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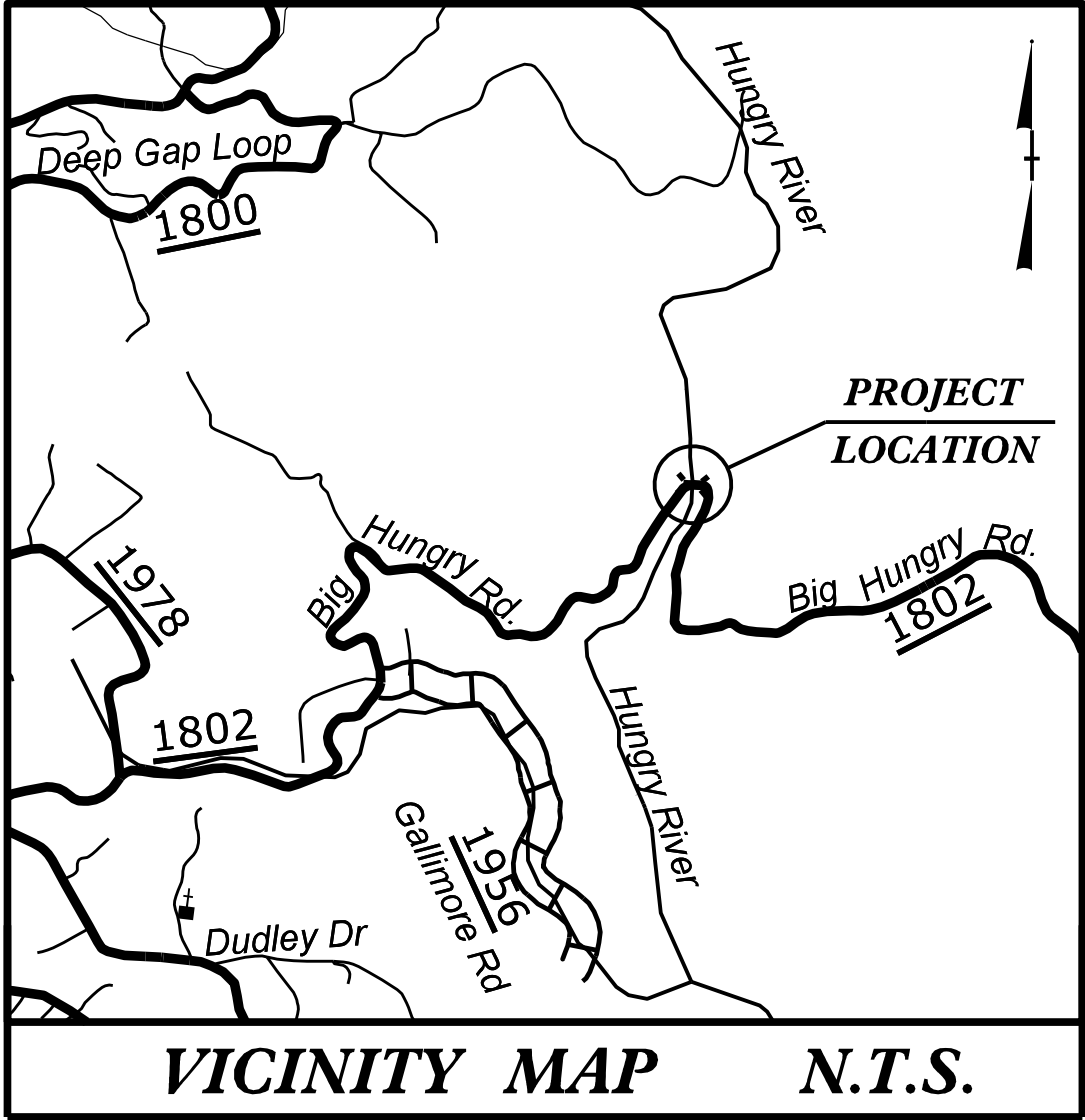
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09/08/2025

PROJECT TIP: DF18314.2045332

CONTRACT: DN01166



100% PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HENDERSON COUNTY

LOCATION: BRIDGE 440055 OVER HUNGRY RIVER
ON SR 1802 (BIG HUNGRY ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE (BRIDGE)

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF18314.2045332	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
DF18314.2045332	N/A	PE	
DF18314.2045332	N/A	R/W	
DF18314.2045332	N/A	CONST.	

BEGIN PROJECT DF18314.2045332
-L- STA. 11 + 60.00

BEGIN CONSTRUCTION
-L- STA. 11 + 42.35

BEGIN BRIDGE
-L- STA. 13 + 03.20

END BRIDGE
-L- STA. 14 + 38.56

END PROJECT DF18314.2045332
-L- STA. 15 + 50.00

END CONSTRUCTION
-L- STA. 17 + 00.00

STRUCTURE

DESIGN DATA
ADT 2025 = <400
ADT 2045 = <400

V = 35 MPH

FUNC CLASS = LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT DF18314.2045332 = 0.048 MILES
LENGTH STRUCTURE PROJECT DF18314.2045332 = 0.026 MILES
TOTAL LENGTH PROJECT DF18314.2045332 = 0.074 MILES

PREPARED IN THE OFFICE OF:

RS&H

1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 14, 2025

LETTING DATE:
JULY 14, 2026

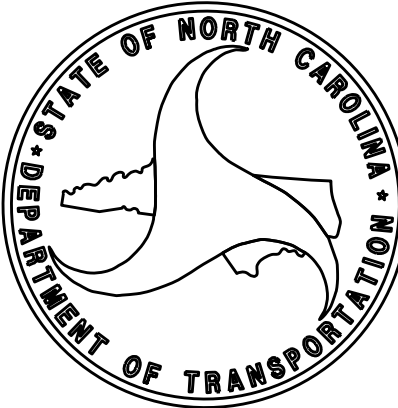
MATTHEW R. ACOSTA, PE
PROJECT ENGINEER

TONY R. LAWS, PE
PROJECT DESIGN ENGINEER

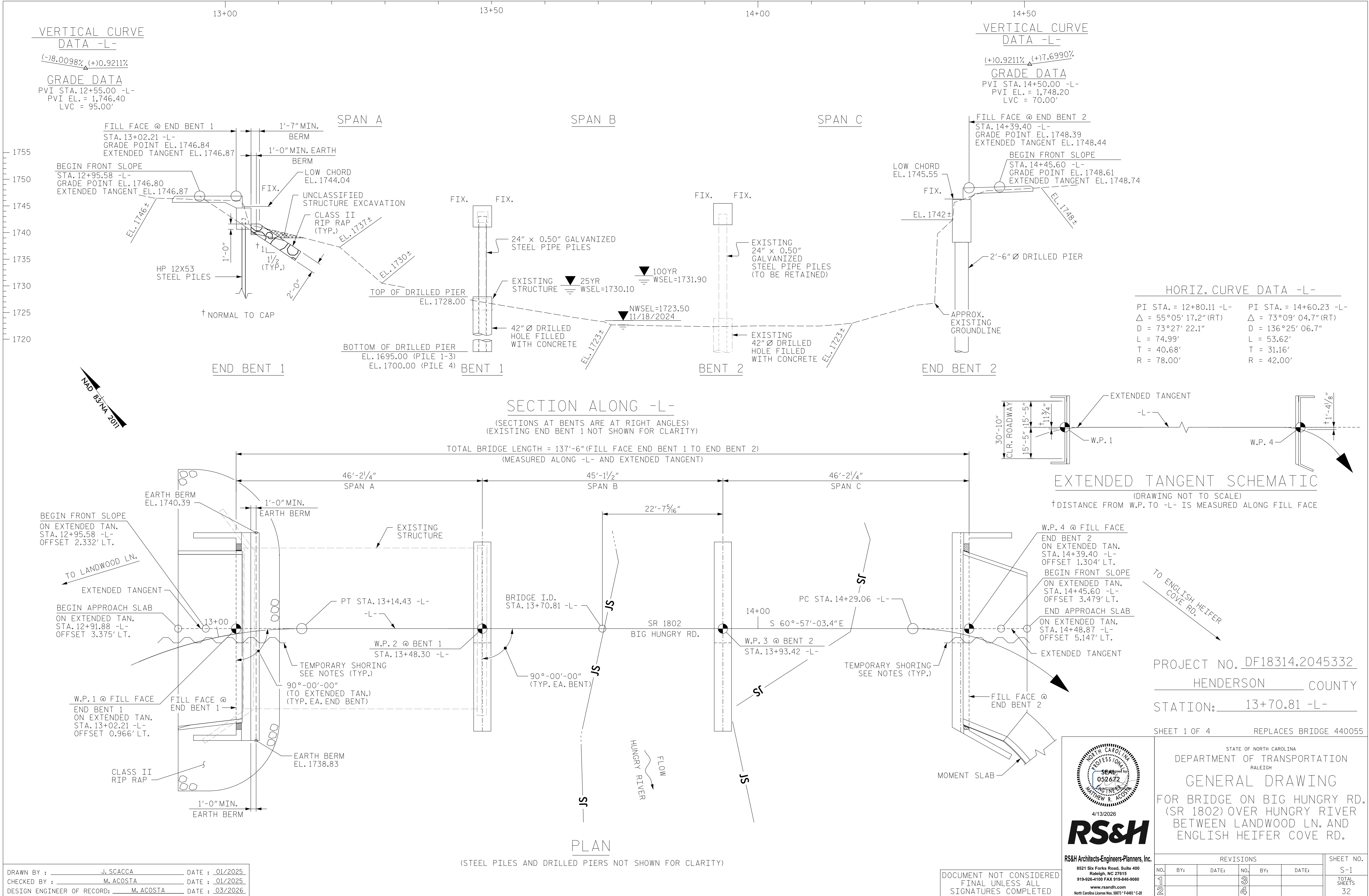
ZACHARY T. SHULER, PE
NCDOT CONTACT

STRUCTURAL ENGINEER

DocuSigned by
[Signature]
SIGNATURE: 6/17/2026 P.E.



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UNLESS ALL SIGNATURES COMPLETED





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

SUMMARY OF PILE INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Number of Piles per Line	Factored Resistance per Pile KIPS	Pile Cut-Off (Top of Pile) Elevation FT	Estimated Pile Length per Pile FT	Scour Critical Elevation FT	Driven Piles			Predrilling for Piles **			Drilled-In Piles		
						Minimum Pile Tip (Tip No Higher Than) Elevation FT	Required Driving Resistance (RDR)* per pile KIPS	Pile Redrives Quantity EACH	Predrilling Length per Pile LIN FT	Predrilling Elevation (Elevation Not To Predrill Below) FT	Maximum Predrilling Diameter INCHES	Pile Excavation (Bottom of Hole) Elevation FT	Pile Excavation Not In Soil per Pile LIN FT	Pile Excavation In Soil per Pile LIN FT
End Bent No. 1, Piles 1-7	7	140		20			235							
Bent No. 1, Piles 1-3	3	360		50	1715	1695						1695	33	10
Bent No. 1, Pile 4	1	360		45	1715	1700						1700	28	10
TOTAL QUANTITY:													127	40

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

** 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.

*** WR = Weathered Rock

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 1-7	140			0.6		

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

SUMMARY OF DRILLED-IN PIPE PILE AND DRILLED PIER INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pier(s) #(-#) (e.g., "Bent 1, Piers 1-3")	Number of Piers per Line	Factored Resistance per Pier KIPS	Required Drilled Pier Tip Elevation FT	Required Tip Resistance per Pier KSF	Scour Critical Elevation FT	Minimum Drilled Pier Penetration Into Weathered Rock and/ or Rock per Pier LIN FT	Drilled Pier Length* per Pier LIN FT	Drilled Pier Length Not In Soil* per Pier LIN FT	Drilled Pier Length In Soil* per Pier LIN FT	Permanent Steel Casing Required? YES	Permanent Steel Casing Tip Elevation (Elevation Not To Extend Casing Below) FT	Permanent Steel Casing Length** per Pier LIN FT
Bent No. 1, Piles 1-3	3									YES	1721.00	7
Bent No. 1, Pile 4	1									YES	1716.80	7
Bent No. 2***	4				1715.00							
End Bent No. 2, Piers (1-3)	3	205	1710.00	20		10	28					
End Bent No. 2, Piers (4-6)	3	205	1710.00	20		10	28			Yes	1720.00	18
TOTAL QUANTITY:							168					82

* Drilled Pier Length, Drilled Pier Length Not in Soil and Drilled Pier Length in Soil represent estimated drilled pier quantities and are measured and paid for as either "___ Dia. Drilled Piers" or "___ Dia. Drilled Piers Not in Soil" and "___ Dia. Drilled Piers in Soil" in accordance with Article 411-7 of the NCDOT Standard Specifications. For bents with a not in soil pay item, drilled piers through air or water will be paid at the contract unit price for "___ Dia. Drilled Piers in Soil."

** Permanent Steel Casing Length equals the difference between the ground line or top of drilled pier elevation, whichever is higher, and the permanent casing tip elevation and is measured and paid for as "Permanent Steel Casing for ___ Dia. Drilled Pier" in accordance with Article 411-7 of the NCDOT Standard Specifications.

*** Bent 2 Pipe Piles were designed and previously install for the temporary bridge. Existing Pipe Pile are suitable to support the new lateral and axial loads for the new bridge.

SUMMARY OF DRILLED PIER TESTING

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pier(s) #(-#) (e.g., "Bent 1, Piers 1-3")	Standard Penetration Test (SPT) EACH	Crosshole Sonic Logging (CSL) EACH	Thermal Integrity Profiler (TIP) EACH	Shaft Inspection Device (SID) EACH	Pile Integrity Test (PIT) EACH
End Bent No. 2		1			
TOTAL QUANTITY:		1			

PROJECT NO. DF18314.2045332

HENDERSON COUNTY

STATION: 13+70.81 -L-

SHEET 3 OF 4

NOTES:

- 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 08-12-2025.
- 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.
- The Engineer may adjust the quantity for DPT Testing, Pipe Pile Plates, Permanent Steel Casing, SPTs, TIPS, CSL Testing, SID Inspections and PITs when necessary.

DRAWN BY : <u>M. ACOSTA</u>	DATE : <u>08/2025</u>
CHECKED BY : <u>T. R. LAWS</u>	DATE : <u>08/2025</u>
DESIGN ENGINEER OF RECORD: <u>M. ACOSTA</u>	DATE : <u>03/2026</u>

DOCUMENT NOT CONSIDERED
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SIGNATURES COMPLETED



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North Carolina License Nos. 50073-F-0493-C-28

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PILE AND DRILLED PIER
FOUNDATION TABLES

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

TOTAL BILL OF MATERIAL											
	REMOVAL, STAGING, DEMOLITION AND CONSTRUCTION OF STRUCTURE AT STA. 13+70.81 -L-	ASBESTOS ASSESSMENT	PILE EXCAVATION IN SOIL	PILE EXCAVATION NOT IN SOIL	2'-6"Ø DRILLED PIERS	PERMANENT STEEL CASING FOR 2'-6"Ø DRILLED PIER	PERMANENT STEEL CASING FOR 3'-6"Ø DRILLED-IN PILE	CSL TESTING	UNCLASSIFIED STRUCTURE EXCAVATION @ STA. 13+70.81 -L-	CLASS A CONCRETE	BRIDGE APPROACH SLABS
	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	LUMP SUM	CU. YDS.	LUMP SUM
SUPERSTRUCTURE											
END BENT 1										21.5	
BENT 1			40	127			28.0	1		21.0	
BENT 2										21.0	
END BENT 2					168.0	54.0				41.9	
TOTAL	LUMP SUM	LUMP SUM	40	127	168.0	54.0	28.0	1	LUMP SUM	105.4	LUMP SUM

	REINFORCING STEEL	SPIRAL REINFORCING STEEL	PILE DRIVING EQUIPMENT SETUP FOR HP12x53 STEEL PILES	PILE DRIVING EQUIPMENT SETUP FOR PP 24x0.50 GALVANIZED STEEL PILES	HP 12x53 STEEL PILES		PP 24x0.50 GALVANIZED STEEL PILES		CONCRETE BARRIER RAIL WITH MOMENT SLAB	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLABS	
	LBS.	LBS.	EACH	EACH	NO.	LIN. FT.	NO.	LIN. FT.	LIN. FT.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	NO.	LIN. FT.
SUPERSTRUCTURE									18.11	278.92				19	855
END BENT 1	2,659		7		7	140					101	112			
BENT 1	3,708			4			4	195							
BENT 2	3,708														
END BENT 2	16,125	2,902													
TOTAL	26,200	2,902	7	4	7	140	4	195	18.11	278.92	101	112	LUMP SUM	19	855

DESIGN DISCHARGE:	2,900 CFS
FREQUENCY OF DESIGN FLOOD:	25 YRS.
DESIGN HIGH WATER ELEVATION:	1,730.1
DRAINAGE AREA:	19.4 SQ. MI.
BASE DISCHARGE (Q100):	4,200 CFS
BASE HIGH WATER ELEVATION:	1,731.9

OVERTOPPING DISCHARGE: 17,950 CFS
 FREQUENCY OF OVERTOPPING FLOOD: 1000+ YRS.
 *OVERTOPPING FLOOD ELEVATION: 1,746.8
 *SAG AT -L- STA. 12+92.70

DRAWN BY : J. SCACCA DATE : 01/2025
 CHECKED BY : M. ACOSTA DATE : 01/2025
 DESIGN ENGINEER OF RECORD: M. ACOSTA DATE : 03/2026

6/2/2026
\\rsandh.com\files\Projects\NCD0T\10034734005-Henderson.55\03.00 Project Execution\03.04 Design\Structures\CAD\401.007_DF18314.2045332.SMU_GD4_S-4.440055.dgn
AcostoM

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

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

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

THE EXISTING STRUCTURE CONSISTING OF (1) 45'-0" SPAN WITH A CLEAR ROADWAY OF APPROXIMATELY 30 FEET AND SUPPORTED BY REINFORCED CONCRETE ABUTMENTS AND AN INTERIOR PILE BENT WITH H-PILES AND A CONCRETE CAP AND FOOTING SHALL BE REMOVED. SEE SPECIAL PROVISIONS.

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

ALL MATERIALS REMOVED FROM THE BRIDGE SHALL BE RETAINED AND DELIVERED TO THE NCDOT MAINTENANCE YARD AS DIRECTED BY THE ENGINEER. SEE SPECIAL PROVISIONS.

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

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON SHEET 1 OF 4 SHALL BE EXCAVATED FOR A DISTANCE FROM THE CENTERLINE OF ROADWAY 30'± LEFT AND 30'± (RIGHT) AT END BENT 1. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION, SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

THE NUMBER AND LINEAR FEET OF PP 24 x 0.5 GALVANIZED STEEL PILES IS FOR NEWLY INSTALLED PILES ONLY. NO ADDITIONAL PAYMENT WILL BE MADE FOR PIPE PILES TO BE RETAINED FROM THE TEMPORARY CONSTRUCTION. FOR ADDITIONAL INFORMATION FOR PIPE PILES TO BE REUSED, SEE SPECIAL PROVISION 'REMOVAL, STAGING, DEMOLITION AND CONSTRUCTION OF BRIDGE AT STA. 13+70.81 -L-'.
-L-

THE LINEAR FEET OF 3'-0" X 1-9" PRESTRESSED CONCRETE CORED SLAB UNITS IS FOR NEWLY FABRICATED CORED SLAB UNITS ONLY. NO ADDITIONAL PAYMENT WILL BE MADE FOR CORED SLABS TO BE REUSED FROM THE TEMPORARY CONSTRUCTION. FOR ADDITIONAL INFORMATION FOR CORED SLABS TO BE REUSED, SEE SPECIAL PROVISION "REMOVAL, STAGING, DEMOLITION AND CONSTRUCTION OF BRIDGE AT STA. 13+70.81 -L-".

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

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

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 ASBESTOS ASSESSMENT, SEE SPECIAL PROVISIONS.

FOR REMOVAL, STAGING, DEMOLITION AND CONSTRUCTION OF BRIDGE AT STA. 13+70.81 -L-, SEE SPECIAL PROVISIONS.

FOR TEMPORARY TIMBER MATS, SEE SPECIAL PROVISIONS.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE "STANDARD NOTES" SHEET.

FOR INTERIOR BENT 1, ONLY PARTIAL GALVANIZING OF THE PILES IS REQUIRED. SEE INTERIOR BENT SHEET(S) FOR REQUIRED GALVANIZED LENGTHS. PAYMENT FOR PARTIALLY GALVANIZED PILES WILL BE MADE UNDER THE CONTRACT UNIT PRICE FOR GALVANIZED STEEL PILES.

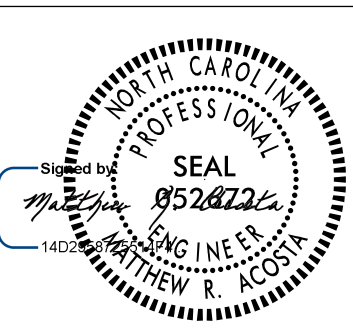
FOR LIMITS OF TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS. FOR PAY ITEM
FOR TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE ROADWAY PLANS.

SHEET PILING FOR TEMPORARY SHORING SHALL BE HOT ROLLED.

FOR MOMENT SLAB LAYOUT AND DETAILS, SEE ROADWAY PLANS.

STATION: 13+70.81 -L-

SHEET 4 OF 4



6/4/2026

RS&H**RS&H Architects-Engineers-Planners, Inc.**

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North Carolina License Nos. 51073 * F-0493 * C-2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON BIG HUNGRY RD.
(SR 1802) OVER HUNGRY RIVER
BETWEEN LANDWOOD LN. AND
ENGLISH HEIFER COVE RD.

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

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. NCDOT PROCURED ‘STANDARD’ CORED SLAB UNITS FOR TEMPORARY USE DUE TO HURRICANE RELIEF. THIS PROJECT WILL REUSE SEVERAL OF THOSE BEAMS. ANY BEAMS LABELED FOR REUSE SHALL BE VERIFIED WITH SHOP DRAWINGS PROVIDED BY THE ORIGINAL FABRICATOR OR NCDOT. RS&H TAKES NO RESPONSIBILITY FOR REUSED BEAMS LABELED FOR REUSE BY NCDOT.

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

PROJECT NO. DF18314.2045332

HENDERSON COUNTY

STATION: 13+70.81 -L-

DRAWN BY :	M. KHIN	DATE :	01/2025
CHECKED BY :	M. ACOSTA	DATE :	01/2025
DESIGN ENGINEER OF RECORD:	M. ACOSTA	DATE :	03/2026

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SIGNATURES COMPLETED

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

STANDARD

LRFR SUMMARY FOR

45' CORED SLAB UNIT

90° SKEW

(NON-INTERSTATE TRAFFIC)

4/13/2026

RS&H

RS&H Architects-Engineers-Planners, Inc.

8521 Six Forks Road, Suite 400
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REVISIONS

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

SHEET NO.

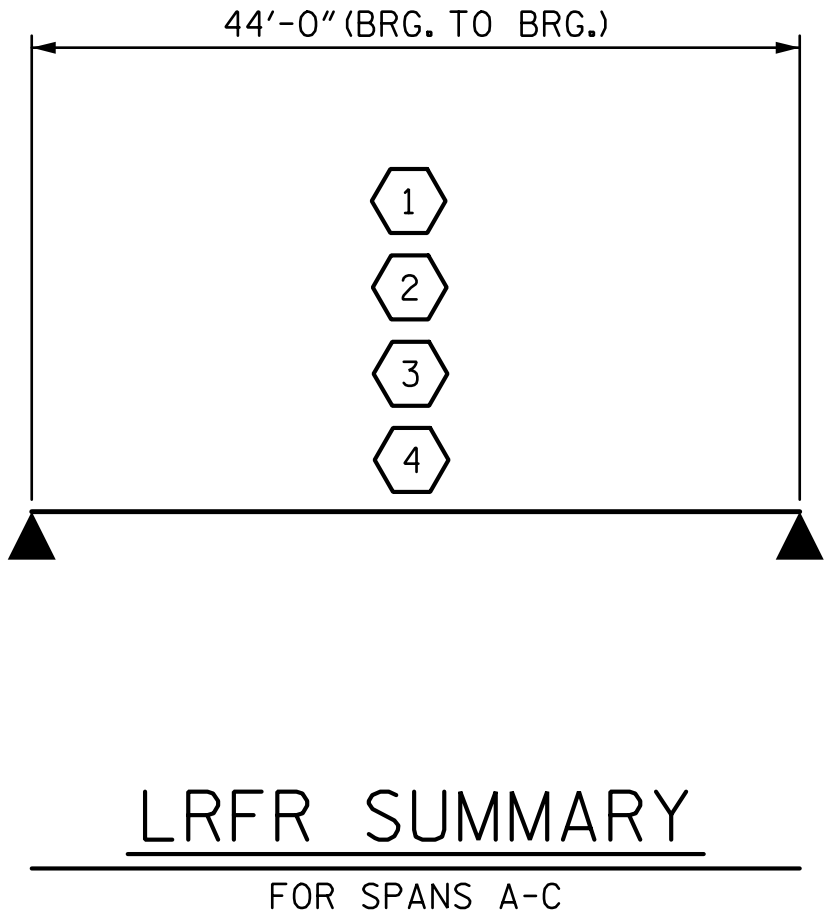
S-5

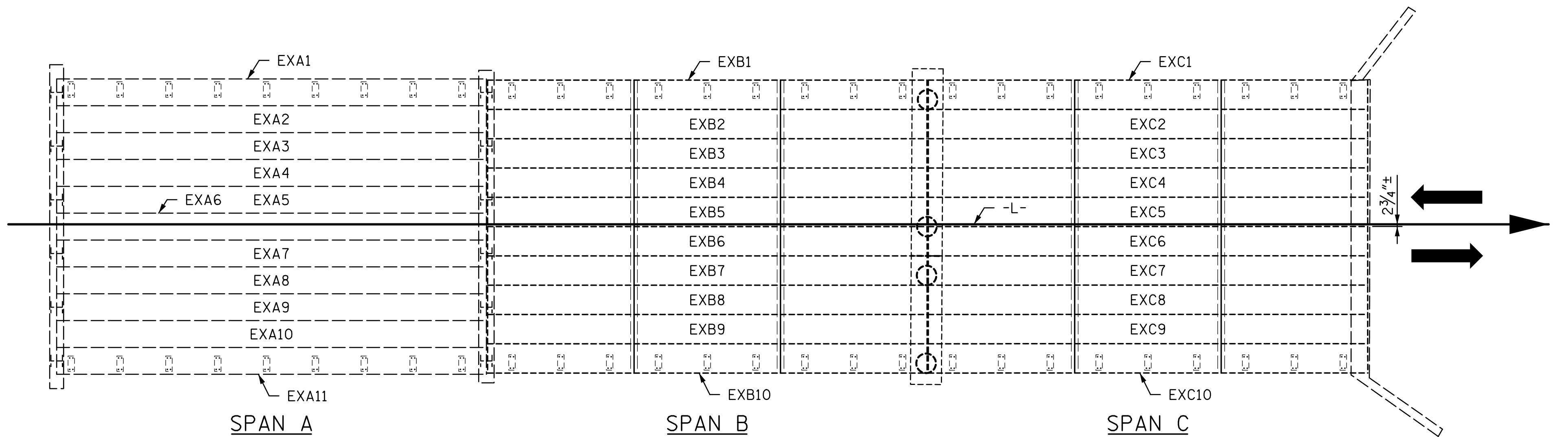
TOTAL SHEETS

32

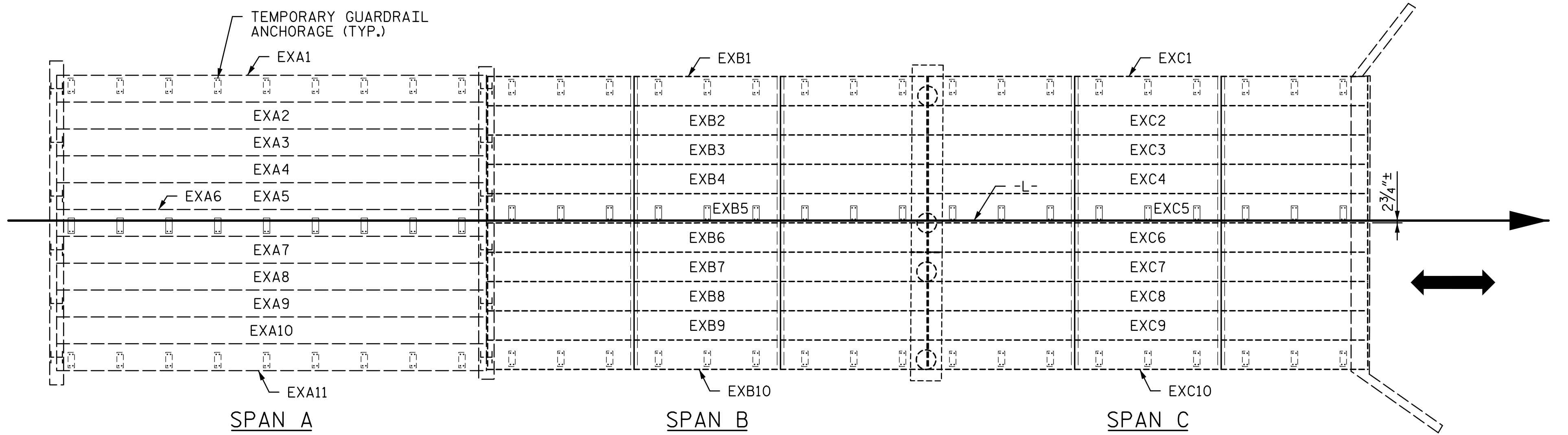
STD. NO. 21LRFR1_90S_45L

LOAD AND RESISTANCE FACTOR RATING (LRFD) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS																								
LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING	MINIMUM RATING FACTORS (RF)	TONS = W X RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE					COMMENT NUMBER			
						LIVELOAD FACTORS	MOMENT					SHEAR					LIVELOAD FACTORS	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(Inv)	N/A	1	1.121	--	1.75	0.274	1.45	45'	EL	22.00	0.543	1.40	45'	EL	2.20	0.80	0.274	1.12	45'	EL	22.00		
	HL-93(0pr)	N/A	--	1.813	--	1.35	0.274	1.87	45'	EL	22.00	0.543	1.81	45'	EL	2.20	N/A	0.274	--	45'	EL	22.00		
	HS-20(Inv)	36.000	2	1.377	49.561	1.75	0.274	1.77	45'	EL	22.00	0.543	1.65	45'	EL	2.20	0.80	0.274	1.38	45'	EL	22.00		
	HS-20(0pr)	36.000	--	2.142	77.130	1.35	0.274	2.30	45'	EL	22.00	0.543	2.14	45'	EL	2.20	N/A	0.274	--	45'	EL	22.00		
LEGAL LOAD RATING	SV	SNSH	13.500	--	2.690	36.319	1.4	0.274	4.33	45'	EL	22.00	0.543	4.56	45'	EL	2.20	0.80	0.274	2.69	45'	EL	22.00	
		SNGARBS2	20.000	--	2.172	43.443	1.4	0.274	3.50	45'	EL	22.00	0.543	3.35	45'	EL	2.20	0.80	0.274	2.17	45'	EL	22.00	
		SNAGRIS2	22.000	--	2.136	46.991	1.4	0.274	3.39	45'	EL	26.40	0.543	3.15	45'	EL	2.20	0.80	0.274	2.14	45'	EL	26.40	
		SNCOTTS3	27.250	--	1.343	36.603	1.4	0.274	2.16	45'	EL	22.00	0.543	2.29	45'	EL	2.20	0.80	0.274	1.34	45'	EL	22.00	
		SNAGGRS4	34.925	--	1.185	41.398	1.4	0.274	1.91	45'	EL	22.00	0.543	1.97	45'	EL	2.20	0.80	0.274	1.18	45'	EL	22.00	
		SNS5A	35.550	--	1.155	41.048	1.4	0.274	1.86	45'	EL	22.00	0.543	2.04	45'	EL	2.20	0.80	0.274	1.15	45'	EL	22.00	
		SNS6A	39.950	--	1.088	43.452	1.4	0.274	1.75	45'	EL	22.00	0.543	1.90	45'	EL	2.20	0.80	0.274	1.08	45'	EL	22.00	
		SNS7B	42.000	--	1.037	43.549	1.4	0.274	1.67	45'	EL	22.00	0.543	1.91	45'	EL	2.20	0.80	0.274	1.04	45'	EL	22.00	
	TTST	TNAGRIT3	33.000	--	1.335	44.054	1.4	0.274	2.15	45'	EL	22.00	0.543	2.23	45'	EL	2.20	0.80	0.274	1.33	45'	EL	22.00	
		TNT4A	33.075	--	1.349	44.617	1.4	0.274	2.17	45'	EL	22.00	0.543	2.14	45'	EL	2.20	0.80	0.274	1.35	45'	EL	22.00	
		TNT6A	41.600	--	1.132	47.097	1.4	0.274	1.82	45'	EL	22.00	0.543	2.08	45'	EL	2.20	0.80	0.274	1.13	45'	EL	22.00	
		TNT7A	42.000	--	1.154	48.468	1.4	0.274	1.86	45'	EL	22.00	0.543	1.92	45'	EL	2.20	0.80	0.274	1.15	45'	EL	22.00	
		TNT7B	42.000	--	1.201	50.459	1.4	0.274	1.94	45'	EL	22.00	0.543	1.83	45'	EL	2.20	0.80	0.274	1.20	45'	EL	22.00	
		TNAGRIT4	43.000	--	1.144	49.203	1.4	0.274	1.84	45'	EL	22.00	0.543	1.76	45'	EL	2.20	0.80	0.274	1.14	45'	EL	22.00	
		TNAGT5A	45.000	--	1.065	47.914	1.4	0.274	1.72	45'	EL	22.00	0.543	1.80	45'	EL	2.20	0.80	0.274	1.06	45'	EL	22.00	
		TNAGT5B	45.000	3	1.040	46.783	1.4	0.274	1.67	45'	EL	22.00	0.543	1.67	45'	EL	2.20	0.80	0.274	1.04	45'	EL	22.00	
EMERGENCY VEHICLE (EV)	EV2	28.750	--	1.558	44.784	1.3	0.274	2.69	45'	EL	22.00	0.543	2.54	45'	EL	2.20	0.80	0.274	1.56	45'	EL	22.00		
	EV3	43.000	4	1.001	43.053	1.3	0.274	1.74	45'	EL	22.00	0.543	1.72	45'	EL	2.20	0.80	0.274	1.00	45'	EL	22.00		



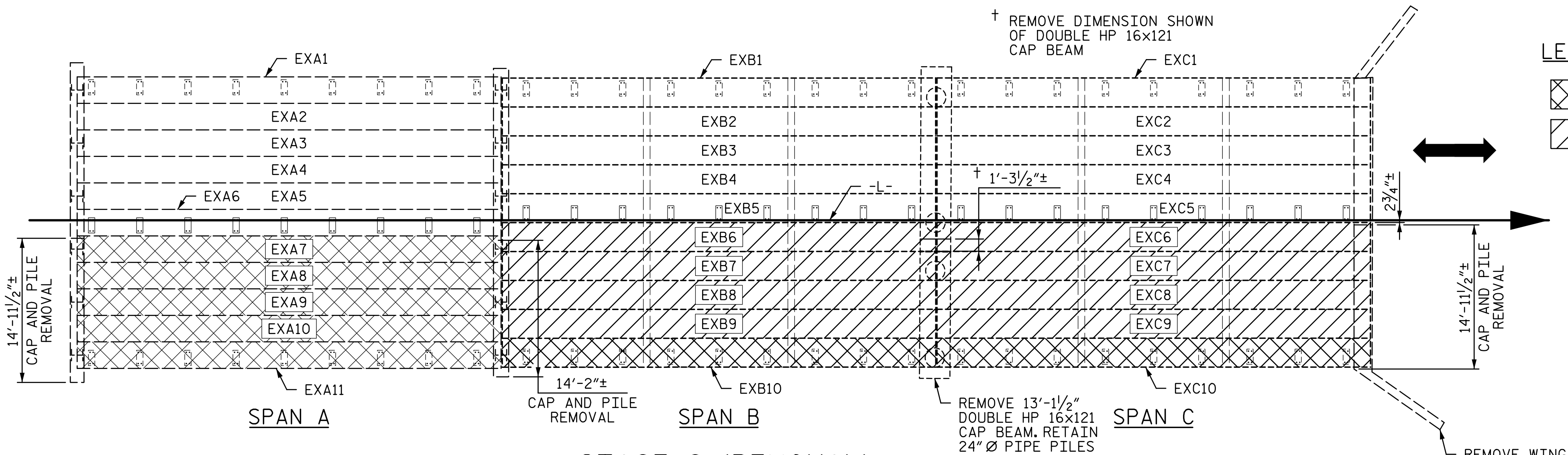


EXISTING BRIDGE



STAGE 1

ADDITION OF TEMPORARY GUARDRAIL ANCHOR PLATES ALONG EXA6, EXB5, AND EXC5.



STAGE 2 (REMOVAL)

PARTIAL REMOVAL OF SPANS A, B, AND C - RIGHT OF -L-

NOTES:

SPANS B AND C AND BENT 2 WERE DESTROYED BY HURRICANE HELENE. NEW CAST CORED SLAB UNITS AND NEW PILES WERE INSTALLED IN A TEMPORARY CONDITION. THE INTENT OF THIS BRIDGE REPLACEMENT TO THE EXTENT PRACTICAL IS TO REUSE THOSE MATERIALS IN THE PERMANENT CONDITION AND ONLY DO A FULL REPLACEMENT OF REMAINING STRUCTURAL ELEMENTS OF THE ORIGINAL BRIDGE. FOR ADDITIONAL INFORMATION ON MATERIAL TO BE RETAINED, SEE SPECIAL PROVISIONS.

FOR STAGE 2 (REMOVAL) DETENSIONING OF POST-TENSIONED STRANDS SHALL ONLY OCCUR FOR ONE SPAN PER EACH NIGHT OF WORK. FOR DURATIONS, SEE MAINTENANCE OF TRAFFIC PLANS.

FOR STAGE 2 (REMOVAL) CORED SLAB UNITS EXB6 THRU EXB9 AND CORED SLAB UNITS EXC6 THRU EXC9 SHALL BE BE STORED ON SITE TO BE REUSED IN STAGE 5 CONSTRUCTION.

FOR STAGE 2 (REMOVAL) ALL EXISTING CORED SLAB UNITS FROM SPAN A AND CORED SLAB UNITS EXB10 AND EXC10 ARE NOT TO BE REUSED.

FOR ADDITIONAL STAGE 2 REMOVAL NOTES, SEE SHEETS 4 OF 8 AND 6 OF 8.

LEGEND:



REMOVE (SEE NOTES)



REMOVE TO BE REUSED (SEE NOTES)

PROJECT NO. DF18314.2045332

HENDERSON COUNTY

STATION: 13+70.81 -L-

SHEET 1 OF 8



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CONSTRUCTION
STAGING

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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-6
2			4			TOTAL SHEETS 32

NOTES:

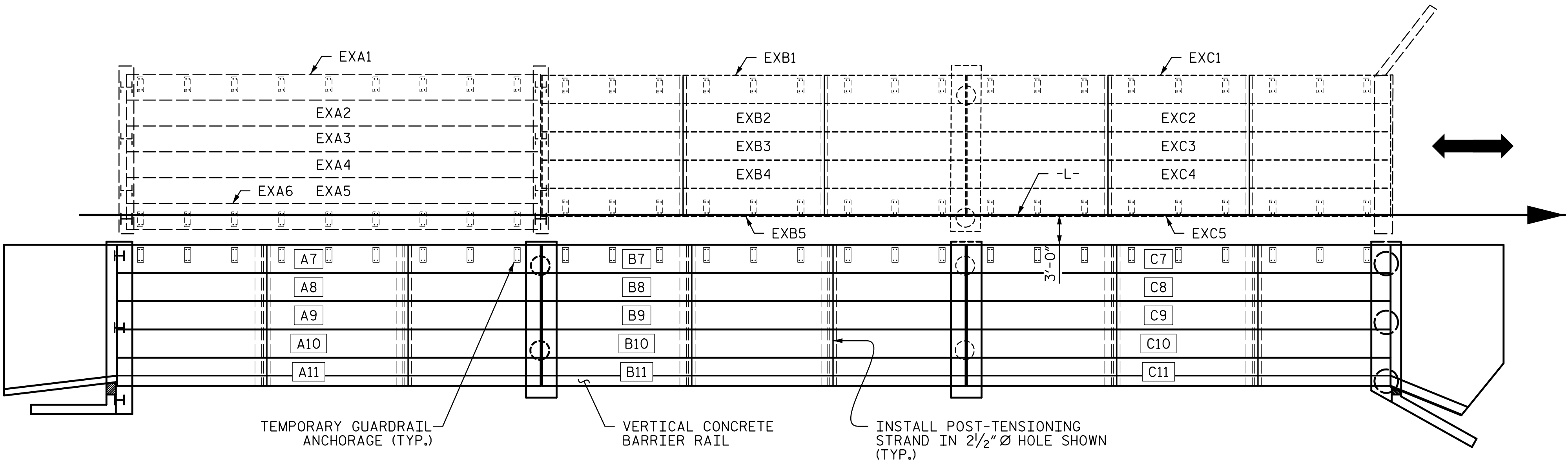
ALL CORED SLAB UNITS ERECTED DURING STAGE 3 CONSTRUCTION SHALL BE NEW AND SHALL HAVE 2-2½"Ø DUCTS FOR POST-TENSIONING.

