

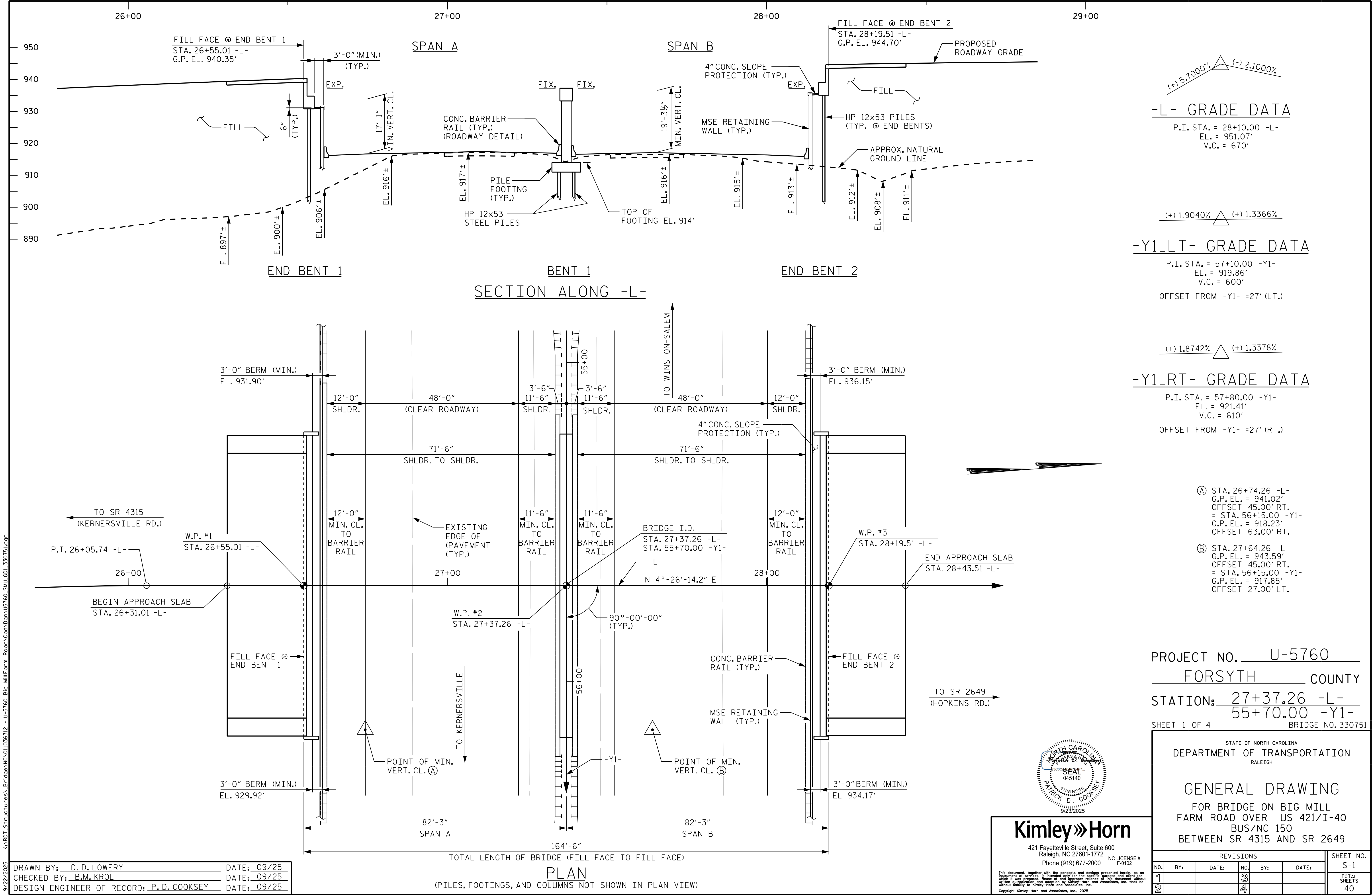
CONTRACT: C205012

100% PLANS

FORSYTH COUNTY

STRUCTURES





K:\B01-Structures\Bridges\N\01036312 - U-5760 Big Mill Farm Road\Coord\Drawings\U5760-SMALL\CDL-330751.dgn 9/22/2025

DRAWN BY: D.D. LOWERY DATE: 09/25
CHECKED BY: B.M. KROL DATE: 09/25
DESIGN ENGINEER OF RECORD: P.D. COOKSEY DATE: 09/25

Kimley»Horn
421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000 NC LICENSE # F-0102
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PROJECT NO. <u>U-5760</u>					
FORSYTH COUNTY					
STATION: <u>27+37.26 -L-</u>					
<u>55+70.00 -Y1-</u>					
SHEET 1 OF 4 BRIDGE NO. 330751					
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
GENERAL DRAWING FOR BRIDGE ON BIG MILL FARM ROAD OVER US 421/I-40 BUS/NC 150 BETWEEN SR 4315 AND SR 2649					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-1					TOTAL SHEETS 40



FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

OBSERVE A 2 MONTH WAITING PERIOD AFTER CONSTRUCTING THE MSE ABUTMENT WALLS, END BENTS AND BRIDGE APPROACH FILLS, IF APPLICABLE, BEFORE BEGINNING APPROACH SLAB CONSTRUCTION AT END BENT NOS. 1 AND 2. FOR BRIDGE WAITING PERIODS, SEE ROADWAY PLANS AND SECTION 235 OF THE STANDARD SPECIFICATIONS.

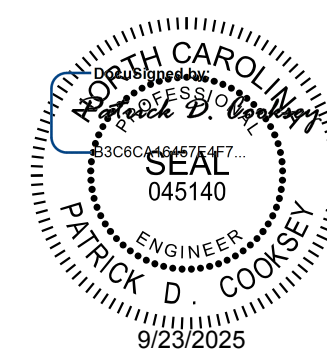
IT HAS BEEN ESTIMATED THAT A HAMMER WITH AN EQUIVALENT RATED ENERGY IN THE RANGE OF 28,000 FT-LBS TO 42,000 FT-LBS PER BLOW WILL BE REQUIRED TO DRIVE PILES AT END BENT NOS. 1 AND 2. THIS ESTIMATED ENERGY RANGE DOES NOT RELEASE THE CONTRACTOR FROM PROVIDING DRIVING EQUIPMENT IN ACCORDANCE WITH SUBARTICLE 450-3 (D)(2) OF THE STANDARD SPECIFICATIONS.

DRIVE PILES AT END BENT NOS. 1 AND 2 PRIOR TO THE CONSTRUCTION OF MSE ABUTMENT WALLS.

DRAWN BY: D. D. LOWERY DATE: 09/25
 CHECKED BY: B.M. KROL DATE: 09/25
 DESIGN ENGINEER OF RECORD: P. D. COOKSEY DATE: 09/25

PROJECT NO. U-5760
FORSYTH COUNTY
 STATION: 27+37.26 -L-

SHEET 2 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON BIG MILL
FARM ROAD OVER US 421/I-40
BUS/NC 150
BETWEEN SR 4315 AND SR 2649

REVISIONS						SHEET NO. S-2
NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			

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Raleigh, NC 27601-1772
Phone (919) 677-2000

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SUMMARY OF PILE INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

[illegible]

$$* \text{ RDR} = \frac{\text{Factored Resistance} + \text{Factored Drag Load} + \text{Factored Dead Load}}{\text{Dynamic Resistance Factor}} + \text{Nominal Drag Load Resistance} + \text{Nominal Resistance from Scourable Material}$$

**** 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.**

PILE DESIGN INFORMATION

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Factored Axial Load per Pile KIPS	Factored Drag Load per Pile KIPS	Factored Dead Load * per Pile KIPS	Dynamic Resistance Factor	Nominal Drag Resistance per Pile KIPS	Nominal Scour Resistance per Pile KIPS
End Bent No. 1 (Piles 1-16)	215			0.6		
Bent No. 1 (Piles 1-36)	200			0.6		
End Bent No. 2 (Piles 1-16)	215			0.6		

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

PROJECT NO. U-5760

 FORSYTH COUNTY

STATION: 27+37.26 -L- / 55+70.00 -Y1-

BRIDGE NO. 751

NOTES:

1. The Pile Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (MICHAEL H. STEPHENS, #028893) on 08-21-2024.
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 may adjust the quantity for DPT Testing and Pipe Pile Plates when necessary.



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PILE FOUNDATION TABLES

SIGNATURE _____ DATE _____

REVISIONS

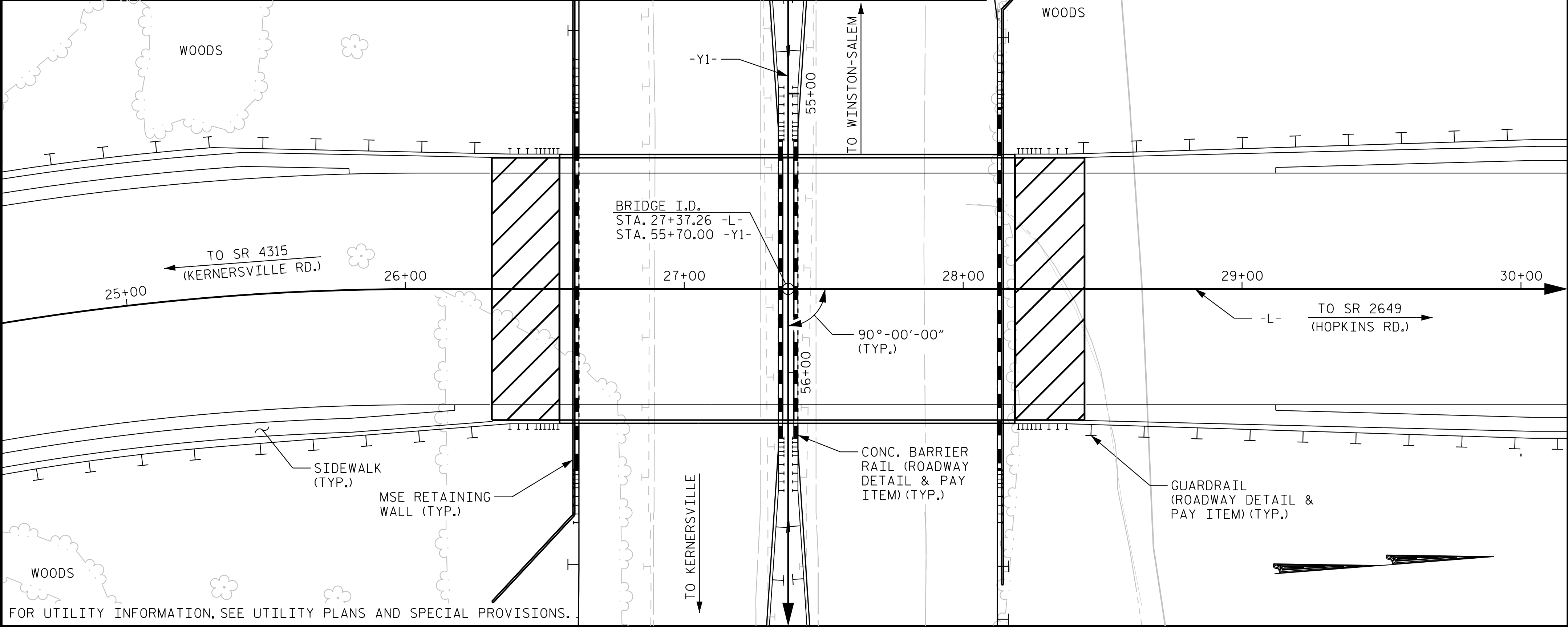
SHEET NO
S-3

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

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

TOTAL
SHEETS
39

BM#2: STA. 35+00.09 -L-, 145.51' LT., R.R. SPIKE SET IN 24" POPLAR TREE, EL. 924.97'



LOCATION SKETCH

NOTES

- ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.
- THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH 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 MAINTENANCE AND PROTECTION OF TRAFFIC BENEATH PROPOSED STRUCTURE, SEE SPECIAL PROVISIONS.
- METAL STAY-IN-PLACE FORMS SHALL NOT BE WELDED TO BEAM OR GIRDER FLANGES IN THE REGION OF THE LINK SLAB.
- 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.
- NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.
- THE ELEVATIONS AND CLEARANCES SHOWN ON THE PLANS AT THE POINTS OF MINIMUM VERTICAL CLEARANCE ARE FROM THE BEST INFORMATION AVAILABLE. PRIOR TO BEGINNING BRIDGE CONSTRUCTION, VERIFY THE ELEVATIONS ON THE EXISTING PAVEMENT AND CHECK THE CLEARANCE. REPORT ANY VARIATIONS TO THE ENGINEER. ANY PLAN REVISIONS NECESSARY TO ACHIEVE THE REQUIRED MINIMUM VERTICAL CLEARANCE WILL BE PROVIDED BY THE DEPARTMENT.
- 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.

- FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
- FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

TOTAL BILL OF MATERIAL

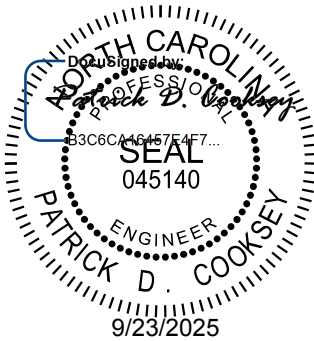
	FOUNDATION EXCAVATION FOR BENT NO.1 AT STA. 27+37.26 -L-	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE (BRIDGE)	BRIDGE APPROACH SLABS STA. 27+37.26 -L-	REINFORCING STEEL (BRIDGE)	SPIRAL COLUMN REINFORCING STEEL	54" PRESTRESSED CONCRETE GIRDERS	PILE DRIVING EQUIPMENT SETUP FOR HP 12x53 STEEL PILES	HP 12x53 STEEL PILES	CLASSIC CONCRETE BRIDGE RAIL	4" SLOPE PROTECTION	ELASTOMERIC BEARINGS	FOAM JOINT SEALS	ELECTRICAL CONDUIT SYSTEM AT STATION 27+37.26 -L-	ELECTRICAL CONDUIT SYSTEM FOR SIGNALS AT STATION 27+37.26 -L-
	LUMP SUM	SQ. FT.	SQ. FT.	CU. YDS.	LUMP SUM	LBS.	LBS.	NO.	LIN. FT.	EA.	NO.	LIN. FT.	LIN. FT.	SQ. YDS	LUMP SUM	LUMP SUM
SUPERSTRUCTURE		15,638	16,787		LUMP SUM			22	1,776.5			324.67		LUMP SUM	LUMP SUM	
END BENT 1				58.6		12,523			16	16	880	26.8				
BENT 1	LUMP SUM			150.6		24,561	2,666		36	36	900					
END BENT 2				58.9		12,523			16	16	800	26.8				
TOTAL	LUMP SUM	15,638	16,787	268.1	LUMP SUM	49,607	2,666	22	1,776.5	68	2,580	324.67	53.6	LUMP SUM	LUMP SUM	LUMP SUM

PROJECT NO. U-5760

FORSYTH COUNTY

STATION: 27+37.26 -L-

SHEET 4 OF 4



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Raleigh, NC 27601-1772
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON BIG MILL
FARM ROAD OVER US 421/I-40
BUS/NC 150
BETWEEN SR 4315 AND SR 2649

REVISIONS						SHEET NO. S-4
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

DRAWN BY: D. D. LOWERY DATE: 09/25

CHECKED BY: B. M. KROL DATE: 09/25

DESIGN ENGINEER OF RECORD: P. D. COOKSEY DATE: 09/25

LOAD FACTORS:

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

NOTES:

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

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

COMMENTS:

1.

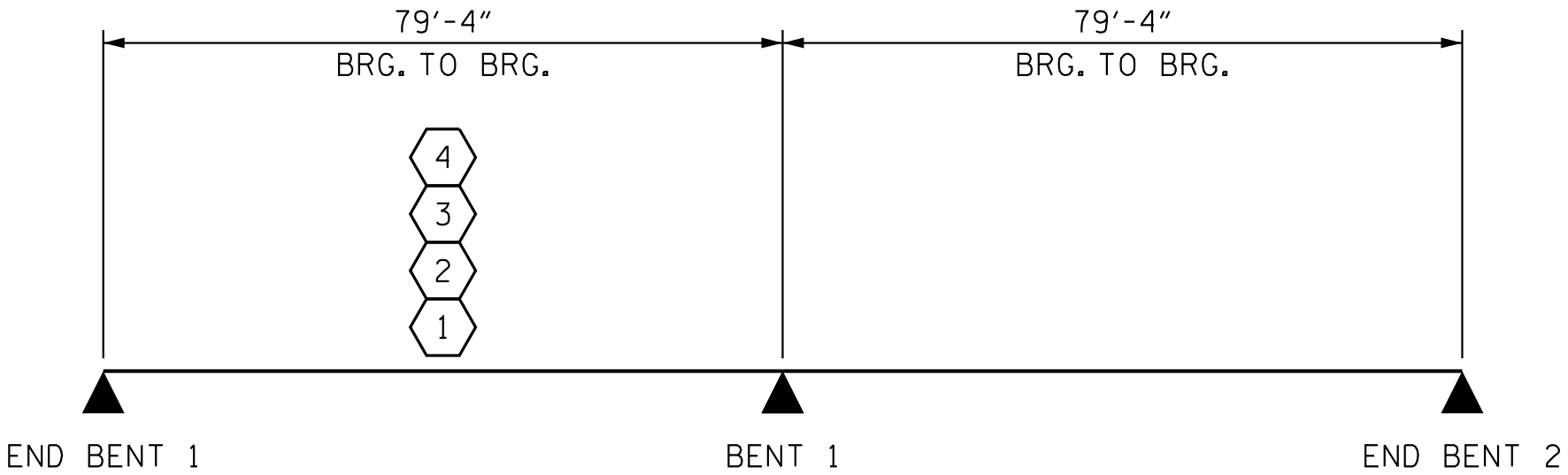
2.

3.

4.

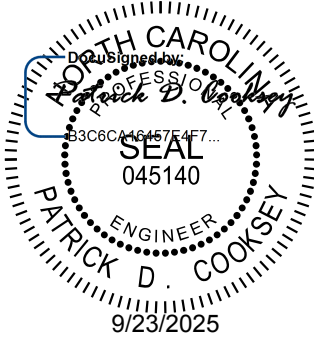
#	CONTROLLING LOAD RATING
1	DESIGN LOAD RATING (HL-93)
2	DESIGN LOAD RATING (HS-20)
3	LEGAL LOAD RATING **
4	EMERGENCY VEHICLE LOAD RATING **
** SEE CHART FOR VEHICLE TYPE	
GIRDER LOCATION	
I - INTERIOR GIRDER EL - EXTERIOR LEFT GIRDER ER - EXTERIOR RIGHT GIRDER	

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS																								
LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING #	MINIMUM RATING FACTORS (RF)	TONS = W × RF	STRENGTH I LIMIT STATE											SERVICE III LIMIT STATE						COMMENT NUMBER	
						LIVE-LOAD FACTORS (γ _{LL})	MOMENT					SHEAR					LIVE-LOAD FACTORS (γ _{LL})	MOMENT						
							DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	1	1.22	--	1.75	0.816	1.31	A	EL	31.700	0.931	1.78	A	I	4.100	0.80	0.775	1.22	A	EL	31.700		
	HL-93 (OPERATING)	N/A		1.70	--	1.35	0.816	1.70	A	EL	31.700	0.931	2.34	A	I	4.100	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	2	1.62	58.32	1.75	0.816	1.74	A	EL	31.700	0.931	2.30	A	I	4.100	0.80	0.775	1.62	A	EL	31.700		
	HS-20 (OPERATING)	36.000		2.26	81.36	1.35	0.816	2.26	A	EL	31.700	0.931	3.01	A	I	4.100	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500		3.71	50.09	1.40	0.816	4.99	A	EL	31.700	0.931	7.11	A	I	4.100	0.80	0.775	3.71	A	EL	31.700	
		SNGARBS2	20.000		2.74	54.80	1.40	0.816	3.69	A	EL	31.700	0.931	5.00	A	I	4.100	0.80	0.775	2.74	A	EL	31.700	
		SNAGRIS2	22.000		2.58	56.76	1.40	0.816	3.48	A	EL	31.700	0.931	4.63	A	I	4.100	0.80	0.775	2.58	A	EL	31.700	
		SNCOTTS3	27.250		1.85	50.41	1.40	0.816	2.48	A	EL	31.700	0.931	3.50	A	I	4.100	0.80	0.775	1.85	A	EL	31.700	
		SNAGGRS4	34.925		1.53	53.44	1.40	0.816	2.06	A	EL	31.700	0.931	2.87	A	I	4.100	0.80	0.775	1.53	A	EL	31.700	
		SNS5A	35.550		1.50	53.33	1.40	0.816	2.02	A	EL	31.700	0.931	2.90	A	I	4.100	0.80	0.775	1.50	A	EL	31.700	
		SNS6A	39.950		1.37	54.73	1.40	0.816	1.85	A	EL	31.700	0.931	2.63	A	I	4.100	0.80	0.775	1.37	A	EL	31.700	
		SNS7B	42.000		1.31	55.02	1.40	0.816	1.76	A	EL	31.700	0.931	2.57	A	I	4.100	0.80	0.775	1.31	A	EL	31.700	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.67	55.11	1.40	0.816	2.25	A	EL	31.700	0.931	3.15	A	I	4.100	0.80	0.775	1.67	A	EL	31.700	
		TNT4A	33.075		1.68	55.57	1.40	0.816	2.26	A	EL	31.700	0.931	3.08	A	I	4.100	0.80	0.775	1.68	A	EL	31.700	
		TNT6A	41.600		1.37	56.99	1.40	0.816	1.84	A	EL	31.700	0.931	2.73	A	I	4.100	0.80	0.775	1.37	A	EL	31.700	
		TNT7A	42.000		1.37	57.54	1.40	0.816	1.85	A	EL	31.700	0.931	2.68	A	I	4.100	0.80	0.775	1.37	A	EL	31.700	
		TNT7B	42.000		1.42	59.64	1.40	0.816	1.90	A	EL	31.700	0.931	2.52	A	I	4.100	0.80	0.775	1.42	A	EL	31.700	
		TNAGRIT4	43.000		1.35	58.05	1.40	0.816	1.82	A	EL	31.700	0.931	2.43	A	I	4.100	0.80	0.775	1.35	A	EL	31.700	
		TNAGT5A	45.000		1.27	57.15	1.40	0.816	1.72	A	EL	31.700	0.931	2.41	A	I	4.100	0.80	0.775	1.27	A	EL	31.700	
		TNAGT5B	45.000	3	1.26	56.70	1.40	0.816	1.70	A	EL	31.700	0.931	2.31	A	I	4.100	0.80	0.775	1.26	A	EL	31.700	
EMERGENCY VEHICLE	EV2	28.750		1.93	55.49	1.30	0.816	2.80	A	EL	31.700	0.931	3.75	A	I	4.100	0.80	0.775	1.93	A	I	31.700		
	EV3	43.000	4	1.27	54.61	1.30	0.816	1.84	A	EL	31.700	0.931	2.49	A	I	4.100	0.80	0.775	1.27	A	I	31.700		



LRFR SUMMARY

PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-



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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

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

REVISIONS						SHEET NO. S-5
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

STD. NO. LRFR1

ASSEMBLED BY : D. D. LOWERY	DATE : 09/25
CHECKED BY : P. D. COOKSEY	DATE : 09/25
DRAWN BY : MAA 1/08	REV. 11/12/08RR MAA/GM
CHECKED BY : GM/DI 2/08	REV. 10/1/11 MAA/GM
	REV. 12/17 MAA/THC

NOTES

PROVIDE 1 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.

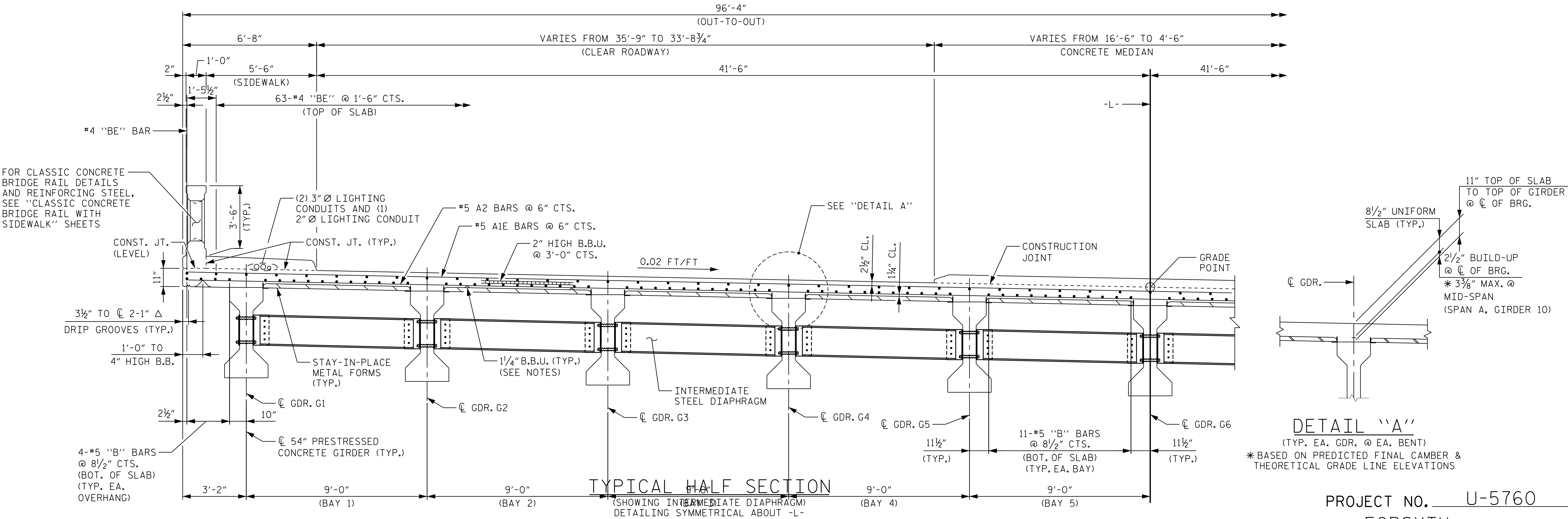
LONGITUDINAL STEEL MAY BE SHIFTED SLIGHTLY, AS NECESSARY, TO AVOID INTERFERENCE WITH STIRRUPS IN PRESTRESSED CONCRETE GIRDERS.

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.

CLASSIC CONCRETE BRIDGE RAIL AND SIDEWALK IN 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.

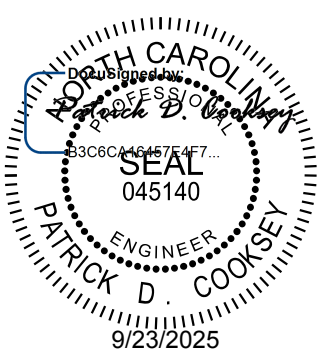
FOR DETAILS AND LOCATION OF CONDUITS,REFER TO "CONDUIT SYSTEM DETAIL" SHEET.

FOR INTERMEDIATE STEEL DIAPHRAGM DETAILS,SEE "INTERMEDIATE STEEL DIAPHRAGMS FOR TYPE IV PRESTRESSED CONCRETE GIRDERS" SHEET.



PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-

SHEET 1 OF 3



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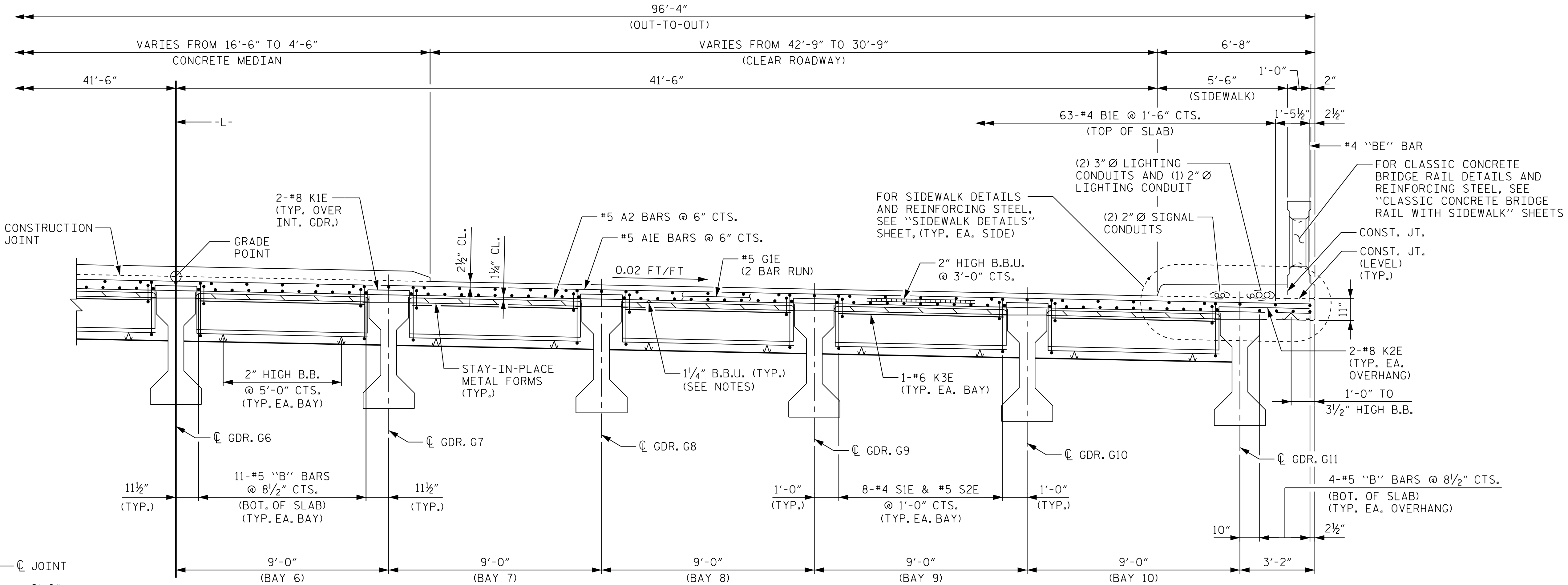
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REVISIONS						SHEET NO. S-6
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

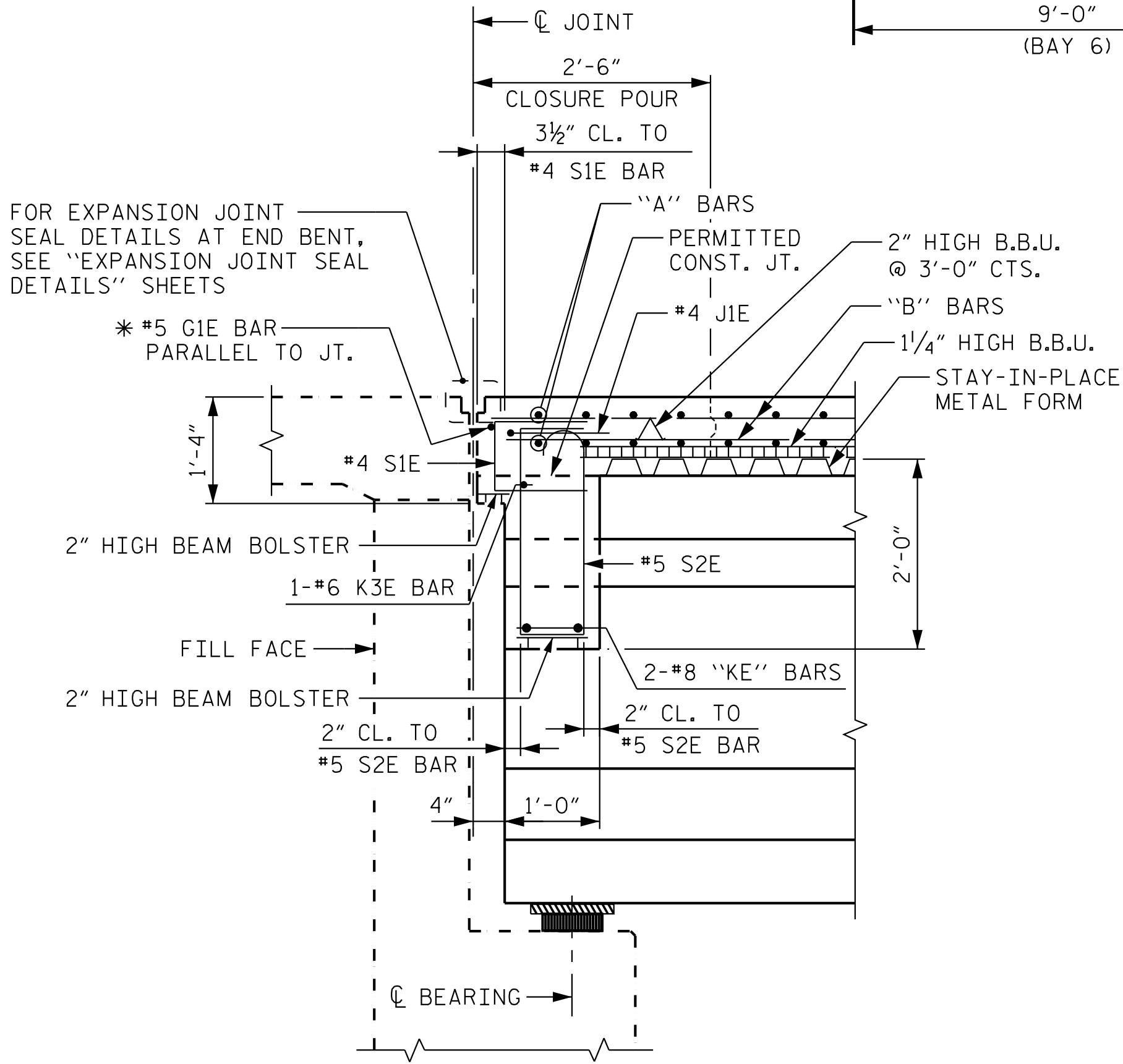
K:\PDI-Structures\Bridges\NC\01036312 - U-5760 Big Mill Farm Road\Coord\Drawings\U5760_SML_IS1_330751.dgn 9/22/2025

DRAWN BY: <u>D.D. LOWERY</u>	DATE: <u>09/25</u>
CHECKED BY: <u>B.M. KROL</u>	DATE: <u>09/25</u>
DESIGN ENGINEER OF RECORD: <u>P.D. COOKSEY</u>	DATE: <u>09/25</u>

9/22/2025 K:\B01-Structures\Bridges\NC\01036312 - U-5760 Big Mill Farm Road\Coord\09\U5760_SML_IS2_330751.dgn

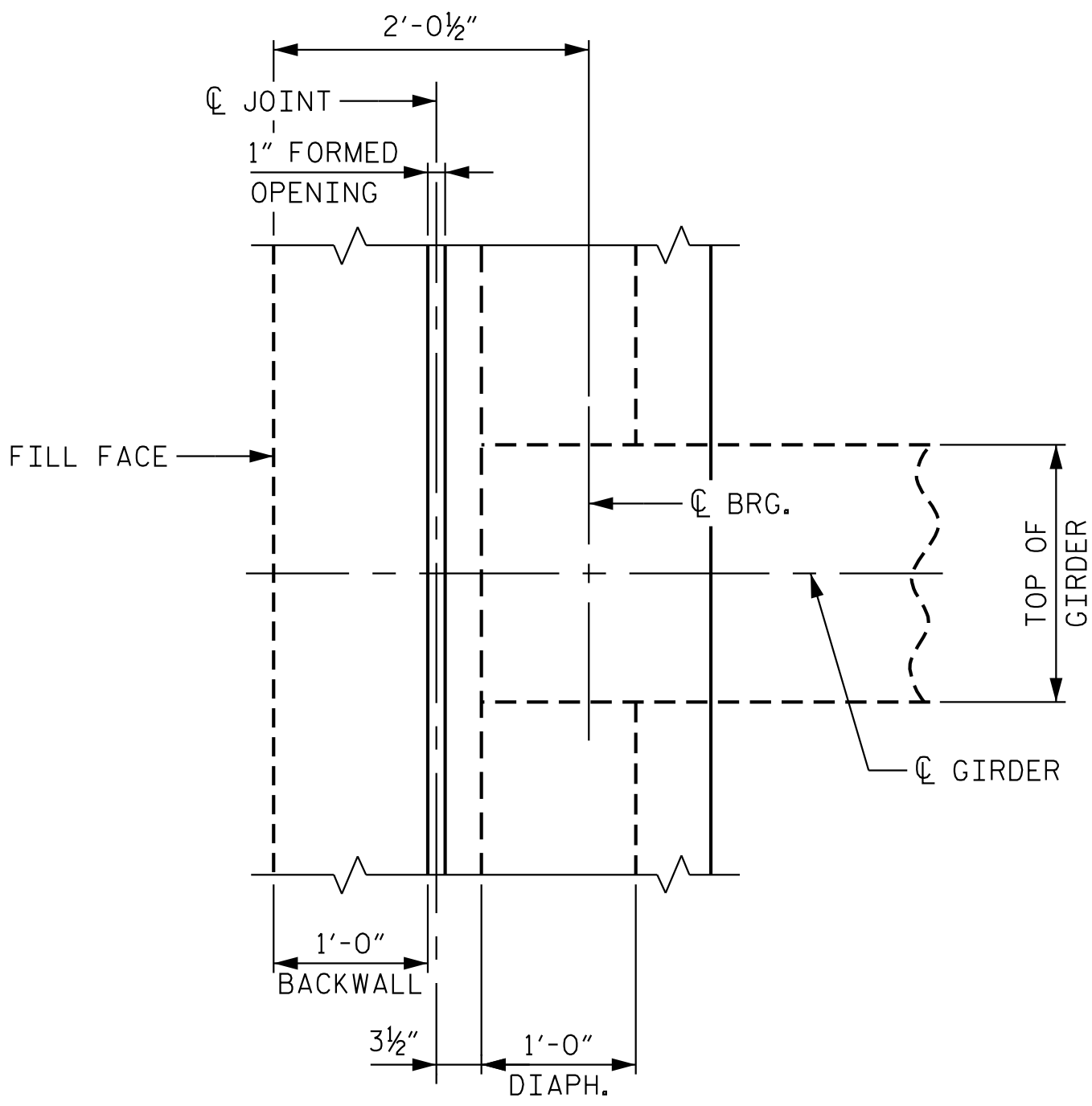


TYPICAL HALF SECTION
(SHOWING END BENT DIAPHRAGM)
DETAILING SYMMETRICAL ABOUT -L-

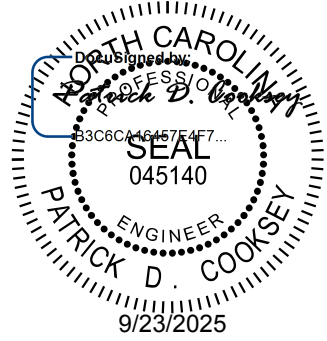


SECTION THRU END BENT DIAPHRAGM

* #5G1E BAR MAY BE SHIFTED SLIGHTLY, AS NECESSARY TO CLEAR REINFORCING STEEL AND STIRRUPS



END BENT DIAPHRAGM PLAN



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FORSYTH COUNTY
STATION: 27+37.26 -L-

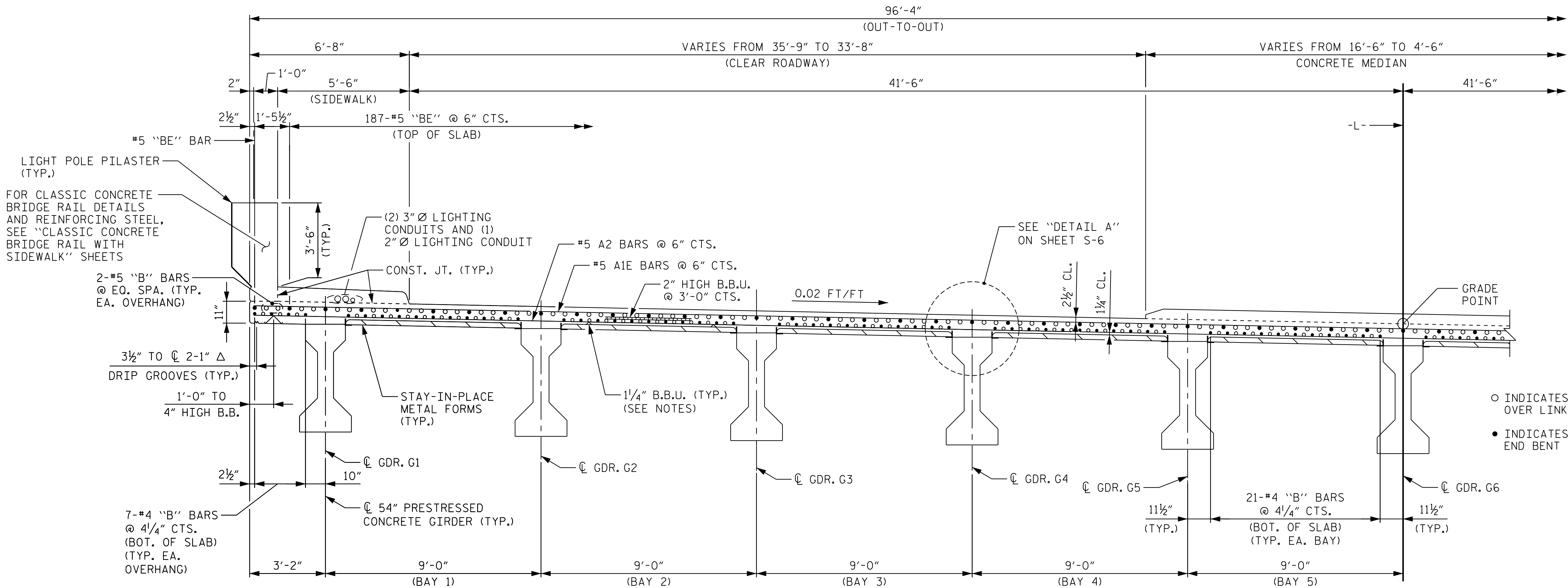
SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RAIL FTRH
SUPERSTRUCTURE

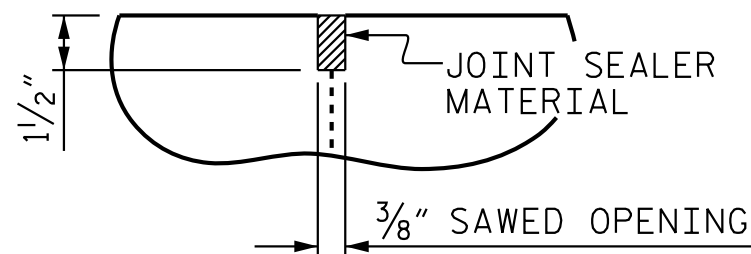
TYPICAL SECTION

REVISIONS						SHEET NO. S-7
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

K:\BRI-Structures\Bridges\NC\01036312 - U-5760 Big Mill Farm Road\Coord\Drawings\U5760-SMU-TS3-330751.dgn 9/22/2025

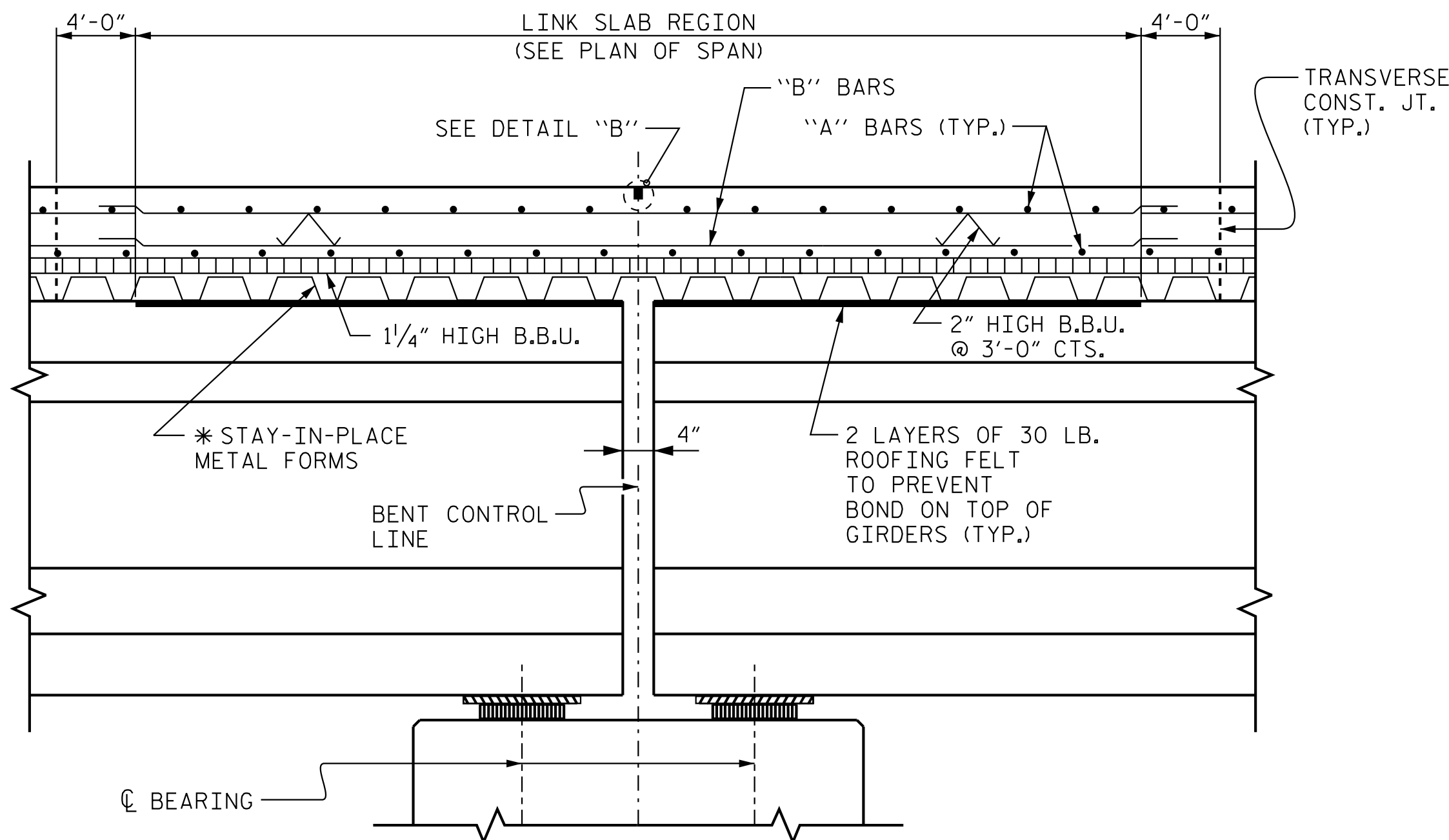


- INDICATES NON-CONTINUOUS REINFORCING STEEL OVER LINK SLAB.
- INDICATES CONTINUOUS REINFORCING STEEL FROM END BENT 1 TO END BENT 2.



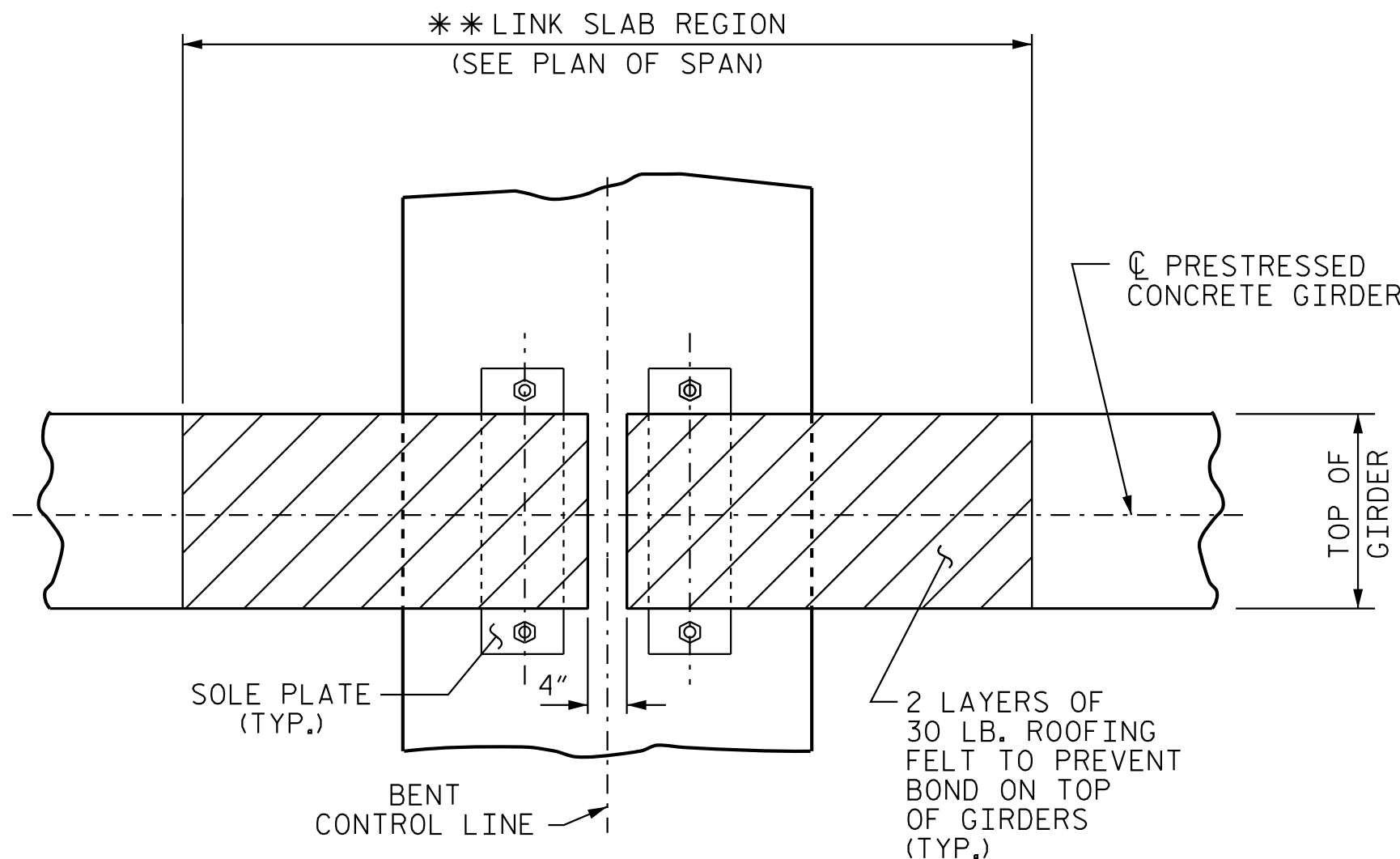
DETAIL "B"

A 1 1/2" DEEP, 3/8" WIDE CONTRACTION JOINT AT BENT CONTROL LINE SHALL BE SAWED WITHIN 24 HOURS OF POURING THE DECK. THE JOINT SHALL BE FILLED WITH JOINT SEALER MATERIAL. THE JOINT SEALER MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF SECTION 1028-3 OF THE STANDARD SPECIFICATIONS.



