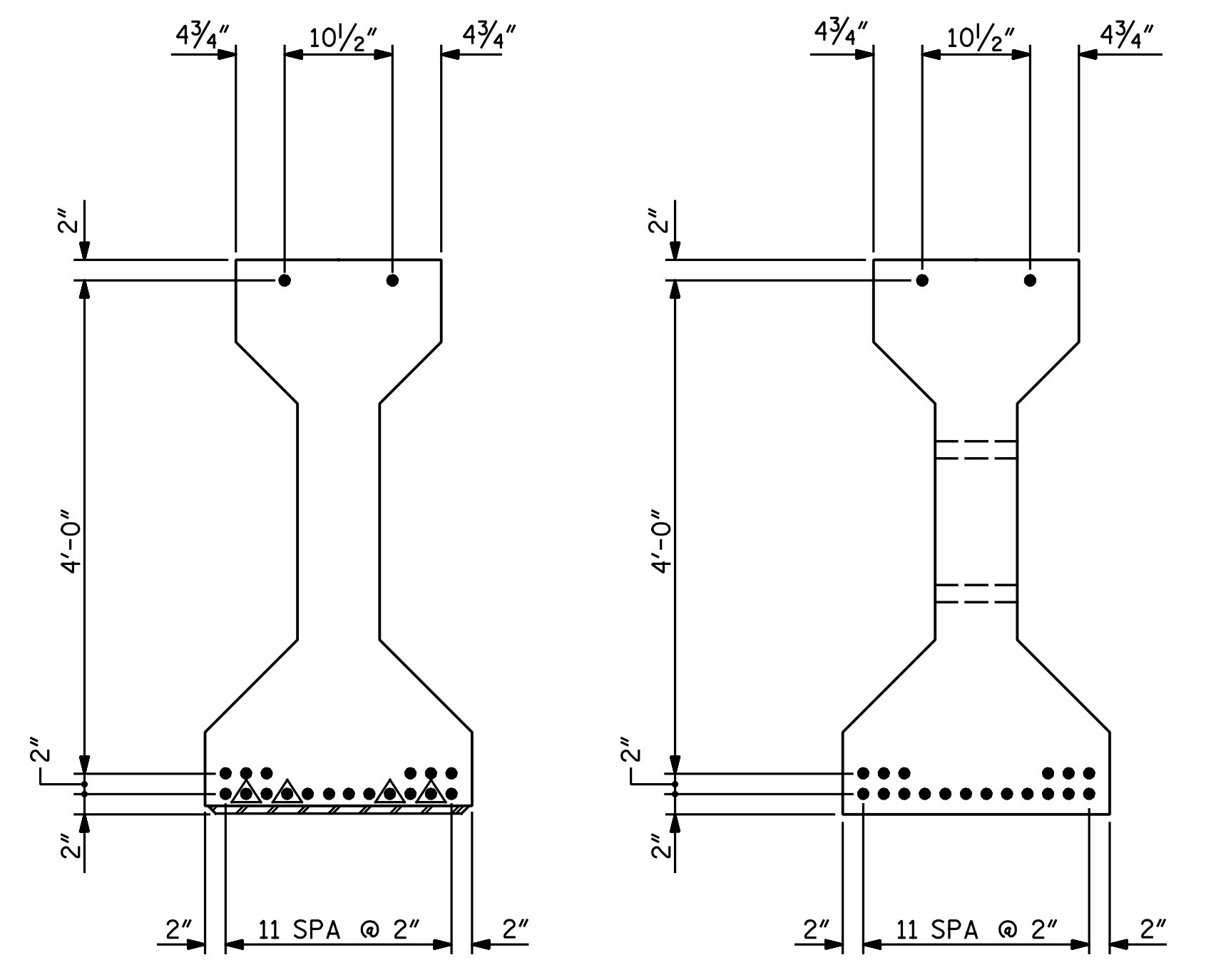
SECTION A-A

SECTION B-B



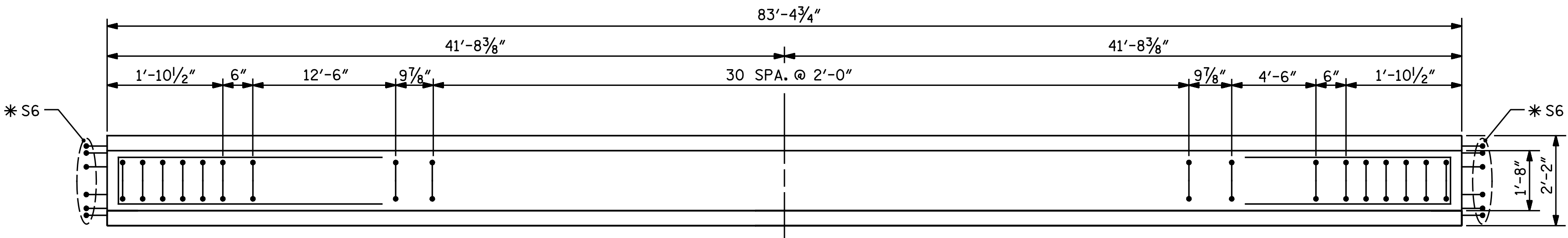
SECTION C-C  
(S1 BARS NOT SHOWN)

\* FOR S6 BARS, SEE  
DETAIL "A" OF  
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CONTINUOUS FOR LIVE  
LOAD DETAILS" SHEET

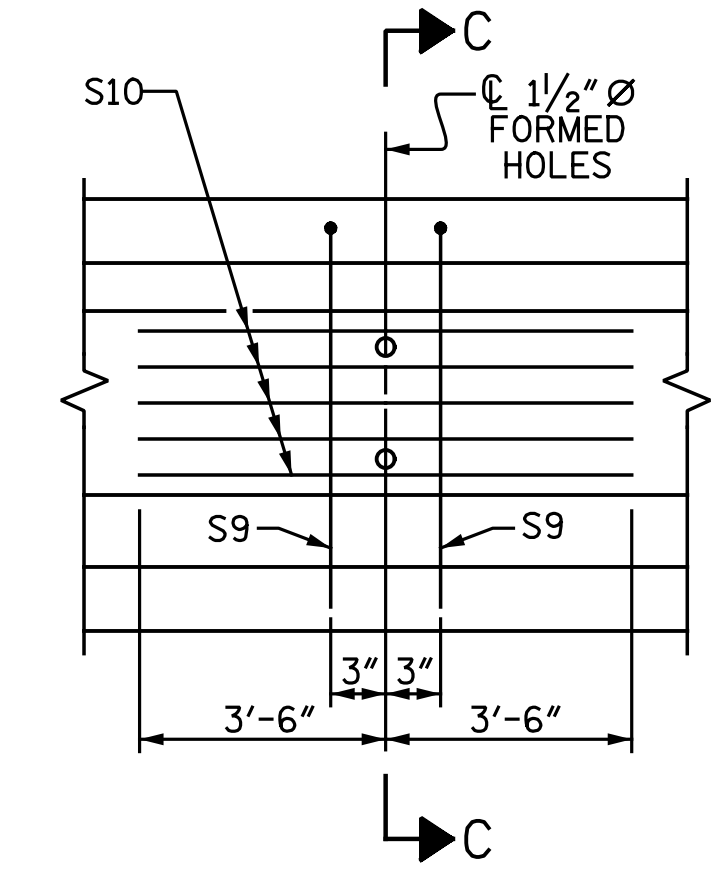


AT END OF GIRDER      AT  $\bar{C}$  OF GIRDER  
0.6"  $\bar{\varnothing}$  LOW RELAXATION STRAND LAYOUT

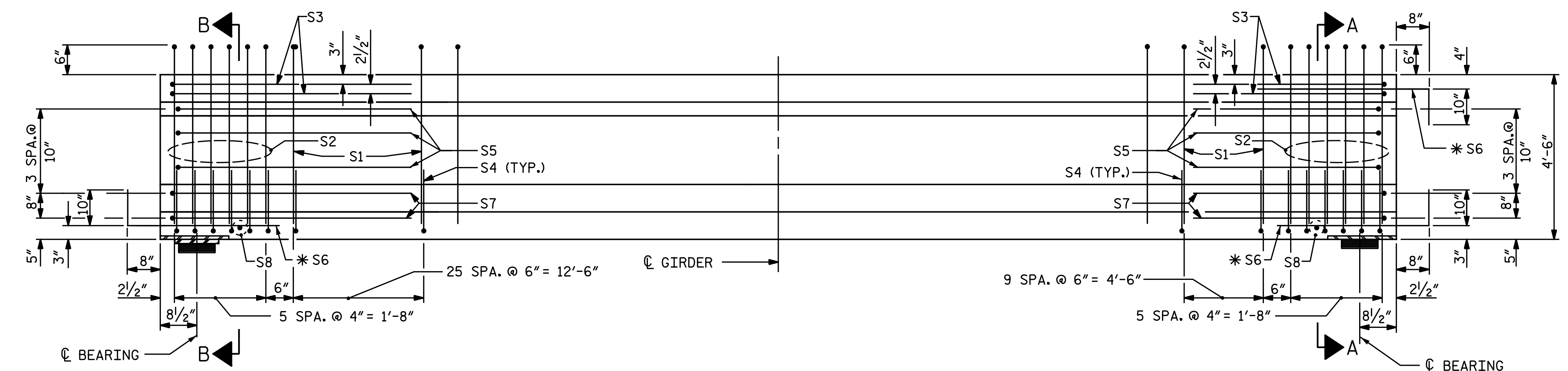
▲ STRANDS DEBONDED FOR 6'-0" FROM END OF GIRDER



PLAN OF GIRDER



PARTIAL ELEVATION  
SHOWING INTERMEDIATE DIAPHRAGM  
REINFORCING STEEL FOR BOTH GIRDERS



ELEVATION OF GIRDER  
(SEE PARTIAL ELEVATION FOR ADDITIONAL "S" BARS)

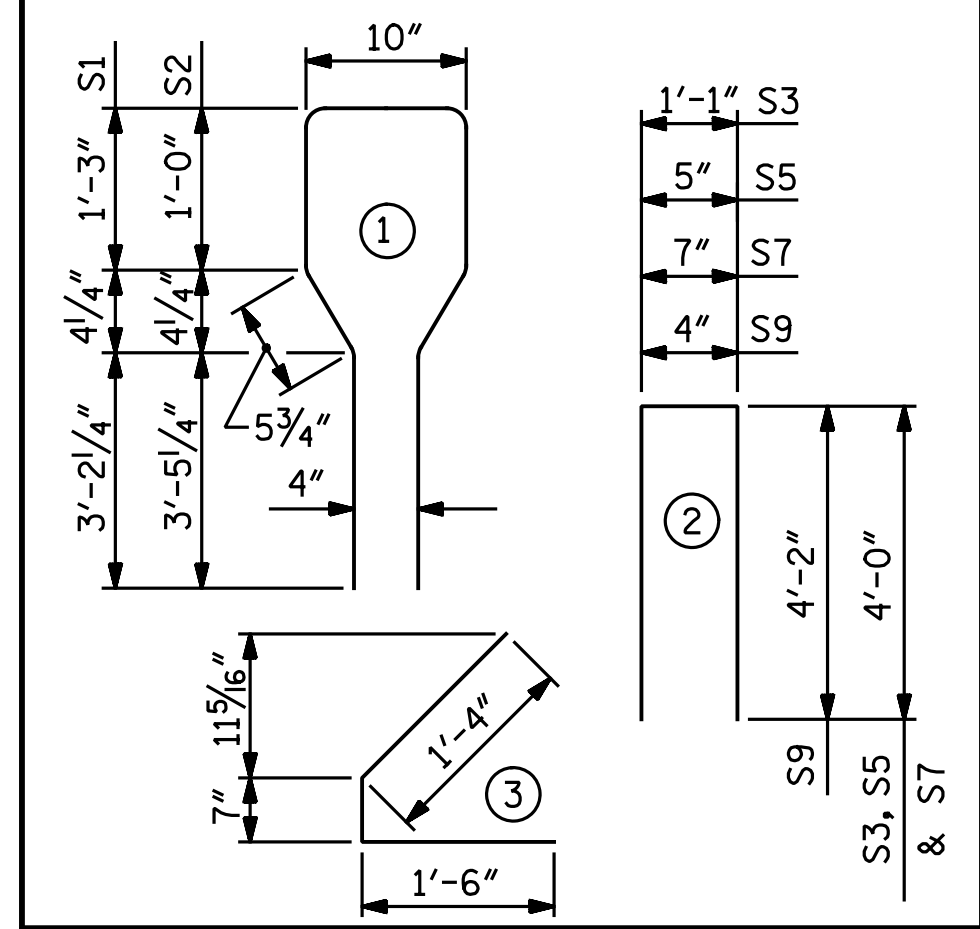
0.6" $\bar{\varnothing}$ L. R. GRADE 270 STRANDS		
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S9	2	#5	2	8'-8"	18
S10	5	#4	STR	7'-0"	23

\* NOTE: S6 BARS SHALL BE BENT BEFORE SHIPMENT. HEAT BENDING SHALL NOT BE ALLOWED.

BAR TYPES

ALL BAR DIMENSIONS ARE OUT-TO-OUT



QUANTITIES FOR ONE GIRDER

	REINFORCING STEEL LB.	6,000 PSI CONCRETE C.Y.	0.6" $\bar{\varnothing}$ L. R. STRANDS No.
ALL	1,080	16.9	20

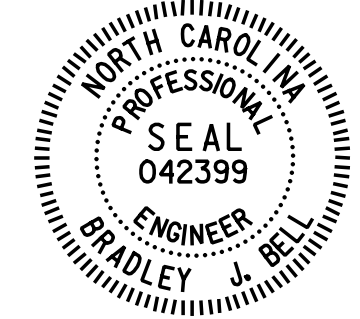
GIRDERS REQUIRED

NUMBER	LENGTH	TOTAL LENGTH
2	83'-4 3/4"	166'-9 1/2"

PROJECT NO. U-2524D  
GUILFORD COUNTY  
STATION: 13+62.84 -PED-

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DRAWN BY: N. B. SPEAKS DATE: 11-17-15  
CHECKED BY: A. M. HOUSTON DATE: 2-25-16



DocuSigned by:  
Bradley J. Bell  
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5/5/2016

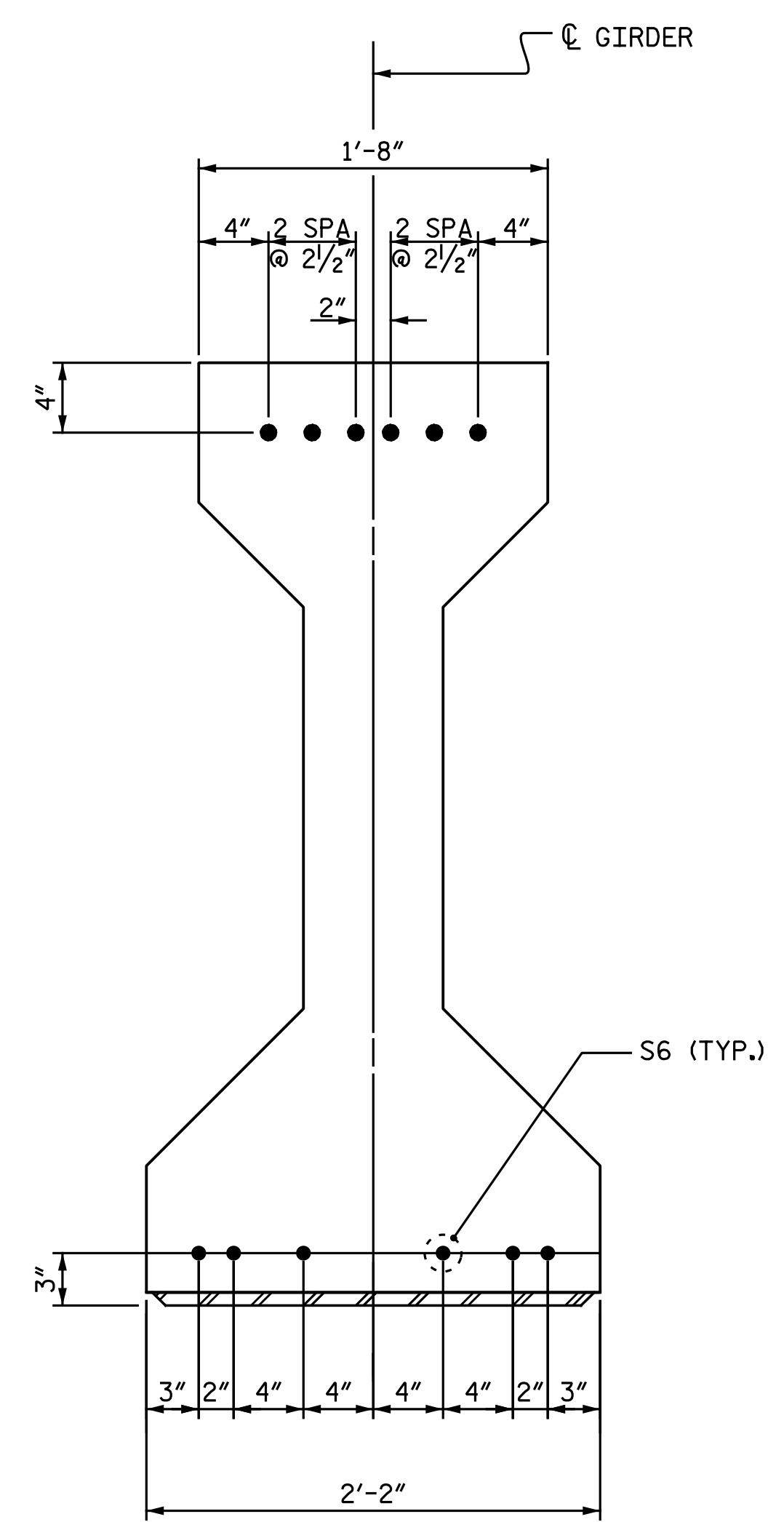
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Cary, North Carolina 27518  
NC License No.: F-1084

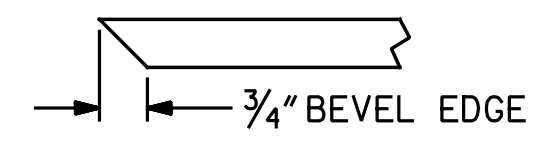
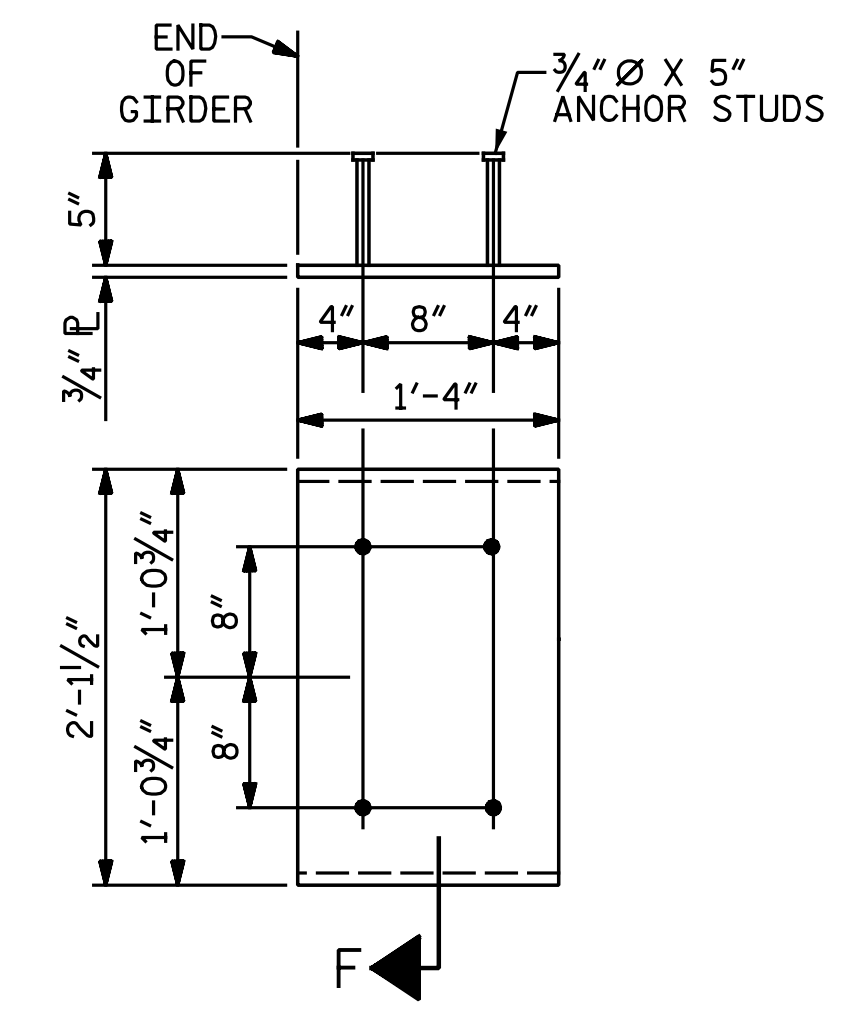
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
SUPERSTRUCTURE  
AASHTO TYPE IV  
PRESTRESSED CONCRETE GIRDER  
CONTINUOUS FOR LIVE LOAD

SPAN B					
REVISIONS			SHEET NO.		
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS
					33





DETAIL "A"



SECTION F  
(SEE NOTES)

EMBEDDED PLATE "B-1" DETAILS  
FOR AASHTO TYPE IV GIRDER  
(2 REQ'D PER GIRDER)

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 SHALL BE GRADE 60.

EMBEDDED PLATE "B-1" SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ANCHOR STUDS SHALL CONFORM TO AASHTO M169 GRADES 1010 THROUGH 1020 OR APPROVED EQUAL, AND SHALL MEET THE TYPE "B" REQUIREMENTS OF SUBSECTION 7.3 OF THE ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE.

AT ENDS OF GIRDERS TO BE EMBEDDED IN CONCRETE DIAPHRAGMS OR END WALLS, PRESTRESSING STRANDS MAY EXTEND A MAXIMUM OF 2" BEYOND THE GIRDER ENDS. OTHERWISE, PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE GIRDER ENDS.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE GIRDER SHALL BE DONE WHEN CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 4,800 PSI.

DEPENDING ON THE TYPE OF SYSTEM USED TO SUPPORT THE DECK SLAB FORMS, PRESET ANCHORS MAY BE NECESSARY IN THE PRESTRESSED CONCRETE GIRDER.

THE TOP SURFACE OF THE GIRDER, EXCLUDING THE OUTSIDE 4", SHALL BE RAKED TO A DEPTH OF 1/4".

THE CONTRACTOR HAS THE OPTION TO PROVIDE, AT NO ADDITIONAL COST TO THE DEPARTMENT, 2 ADDITIONAL STRANDS AT THE TOP OF THE GIRDER TO FACILITATE TYING OF THE REINFORCING STEEL. THESE STRANDS SHALL BE PULLED TO A LOAD OF 4500 LBS.

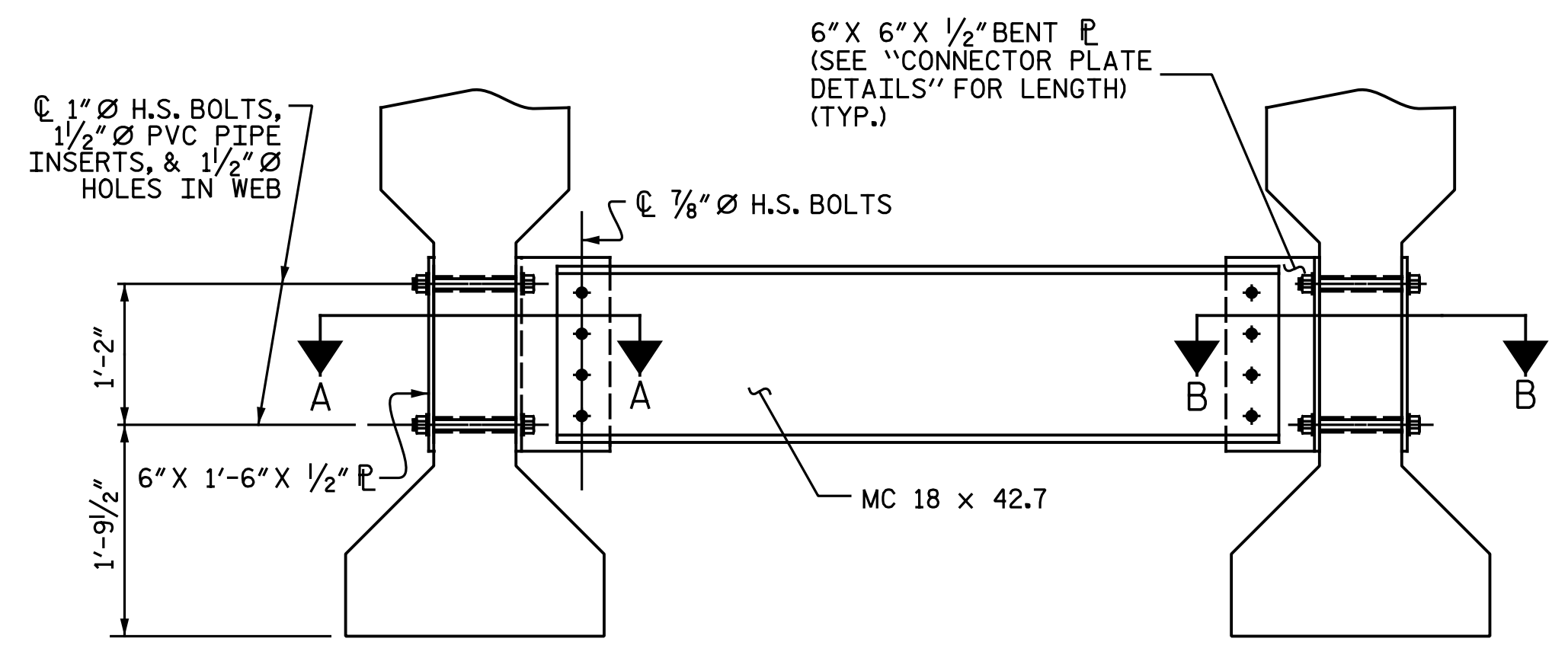
PROJECT NO. U-2524D  
GUILFORD COUNTY  
STATION: 13+62.84 -PED-

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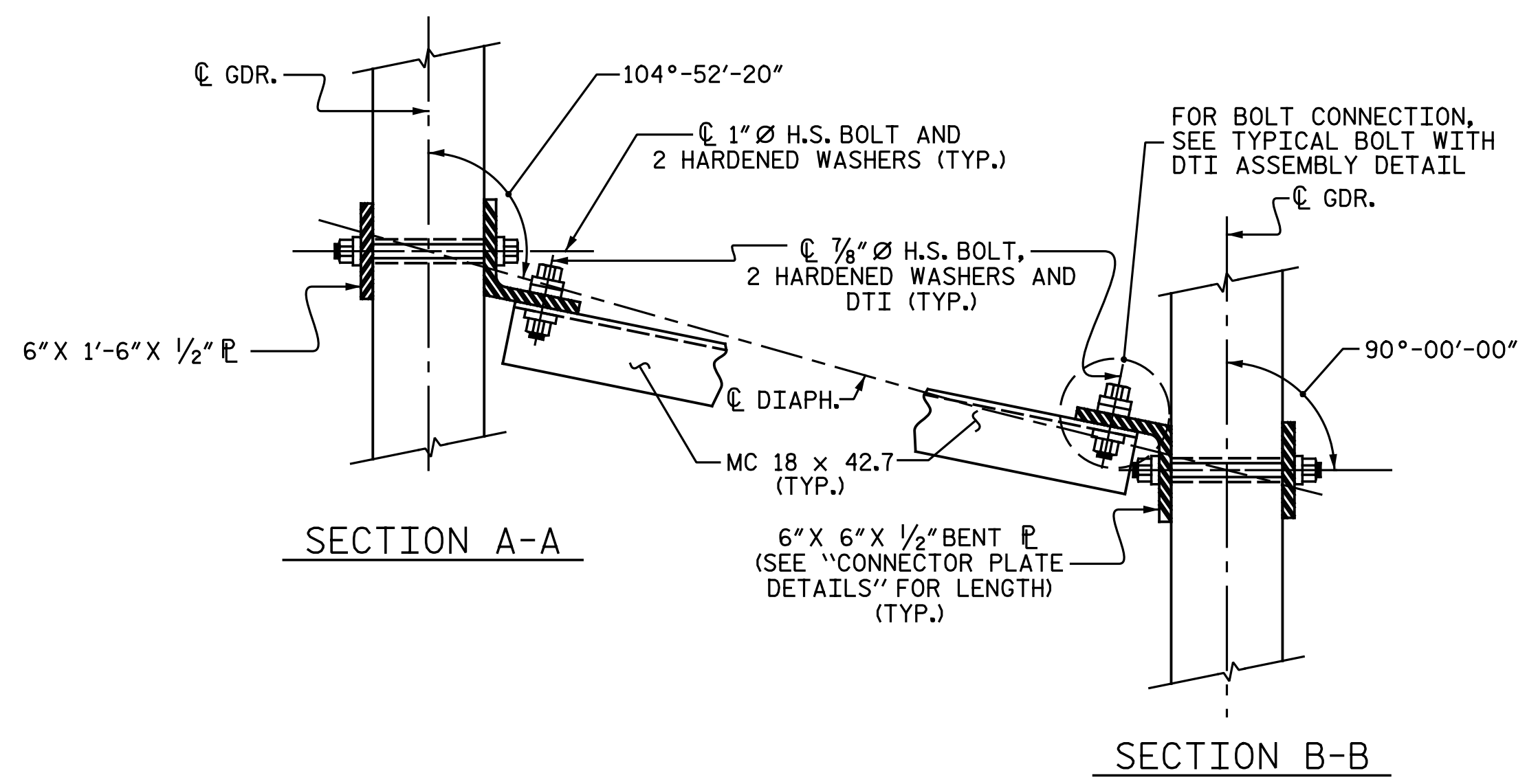
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 CHECKED BY : A. M. HOUSTON DATE : 2-9-16

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			DEPARTMENT OF TRANSPORTATION RALEIGH SUPERSTRUCTURE AASHTO TYPE IV PRESTRESSED CONCRETE GIRDER CONTINUOUS FOR LIVE LOAD DETAILS		SHEET NO. S2-14
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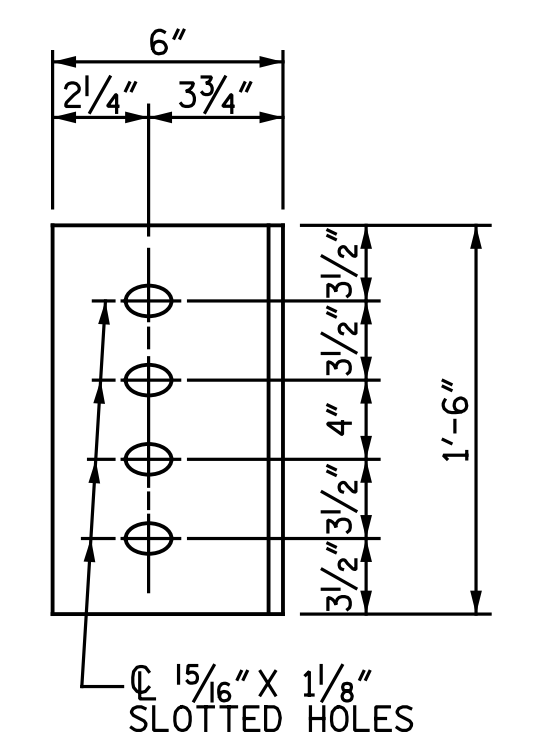
**Michael Baker International**  
 Michael Baker Engineering  
 8000 Regency Parkway, Suite 600  
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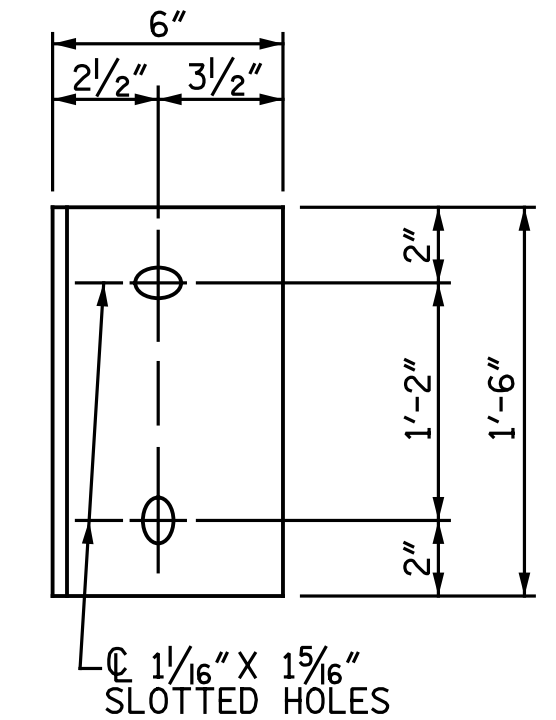
PART SECTION AT INTERMEDIATE DIAPHRAGM



CONNECTION DETAILS



DIAPHRAGM FACE



WEB FACE

CONNECTOR PLATE DETAILS

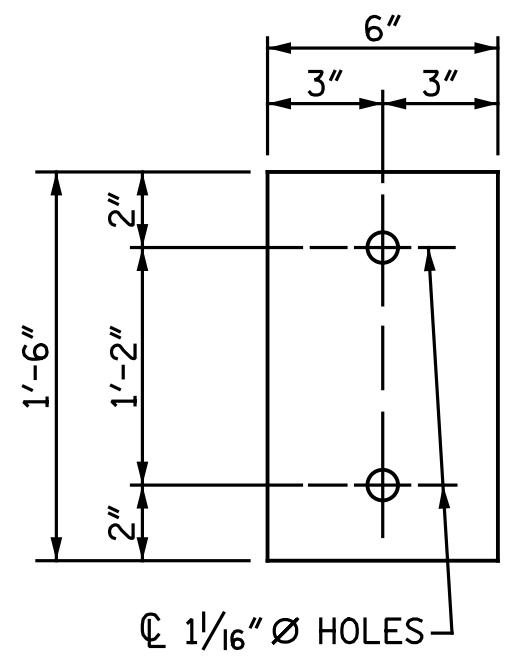
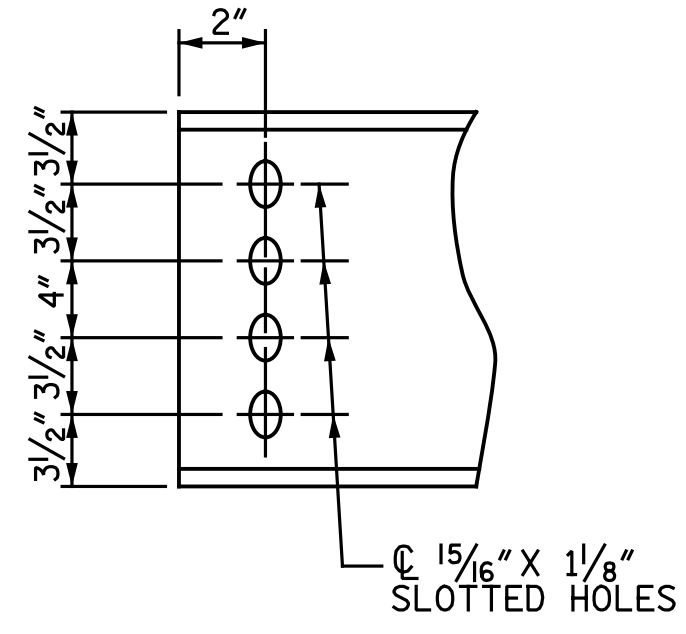


PLATE DETAILS



CHANNEL END

STRUCTURAL STEEL NOTES:

ALL INTERMEDIATE DIAPHRAGM STEEL AND CONNECTOR PLATES SHALL BE AASHTO M270 GRADE 50 OR APPROVED EQUAL.  
TENSION ON THE ASTM A325 BOLTS THROUGH THE CHANNEL MEMBER SHALL BE CALIBRATED USING DIRECT TENSION INDICATOR WASHERS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

TENSION ON THE ASTM A449 BOLTS THROUGH THE GIRDER WEB SHALL BE SNUG TIGHTENED FOLLOWED BY AN ADDITIONAL 1/4 TURN.

THE PLATES, BENT PLATES, CHANNELS, AND ANGLES SHALL BE GALVANIZED OR METALLIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. FOR THERMAL SPRAYED COATINGS (METALLIZATION), SEE SPECIAL PROVISIONS.

FOR METALLIZATION, APPLY AN 8 MIL THICK 99.99 PERCENT ZINC (W-Zn-1) THERMAL SPRAYED COATING WITH A 0.5 MIL THICK SEAL COAT TO ALL STEEL DIAPHRAGM SURFACES IN ACCORDANCE WITH THE THERMAL SPRAYED COATINGS SPECIAL PROVISION AND SECTION 442 OF THE STANDARD SPECIFICATIONS.

GALVANIZE THE HIGH STRENGTH BOLTS, NUTS, WASHERS AND DIRECT TENSION INDICATORS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

USE AN ASTM F436 HARDENED WASHER WITH STANDARD AND SLOTTED HOLES UNDER EACH BOLT HEAD AND NUT.

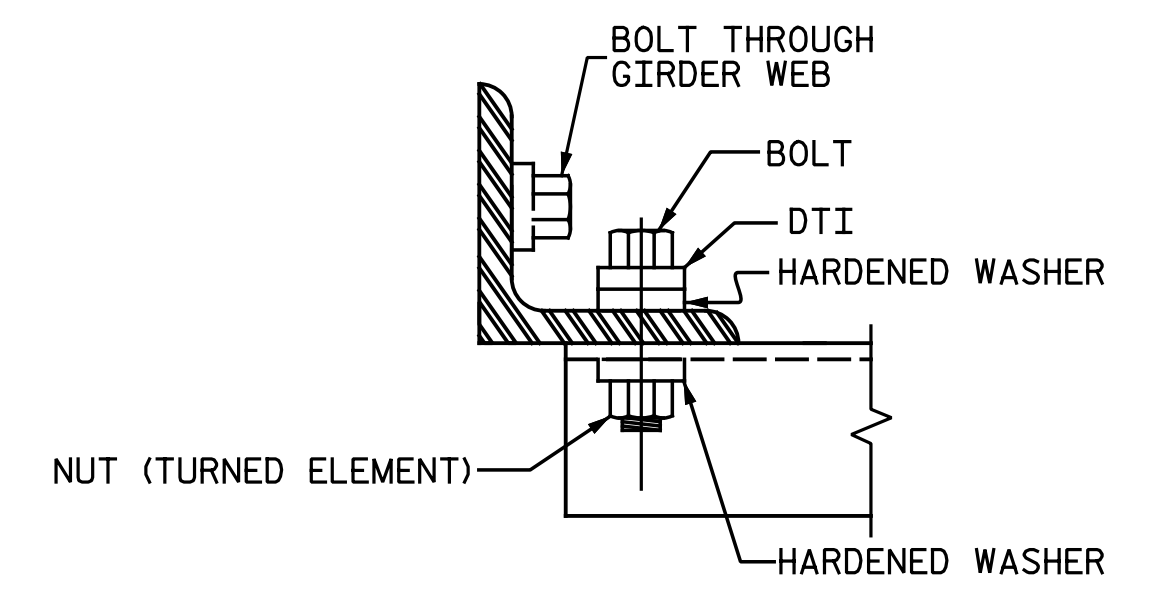
FOR BOLTS THROUGH THE GIRDER WEB, PROVIDE SUFFICIENT LENGTH OF THREADS ON ALL BOLTS TO ACCOMMODATE WASHERS AND THE THICKNESS OF CONNECTING MEMBER PLUS AT LEAST 1/4\"/>

INTERMEDIATE DIAPHRAGM ASSEMBLY SHALL COMPLY WITH SECTION 1072 OF THE STANDARD SPECIFICATIONS.

SUBMIT TWO SETS OF WORKING DRAWINGS FOR THE INTERMEDIATE DIAPHRAGM ASSEMBLY FOR REVIEW, COMMENTS AND ACCEPTANCE. AFTER REVIEW, COMMENTS, AND ACCEPTANCE, SUBMIT SEVEN SETS FOR DISTRIBUTION.

PLACE TEMPORARY STRUTS BETWEEN PRESTRESSED GIRDERS ADJACENT TO THE STEEL DIAPHRAGMS. STRUTS SHALL REMAIN IN PLACE 3 DAYS AFTER CONCRETE IS PLACED.

THE COST OF THE STEEL DIAPHRAGMS AND ASSEMBLIES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE GIRDERS.