FOR STAGE 4 (REMOVAL) CORED SLAB UNITS EXB2 THRU EXB4 AND CORED SLAB UNITS EXC2 THRU EXC4 SHALL BE STORED ON SITE TO BE REUSED IN STAGE 5 CONSTRUCTION.

FOR STAGE 4 (REMOVAL) CORED SLAB UNITS EXB1, EXB5, EXC1 AND EXC5 ARE TO BE REMOVED FROM THE SITE AND NOT TO BE REUSED.

FOR ADDITIONAL STAGE 3 CONSTRUCTION NOTES, SEE SHEETS 5 OF 8 AND 7 OF 8.

ANY CORED SLAB UNITS THAT ARE ALTERED IN ANY WAY (I.E. DRILLING FOR ATTACHMENTS, ETC.), WILL NOT BE ALLOWED TO BE REUSED IN THE FINAL CONDITION. IF THE CONTRACTOR ALTERS EXISTING CORED SLAB UNITS IN THESE PLANS TO BE REUSED, NEW CORED SLAB UNITS SHALL BE CAST IN THEIR PLACE.



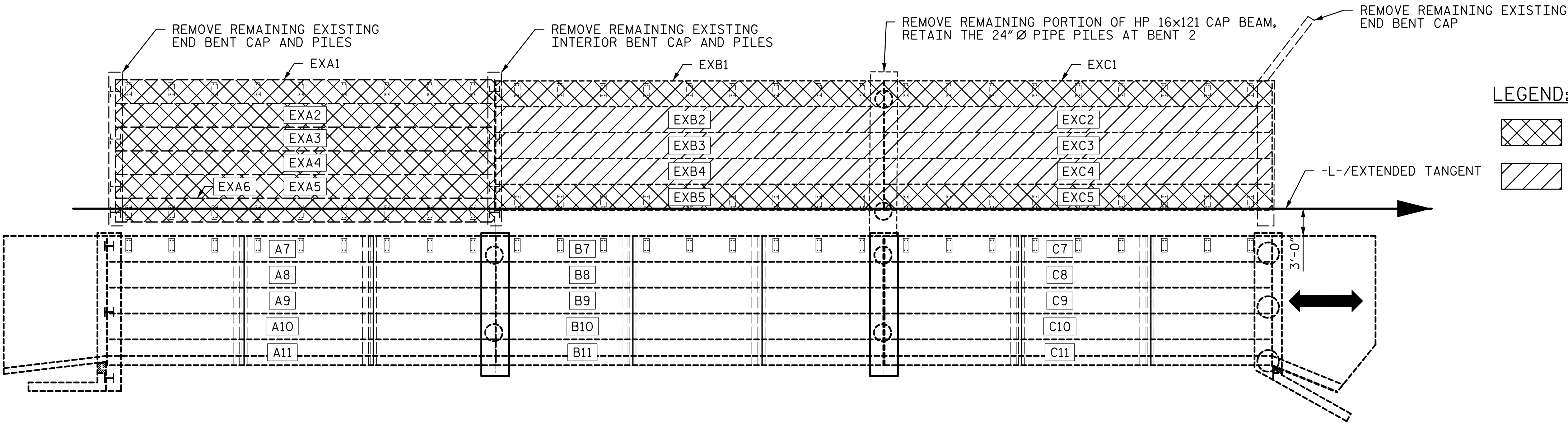
SPAN A

SPAN B

SPAN C

STAGE 3 (CONSTRUCTION)

PARTIAL CONSTRUCTION OF SPANS A, B, AND C - RIGHT OF -L-



SPAN A

SPAN B

SPAN C

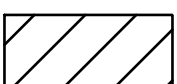
STAGE 4 (REMOVAL)

PARTIAL REMOVAL OF SPANS A, B, AND C - LEFT OF -L-

LEGEND:



REMOVE (SEE NOTES)



REMOVE TO BE REUSED (SEE NOTES)

PROJECT NO. DF18314.2045332

HENDERSON COUNTY

STATION: 13+70.81 -L-

SHEET 2 OF 8



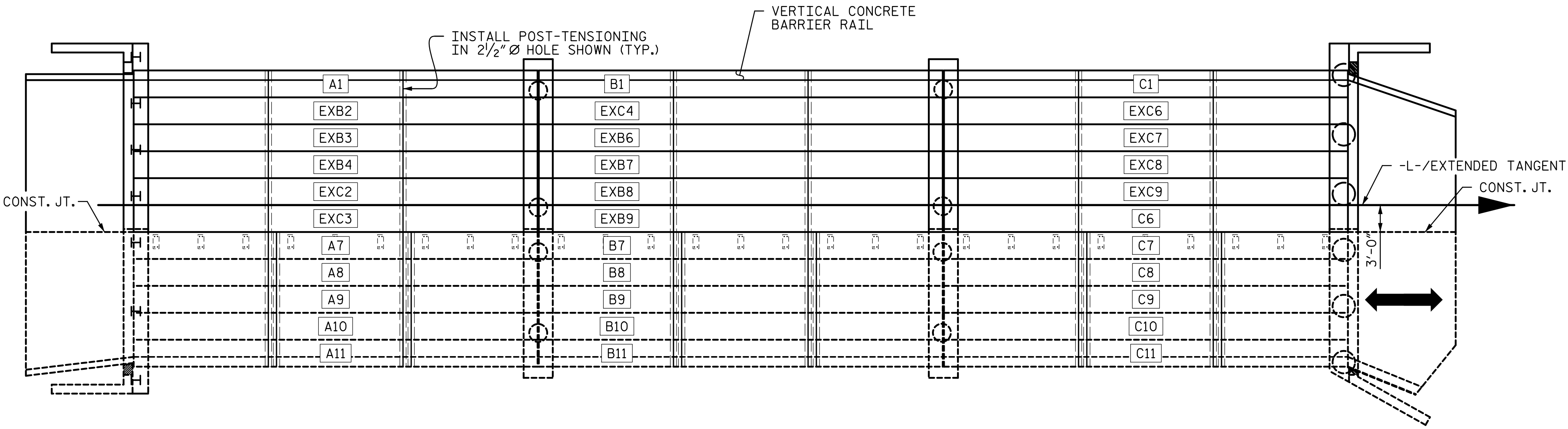
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DEPARTMENT OF TRANSPORTATION
RALEIGH

CONSTRUCTION
STAGING

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-7
2			4			TOTAL SHEETS 32

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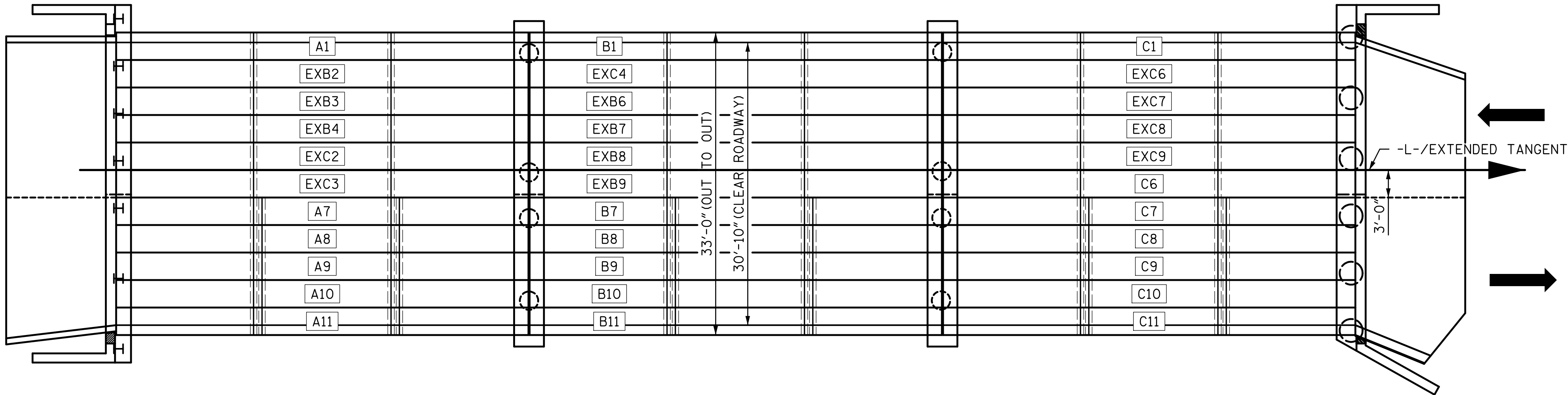


SPAN A

SPAN B

SPAN C

STAGE 5 (CONSTRUCTION)
PARTIAL CONSTRUCTION OF SPANS A, B, AND C - LEFT OF -L-



SPAN A

SPAN B

SPAN C

FINAL CONDITION

NOTES:

EXISTING CORED SLAB UNITS EXB2, EXB3, EXB4, EXB6, EXB7, EXB8, EXB9, EXC2, EXC3, EXC4, EXC6, EXC7, EXC8 AND EXC9 THAT WERE REMOVED DURING PREVIOUS STAGES, MAY BE REUSED AND ERECTED IN STAGE 5 CONSTRUCTION AS LONG AS THE CORED SLAB UNIT HASN'T BEEN DAMAGED AND IS APPROVED FOR REUSE BY THE ENGINEER IN ACCORDANCE WITH THE SPECIAL PROVISIONS. PLACEMENT OF CORED SLAB UNITS SHOWN IN STAGE 5 ARE A REPRESENTATION OF WHERE THE CORED SLAB UNITS CAN BE PLACED AND THEY MAY BE PLACED IN DIFFERENT POSITIONS IF DESIRED.

CORED SLAB UNITS SHALL BE ERECTED FROM THE INSIDE OF THE BRIDGE OUT TOWARDS THE EDGE OF THE BRIDGE.

FOR ADDITIONAL STAGE 5 CONSTRUCTION INFORMATION, SEE SHEET 8 OF 8.

PROJECT NO. DF18314.2045332

HENDERSON COUNTY

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SHEET 3 OF 8

Professional Engineer Seal for Andrew R. Acosta, State of North Carolina, License No. 092672, dated 4/13/2026.

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CONSTRUCTION
STAGING

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-8
2			4			TOTAL SHEETS 32

NOTES:

TEMPORARY GUARDRAIL SHALL BE ANCHORED. CONTRACTOR SHALL SUBMIT METHOD OF ANCHORAGE TO THE ENGINEER FOR APPROVAL. PRIOR TO MAKING ANY MODIFICATIONS TO THE EXISTING CORED SLABS, THE CONTRACTOR SHALL LOCATE THE REINFORCING OR PRESTRESSING AND SHALL NOT DRILL OR INSTALL AT THESE LOCATIONS. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DAMAGE TO REINFORCING OR PRESTRESSING IN THE EXISTING BEAMS.

TIMBER MATS (6" THICKNESS) SHALL BE PLACED AS SHOWN PRIOR TO DETENSIONING THE TRANSVERSE POST-TENSIONING RODS. TIMBER MATS SHALL REMAIN IN PLACE UNTIL CORED SLAB UNIT 6 (SEE SHEET 1 OF 8 FOR CORED SLAB UNIT 6 LOCATION) IS REMOVED AND TRANSVERSE POST-TENSIONING IS RE-INSTALLED. ONCE POST-TENSIONING IS REINSTALLED, TIMBER MATS MAY BE REMOVED, OR MAY REMAIN IN PLACE. TIMBER MATS SHALL BE MAINTAINED BY THE CONTRACTOR WHILE IN PLACE. TIMBER MATS SHALL BE SECURED IN A MANNER TO AVOID EXCESS MOVEMENT TO THE SATISFACTION OF THE ENGINEER. NO MODIFICATIONS TO CSU ARE ALLOWED TO AFFIX TIMBER MATS TO THE BRIDGE. THE INSTALLATION OF THE TIMBER MAT ASSUMES NO ASPHALT WEARING SURFACE IS CURRENTLY PLACED ON THE EXISTING BRIDGE. IF AN ASPHALT SURFACE IS IN PLACE, NOTIFY THE ENGINEER PRIOR TO PLACEMENT OF TIMBER MATS.

FOR STAGE 2 (REMOVAL) DETENSIONING OF POST-TENSIONED STRANDS SHALL ONLY OCCUR FOR ONE SPAN PER EACH NIGHT OF WORK. FOR DURATIONS, SEE MAINTENANCE OF TRAFFIC PLANS.

STAGE 1 SEQUENCE:

1. SHIFT TRAFFIC TO RIGHT SIDE OF BRIDGE.
2. INSTALL PROPOSED TEMPORARY GUARDRAIL AS SHOWN.
3. PLACE 6" THICK TIMBER MAT. (SEE NOTES)

STAGE 2 SEQUENCE:

1. SHIFT TRAFFIC TO LEFT SIDE OF BRIDGE.
2. INSTALL TEMPORARY BENT(S) AS REQUIRED.
3. REMOVE PORTION OF BRIDGE AS SHOWN.

PROJECT NO. DF18314.2045332

HENDERSON COUNTY

STATION: 13+70.81 -L-

SHEET 4 OF 8



EXISTING BRIDGE REMOVAL

Professional Seal

092672

4/13/2026

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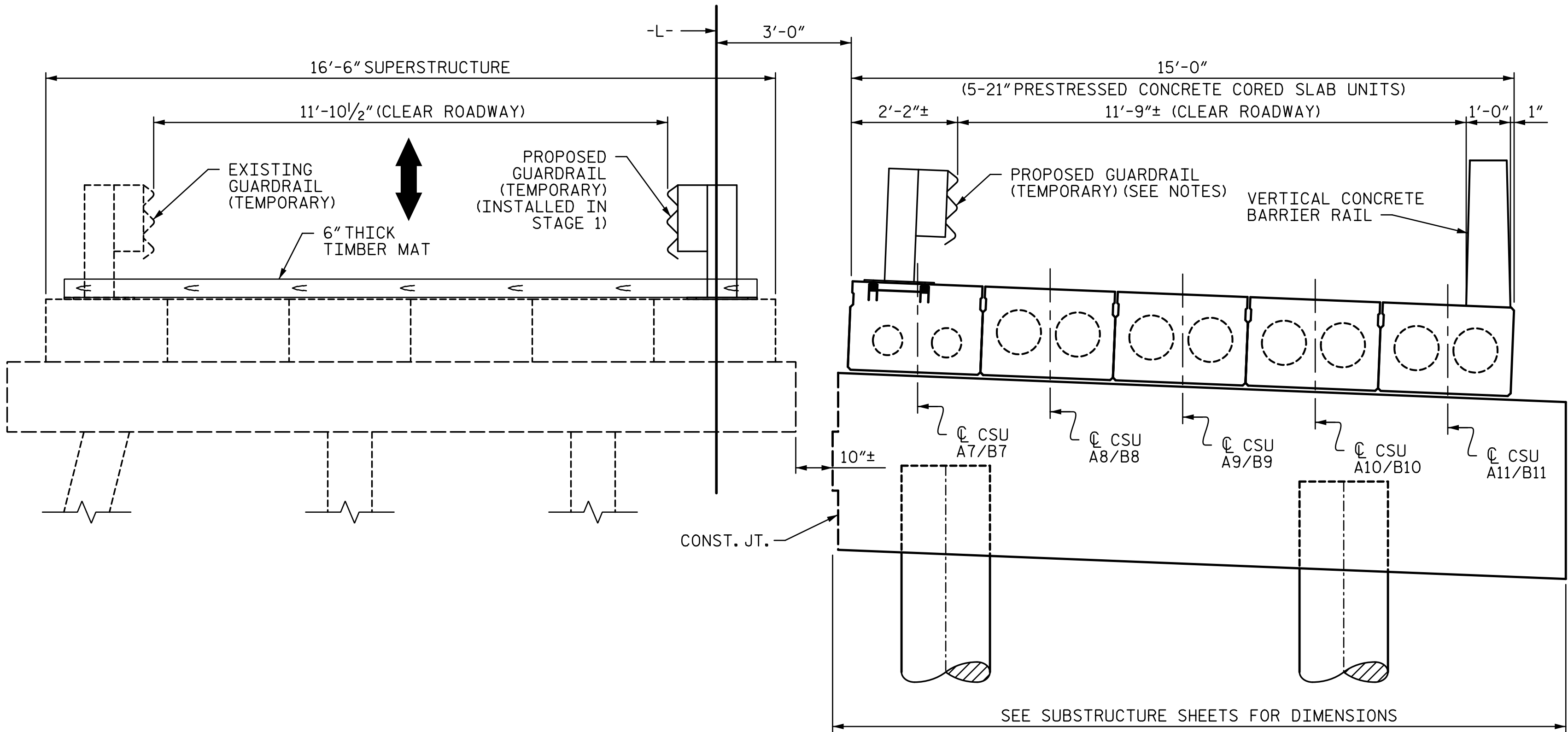
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DEPARTMENT OF TRANSPORTATION
RALEIGH

CONSTRUCTION STAGING
(SPAN A AND BENT 1)

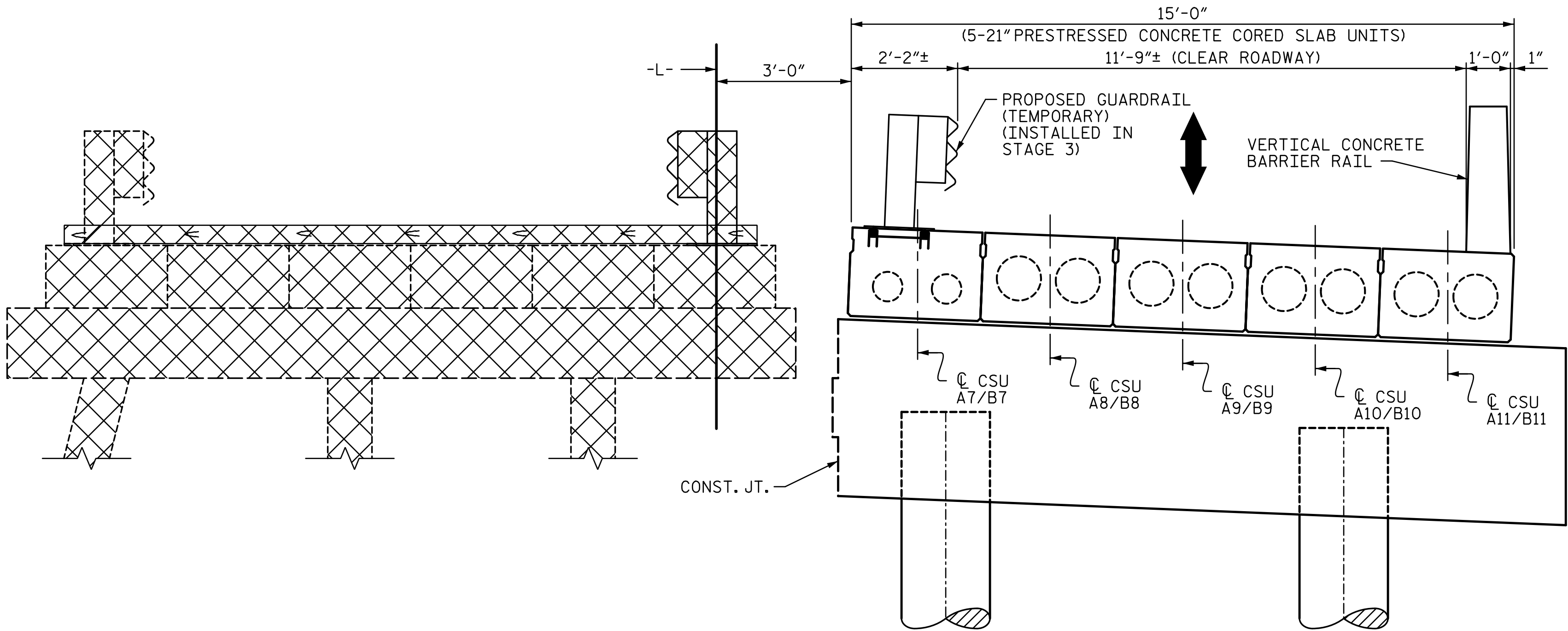
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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-9
2			4			TOTAL SHEETS 32

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STAGE 3 (CONSTRUCTION)
(LOOKING UPSTATION @ INTERIOR BENT 1)



STAGE 4 (REMOVAL)
(LOOKING UPSTATION @ INTERIOR BENT 1)

FOR STAGE 5 CONSTRUCTION AND FINAL SECTION, SEE
"CONSTRUCTION STAGING" SHEET 8 OF 8.

STAGE 3 SEQUENCE:

1. RE-INSTALL TRANSVERSE POST-TENSIONING ON CSU 1-5. TIMBER MATS MAY BE REMOVED ONLY AFTER POST-TENSIONING HAS BEEN COMPLETE.
2. CONSTRUCT SUBSTRUCTURE FOR THE RIGHT SIDE OF END BENT 1, END BENT 2, BENT 1 AND THE BENT CAP OF BENT 2.
3. ERECT CORED SLABS A7-A11 AND B7-B11, POST-TENSION THE CORED SLAB UNITS AND INSTALL GROUT IN SHEAR KEYS.
4. CONSTRUCT VERTICAL CONCRETE BARRIER RAIL AND ATTACH TEMPORARY GUARDRAIL. FOR ADDITIONAL INFORMATION ON ATTACHING GUARDRAIL, SEE "ANCHORAGE DETAILS FOR TEMPORARY GUARDRAIL" SHEET.

STAGE 4 SEQUENCE:

1. SHIFT TRAFFIC TO NEWLY CONSTRUCTED BRIDGE.
2. REMOVE EXISTING SUBSTRUCTURE AND SUPERSTRUCTURE AS SHOWN.



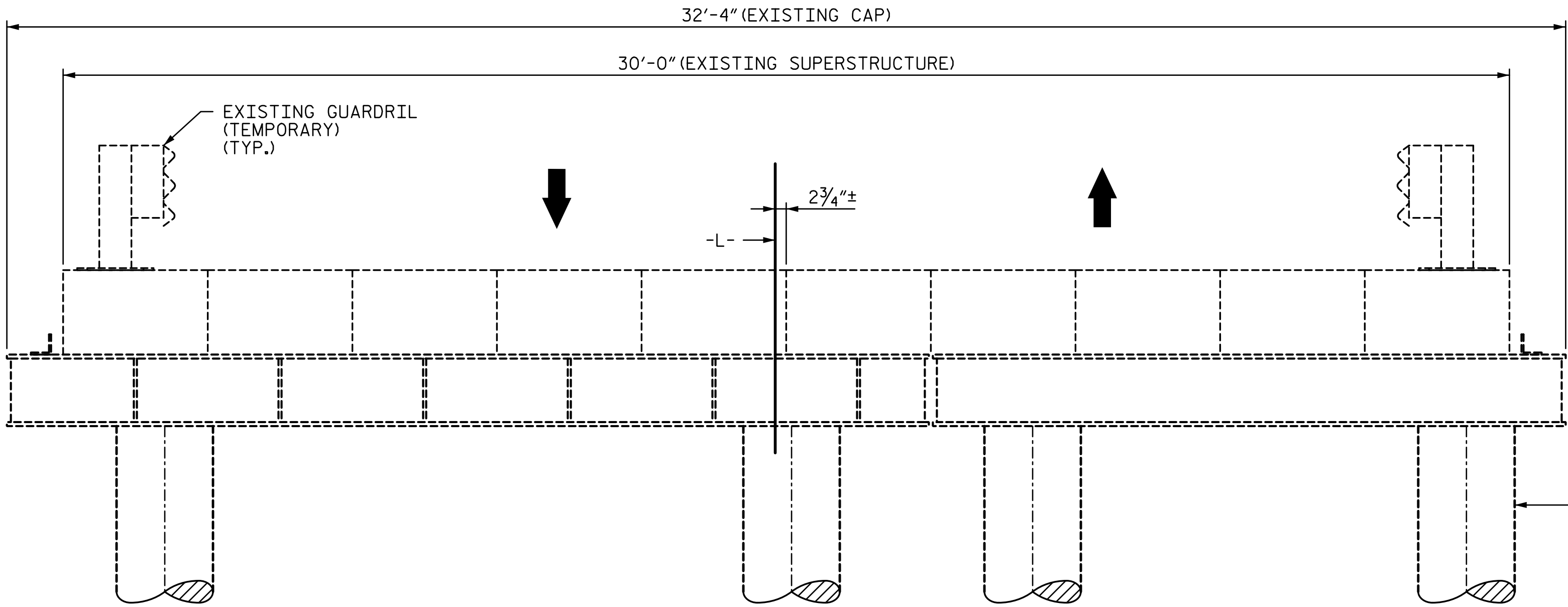
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HENDERSON COUNTY
STATION: 13+70.81 -L-

SHEET 5 OF 8

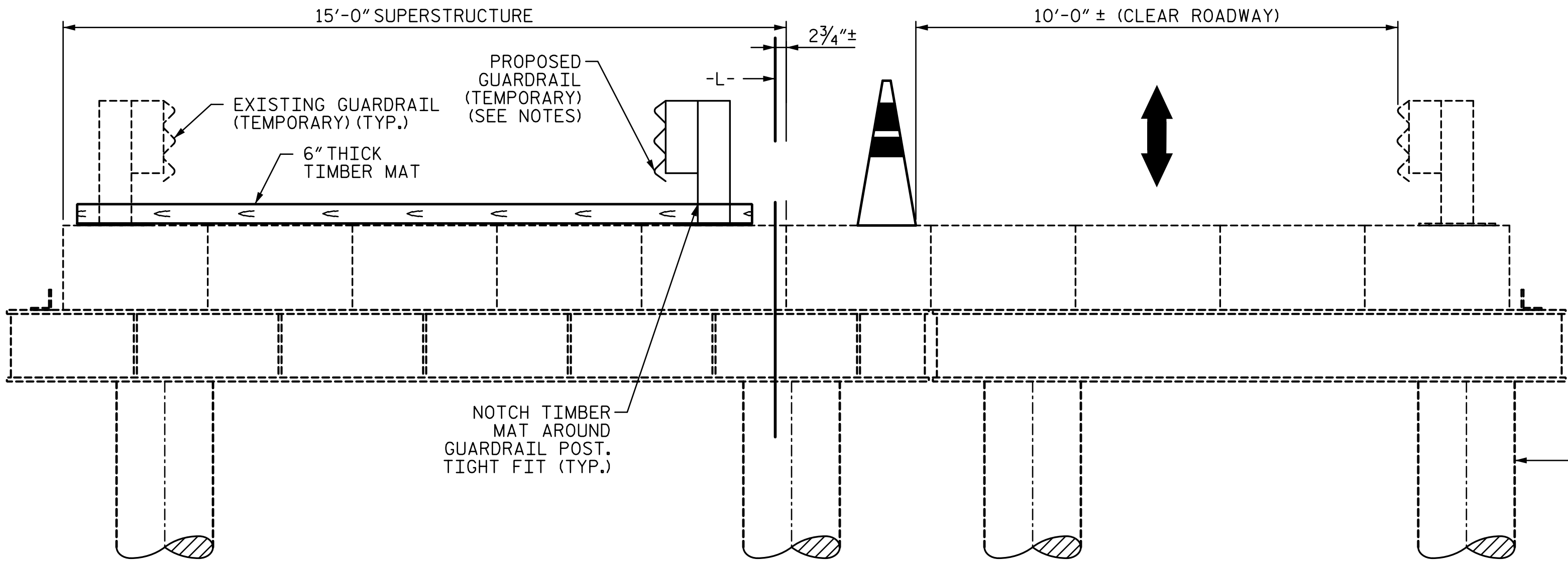
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		CONSTRUCTION STAGING (SPAN A AND BENT 1)					
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10	
1			3			TOTAL SHEETS	
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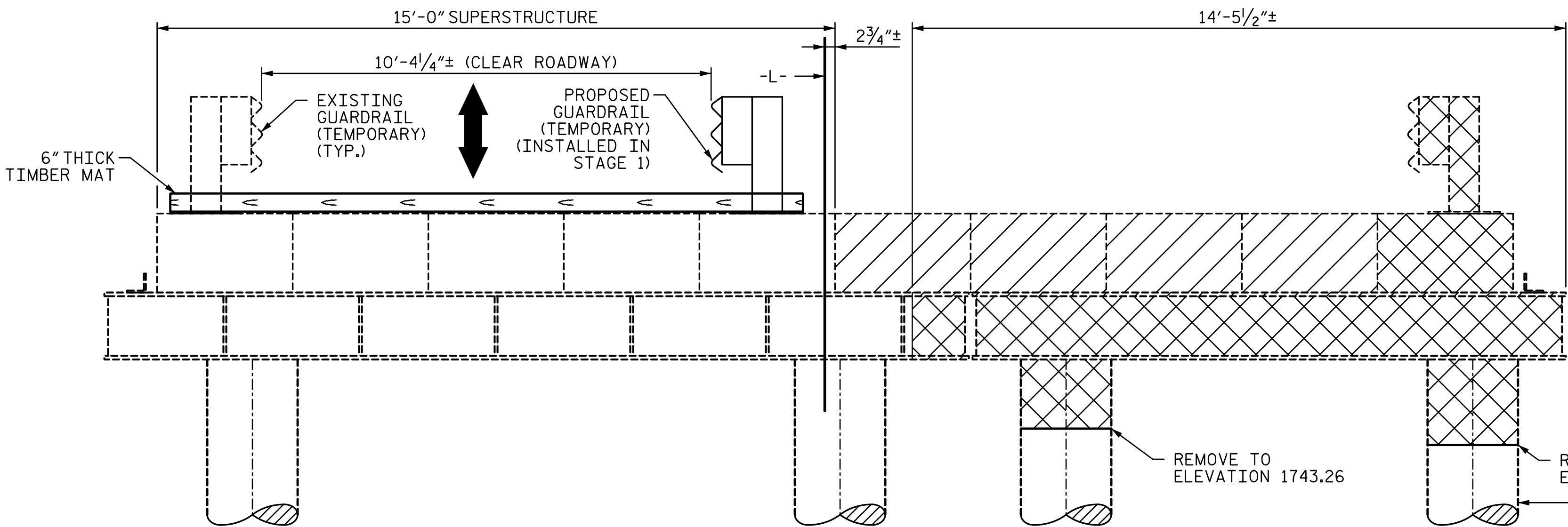
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EXISTING STRUCTURE
(LOOKING UPSTATION @ INTERIOR BENT 2)



STAGE 1
(LOOKING UPSTATION @ INTERIOR BENT 2)



STAGE 2 (REMOVAL)
(LOOKING UPSTATION @ INTERIOR BENT 2)

NOTES:

TEMPORARY GUARDRAIL SHALL BE ANCHORED. CONTRACTOR SHALL SUBMIT METHOD OF ANCHORAGE TO THE ENGINEER FOR APPROVAL. PRIOR TO MAKING ANY MODIFICATIONS TO THE EXISTING CORED SLABS, THE CONTRACTOR SHALL LOCATE THE REINFORCING OR PRESTRESSING AND SHALL NOT DRILL OR INSTALL AT THESE LOCATIONS. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DAMAGE TO REINFORCING OR PRESTRESSING IN THE EXISTING BEAMS.

TIMBER MATS (6" THICKNESS) SHALL BE PLACED AS SHOWN PRIOR TO DETENSIONING THE TRANSVERSE POST-TENSIONING RODS. TIMBER MATS SHALL REMAIN IN PLACE UNTIL CSU 6 (SEE SHEET 1 OF 8 FOR CSU 6 LOCATION) IS REMOVED AND TRANSVERSE POST-TENSIONING IS RE-INSTALLED. ONCE POST-TENSIONING IS REINSTALLED, TIMBER MATS MAY BE REMOVED, OR MAY REMAIN IN PLACE. TIMBER MATS SHALL BE MAINTAINED BY THE CONTRACTOR WHILE IN PLACE. NO MODIFICATIONS TO CSU ARE ALLOWED TO AFFIX TIMBER MATS TO THE BRIDGE.

FOR STAGE 2 (REMOVAL) DETENSIONING OF POST-TENSIONED STRANDS SHALL ONLY OCCUR FOR ONE SPAN PER EACH NIGHT OF WORK. FOR DURATIONS, SEE MAINTENANCE OF TRAFFIC PLANS.

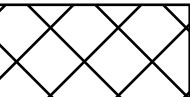
FOR ADDITIONAL INFORMATION ON ATTACHING GUARDRAIL TO EXISTING CSU, SEE "ANCHORAGE DETAILS FOR TEMPORARY GUARDRAIL" SHEET.

STAGE 1 SEQUENCE:

1. SHIFT TRAFFIC TO RIGHT OF BRIDGE
2. INSTALL PROPOSED GUARDRAIL (TEMPORARY) AS SHOWN.
3. PLACE 6" TIMBER MAT. (SEE NOTES)

STAGE 2 SEQUENCE:

1. SHIFT TRAFFIC TO LEFT SIDE OF BRIDGE.
2. DETENSION AND REMOVE CORED SLAB UNITS AS SHOWN. SEE SHEET 1 OF 8 FOR EXISTING CORED SLAB UNITS TO BE RETAINED AND REUSED.
3. REMOVE EXISTING PILE CAP AS SHOWN.
4. REMOVE EXISTING 24" Ø PILES TO THE REQUIRED ELEVATION.

 REMOVE
(SEE NOTES ON SHEET 1 OF 8)

 REMOVE TO BE REUSED
(SEE NOTES ON SHEET 1 OF 8)

PROJECT NO. DF18314.2045332

HENDERSON COUNTY

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SHEET 6 OF 8



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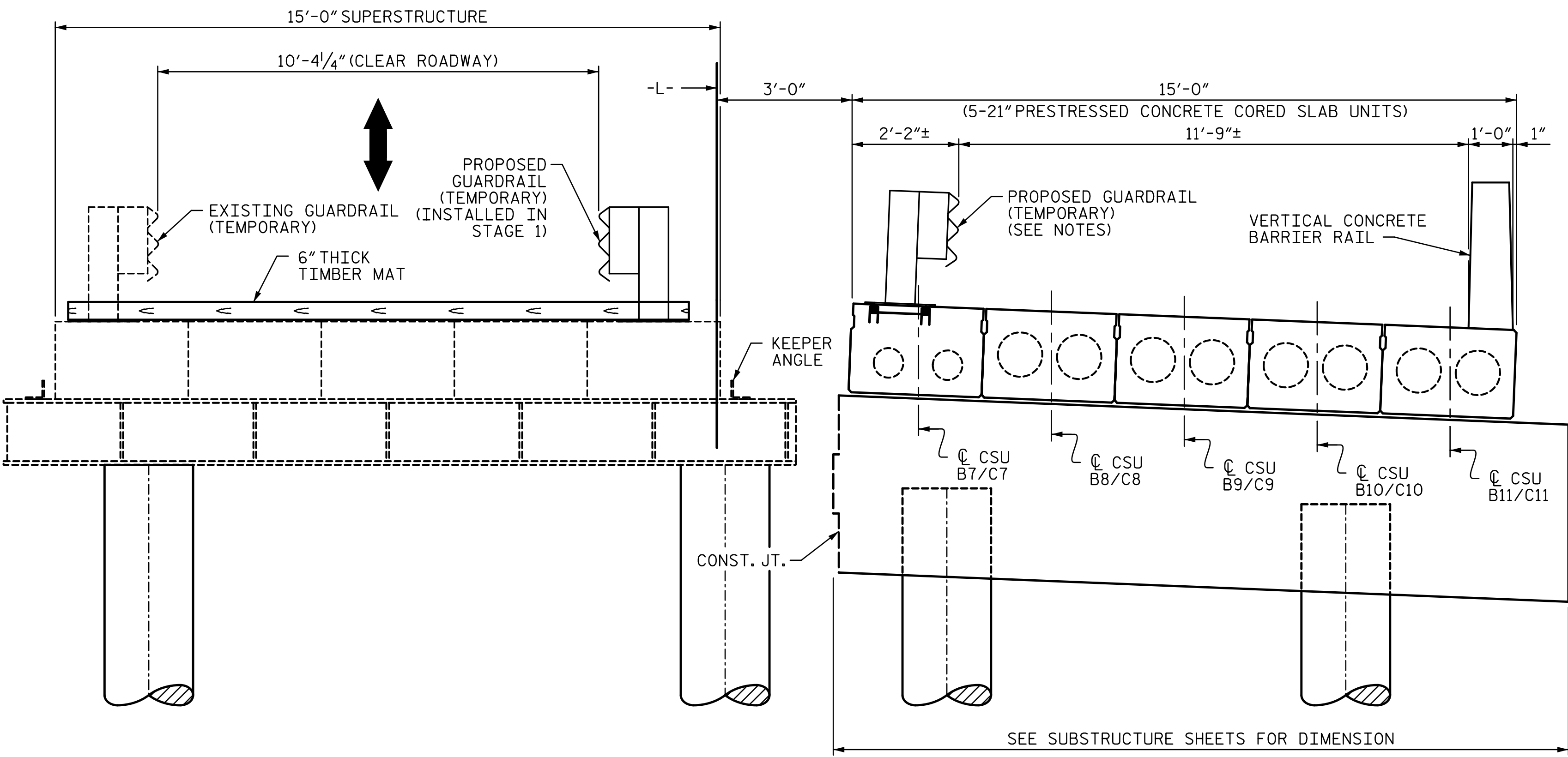
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**CONSTRUCTION STAGING
(SPANS B & C AND
BENT 2)**

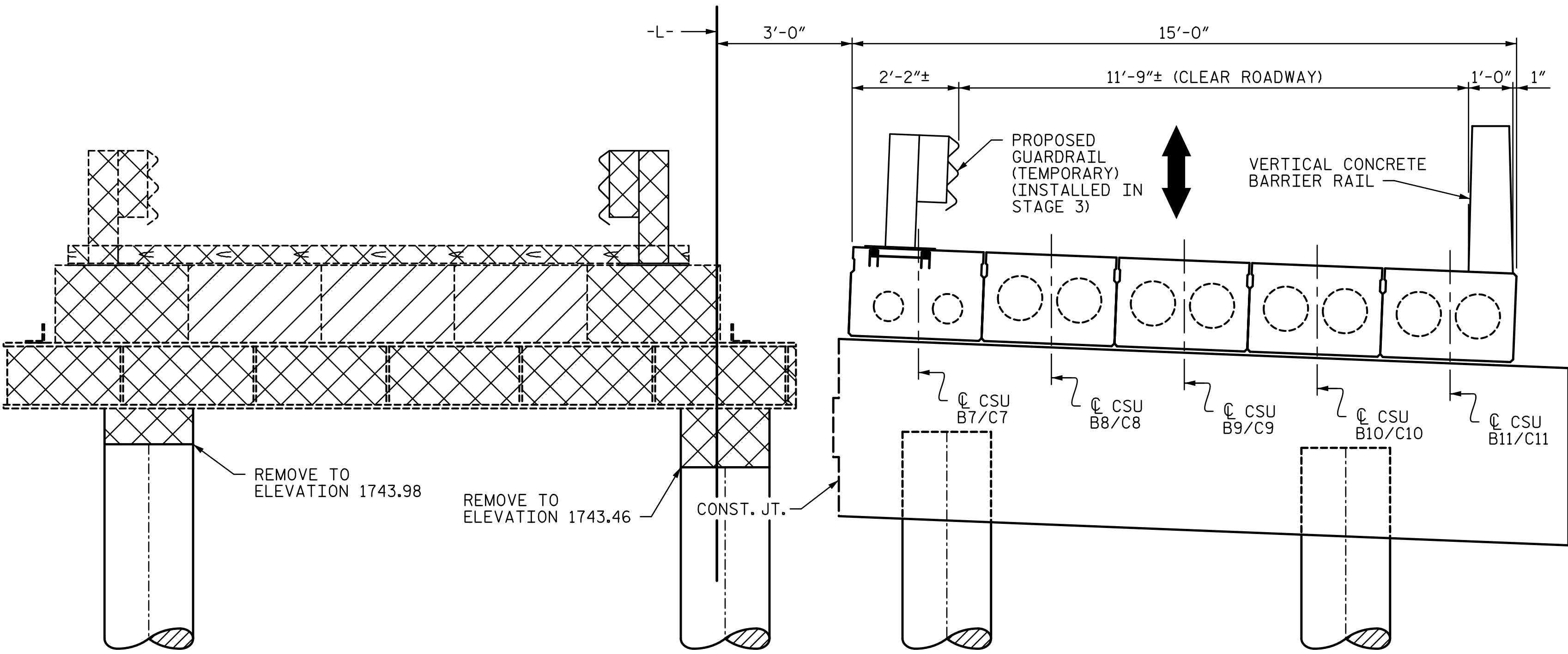
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2			4			32

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STAGE 3 (CONSTRUCTION)
(LOOKING UPSTATION @ INTERIOR BENT 2)



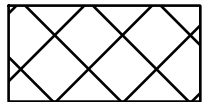
STAGE 4 (REMOVAL)
(LOOKING UPSTATION @ INTERIOR BENT 2)

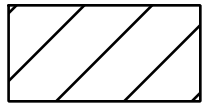
STAGE 3 SEQUENCE:

1. RE-INSTALL TRANSVERSE POST TENSIONING ON CSU 1-5. TIMBER MATS MAY BE REMOVED ONLY AFTER POST TENSIONING HAS BEEN COMPLETED.
2. CONSTRUCT SUBSTRUCTURE FOR THE RIGHT SIDE OF END BENT 1, END BENT 2, BENT 1 AND THE BENT CAP OF BENT 2.
3. ERECT CORED SLABS C7-C11, POST-TENSION THE CORED SLAB UNITS AND INSTALL GROUT IN SHEAR KEYS.
4. CONSTRUCT VERTICAL CONCRETE BARRIER RAIL AND ATTACH TEMPORARY GUARDRAIL. FOR ADDITIONAL INFORMATION ON ATTACHING GUARDRAIL TO CSU, SEE "ANCHORAGE DETAILS FOR TEMPORARY GUARDRAIL" SHEET.