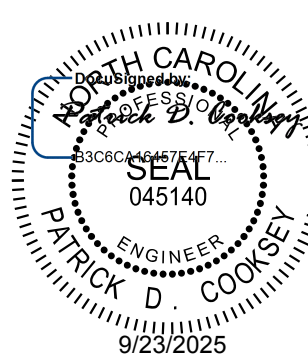
SECTION @ LINK SLAB

* METAL STAY-IN-PLACE FORMS SHALL NOT BE WELDED TO THE GIRDER FLANGES IN THE REGION OF THE LINK SLAB.



PLAN @ BENT

** THE TOP OF THE GIRDER IN THE REGION OF THE LINK SLAB SHALL BE SMOOTH (NOT RAKED) AND FREE OF STIRRUPS/ANCHOR STUDS, DECK FORMWORK ATTACHMENTS, AND OVERHANG FALSEWORK/FORMWORK ATTACHMENTS.



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FORSYTH COUNTY
STATION: 27+37.26 -L-

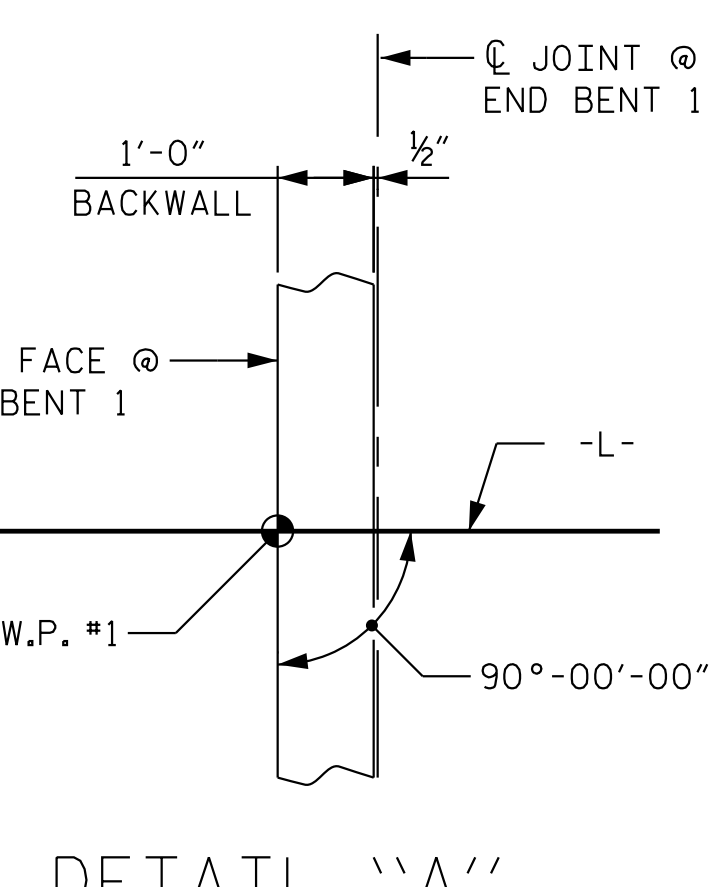
SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RAIL FTRH
SUPERSTRUCTURE

TYPICAL SECTION

REVISIONS						SHEET NO. S-8
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

DRAWN BY: D.D. LOWERY DATE: 09/25
CHECKED BY: B.M. KROL DATE: 09/25
DESIGN ENGINEER OF RECORD: P.D. COOKSEY DATE: 09/25



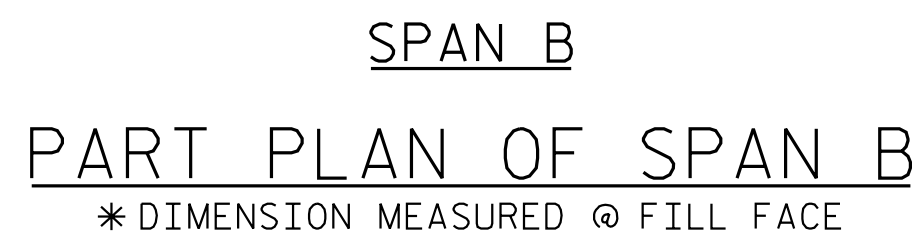
#5 G1E BAR MAY BE SHIFTED SLIGHTLY, AS NECESSARY,
TO CLEAR REINFORCING STEEL AND STIRRUPS.

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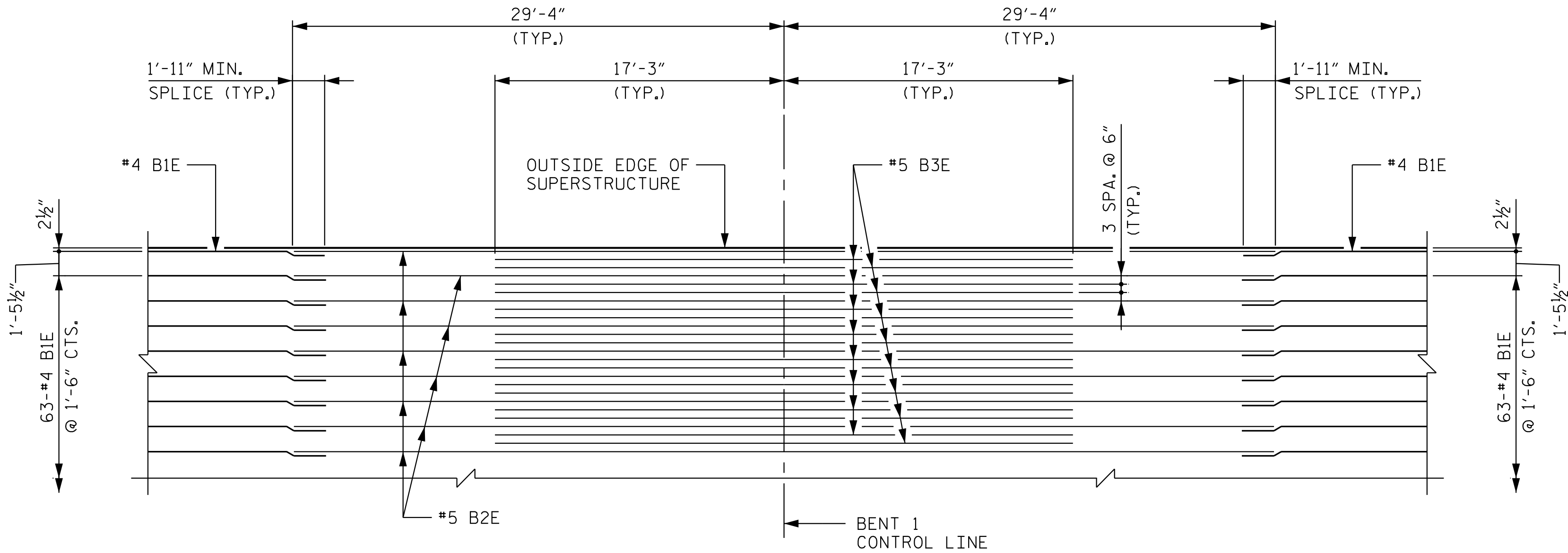
#	REVISONS						SHEET NO.
	NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
	1			3			TOTAL SHEETS
	2			4			40

DRAWN BY: <u>D. D. LOWERY</u>	DATE: <u>09/25</u>
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DESIGN ENGINEER OF RECORD: <u>P. D. COOKSEY</u>	DATE: <u>09/25</u>



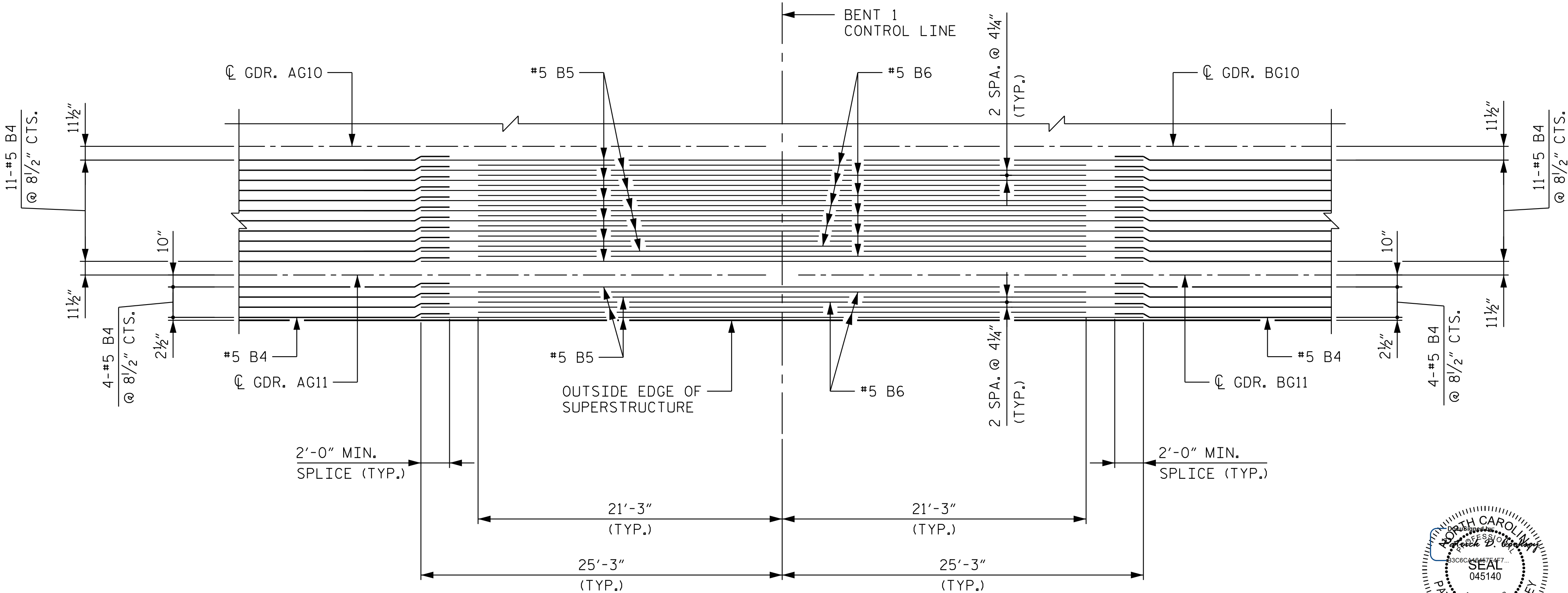
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			
2			4			TOTAL SHEETS 40

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CHECKED BY: <u>B.M. KROL</u>	DATE: <u>09/25</u>
DESIGN ENGINEER OF RECORD: <u>P. D. COOKSEY</u>	DATE: <u>09/25</u>



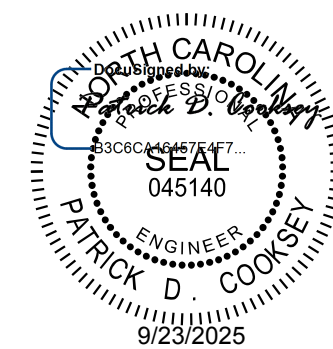
DETAIL "C"

LONGITUDINAL TOP OF SLAB REINFORCING IS SYMMETRICAL ABOUT -L-



DETAIL "D"

LONGITUDINAL BOTTOM OF SLAB REINFORCING IS SYMMETRICAL ABOUT -L-
RIGHT OVERHANG SHOWN, LEFT OVERHANG SIMILAR
BAY 1 SHOWN, ALL OTHER BAYS SIMILAR



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PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-

SHEET 3 OF 3

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

REVISIONS						SHEET NO. S-11
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

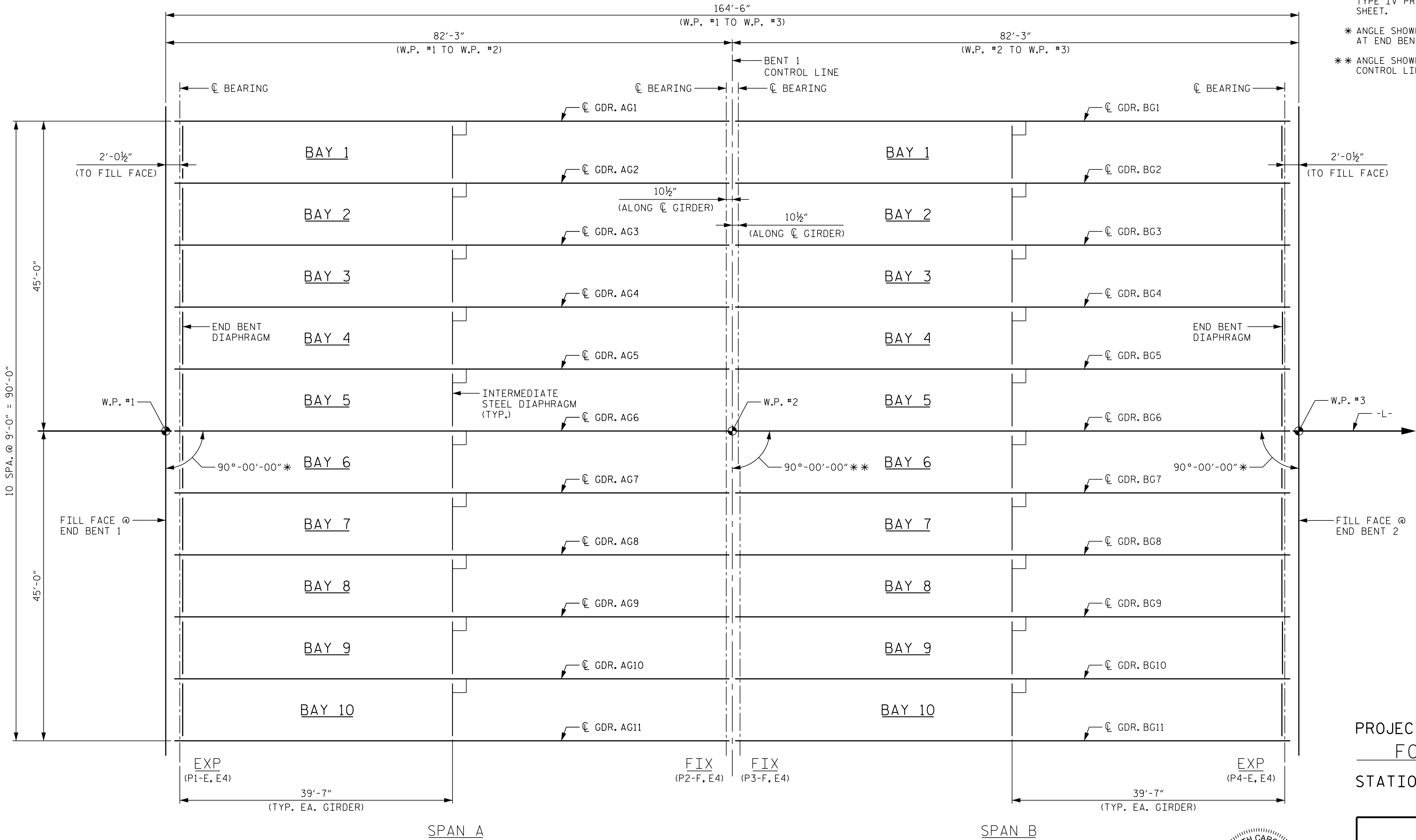
DRAWN BY: <u>D.D. LOWERY</u>	DATE: <u>09/25</u>
CHECKED BY: <u>B.M. KROL</u>	DATE: <u>09/25</u>
DESIGN ENGINEER OF RECORD: <u>P.D. COOKSEY</u>	DATE: <u>09/25</u>

NOTES

FOR STEEL DIAPHRAGM DETAILS, SEE
"INTERMEDIATE STEEL DIAPHRAGMS FOR
TYPE IV PRESTRESSED CONCRETE GIRDERS"
SHEET.

* ANGLE SHOWN IS FROM $\varnothing$ GIRDER TO FILL FACE
AT END BENT (TYPICAL EACH GIRDER).

** ANGLE SHOWN IS FROM $\varnothing$ GIRDER TO BENT
CONTROL LINE (TYPICAL EACH GIRDER).

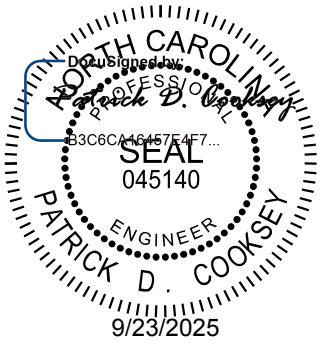


PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE

FRAMING PLAN

REVISIONS						SHEET NO. S-12
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			



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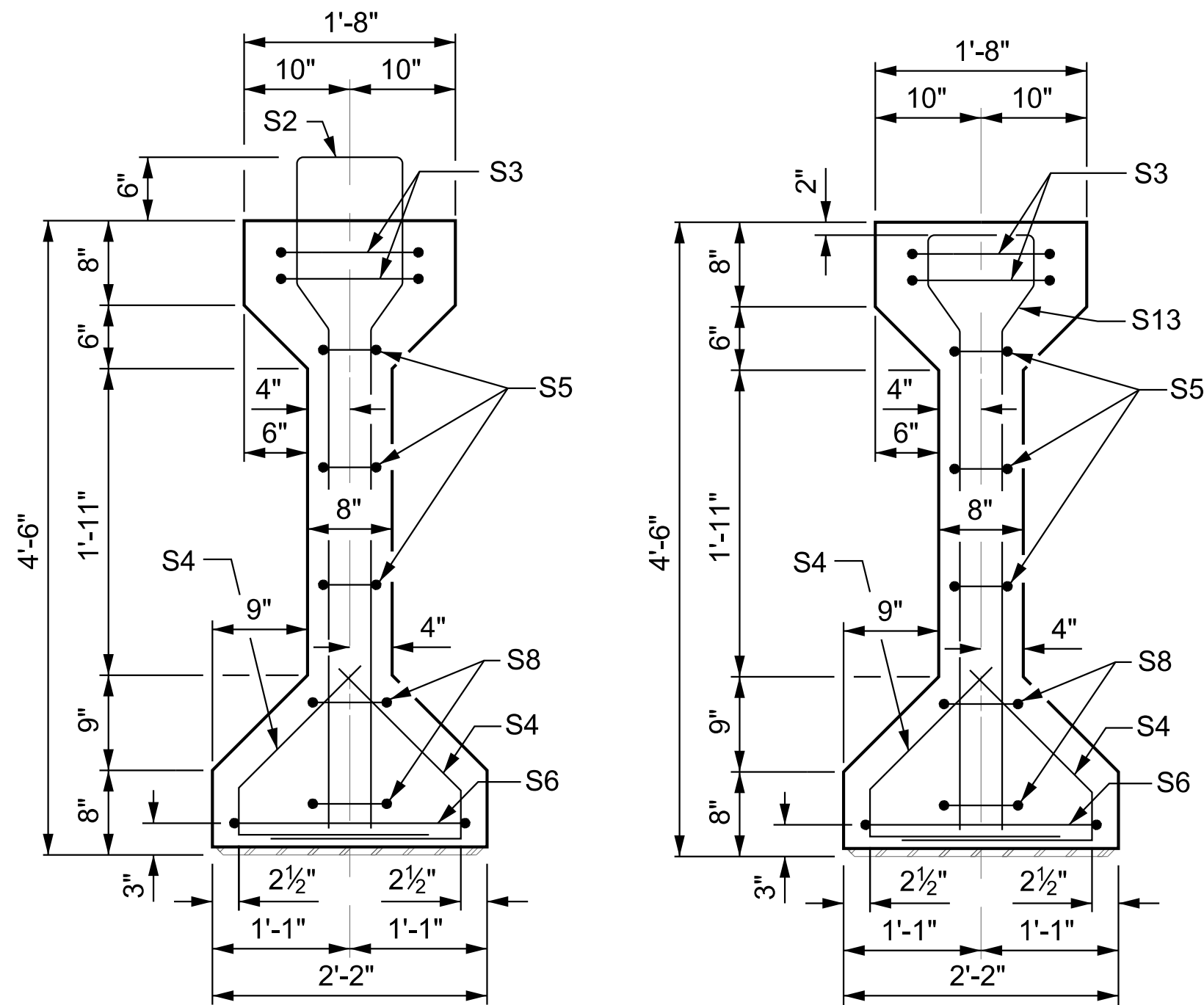
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FRAMING PLAN
END BENTS AND BENT ARE PARALLEL

K:\RD1-Structures\Bridges\N\01036312 - U-5760 Big Mill Farm Road\Coord\09\U5760_SML\FPI_330751.dgn 9/22/2025

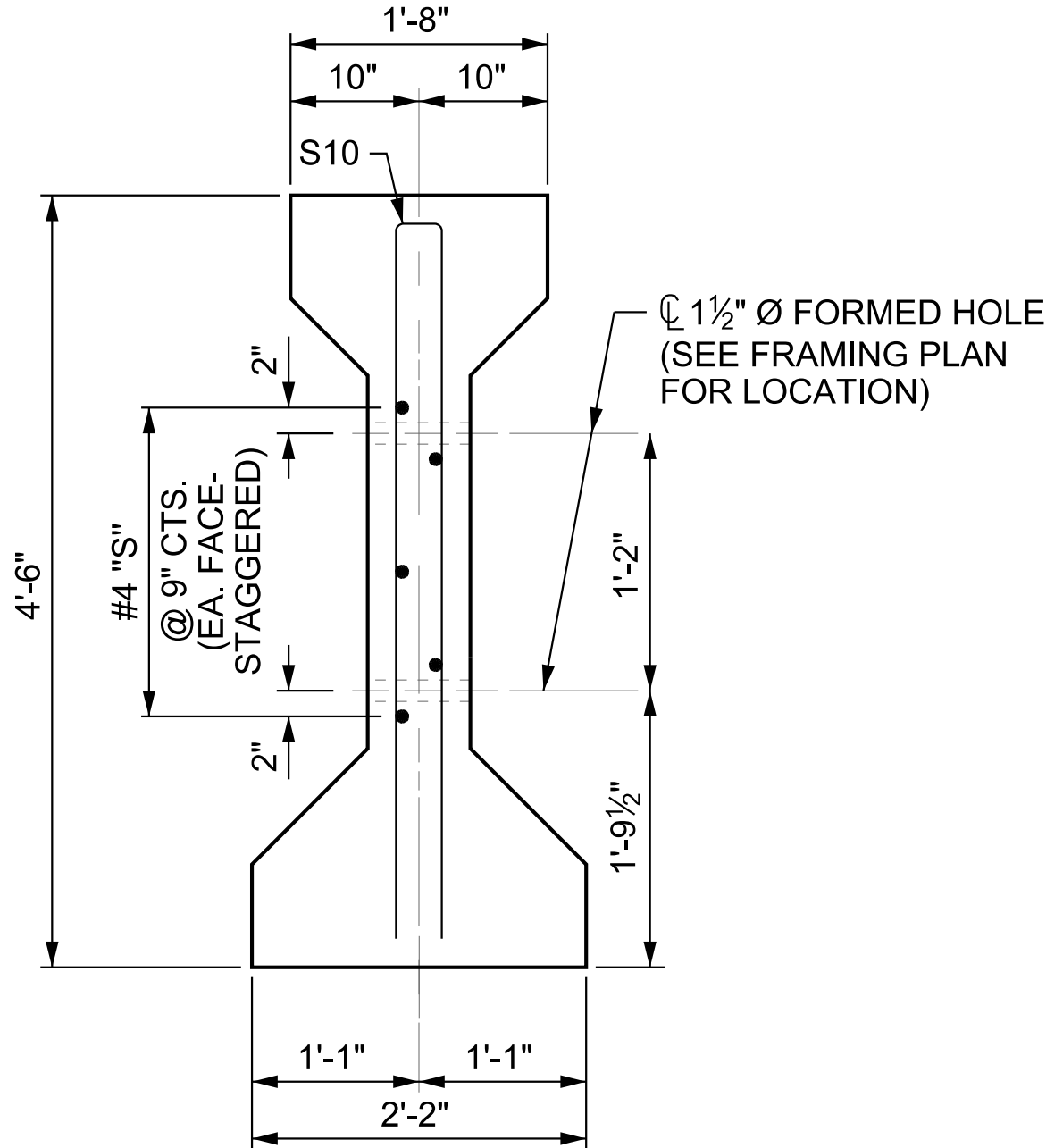
DRAWN BY: <u>D.D. LOWERY</u>	DATE: <u>09/25</u>
CHECKED BY: <u>B.M. KROL</u>	DATE: <u>09/25</u>
DESIGN ENGINEER OF RECORD: <u>P.D. COOKSEY</u>	DATE: <u>09/25</u>

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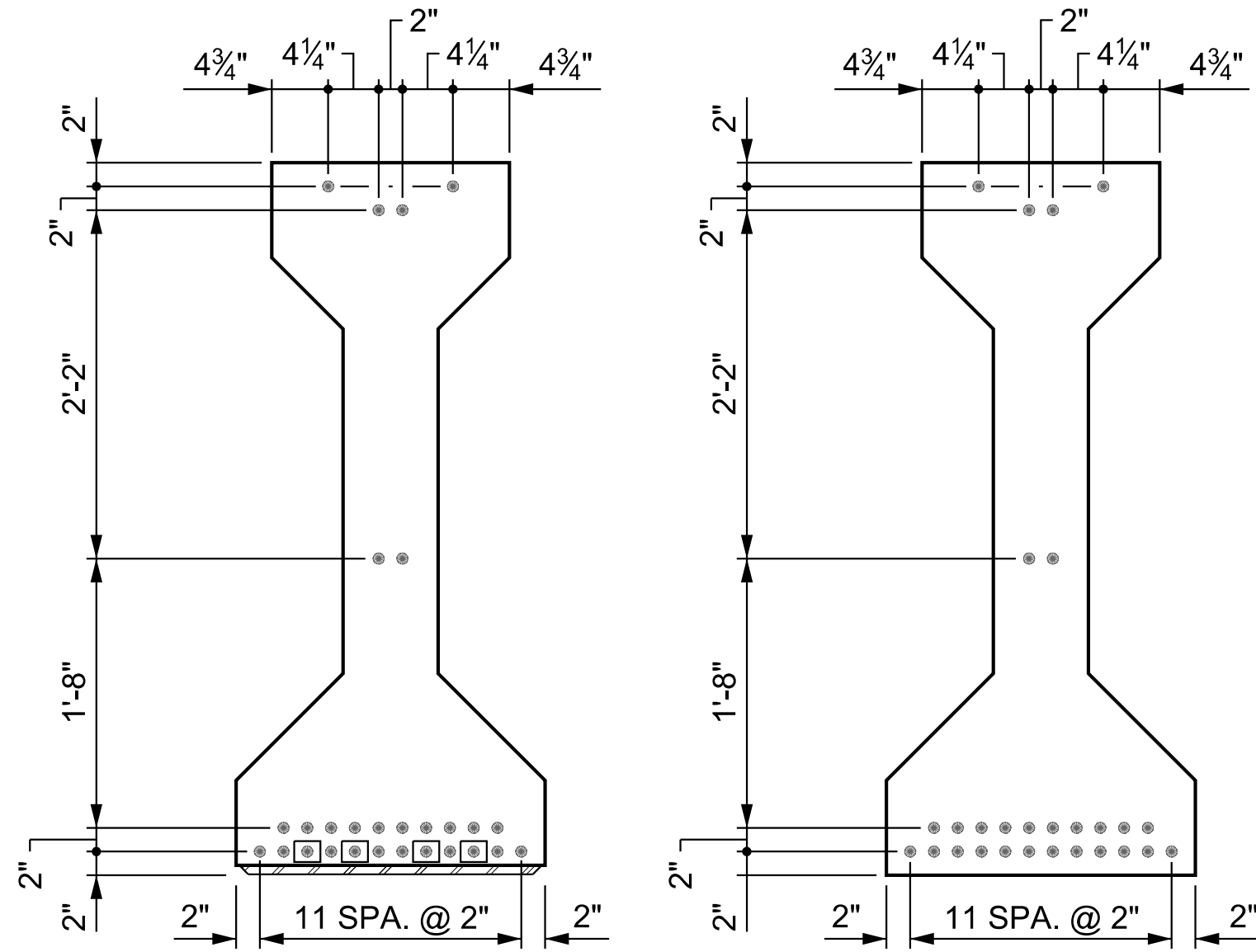
SECTION A-A

SECTION B-B



SECTION C-C

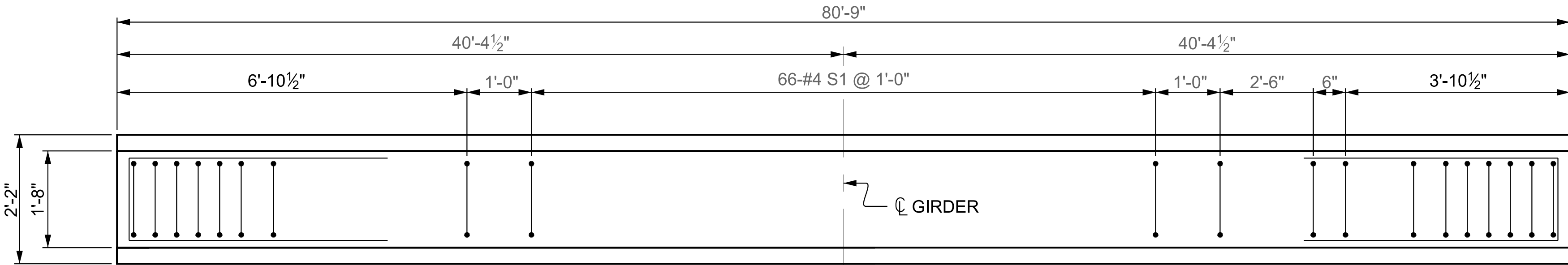
(S1 BARS NOT SHOWN)



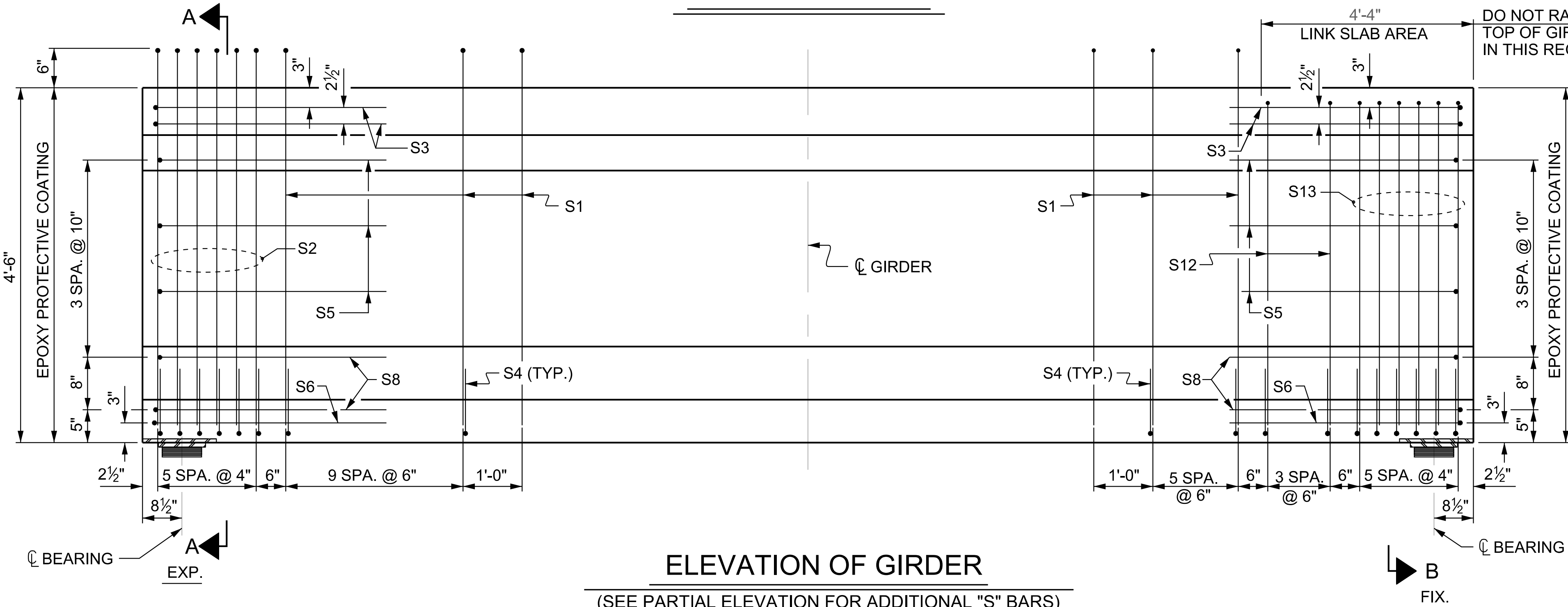
0.6" Ø LOW RELAXATION STRAND LAYOUT

DEBONDING LEGEND

- FULLY BONDED STRANDS
- STRANDS DEBONDED FOR 4'-0" FROM END OF GIRDER

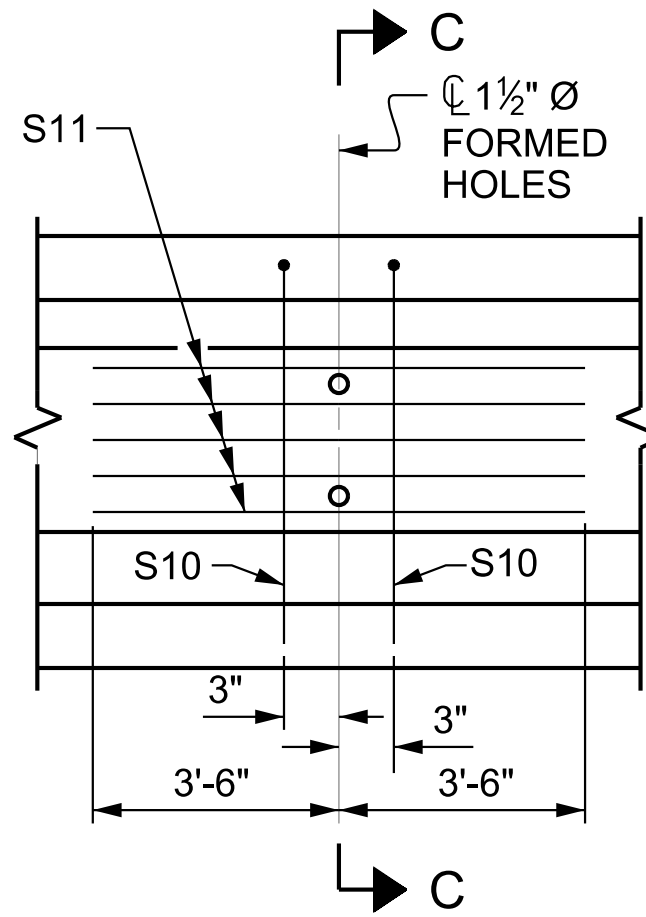


PLAN OF GIRDER



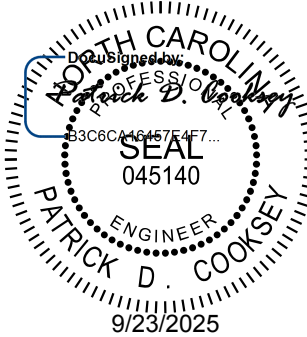
ELEVATION OF GIRDER

(SEE PARTIAL ELEVATION FOR ADDITIONAL "S" BARS)



PARTIAL ELEVATION

SHOWING INTERMEDIATE DIAPHRAGM REINFORCING STEEL FOR ALL GIRDERS



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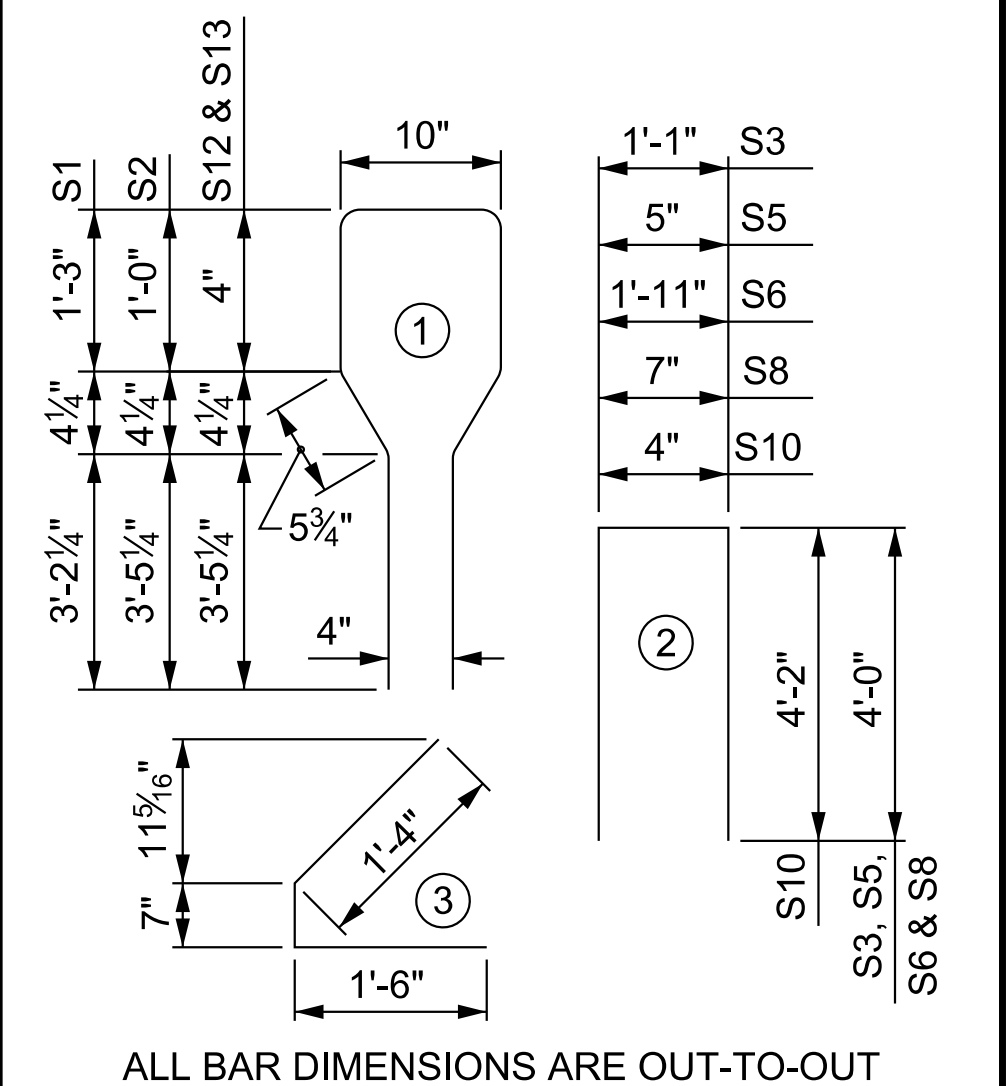
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0.6"Ø L.R. GRADE 270 STRANDS		
AREA (SQUARE INCHES)	ULTIMATE STRENGTH (LBS. PER STRAND)	APPLIED PRESTRESS (LBS. PER STRAND)
0.217	58,600	43,950

REINFORCING STEEL FOR ONE GIRDER					
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
S1	82	#4	1	10'-8"	584
S2	6	#6	1	10'-8"	96
S3	4	#4	2	9'-1"	24
S4	64	#4	3	3'-5"	146
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
S12	4	#4	1	9'-4"	25
S13	6	#6	1	9'-4"	84

BAR TYPES



ALL BAR DIMENSIONS ARE OUT-TO-OUT

QUANTITIES FOR ONE GIRDER			
	REINFORCING STEEL LB.	8,000 PSI CONCRETE C.Y.	0.6" Ø L. R. STRANDS No.
GDR. A1-A11	1070	16.4	28
GIRDERS REQUIRED			
NUMBER	LENGTH	TOTAL LENGTH	
11	80'-9"	888'-3"	

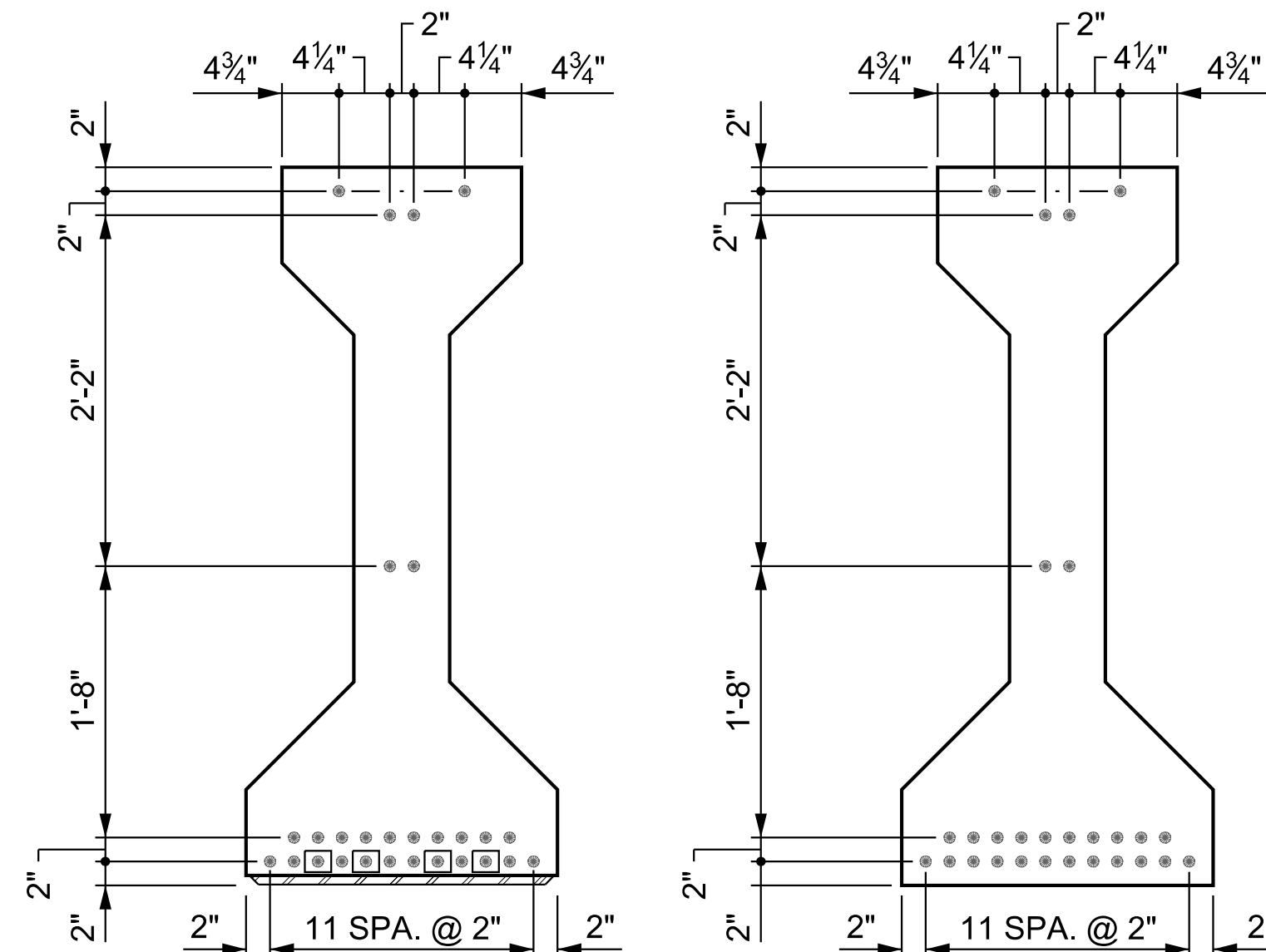
PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-

SHEET 1 OF 4

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH STANDARD AASHTO TYPE IV PRESTRESSED CONCRETE GIRDER - LINK SLAB SPAN A					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-13					TOTAL SHEETS 40

STD. NO. PCG6

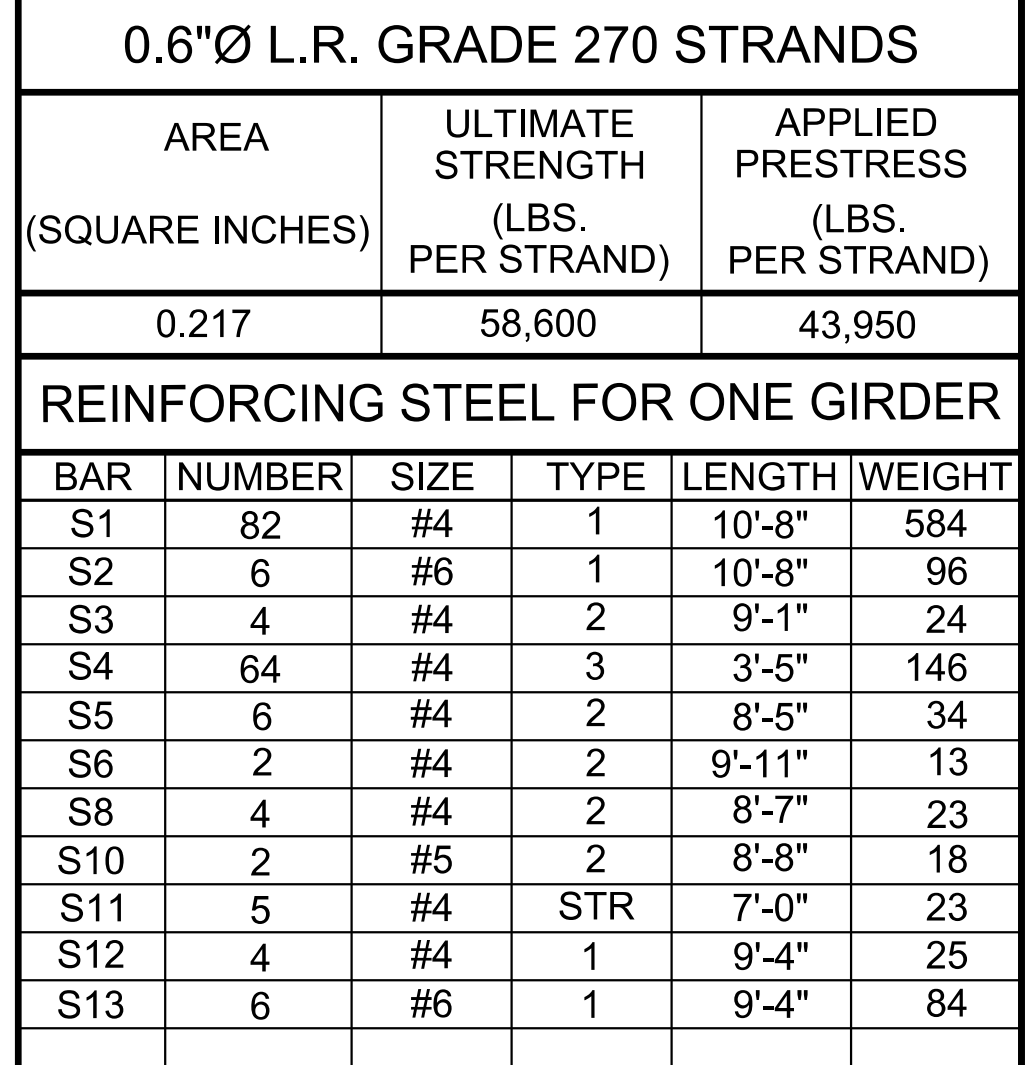
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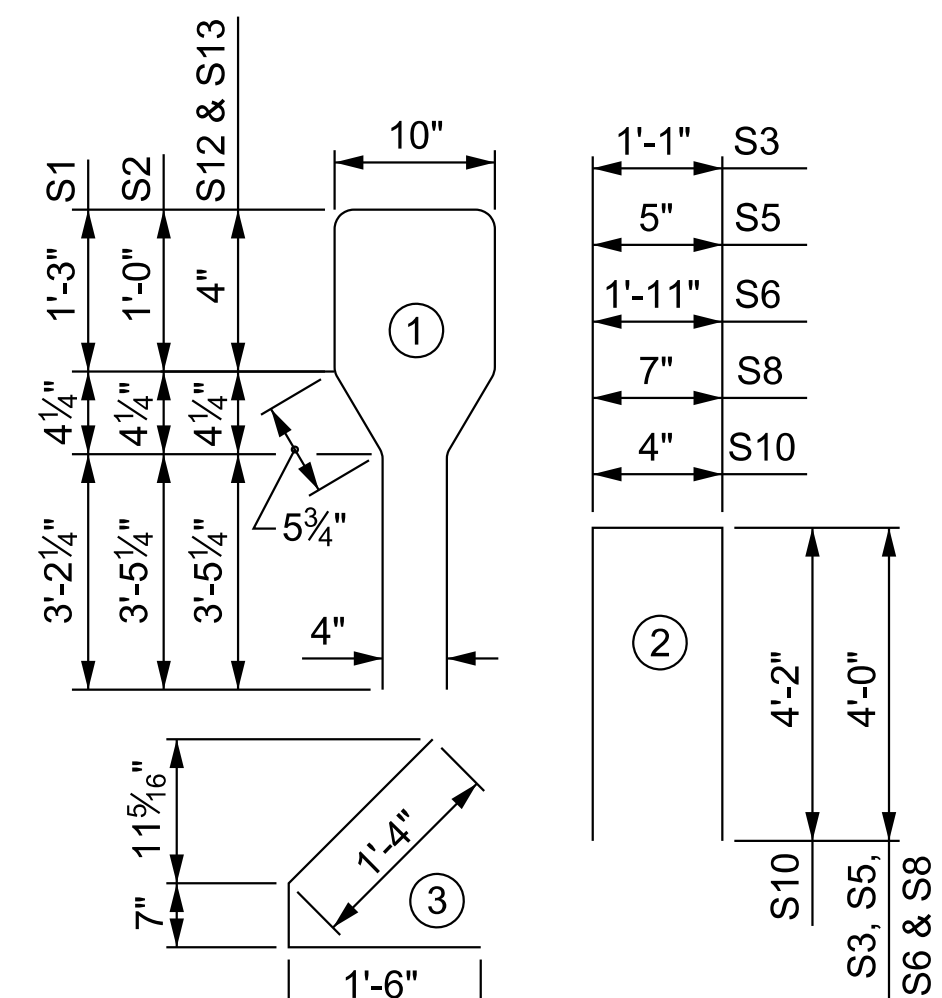
0.6" Ø LOW RELAXATION STRAND LAYOUT