BOLT WITH DTI ASSEMBLY DETAIL

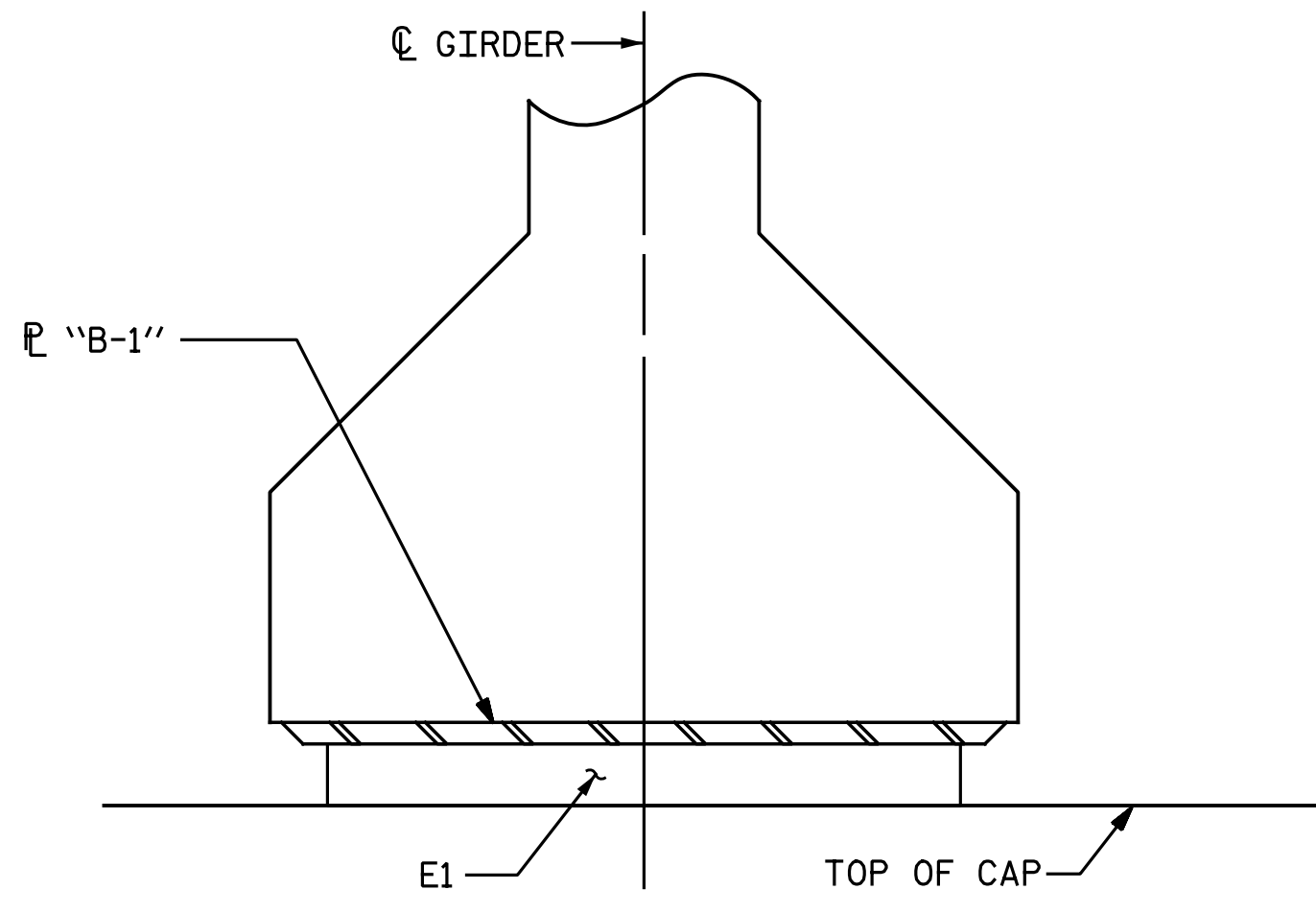
PROJECT NO. U-2524D  
GUILFORD COUNTY  
STATION: 13+62.84 -PED-

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	 DocuSigned by: Bradley J. Bell CA1A3F8E3A30434 5/5/2016	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH STANDARD INTERMEDIATE STEEL DIAPHRAGMS FOR TYPE IV PRESTRESSED CONCRETE GIRDERS			SHEET NO. S2-15	
		REVISIONS				TOTAL SHEETS 33
		NO.	BY:	DATE:	NO.	BY:
1			3			
2			4			

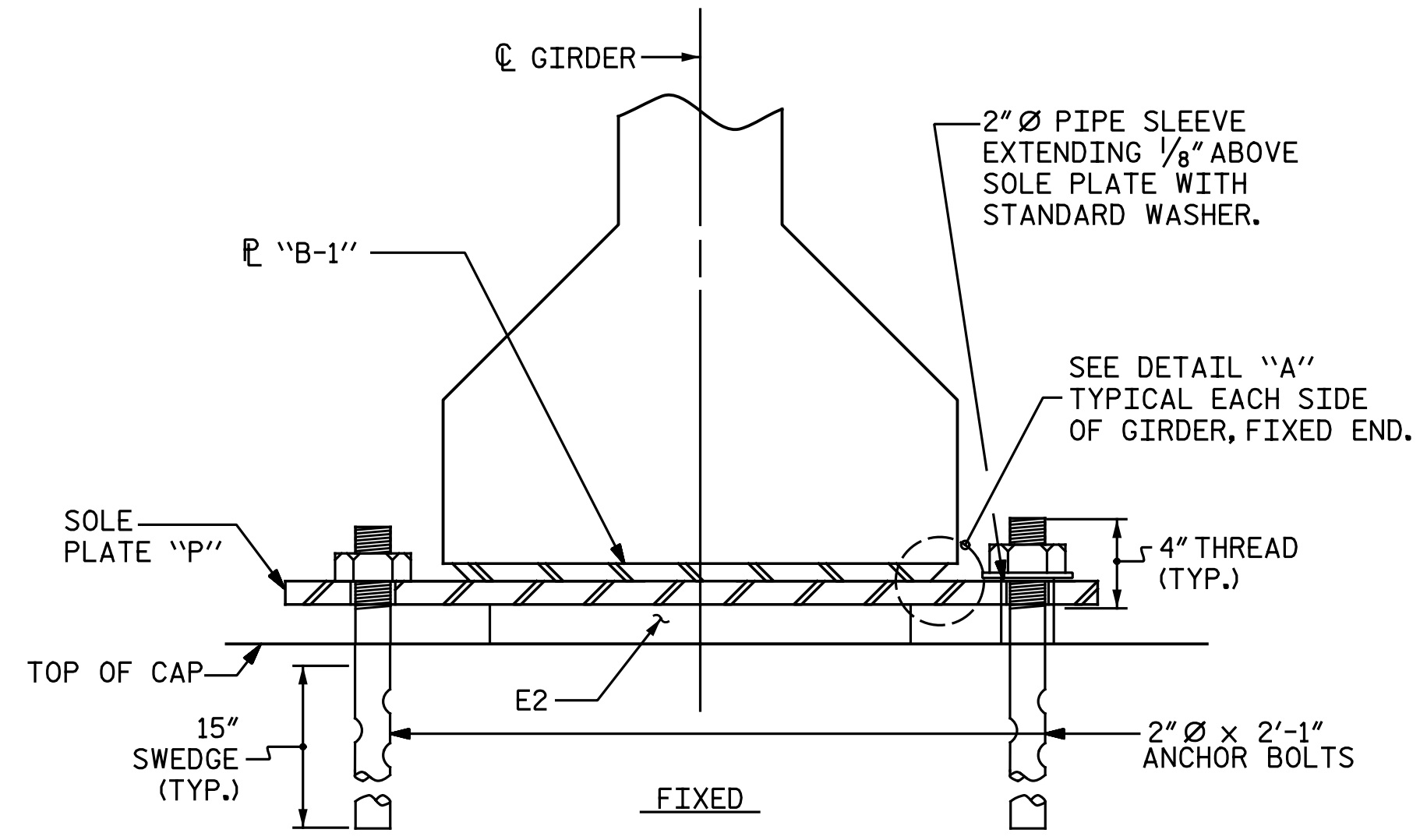
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ASSEMBLED BY : N. B. SPEAKS	DATE : 11-18-15
CHECKED BY : A. M. HOUSTON	DATE : 2-8-16
DRAWN BY : TLA 6/05	ADDED 10/21/05
CHECKED BY : VC 6/05	REV. 5/1/06RRR KMM/GM
	REV. 10/1/11 MAA/GM

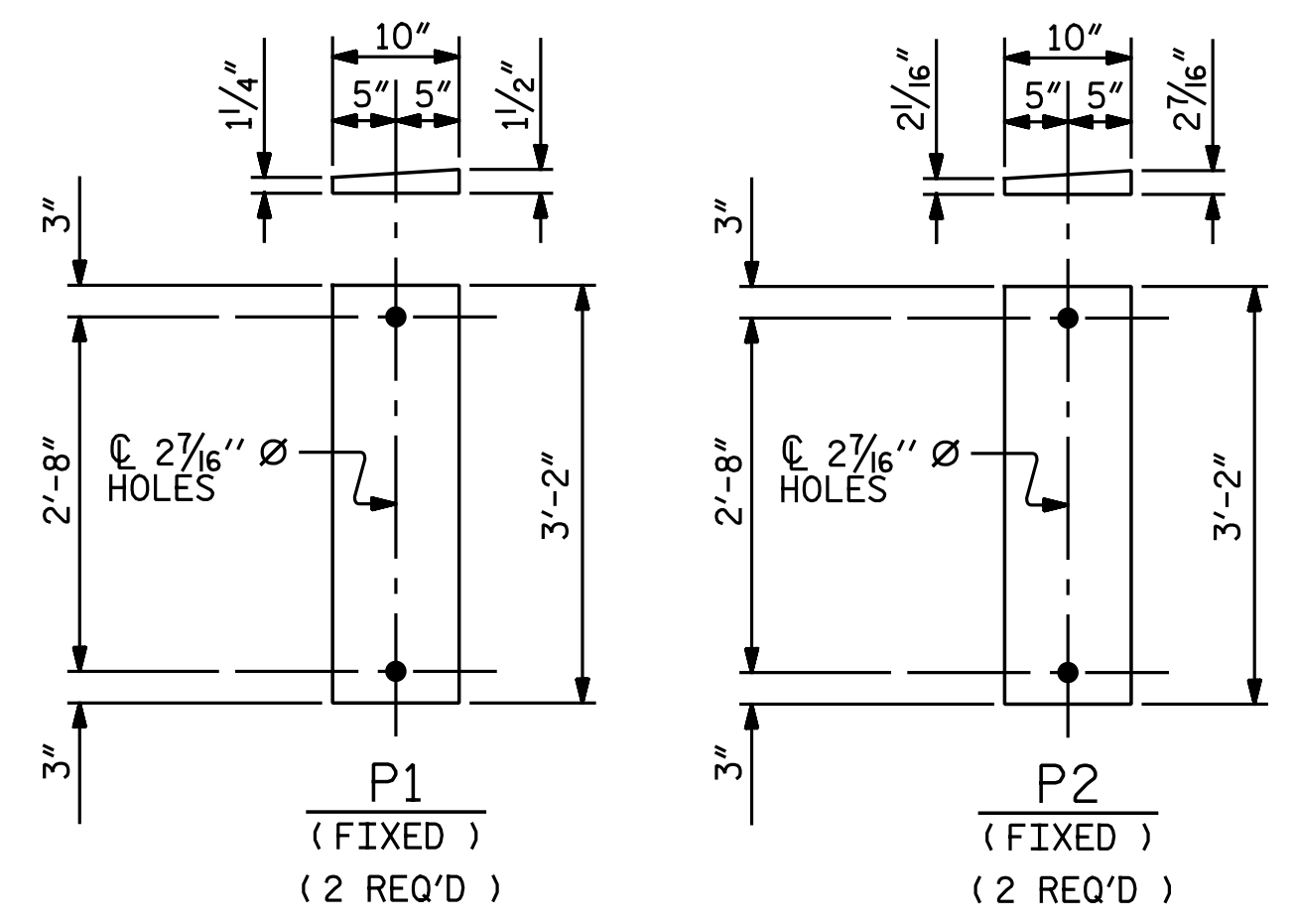




INTEGRAL  
SECTION E-E

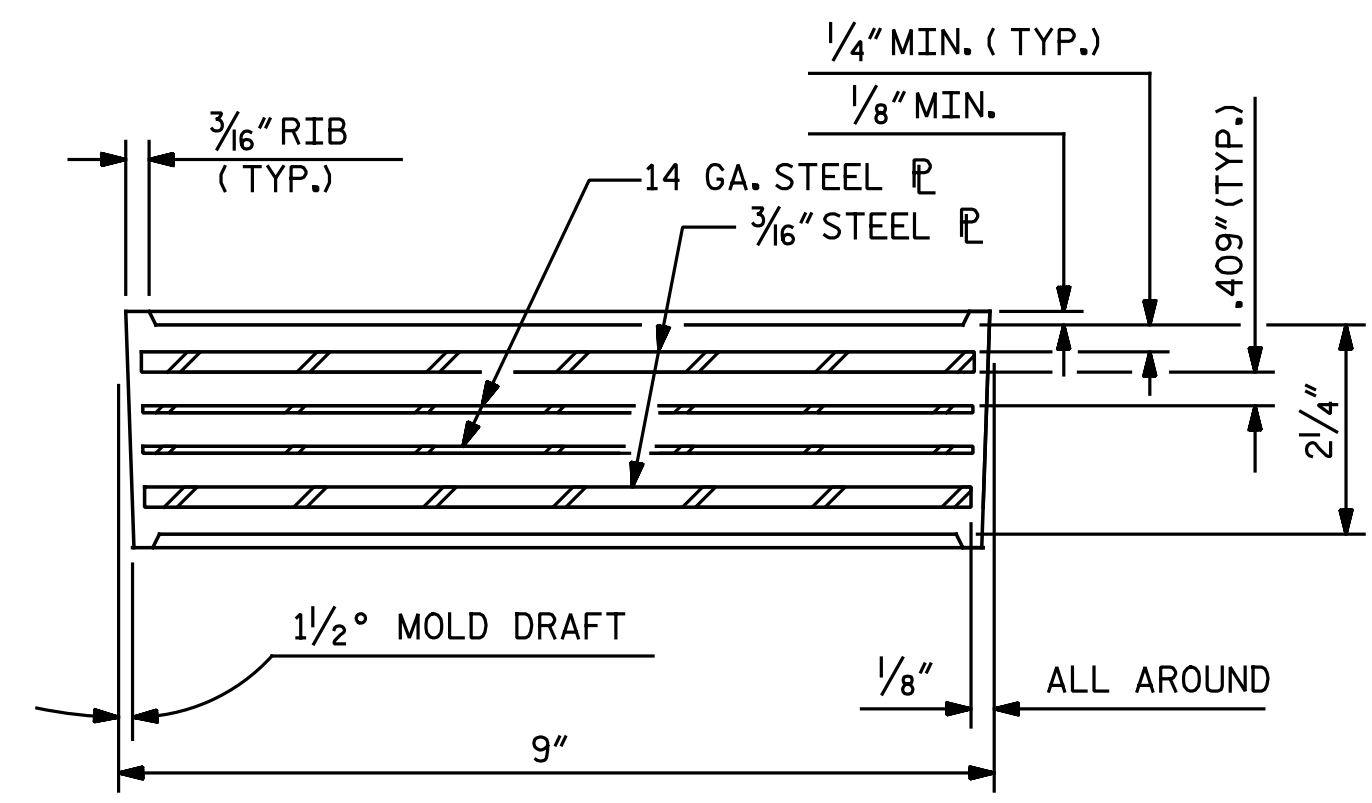


FIXED  
SECTION F-F

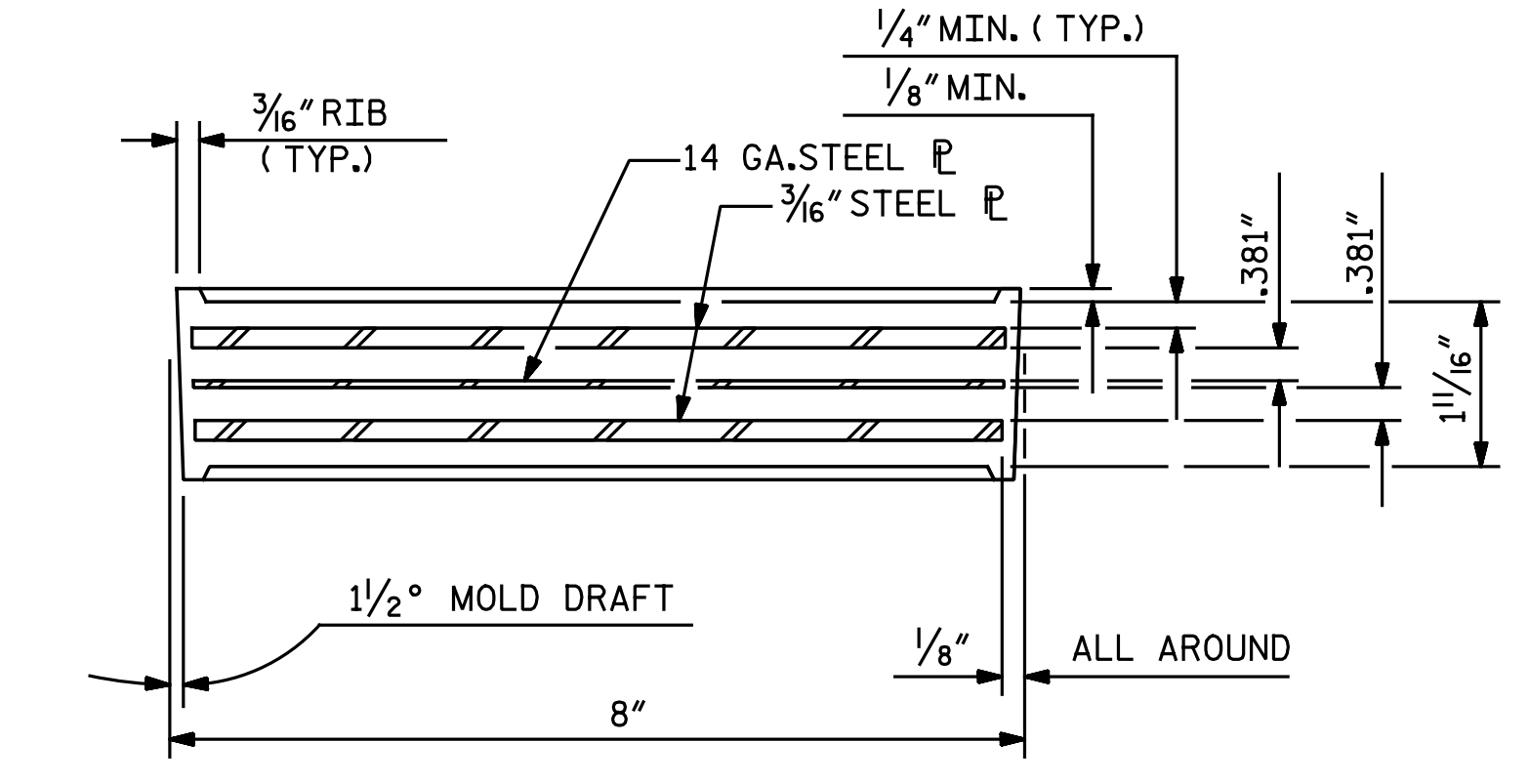


SOLE PLATE DETAILS ('P')

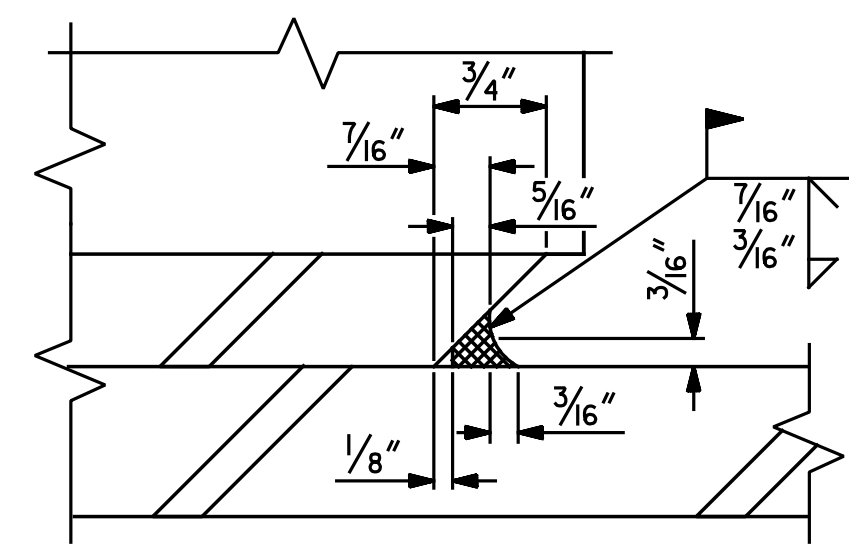
**NOTES:**  
 AT ALL FIXED POINTS OF SUPPORT, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1/2 TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.  
 THE 2" Ø PIPE SLEEVE SHALL BE CUT FROM SCHEDULE 40 PVC PLASTIC PIPE. THE PVC PLASTIC PIPE SHALL MEET THE REQUIREMENTS OF ASTM D1785.  
 STEEL SOLE PLATES, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.  
 PRIOR TO WELDING, GRIND THE GALVANIZED SURFACE OF THE PORTION OF THE EMBEDDED PLATE AND SOLE PLATE THAT ARE TO BE WELDED. AFTER WELDING, DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.  
 WHEN WELDING THE SOLE PLATE TO THE EMBEDDED PLATE IN THE GIRDER, USE TEMPERATURE INDICATING WAX PENS, OR OTHER SUITABLE MEANS, TO ENSURE THAT THE TEMPERATURE OF THE SOLE PLATE DOES NOT EXCEED 300°F. TEMPERATURES ABOVE THIS MAY DAMAGE THE ELASTOMER.  
 SOLE PLATE 'P', BOLTS, NUTS, WASHERS, AND PIPE SLEEVE SHALL BE INCLUDED IN THE PAY ITEM FOR PRESTRESSED CONCRETE GIRDERS.  
 ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO M292-2H. WASHERS SHALL MEET THE REQUIREMENTS OF AASHTO M293. SHOP DRAWINGS ARE NOT REQUIRED FOR ANCHOR BOLT, NUTS AND WASHERS. SHOP INSPECTION IS REQUIRED.  
 ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.  
 THE ELASTOMER IN THE STEEL REINFORCED BEARINGS SHALL HAVE A SHEAR MODULUS OF 0.160 KSI, IN ACCORDANCE WITH AASHTO M251.  
 FOR STEEL REINFORCED ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.



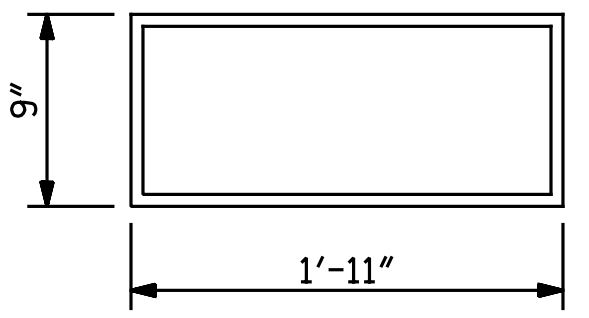
TYPICAL SECTION OF ELASTOMERIC BEARINGS



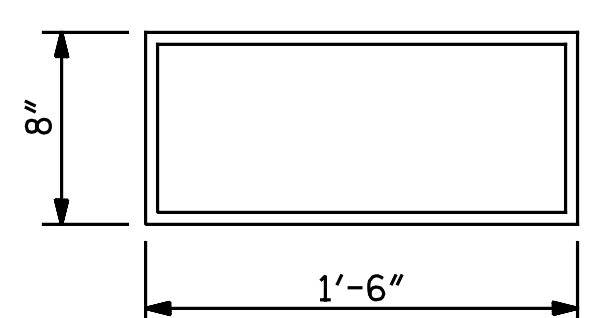
TYPICAL SECTION OF ELASTOMERIC BEARINGS



DETAIL 'A'

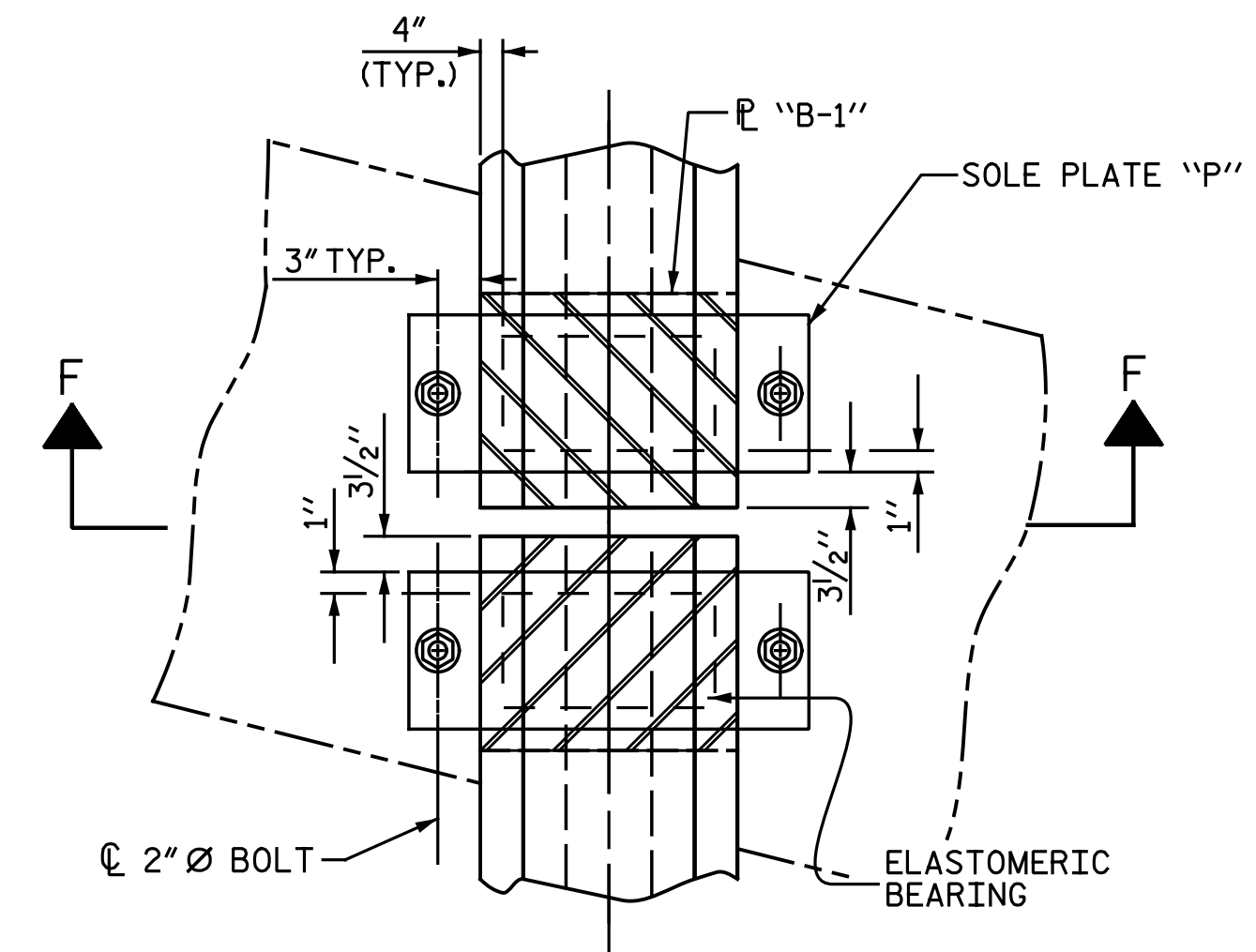


E1 (4 REQ'D)  
PLAN VIEW OF ELASTOMERIC BEARING  
TYPE V

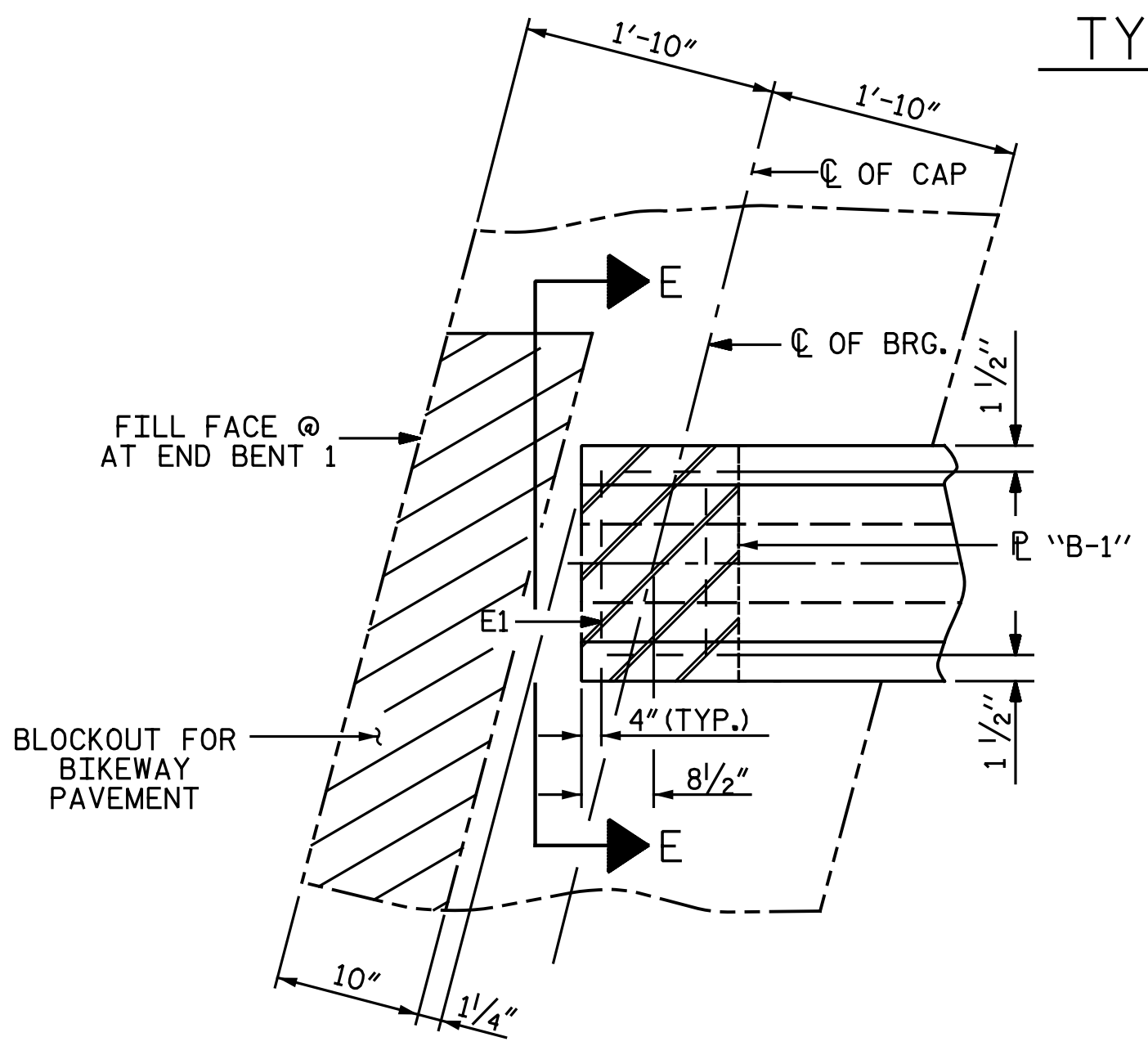


E2 (4 REQ'D)  
PLAN VIEW OF ELASTOMERIC BEARING  
TYPE III

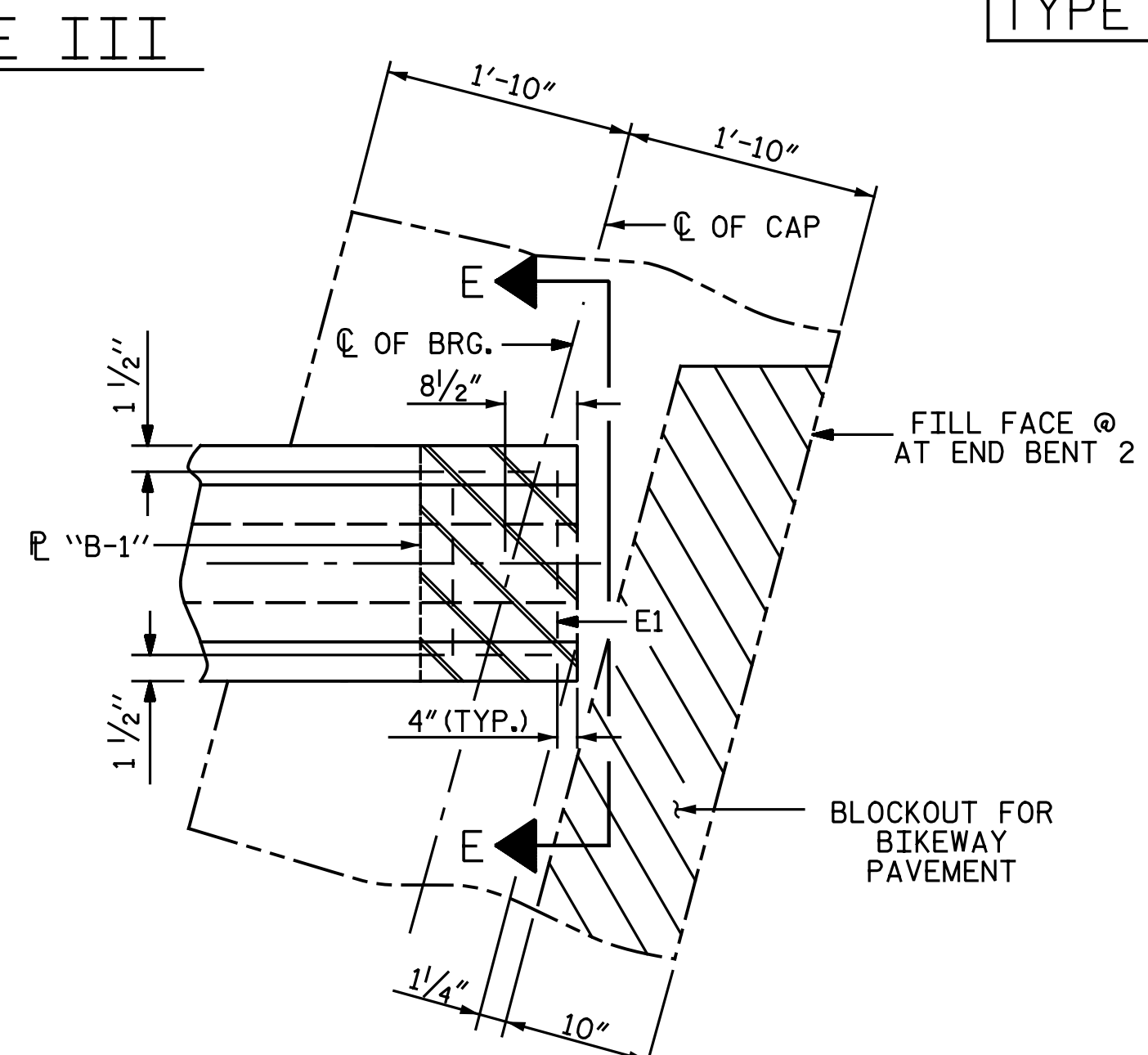
MAXIMUM ALLOWABLE SERVICE LOADS	
D.L.+L.L. (NO IMPACT)	
TYPE III	205 k
TYPE V	365 k



PLAN VIEW AT BENT 1  
(SHOWING CONTINUOUS BENT)



PLAN VIEW AT INTEGRAL END BENT 1

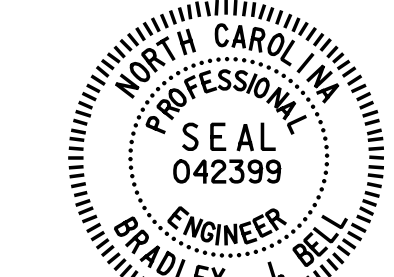


PLAN VIEW AT INTEGRAL END BENT 2

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DRAWN BY: NBS / JNA DATE: 12-2-15  
 CHECKED BY: A. M. HOUSTON DATE: 2-8-16



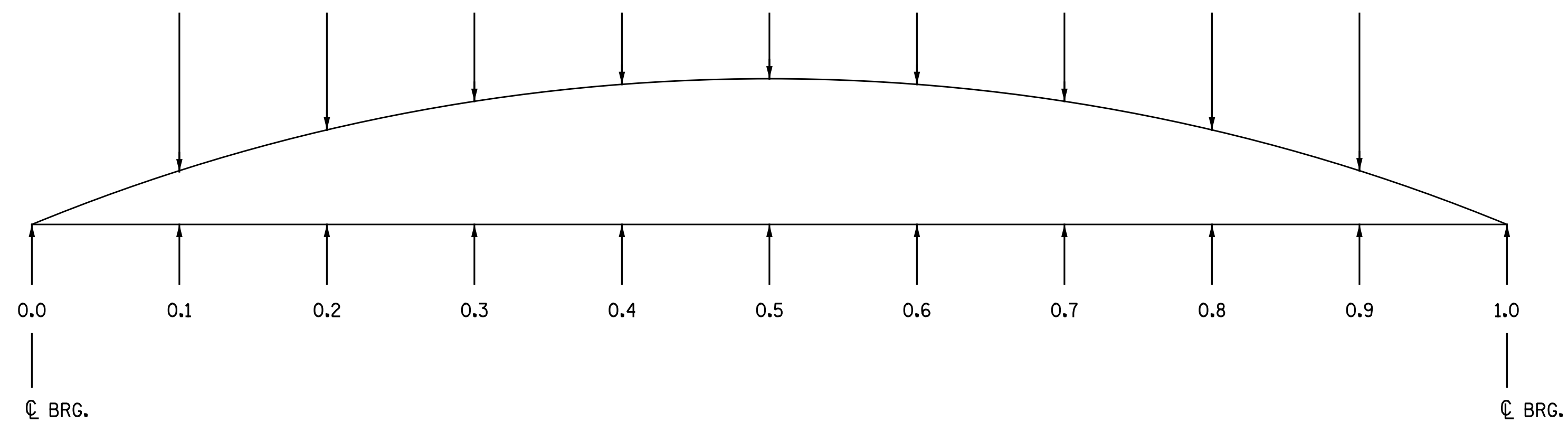
DocuSigned by:  
 Bradley J. Bell  
 CA1A3F8EC3A3434  
 5/5/2016

**Michael Baker**  
 INTERNATIONAL

Michael Baker Engineering  
 8000 Regency Parkway, Suite 600  
 Cary, North Carolina 27518  
 NC License No.: F-1084

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SUPERSTRUCTURE  
 ELASTOMERIC BEARING  
 DETAILS

REVISIONS						SHEET NO. S2-16
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 33
2			4			



SCHEMATIC CAMBER ORDINATES @ GIRDER TENTH POINTS

DEAD LOAD DEFLECTION TABLE FOR GIRDERS											
SPAN A											
0.6" Ø LOW RELAXATION STRANDS	GIRDER AG1 & AG2										
TENTH POINTS BETWEEN BRGS.	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
CAMBER ( GIRDER ALONE IN PLACE ) (FT.) ↑	0.000	0.028	0.053	0.072	0.084	0.089	0.084	0.072	0.053	0.028	0.000
* DEFLECTION DUE TO SUPERIMPOSED D.L. (FT.) ↓	0.000	0.026	0.051	0.070	0.083	0.087	0.083	0.070	0.051	0.026	0.000
FINAL CAMBER (IN.) ↑	0	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"

\* INCLUDES WEIGHT OF DECK SLAB, BUILD-UPS, DIAPHRAGMS, BARRIERS, AND FUTURE WEARING SURFACE.

DEAD LOAD DEFLECTION TABLE FOR GIRDERS											
SPAN B											
0.6" Ø LOW RELAXATION STRANDS	GIRDER BG1 & BG2										
TENTH POINTS BETWEEN BRGS.	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
CAMBER ( GIRDER ALONE IN PLACE ) (FT.) ↑	0.000	0.028	0.053	0.072	0.084	0.089	0.084	0.072	0.053	0.028	0.000
* DEFLECTION DUE TO SUPERIMPOSED D.L. (FT.) ↓	0.000	0.026	0.051	0.070	0.083	0.087	0.083	0.070	0.051	0.026	0.000
FINAL CAMBER (IN.) ↑	0	0"	0"	0"	0"	0"	0"	0"	0"	0"	0

\* INCLUDES WEIGHT OF DECK SLAB, BUILD-UPS, DIAPHRAGMS, BARRIERS, AND FUTURE WEARING SURFACE.

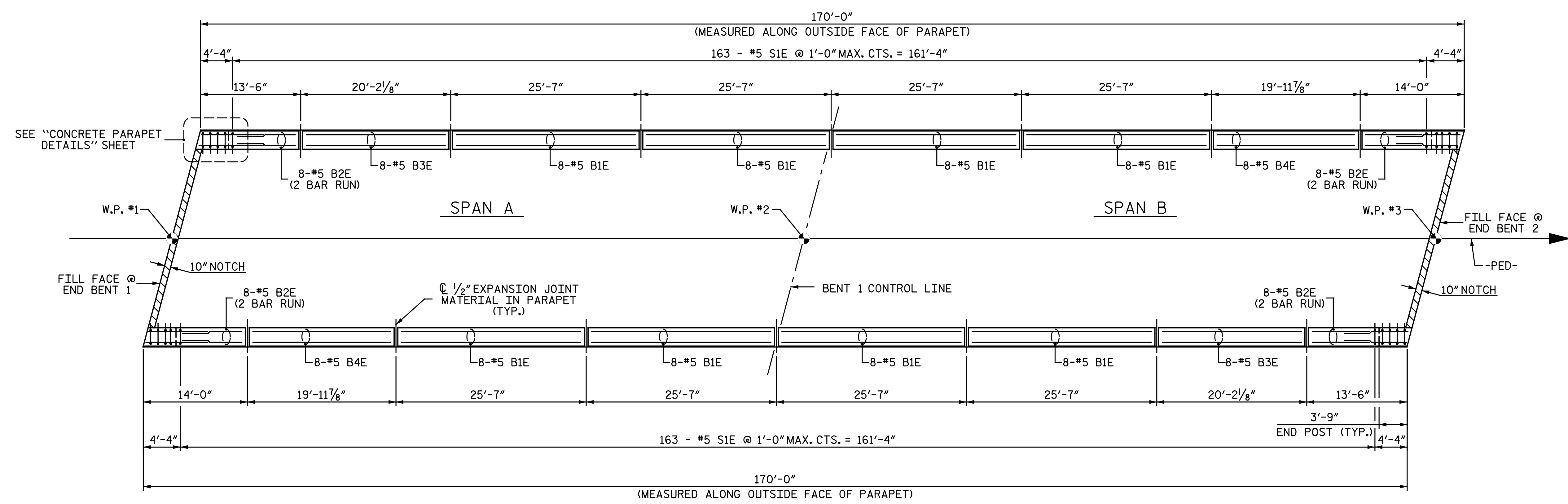
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 CHECKED BY : A. M. HOUSTON DATE : 2-9-16

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	DocuSigned by:  C41A3F8E3A3C434... 5/5/2016		REVISIONS		
	<b>Michael Baker</b> INTERNATIONAL		Michael Baker Engineering 8000 Regency Parkway, Suite 600 Cary, North Carolina 27518 NC License No.: F-1084		
		SHEET NO. <b>S2-17</b>		TOTAL SHEETS <b>33</b>	





PLAN

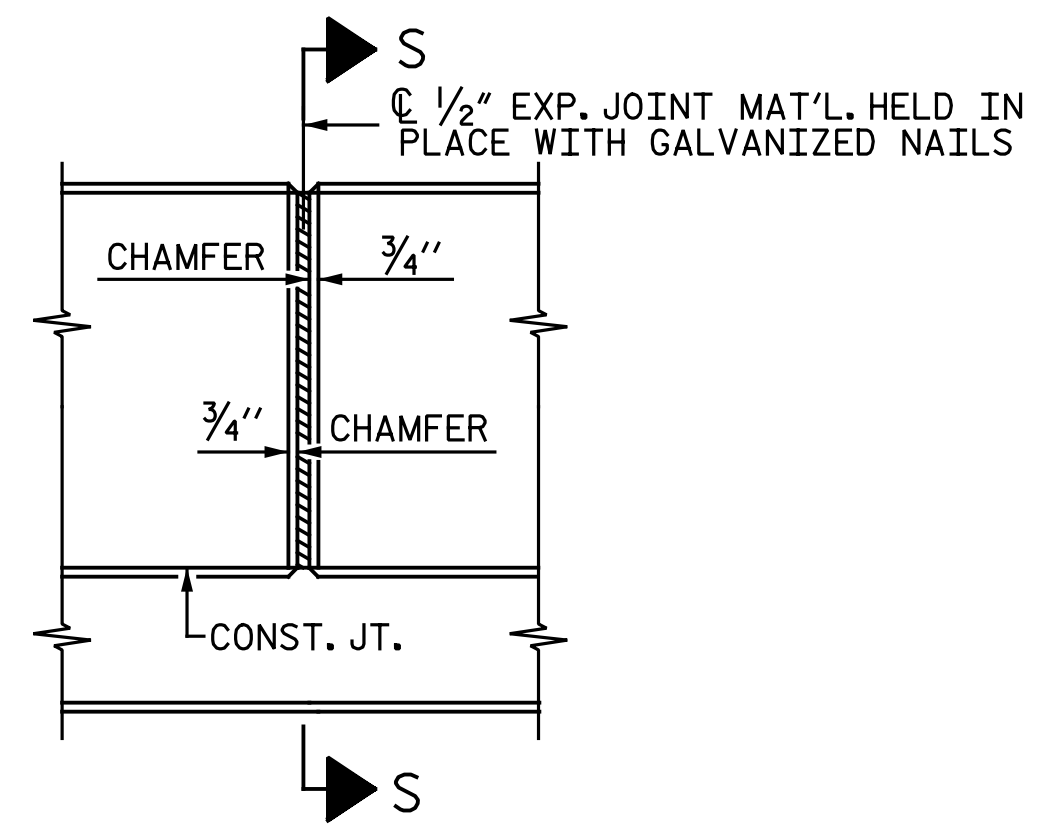
REINFORCING STEEL SPLICE LENGTHS	
BAR SIZE	PARAPET AND BARRIER RAIL
	EPOXY COATED
#5	3'-5"