STAGE 4 SEQUENCE:

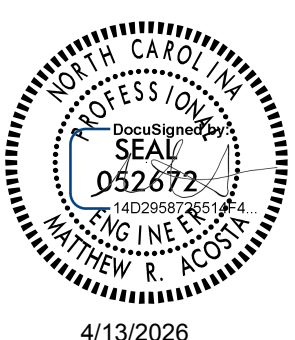
1. SHIFT TRAFFIC TO NEWLY CONSTRUCTED BRIDGE.
2. DETENSION AND REMOVE CORED SLAB UNITS AS SHOWN. SEE SHEET 2 OF 8 FOR EXISTING CORED SLAB UNITS TO BE RETAINED AND REUSED.
3. REMOVE EXISTING PILE CAP AS SHOWN.
4. REMOVE EXISTING 24" Ø PILES TO THE REQUIRED ELEVATION.

 REMOVE
(SEE NOTES ON SHEET 2 OF 8)

 REMOVE TO BE REUSED
(SEE NOTES ON SHEET 2 OF 8)

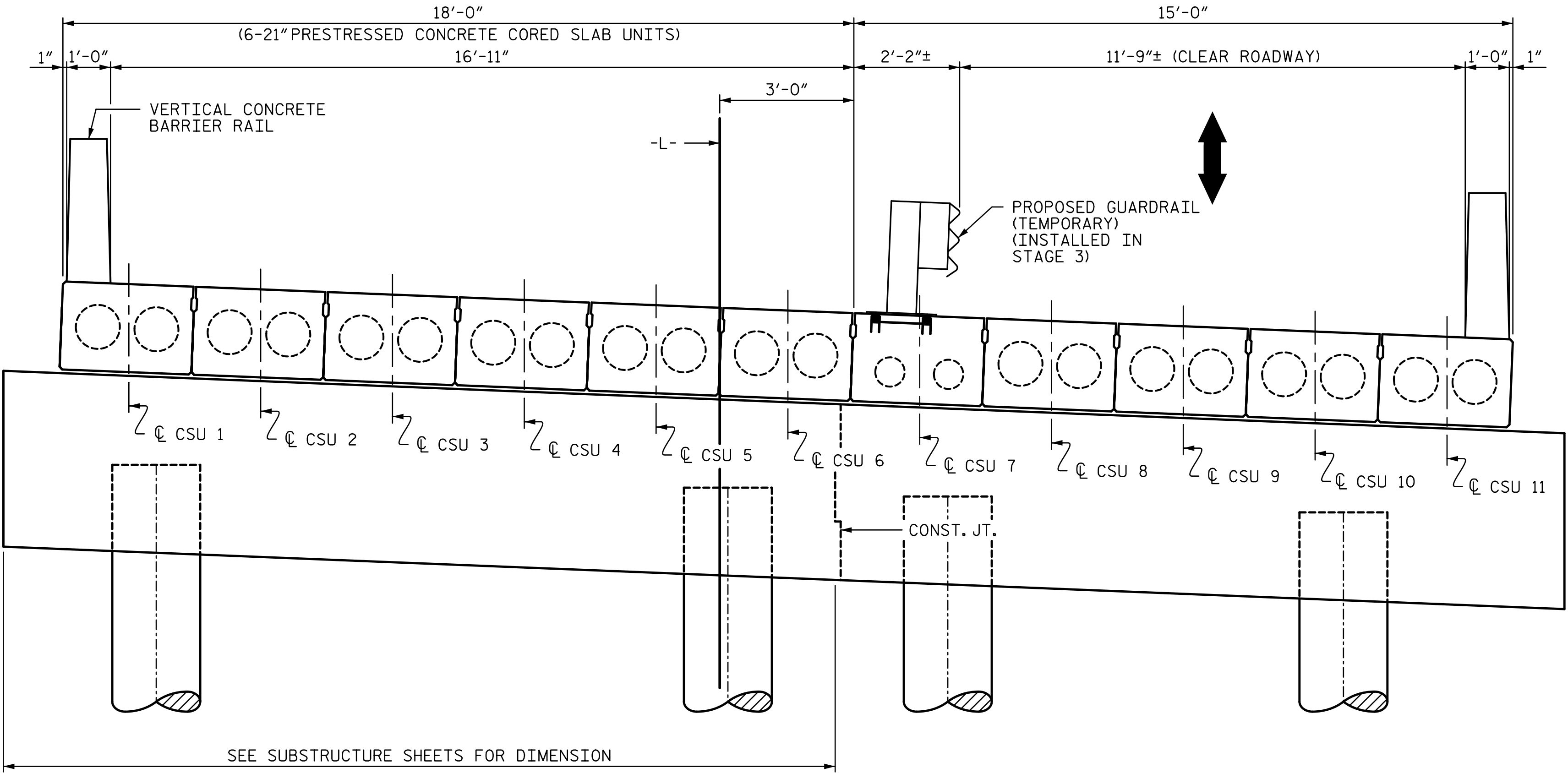
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HENDERSON COUNTY
STATION: 13+70.81 -L-

SHEET 7 OF 8

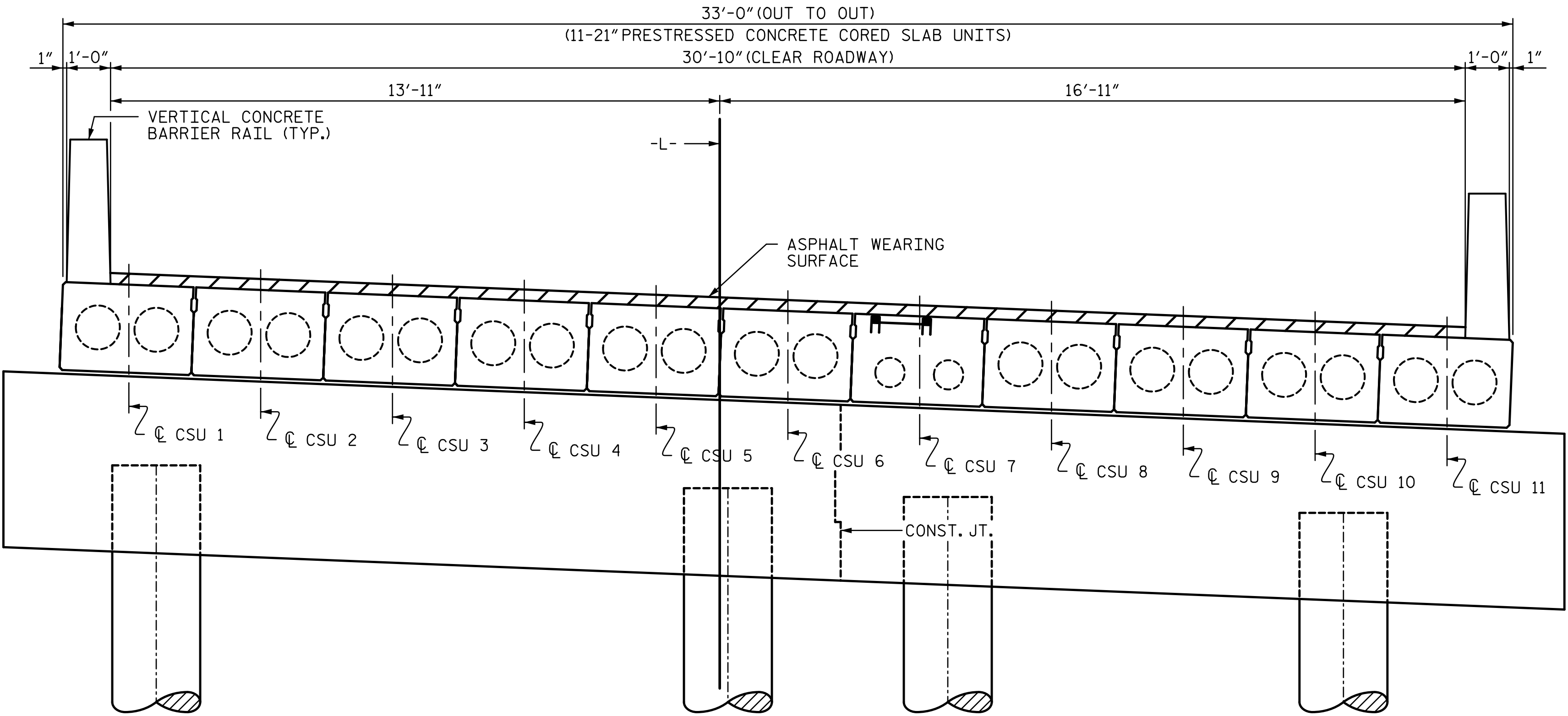
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-12	
1			3			TOTAL SHEETS	
2			4			32	

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STAGE 5 (CONSTRUCTION)
(LOOKING UPSTATION)



FINAL
(LOOKING UPSTATION)

STAGE 5 SEQUENCE:

1. CONSTRUCT REMAINING PORTION OF ALL SUBSTRUCTURE ELEMENTS.
2. ERECT REMAINING CORED SLAB UNITS.
3. POST-TENSION ALL CORED SLAB UNITS, GROUT ALL REMAINING SHEAR KEYS AND INSTALL FULL WIDTH POST TENSIONING.
4. CONSTRUCT VERTICAL CONCRETE BARRIER RAIL ON LEFT SIDE OF BRIDGE AND REMOVE TEMPORARY GUARDRAIL.
5. PLACE ASPHALT OVERLAY.

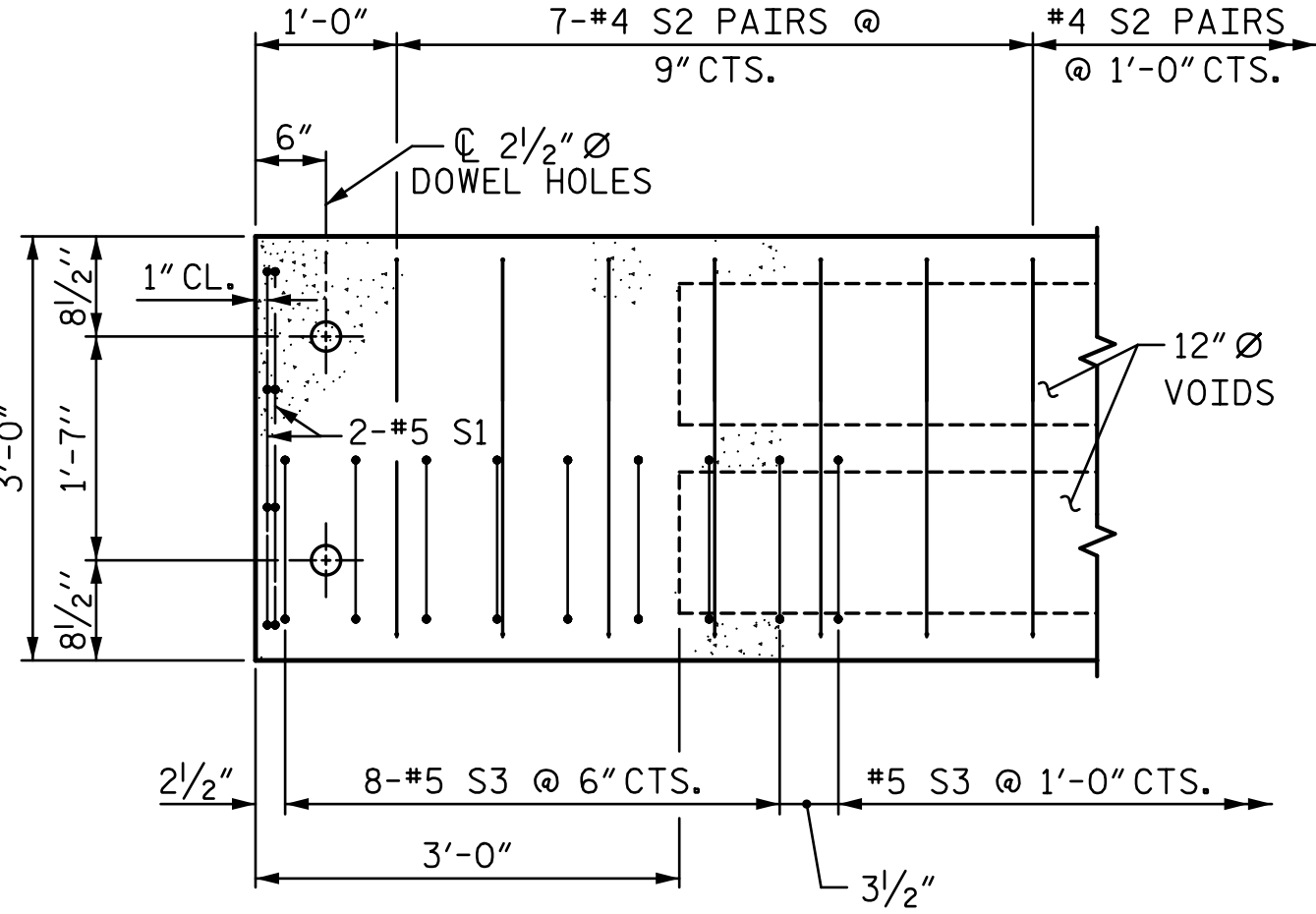
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SHEET 8 OF 8

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		CONSTRUCTION STAGING					
REVISIONS						SHEET NO. S-13 TOTAL SHEETS 32	
NO.	BY:	DATE:	NO.	BY:	DATE:		
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DETAIL "A"

(TYPICAL EACH END OF UNIT)
NOTE: EXTERIOR UNIT SHOWN - INTERIOR
UNIT SIMILAR EXCEPT OMIT #5 S3 BARS.

	UNIT TYPE		
	SPAN A	SPAN B	SPAN C
CSU 1	TYPE III	TYPE III	TYPE III
CSU 2	EXISTING	EXISTING	EXISTING
CSU 3	EXISTING	EXISTING	EXISTING
CSU 4	EXISTING	EXISTING	EXISTING
CSU 5	EXISTING	EXISTING	EXISTING
CSU 6	EXISTING	EXISTING	TYPE I
CSU 7	TYPE II	TYPE II	TYPE II
CSU 8	TYPE I	TYPE I	TYPE I
CSU 9	TYPE I	TYPE I	TYPE I
CSU 10	TYPE I	TYPE I	TYPE I
CSU 11	TYPE IV	TYPE IV	TYPE IV

PROJECT NO. DF18314.2045332

HENDERSON COUNTY

STATION: 13+70.81 -L-

SHEET 2 OF 5

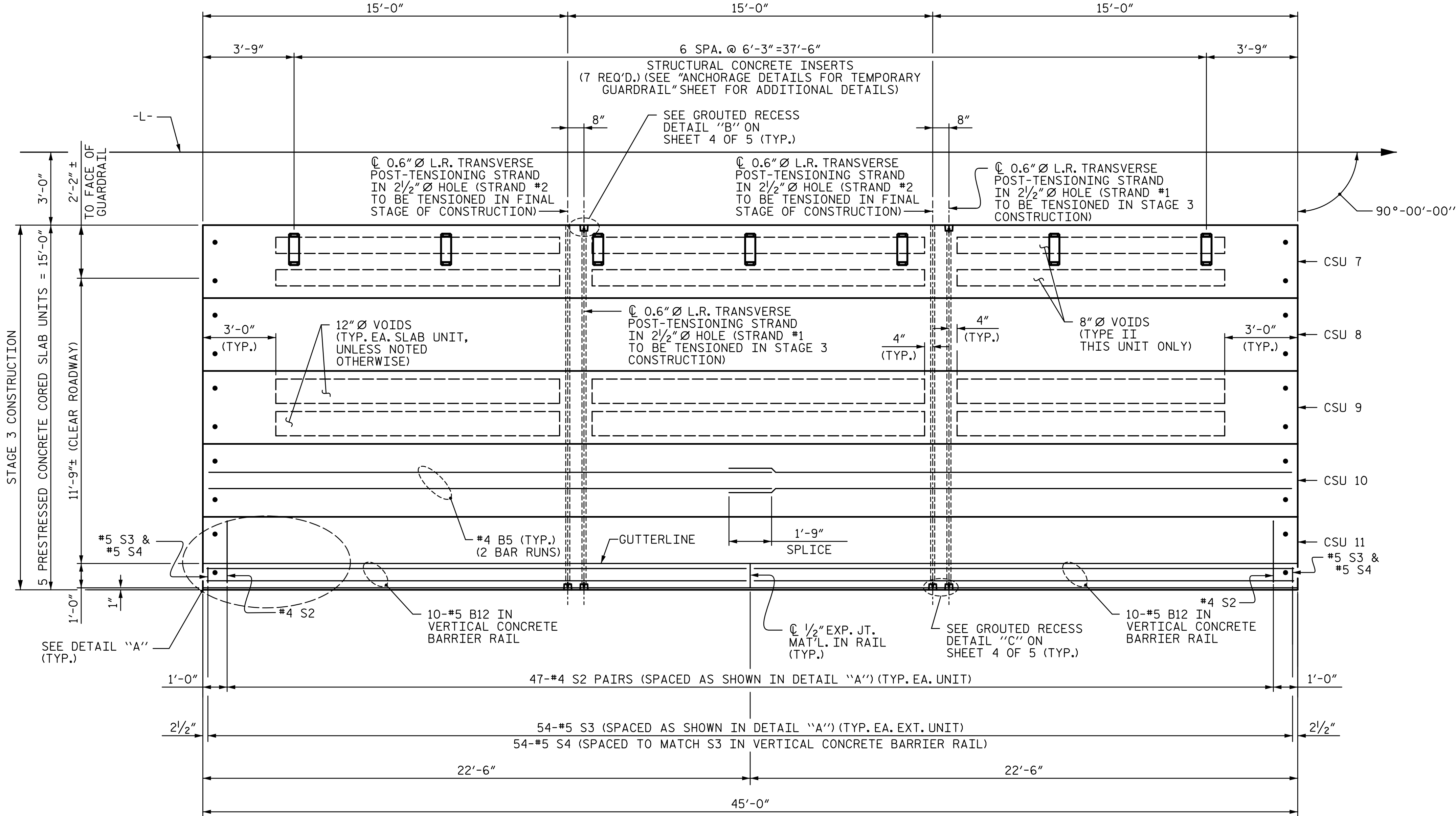


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DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF 45' UNIT
30'-10" CLEAR ROADWAY
90° SKEW

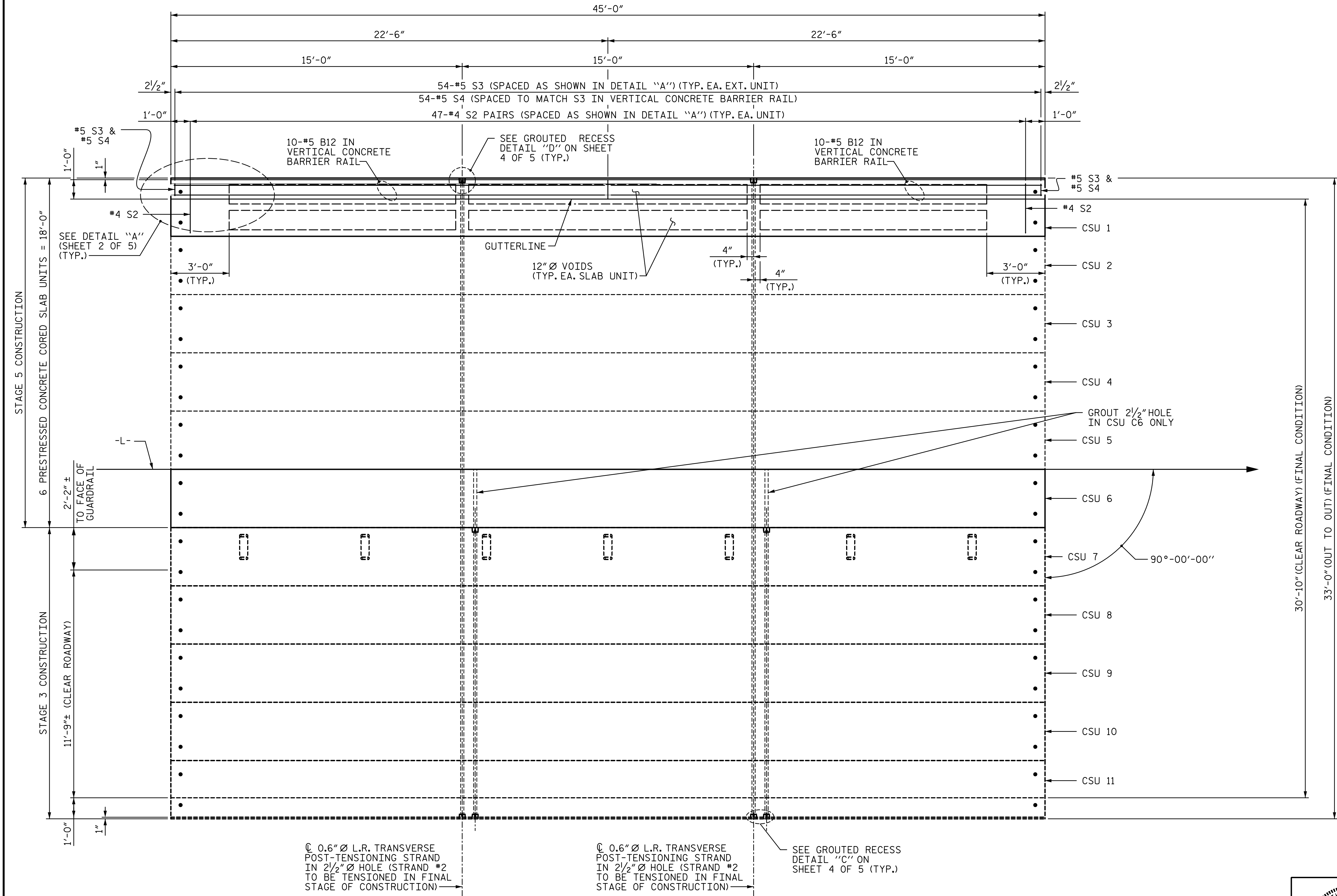
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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-15
2			4			TOTAL SHEETS 32

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PLAN OF UNIT (STAGE 3 CONSTRUCTION)

DRAWN BY : M. KHIN DATE : 02/2025
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DESIGN ENGINEER OF RECORD: M. ACOSTA DATE : 03/2026



	UNIT TYPE		
	SPAN A	SPAN B	SPAN C
CSU 1	TYPE III	TYPE III	TYPE III
CSU 2	EXISTING	EXISTING	EXISTING
CSU 3	EXISTING	EXISTING	EXISTING
CSU 4	EXISTING	EXISTING	EXISTING
CSU 5	EXISTING	EXISTING	EXISTING
CSU 6	EXISTING	EXISTING	TYPE I
CSU 7	TYPE II	TYPE II	TYPE II
CSU 8	TYPE I	TYPE I	TYPE I
CSU 9	TYPE I	TYPE I	TYPE I
CSU 10	TYPE I	TYPE I	TYPE I
CSU 11	TYPE IV	TYPE IV	TYPE IV

PLAN OF UNIT (STAGE 5 CONSTRUCTION)

(*4 B5 BARS NOT SHOWN FOR CLARITY, SEE PLAN VIEW ON SHEET 2 OF 5 FOR DETAILS)

PROJECT NO. DF18314.2045332

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SHEET 3 OF 5

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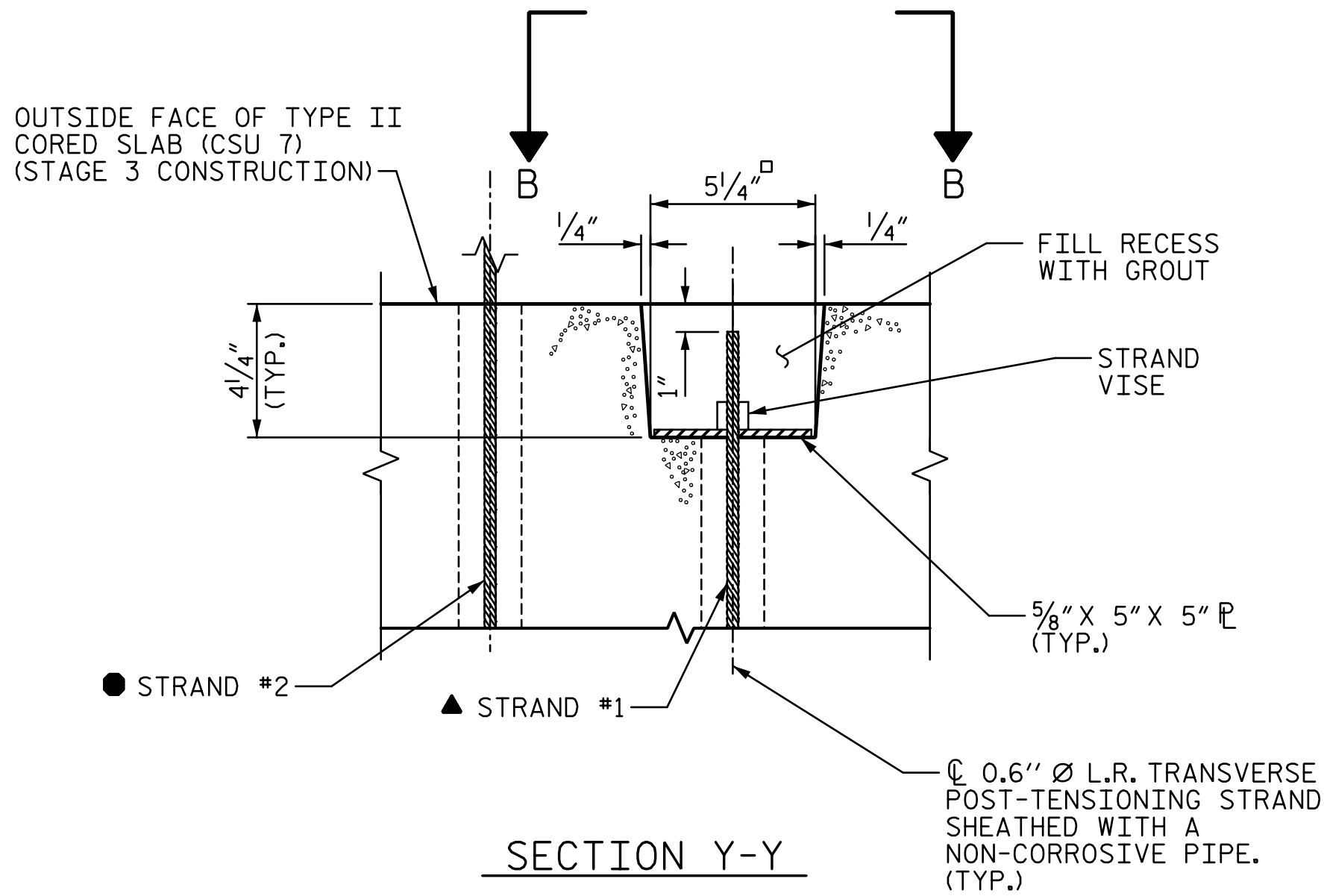
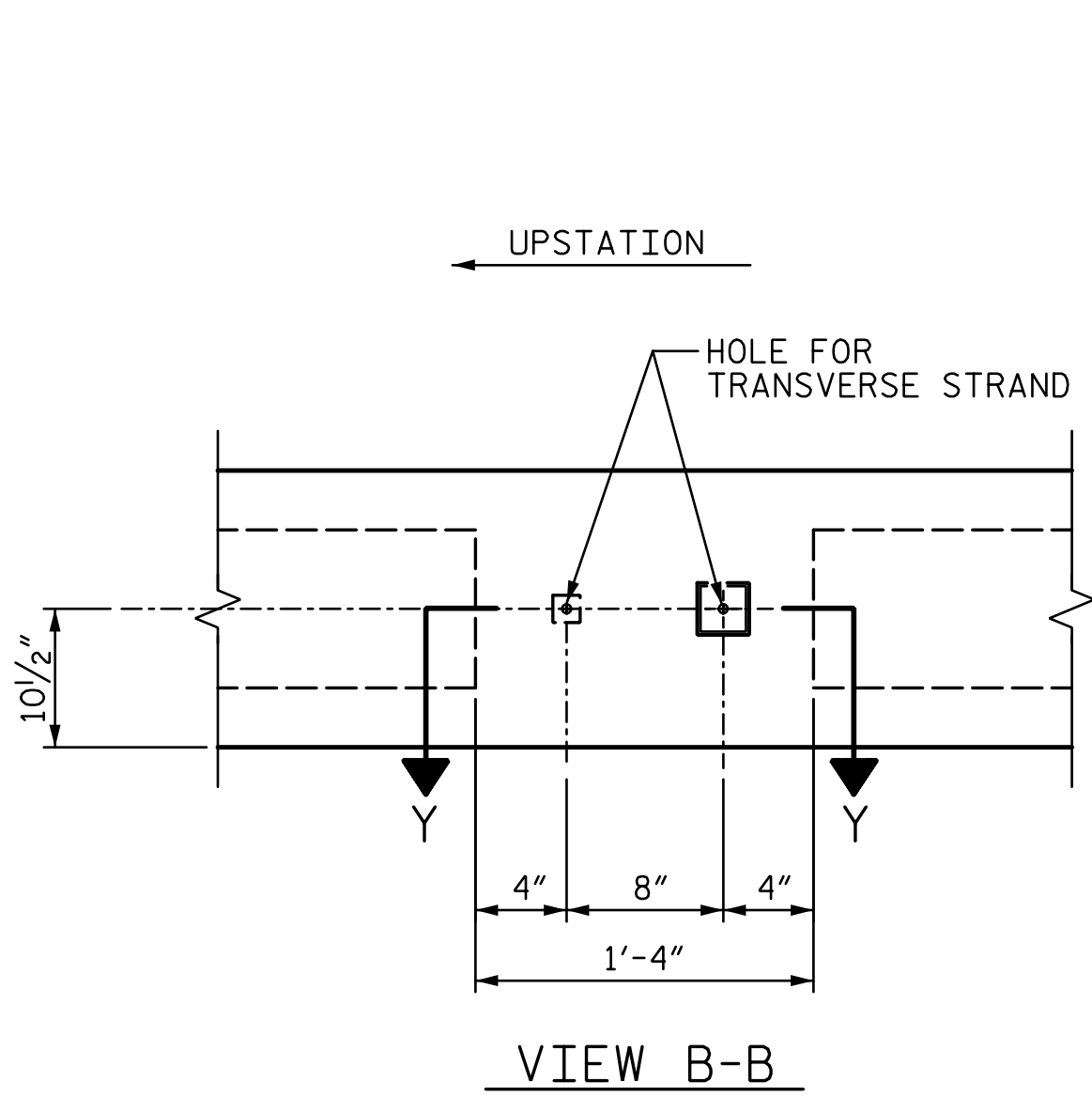
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF 45' UNIT
30'-10" CLEAR ROADWAY
90° SKEW

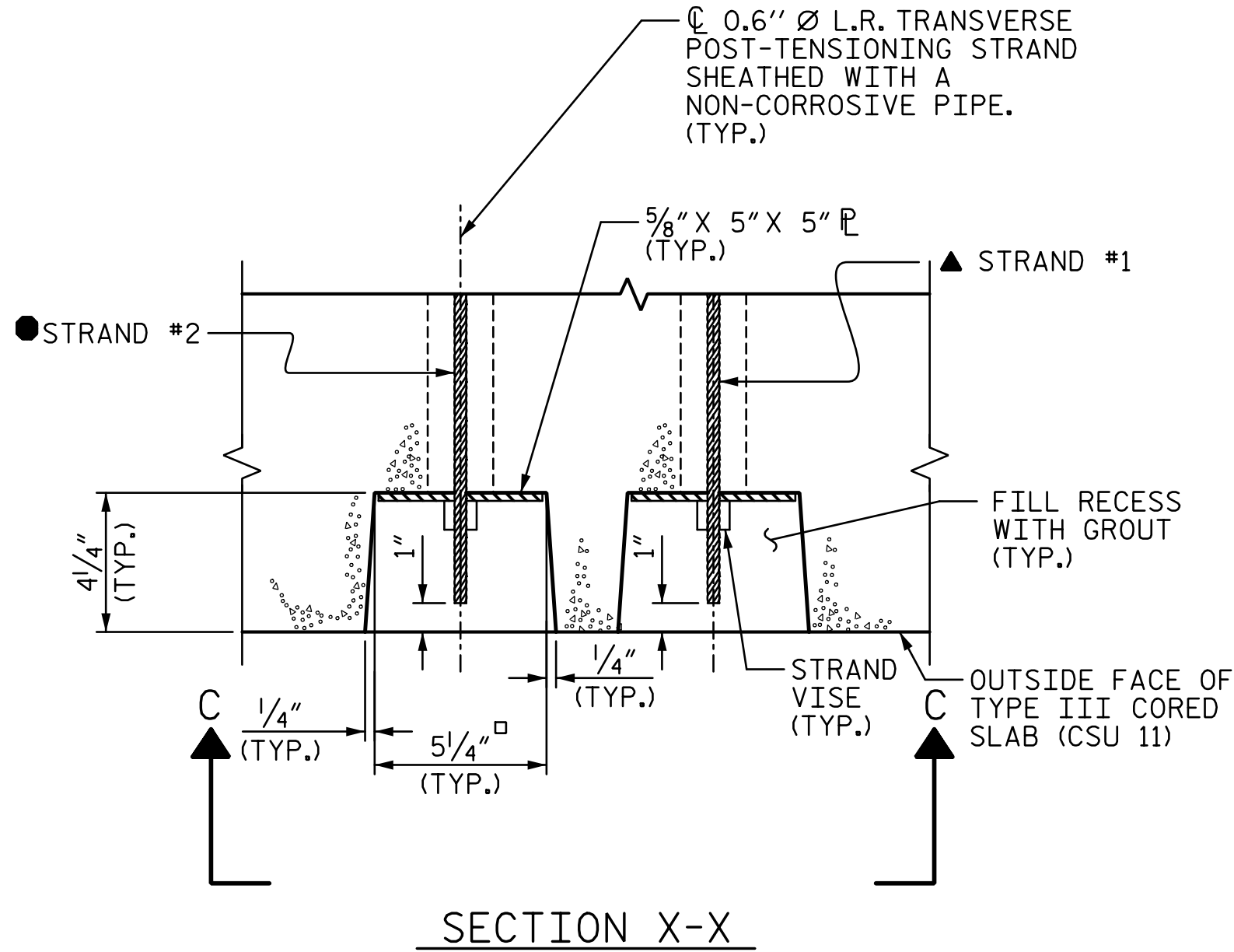
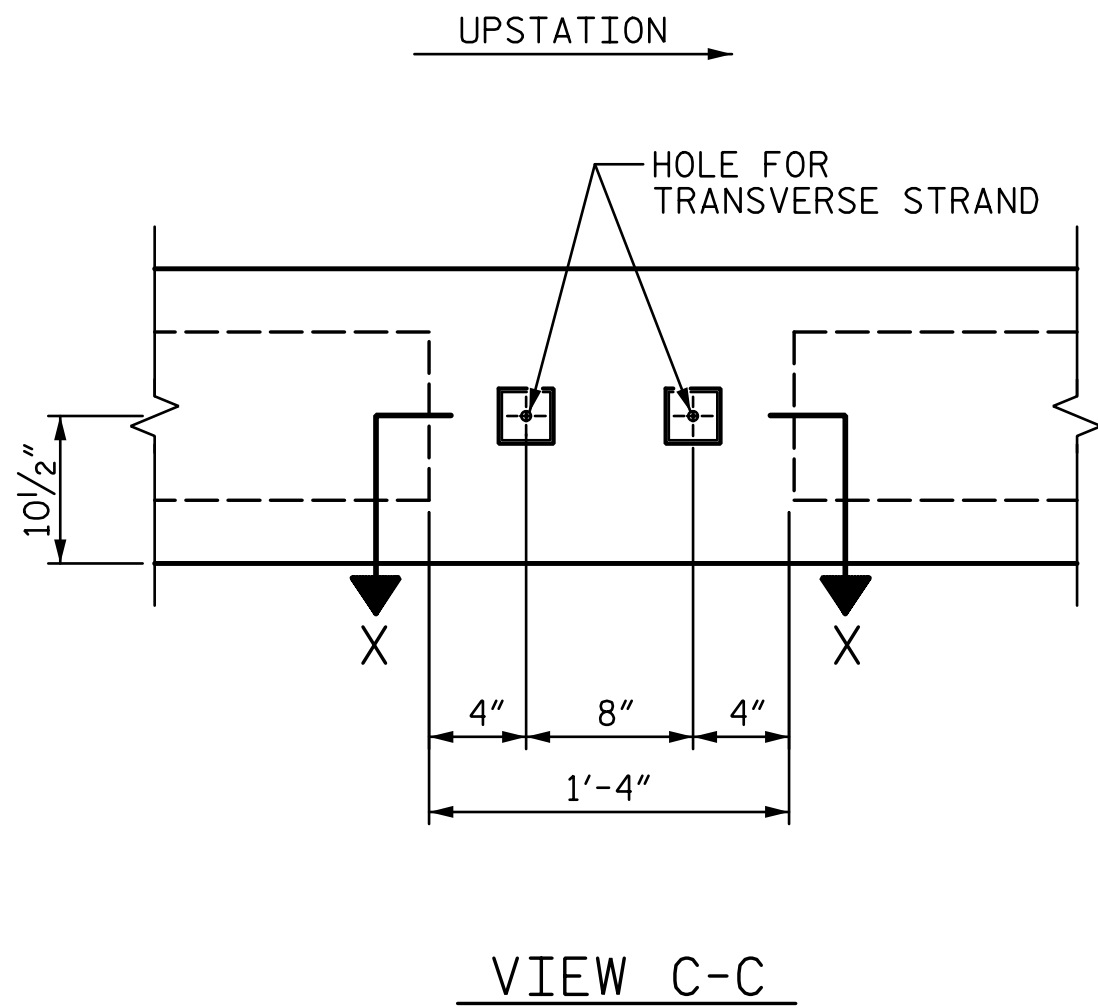
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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-16
2			4			TOTAL SHEETS 32

