

TIP PROJECT: B-4926

CONTRACT: C204861

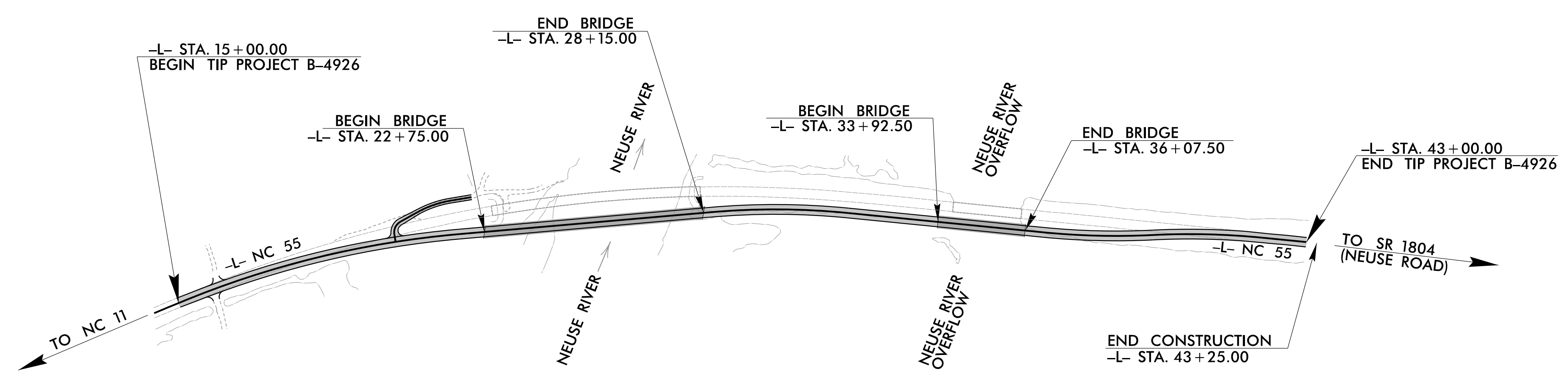
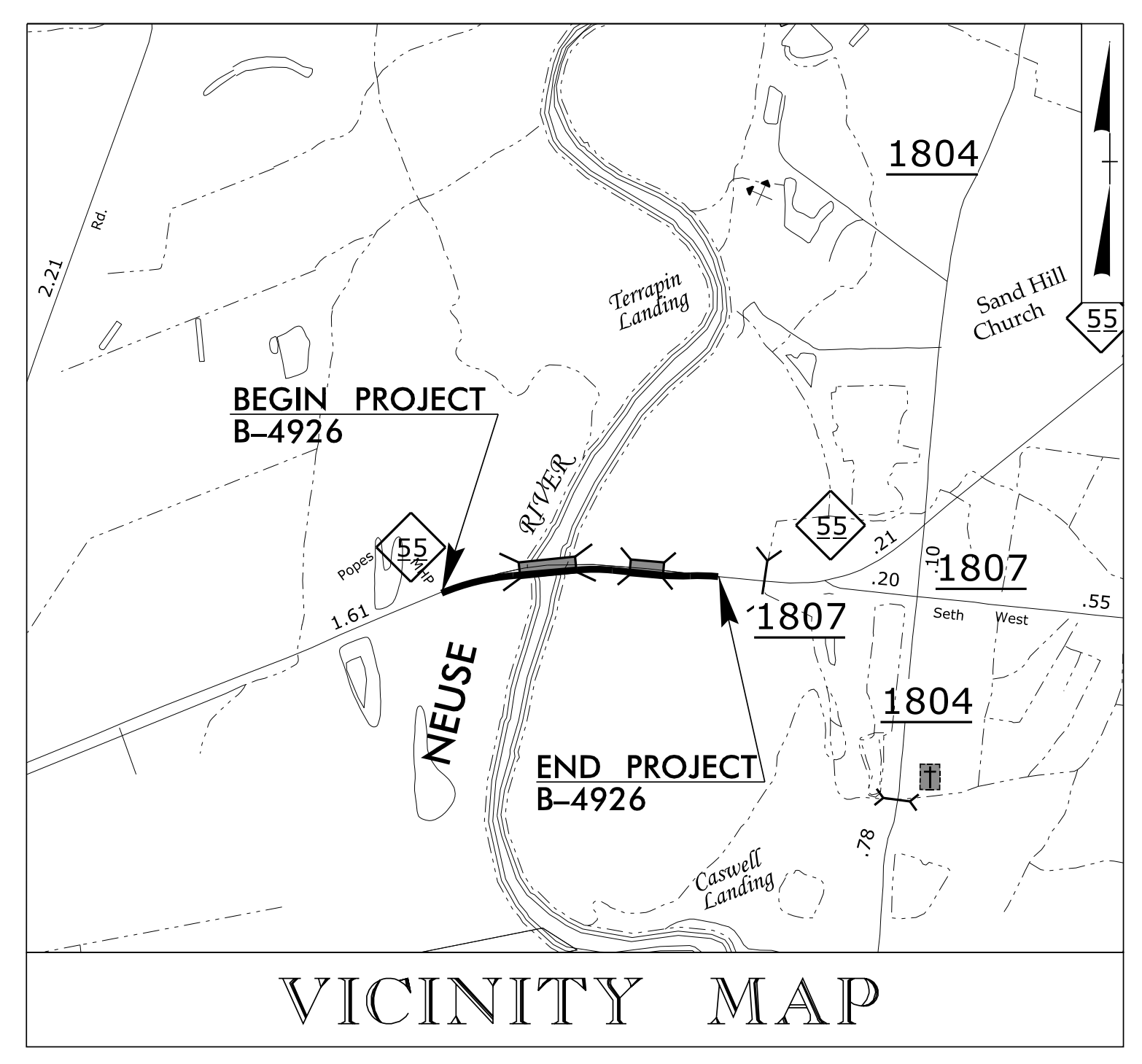
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

LENOIR COUNTY

**LOCATION: BRIDGE NO. 530020 AND BRIDGE NO. 530034 ON NC 55
OVER THE NEUSE RIVER AND NEUSE RIVER OVERFLOW**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4926		
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
40163.1.2	N/A	PE	
40163.2.1	N/A	RW & UTILITIES	
40163.3.1	N/A	CONST.	



STRUCTURES

DESIGN DATA

ADT 2023	=	3152
ADT 2040	=	3900
K	=	9 %
D	=	60 %
T	=	8 % *
V	=	60 MPH
* TTST = 3% DUAL = 5%		
FUNC CLASS = MAJOR COLLECTOR "REGIONAL TIER"		

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4926	=	0.387 MILES
LENGTH STRUCTURES TIP PROJECT B-4926	=	0.143 MILES
TOTAL LENGTH OF TIP PROJECT B-4926	=	0.530 MILES

Prepared in the Office of:

Johnson, Mirmiran, & Thompson Inc.
4700 Falls of Neuse Rd, Suite 100,
Raleigh, NC, 27609
License No: C-3097

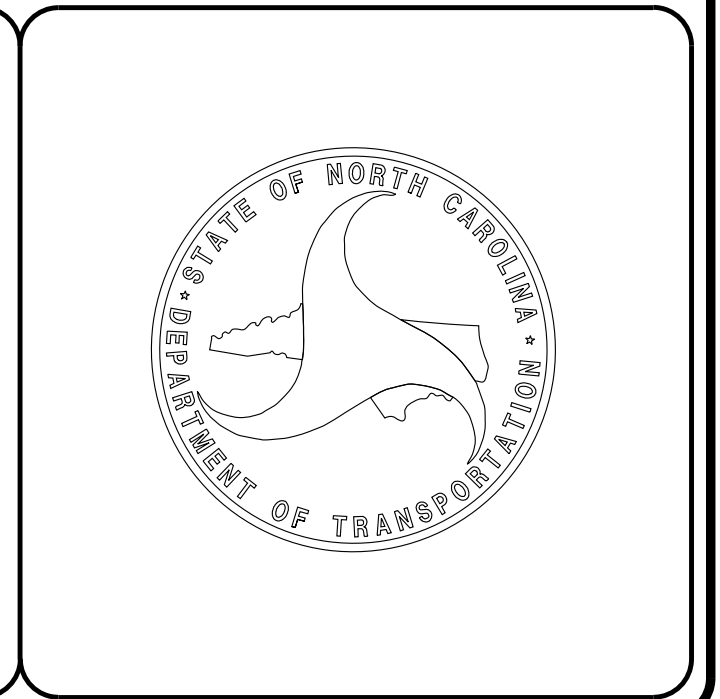
2024 STANDARD SPECIFICATIONS

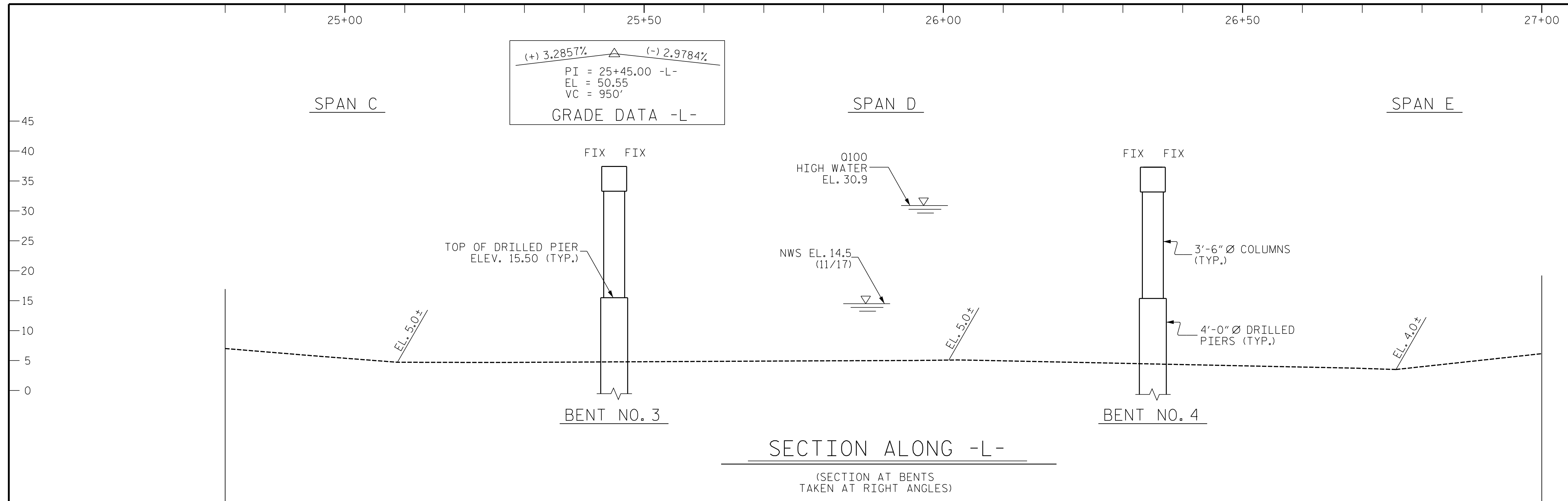
LETTING DATE:
MAY 28, 2024

PAUL GARRETT, PE
PROJECT ENGINEER

PATRICK R. GALLAGHER, PE
PROJECT DESIGN ENGINEER

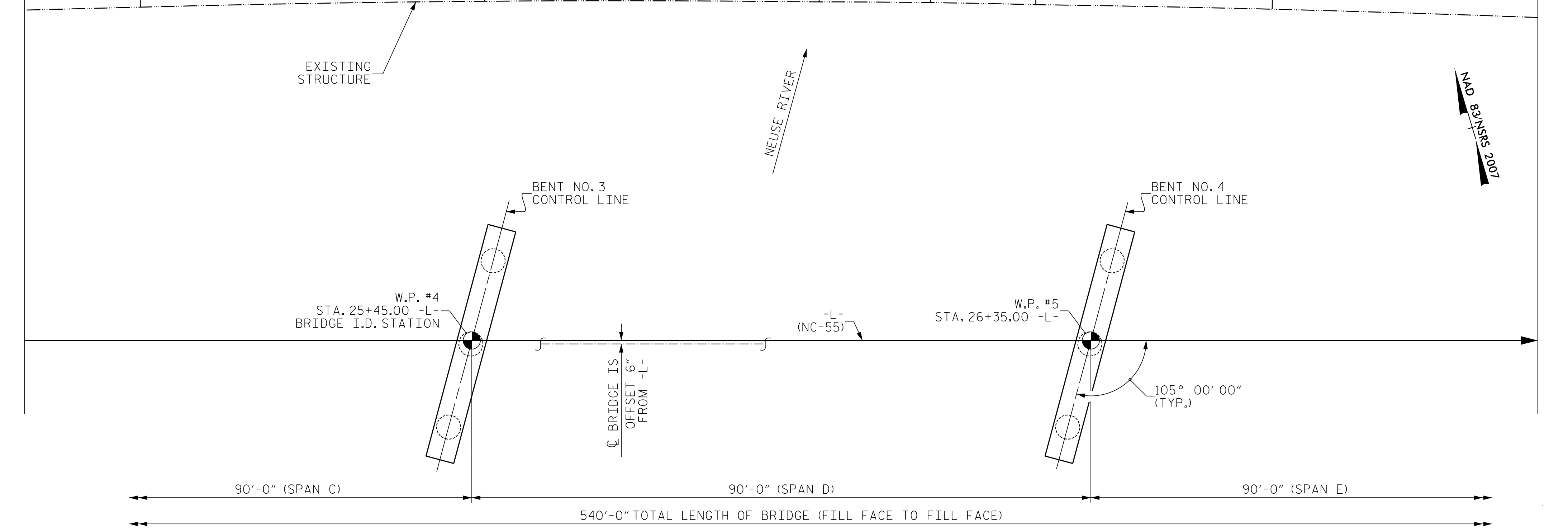
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FINAL UNLESS ALL
SIGNATURES COMPLETED





MATCH LINE A-A

MATCH LINE B-B

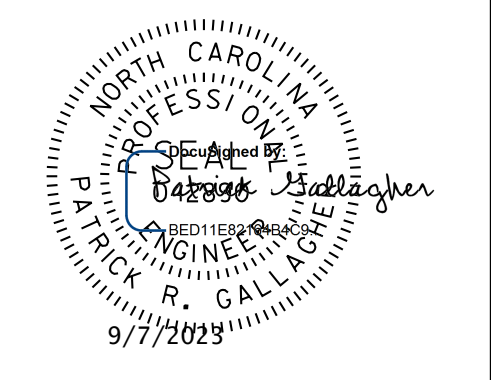


DWN. BY: WDC DATE: 03/2023
 CHKD. BY: PRG DATE: 03/2023
 DES. EGR. OF RECORD: PRG DATE: 03/2023

PLAN ALONG -L-
 (PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

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PROJECT NO. B-4926
LENOIR COUNTY
 STATION: 25+45.00 -L-
 SHEET 2 OF 6

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE OVER
 NEUSE RIVER ON
 NC-55 BETWEEN
 SR 1810 AND SR 1804

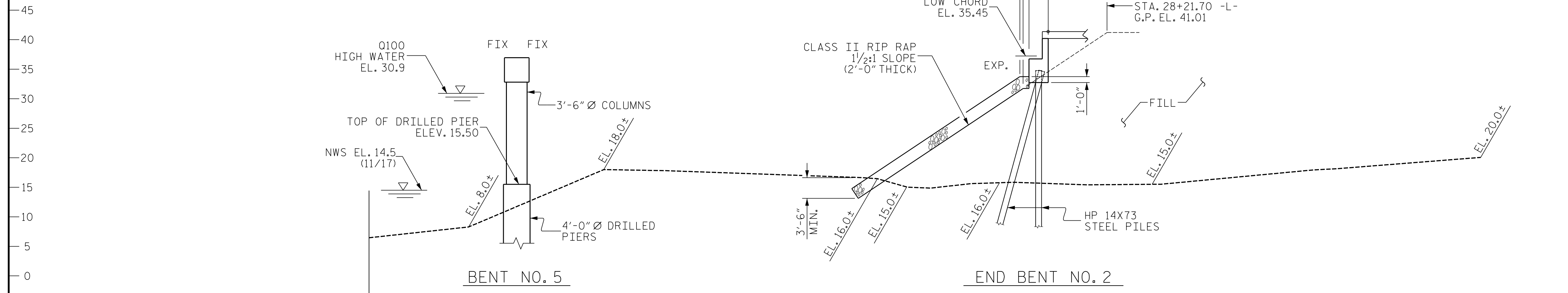
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-2
1			3			TOTAL SHEETS
2			4			49

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 Date: 03/2023
 Time: 03:26 PM on Wednesday, September 06, 2023

27+00 27+50 28+00 28+50

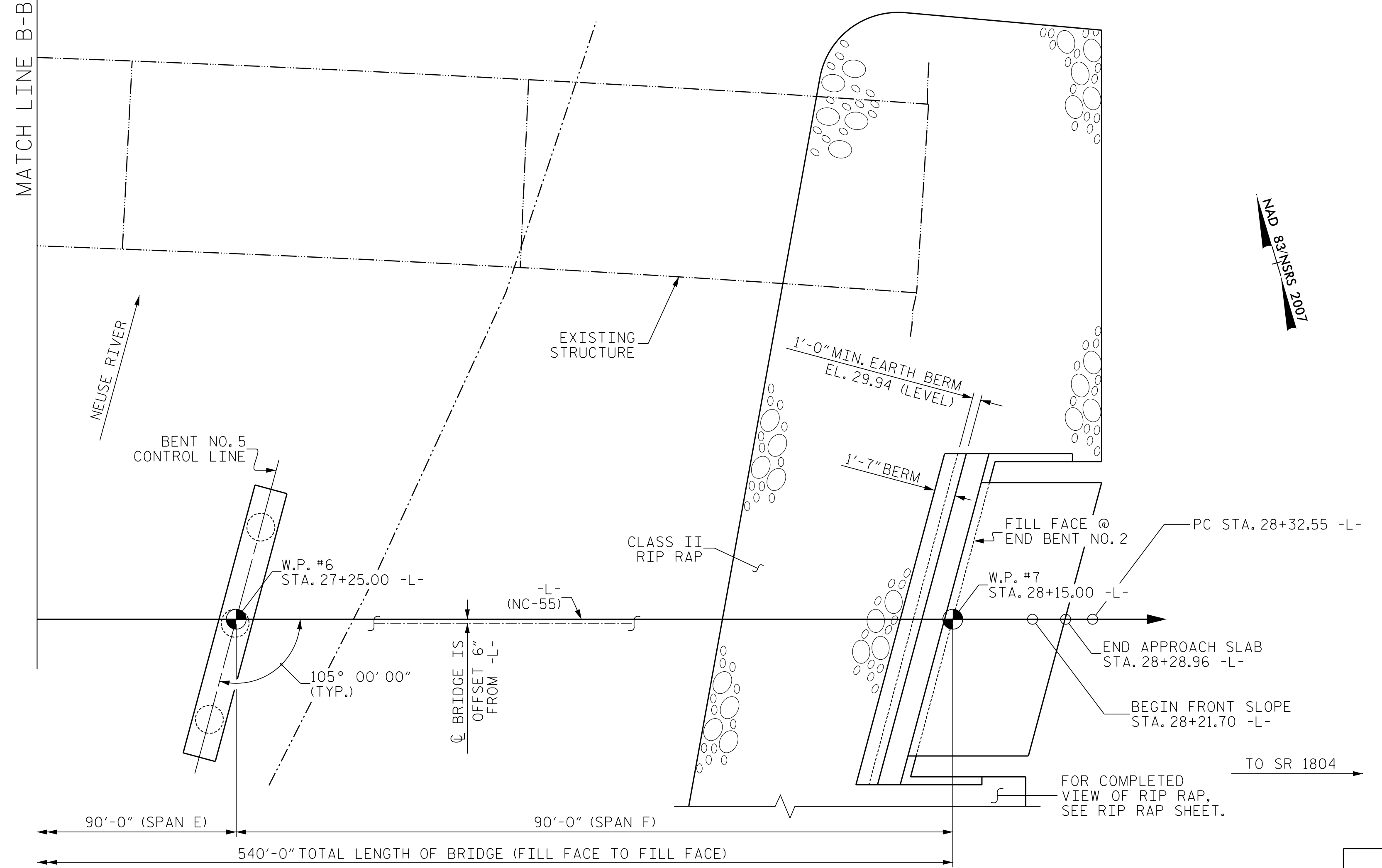
(+) 3.2857% Δ (-) 2.9784%
 PI = 25+45.00 -L-
 EL = 50.55
 VC = 950'
 GRADE DATA -L-

SPAN F



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

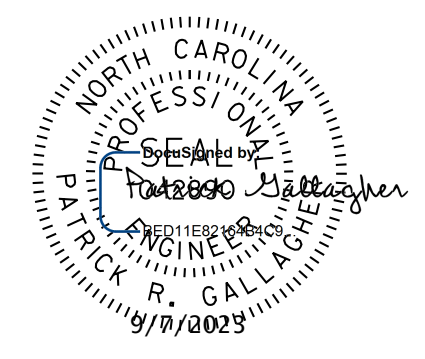
MATCH LINE B-B



PLAN ALONG -L-
 (PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

-L-
 PI Sta 30+02.07
 $\Delta = 10^\circ-38'-32.4''$ (RT)
 D = 3°-08'-53.2"
 L = 338.05'
 T = 169.51'
 R = 1,820.00'

PROJECT NO. B-4926
 LENOIR COUNTY
 STATION: 25+45.00 -L-
 SHEET 3 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE OVER
 NEUSE RIVER ON
 NC-55 BETWEEN
 SR 1810 AND SR 1804

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-3
1			3			TOTAL SHEETS
2			4			49

\\cnc\pww\Structures\0317-01 - B-4926 Lenoir 20 & 3A Structures\Lenoir 20\Drawings\002_B4926_SML\GD001_003.dgn
 DWG: 03/26 PM on Wednesday, September 06, 2023
 TIME: 0:26

DWN. BY: WDC DATE: 03/2023
 CHKD. BY: PRG DATE: 03/2023
 DES. EGR. OF RECORD: PRG DATE: 03/2023

SUMMARY OF PILE INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

Table with columns: End Bent/Bent No, Pile(s) #-#, Factored Resistance per Pile TONS, Pile Cut-Off (Top of Pile) Elevation FT, Estimated Pile Length per Pile FT, Scour Critical Elevation FT, Driven Piles (Min Pile Tip, Required Driving Resistance, Total Pile Redrives), Predrilling for Piles* (Predrilling Length, Predrilling Elevation, Maximum Predrilling Dia), Drilled-In Piles (Pile Excavation, Pile Exc Not In Soil, Pile Exc In Soil).

*Predrilling for Piles is required for end bents/bents with a predrilling length and at the Contractor's option for end bents/bents with predrilling information but no predrilling length.

**RDR = (Factored Resistance + Factored Downdrag Load + Factored Dead Load) / Dynamic Resistance Factor + Nominal Downdrag Resistance + (Nominal Scour Resistance / Scour Resistance Factor)

PILE DESIGN INFORMATION

(Blank entries indicate item is not applicable to structure)

Table with columns: End Bent/Bent No, Pile(s) #-#, Factored Axial Load per Pile TONS, Factored Downdrag Load per Pile TONS, Factored Dead Load* per Pile TONS, Dynamic Resistance Factor, Nominal Downdrag Resistance per Pile TONS, Nominal Scour Resistance per Pile TONS, Scour Resistance Factor (Default = 1.00).

*Factored Dead Load is factored weight of pile above the ground line.

SUMMARY OF DRILLED PIER INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

Table with columns: End Bent/Bent No, Pier(s) #-#, Factored Resistance per Pier TONS, Minimum Pier Tip (Tip No Higher Than) Elevation FT, Required Tip Resistance per Pier TSF, Scour Critical Elevation FT, Minimum Drilled Pier Penetration Into Rock per Pier Lin FT, Drilled Pier Length per Pier Lin FT, Drilled Pier Length Not In Soil per Pier Lin FT, Drilled Pier Length In Soil per Pier Lin FT, Permanent Steel Casing Required? YES or MAYBE, Permanent Steel Casing Tip Elevation (Elev Not To Extend Casing Below) FT, Permanent Steel Casing Length* per Pier Lin FT.

*Permanent Steel Casing Length equals the difference between the ground line or top of drilled pier elevation, whichever is higher, and the permanent casing tip elevation.

NOTES:

- 1. The Pile and Drilled Pier Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (Chien-Ting Tang, 047389) on 4-26-2022.
2. Total Pile Driving Equipment Setup quantity (not shown in Pile Foundation Tables) equals the number of driven piles, i.e., the number of piles with a Required Driving Resistance.
3. The Engineer will determine the need for DPT Testing, Permanent Steel Casing, SPTs, CSL Testing, SID Inspections and PITs when these items may be required.

Vertical text on the left edge: 1/23/2024 11:50 AM on Wednesday, January 31, 2024

DWN. BY: WDC DATE: 03/2023
CHKD. BY: PRG DATE: 03/2023
DES. EGR. OF RECORD: PRG DATE: 03/2023

SUMMARY OF DPT/PILE ORDER LENGTHS

(Blank entries indicate item is not applicable to structure)

Table with columns: End Bent/Bent No, DPT Testing Required? YES or MAYBE, DPT Test Pile Length FT, Total DPT Testing Quantity EACH, End Bent/Bent No(s), Pile Order Length Basis* EST or DPT.

*EST = Pile order lengths from estimated pile lengths; DPT = Pile order lengths based on DPT testing. For groups of end bents/bents with pile order lengths based on DPT testing, the first end bent/bent no. listed for each group is the representative end bent/bent with the DPT.

SUMMARY OF PILE ACCESSORIES

(Blank entries indicate item is not applicable to structure)

Table with columns: End Bent/Bent No, Pile(s) #-#, Pipe Pile Plates Required? YES or MAYBE, Steel Pile Points (Pipe Pile Cutting Shoes, Pipe Pile Conical Points, H-Pile Points), Steel Pile Tips Required? YES.

SUMMARY OF DRILLED PIER TESTING

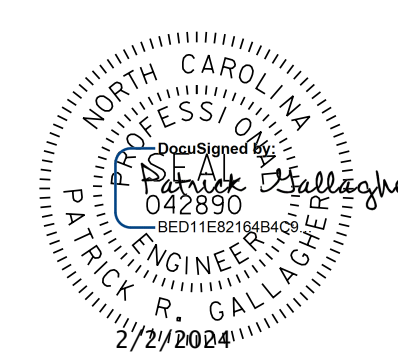
(Blank entries indicate item is not applicable to structure)

Table with columns: End Bent/Bent No, Pier(s) #-#, Standard Penetration Test (SPT) Required? YES or MAYBE, Crosshole Sonic Logging (CSL) Required? YES or MAYBE, Total CSL Tube Length (For All Tubes) per Pier Lin FT, Shaft Inspection Device (SID) Required? YES or MAYBE, Pile Integrity Test (PIT) Required? MAYBE.

*CSL Tubes are required if CSL Testing is or may be required. The number of CSL Tubes per drilled pier is equal to one tube per foot of design pier diameter with at least 4 tubes per pier. The length of each CSL Tube is equal to the drilled pier length plus 1.5 ft.

PROJECT NO. B-4926
LENOIR COUNTY
STATION: 25+45.00 -L-

SHEET 5 OF 6



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PILE AND DRILLED PIER FOUNDATION TABLES

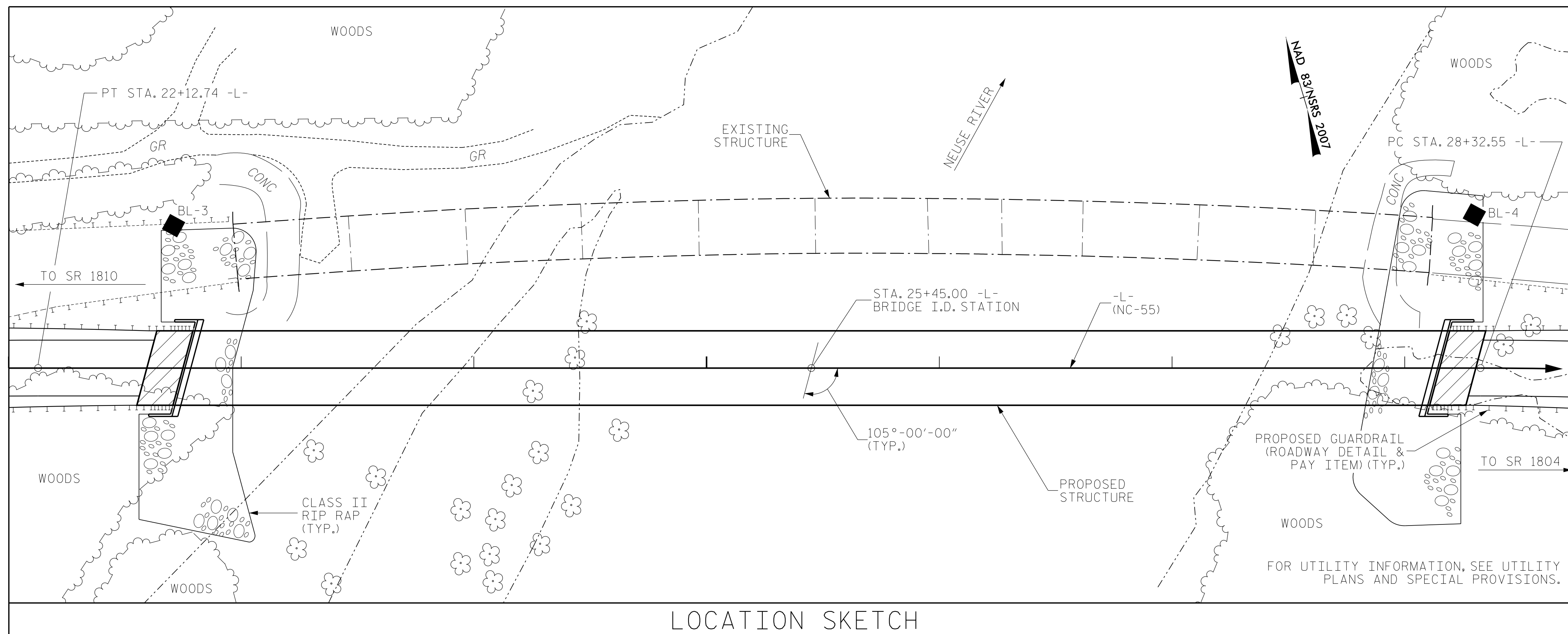
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Table with columns: NO., BY:, DATE:, NO., BY:, DATE:, SHEET NO., TOTAL SHEETS. Includes revision history and sheet count (S1-5, 49 total sheets).

BM 1: -L- STA 16+22.69, 52.54' LEFT, BENCH NAIL SET IN 6" PINE, ELEV. 24.78



LOCATION SKETCH

GENERAL NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE 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.

AFTER SERVING AS A TEMPORARY STRUCTURE, THE EXISTING STRUCTURE CONSISTING OF 10 SPANS AT 50'-0", WITH A REINFORCED CONCRETE FLOOR ON I-BEAMS AND REINFORCED CONCRETE DECK GIRDERS, AND A CLEAR ROADWAY WIDTH OF 24'-0", ON END BENTS AND BENTS OF REINFORCED CONCRETE CAPS ON PRESTRESSED CONCRETE PILES, LOCATED JUST DOWNSTREAM OF THE PROPOSED STRUCTURE, SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING CONSTRUCTION OF THE PROPOSED BRIDGE, THE LOAD LIMIT MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED IN A MANNER THAT PREVENTS DEBRIS FROM FALLING INTO THE WATER. THE CONTRACTOR SHALL SUBMIT DEMOLITION PLANS FOR REVIEW AND REMOVE THE BRIDGE IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

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

FOR ASBESTOS ASSESSMENT, SEE SPECIAL PROVISIONS.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH 'HEC 18- EVALUATING SCOUR AT BRIDGES'.

NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.

REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR EMBANKMENT EXCAVATION NEAR LEFT SIDE OF BRIDGE, SEE ROADWAY PLANS, ROADWAY DETAIL AND PAY ITEM.

FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS, SEE SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL

	CONSTRUCTION, MAINTENANCE, & REMOVAL OF TEMPORARY ACCESS	REMOVAL OF EXISTING STRUCTURE	ASBESTOS ASSESSMENT	4'-0" Ø DRILLED PIERS	PERMANENT STEEL CASING FOR 4'-0" Ø DRILLED PIERS	DYNAMIC PILE TESTING	SID INSPECTIONS	CSL TESTING	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS
	LUMP SUM	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.	EACH	EACH	EACH	SQ. FT.	SQ. FT.	CU. YARDS	LUMP SUM
SUPERSTRUCTURE									19,136	16,956		LUMP SUM
END BENT NO. 1											40.6	
BENT NO. 1				235.5	106.5		1	1			43.3	
BENT NO. 2				223.5	106.5		1	1			44.1	
BENT NO. 3				229.5	109.5		1	1			44.5	
BENT NO. 4				231.0	112.5		1	1			44.3	
BENT NO. 5				234.0	124.5		1	1			43.5	
END BENT NO. 2											44.2	
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	1153.5	559.5	2	5	5	19,136	16,956	304.5	LUMP SUM

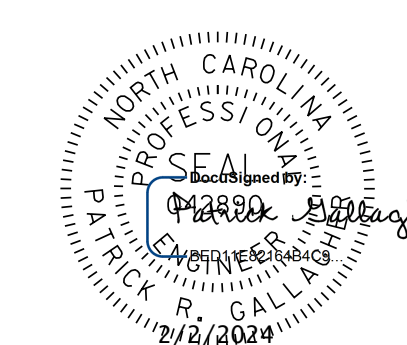
HYDRAULIC DATA	
DESIGN DISCHARGE	= 20700 CFS
DESIGN FREQUENCY	= 5 YRS
DESIGN HW ELEVATION	= 24.8 FT
BASE DISCHARGE	= 44300 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 30.9 FT
OVERTOPPING FLOOD DATA	
OVERTOPPING DISCHARGE	= 26000 CFS
OVERTOPPING FREQUENCY	= 10+ YRS
OVERTOPPING ELEVATION	= 26.2 * FT
DRAINAGE AREA	= 2800 SQ. MI.

* OVERTOPPING OCCURS AT LOW ROADWAY ELEVATION
 STA. 15+00; BEGIN CONSTRUCTION FOR
 B-4926; BRIDGE RS 213795; ELEVATION=26.2

	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	54" PRESTRESSED CONCRETE GIRDERS	PILE DRIVING EQUIPMENT SETUP FOR HP 14x73 STEEL PILES	HP 14 X 73 STEEL PILES	PILE REDRIVES	TWO BAR METAL RAIL	1'-2" X 2'-6" CONCRETE PARAPET	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	FOAM JOINT SEALS
	LBS.	LBS.	NO. LIN. FT.	NO.	NO. LIN. FT.	EACH	LIN. FT.	LIN. FT.	TONS	SQ. YARDS	LUMP SUM	LUMP SUM
SUPERSTRUCTURE			30 2674.58				1059.63	1,074.67			LUMP SUM	LUMP SUM
END BENT NO. 1	5,394			8	8	320	4		487	492		
BENT NO. 1	28,800	7,090										
BENT NO. 2	28,182	6,862										
BENT NO. 3	28,505	7,044										
BENT NO. 4	28,617	7,076										
BENT NO. 5	28,762	7,093										
END BENT NO. 2	5,739			8	8	400	4		442	446		
TOTAL	153,999	35,165	30 2674.58	16	16	720	8	1059.63	1,074.67	929	938	LUMP SUM LUMP SUM

PROJECT NO. B-4926
LENOIR COUNTY
 STATION: 25+45.00 -L-

SHEET 6 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE OVER
 NEUSE RIVER ON
 NC-55 BETWEEN
 SR 1810 AND SR 1804

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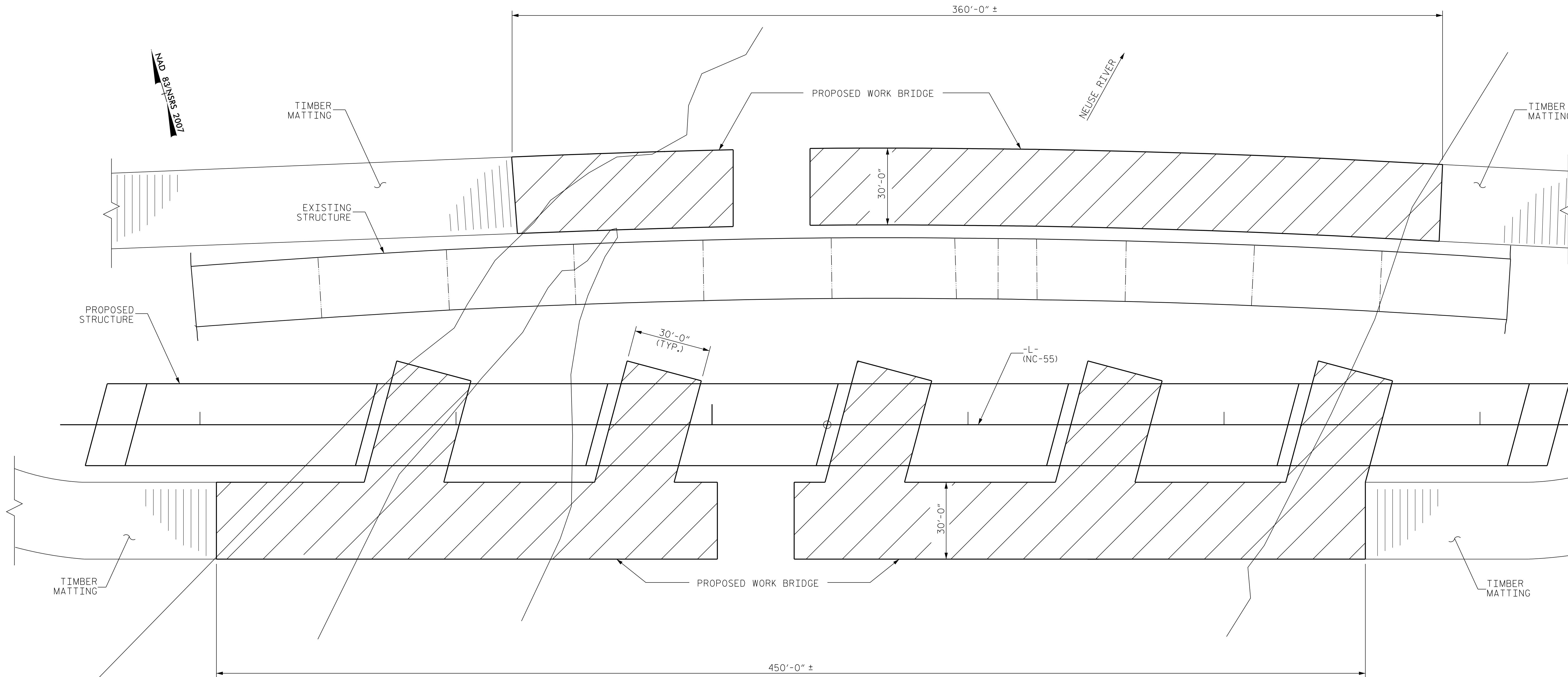


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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-6
1			3			TOTAL SHEETS 49
2			4			

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 2024-03-01 09:26 AM on Wednesday, January 31, 2024
 TIME: 09:26 AM

DWN. BY: WDC DATE: 03/2023
 CHKD. BY: PRG DATE: 03/2023
 DES. EGR. OF RECORD: PRG DATE: 03/2023



PLAN

PROJECT NO. B-4926
LENOIR COUNTY
 STATION: 25+45.00 -L-



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
TEMPORARY ACCESS
 FOR BRIDGE OVER
 NEUSE RIVER ON
 NC-55 BETWEEN
 SR 1810 AND SR 1804

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NO.		BY:		DATE:		NO.		BY:		DATE:		SHEET NO.
1						3						S1-7
2						4						TOTAL SHEETS 49

W:\Projects\2023\B-4926\Lenoir\20\Plans\03_Bridge\03_Bridge_SML_T40_007.dgn
 DWG: 03/23 PRG on Wednesday, September 06, 2023
 TIME: 01:33

DWN. BY: WDC DATE: 03/2023
 CHKD. BY: PRG DATE: 03/2023
 DES. EGR. OF RECORD: PRG DATE: 03/2023

LOAD FACTORS:

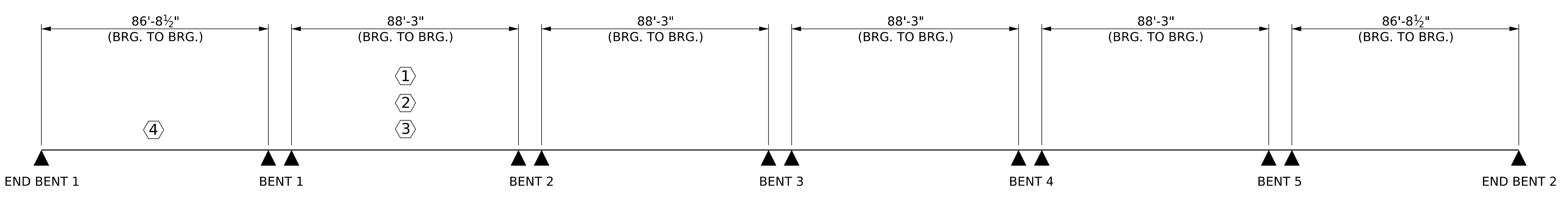
DESIGN LOAD RATING FACTORS	LIMIT STATE	γDC	γDW
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

NOTES:

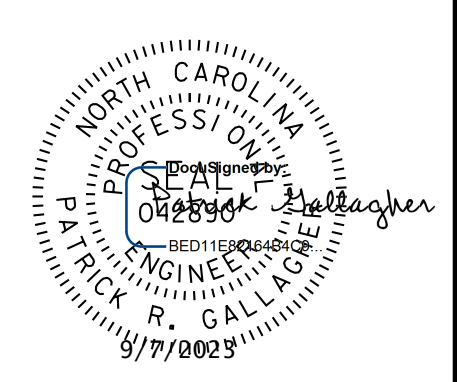
MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.
ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

#	CONTROLLING LOAD RATING
①	DESIGN LOAD RATING (HL-93)
②	DESIGN LOAD RATING (HS-20)
③	LEGAL LOAD RATING **
④	EMERGENCY VEHICLE LOAD RATING **
** SEE CHART FOR VEHICLE TYPE	
GIRDER LOCATION	
I - INTERIOR GIRDER	
EL - EXTERIOR LEFT GIRDER	
ER - EXTERIOR RIGHT GIRDER	

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS																							
LOAD TYPE	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING #	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE						COMMENT NUMBER	
						MOMENT					SHEAR					MOMENT							
						LIVE-LOAD FACTORS (γ LL)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	LIVE-LOAD FACTORS (γ LL)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION		DISTANCE FROM LEFT END OF SPAN (ft)
DESIGN LOAD	HL-93 (INVENTORY)	N/A	①	1.16	--	1.75	0.703	1.18	B	I	44.13	0.802	1.32	A	EL	60.70	0.80	0.703	1.16	B	I	44.13	
	HL-93 (OPERATING)	N/A		1.52	--	1.35	0.703	1.52	B	I	44.13	0.802	2.25	A	EL	69.37	N/A	0.703	--	--	--	44.13	
	HS-20 (INVENTORY)	36.000	②	1.58	56.88	1.75	0.703	1.60	B	I	44.13	0.802	2.21	A	EL	69.37	0.80	0.703	1.58	B	I	44.13	
	HS-20 (OPERATING)	36.000		2.08	74.88	1.35	0.703	2.08	B	I	44.13	0.802	2.92	A	EL	69.37	N/A	0.703	--	--	--	44.13	
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH	13.500		3.71	50.09	1.40	0.703	4.69	B	I	44.13	0.802	7.01	A	EL	69.37	0.80	0.703	3.71	B	I	44.13
		SNGARBS2	20.000		2.65	53.00	1.40	0.703	3.35	B	I	44.13	0.802	4.84	A	EL	69.37	0.80	0.703	2.65	B	I	44.13
		SNAGRIS2	22.000		2.54	55.88	1.40	0.703	3.21	B	I	44.13	0.802	4.53	A	EL	69.37	0.80	0.703	2.54	B	I	44.13
		SNCOTTS3	27.250		1.84	50.14	1.40	0.703	2.33	B	I	44.13	0.802	3.41	A	EL	69.37	0.80	0.703	1.84	B	I	44.13
		SNAGGRS4	34.925		1.52	53.09	1.40	0.703	1.92	B	I	44.13	0.802	2.78	A	EL	69.37	0.80	0.703	1.52	B	I	44.13
		SNS5A	35.550		1.49	52.97	1.40	0.703	1.88	B	I	44.13	0.802	2.81	A	EL	69.37	0.80	0.703	1.49	B	I	44.13
		SNS6A	39.950		1.35	53.93	1.40	0.703	1.71	B	I	44.13	0.802	2.54	A	EL	69.37	0.80	0.703	1.35	B	I	44.13
		SNS7B	42.000		1.24	52.08	1.40	0.703	1.57	B	I	44.13	0.802	2.39	A	EL	69.37	0.80	0.703	1.24	B	I	44.13
	TRUCK TRACTOR SEMI-TRAILER (TST)	TNAGRIT3	33.000		1.64	54.12	1.40	0.703	2.08	B	I	44.13	0.802	3.06	A	EL	69.37	0.80	0.703	1.64	B	I	44.13
		TNT4A	33.075		1.65	54.57	1.40	0.703	2.09	B	I	44.13	0.802	2.99	A	EL	69.37	0.80	0.703	1.65	B	I	44.13
		TNT6A	41.600		1.34	55.74	1.40	0.703	1.70	B	I	44.13	0.802	2.64	A	EL	69.37	0.80	0.703	1.34	B	I	44.13
		TNT7A	42.000		1.34	56.28	1.40	0.703	1.70	B	I	44.13	0.802	2.59	A	EL	69.37	0.80	0.703	1.34	B	I	44.13
		TNT7B	42.000		1.38	57.96	1.40	0.703	1.75	B	I	44.13	0.802	2.43	A	EL	69.37	0.80	0.703	1.38	B	I	44.13
		TNAGRIT4	43.000		1.32	56.76	1.40	0.703	1.67	B	I	44.13	0.802	2.35	A	EL	69.37	0.80	0.703	1.32	B	I	44.13
		TNAGT5A	45.000		1.25	56.25	1.40	0.703	1.58	B	I	44.13	0.802	2.32	A	EL	69.37	0.80	0.703	1.25	B	I	44.13
		TNAGT5B	45.000	③	1.24	55.80	1.40	0.703	1.57	B	I	44.13	0.802	2.23	A	EL	69.37	0.80	0.703	1.24	B	I	44.13
EMERGENCY VEHICLE (EV)	EV2	28.750		1.94	55.78	1.30	0.703	2.66	A	EL	44.13	0.802	3.65	E	I	69.37	0.80	0.703	1.94	A	EL	44.13	
	EV3	43.000	④	1.28	55.04	1.30	0.703	1.75	A	EL	44.13	0.802	2.41	E	I	69.37	0.80	0.703	1.28	A	EL	44.13	



PROJECT NO. B-4926
LENOIR COUNTY
STATION: 25+45.00 -L-



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

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

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

Johnson, Mirmiran, & Thompson Inc.
4700 Falls of Neuse Rd, Suite 100,
Raleigh, NC, 27609
License No: C-3097

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-8
1			3			TOTAL SHEETS
2			4			49

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 Date: 05/13/2023 10:33 AM on Wednesday, September 06, 2023

DWN. BY: WDC DATE: 03/2023
 CHKD. BY: PRG DATE: 03/2023
 DES. EGR. OF RECORD: PRG DATE: 03/2023
 DRAWN BY: MAA 1/08
 CHECKED BY: GM/DI 2/08
 REV. 11/2/08RR
 REV. 10/1/11
 REV. 04/23
 MAA/GM
 MAA/GM
 BNB/AAI

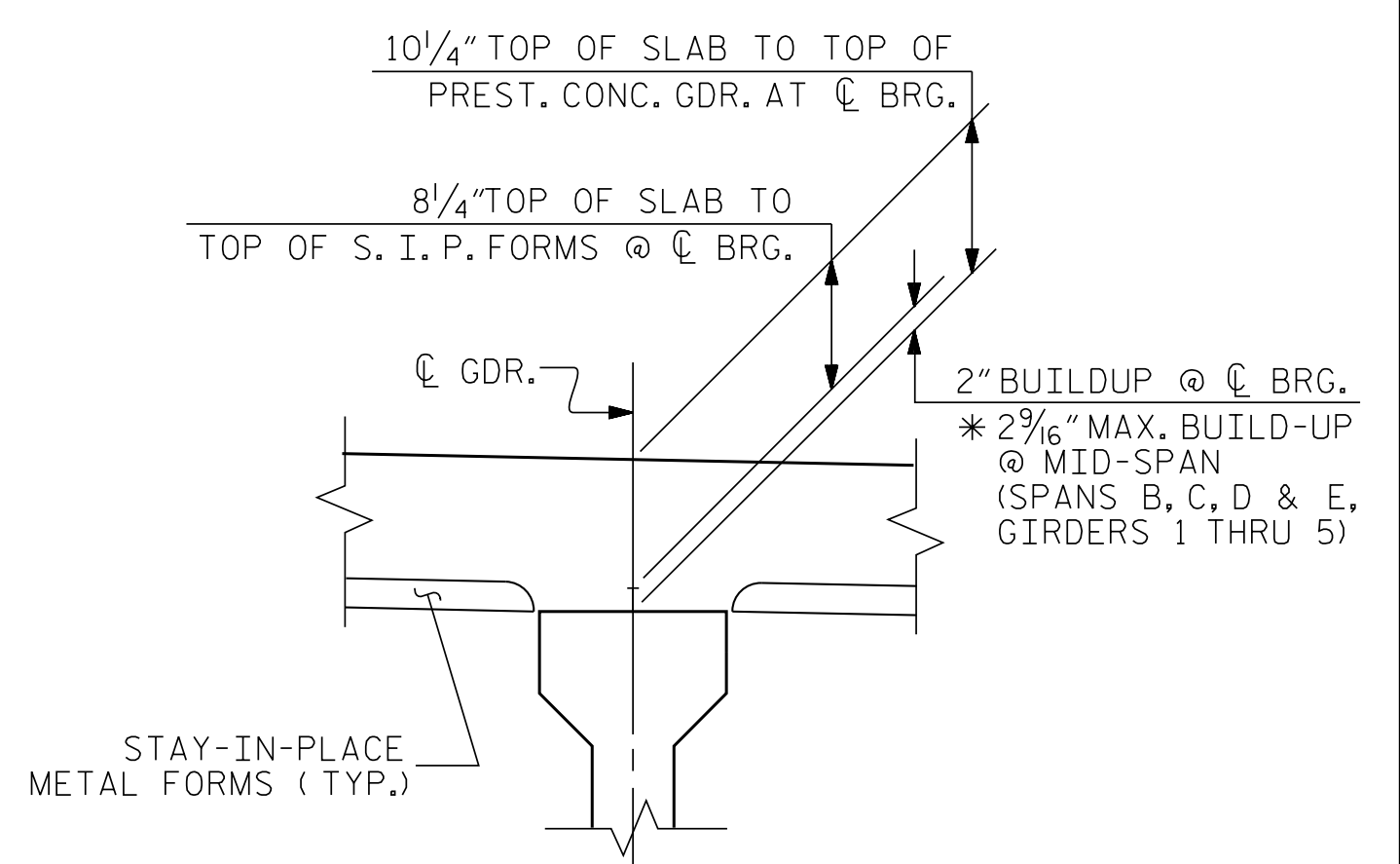
NOTES

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 A CLEAR DISTANCE OF 2 1/2" ABOVE THE TOP OF THE REMOVABLE FORM.