PROJECT NO. U-2524D  
GUILFORD COUNTY  
 STATION: 13+62.84 -PED-

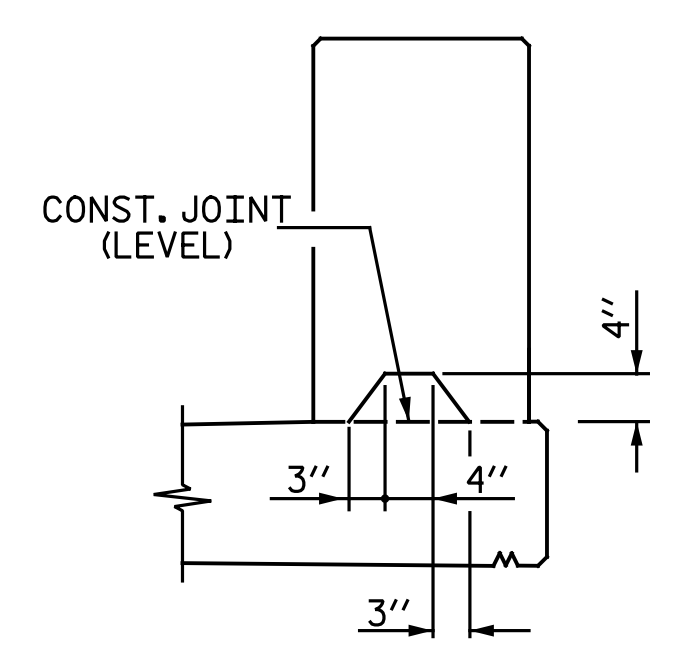
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		REVISIONS		SHEET NO. S2-18																	
		Michael Baker INTERNATIONAL	Michael Baker Engineering 8000 Regency Parkway, Suite 600 Cary, North Carolina 27518 NC License No.: F-1084	<table border="1"> <thead> <tr> <th>NO.</th> <th>BY:</th> <th>DATE:</th> <th>NO.</th> <th>BY:</th> <th>DATE:</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> <td></td> <td>3</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> <td>4</td> <td></td> <td></td> </tr> </tbody> </table>	NO.	BY:	DATE:	NO.	BY:	DATE:	1			3			2			4	
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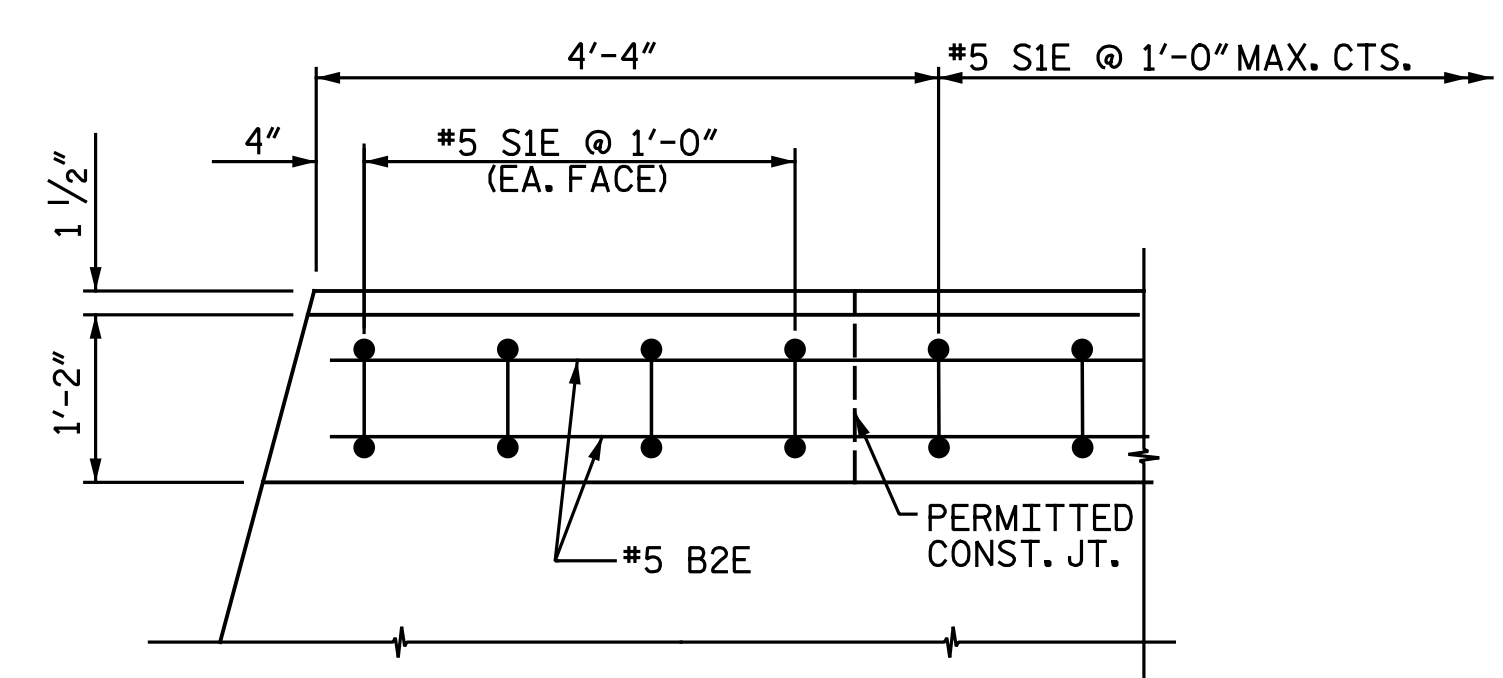


**ELEVATION AT EXPANSION JOINTS**  
(NOTE: OMIT EXPANSION JOINT MATERIAL WHEN SLIP FORM IS USED.)

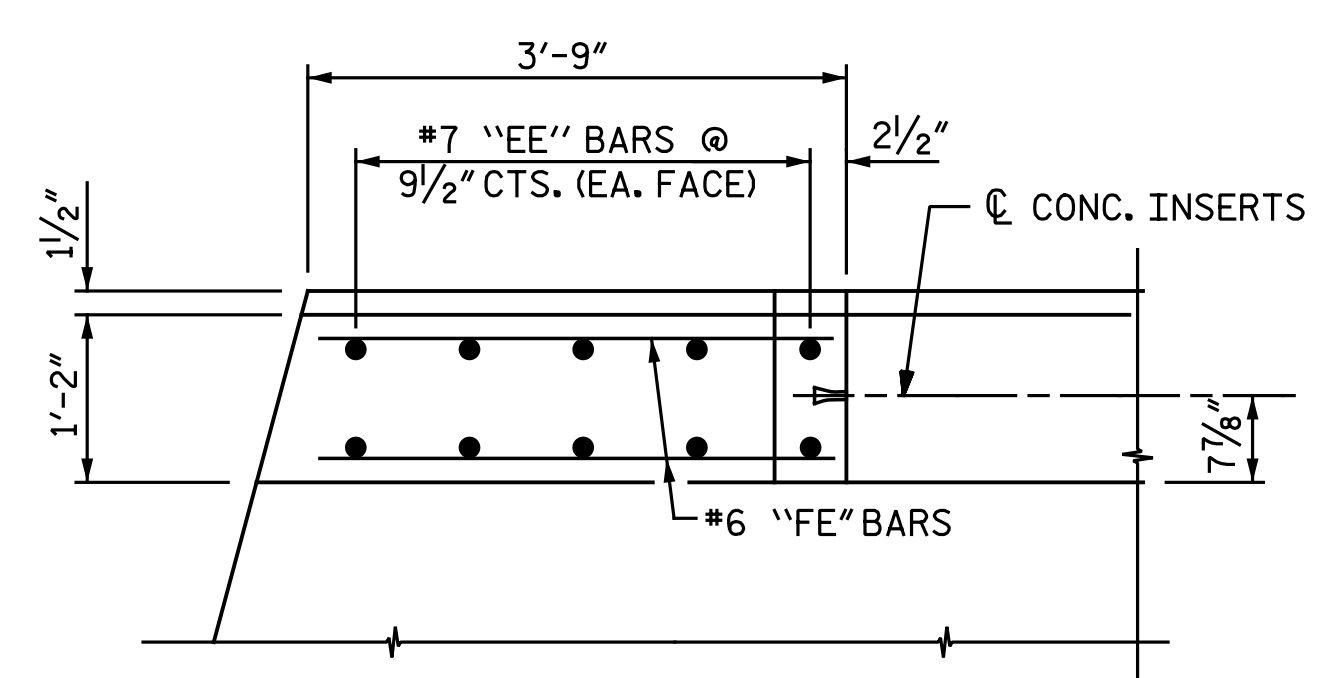


**SECTION S-S**  
AT DAM IN OPEN JOINT  
(THIS IS TO BE USED ONLY WHEN SLIP FORM IS USED)

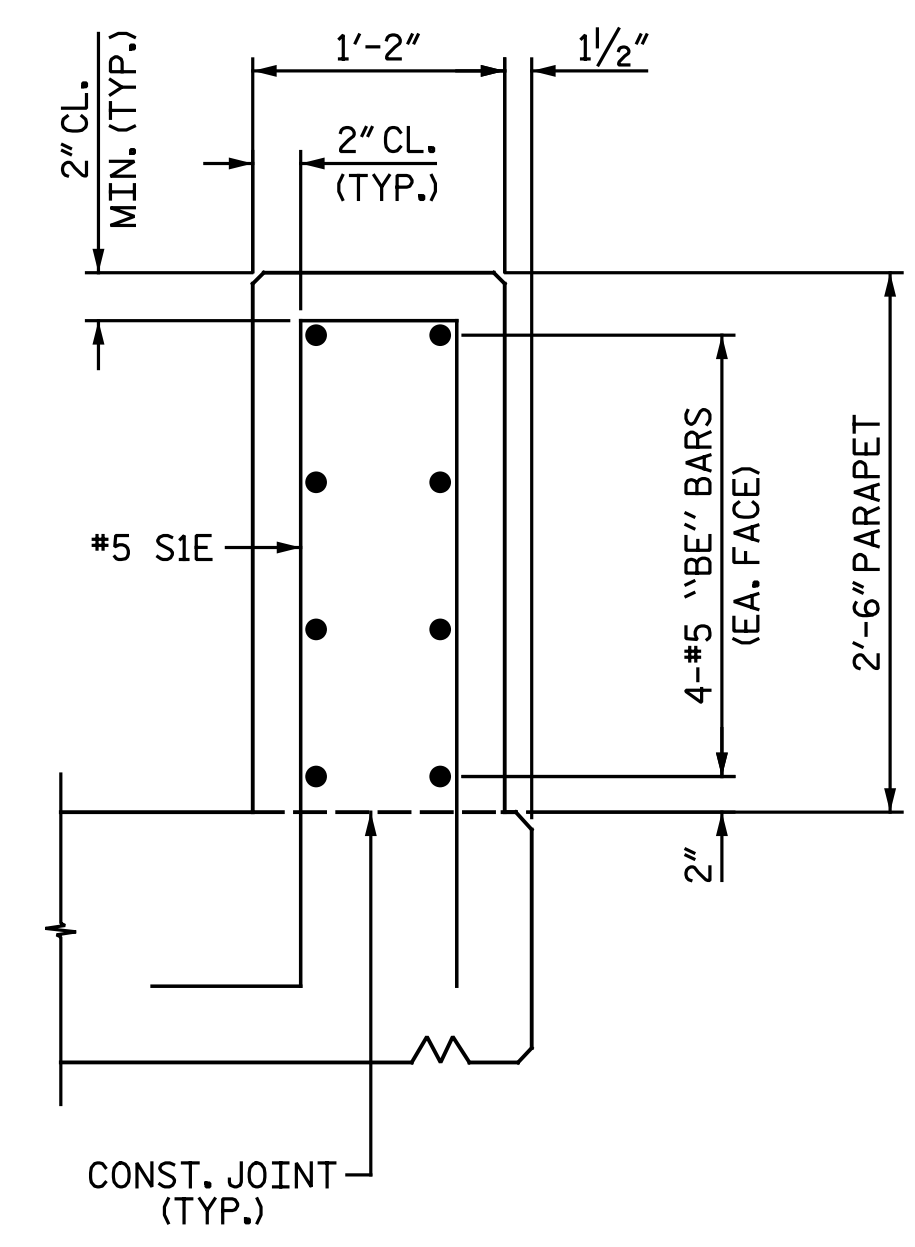
**CONCRETE PARAPET DETAILS**



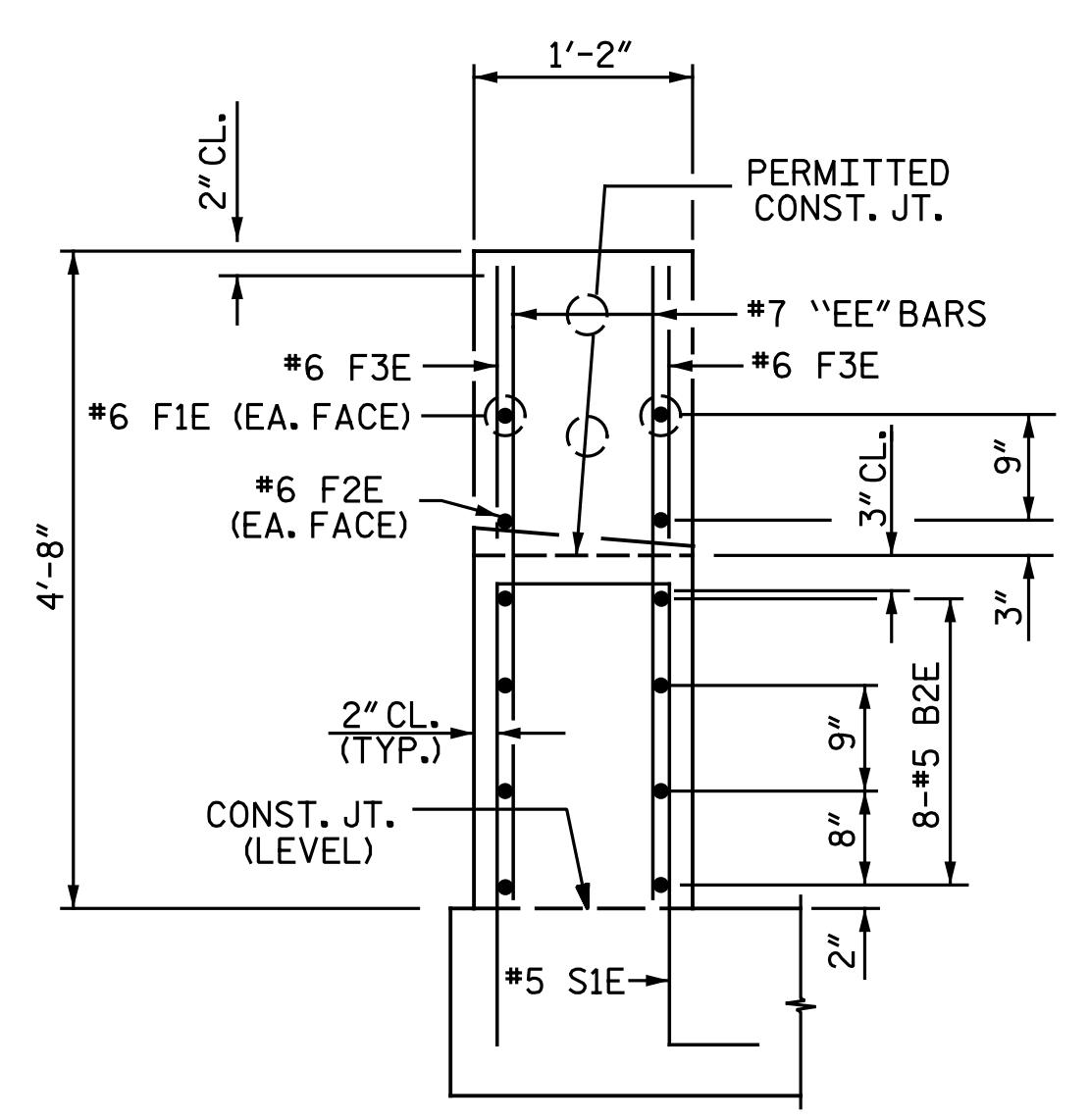
**PLAN OF PARAPET**



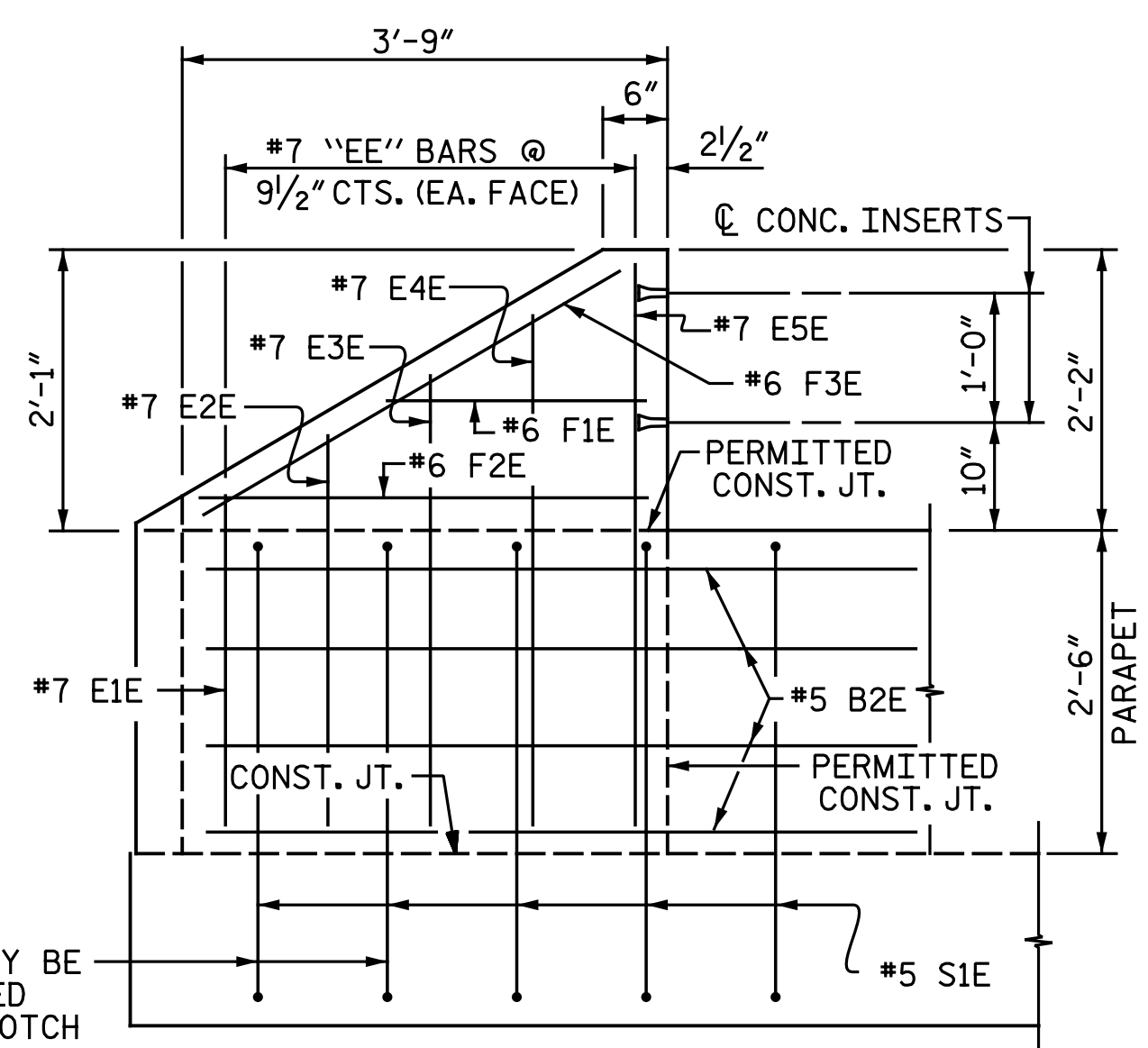
**PLAN OF END POST**



**SECTION THRU PARAPET**  
2 BAR METAL RAIL AND FENCE NOT SHOWN FOR CLARITY



**END VIEW**



**ELEVATION**

THESE #5 S1E BARS MAY BE SHIFTED OR ROTATED SLIGHTLY TO AVOID NOTCH

**PARAPET AND END POST FOR TWO BAR METAL RAIL**

**NOTES:**

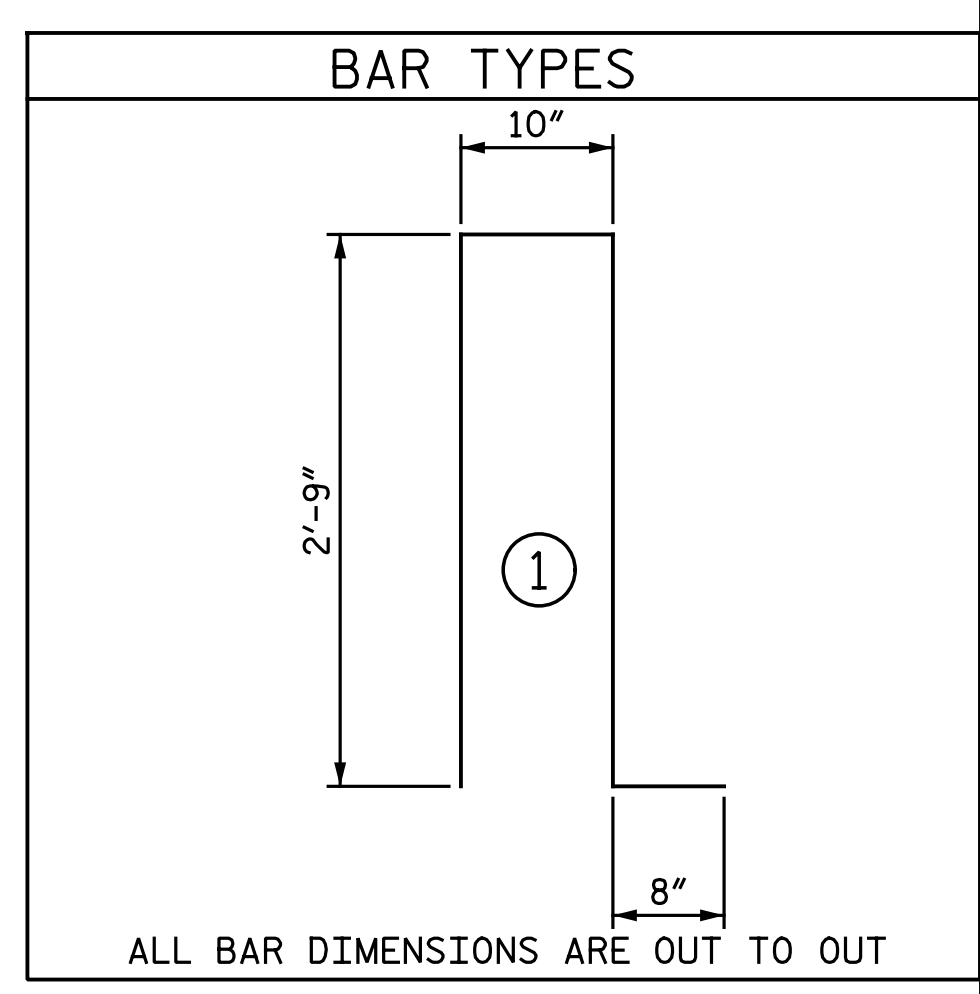
THE CONCRETE PARAPET SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE FOR THAT UNIT SLAB HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

ALL REINFORCING STEEL IN CONCRETE PARAPET AND END POSTS SHALL BE EPOXY COATED.

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

FOR DETAILS OF CONCRETE INSERTS, SEE "RAIL POST SPACINGS AND END OF RAIL DETAILS - FOR ONE OR TWO BAR METAL RAILS" SHEET.

TWO BAR METAL RAIL					
BILL OF MATERIAL FOR PARAPET AND TWO END POSTS					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1E	64	5	STR	25' - 2"	1,680
B2E	64	5	STR	8' - 7"	573
B3E	16	5	STR	19' - 9"	330
B4E	16	5	STR	19' - 6"	325
E1E	8	7	STR	2' - 8"	44
E2E	8	7	STR	3' - 1"	50
E3E	8	7	STR	3' - 7"	59
E4E	8	7	STR	4' - 1"	67
E5E	8	7	STR	4' - 6"	74
F1E	8	6	STR	1' - 10"	22
F2E	8	6	STR	3' - 0"	36
F3E	8	6	STR	3' - 5"	41
S1E	342	5	1	7' - 0"	2,497
EPOXY COATED REINFORCING STEEL				LBS.	5,798
CLASS AA CONCRETE				C.Y.	37.6
1'-2" x 2'-6" CONCRETE PARAPET				L.F.	340.00



ALL BAR DIMENSIONS ARE OUT TO OUT

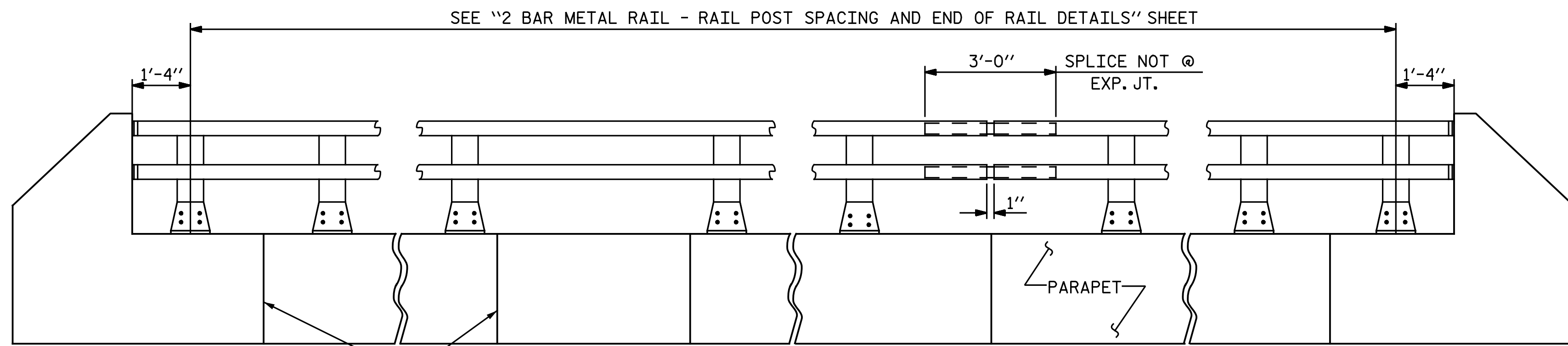
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GUILFORD COUNTY  
STATION: 13+62.84 -PED-

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	Digitally signed by: <i>Bradley J. Bell</i> C41A3F8E3C3A34... 5/5/2016	
	<b>Michael Baker INTERNATIONAL</b> Michael Baker Engineering 8000 Regency Parkway, Suite 600 Cary, North Carolina 27518 NC License No.: F-1084	
REVISIONS		SHEET NO. <b>S2-19</b>
NO. 1 BY: [ ] DATE: [ ]	NO. 2 BY: [ ] DATE: [ ]	NO. 3 BY: [ ] DATE: [ ]
TOTAL SHEETS <b>33</b>		

DRAWN BY : J.N.A./N.B.S. DATE : 11-18-15  
CHECKED BY : A. M. HOUSTON DATE : 2-9-16

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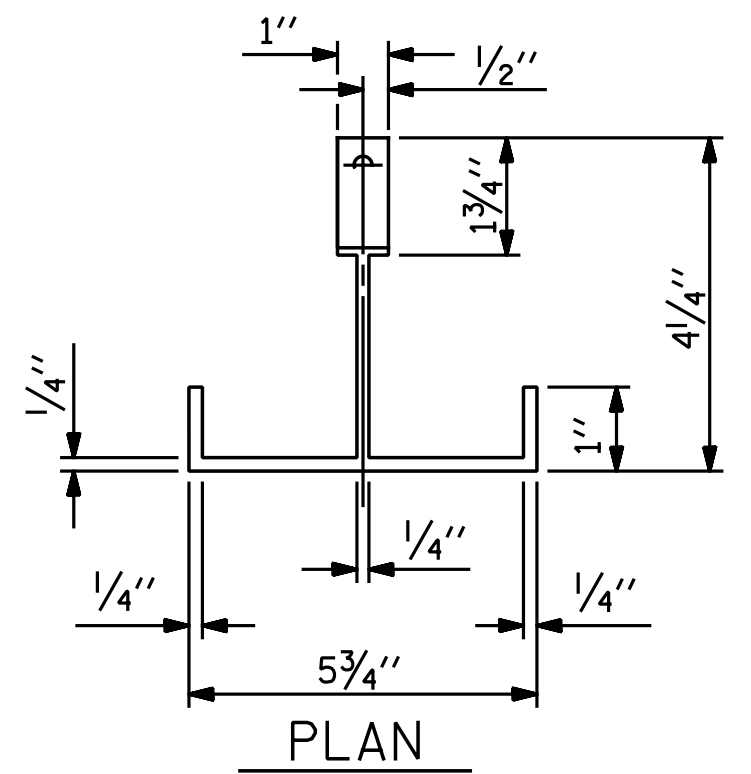




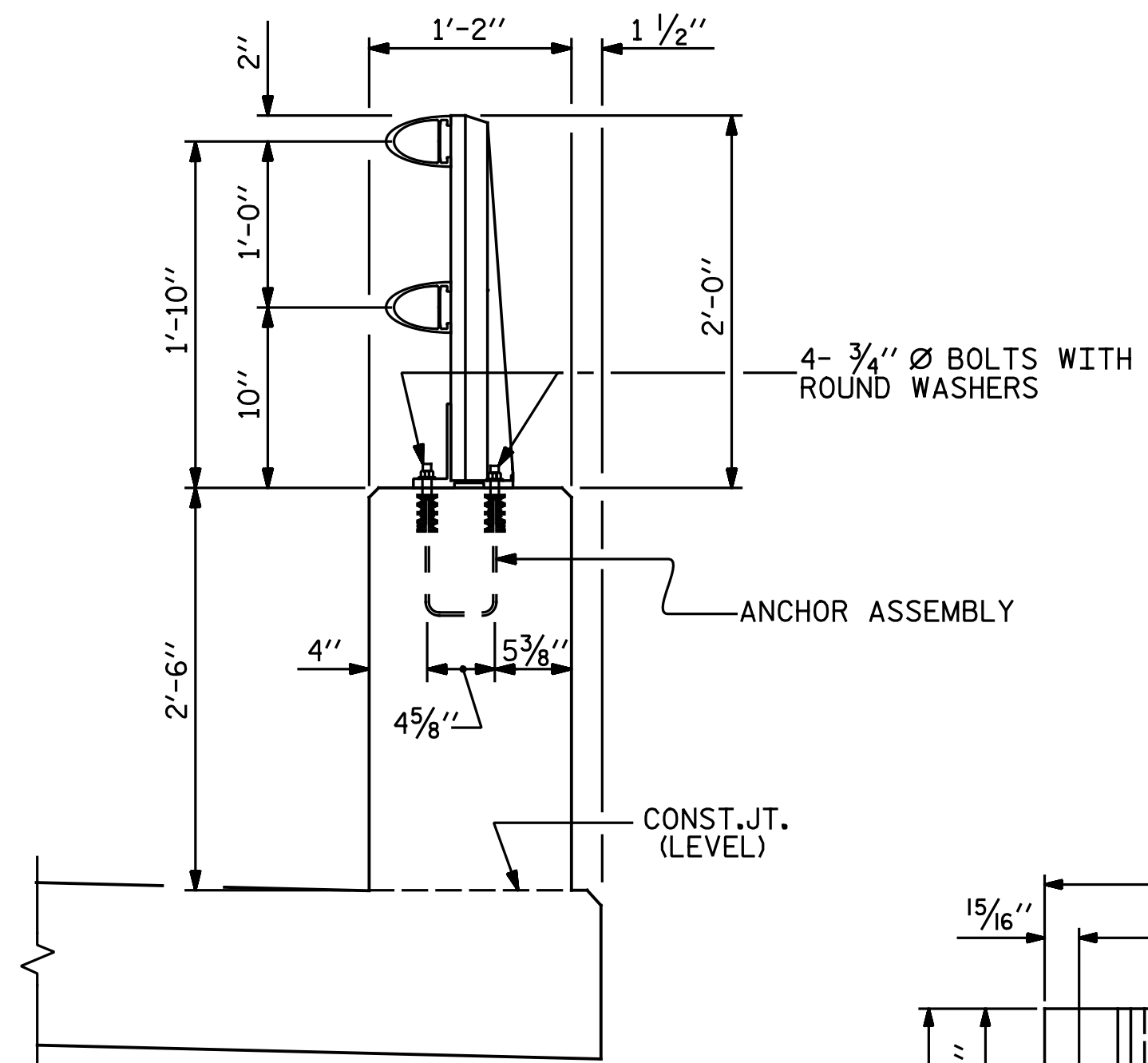
TOOLED CONTRACTION JT.  
(SEE NOTES)

**ELEVATION**

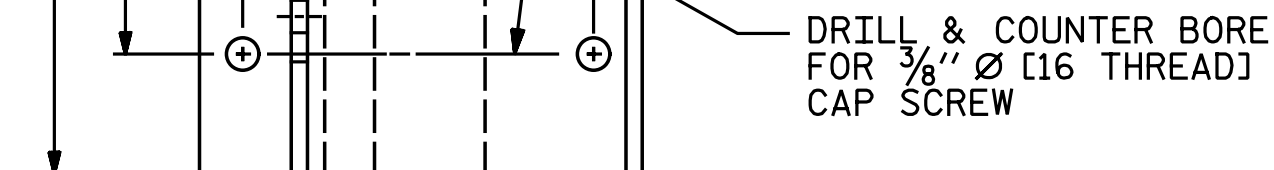
NOTE : FOR ATTACHMENT OF METAL RAIL TO END POST, SEE "2 BAR METAL RAIL - RAIL POST SPACING AND END OF RAIL DETAILS" SHEET 3 OF 3.



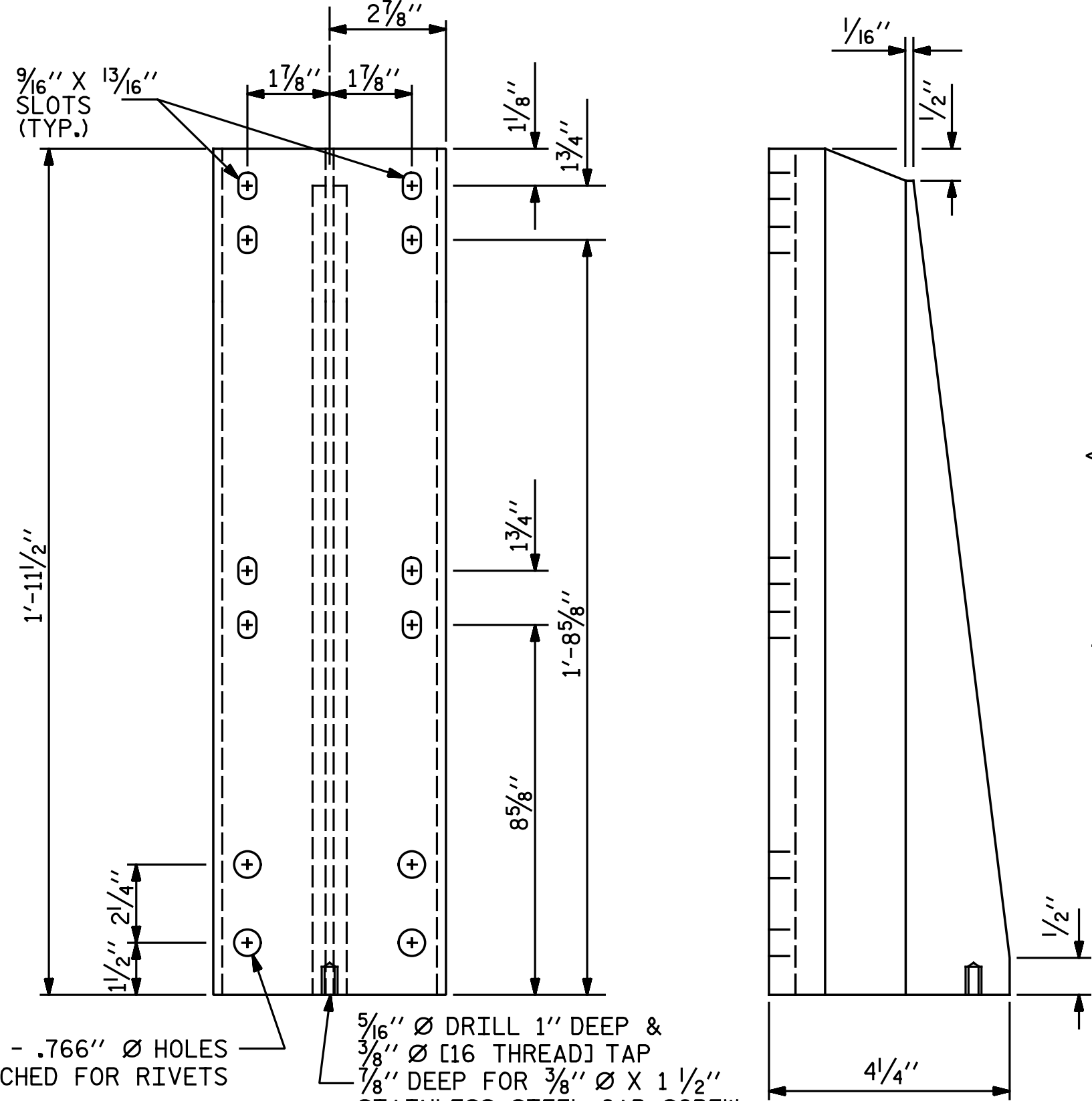
**PLAN**



**SECTION THRU PARAPET AND RAIL**



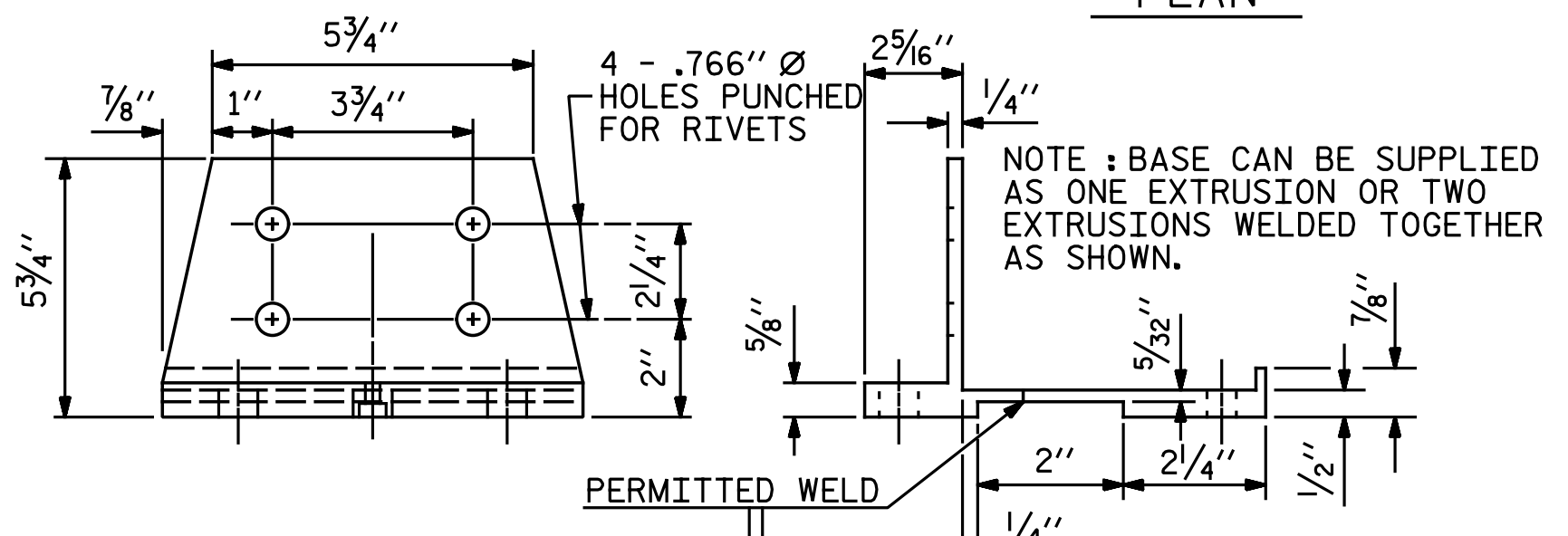
**PLAN**



**FRONT ELEVATION**

**SIDE ELEVATION**

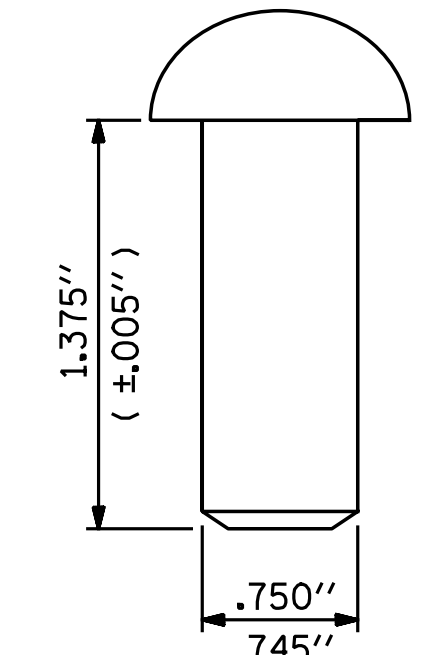
**DETAILS OF POST**



**FRONT ELEVATION**

**SIDE ELEVATION**

**POST BASE DETAILS**



**RIVET DETAIL**

**NOTES**

AT THE CONTRACTOR'S OPTION, METAL RAIL MAY BE EITHER ALUMINUM OR GALVANIZED STEEL IN ACCORDANCE WITH THE REQUIREMENTS OF THE GENERAL NOTES AND THE FOLLOWING SPECIFICATIONS FOR THE ALTERNATE MATERIALS; HOWEVER, THE CONTRACTOR WILL BE REQUIRED TO USE THE SAME RAIL MATERIAL ON ALL STRUCTURES ON THE PROJECT FOR WHICH METAL RAIL IS DESIGNATED.

UNLESS OTHERWISE REQUIRED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR HAS THE OPTION TO USE AN ALTERNATE TO THE 2 BAR METAL RAIL. THE ALTERNATE RAIL SHALL MEET THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND MUST BE LISTED ON THE DEPARTMENT'S APPROVED PRODUCTS LIST (APL) UNDER "2 BAR METAL RAIL ALTERNATE". ADJUSTMENTS TO THE CONCRETE PARAPET WILL NOT BE ALLOWED.

**ALUMINUM RAILS**

MATERIAL FOR POSTS, BASES AND RAILS, EXPANSION BARS AND CLAMP BARS SHALL BE ASTM B-221 ALLOY 6061-T6.

MATERIAL FOR RIVETS SHALL BE ASTM B316 ALLOY 6061-T6. RIVETS SHALL BE STANDARD BUTTON HEAD AND CONE POINT COLD DRIVEN AS PER DRAWING.

THE BASE OF RAIL POSTS, OR ANY OTHER ALUMINUM SURFACE IN CONTACT WITH CONCRETE SHALL BE THOROUGHLY COATED WITH AN ALUMINUM IMPREGNATED CAULKING COMPOUND OF APPROVED QUALITY.

MATERIAL FOR SHIMS TO BE ASTM B209 ALLOY 6061-T6.

**GALVANIZED STEEL RAILS**

MATERIAL AND GALVANIZING ARE TO CONFORM TO THE FOLLOWING SPECIFICATIONS:

POST, POST BASES, RAILS, EXPANSION BARS AND CLAMP BARS: AASHTO M270 GRADE 36 STRUCTURAL STEEL - GALVANIZED TO AASHTO M111.

RIVETS: RIVETS SHALL MEET THE REQUIREMENTS OF ASTM A502 FOR GRADE 1 RIVETS.

THE CUT ENDS OF GALVANIZED STEEL RAILING, AFTER GRINDING SMOOTH SHALL BE GIVEN TWO COATS OF ZINC RICH PAINT MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATION MIL-P-26915 USAF TYPE 1, OR OF FEDERAL SPECIFICATIONS TT-P-641.

SHIMS: SHIMS SHALL MEET THE REQUIREMENTS OF ASTM A570 FOR GRADE 33 OR A611 FOR GRADE C AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M111.

RAIL CAPS: RAIL CAPS SHALL MEET THE REQUIREMENTS OF ASTM A570 FOR GRADE 33 OR A611 FOR GRADE C AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M111.

**GENERAL NOTES**

RAILING SHALL BE CONTINUOUS FROM END POST TO END POST OF BRIDGE. EACH JOINT IN RAIL LENGTH SHALL BE SPLICED AS DETAILED. PANEL LENGTHS OF RAIL SHALL BE ATTACHED TO A MINIMUM OF THREE POSTS.

FOR END OF RAIL TO CLEAR FACE OF CONCRETE END POST DIMENSION, SEE "2 BAR METAL RAIL - RAIL POST SPACING AND END OF RAIL DETAILS" SHEET.

CAP SCREWS SHALL BE ASTM F593 ALLOY 305 STAINLESS STEEL. WASHERS SHALL MEET THE REQUIREMENTS OF ASTM F844 EXCEPT THEY SHALL BE MADE FROM ALLOY 304 STAINLESS STEEL.

CERTIFIED MILL REPORTS ARE REQUIRED FOR RAILS AND POSTS. SHOP INSPECTION IS NOT REQUIRED.

METAL RAIL POSTS SHALL BE SET NORMAL TO CURB GRADE.

METHOD OF MEASUREMENT FOR METAL RAILS: FOR LENGTH OF METAL RAILS TO BE PAID FOR, SEE THE STANDARD SPECIFICATIONS.

CURVED RAIL USAGE: WHERE RAILS ARE TO BE USED ON BRIDGES ON HORIZONTAL AND/OR VERTICAL CURVATURE THE CONTRACTOR MAY, AT HIS OPTION, HAVE THE REQUIRED CURVATURE IN THE RAIL FORMED IN THE SHOP OR IN THE FIELD. IN EITHER EVENT, THE RAIL SHALL CONFORM WITHOUT BUCKLING OR KINKING TO THE REQUIRED CURVATURE IN A UNIFORM MANNER ACCEPTABLE TO THE ENGINEER.

TO INSURE FUTURE IDENTIFICATION OF THE FABRICATOR, A PERMANENT IDENTIFYING MARK SHALL BE PLACED ON EACH POST. THE METHOD OF MARKING AND LOCATION SHALL BE SUCH THAT IT DOES NOT DETRACT FROM THE APPEARANCE OF THE POST, BUT REMAINS VISIBLE AFTER RAIL PLACEMENT.

SHIMS SHALL BE USED AS NECESSARY FOR POST ALIGNMENT.

ALLOY 6351-T5 MAY BE SUBSTITUTED FOR ALLOY 6061-T6 WHERE APPLICABLE.

MINOR VARIATIONS IN DETAILS OF METAL RAIL WILL BE CONSIDERED. DETAILS OF SUCH VARIATIONS, IF DESIRED, SHALL BE SUBMITTED FOR APPROVAL.

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

PAY LENGTH = 324.38 LIN. FT.