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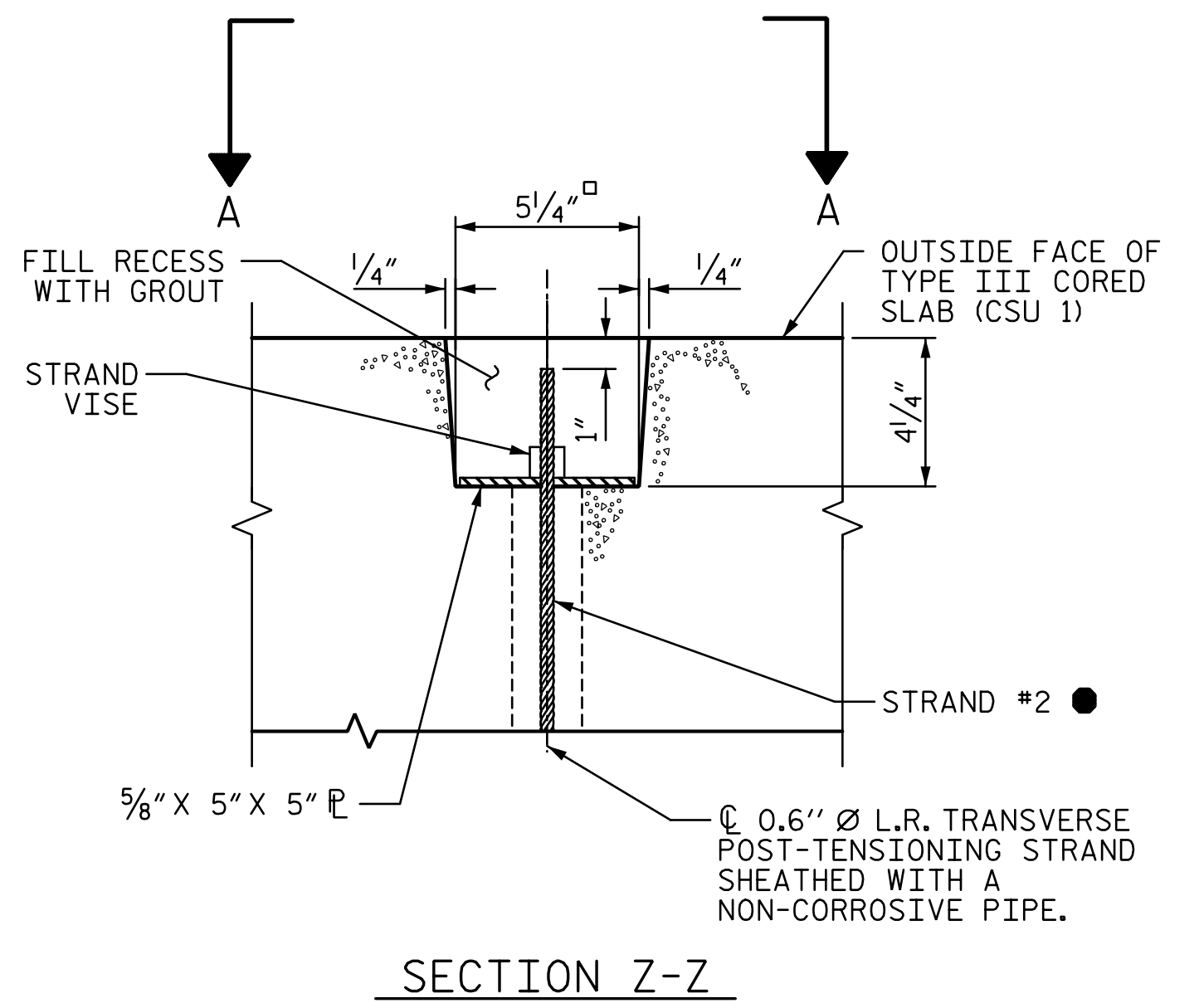
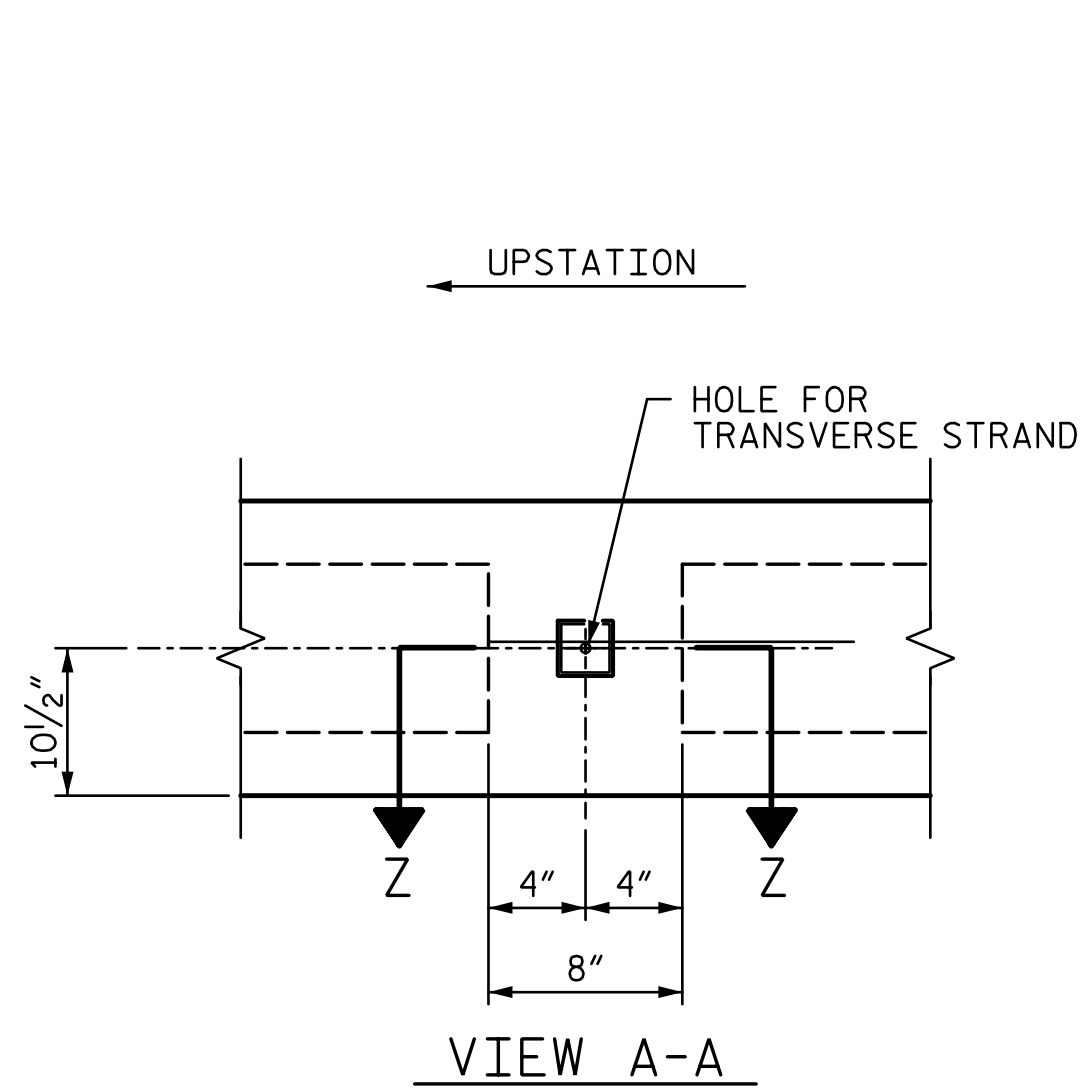
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DETAIL B
(TYPE II UNIT)
(DOWNSTATION SET OF STRANDS
AND DIAPHRAGM SHOWN,
UPSTATION SET OF STRANDS
AND DIAPHRAGM SIMILAR)



DETAIL C
(TYPE IV UNIT-CSU 11)



DETAIL D
(TYPE III UNIT - CSU 1)

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

- ▲ STRAND #1 GOES THRU CORED SLAB UNITS 7 THRU 11 (TO BE TENSIONED DURING STAGE 3 CONSTRUCTION)
- STRAND #2 GOES THRU ALL 11 CORED SLAB UNITS (TO BE TENSIONED DURING STAGE 5 CONSTRUCTION)

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HENDERSON COUNTY
STATION: 13+70.81 -L-

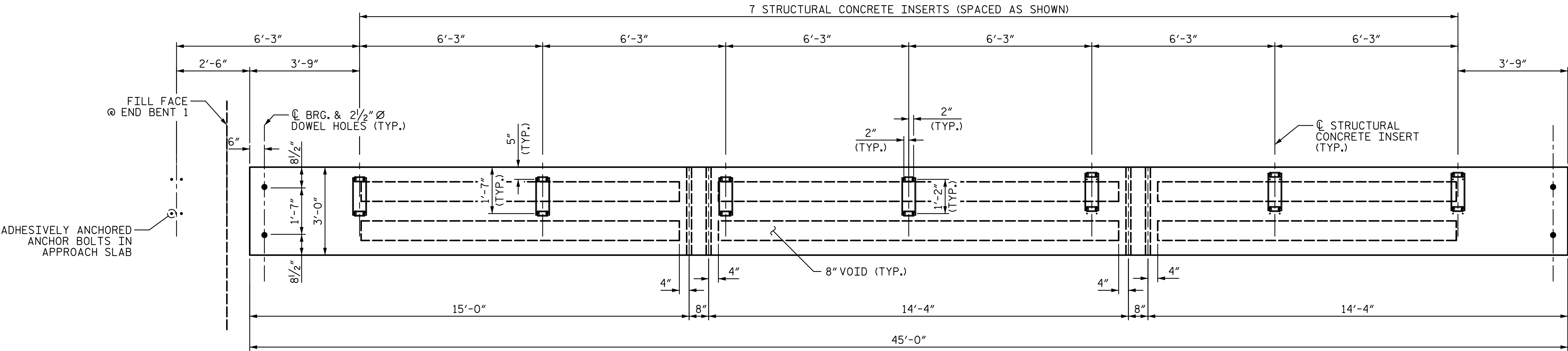
SHEET 4 OF 5

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RALEIGH

3'-0" X 1'-9"
PRESTRESSED CONCRETE
CORED SLAB UNIT

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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-17
2			4			TOTAL SHEETS 32



PLAN OF STAGE 1 CORED SLAB UNIT (TYPE II)

(SPAN A SHOWN, OTHER SPANS SIMILAR)

NOTES

- THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF THE FOLLOWING COMPONENTS :
- A. FERRULES SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF AASHTO M169, GRADE 12L14 AND SHALL HAVE A MINIMUM LENGTH OF THREADS OF 2 1/2".
 - B. 4 - 1" Ø X 2 1/4" BOLTS WITH WASHERS, BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. BOLTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 1" Ø X 2 1/4" GALVANIZED BOLTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)
 - C. WIRE STRUTS SHOWN IN THE GUARDRAIL ANCHOR ASSEMBLY ARE MINIMUM ALLOWABLE SIZE AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 100,000 P.S.I. AS AN OPTION, A 7/16" Ø WIRE STRUT WITH A MINIMUM TENSILE STRENGTH OF 90,000 PSI IS ACCEPTABLE.

GUARDRAIL ANCHOR ASSEMBLY WITH BOLTS SHALL BE ASSEMBLED IN THE SHOP. BOLT THREADS MAY BE RECUT AS NECESSARY TO INSURE FIT.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR 3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLABS.

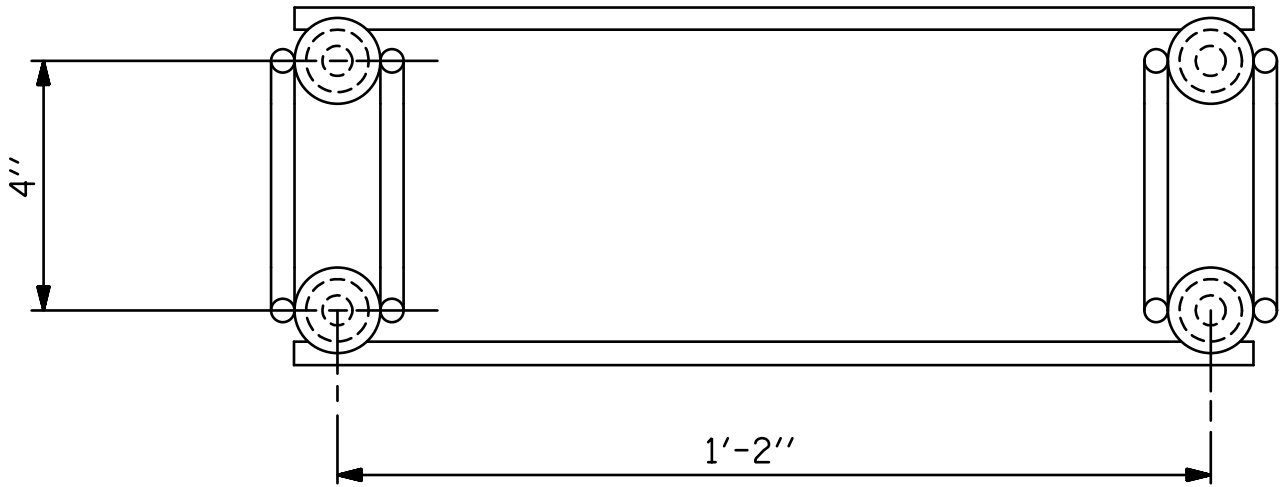
FERRULES TO BE PLUGGED DURING CASTING OF THE CORED SLAB UNITS AS RECOMMENDED BY THE MANUFACTURER.

AT THE CONTRACTOR'S OPTION, FERRULES WITH OPEN OR CLOSED ENDS MAY BE USED.

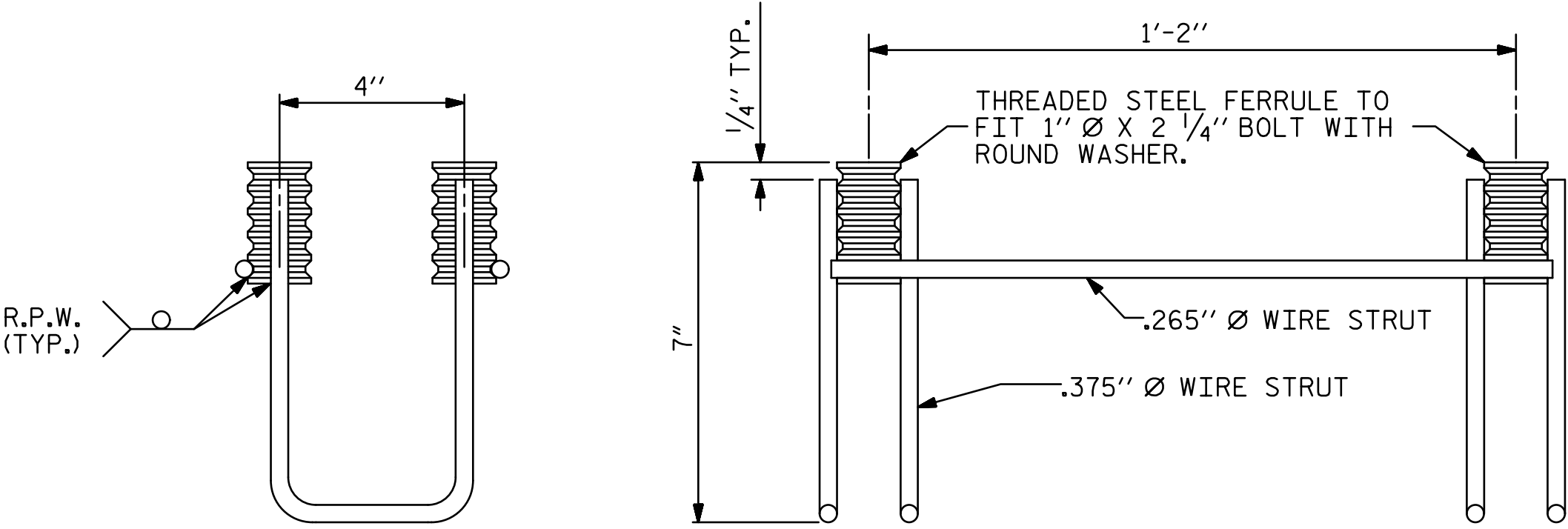
PAYMENT FOR GUARDRAIL, POSTS, AND POST BASE PLATES IS INCLUDED IN ROADWAY PAY ITEMS.

CORED SLAB UNITS REINFORCING STEEL MAY BE SHIFTED AS NECESSARY TO CLEAR GUARDRAIL ANCHOR ASSEMBLY. CARE SHOULD BE TAKEN TO KEEP THE SHIFTING OF REINFORCING STEEL TO A MINIMUM.

AFTER REMOVAL OF TEMPORARY GUARDRAIL ANCHOR ASSEMBLY, THE STRUCTURAL CONCRETE INSERTS SHALL BE FILLED WITH GROUT.



PLAN

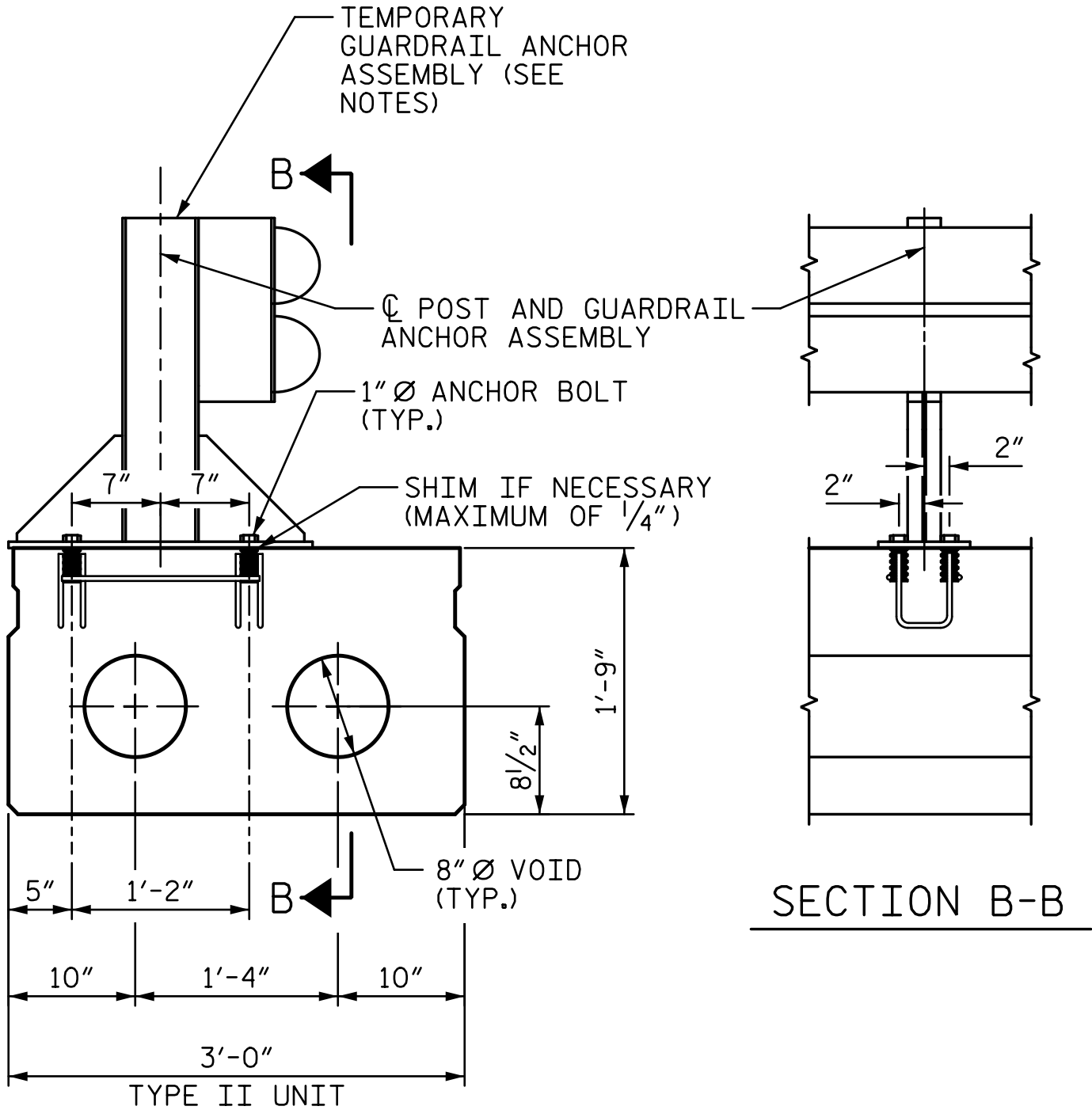


ELEVATION

SIDE VIEW

STRUCTURAL CONCRETE INSERT

(7 ASSEMBLIES REQUIRED IN THE TYPE II CORED SLAB UNITS)
(4 ASSEMBLIES REQUIRED IN THE APPROACH SLABS)



CONCRETE INSERT LOCATION

PROJECT NO. DF18314.2045332

HENDERSON COUNTY

STATION: 13+70.81 -L-



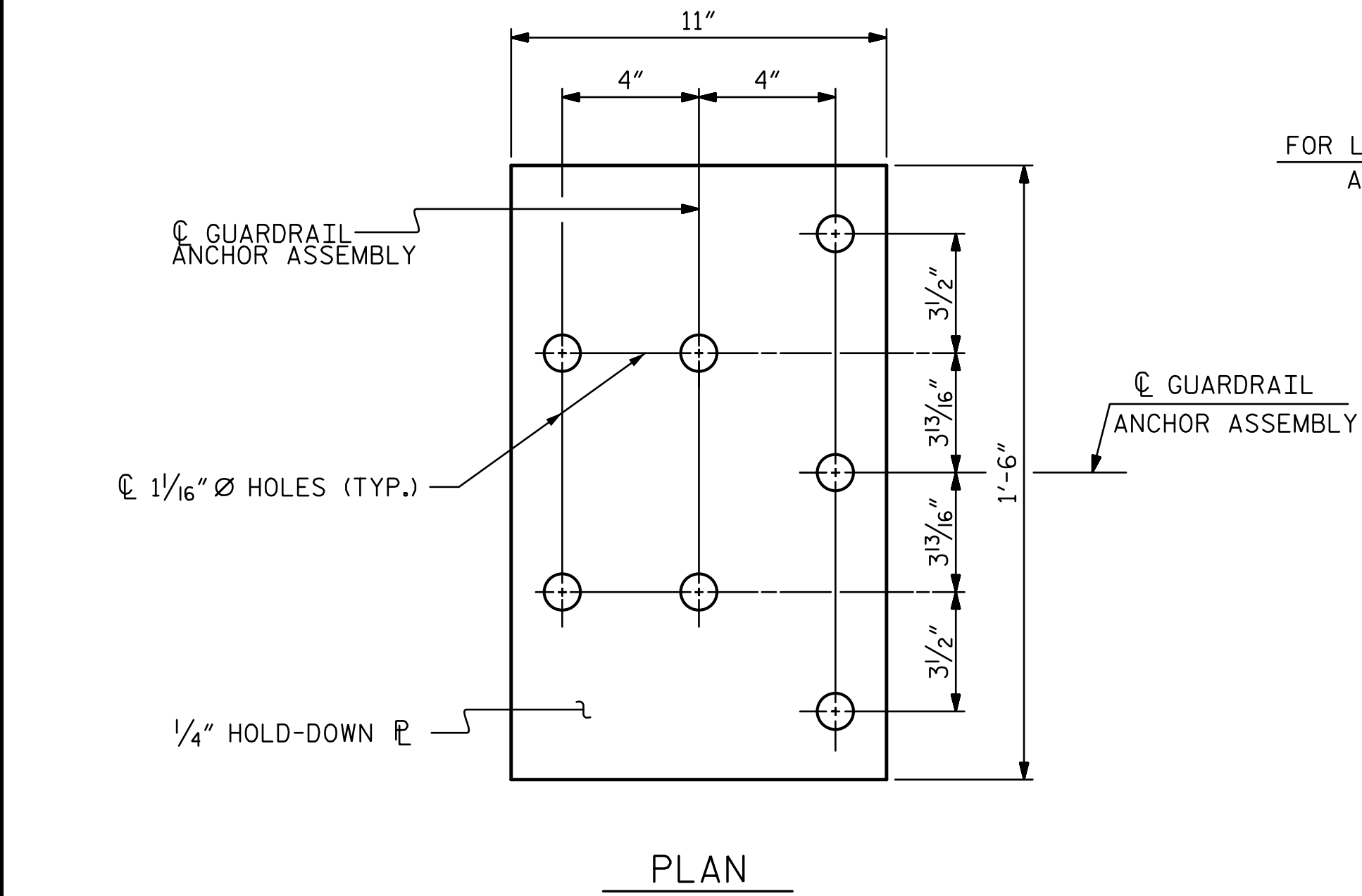
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

ANCHORAGE DETAILS FOR
TEMPORARY GUARDRAIL

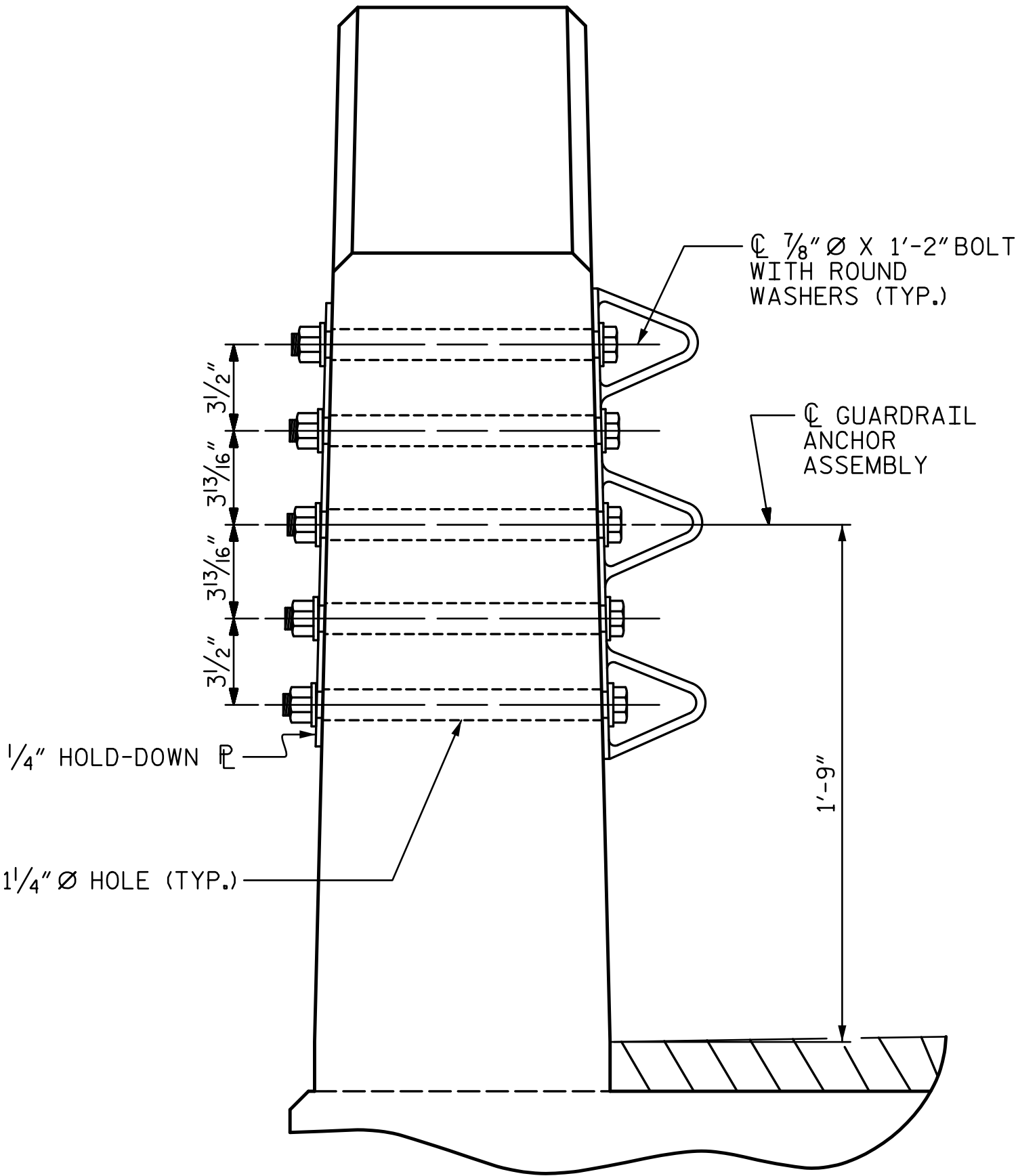
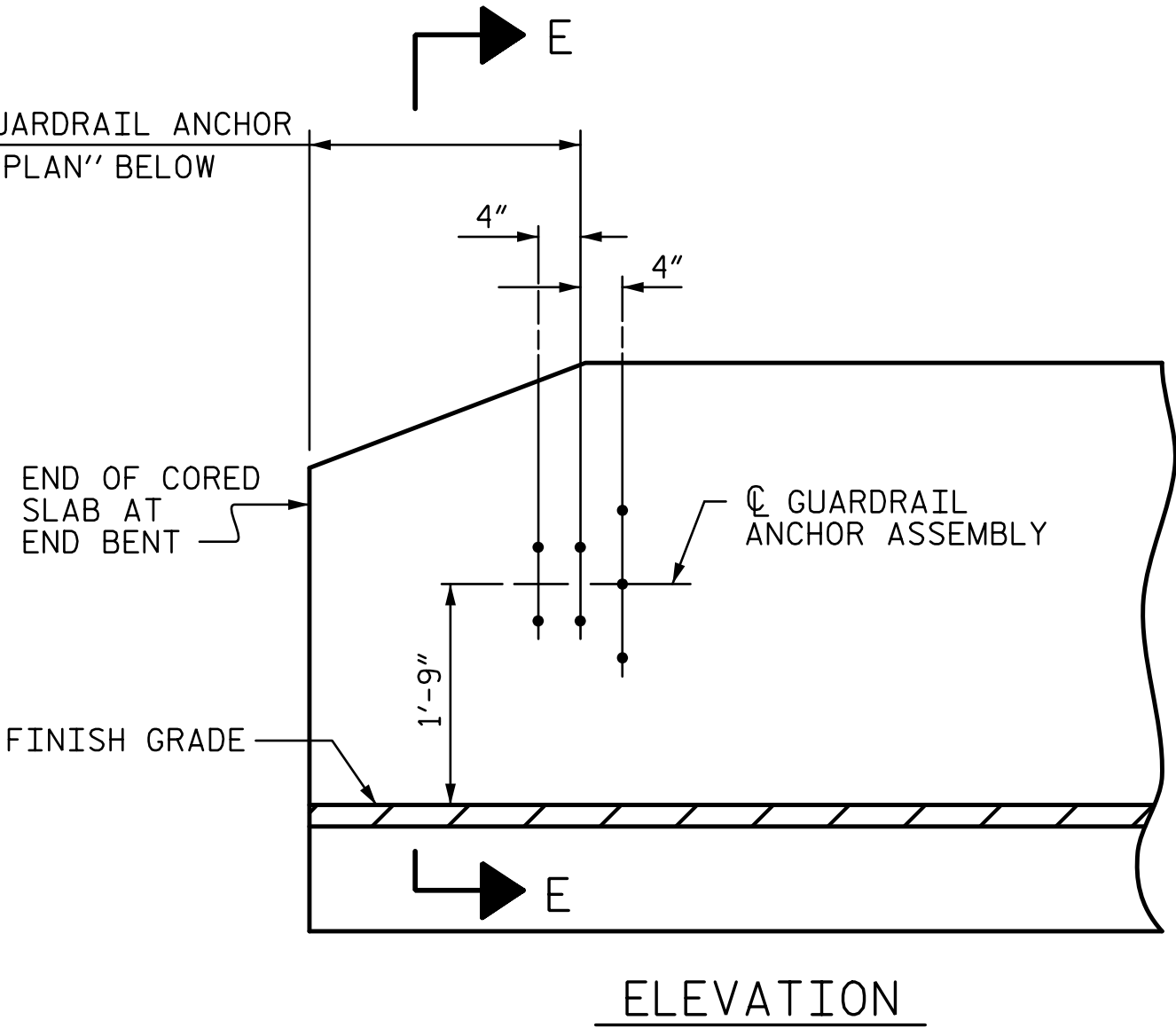
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2			4			TOTAL SHEETS 32

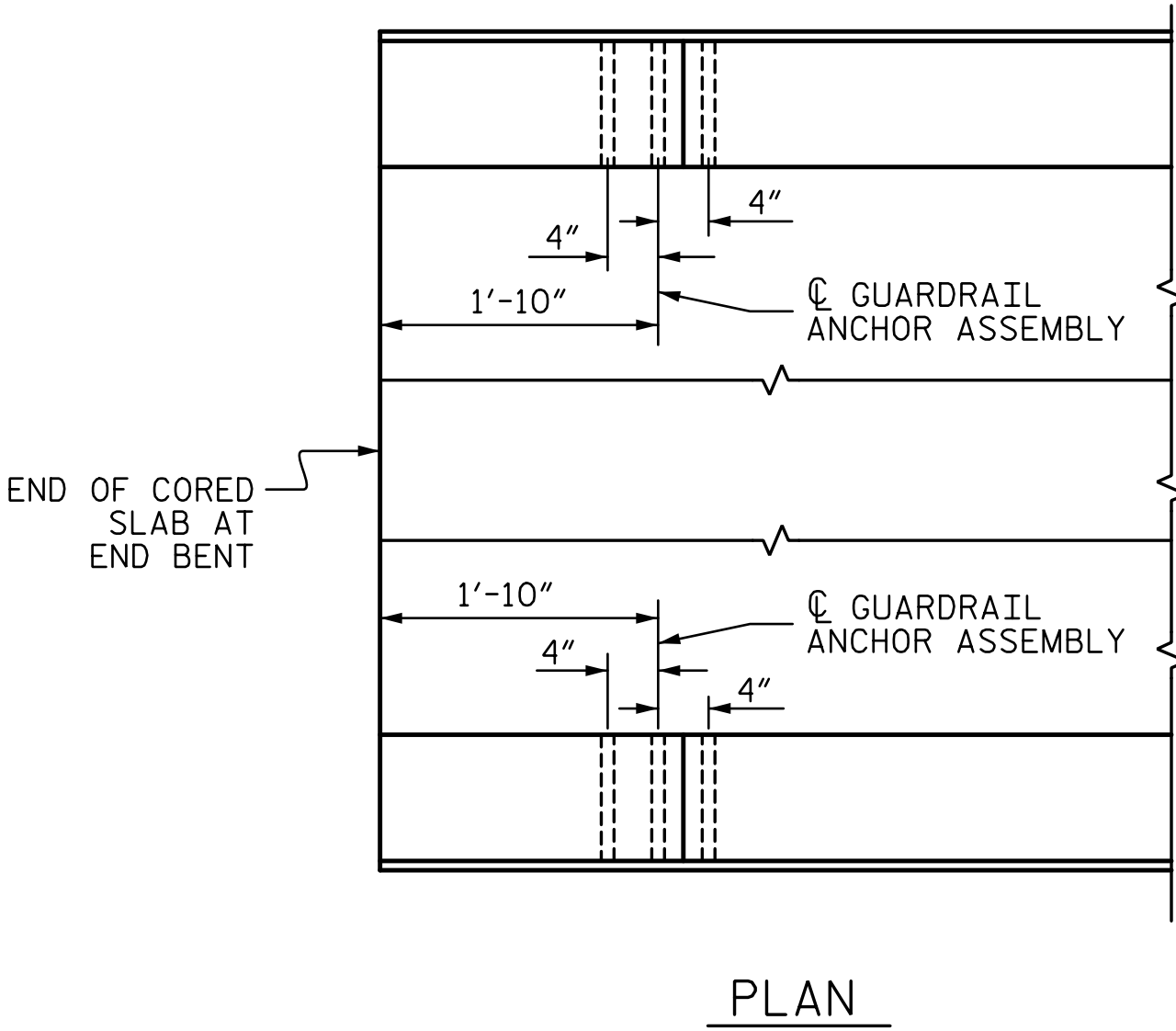


FOR LOCATION OF GUARDRAIL ANCHOR ASSEMBLY, SEE "PLAN" BELOW



SECTION E-E

GUARDRAIL ANCHOR ASSEMBLY DETAILS



LOCATION OF ANCHORS FOR GUARDRAIL

END BENT 1 SHOWN, END BENT 2 SIMILAR.



SKETCH SHOWING POINTS OF ATTACHMENT

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 7 - 1/8" 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 1/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

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

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

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

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

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

PROJECT NO. DF18314.2045332

HENDERSON COUNTY

STATION: 13+70.81 -L-

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

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-20
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STD. NO. GRA3

NOTES:

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

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

FOR PILE SPLICE DETAILS, SEE SHEET 3 OF 3.

FOR WING DETAILS, SEE SHEET 2 OF 3.

FOR CONSTRUCTION JOINT DETAILS, SEE SHEET 3 OF 3.

FOR DETAILS ON CONSTRUCTION STAGING, SEE CONSTRUCTION STAGING SHEETS.

TOP OF PILE ELEVATIONS	
①	1743.33
②	1743.12
③	1742.92
④	1742.71
⑤	1742.50
⑥	1742.20
⑦	1741.89

+ BAR LENGTH IS BASED ON "B" BAR PROJECTING FROM THE CONSTRUCTION JOINT 1'-0" FOR MECHANICAL SPLICE. BAR LENGTH MAY NEED TO BE INCREASED PER MANUFACTURER'S RECOMMENDATIONS.

* BARS ARE DETAILED WITH ADEQUATE LENGTH FOR A SPLICE. MECHANICAL REBAR SPLICES WILL BE REQUIRED IF THE TEMPORARY SHORING LOCATION DOES NOT ALLOW FOR MIN. REQUIRED SPLICE LENGTH. ALL COSTS ASSOCIATED WITH MECHANICAL BAR SPLICES SHALL BE CONSIDERED INCIDENTAL TO THE REINFORCING STEEL, NO ADDITIONAL PAYMENT WILL BE MADE.