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

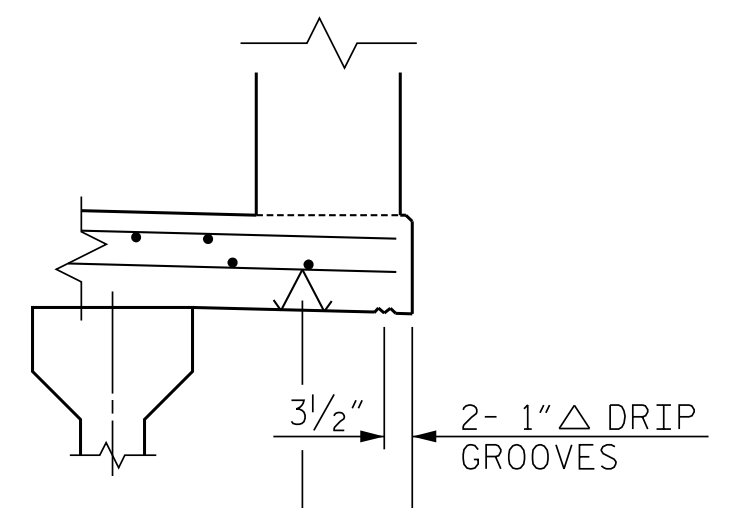
PREVIOUSLY CAST CONCRETE IN A CONTINUOUS UNIT SHALL HAVE ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI BEFORE ADDITIONAL CONCRETE IS CAST IN THE UNIT.

METAL STAY-IN-PLACE FORMS SHALL NOT BE WELDED TO THE SUPPORT ANGLES WITHIN THE LINK SLAB AREAS. SEE "PLAN OF SPAN" SHEETS FOR LOCATION.



DETAIL "A"

* BASED ON PREDICTED FINAL CAMBER AND THEORETICAL GRADE LINE ELEVATIONS.



OVERHANG DETAIL

(RIGHT SIDE SHOWN, LEFT SIDE SIMIAR)

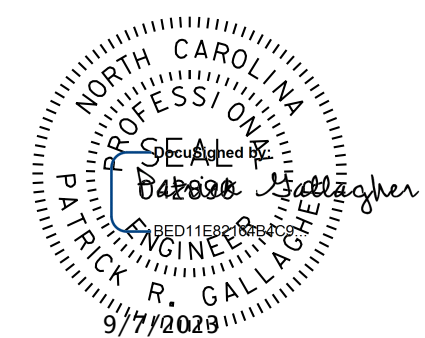
PROJECT NO. B-4926

LENOIR COUNTY

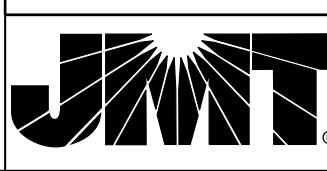
STATION: 25+45.00 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
TYPICAL SECTION

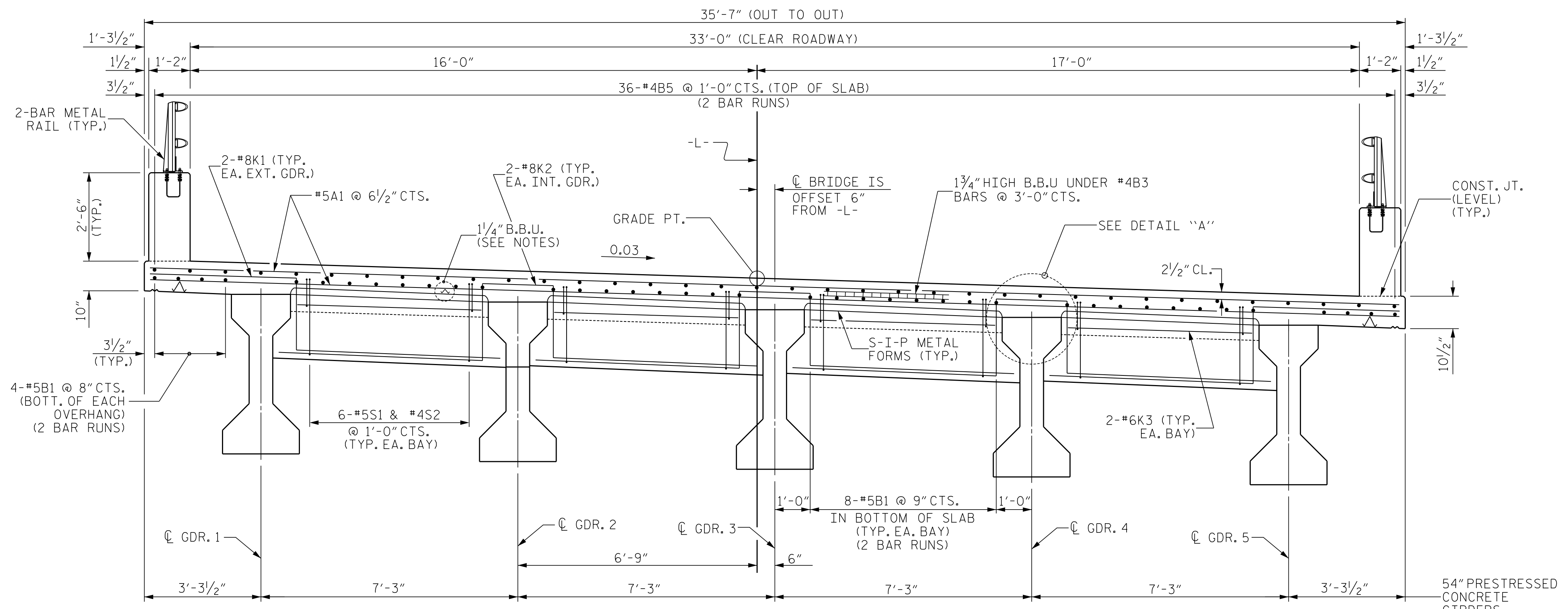


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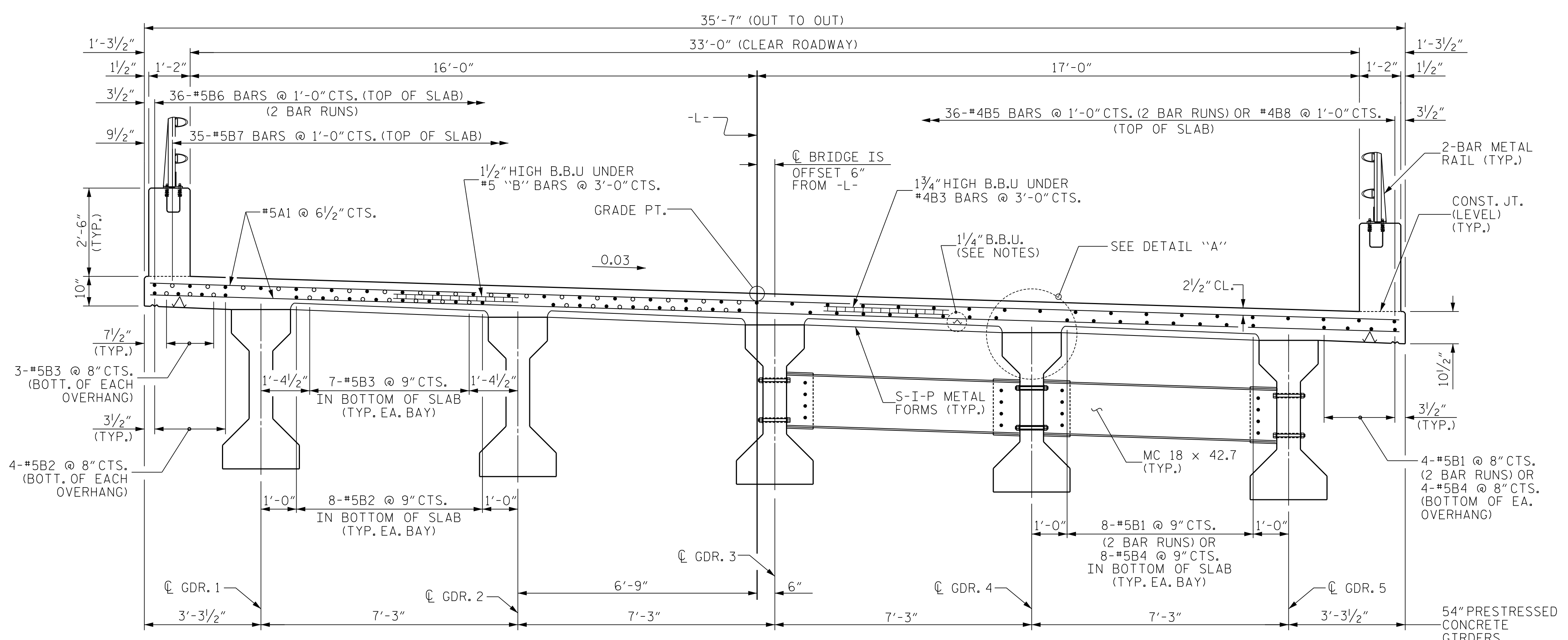


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1			3			TOTAL SHEETS
2			4			49



TYPICAL SECTION AT END BENT DIAPHRAGM



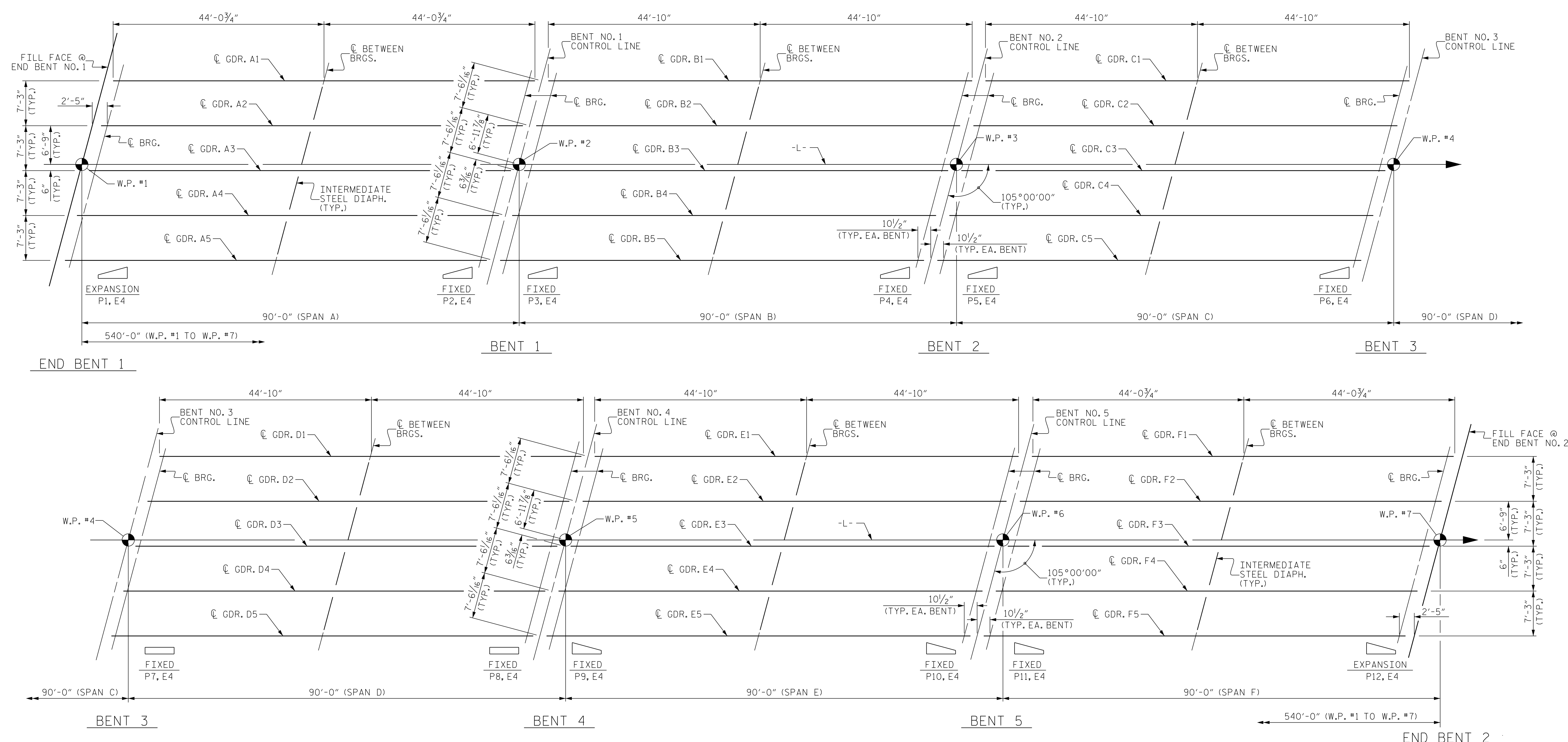
TYPICAL HALF-SECTION LINK SLAB AT BENT

TYPICAL HALF-SECTION AT INTERMEDIATE DIAPHRAGM

TYPICAL SECTION

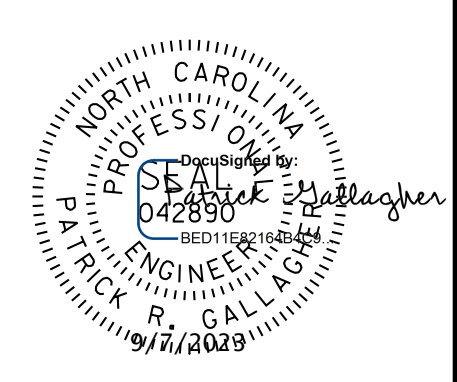
DWN. BY: WDC DATE: 03/2023
CHKD. BY: PRG DATE: 03/2023
DES. EGR. OF RECORD: PRG DATE: 03/2023

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DATE: 03/23 PM on Wednesday, September 06, 2023



FRAMING PLAN

PROJECT NO. B-4926
LENOIR COUNTY
 STATION: 25+45.00 -L-



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 FRAMING PLAN

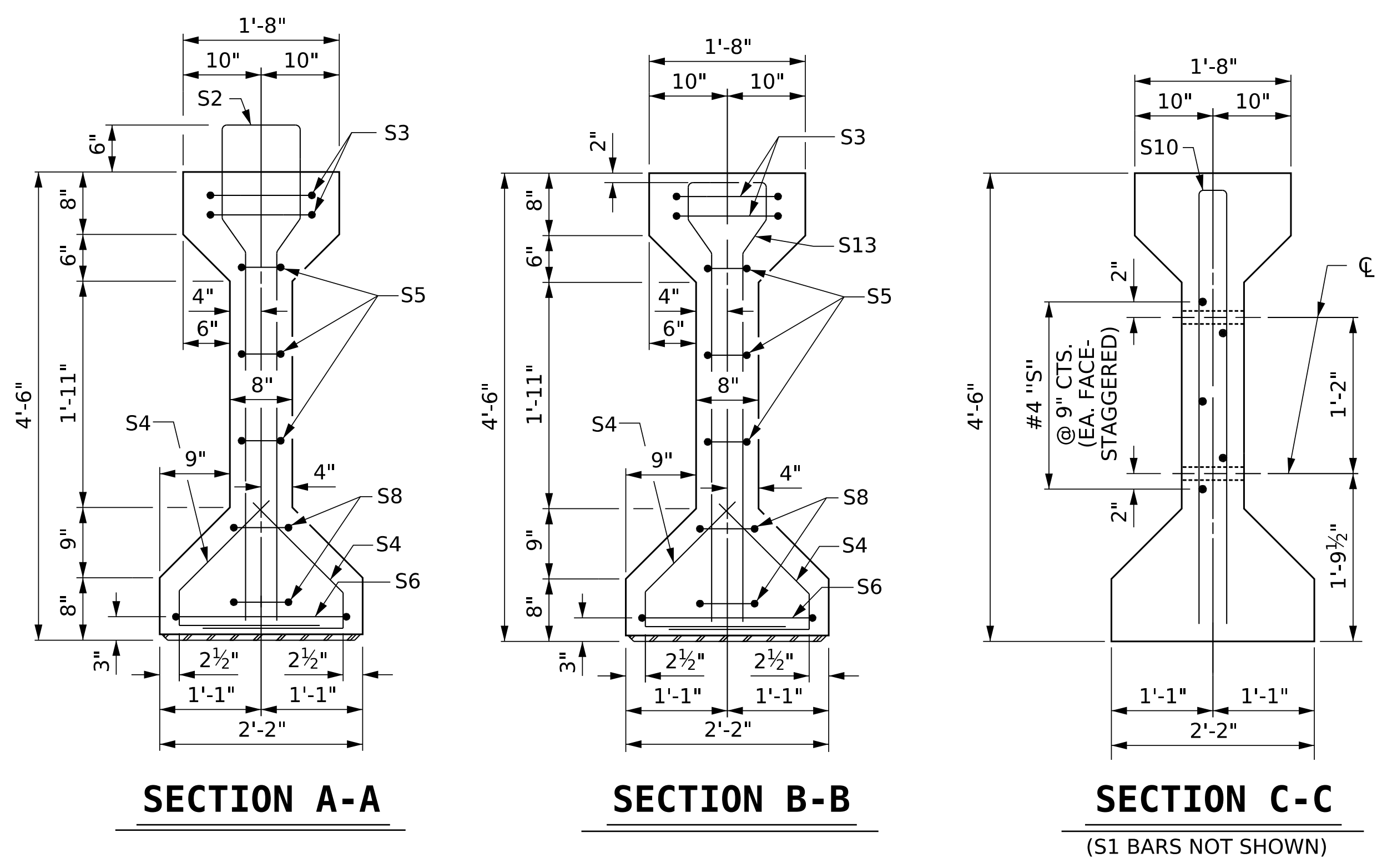
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1			3			TOTAL SHEETS
2			4			49

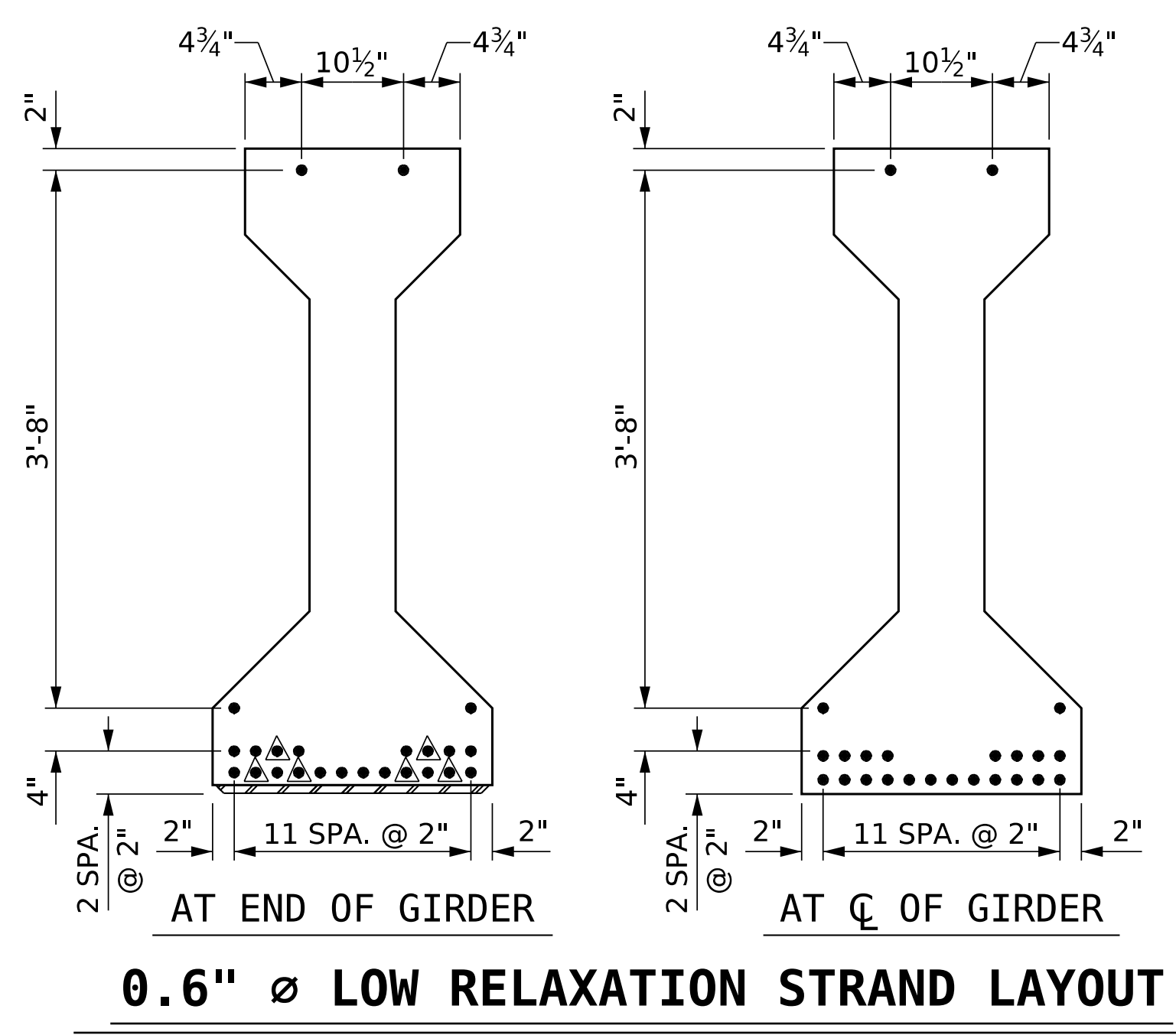
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 TIME: 01:33 PM

DWN. BY: WDC DATE: 03/2023
 CHKD. BY: PRG DATE: 03/2023
 DES. EGR. OF RECORD: PRG DATE: 03/2023



DEBONDING LEGEND

- FULLY BONDED STRANDS
- STRANDS DEBONDED FOR 16'-0" FROM END OF GIRDER

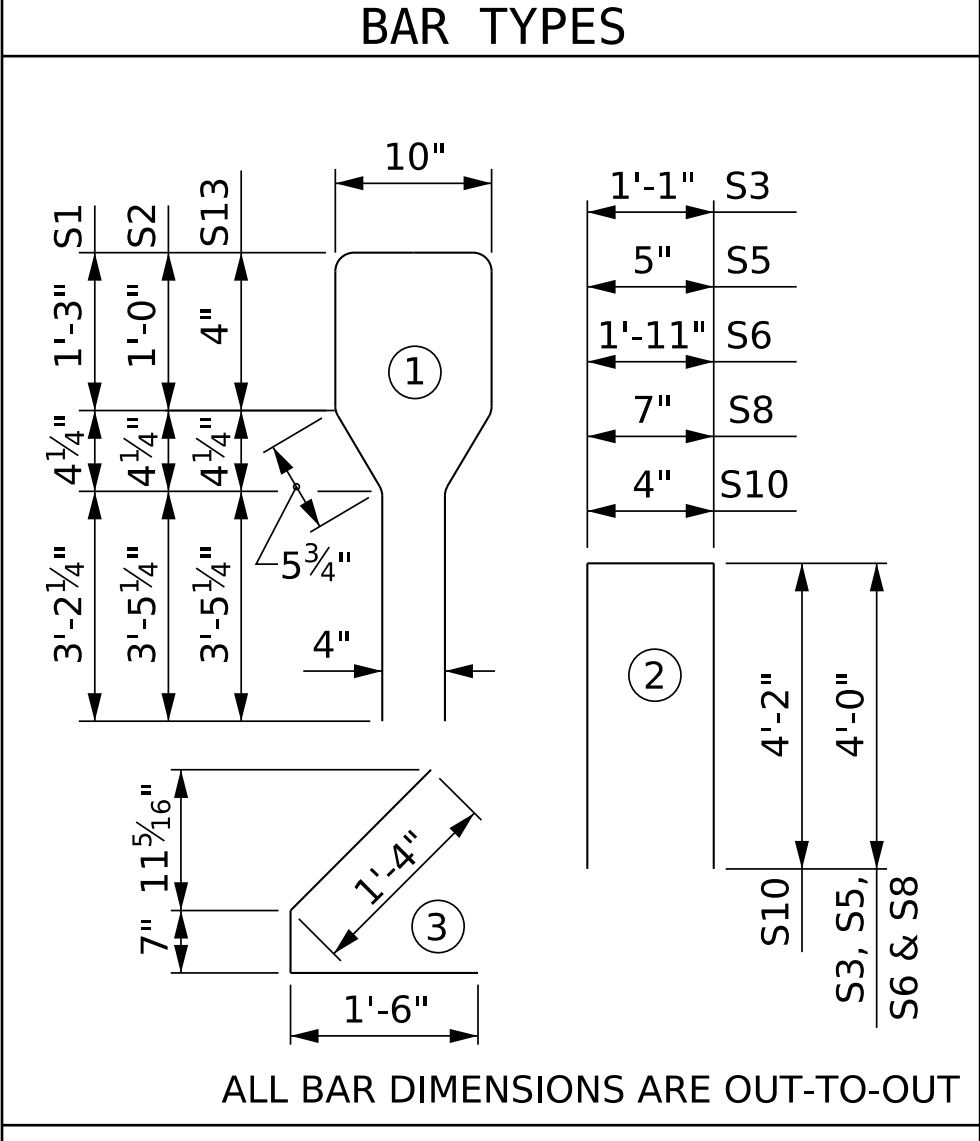


0.6" Ø L.R. GRADE 270 STRANDS

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	35	#4	1	10'-8"	249
S2	29	#6	1	10'-8"	465
S3	4	#4	2	9'-1"	24
S4	80	#4	3	3'-5"	183
S5	6	#4	2	8'-5"	34
S6	2	#4	2	9'-11"	13
S8	4	#4	2	8'-7"	23
S10	2	#5	2	8'-8"	18
S11	5	#4	STR	7'-0"	23
S13	11	#6	1	9'-4"	154

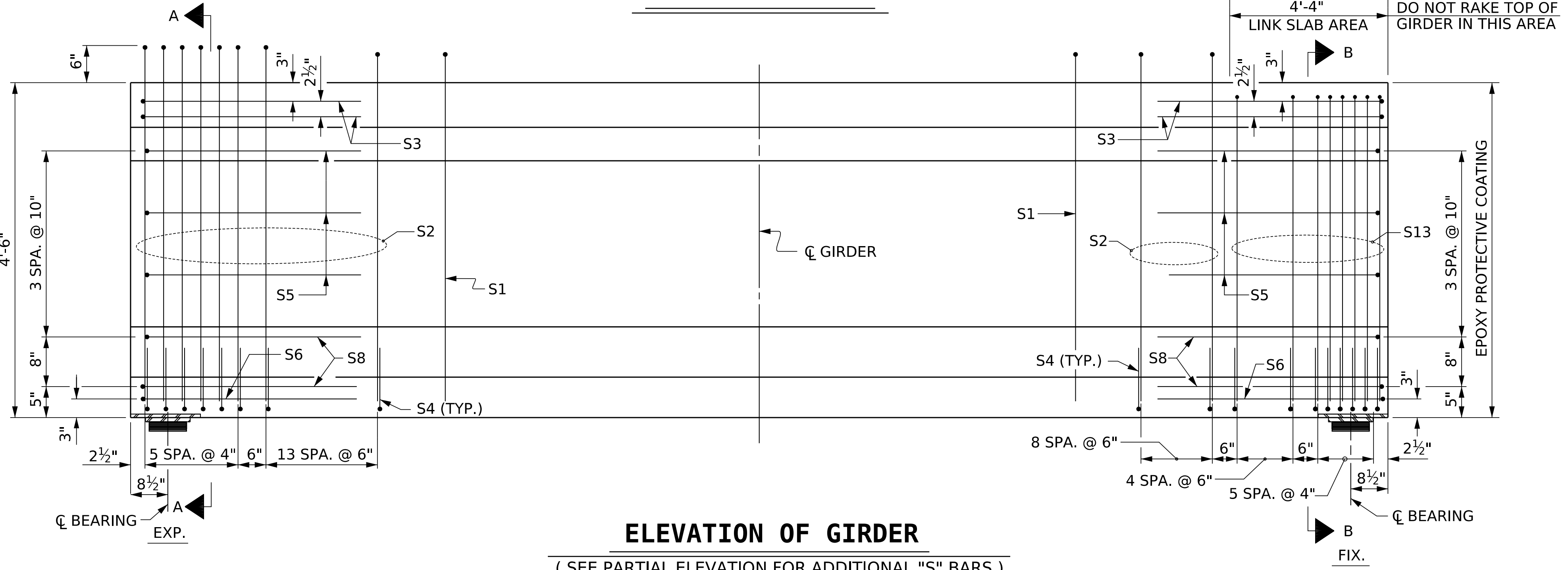
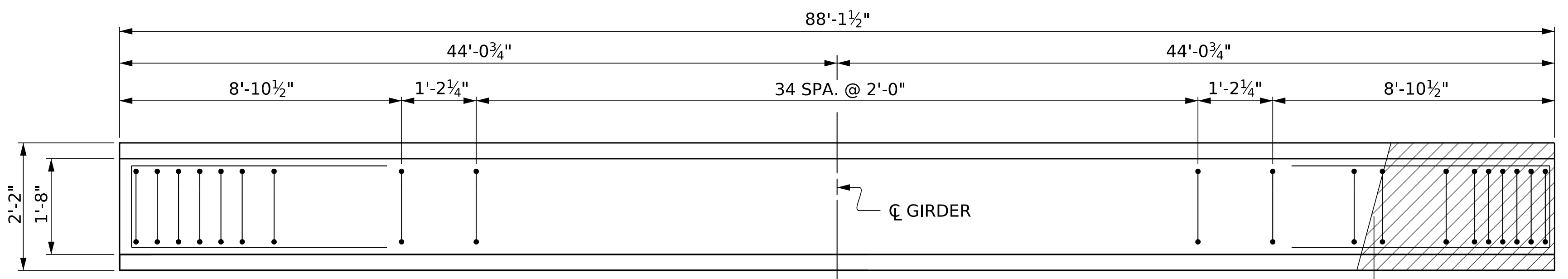
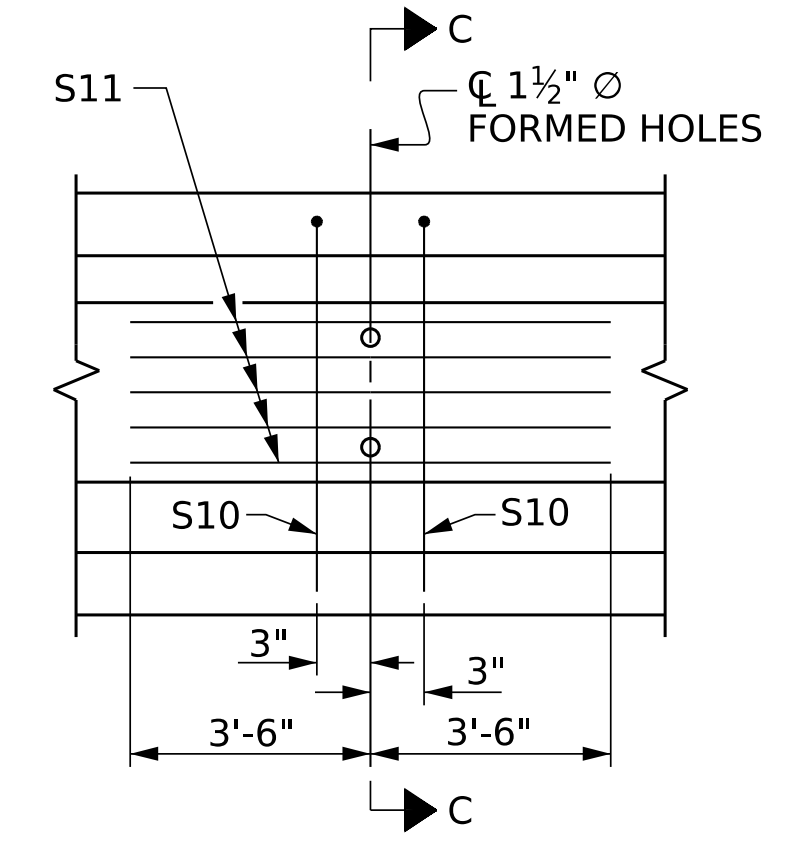


QUANTITIES FOR ONE GIRDER

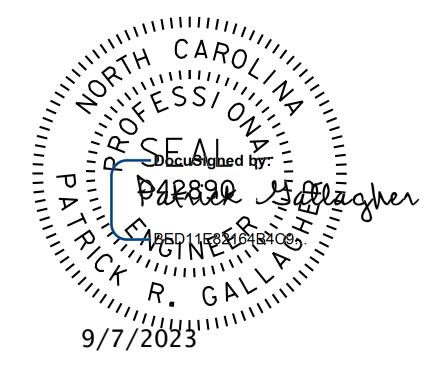
REINFORCING STEEL LB.	8500 PSI CONCRETE C.Y.	0.6" Ø L.R. STRANDS No.
1186	17.9	24

GIRDERS REQUIRED

NUMBER	LENGTH	TOTAL LENGTH
10	88'-1 1/2"	881'-3"



PROJECT NO. B-4926
 LENOIR COUNTY
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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
STANDARD
AASHTO TYPE IV
PRESTRESSED CONCRETE
GIRDER - LINK SLAB
(SPANS A & F)

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 Raleigh, NC, 27609
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1			3		
2			4		

SHEET NO. S1-18
 TOTAL SHEETS 49

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 DATE: 03/23 PM on Wednesday, September 06, 2023
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 DES. EGR. OF RECORD: PRG DATE: 03/2023
 DRAWN BY: BNB 09/21
 CHECKED BY: AAI 09/21

NOTES

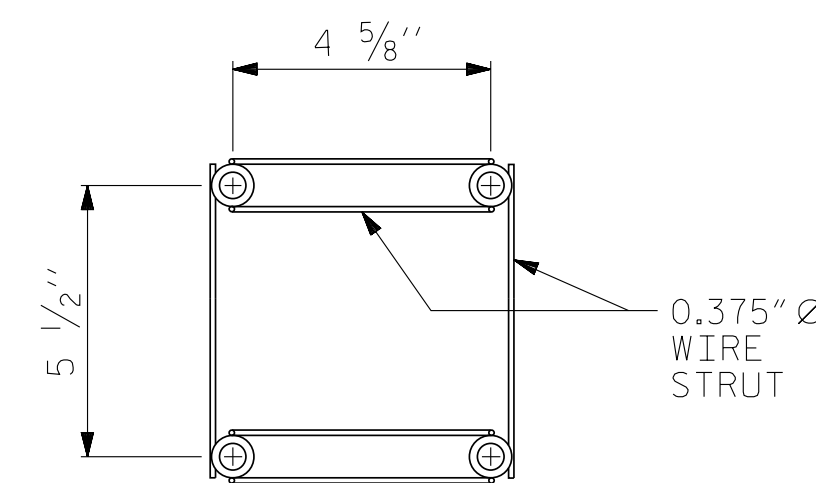
STRUCTURAL CONCRETE ANCHOR ASSEMBLY

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

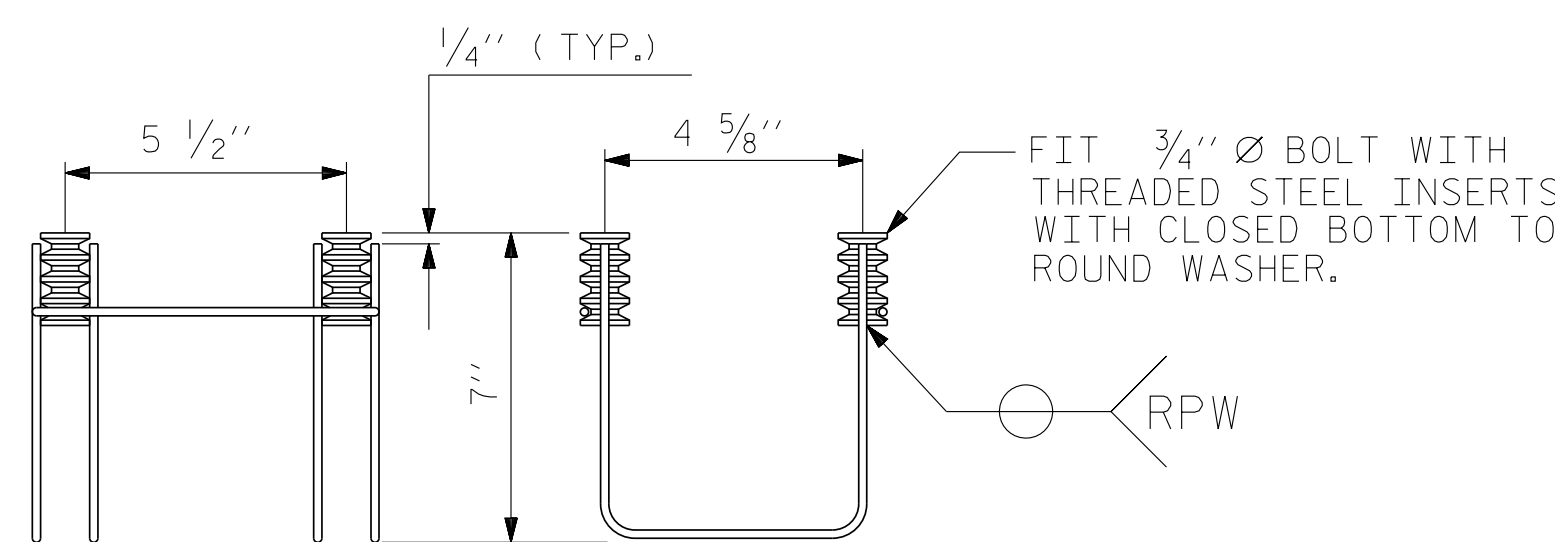
- A. FERRULES SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF AASHTO M169, GRADE 12L14 AND SHALL HAVE A MINIMUM LENGTH OF THREADS OF 2" FOR 3/4" FERRULES.
- B. 4 - 3/4" Ø X 2 1/2" BOLTS WITH WASHERS. BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. BOLTS AND WASHERS SHALL BE GALVANIZED. AT 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 ASTM A123.
- 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.