DEBONDING LEGEND

- FULLY BONDED STRANDS
- ☐ STRANDS DEBONDED FOR 4'-0" FROM END OF GIRDER



BAR TYPES



ALL BAR DIMENSIONS ARE OUT-TO-OUT

QUANTITIES FOR ONE GIRDER

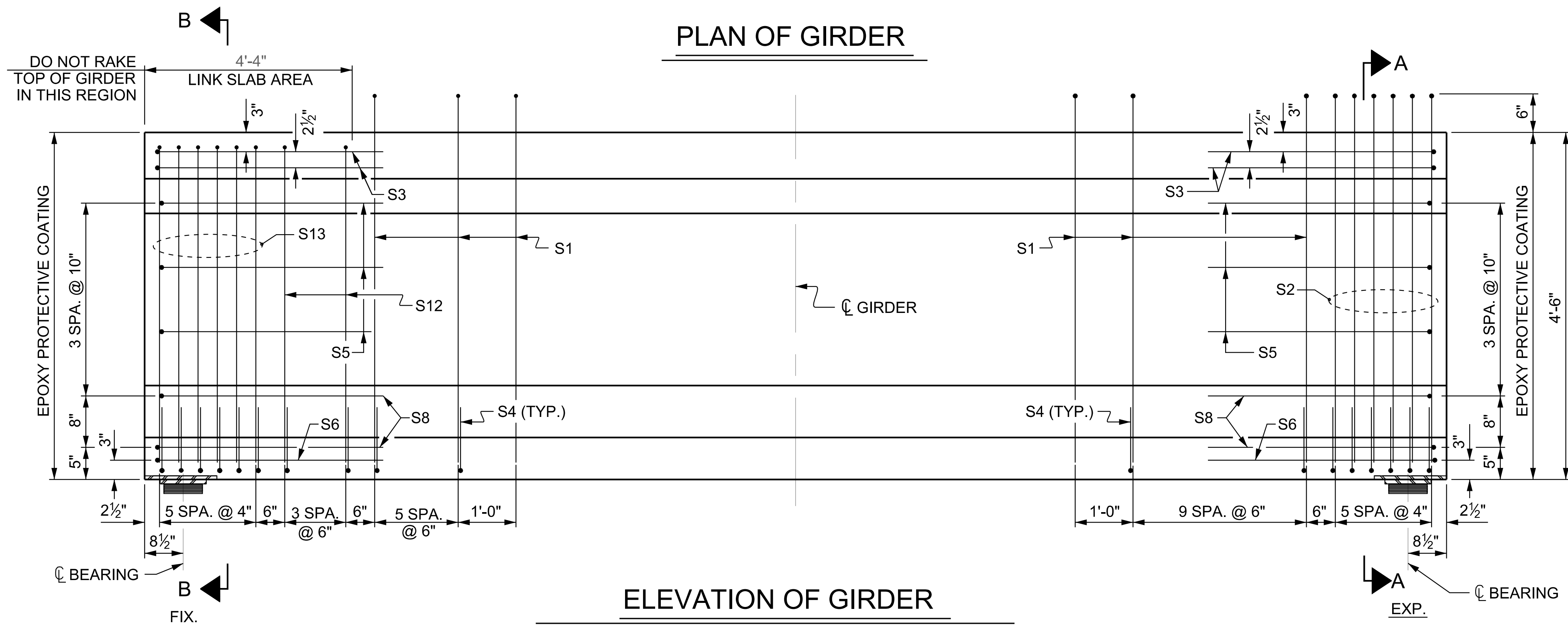
	REINFORCING STEEL	8,000 PSI CONCRETE	0.6" Ø L. R. STRANDS
	LB.	C.Y.	No.
GDR. B1-B11	1070	16.4	28

GIRDERS REQUIRED

NUMBER	LENGTH	TOTAL LENGTH
11	80'-9"	888'-3"

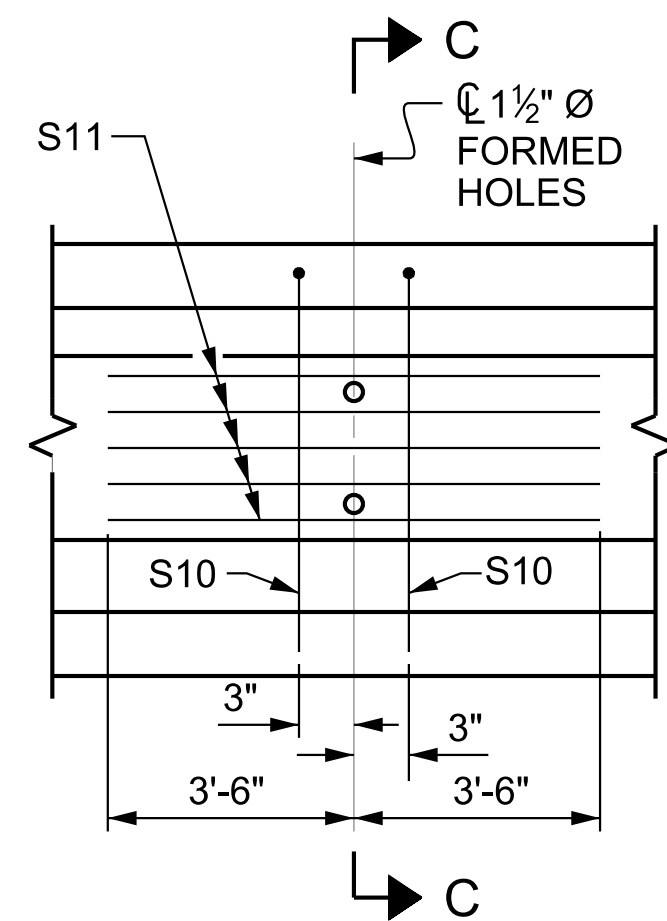
PROJECT NO. U-5760
FORSYTH COUNTY
 STATION: 27+37.26 -L-

SHEET 2 OF 4



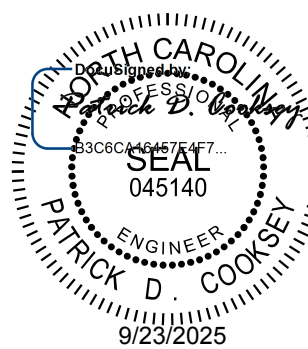
ELEVATION OF GIRDER

(SEE PARTIAL ELEVATION FOR ADDITIONAL "S" BARS)



PARTIAL ELEVATION

SHOWING INTERMEDIATE DIAPHRAGM
REINFORCING STEEL FOR ALL GIRDERS



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421 Fayetteville Street, Suite 600
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SPAN B						
REVISIONS						SHEET NO. S-14
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

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.

APPLY EPOXY PROTECTIVE COATING TO BOTH SIDES AND BOTTOM OF END 2 FEET OF GIRDER SURFACES AS INDICATED IN ELEVATION VIEW.

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.

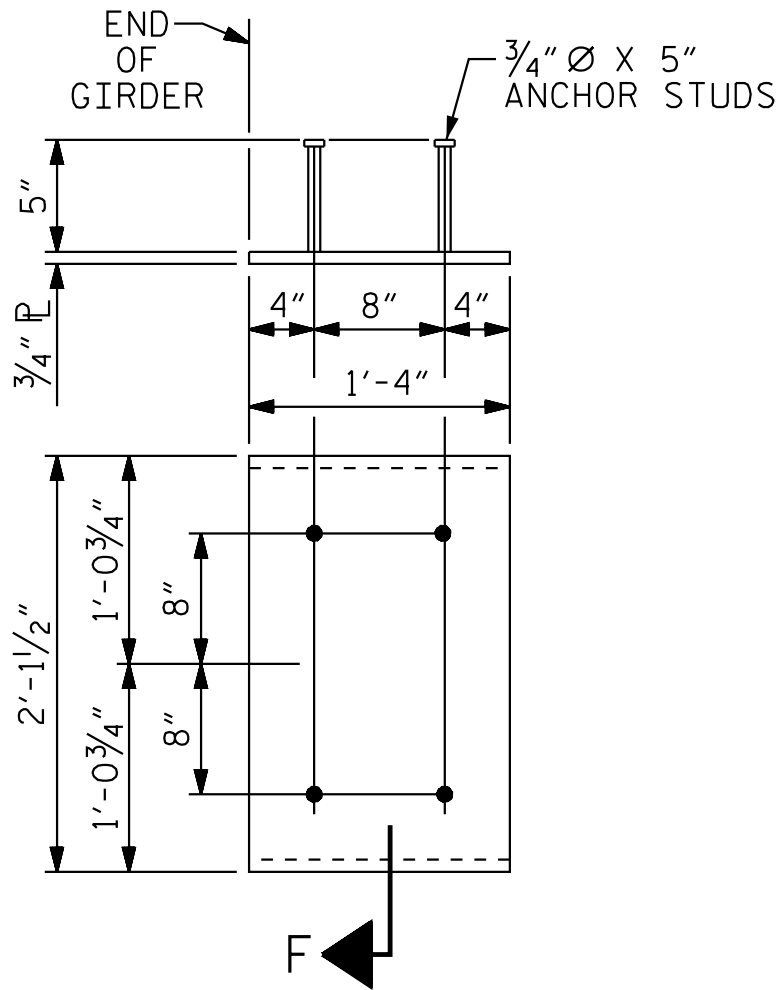
THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE GIRDER SHALL BE DONE WHEN CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 6,400 PSI.

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".

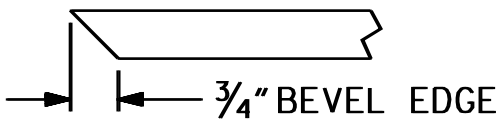
THE TOP OF THE GIRDER IN THE REGION OF THE LINK SLAB SHALL BE SMOOTH (NOT RAKED) AND FREE OF STIRRUPS/ANCHOR STUDS, DECK FORMWORK ATTACHMENTS, AND OVERHANG FALSEWORK/FORMWORK ATTACHMENTS.

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.



EMBEDDED PLATE "B-1" DETAILS
FOR AASHTO TYPE IV GIRDER AND

(2 REQ'D PER GIRDER)

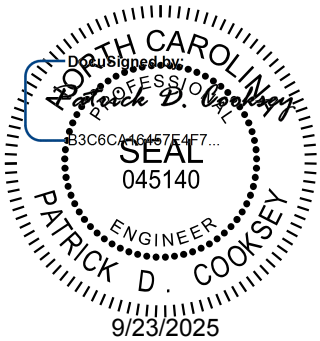


SECTION "F"

(SEE NOTES)

PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-

SHEET 3 OF 4



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

REVISIONS						SHEET NO. S-15
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

ASSEMBLED BY : D. D. LOWERY	DATE : 09/25
CHECKED BY : P. D. COOKSEY	DATE : 09/25
DRAWN BY : ELR 11/91	REV. 1/15 MAA/TMG
CHECKED BY : GRP 11/91	REV. 2/15 MAA/TMG
	REV. 12/17 MAA/THC

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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 A THERMAL SPRAYED COATING WITH A SEAL COAT TO ALL STEEL DIAPHRAGM SURFACES IN ACCORDANCE WITH THE DEPARTMENTS THERMAL SPRAYED COATINGS (METALLIZATION) PROGRAM. 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" PROJECTION BEYOND THE NUT.

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.

IN THE EXTERIOR BAYS, 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.

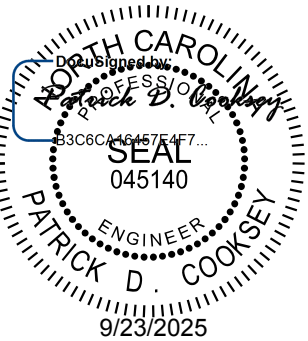
TABLE

GIRDER TYPE	CHANNEL SIZE	DIM "A"	DIM "B"	DIM "L"
IV	MC 18 x 42.7	1'-9 1/2"	1'-2"	1'-6"

PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH STANDARD INTERMEDIATE STEEL DIAPHRAGMS FOR TYPE IV PRESTRESSED CONCRETE GIRDERS						REVISIONS		SHEET NO. S-16
NO.	BY:	DATE:	NO.	BY:	DATE:			TOTAL SHEETS 40
1			3					
2			4					



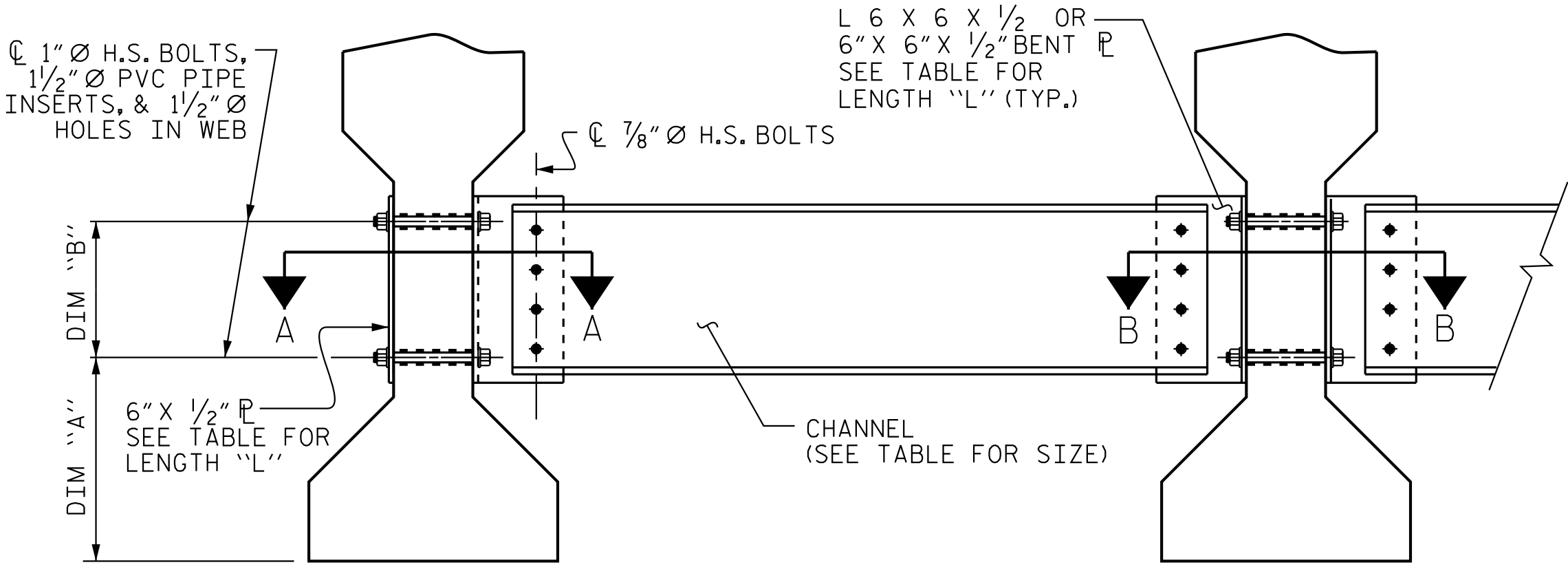
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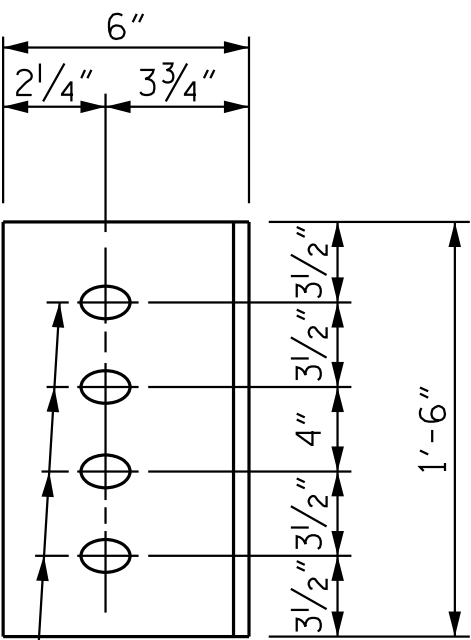
DOCUMENT NOT CONSIDERED FINAL
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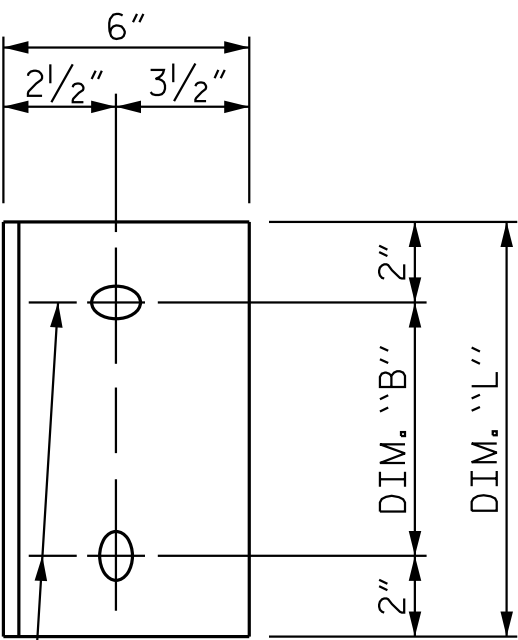
EXTERIOR GIRDER

INTERIOR GIRDER

PART SECTION AT INTERMEDIATE DIAPHRAGM



DIAPHRAGM FACE



WEB FACE

CONNECTOR PLATE DETAILS

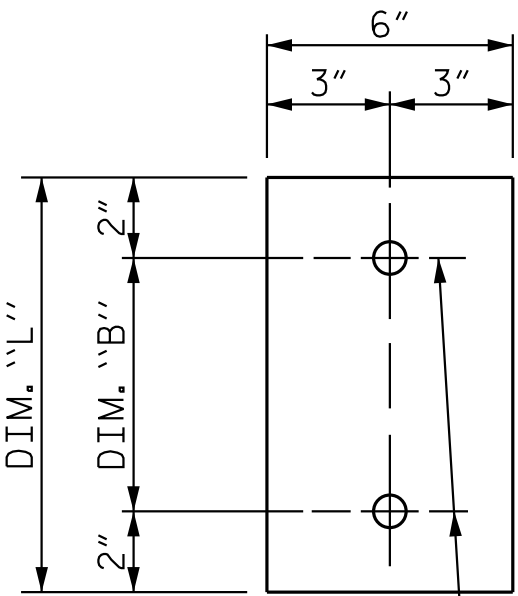
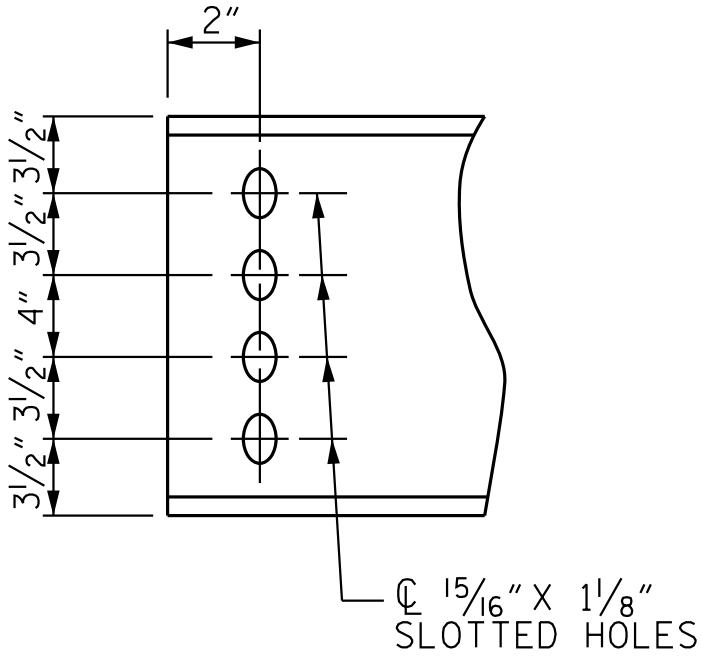
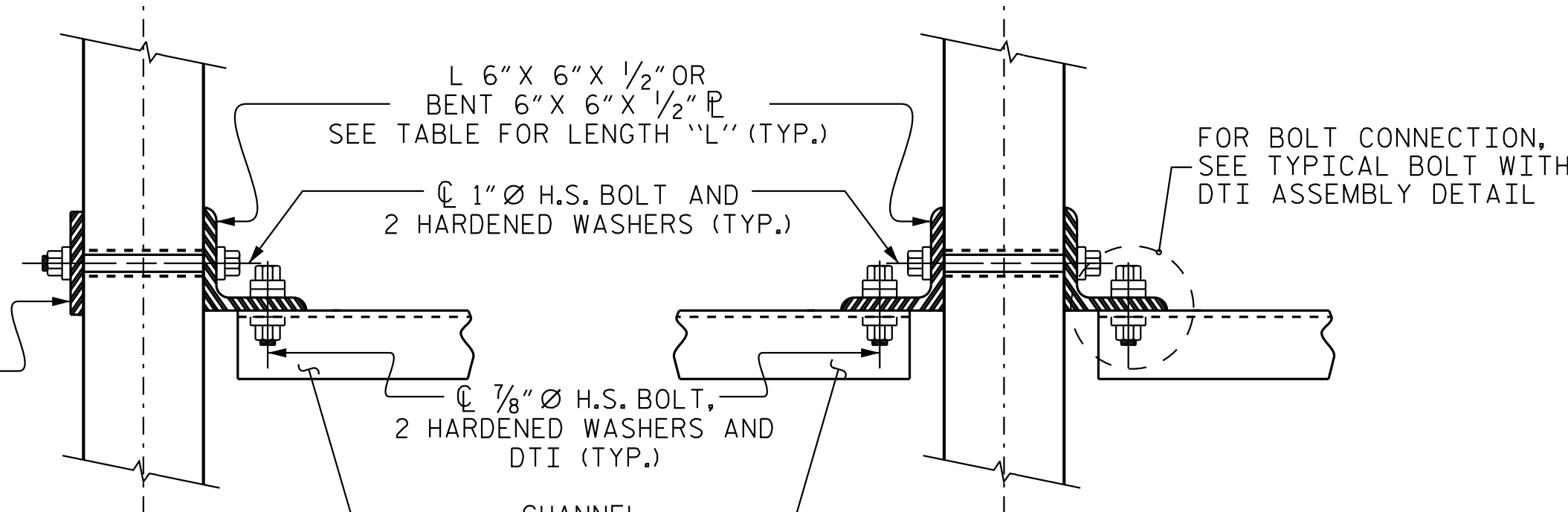


PLATE DETAILS



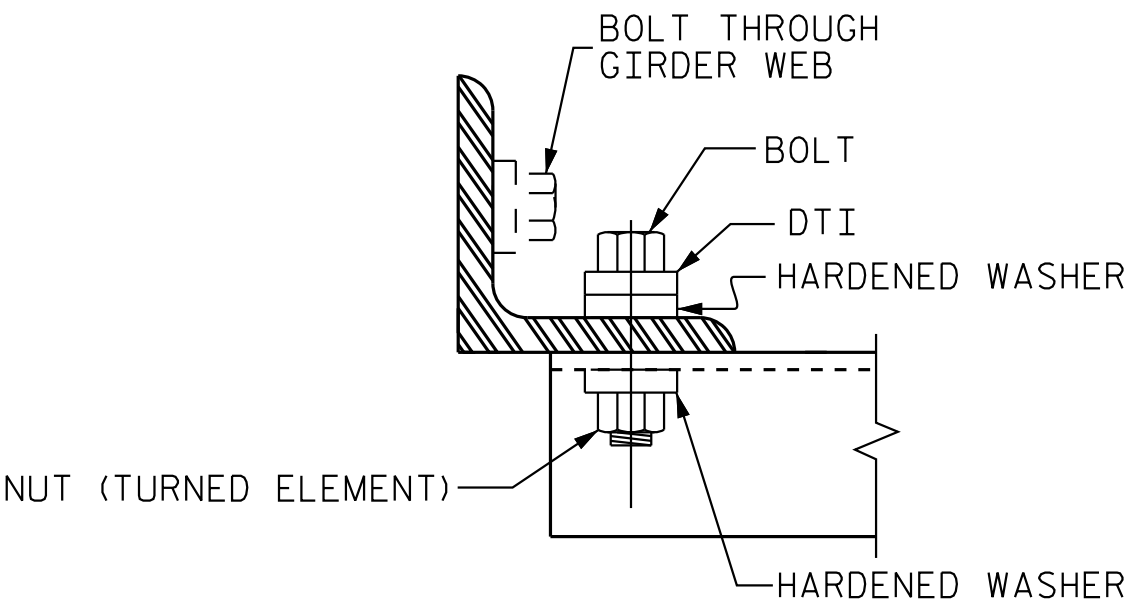
CHANNEL END



SECTION A-A

SECTION B-B

CONNECTION DETAILS



BOLT WITH DTI ASSEMBLY DETAIL

9/22/2025 K:\RDT_Structures\Bridges\NC\01036312 - U-5760 Big Mill Farm Road\Coord\Drawings\U5760_SML\04_330751.dgn

ASSEMBLED BY : D. D. LOWERY	DATE : 09/25
CHECKED BY : P. D. COOKSEY	DATE : 09/25
DRAWN BY : TLA 6/05	REV. 5/1/06RRR KMM/GM
CHECKED BY : VC 6/05	REV. 10/1/11 MAA/GM
	REV. 12/17 MAA/THC

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																						
0.6" Ø LOW RELAXATION STRANDS	SPAN A AND SPAN B																					
	GIRDERS AG1 AND BG1																					
	TWENTIETH POINTS	BRG.	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	BRG.
CAMBER (GIRDER ALONE IN PLACE)	↑	0.000	0.014	0.028	0.041	0.052	0.063	0.072	0.079	0.084	0.087	0.088	0.087	0.084	0.079	0.072	0.063	0.052	0.041	0.028	0.014	0.000
* DEFLECTION DUE TO SUPERIMPOSED D.L.	↓	0.000	0.010	0.020	0.030	0.040	0.048	0.056	0.060	0.065	0.067	0.069	0.067	0.065	0.060	0.056	0.048	0.040	0.030	0.020	0.010	0.000
FINAL CAMBER	↑	0"	1⁄16"	1⁄16"	1⁄8"	1⁄8"	3⁄16"	3⁄16"	1⁄4"	1⁄4"	1⁄4"	1⁄4"	1⁄4"	1⁄4"	1⁄4"	3⁄16"	3⁄16"	1⁄8"	1⁄8"	1⁄16"	1⁄16"	0"

* INCLUDES FUTURE WEARING SURFACE.
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																						
0.6" Ø LOW RELAXATION STRANDS	SPAN A AND SPAN B																					
	GIRDERS AG2 AND BG2																					
	BRG.	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	BRG.	
TWENTIETH POINTS																						
CAMBER (GIRDER ALONE IN PLACE)	↑	0.000	0.014	0.028	0.041	0.052	0.063	0.072	0.079	0.084	0.087	0.088	0.087	0.084	0.079	0.072	0.063	0.052	0.041	0.028	0.014	0.000
* DEFLECTION DUE TO SUPERIMPOSED D.L.	↓	0.000	0.011	0.021	0.031	0.042	0.050	0.058	0.063	0.068	0.070	0.071	0.070	0.068	0.063	0.058	0.050	0.042	0.031	0.021	0.011	0.000
FINAL CAMBER	↑	0"	1⁄16"	1⁄16"	1⁄8"	1⁄8"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	1⁄8"	1⁄8"	1⁄16"	1⁄16"	0"	

* INCLUDES FUTURE WEARING SURFACE.
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																						
0.6" Ø LOW RELAXATION STRANDS	SPAN A AND SPAN B																					
	GIRDERS AG3 AND BG3																					
	TWENTIETH POINTS	BRG.	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	BRG.
CAMBER (GIRDER ALONE IN PLACE)	↑	0.000	0.014	0.028	0.041	0.052	0.063	0.072	0.079	0.084	0.087	0.088	0.087	0.084	0.079	0.072	0.063	0.052	0.041	0.028	0.014	0.000
* DEFLECTION DUE TO SUPERIMPOSED D.L.	↓	0.000	0.010	0.021	0.030	0.040	0.048	0.056	0.061	0.066	0.068	0.070	0.068	0.066	0.061	0.056	0.048	0.040	0.030	0.021	0.010	0.000
FINAL CAMBER	↑	0"	1⁄16"	1⁄16"	1⁄8"	1⁄8"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	1⁄4"	1⁄4"	1⁄4"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	1⁄8"	1⁄8"	1⁄16"	1⁄16"	0"

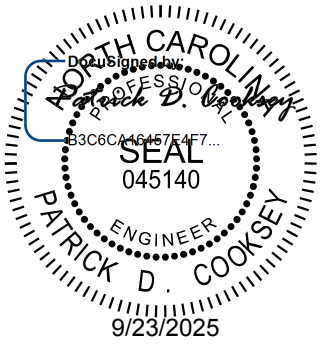
* INCLUDES FUTURE WEARING SURFACE.
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																						
0.6" Ø LOW RELAXATION STRANDS	SPAN A AND SPAN B																					
	GIRDERS AG4, AG8, BG4 AND BG8																					
	TWENTIETH POINTS	BRG.	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	BRG.
CAMBER (GIRDER ALONE IN PLACE)	↑	0.000	0.014	0.028	0.041	0.052	0.063	0.072	0.079	0.084	0.087	0.088	0.087	0.084	0.079	0.072	0.063	0.052	0.041	0.028	0.014	0.000
* DEFLECTION DUE TO SUPERIMPOSED D.L.	↓	0.000	0.010	0.019	0.029	0.038	0.045	0.053	0.057	0.062	0.064	0.065	0.064	0.062	0.057	0.053	0.045	0.038	0.029	0.019	0.010	0.000
FINAL CAMBER	↑	0"	1⁄16"	1⁄8"	1⁄8"	3⁄16"	3⁄16"	1⁄4"	1⁄4"	1⁄4"	5⁄16"	1⁄4"	5⁄16"	1⁄4"	1⁄4"	1⁄4"	3⁄16"	3⁄16"	1⁄8"	1⁄8"	1⁄16"	0"

* INCLUDES FUTURE WEARING SURFACE.
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-

SHEET 1 OF 2



Kimley»Horn

421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
GIRDER DEFLECTIONS
AND CAMBER

REVISIONS						SHEET NO. S-17
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

9/22/2025 K:\RD1-Structures\Bridges\NC\01036312 - U-5760 Big Mill Farm Road\Cd\00gm\U5760_SML.DLL 330751.dgn

DRAWN BY: <u>D.D. LOWERY</u>	DATE: <u>09/25</u>
CHECKED BY: <u>B.M. KROL</u>	DATE: <u>09/25</u>
DESIGN ENGINEER OF RECORD: <u>P.D. COOKSEY</u>	DATE: <u>09/25</u>

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																						
0.6" Ø LOW RELAXATION STRANDS	SPAN A AND SPAN B																					
	GIRDERS AG5, AG6, AG7, BG5, BG6 AND BG7																					
	TWENTIETH POINTS	BRG.	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	BRG.
CAMBER (GIRDER ALONE IN PLACE)	↑	0.000	0.014	0.028	0.041	0.052	0.063	0.072	0.079	0.084	0.087	0.088	0.087	0.084	0.079	0.072	0.063	0.052	0.041	0.028	0.014	0.000
* DEFLECTION DUE TO SUPERIMPOSED D.L.	↓	0.000	0.011	0.021	0.032	0.042	0.050	0.058	0.063	0.068	0.070	0.072	0.070	0.068	0.063	0.058	0.050	0.042	0.032	0.021	0.011	0.000
FINAL CAMBER	↑	0"	1/16"	1/16"	1/8"	1/8"	1/8"	3/16"	3/16"	3/16"	3/16"	3/16"	3/16"	3/16"	3/16"	3/16"	1/8"	1/8"	1/8"	1/16"	1/16"	0"

* INCLUDES FUTURE WEARING SURFACE.
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																						
0.6" Ø LOW RELAXATION STRANDS	SPAN A AND SPAN B																					
	GIRDERS AG9 AND BG9																					
	BRG.	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	BRG.	
TWENTIETH POINTS																						
CAMBER (GIRDER ALONE IN PLACE)	↑	0.000	0.014	0.028	0.041	0.052	0.063	0.072	0.079	0.084	0.087	0.088	0.087	0.084	0.079	0.072	0.063	0.052	0.041	0.028	0.014	0.000
* DEFLECTION DUE TO SUPERIMPOSED D.L.	↓	0.000	0.010	0.021	0.031	0.041	0.049	0.057	0.062	0.067	0.068	0.070	0.068	0.067	0.062	0.057	0.049	0.041	0.031	0.021	0.010	0.000
FINAL CAMBER	↑	0"	1/16"	1/16"	1/8"	1/8"	3/16"	3/16"	3/16"	3/16"	1/4"	1/4"	1/4"	3/16"	3/16"	3/16"	3/16"	1/8"	1/8"	1/16"	1/16"	0"

* INCLUDES FUTURE WEARING SURFACE.
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																						
0.6" Ø LOW RELAXATION STRANDS	SPAN A AND SPAN B																					
	GIRDERS AG10 AND BG10																					
	TWENTIETH POINTS	BRG.	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	BRG.
CAMBER (GIRDER ALONE IN PLACE)	↑	0.000	0.014	0.028	0.041	0.052	0.063	0.072	0.079	0.084	0.087	0.088	0.087	0.084	0.079	0.072	0.063	0.052	0.041	0.028	0.014	0.000
* DEFLECTION DUE TO SUPERIMPOSED D.L.	↓	0.000	0.011	0.022	0.032	0.042	0.050	0.059	0.064	0.069	0.071	0.073	0.071	0.069	0.064	0.059	0.050	0.042	0.032	0.022	0.011	0.000
FINAL CAMBER	↑	0"	1⁄16"	1⁄16"	1⁄8"	1⁄8"	1⁄8"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	1⁄8"	1⁄8"	1⁄8"	1⁄16"	1⁄16"	0"

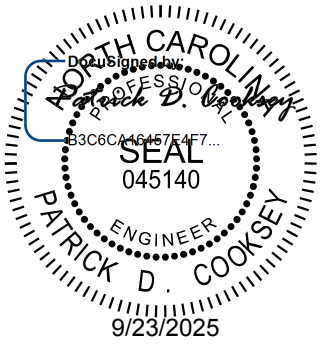
* INCLUDES FUTURE WEARING SURFACE.
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																						
0.6" Ø LOW RELAXATION STRANDS	SPAN A AND SPAN B																					
	GIRDERS AG11 AND BG11																					
	BRG.	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	BRG.	
TWENTIETH POINTS																						
CAMBER (GIRDER ALONE IN PLACE)	↑	0.000	0.014	0.028	0.041	0.052	0.063	0.072	0.079	0.084	0.087	0.088	0.087	0.084	0.079	0.072	0.063	0.052	0.041	0.028	0.014	0.000
* DEFLECTION DUE TO SUPERIMPOSED D.L.	↓	0.000	0.010	0.021	0.031	0.041	0.048	0.056	0.061	0.066	0.068	0.069	0.068	0.066	0.061	0.056	0.048	0.041	0.031	0.021	0.010	0.000
FINAL CAMBER	↑	0"	1⁄16"	1⁄16"	1⁄8"	1⁄8"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	1⁄4"	1⁄4"	1⁄4"	3⁄16"	3⁄16"	3⁄16"	3⁄16"	1⁄8"	1⁄8"	1⁄16"	1⁄16"	0"

* INCLUDES FUTURE WEARING SURFACE.
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-

SHEET 2 OF 2



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421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
GIRDER DEFLECTIONS
AND CAMBER

REVISIONS						SHEET NO. S-18
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			40

9/22/2025 K:\RD1-Structures\Bridges\NC\01036312 - U-5760 Big Mill Farm Road\Cd\09\U5760_SML.D12_330751.dgn

DRAWN BY: <u>D. D. LOWERY</u>	DATE: <u>09/25</u>
CHECKED BY: <u>B.M. KROL</u>	DATE: <u>09/25</u>
DESIGN ENGINEER OF RECORD: <u>P. D. COOKSEY</u>	DATE: <u>09/25</u>

NOTES

AT ALL FIXED POINTS OF SUPPORT, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF ½ 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.

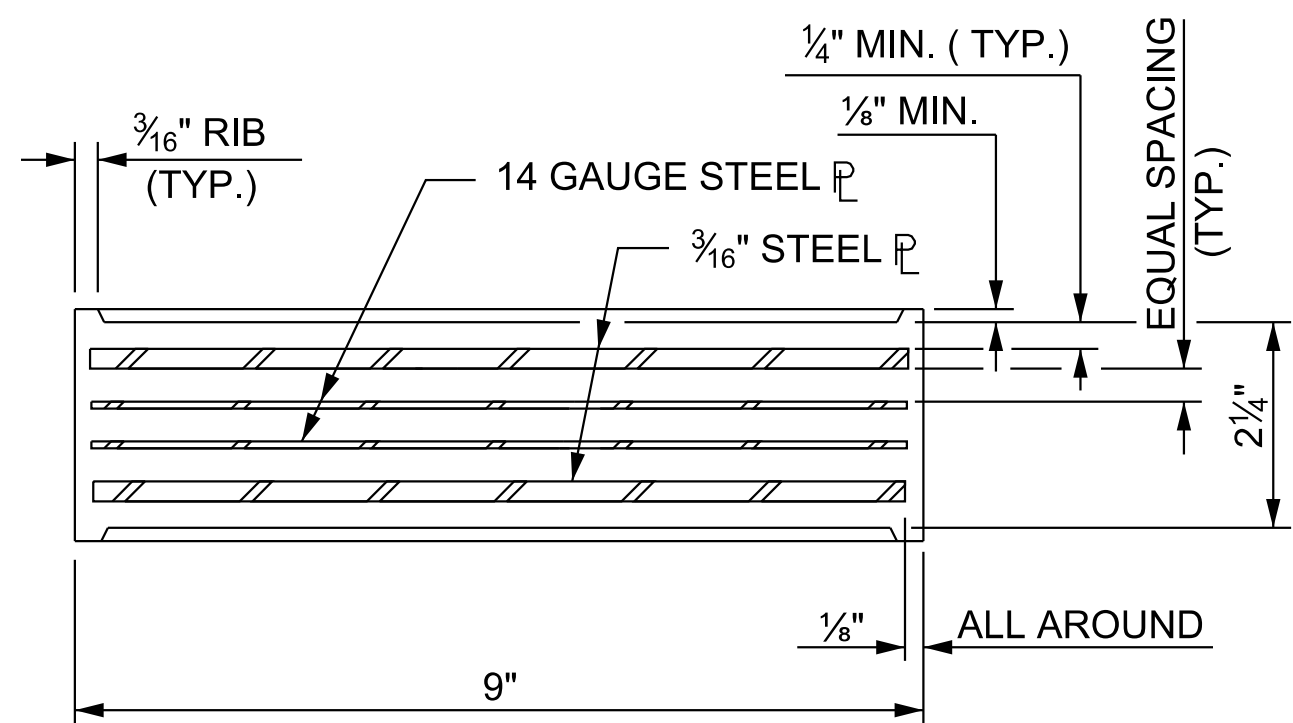
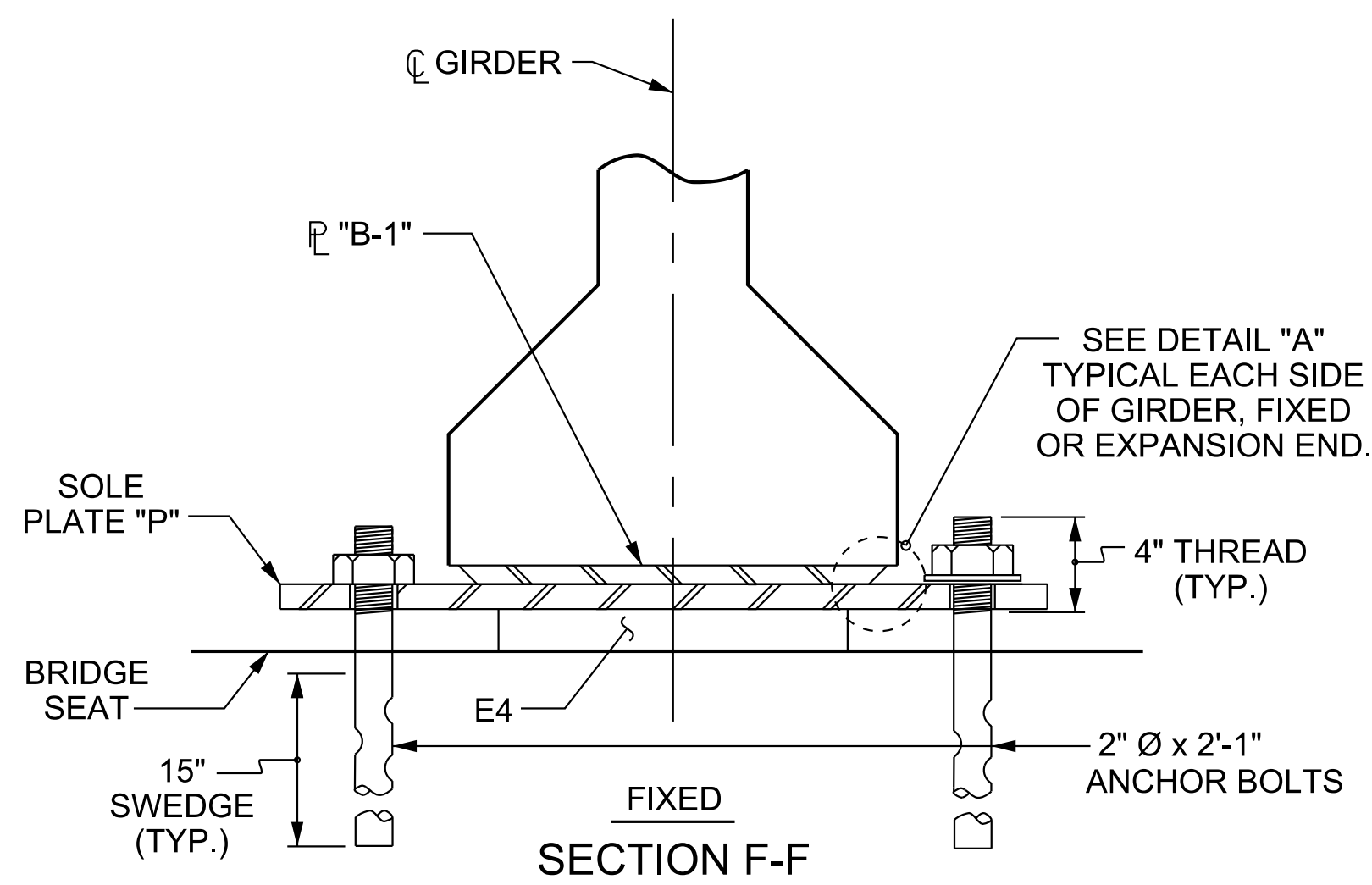
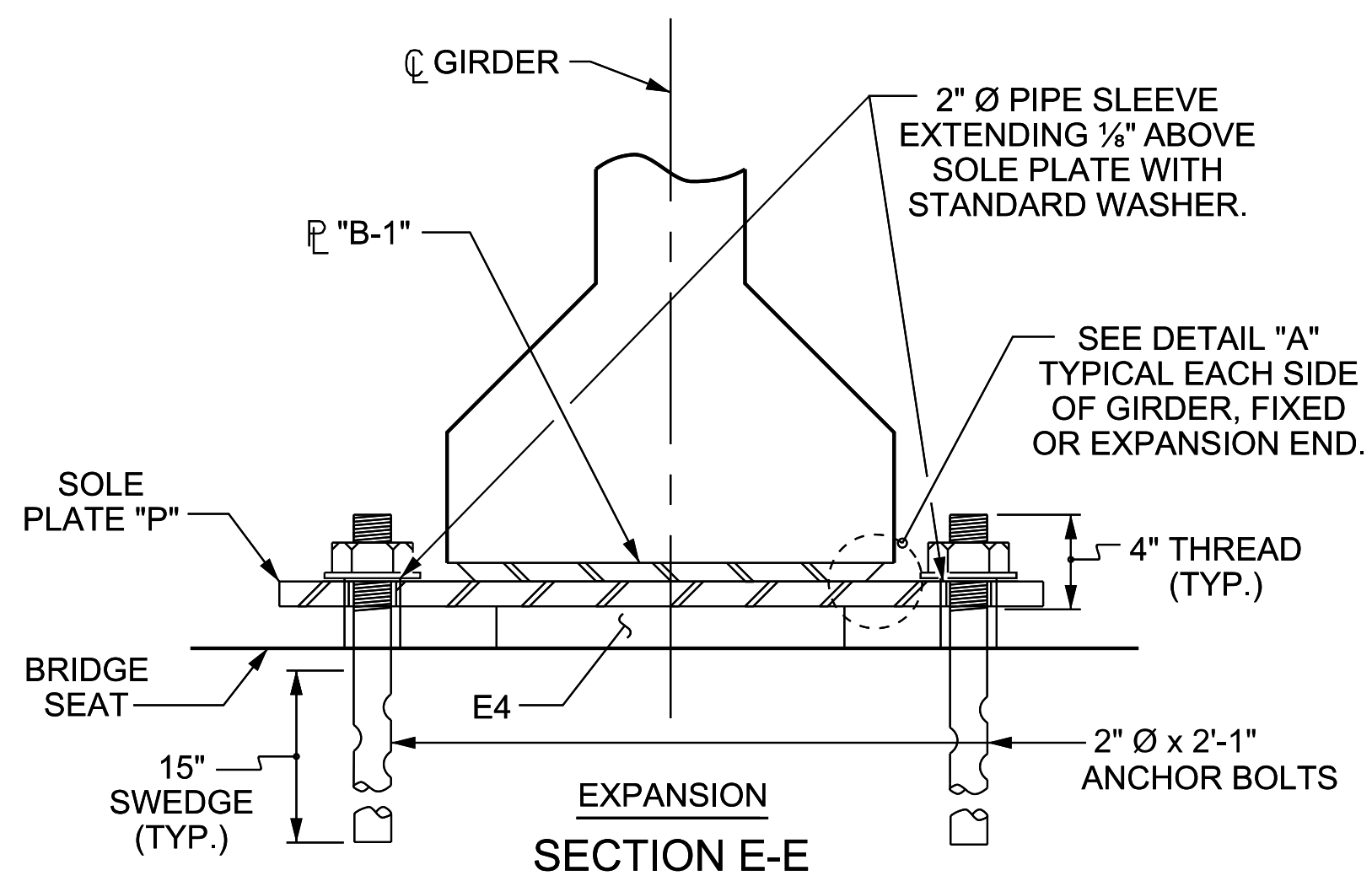
ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO M292-2H. WASHERS SHALL MEET THE REQUIREMENTS OF AASHTO M293. SHOP DRAWINGS ARE NOT REQUIRED FOR ANCHOR BOLT, NUTS AND WASHERS. SHOP INSPECTION IS REQUIRED.

ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

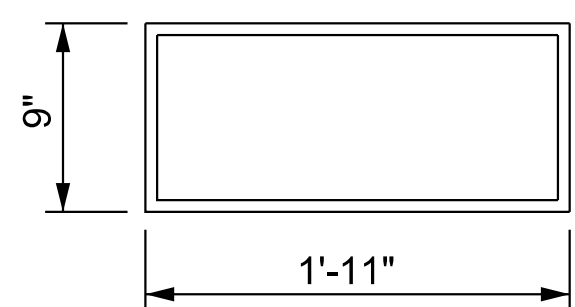
THE ELASTOMER IN THE STEEL REINFORCED BEARINGS SHALL HAVE A SHEAR MODULUS OF 0.160 KSI, IN ACCORDANCE WITH AASHTO M251.

FOR STEEL REINFORCED ELASTOMERIC BEARINGS, SEE STANDARD SPECIFICATIONS.

ALL SOLE PLATES SHALL BE AASHTO M270 GRADE 36.



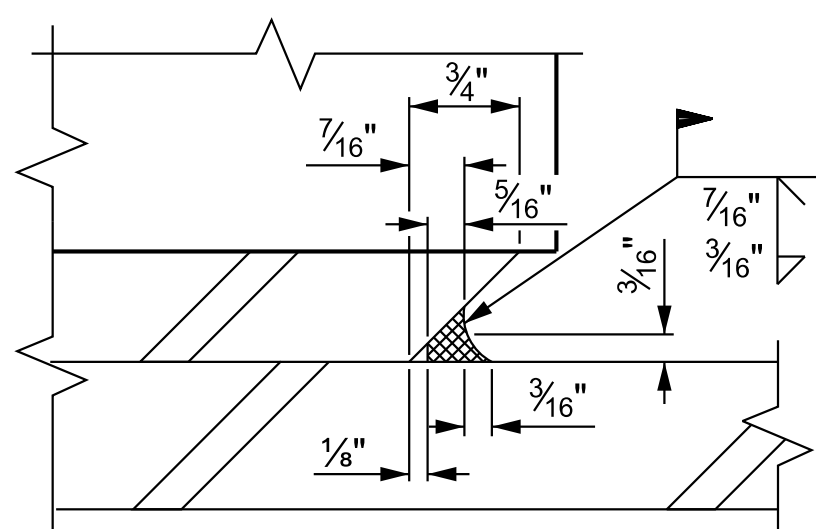
TYPICAL SECTION OF ELASTOMERIC BEARINGS



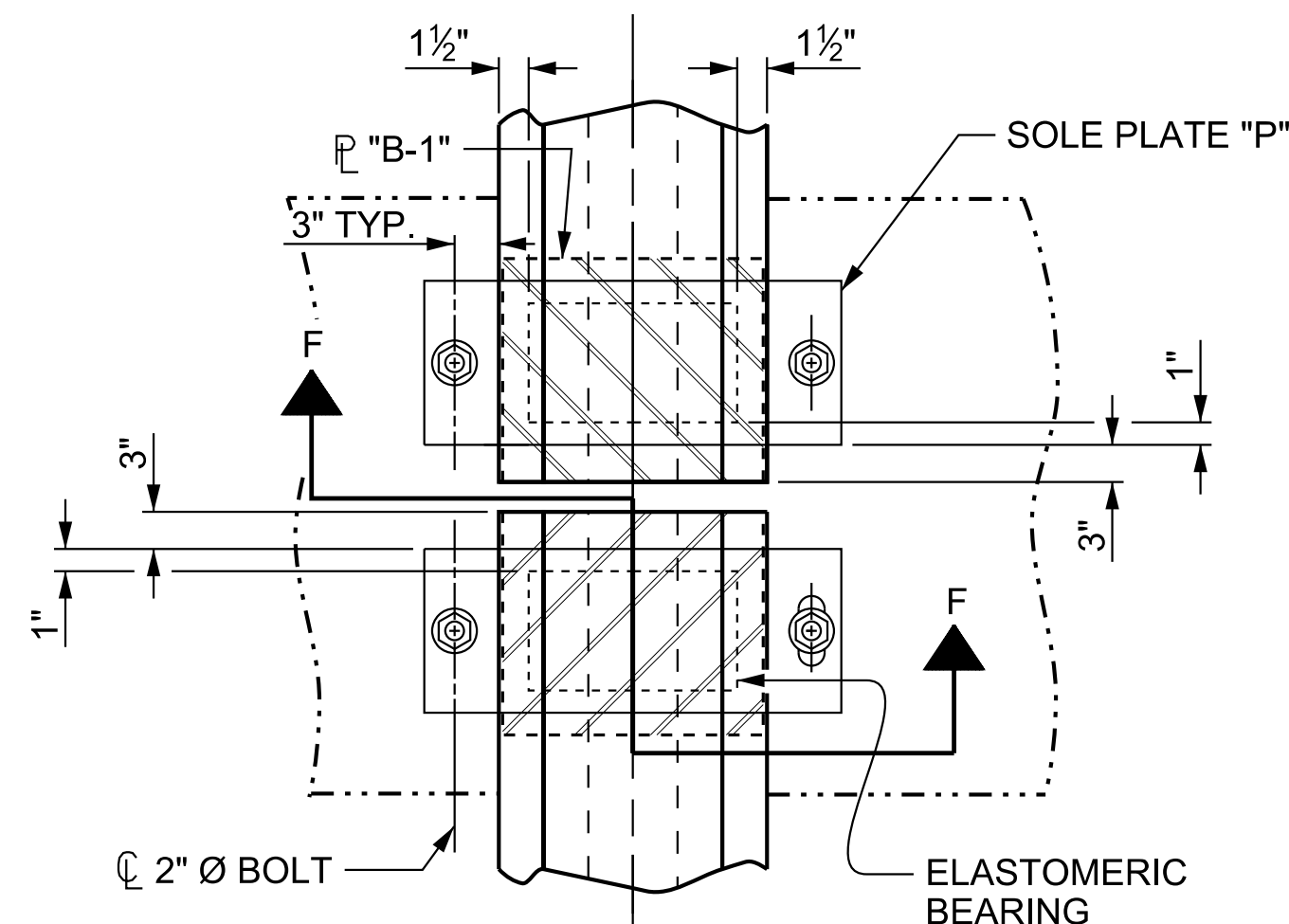
E4 (44 REQ'D)

PLAN VIEW OF ELASTOMERIC BEARING

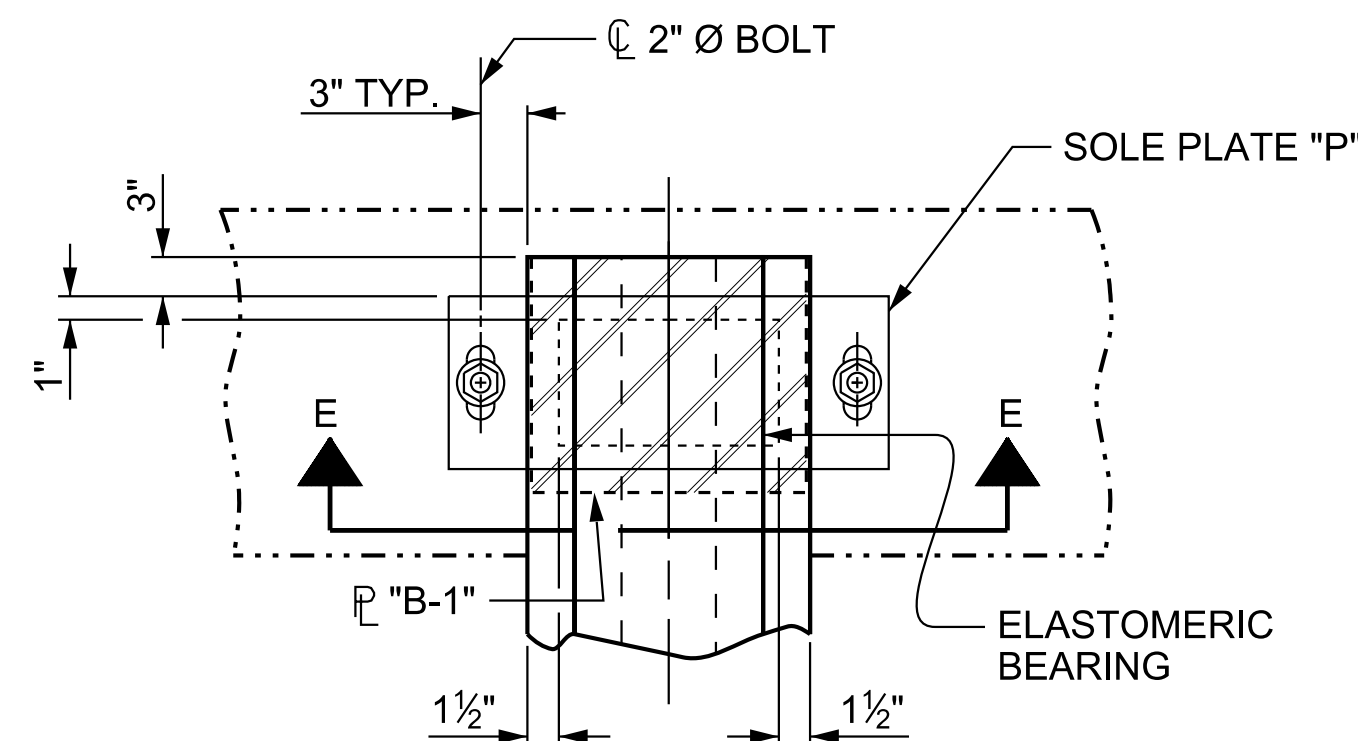
TYPE V



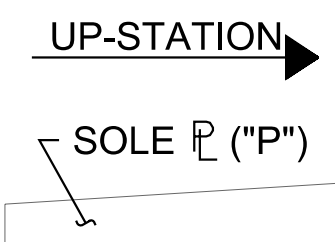
DETAIL "A"



TYPICAL PLAN
(SHOWING CONTINUOUS BENT)



TYPICAL PLAN
(SHOWING @ END BENT)



SOLE P PLACEMENT DETAIL

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

SOLE PLATE SCHEDULE			
MARK	T1	T2	# OF LOCATIONS
P1-E	1¼"	1⅞"	1
P2-F	1½"	1⅞"	1
P3-F	1⅝ ₁₆ "	2⅜ ₁₆ "	1
P4-E	1¾"	1⅞"	1

SOLE PLATE DETAILS ("P")

**DOCUMENT NOT CONSIDERED FINAL
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Professional Engineer Seal for Patrick D. Cooksey, State of South Carolina, License No. 045140, expires 9/23/2025.

Kimley»»Horn

421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000

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PROJECT NO. U-5760
FORSYTH COUNTY
 STATION: 27+37.26 -L-

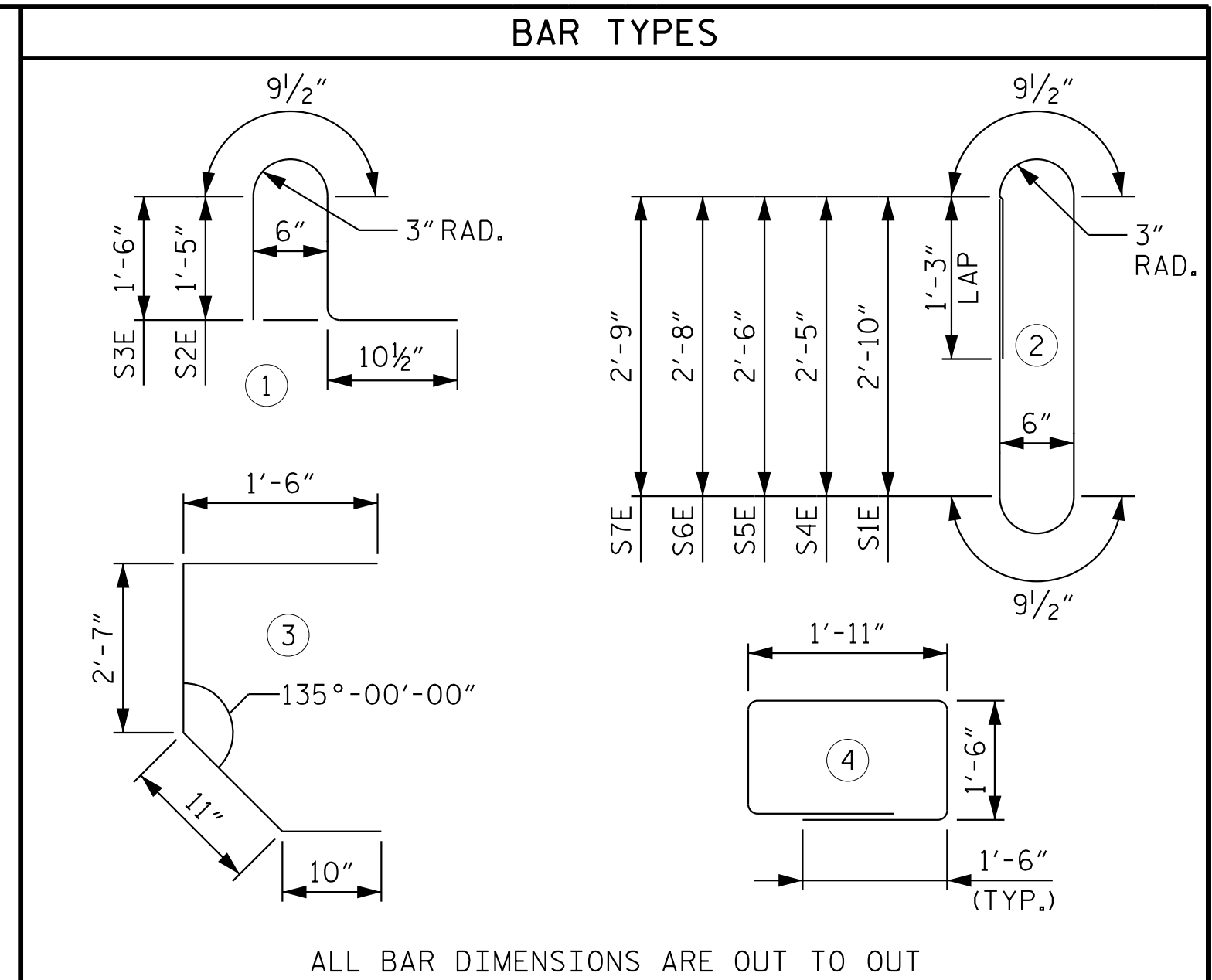
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD ELASTOMERIC BEARING DETAILS

PRESTRESSED CONCRETE GIRDER SUPERSTRUCTURE

REVISIONS						SHEET NO. S-19
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

STD. NO. EB4

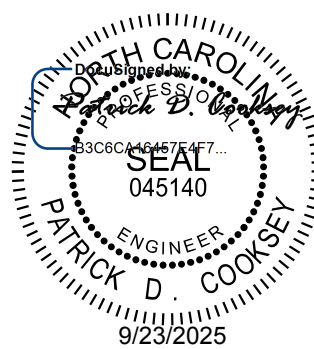


REINFORCING STEEL SCHEDULE					
BARRIER RAIL					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1E	8	7	STR	26'-0"	425
B2E	16	5	STR	26'-0"	434
B3E	16	5	STR	6'-1"	102
B4E	8	7	STR	26'-8"	436
B5E	16	5	STR	26'-8"	445
B6E	4	7	STR	28'-10"	236
B7E	8	5	STR	28'-10"	241
B8E	4	7	STR	25'-8"	210
B9E	8	5	STR	25'-8"	214
S1E	420	5	2	8'-6"	3,724
S2E	130	5	1	4'-6"	610
S3E	130	5	1	4'-8"	633
S4E	4	5	2	7'-8"	32
S5E	4	5	2	7'-10"	33
S6E	4	5	2	8'-2"	34
S7E	4	5	2	8'-4"	35
S8E	24	5	3	5'-10"	146
U1E	24	5	4	7'-11"	198
EPOXY COATED REINFORCING STEEL					8,188 LBS.
CLASS AA CONCRETE					44.4 C.Y.
CLASSIC CONCRETE BRIDGE RAIL					324.67 L.F.

"E" DENOTES EPOXY COATED
REINFORCING STEEL.

PROJECT NO. U-5760
FORSYTH COUNTY
 STATION: 27+37.26 -L-

SHEET 1 OF 3



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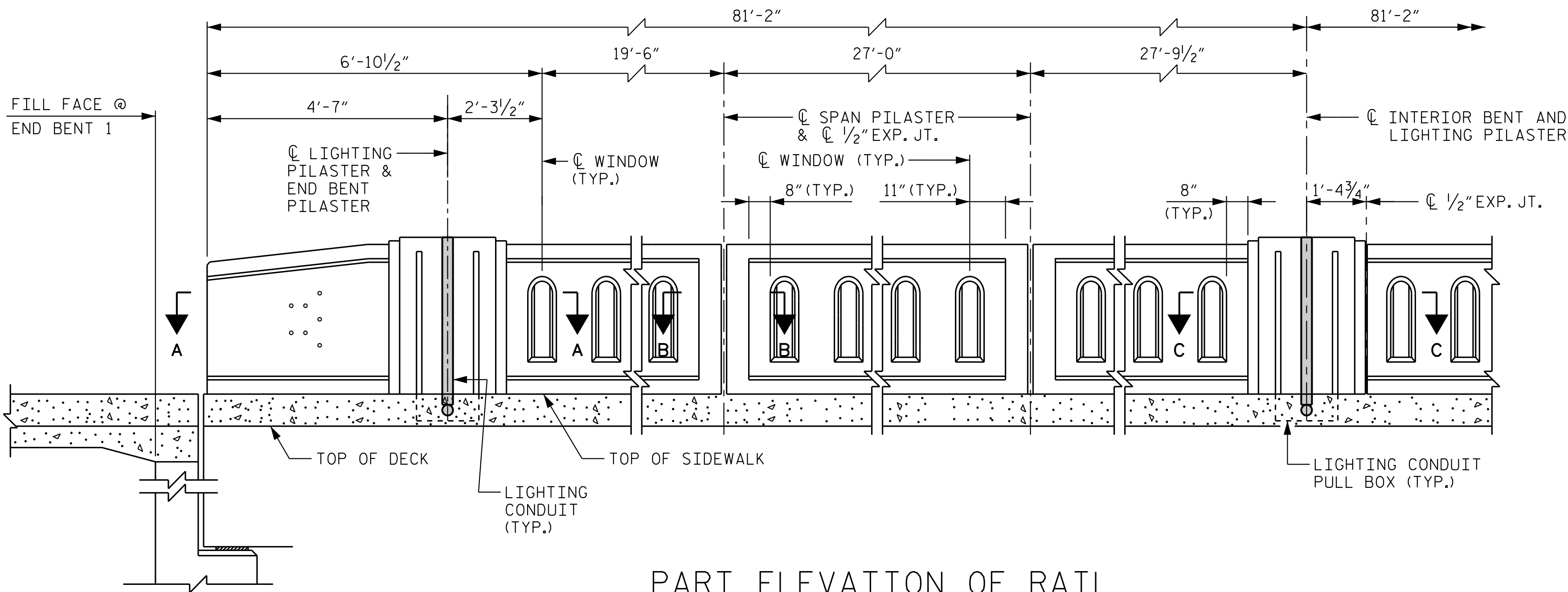
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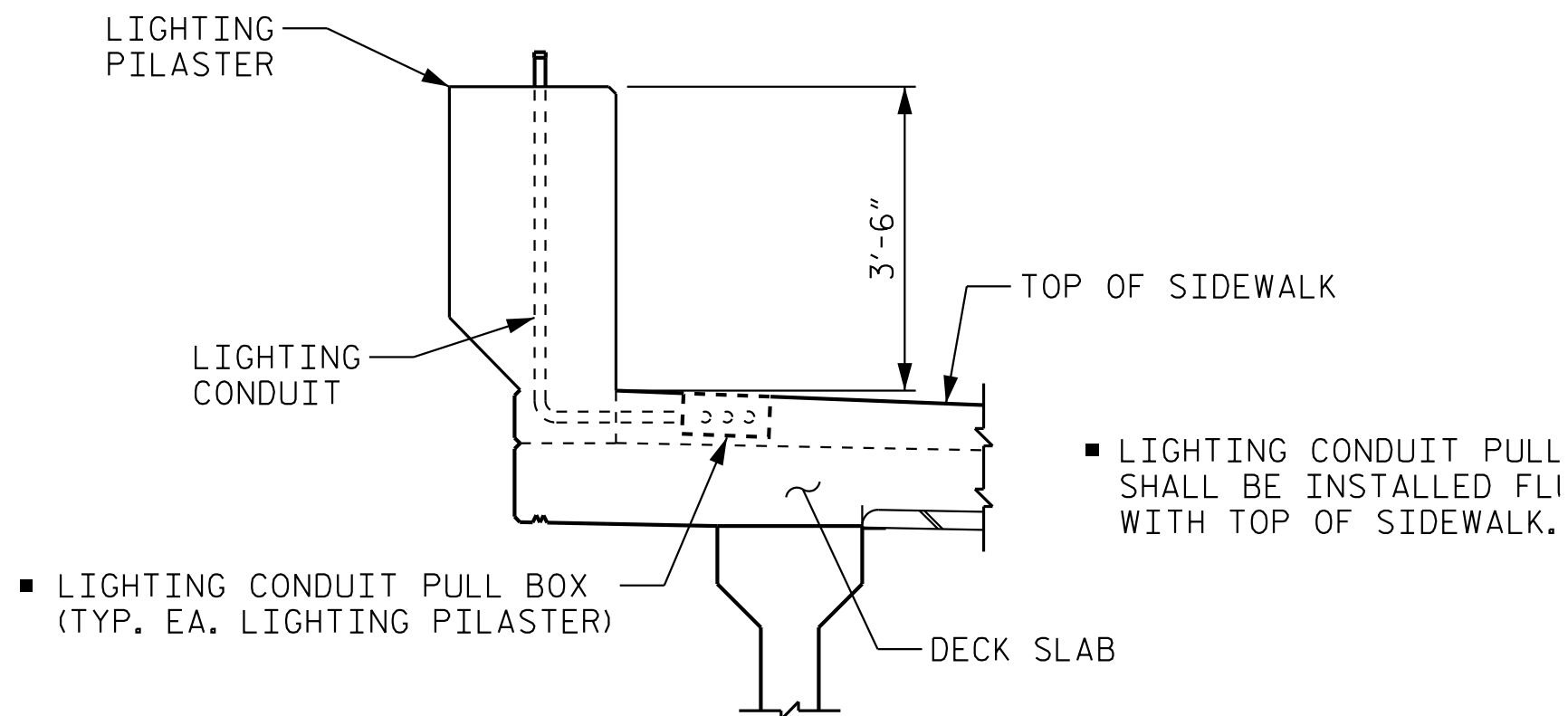
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REVISIONS						SHEET NO. S-20
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

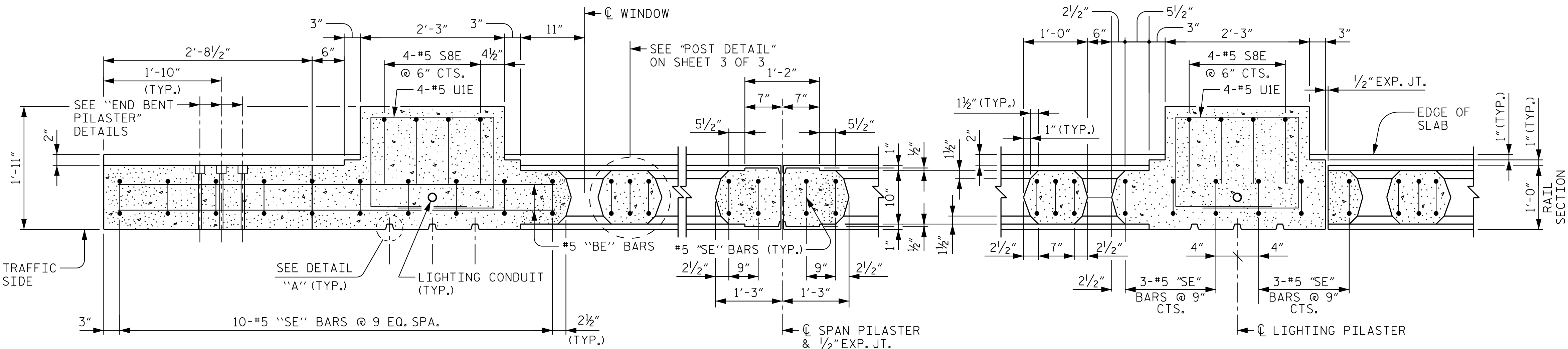
9/22/2025 K:\RDT-Structures\Bridges\NC\01036312 - U-5760 Big Mill Farm Road\Coord\09\U5760.SML2MR2.330751.dgn



PART ELEVATION OF RAIL



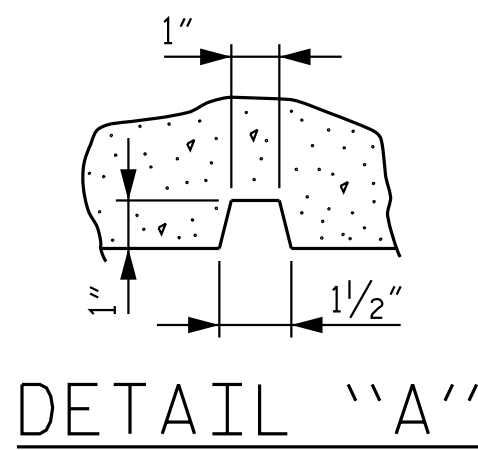
LIGHTING CONDUIT PULL BOX DETAILS
LEFT SIDE OF BRIDGE SHOWN, RIGHT SIDE SIMILAR



SECTION A-A

SECTION B-B

SECTION C-C



DETAIL "A"

NOTES:

ALL LABOR AND MATERIALS REQUIRED FOR THE CLASSIC CONCRETE BRIDGE RAILING INCLUDING, BUT NOT LIMITED TO REINFORCING STEEL, CLASS AA CONCRETE, ANCHOR BOLTS, AND INCIDENTALS, SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT FOR "CLASSIC CONCRETE BRIDGE RAIL". NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR THESE ITEMS.

CLASSIC CONCRETE BRIDGE RAIL SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

ALL REINFORCING STEEL IN CLASSIC CONCRETE BRIDGE RAILS SHALL BE EPOXY COATED.

PROVIDE A CLASS 1 SURFACE FINISH FOR ALL EXPOSED SURFACES.

FOR CLASSIC CONCRETE BRIDGE RAIL, SEE SPECIAL PROVISIONS.

FOR ELECTRICAL CONDUIT DETAILS, SEE "CONDUIT SYSTEM DETAIL" SHEET.

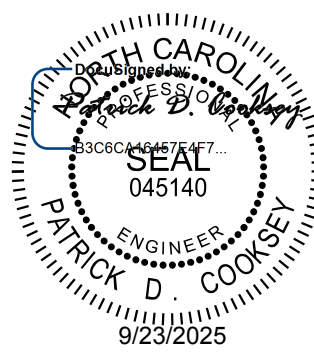
FOR ELECTRICAL CONDUIT SYSTEM, SEE SPECIAL PROVISIONS.

PROVIDING AND INSTALLING LIGHT POSTS IS BY OTHERS AND IS NOT PART OF THIS WORK. BEFORE ORDERING AND INSTALLING ANCHOR BOLTS, THE CONTRACTOR SHALL COORDINATE WITH THE TOWN OF KERNERSVILLE FOR CONSISTENCY OR CHANGES TO THE PREFERRED LIGHT POST. ANCHOR BOLT LAYOUT IS SHOWN IN THESE PLANS IS FOR ILLUSTRATIVE PURPOSES ONLY.

ANCHOR BOLTS SHALL CONFORM TO ASTM F3125. NUTS SHALL CONFORM TO ASTM A194 OR ASTM A563. WASHERS SHALL CONFORM TO ASTM F436. ALL HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153.

PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-

SHEET 2 OF 3



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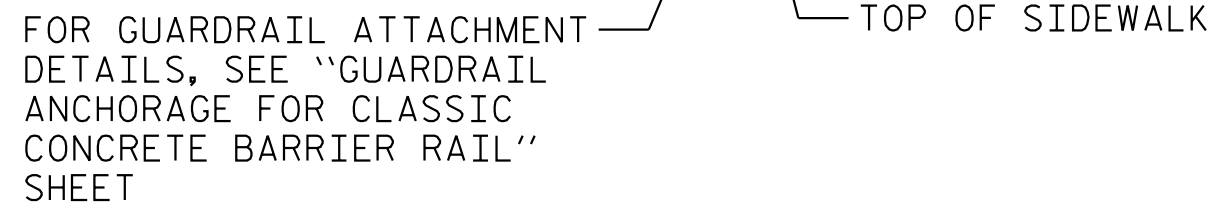
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
CLASSIC CONCRETE
BRIDGE RAIL

REVISIONS						SHEET NO. S-21
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

DRAWN BY: D.D. LOWERY DATE: 09/25
CHECKED BY: B.M. KROL DATE: 09/25
DESIGN ENGINEER OF RECORD: P.D. COOKSEY DATE: 09/25



PILASTER ELEVATIONS



WINDOW DETAIL



SHEET 3 OF 3

CLASSIC CONCRETE BRIDGE RAIL

REVISIONS						SHEET NO. S-22
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

ELEVATION SHOWING
TYPICAL REINFORCING PLACEMENT

DRAWN BY: <u>D. D. LOWERY</u>	DATE: <u>09/25</u>
CHECKED BY: <u>B.M. KROL</u>	DATE: <u>09/25</u>
DESIGN ENGINEER OF RECORD: <u>P. D. COOKSEY</u>	DATE: <u>09/25</u>

Professional Engineer Seal for Patrick D. Cooksey, State of North Carolina, License No. 045140, expires 9/23/2025.

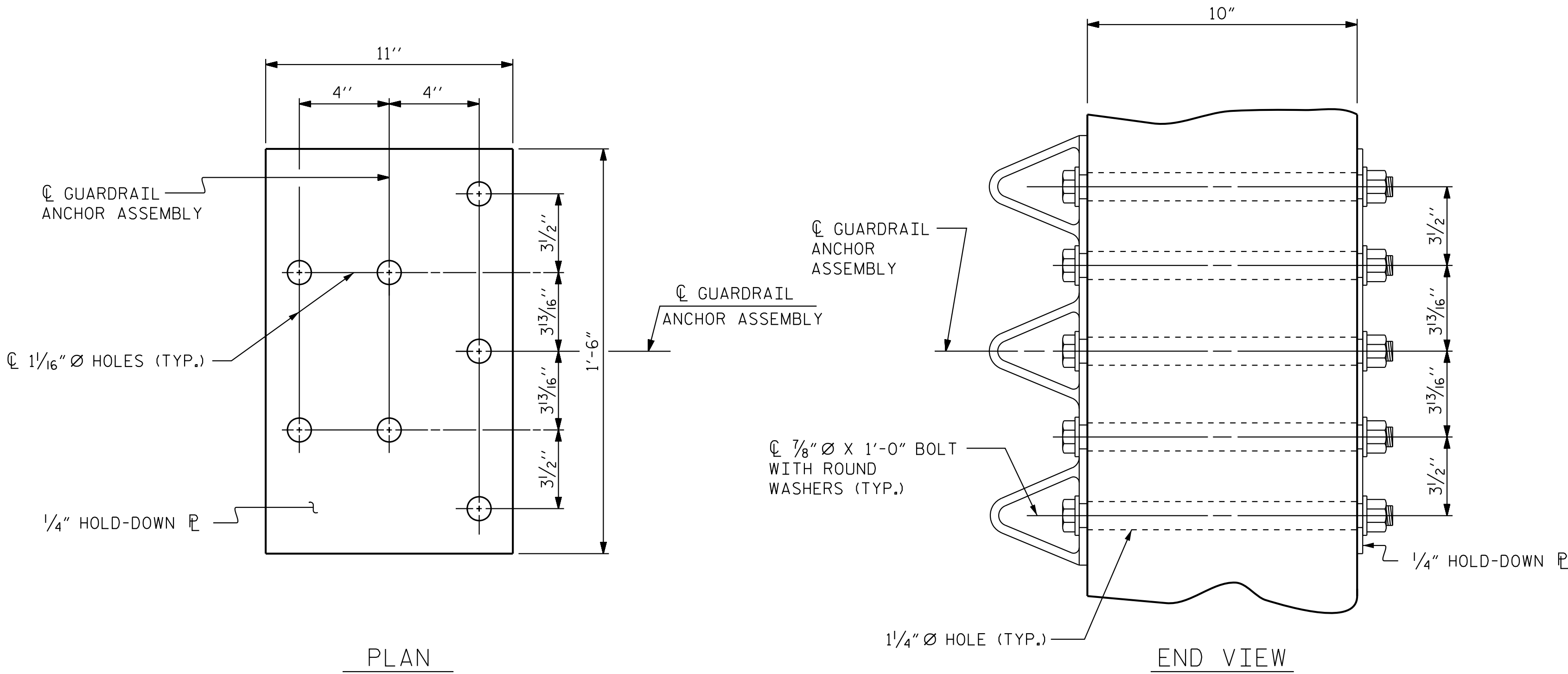
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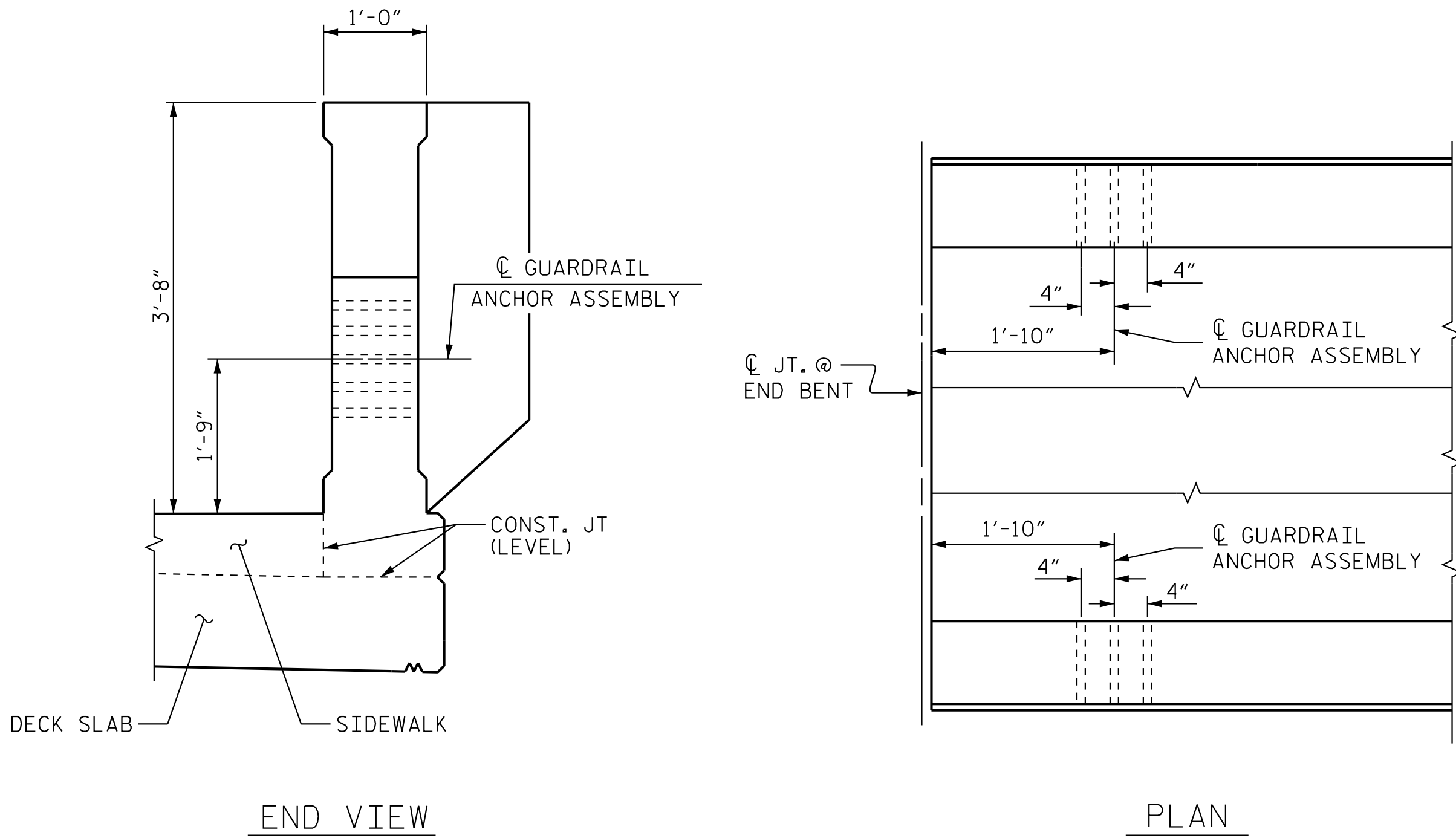
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GUARDRAIL ANCHOR ASSEMBLY DETAILS



LOCATION OF GUARDRAIL ANCHOR AT END POST

NOTES

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

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

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

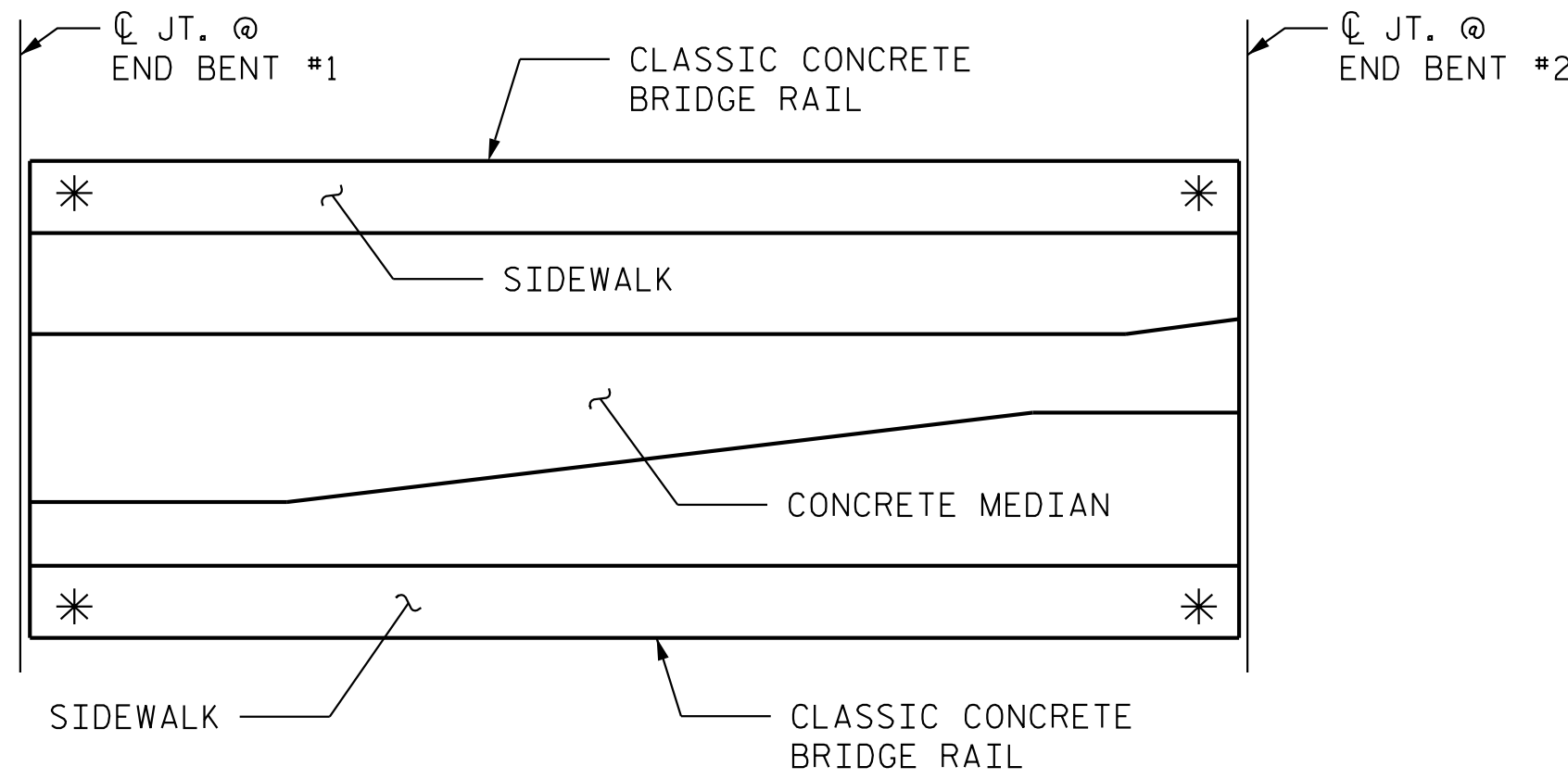
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF THE PARAPET. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

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

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

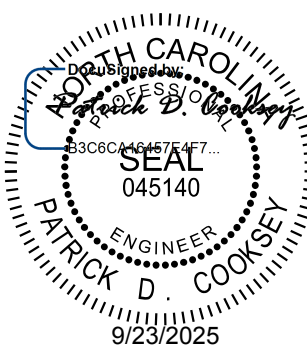
THE 1/4"Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.



SKETCH SHOWING POINTS OF ATTACHMENT

*LOCATION OF GUARDRAIL ATTACHMENT

PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-



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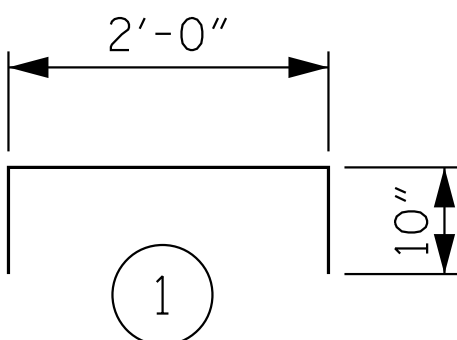
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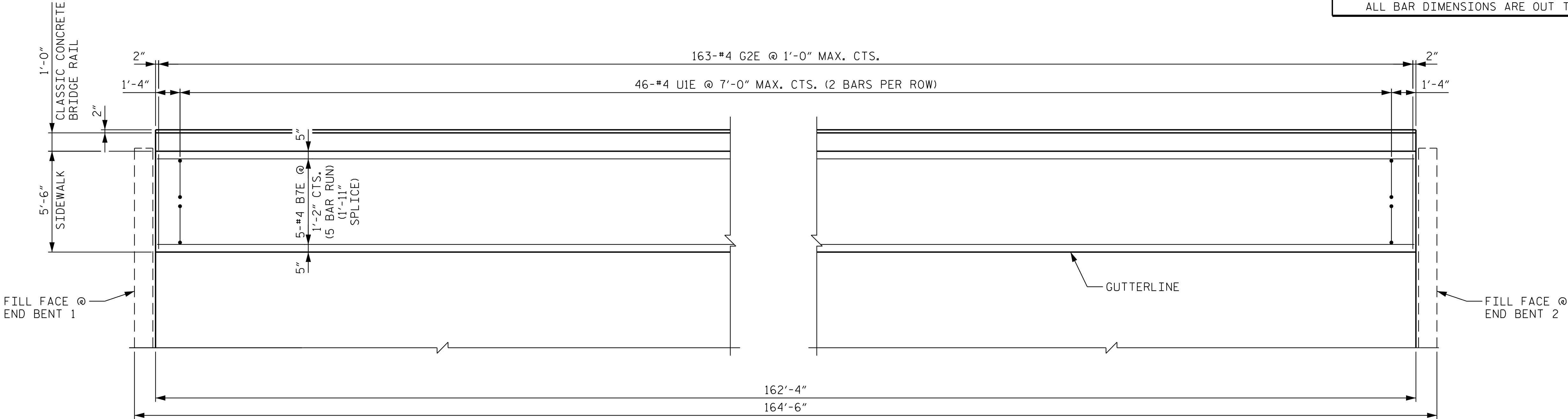
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
GUARDRAIL ANCHORAGE
FOR CLASSIC CONCRETE
BARRIER RAIL

REVISIONS						SHEET NO. S-23
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

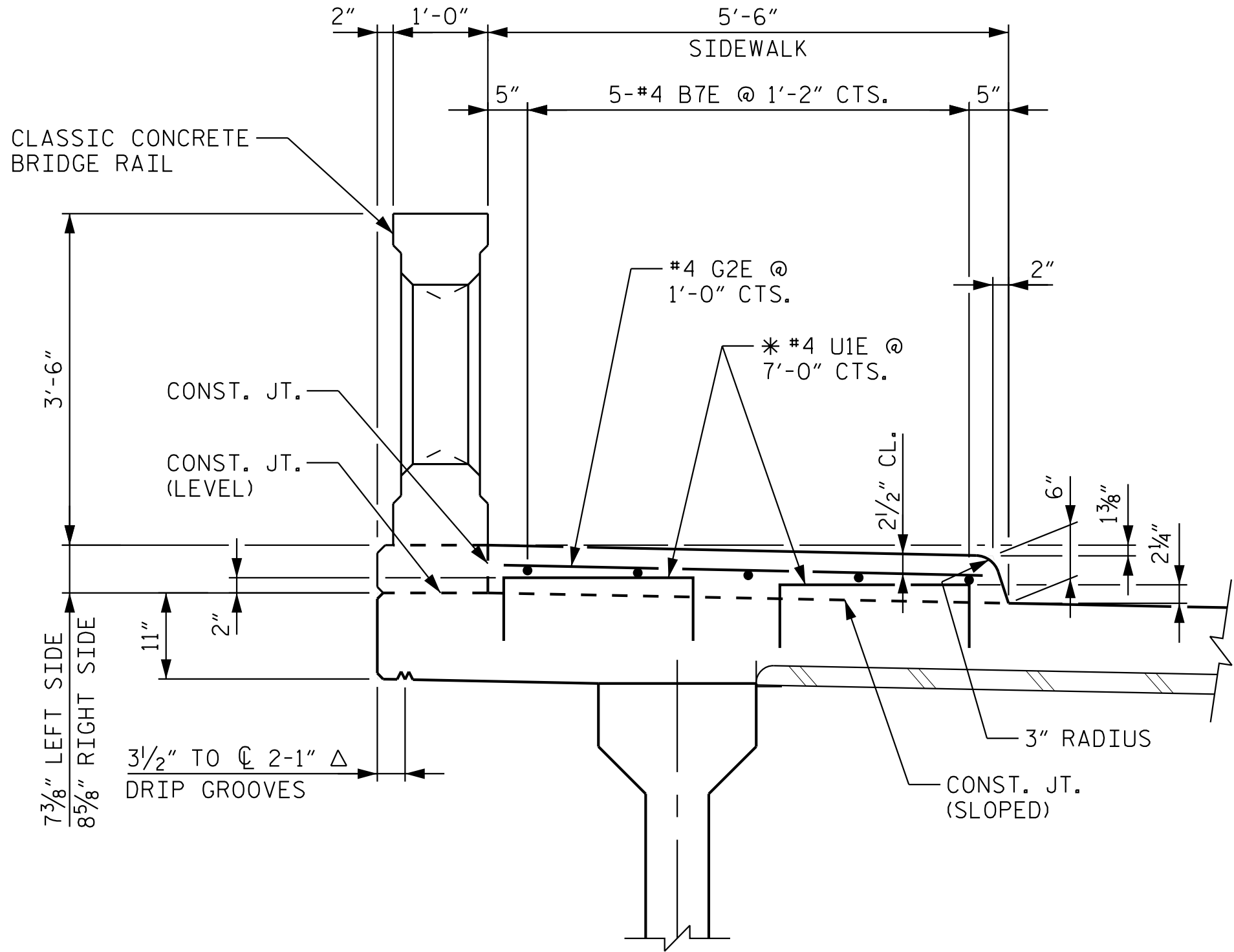
STD. NO. GRA3

9/22/2025 K:\RD1-Structures\Bridges\NC\01036312 - U-5760 Big Mill Farm Road\Coord\09\U5760.SML.SWI.330751.dgn

BAR TYPES		BILL OF MATERIAL					
		SIDEWALK					
		BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
		B7E	50	4	STR	34'-0"	1,136
		G2E	326	4	STR	5'-2"	1,125
		U1E	92	4	1	3'-8"	225
ALL BAR DIMENSIONS ARE OUT TO OUT		EPOXY COATED REINFORCING STEEL					
		2,486 LBS.					
		TOTAL CLASS AA CONCRETE					
		36.7 C.Y.					
		"E" DENOTES EPOXY COATED REINFORCING STEEL.					