PROJECT NO. DF18314.2045332
HENDERSON COUNTY
STATION: 13+70.81 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

SUBSTRUCTURE

END BENT 1

NO. 1

BY: J. SCACCA

DATE: 01/2025

NO. 2

BY: M. ACOSTA

DATE: 03/2026

REVISIONS

NO. 1

BY: J. SCACCA

DATE: 01/2025

NO. 2

BY: M. ACOSTA

DATE: 03/2026

SHEET NO. S-21

TOTAL SHEETS 32

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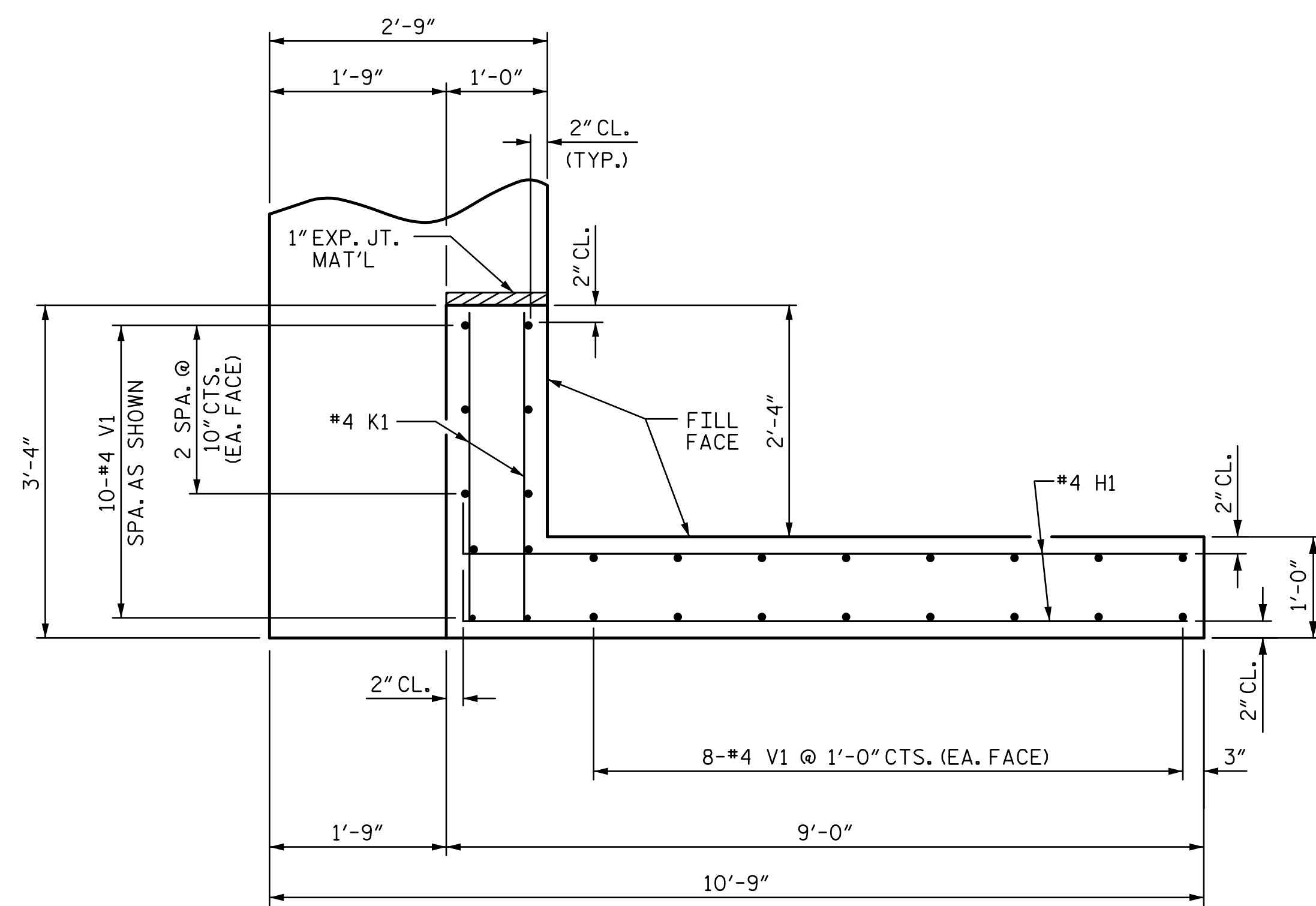
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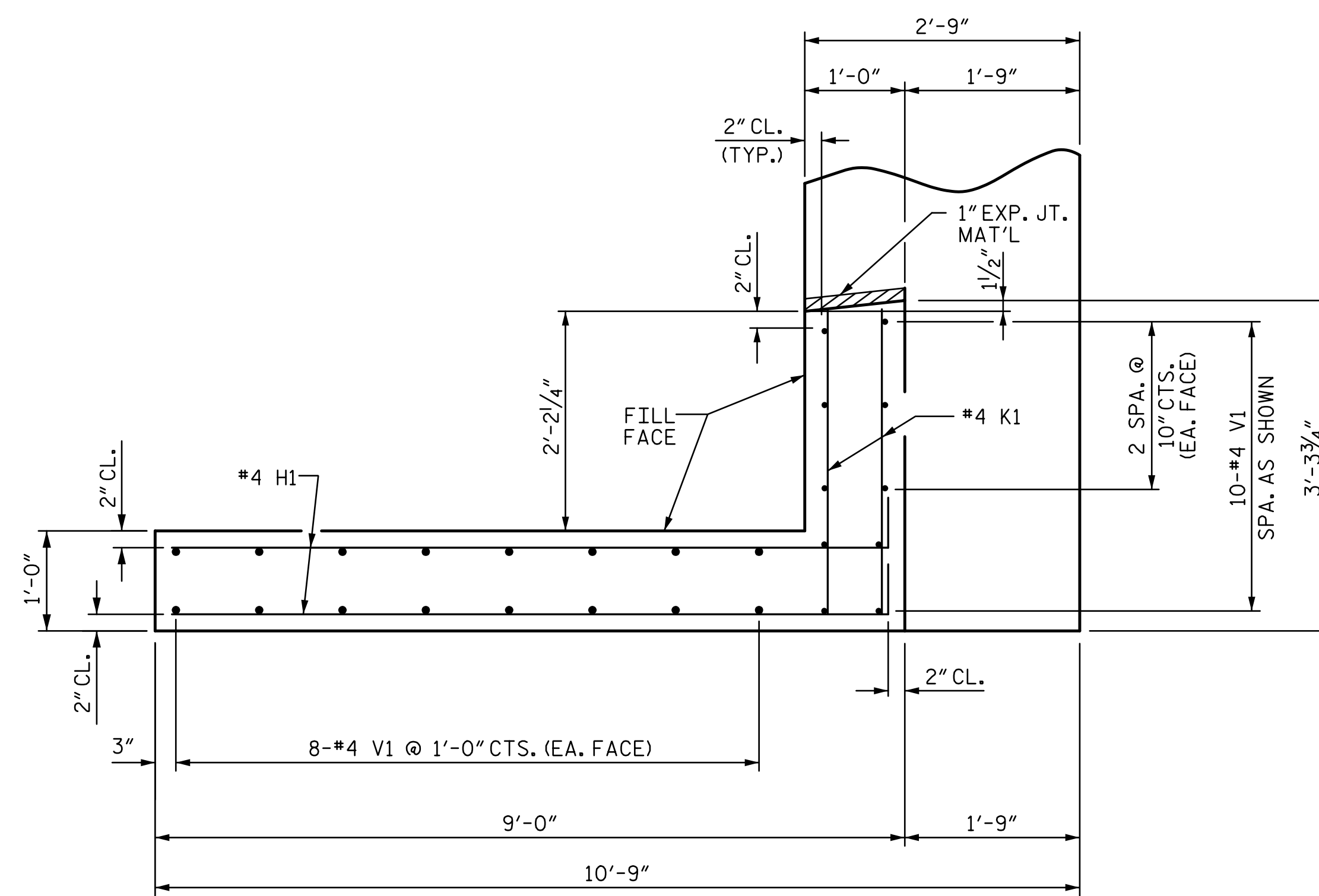
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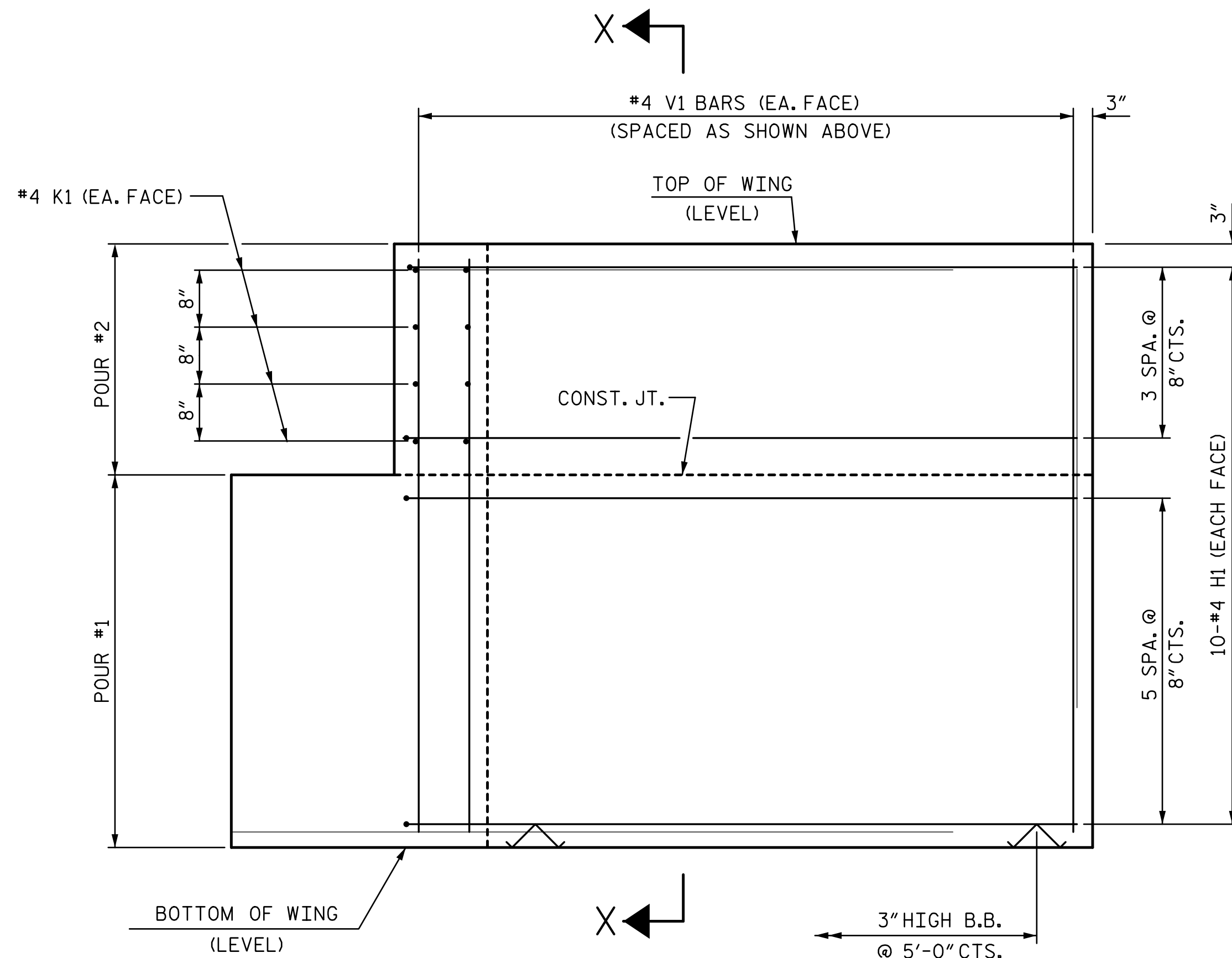
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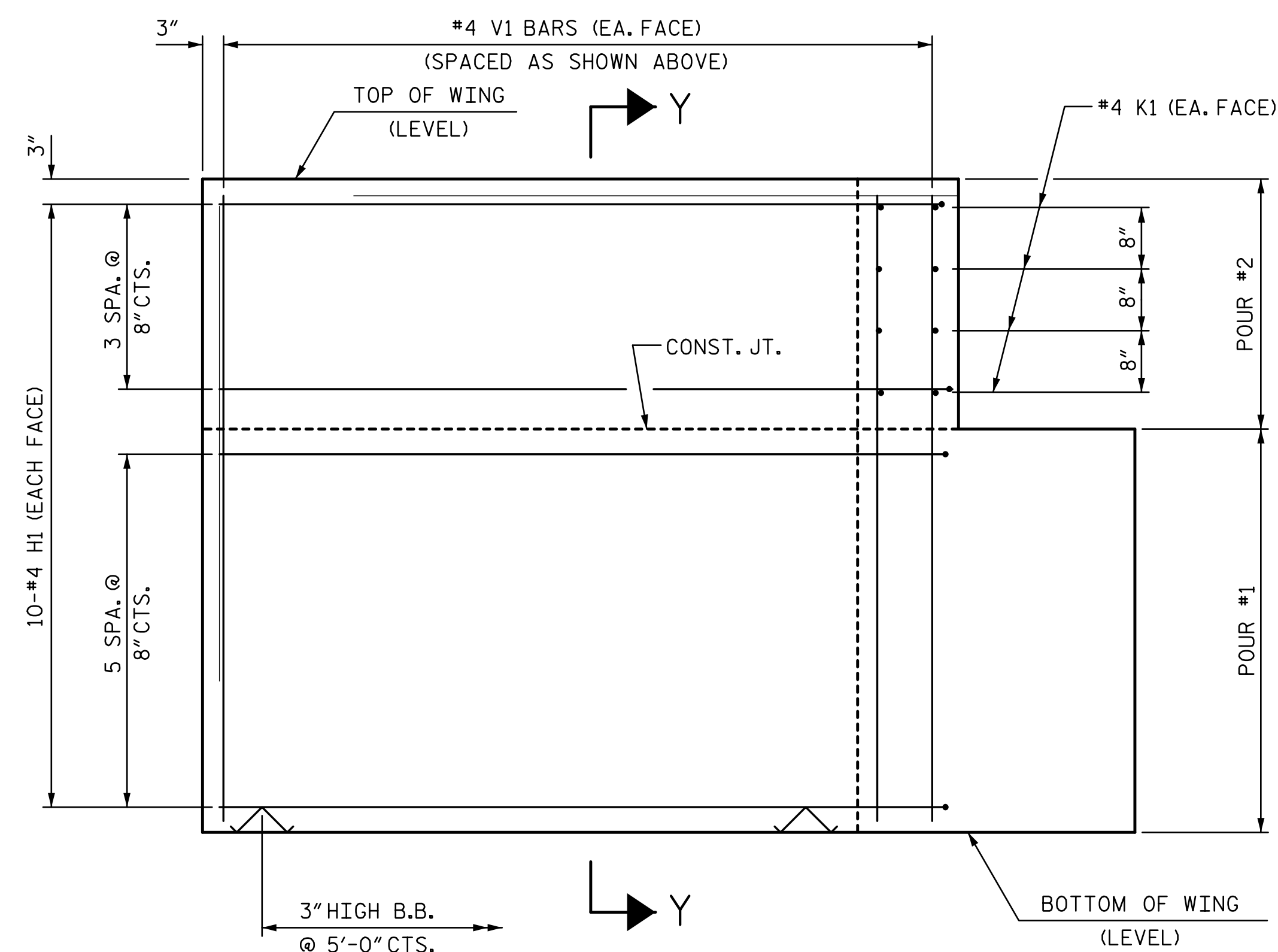
PLAN OF WING (W1)



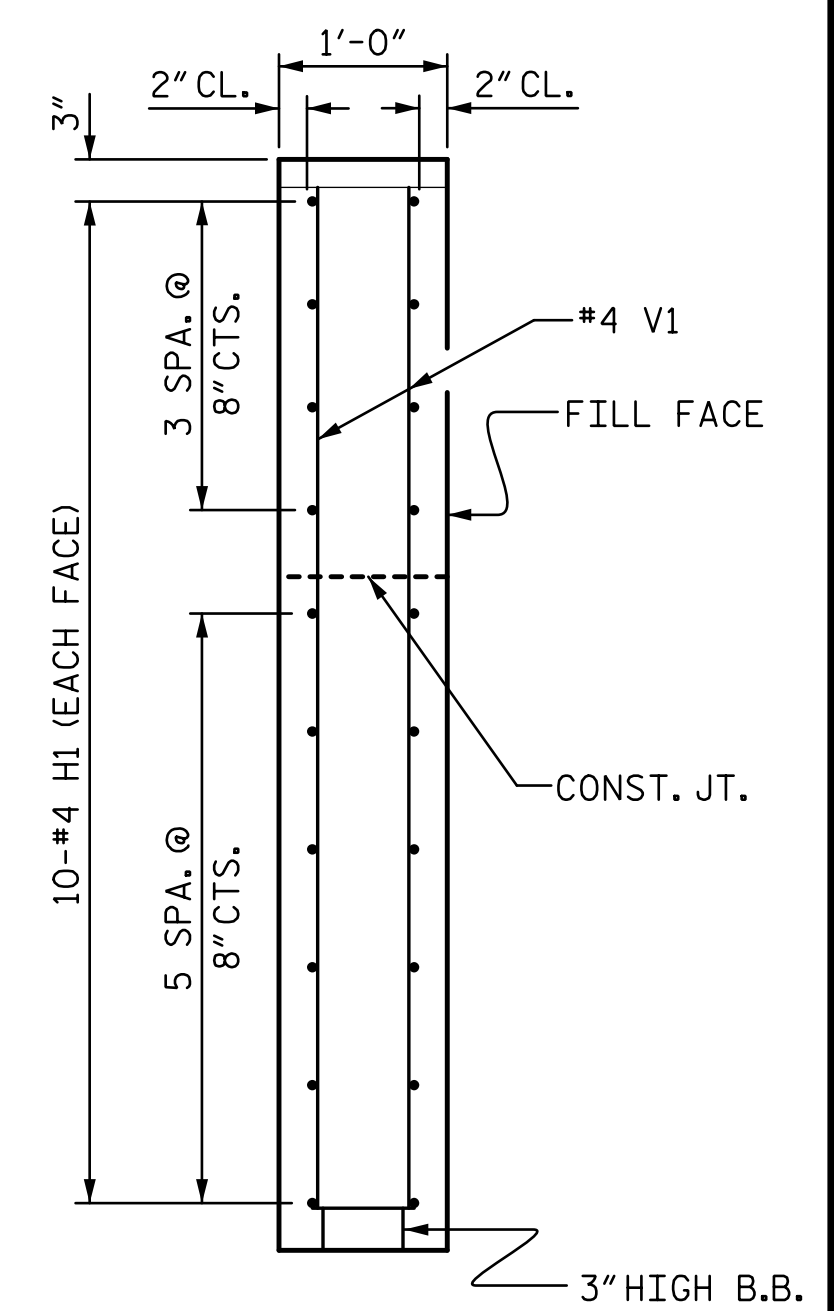
PLAN OF WING (W2)



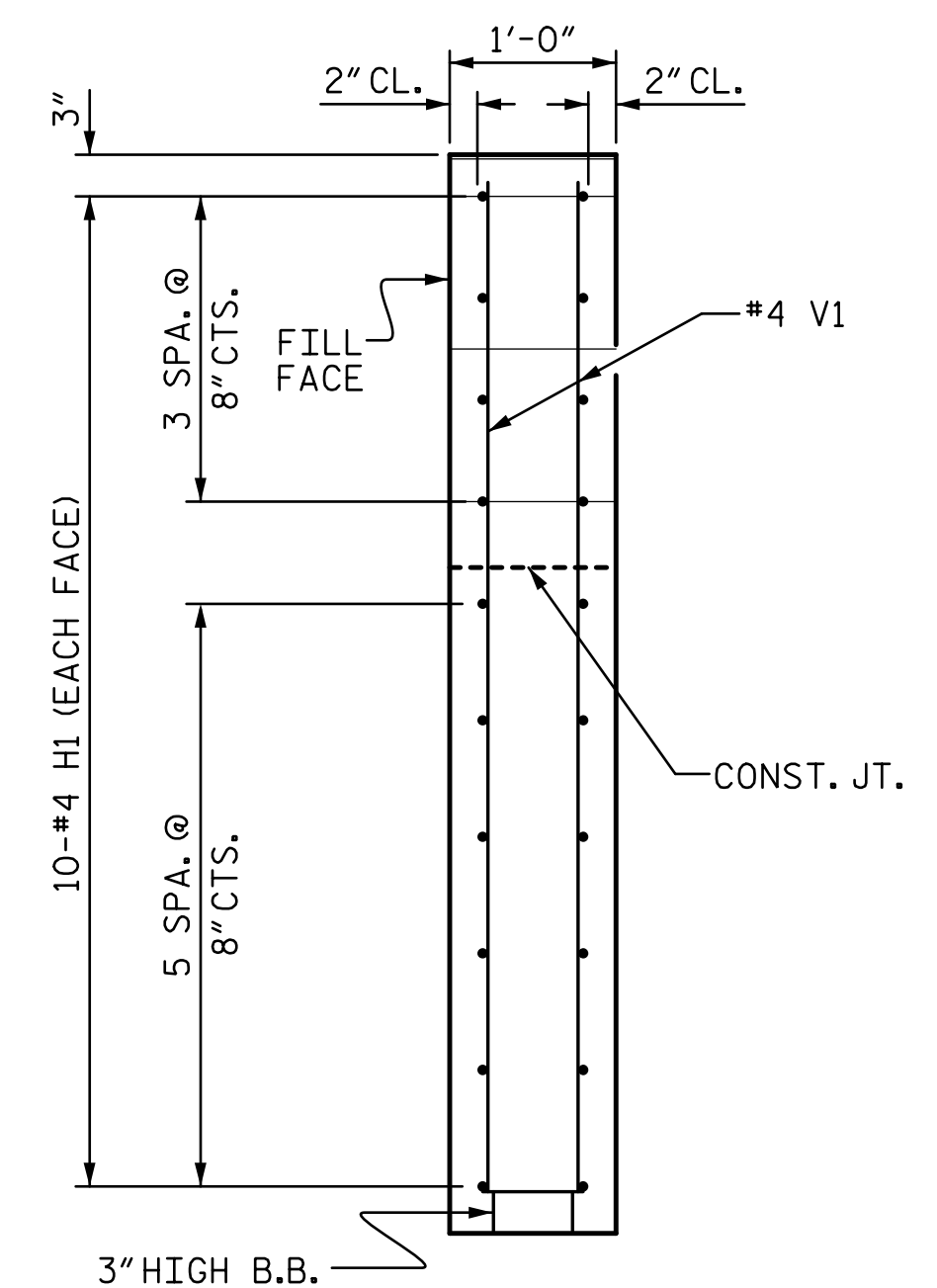
ELEVATION OF WING (W1)



ELEVATION OF WING (W2)



SECTION X-X



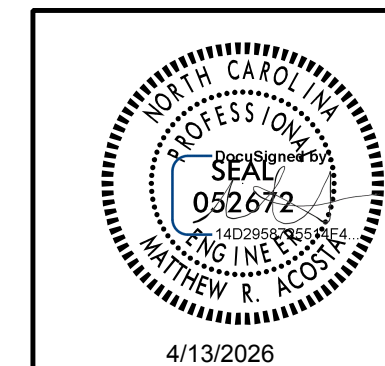
SECTION Y-Y

PROJECT NO. DF18314.2045332

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STATION: 13+70.81 -L-

SHEET 2 OF 3

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE

END BENT 1
WING DETAILS

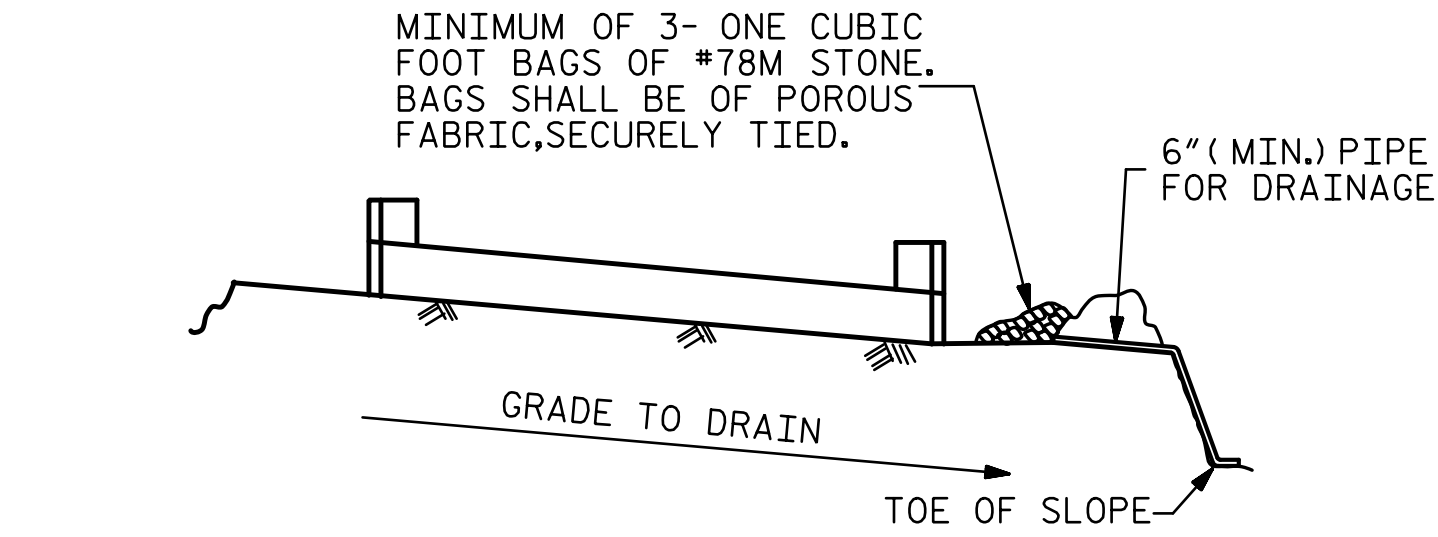
Inc.	REVISIONS						SHEET NO.
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	1			3			TOTAL SHEETS
	2			4			32

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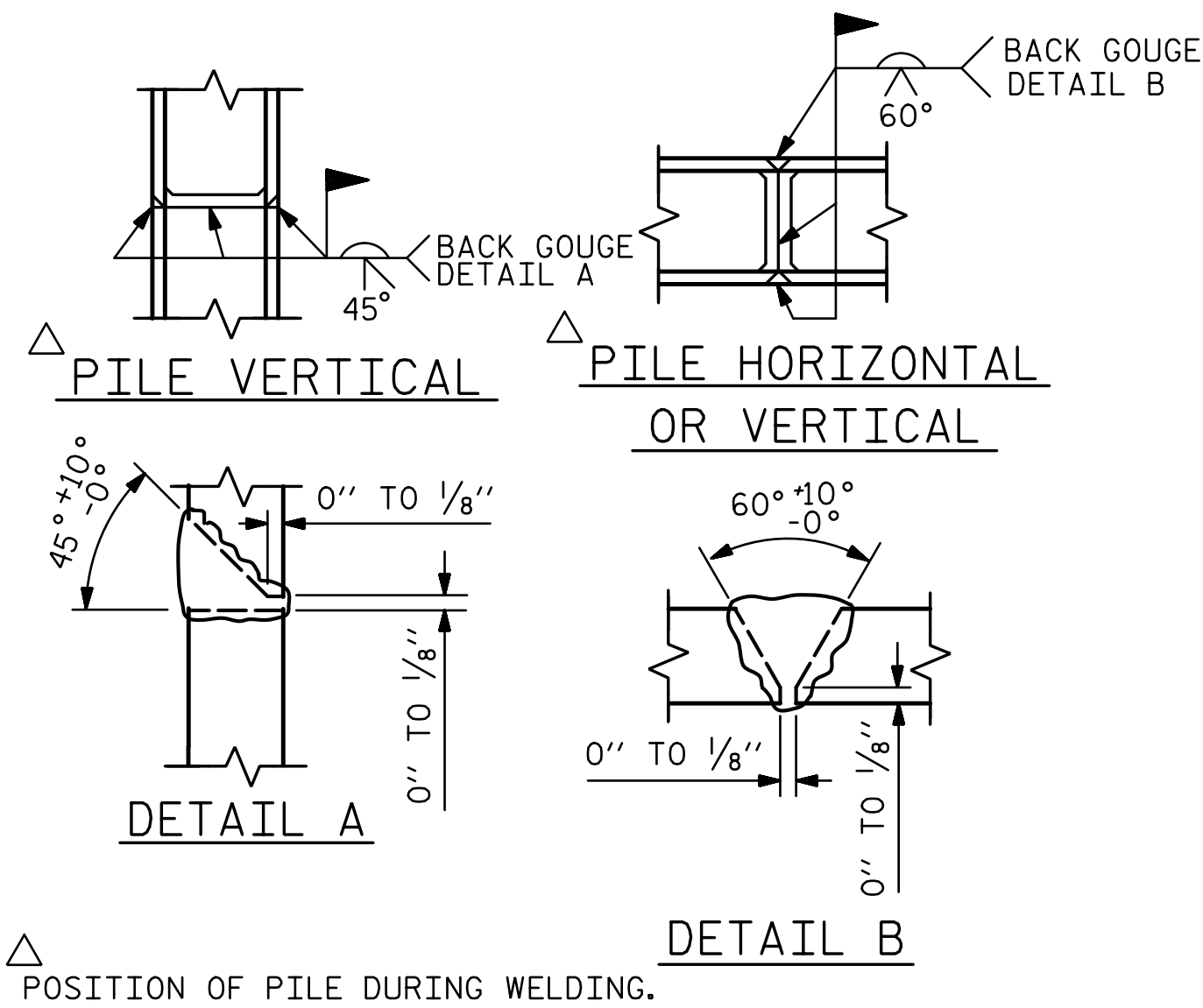


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

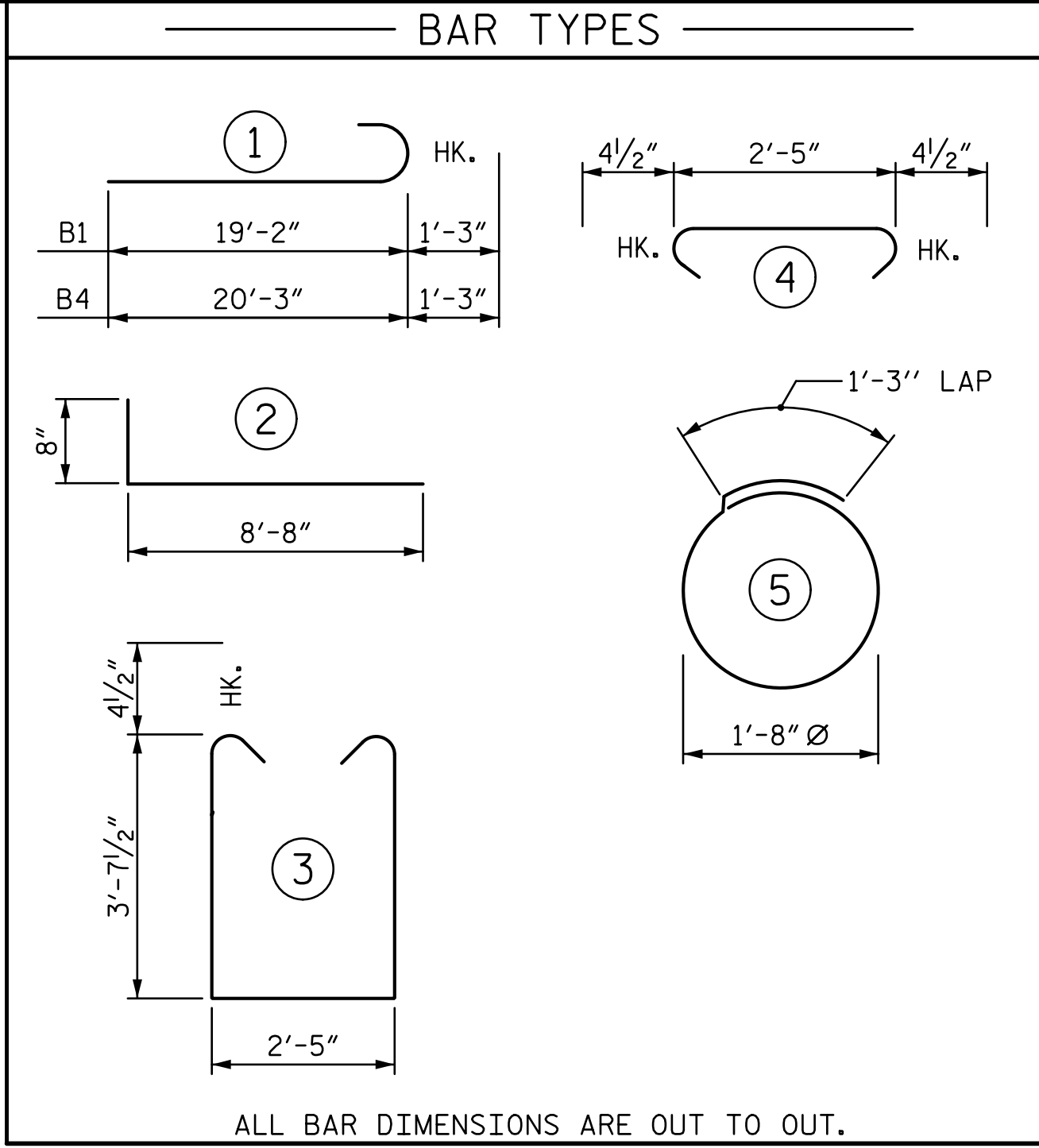
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

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

TEMPORARY DRAINAGE AT END BENT



PILE SPLICE DETAILS

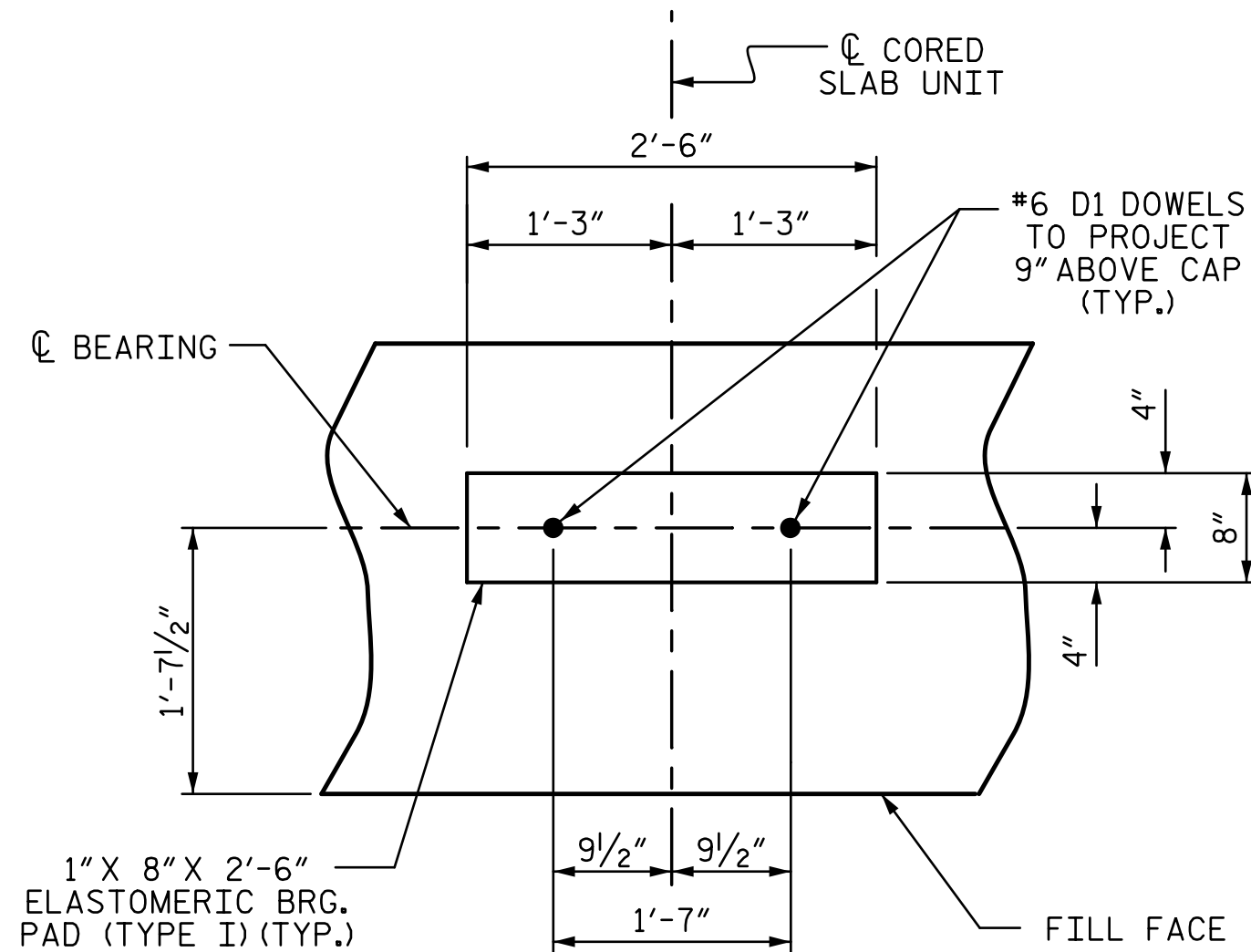


BILL OF MATERIAL						BILL OF MATERIAL					
END BENT 1 (STAGE 3)						END BENT 1 (STAGE 5)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
† B1	8	#9	1	20'-5"	555	B3	6	#4	STR	2'-5"	10
* B2	14	#4	STR	20'-7"	192	B4	8	#9	1	21'-6"	585
B3	5	#4	STR	2'-5"	8	B5	14	#4	STR	20'-4"	190
D1	10	#6	STR	1'-6"	23	D1	12	#6	STR	1'-6"	27
H1	20	#4	2	9'-4"	125	H1	20	#4	2	9'-4"	125
K1	8	#4	STR	2'-11"	16	K1	8	#4	STR	2'-11"	16
S1	23	#4	3	10'-5"	160	S1	27	#4	3	10'-5"	188
S2	23	#4	4	3'-2"	49	S2	27	#4	4	3'-2"	57
S3	12	#4	5	6'-6"	52	S3	16	#4	5	6'-6"	69
V1	26	#4	STR	6'-1"	106	V1	26	#4	STR	6'-1"	106
REINFORCING STEEL (FOR ONE END BENT)					1,286 LBS.	REINFORCING STEEL (FOR ONE END BENT)					1,373 LBS.
CLASS A CONCRETE BREAKDOWN						CLASS A CONCRETE BREAKDOWN					
POUR #1 CAP, LOWER PART OF WINGS & COLLARS					9.2 C.Y.	POUR #1 CAP, LOWER PART OF WINGS & COLLARS					10.1 C.Y.
POUR #2 UPPER PART OF WINGS					1.1 C.Y.	POUR #2 UPPER PART OF WINGS					1.1 C.Y.
TOTAL CLASS A CONCRETE					10.3 C.Y.	TOTAL CLASS A CONCRETE					11.2 C.Y.
TOTAL REINFORCING STEEL					2,659 LBS.	TOTAL REINFORCING STEEL					2,659 LBS.
TOTAL CLASS A CONCRETE					21.5 C.Y.	TOTAL CLASS A CONCRETE					21.5 C.Y.

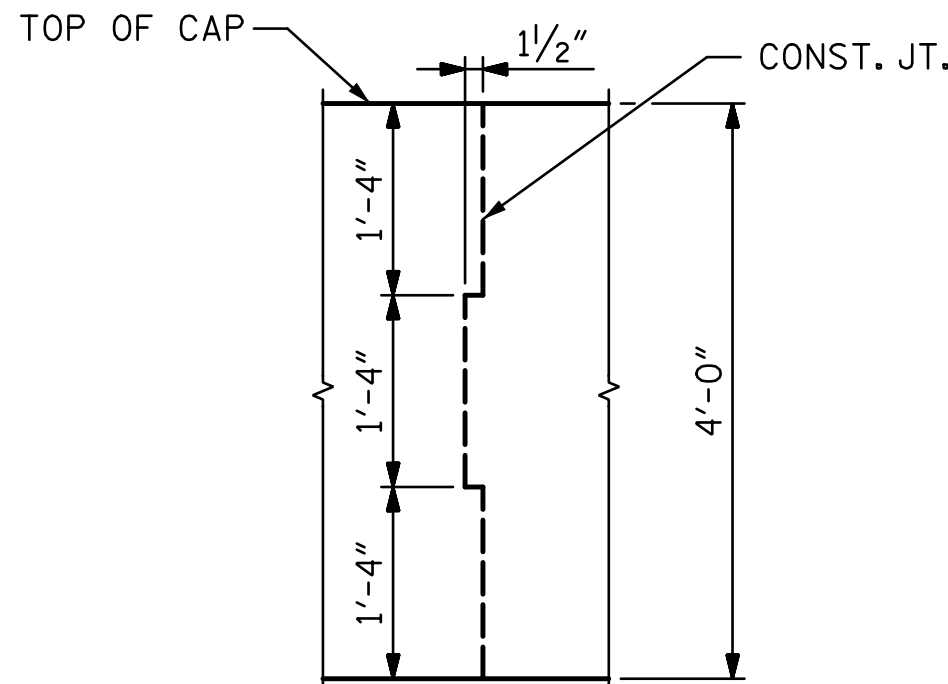
NOTE:
FOR DETAILS ON CONSTRUCTION STAGING, SEE CONSTRUCTION STAGING SHEETS.

† BAR LENGTH IS BASED ON "B" BAR PROJECTING FROM THE CONSTRUCTION JOINT 1'-0" FOR MECHANICAL SPLICE. BAR LENGTH MAY NEED TO BE INCREASED PER MANUFACTURER'S RECOMMENDATIONS.