PLAN

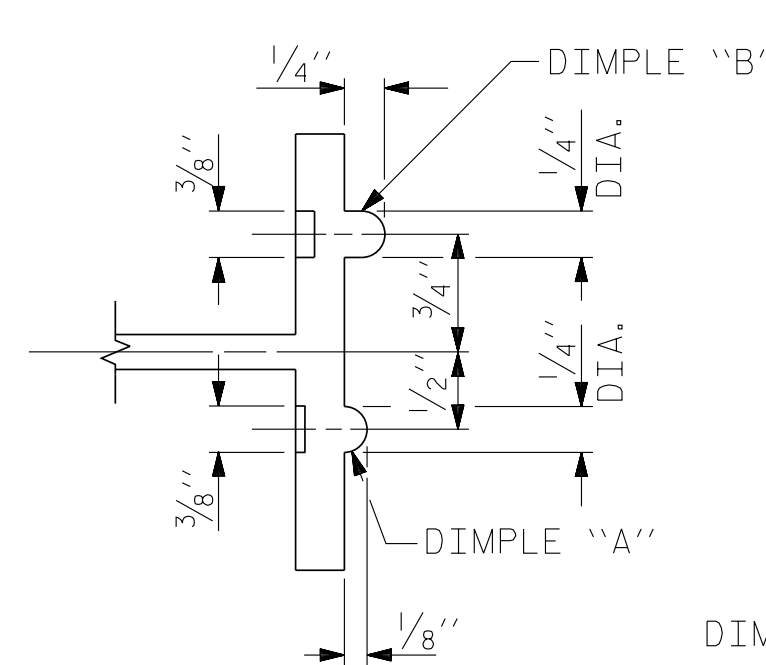


SIDE VIEW

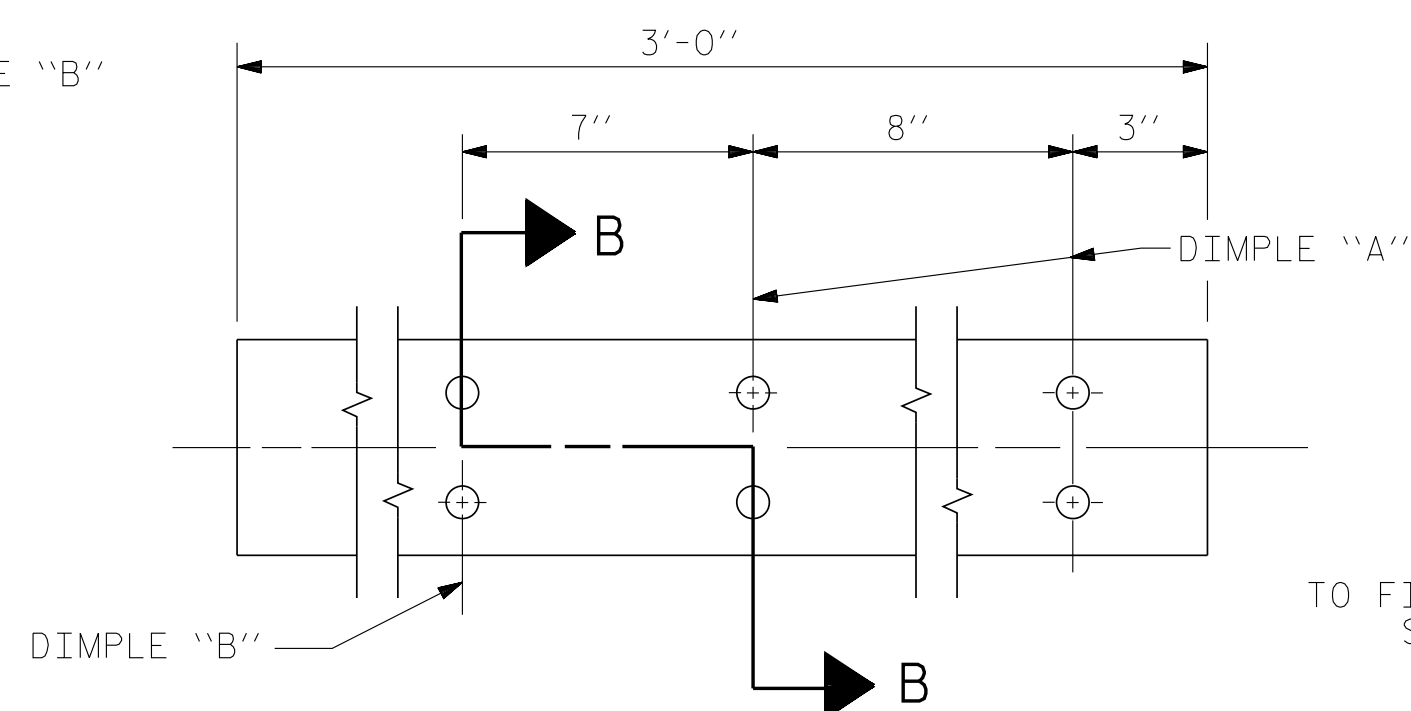
ELEVATION

4-BOLT METAL RAIL ANCHOR ASSEMBLY

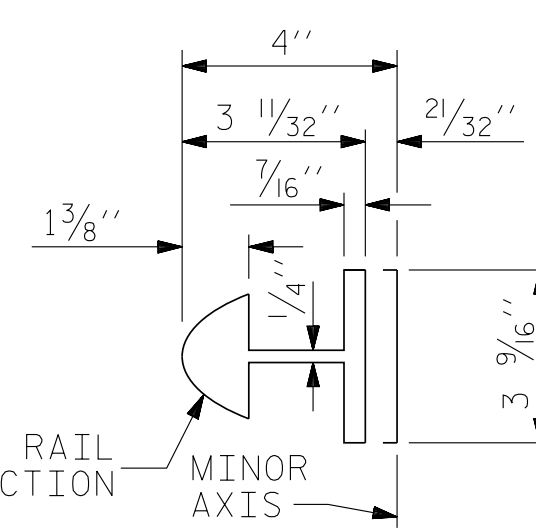
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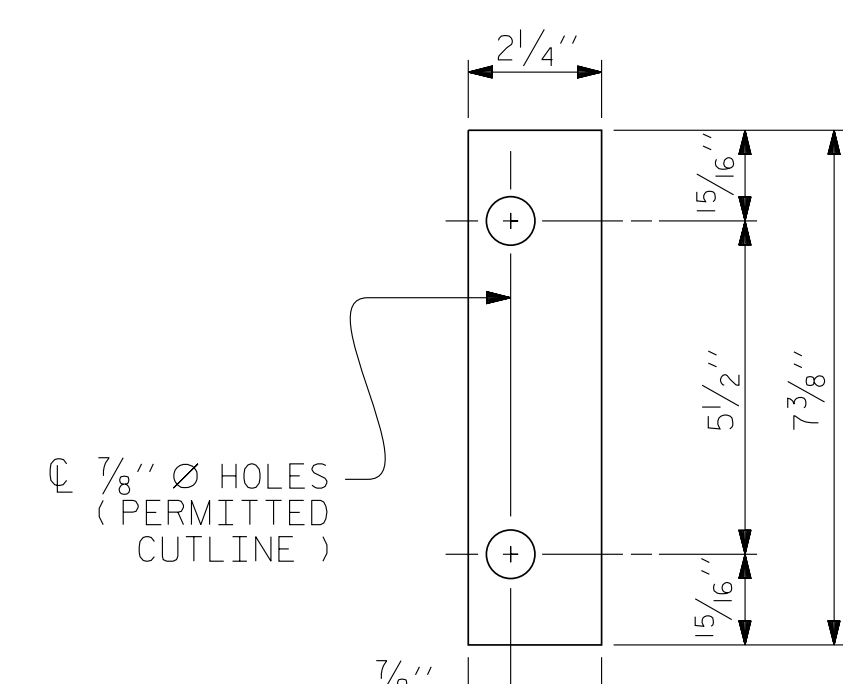
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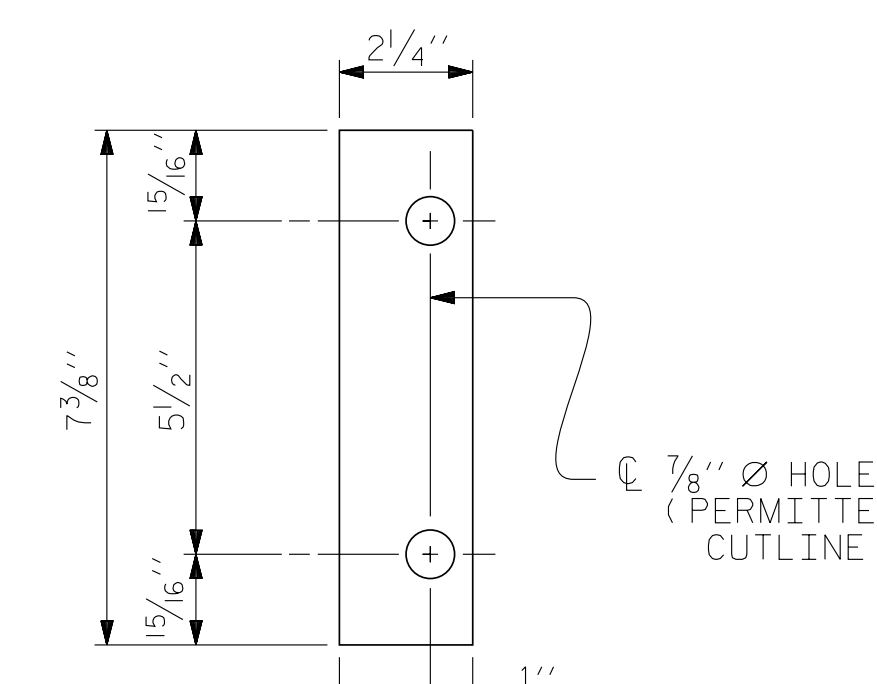
EXPANSION BAR DETAILS



BAR SECTION



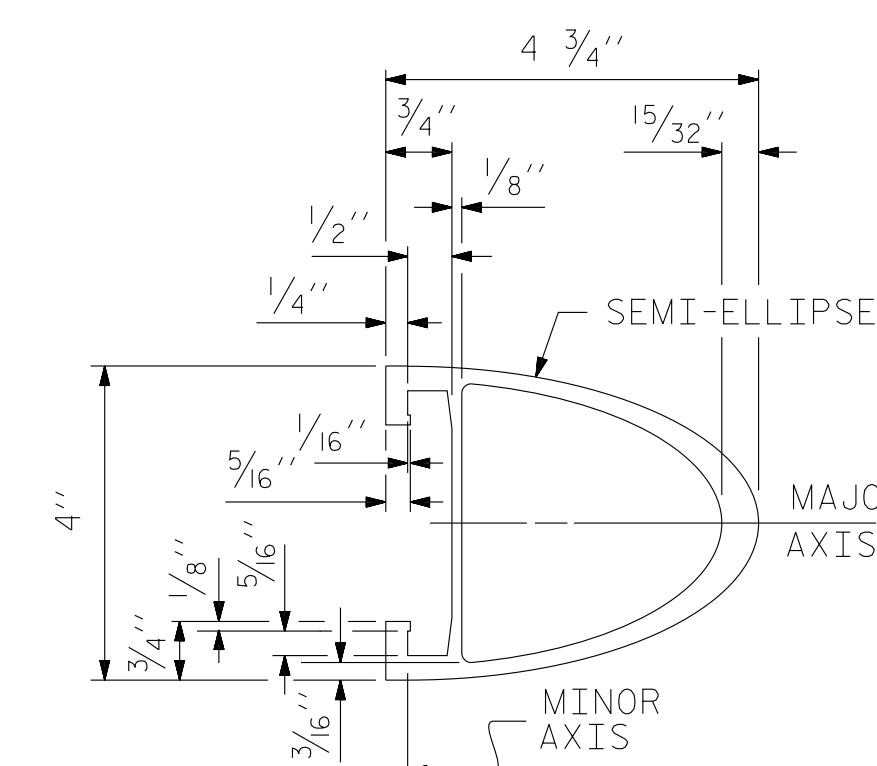
FRONT PLATE



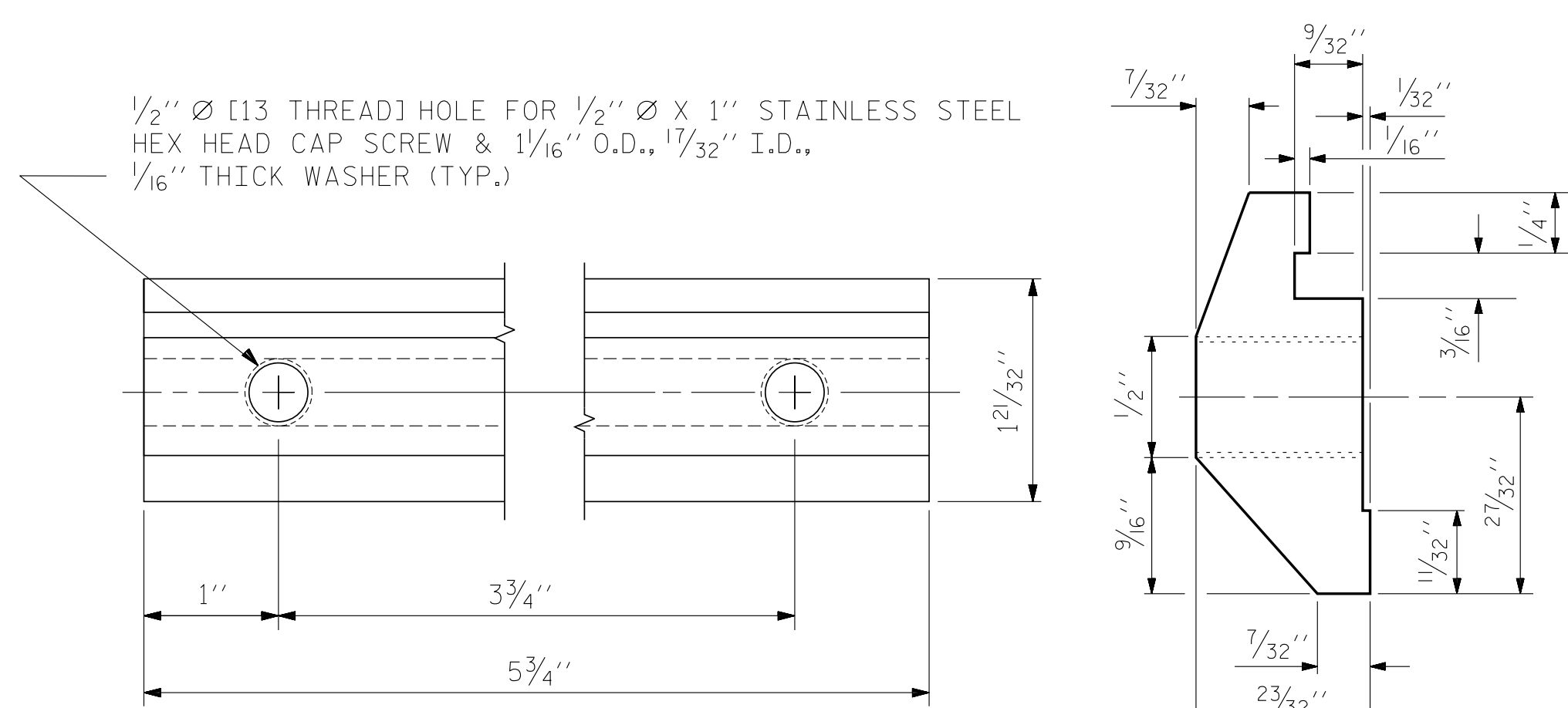
REAR PLATE

SHIM DETAILS

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

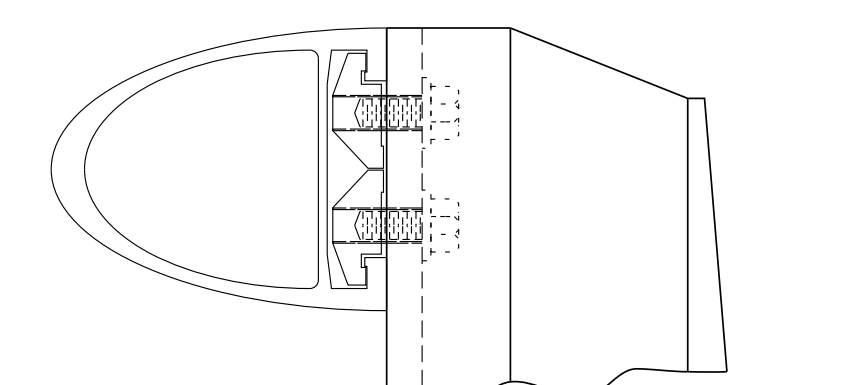


RAIL SECTION

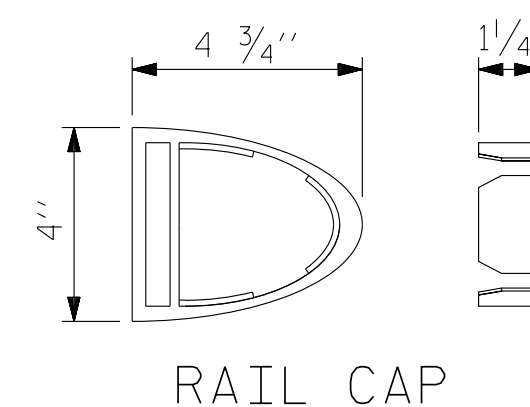


CLAMP BAR DETAIL

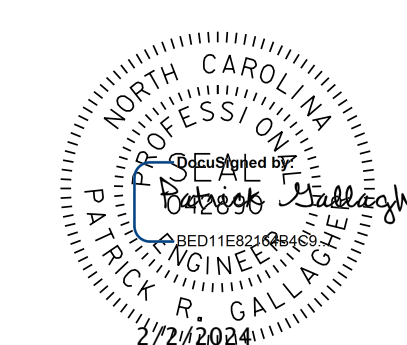
(4 REQUIRED PER POST)



CLAMP ASSEMBLY



RAIL CAP



PROJECT NO. B-4926

LENOIR COUNTY

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SHEET 2 OF 2

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

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STD. NO. BMR4

DWN. BY: WDC DATE: 03/2023
 CHKD. BY: PRG DATE: 03/2023
 DES. EGR. OF RECORD: PRG DATE: 03/2023

DRAWN BY : EEM 6/94
 CHECKED BY : RGW 6/94

REV. 10/1/11 MAA/GM
 REV. 12/17 MAA/THC
 REV. 10/23 BNB/SNM

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 METAL RAIL SHEET).
 - E. 1/2" Ø PIPE SLEEVES (IF REQUIRED) TO BE GALVANIZED.

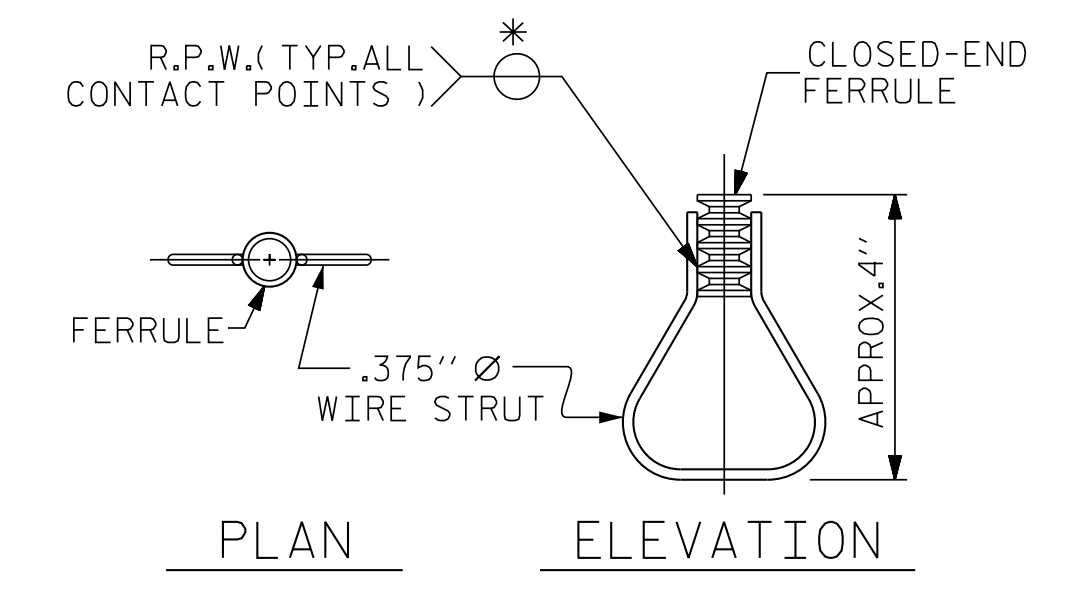
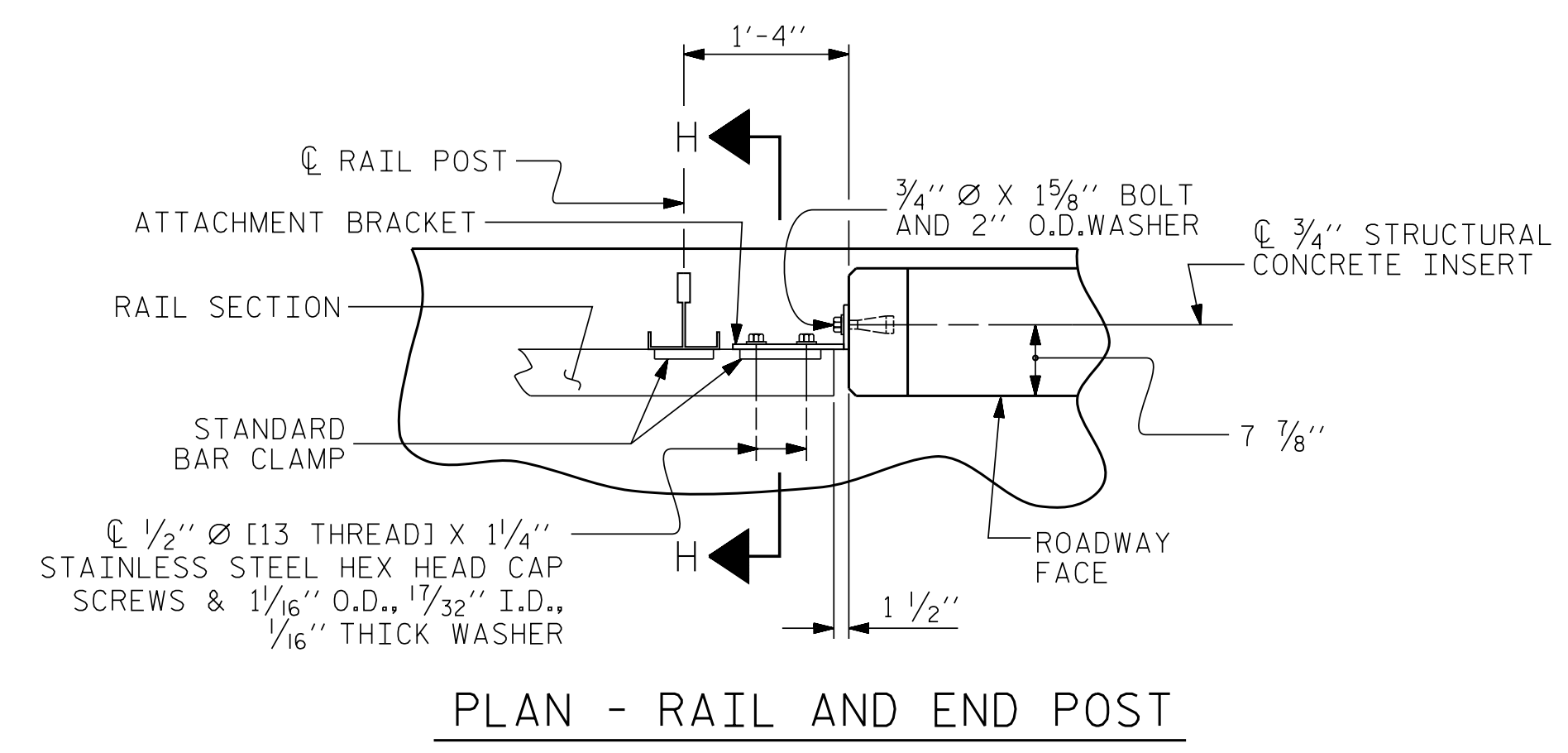
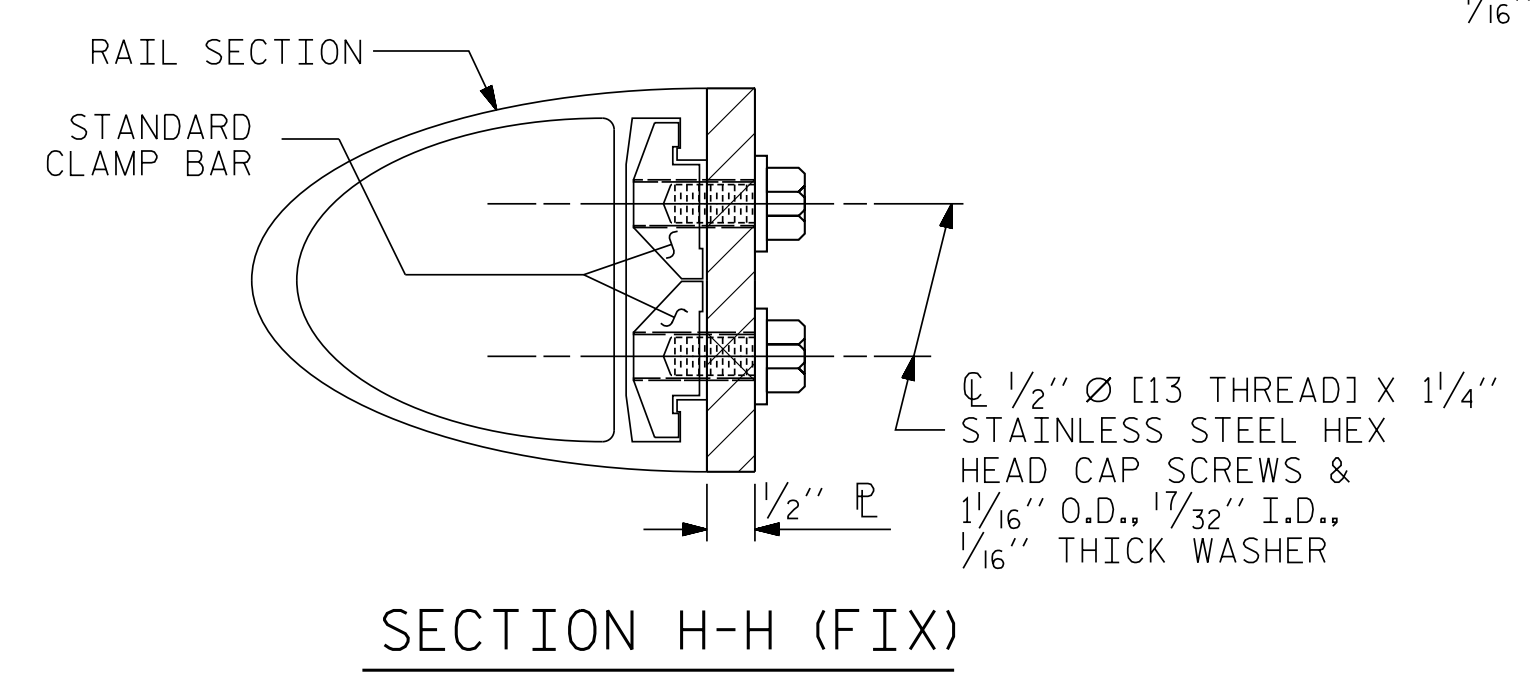
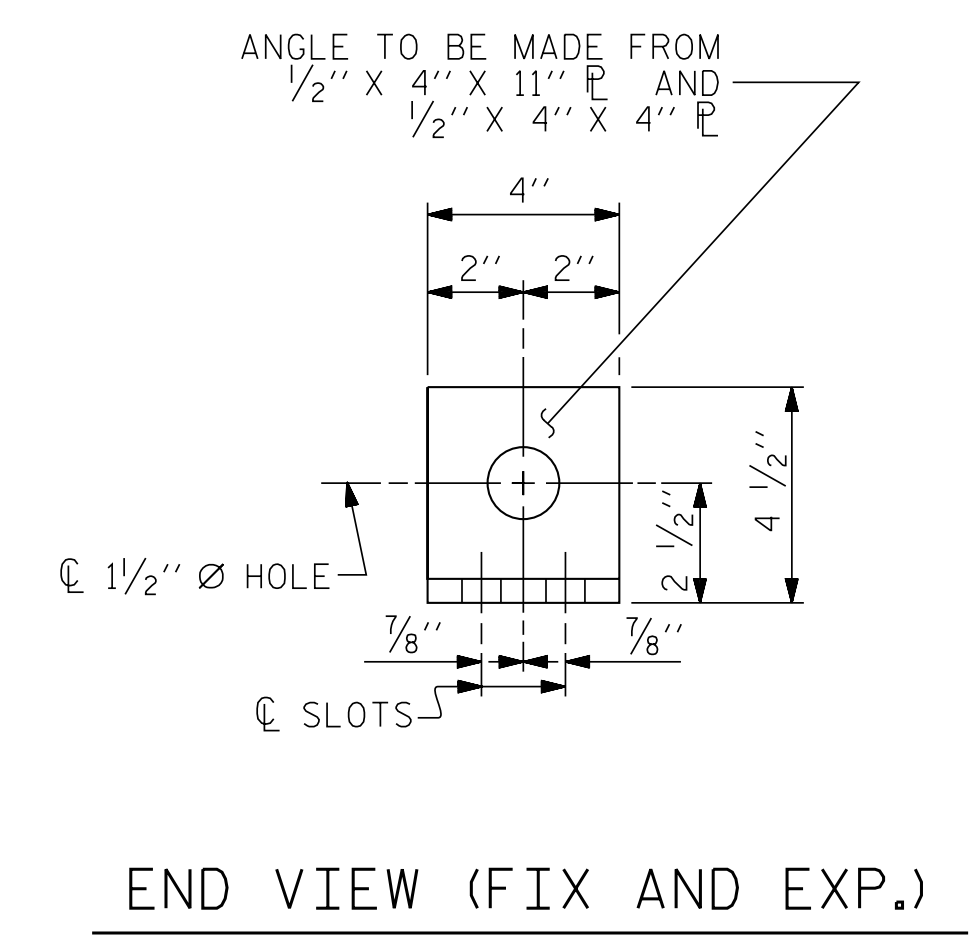
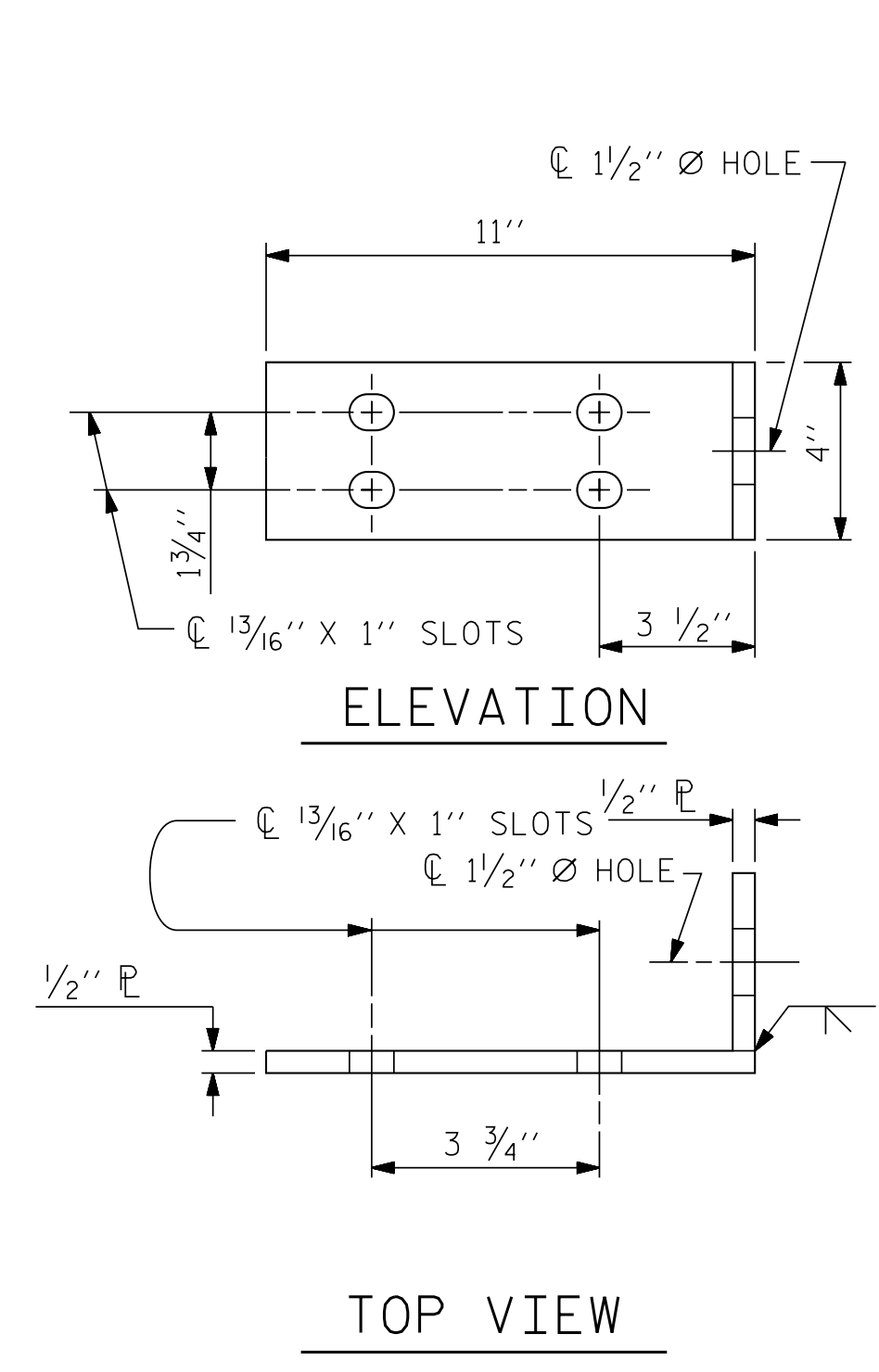
THE COST OF THE STANDARD CLAMP BARS AND CAP SCREWS USED IN THE METAL RAIL TO END POST CONNECTION SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR LINEAR FEET OF 1 OR 2 BAR METAL RAILS.

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.

SEE SHEET 1 OF 2 FOR RAIL POST SPACING

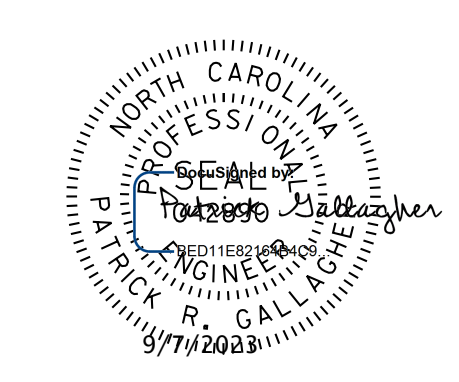


STRUCTURAL CONCRETE INSERT

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

PROJECT NO. B-4926
LENOIR COUNTY
 STATION: 25+45.00 -L-

SHEET 2 OF 2



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

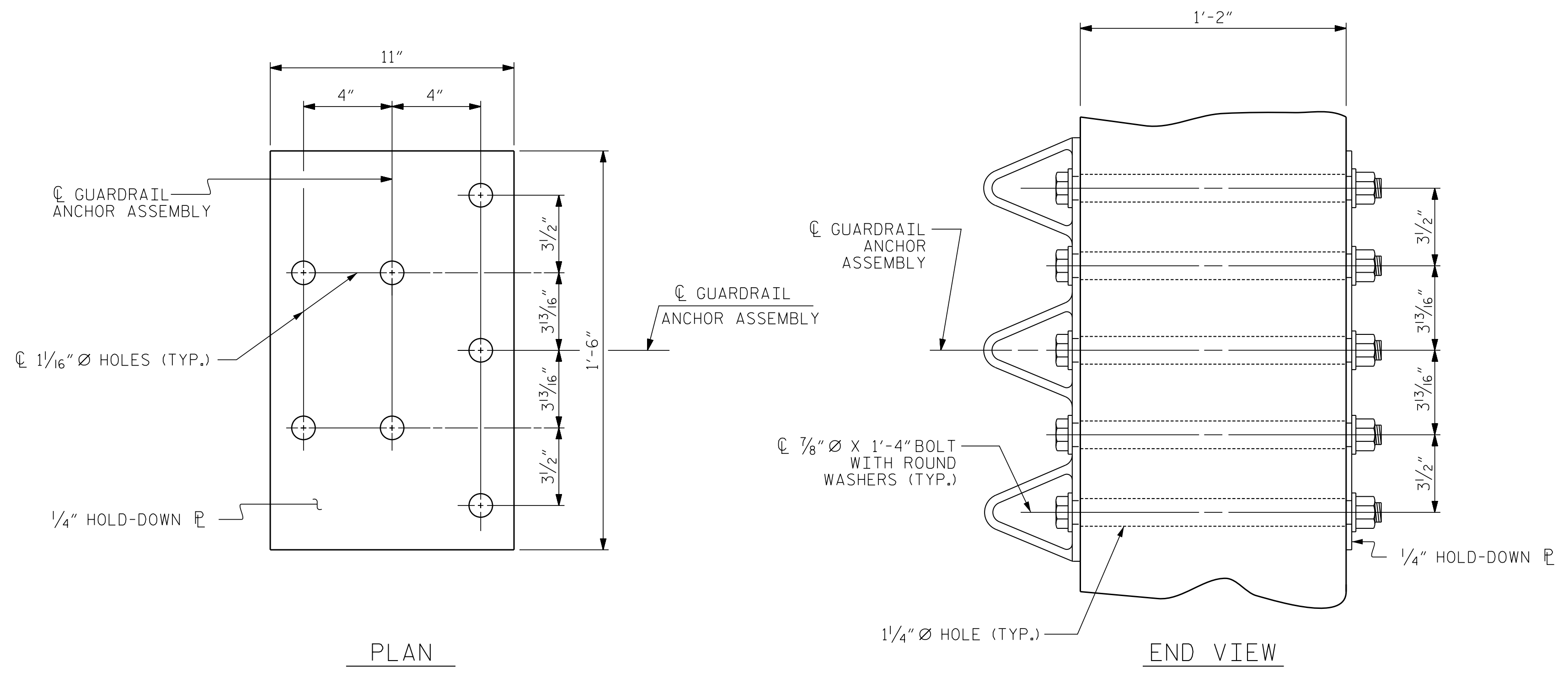
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REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-26	
1			3			TOTAL SHEETS	
2			4			49	

DETAILS FOR ATTACHING METAL RAIL TO END POST

DWN. BY: WDC	DATE: 03/2023	DRAWN BY: FCJ 1/88	REV. 5/1/06	TLA/GM
CHKD. BY: PRG	DATE: 03/2023	CHECKED BY: CRK 3/89	REV. 10/1/11	MAA/GM
DES. EGR. OF RECORD: PRG	DATE: 03/2023		REV. 12/17	MAA/THC



GUARDRAIL ANCHOR ASSEMBLY DETAILS

NOTES

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

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

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

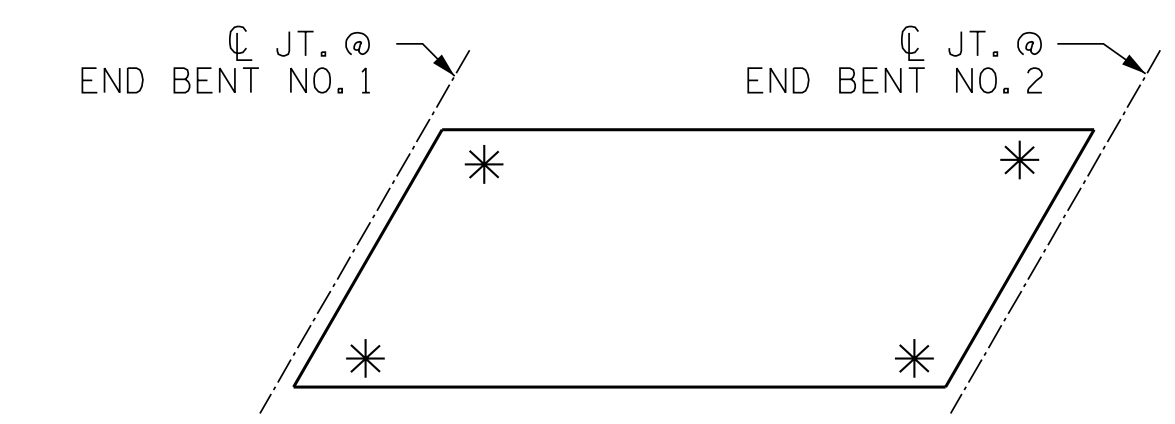
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF THE PARAPET. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

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

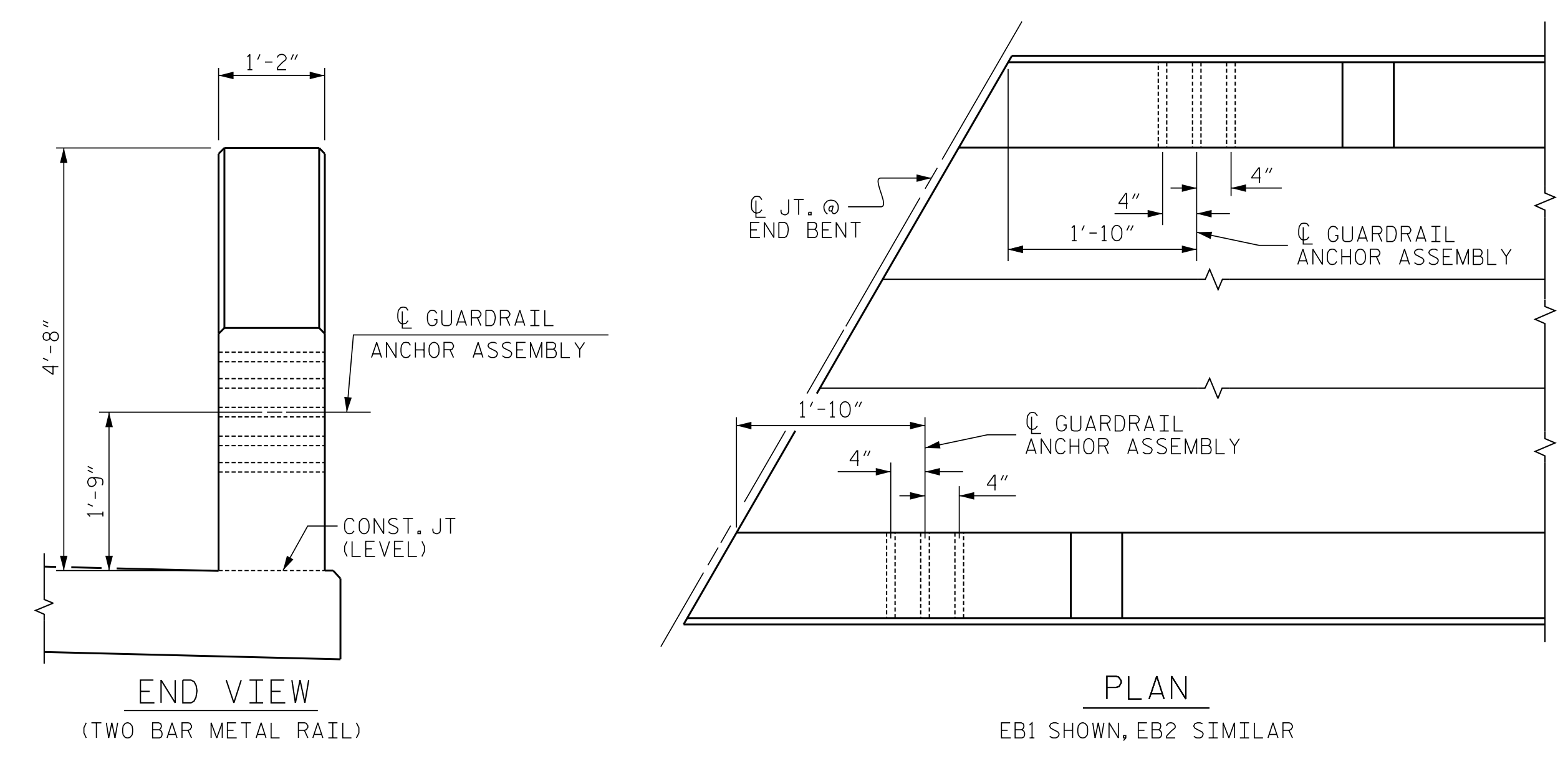
THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE END POST TO CLEAR ASSEMBLY BOLTS.

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



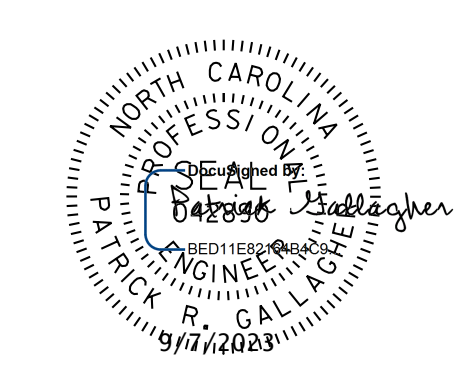
SKETCH SHOWING POINTS OF ATTACHMENT

* LOCATION OF GUARDRAIL ATTACHMENT



LOCATION OF GUARDRAIL ANCHOR AT END POST

PROJECT NO. B-4926
LENOIR COUNTY
 STATION: 25+45.00 -L-



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

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-29
1			3			TOTAL SHEETS
2			4			49

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 TIME: 01:33

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CHKD. BY: PRG	DATE: 03/2023	CHECKED BY: GM	5/10	REV. 12/17	MAA/THC
DES. EGR. OF RECORD: PRG	DATE: 03/2023			REV. 5/18	MAA/THC

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

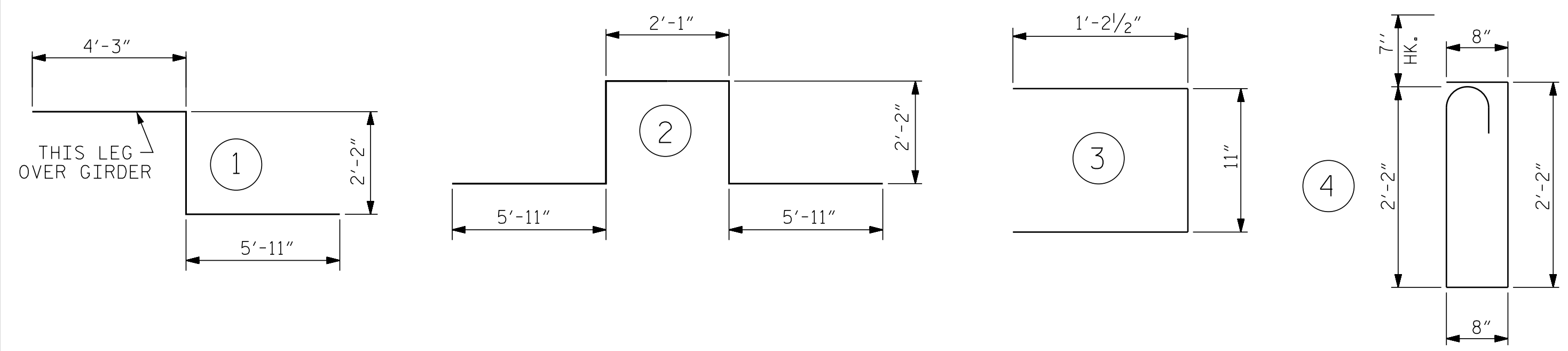
BAR SIZE	SUPERSTRUCTURE EXCEPT APPROACH SLABS, PARAPET, AND BARRIER RAIL		APPROACH SLABS		PARAPET AND BARRIER RAIL
	EPOXY COATED	UNCOATED	EPOXY COATED	UNCOATED	
#4	1'-11"	1'-7"	1'-11"	1'-7"	2'-6"
#5	2'-5"	2'-0"	2'-5"	2'-0"	3'-1"
#6	2'-10"	2'-5"	3'-7"	2'-5"	3'-8"
#7	4'-2"	2'-9"			
#8	4'-9"	3'-2"			

BILL OF MATERIAL

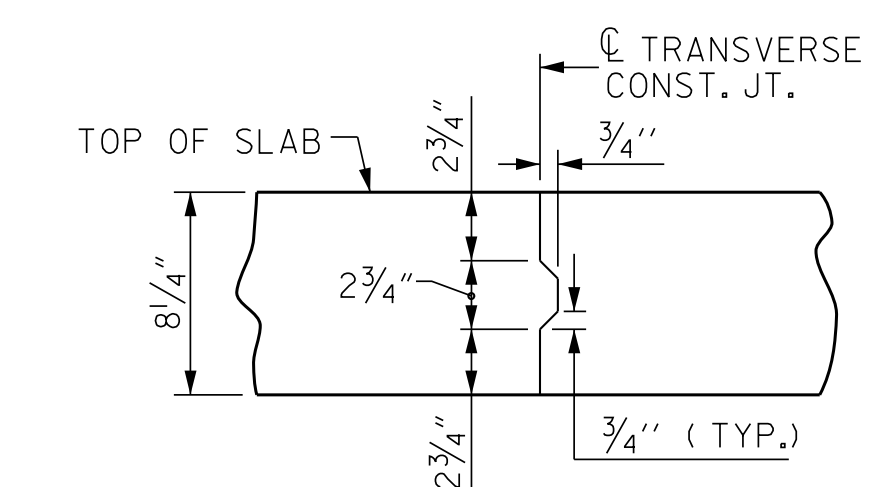
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	974	#5	STR	35'-3"	35,810	B1	160	#5	STR	32'-7"	5,438
A2	974	#5	STR	35'-3"	35,810	B2	200	#5	STR	55'-0"	11,473
*A101	6	#5	STR	30'-7"	191	B3	170	#4	STR	46'-0"	5,224
*A102	6	#5	STR	24'-6"	153	B4	160	#5	STR	39'-0"	6,508
*A103	6	#5	STR	18'-5"	115	*B5	144	#4	STR	30'-3"	2,910
*A104	6	#5	STR	12'-4"	77	*B6	360	#5	STR	33'-3"	12,485
*A105	6	#5	STR	6'-4"	40	*B7	175	#5	STR	37'-0"	6,753
*A106	4	#5	STR	2'-3"	9	*B8	144	#4	STR	29'-10"	2,870
A201	6	#5	STR	30'-7"	191						
A202	6	#5	STR	24'-6"	153	*G1	2	#5	STR	36'-6"	76
A203	6	#5	STR	18'-5"	115						
A204	6	#5	STR	12'-4"	77	*K1	8	#8	1	12'-4"	263
A205	6	#5	STR	6'-4"	40	*K2	12	#8	2	18'-3"	585
A206	4	#5	STR	2'-3"	9	*K3	16	#6	STR	5'-5"	130
					*S1		48	#5	4	6'-3"	313
					*S2		48	#4	3	3'-4"	107
										REINFORCING STEEL	65,038 LBS.
										*EPOXY COATED REINF. STEEL	62,887 LBS.

QUANTITIES FOR PARAPETS AND END POSTS ARE NOT INCLUDED.

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

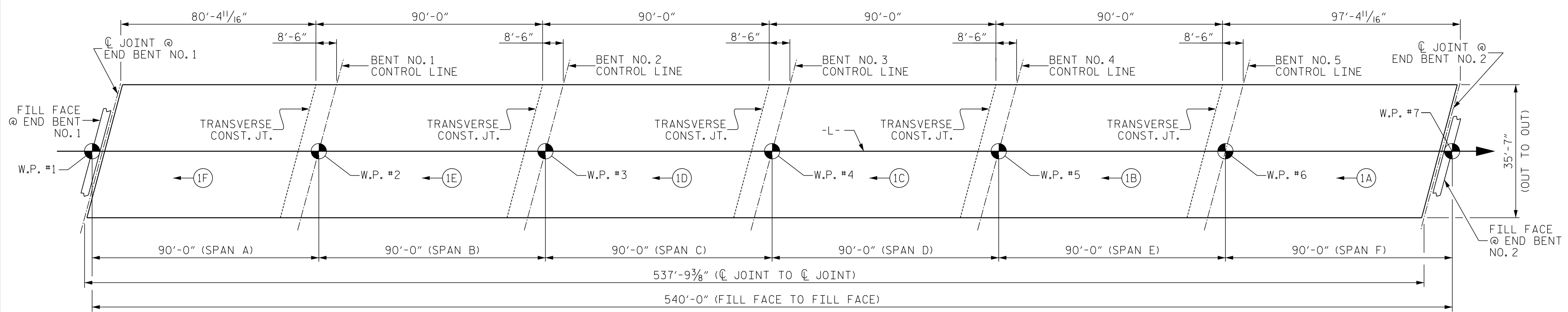


TRANSVERSE CONSTRUCTION JOINT DETAIL

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

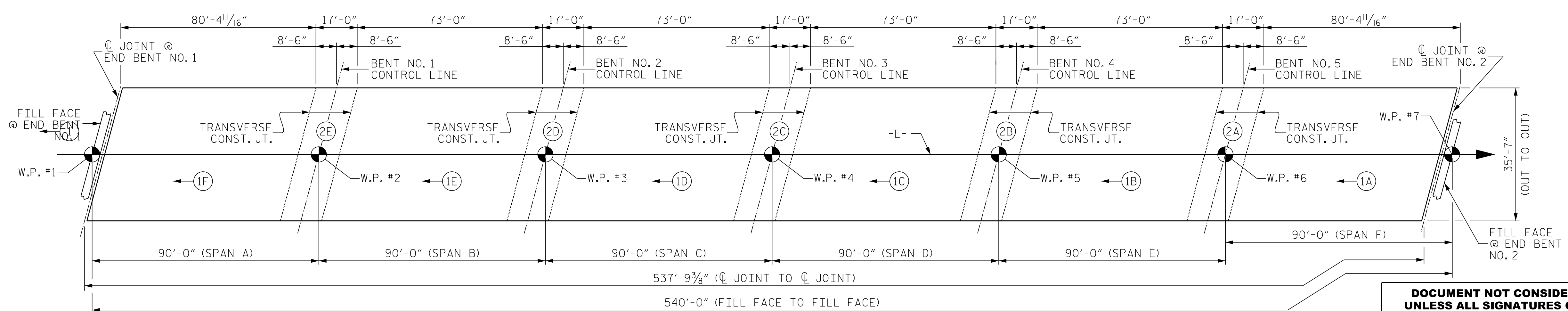
SUPERSTRUCTURE BILL OF MATERIAL

	CLASS AA CONCRETE (CU. YDS.)	REINFORCING STEEL (LBS.)	EPOXY COATED REINFORCING STEEL (LBS.)
POUR 1A	105.2	---	---
POUR 1B	95.1	---	---
POUR 1C	95.1	---	---
POUR 1D	95.1	---	---
POUR 1E	95.1	---	---
POUR 1F	87.2	---	---
TOTALS**	572.8	65,038	62,887



POURING SEQUENCE AND LAYOUT FOR COMPUTING AREA OF REINFORCED CONCRETE DECK SLAB

(TOTAL = 19,136 SQ. FT.)