PROJECT NO. U-2524D  
GUILFORD COUNTY  
 STATION: 13+62.84 -PED-

SHEET 1 OF 3

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH STANDARD <b>2 BAR METAL RAIL</b>																	
	Documented by:  5/5/2016	Michael Baker Engineering 8000 Regency Parkway, Suite 600 Cary, North Carolina 27518 NC License No.: F-1084																	
	<b>Michael Baker</b> INTERNATIONAL	REVISIONS <table border="1"> <tr> <th>NO.</th> <th>BY:</th> <th>DATE:</th> <th>NO.</th> <th>BY:</th> <th>DATE:</th> </tr> <tr> <td>1</td> <td></td> <td></td> <td>3</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> <td>4</td> <td></td> <td></td> </tr> </table>	NO.	BY:	DATE:	NO.	BY:	DATE:	1			3			2			4	
NO.	BY:	DATE:	NO.	BY:	DATE:														
1			3																
2			4																

ASSEMBLED BY : J. N. A./N.B.S.	DATE : 11-18-15
CHECKED BY : A. M. HOUSTON	DATE : 2-9-16
DRAWN BY : EEM 6/94	REV. 5/1/06
CHECKED BY : RGW 6/94	REV. 10/1/11
	REV. 6/13
TLA/GM	MAA/GM
MAA/GM	MAA/GM

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NOTES

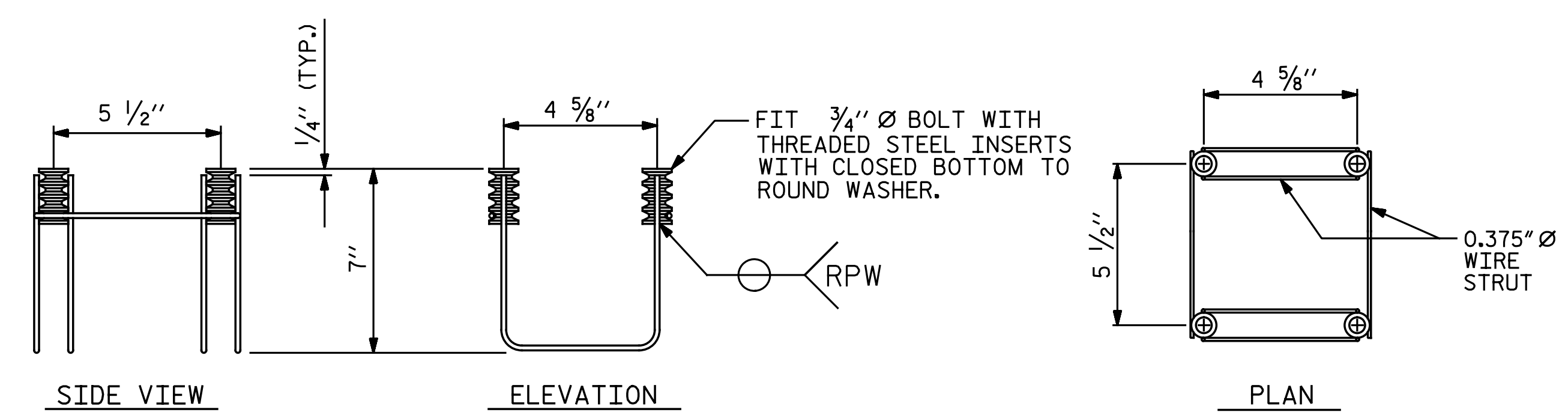
STRUCTURAL CONCRETE ANCHOR ASSEMBLY

THE STRUCTURAL CONCRETE ANCHOR ASSEMBLY SHALL CONSIST OF THE FOLLOWING COMPONENTS :

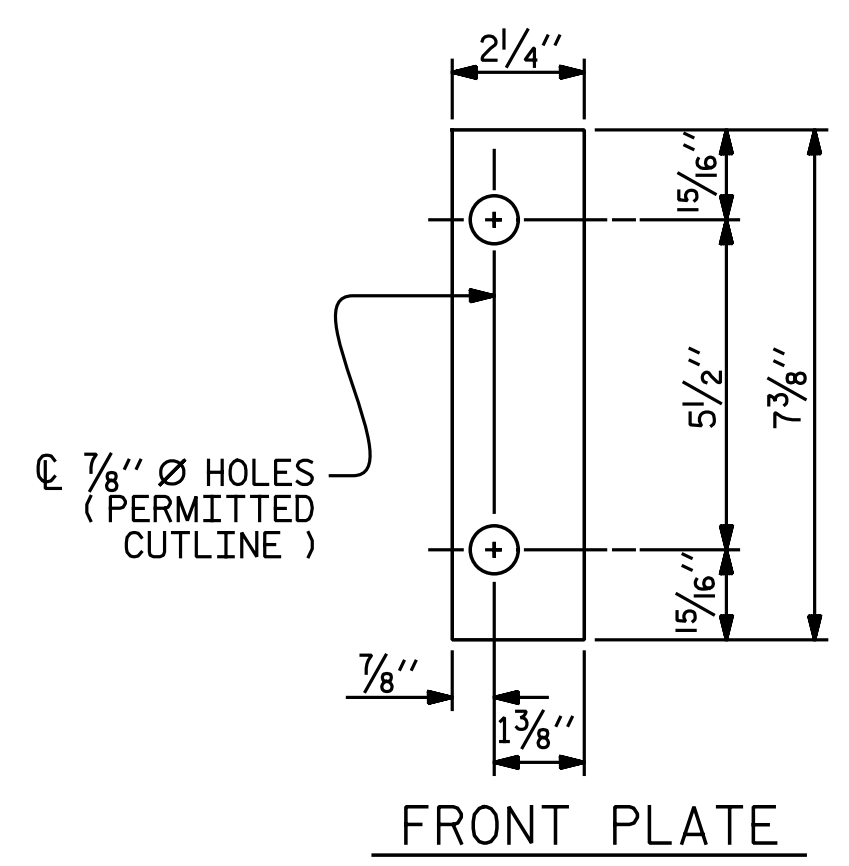
- A. FERRULES SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF AASHTO M169, GRADE 12L14 AND SHALL HAVE A MINIMUM LENGTH OF THREADS OF 2" FOR 3/4" FERRULES.
- B. 4 - 3/4" Ø X 2 1/2" BOLTS WITH WASHERS. BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. BOLTS AND WASHERS SHALL BE GALVANIZED. AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 3/4" Ø X 2 1/2" GALVANIZED BOLTS 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.
- C. WIRE STRUT SHOWN IN THE CONCRETE ANCHOR ASSEMBLY DETAIL IS THE MINIMUM ALLOWABLE SIZE AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 100,000 PSI. AS AN OPTION, A 1/16" Ø WIRE STRUT WITH A MINIMUM TENSILE STRENGTH OF 90,000 PSI IS ACCEPTABLE.
- D. THE METAL RAIL ANCHOR ASSEMBLIES TO BE HOT DIPPED GALVANIZED TO CONFORM TO REQUIREMENTS OF AASHTO M111.
- E. THE COST OF THE METAL RAIL ANCHOR ASSEMBLY WITH BOLTS AND WASHERS COMPLETE IN PLACE SHALL BE INCLUDED IN THE PRICE BID FOR LINEAR FEET OF METAL RAIL.
- F. BOLTS TO BE TIGHTENED ONE-HALF TURN WITH A WRENCH FROM A FINGER-TIGHT POSITION.

THE CONTRACTOR MAY USE ADHESIVELY ANCHORED ANCHOR BOLTS IN PLACE OF THE METAL RAIL ANCHOR ASSEMBLY. LEVEL ONE FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE 3/4" Ø BOLT IS 10 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE THE STANDARD SPECIFICATIONS.

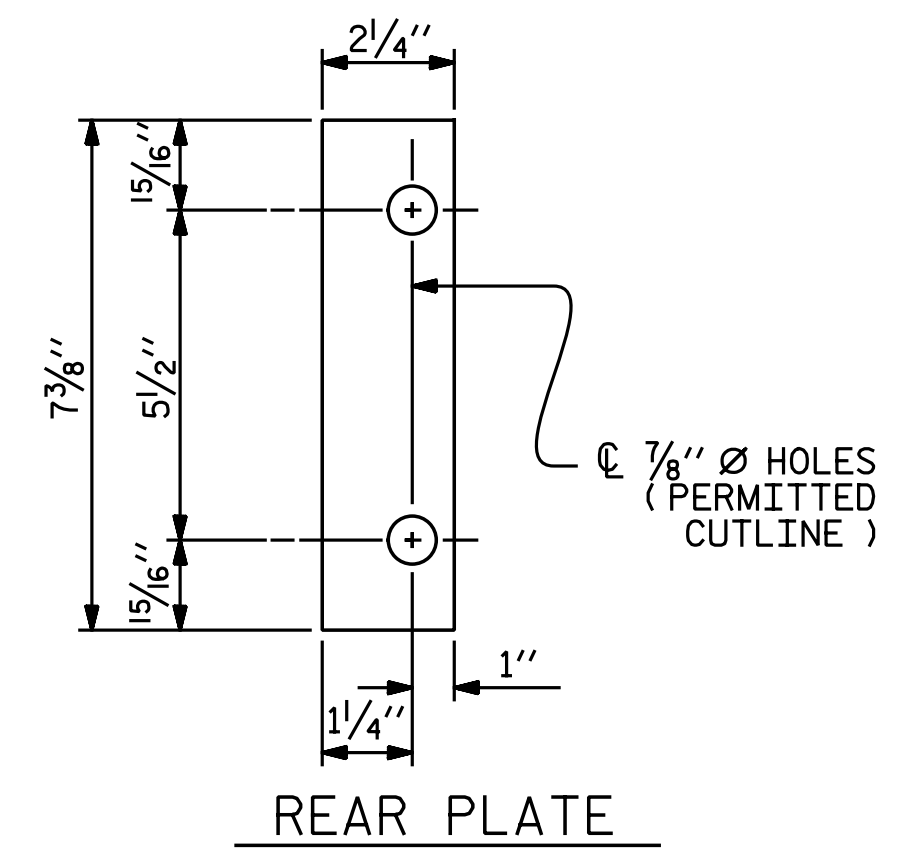
WHEN ADHESIVELY ANCHORED ANCHOR BOLTS ARE USED, BOLTS SHALL MEET THE REQUIREMENTS OF ASTM F593 ALLOY 304 STAINLESS STEEL WITH MINIMUM 75,000 PSI ULTIMATE STRENGTH. NUTS SHALL MEET THE REQUIREMENTS OF ASTM F594 ALLOY 304 STAINLESS STEEL AND WASHERS SHALL MEET THE REQUIREMENTS OF ASTM F844 EXCEPT THEY SHALL BE MADE FROM ALLOY 304 STAINLESS STEEL.



4-BOLT METAL RAIL ANCHOR ASSEMBLY  
(56 ASSEMBLIES REQUIRED)



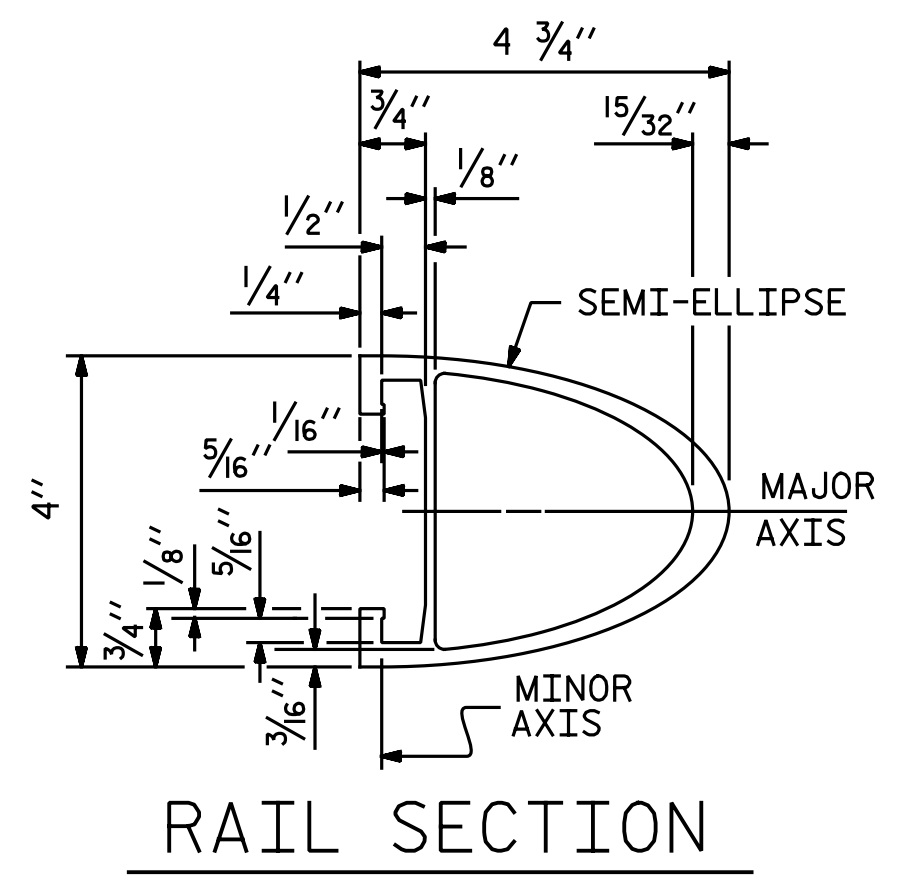
FRONT PLATE



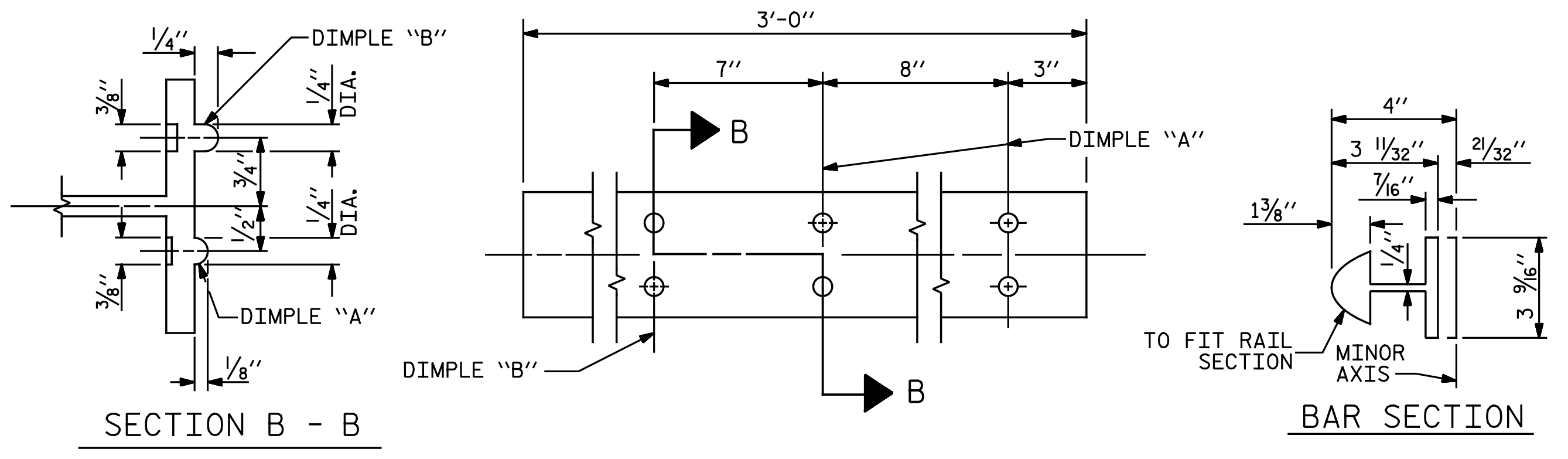
REAR PLATE

SHIM DETAILS

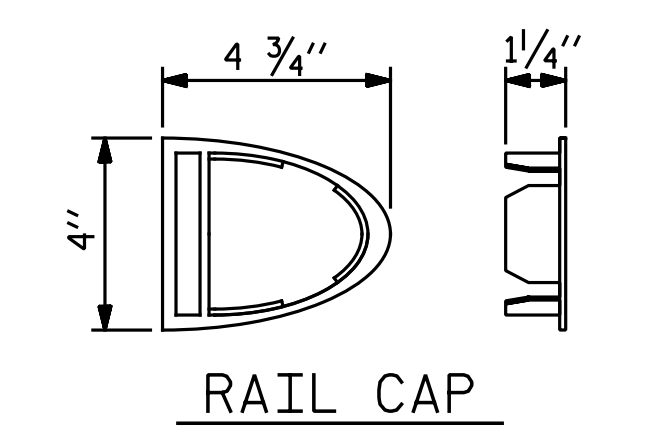
NOTE : SHIMS MAY BE CUT ALONG PERMITTED CUTLINE OR SLOTTED TO EDGE OF PLATE TO FACILITATE PLACEMENT.



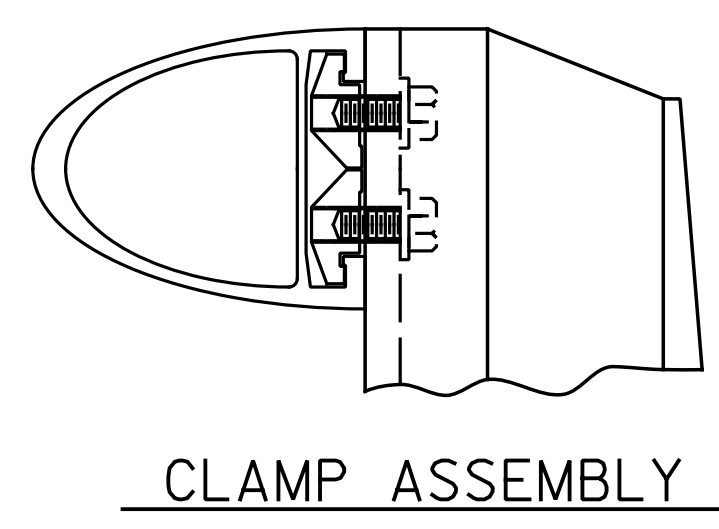
RAIL SECTION



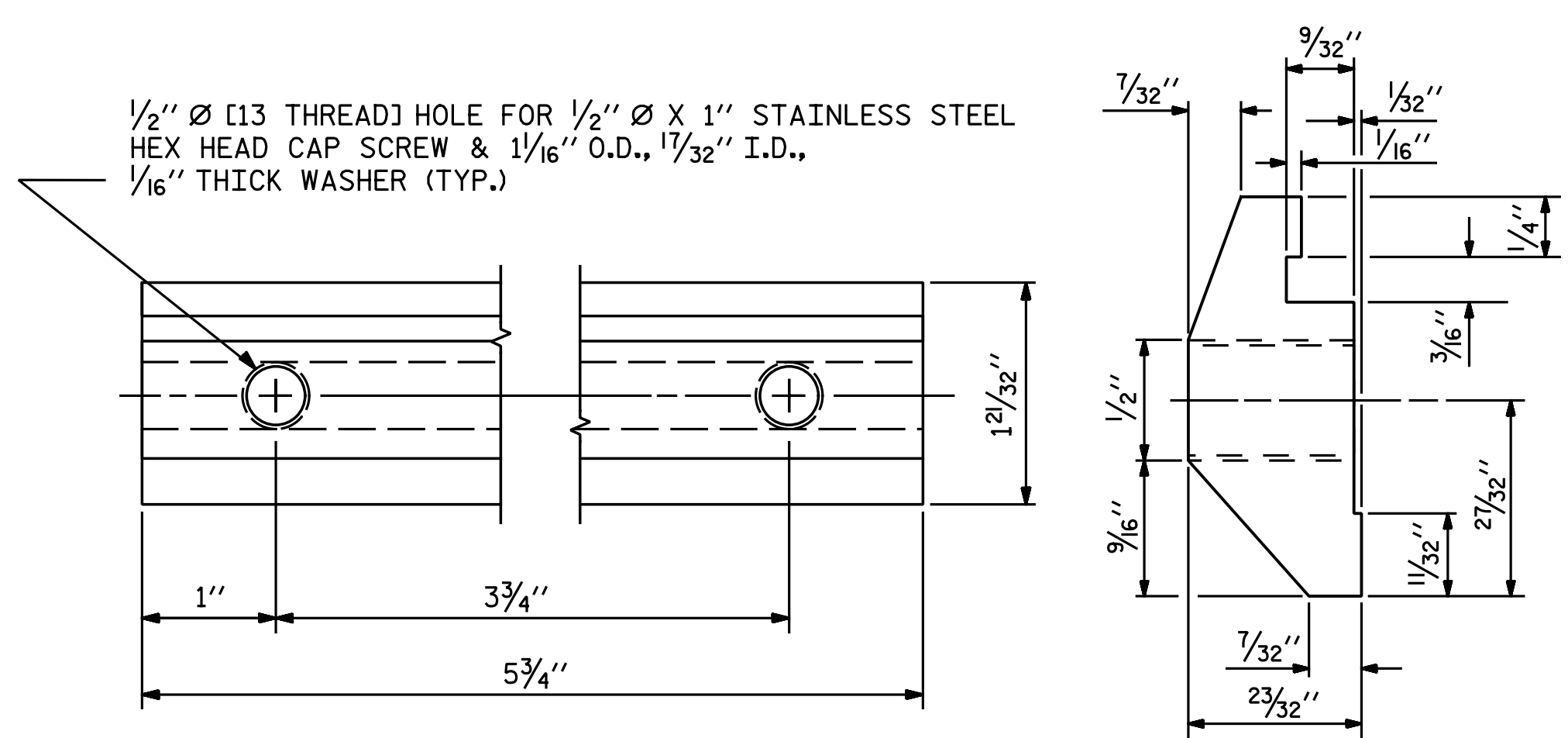
EXPANSION BAR DETAILS



RAIL CAP



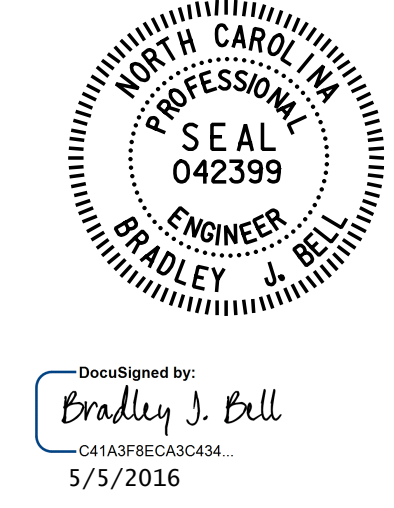
CLAMP ASSEMBLY



CLAMP BAR DETAIL  
( 4 REQUIRED PER POST )

PROJECT NO. U-2524D  
GUILFORD COUNTY  
STATION: 13+62.84 -PED-  
SHEET 2 OF 3

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
STANDARD  
2 BAR METAL RAIL



Michael Baker International

Michael Baker Engineering  
8000 Regency Parkway, Suite 600  
Cary, North Carolina 27518  
NC License No.: F-1084

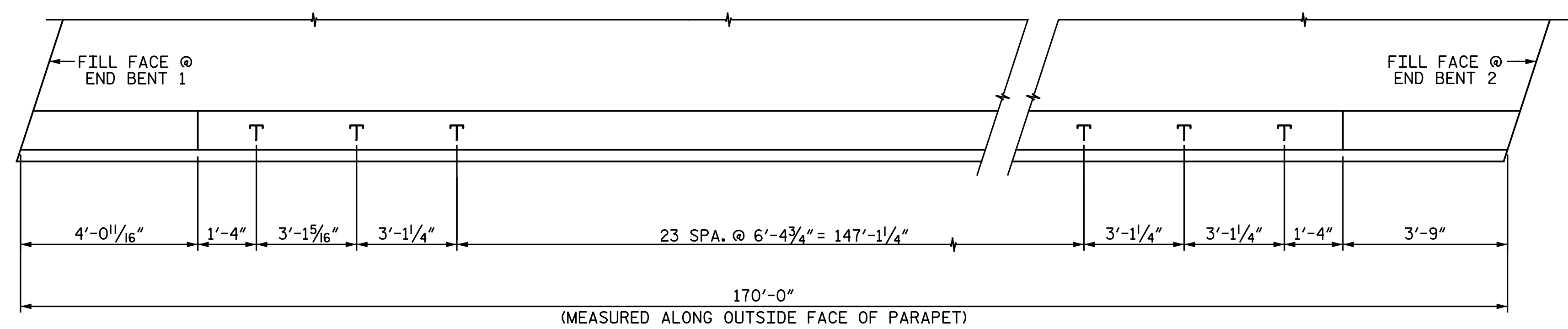
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NO.	BY:	DATE:	NO.	BY:	DATE:	S2-21
1			3			TOTAL SHEETS
2			4			33

STD. NO. BMR4

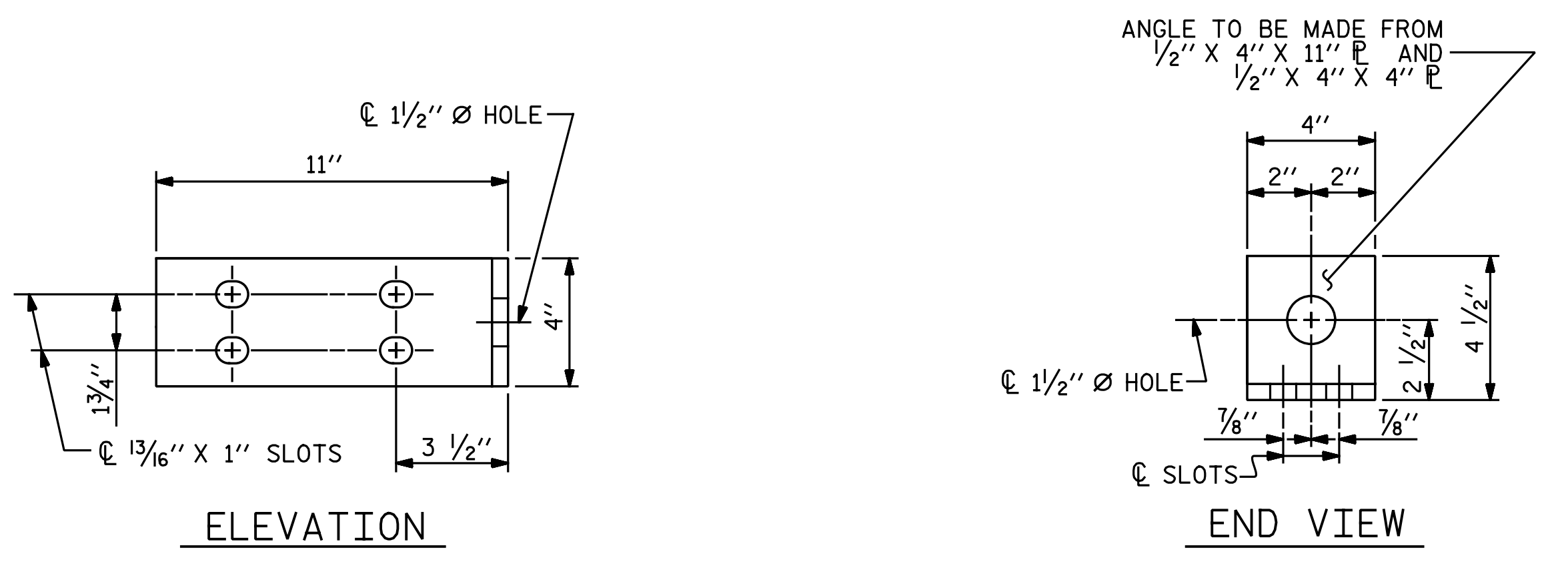
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 cmayhew

ASSEMBLED BY : J. N. A./N.B.S.	DATE : 11-18-15
CHECKED BY : A. M. HOUSTON	DATE : 2-9-16
DRAWN BY : EEM 6/94	REV. 8/16/99 MAB/LES
CHECKED BY : RGW 6/94	REV. 5/1/06R KMM/GM
	REV. 10/1/11 MAA/GM



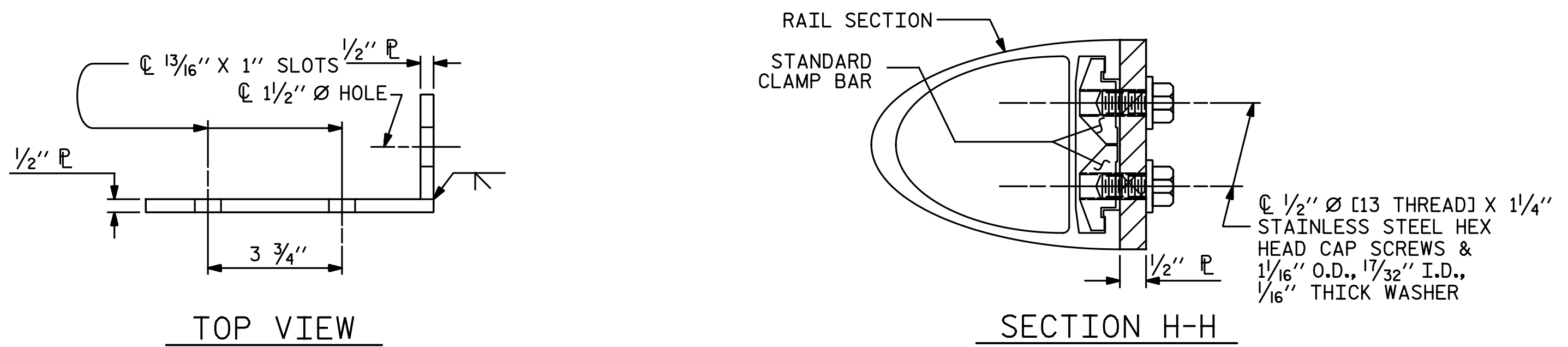


**PLAN OF RAIL POST SPACINGS**  
RIGHT SIDE SHOWN, LEFT SIDE SIMILAR BY ROTATION.



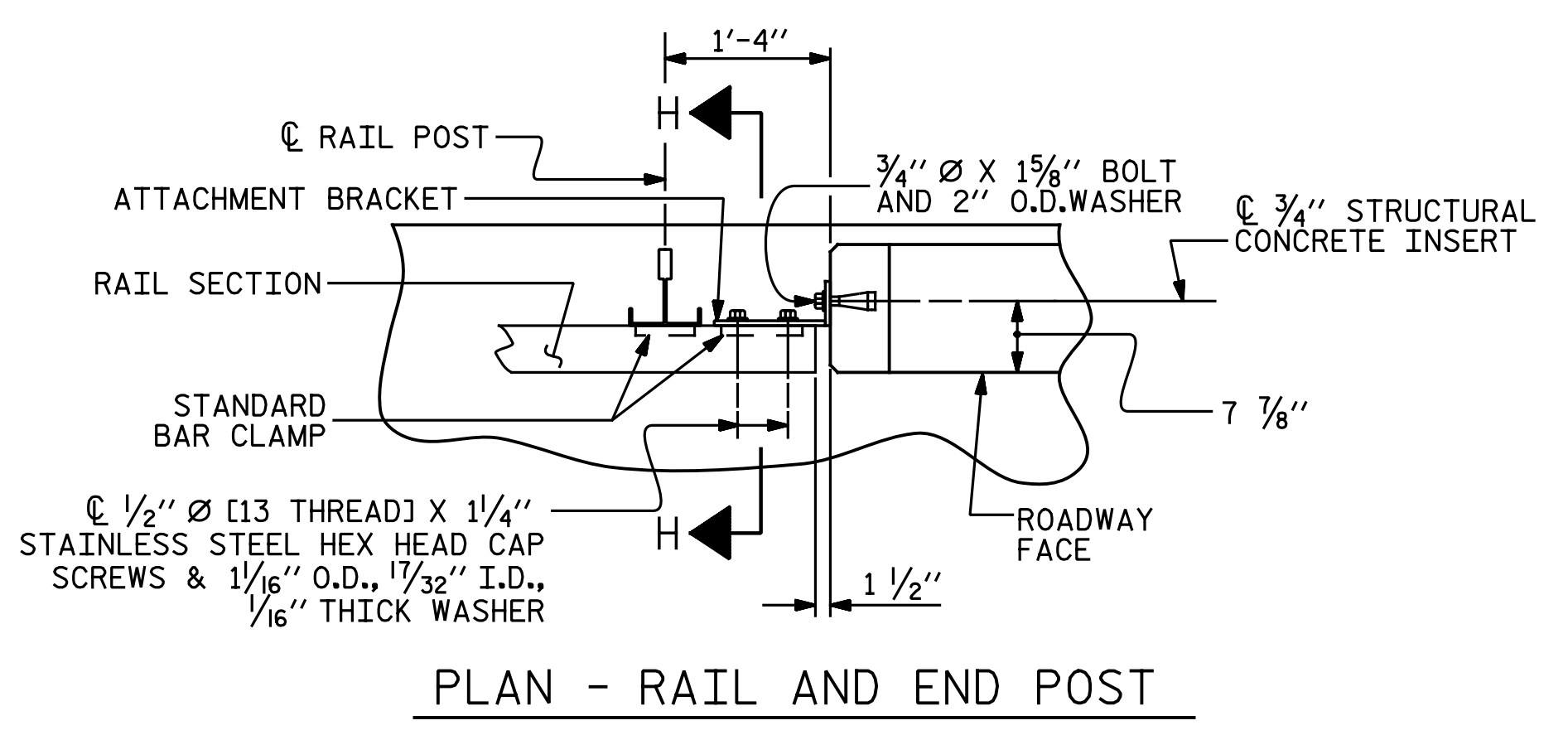
**ELEVATION**

**END VIEW**



**TOP VIEW**

**SECTION H-H**



**PLAN - RAIL AND END POST**

**DETAILS FOR ATTACHING METAL RAIL TO END POST**

**NOTES**

**STRUCTURAL CONCRETE INSERT**

- THE STRUCTURAL CONCRETE INSERT ASSEMBLY SHALL CONSIST OF THE FOLLOWING COMPONENTS:
- A. FERRULES SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF AASHTO M169, GRADE 12L14 AND SHALL HAVE A MINIMUM LENGTH OF THREADS OF 1 1/2".
  - B. 1 - 3/4" Ø X 1 5/8" BOLT WITH WASHER. BOLT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. BOLT AND WASHER SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLT AND WASHER MAY BE USED AS AN ALTERNATE FOR THE 3/4" Ø X 1 5/8" GALVANIZED BOLT AND WASHER. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)
  - C. WIRE STRUT SHOWN IN THE CONCRETE INSERT ASSEMBLY DETAIL IS THE MINIMUM ALLOWABLE SIZE AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 100,000 PSI. AS AN OPTION, A 1/16" Ø WIRE STRUT WITH A MINIMUM TENSILE STRENGTH OF 90,000 PSI IS ACCEPTABLE.

**NOTES**

**METAL RAIL TO END POST CONNECTION**

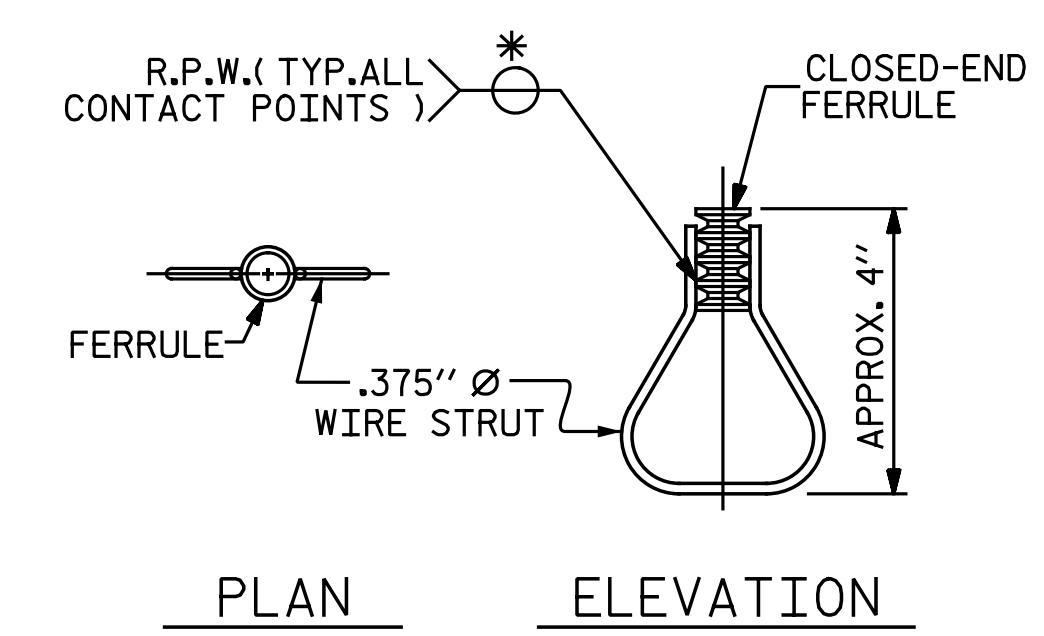
- THE METAL RAIL TO END POST CONNECTION SHALL CONSIST OF THE FOLLOWING COMPONENTS:
- A. 1/2" PLATES SHALL CONFORM TO AASHTO M270 GRADE 36 AND SHALL BE GALVANIZED AFTER FABRICATION.
  - B. 3/4" STRUCTURAL CONCRETE INSERT SHALL HAVE A WORKING LOAD SHEAR CAPACITY OF 4800 LBS. THE FERRULES SHALL ENGAGE A 3/4" Ø X 1 5/8" BOLT WITH 2" O.D. WASHER IN PLACE. THE 3/4" Ø X 1 5/8" BOLT SHALL HAVE N.C. THREADS.
  - C. CAP SCREWS FOR RAIL ATTACHMENT TO ANGLE SHALL CONFORM TO THE REQUIREMENTS OF ASTM F593 ALLOY 305 STAINLESS STEEL. CAP SCREWS TO BE CENTERED IN SLOTS AT 60°F.
  - D. STANDARD CLAMP BARS (SEE "2 BAR METAL RAIL" SHEET 2 OF 2).
  - E. 1/2" Ø PIPE SLEEVES (IF REQUIRED) TO BE GALVANIZED.

THE COST OF THE STANDARD CLAMP BARS AND CAP SCREWS USED IN THE METAL RAIL TO END POST CONNECTION SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR LINEAR FEET OF 1 OR 2 BAR METAL RAILS.

THE 3/4" STRUCTURAL CONCRETE INSERT WITH BOLT SHALL BE ASSEMBLED IN THE SHOP.

THE COST OF THE 3/4" STRUCTURAL CONCRETE INSERT ASSEMBLY, AND THE 1/2" PLATES COMPLETE IN PLACE SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.

THE CONTRACTOR, AT HIS OPTION, MAY USE AN ADHESIVE BONDING SYSTEM IN LIEU OF THE STRUCTURAL CONCRETE INSERT EMBEDDED IN THE END POST. IF THE ADHESIVE BONDING SYSTEM IS USED, THE 3/4" Ø X 1 5/8" BOLT WITH WASHER SHALL BE REPLACED WITH A 3/4" Ø X 6 1/2" BOLT AND 2" O.D. WASHER. ALL SPECIFICATIONS THAT APPLY TO THE 3/4" Ø X 1 5/8" BOLT SHALL APPLY TO THE 3/4" Ø X 6 1/2" BOLT. FIELD TESTING OF THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.



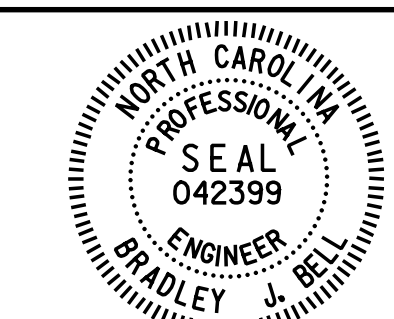
**PLAN ELEVATION**

**STRUCTURAL CONCRETE INSERT**

\*EACH WELDED ATTACHMENT OF WIRE TO FERRULE SHALL DEVELOP THE TENSILE STRENGTH OF THE WIRE.