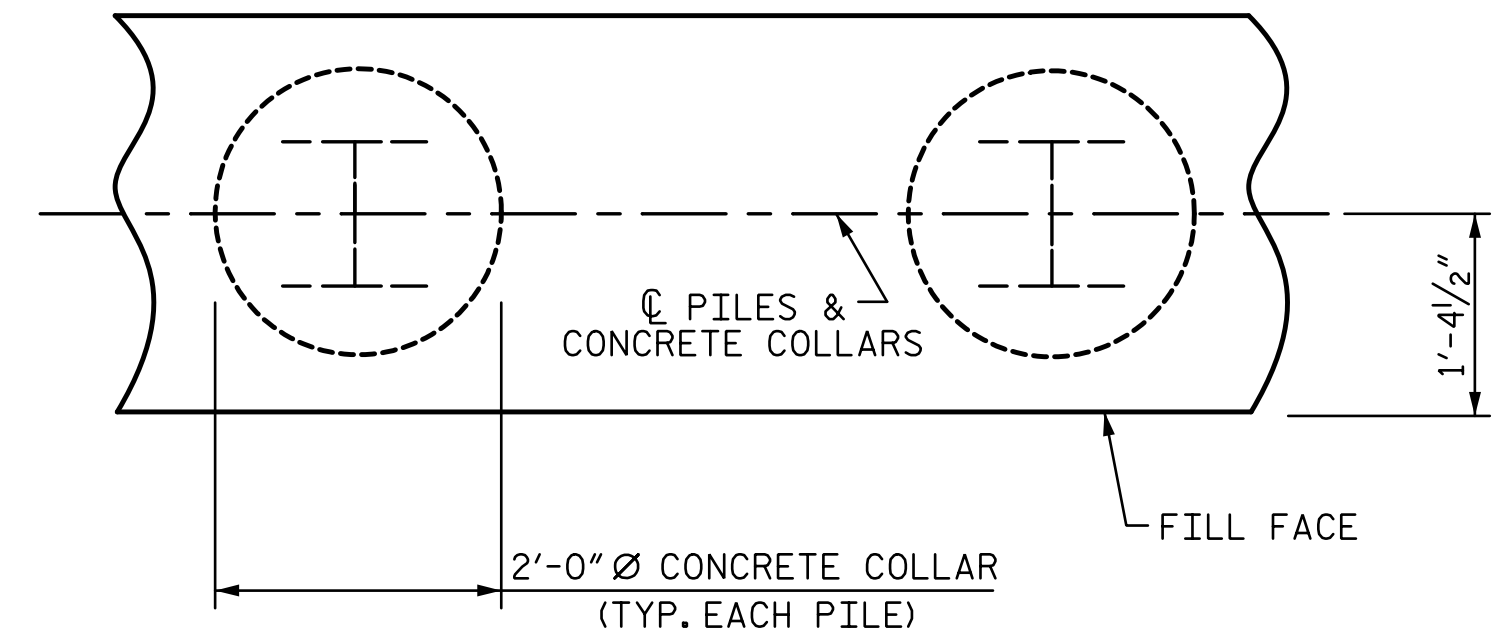
* BARS ARE DETAILED WITH ADEQUATE LENGTH FOR A SPLICE. MECHANICAL REBAR SPLICES WILL BE REQUIRED IF THE TEMPORARY SHORING LOCATION DOES NOT ALLOW FOR MIN. REQUIRED SPLICE LENGTH. ALL COSTS ASSOCIATED WITH MECHANICAL BAR SPLICES SHALL BE CONSIDERED INCIDENTAL TO THE REINFORCING STEEL. NO ADDITIONAL PAYMENT WILL BE MADE.



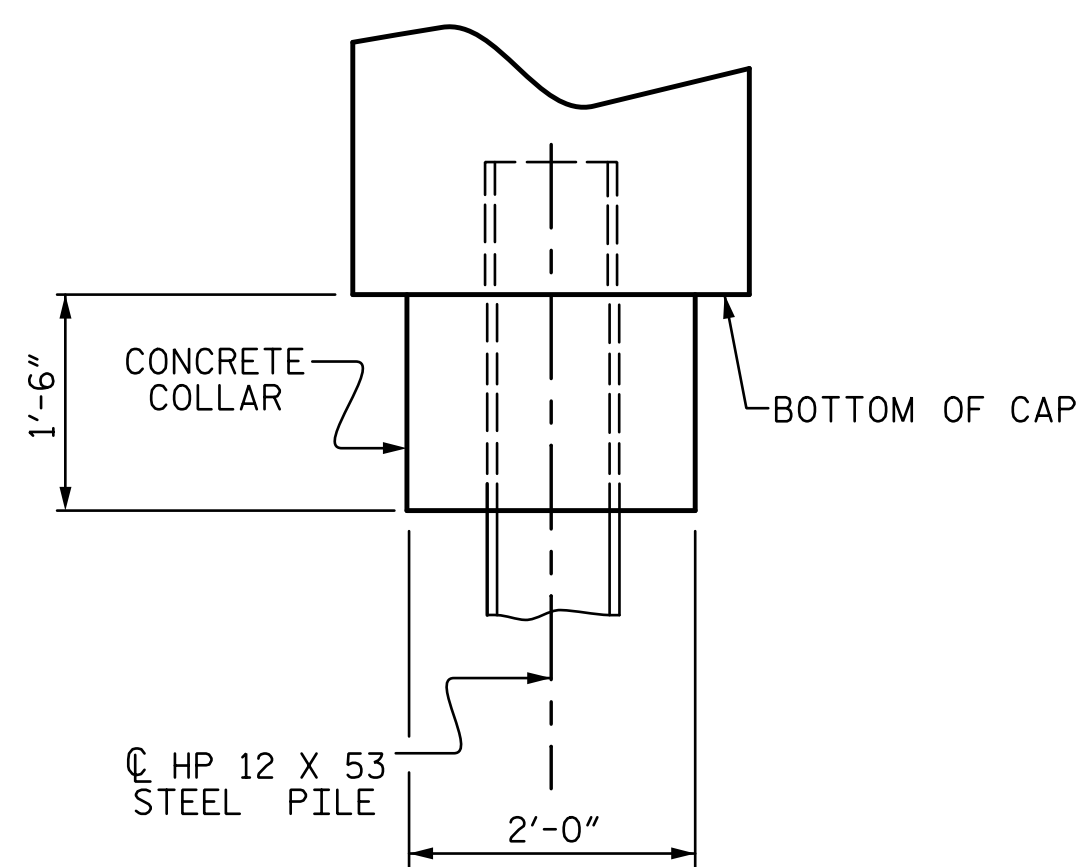
DETAIL "A"



CONST. JT. DETAIL

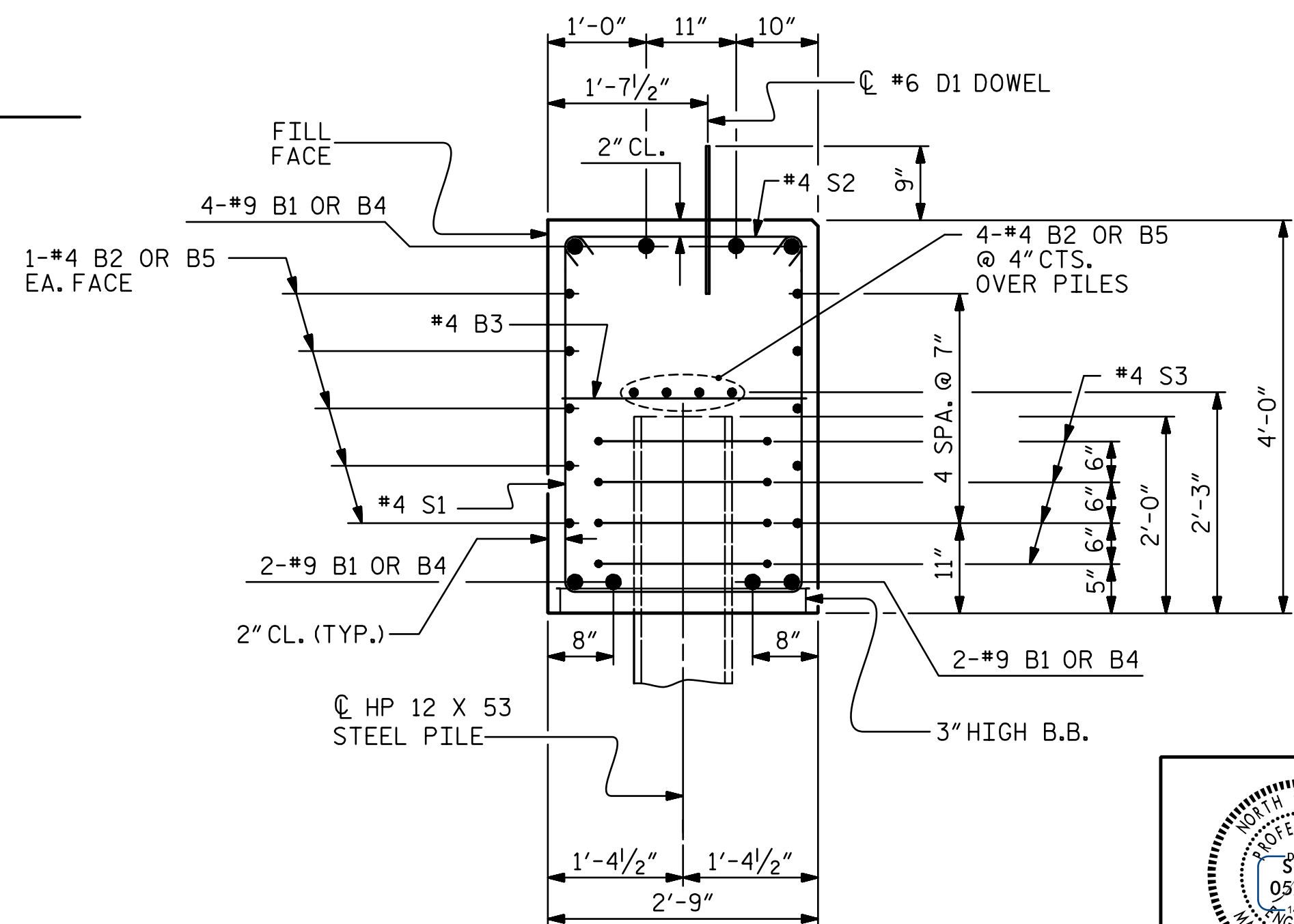


PLAN



ELEVATION

CORROSION PROTECTION FOR STEEL PILES DETAIL



SECTION A-A

(CONCRETE COLLAR NOT SHOWN FOR CLARITY. SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL.")

PROJECT NO. DF18314.2045332
HENDERSON COUNTY
STATION: 13+70.81 -L-

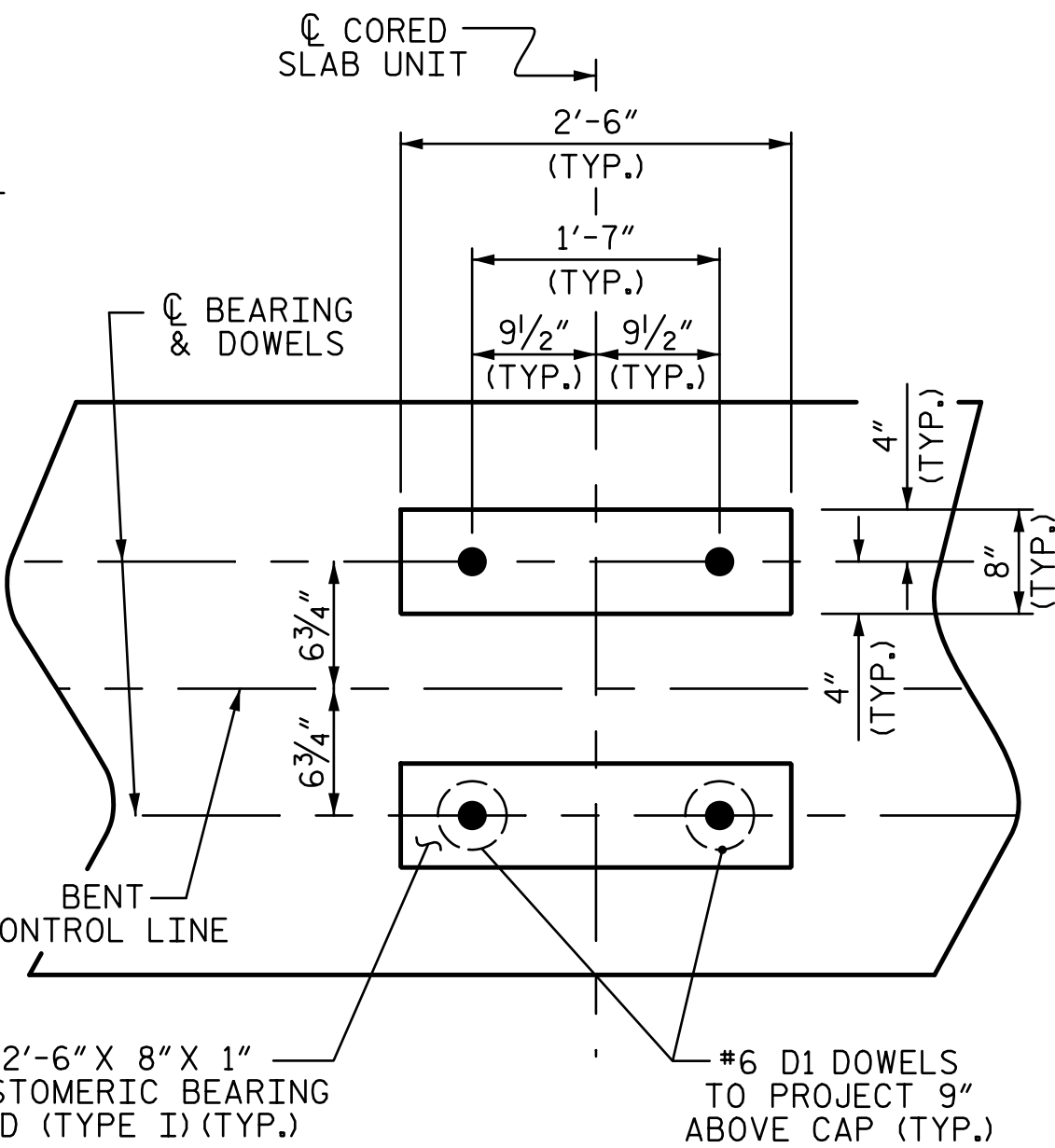
SHEET 3 OF 3



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE					
END BENT 1 DETAILS					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					S-23
					32

DRAWN BY :	J. SCACCA	DATE :	01/2025
CHECKED BY :	M. ACOSTA	DATE :	01/2025
DESIGN ENGINEER OF RECORD:	M. ACOSTA	DATE :	03/2026

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FINAL UNLESS ALL
SIGNATURES COMPLETED



DETAIL "A"

(DIMENSIONS ARE TYPICAL EACH BEARING)

CAP ELEVATIONS		
	BENT 1	BENT 2
"A"	1745.70	1746.12
"B"	1744.28	1744.70
"C"	1741.70	1742.12
"D"	1740.28	1740.70

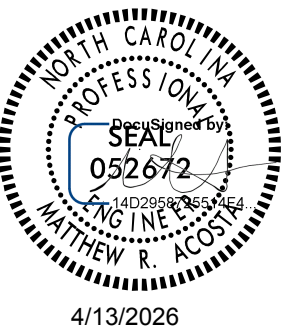
TOP OF PILE ELEVATIONS		
PILE NO.	BENT 1	BENT 2
P1	1743.56	1743.98
P2	1743.04	1743.46
P3	1742.84	1743.26
P4	1742.48	1742.90

PROJECT NO. DF18314.2045332

HENDERSON COUNTY

STATION: 13+70.81 -L-

SHEET 1 OF 3

**RS&H****RS&H Architects-Engineers-Planners, Inc.**

8521 Six Forks Road, Suite 400
Raleigh, NC 27615

919-926-4100 FAX 919-846-9080

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE

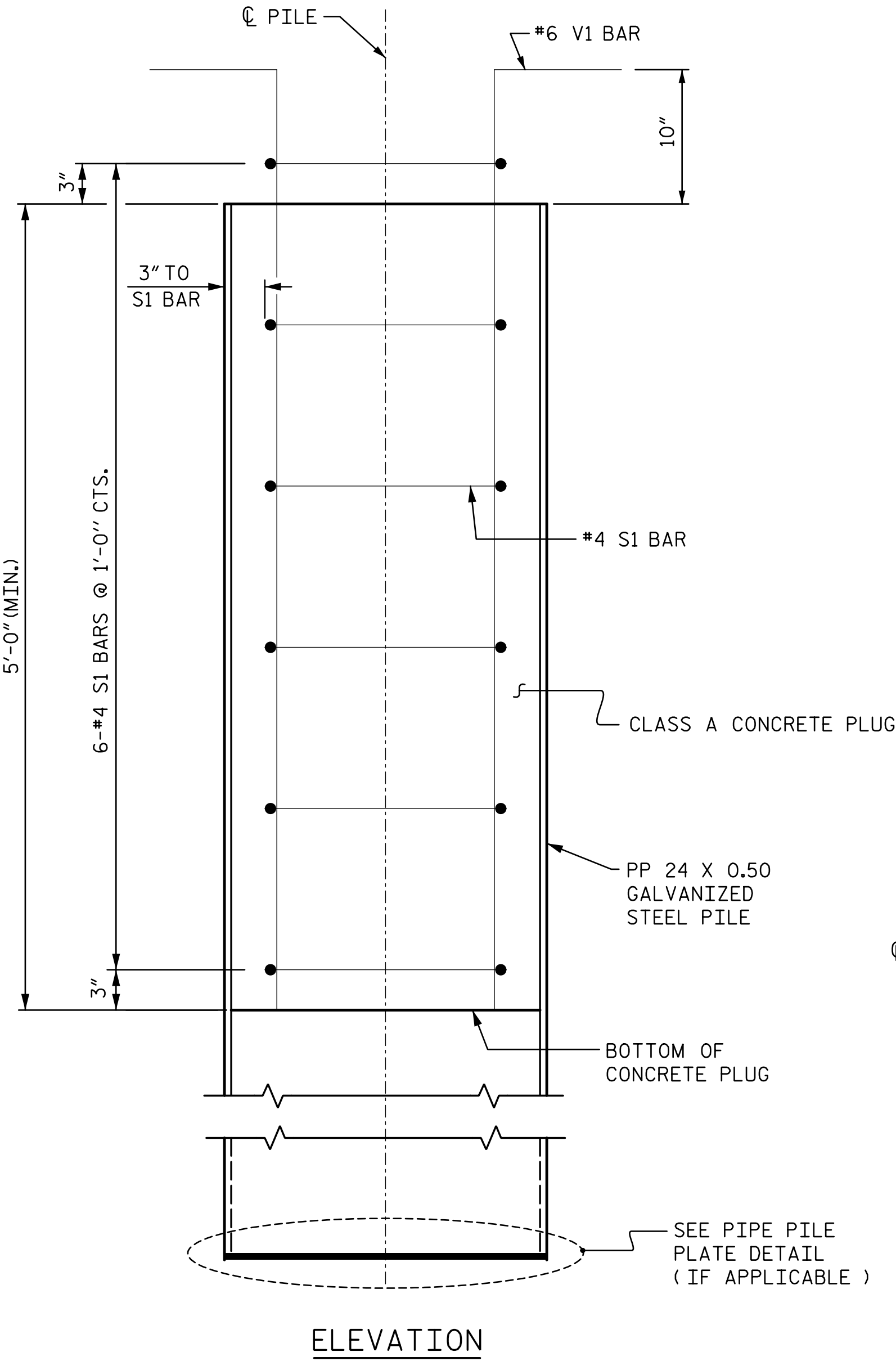
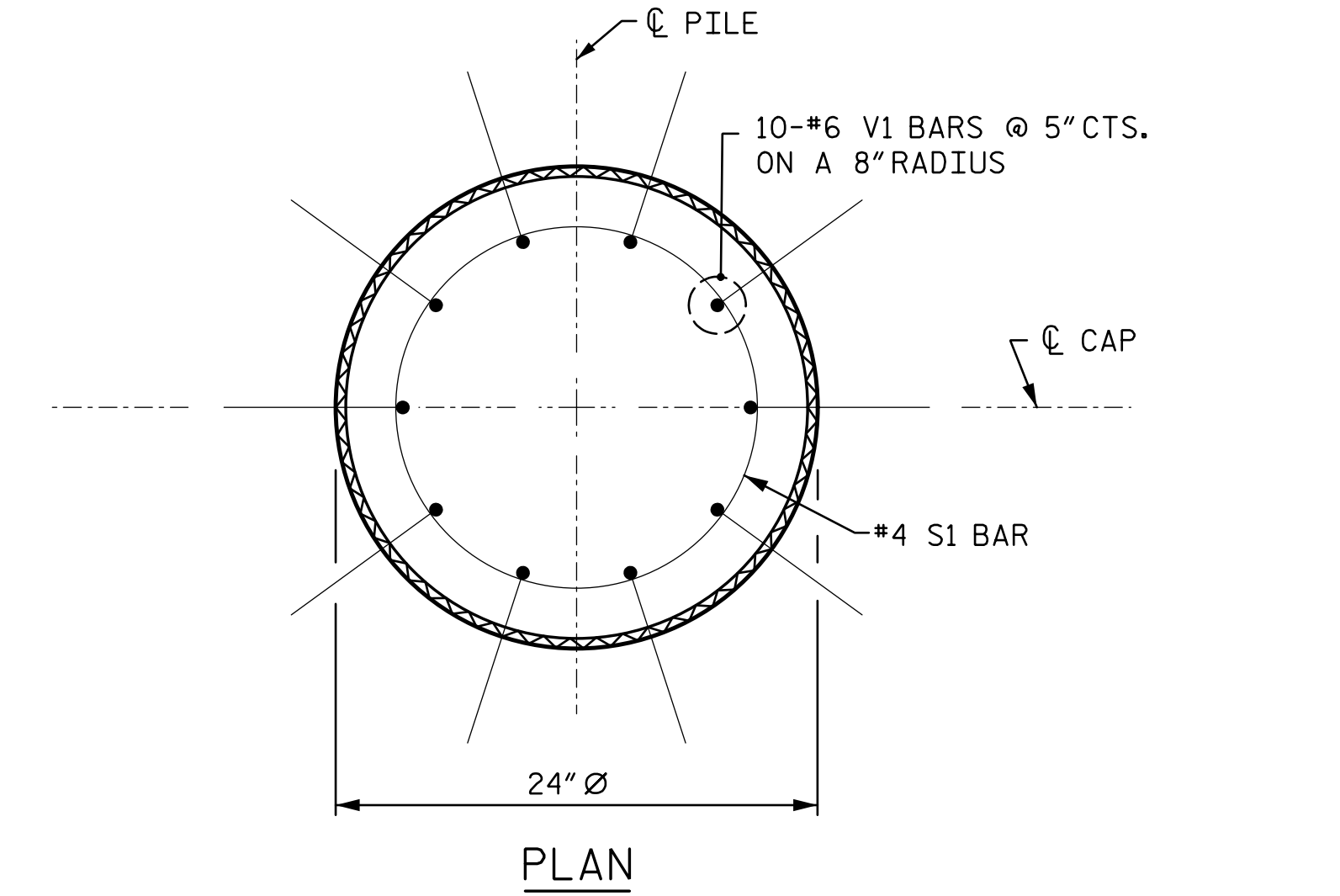
BENT 1
& BENT 2

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

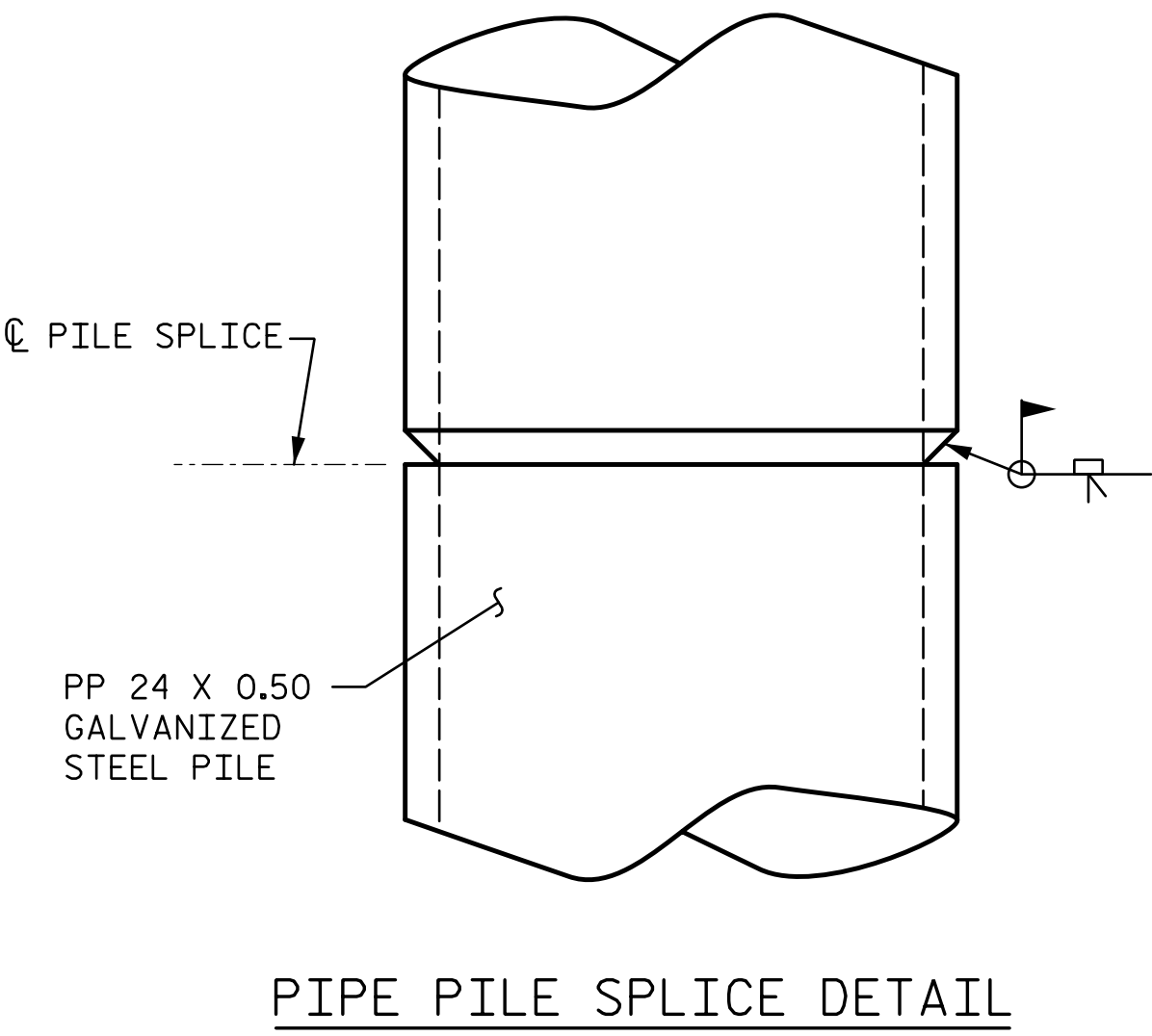
DRAWN BY : M. KHIN DATE : 01/2025
 CHECKED BY : M. ACOSTA DATE : 01/2025
 DESIGN ENGINEER OF RECORD: M. ACOSTA DATE : 03/2026

(FOR SECTION A-A, SEE SHEET 2 OF 3)
(PILES AND DRILLED PIERS SHOWN FOR BENT 1, EXISTING PILES AND DRILLED PIERS FOR BENT 2 TO BE RETAINED)
(SEE CONSTRUCTION SEQUENCE AND FOUNDATION LAYOUT FOR ADDITIONAL DETAILS AND LOCATIONS FOR EXISTING BENT 2 PILES)
***2'-6" MIN. SPLICE (#4 BARS), 3'-1" MIN. SPLICE (#5 BARS)

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FINAL UNLESS ALL
SIGNATURES COMPLETED



PP 24 X 0.50 GALVANIZED STEEL PILE
(OPEN OR CLOSED END)



PIPE PILE SPLICE DETAIL

NOTES:

PIPE PILES SHALL BE IN ACCORDANCE WITH SECTION 1084 OF THE STANDARD SPECIFICATIONS.

GALVANIZE STEEL PIPE PILES IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS UNLESS METALLIZING IS REQUIRED. GALVANIZING OR METALLIZING PIPE PILE PLATES IS NOT REQUIRED.

PIPE PILE PLATES, IF REQUIRED, SHALL BE IN ACCORDANCE WITH SECTION 450 OF THE STANDARD SPECIFICATIONS.

REMOVE AND REPLACE OR REPAIR TO THE SATISFACTION OF THE ENGINEER PILES THAT ARE DAMAGED, DEFORMED OR COLLAPSED DURING INSTALLATION OR DRIVING.

PILE SPLICES SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND AWS D1.1.

FOR CLOSED END PIPE PILES, REMOVE ALL SOIL AND WATER FROM INSIDE THE PILES JUST PRIOR TO PLACING REINFORCING STEEL AND CONCRETE FOR THE CONCRETE PLUG.

FOR OPEN END PIPE PILES, REMOVE ENOUGH SOIL AND WATER FROM INSIDE THE PILES TO CONSTRUCT THE CONCRETE PLUG WITHOUT FOULING THE CONCRETE.

FORM THE CONCRETE PLUG SUCH THAT THE REINFORCING STEEL OR CONCRETE DOES NOT MOVE AND THE CLEARANCE FROM THE REINFORCING STEEL TO THE INSIDE OF THE PILE IS MAINTAINED AFTER CONCRETE PLACEMENT. DO NOT PLACE CONCRETE IN THE BENT CAP UNTIL THE CONCRETE PLUG HAS ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI.

THE REINFORCING STEEL, CLASS A CONCRETE, AND GALVANIZING ARE CONSIDERED INCIDENTAL TO THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR PP 24 X 0.50 GALVANIZED STEEL PILES.

BILL OF MATERIAL FOR ONE
PP 24 X 0.50 GALVANIZED STEEL PILE

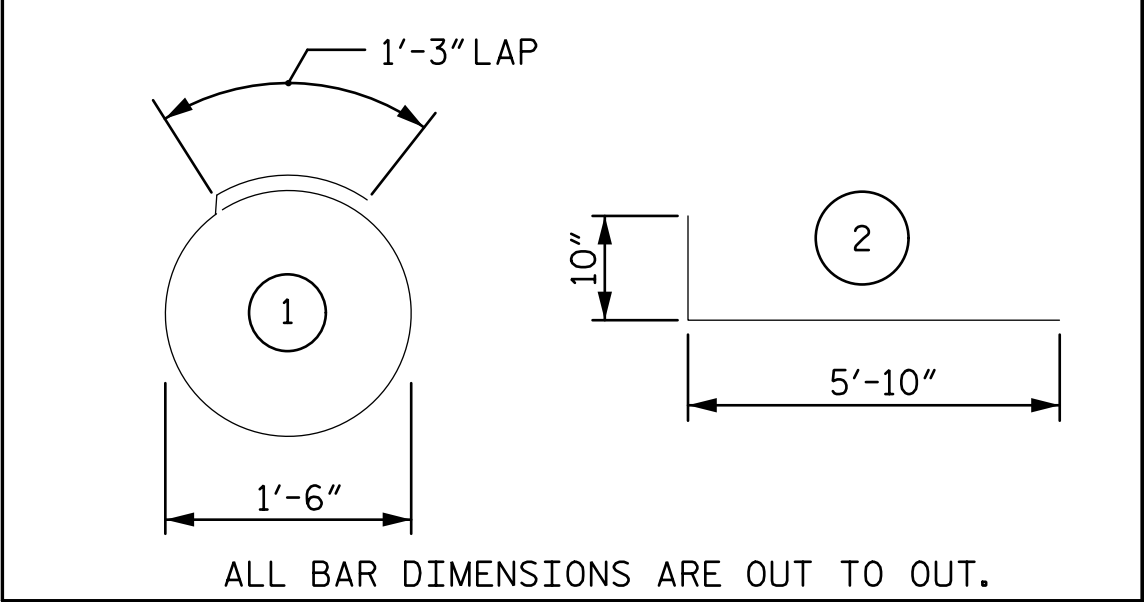
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	6	#4	1	6'-0"	24
V1	10	#6	2	6'-8"	100

REINFORCING STEEL= 124 LBS

CLASS A CONCRETE

5'-0" MINIMUM PLUG 0.5 CY

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

PROJECT NO. DF18314.2045332

HENDERSON COUNTY

STATION: 13+70.81 -L-

SHEET 3 OF 3

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919-926-4100 FAX 919-846-9080
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RALEIGH
SUBSTRUCTURE

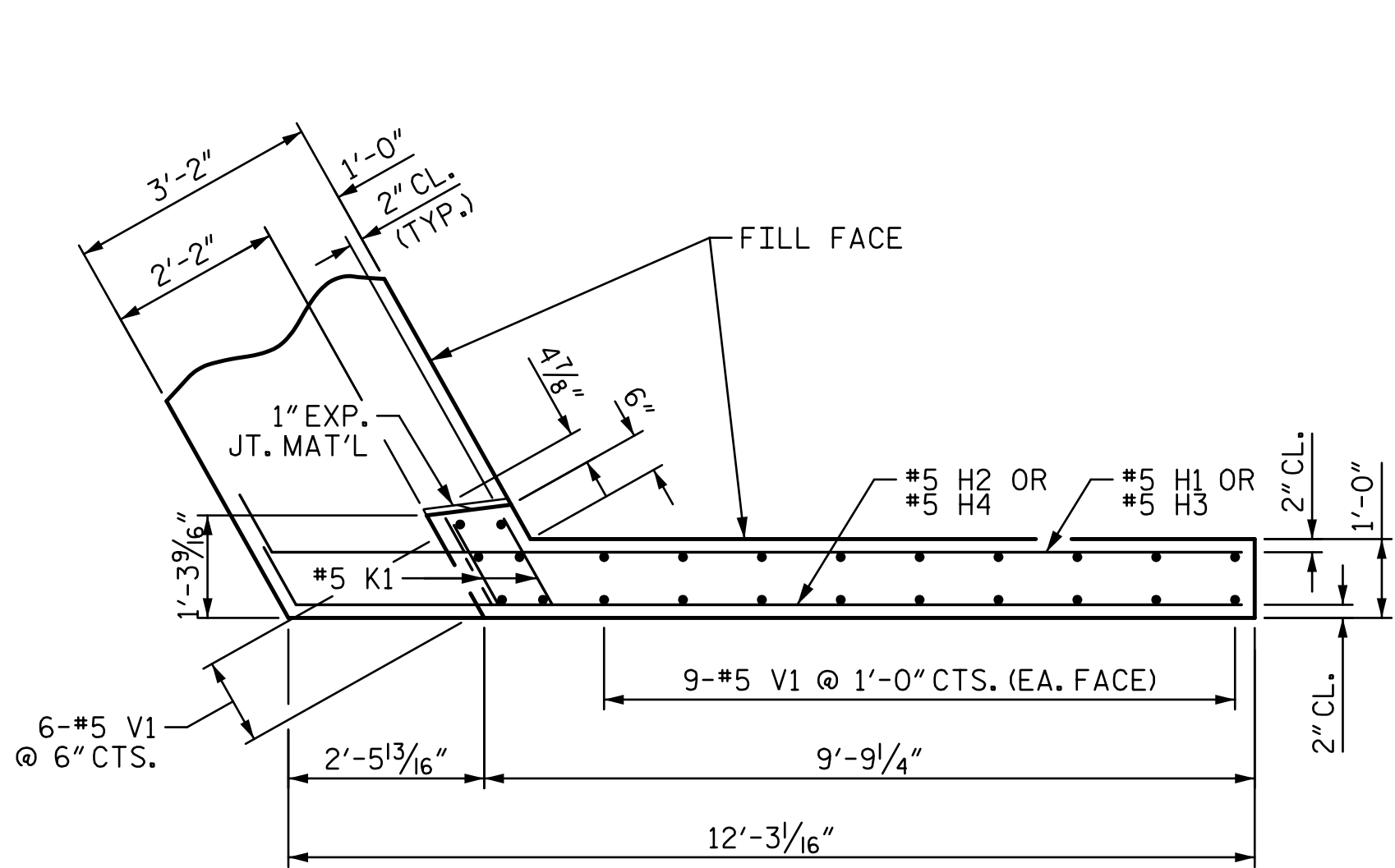
24" STEEL PIPE PILE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-26
2			4			TOTAL SHEETS 32

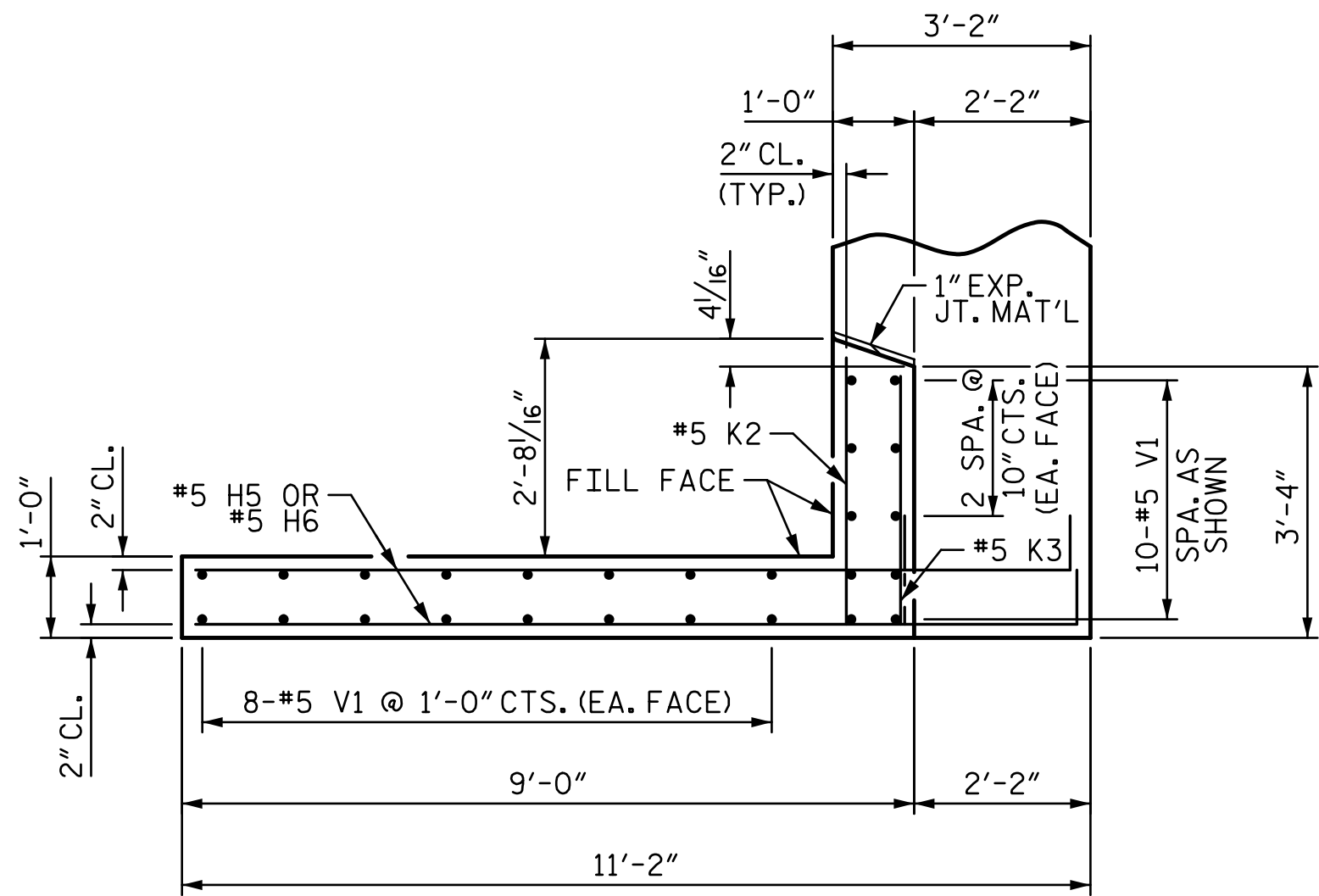
DRAWN BY : J. SCACCA DATE : 01/2025
CHECKED BY : T. LAWS DATE : 01/2025
DESIGN ENGINEER OF RECORD: M. ACOSTA DATE : 03/2026