PLAN OF SIDEWALK
(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)



SECTION THRU SIDEWALK

* #4 U1E MAY BE PUSHED INTO GREEN CONCRETE AFTER THE DECK HAS BEEN SCREEDED OFF.

NOTES

ALL REINFORCING STEEL IN THE SIDEWALK SHALL BE EPOXY COATED.

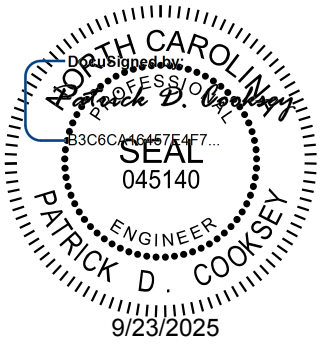
SIDEWALK SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE IN THE SPAN HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSION STRENGTH OF 3,000 PSI.

GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE SIDEWALK IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINTS SHALL BE LOCATED AT A SPACING OF 8 FEET TO 10 FEET BETWEEN EXPANSION JOINTS. NO CONTRACTION JOINT WILL BE REQUIRED IN SEGMENTS LESS THAN 10 FEET IN LENGTH.

SEE APPROACH SLAB SHEETS, FOR SIDEWALK ON APPROACH SLAB.

SIDEWALK ON THE BRIDGE IS PAID FOR AS PART OF THE REINFORCING CONCRETE DECK PAY ITEM.

PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-



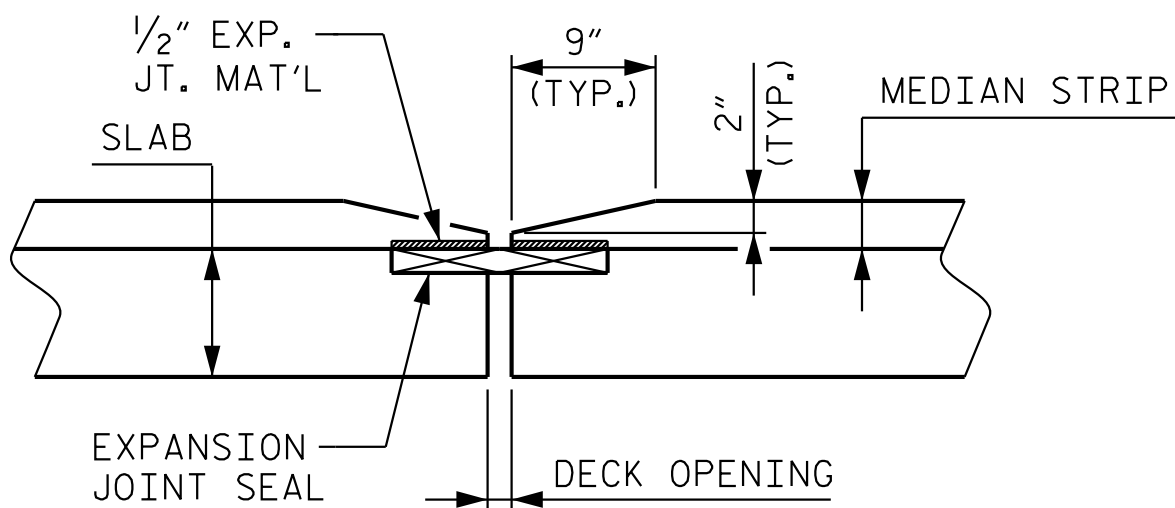
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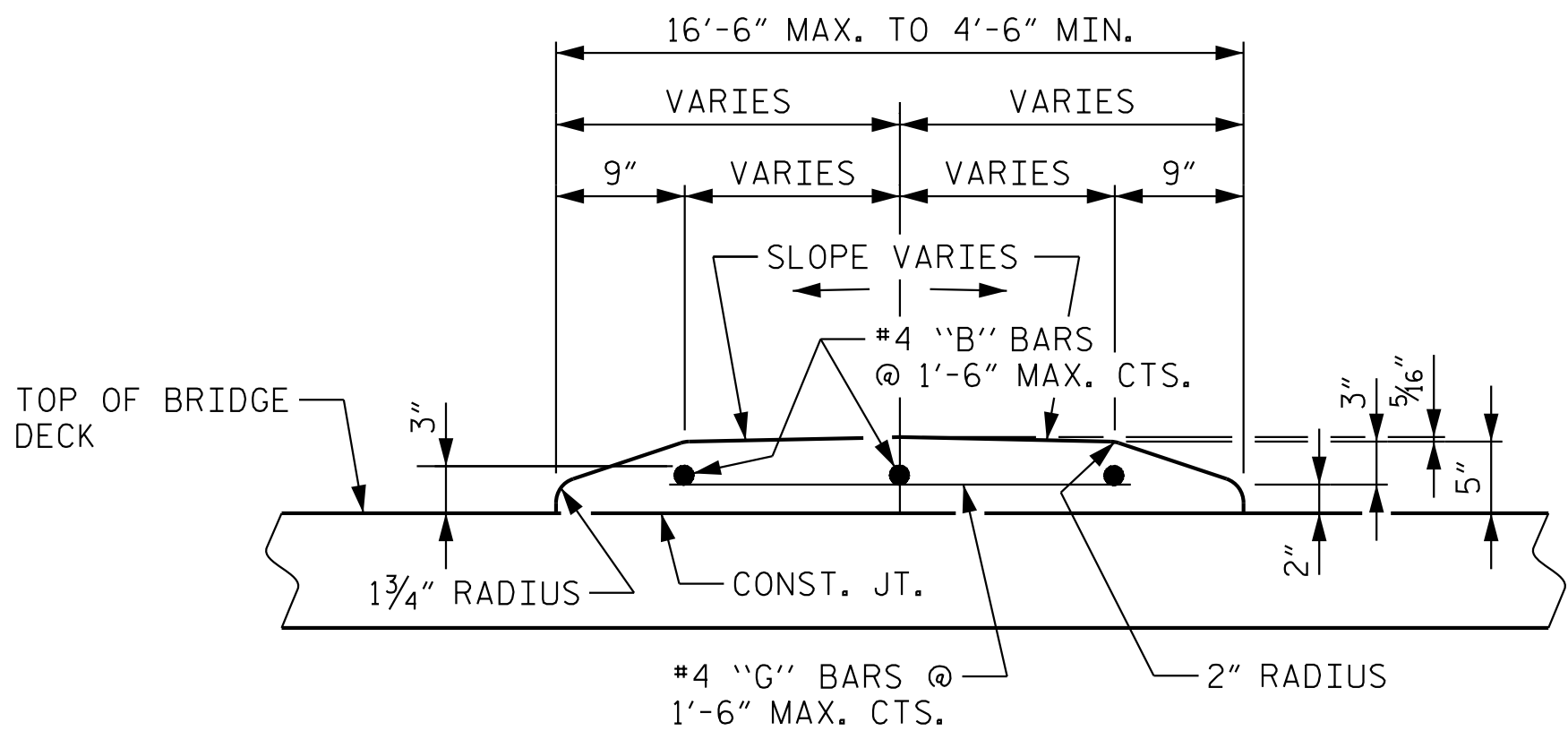
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CHECKED BY: <u>B.M. KROL</u>	DATE: <u>09/25</u>
DESIGN ENGINEER OF RECORD: <u>P.D. COOKSEY</u>	DATE: <u>09/25</u>

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUPERSTRUCTURE SIDEWALK DETAILS					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-24					TOTAL SHEETS 40

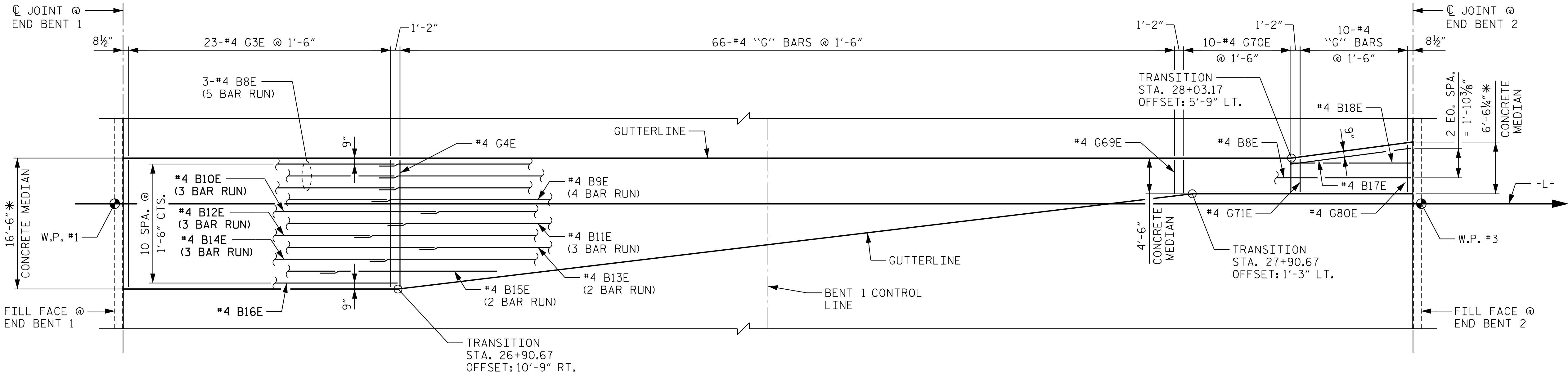


DETAILS @ EXPANSION JOINT



SECTION THRU MEDIAN

NUMBER OF "B" BARS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO PLAN VIEW OF MEDIAN FOR "B" BAR PLACEMENT.



PLAN OF MEDIAN

* DIMENSIONS MEASURED @ FILL FACE

NOTES

ALL REINFORCING STEEL IN THE CONCRETE MEDIAN SHALL BE EPOXY COATED.

GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE MEDIAN IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINTS SHALL BE LOCATED AT A SPACING OF 8 FEET TO 10 FEET BETWEEN EXPANSION JOINTS. NO CONTRACTION JOINT WILL BE REQUIRED IN SEGMENTS LESS THAN 10 FEET IN LENGTH.

FOR MEDIAN ON APPROACH SLAB, SEE APPROACH SLAB SHEETS.

MEDIAN ON THE BRIDGE IS PAID FOR AS PART OF THE REINFORCED CONCRETE DECK PAY ITEM.

BILL OF MATERIAL

MEDIAN

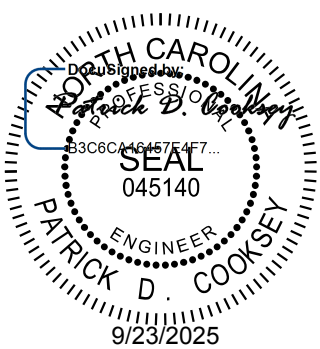
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B8E	15	4	STR	34'-0"	341	G21E	1	4	STR	11'-10"	8	G51E	1	4	STR	6'-5"	4
B9E	4	4	STR	31'-11"	85	G22E	1	4	STR	11'-8"	8	G52E	1	4	STR	6'-3"	4
B10E	3	4	STR	37'-9"	76	G23E	1	4	STR	11'-6"	8	G53E	1	4	STR	6'-1"	4
B11E	3	4	STR	33'-7"	67	G24E	1	4	STR	11'-4"	8	G54E	1	4	STR	5'-11"	4
B12E	3	4	STR	29'-5"	59	G25E	1	4	STR	11'-2"	7	G55E	1	4	STR	5'-9"	4
B13E	2	4	STR	36'-11"	49	G26E	1	4	STR	10'-11"	7	G56E	1	4	STR	5'-7"	4
B14E	2	4	STR	30'-8"	41	G27E	1	4	STR	10'-9"	7	G57E	1	4	STR	5'-5"	4
B15E	2	4	STR	24'-5"	33	G28E	1	4	STR	10'-7"	7	G58E	1	4	STR	5'-2"	3
B16E	1	4	STR	34'-5"	23	G29E	1	4	STR	10'-5"	7	G59E	1	4	STR	5'-0"	3
B17E	1	4	STR	15'-1"	10	G30E	1	4	STR	10'-2"	7	G60E	1	4	STR	4'-10"	3
B18E	1	4	STR	7'-6"	5	G31E	1	4	STR	10'-1"	7	G61E	1	4	STR	4'-8"	3
						G32E	1	4	STR	9'-11"	7	G62E	1	4	STR	4'-6"	3
G3E	23	4	STR	15'-0"	230	G33E	1	4	STR	9'-8"	6	G63E	1	4	STR	4'-4"	3
G4E	1	4	STR	14'-11"	10	G34E	1	4	STR	9'-6"	6	G64E	1	4	STR	4'-1"	3
G5E	1	4	STR	14'-9"	10	G35E	1	4	STR	9'-4"	6	G65E	1	4	STR	3'-11"	3
G6E	1	4	STR	14'-7"	10	G36E	1	4	STR	9'-2"	6	G66E	1	4	STR	3'-9"	3
G7E	1	4	STR	14'-5"	10	G37E	1	4	STR	9'-0"	6	G67E	1	4	STR	3'-7"	2
G8E	1	4	STR	14'-2"	9	G38E	1	4	STR	8'-10"	6	G68E	1	4	STR	3'-5"	2
G9E	1	4	STR	14'-0"	9	G39E	1	4	STR	8'-7"	6	G69E	1	4	STR	3'-3"	2
G10E	1	4	STR	13'-10"	9	G40E	1	4	STR	8'-5"	6	G70E	10	4	STR	3'-0"	20
G11E	1	4	STR	13'-8"	9	G41E	1	4	STR	8'-3"	6	G71E	1	4	STR	3'-1"	2
G12E	1	4	STR	13'-6"	9	G42E	1	4	STR	8'-1"	5	G72E	1	4	STR	3'-3"	2
G13E	1	4	STR	13'-4"	9	G43E	1	4	STR	7'-11"	5	G73E	1	4	STR	3'-5"	2
G14E	1	4	STR	13'-1"	9	G44E	1	4	STR	7'-9"	5	G74E	1	4	STR	3'-7"	2
G15E	1	4	STR	12'-11"	9	G45E	1	4	STR	7'-6"	5	G75E	1	4	STR	3'-10"	3
G16E	1	4	STR	12'-9"	9	G46E	1	4	STR	7'-4"	5	G76E	1	4	STR	4'-0"	3
G17E	1	4	STR	12'-7"	8	G47E	1	4	STR	7'-2"	5	G77E	1	4	STR	4'-2"	3
G18E	1	4	STR	12'-5"	8	G48E	1	4	STR	7'-0"	5	G78E	1	4	STR	4'-5"	3
G19E	1	4	STR	12'-3"	8	G49E	1	4	STR	6'-10"	5	G79E	1	4	STR	4'-7"	3
G20E	1	4	STR	12'-0"	8	G50E	1	4	STR	6'-8"	4	G80E	1	4	STR	4'-9"	3

EPOXY COATED REINFORCING STEEL 1,465 LBS.

TOTAL CLASS AA CONCRETE 27.2 C.Y.

"E" DENOTES EPOXY COATED

PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-



Kimley»Horn

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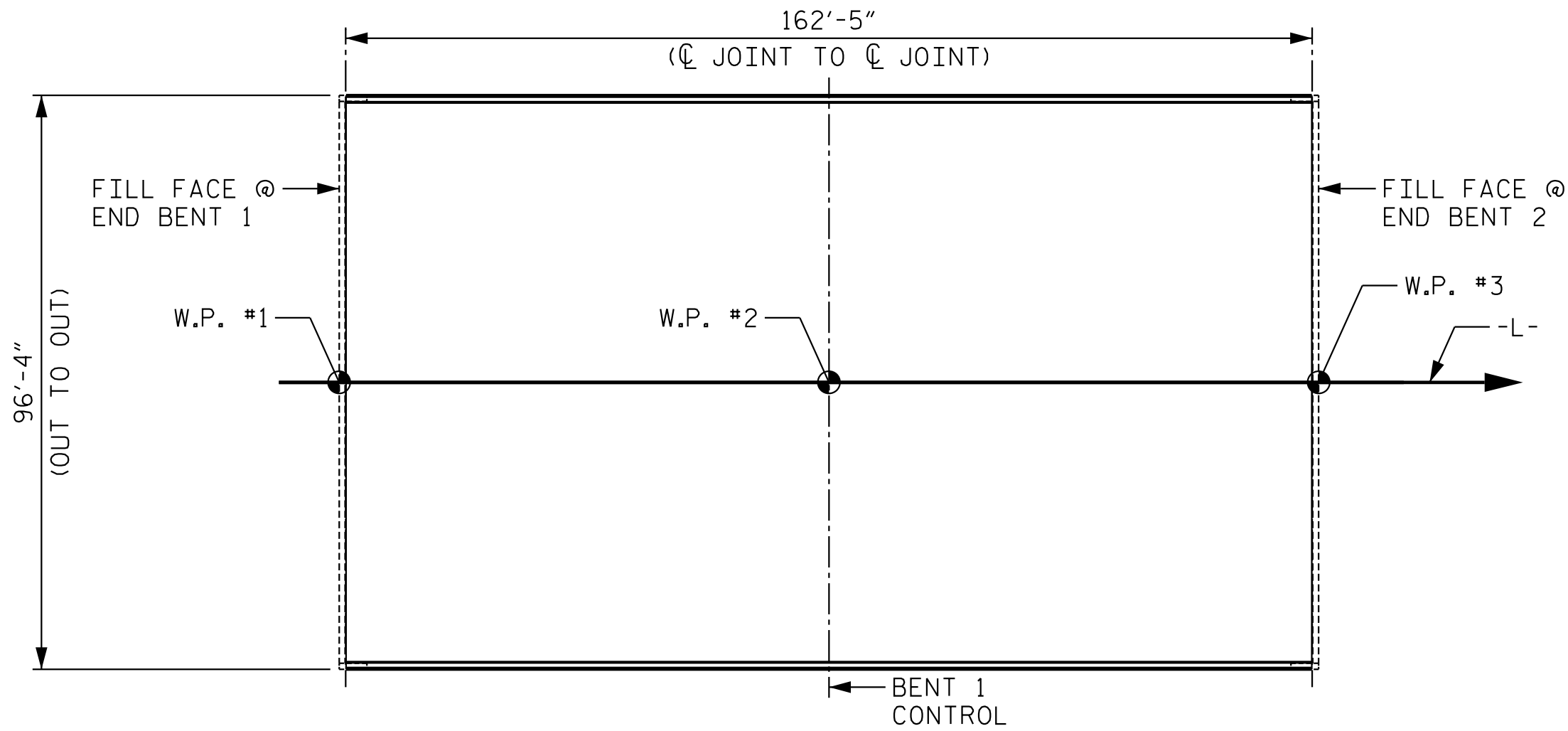
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

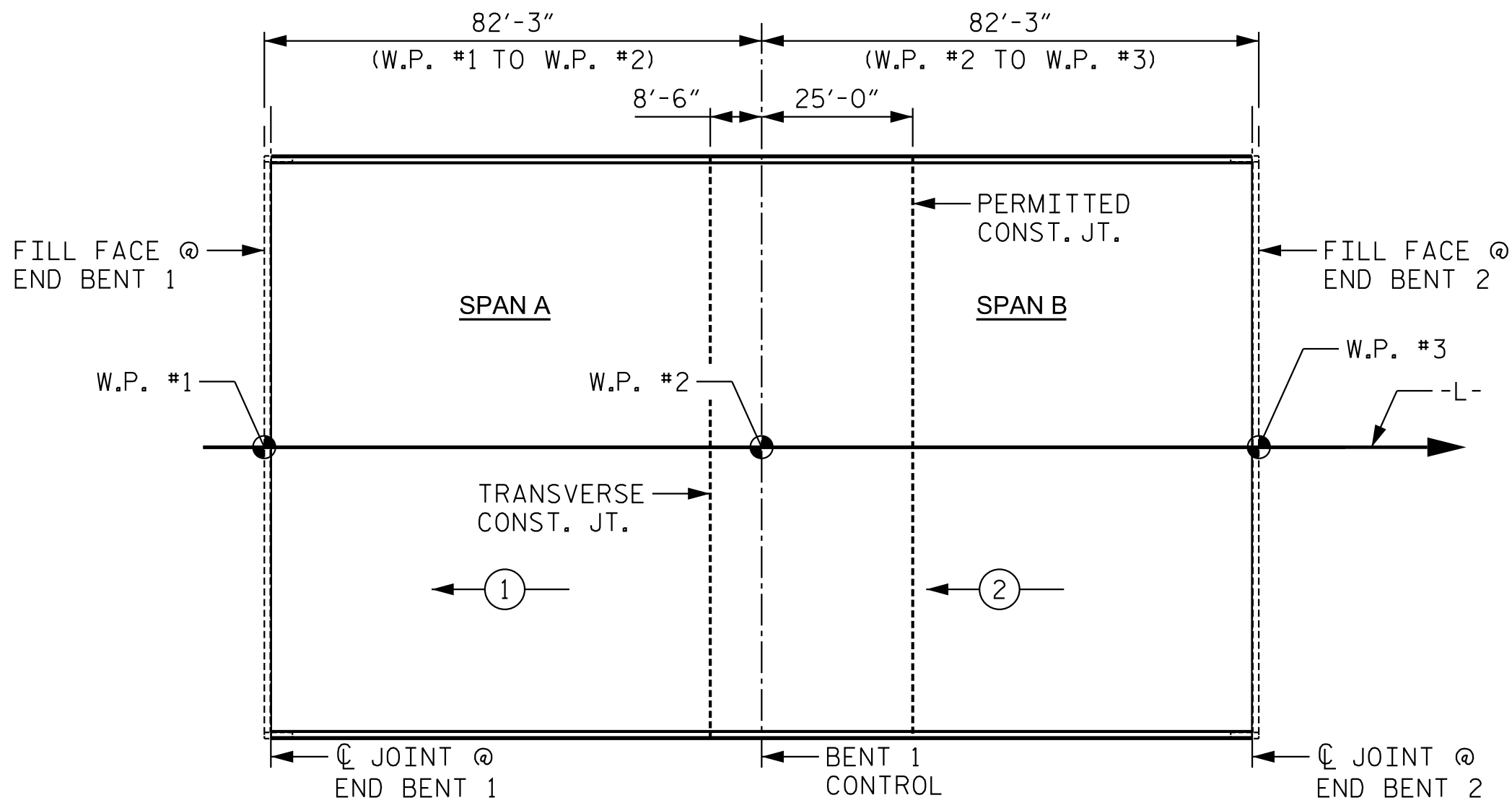
MEDIAN DETAILS

REVISIONS						SHEET NO. S-25
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

DRAWN BY: D.D. LOWERY	DATE: 09/25
CHECKED BY: B.M. KROL	DATE: 09/25
DESIGN ENGINEER OF RECORD: P.D. COOKSEY	DATE: 09/25

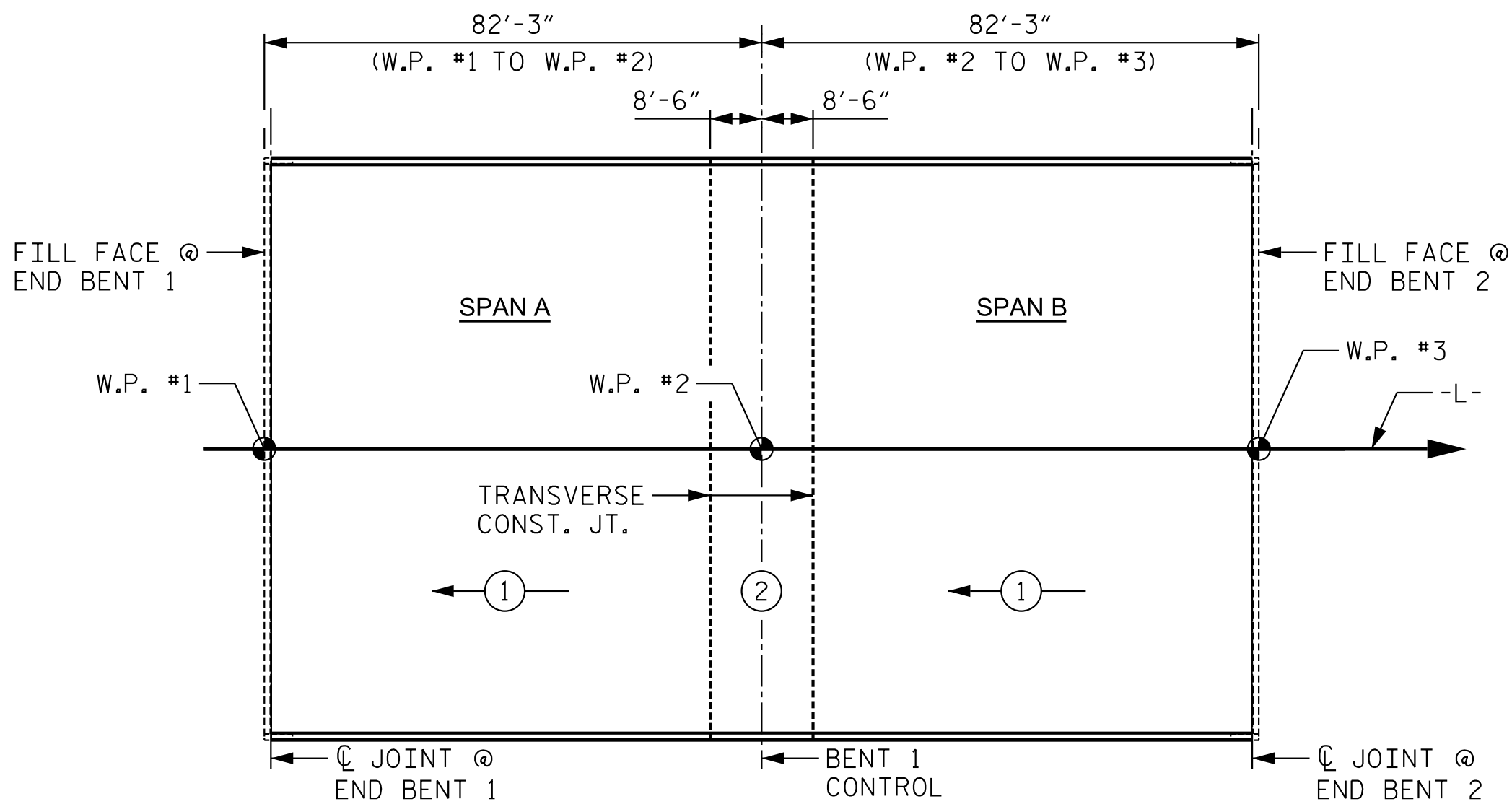


LAYOUT FOR COMPUTING AREA OF REINFORCED CONCRETE SLAB
(SQ. FT. = 15,638)



POUR SEQUENCE

⊕ → DENOTES POUR NUMBER AND DIRECTION.



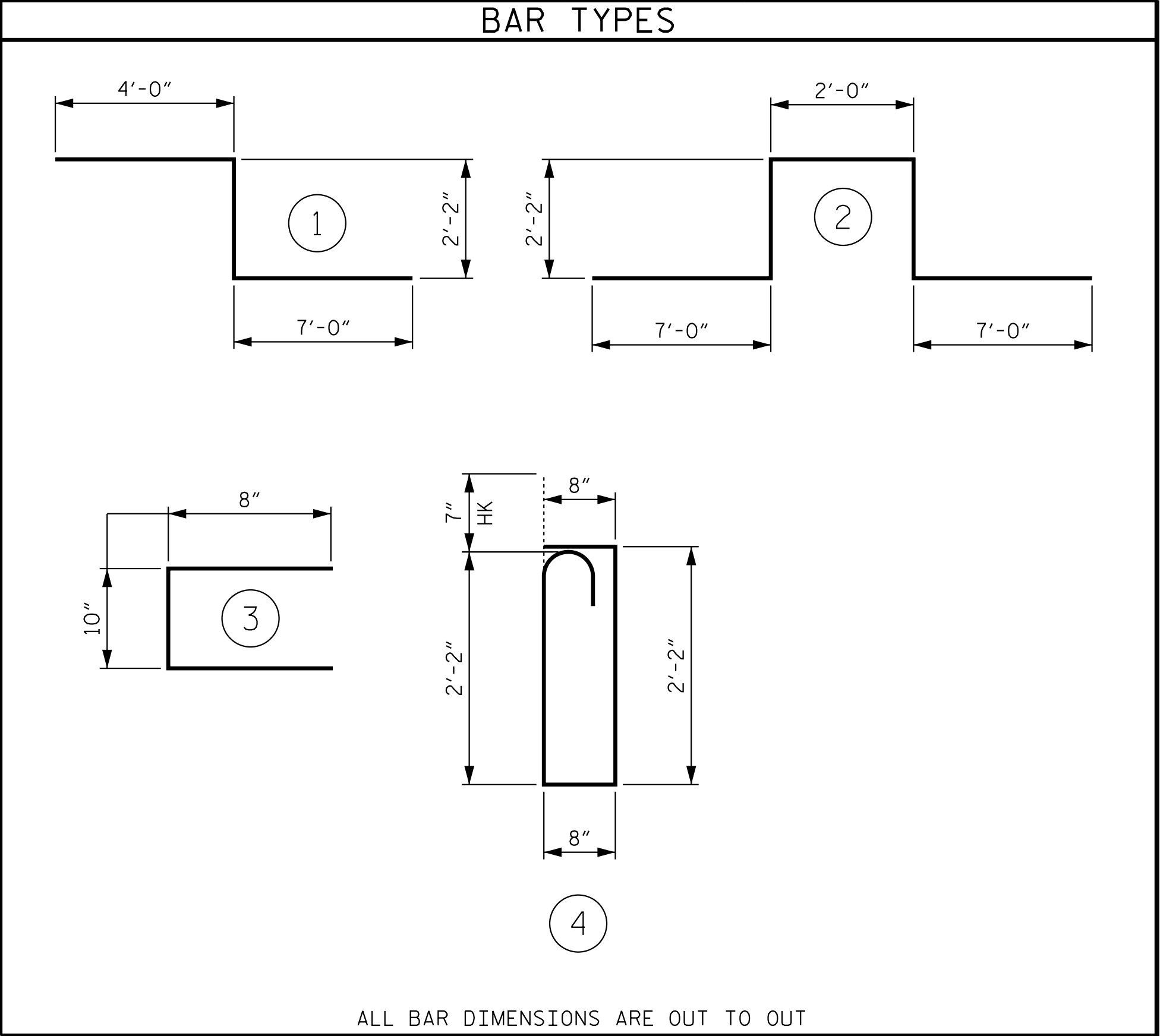
OPTIONAL POUR SEQUENCE

POUR ② CAN NOT BE STARTED UNTIL BOTH ADJACENT ① POURS REACH A MINIMUM OF 3,000 PSI

⊕ → DENOTES POUR NUMBER AND DIRECTION.

BILL OF MATERIAL					
SUPERSTRUCTURE					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A1E	650	5	STR	49'-3"	33,389
A2	650	5	STR	49'-0"	33,220
B1E	260	4	STR	27'-9"	4,820
B2E	65	5	STR	58'-8"	3,977
B3E	128	5	STR	34'-6"	4,606
B4	236	5	STR	57'-9"	14,215
B5	118	5	STR	50'-6"	6,215
B6	106	5	STR	42'-6"	4,699
G1E	4	5	STR	49'-3"	205
K1E	36	8	2	20'-4"	1,954
K2E	8	8	1	13'-2"	281
K3E	20	6	STR	7'-0"	210
S1E	160	4	3	2'-2"	232
S2E	160	5	4	6'-3"	1,043

EPOXY COATED
REINFORCING STEEL 50,717 LBS.
REINFORCING STEEL 58,349 LBS.
'E' DENOTES EPOXY COATED
REINFORCING STEEL.



ALL BAR DIMENSIONS ARE OUT TO OUT

SUPERSTRUCTURE BILL OF MATERIAL			
	CLASS AA CONCRETE	REINFORCING STEEL	(E) EPOXY COATED REINFORCING STEEL
	(CU. YDS.)	(LBS.)	(LBS.)
POUR #1	204.5		
POUR #2	250.9		
SIDEWALK	36.7		
MEDIAN	27.2		
TOTALS **	519.3	58,349	50,717

**QUANTITIES FOR CONCRETE BARRIER RAILS ARE NOT INCLUDED

GROOVING BRIDGE FLOORS

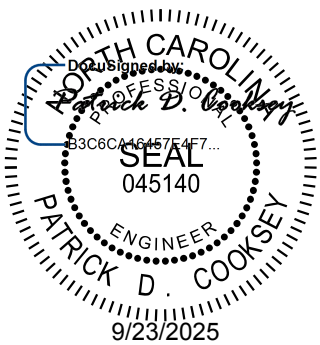
APPROACH SLABS	3,900	SQ.FT.
BRIDGE DECK	12,887	SQ.FT.
TOTAL	16,787	SQ.FT.

PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE

BILL OF MATERIAL

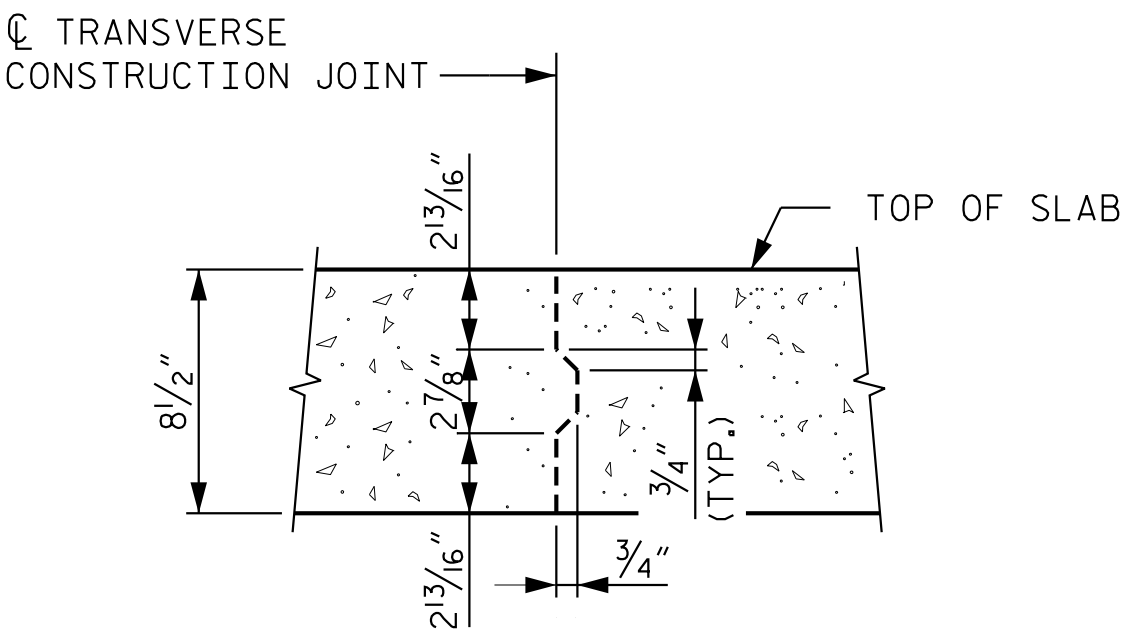
REVISIONS						SHEET NO. S-26
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			



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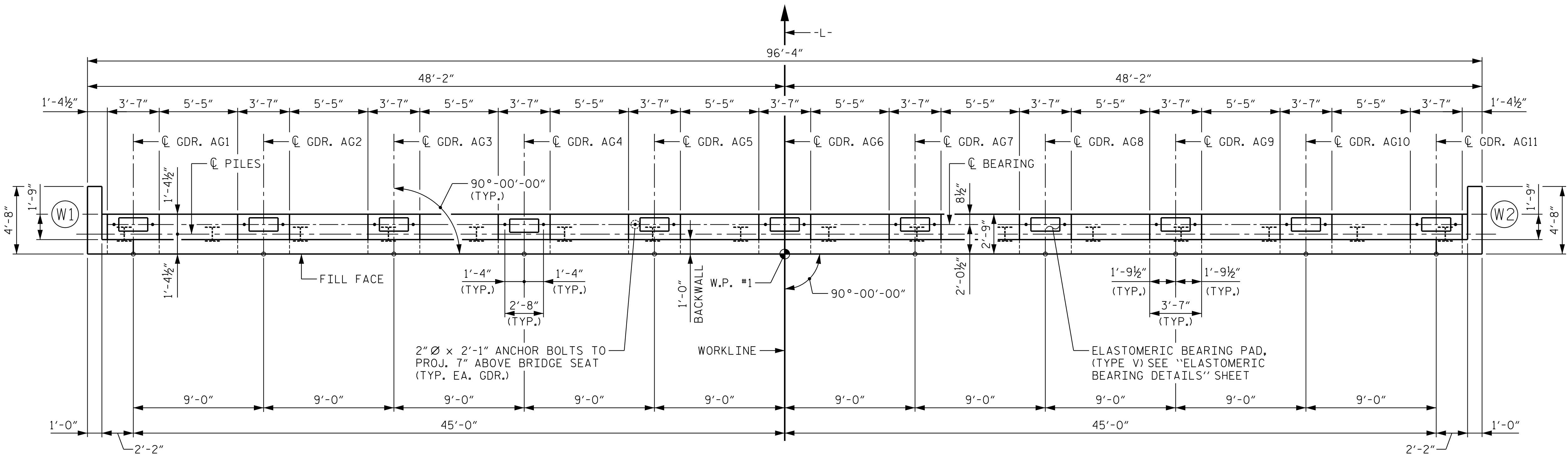


TRANSVERSE CONSTRUCTION
JOINT IN DECK SLAB

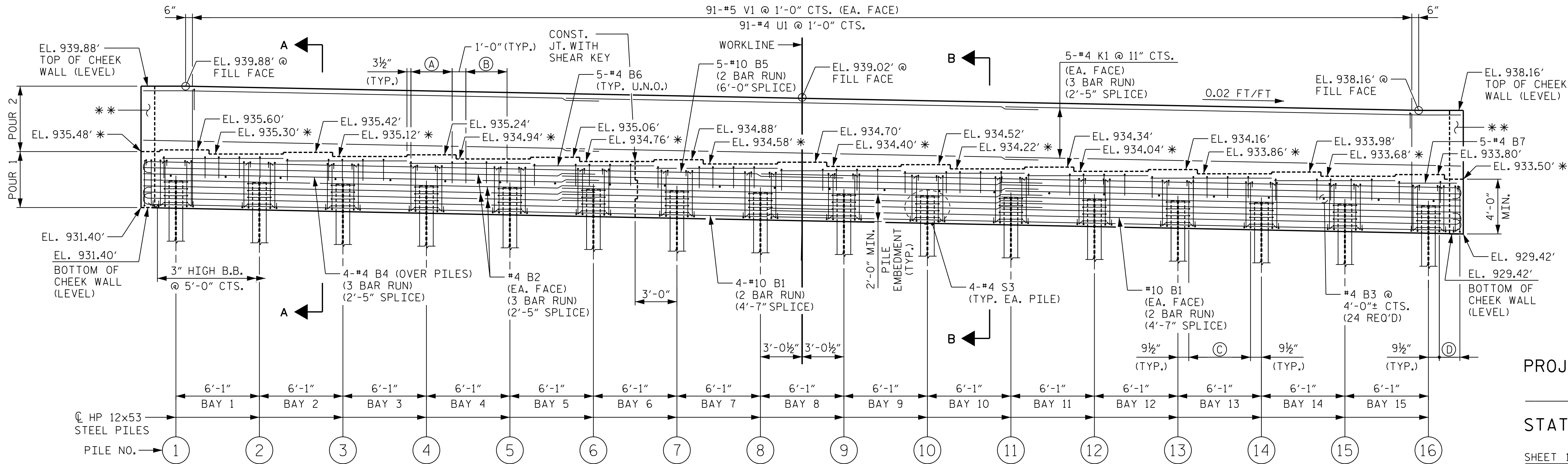
REINFORCING STEEL IN SLAB NOT SHOWN, LONGITUDINAL
REINFORCING STEEL SHALL BE CONTINUOUS THRU JOINT.

DRAWN BY: D.D. LOWERY	DATE: 09/25
CHECKED BY: B.M. KROL	DATE: 09/25
DESIGN ENGINEER OF RECORD: P.D. COOKSEY	DATE: 09/25

K:\RD1-Structures\Bridges\NC\01036312 - U-5760 Big Mill Farm Road\Coord\Drawings\U5760_SML\EL1330751.dgn 9/22/2025



PLAN



ELEVATION

- (A) 7-#4 U2 @ 6" CTS. (TYP. EA. BRG. SEAT)
(B) 4-#4 U2 @ 1'-6" CTS. (TYP. BETWEEN EA. BRG. SEAT)
(C) 7 PAIRS-#5 S1 & 7 - #5 S2 @ 9" CTS. (TYP. EA. BAY)
(D) 3 PAIRS-#5 S1 & 3 - #5 S2 @ 9" CTS. (TYP. EA. END)

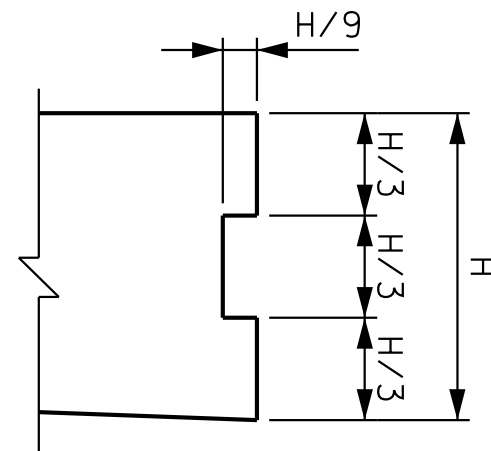
* FOR LOCATION OF ELEVATION BETWEEN BRIDGE SEATS, SEE "SECTION A-A" SHEET 3 OF 3.
** REINFORCING IN CHEEK WALL NOT SHOWN FOR CLARITY, FOR DETAILS, SEE SHEET 2 OF 3.

NOTES:

FOR NOTES, SEE "END BENT 1" SHEET 2 OF 3.

FOR "SECTION A-A", SEE "END BENT 1" SHEET 3 OF 3.

FOR "SECTION B-B", SEE "END BENT 1" SHEET 3 OF 3.