PROJECT NO. U-2524D  
GUILFORD COUNTY  
STATION: 13+62.84 -PED-  
SHEET 3 OF 3

ASSEMBLED BY : JNA/NBS	DATE : 11-18-15
CHECKED BY : A. M. HOUSTON	DATE : 2-9-16
DRAWN BY : FCJ 1/88	REV. 5/7/03 RWW/JTE
CHECKED BY : CRK 3/89	REV. 5/1/06 TLA/GM
	REV. 10/1/11 MAA/GM



DocuSigned by:  
*Bradley J. Bell*  
C41A3F8E3C3A34...  
5/5/2016

**Michael Baker**  
INTERNATIONAL

Michael Baker Engineering  
8000 Regency Parkway, Suite 600  
Cary, North Carolina 27518  
NC License No.: F-1084

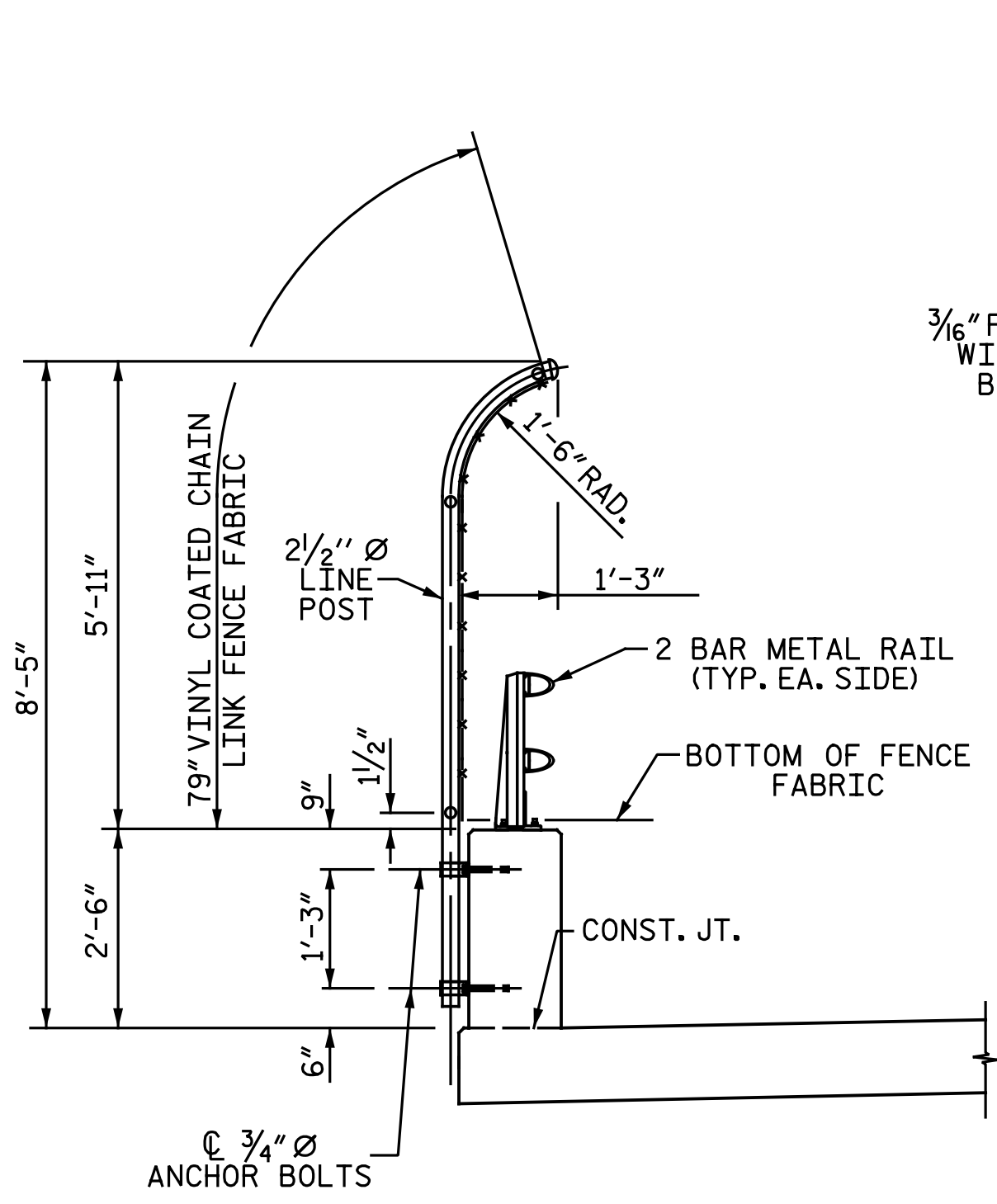
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
STANDARD  
RAIL POST SPACINGS  
AND  
END OF RAIL DETAILS  
FOR ONE OR TWO BAR METAL RAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-22
1			3			TOTAL SHEETS
2			4			33

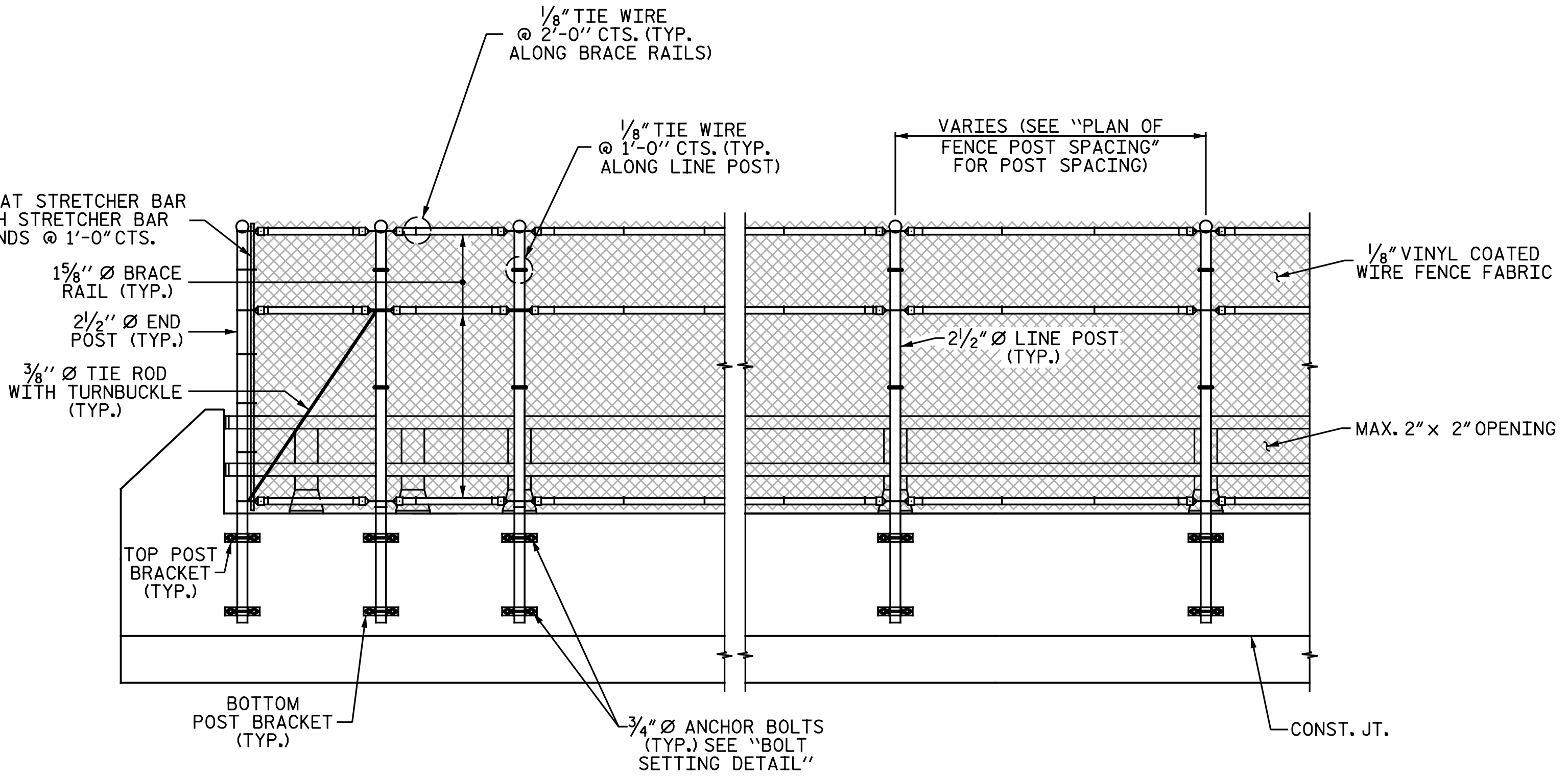
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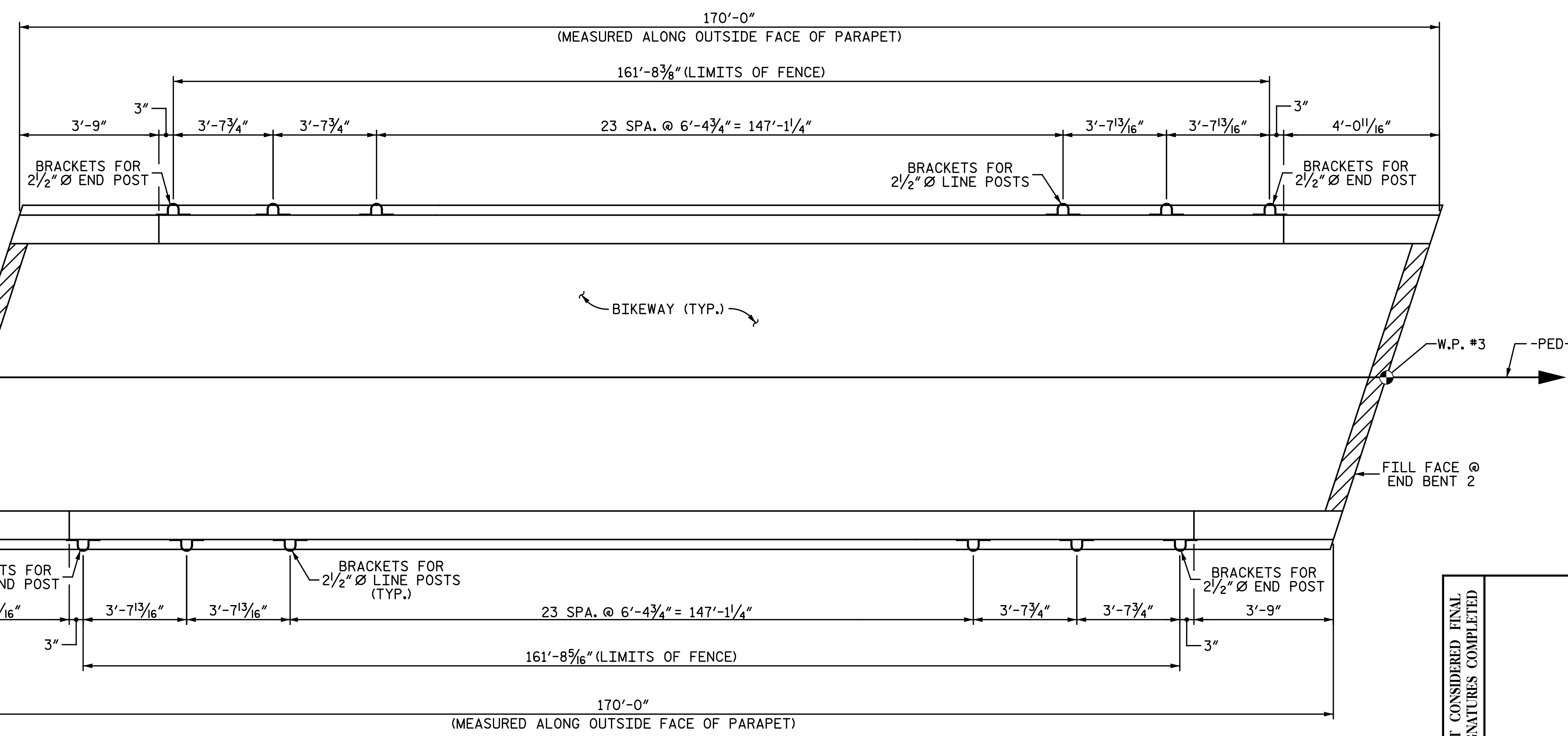
SECTION THRU FENCE



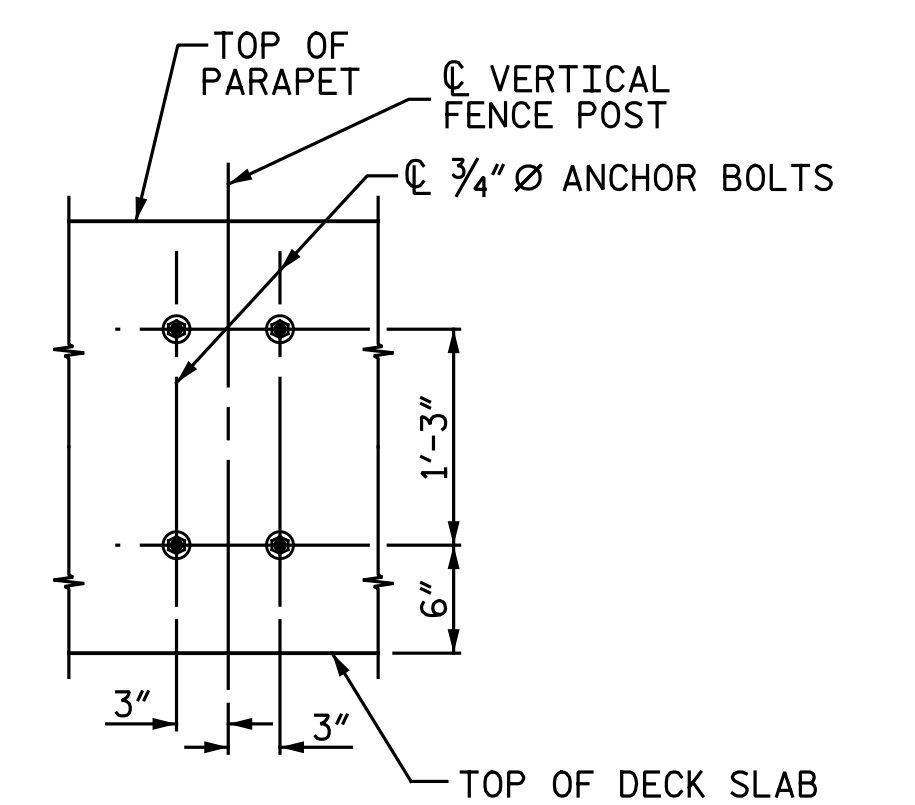
PARTIAL ELEVATION

NOTES:

- FOR 79" VINYL COATED CHAIN LINK FENCE, SEE SPECIAL PROVISIONS.
- 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 ALTERNATIVE FOR THE 3/4" DIAMETER 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.)
- FOR SETTING ANCHOR BOLTS, THE CONTRACTOR SHALL USE AN ADHESIVE BONDING SYSTEM. LEVEL ONE FIELD TESTING OF BONDING SYSTEM IS REQUIRED AND THE YIELD LOAD OF THE 3/4" DIAMETER BOLTS IS 12 KIPS.
- ALL FENCE MATERIAL SHALL MEET THE REQUIREMENTS OF SECTION 1050 OF THE STANDARD SPECIFICATIONS. GALVANIZE ALL STEEL PARTS AND HARDWARE IN ACCORDANCE WITH ARTICLE 1076 OF THE STANDARD SPECIFICATIONS.
- FENCE POST LOCATIONS SHALL BE SHIFTED, AS NECESSARY, TO MAINTAIN 12" MINIMUM DISTANCE FROM ANCHOR BOLT TO JOINTS IN CONCRETE PARAPET.
- DIMENSIONS ARE TAKEN ALONG OUTSIDE FACE OF CONCRETE PARAPET.
- FABRICATOR IS RESPONSIBLE FOR DESIGN OF MISCELLANEOUS VINYL COATED CHAIN LINK HARDWARE



PLAN OF FENCE POST SPACING



BOLT SETTING DETAIL

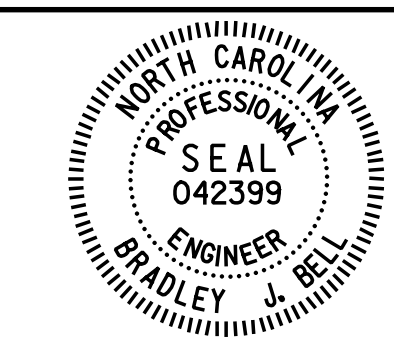
PROJECT NO. U-2524D  
GUILFORD COUNTY  
 STATION: 13+62.84 -PED-

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DRAWN BY: J.N.A./N.B.S. DATE: 11-16-15  
 CHECKED BY: A. M. HOUSTON DATE: 2-9-16

PAY LENGTH = 323.39 LIN. FT.

DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED



Designed by:  
*Bradley J. Bell*  
 C41A3F8E3A3434...  
 5/5/2016

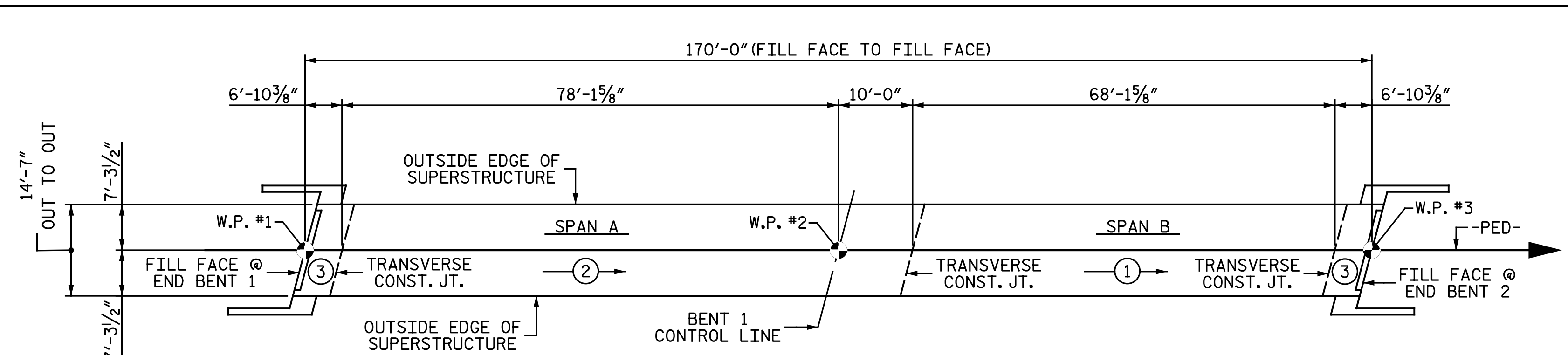
**Michael Baker**  
 INTERNATIONAL

Michael Baker Engineering  
 8000 Regency Parkway, Suite 600  
 Cary, North Carolina 27518  
 NC License No.: F-1084

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SUPERSTRUCTURE  
 BRIDGE MOUNTED VINYL  
 COATED CHAIN LINK  
 FENCE

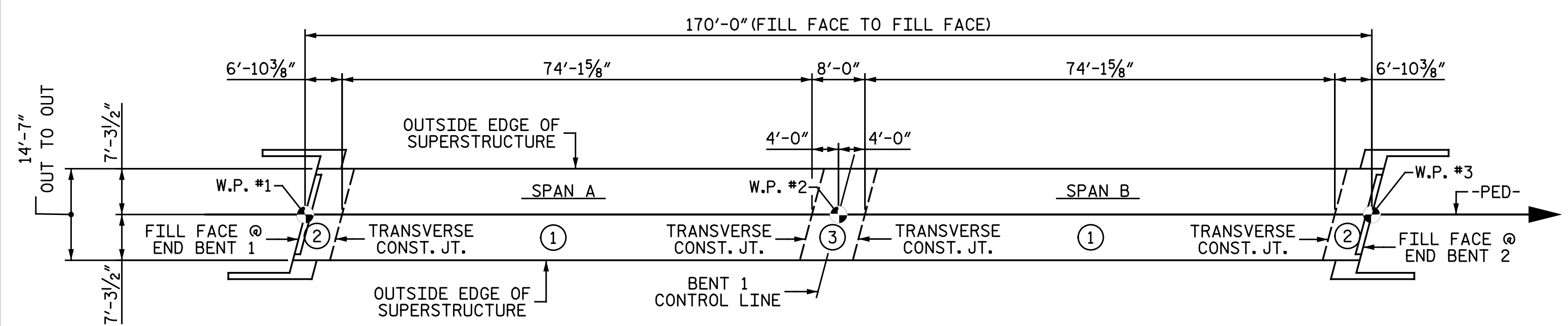
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NO.	BY:	DATE:	NO.	BY:	DATE:	S2-23
1			3			TOTAL SHEETS
2			4			33





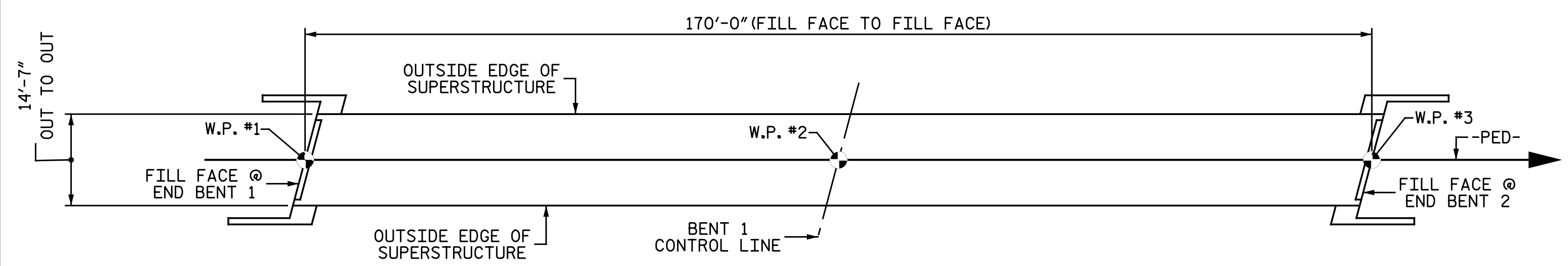
**POUR SEQUENCE**

⊕ DENOTES POUR NUMBER AND DIRECTION.

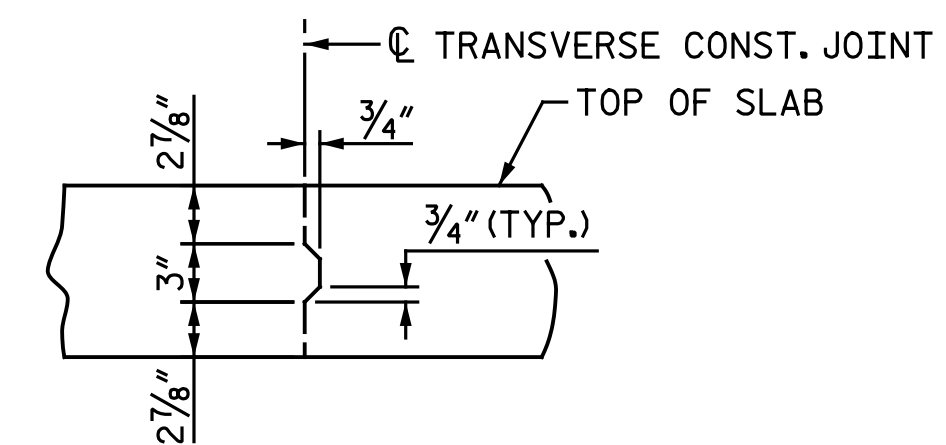


**OPTIONAL POUR SEQUENCE**

⊕ DENOTES POUR NUMBER



LAYOUT FOR COMPUTING AREA  
REINFORCED CONCRETE DECK SLAB  
(SQ. FT. = 2,479)



**TRANSVERSE CONST. JOINT DETAIL**

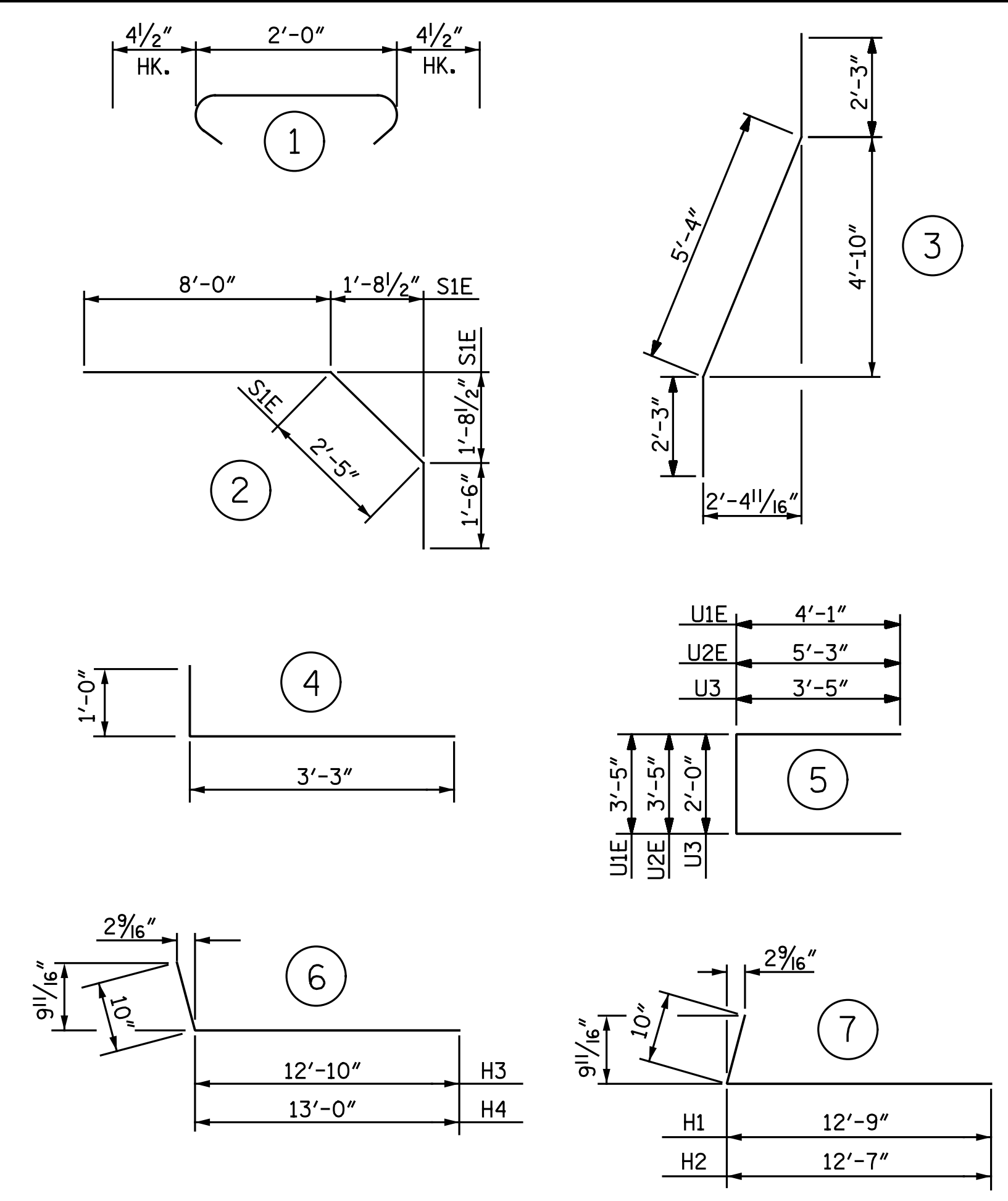
NOTE: REINFORCING STEEL IN SLAB NOT SHOWN. LONGITUDINAL REINFORCING STEEL SHALL BE CONTINUOUS THRU JOINT.

**REINFORCING BAR SCHEDULE**

SPANS A AND B					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A1E	164	5	STR	14' - 3"	2,437
A101E	2	5	STR	12' - 7"	26
A102E	2	5	STR	8' - 10"	18
A103E	4	5	STR	5' - 1"	21
A2	164	5	STR	14' - 3"	2,437
A201	2	5	STR	12' - 7"	26
A202	2	5	STR	8' - 10"	18
A203	4	5	STR	5' - 1"	21
B1E	42	7	STR	16' - 8"	1,431
B2E	48	4	STR	22' - 1"	708
B3E	12	7	STR	60' - 0"	1,472
B4E	9	7	STR	25' - 0"	460
B5	48	5	STR	58' - 0"	2,904
H1	16	5	7	13' - 7"	227
H2	16	5	7	13' - 5"	224
H3	16	5	6	13' - 8"	228
H4	16	5	6	13' - 10"	231
K1E	10	4	STR	20' - 11"	140
K2E	2	4	STR	6' - 8"	9
K3E	2	4	STR	7' - 9"	10
K4E	4	4	STR	8' - 3"	22
K5E	2	4	STR	7' - 2"	10
K6E	4	4	STR	4' - 6"	12
K7E	4	4	STR	5' - 0"	13
K8E	8	4	STR	5' - 3"	28
K9E	4	4	STR	4' - 9"	13
K10E	8	4	STR	2' - 9"	15
K11	5	4	3	9' - 10"	33
K12	2	4	STR	6' - 8"	9
K13	2	4	STR	7' - 9"	10
K14	4	4	STR	8' - 3"	22
K15	2	4	STR	7' - 2"	10
S1E	22	4	2	11' - 11"	175
S2	16	4	4	4' - 3"	45
S3	32	4	1	2' - 9"	59
U1E	22	4	5	11' - 7"	170
U2E	12	4	5	13' - 11"	112
U3	8	4	5	8' - 10"	47
V2	96	4	STR	5' - 5"	347
REINFORCING STEEL				LBS.	6,898
EPOXY COATED REINF. STEEL				LBS.	7,302

"E" SUFFIX DENOTES EPOXY COATED REINFORCING STEEL

**BAR TYPES**



ALL BAR DIMENSIONS ARE OUT TO OUT

**SUPERSTRUCTURE BILL OF MATERIAL**

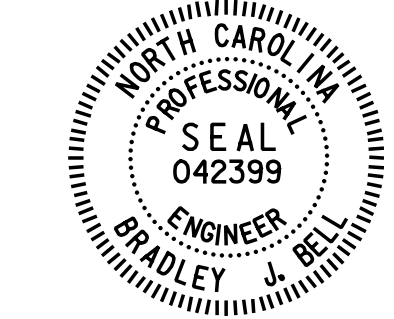
	CLASS AA CONCRETE (CU. YDS.)	REINFORCING STEEL (LBS.)	EPOXY COATED REINFORCING STEEL (LBS.)
SPAN A & B		6,898	7,302
POUR 1	29.7		
POUR 2	41.9		
POUR 3 *	19.9		
TOTALS **	111.4	6,898	7,302

\* POUR 3 QUANTITY INCLUDES UPPER POUR OF WINGS AND INTEGRAL END BENT  
\*\* QUANTITIES FOR CONCRETE PARAPET ARE NOT INCLUDED

**SUPERSTRUCTURE REINFORCING STEEL LENGTHS ARE BASED ON THE FOLLOWING MINIMUM SPLICE LENGTHS**

BAR SIZE	SUPERSTRUCTURE EXCEPT APPROACH SLABS, PARAPET, AND BARRIER RAIL		APPROACH SLABS		PARAPET AND BARRIER RAIL
	EPOXY COATED	UNCOATED	EPOXY COATED	UNCOATED	
#4	2'-0"	1'-9"	2'-0"	1'-9"	2'-9"
#5	2'-6"	2'-2"	2'-6"	2'-2"	3'-5"
#6	3'-0"	2'-7"	3'-10"	2'-7"	4'-4"
#7	5'-3"	3'-6"			
#8	6'-10"	4'-7"			

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



DocuSigned by:  
Bradley J. Bell  
C41A3F8E3A30434  
5/5/2016

**Michael Baker International**  
Michael Baker Engineering  
8000 Regency Parkway, Suite 600  
Cary, North Carolina 27518  
NC License No.: F-1084

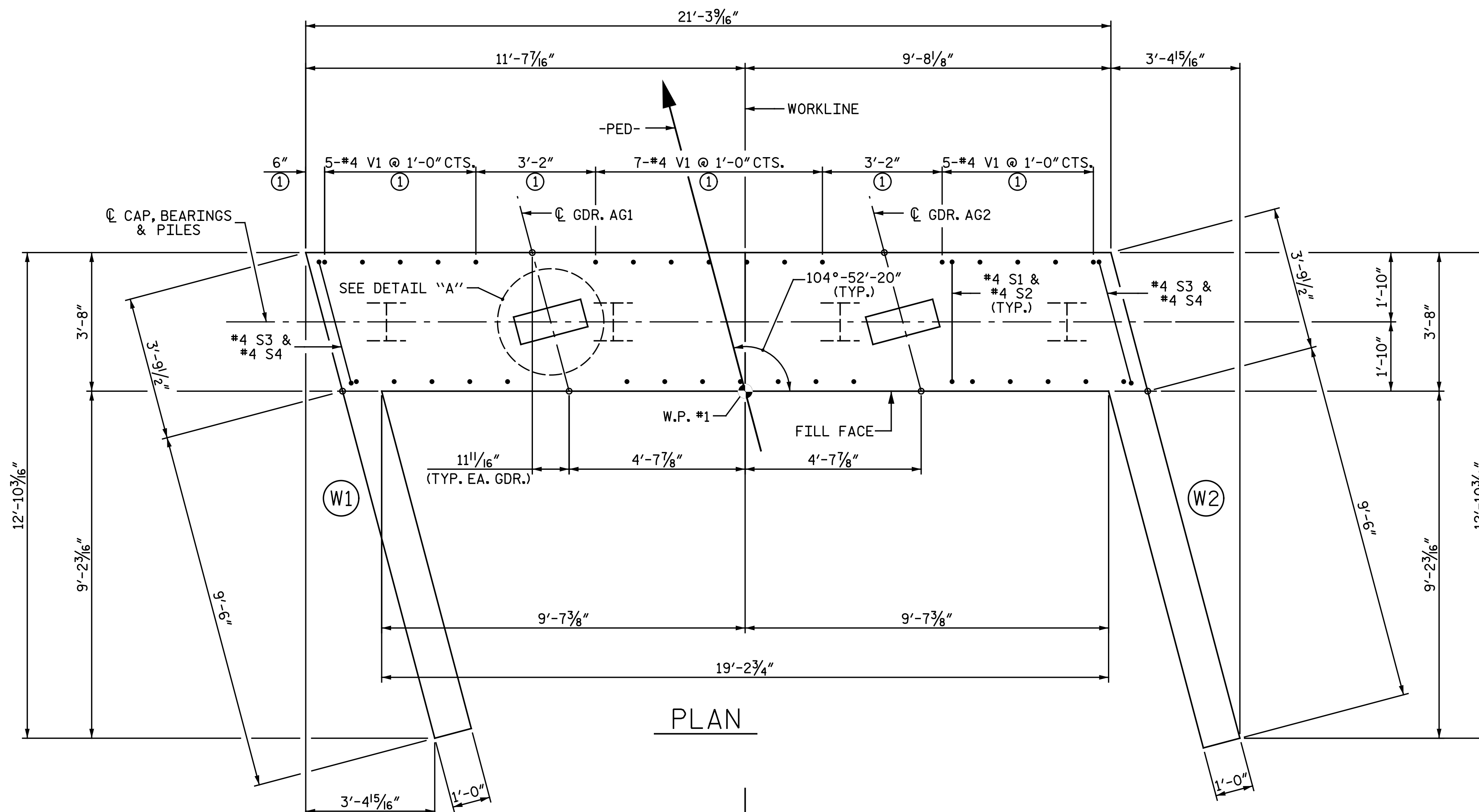
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
SUPERSTRUCTURE  
BILL OF MATERIAL

PROJECT NO. U-2524D  
GUILFORD COUNTY  
STATION: 13+62.84 -PED-

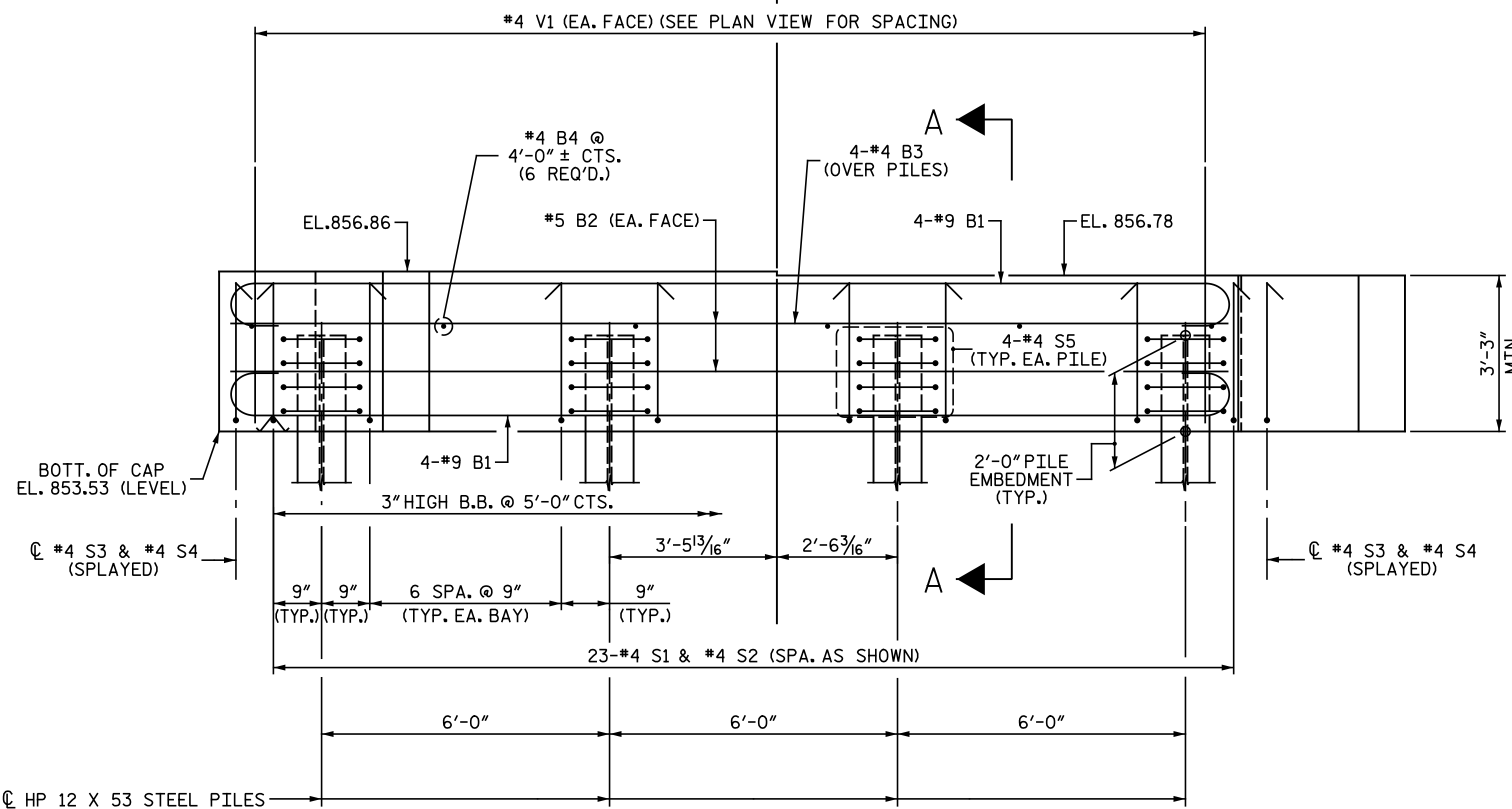
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NO.	BY:	DATE:	NO.	BY:	DATE:	S2-24
1			3			TOTAL SHEETS
2			4			33

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DRAWN BY: N. B. SPEAKS DATE: 11-16-15  
CHECKED BY: A. M. HOUSTON DATE: 3-2-16



PLAN



ELEVATION

NOTES:

FOR "SECTION A-A", SEE "INTEGRAL END BENT 1 DETAILS" SHEET.

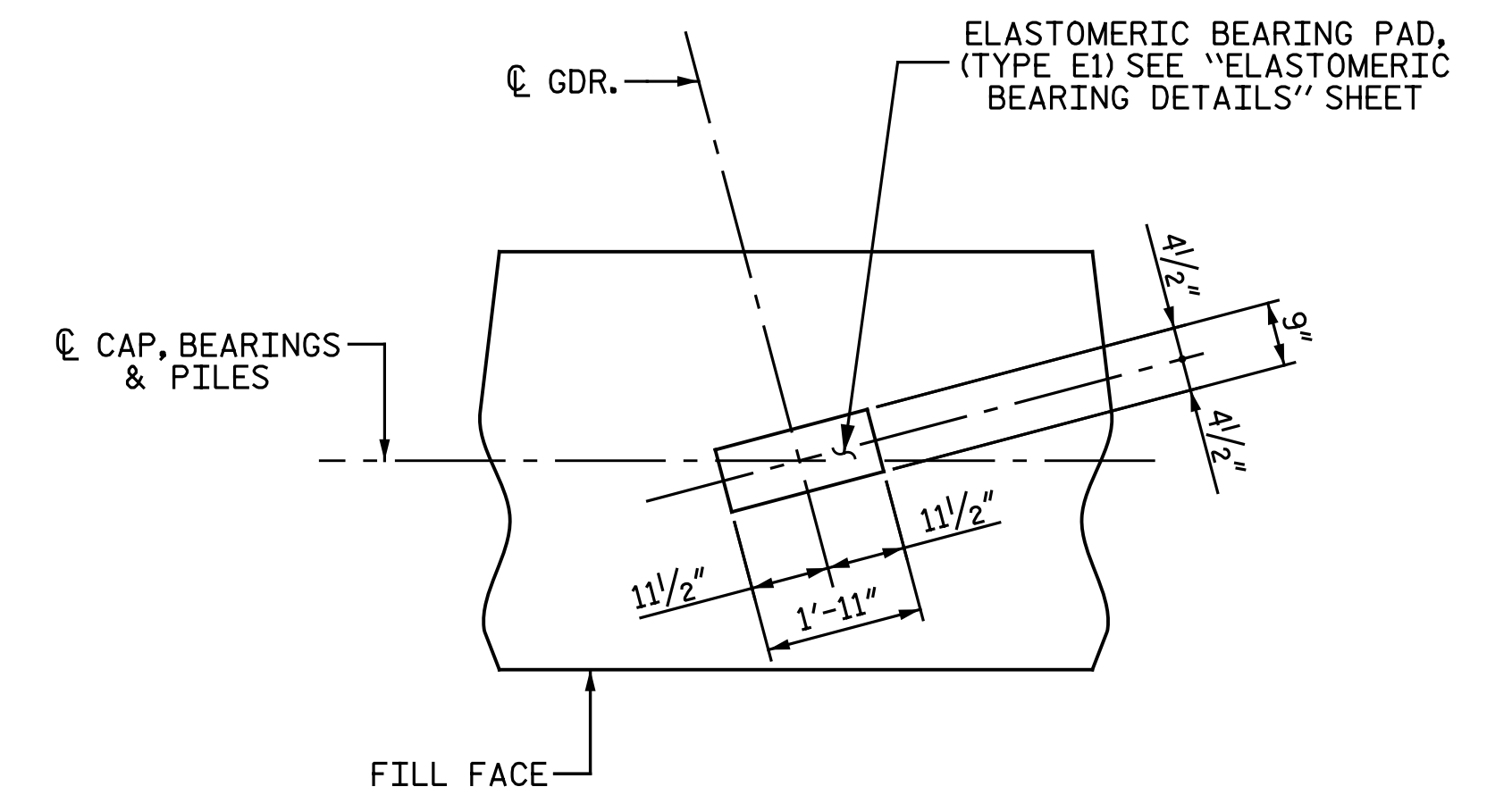
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR #4 V1 BARS

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE UPPER PART OF THE INTEGRAL END BENT AND WINGS ARE TO BE POURED WITH THE SUPERSTRUCTURE.

SEE SUPERSTRUCTURE SHEETS FOR UPPER PART OF INTEGRAL END BENT DETAILS.

THE TOP SURFACE OF THE END BENT CAP AND WINGS, EXCLUDING THE OUTSIDE 4" AND THE BEARING AREA, SHALL BE RAKED TO A DEPTH OF 1/4".

① TYP. EACH FACE



DETAIL "A"

ALL DIMENSIONS AND DETAILS SHOWN ARE TYPICAL FOR ALL BEARINGS @ EACH BRIDGE SEAT LOCATION.