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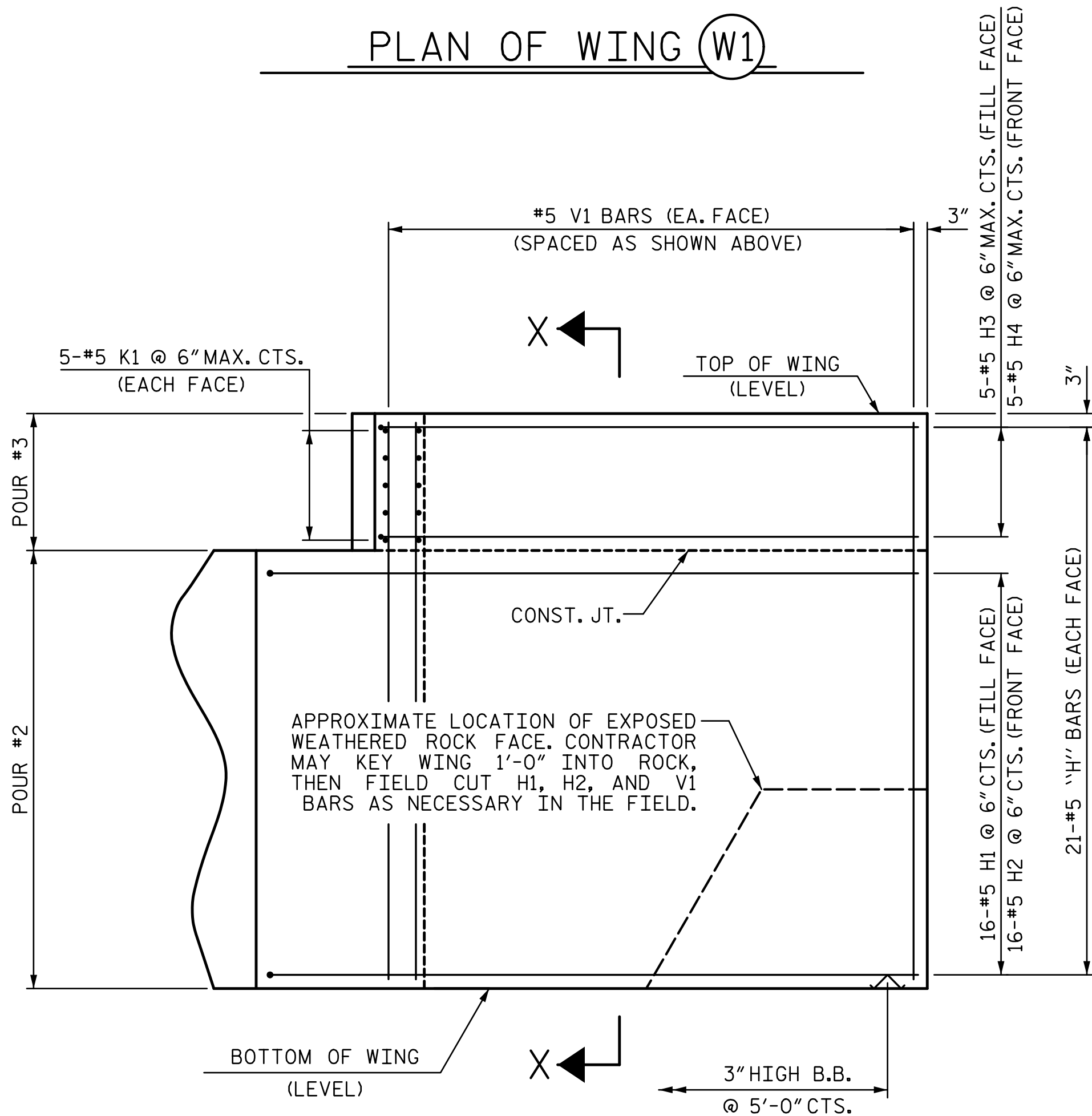
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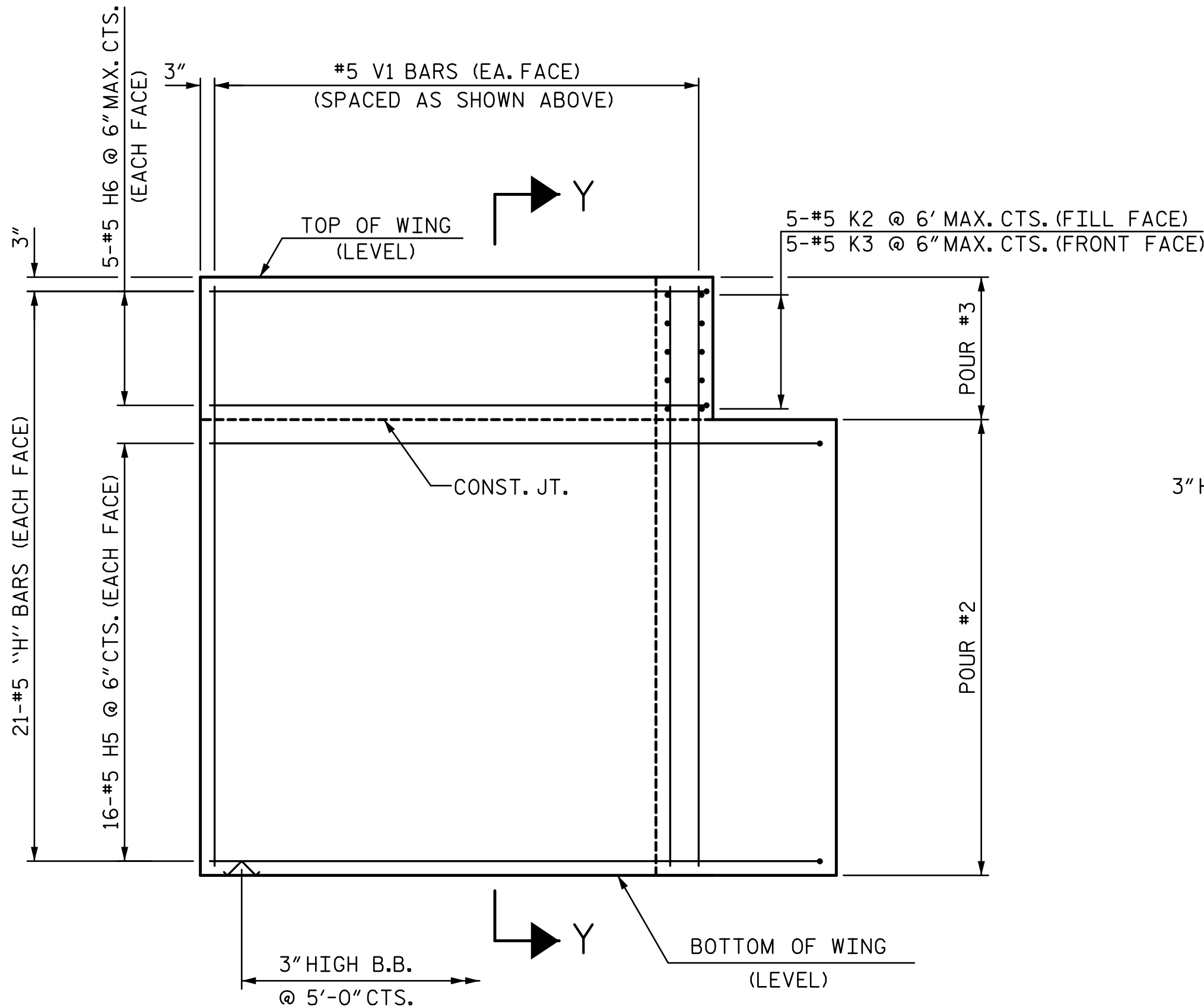
PLAN OF WING (W1)



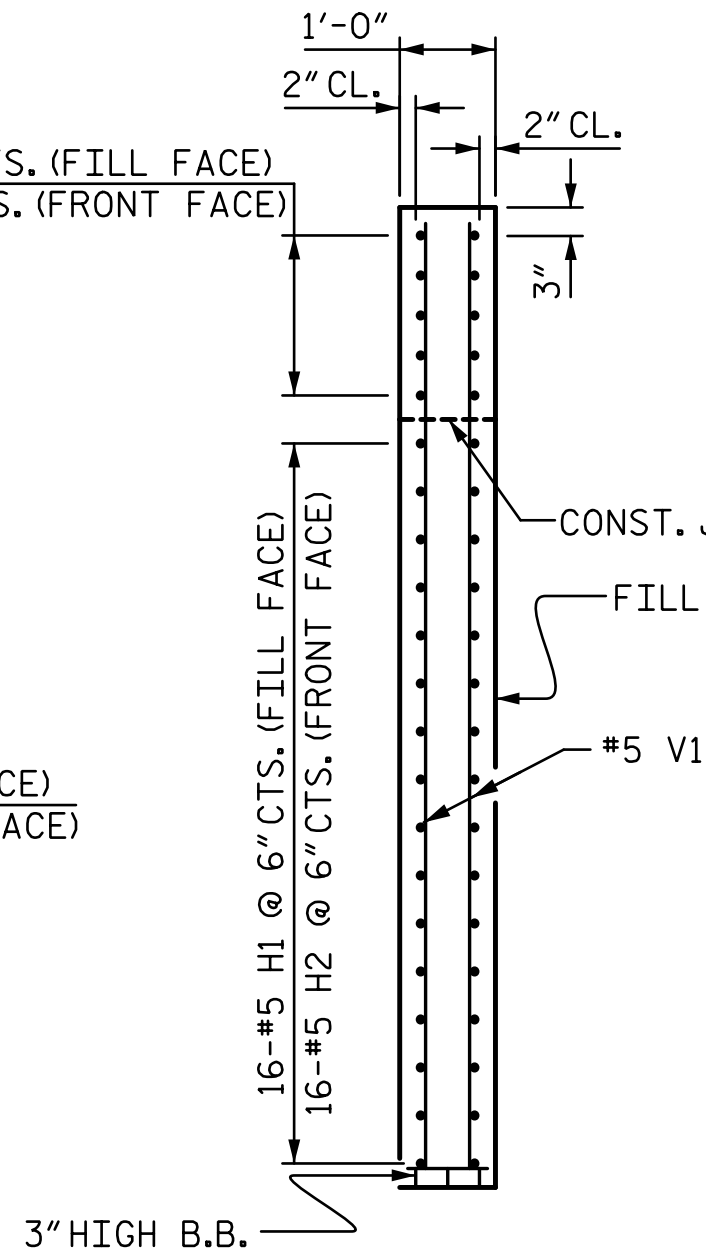
PLAN OF WING (W2)



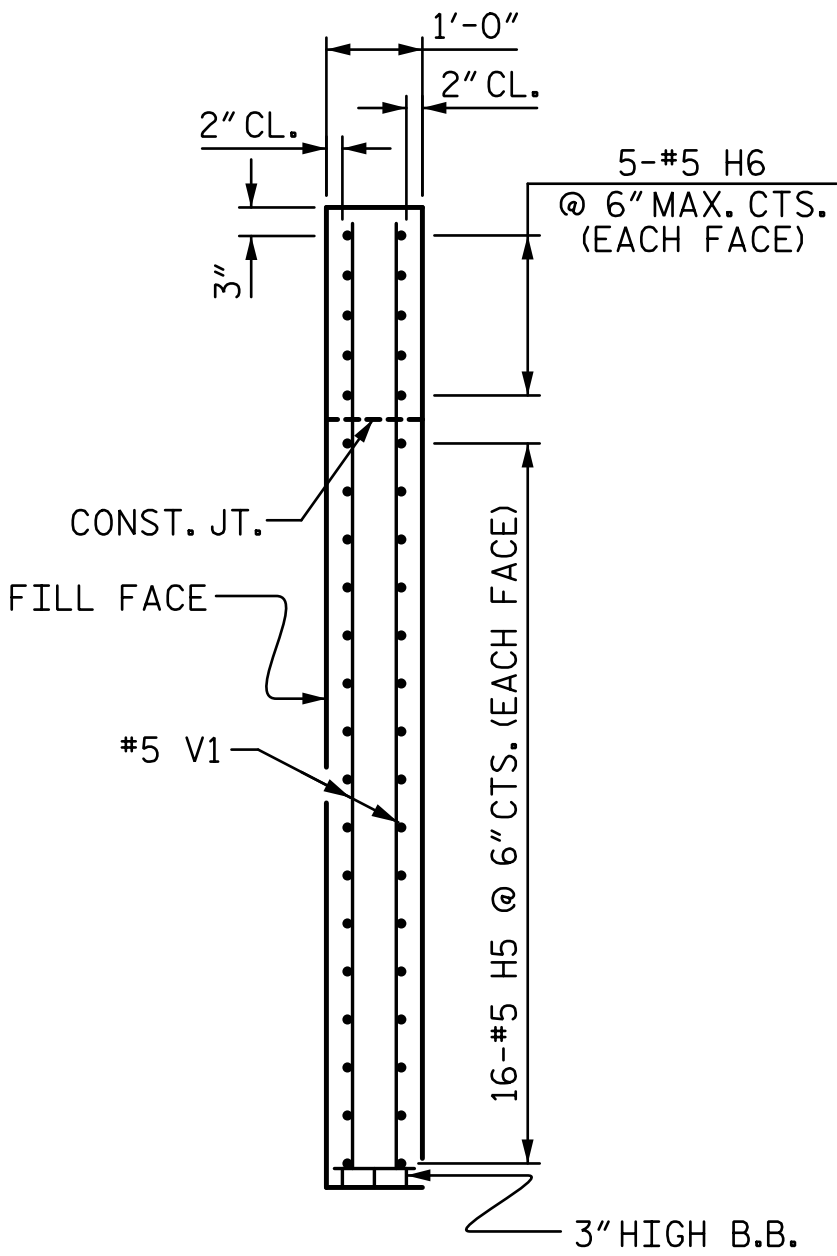
ELEVATION OF WING (W1)



ELEVATION OF WING (W2)



SECTION X-X



SECTION Y-Y

PROJECT NO. DF18314.2045332
HENDERSON COUNTY
STATION: 13+70.81 -L-

SHEET 2 OF 3

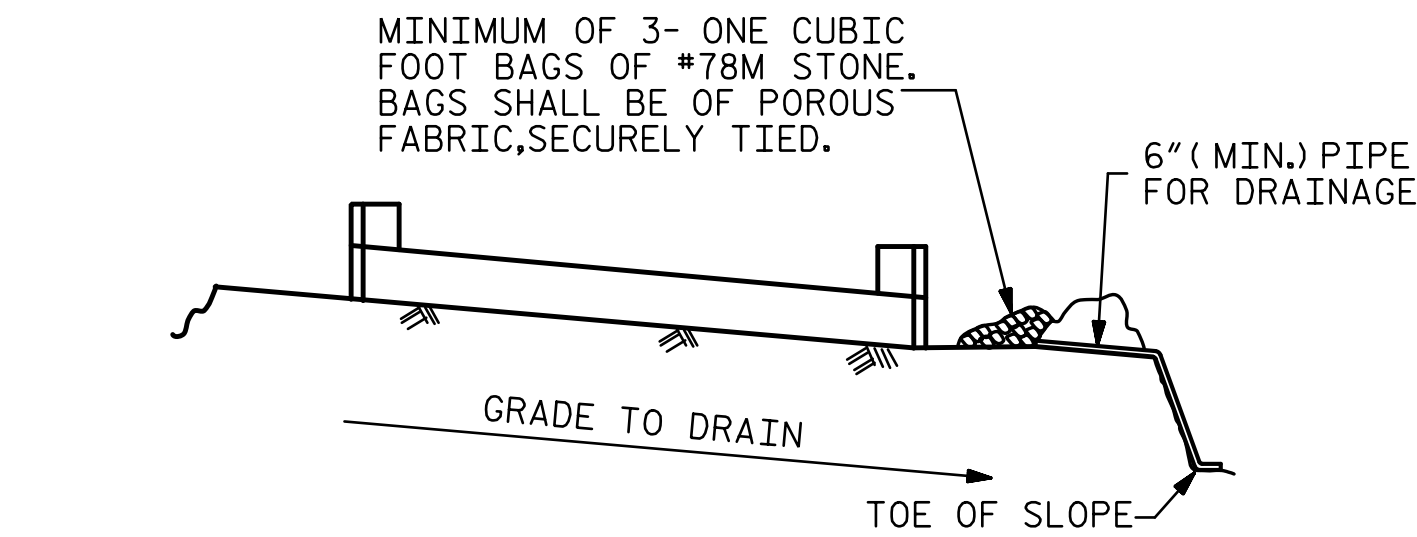
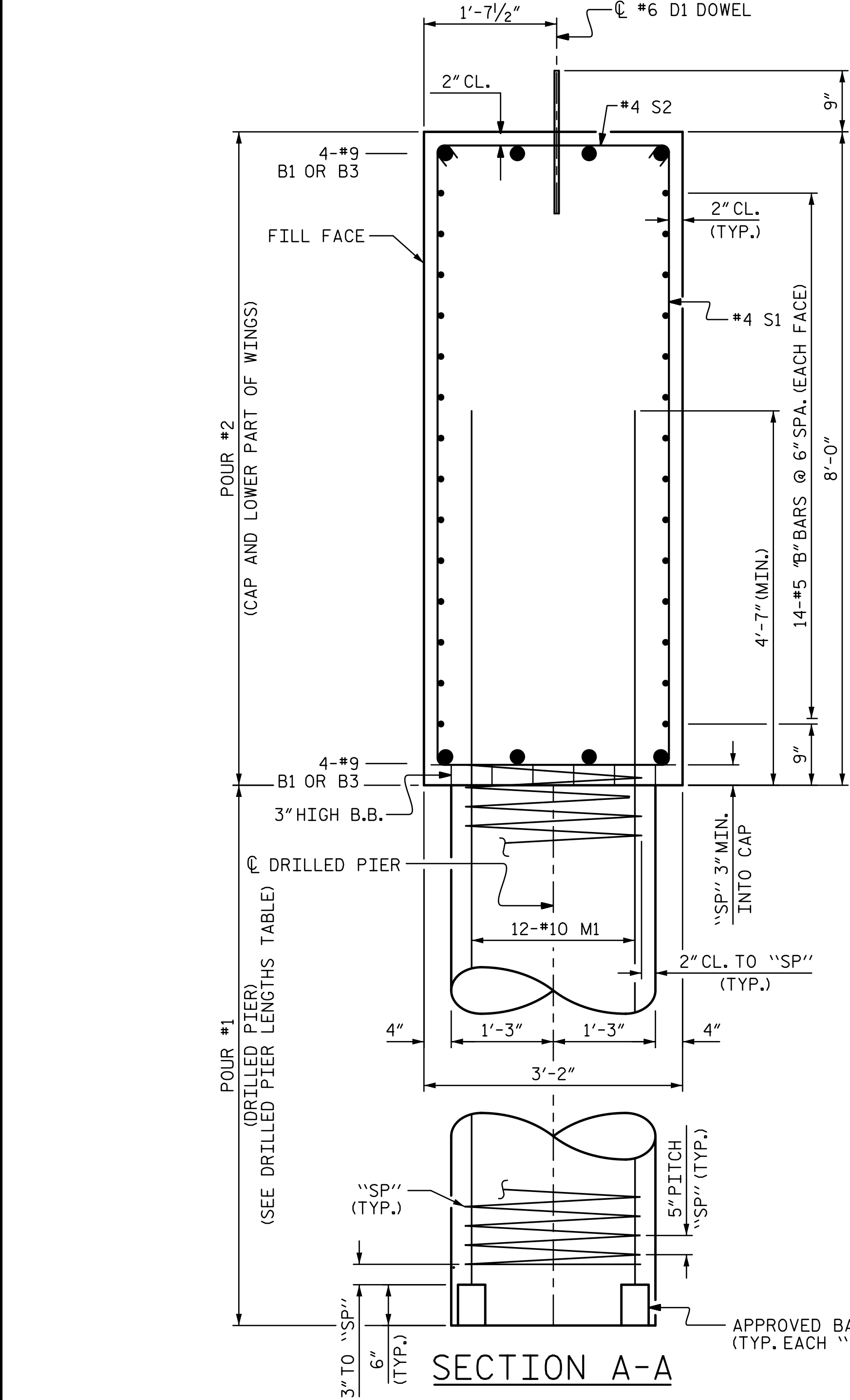
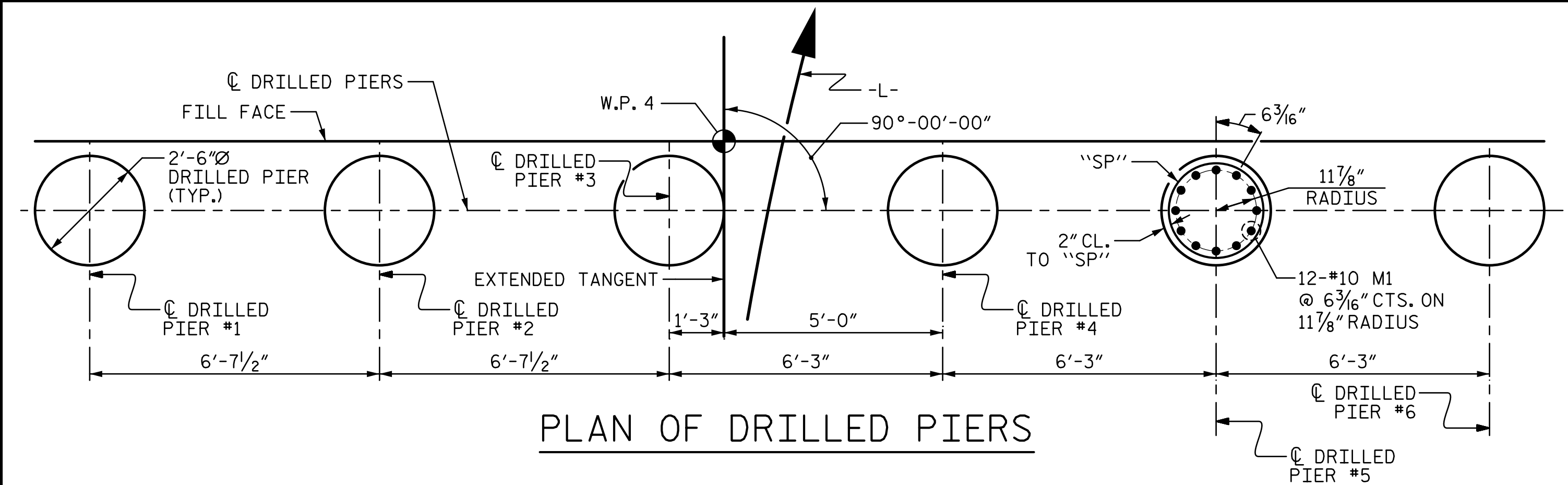
DRAWN BY : J. SCACCA DATE : 06/2025
CHECKED BY : M. ACOSTA DATE : 07/2025
DESIGN ENGINEER OF RECORD: M. ACOSTA DATE : 03/2026

3/11/2026
\\rsandh.com\\files\\Projects\\NCDOT\\10034734005_Henderson_55\\03.00 Project Execution\\03.04 Design\\Structures\\CAD\\401.055_DF18314.2045332_SMU_E2.S-28.440055.dgn
Acostatdm

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SIGNATURES COMPLETED



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-28
2			4			TOTAL SHEETS 32



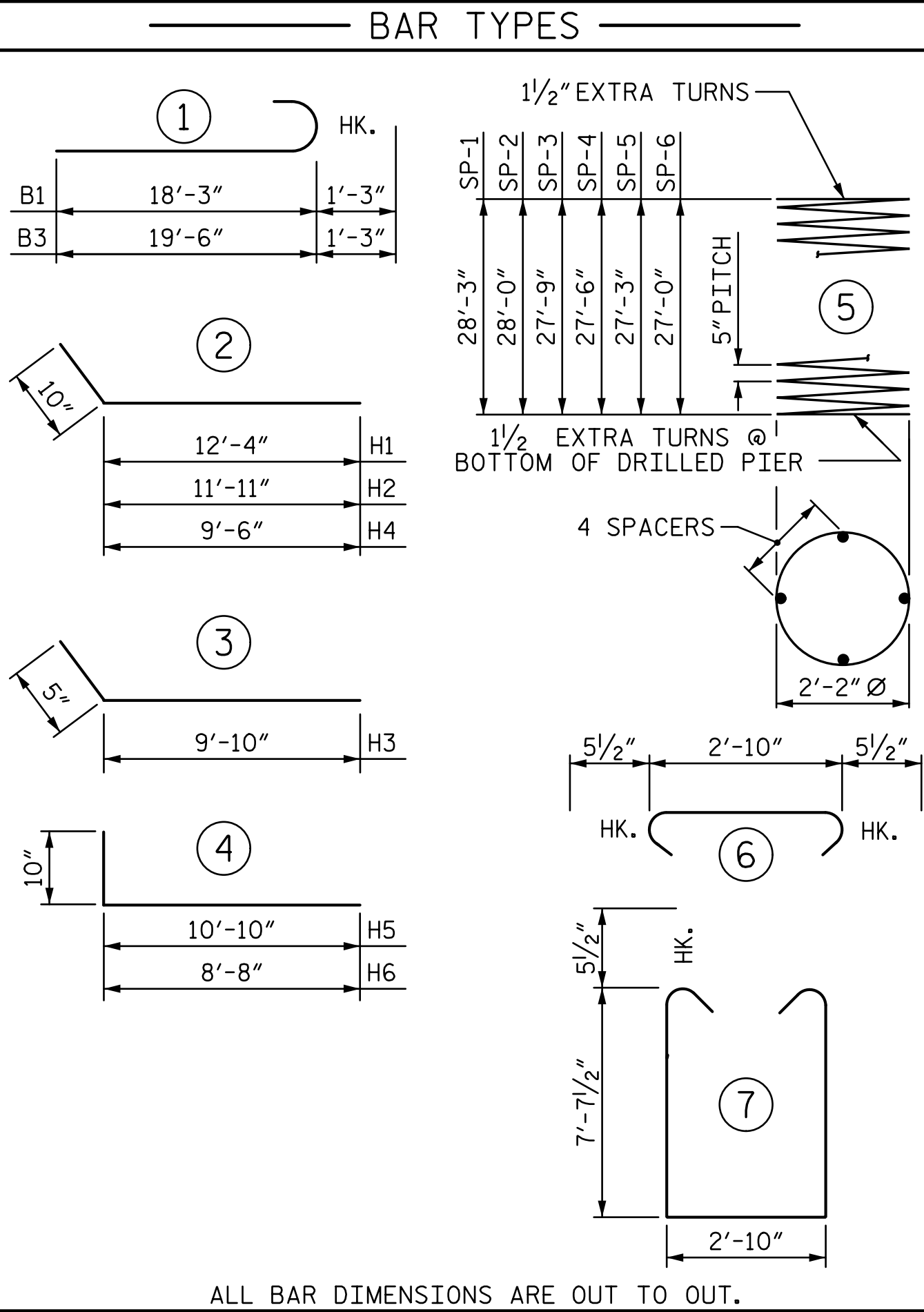
BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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

DRILLED PIER LENGTHS					
PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6
28'-9"	28'-6"	28'-3"	28'-0"	27'-9"	27'-6"



BILL OF MATERIAL						BILL OF MATERIAL					
END BENT 2 (STAGE 3)						END BENT 2 (STAGE 5)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
† B1	8	#9	1	19'-6"	530	B3	8	#9	1	20'-9"	564
* B2	28	#5	STR	19'-9"	577	B4	28	#5	STR	20'-4"	594
D1	10	#6	STR	1'-6"	23	D1	12	#6	STR	1'-6"	27
H1	16	#5	2	13'-2"	220	H5	32	#5	4	11'-8"	389
H2	16	#5	2	12'-9"	213	H6	10	#5	4	9'-6"	99
H3	5	#5	3	10'-3"	53	H4	5	#5	2	10'-4"	54
K1	10	#5	STR	1'-2"	12	K2	5	#5	STR	3'-3"	17
S1	16	#5	7	19'-0"	317	K3	5	#5	STR	3'-0"	16
S2	16	#5	6	3'-9"	63	S1	25	#5	7	19'-0"	495
M1	36	#10	STR	36'-4"	5628	S2	25	#5	6	3'-9"	98
V1	24	#5	STR	9'-9"	244	M1	36	#10	STR	36'-4"	5628
REINFORCING STEEL (STAGE 3) 7,934 LBS.						REINFORCING STEEL (STAGE 5) 8,191 LBS.					
SP-1	1	**	5	459'-4"	479	SP-4	1	**	5	472'-8"	493
SP-2	1	**	5	459'-4"	479	SP-5	1	**	5	472'-8"	493
SP-3	1	**	5	452'-8"	472	SP-6	1	**	5	466'-0"	486
SPIRAL REINFORCING STEEL 1,430 LBS.						SPIRAL REINFORCING STEEL 1,472 LBS.					
DRILLED PIER CONCRETE POUR #1 DRILLED PIERS 15.2 C.Y.						DRILLED PIER CONCRETE POUR #1 DRILLED PIERS 15.7 C.Y.					
CLASS A CONCRETE BREAKDOWN POUR #2 CAP & LOWER PART OF WINGS 18.3 C.Y.						CLASS A CONCRETE BREAKDOWN POUR #2 CAP & LOWER PART OF WINGS 21.8 C.Y.					
POUR #3 UPPER PART OF WINGS 0.9 C.Y.						POUR #3 UPPER PART OF WINGS 0.9 C.Y.					
TOTAL CLASS A CONCRETE 19.2 C.Y.						TOTAL CLASS A CONCRETE 22.7 C.Y.					
TOTAL REINFORCING STEEL 16,125 LBS.						TOTAL REINFORCING STEEL 16,125 LBS.					
TOTAL SPIRAL REINFORCING 2,902 LBS.						TOTAL SPIRAL REINFORCING 2,902 LBS.					
TOTAL CLASS A CONCRETE 41.9 C.Y.						TOTAL CLASS A CONCRETE 41.9 C.Y.					
TOTAL DRILLED PIER CONCRETE 30.9 C.Y.						TOTAL DRILLED PIER CONCRETE 30.9 C.Y.					

NOTE:
FOR DETAILS ON CONSTRUCTION STAGING,
SEE CONSTRUCTION STAGING SHEETS.

† BAR LENGTH IS BASED ON "B" BAR PROJECTING FROM THE CONSTRUCTION JOINT 1'-0". BAR LENGTH MAY NEED TO BE MODIFIED PER MANUFACTURER'S RECOMMENDATIONS.

* THE "SP" SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR.

* BARS ARE DETAILED WITH ADEQUATE LENGTH FOR A SPLICE. MECHANICAL REBAR SPLICES WILL BE REQUIRED IF THE TEMPORARY SHORING LOCATION DOES NOT ALLOW FOR MIN. REQUIRED SPLICE LENGTH. ALL COSTS ASSOCIATED WITH MECHANICAL BAR SPLICES SHALL BE CONSIDERED INCIDENTAL TO THE REINFORCING STEEL. NO ADDITIONAL PAYMENT WILL BE MADE.

PROJECT NO. DF18314.2045332

HENDERSON COUNTY

STATION: 13+70.81 -L-

SHEET 3 OF 3

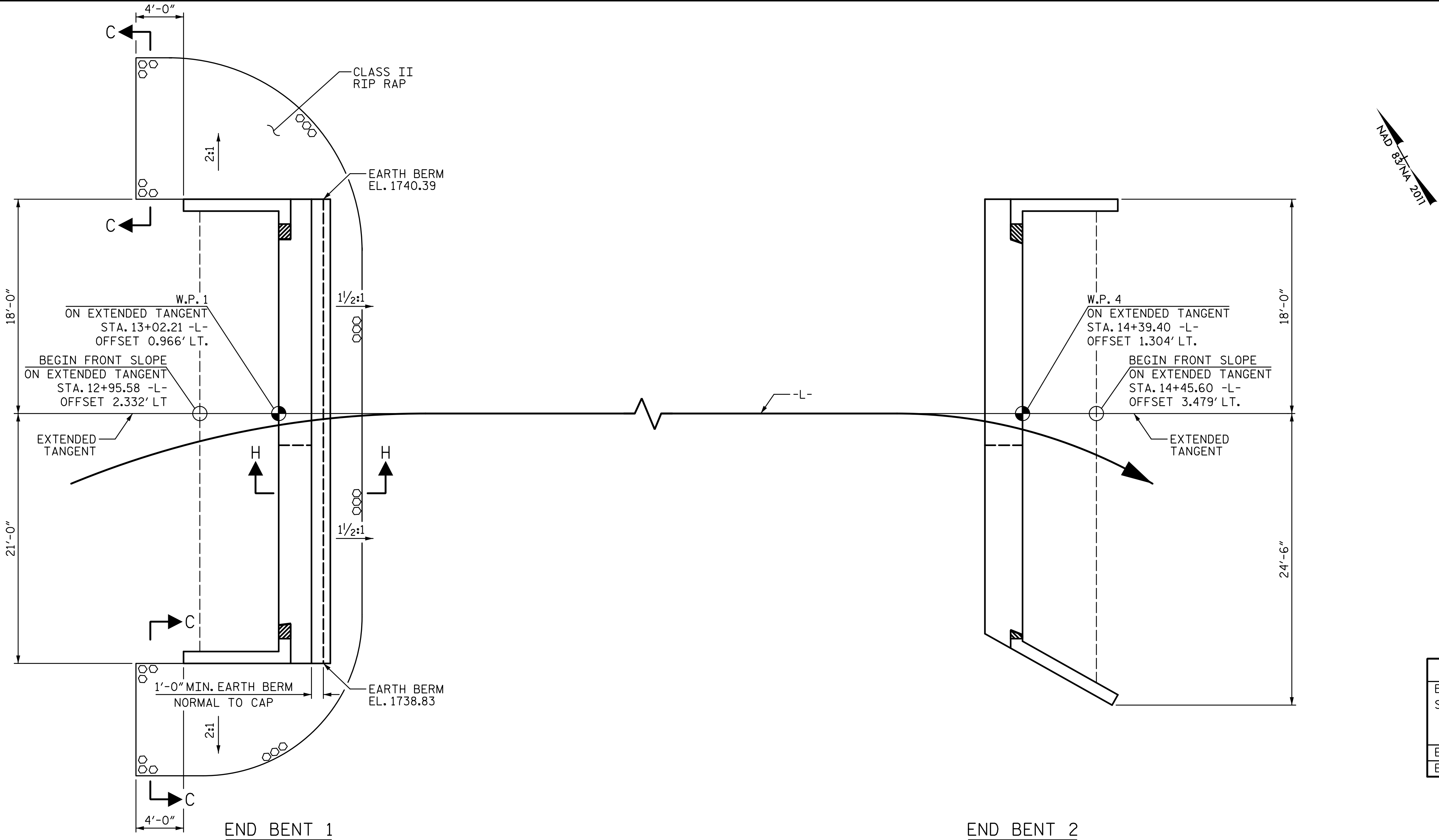


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE
END BENT 2
DETAILS

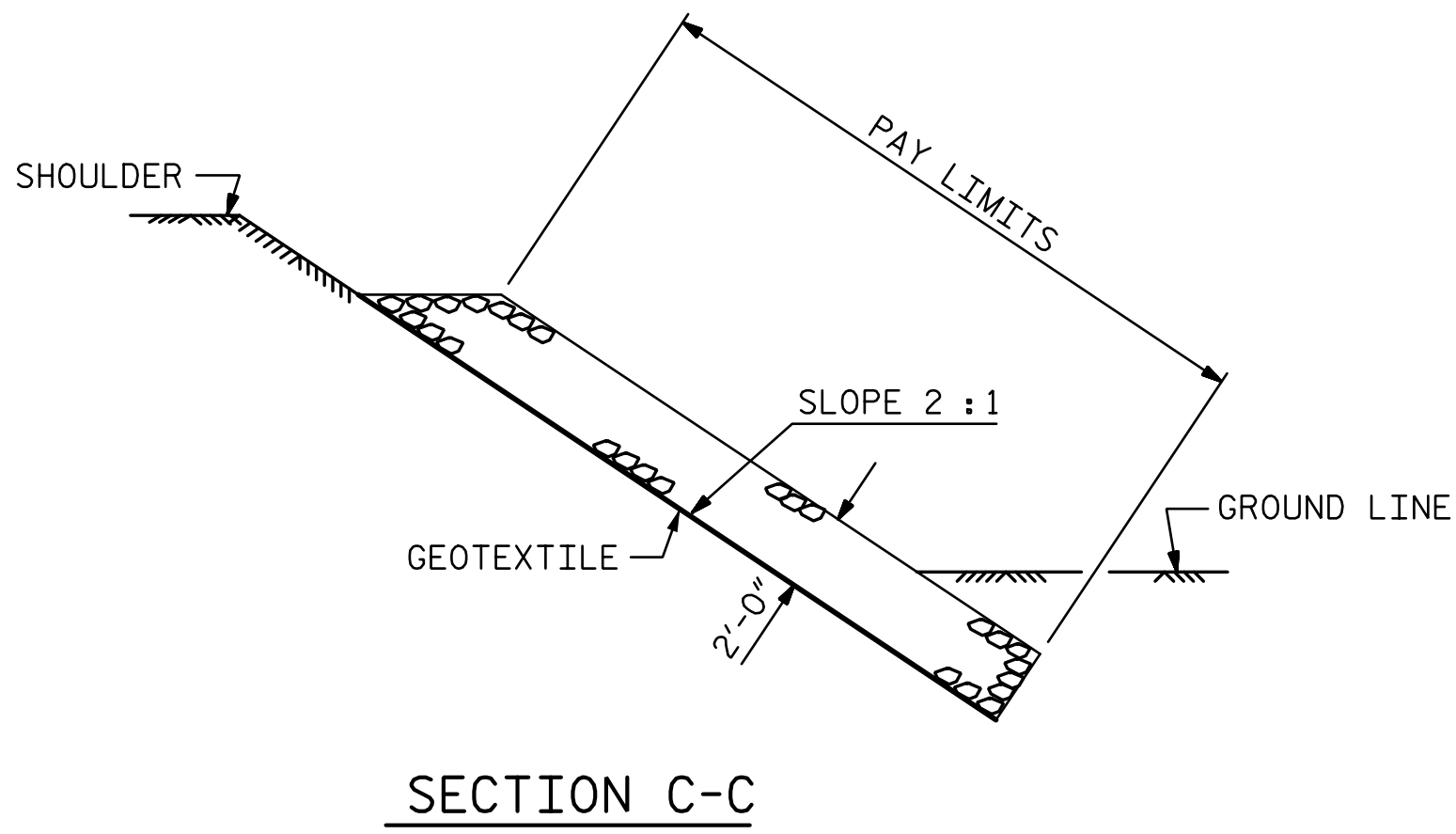
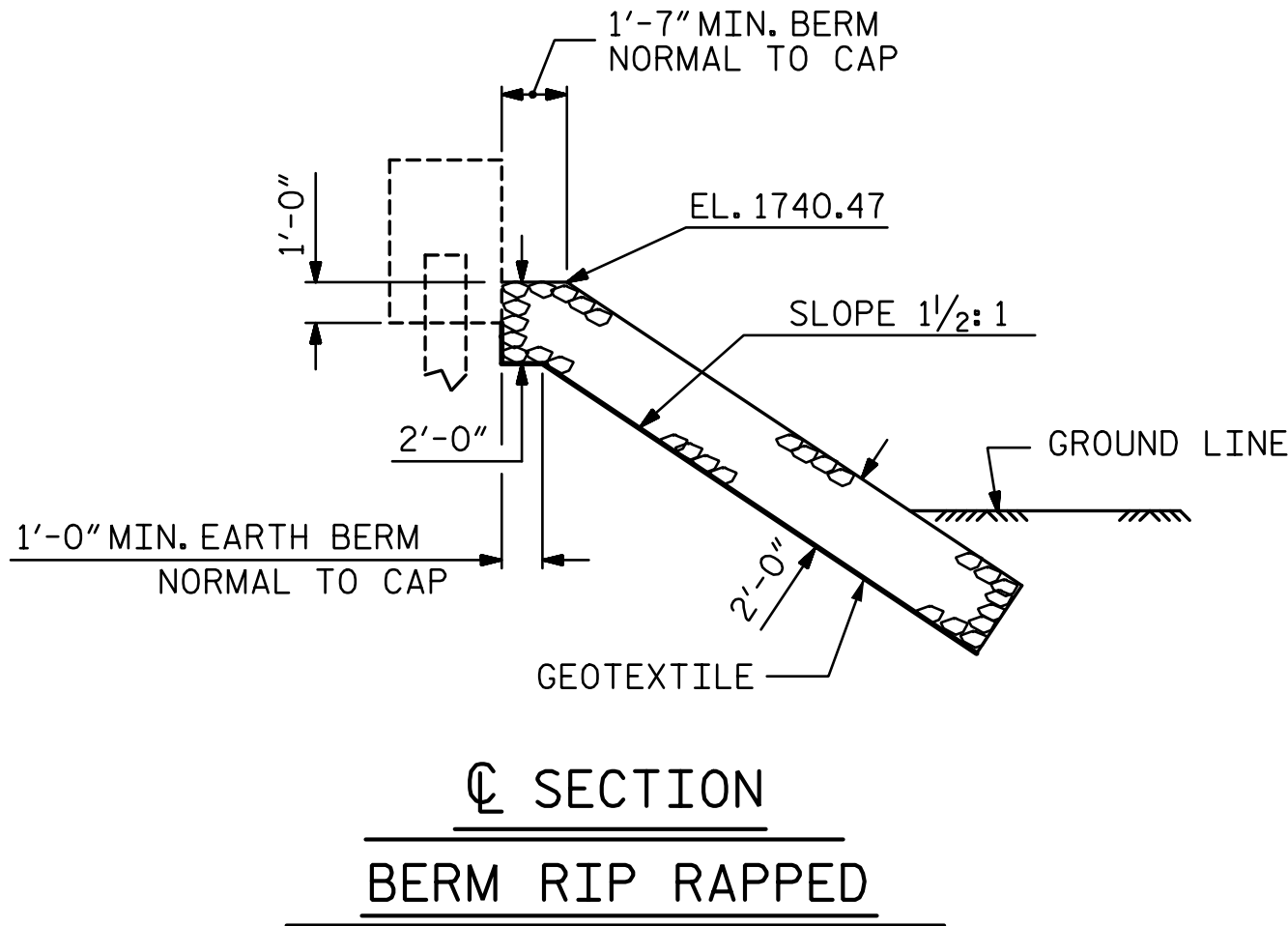
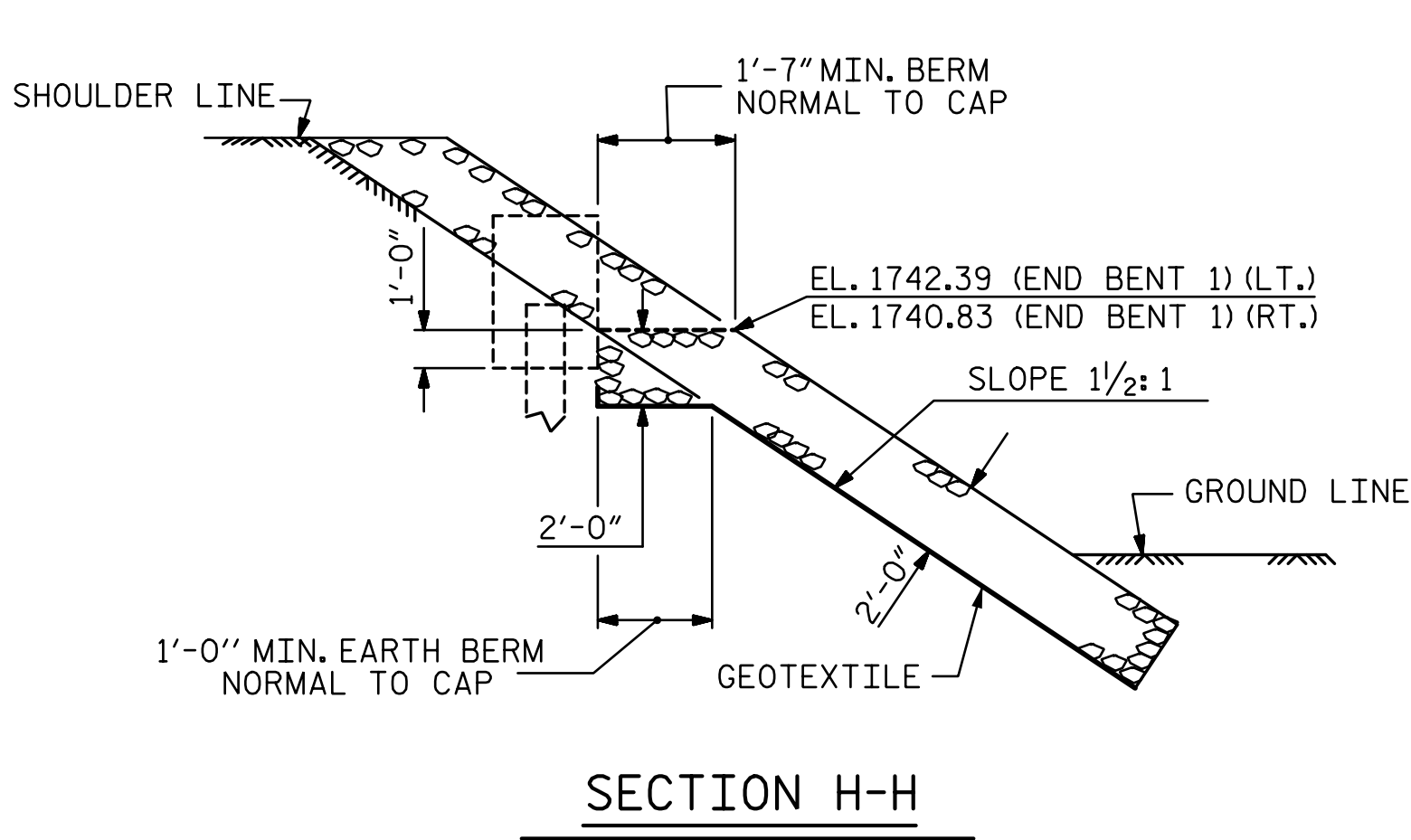
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-29
2			4			32