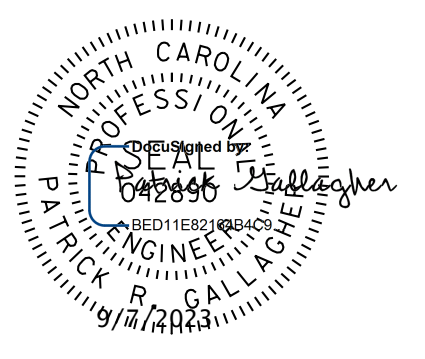


OPTIONAL POURING SEQUENCE

NOTE: POUR 2 SHALL NOT BE STARTED UNTIL BOTH ADJACENT 1 POURS REACH A MINIMUM STRENGTH OF 3000 PSI.

GROOVING BRIDGE FLOORS

APPROACH SLABS	841 SQ.FT.
BRIDGE DECK	16,115 SQ.FT.
TOTAL	16,956 SQ.FT.



PROJECT NO. B-4926
LENOIR COUNTY
 STATION: 25+45.00 -L-

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
BILL OF MATERIAL & POUR SEQUENCE

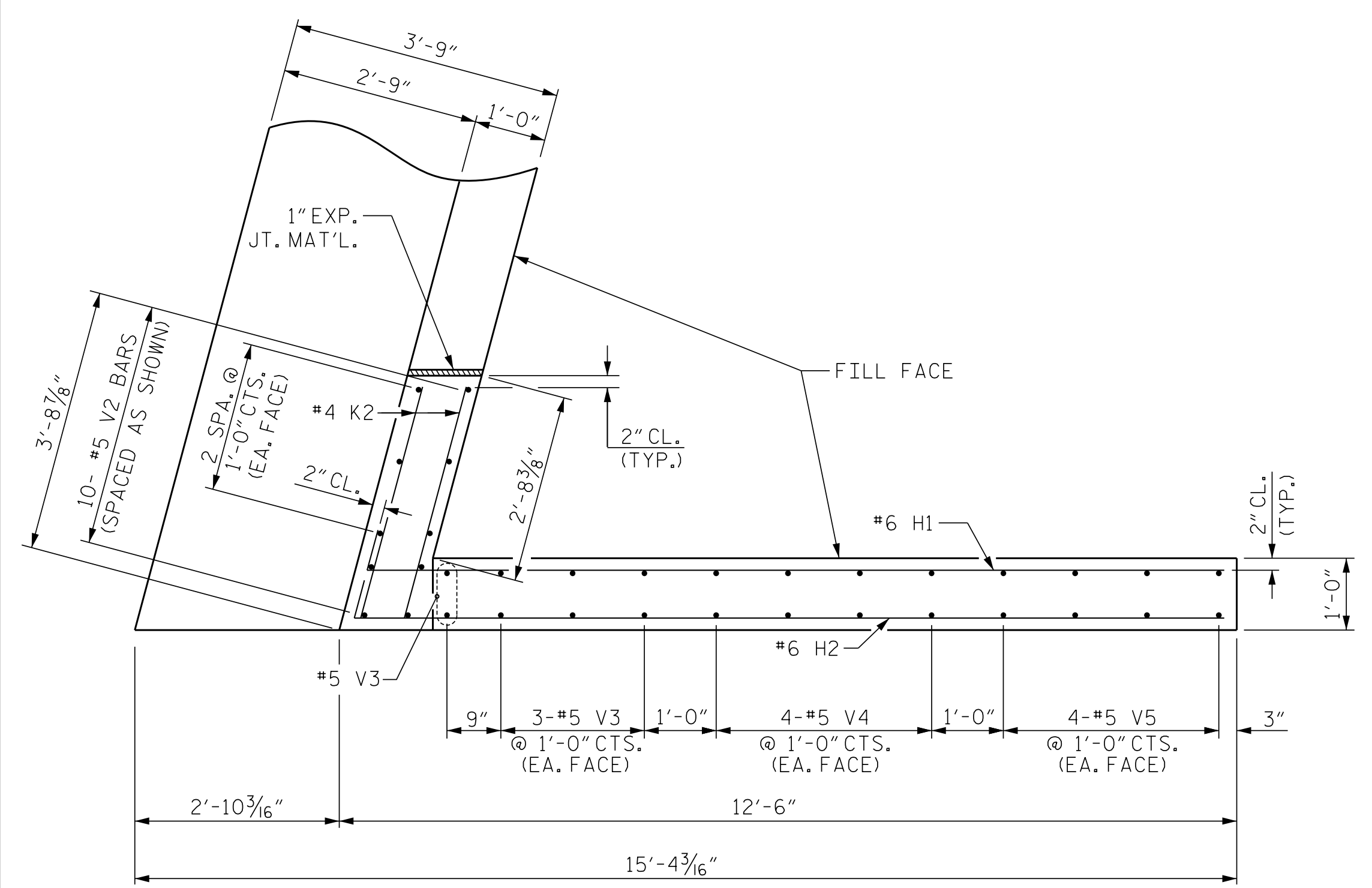
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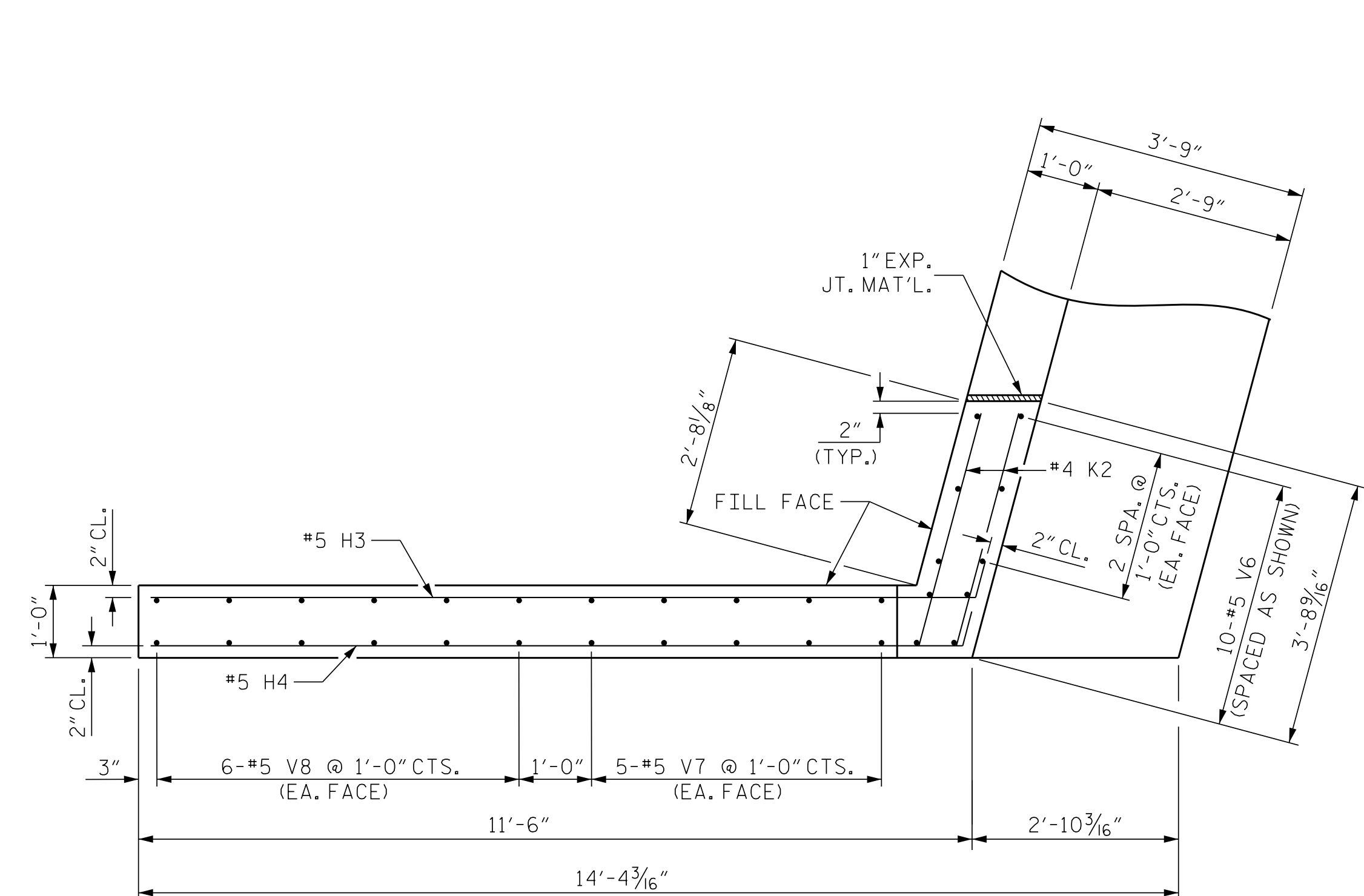
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-30
1			3			TOTAL SHEETS
2			4			49

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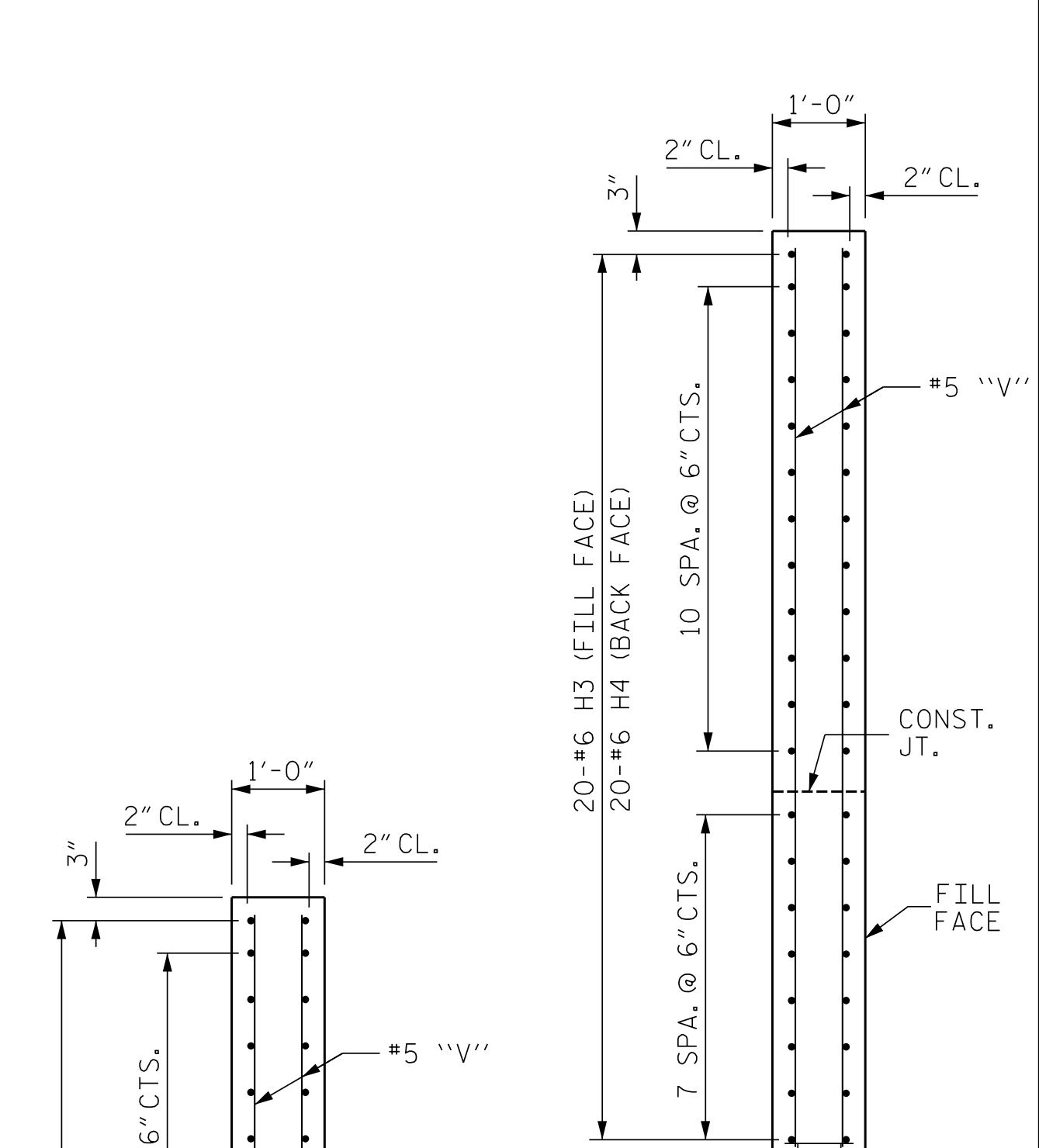
DWN. BY: WDC DATE: 03/2023
 CHKD. BY: PRG DATE: 03/2023
 DES. EGR. OF RECORD: PRG DATE: 03/2023



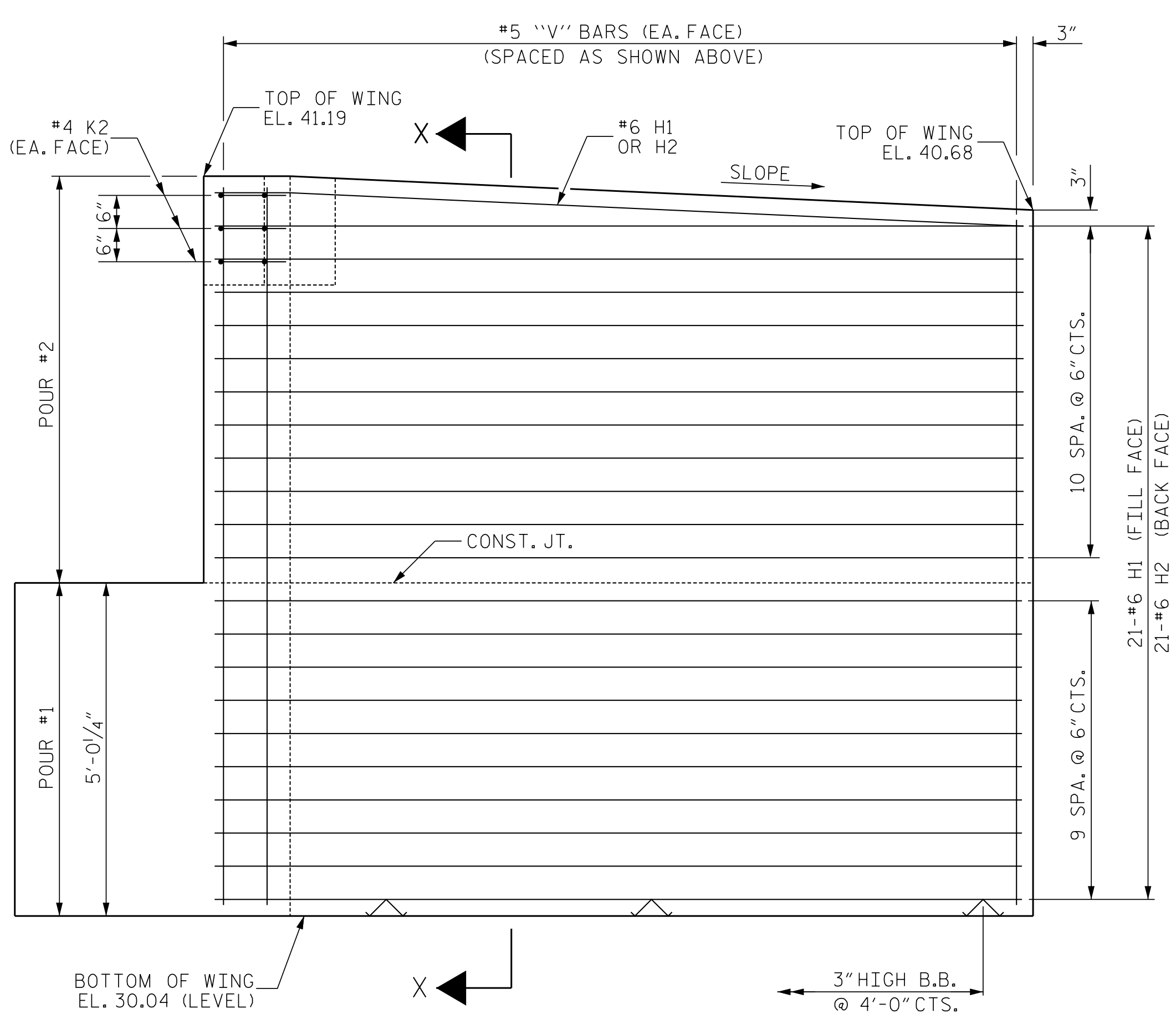
PLAN OF WING (W1)



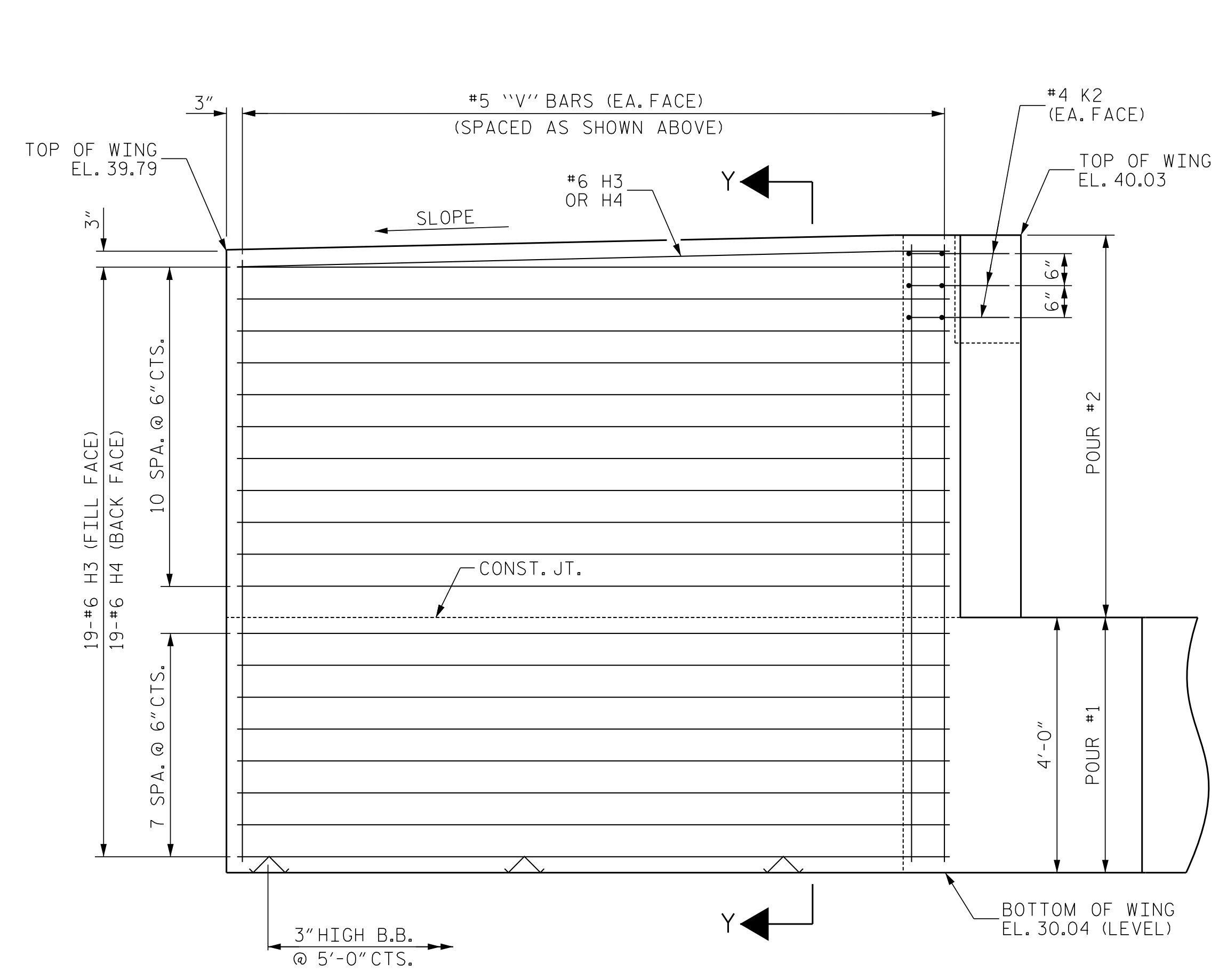
PLAN OF WING (W2)



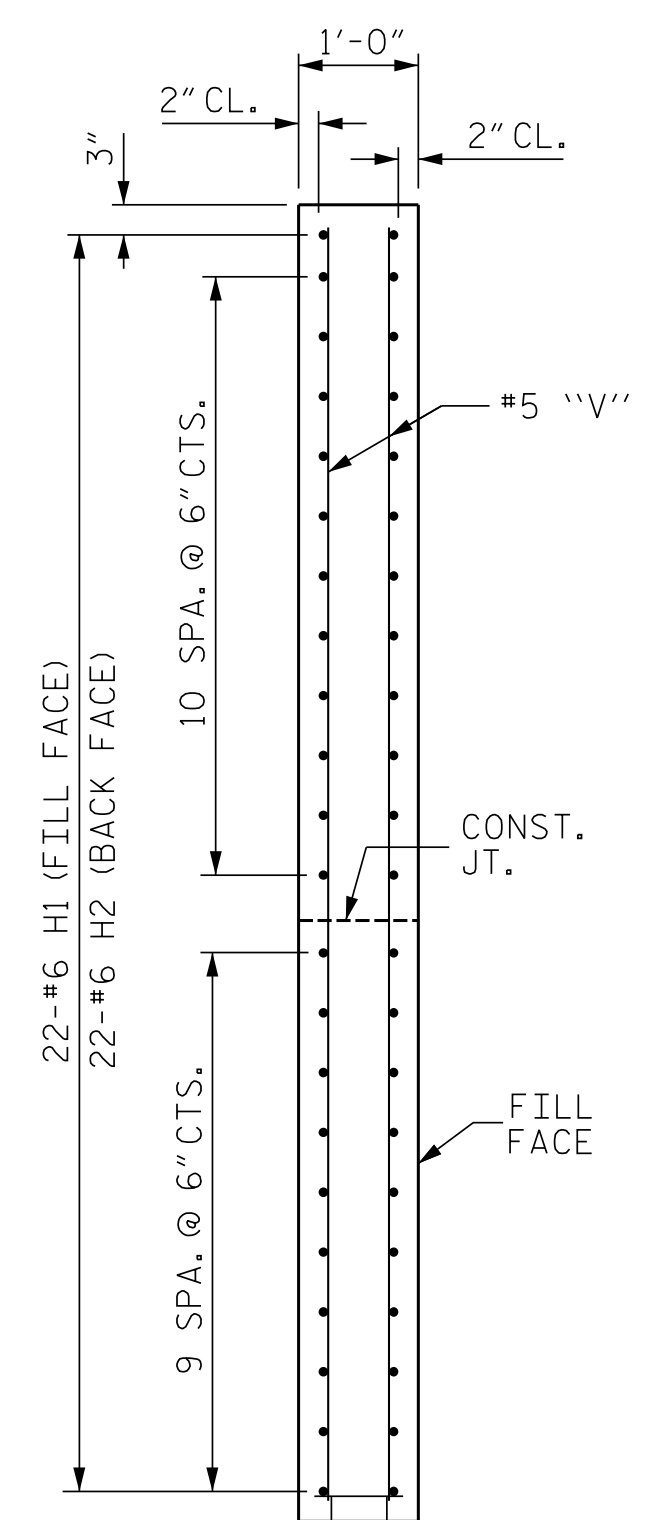
SECTION Y-Y



ELEVATION OF WING (W1)

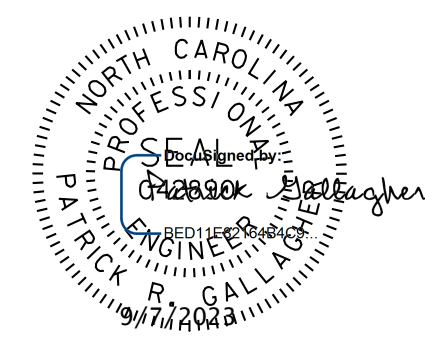


ELEVATION OF WING (W2)



SECTION X-X

PROJECT NO. B-4926
 LENOIR COUNTY
 STATION: 25+45.00 -L-
 SHEET 2 OF 3



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT NO. 1
 WING DETAILS

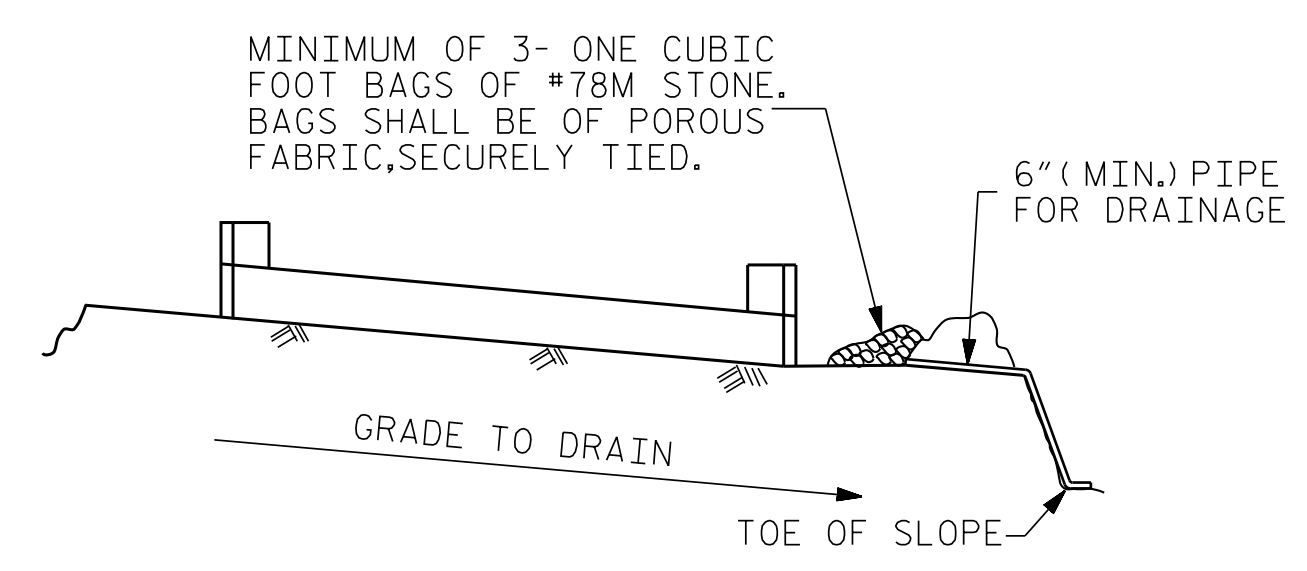
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REVISIONS						SHEET NO. S1-32
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 49
2			4			

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 DATE: 03/2023
 TIME: 01:33 PM on Wednesday, September 06, 2023

DWN. BY: WDC DATE: 03/2023
 CHKD. BY: PRG DATE: 03/2023
 DES. EGR. OF RECORD: PRG DATE: 03/2023

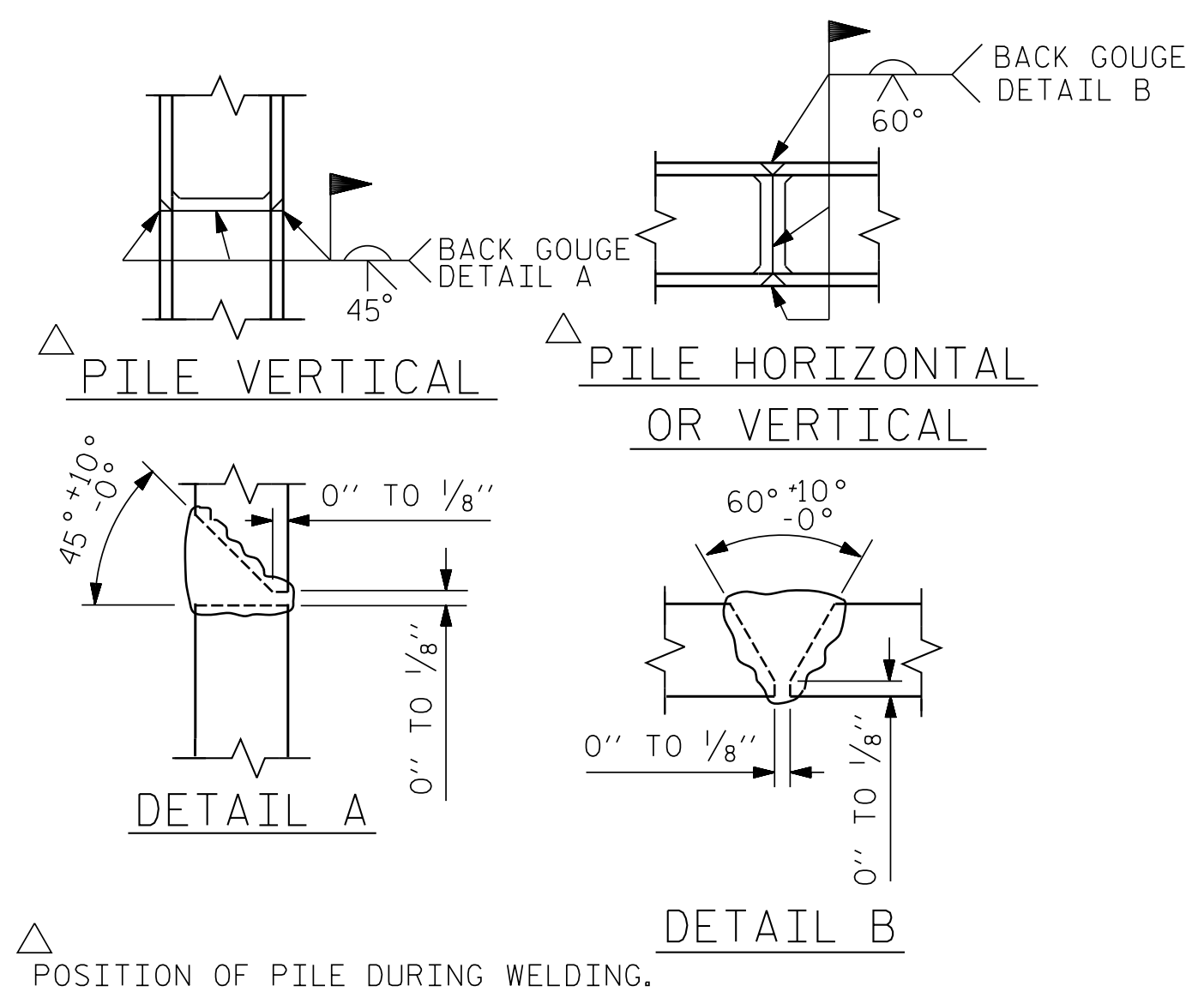


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

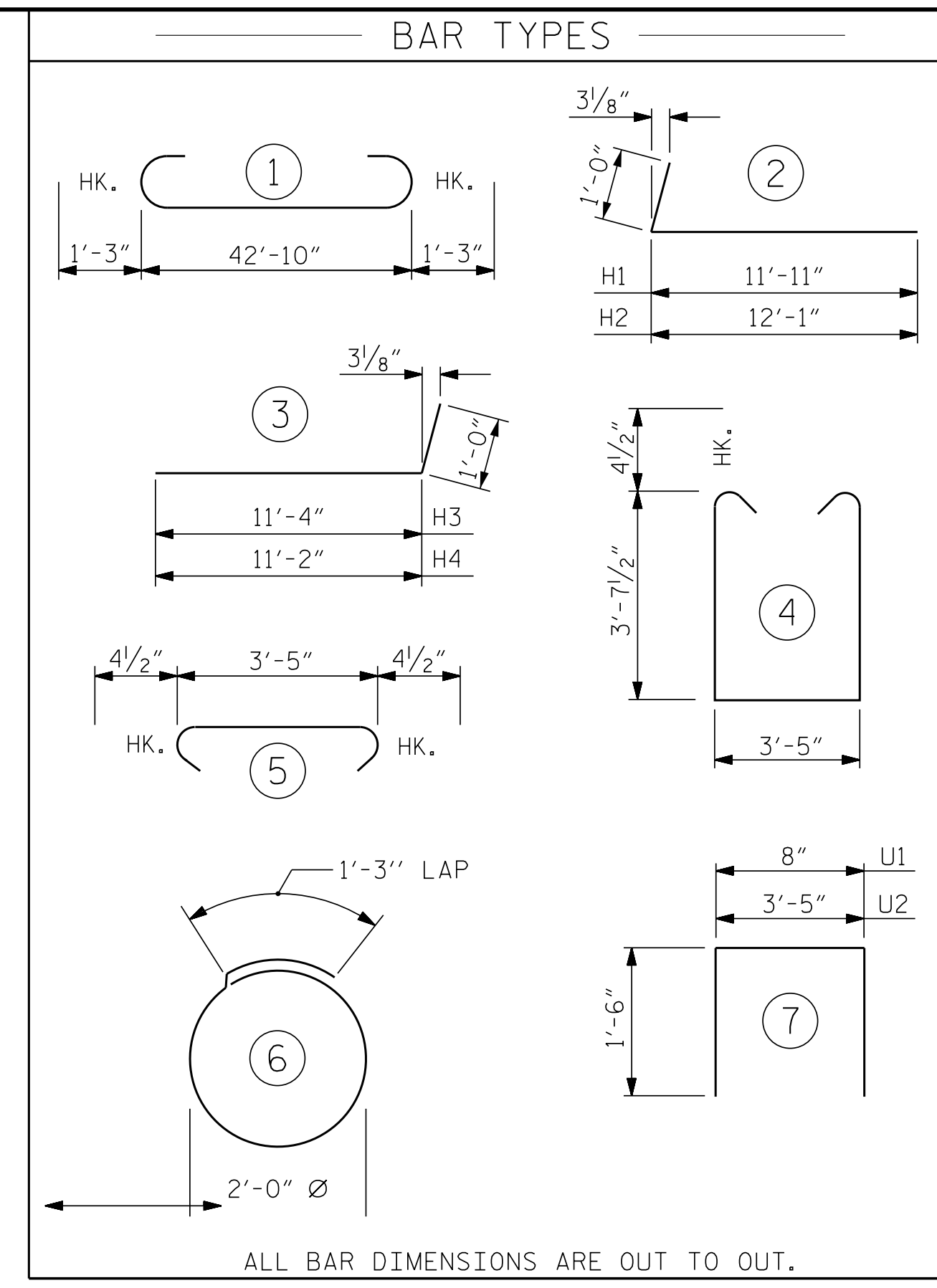
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

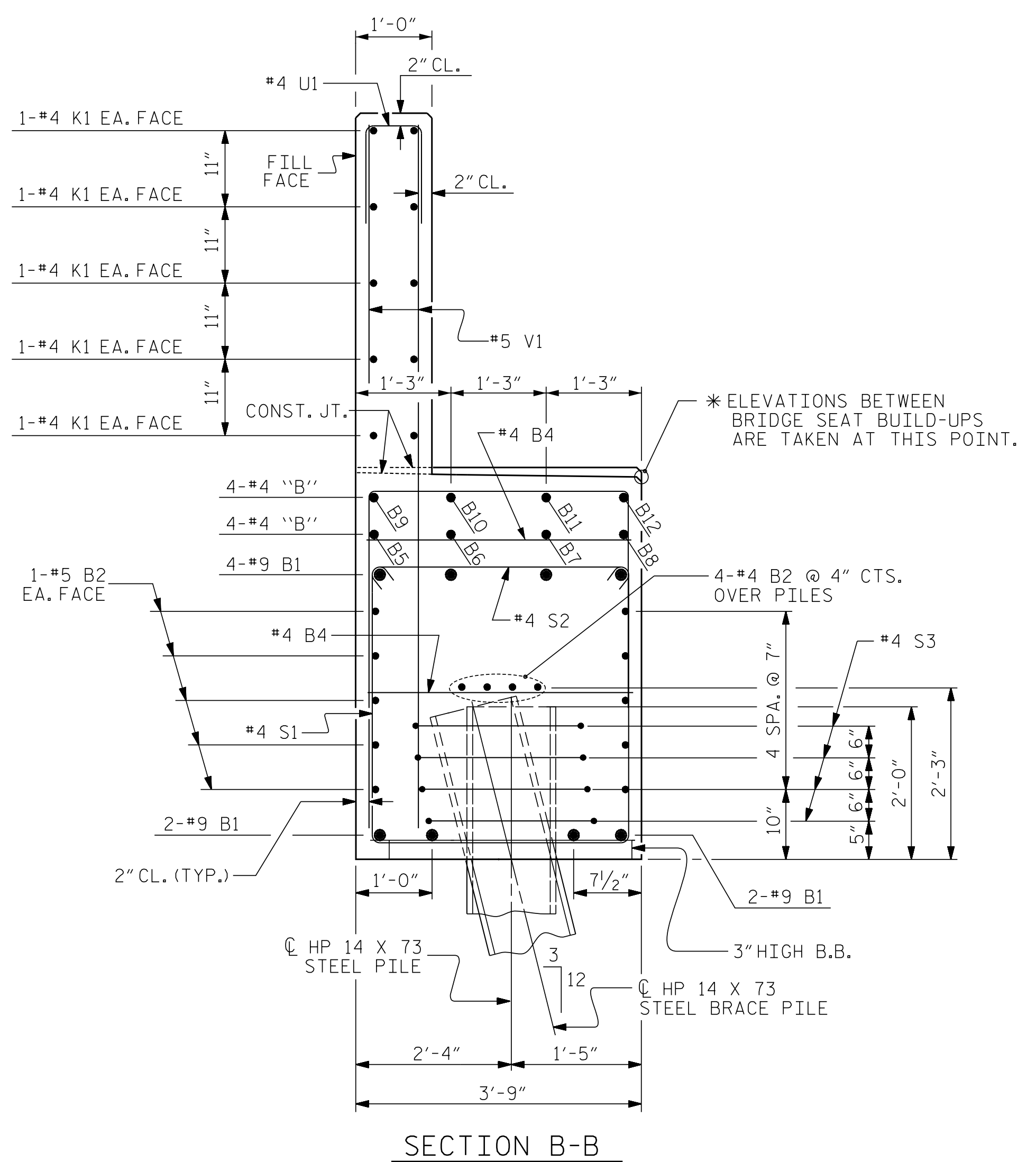


PILE SPLICE DETAILS

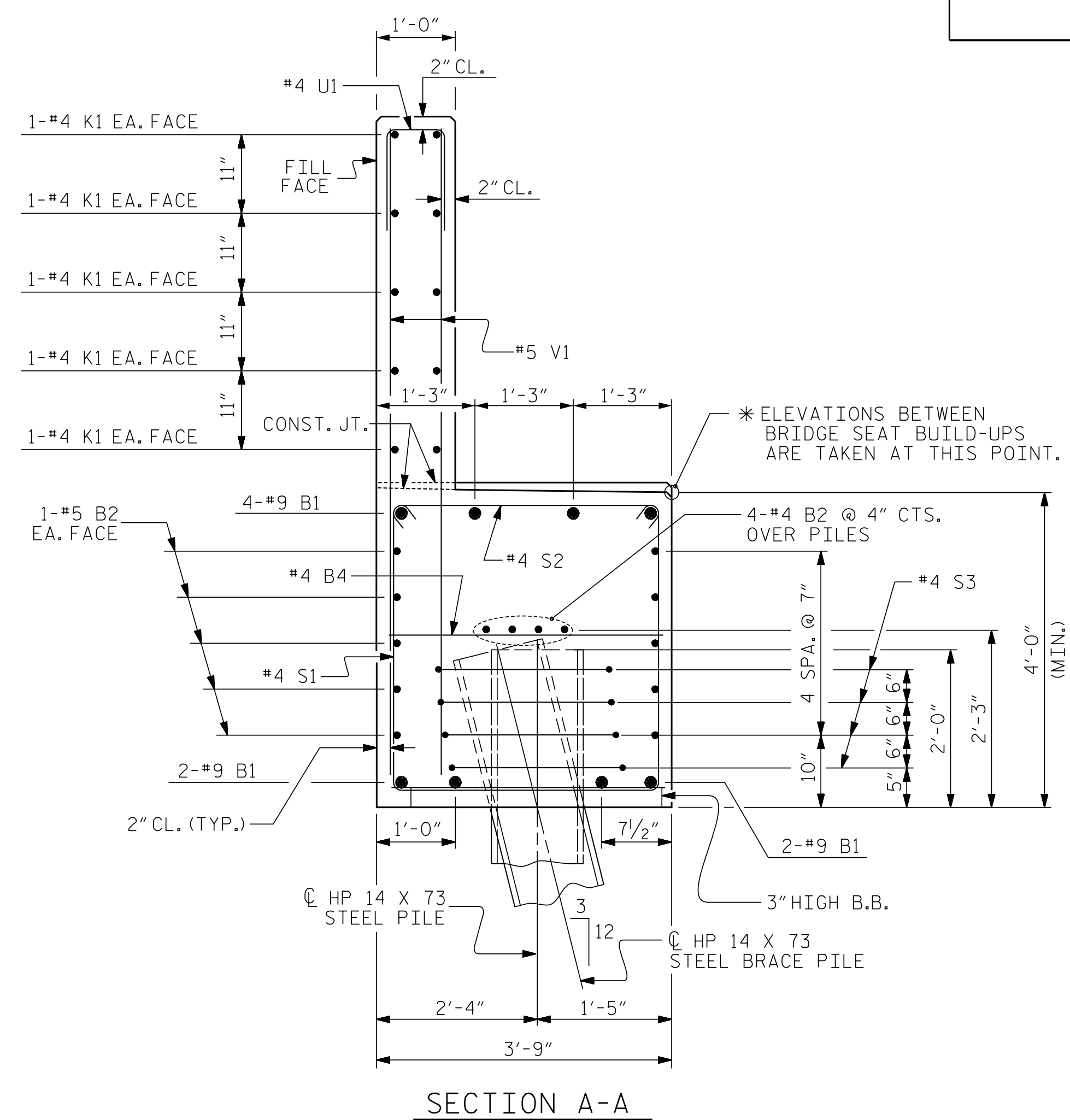


BILL OF MATERIAL					
END BENT NO. 1					
BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	45'-4"	1233
B2	10	#5	STR	42'-10"	447
B3	8	#4	STR	22'-8"	121
B4	14	#4	STR	3'-5"	32
B5	1	#4	STR	23'-8"	16
B6	1	#4	STR	23'-4"	16
B7	1	#4	STR	23'-0"	16
B8	1	#4	STR	22'-9"	15
B9	1	#4	STR	8'-8"	6
B10	1	#4	STR	8'-4"	6
B11	1	#4	STR	8'-0"	5
B12	1	#4	STR	7'-9"	5
H1	22	#6	2	12'-11"	427
H2	22	#6	2	13'-1"	432
H3	20	#6	3	12'-4"	370
H4	20	#6	3	12'-2"	365
K1	20	#4	STR	22'-8"	303
K2	12	#4	STR	3'-4"	27
S1	52	#4	4	11'-5"	397
S2	52	#4	5	4'-2"	145
S3	32	#4	6	7'-7"	162
U1	36	#4	7	3'-8"	88
U2	16	#4	7	6'-5"	69
V1	72	#5	STR	8'-0"	601
V2	10	#5	STR	10'-9"	112
V3	8	#5	STR	10'-8"	89
V4	8	#5	STR	10'-6"	88
V5	8	#5	STR	10'-3"	86
V6	10	#5	STR	9'-7"	100
V7	10	#5	STR	9'-6"	100
V8	12	#5	STR	9'-5"	118

REINFORCING STEEL	5997 LBS.
CLASS A CONCRETE BREAKDOWN	
POUR #1 CAP, LOWER PART OF WINGS & COLLARS	32.4 C.Y.
POUR #2 BACKWALL & UPPER PART OF WINGS	12.3 C.Y.
TOTAL CLASS A CONCRETE	44.7 C.Y.