PROJECT NO. U-2524D

GUILFORD COUNTY

STATION: 13+62.84 -PED-

SHEET 1 OF 2

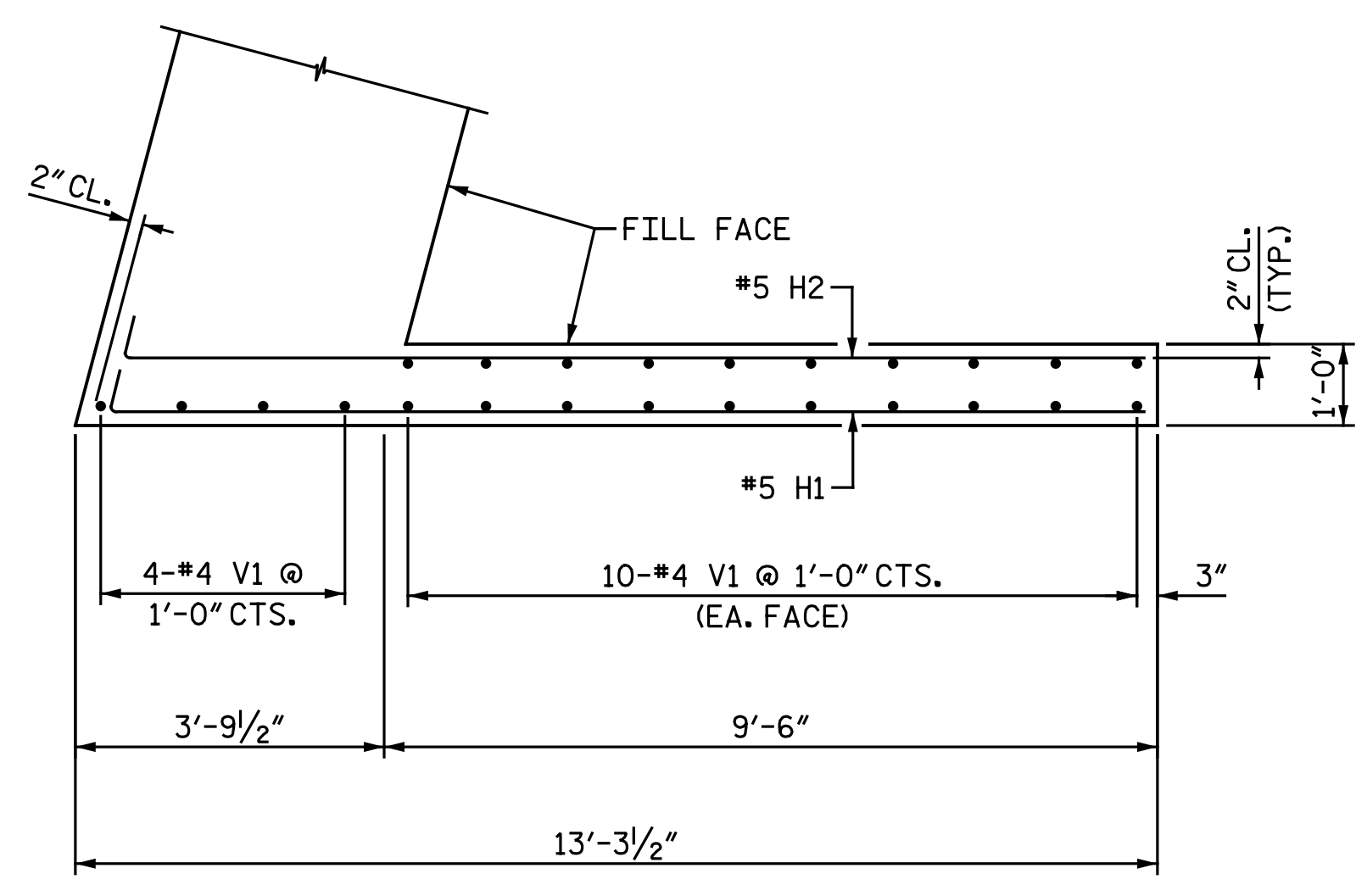
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			Michael Baker Engineering 8000 Regency Parkway, Suite 600 Cary, North Carolina 27518 NC License No.: F-1084	<table border="1"> <thead> <tr> <th>NO.</th> <th>BY:</th> <th>DATE:</th> <th>NO.</th> <th>BY:</th> <th>DATE:</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td></td> <td></td> <td style="text-align: center;">3</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">2</td> <td></td> <td></td> <td style="text-align: center;">4</td> <td></td> <td></td> </tr> </tbody> </table>	NO.	BY:		DATE:	NO.	BY:	DATE:	1			3			2			4		
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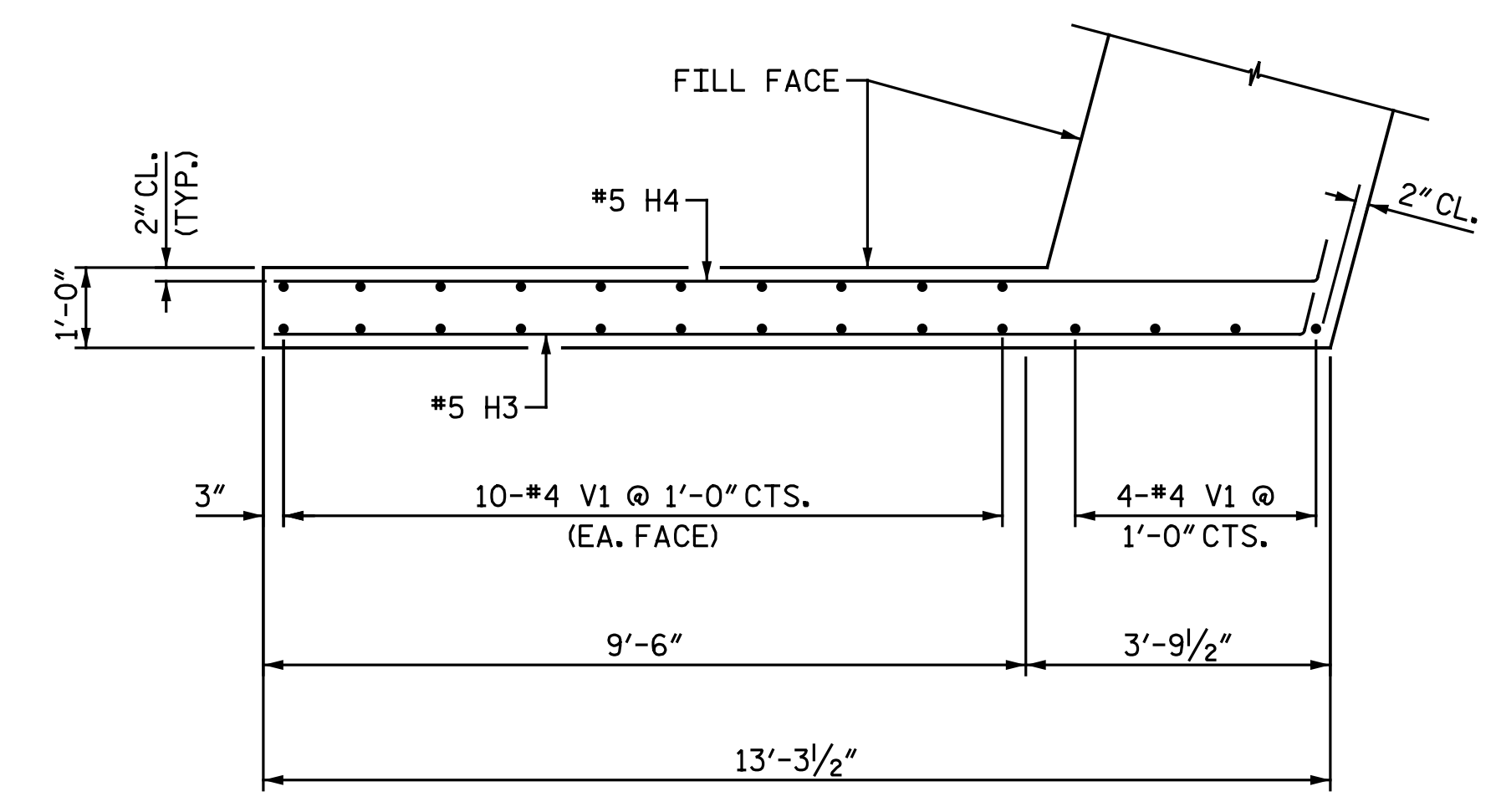
DRAWN BY: J. N. AUSTIN DATE: 11-30-15  
CHECKED BY: A. M. HOUSTON DATE: 2-12-16



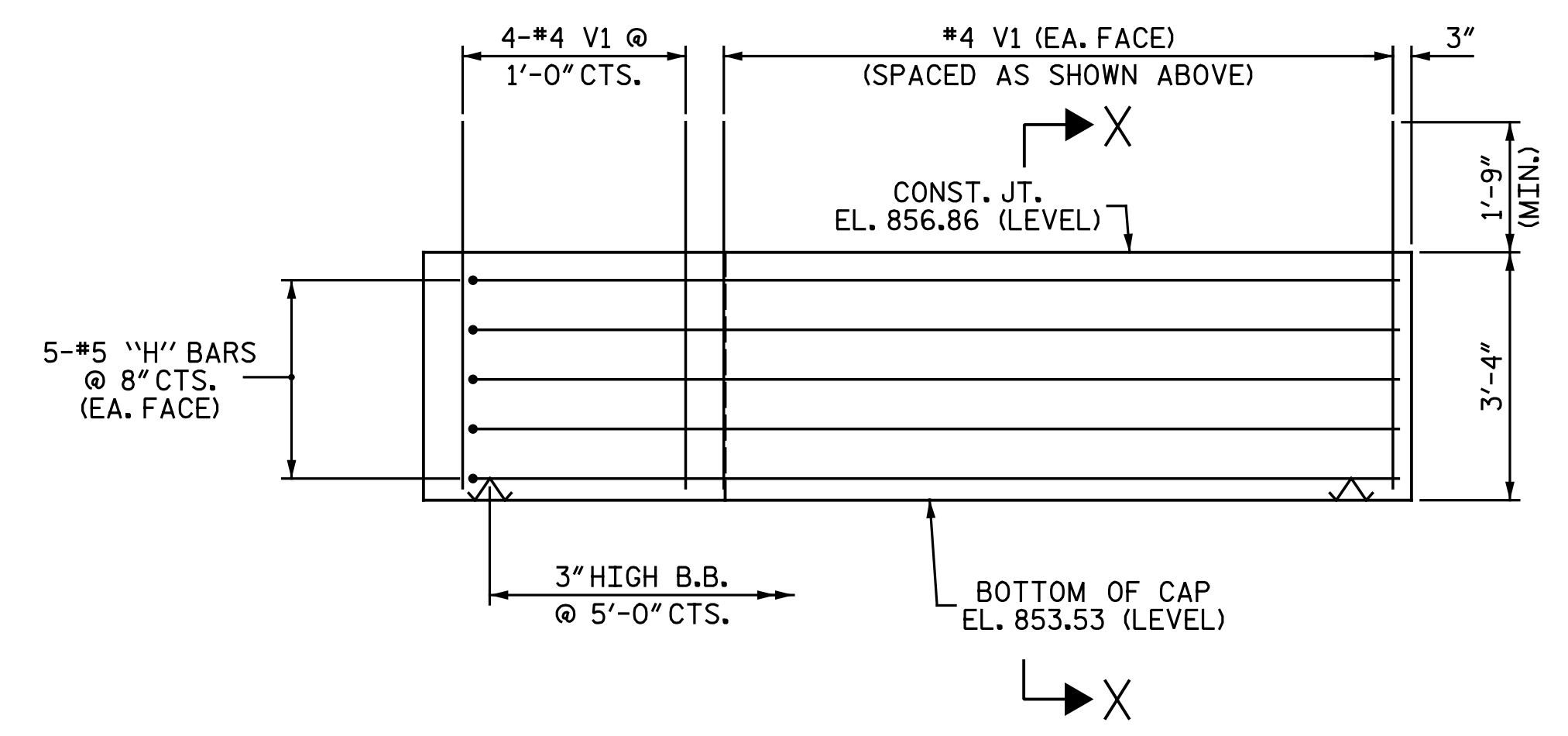
**NOTE:**  
THE UPPER PORTION OF THE WINGS SHALL BE POURED WITH THE SUPERSTRUCTURE. FOR DETAILS AND REINFORCING STEEL, SEE SUPERSTRUCTURE DETAILS.



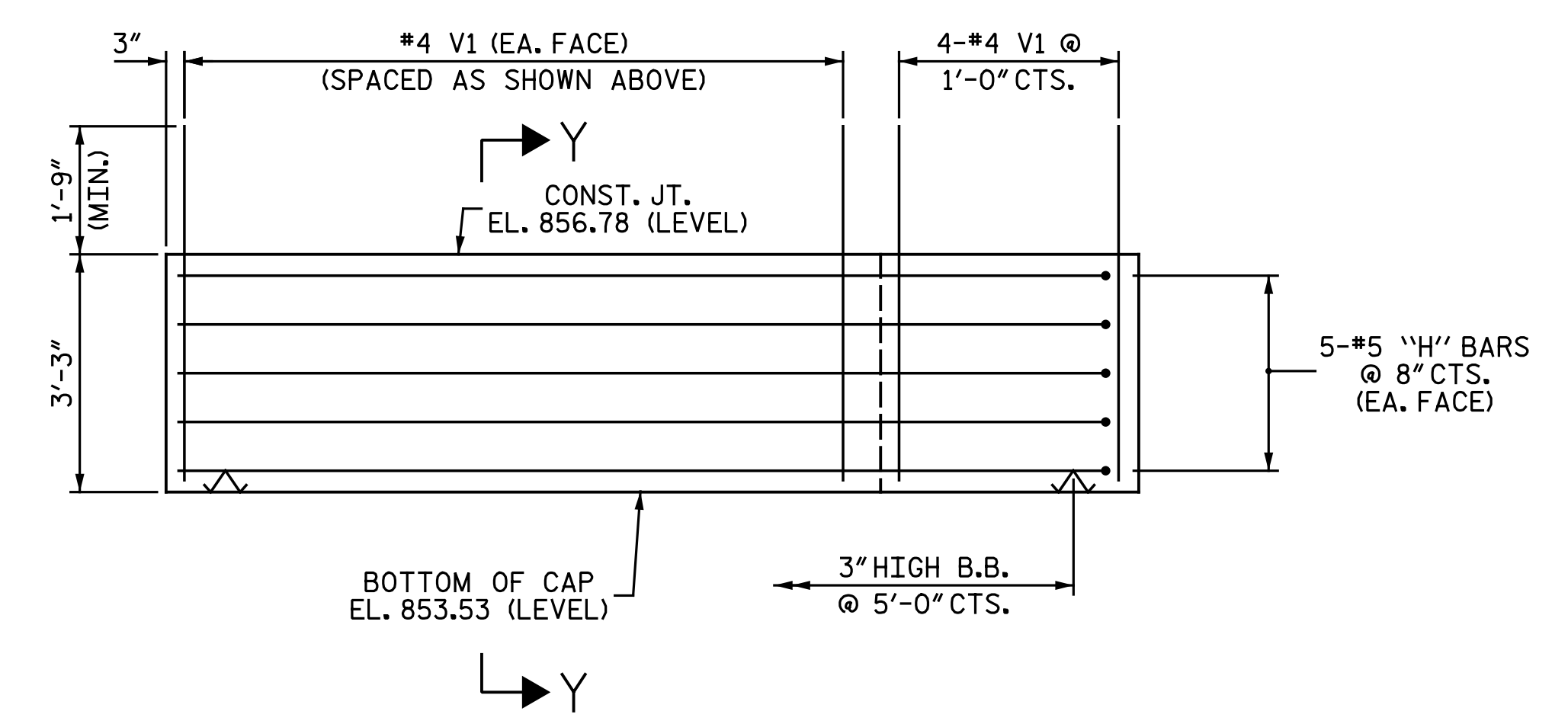
PLAN OF LEFT WING (W1)



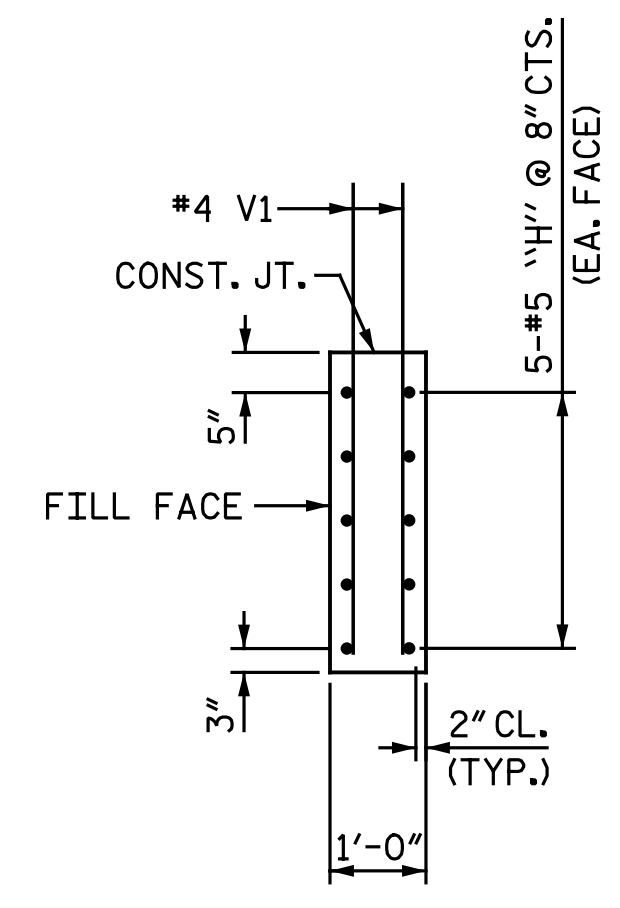
PLAN OF RIGHT WING (W2)



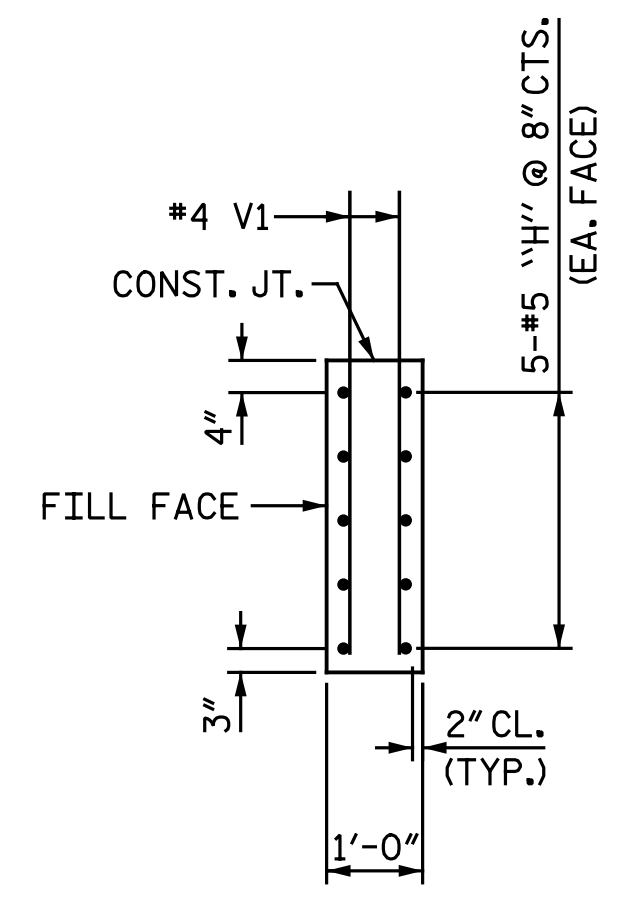
ELEVATION OF LEFT WING (W1)



ELEVATION OF RIGHT WING (W2)



SECTION X-X



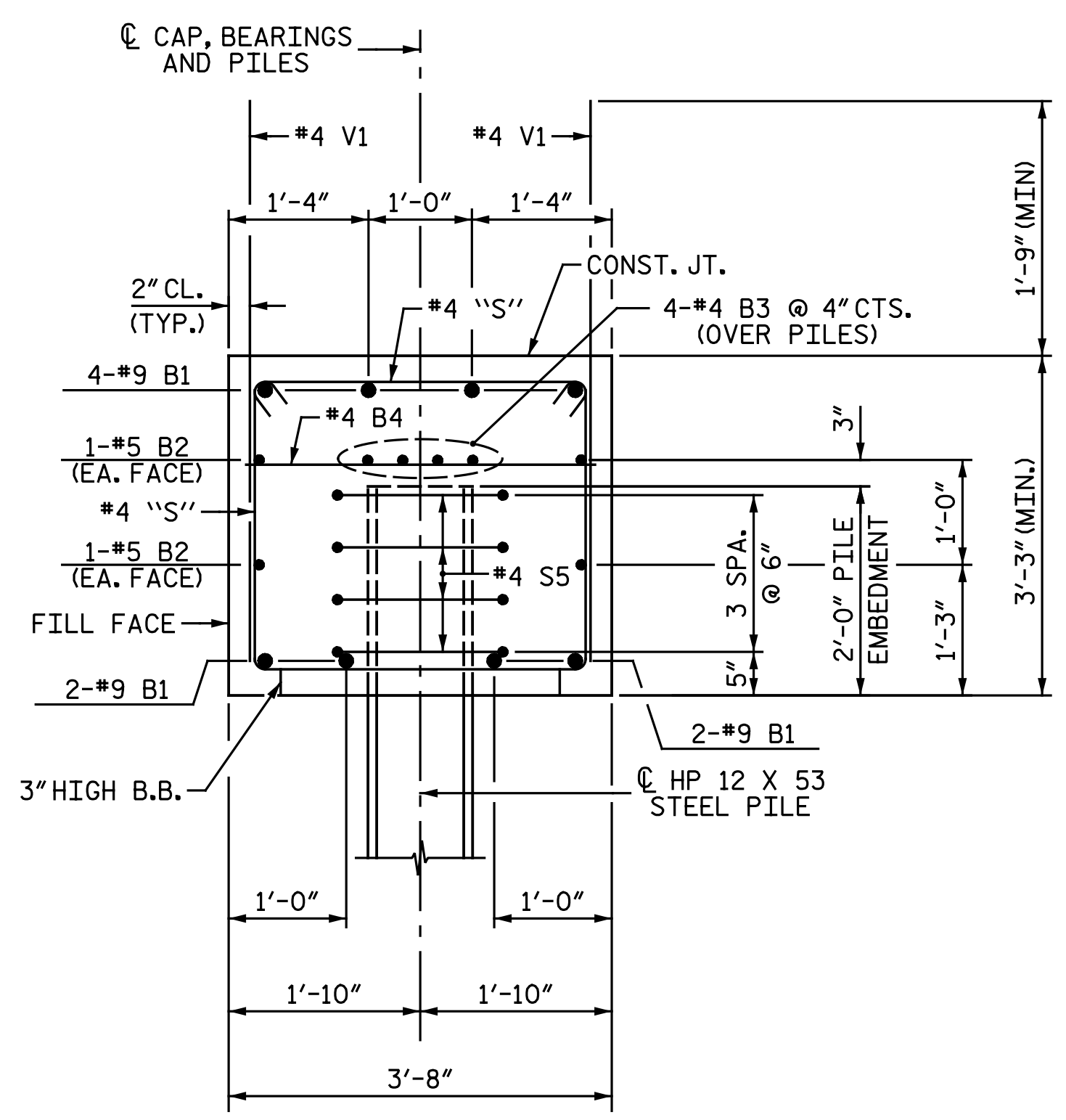
SECTION Y-Y

PROJECT NO. U-2524D  
GUILFORD COUNTY  
STATION: 13+62.84 -PED-  
SHEET 2 OF 2

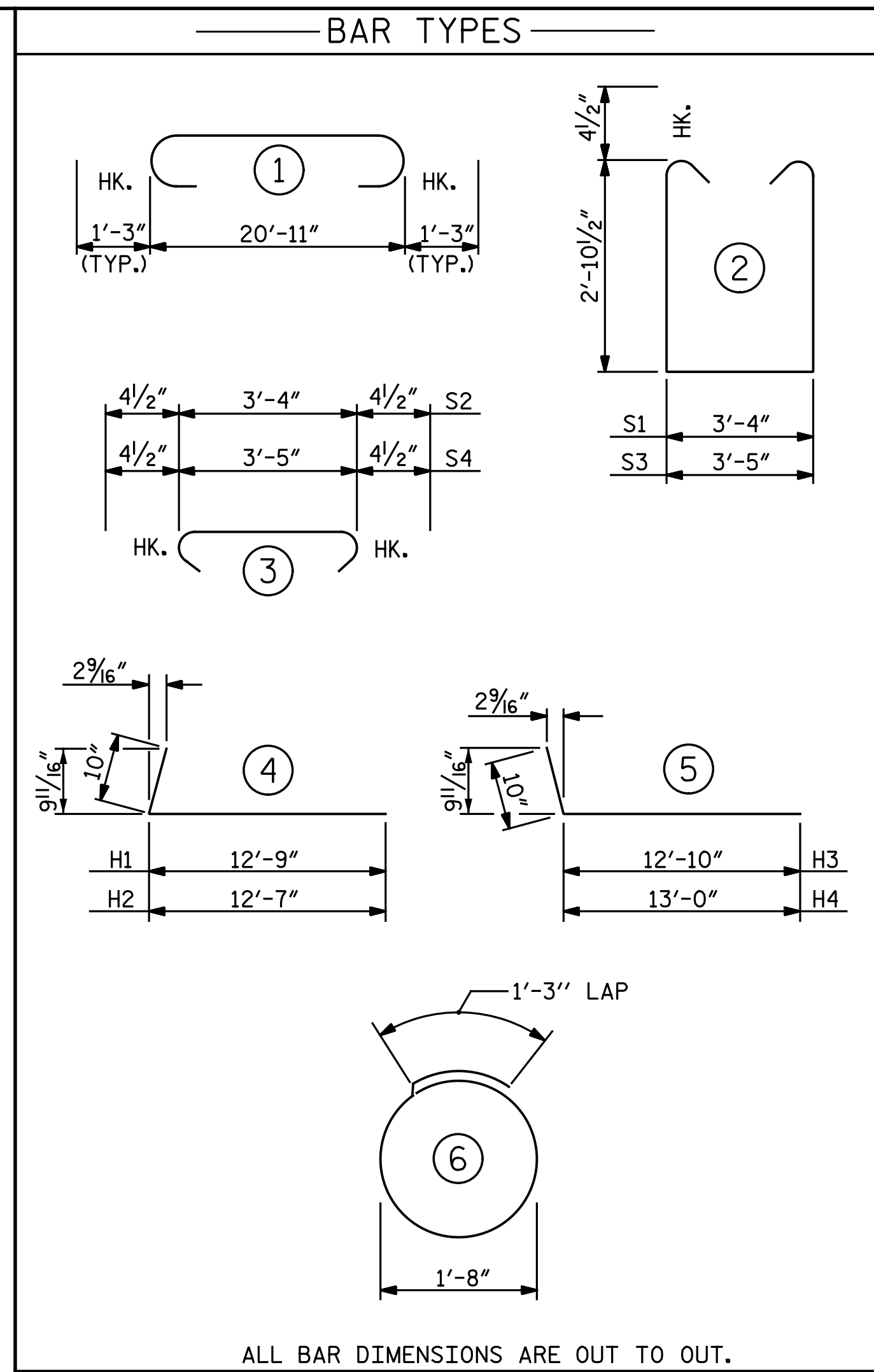
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		REVISIONS				TOTAL SHEETS 33	
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CHECKED BY : A. M. HOUSTON DATE : 2-24-16

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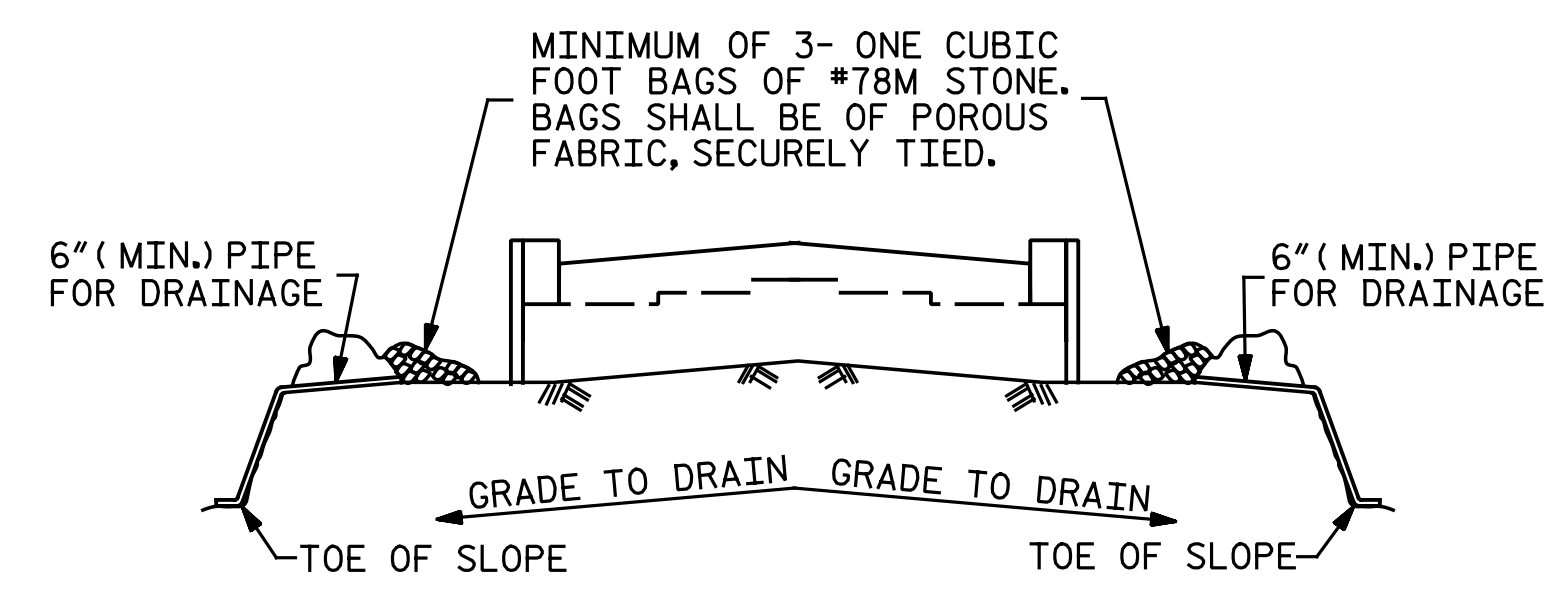


SECTION A-A



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
END BENT 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	9	1	23' - 5"	637
B2	4	5	STR	20' - 11"	87
B3	4	4	STR	20' - 11"	56
B4	6	4	STR	3' - 4"	13
H1	5	5	4	13' - 7"	71
H2	5	5	4	13' - 5"	70
H3	5	5	5	13' - 8"	71
H4	5	5	5	13' - 10"	72
S1	23	4	2	9' - 10"	151
S2	23	4	3	4' - 1"	63
S3	2	4	2	9' - 11"	13
S4	2	4	3	4' - 2"	6
S5	16	4	6	6' - 6"	69
V1	82	4	STR	4' - 10"	265
REINFORCING STEEL				LBS.	1,644
CLASS A CONCRETE				C.Y.	11.9
HP 12 x 53 STEEL PILES				L.F.	200
NO. 4					

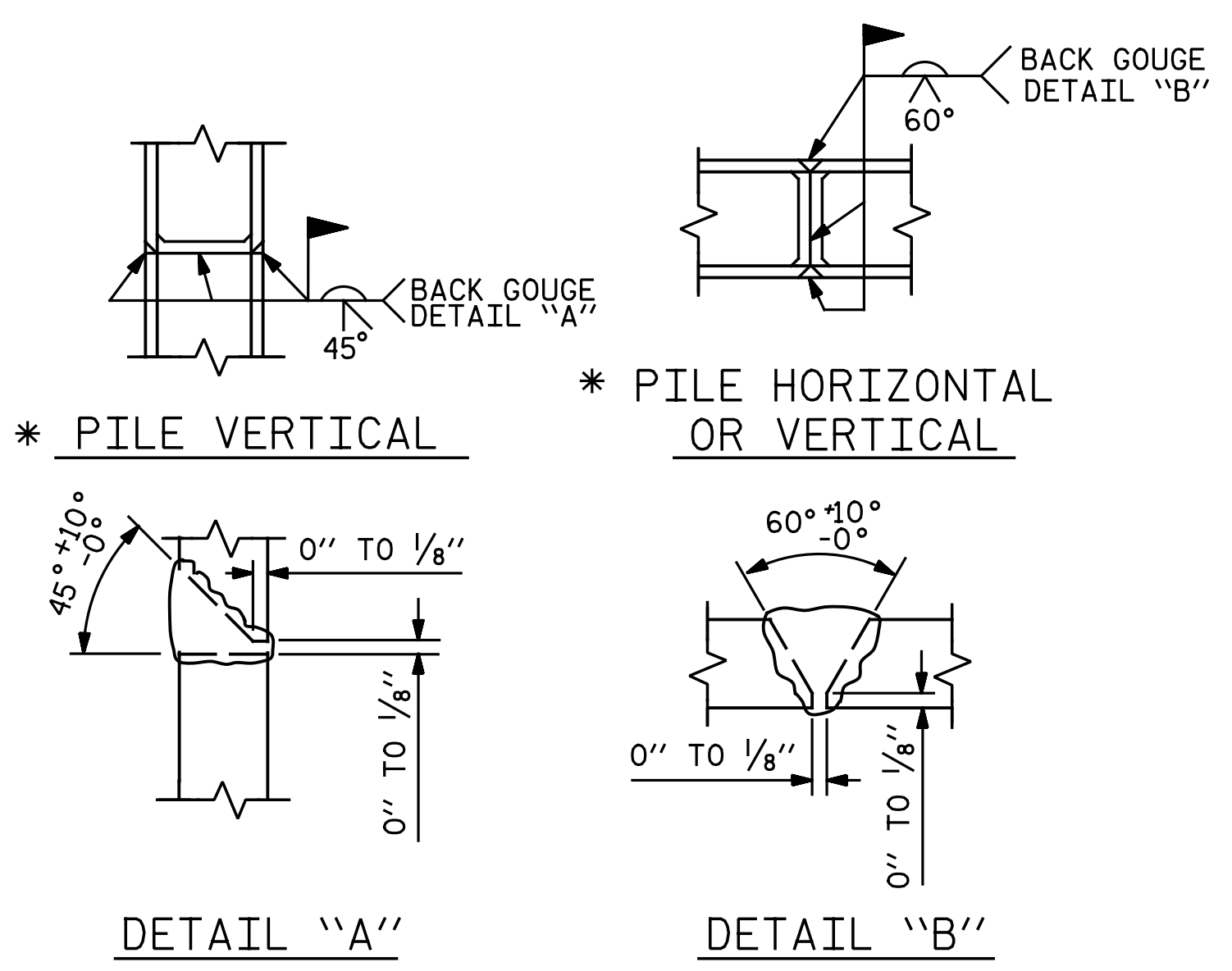


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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

\* POSITION OF PILE DURING WELDING.

PROJECT NO. U-2524D  
 GUILFORD COUNTY  
 STATION: 13+62.84 -PED-

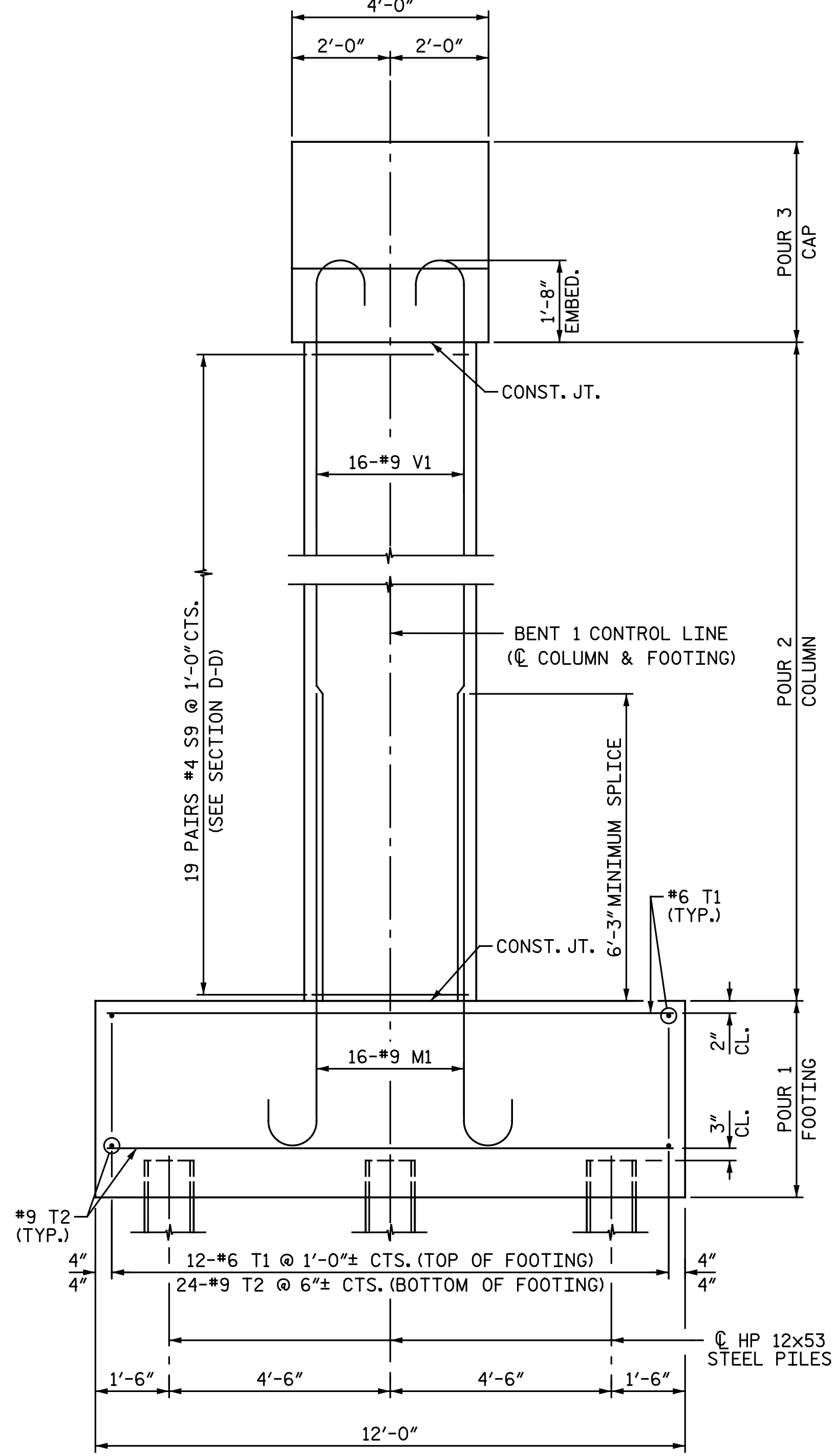
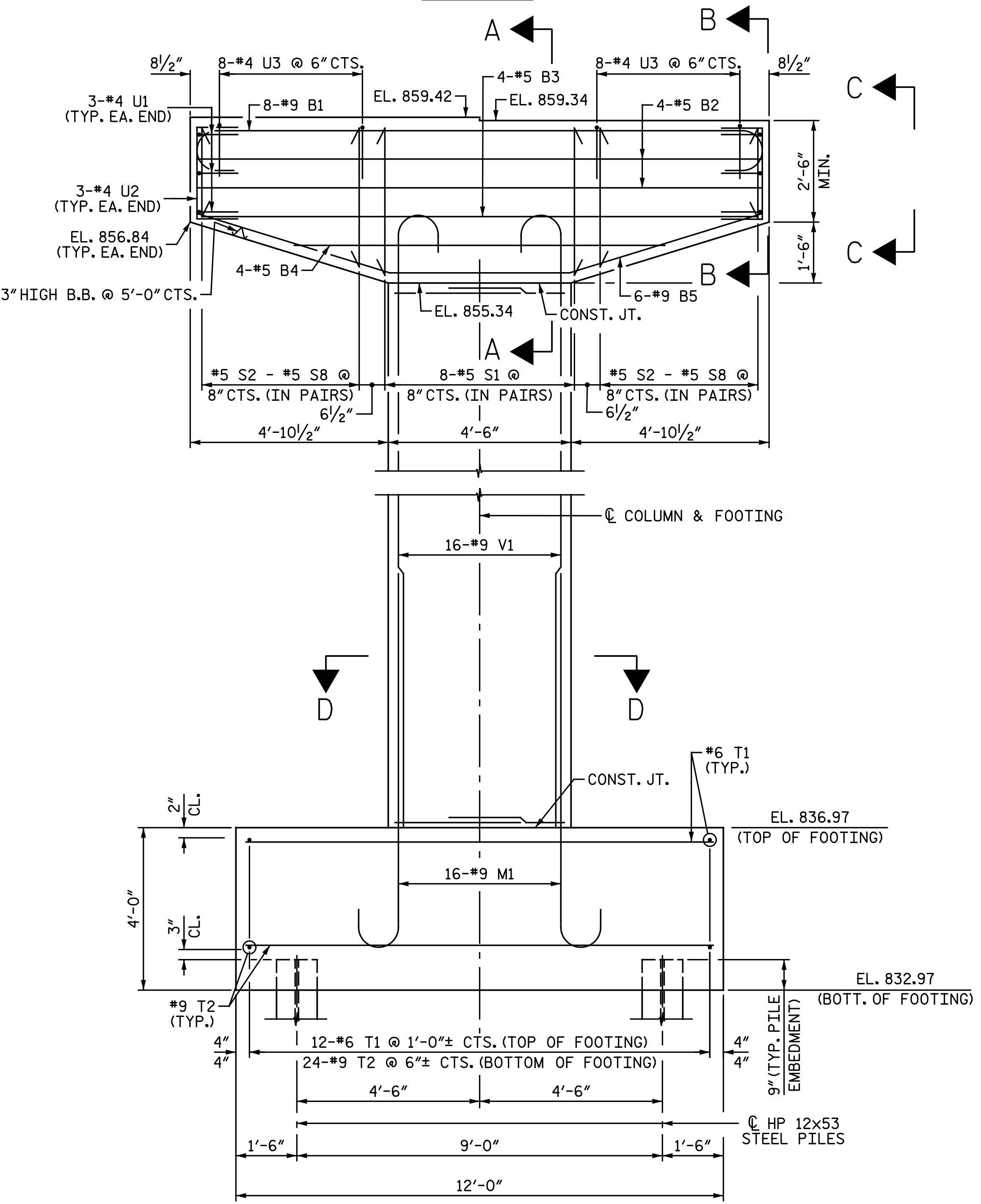
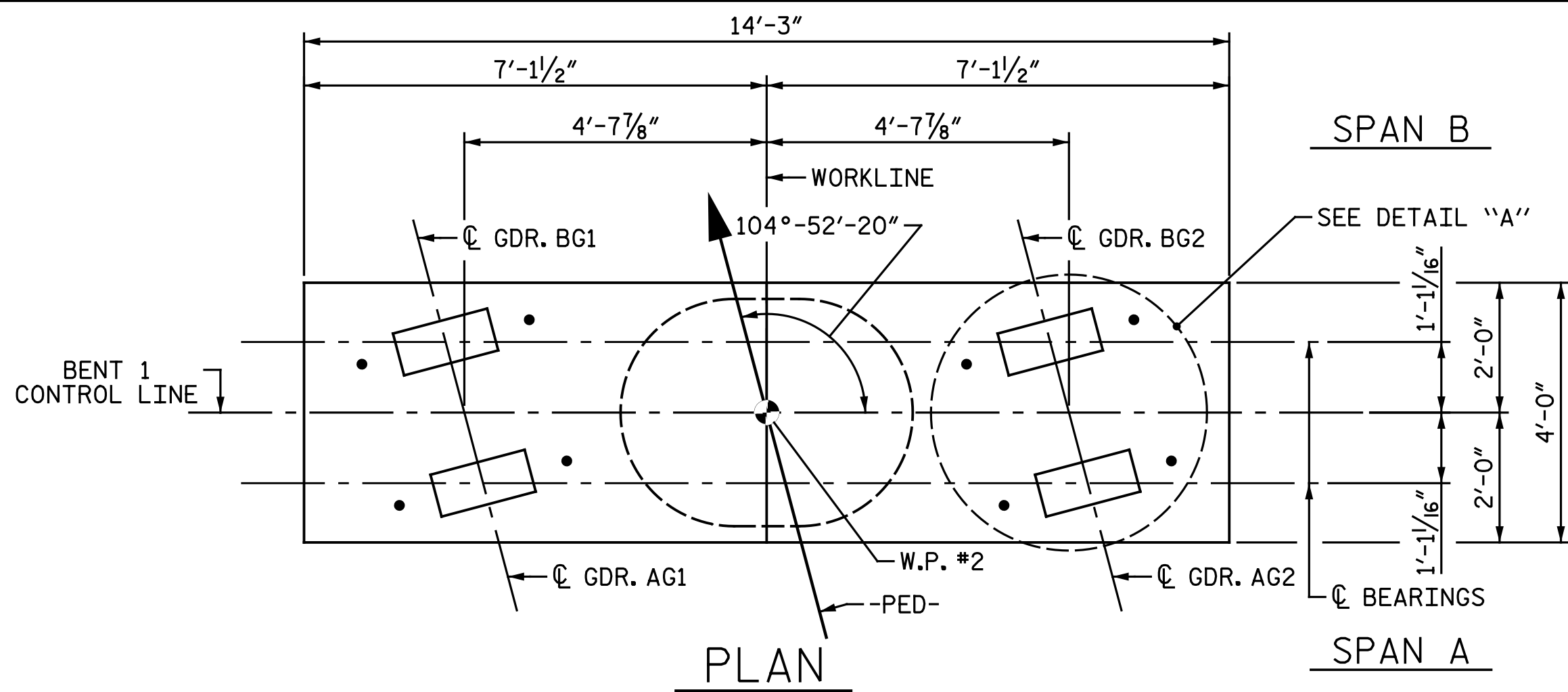
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	Michael Baker International 8000 Regency Parkway, Suite 600 Cary, North Carolina 27518 NC License No.: F-1084		REVISIONS		
	NO.	BY:	DATE:	NO.	BY:
1			3		
2			4		

DRAWN BY: J. N. AUSTIN DATE: 12-1-15  
 CHECKED BY: A. M. HOUSTON DATE: 2-12-16

SHEET NO. S2-27  
 TOTAL SHEETS 33

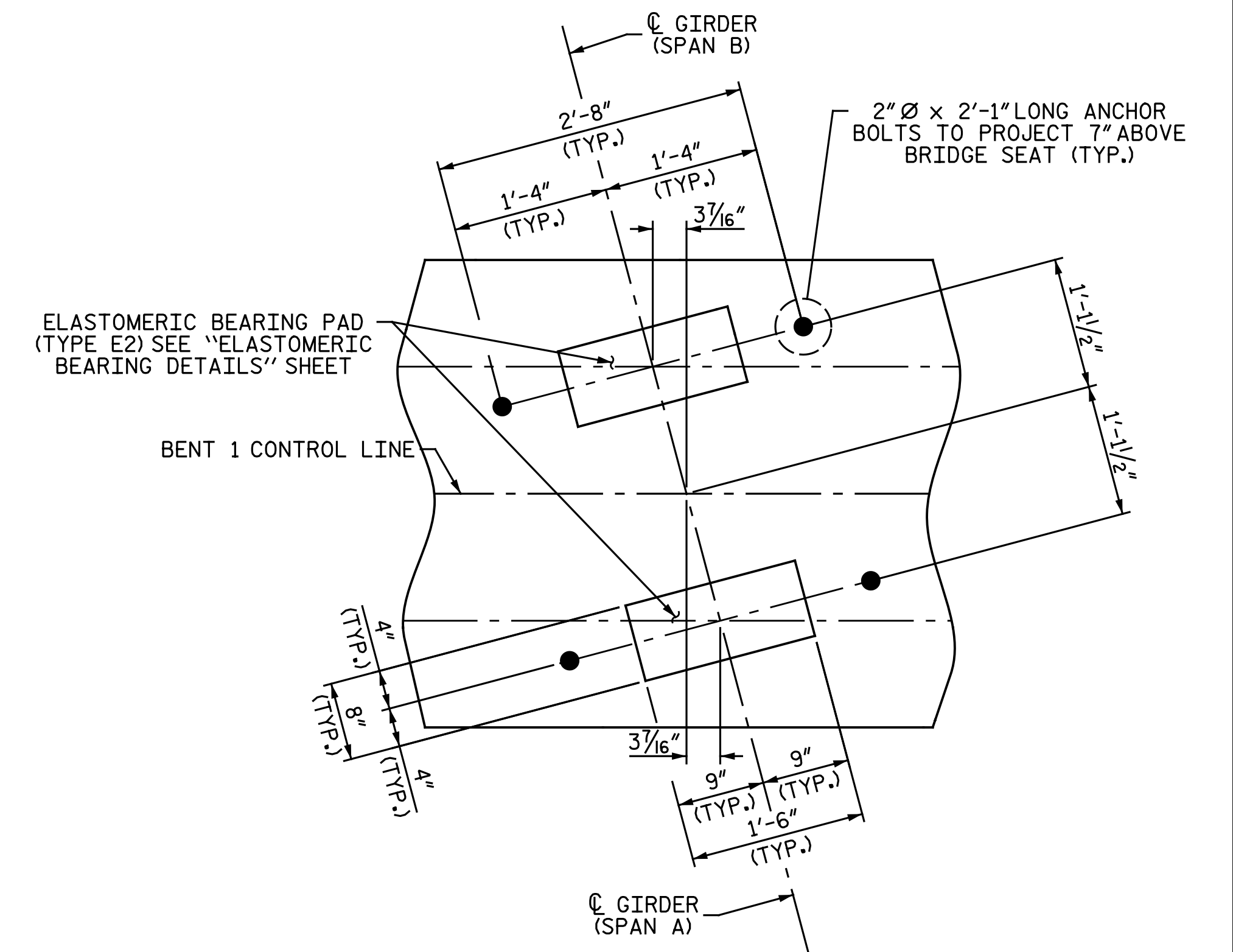
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**NOTES:**

- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
- ALTERNATELY INVERT STIRRUP PAIRS AS NOTED.
- FOR FOOTING REINFORCING DETAILS, SEE "BENT 1 DETAILS" SHEET.
- FOR "SECTION A-A", "SECTION B-B", "VIEW C-C", AND "SECTION D-D", SEE "BENT 1 DETAILS" SHEET.
- FOR ADDITIONAL INFORMATION AND NOTES, SEE "GENERAL DRAWING", SHEET 2 OF 4.
- HOOKS ON "V1" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.
- T1 BARS IN FOOTING MAY BE SHIFTED AS NECESSARY TO CLEAR M1 BARS IN FOOTING.