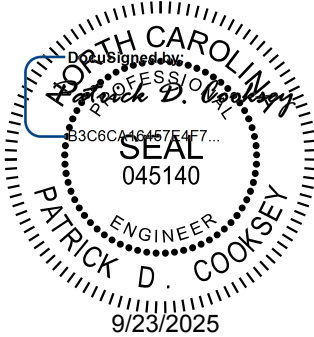
SHEAR KEY DETAIL

TOP OF PILE ELEVATIONS

①	933.36'
②	933.23'
③	933.11'
④	932.98'
⑤	932.86'
⑥	932.73'
⑦	932.61'
⑧	932.48'
⑨	932.36'
⑩	932.23'
⑪	932.11'
⑫	931.98'
⑬	931.86'
⑭	931.73'
⑮	931.61'
⑯	931.48'

PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-

SHEET 1 OF 3



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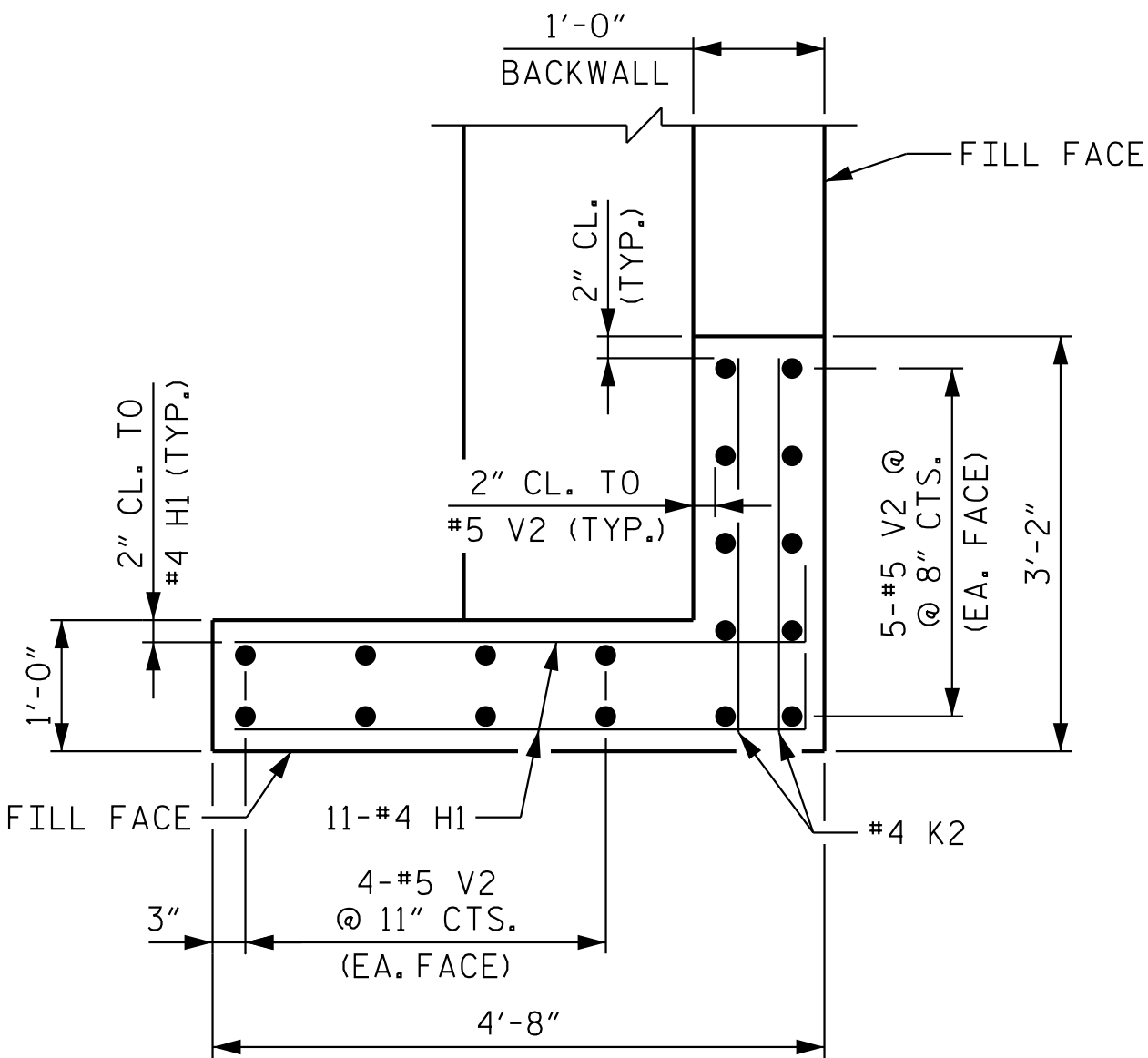
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE

END BENT 1
PLAN AND ELEVATION

REVISIONS						SHEET NO. S-27
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

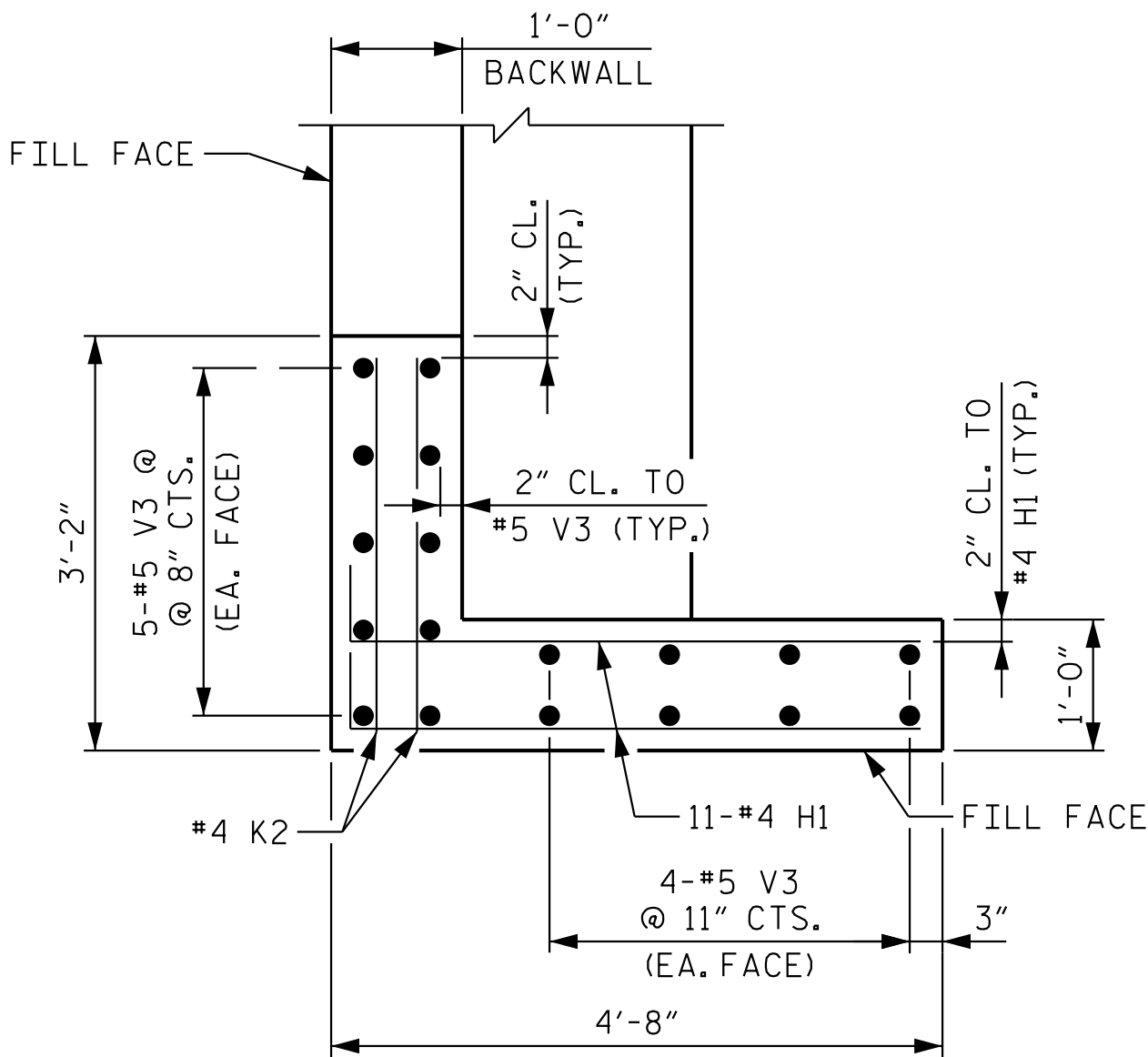
DRAWN BY: D.D. LOWERY DATE: 09/25
CHECKED BY: B.M. KROL DATE: 09/25
DESIGN ENGINEER OF RECORD: P.D. COOKSEY DATE: 09/25

9/22/2025 K:\RD1-Structures\Bridges\NC\01036312 - U-5760 Big Mill Farm Road\Coord\09\U5760.SML E2.330751.dgn



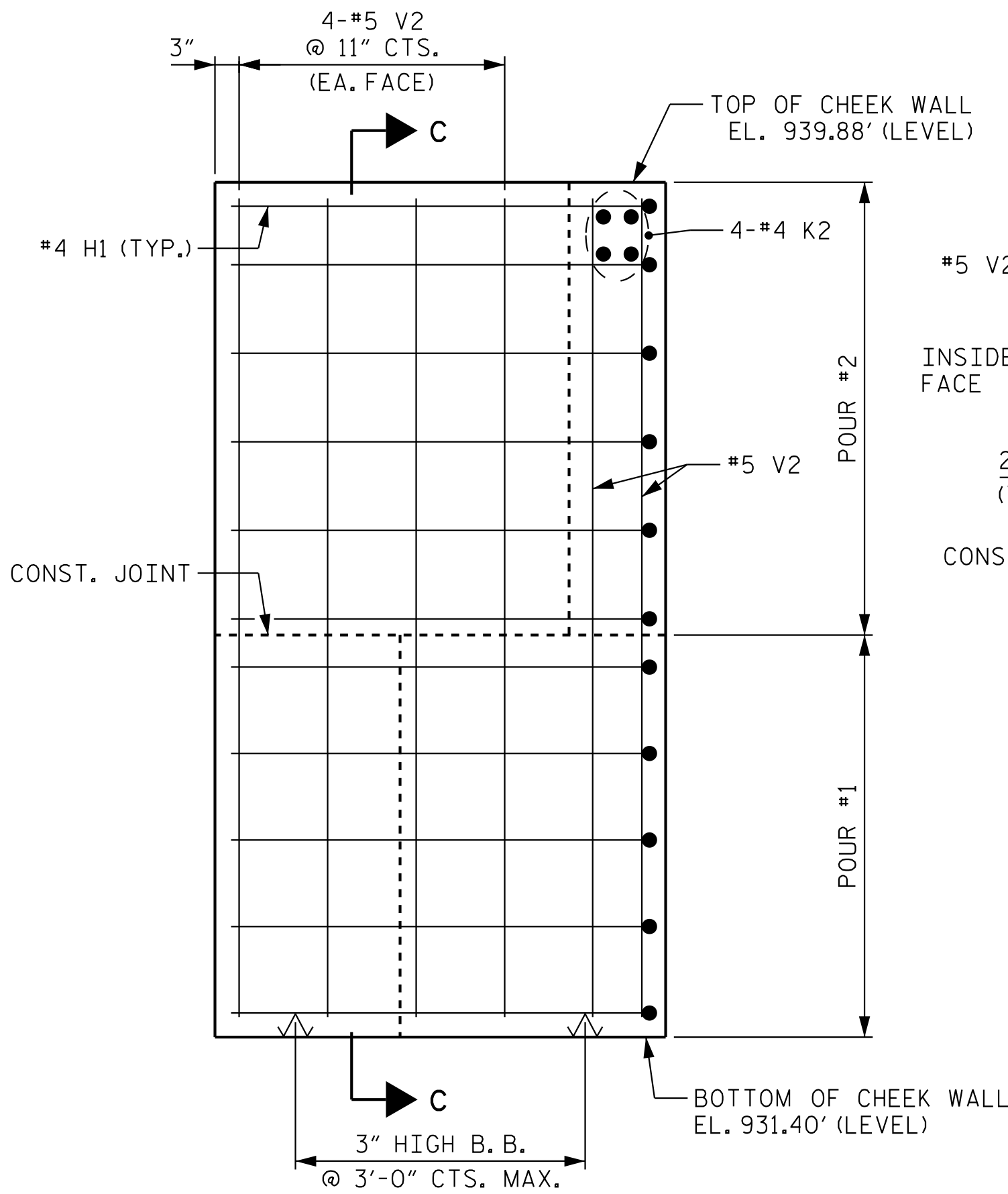
PLAN OF LEFT CHEEK WALL (W1)

BACKWALL REINFORCING NOT SHOWN FOR CLARITY

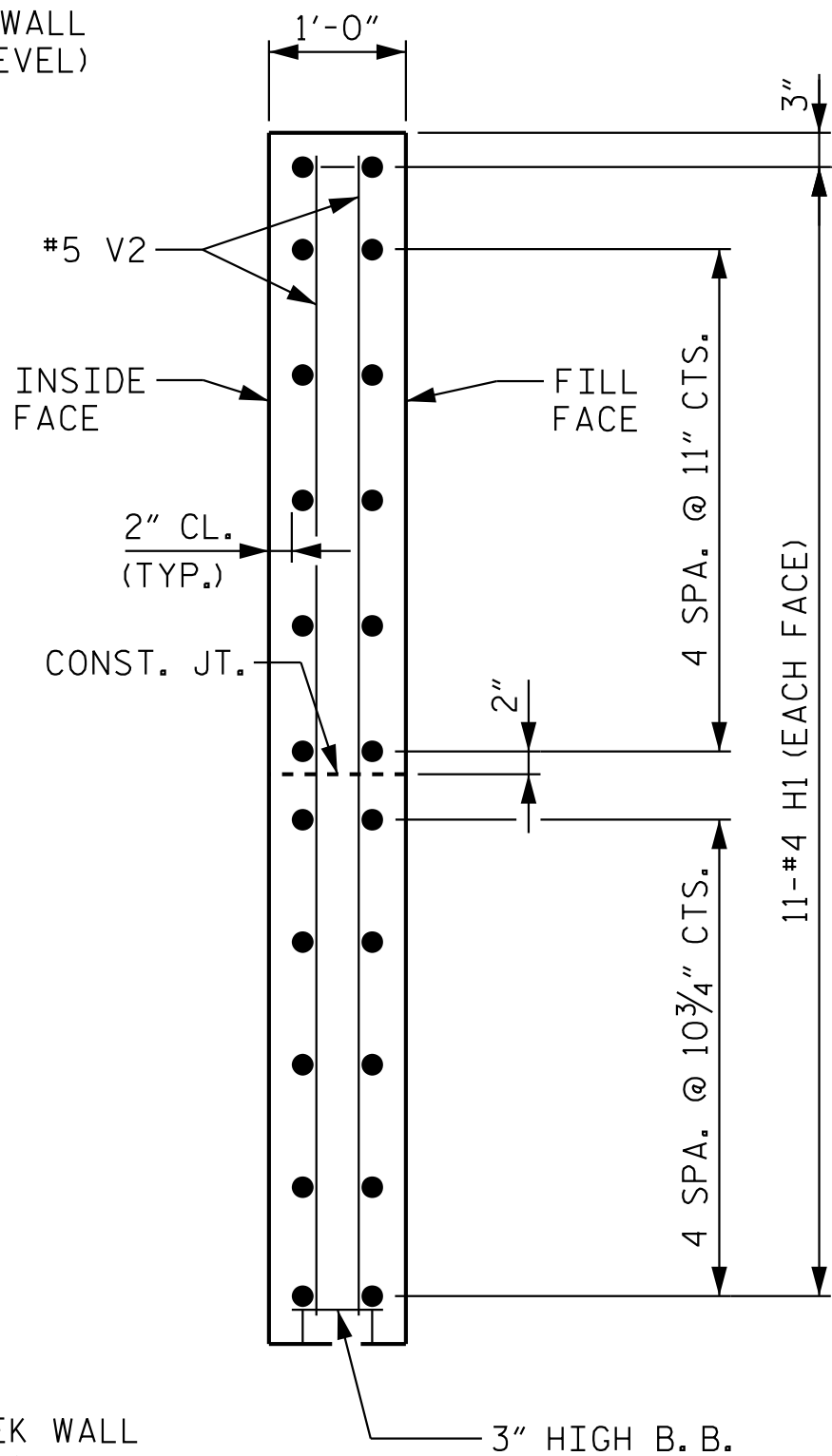


PLAN OF RIGHT CHEEK WALL (W2)

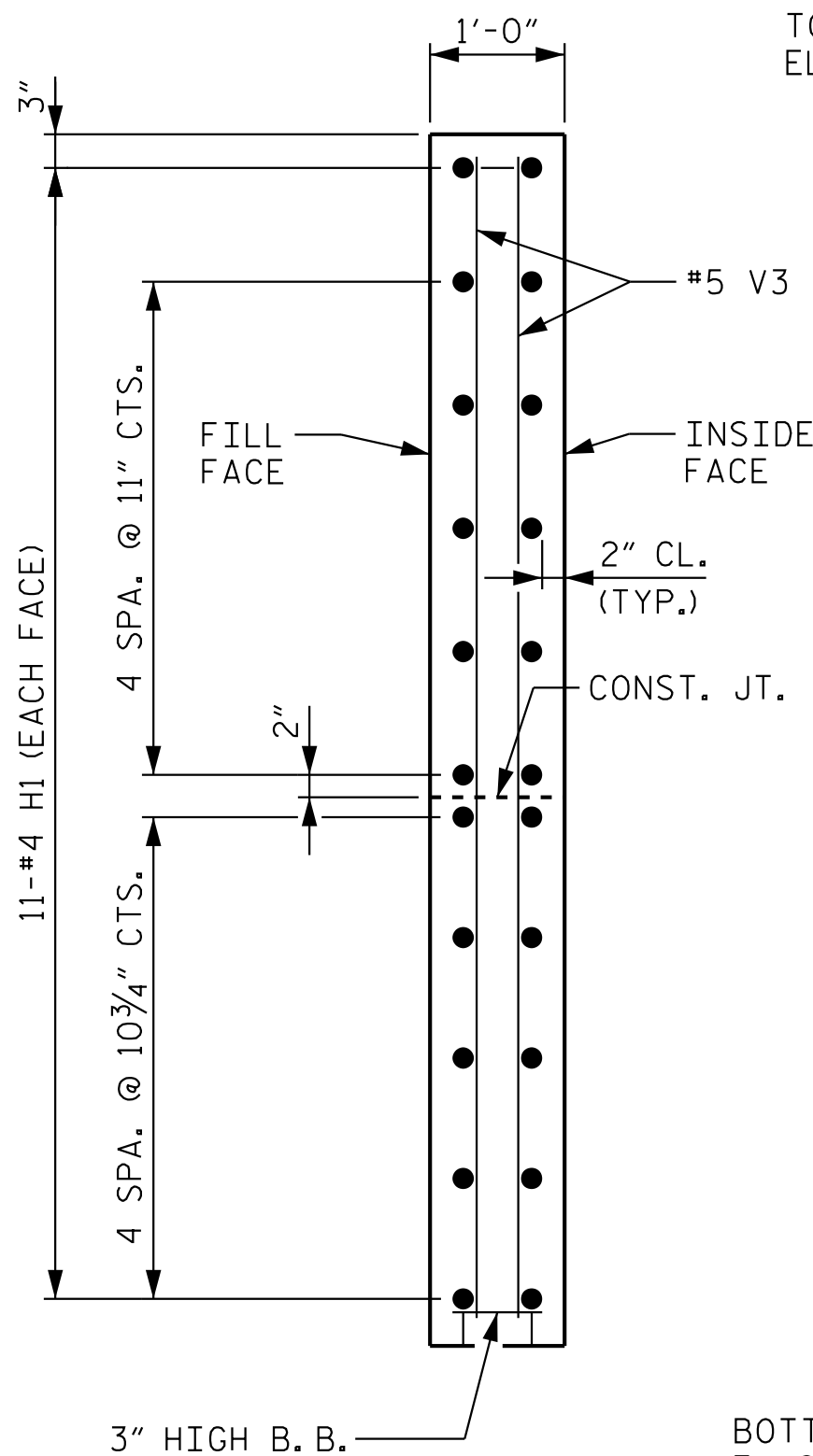
BACKWALL REINFORCING NOT SHOWN FOR CLARITY



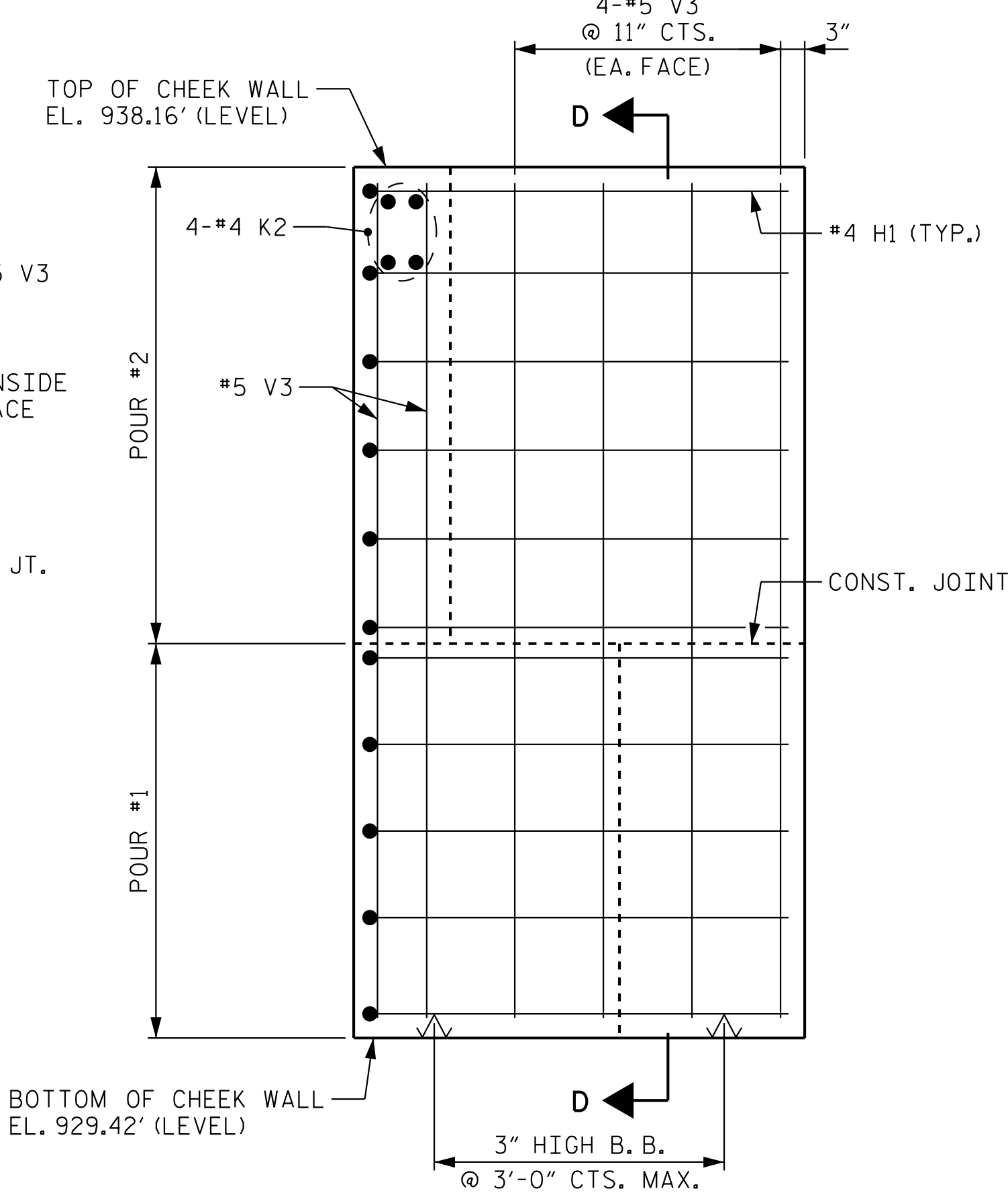
ELEVATION OF LEFT CHEEK WALL (W1)



SECTION C-C



SECTION D-D



ELEVATION OF RIGHT CHEEK WALL (W2)

NOTES

FOR PILE SPLICE DETAILS, SEE SHEET 3 OF 3.

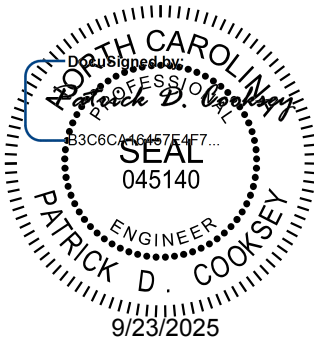
FOR SECTION A-A AND B-B, SEE SHEET 3 OF 3.

BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.

THE TOP SURFACE AREAS OF THE END BENT CAPS SHALL BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.

PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-

SHEET 2 OF 3



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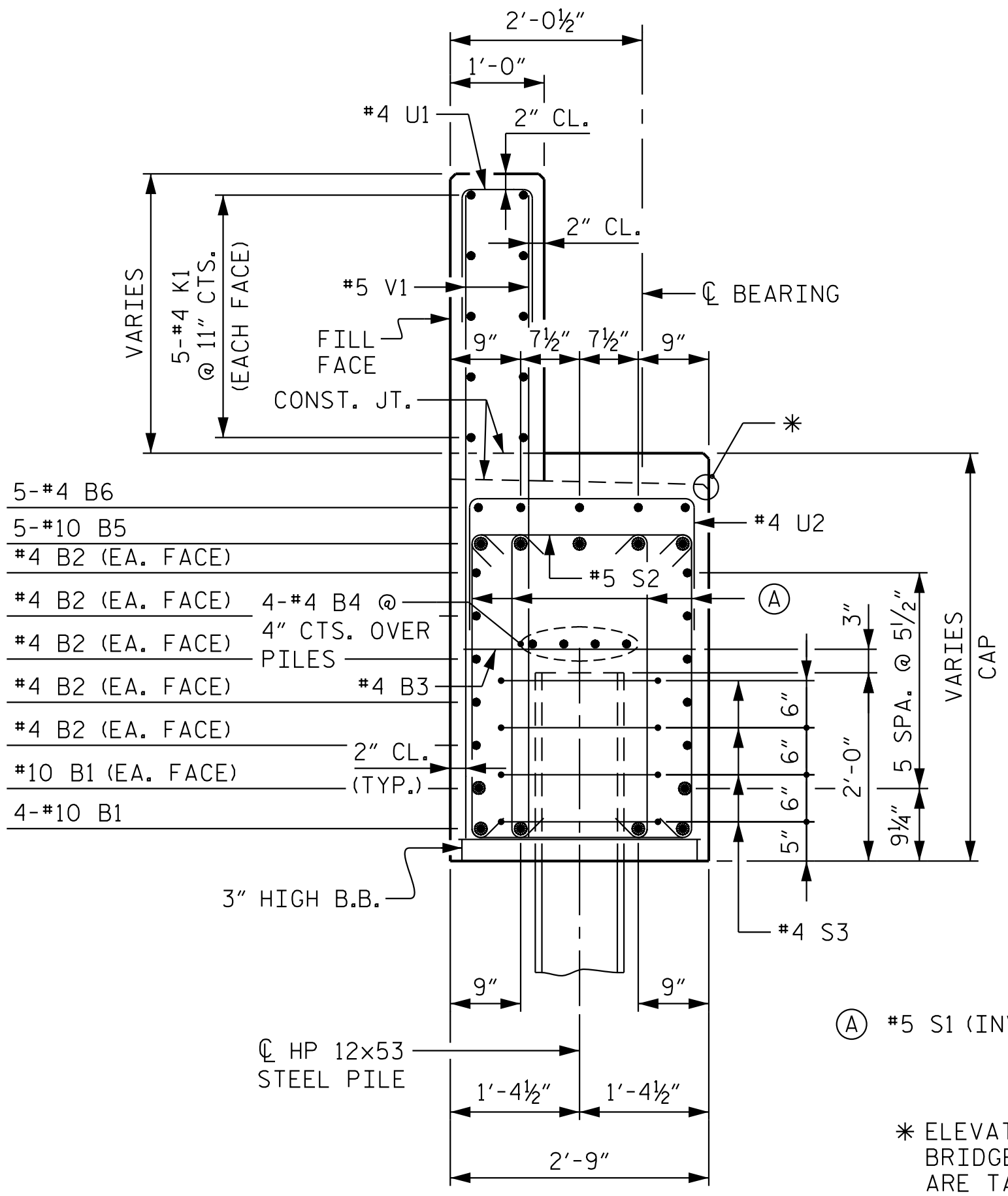
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE

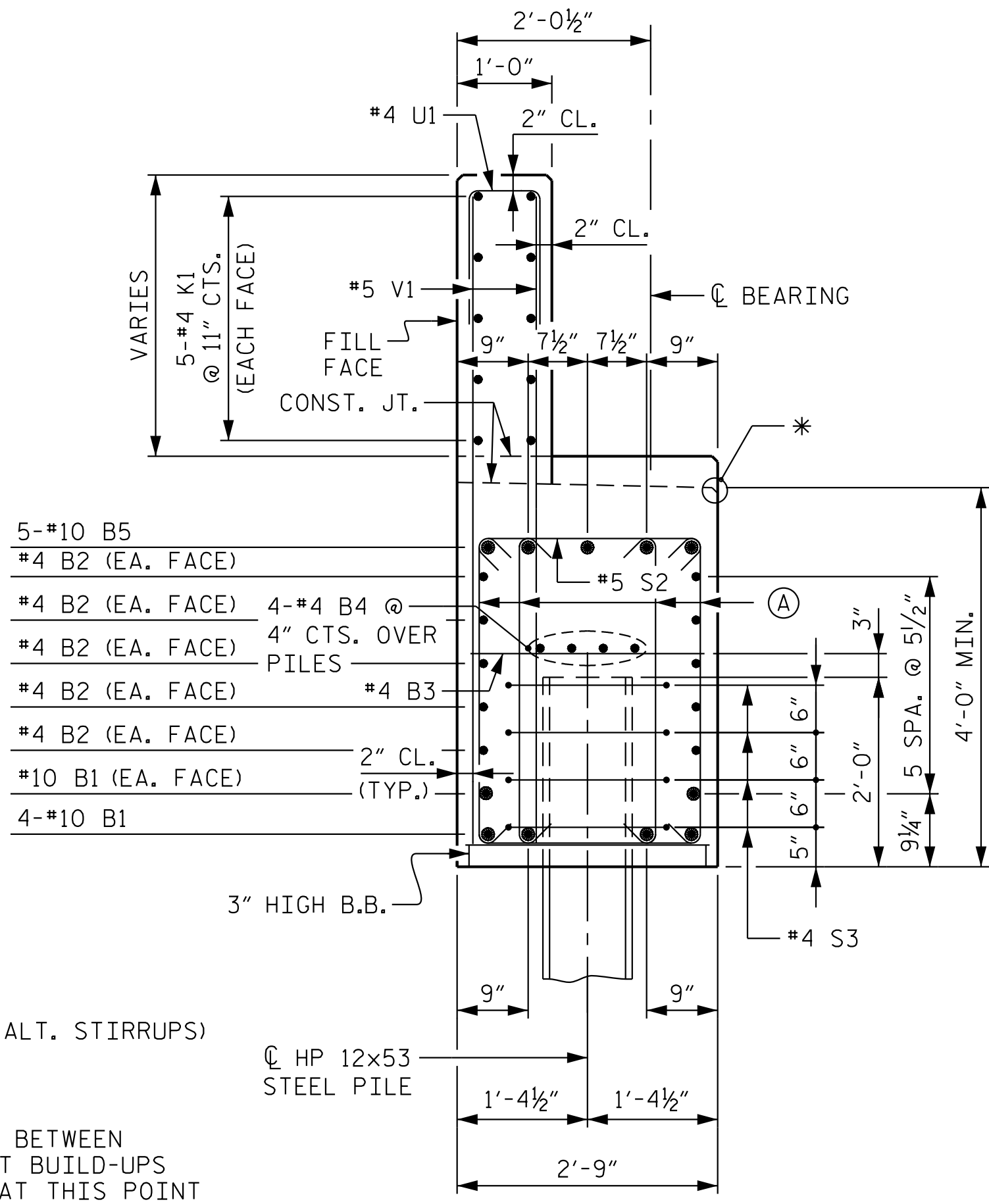
END BENT 1
SECTION AND DETAILS

REVISIONS						SHEET NO. S-28
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

9/22/2025 K:\PDT_Structures\Bridges\NC\01036312 - U-5760 Big Mill Form Road\Coord\Drawings\U5760_SML\E3.330751.dgn

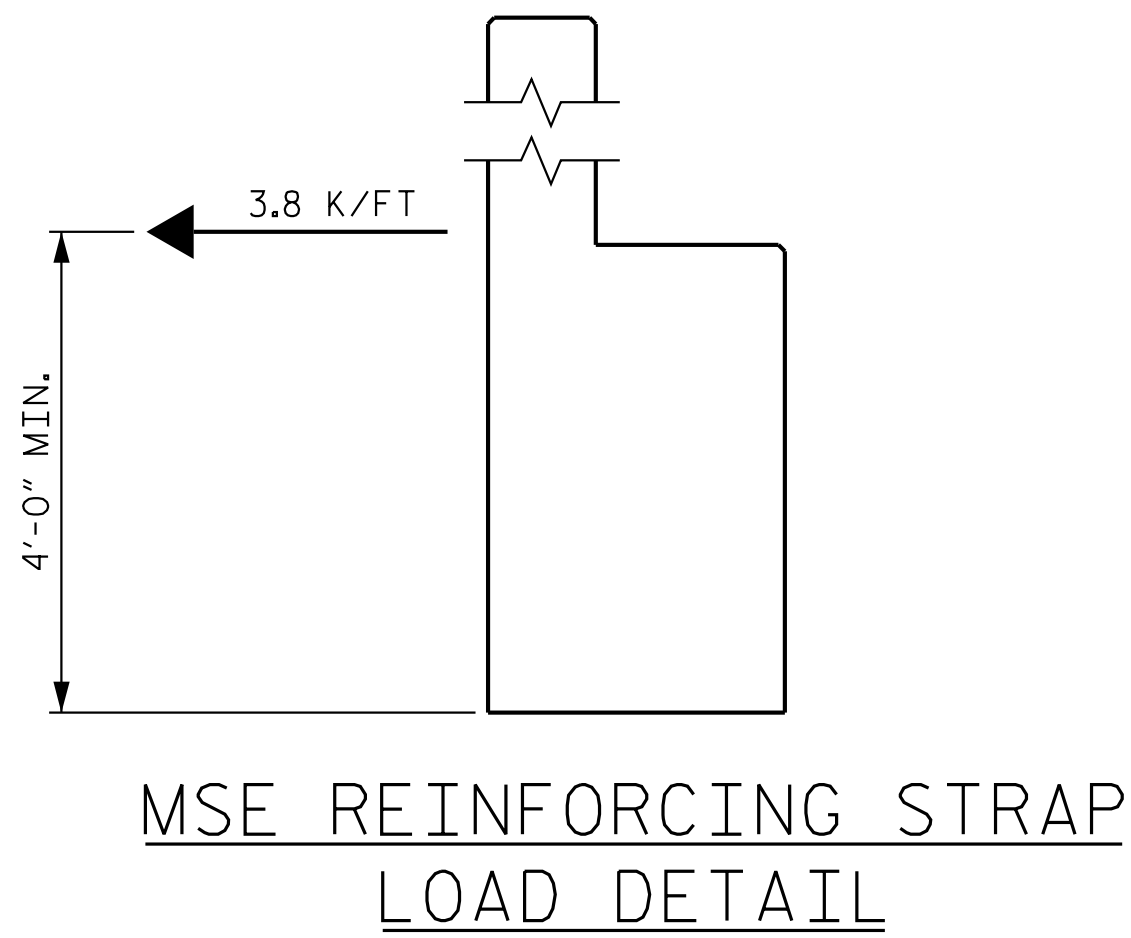


SECTION A-A



SECTION B-B

* ELEVATIONS BETWEEN
BRIDGE SEAT BUILD-UPS
ARE TAKEN AT THIS POINT



MSE REINFORCING STRAP NOTES

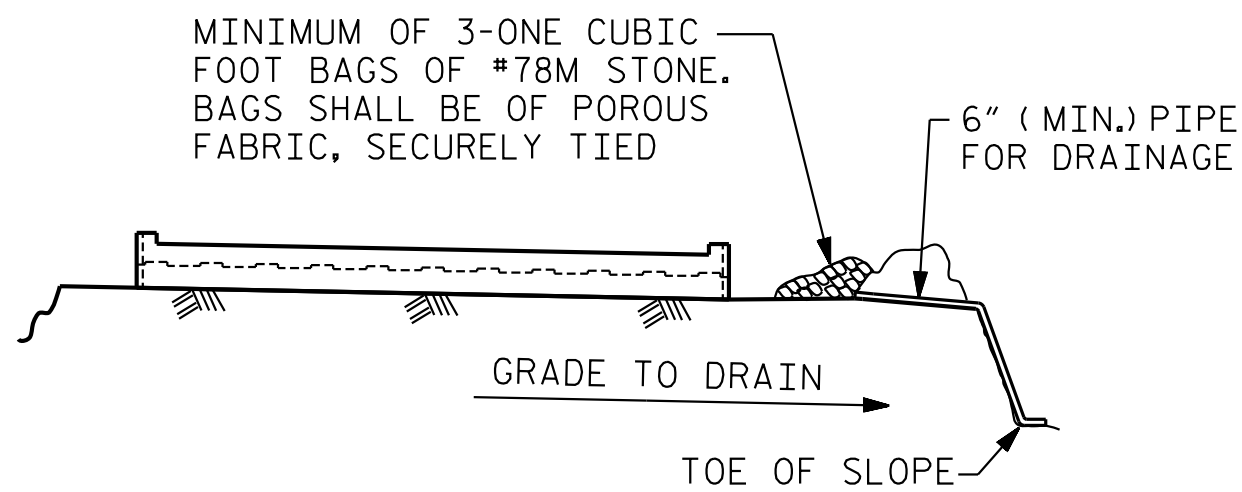
MSE REINFORCING STRAPS SHALL BE ATTACHED TO THE END BENT CAP AND/OR BACKWALL. FOR DESIGN CRITERIA AND DETAILS, SEE MSE WALL SHEETS AND SPECIAL PROVISIONS.

PLANS, WORKING DRAWINGS, AND DESIGN CALCULATIONS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR REVIEW AND APPROVAL, SEE SPECIAL PROVISIONS.

PLANS SUBMITTED FOR REVIEW SHALL INCLUDE THE FOLLOWING: PLAN VIEW, ELEVATION VIEW, TYPICAL SECTIONS, AND STRAP DETAILS.

THE MSE REINFORCING STRAPS SHALL BE DESIGNED TO CARRY THE LOADS FROM THE BRIDGE SUPERSTRUCTURE AS INDICATED IN THE "MSE REINFORCING STRAP LOAD DETAIL". IN ADDITION, THE MSE REINFORCING STRAPS SHALL ALSO BE DESIGNED TO CARRY LOADS FROM SOIL PRESSURE AS OUTLINED IN THE SPECIAL PROVISION.

THE LOADS IN THE DETAIL ABOVE ARE FACTORED LOADS.

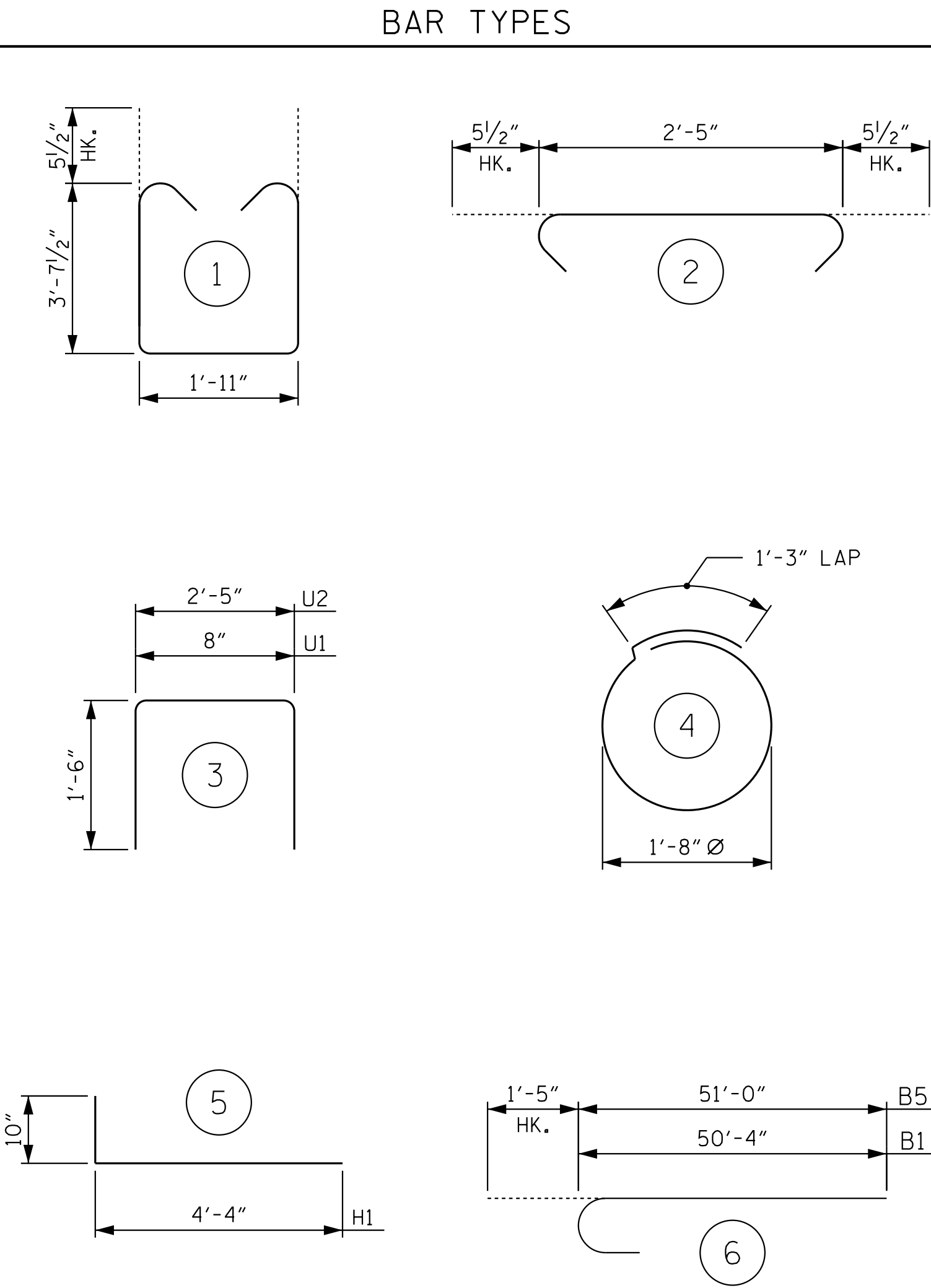


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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.

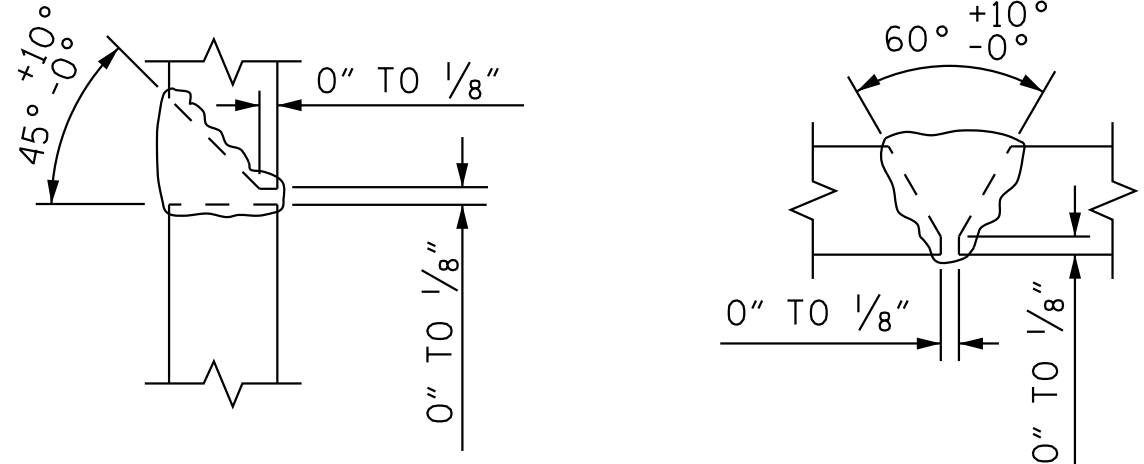
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT



ALL BAR DIMENSIONS ARE OUT TO OUT.

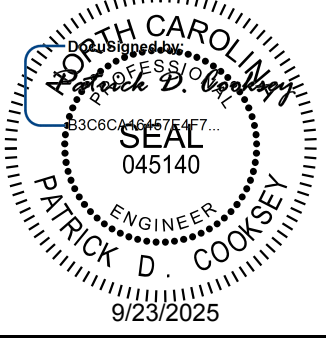
PILE VERTICAL PILE HORIZONTAL OR VERTICAL



DETAIL A DETAIL B

PILE SPLICE DETAILS

** POSITION OF PILE DURING WELDING.



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BILL OF MATERIAL

END BENT 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	12	10	6	51'-9"	2,672
B2	30	4	STR	33'-8"	675
B3	24	4	STR	2'-5"	39
B4	12	4	STR	33'-8"	270
B5	10	10	6	52'-5"	2,255
B6	50	4	STR	9'-0"	301
B7	5	4	STR	4'-8"	16
H1	44	4	5	5'-2"	152
K1	30	4	STR	33'-8"	675
K2	8	4	STR	2'-10"	15
S1	222	5	1	10'-1"	2,335
S2	111	5	2	3'-4"	386
S3	64	4	4	6'-6"	278
U1	91	4	3	3'-8"	223
U2	117	4	3	5'-5"	423
V1	182	5	STR	7'-11"	1,503
V2	18	5	STR	8'-0"	150
V3	18	5	STR	8'-3"	155

REINFORCING STEEL	12,523 LBS.
CLASS A CONCRETE BREAKDOWN	
POUR #1 (CAP, LOWER CHEEK WALLS)	41.5 C.Y.
POUR #2 (BACKWALL & UPPER CHEEK WALLS)	17.1 C.Y.
TOTAL CLASS A CONCRETE	58.6 C.Y.

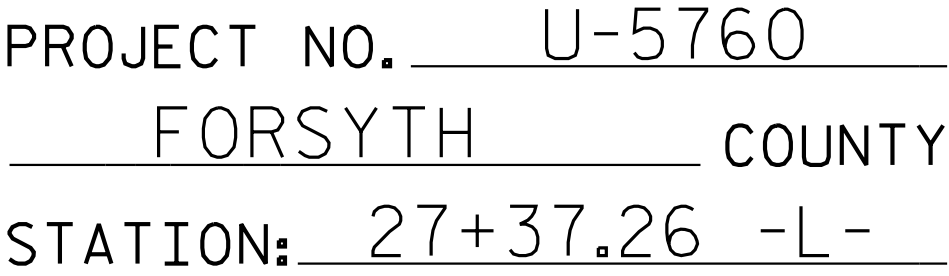
PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE

END BENT 1
SECTION AND DETAILS

REVISIONS						SHEET NO. S-29
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

The seal of the State Bar of North Carolina is circular. The outer ring contains the text "NORTH CAROLINA STATE BAR" at the top and "JULY 1907" at the bottom. Inside the ring, the words "MEMBER" and "ATTORNEY AT LAW" are written in a circular path. In the center, it says "SEAT # 045140". Below the seal, the name "PATRICK D. COOKLEY" is printed, followed by the date "9/23/2025".

SEAT#
045140
PATRICK D. COOKLEY
9/23/2025

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE

BENT 1
PLAN AND ELEVATION



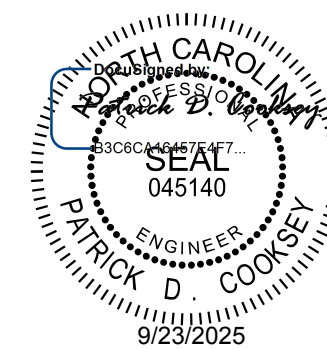
AESTHETIC MEDALLION TO INCLUDE HONEYBEE IN SOFT YELLOW AND BLACK AND TO INCLUDE BLACK LETTERING THAT STATES "TOWN OF KERNERSVILLE" AROUND THE CIRCLE AS SHOWN IN END ELEVATION. MEDALLION SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR SHALL SUBMIT MEDALLION DETAILS, INCLUDING SIZE, COLOR SAMPLES, FONT TYPES AND LOCATION, TO TOWN OF KERNERSVILLE AND TO THE DEPARTMENT FOR REVIEW AND APPROVAL.

SHEET 2 OF 3

SUBSTRUCTURE

BENT 1 DETAILS

REVISIONS						SHEET NO. S-31
NO.	BY:	DATE:	NO.	BY:	DATE:	
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DETAIL A

DETAIL B

PILE SPLICE DETAILS

** POSITION OF PILE DURING WELDING.



SPAN A

PLAN OF BEARINGS

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

BENT 1

REINFORCING STEEL				24,561 LBS	
SP-1	1	**	4	693'-1"	463
SP-2	1	**	4	684'-10"	457
SP-3	1	**	4	668'-4"	446
SP-4	1	**	4	660'-1"	441
SP-5	1	**	4	651'-10"	435
SP-6	1	**	4	635'-4"	424

SPIRAL COLUMN
REINFORCING STEEL 2,666 LBS.

** THE "SP" SPIRAL REINFORCING
 STEEL SHALL BE W20 OR D-20 (C
 DRAWN WIRE OR #4 PLAIN OR
 DEFORMED BAR.

BENT 1 TOTAL QUANTITIES

CLASS A CONCRETE	
POUR 1 (FOOTINGS)	63.0 C.Y.
POUR 2 (COLUMNS)	29.9 C.Y.
POUR 3 (CAP)	57.7 C.Y.
TOTAL CLASS A CONCRETE	150.6 C.Y.

PROJECT NO. U-5760
FORSYTH COUNTY
 STATION: 27+37.26 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

BENT 1 DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-32
1			3			TOTAL SHEETS 40
2			4			

Professional Engineer Seal for Patrick D. Cooksey, State of North Carolina, License No. 945140, expires 9/23/2025.

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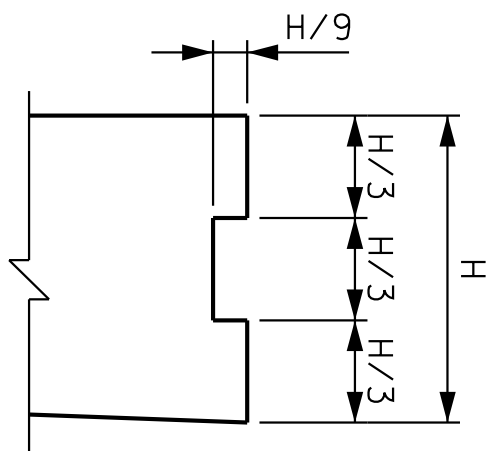
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NOTES:

FOR NOTES, SEE "END BENT 2" SHEET 2 OF 3.

FOR "SECTION A-A", SEE "END BENT 2" SHEET 3 OF 3.

FOR "SECTION B-B", SEE "END BENT 2" SHEET 3 OF 3.