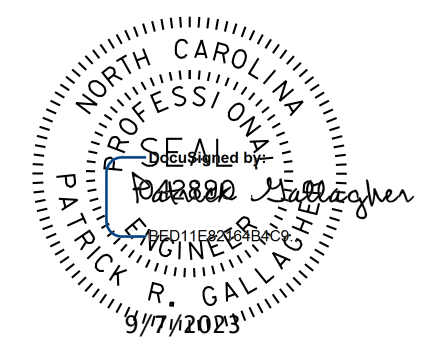


SECTION B-B
(CONCRETE COLLAR NOT SHOWN FOR CLARITY. SEE SHEET 1 OF 3 FOR DETAILS)



SECTION A-A
(CONCRETE COLLAR NOT SHOWN FOR CLARITY. SEE SHEET 1 OF 3 FOR DETAILS)

PROJECT NO. B-4926
LENOIR COUNTY
 STATION: 25+45.00 -L-
 SHEET 3 OF 3



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT NO. 1
 DETAILS

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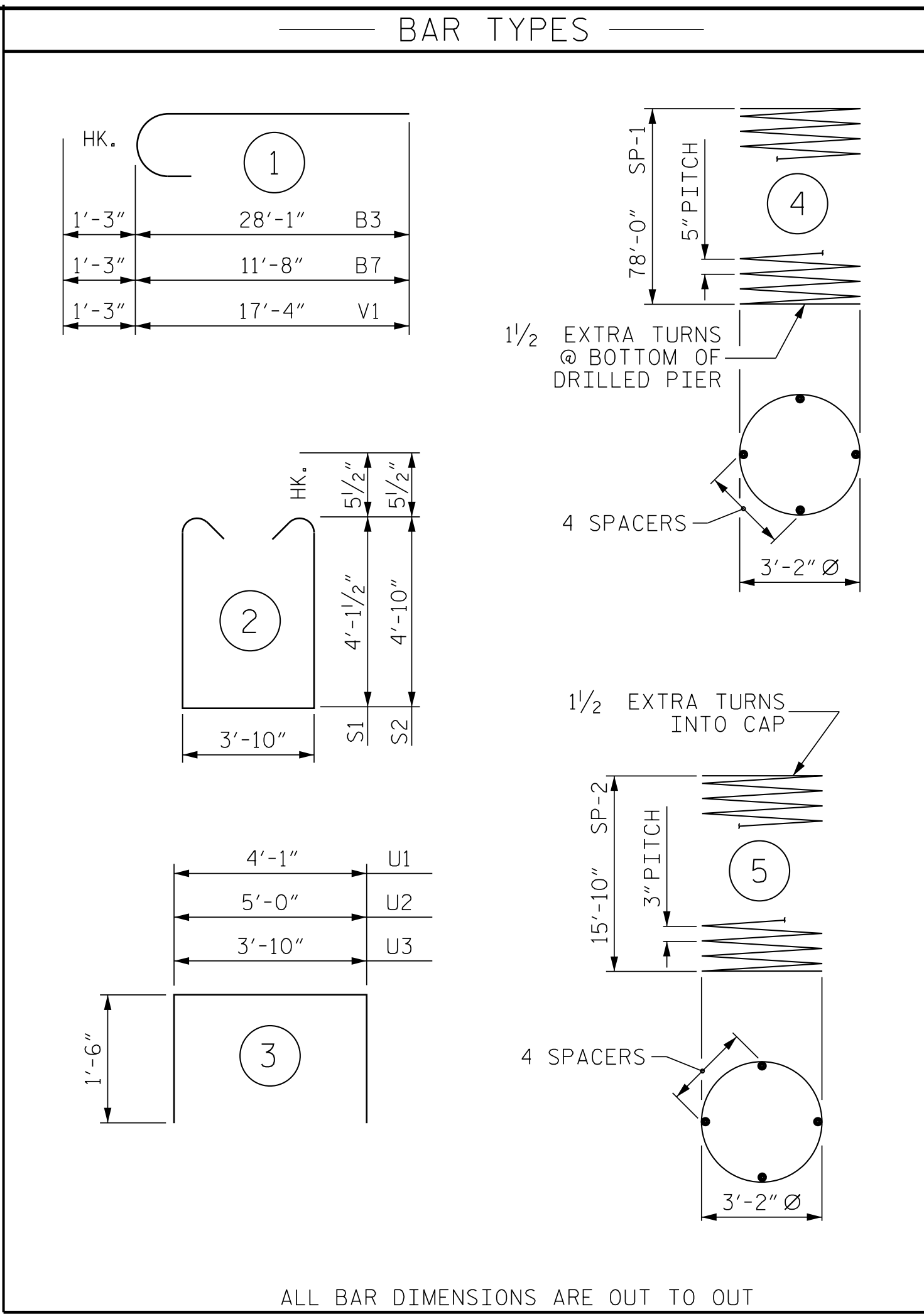
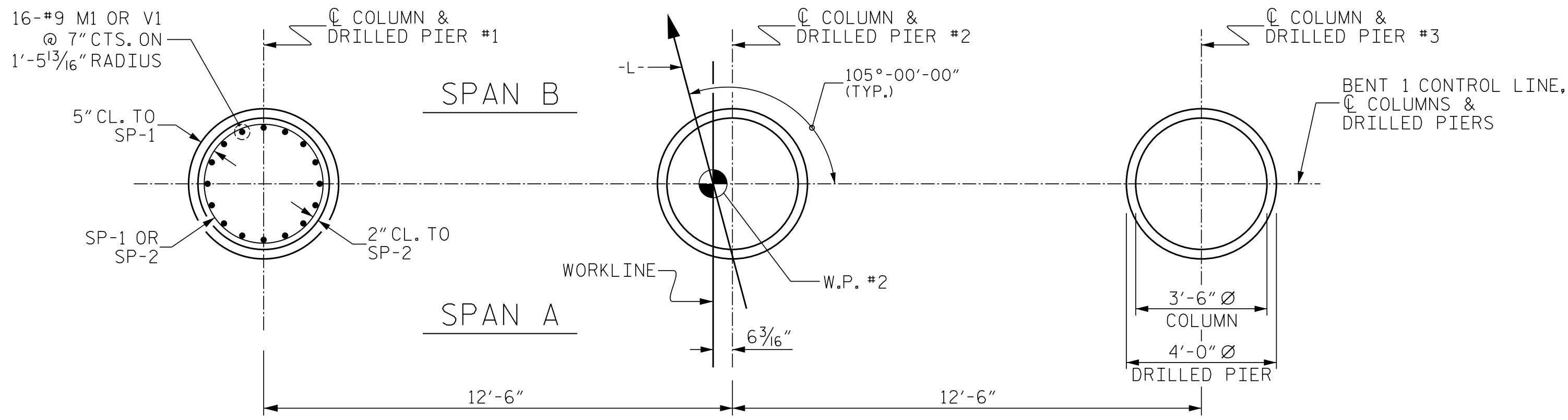
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REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
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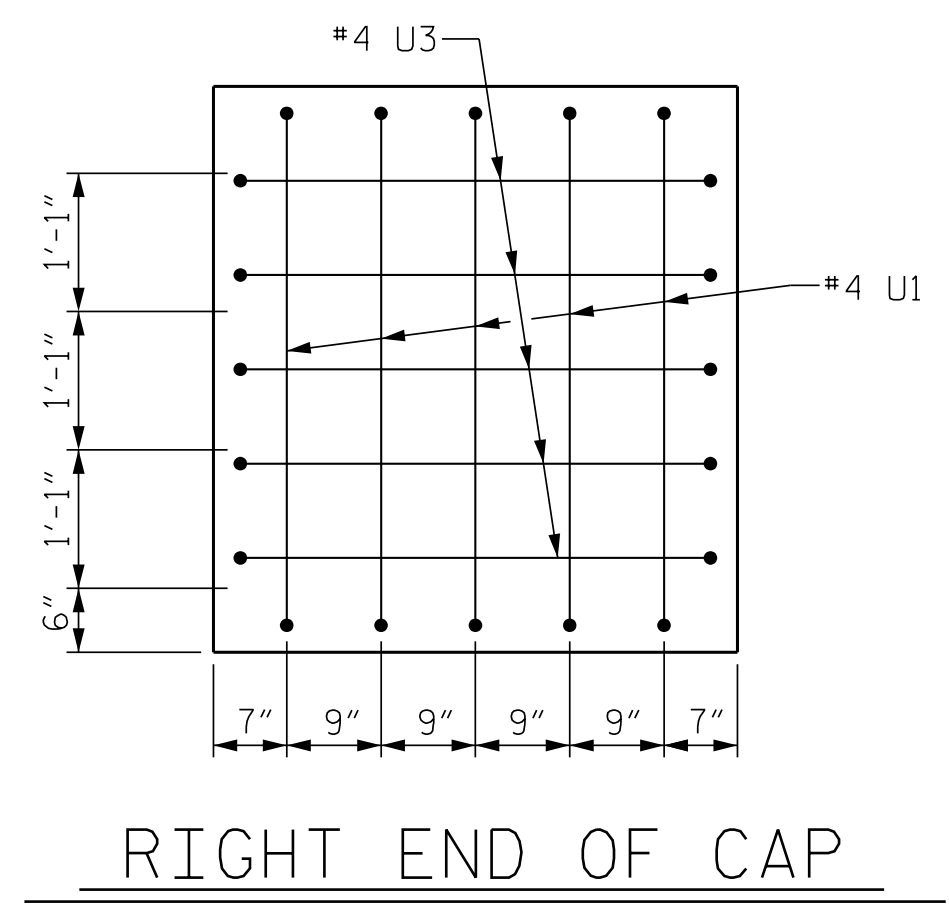
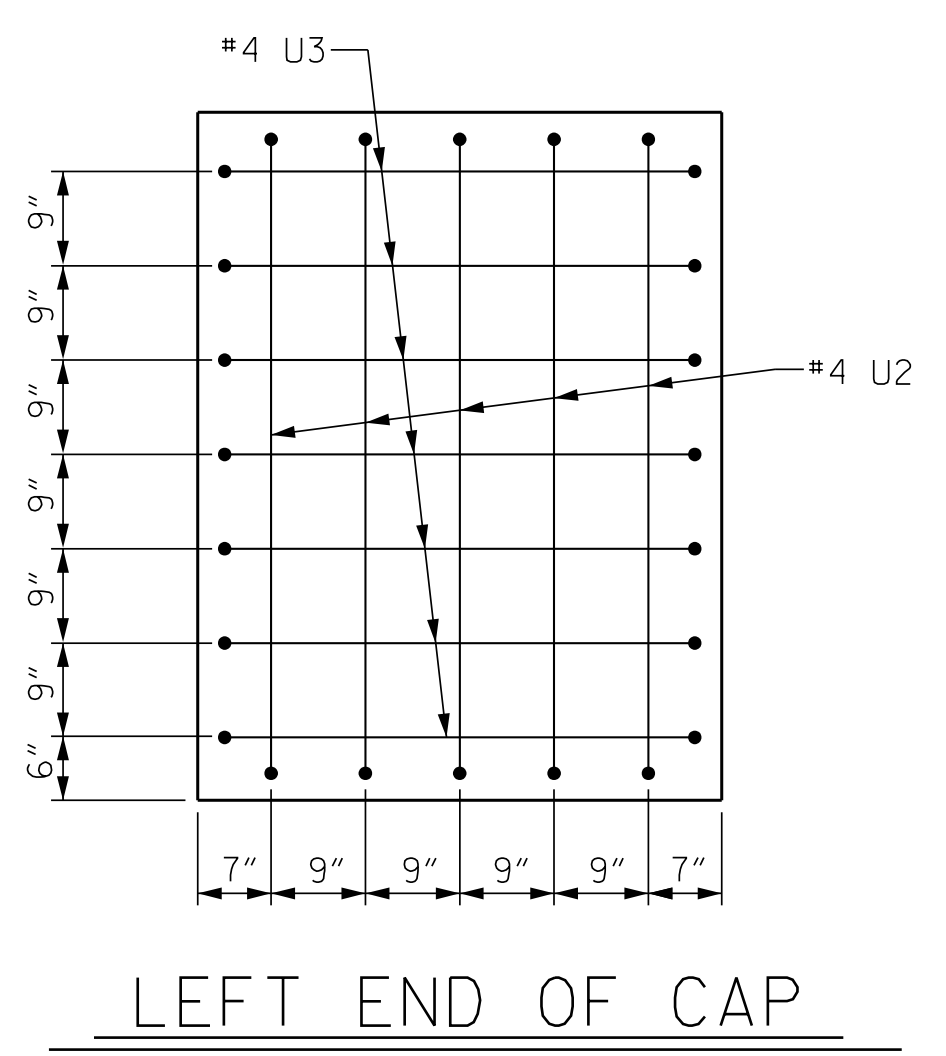
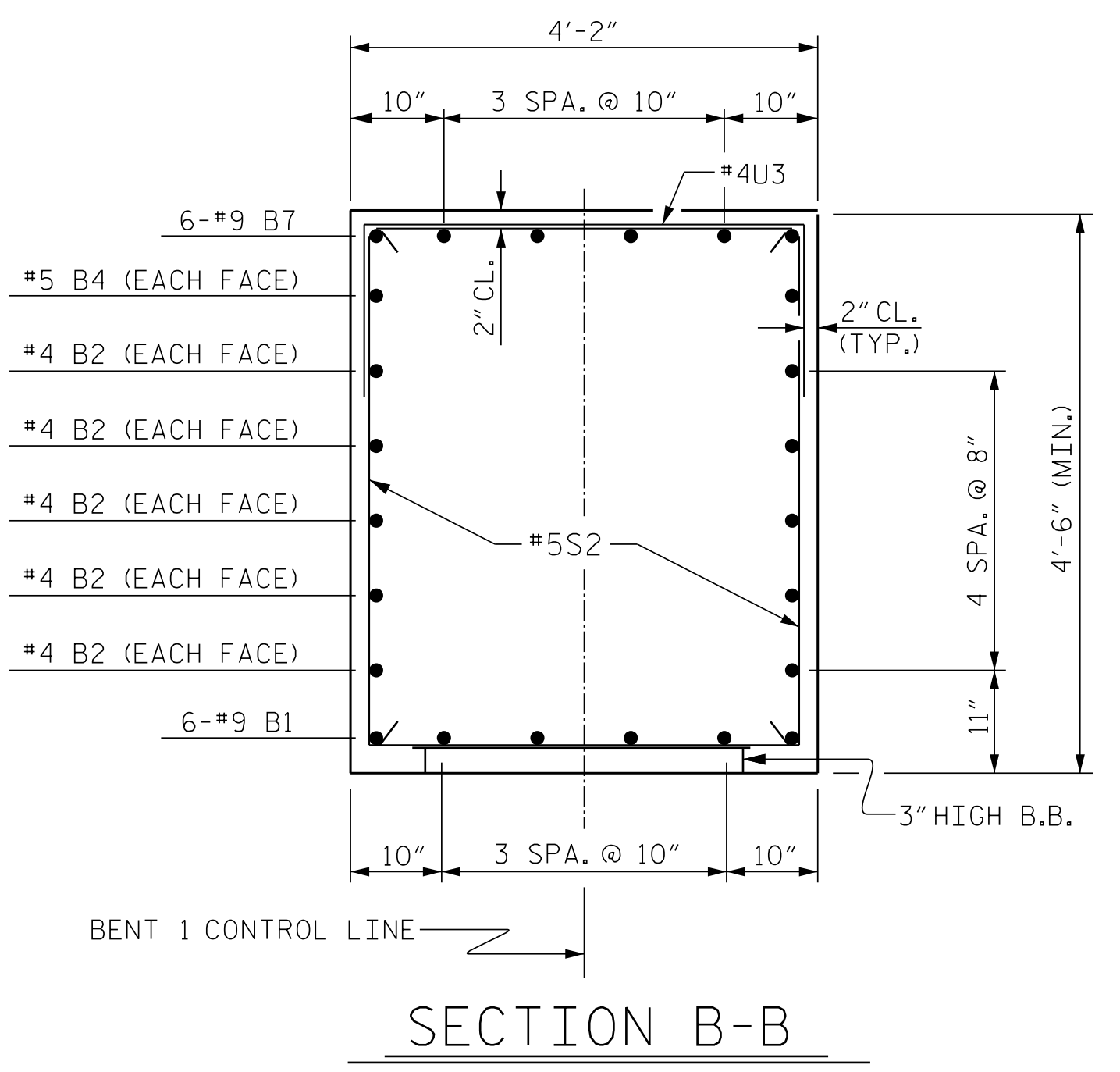
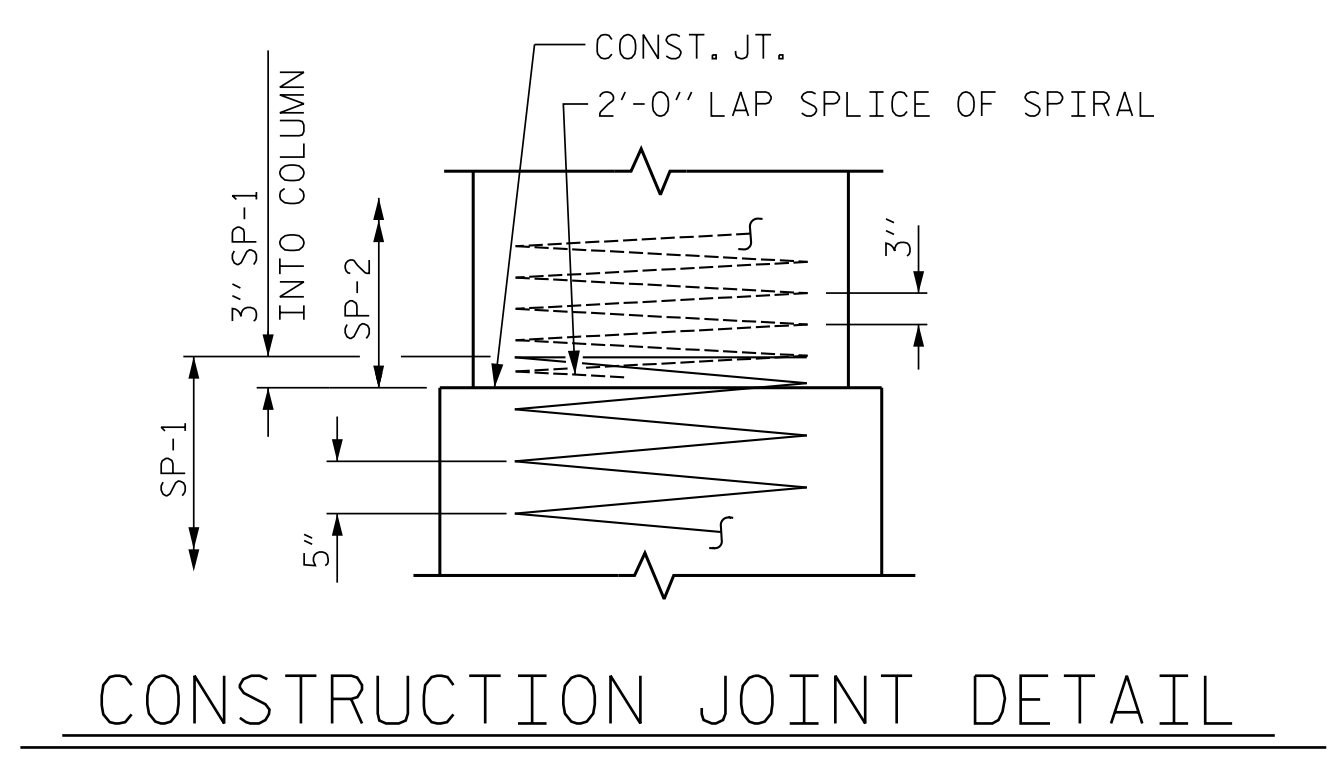
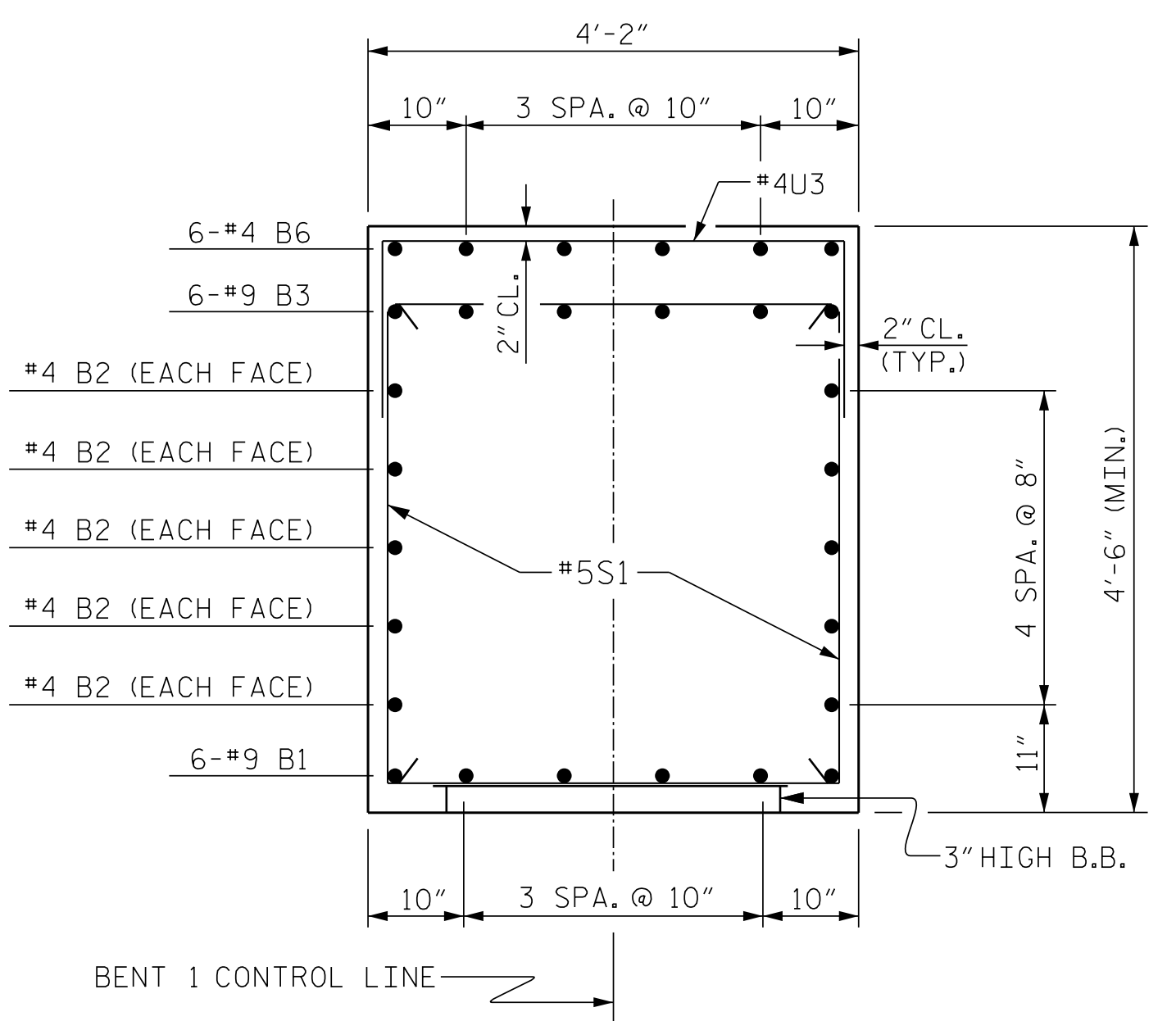
SHEET NO.	S1-33
TOTAL SHEETS	49

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 DATE: 03/23 PM on Wednesday, September 06, 2023

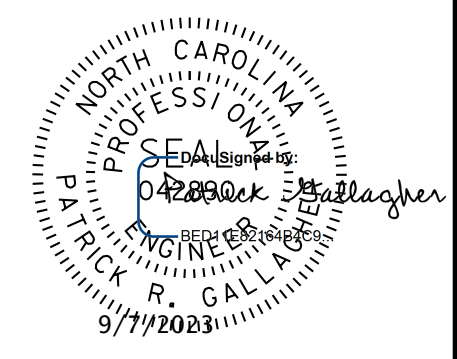
DWN. BY: WDC DATE: 03/2023
 CHKD. BY: PRG DATE: 03/2023
 DES. EGR. OF RECORD: PRG DATE: 03/2023



BILL OF MATERIAL					
BENT NO. 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	6	#9	STR	34'-6"	704
B2	10	#4	STR	34'-6"	230
B3	6	#9	1	29'-4"	598
B4	2	#4	STR	8'-10"	12
B5	2	#4	STR	3'-10"	5
B6	6	#4	STR	10'-6"	42
B7	6	#9	1	12'-11"	263
M1	96	#11	STR	44'-1"	22,995
S1	27	#5	2	13'-0"	366
S2	19	#5	2	14'-5"	286
U1	5	#4	3	7'-1"	24
U2	5	#4	3	8'-0"	27
U3	47	#4	3	6'-10"	215
V1	48	#9	1	18'-7"	3033
REINFORCING STEEL				28,800 LBS.	
SP-1	3	**	4	1857'-3"	5811
SP-2	3	*	5	638'-4"	1279
SPIRAL COLUMN REINFORCING STEEL				7,090 LBS.	
** THE SP-1 SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR					
* THE SP-2 SPIRAL REINFORCING STEEL SHALL BE W20 OR D-20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR					
CLASS A CONCRETE BREAKDOWN					
POUR #2 (COLUMNS)				16.7 C.Y.	
POUR #3 (CAP)				26.7 C.Y.	
TOTAL CLASS A CONCRETE				43.3 C.Y.	
DRILLED PIERS:					
DRILLED PIER CONCRETE				109.6 C.Y.	
POUR #1 (DRILLED PIERS)				109.6 C.Y.	



PROJECT NO. B-4926
LENOIR COUNTY
 STATION: 25+45.00 -L-
 SHEET 2 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 BENT NO. 1

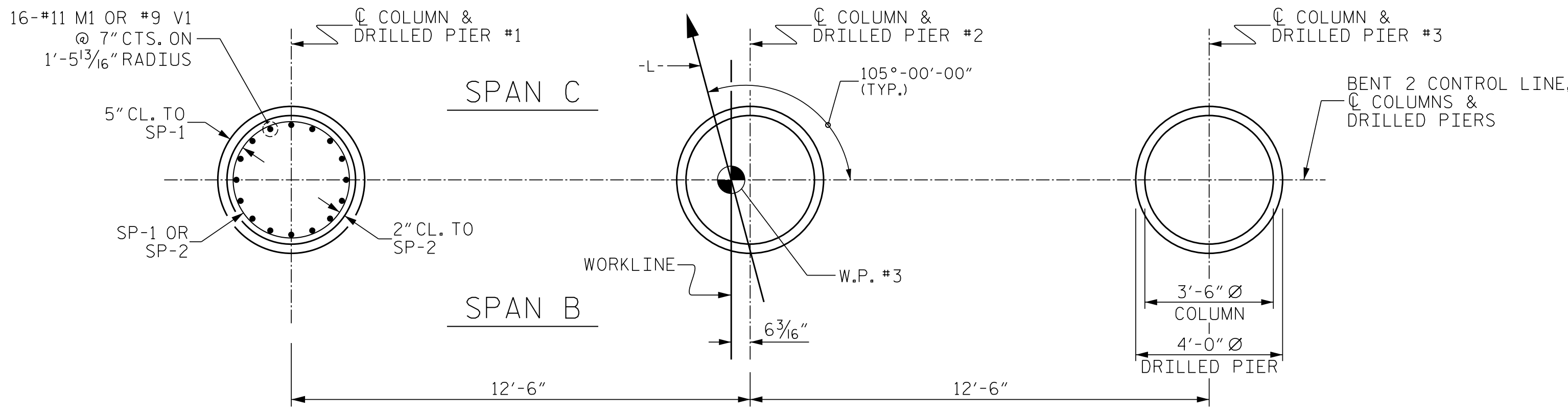
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

JMT Johnson, Mirmiran, & Thompson Inc.
 4700 Falls of Neuse Rd, Suite 100,
 Raleigh, NC, 27609
 License No: C-3097

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-35
1			3			TOTAL SHEETS
2			4			49

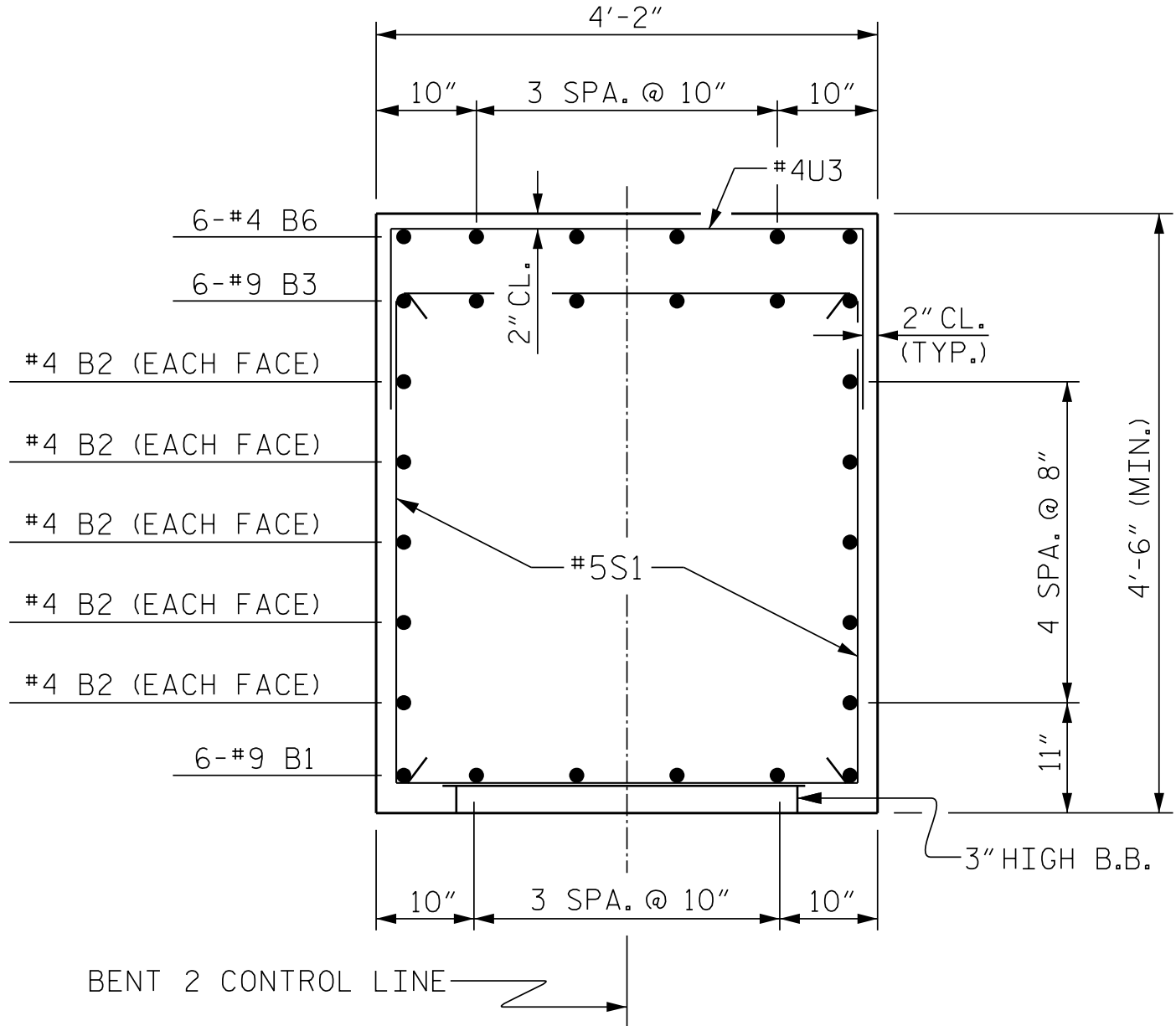
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 CHKD. BY: PRG DATE: 03/2023
 DES. EGR. OF RECORD: PRG DATE: 03/2023

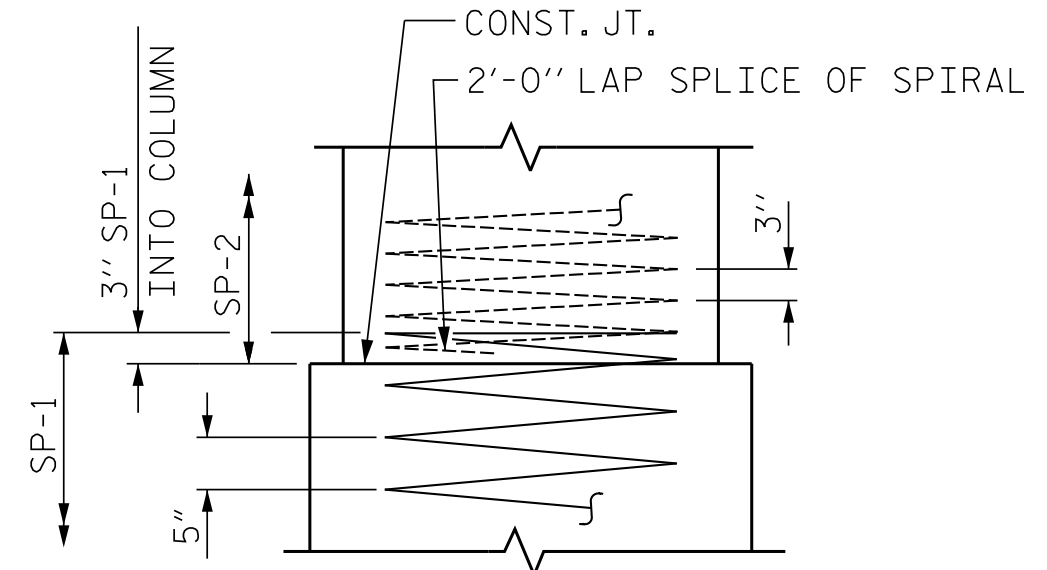


PLAN OF DRILLED PIERS & COLUMNS

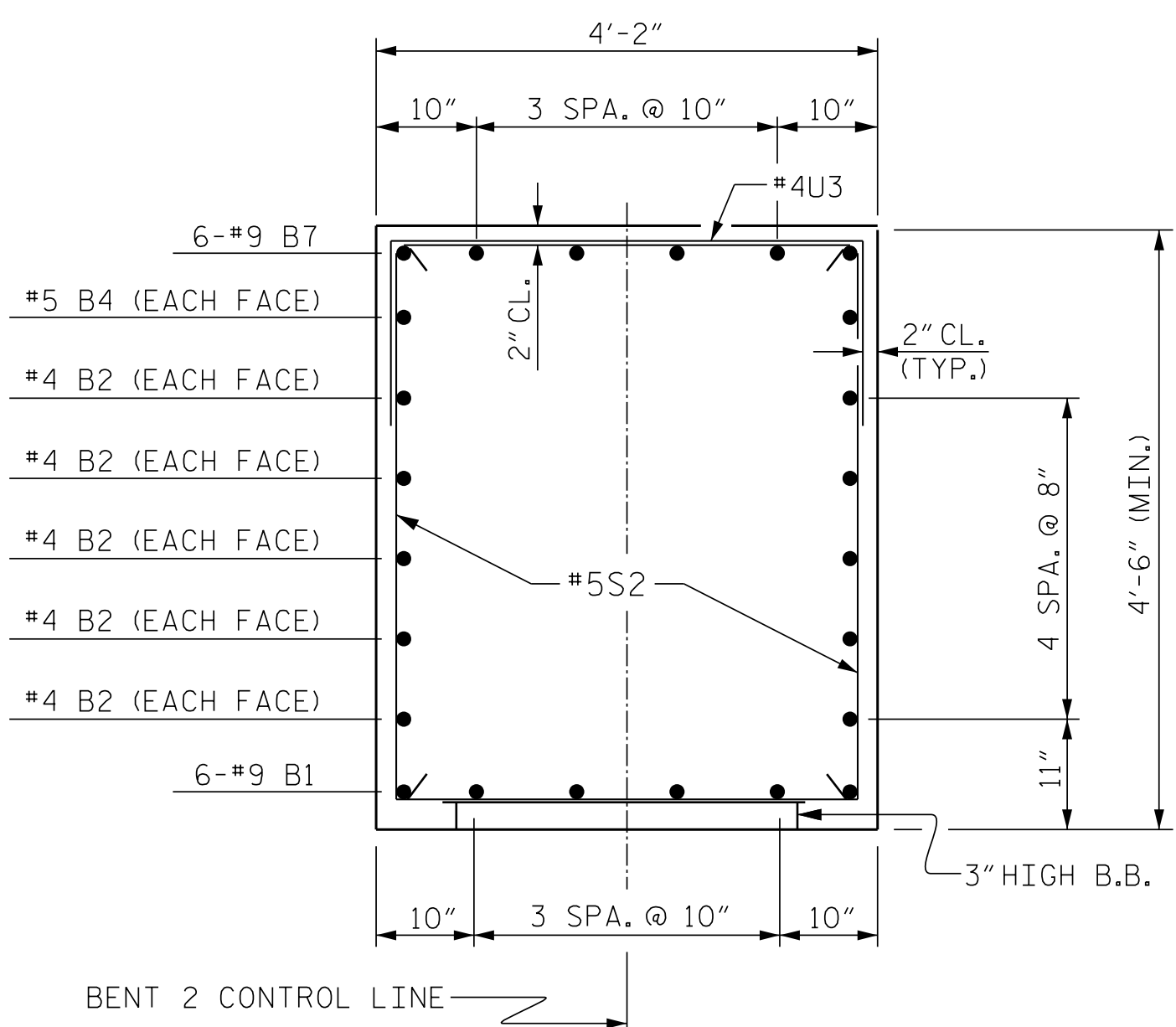
REINFORCING STEEL, DIMENSIONS AND DETAILS ARE TYPICAL FOR EACH COLUMN AND DRILLED PIER



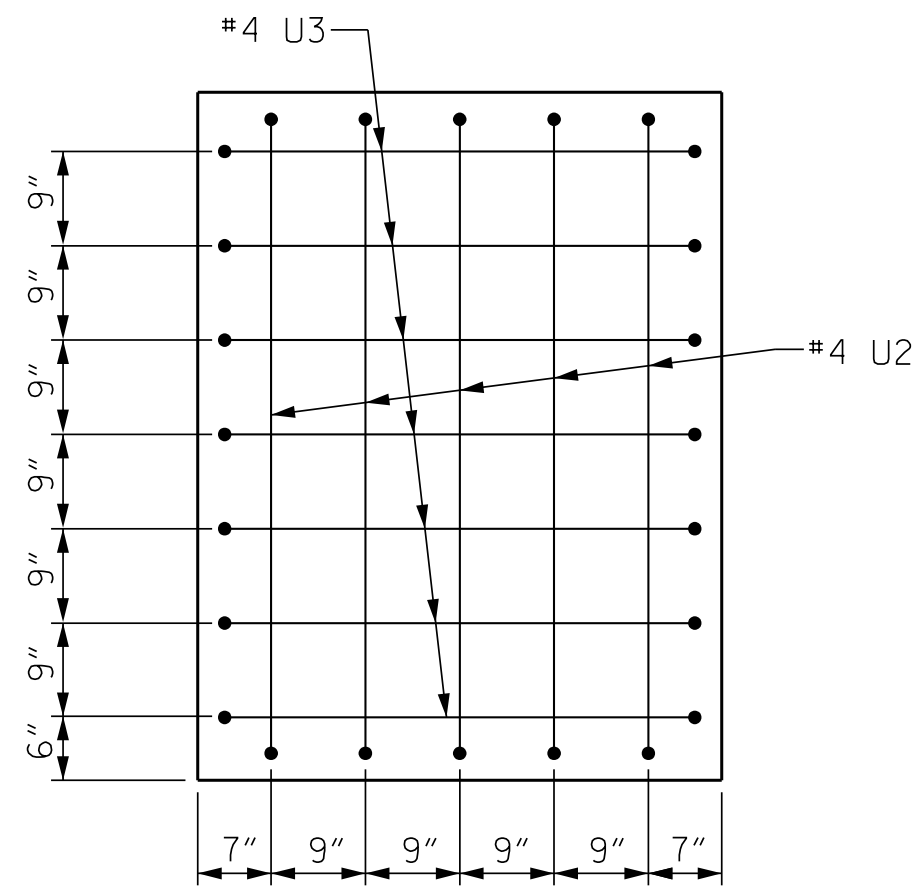
SECTION A-A



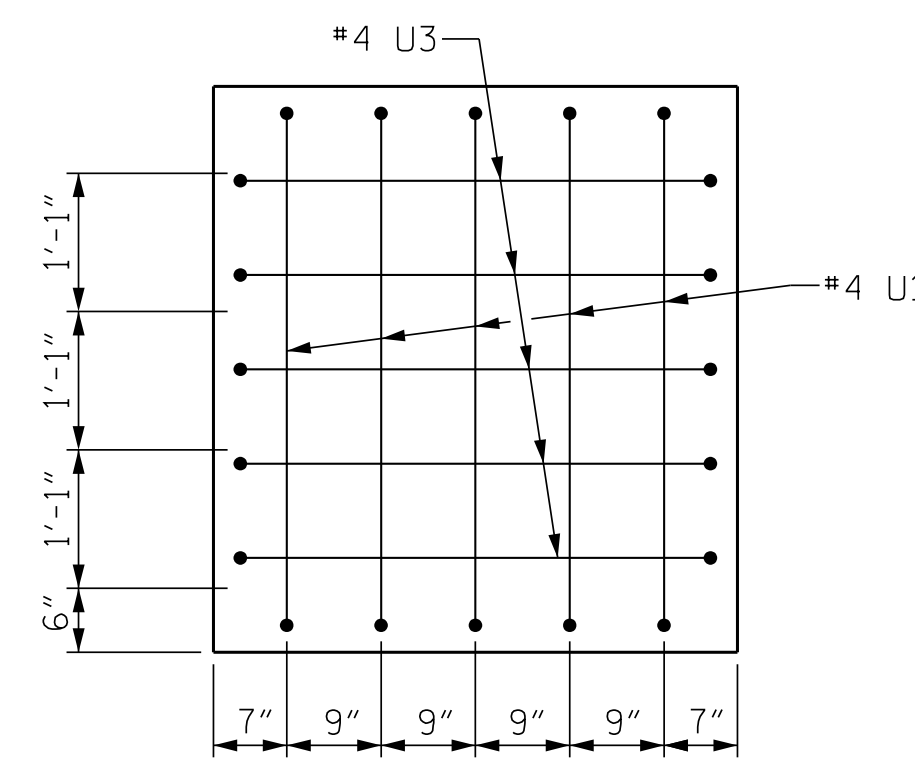
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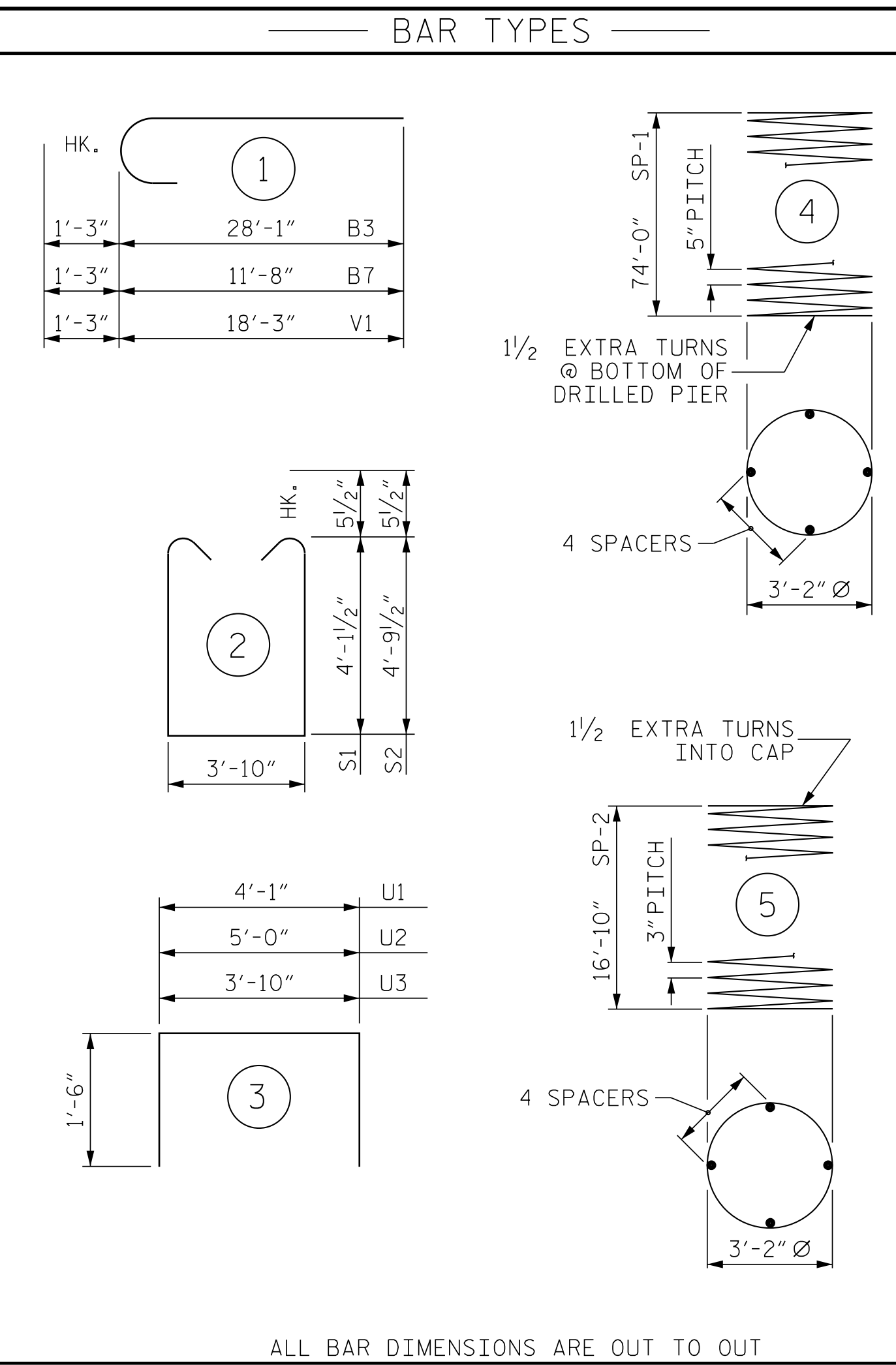
SECTION B-B



LEFT END OF CAP

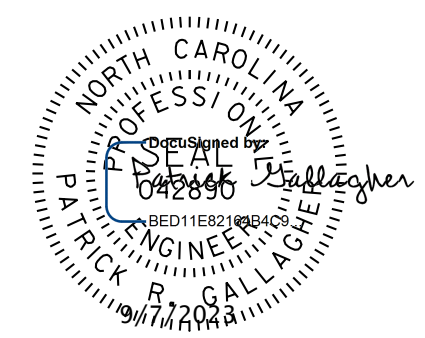


RIGHT END OF CAP



BILL OF MATERIAL					
BENT NO. 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	6	#9	STR	34'-6"	704
B2	10	#4	STR	34'-6"	230
B3	6	#9	1	29'-4"	598
B4	2	#4	STR	8'-10"	12
B5	2	#4	STR	3'-10"	5
B6	6	#4	STR	10'-6"	42
B7	6	#9	1	12'-11"	263
M1	96	#11	STR	43'-1"	21,975
S1	27	#5	2	13'-0"	366
S2	19	#5	2	14'-4"	284
U1	5	#4	3	7'-1"	24
U2	5	#4	3	8'-0"	27
U3	47	#4	3	6'-10"	215
V1	48	#9	1	19'-6"	3182
REINFORCING STEEL				28,182 LBS.	
SP-1	3	**	4	1759'-0"	5504
SP-2	3	*	5	677'-8"	1358
SPIRAL COLUMN REINFORCING STEEL				6,862 LBS.	
** THE SP-1 SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR					
* THE SP-2 SPIRAL REINFORCING STEEL SHALL BE W20 OR D-20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR					
CLASS A CONCRETE BREAKDOWN					
POUR #2 (COLUMNS)				17.7 C.Y.	
POUR #3 (CAP)				26.4 C.Y.	
TOTAL CLASS A CONCRETE				44.1 C.Y.	
DRILLED PIERS:					
DRILLED PIER CONCRETE				104.0 C.Y.	
POUR #1 (DRILLED PIERS)				104.0 C.Y.	