**DETAIL "A"**  
 ALL DIMENSIONS AND DETAILS SHOWN ARE TYPICAL FOR ALL BEARINGS @ EACH BRIDGE SEAT LOCATION.

PROJECT NO. U-2524D  
GUILFORD COUNTY  
 STATION: 13+62.84 -PED-

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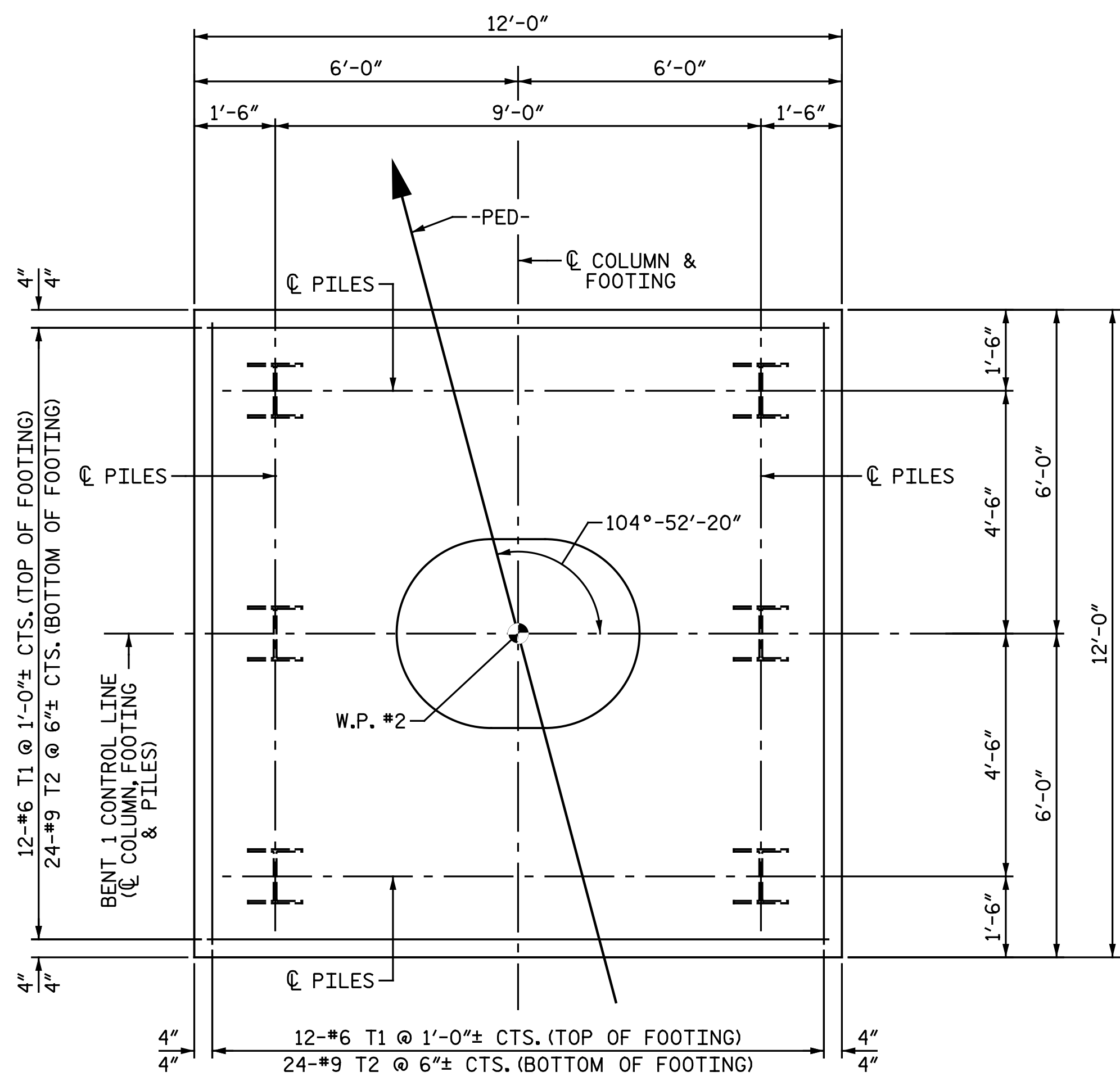
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 CHECKED BY: A. M. HOUSTON DATE: 2-16-16

**ELEVATION**

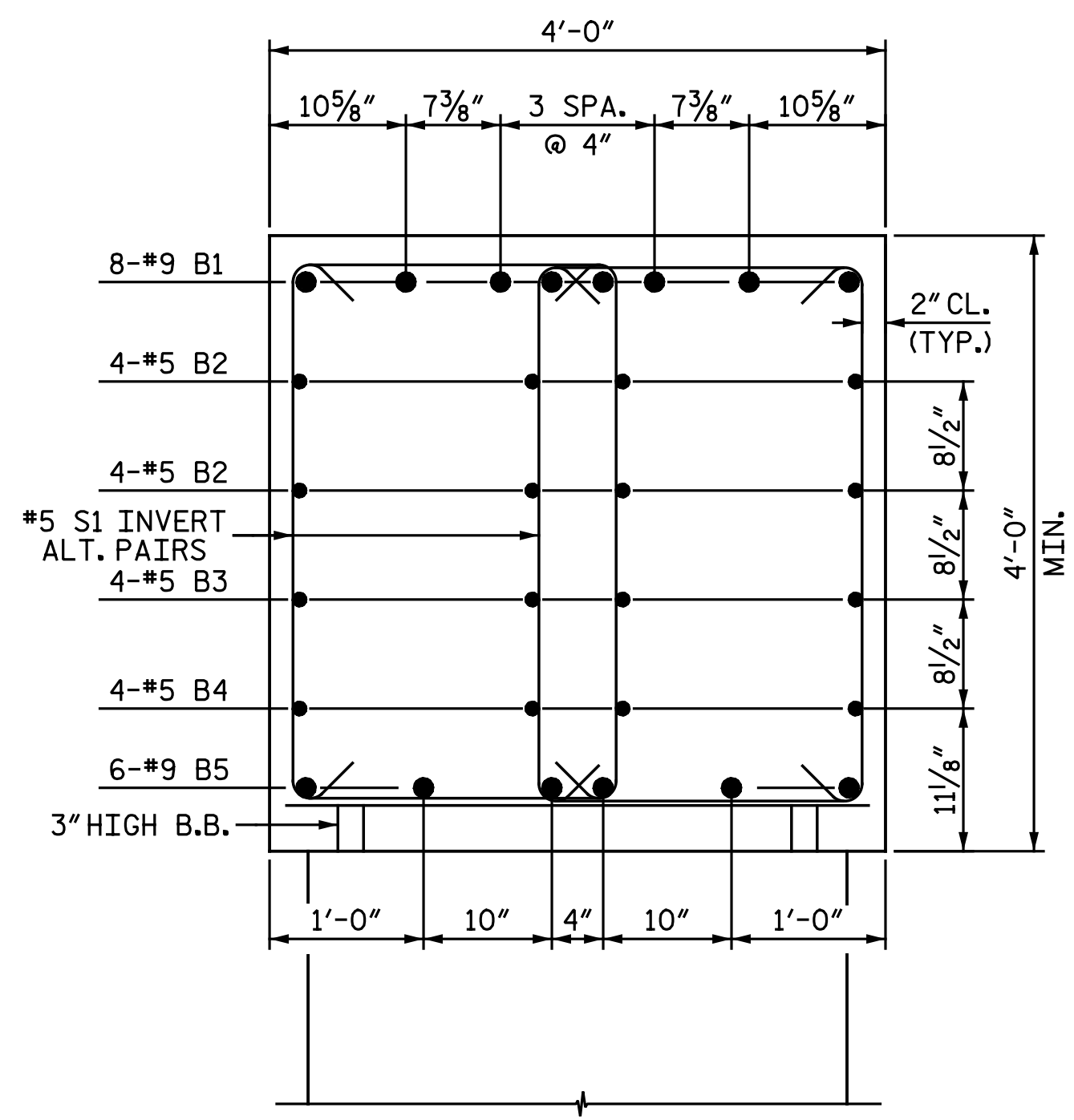
**END ELEVATION**

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		SUBSTRUCTURE	
		BENT 1	
REVISIONS			
NO.	BY:	DATE:	SHEET NO.
1			S2-28
2			TOTAL SHEETS 33

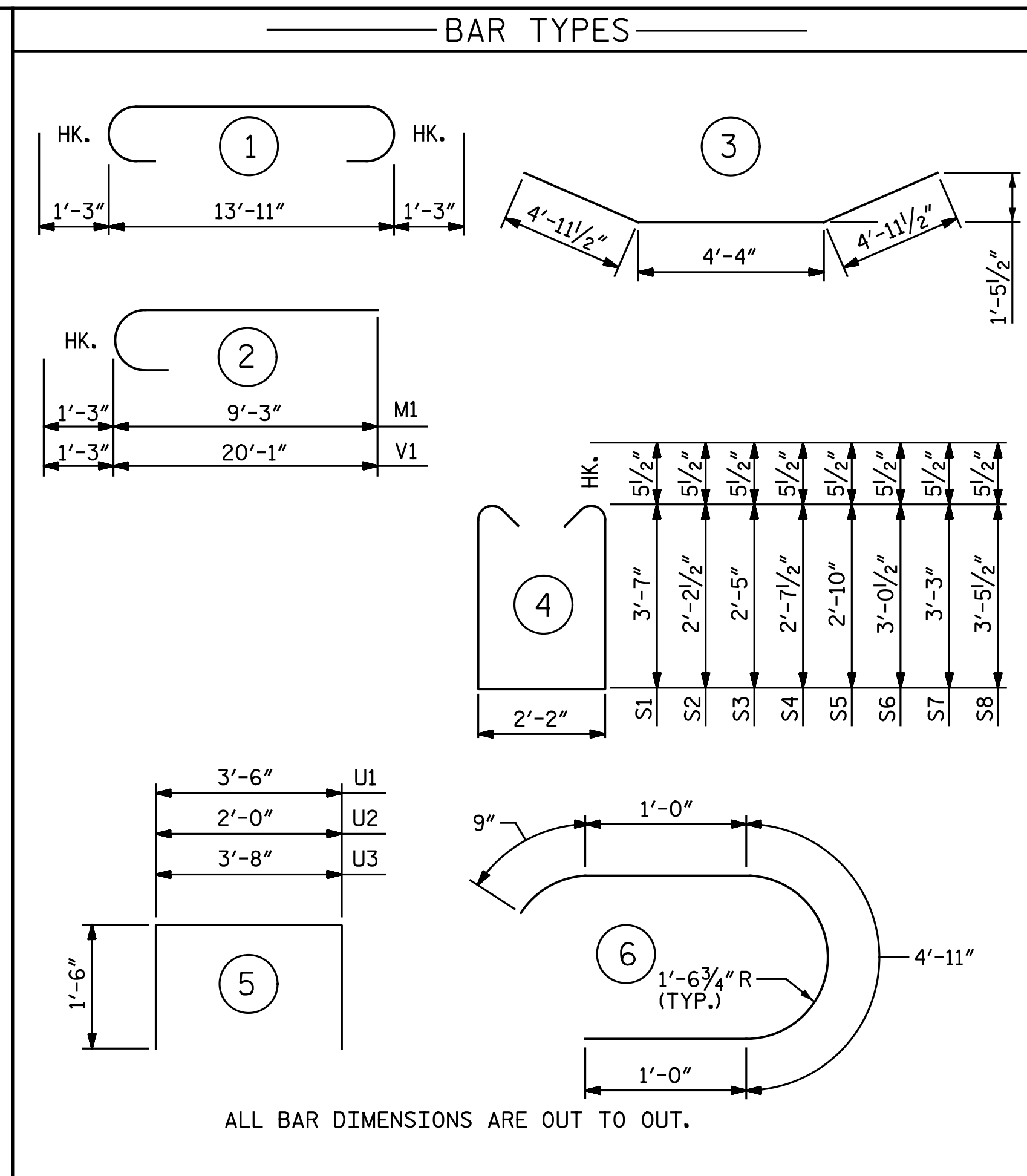
**Michael Baker International**  
 Michael Baker Engineering  
 8000 Regency Parkway, Suite 600  
 Cary, North Carolina 27518  
 NC License No.: F-1084



FOOTING PLAN



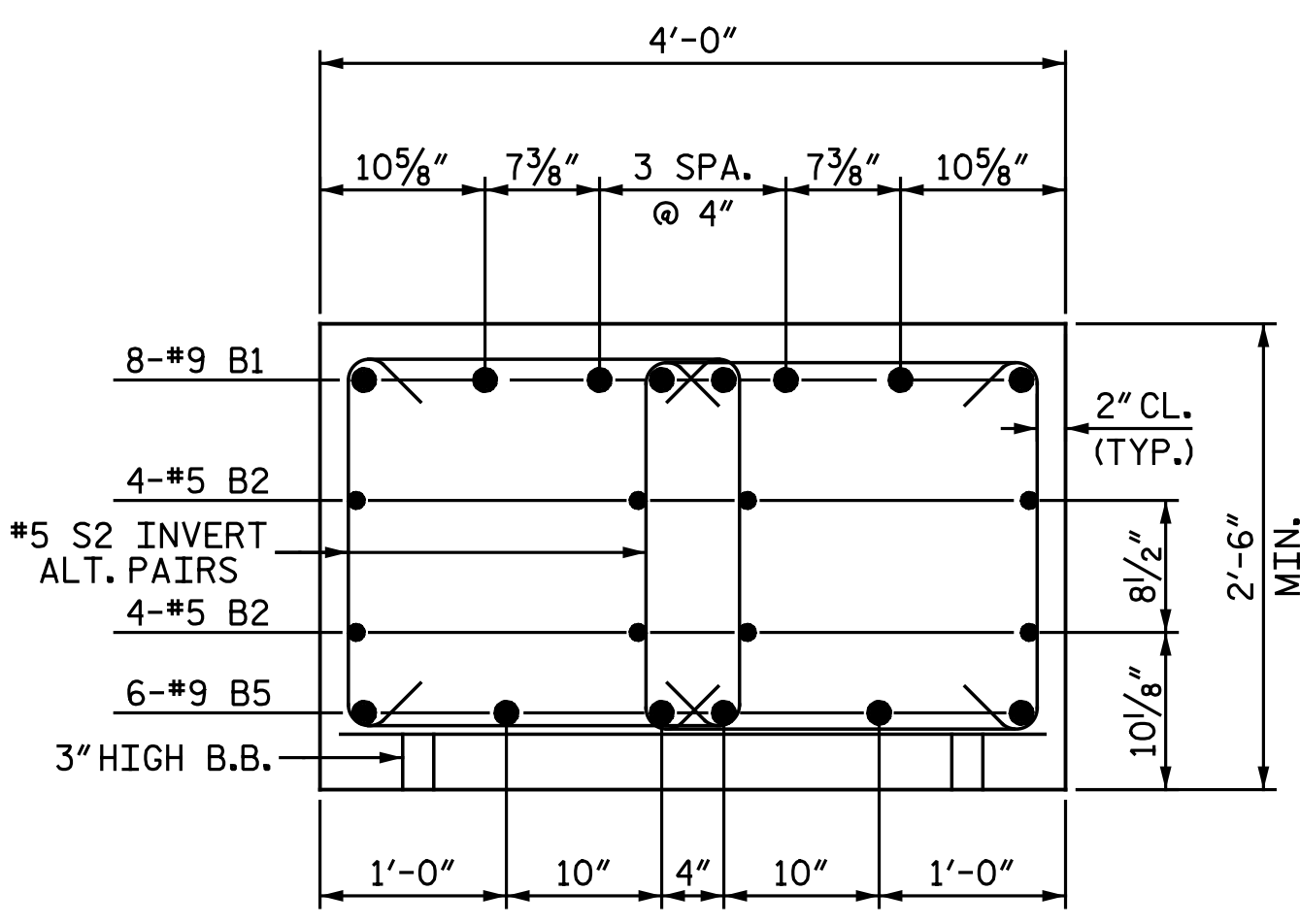
SECTION A-A



ALL BAR DIMENSIONS ARE OUT TO OUT.

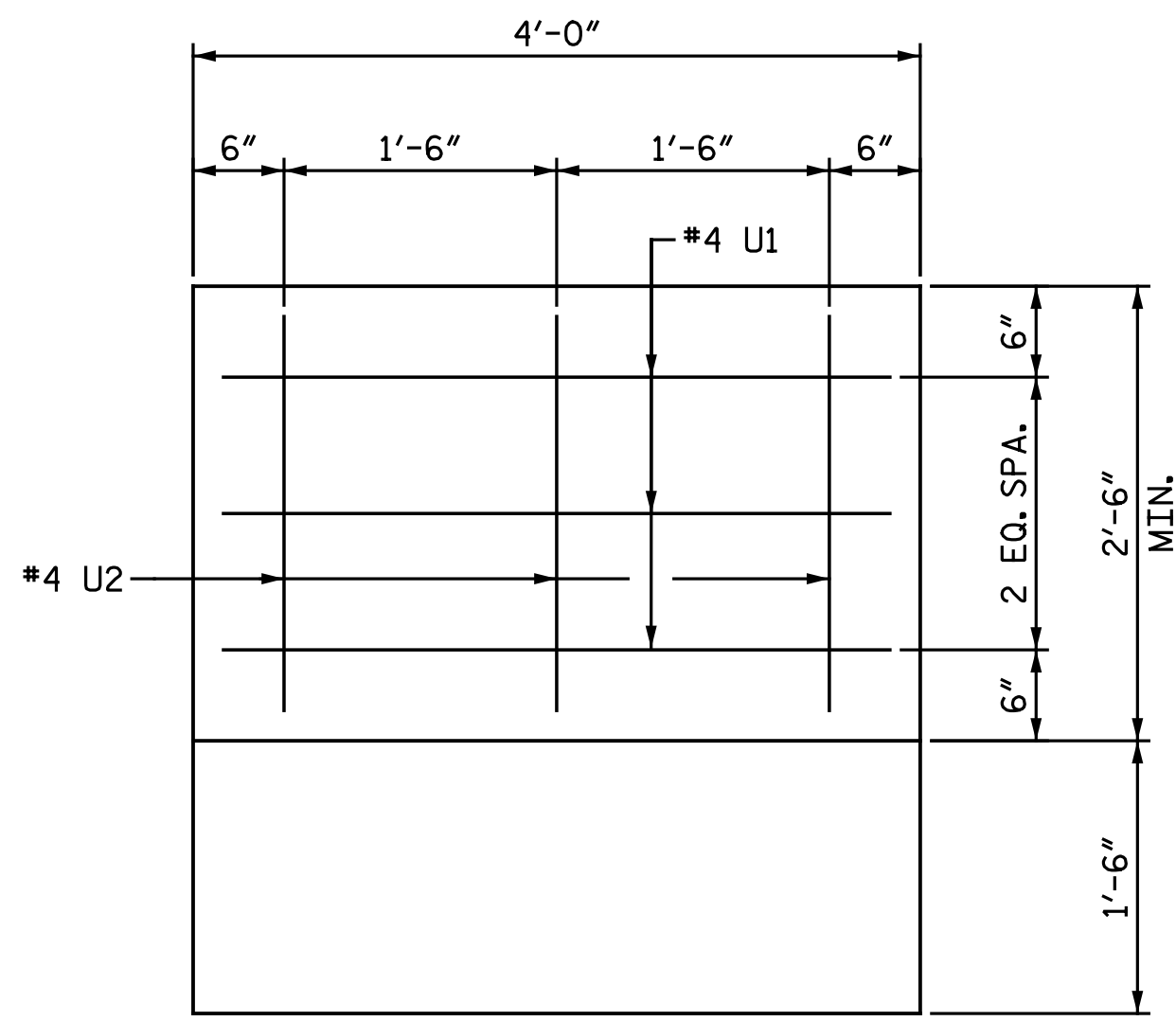
BILL OF MATERIAL					
BENT 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	9	1	16' - 5"	447
B2	8	5	STR	13' - 11"	116
B3	4	5	STR	13' - 4"	56
B4	4	5	STR	8' - 9"	37
B5	6	9	3	14' - 3"	291
M1	16	9	2	10' - 6"	571
S1	16	5	4	10' - 3"	171
S2	4	5	4	7' - 6"	31
S3	4	5	4	7' - 11"	33
S4	4	5	4	8' - 4"	35
S5	4	5	4	8' - 9"	37
S6	4	5	4	9' - 2"	38
S7	4	5	4	9' - 7"	40
S8	4	5	4	10' - 0"	42
S9	38	4	6	7' - 8"	195
T1	24	6	STR	11' - 6"	415
T2	48	9	STR	11' - 6"	1,877
U1	6	4	5	6' - 6"	26
U2	6	4	5	5' - 0"	20
U3	16	4	5	6' - 8"	71
V1	16	9	2	21' - 4"	1,161
REINFORCING STEEL				LBS.	5,710
CLASS A CONCRETE BREAKDOWN					
POUR 1 - FOOTING				C.Y.	21.4
POUR 2 - COLUMN				C.Y.	9.0
POUR 3 - CAP				C.Y.	8.3
TOTAL				C.Y.	38.7
HP 12 x 53 STEEL PILES					
NO. 6				L.F.	240

NOTES:  
FOR "PILE SPLICE DETAIL, SEE "INTEGRAL END BENT 1 DETAILS" SHEETS.



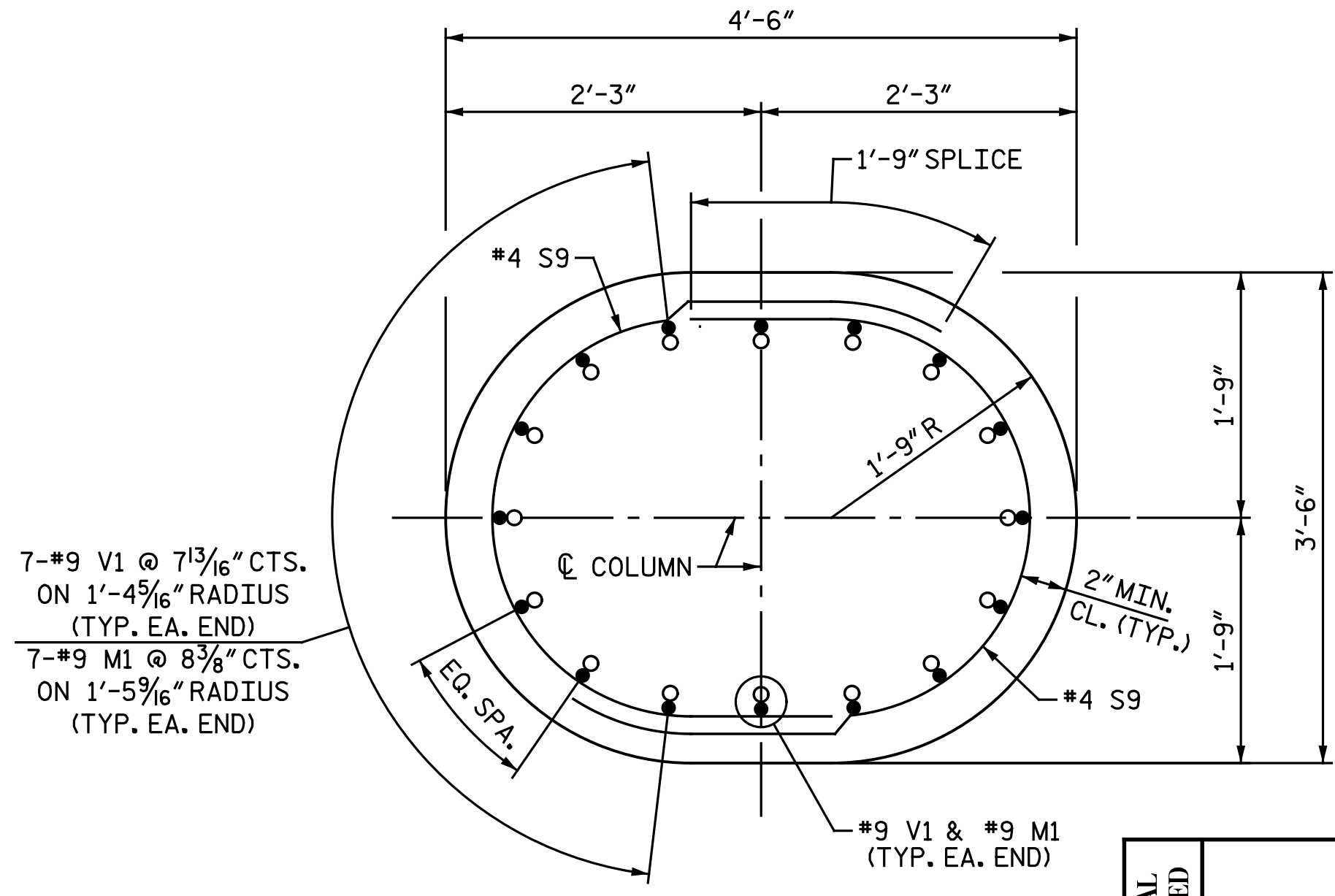
SECTION B-B

#5 B3 BARS NOT SHOWN FOR CLARITY.



VIEW C-C

ONLY END STIRRUPS SHOWN FOR CLARITY.



SECTION D-D

● #9 M1  
○ #9 V1

PROJECT NO. U-2524D  
GUILFORD COUNTY  
STATION: 13+62.84 -PED-

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DRAWN BY: M. D. MAYHEW DATE: 2-9-16  
CHECKED BY: A. M. HOUSTON DATE: 2-16-16

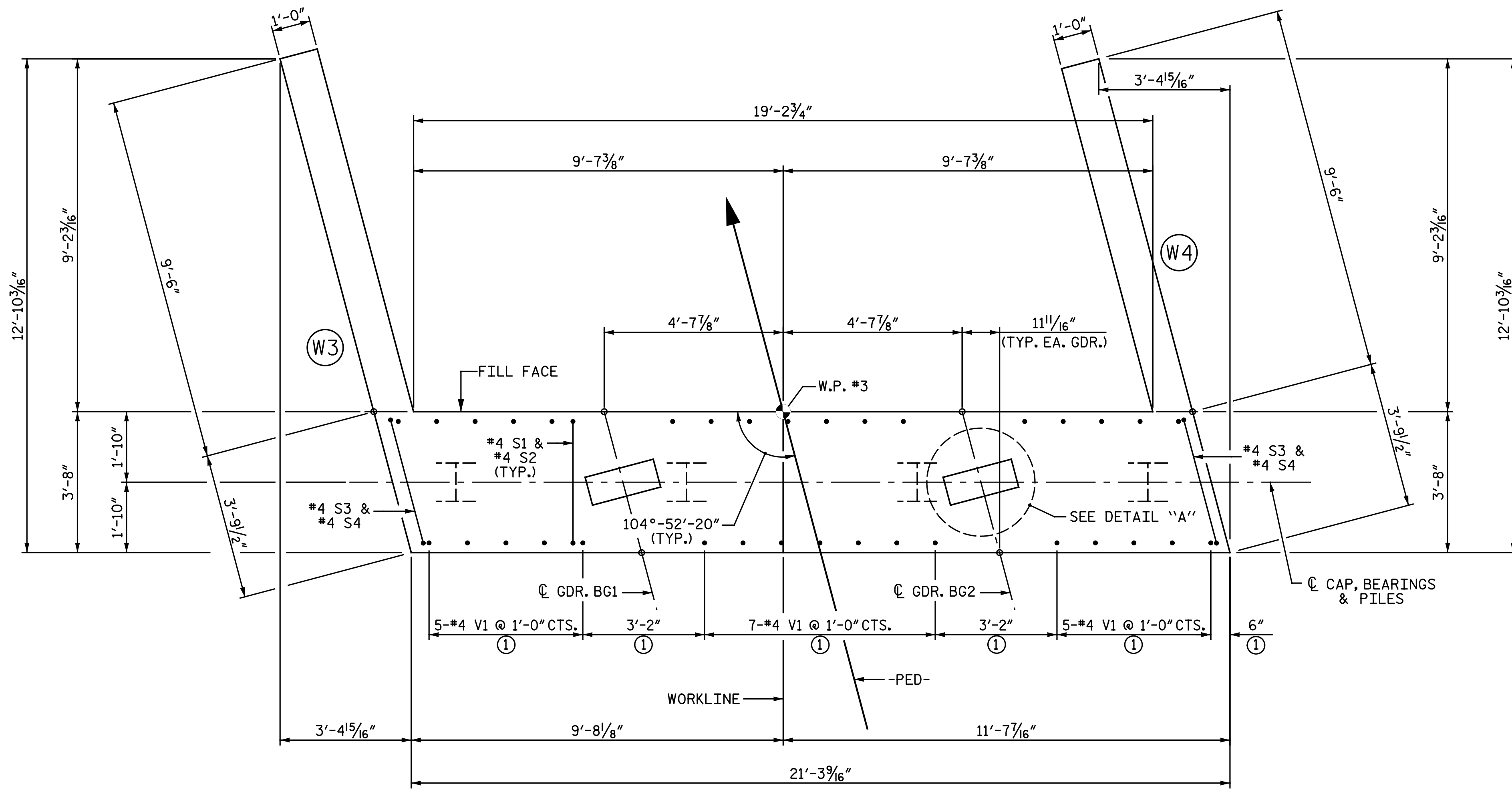
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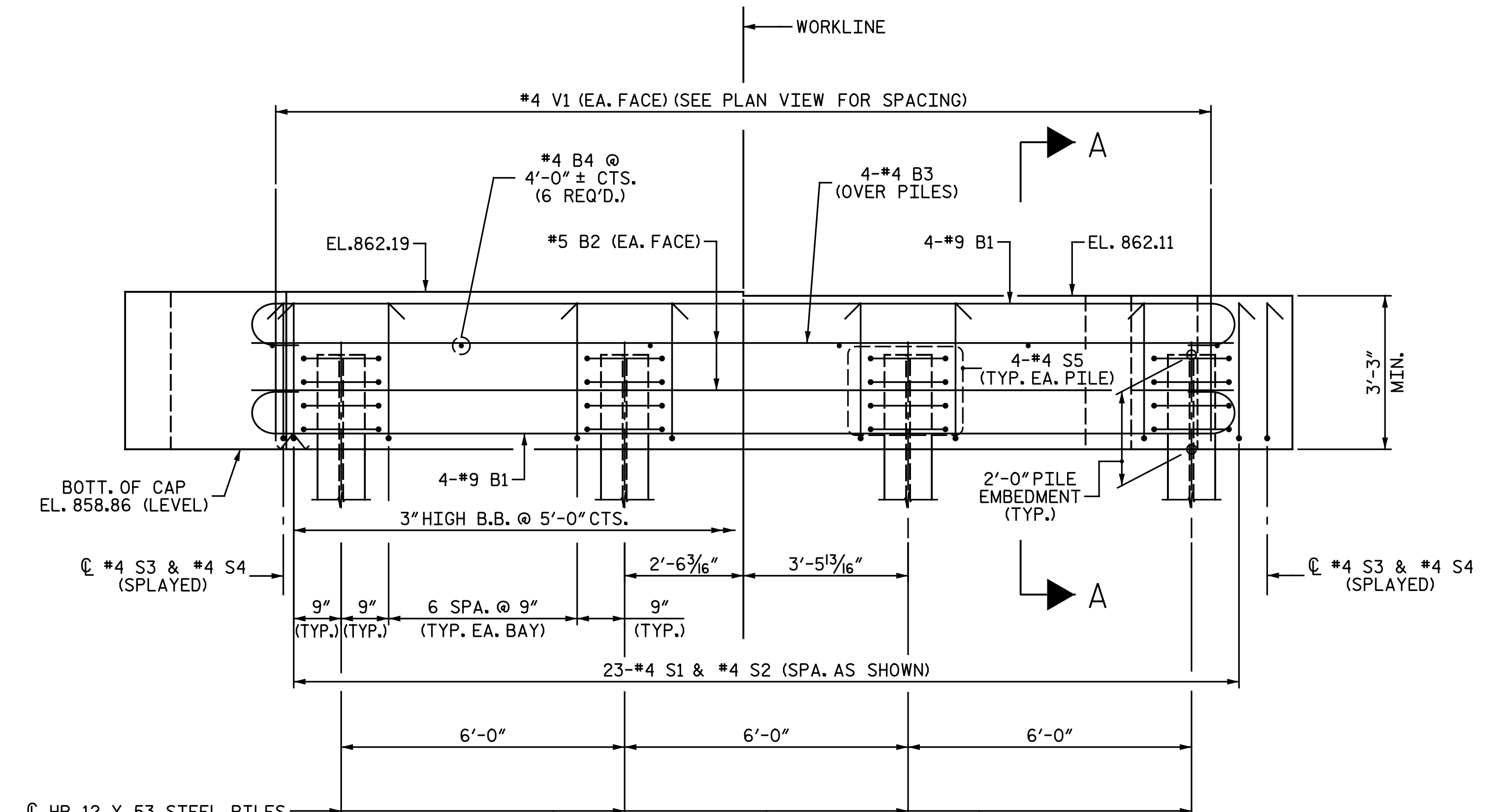
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SHEET NO. S2-29	
TOTAL SHEETS 33	





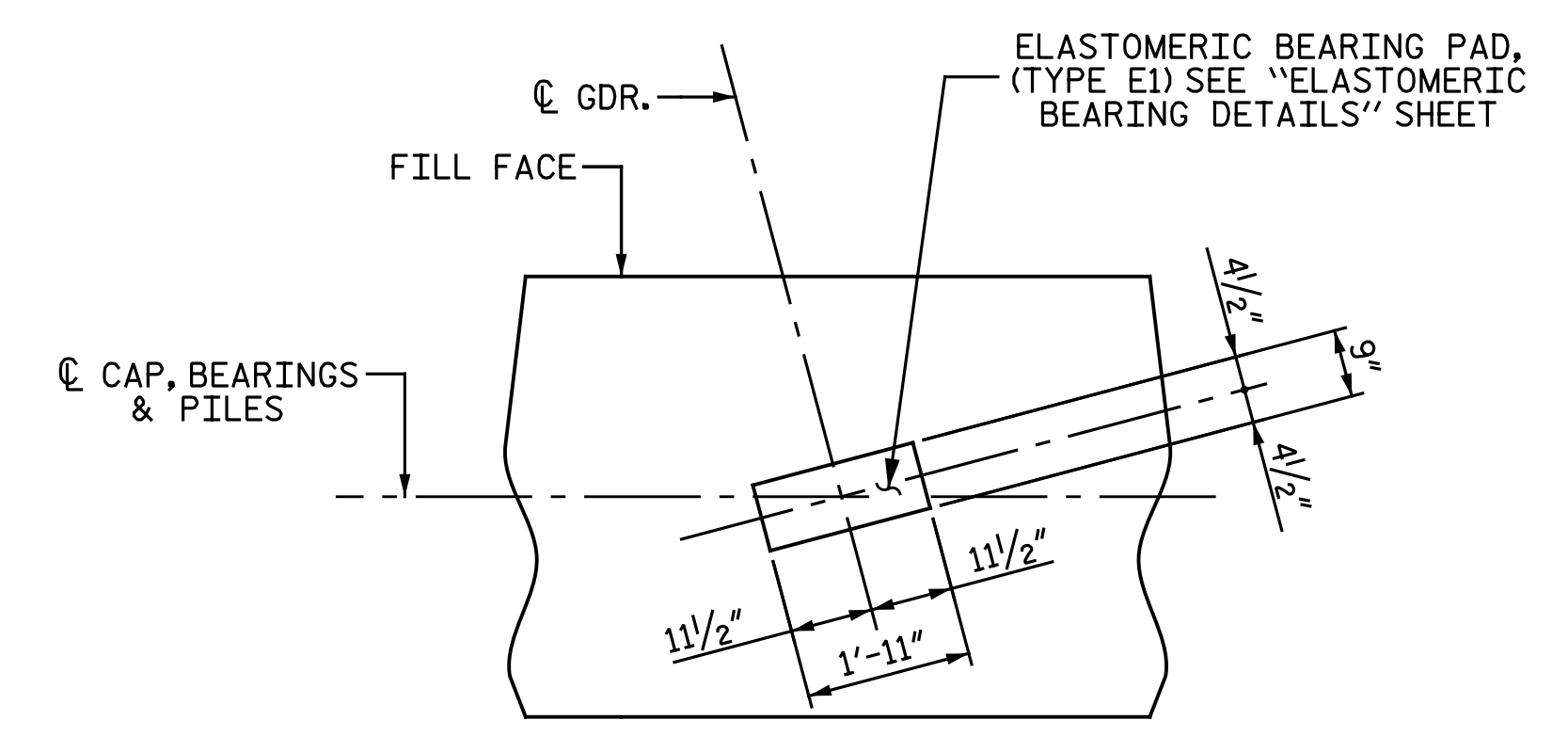
PLAN



ELEVATION

NOTES:

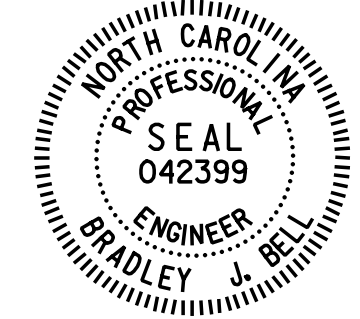
- FOR "SECTION A-A", SEE "INTEGRAL END BENT 2 DETAILS" SHEET.
- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR #4 V1 BARS
- THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE UPPER PART OF THE INTEGRAL END BENT AND WINGS ARE TO BE POURED WITH THE SUPERSTRUCTURE.
- SEE SUPERSTRUCTURE SHEETS FOR UPPER PART OF INTEGRAL END BENT DETAILS.
- THE TOP SURFACE OF THE END BENT CAP AND WINGS, EXCLUDING THE OUTSIDE 4" AND THE BEARING AREA, SHALL BE RAKED TO A DEPTH OF 1/4".
- ① TYP. EACH FACE



DETAIL "A"

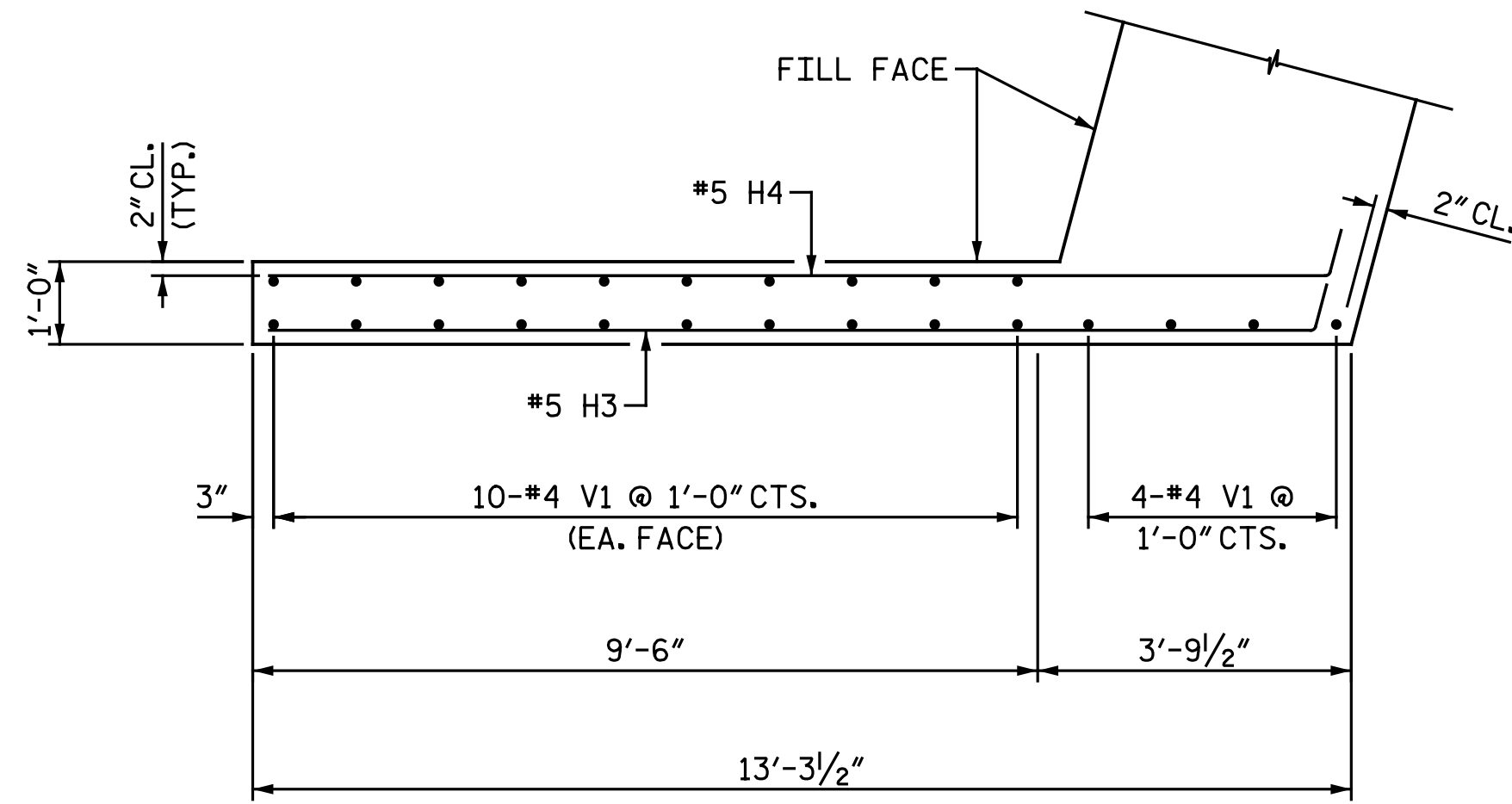
ALL DIMENSIONS AND DETAILS SHOWN ARE TYPICAL FOR ALL BEARINGS @ EACH BRIDGE SEAT LOCATION.