DRAWN BY : J. SCACCA DATE : 06/2025
CHECKED BY : M. ACOSTA DATE : 07/2025
DESIGN ENGINEER OF RECORD: M. ACOSTA DATE : 03/2026

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ESTIMATED QUANTITIES		
BRIDGE @ STA. 13+70.81 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	101	112
END BENT 2	0	0



PROJECT NO. DF18314.2045332
HENDERSON COUNTY
STATION: 13+70.81 -L-



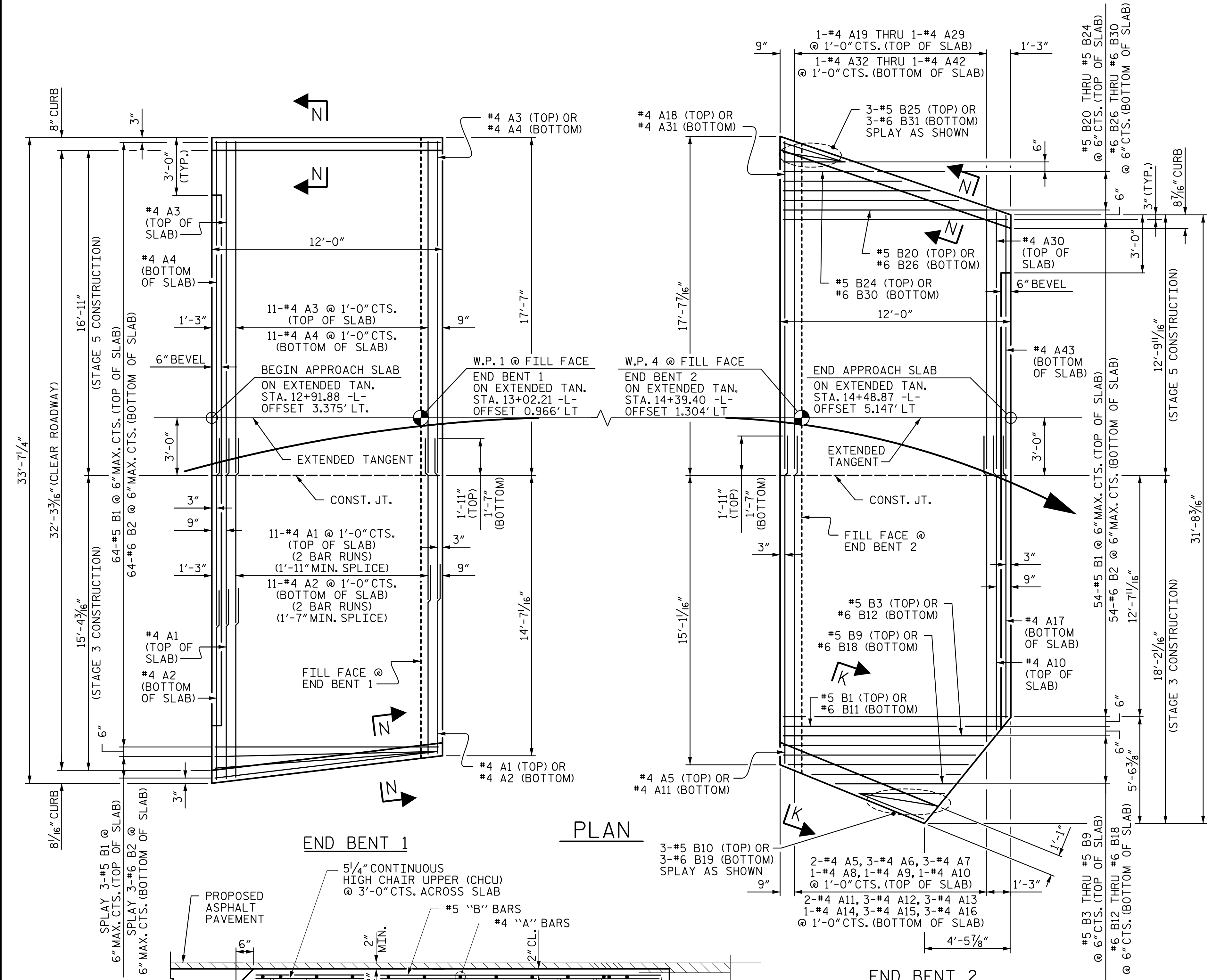
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

RIP RAP DETAILS

DRAWN BY : M. ACOSTA DATE : 07/2025
CHECKED BY : T. R. LAWS DATE : 07/2025
DESIGN ENGINEER OF RECORD: M. ACOSTA DATE : 03/2026

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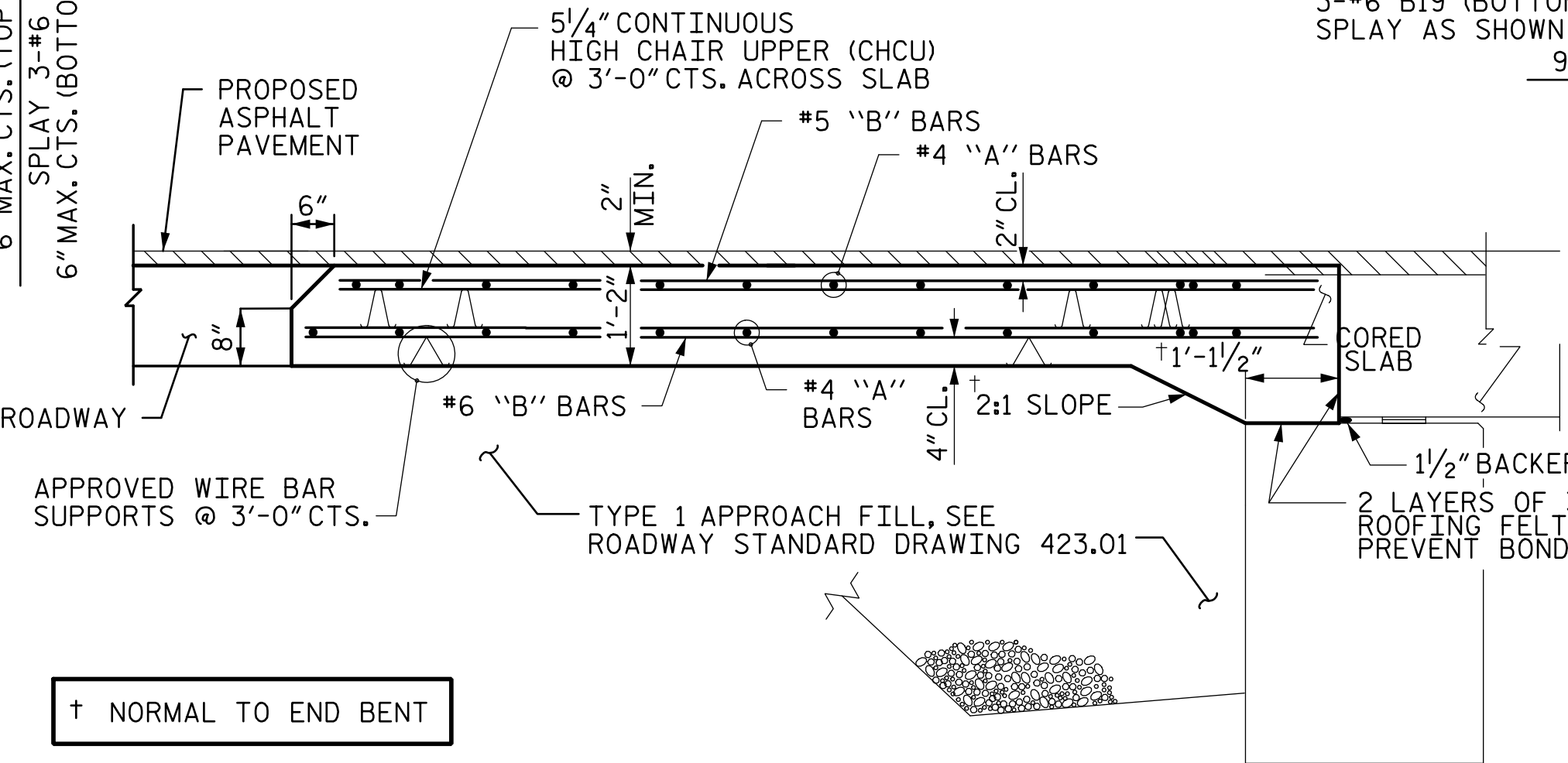
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-30
2			4			TOTAL SHEETS 32



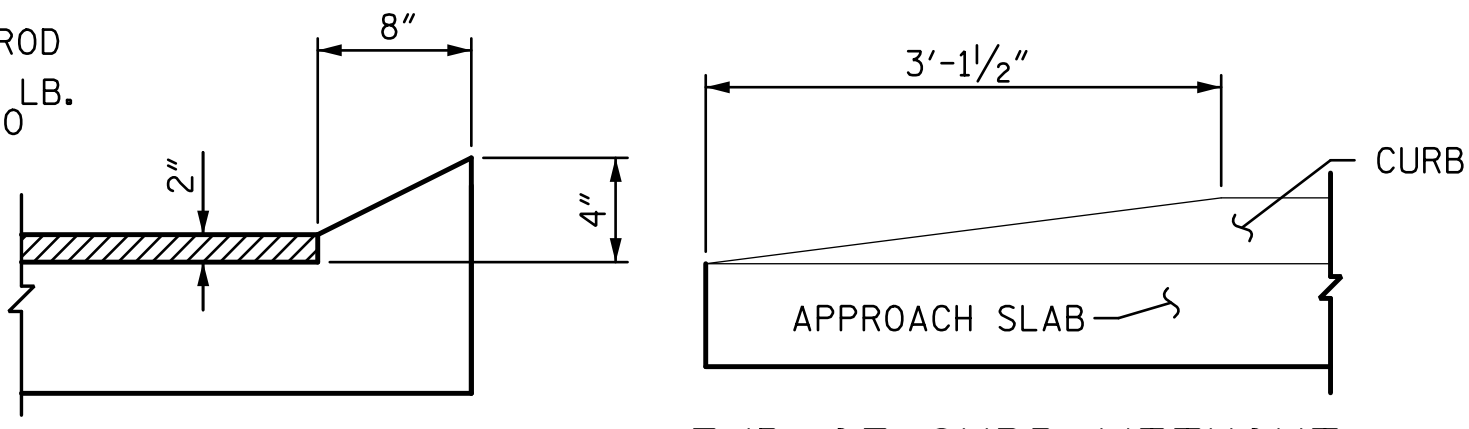
END BENT 1

PLAN

END BENT 2

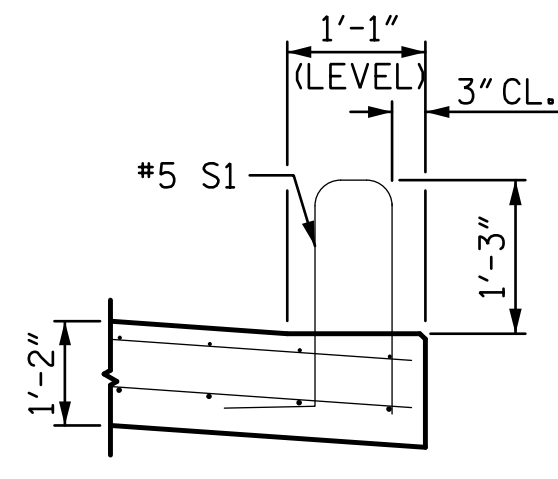


SECTION THRU SLAB



SECTION N-N

END OF CURB WITHOUT SHOULDER BERM GUTTER



SECTION K-K

NOTES:

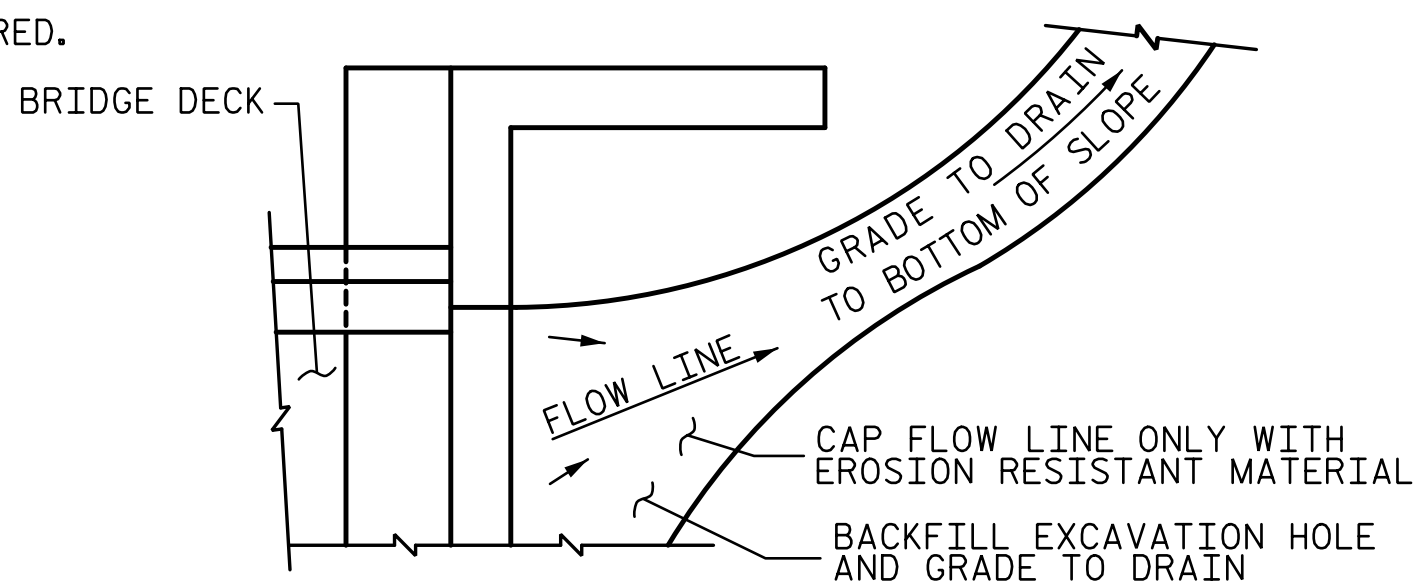
"A" BARS MAY BE BENT TO AVOID EXISTING APPROACH SLAB AND END BENT AS NECESSARY.

SEE SHEET 2 OF 2 FOR BILL OF MATERIAL.

FOR BRIDGE APPROACH FILL, SEE ROADWAY PLANS.

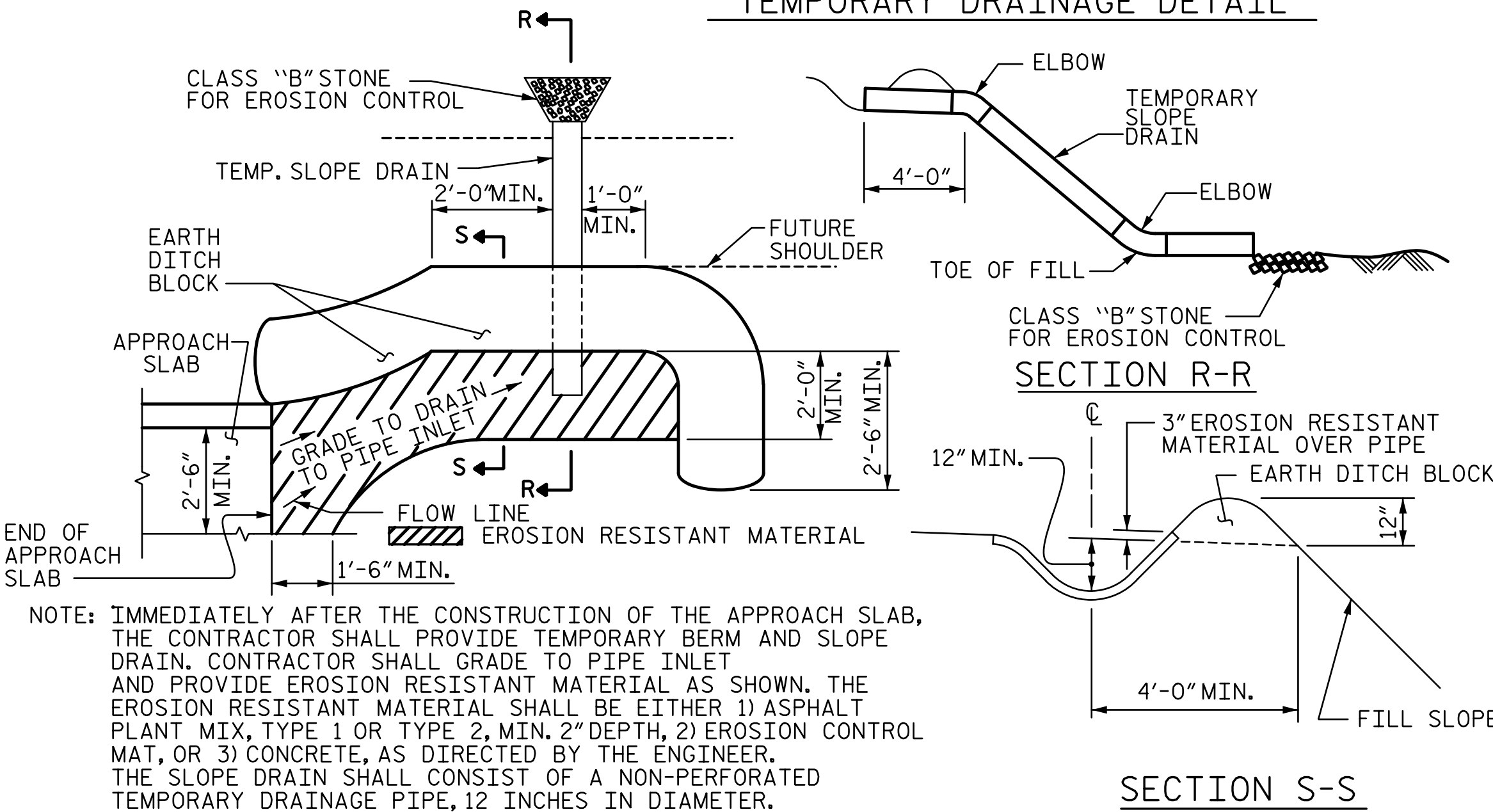
AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.

APPROACH SLAB GROOVING IS NOT REQUIRED.



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

TEMPORARY DRAINAGE DETAIL



NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN. 2" DEPTH, 2) EROSION CONTROL MAT, OR 3) CONCRETE, AS DIRECTED BY THE ENGINEER. THE SLOPE DRAIN SHALL CONSIST OF A NON-PERFORATED TEMPORARY DRAINAGE PIPE, 12 INCHES IN DIAMETER.

PLAN VIEW

TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)

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

PROJECT NO. DF18314.2045332

HENDERSON COUNTY

STATION: 13+70.81 -L-

SHEET 1 OF 2

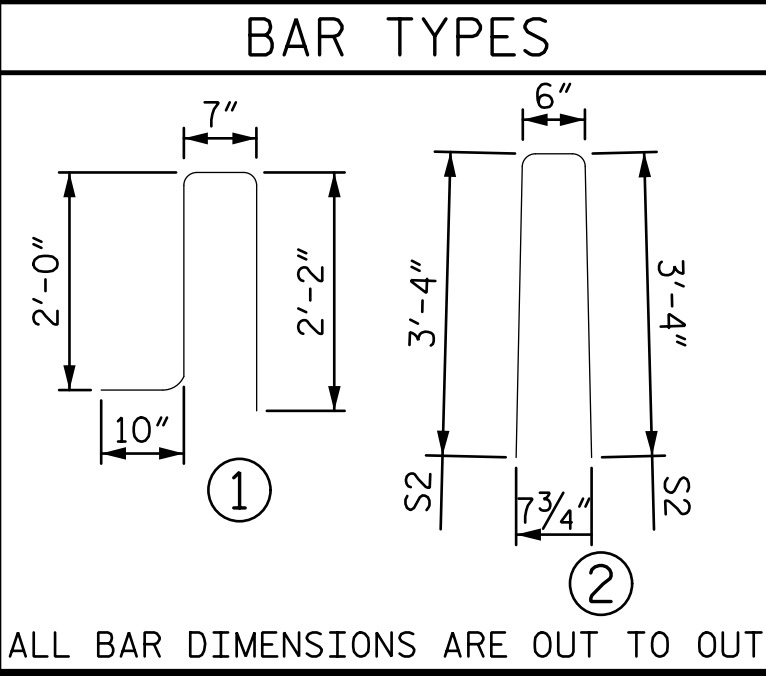


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
BRIDGE APPROACH SLAB
FOR PRESTRESSED
CONCRETE CORED SLAB
(SUB-REGIONAL TIER)
90° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-31
2			4			TOTAL SHEETS 32

DRAWN BY : J. SCACCA DATE : 07/2025
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DESIGN ENGINEER OF RECORD: M. ACOSTA DATE : 03/2026

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BILL OF MATERIAL					
BARRIER RAIL ONLY					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B32	5	#5	STR	8'-4"	43
B33	5	#5	STR	7'-10"	41
S1	17	#5	1	5'-7"	99
S2	17	#5	2	7'-2"	127
* EPOXY COATED REINFORCING STEEL				310 LBS.	
CLASS AA CONCRETE				1.0 C.Y.	
CONCRETE BARRIER RAIL				8.1 LIN. FT.	

BILL OF MATERIAL					
APPROACH SLAB AT EB 1 (STAGE 3)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	26	#4	STR	9'-11"	172
A2	26	#4	STR	9'-8"	168
* B1	32	#5	STR	11'-2"	373
B2	32	#6	STR	11'-8"	561
REINFORCING STEEL				729 LBS.	
* EPOXY COATED REINFORCING STEEL				545 LBS.	
CLASS AA CONCRETE				8.8 C.Y.	

BILL OF MATERIAL					
APPROACH SLAB AT EB 2 (STAGE 3)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A5	3	#4	STR	17'-9"	36
* A6	3	#4	STR	19'-0"	38
* A7	3	#4	STR	19'-11"	40
* A8	1	#4	STR	18'-6"	12
* A9	1	#4	STR	17'-3"	12
* A10	2	#4	STR	16'-0"	21
A11	3	#4	STR	17'-5"	35
A12	3	#4	STR	18'-8"	37
A13	3	#4	STR	19'-7"	39
A14	1	#4	STR	18'-2"	12
A15	1	#4	STR	16'-11"	11
A16	1	#4	STR	15'-8"	10
A17	1	#4	STR	14'-10"	10

BILL OF MATERIAL					
APPROACH SLAB AT EB 2 (STAGE 5)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A18	1	#4	STR	17'-2"	11
* A19	1	#4	STR	17'-0"	11
* A20	1	#4	STR	16'-8"	11
* A21	1	#4	STR	16'-4"	11
* A22	1	#4	STR	16'-0"	11
* A23	1	#4	STR	15'-7"	10
* A24	1	#4	STR	15'-3"	10
* A25	1	#4	STR	14'-11"	10
* A26	1	#4	STR	14'-7"	10
* A27	1	#4	STR	14'-3"	10
* A28	1	#4	STR	13'-11"	9
* A29	1	#4	STR	13'-7"	9
* A30	1	#4	STR	13'-5"	9
A31	1	#4	STR	17'-3"	12
A32	1	#4	STR	17'-0"	11
A33	1	#4	STR	16'-9"	11
A34	1	#4	STR	16'-4"	11
A35	1	#4	STR	16'-0"	11
A36	1	#4	STR	15'-8"	10
A37	1	#4	STR	15'-3"	10
A38	1	#4	STR	14'-11"	10
A39	1	#4	STR	14'-8"	10
A40	1	#4	STR	14'-3"	10
A41	1	#4	STR	13'-11"	9
A42	1	#4	STR	13'-8"	9
A43	1	#4	STR	13'-8"	9

BILL OF MATERIAL					
APPROACH SLAB AT EB 1 (STAGE 5)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A3	13	#4	STR	17'-3"	150
A4	13	#4	STR	17'-3"	150
* B1	35	#5	STR	11'-2"	408
B2	35	#6	STR	11'-8"	613
REINFORCING STEEL				763 LBS.	
* EPOXY COATED REINFORCING STEEL				558 LBS.	
CLASS AA CONCRETE				10.2 C.Y.	

NOTES:

THE COST OF THE BARRIER RAIL ON THE APPROACH SLAB SHALL BE INCLUDED IN THE LINEAR FOOT CONTRACT PRICE BID FOR "CONCRETE BARRIER RAIL".

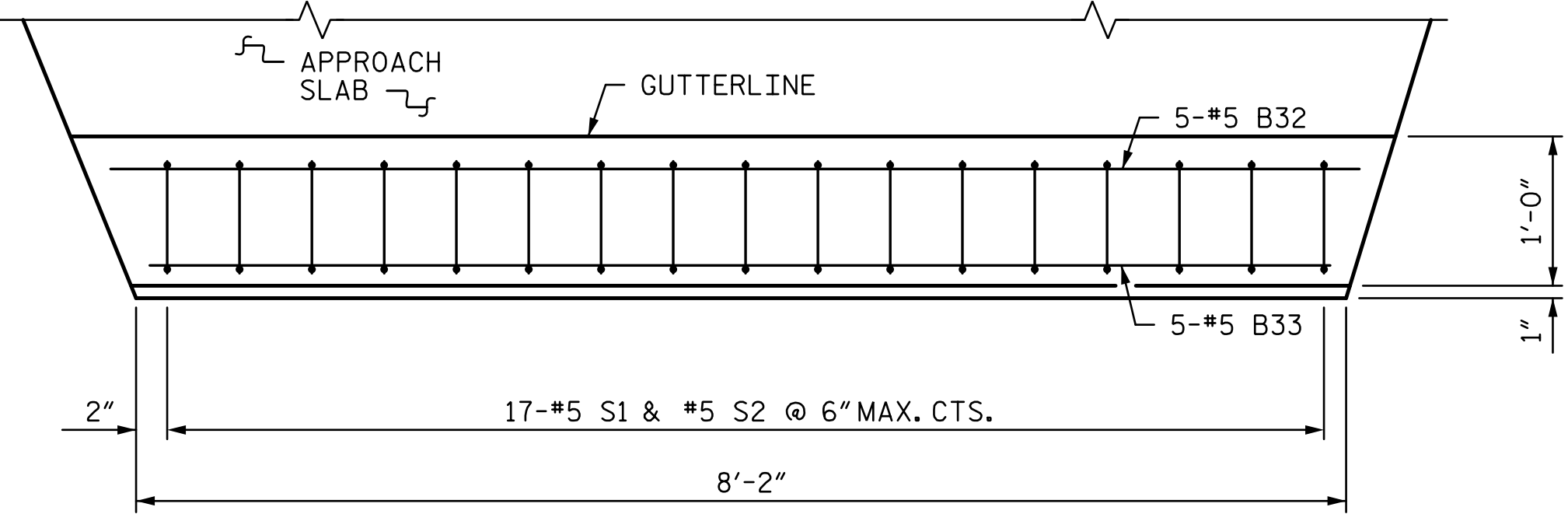
THE BARRIER RAIL ON APPROACH SLAB SHALL NOT BE CAST UNTIL ALL APPROACH SLAB CONCRETE HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

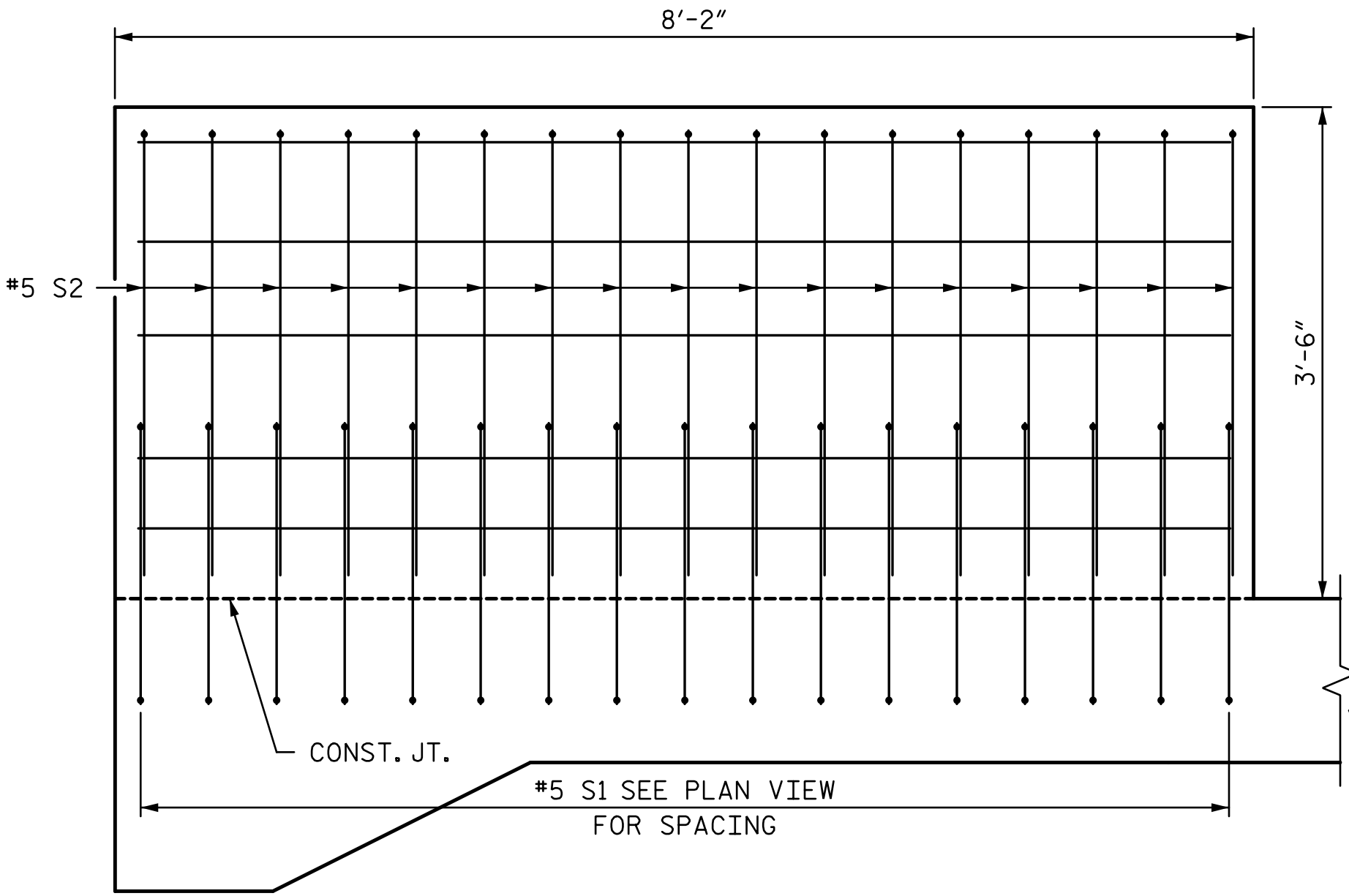
FOR DETAILS ON CONSTRUCTION STAGING, SEE CONSTRUCTION STAGING SHEETS.

B11	1	#6	STR	11'-2"	17
B12	1	#6	STR	10'-8"	16
B13	1	#6	STR	10'-3"	15
B14	1	#6	STR	9'-10"	15
B15	1	#6	STR	8'-11"	13
B16	1	#6	STR	7'-3"	11
B17	1	#6	STR	5'-7"	8
B18	1	#6	STR	4'-0"	6
B19	3	#6	STR	2'-4"	11
REINFORCING STEEL				739 LBS.	
* EPOXY COATED REINFORCING STEEL				551 LBS.	
CLASS AA CONCRETE				9.2 C.Y.	

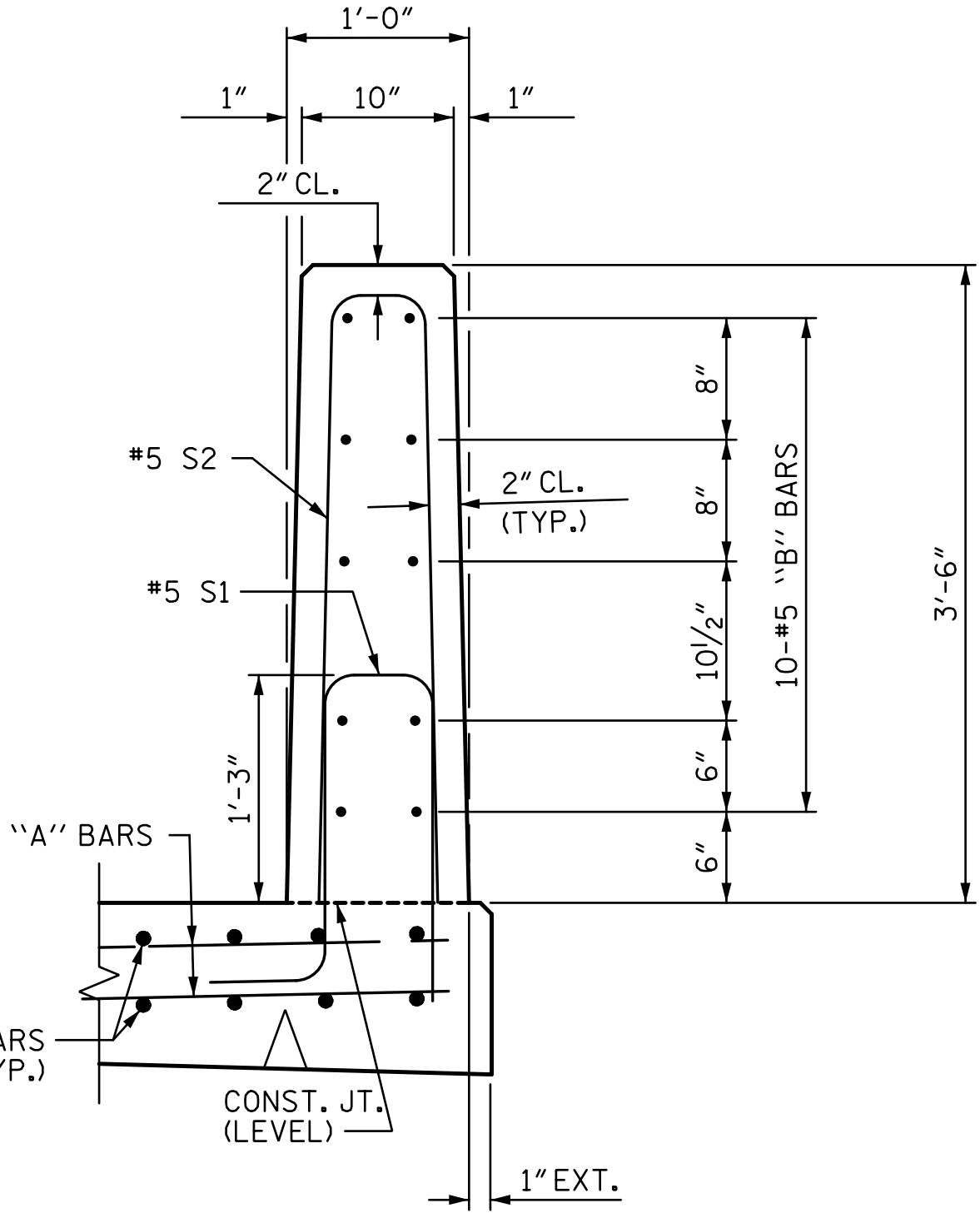
* B1	27	#5	STR	11'-2"	314
B2	27	#6	STR	11'-8"	473
* B20	1	#5	STR	10'-6"	11
* B21	1	#5	STR	9'-1"	9
* B22	1	#5	STR	7'-7"	8
* B23	1	#5	STR	6'-2"	6
* B24	1	#5	STR	4'-8"	5
* B25	3	#5	STR	3'-2"	10
B26	1	#6	STR	10'-6"	16
B27	1	#6	STR	9'-1"	14
B28	1	#6	STR	7'-7"	11
B29	1	#6	STR	6'-2"	9
B30	1	#6	STR	4'-8"	7
B31	3	#6	STR	3'-2"	14
REINFORCING STEEL				677 LBS.	
* EPOXY COATED REINFORCING STEEL				495 LBS.	
CLASS AA CONCRETE				9.1 C.Y.	



PLAN OF BARRIER RAIL



SIDE VIEW



SECTION THRU RAIL

END OF RAIL DETAILS

DRAWN BY :	J. SCACCA	DATE :	07/2025
CHECKED BY :	M. ACOSTA	DATE :	07/2025
DESIGN ENGINEER OF RECORD:	M. ACOSTA	DATE :	03/2026

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED



PROJECT NO. DF18314.2045332
HENDERSON COUNTY
STATION: 13+70.81 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
APPROACH SLAB DETAILS					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					S-32
					TOTAL SHEETS 32

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

DOWELS:

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

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

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

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

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

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

REINFORCING STEEL:

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

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

STRUCTURAL STEEL:

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

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

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16" 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.