PROJECT NO. B-4926
LENOIR COUNTY
STATION: 25+45.00 -L-
SHEET 2 OF 2



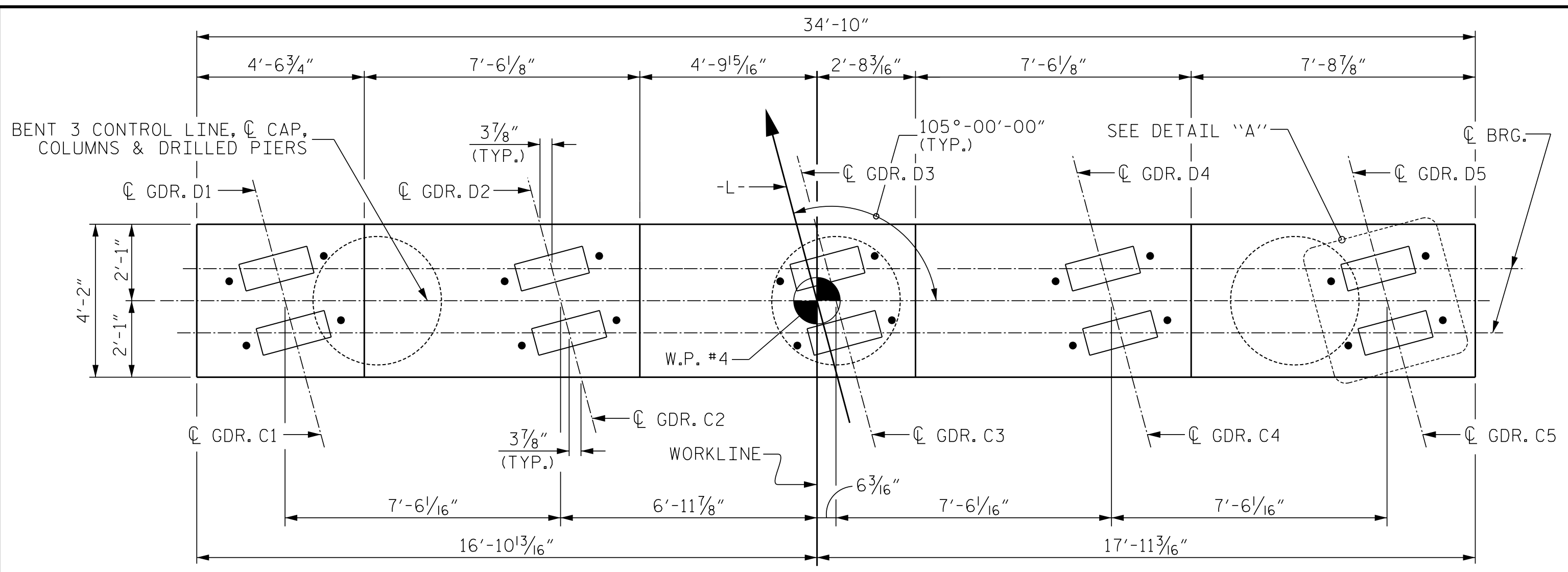
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE
BENT NO. 2

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License No: C-3097

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

DWN. BY: WDC DATE: 03/2023
CHKD. BY: PRG DATE: 03/2023
DES. EGR. OF RECORD: PRG DATE: 03/2023

SHEET NO. S1-37
TOTAL SHEETS 49



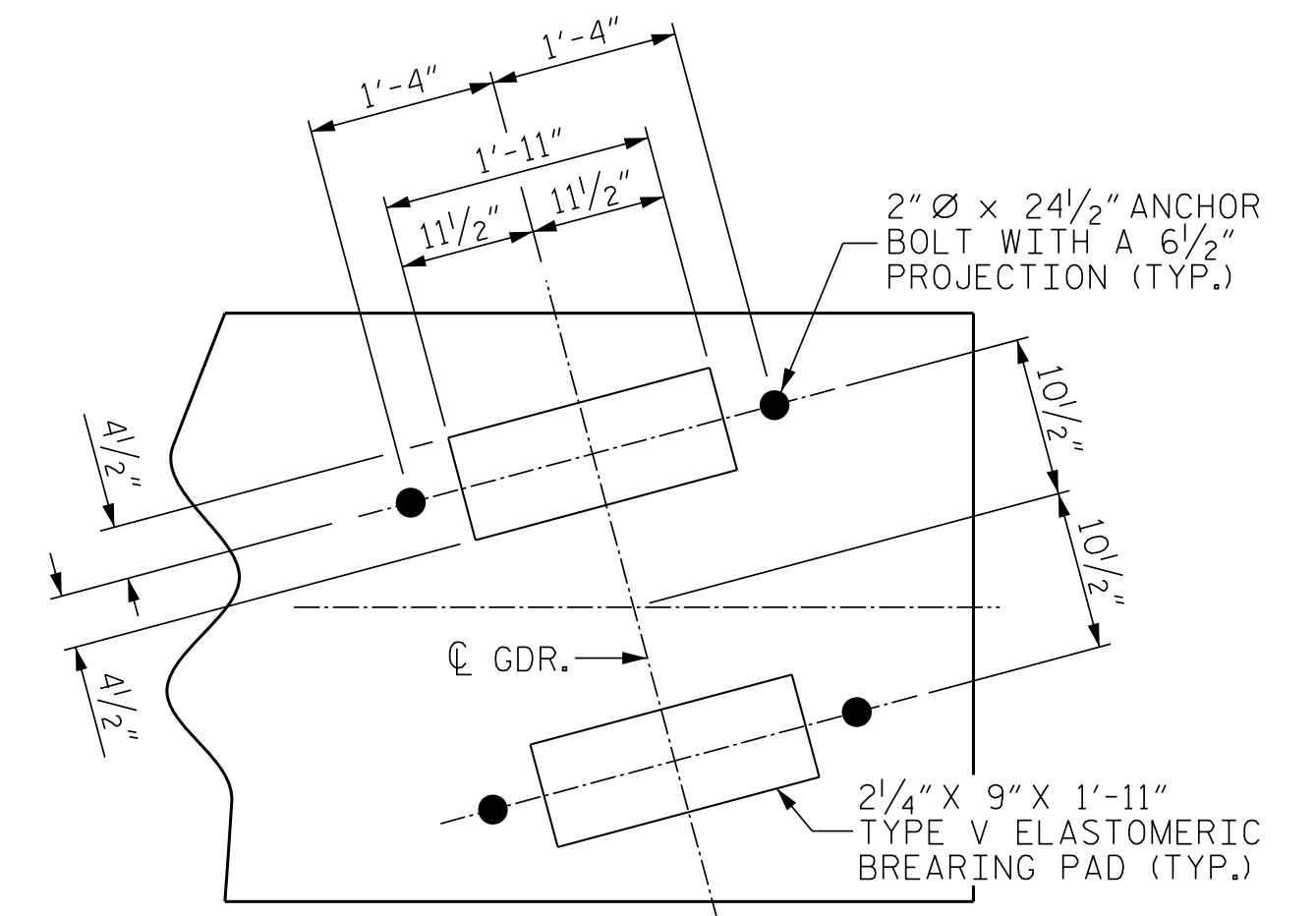
PLAN OF CAP

SPAN D

SPAN C

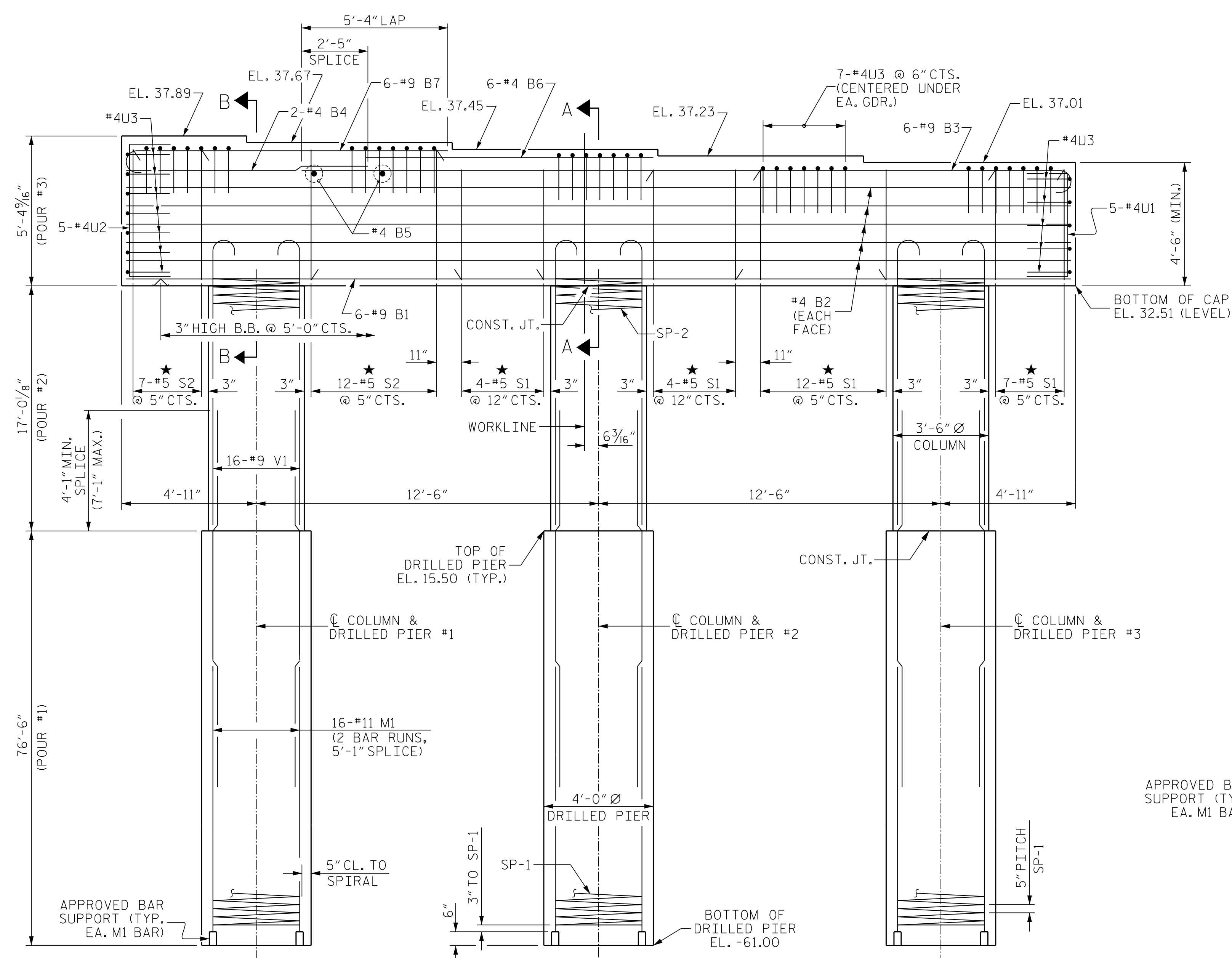
NOTES

- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
- HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.
- FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
- ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR "REINFORCING STEEL" AND "SPIRAL COLUMN REINFORCING STEEL."
- ★ INVERT ALTERNATE STIRRUPS.
- THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE LONGITUDINAL REINFORCEMENT FOR DRILLED PIERS IS DETAILED WITH 3 FEET OF EXTRA LENGTH.
- SEE SHEET 2 OF 2 FOR SECTIONS A-A AND B-B.



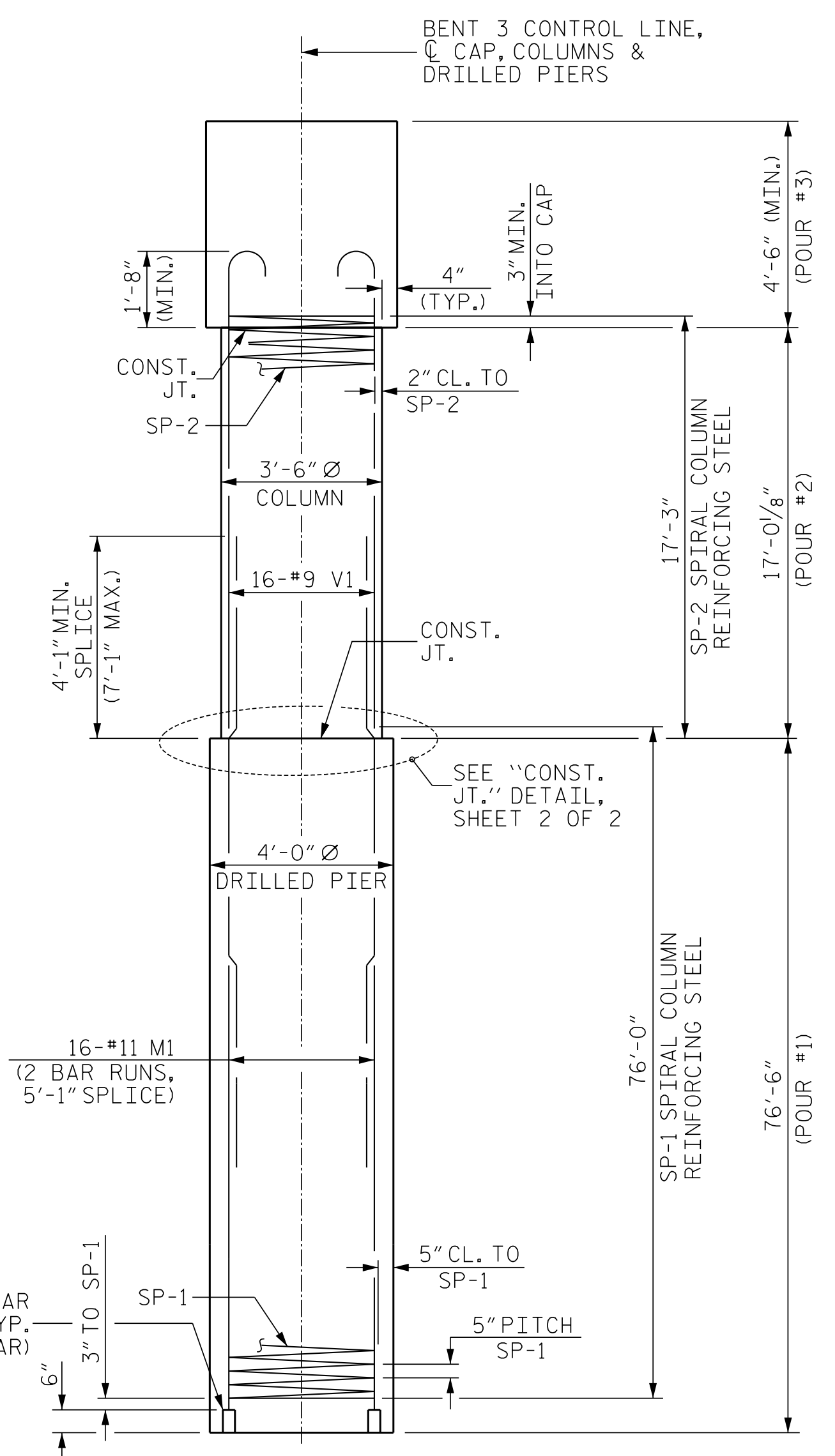
DETAIL "A"

INFORMATION SHOWN IS TYPICAL FOR EACH BEARING



ELEVATION

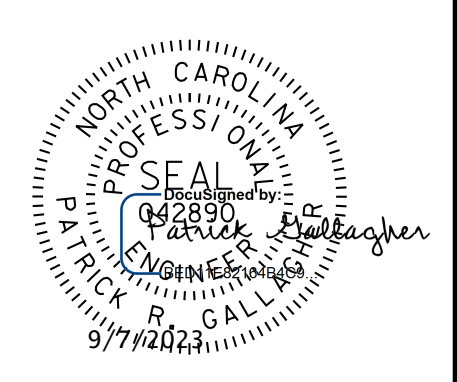
REINFORCING STEEL, DIMENSIONS AND DETAILS ARE TYPICAL FOR EACH COLUMN AND DRILLED PIER



END ELEVATION

REINFORCING STEEL, DIMENSIONS AND DETAILS ARE TYPICAL FOR EACH COLUMN AND DRILLED PIER

PROJECT NO. B-4926
LENOIR COUNTY
STATION: 25+45.00 -L-
SHEET 1 OF 2



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT NO. 3

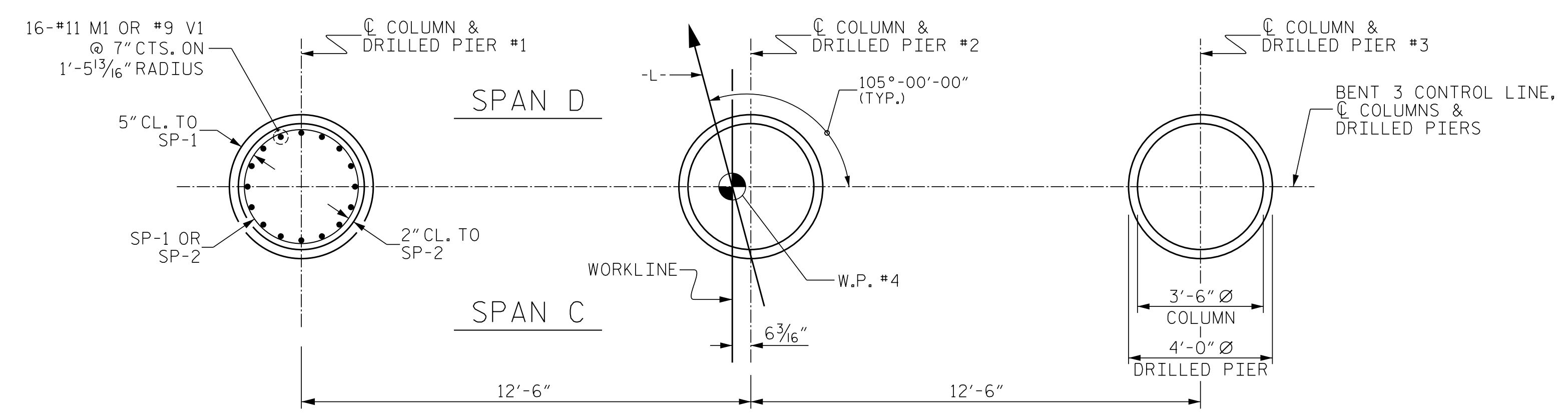
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-38
1			3			TOTAL SHEETS
2			4			49

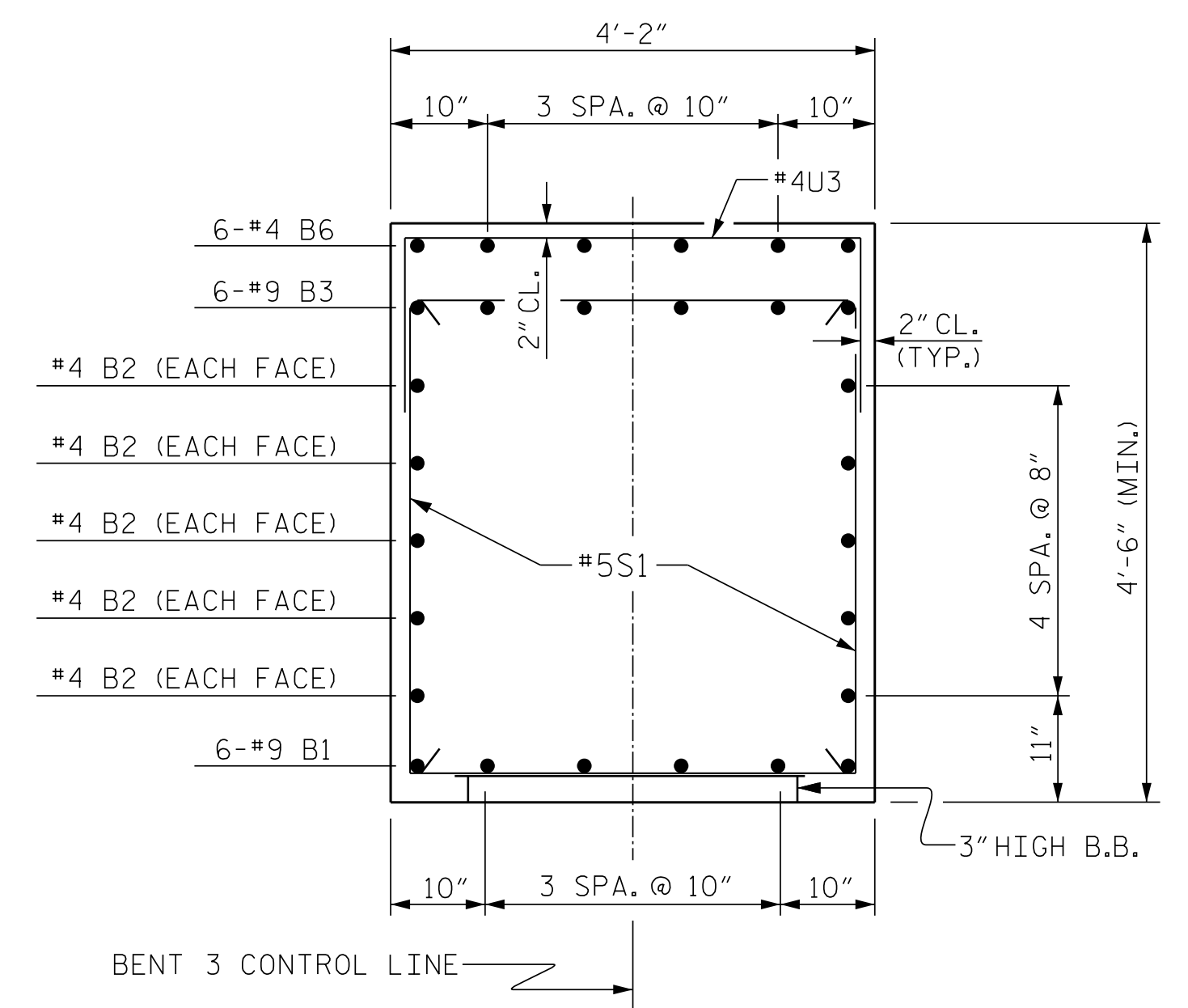
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 10:33 PM on Wednesday, September 06, 2023

DWN. BY: WDC DATE: 03/2023
CHKD. BY: PRG DATE: 03/2023
DES. EGR. OF RECORD: PRG DATE: 03/2023

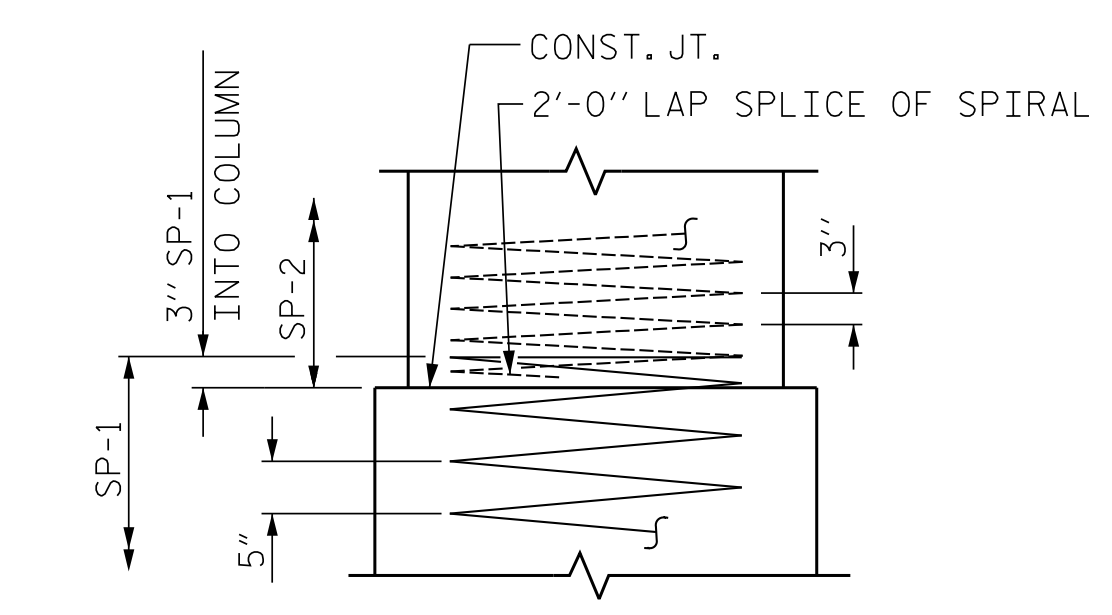


PLAN OF DRILLED PIERS & COLUMNS

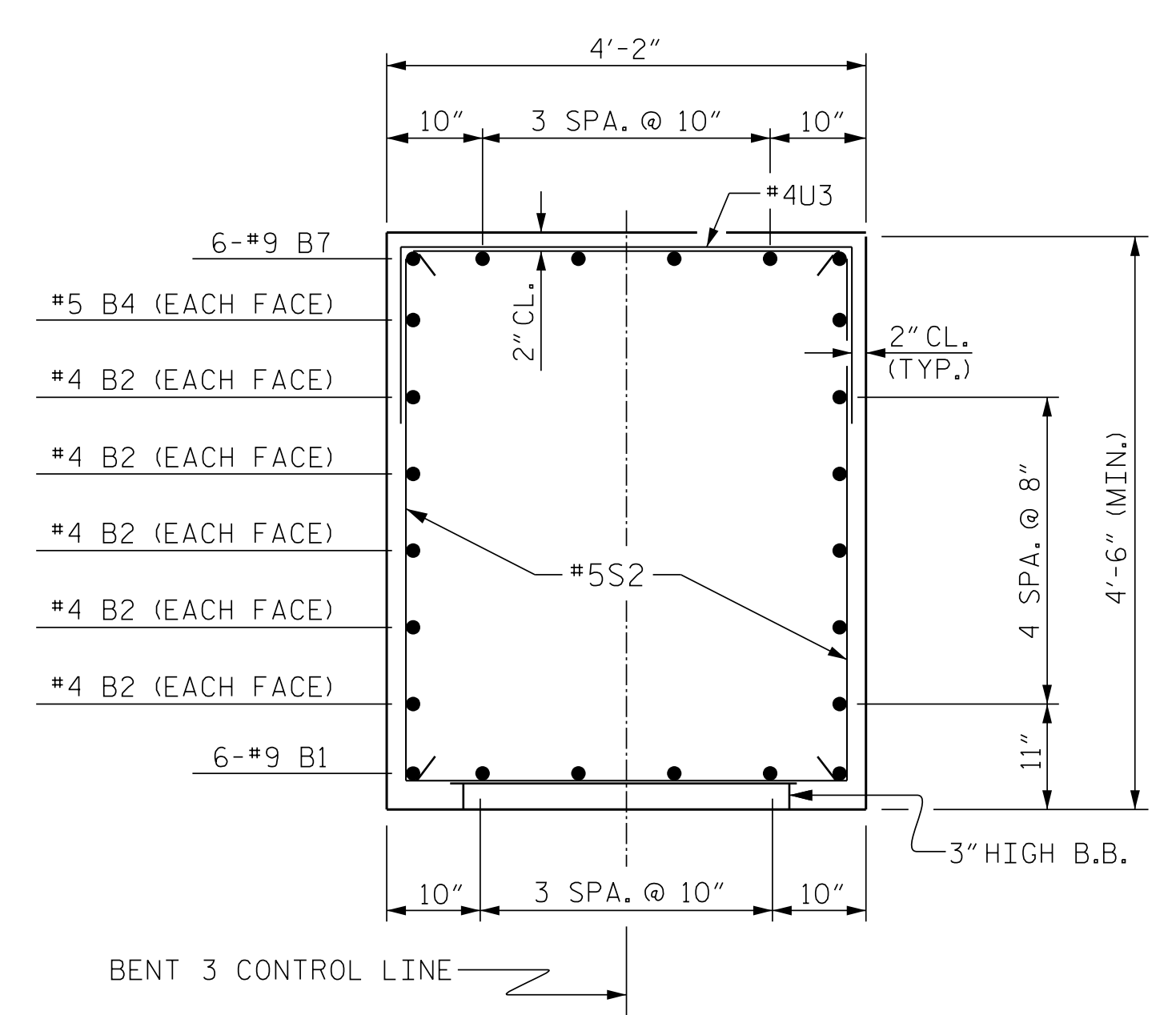
REINFORCING STEEL, DIMENSIONS AND DETAILS ARE TYPICAL FOR EACH COLUMN AND DRILLED PIER



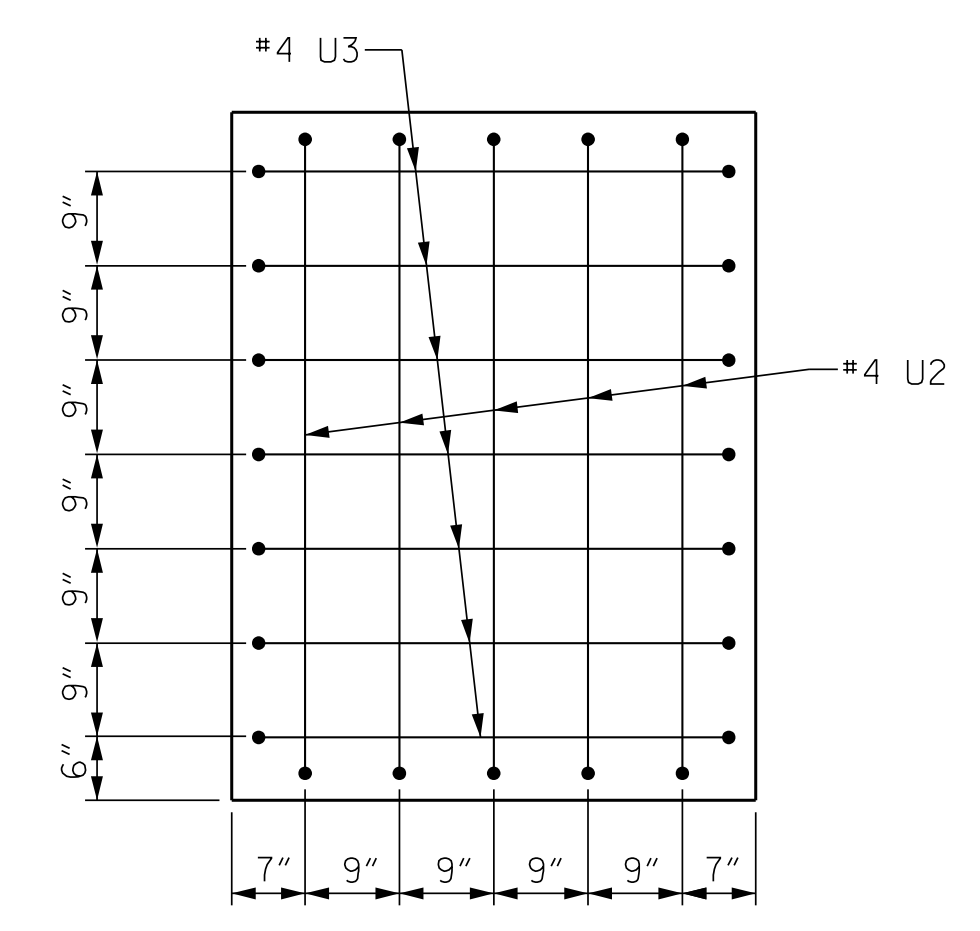
SECTION A-A



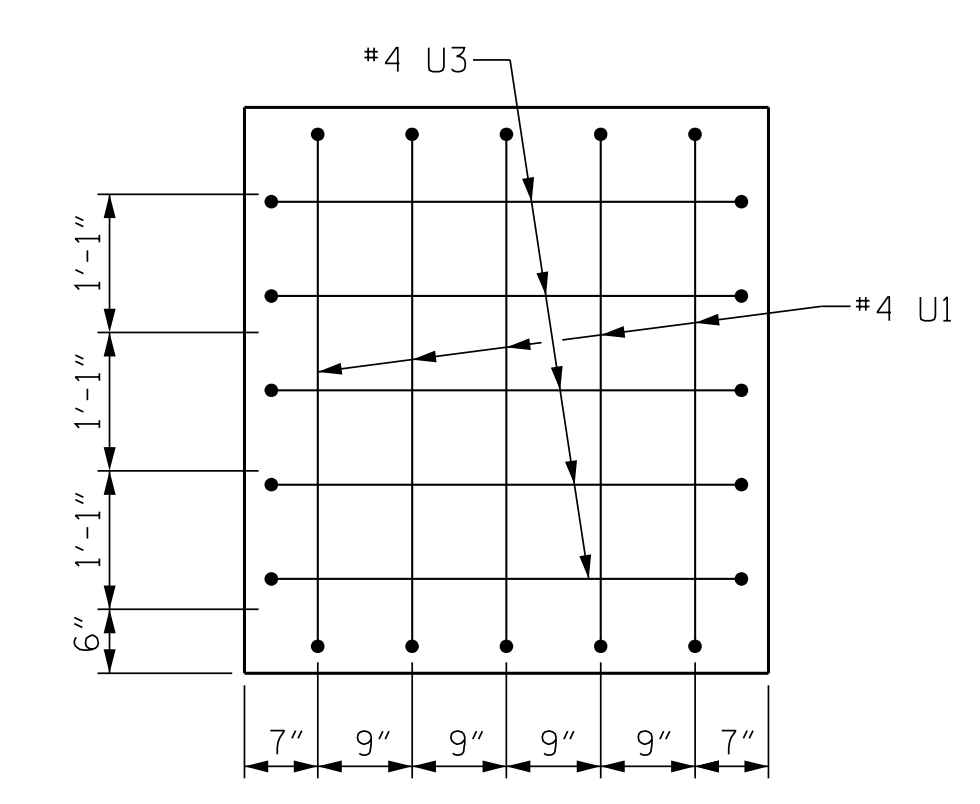
CONSTRUCTION JOINT DETAIL



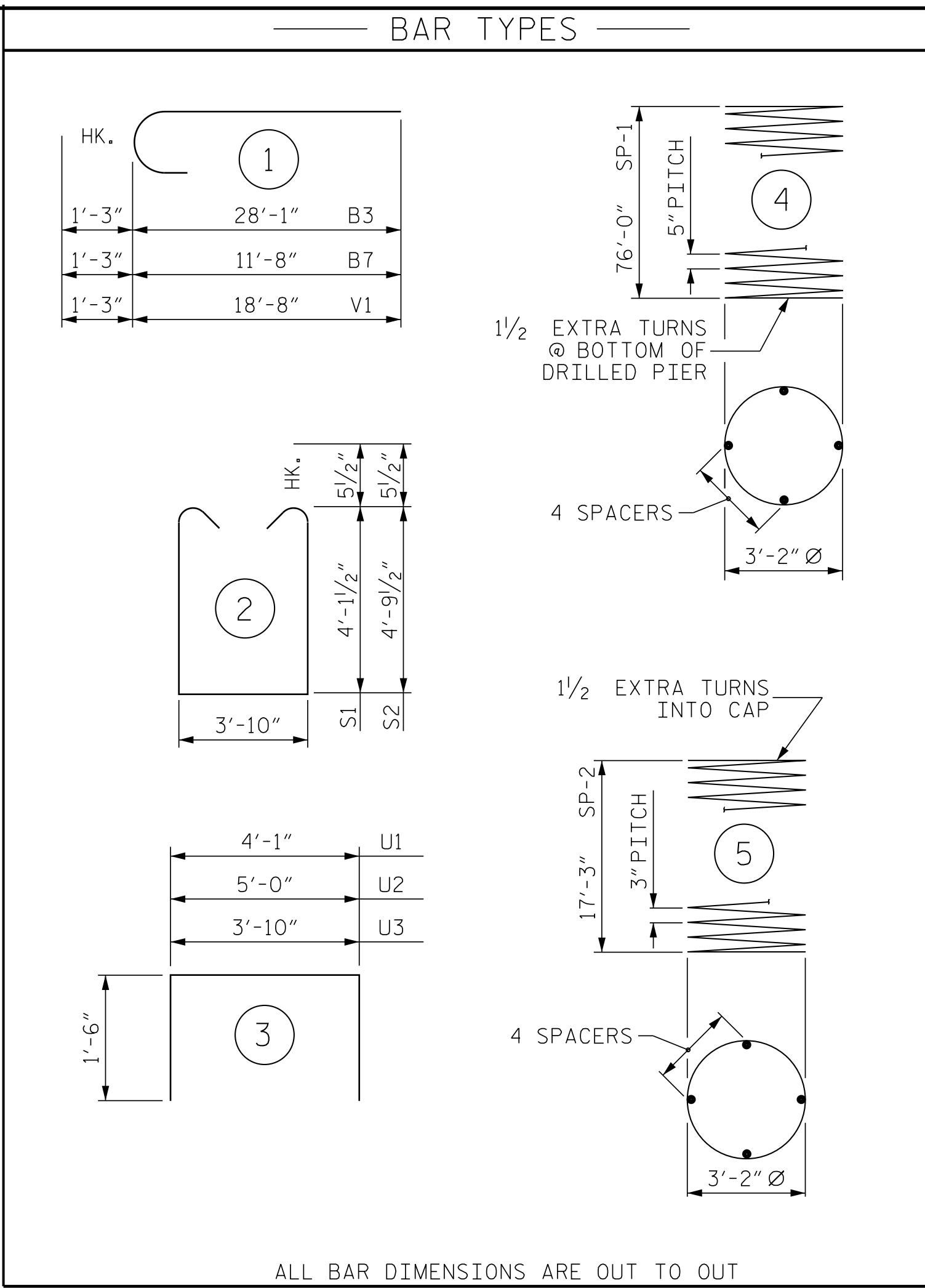
SECTION B-B



LEFT END OF CAP



RIGHT END OF CAP

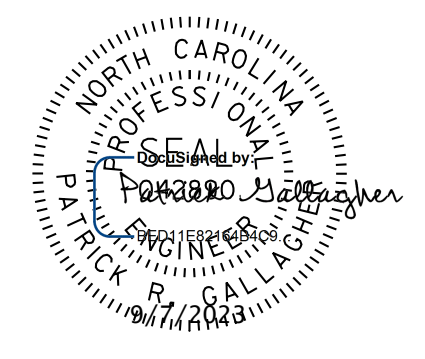


ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL					
BENT NO. 3					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	6	#9	STR	34'-6"	704
B2	10	#4	STR	34'-6"	230
B3	6	#9	1	29'-4"	598
B4	2	#4	STR	8'-10"	12
B5	2	#4	STR	3'-10"	5
B6	6	#4	STR	10'-6"	42
B7	6	#9	1	12'-11"	263
M1	96	#11	1	44'-1"	22,485
S1	27	#5	2	13'-0"	366
S2	19	#5	2	14'-4"	284
U1	5	#4	3	7'-1"	24
U2	5	#4	3	8'-0"	27
U3	47	#4	3	6'-10"	215
V1	48	#9	1	19'-11"	3250
REINFORCING STEEL				28,505 LBS.	
SP-1	3	**	4	1808'-1"	5657
SP-2	3	*	5	697'-4"	1387
SPIRAL COLUMN REINFORCING STEEL				7,044 LBS.	
** THE SP-1 SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR					
* THE SP-2 SPIRAL REINFORCING STEEL SHALL BE W20 OR D-20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR					
CLASS A CONCRETE BREAKDOWN					
POUR #2 (COLUMNS)				18.2 C.Y.	
POUR #3 (CAP)				26.3 C.Y.	
TOTAL CLASS A CONCRETE				44.5 C.Y.	
DRILLED PIERS:					
DRILLED PIER CONCRETE				106.8 C.Y.	
POUR #1 (DRILLED PIERS)				106.8 C.Y.	

PROJECT NO. B-4926
LENOIR COUNTY
STATION: 25+45.00 -L-
SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE
BENT NO. 3



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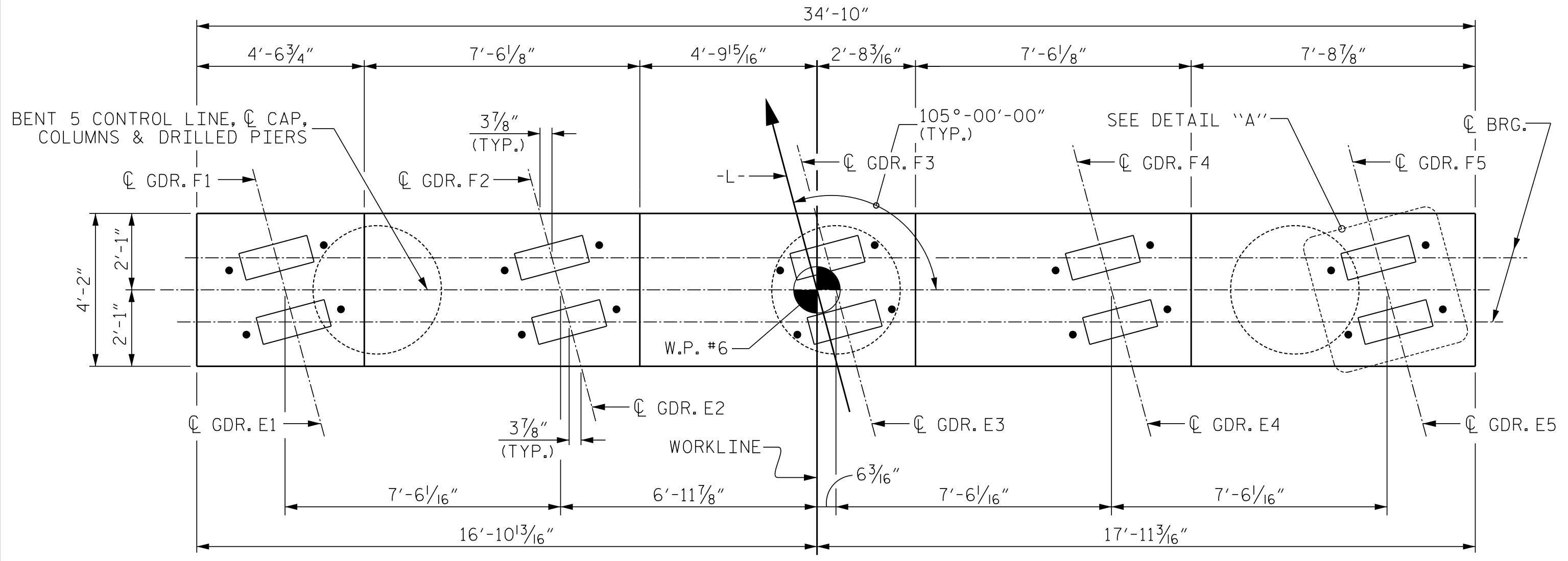
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Raleigh, NC, 27609
License No: C-3097

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

SHEET NO.		S1-39
TOTAL SHEETS		49

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 CHKD. BY: PRG DATE: 03/2023
 DES. EGR. OF RECORD: PRG DATE: 03/2023



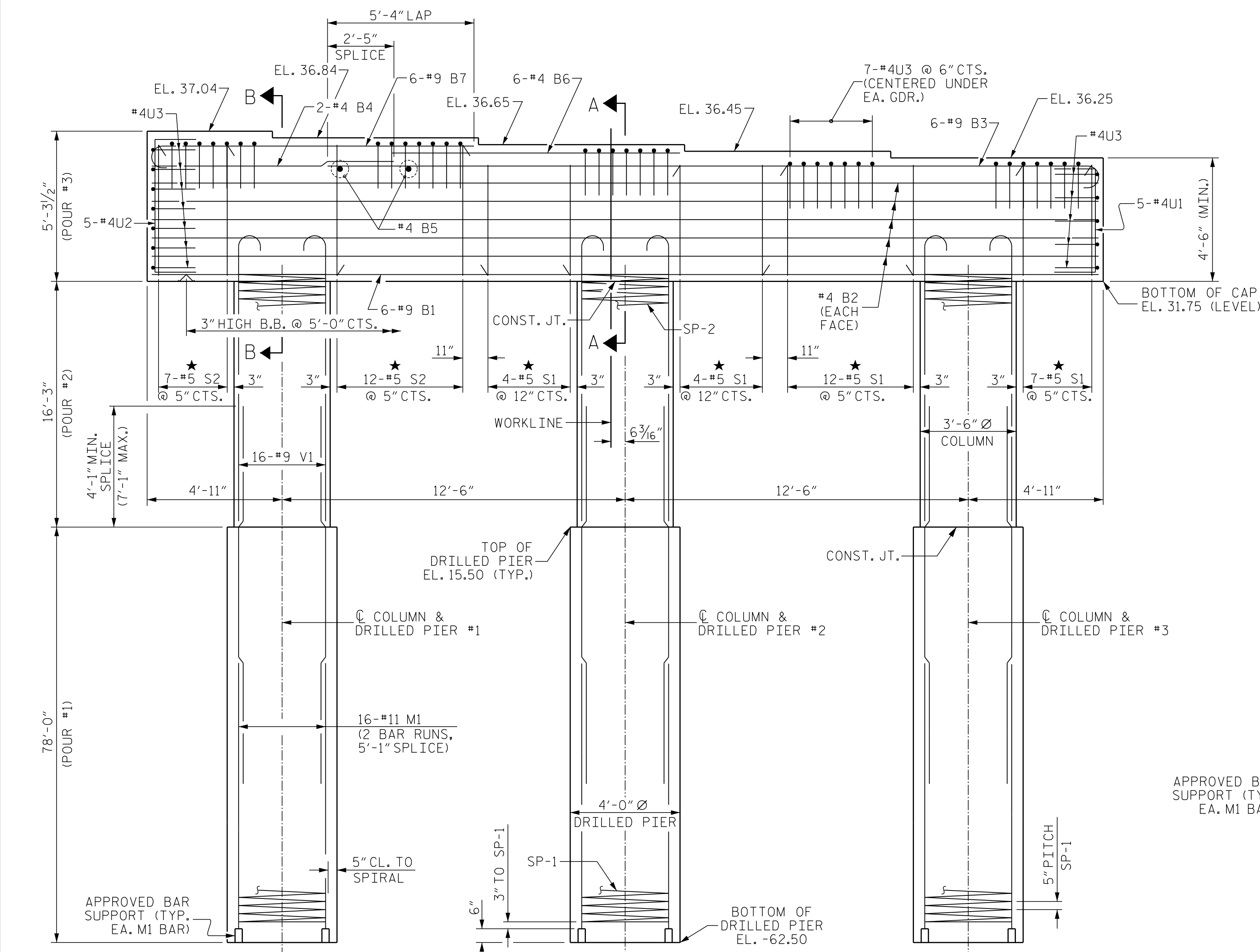
PLAN OF CAP

SPAN F

SPAN E

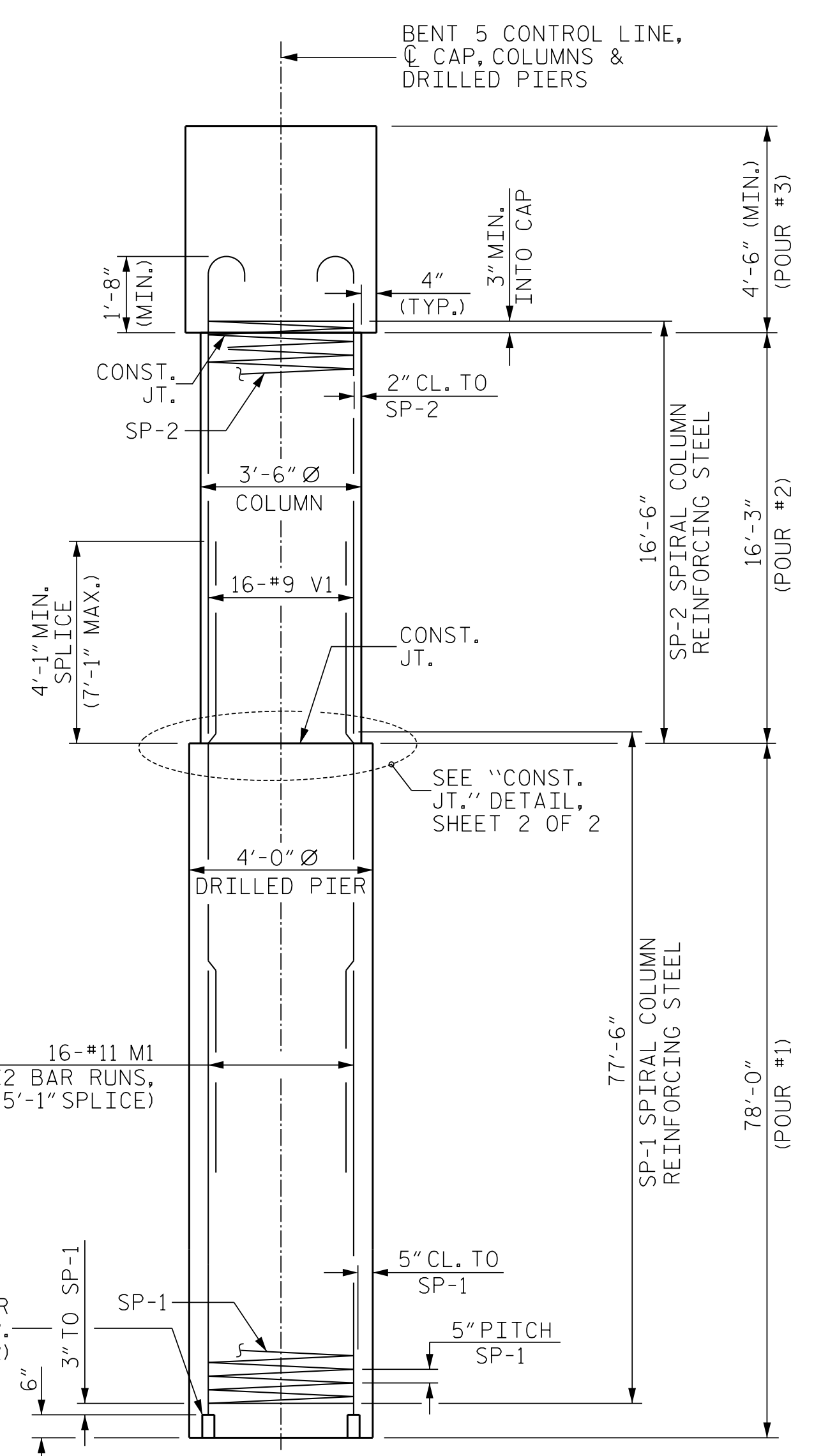
NOTES

- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
- HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.
- FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
- ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR "REINFORCING STEEL" AND "SPIRAL COLUMN REINFORCING STEEL."
- ★ INVERT ALTERNATE STIRRUPS.
- THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE LONGITUDINAL REINFORCEMENT FOR DRILLED PIERS IS DETAILED WITH 3 FEET OF EXTRA LENGTH.
- SEE SHEET 2 OF 2 FOR SECTIONS A-A AND B-B.