PROJECT NO. U-2524D  
GUILFORD COUNTY  
 STATION: 13+62.84 -PED-  
 SHEET 1 OF 2

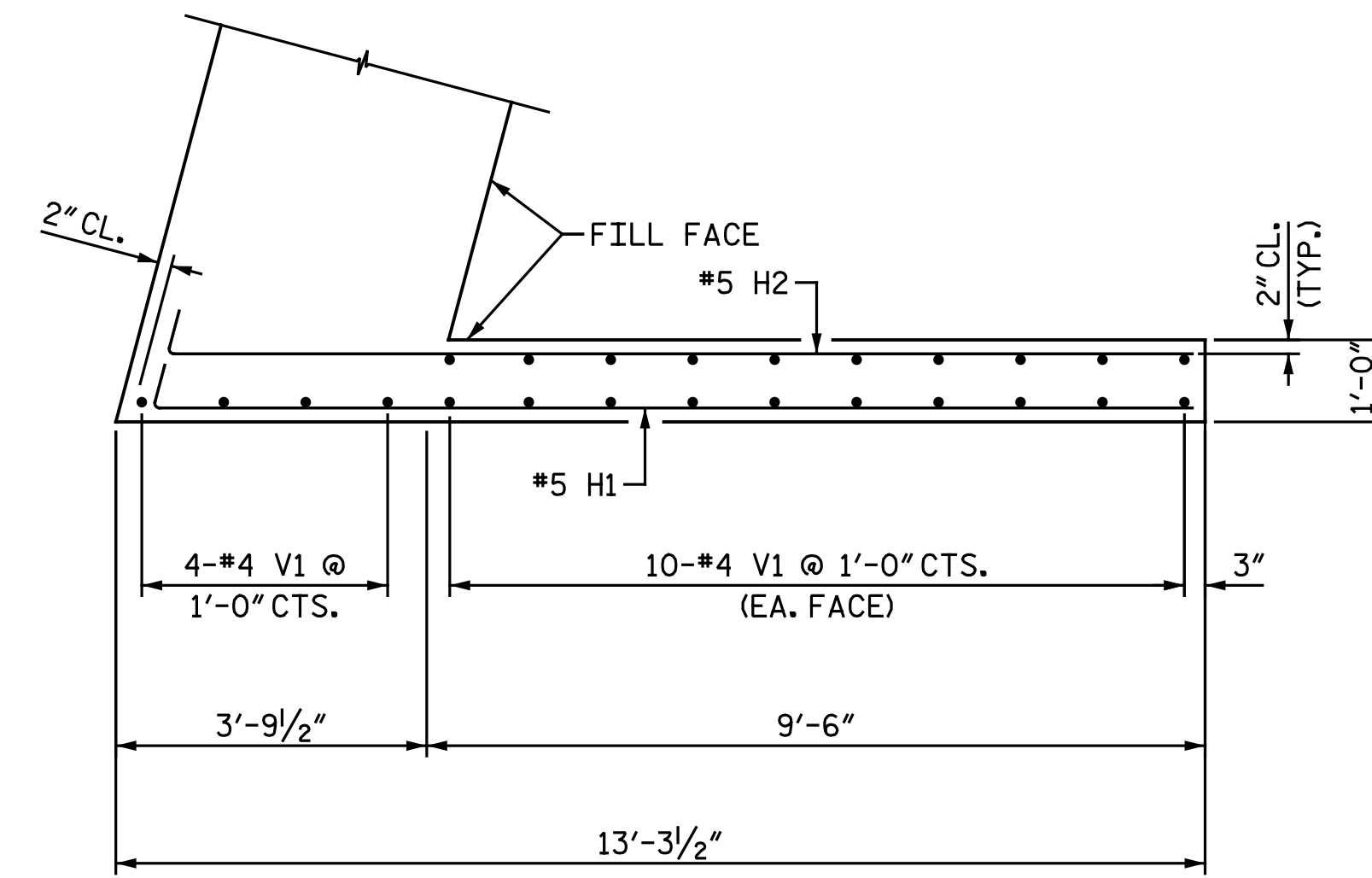
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1			3																		
2			4																		
DRAWN BY : <u>J. N. AUSTIN</u> DATE : <u>12-23-15</u> CHECKED BY : <u>A. M. HOUSTON</u> DATE : <u>2-12-16</u>	Michael Baker Engineering 8000 Regency Parkway, Suite 600 Cary, North Carolina 27518 NC License No. : F-1084	SHEET NO. <b>S2-30</b> TOTAL SHEETS 33																			

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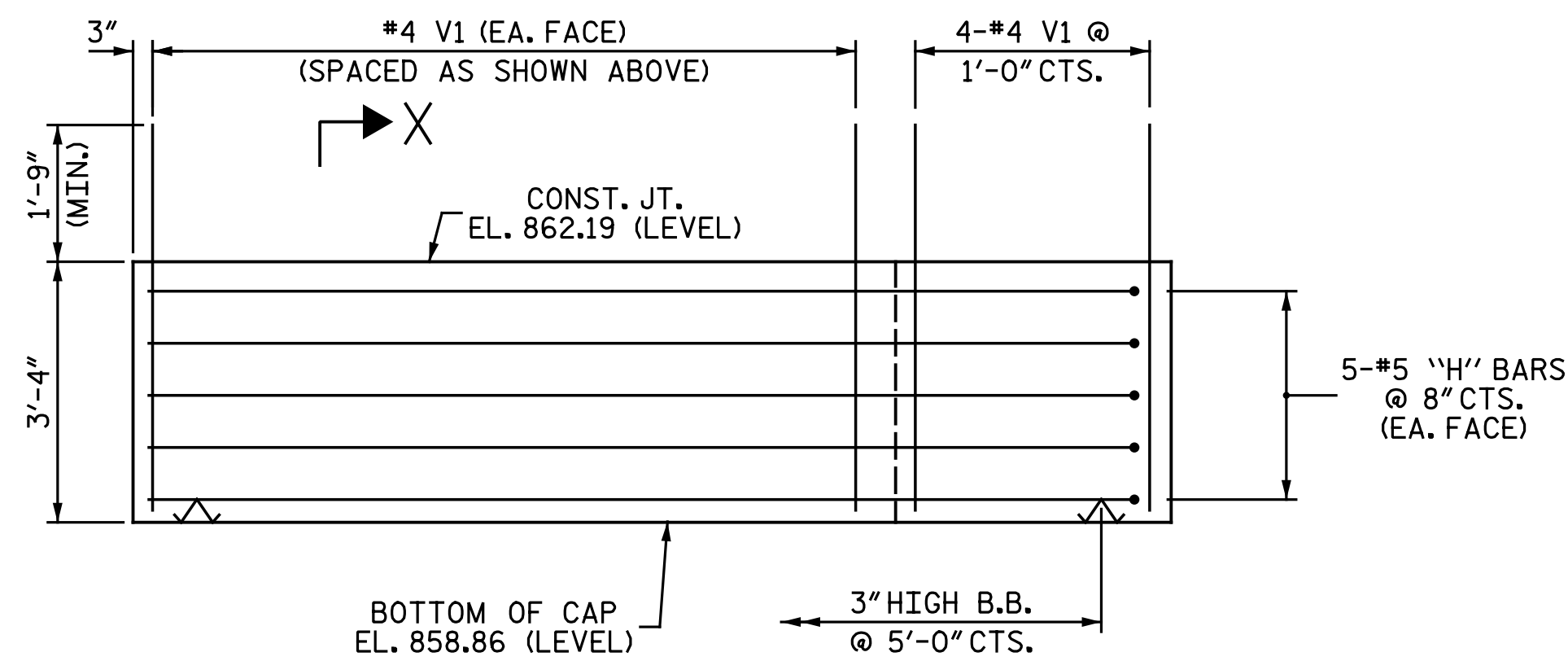
**NOTE:**  
 THE UPPER PORTION OF THE WINGS SHALL BE POURED WITH THE SUPERSTRUCTURE. FOR DETAILS AND REINFORCING STEEL, SEE SUPERSTRUCTURE DETAILS.



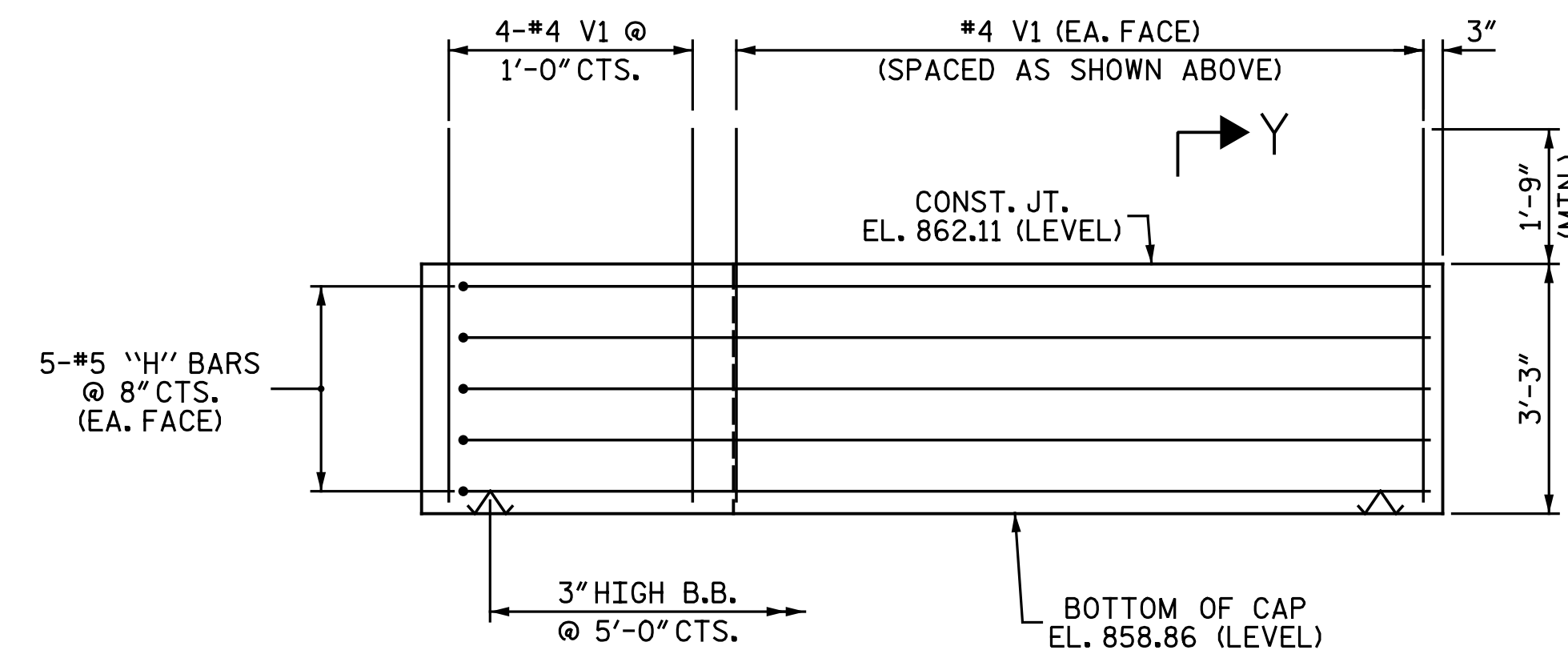
PLAN OF LEFT WING (W3)



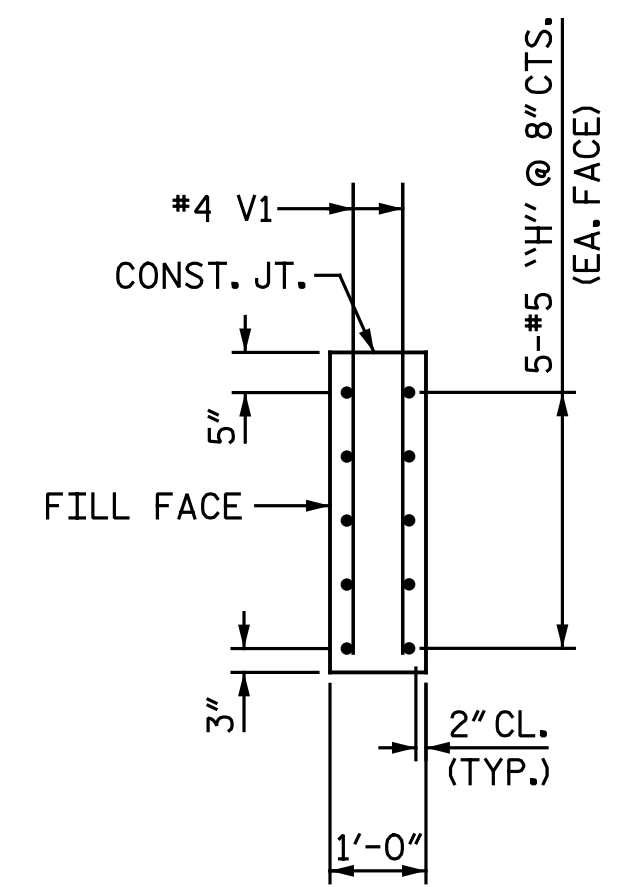
PLAN OF RIGHT WING (W4)



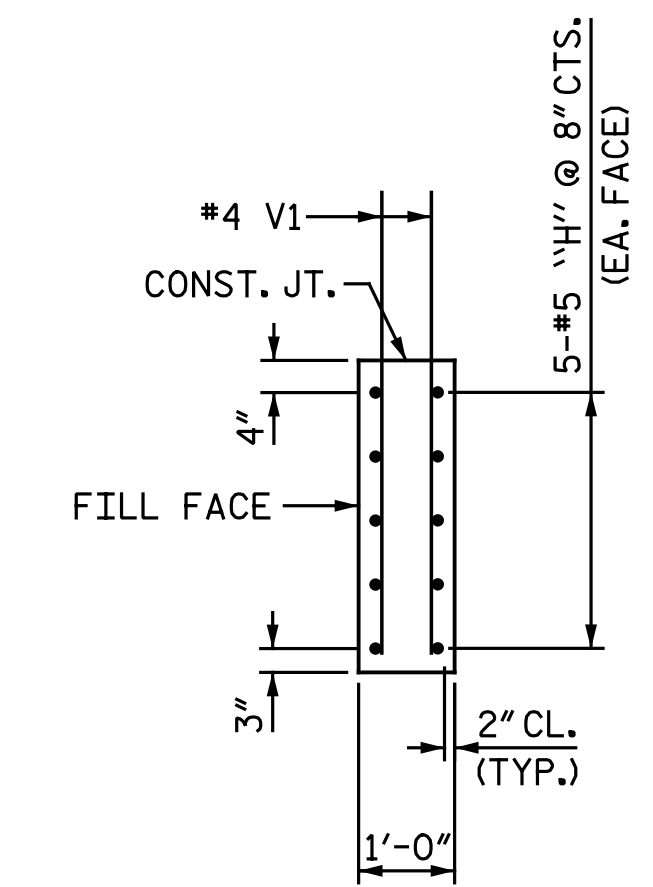
ELEVATION OF LEFT WING (W3)



ELEVATION OF RIGHT WING (W4)



SECTION X-X



SECTION Y-Y

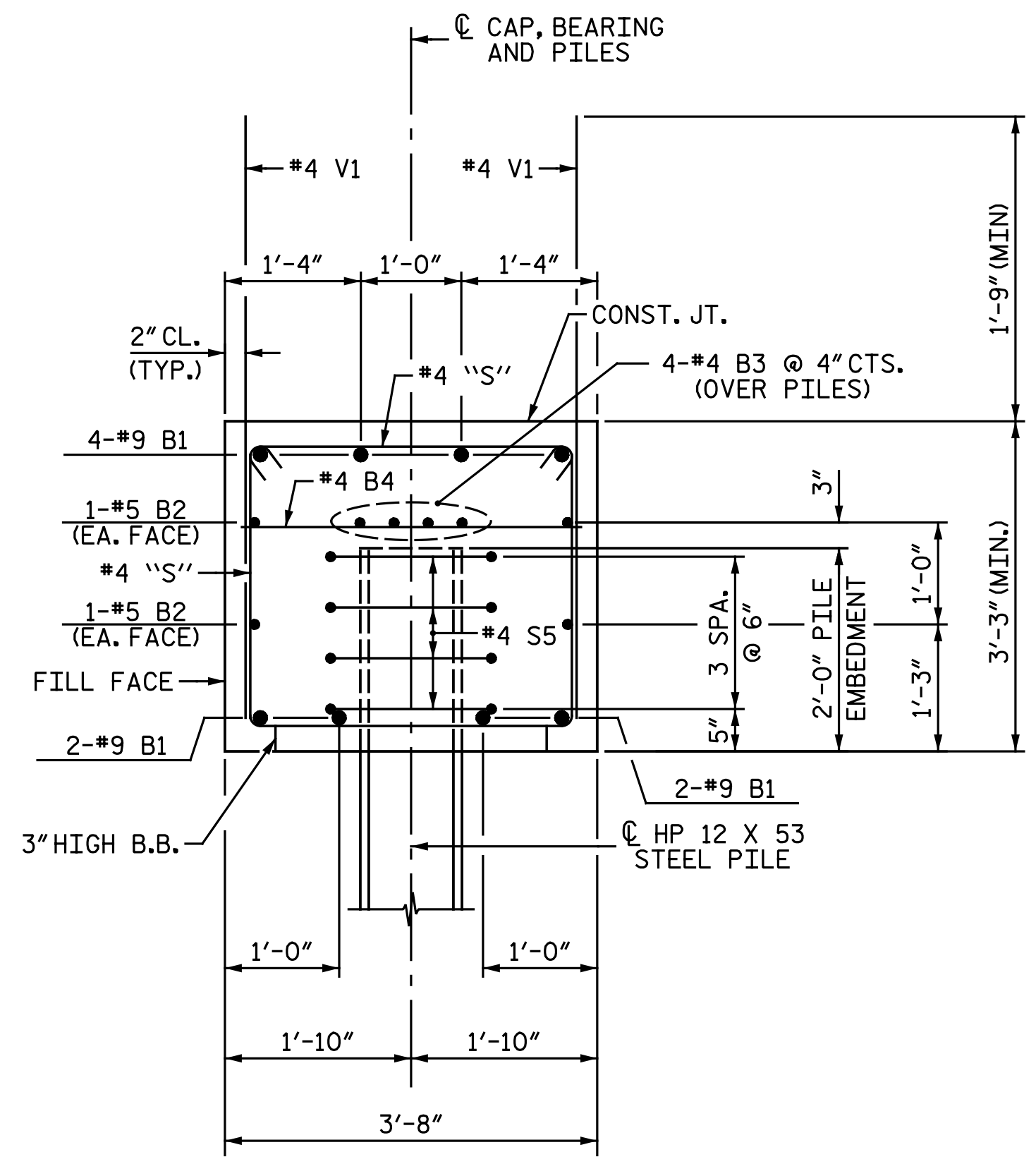
PROJECT NO. U-2524D  
GUILFORD COUNTY  
 STATION: 13+62.84 -PED-  
 SHEET 2 OF 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	 DocuSigned by: Bradley J. Bell C41A3F8E3C3A34... 5/5/2016	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUBSTRUCTURE INTEGRAL END BENT 2		
		REVISIONS		SHEET NO. S2-31
		Michael Baker INTERNATIONAL	Michael Baker Engineering 8000 Regency Parkway, Suite 600 Cary, North Carolina 27518 NC License No.: F-1084	NO. BY: DATE: NO. BY: DATE:

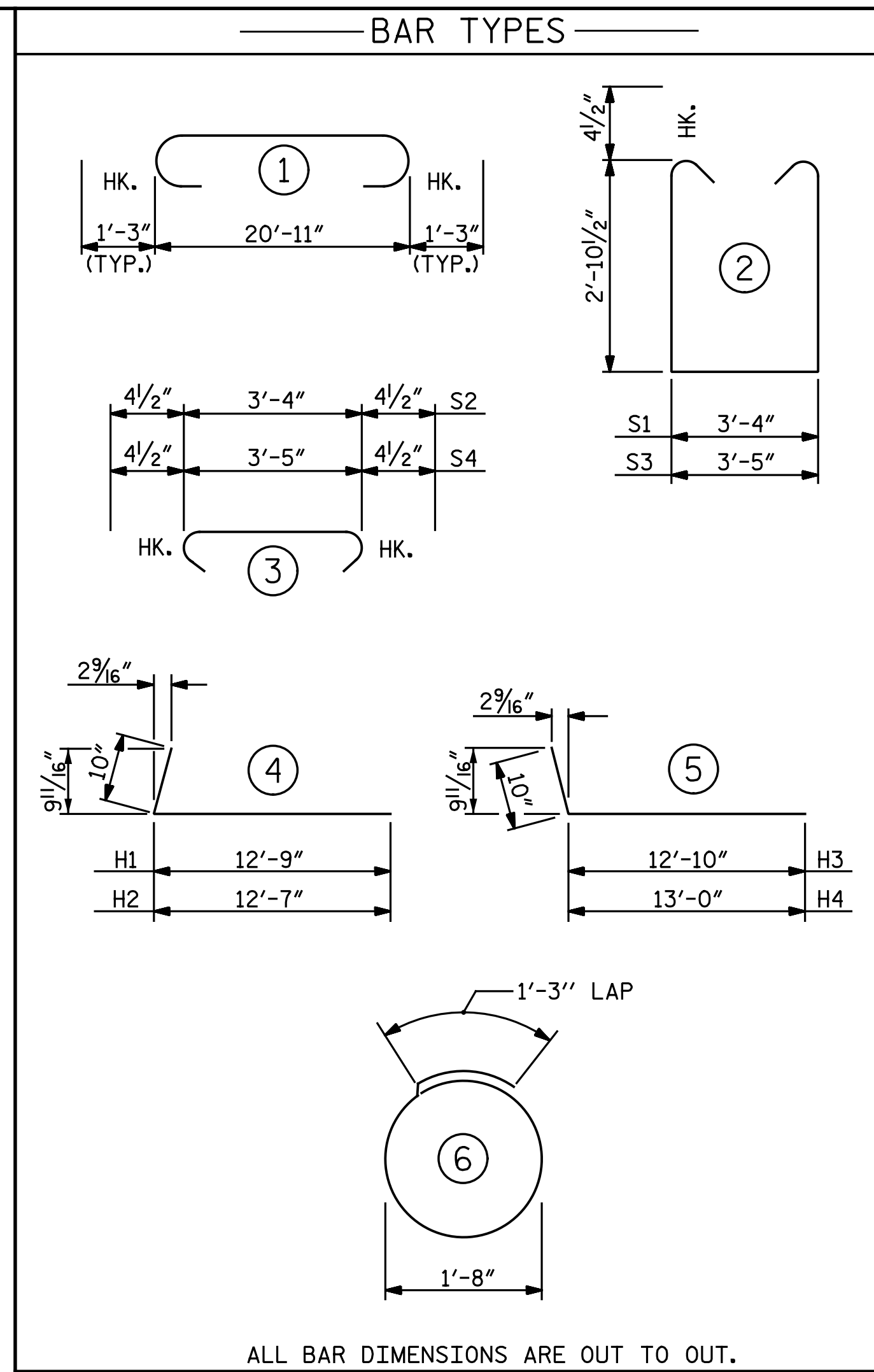
DRAWN BY : J. N. AUSTIN DATE : 11-30-15  
 CHECKED BY : A. M. HOUSTON DATE : 2-12-16

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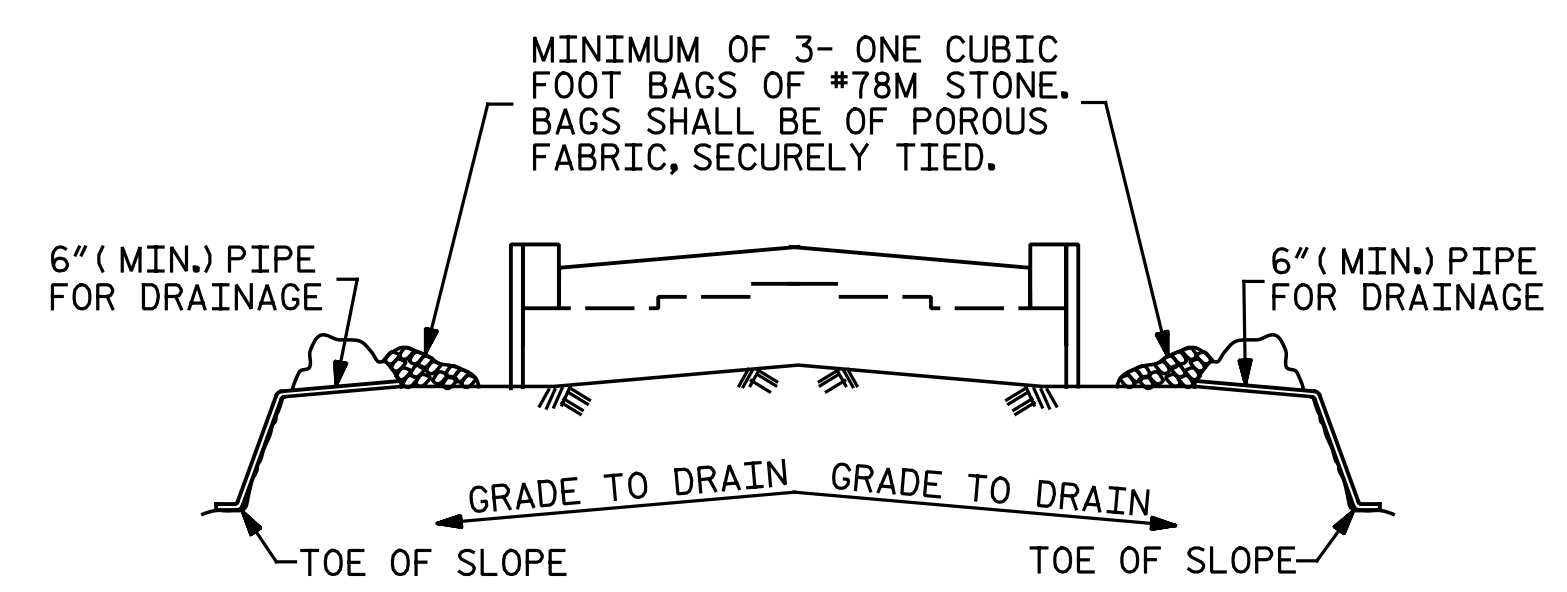


SECTION A-A



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
END BENT 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	9	1	23' - 5"	637
B2	4	5	STR	20' - 11"	87
B3	4	4	STR	20' - 11"	56
B4	6	4	STR	3' - 4"	13
H1	5	5	4	13' - 7"	71
H2	5	5	4	13' - 5"	70
H3	5	5	5	13' - 8"	71
H4	5	5	5	13' - 10"	72
S1	23	4	2	9' - 10"	151
S2	23	4	3	4' - 1"	63
S3	2	4	2	9' - 11"	13
S4	2	4	3	4' - 2"	6
S5	16	4	6	6' - 6"	69
V1	82	4	STR	4' - 10"	265
REINFORCING STEEL				LBS.	1,644
CLASS A CONCRETE				C.Y.	11.9
HP 12 x 53 STEEL PILES NO. 4				L.F.	220

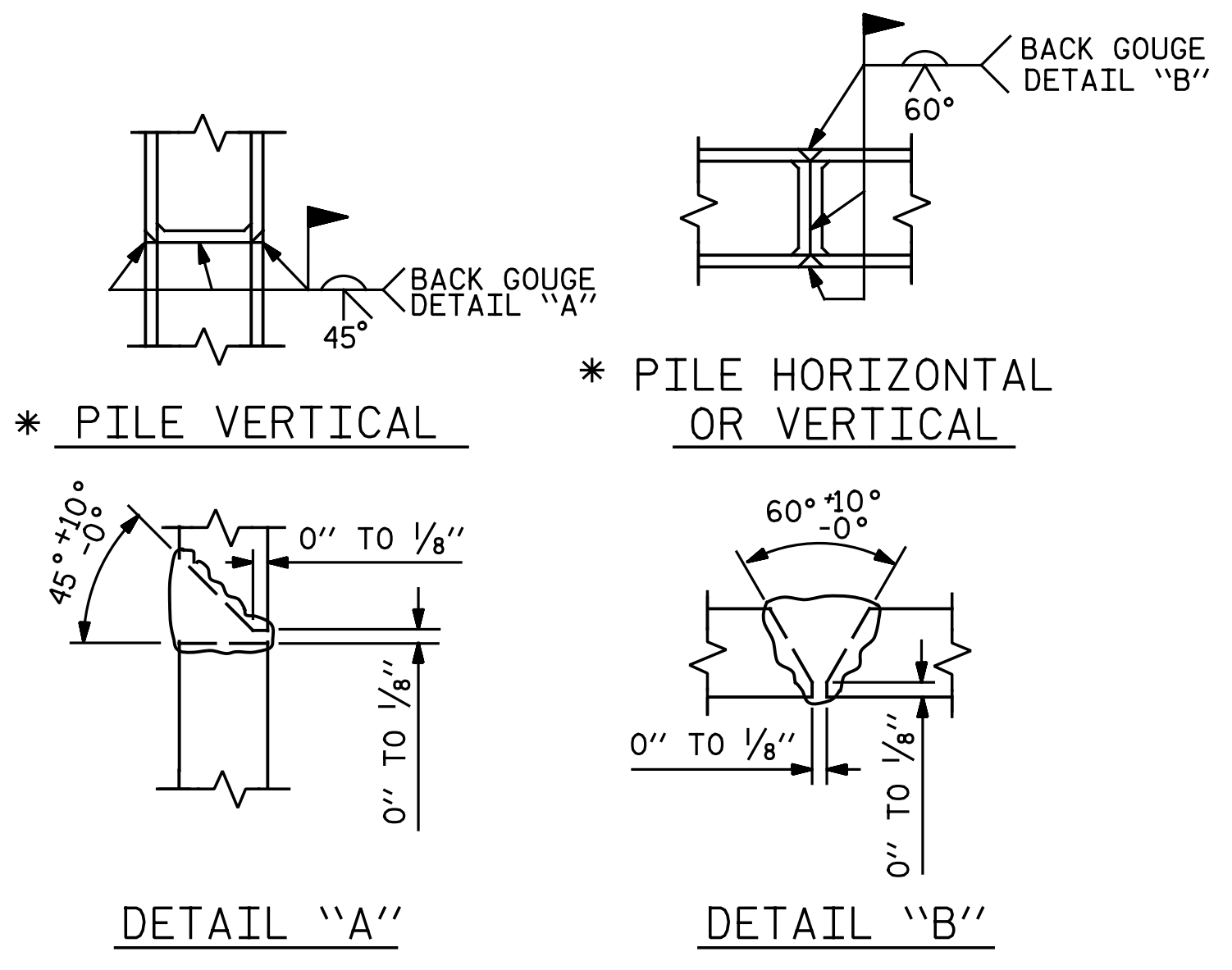


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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

\* POSITION OF PILE DURING WELDING.

PROJECT NO. U-2524D  
 GUILFORD COUNTY  
 STATION: 13+62.84 -PED-

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DocuSigned by:  
 Bradley J. Bell  
 C41A5F8E3C3A34...  
 5/5/2016

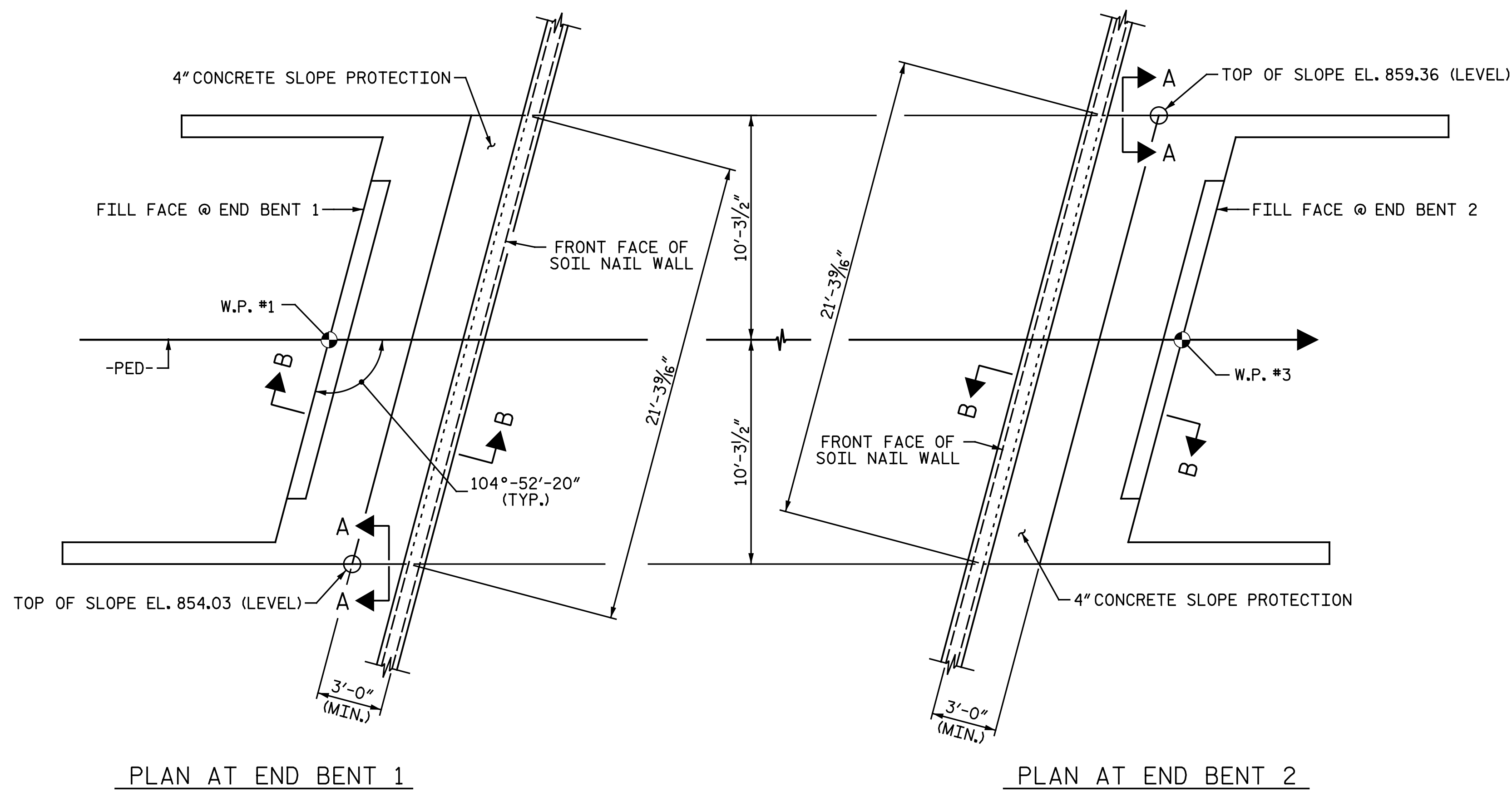
**Michael Baker International**  
 Michael Baker Engineering  
 8000 Regency Parkway, Suite 600  
 Cary, North Carolina 27518  
 NC License No.: F-1084

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

SHEET NO. S2-32	
TOTAL SHEETS	33

DRAWN BY : J. N. AUSTIN DATE : 12-1-15  
 CHECKED BY : A. M. HOUSTON DATE : 3-7-16

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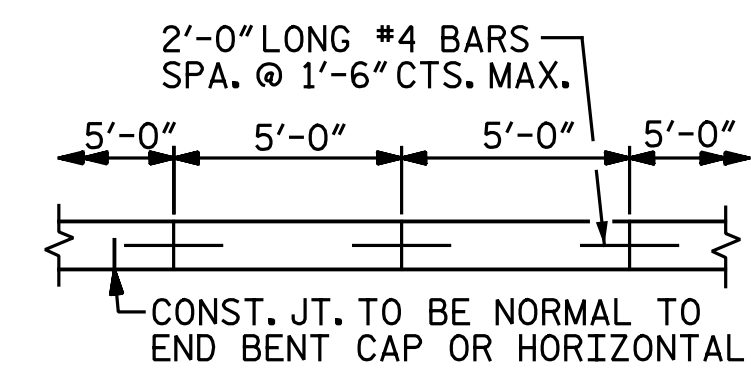
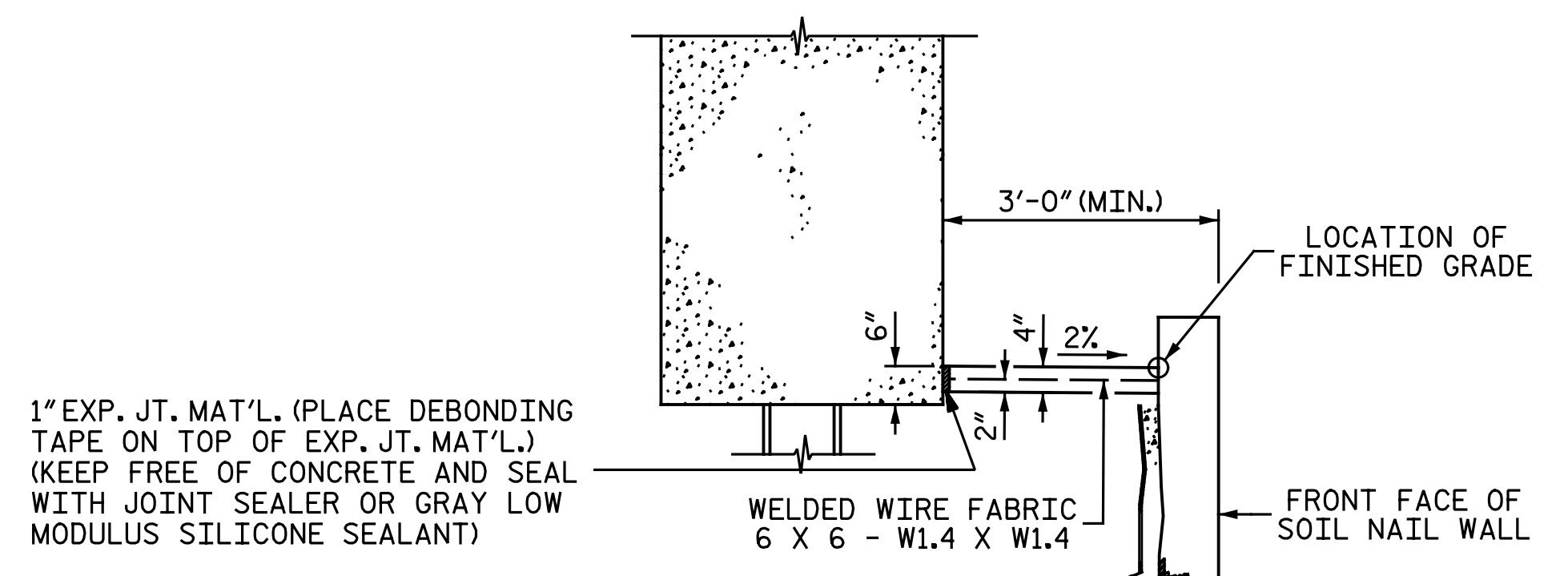
**NOTES:**

SLOPE PROTECTION SHALL BE PLACED UNDER THE ENDS OF THE BRIDGE AS SHOWN IN THE DETAILS. STRAIGHT EDGING WILL NOT BE REQUIRED UNLESS, IN THE OPINION OF THE ENGINEER, VISUAL INSPECTION INDICATES A NEED FOR IT. MEASUREMENT AND PAYMENT SHALL BE AS PRESCRIBED IN SECTION 462 OF THE STANDARD SPECIFICATIONS. FOR BERM WIDTH, SEE GENERAL DRAWING.

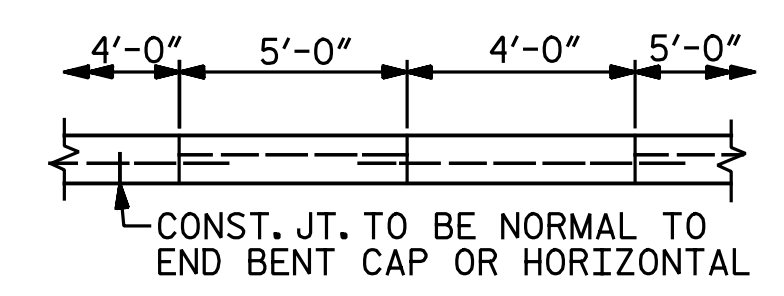
SLOPE PROTECTION SHALL CONSIST OF 4" POURED-IN-PLACE CONCRETE PAVING AS SHOWN IN THE DETAILS ON THIS SHEET. CONCRETE SHALL BE CLASS "B". THE CONCRETE SURFACE SHALL BE FLOATED WITH A WOODEN FLOAT AND FINISHED. WELDED WIRE FABRIC REINFORCING SHALL BE 6 X 6 - W1.4 X W1.4, 60" WIDE. SLOPE PROTECTION SHALL BE POURED IN 5' STRIPS AS SHOWN IN THE "POURING DETAIL" WITH 2'-0" LONG #4 BARS PLACED ALONG THE SLOPE BETWEEN STRIPS AT 1'-6" MAXIMUM SPACING. SLOPE PROTECTION MAY BE POURED IN ALTERNATE 4' AND 5' STRIPS AS SHOWN IN THE "OPTIONAL POURING DETAIL" WITH ADJACENT RUNS OF WELDED WIRE FABRIC LAPPING AT LEAST 6". THE COST OF THE WELDED WIRE FABRIC AND #4 BARS, IF USED, SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID PER SQUARE YARD FOR SLOPE PROTECTION.

BRIDGE @ STA. 13+62.84 -PED-	4" INCH SLOPE PROTECTION	* WELDED WIRE FABRIC 60 INCHES WIDE
	SQUARE YARDS	APPROX. L.F.
END BENT 1	7.0	11
END BENT 2	7.0	11

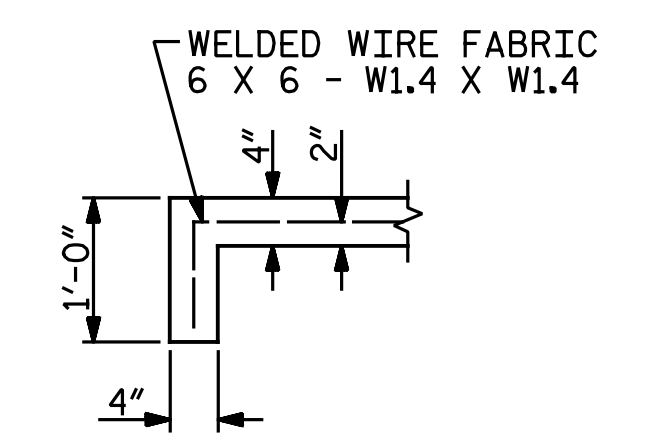
\* QUANTITY SHOWN IS BASED ON 5' POURS.



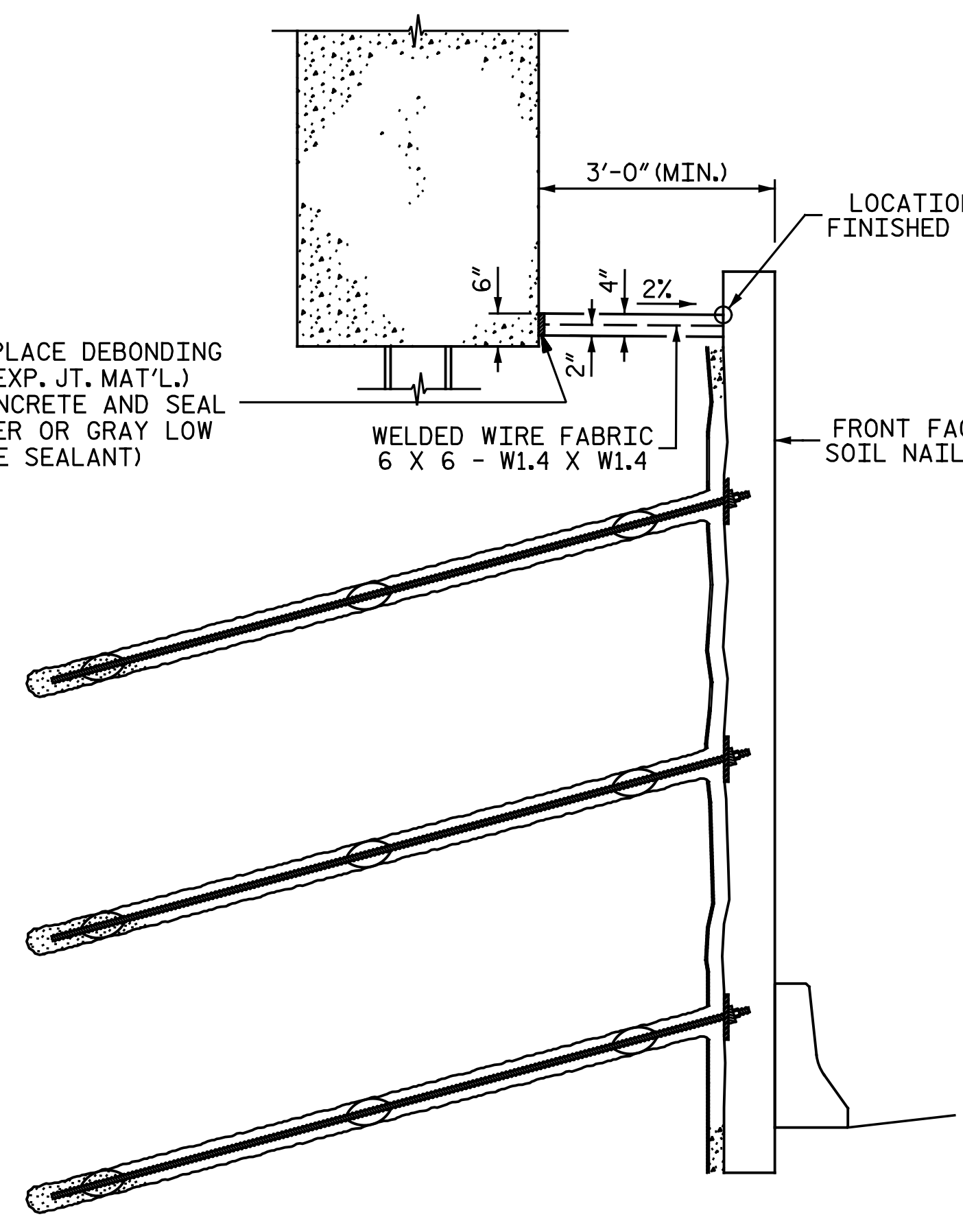
POURING DETAIL



OPTIONAL POURING DETAIL



SECTION A-A



PROJECT NO. U-2524D  
GUILFORD COUNTY  
 STATION: 13+62.84 -PED-

DRAWN BY : M. D. MAYHEW DATE : 3-4-16  
 CHECKED BY : A. M. HOUSTON DATE : 3-7-16

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	Michael Baker Engineering 8000 Regency Parkway, Suite 600 Cary, North Carolina 27518 NC License No.: F-1084		SLOPE PROTECTION DETAILS					
	Michael Baker INTERNATIONAL		REVISIONS					
		NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
		1			3			S2-33
		2			4			TOTAL SHEETS 33

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