SHEAR KEY DETAIL

TOP OF PILE ELEVATIONS

①	937.61'
②	937.48'
③	937.36'
④	937.23'
⑤	937.11'
⑥	936.98'
⑦	936.86'
⑧	936.73'
⑨	936.61'
⑩	936.48'
⑪	936.36'
⑫	936.23'
⑬	936.11'
⑭	935.98'
⑮	935.86'
⑯	935.73'

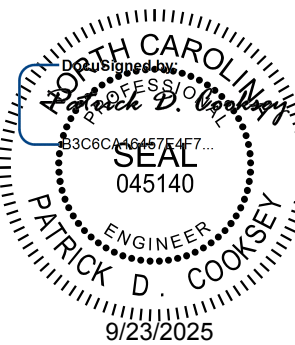
PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE

END BENT 2
PLAN AND ELEVATION

REVISIONS						SHEET NO. S-33
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			



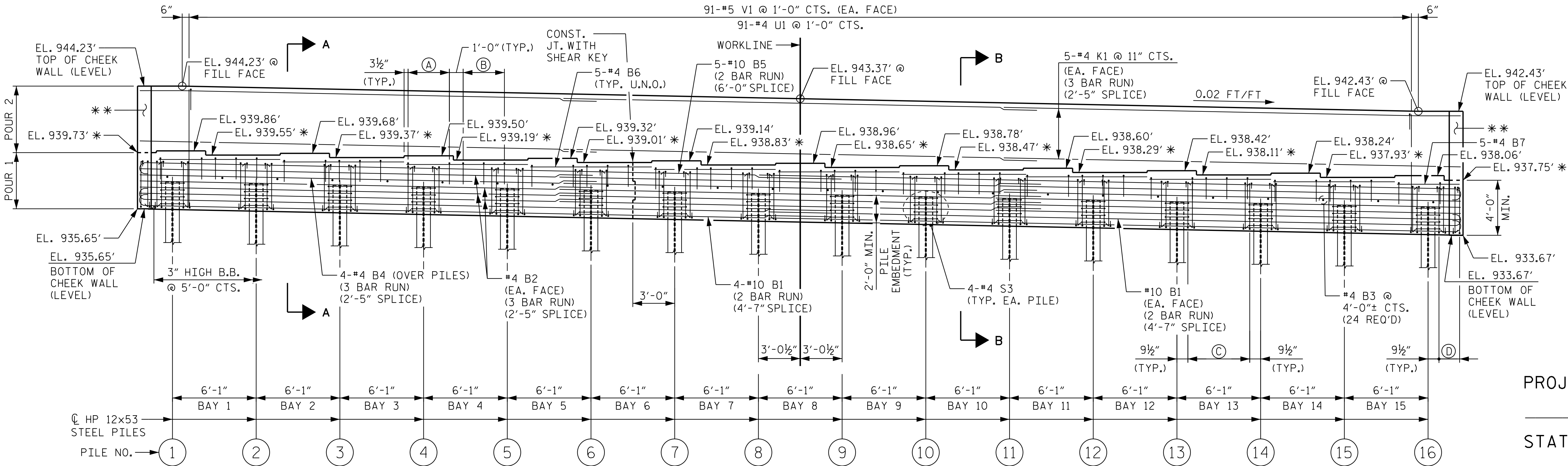
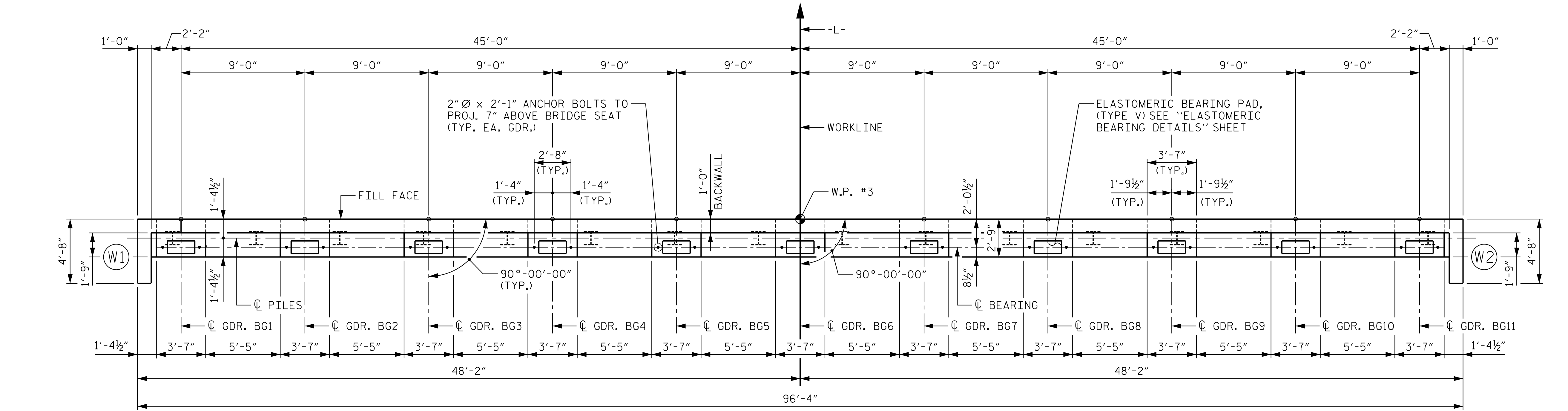
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PLAN

ELEVATION

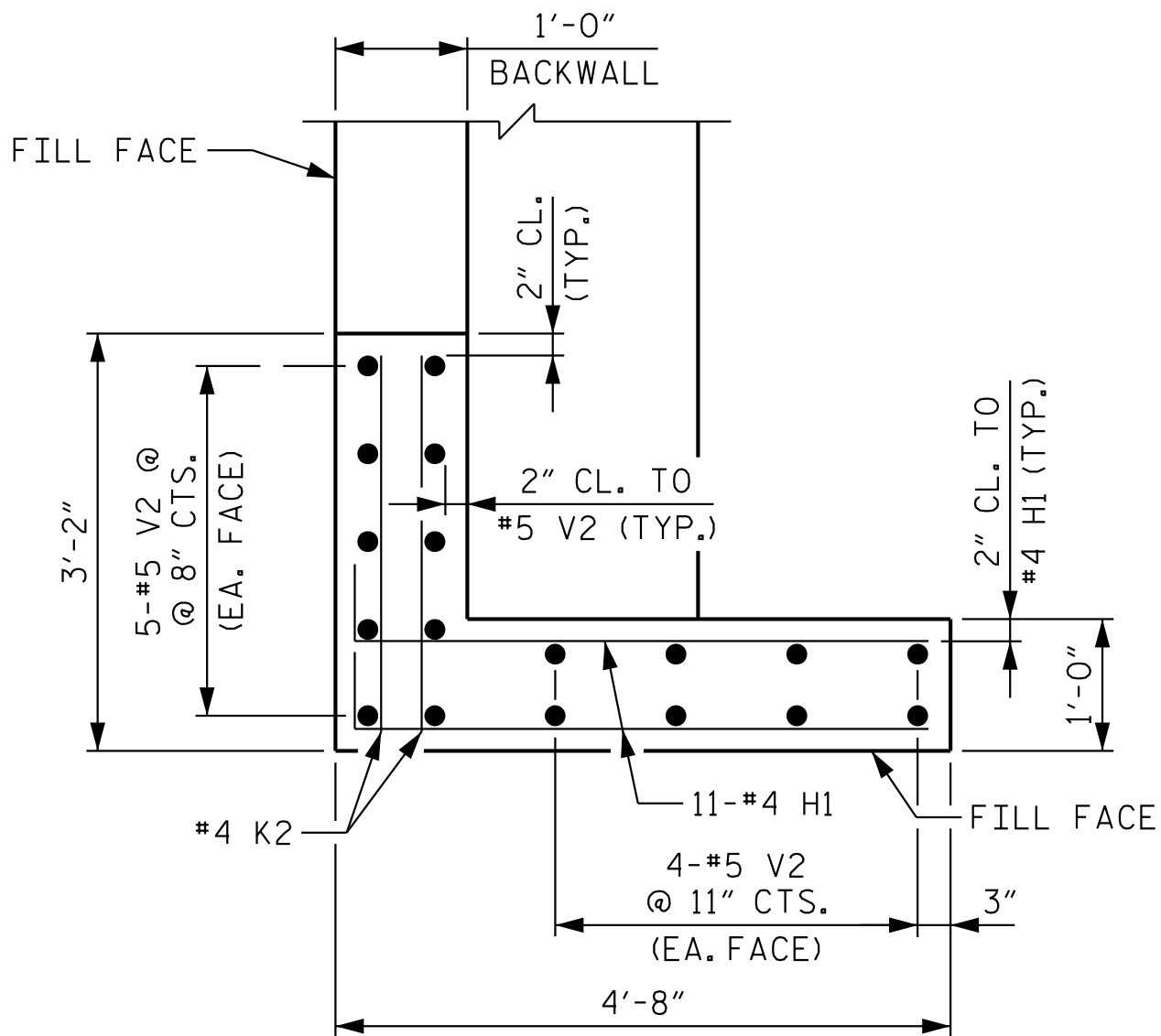


- (A) 7-#4 U2 @ 6" CTS. (TYP. EA. BRG. SEAT)
(B) 4-#4 U2 @ 1'-6" CTS. (TYP. BETWEEN EA. BRG. SEAT)
(C) 7 PAIRS-#5 S1 & 7 - #5 S2 @ 9" CTS. (TYP. EA. BAY)
(D) 3 PAIRS-#5 S1 & 3 - #5 S2 @ 9" CTS. (TYP. EA. END)

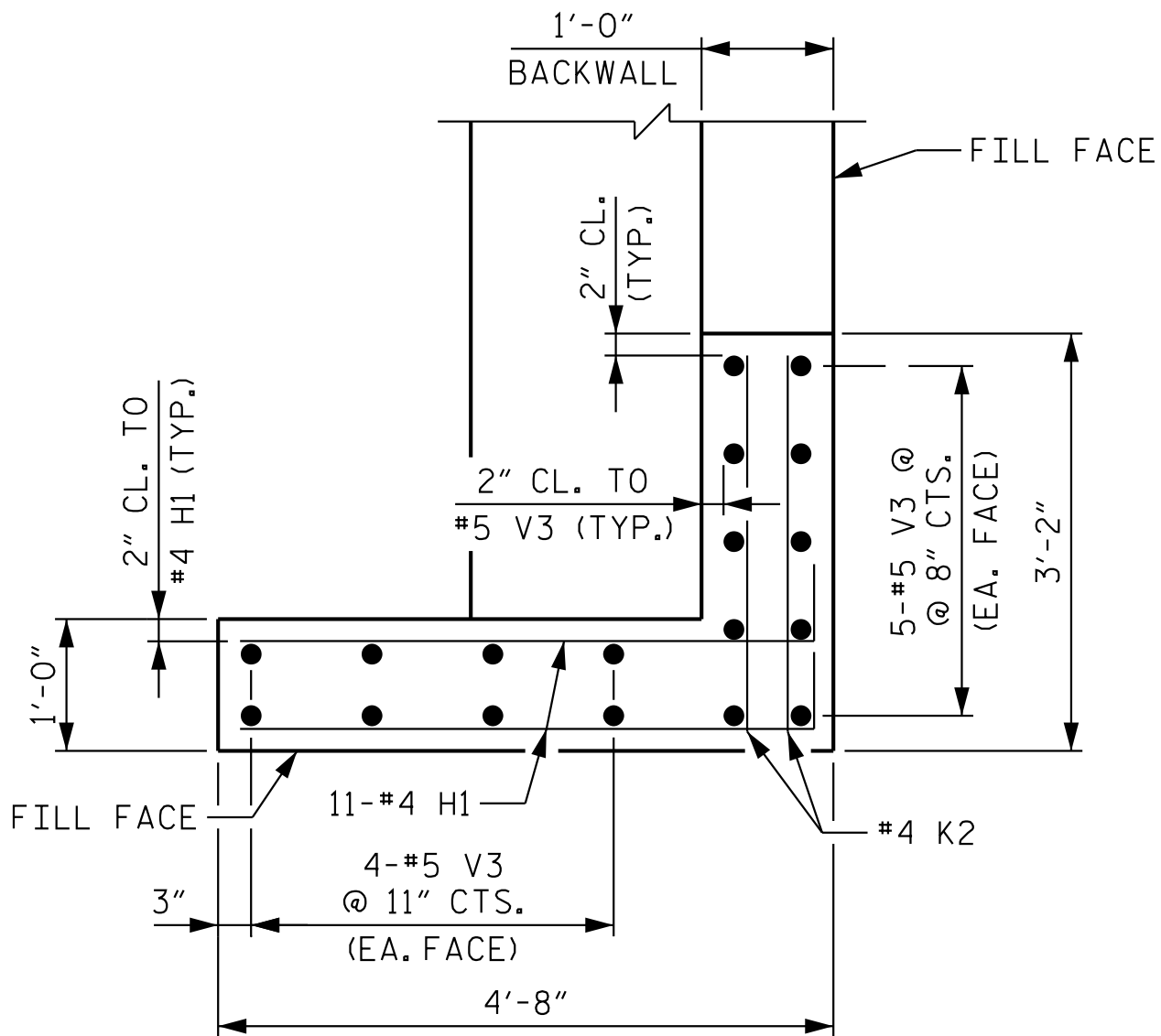
- * FOR LOCATION OF ELEVATION BETWEEN BRIDGE SEATS, SEE "SECTION A-A" SHEET 3 OF 3.
** REINFORCING IN CHEEK WALL NOT SHOWN FOR CLARITY, FOR DETAILS, SEE SHEET 2 OF 3.

DRAWN BY: D.D. LOWERY DATE: 09/25
CHECKED BY: B.M. KROL DATE: 09/25
DESIGN ENGINEER OF RECORD: P.D. COOKSEY DATE: 09/25

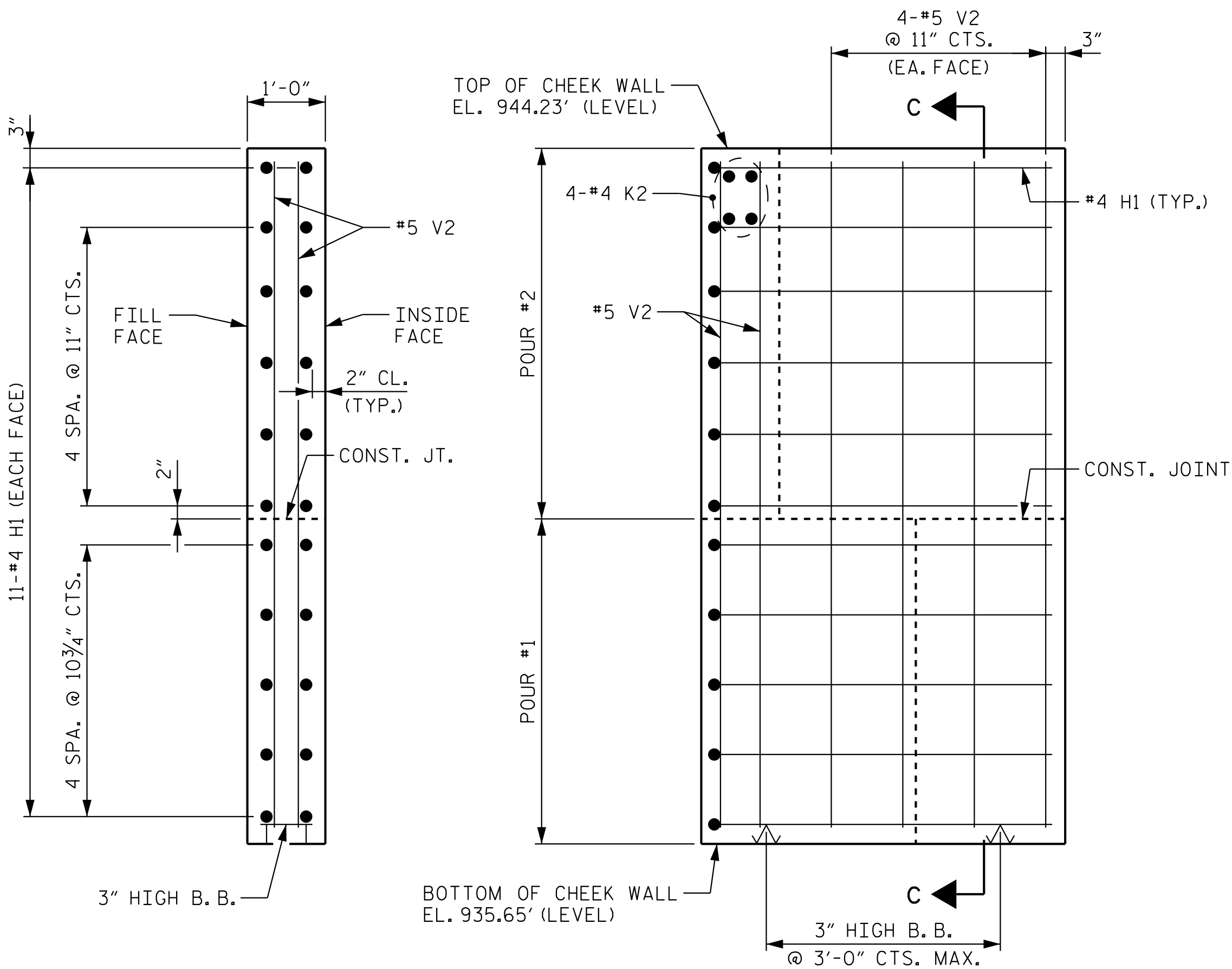
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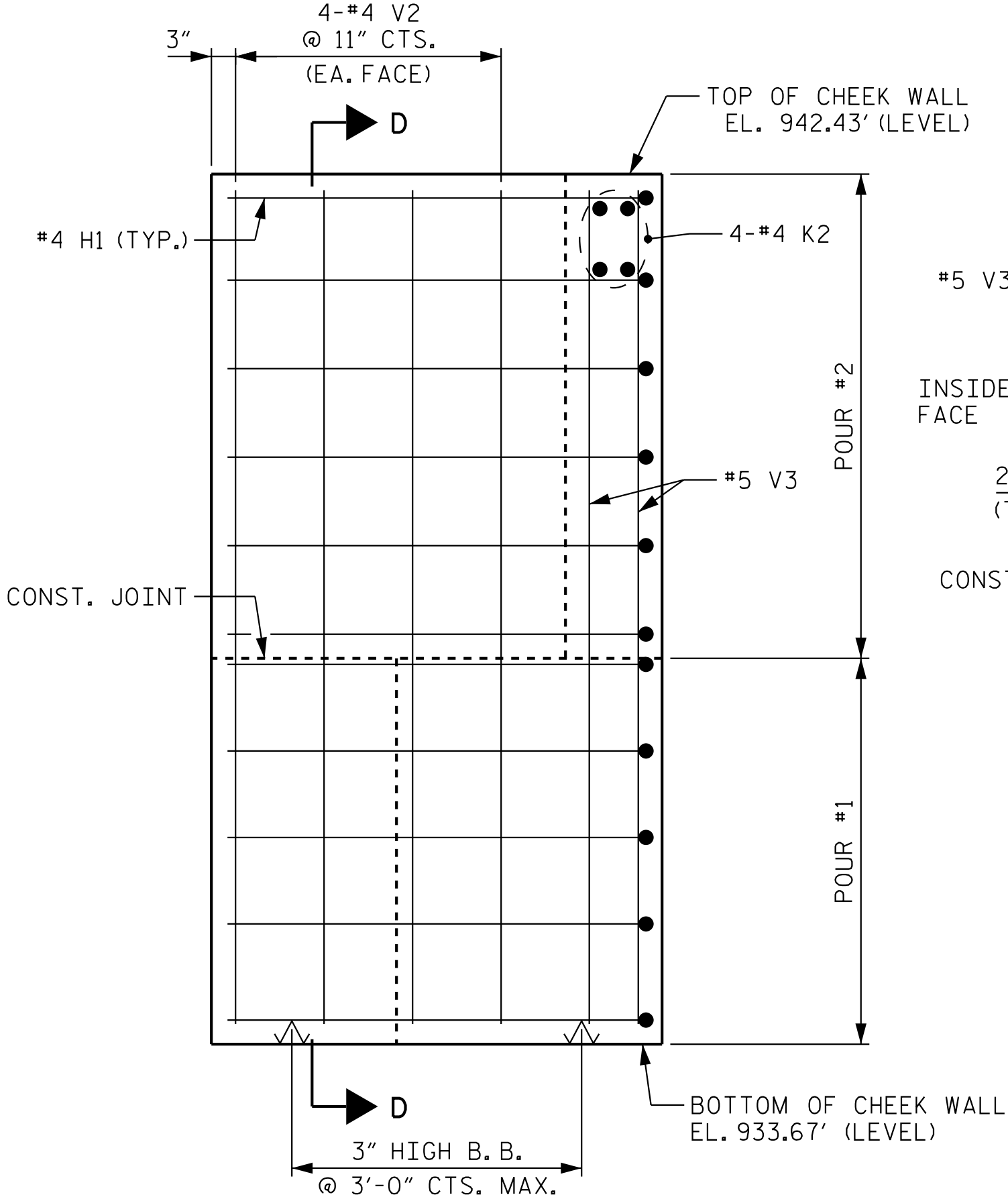
PLAN OF RIGHT CHEEK WALL (W1)
BACKWALL REINFORCING NOT SHOWN FOR CLARITY



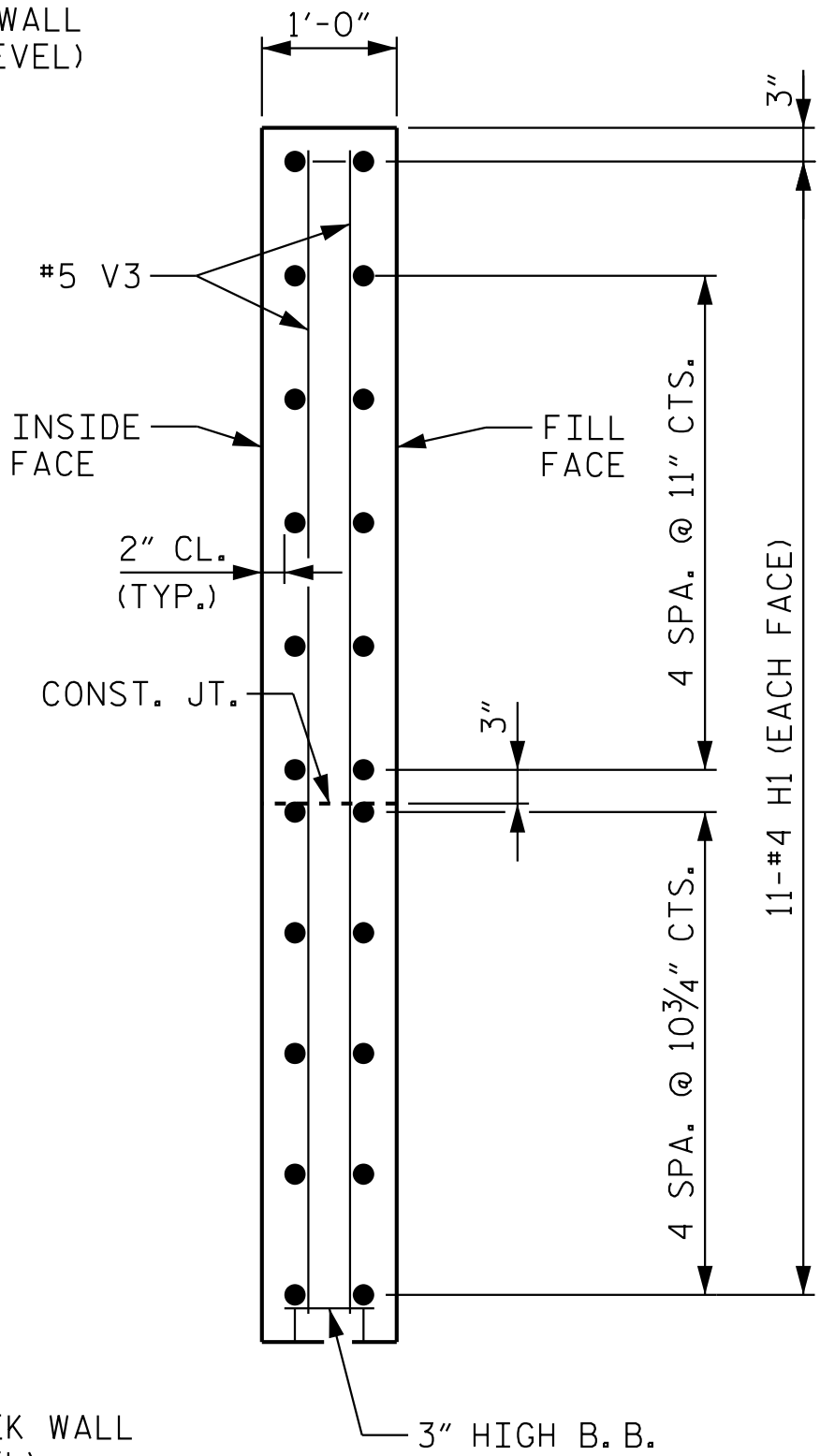
PLAN OF LEFT CHEEK WALL (W2)
BACKWALL REINFORCING NOT SHOWN FOR CLARITY



SECTION C-C ELEVATION OF RIGHT CHEEK WALL (W1)



ELEVATION OF LEFT CHEEK WALL (W2)



SECTION D-D

NOTES

FOR PILE SPLICE DETAILS, SEE SHEET 3 OF 3.

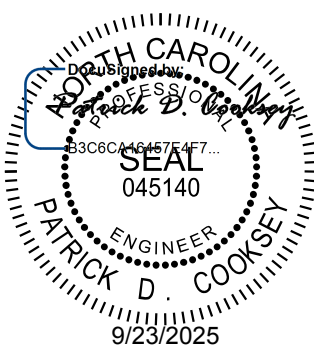
FOR SECTION A-A AND B-B, SEE SHEET 3 OF 3.

BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.

THE TOP SURFACE AREAS OF THE END BENT CAPS SHALL BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.

PROJECT NO. U-5760
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SHEET 2 OF 3



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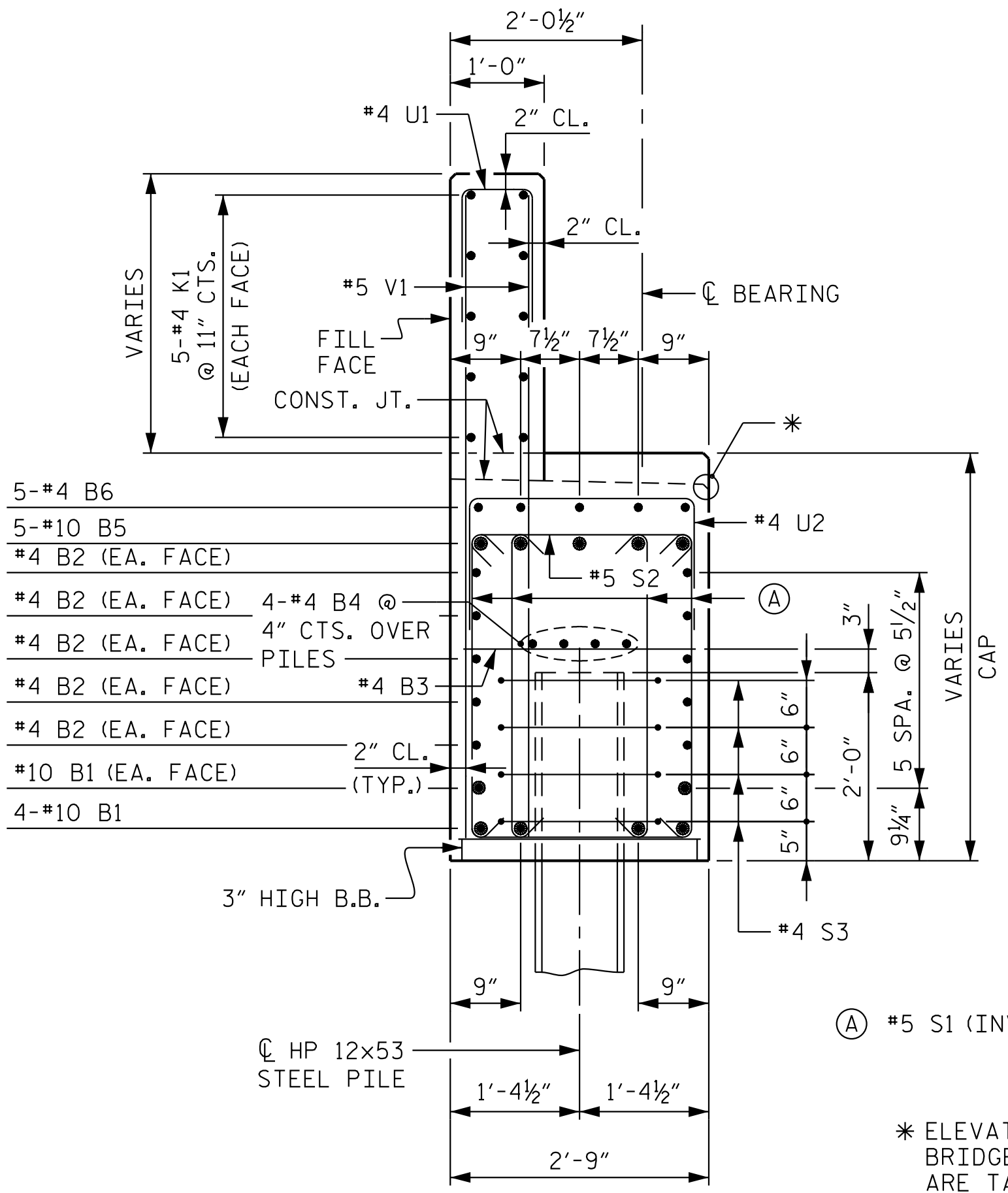
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE

END BENT 2
SECTION AND DETAILS

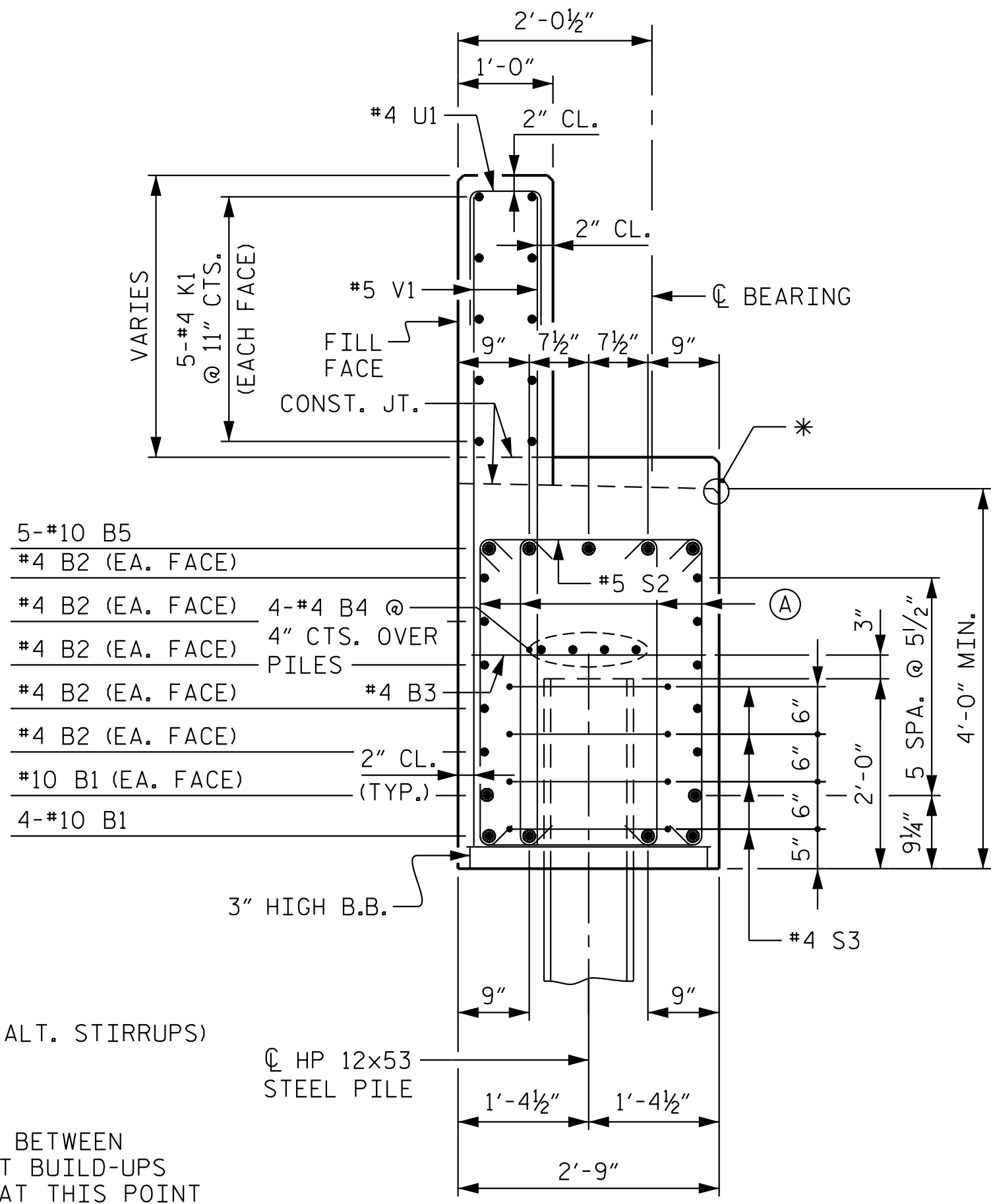
REVISIONS						SHEET NO. S-34
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

DRAWN BY: D.D. LOWERY DATE: 09/25
CHECKED BY: B.M. KROL DATE: 09/25
DESIGN ENGINEER OF RECORD: P.D. COOKSEY DATE: 09/25

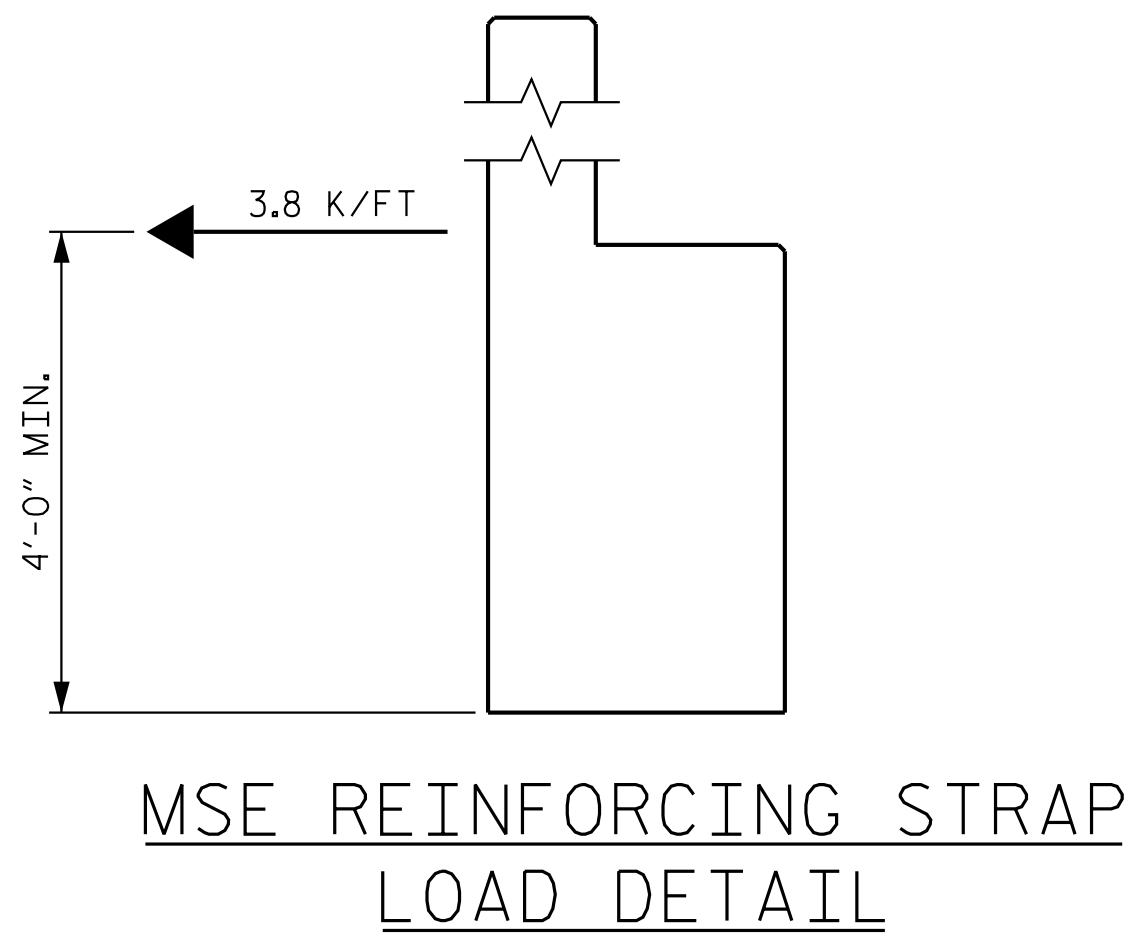
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SECTION A-A



SECTION B-B



MSE REINFORCING STRAP NOTES

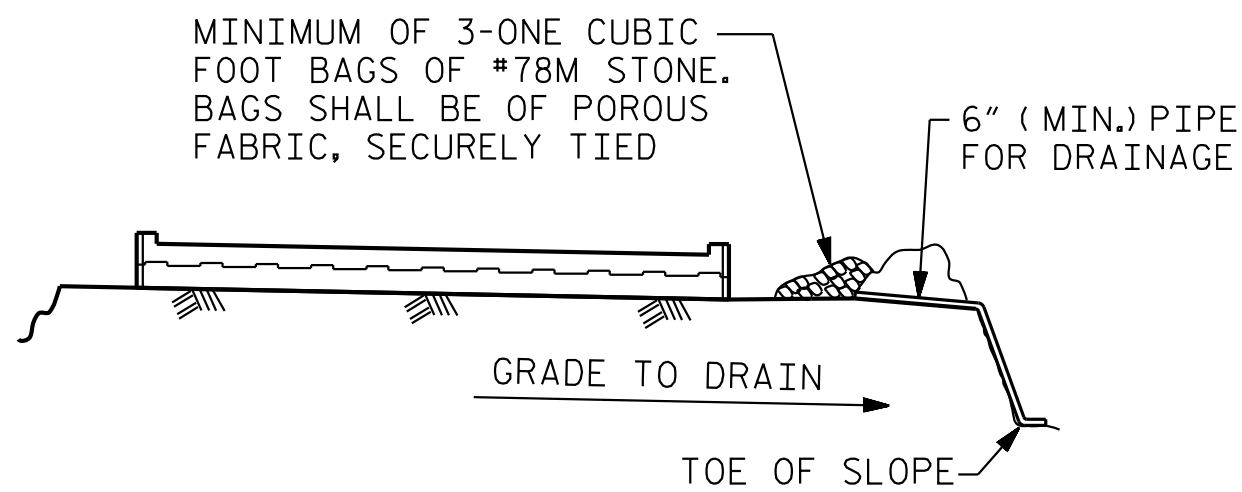
MSE REINFORCING STRAPS SHALL BE ATTACHED TO THE END BENT CAP AND/OR BACKWALL. FOR DESIGN CRITERIA AND DETAILS, SEE MSE WALL SHEETS AND SPECIAL PROVISIONS.

PLANS, WORKING DRAWINGS, AND DESIGN CALCULATIONS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR REVIEW AND APPROVAL, SEE SPECIAL PROVISIONS.

PLANS SUBMITTED FOR REVIEW SHALL INCLUDE THE FOLLOWING: PLAN VIEW, ELEVATION VIEW, TYPICAL SECTIONS, AND STRAP DETAILS.

THE MSE REINFORCING STRAPS SHALL BE DESIGNED TO CARRY THE LOADS FROM THE BRIDGE SUPERSTRUCTURE AS INDICATED IN THE "MSE REINFORCING STRAP LOAD DETAIL". IN ADDITION, THE MSE REINFORCING STRAPS SHALL ALSO BE DESIGNED TO CARRY LOADS FROM SOIL PRESSURE AS OUTLINED IN THE SPECIAL PROVISION.

THE LOADS IN THE DETAIL ABOVE ARE FACTORED LOADS.

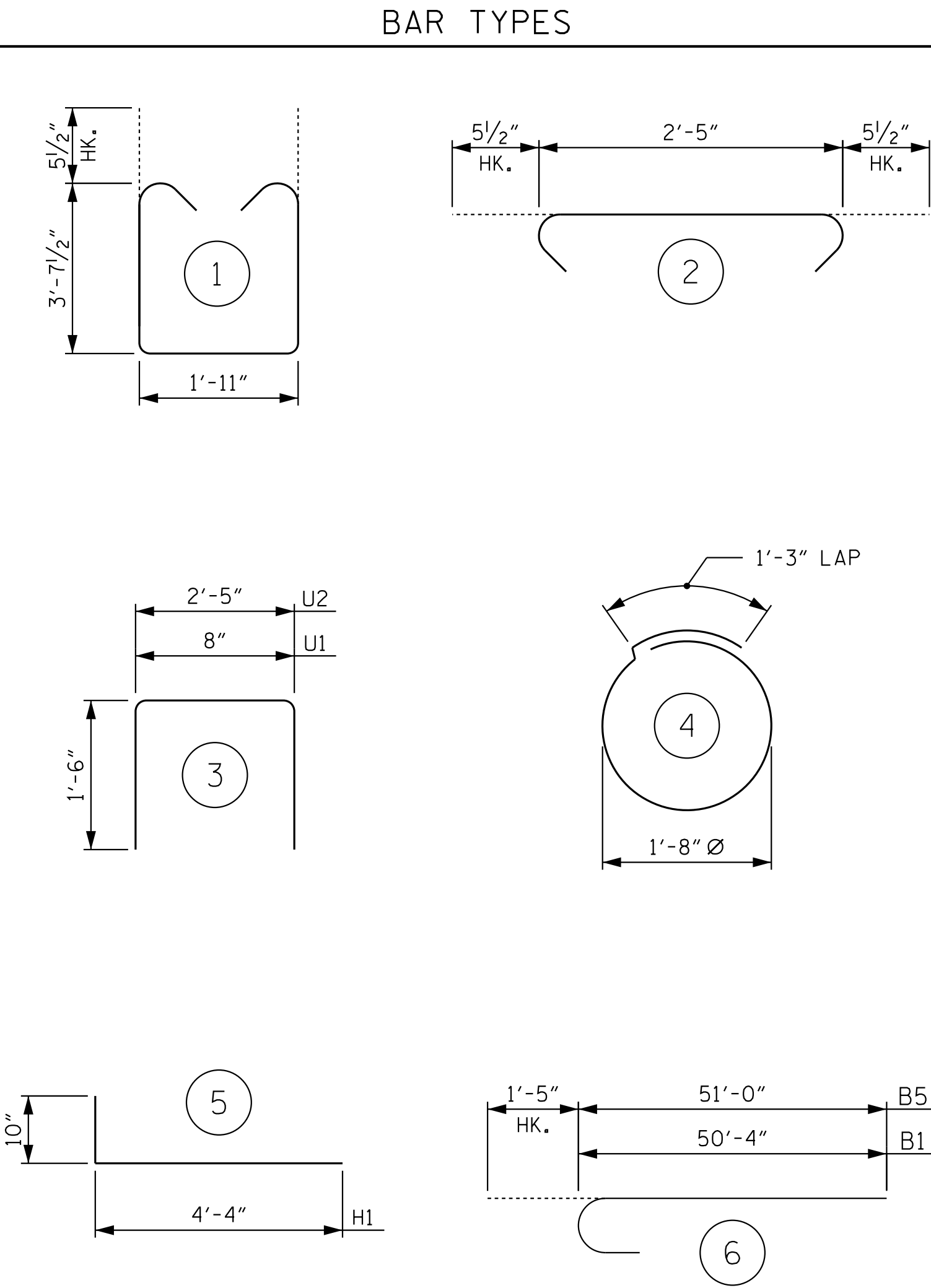


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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.

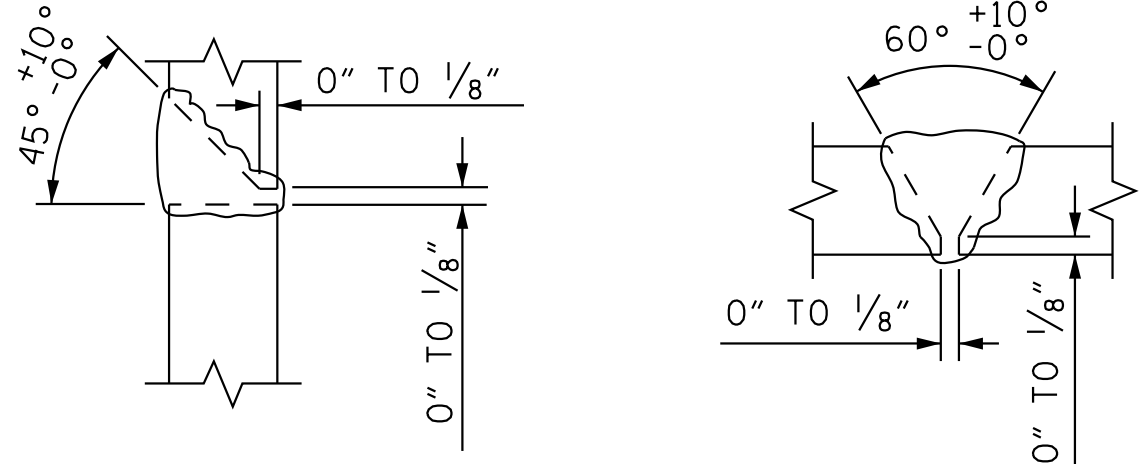
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT



ALL BAR DIMENSIONS ARE OUT TO OUT.

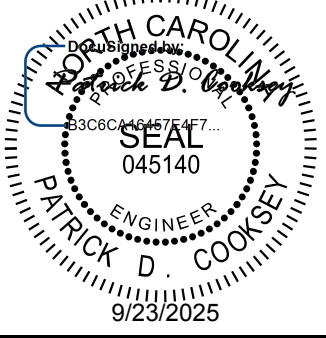
PILE VERTICAL PILE HORIZONTAL OR VERTICAL



DETAIL A DETAIL B

PILE SPLICE DETAILS

** POSITION OF PILE DURING WELDING.



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BILL OF MATERIAL

END BENT 2

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	12	10	6	51'-9"	2,672
B2	30	4	STR	33'-8"	675
B3	24	4	STR	2'-5"	39
B4	12	4	STR	33'-8"	270
B5	10	10	6	52'-5"	2,255
B6	50	4	STR	9'-0"	301
B7	5	4	STR	4'-8"	16

H1	44	4	5	5'-2"	152
K1	30	4	STR	33'-8"	675
K2	8	4	STR	2'-10"	15

S1	222	5	1	10'-1"	2,335
S2	111	5	2	3'-4"	386
S3	64	4	4	6'-6"	278

U1	91	4	3	3'-8"	223
U2	117	4	3	5'-5"	423

V1	182	5	STR	7'-11"	1,503
V2	18	5	STR	8'-0"	150
V3	18	5	STR	8'-3"	155

REINFORCING STEEL 12,523 LBS.

CLASS A CONCRETE BREAKDOWN
POUR #1 (CAP, LOWER CHEEK WALLS) 41.5 C.Y.

POUR #2 (BACKWALL & UPPER CHEEK WALLS) 17.4 C.Y.

TOTAL CLASS A CONCRETE 58.9 C.Y.

PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE

END BENT 2
SECTION AND DETAILS

REVISIONS						SHEET NO. S-35
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			



CONDUIT AND JUNCTION BOX INSTALLATION AT LIGHT PEDESTALS ③

ESTIMATED BILL OF MATERIAL ELECTRICAL CONDUIT SYSTEM		
UNIT	ITEMS	QTY
EA.	JUNCTION BOX (ELECTRICAL)	4
EA.	JUNCTION BOX (SIGNALS)	4
FT.	2" Ø PVC CONDUIT	850
FT.	3" Ø PVC CONDUIT	1,240
EA.	2" Ø PVC EXPANSION JOINT	8
EA.	3" Ø PVC EXPANSION JOINT	8
EA.	FORMED OPENING COVER	6
EA.	FORMED OPENING	6

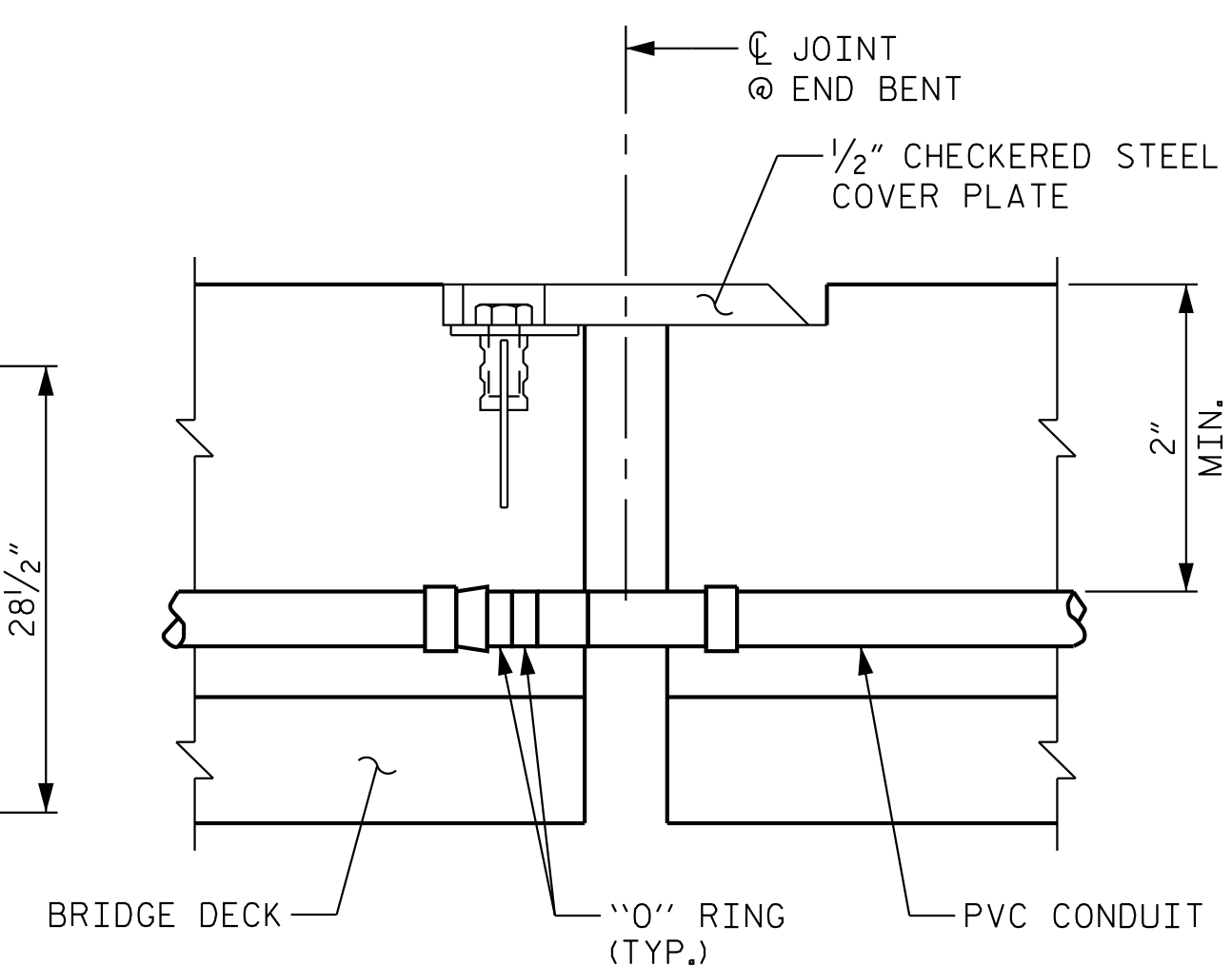


○ NOTES

- ① PROVIDE EXPANSION FITTING AT ALL EXPANSION JOINTS.
- ② CONTRACTOR SHALL INSTALL CONDUIT AND JUNCTION BOXES ONLY. DUKE ENERGY WILL INSTALL CONDUCTOR AND POLES AT A LATER DATE.
- ③ COORDINATE CONNECTION OF CONDUIT WITH OTHERS. ENSURE THAT CONDUIT IS NOT IN CONFLICT WITH GUARD RAIL POSTS.
- ④ SEE PLAN OF SPANS FOR LOCATION AND DETAILS FOR LIGHT PILASTERS.
- ⑤ INSTALL ANCHOR BOLTS ACCORDING TO TEMPLATE PROVIDED BY DUKE ENERGY CAROLINAS.
- ⑥ CONTRACTOR SHALL SUPPLY ANCHOR BOLTS.