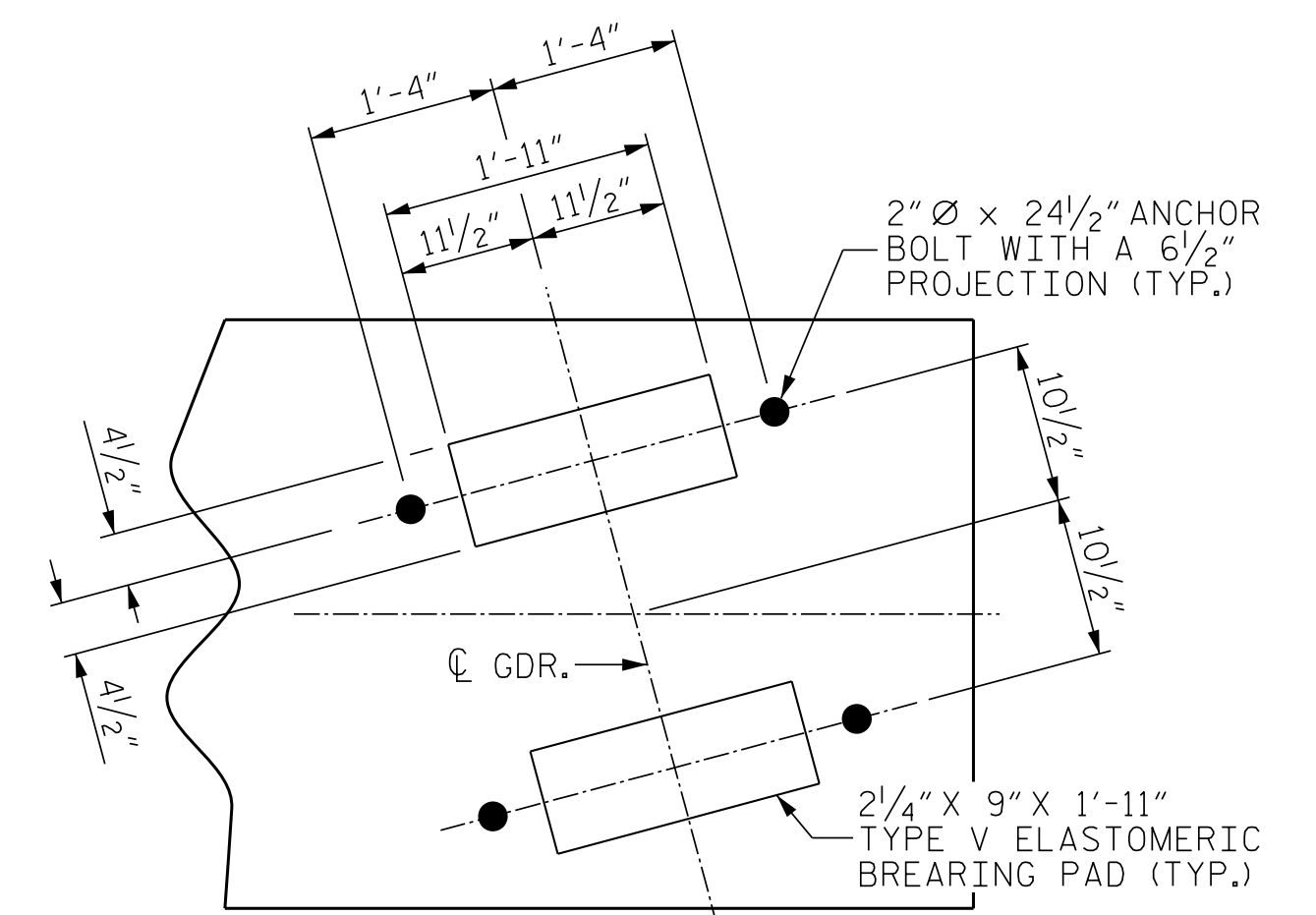
ELEVATION

REINFORCING STEEL, DIMENSIONS AND DETAILS ARE TYPICAL FOR EACH COLUMN AND DRILLED PIER



END ELEVATION

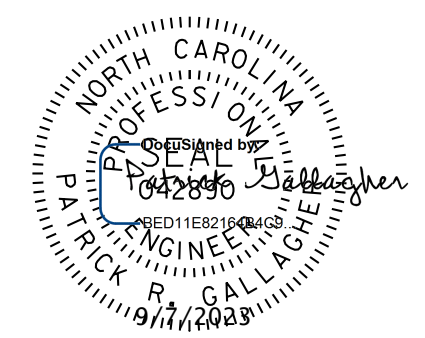
REINFORCING STEEL, DIMENSIONS AND DETAILS ARE TYPICAL FOR EACH COLUMN AND DRILLED PIER



DETAIL "A"

INFORMATION SHOWN IS TYPICAL FOR EACH BEARING

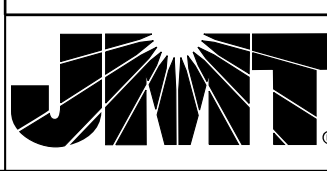
PROJECT NO. B-4926
LENOIR COUNTY
STATION: 25+45.00 -L-
SHEET 1 OF 2



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT NO. 5

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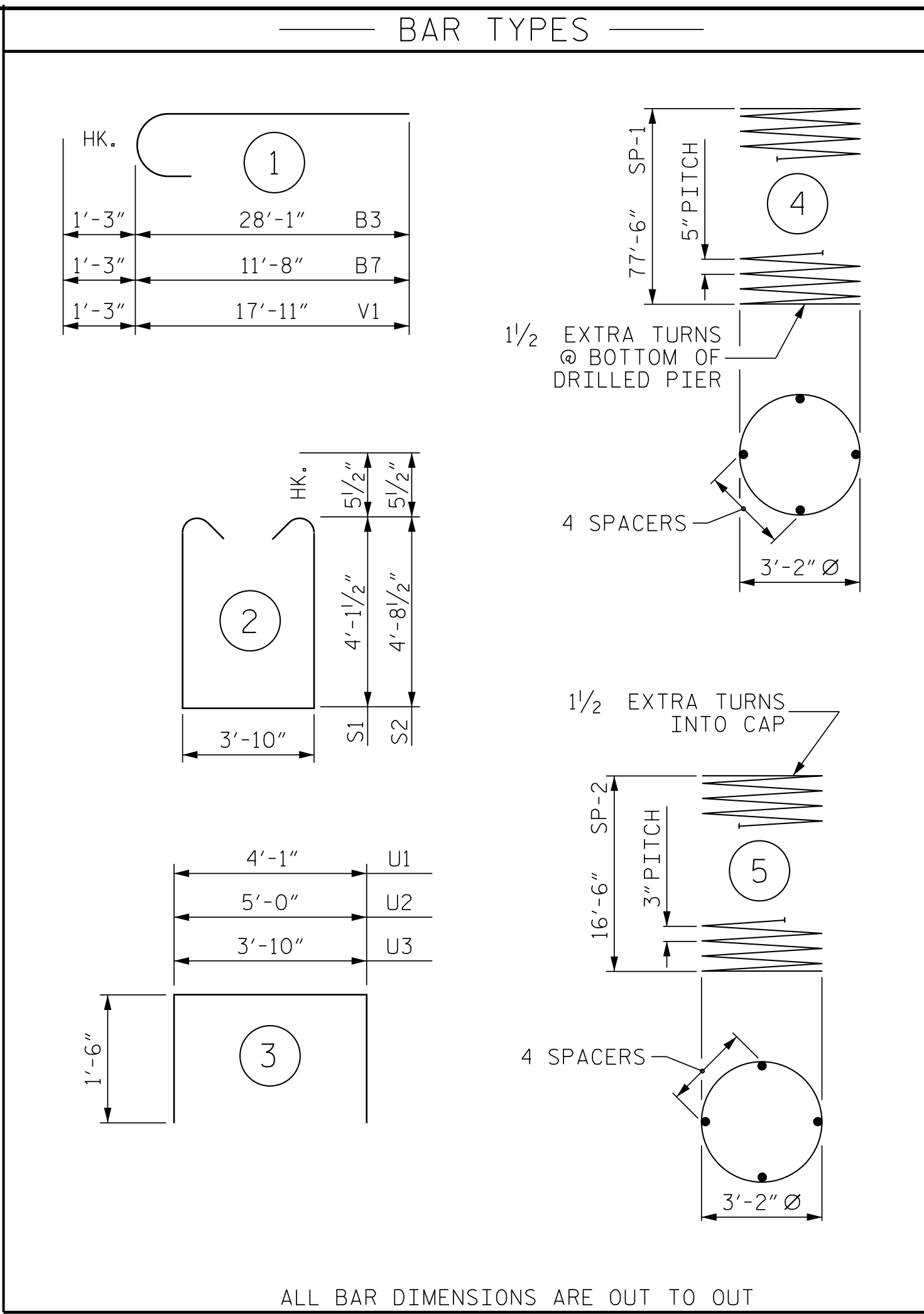
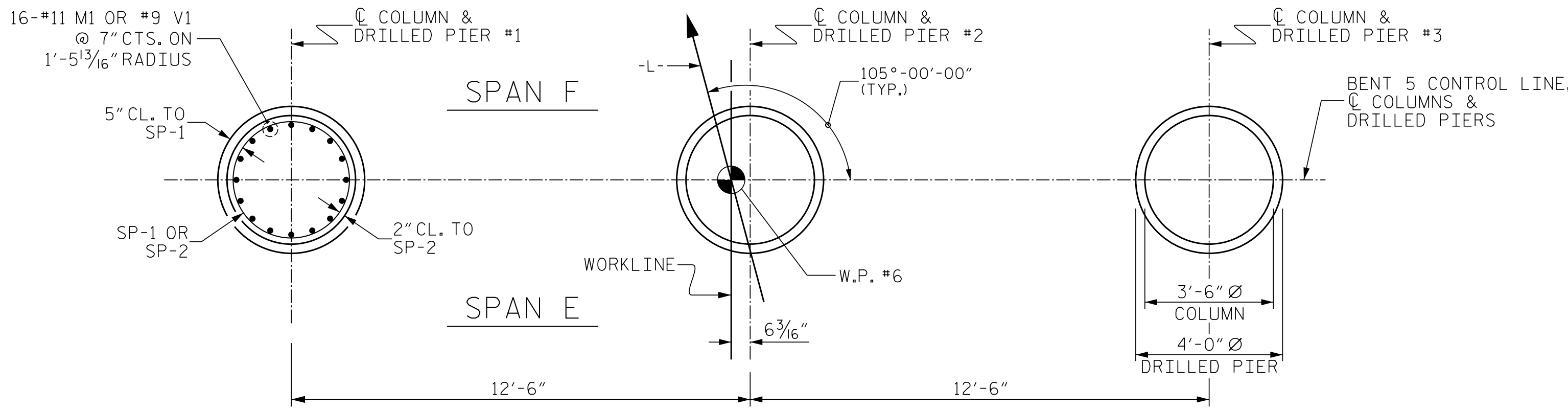


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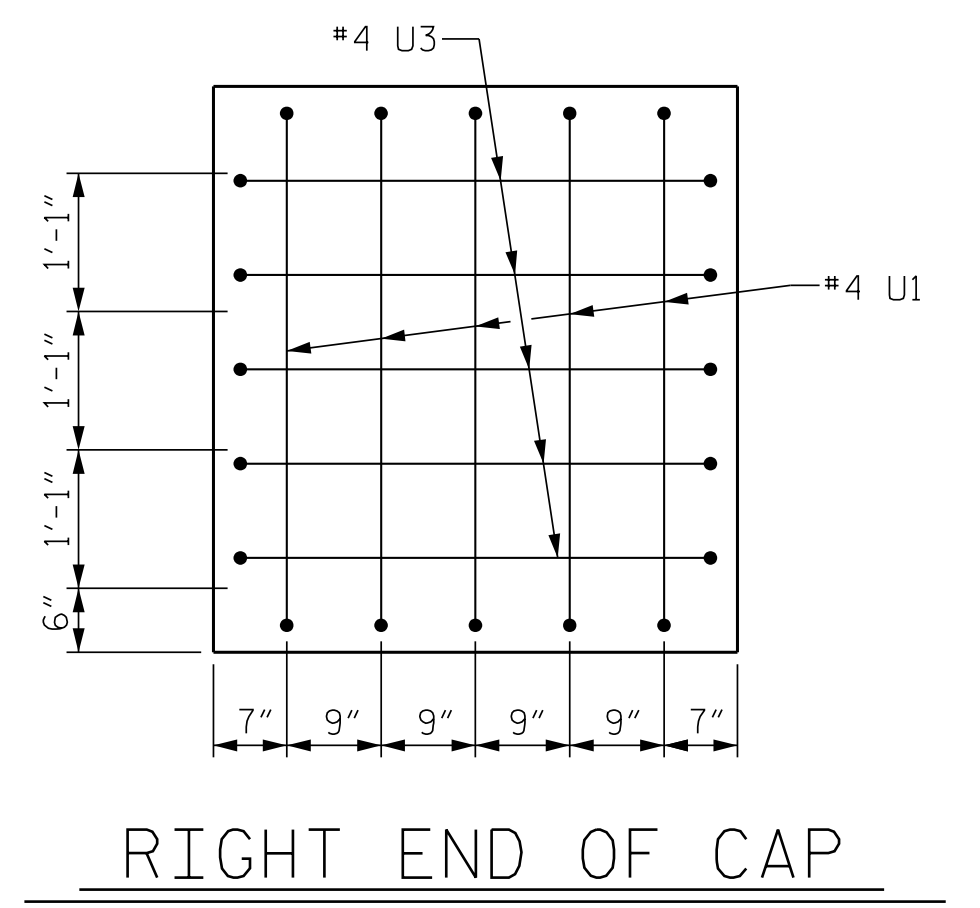
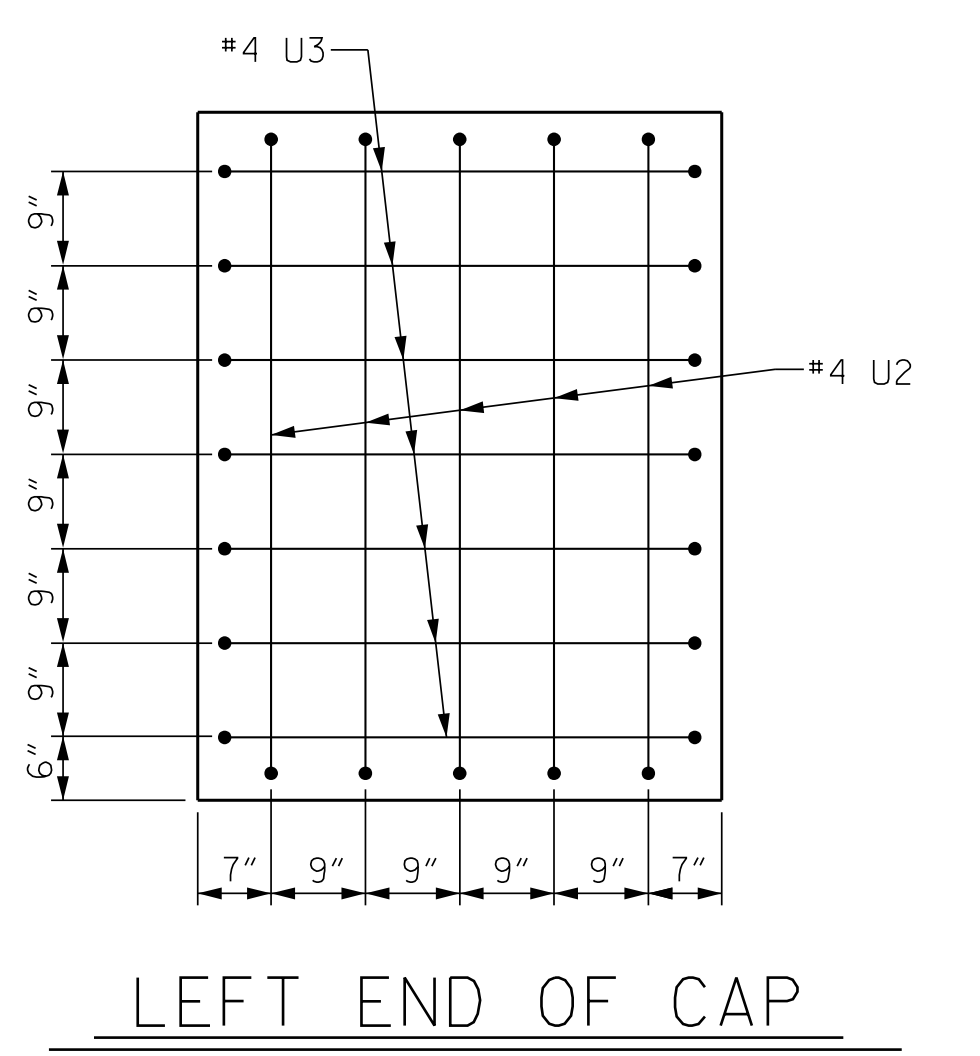
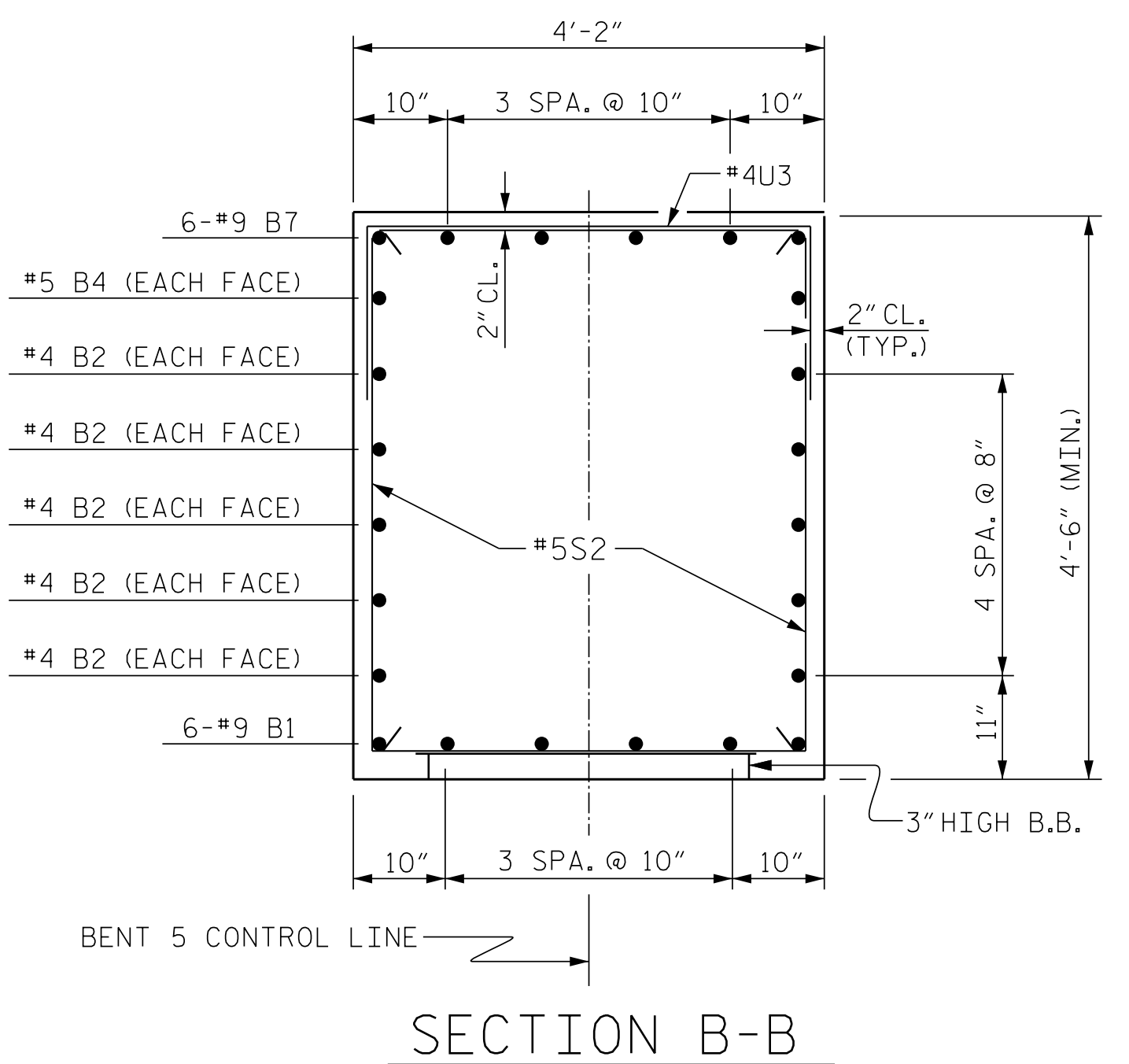
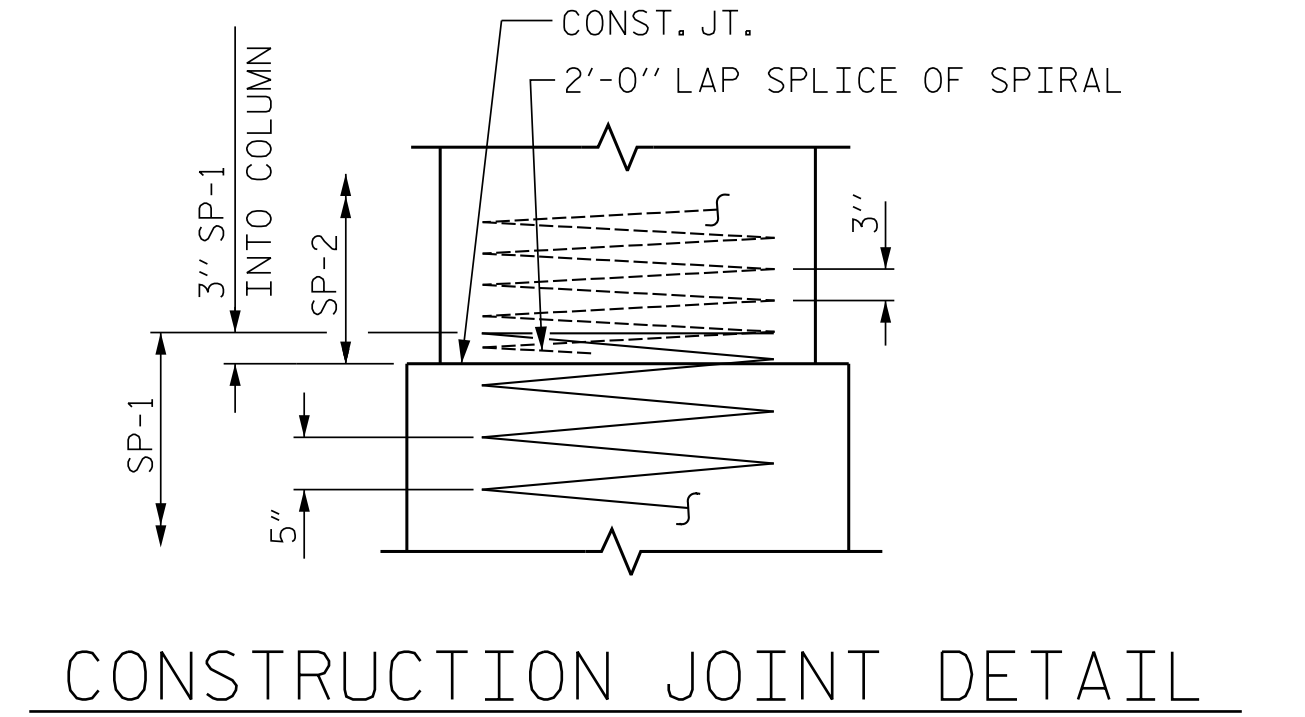
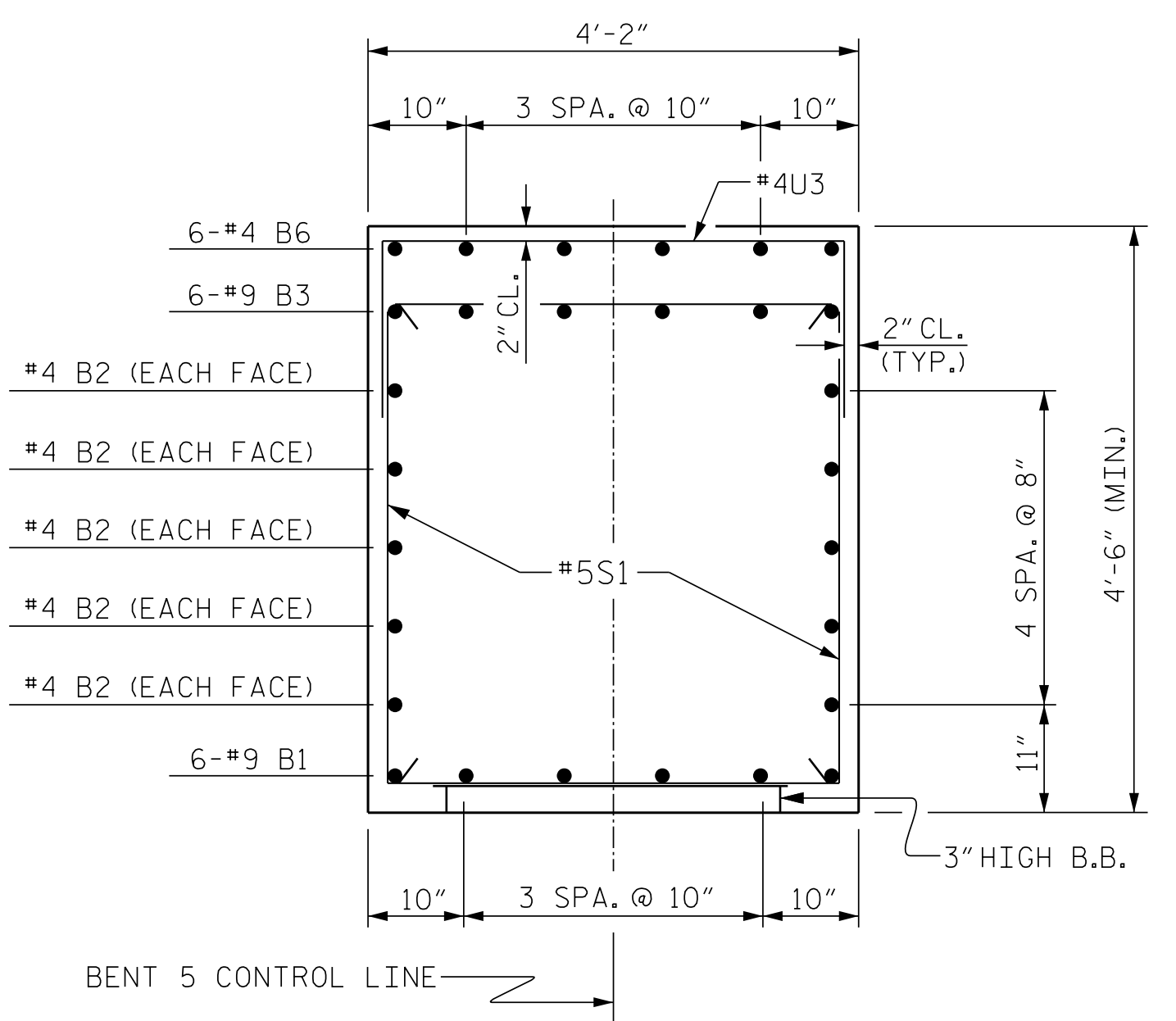
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NO.	BY:	DATE:	NO.	BY:	DATE:	S1-42
1			3			TOTAL SHEETS
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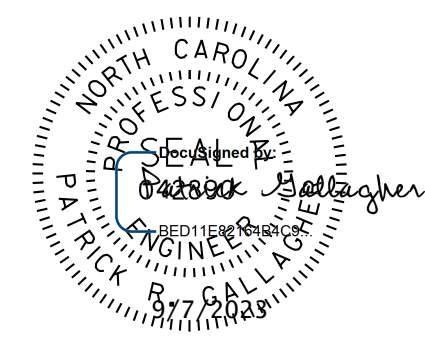
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CHKD. BY: PRG DATE: 03/2023
DES. EGR. OF RECORD: PRG DATE: 03/2023



BILL OF MATERIAL					
BENT NO. 5					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	6	#9	STR	34'-6"	704
B2	10	#4	STR	34'-6"	230
B3	6	#9	1	29'-4"	598
B4	2	#4	STR	8'-10"	12
B5	2	#4	STR	3'-10"	5
B6	6	#4	STR	10'-6"	42
B7	6	#9	1	12'-11"	263
M1	96	#11	1	44'-10"	22,867
S1	27	#5	2	13'-0"	366
S2	19	#5	2	14'-2"	281
U1	5	#4	3	7'-1"	24
U2	5	#4	3	8'-0"	27
U3	47	#4	3	6'-10"	215
V1	48	#9	1	19'-2"	3128
REINFORCING STEEL				28,762 LBS.	
SP-1	3	**	4	1842'-6"	5765
SP-2	3	*	5	662'-11"	1328
SPIRAL COLUMN REINFORCING STEEL				7,093 LBS.	
** THE SP-1 SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR					
* THE SP-2 SPIRAL REINFORCING STEEL SHALL BE W20 OR D-20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR					
CLASS A CONCRETE BREAKDOWN					
POUR #2 (COLUMNS)				17.4 C.Y.	
POUR #3 (CAP)				26.1 C.Y.	
TOTAL CLASS A CONCRETE				43.5 C.Y.	
DRILLED PIERS:					
DRILLED PIER CONCRETE POUR #1 (DRILLED PIERS)				108.9 C.Y.	



PROJECT NO. B-4926
 LENOIR COUNTY
 STATION: 25+45.00 -L-
 SHEET 2 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 BENT NO. 5

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

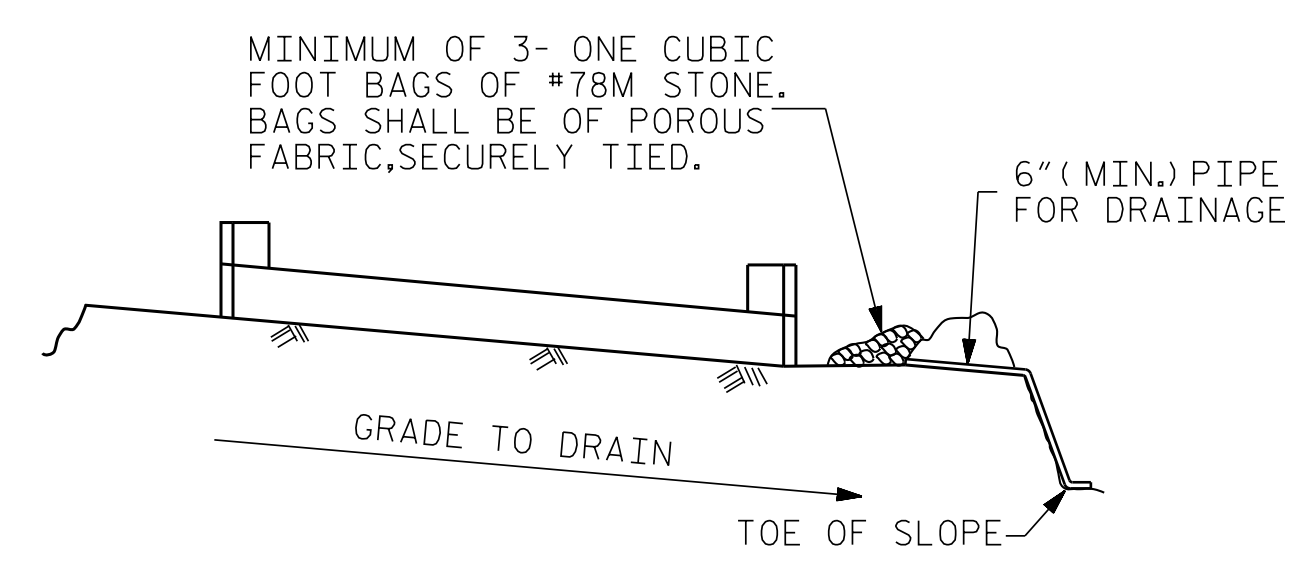
JMT Johnson, Mirmiran, & Thompson Inc.
 4700 Falls of Neuse Rd, Suite 100,
 Raleigh, NC, 27609
 License No: C-3097

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

SHEET NO. S1-43
 TOTAL SHEETS 49

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 DATE: 03/23 PM on Wednesday, September 06, 2023
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DWN. BY: WDC DATE: 03/2023
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 DES. EGR. OF RECORD: PRG DATE: 03/2023

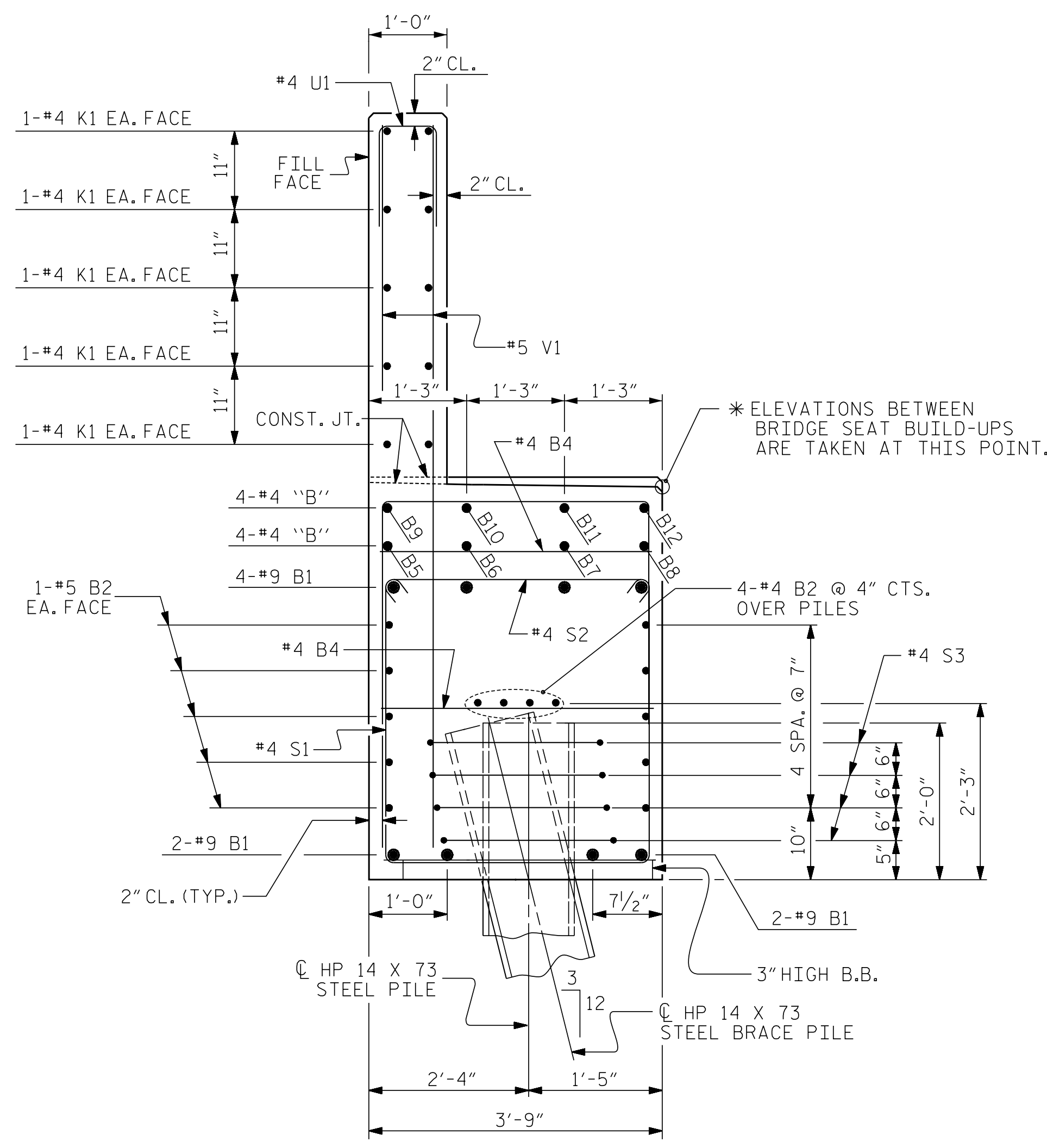


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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.

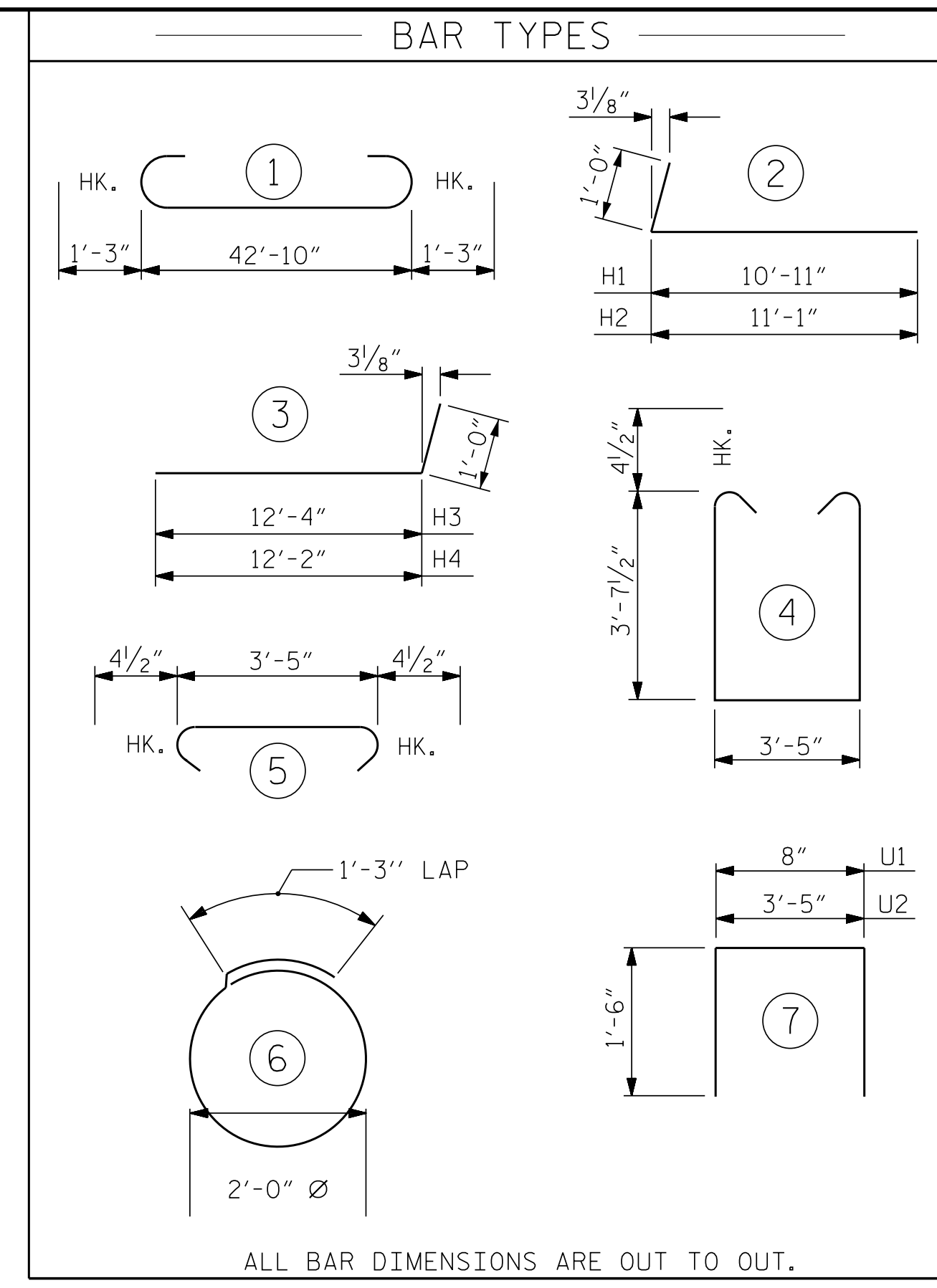
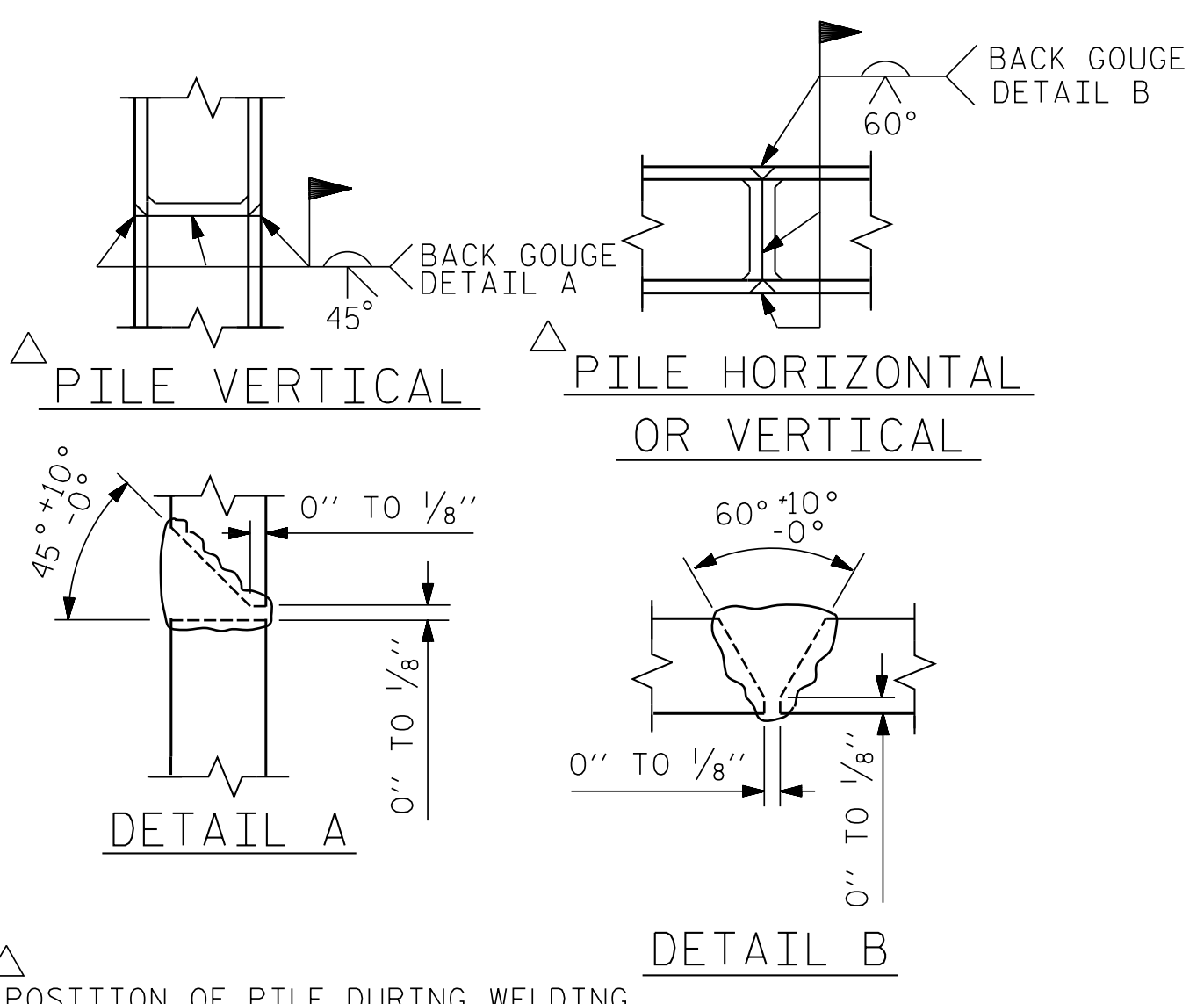
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT



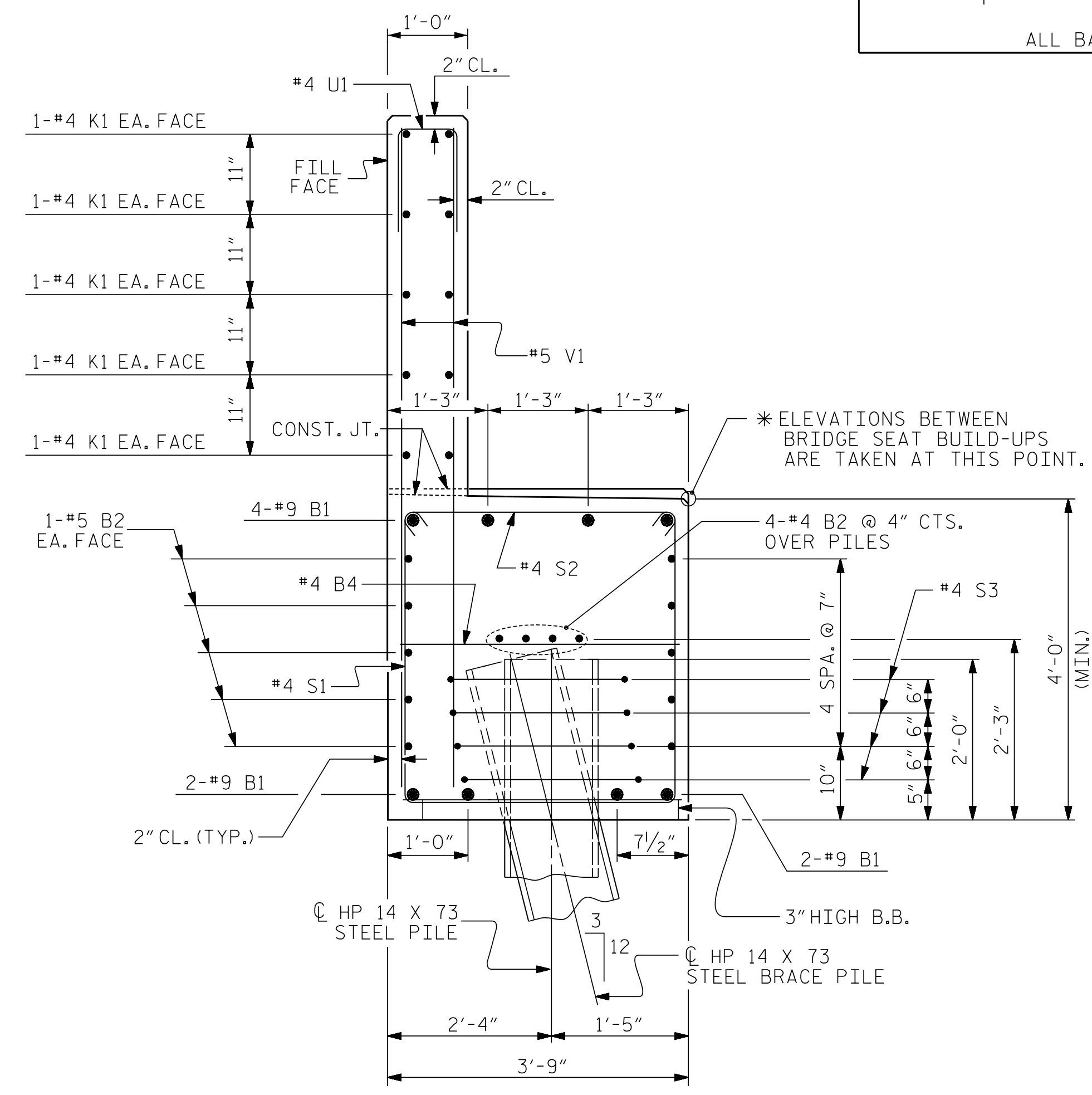
SECTION B-B

(CONCRETE COLLAR NOT SHOWN FOR CLARITY. SEE SHEET 1 OF 3 FOR DETAILS)



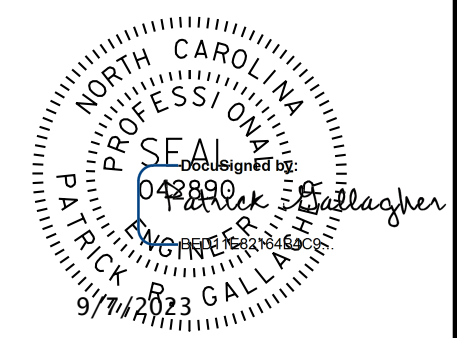
BILL OF MATERIAL					
END BENT NO. 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	45'-4"	1233
B2	10	#5	STR	42'-10"	447
B3	8	#4	STR	22'-8"	121
B4	14	#4	STR	3'-5"	32
B5	1	#4	STR	23'-10"	16
B6	1	#4	STR	23'-6"	16
B7	1	#4	STR	23'-2"	15
B8	1	#4	STR	22'-11"	15
B9	1	#4	STR	8'-10"	6
B10	1	#4	STR	8'-6"	6
B11	1	#4	STR	8'-2"	5
B12	1	#4	STR	7'-11"	5
H1	20	#6	2	11'-11"	358
H2	20	#6	2	12'-1"	363
H3	23	#6	3	13'-4"	460
H4	23	#6	3	13'-2"	455
K1	20	#4	STR	22'-8"	303
K2	12	#4	STR	3'-4"	27
S1	52	#4	4	11'-5"	397
S2	52	#4	5	4'-2"	145
S3	32	#4	6	7'-7"	162
U1	36	#4	7	3'-8"	88
U2	16	#4	7	6'-5"	69
V1	72	#5	STR	8'-0"	601
V2	32	#5	STR	9'-8"	323
V3	10	#5	STR	10'-7"	110
V4	8	#5	STR	10'-6"	88
V5	8	#5	STR	10'-5"	87
V6	8	#5	STR	10'-4"	86

REINFORCING STEEL	6039 LBS.
CLASS A CONCRETE BREAKDOWN	
POUR #1 CAP, LOWER PART OF WINGS & COLLARS	31.6 C.Y.
POUR #2 BACKWALL & UPPER PART OF WINGS	12.8 C.Y.
TOTAL CLASS A CONCRETE	44.4 C.Y.