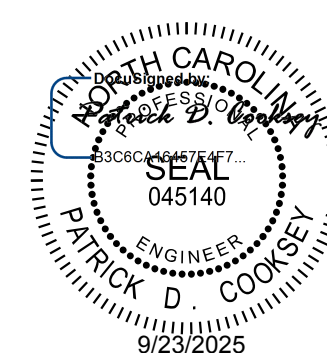
LIGHT STANDARD INSTALLATION AT END BENTS
* SIZE AND LOCATION OF JUNCTION BOXES PER LIGHTING AND SIGNAL ENGINEER



DETAIL B

PVC EXPANSION FITTING INSTALLATION

PROJECT NO. U-5760
FORSYTH COUNTY
 STATION: 27+37.26 -L-



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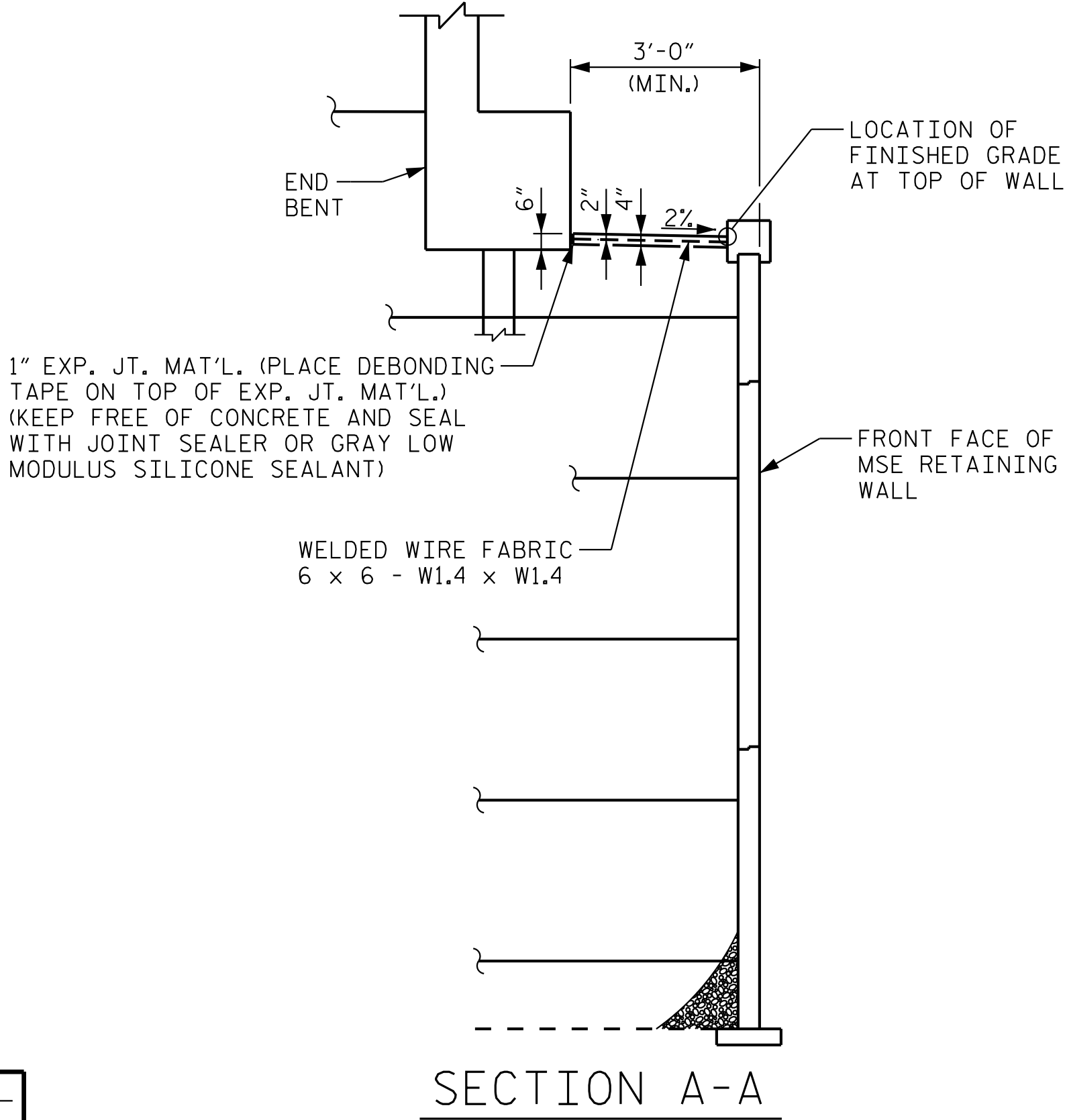
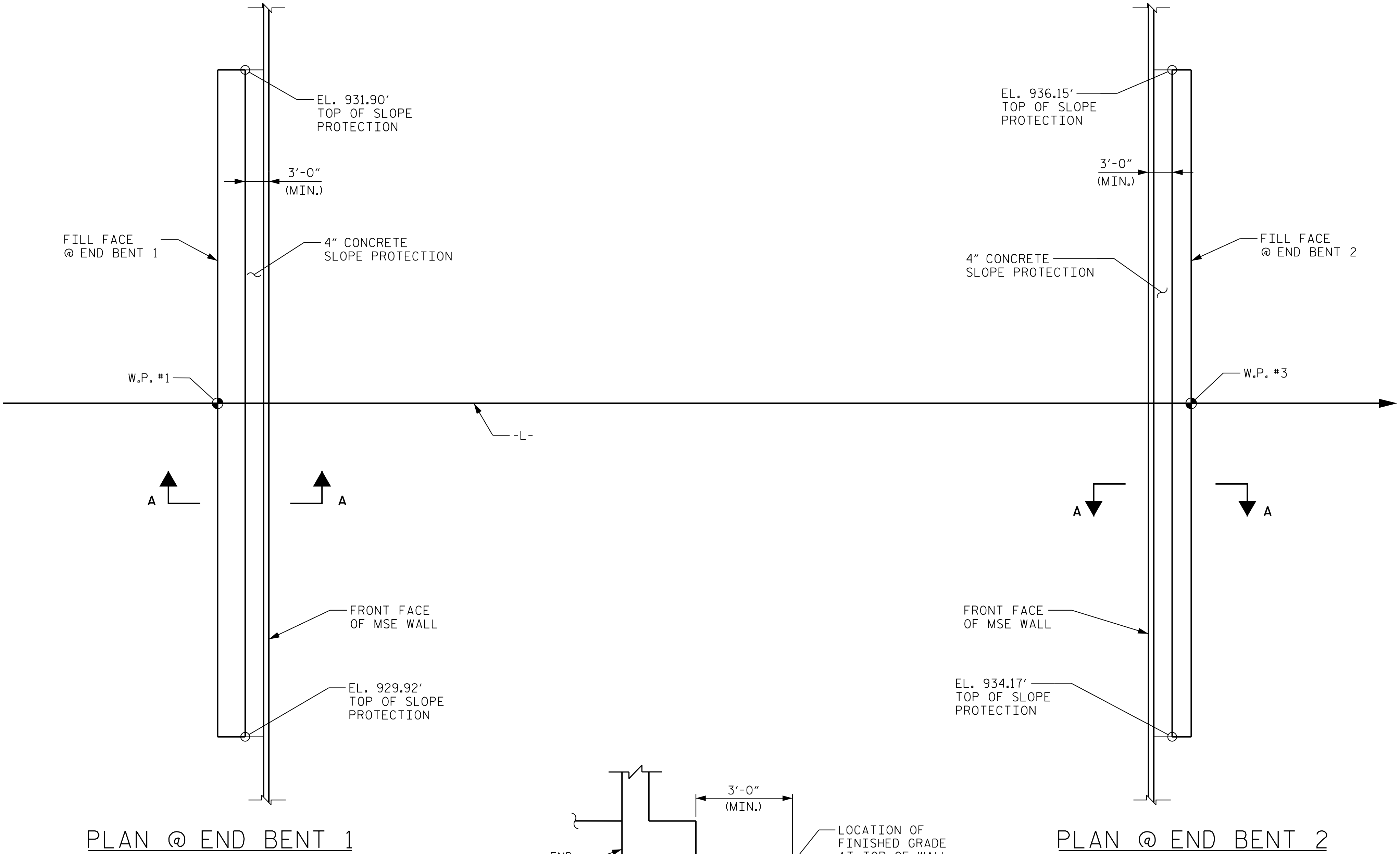
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
CONDUIT SYSTEM
DETAILS

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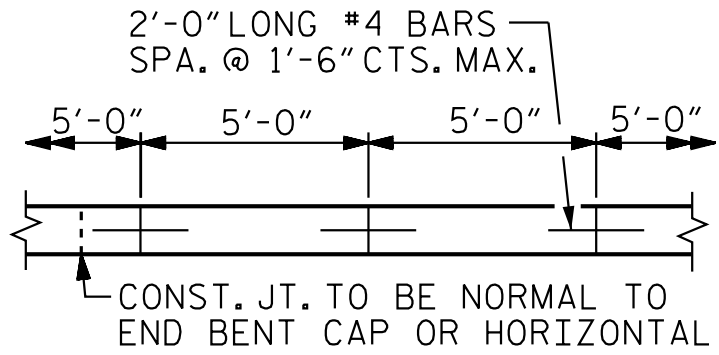
NOTES

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.

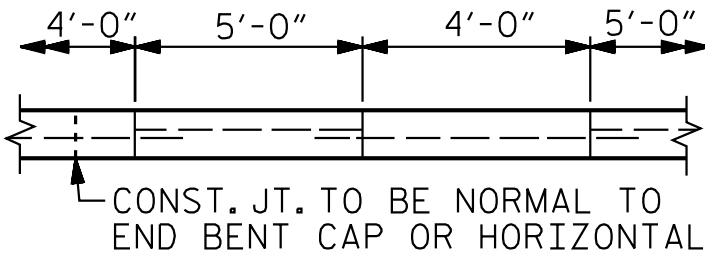
BRIDGE @ STA. 27+37.26 -L-	4 INCH SLOPE PROTECTION	* WELDED WIRE FABRIC 60 INCHES WIDE
	SQUARE YARDS	APPROX. L.F.
END BENT 1	26.8	50
END BENT 2	26.8	50

* QUANTITY SHOWN IS BASED ON 5' POURS.



STRIP WIDTHS MAY VARY IN CURVED PORTION.

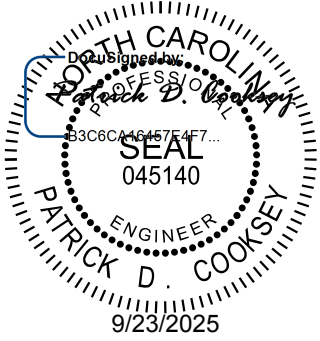
POURING DETAIL



POUR A 4'-0" STRIP FIRST. STRIP WIDTHS MAY VARY IN CURVED PORTION.

OPTIONAL POURING DETAIL

PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-



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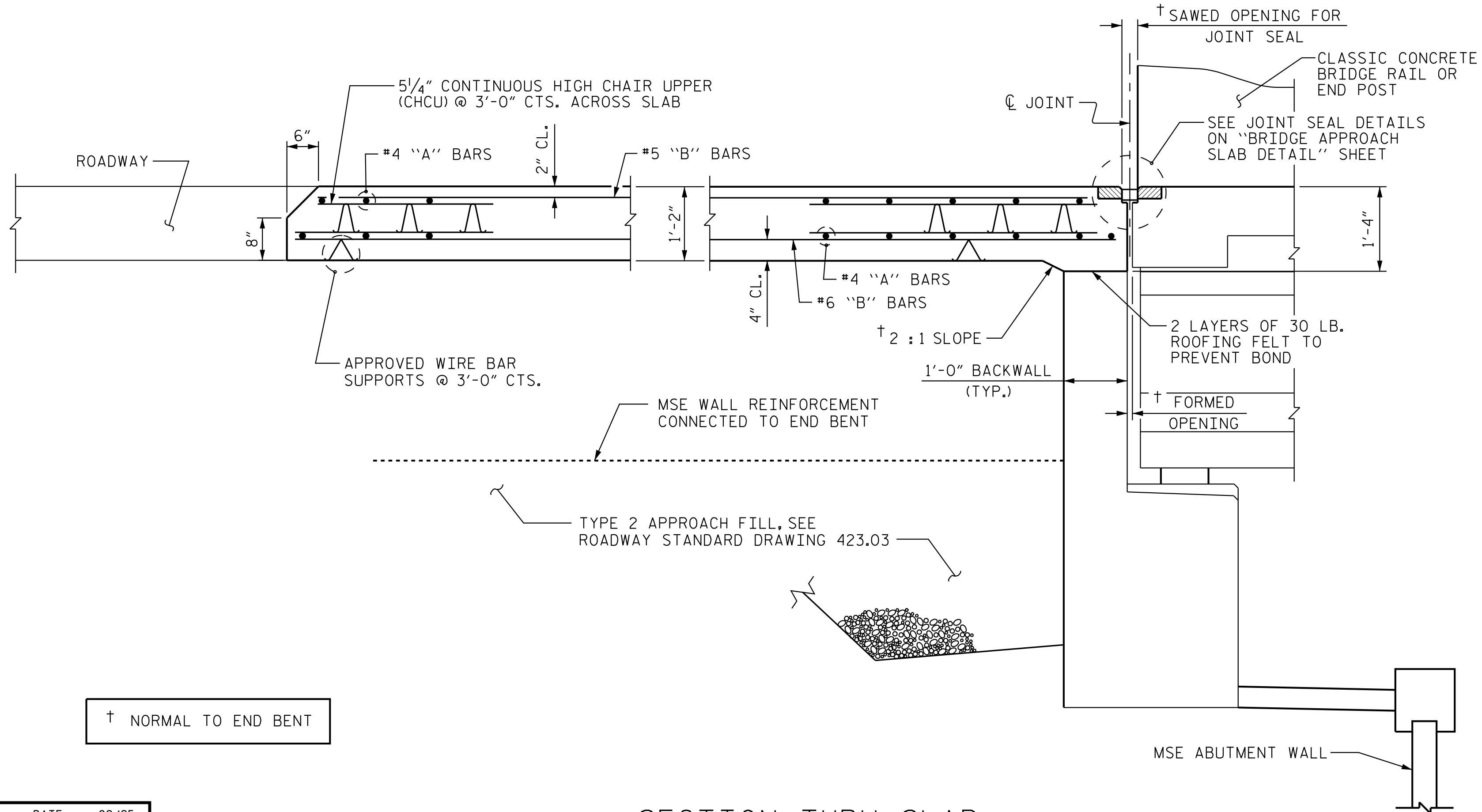
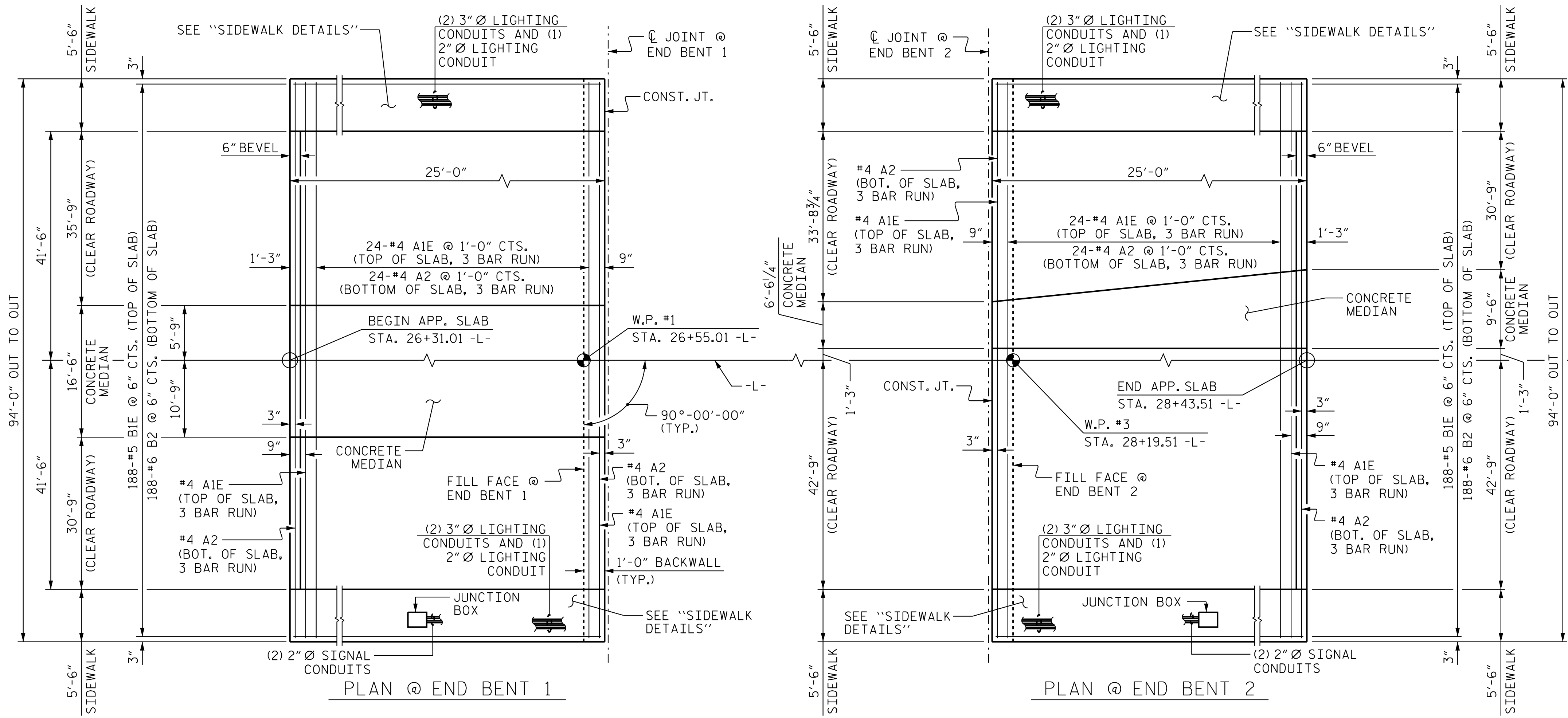
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DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD

SLOPE PROTECTION DETAILS

REVISIONS						SHEET NO. S-37
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

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SECTION THRU SLAB
(TYPE II - STANDARD APPROACH FILL)

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 SAWED 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.

FOR LOCATION, SIZING, AND DETAILS OF SIGNAL CONDUITS AND JUNCTION BOXES, REFER TO SHEET SCP-03

WITH FOAM JOINT SEAL

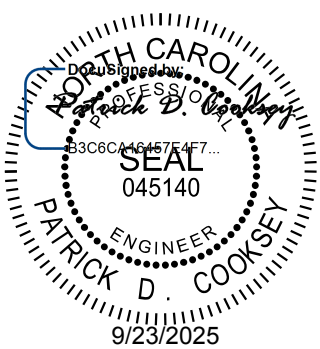
FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2".

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

PROJECT NO. U-5760
FORSYTH COUNTY
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SHEET 1 OF 3



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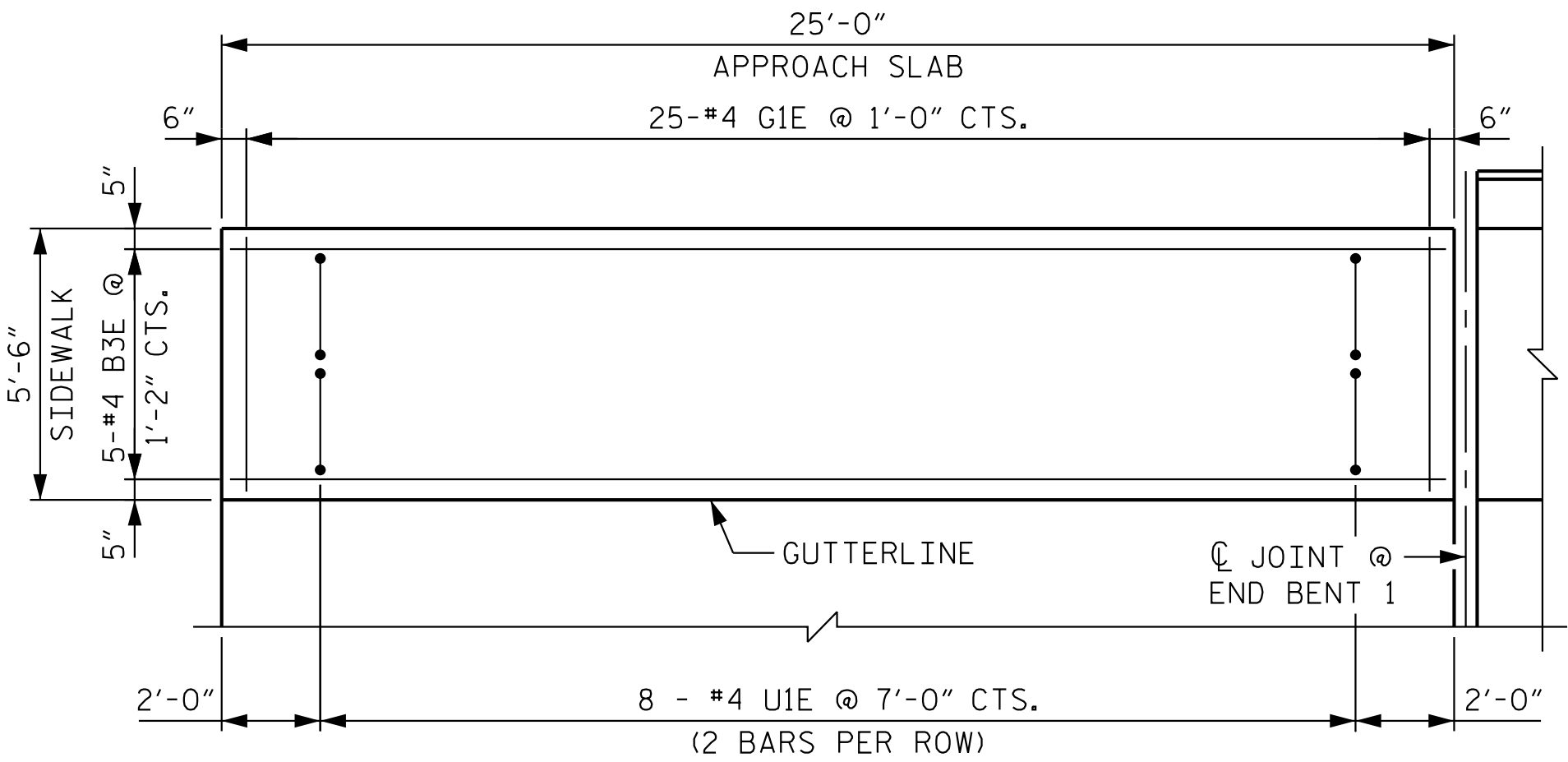
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD

BRIDGE APPROACH SLAB
FOR FLEXIBLE PAVEMENT

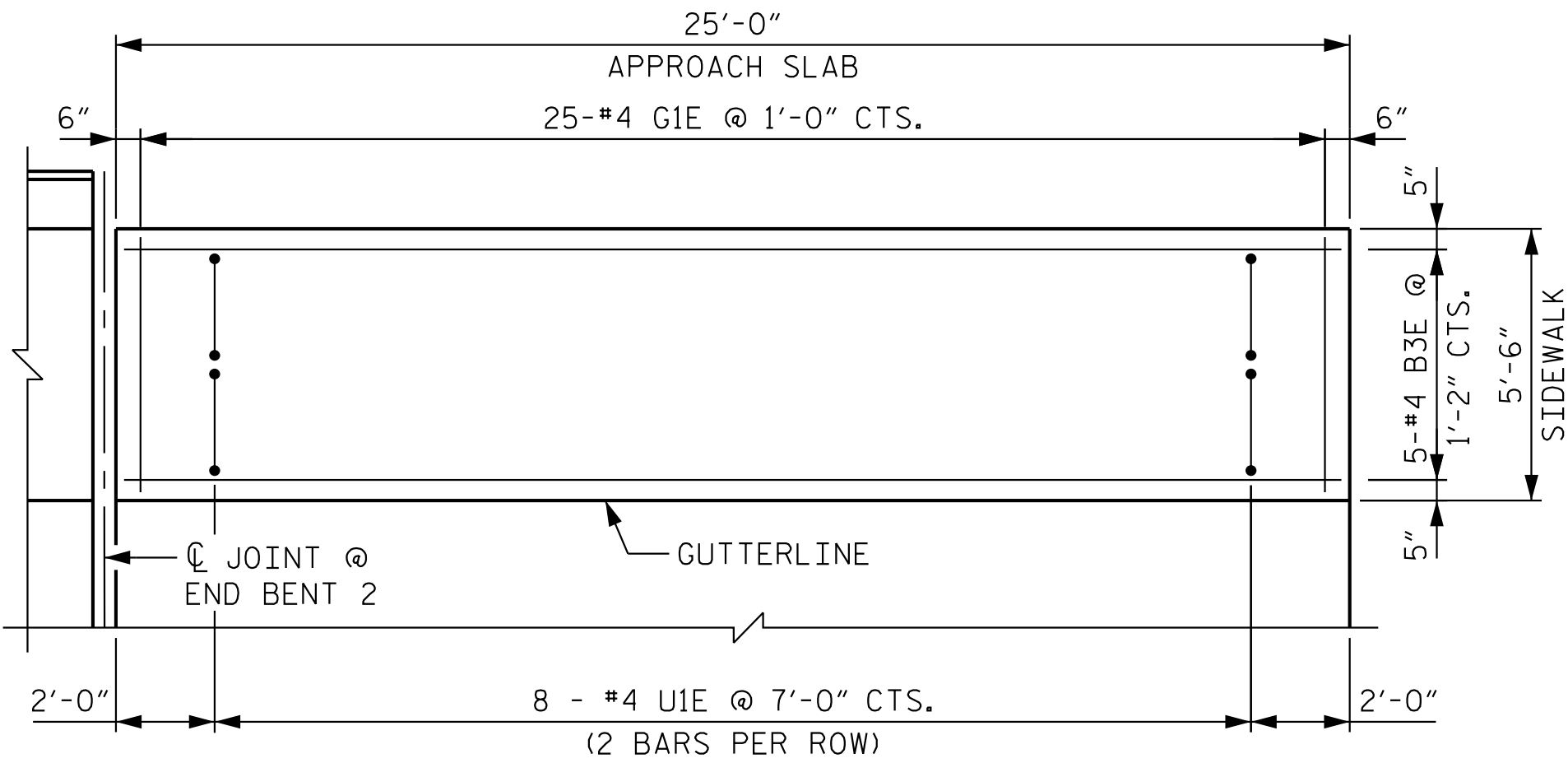
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2			4			

STD. NO. BAS2

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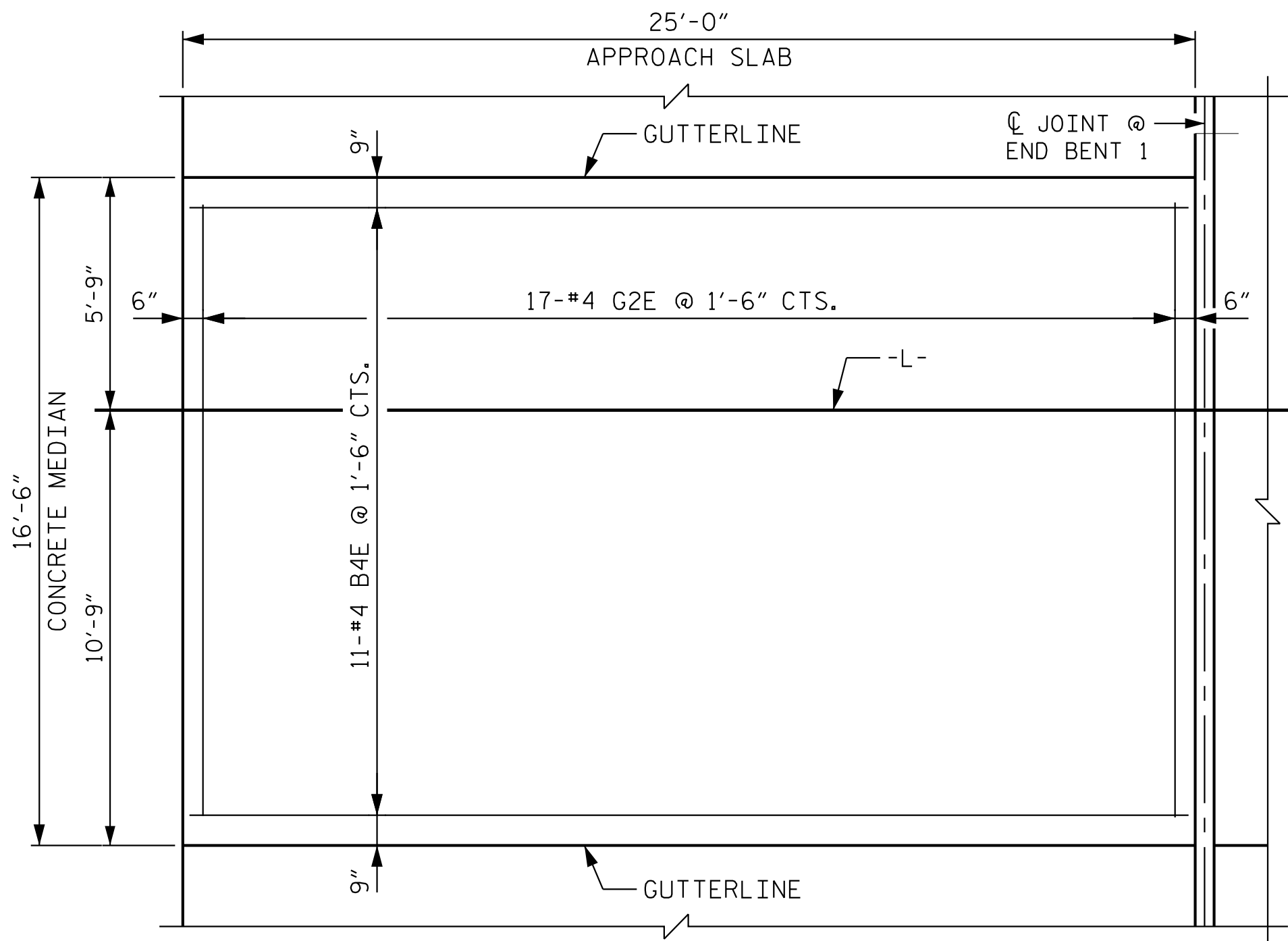
PLAN @ END BENT 1



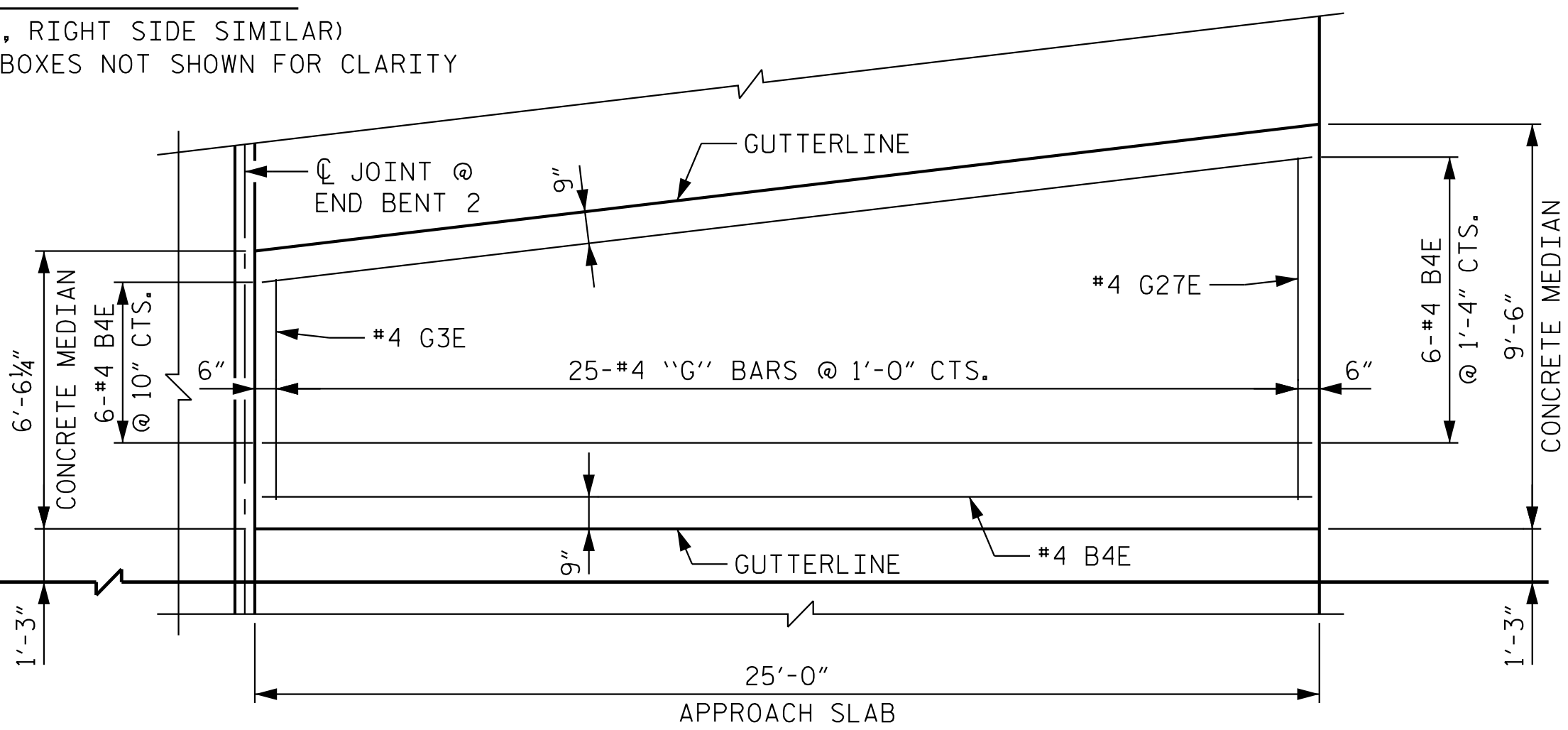
PLAN @ END BENT 2

PLAN OF SIDEWALKS

(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)
CONDUITS AND JUNCTION BOXES NOT SHOWN FOR CLARITY

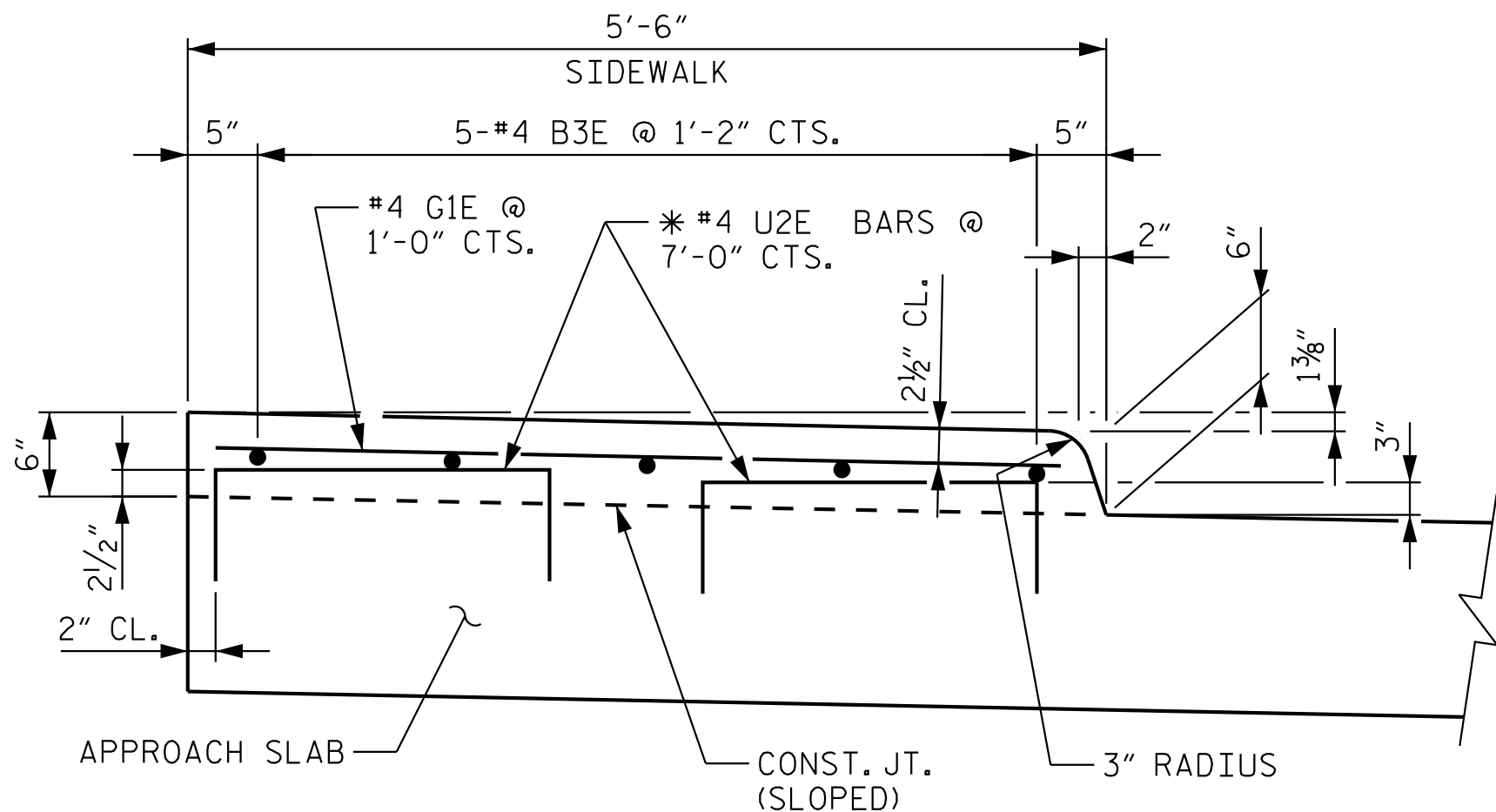


PLAN @ END BENT 1



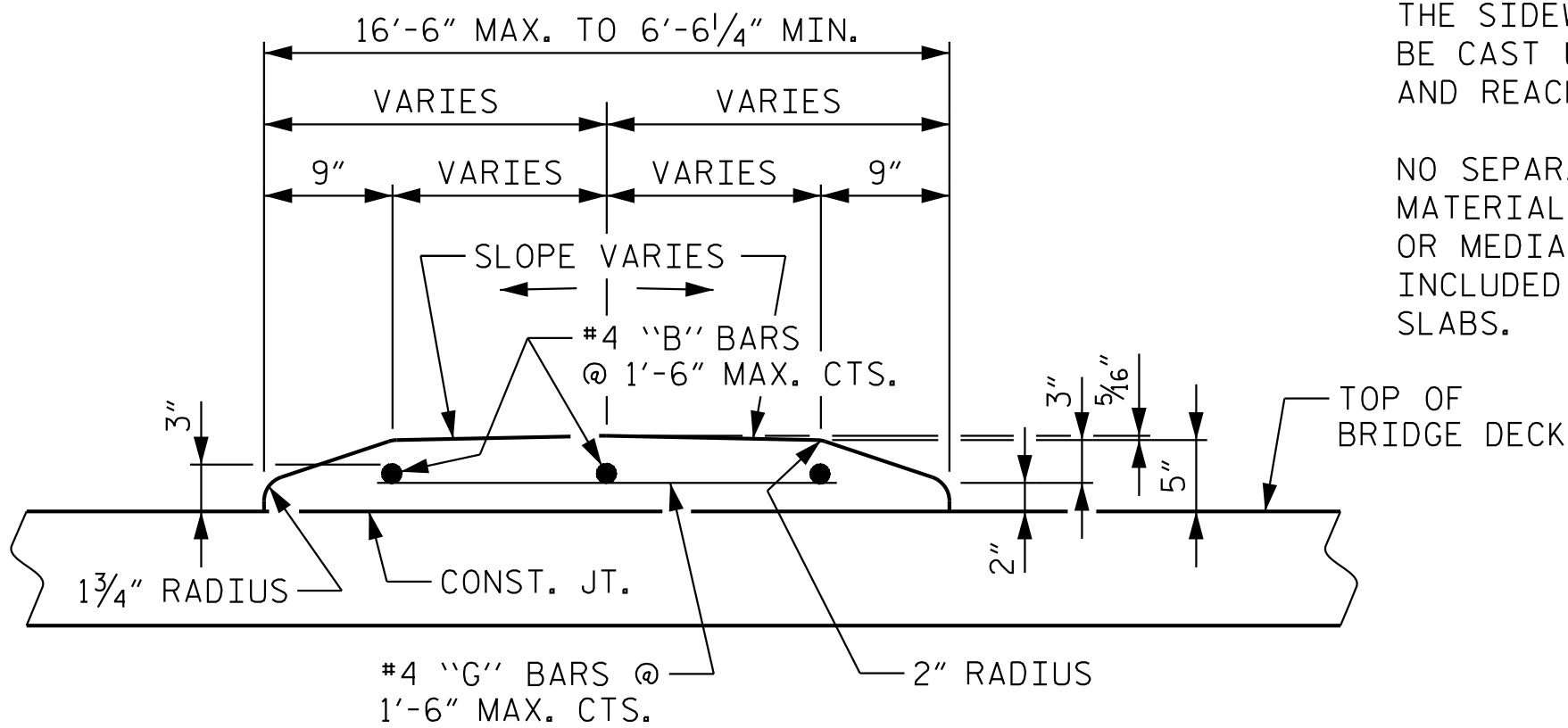
PLAN @ END BENT 2

PLAN OF MEDIANS



SIDEWALK DETAILS

(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)



SECTION THRU MEDIAN

NUMBER OF "B" BARS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO PLAN VIEW OF MEDIAN FOR "B" BAR PLACEMENT.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

BILL OF MATERIAL									
APPROACH SLAB AT EB #1					APPROACH SLAB AT EB #2				
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE
A1E	78	#4	STR	32'-7"	1,698	A1E	78	#4	STR
A2	78	#4	STR	32'-5"	1,689	A2	78	#4	STR
B1E	188	#5	STR	24'-2"	4,739	B1E	188	#5	STR
B2	188	#6	STR	24'-8"	6,965	B2	188	#6	STR
B3E	10	#4	STR	24'-8"	165	B3E	10	#4	STR
B4E	11	#4	STR	24'-8"	181	B4E	7	#4	STR
G1E	25	#4	STR	5'-2"	86	G1E	25	#4	STR
G2E	17	#4	STR	15'-0"	170	G3E	1	#4	STR
U1E	16	#4	1	3'-8"	39	G4E	1	#4	STR
REINFORCING STEEL					LBS.	8,654	G7E	1	#4
EPOXY COATED REINFORCING STEEL					LBS.	7,078	G8E	1	#4
CLASS AA CONCRETE BREAKDOWN							G9E	1	#4
POUR 1 (SLAB)					C. Y.	101.8	G10E	1	#4
POUR 2 (SIDEWALK & MED.)					C. Y.	11.8	G11E	1	#4
TOTAL					C. Y.	113.6	G12E	1	#4
BAR TYPE							G13E	1	#4
10"							G14E	1	#4
2'-0"							G15E	1	#4
ALL BAR DIMENSIONS ARE OUT TO OUT							G16E	1	#4

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

NOTES

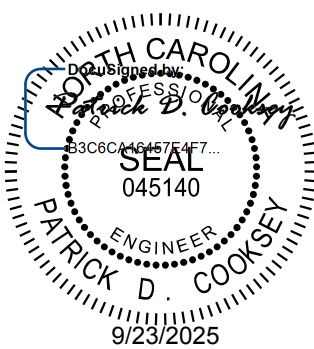
ALL REINFORCING STEEL IN THE SIDEWALK AND MEDIANS SHALL BE EPOXY COATED.

GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE SIDEWALK IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINTS SHALL BE LOCATED AT A SPACING OF 8 FEET TO 10 FEET BETWEEN EXPANSION JOINTS. NO CONTRACTION JOINT WILL BE REQUIRED IN SEGMENTS LESS THAN 10 FEET IN LENGTH.

*#4 U1E MAY BE PUSHED INTO GREEN CONCRETE AFTER THE APPROACH SLAB HAS BEEN SCREEDED OFF.

THE SIDEWALK AND MEDIAN ON EACH APPROACH SLAB SHALL NOT BE CAST UNTIL ALL APPROACH SLAB CONCRETE HAS BEEN CAST AND REACHED A MINIMUM OF 3,000 PSI.

NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR MATERIALS OR LABOR REQUIRED TO CONSTRUCT THE SIDEWALK OR MEDIAN. THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR BRIDGE APPROACH SLABS.



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PROJECT NO. U-5760
FORSYTH COUNTY
STATION: 27+37.26 -L-

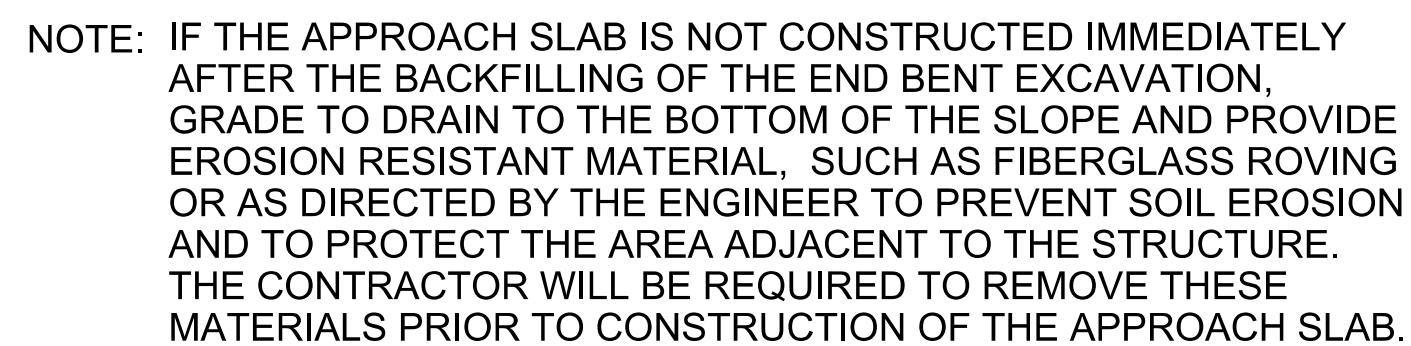
SHEET 2 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH STANDARD BRIDGE APPROACH SLAB DETAILS					
REVISIONS					SHEET NO. S-39
NO.	BY:	DATE:	NO.	BY:	
1			3		TOTAL SHEETS 40
2			4		

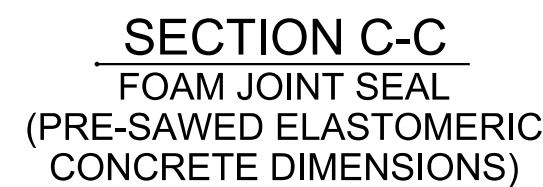
STD. NO. BAS4



JOINT SEAL DETAILS @ END BENT



TEMPORARY DRAINAGE DETAIL



* BASED ON THE MINIMUM BLOCKOUT SHOWN.

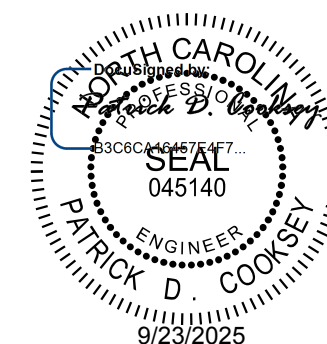


* THE 3/4" CONCRETE INSERTS SHALL BE CLOSED-END FERRULES WITH LOOPED WIRE STRUTS ATTACHED TO THEM. THE INSERTS SHALL CONFORM TO AASHTO M169, GRADE 12L14 AND SHALL HAVE A TENSILE WORKING LOAD CAPACITY OF 3000 LBS.

THE STEEL PLATES SHALL CONFORM TO AASHTO M270 GRADE 36 OR APPROVED EQUAL. AFTER FABRICATION, THE PLATES SHALL BE COMMERCIALY BLAST CLEANED AND EITHER COATED WITH A MINIMUM THICKNESS OF 4 MILS (DRY) OF ZINC-RICH PAINT, GALVANIZED OR METALLIZED TO A MINIMUM THICKNESS OF 6 MILS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. FOR THERMAL SPRAYED COATINGS (METALLIZATION), SEE SPECIAL PROVISIONS.

THE 3/4" DIAMETER HEX HEAD BOLTS SHALL CONFORM TO ASTM F593 ALLOY 304 STAINLESS STEEL.

NO SEPARATE PAYMENT WILL BE MADE FOR FURNISHING AND INSTALLING THE COVER PLATE. THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR "FOAM JOINT SEALS".



Kimley»»Horn

421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000

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PROJECT NO. U-5760
FORSYTH COUNTY
 STATION: 27+37.26 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

BRIDGE APPROACH
SLAB DETAILS

REVISIONS						SHEET NO. S-40
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 40
2			4			

STD. NO. BAS4

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	AASHTO (CURRENT)
LIVE LOAD	SEE PLANS
IMPACT ALLOWANCE	SEE AASHTO
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	SEE AASHTO
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2024 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

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

CONCRETE:

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

CONCRETE CHAMFERS:

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

DOWELS:

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

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

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

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

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

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

REINFORCING STEEL:

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

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

STRUCTURAL STEEL:

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

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

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

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

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