SECTION A-A

(CONCRETE COLLAR NOT SHOWN FOR CLARITY. SEE SHEET 1 OF 3 FOR DETAILS)



PROJECT NO. B-4926

LENOIR COUNTY

STATION: 25+45.00 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT No. 2
DETAILS

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

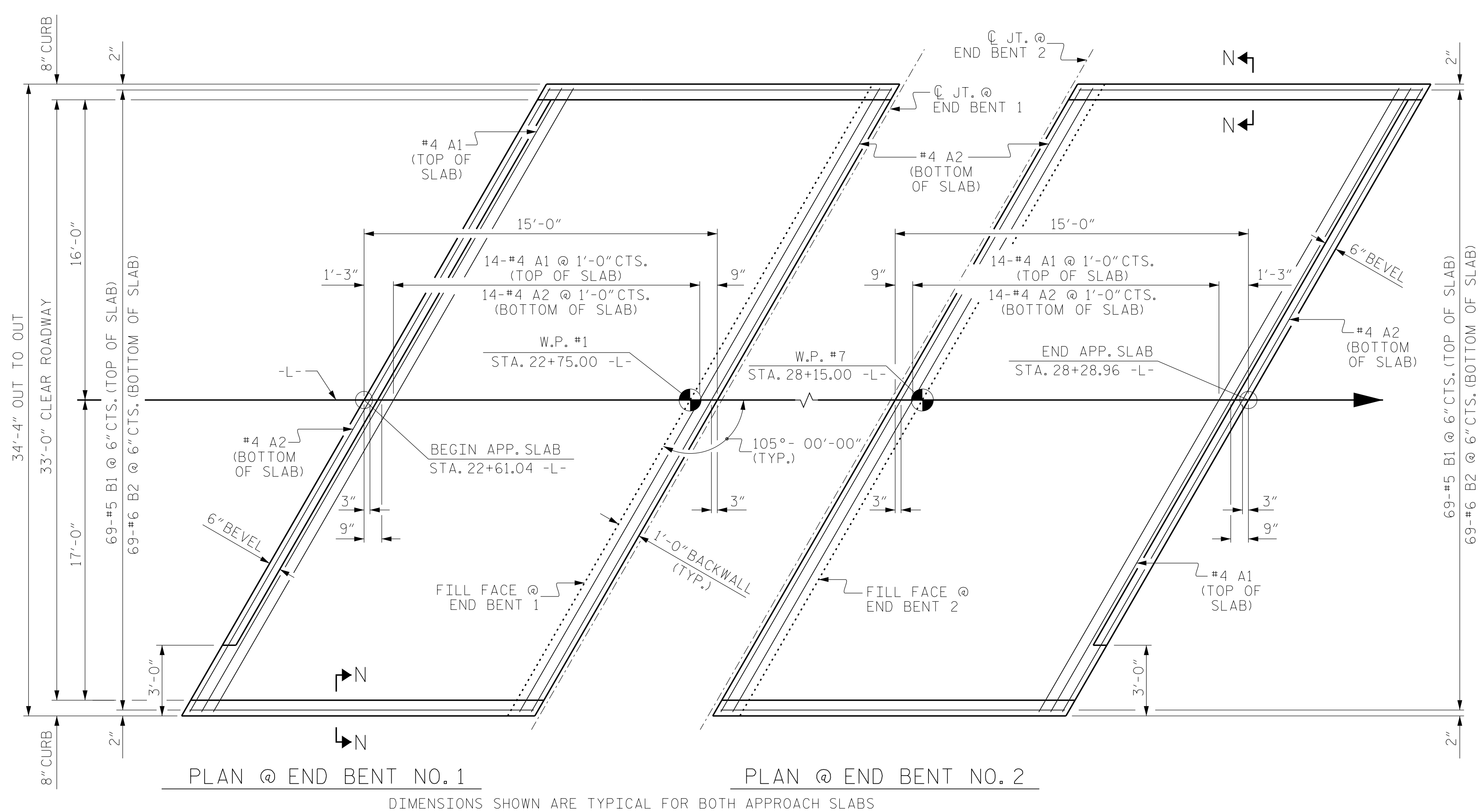
JWT Johnson, Mirmiran, & Thompson Inc.
4700 Falls of Neuse Rd, Suite 100,
Raleigh, NC, 27609
License No: C-3097

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

SHEET NO.	S1-46
TOTAL SHEETS	49

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 CHKD. BY: PRG
 DES. EGR. OF RECORD: PRG

DATE: 03/2023
 DATE: 03/2023
 DATE: 03/2023



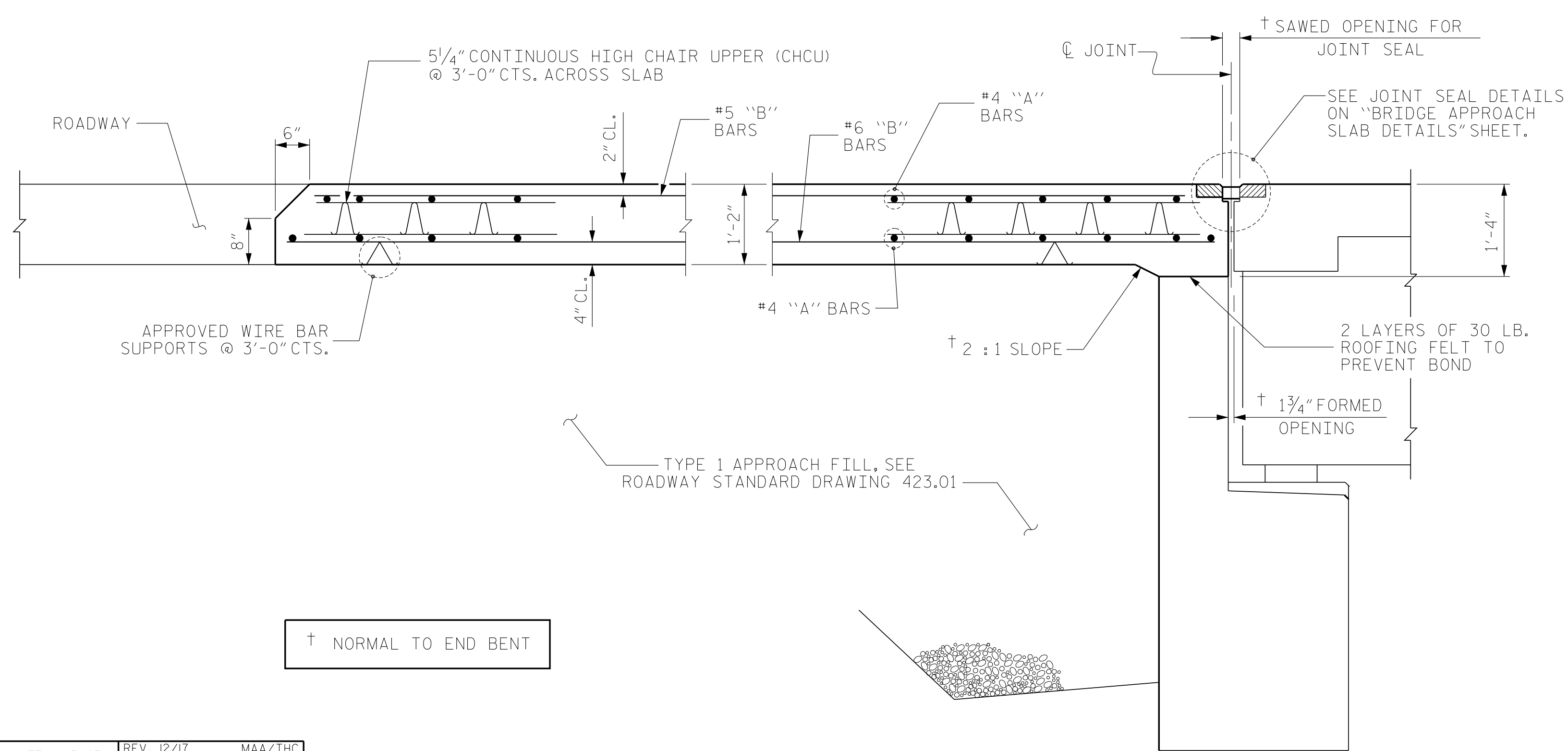
DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS

NOTES

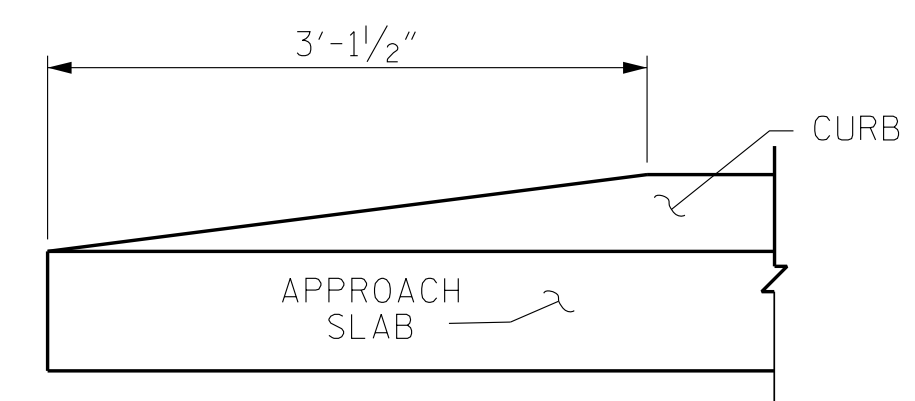
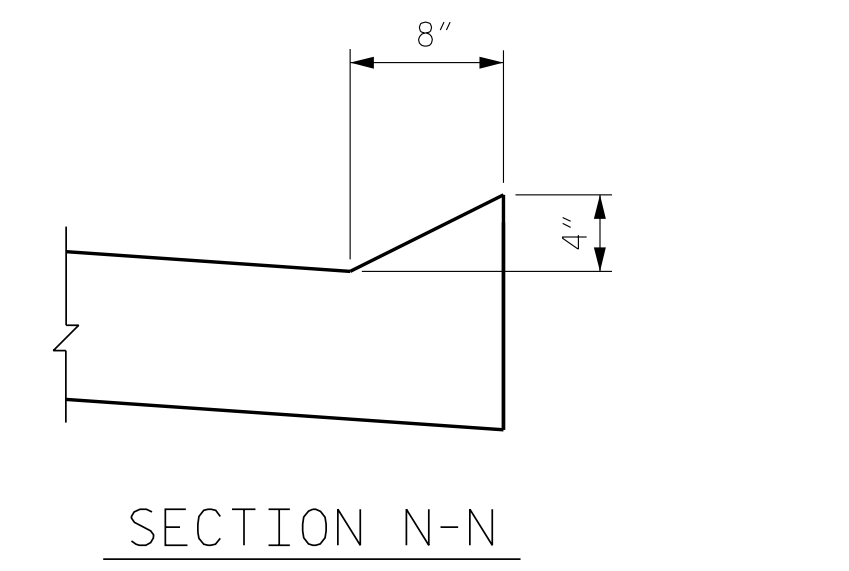
FOR BRIDGE APPROACH FILL, SEE ROADWAY PLANS.
 APPROACH SLAB SHALL NOT BE CONSTRUCTED PRIOR TO COMPLETION OF THE BRIDGE DECK.
 THE JOINT SHALL BE SAWS PRIOR TO THE CASTING OF THE BARRIER RAIL OR PARAPET AND END POST.
 AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.
 WITH FOAM JOINT SEAL
 FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
 THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 3/2\"/>

BILL OF MATERIAL					
APPROACH SLAB AT BENT 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	15	#4	STR	35'-2"	352
A2	16	#4	STR	35'-2"	376
*B1	69	#5	STR	14'-2"	1020
B2	69	#6	STR	14'-8"	1520
REINFORCING STEEL				LBS.	1896
*EPOXY COATED REINFORCING STEEL				LBS.	1372
CLASS AA CONCRETE				C. Y.	22.3
APPROACH SLAB AT BENT 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	15	#4	STR	35'-2"	352
A2	16	#4	STR	35'-2"	376
*B1	69	#5	STR	14'-2"	1020
B2	69	#6	STR	14'-8"	1520
REINFORCING STEEL				LBS.	1896
*EPOXY COATED REINFORCING STEEL				LBS.	1372
CLASS AA CONCRETE				C. Y.	22.3

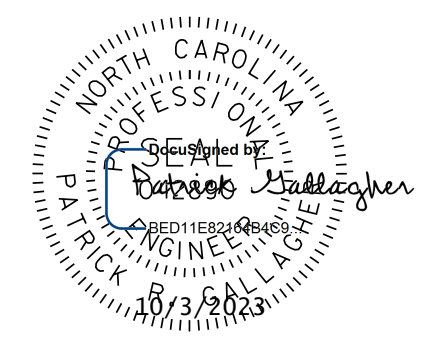
SPlice LENGTHS		
BAR SIZE	EPOXY COATED	UNCOATED
#4	1'-11"	1'-7"
#5	2'-5"	2'-0"
#6	3'-7"	2'-5"



SECTION THRU SLAB
(TYPE 1 - APPROACH FILL)



END OF CURB WITHOUT SHOULDER BERM GUTTER
CURB DETAILS

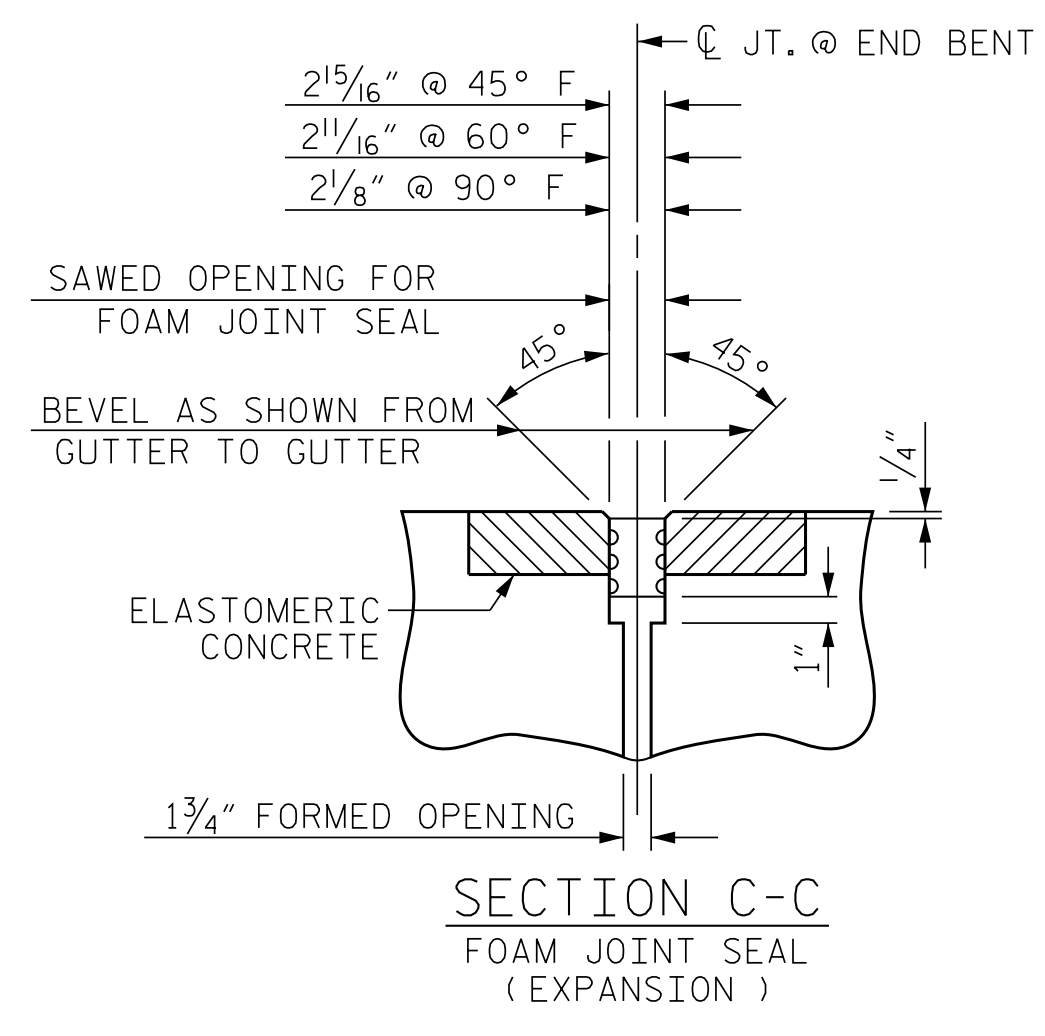
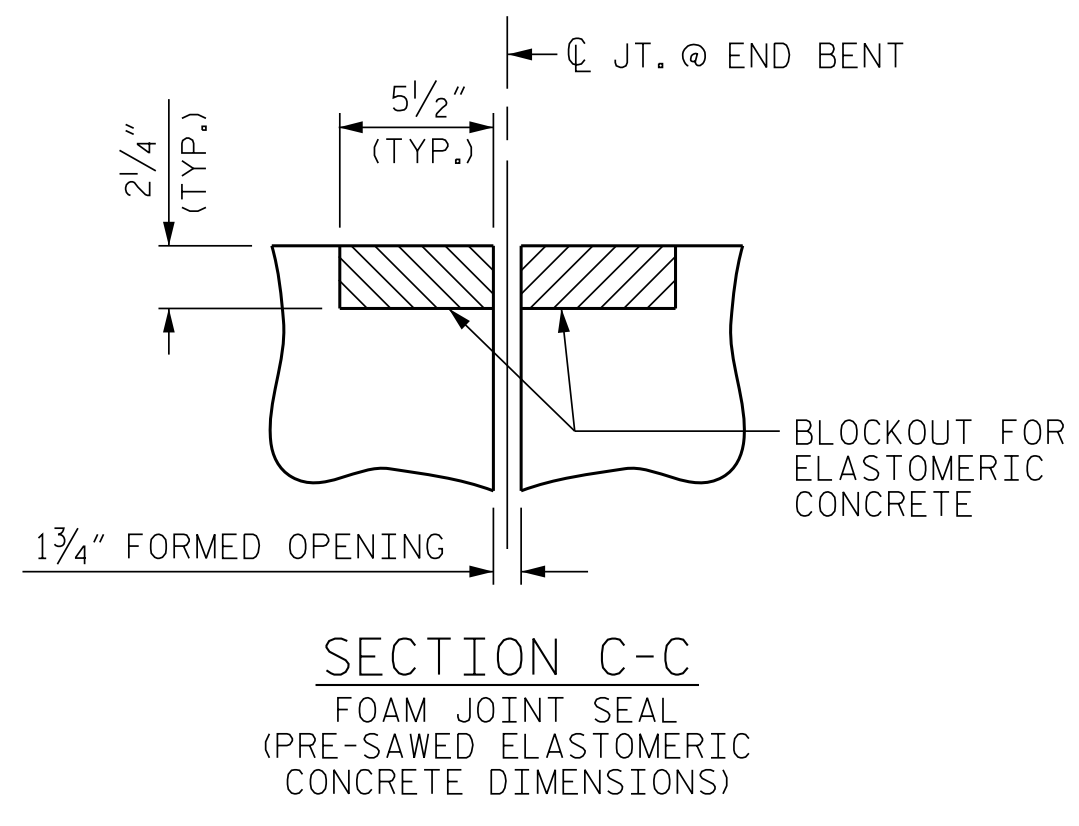


PROJECT NO. B-4926
LENOIR COUNTY
 STATION: 25+45.00 -L-
 SHEET 1 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD BRIDGE APPROACH SLAB FOR FLEXIBLE PAVEMENT					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

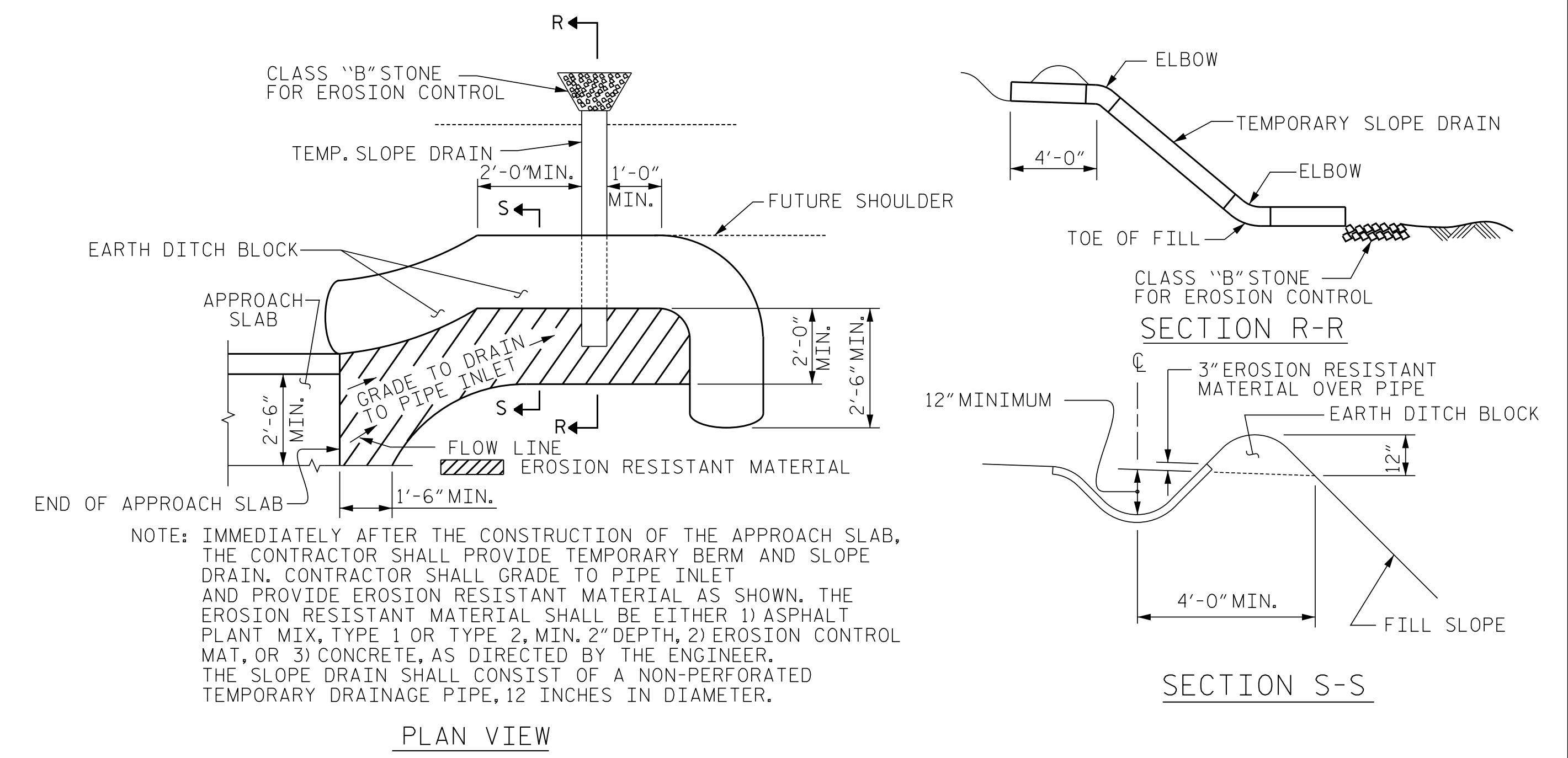
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

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CHECKED BY : VAP 3/95	REV. 06/19	BNB/THC
	REV. 07/23	BNB/SNM
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CHKD. BY: PRG	DATE: 03/2023	
DES. EGR. OF RECORD: PRG	DATE: 03/2023	

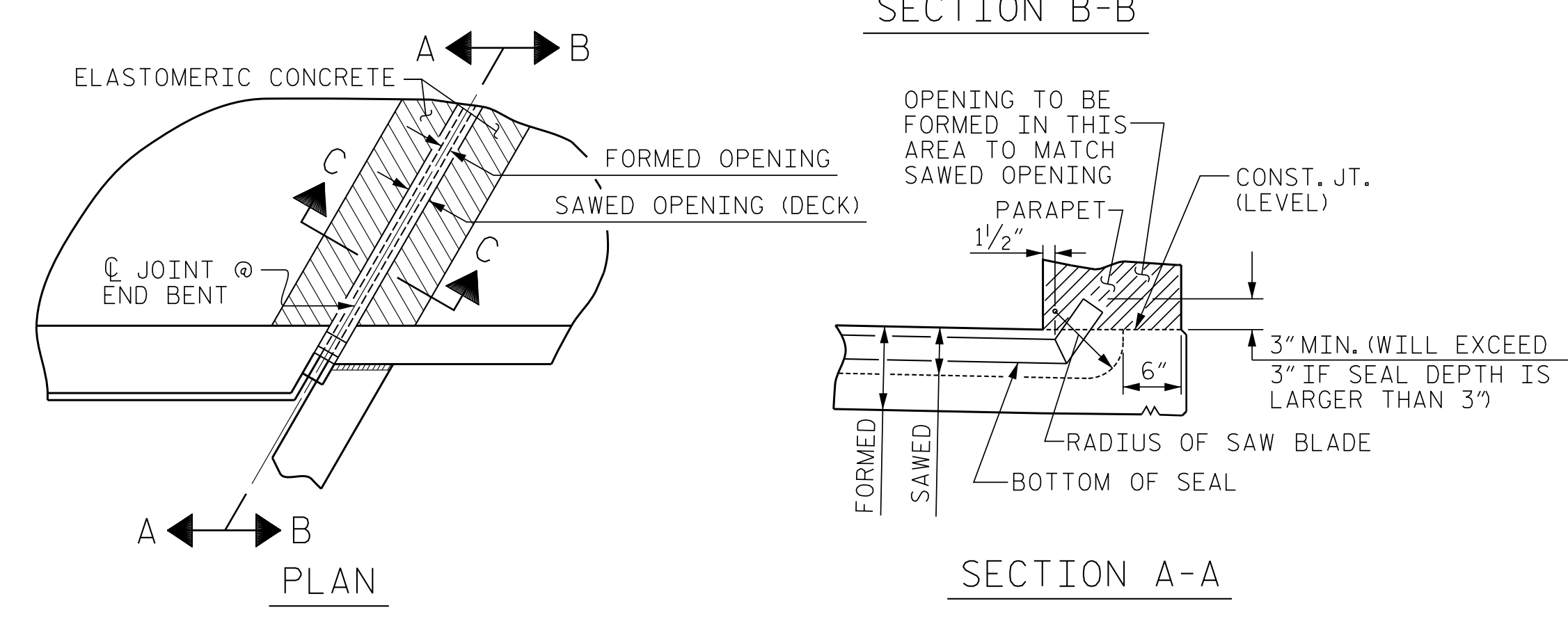
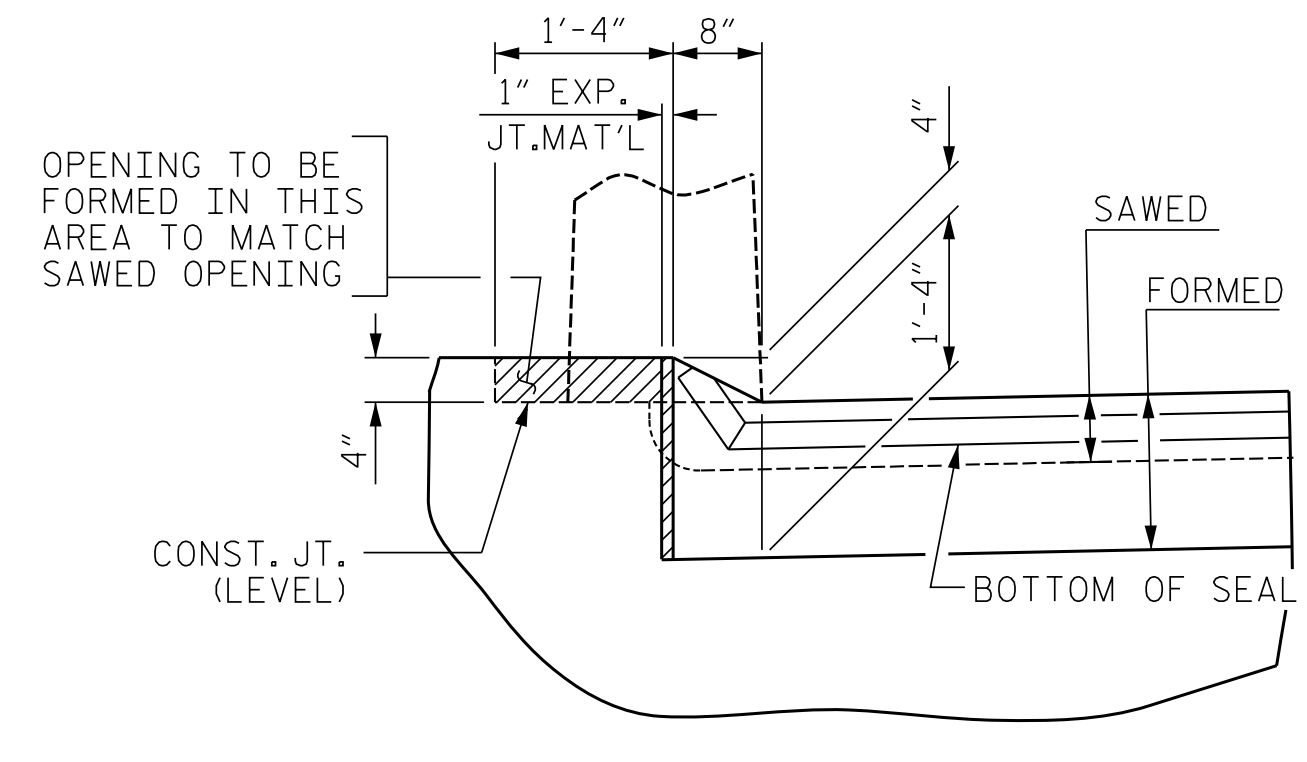


ELASTOMERIC CONCRETE	
END BENT NO.	ELASTOMERIC CONCRETE * (CU. FT.)
1	5.9
2	5.9
TOTAL	11.8

* BASED ON THE MINIMUM BLOCKOUT SHOWN.

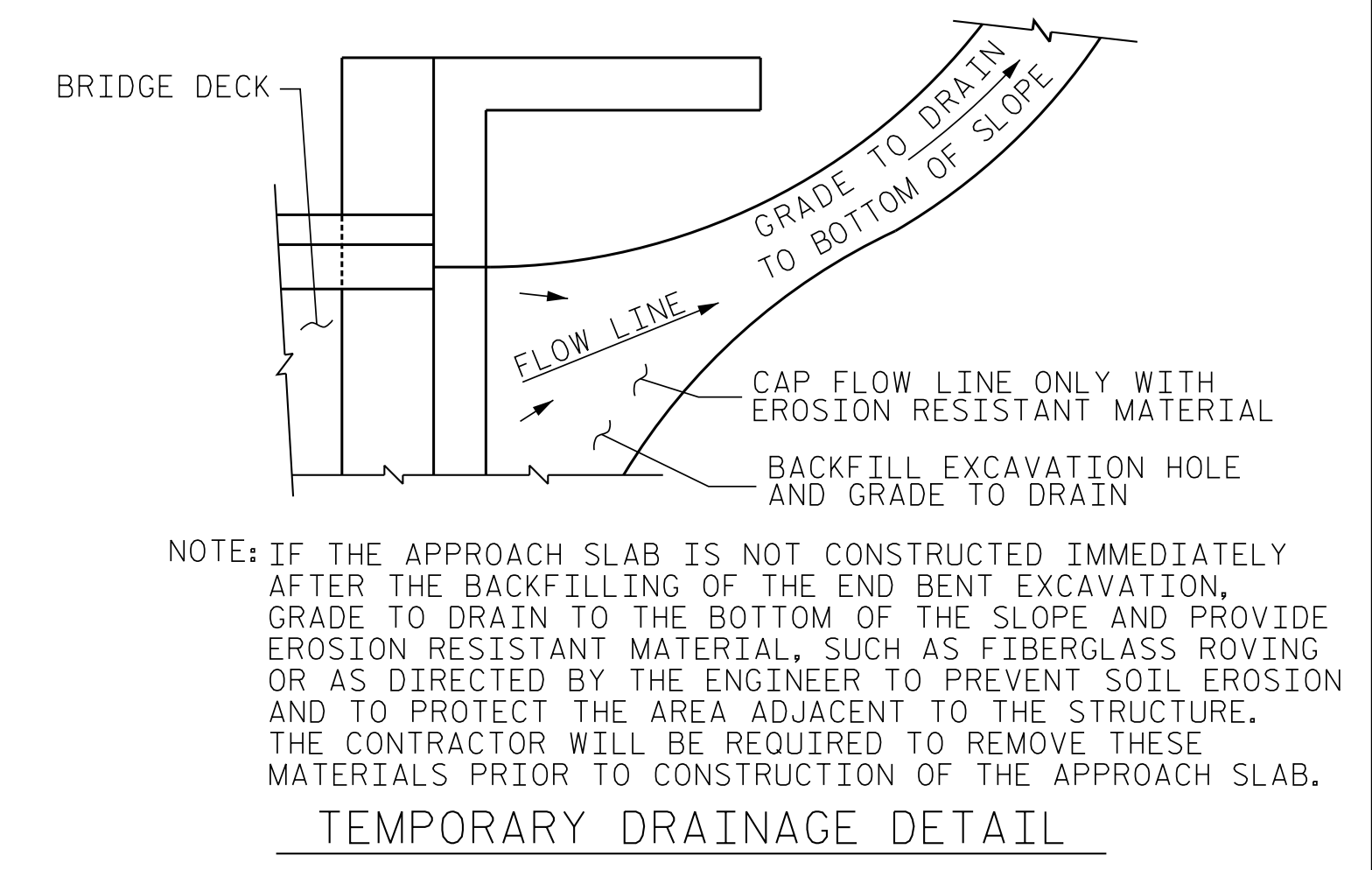


TEMPORARY BERM AND SLOPE DRAIN DETAILS
(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)

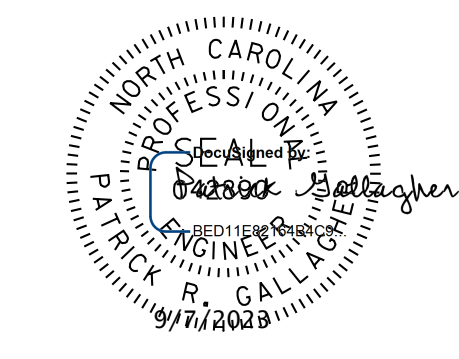


JOINT SEAL DETAILS @ END BENT

FOAM JOINT SEAL TO BE CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF THE PARAPET.
THE JOINT SHALL BE SAWED PRIOR TO THE CASTING OF THE PARAPET.



PROJECT NO. B-4926
LENOIR COUNTY
STATION: 25+45.00 -L-
SHEET 2 OF 2



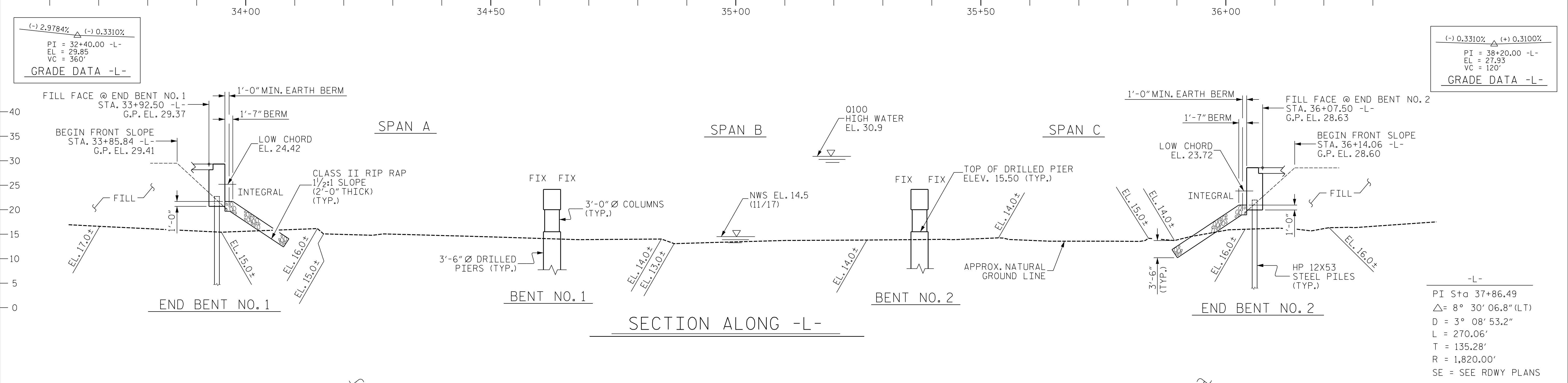
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
BRIDGE APPROACH
SLAB DETAILS

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

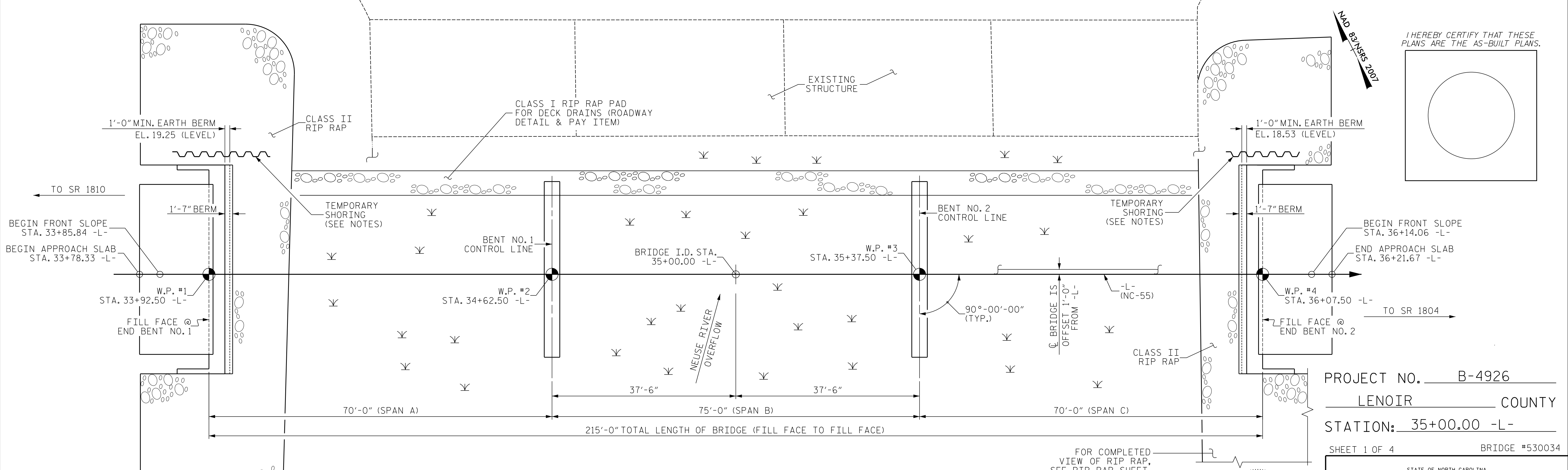
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-49
1			3			TOTAL SHEETS 49
2			4			

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 TIME: 01:33

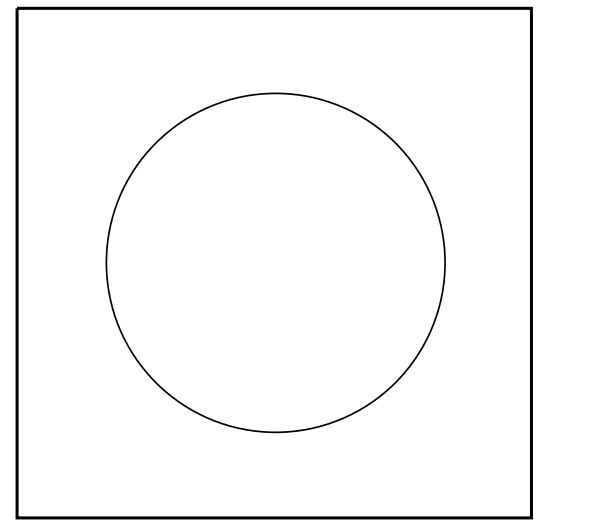
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DES. EGR. OF RECORD: PRG	DATE: 03/2023			REV. 5/18	MAA/THC



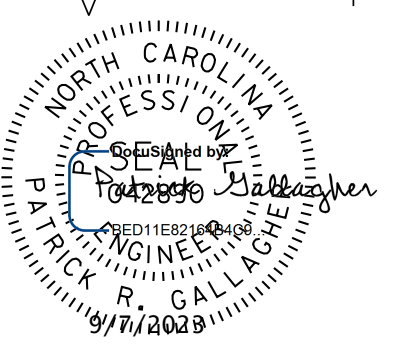
-L-
 PI Sta 37+86.49
 Δ = 8° 30' 06.8" (LT)
 D = 3° 08' 53.2"
 L = 270.06'
 T = 135.28'
 R = 1,820.00'
 SE = SEE RDWY PLANS



I HEREBY CERTIFY THAT THESE PLANS ARE THE AS-BUILT PLANS.



PROJECT NO. B-4926
 LENOIR COUNTY
 STATION: 35+00.00 -L-
 SHEET 1 OF 4 BRIDGE #530034



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE OVER
 NEUSE RIVER OVERFLOW
 ON NC-55 BETWEEN
 SR 1810 AND SR 1804

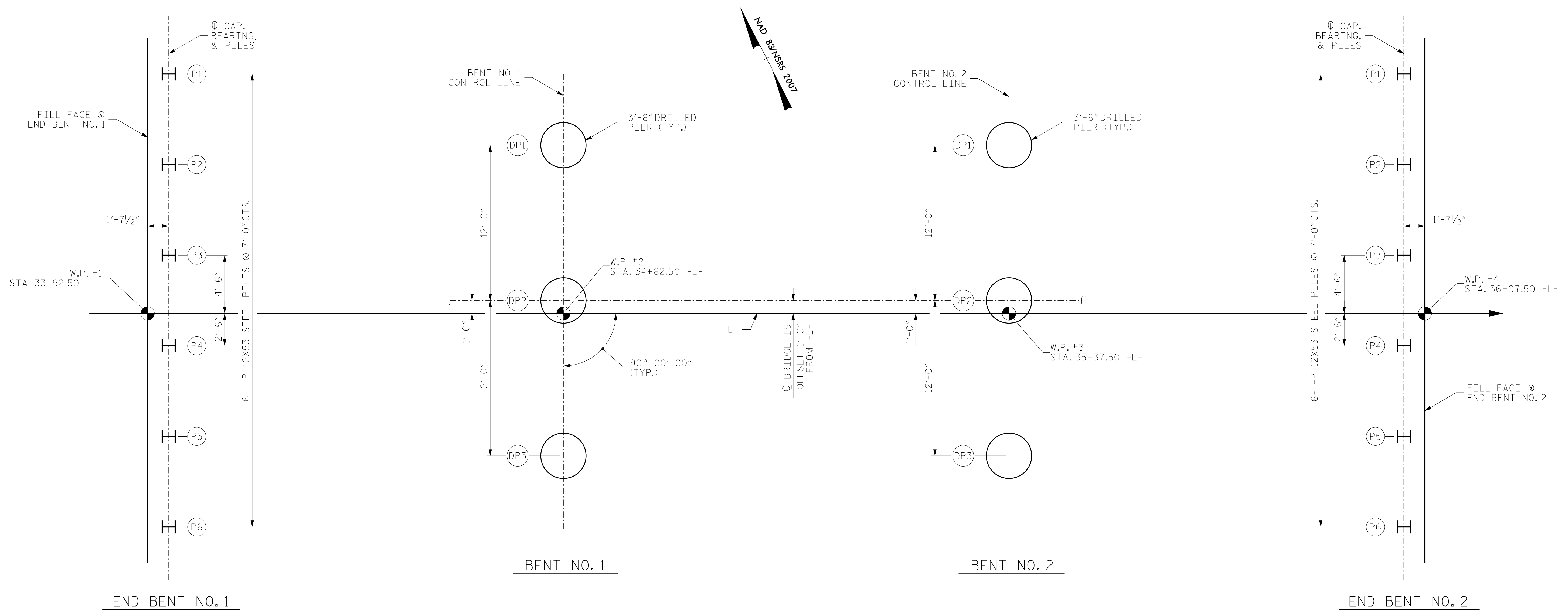
**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**

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 License No: C-3097

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-1
1			3			TOTAL SHEETS
2			4			39

DWN. BY: WDC DATE: 03/2023
 CHKD. BY: PRG DATE: 03/2023
 DES. EGR. OF RECORD: PRG DATE: 03/2023

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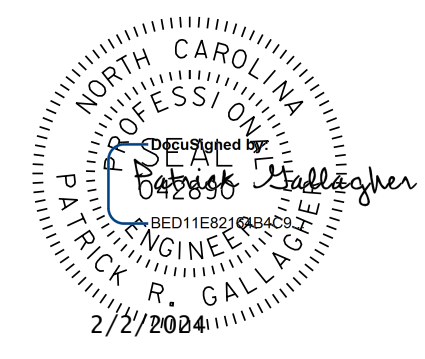


FOUNDATION LAYOUT

FOUNDATION NOTES

1. FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
2. FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
3. INSTALL PERMANENT STEEL CASINGS AT BENT NO.1 BY VIBRATING, SCREWING OR DRIVING PERMANENT CASINGS BEFORE EXCAVATING OR DISTURBING ANY MATERIAL BELOW ELEVATION 4.5 FT.
4. INSTALL PERMANENT STEEL CASINGS AT BENT NO.2 BY VIBRATING, SCREWING OR DRIVING PERMANENT CASINGS BEFORE EXCAVATING OR DISTURBING ANY MATERIAL BELOW ELEVATION 4.5 FT.
5. DO NOT DEWATER DRILLED PIER EXCAVATIONS AT BENT NO.1 AND BENT NO.2. CLEAN THE BOTTOM OF EXCAVATIONS WITH A SUBMERSIBLE PUMP OR AN AIRLIFT. WET PLACEMENT OF CONCRETE IS REQUIRED.
6. SLURRY CONSTRUCTION IS REQUIRED FOR DRILLED PIERS AT BENT NO.1 AND BENT NO.2.
7. POLYMER SLURRY IS REQUIRED FOR DRILLED PIERS AT BENT NO.1 AND BENT NO.2.
8. SEE ROADWAY PLANS AND SECTION 235 OF THE STANDARD SPECIFICATIONS FOR THE SETTLEMENT GAUGES REQUIRED AT END BENT NO.1 AND END BENT NO.2.
9. OBSERVE A 3 MONTH WAITING PERIOD AFTER CONSTRUCTING THE EMBANKMENT TO WITHIN 2 FT OF FINISHED GRADE BEFORE BEGINNING END BENT CONSTRUCTION AT END BENT NO.1. FOR BRIDGE WAITING PERIODS, SEE ROADWAY PLANS AND SECTION 235 OF THE STANDARD SPECIFICATIONS.
10. OBSERVE A 2 MONTH WAITING PERIOD AFTER CONSTRUCTING THE EMBANKMENT TO WITHIN 2 FT OF FINISHED GRADE BEFORE BEGINNING END BENT CONSTRUCTION AT END BENT NO.2. FOR BRIDGE WAITING PERIODS, SEE ROADWAY PLANS AND SECTION 235 OF THE STANDARD SPECIFICATIONS.
11. TERMINATION OF THE WAITING PERIODS FOR END BENT NO.1 AND END BENT NO.2 SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER OF RECORD BASED ON SETTLEMENT GAUGE MONITORING DATA.

PROJECT NO. B-4926
LENOIR COUNTY
 STATION: 35+00.00 -L-
 SHEET 2 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE OVER
 NEUSE RIVER OVERFLOW
 ON NC-55 BETWEEN
 SR 1810 AND SR 1804

**DOCUMENT NOT CONSIDERED FINAL
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-2
1			3			TOTAL SHEETS
2			4			39

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 Time: 1/31/2024 7:50:50 AM

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 CHKD. BY: PRG DATE: 03/2023
 DES. EGR. OF RECORD: PRG DATE: 03/2023