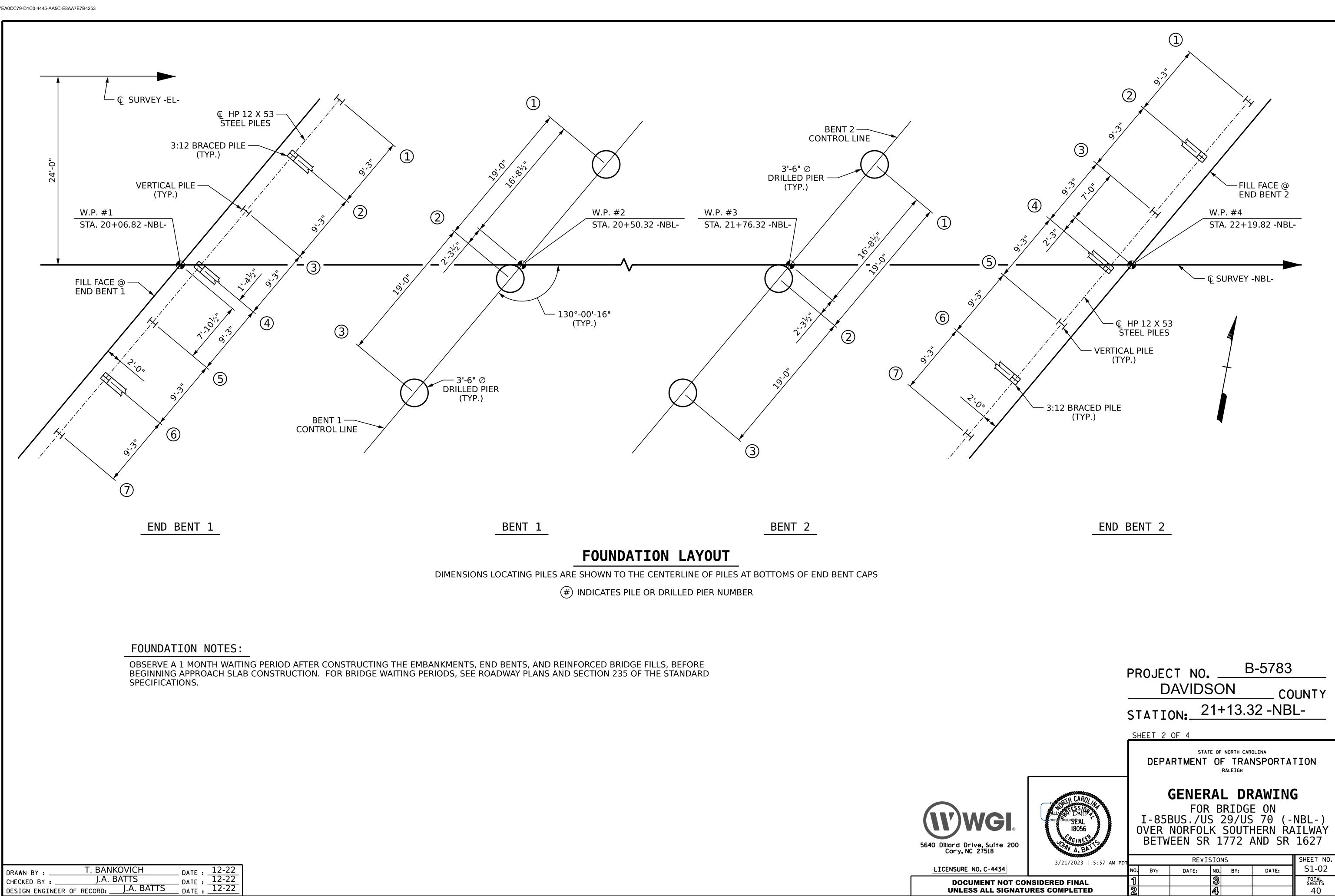


	TOP	OF RAI	L ELE	VATIO	NS
	TRA	CK 2		TRA	ACK 1
	LEFT RAIL	RIGHT RAIL		LEFT RAIL	RIGHT RAIL
STAEY1-	EL.	EL.	STAEY1-	EL.	EL.
12+52.23		882.39	12+52.32		882.62
12+52.24	882.39		12+52.39	882.63	
13+04.91		882.00	13+01.11	882.22	
13+04.95	882.01		13+05.16		882.16
13+10.26		881.97	13+05.25	882.19	
13+18.56	881.90		13+17.89	882.07	
13+63.01		881.56	13+18.01		882.06
13+63.08	881.57		13+63.44		881.66
14+13.06		881.24	13+63.51	881.66	
14+13.07	881.25		14+16.37		881.27
14+47.64	881.02		14+22.61	881.25	
14+47.67		881.00	14+47.64		881.03
			14+64.01	880.94	





518	A. BA							
	3/21/2023 5:57 AM PDT			REVI	ISION	IS		SHEET NO.
C-4434		NO.	BY:	DATE:	NO.	BY:	DATE:	S1-02
ENT NOT CO	NSIDERED FINAL	1			3			TOTAL SHEETS
ALL SIGNATU	IRES COMPLETED	2			4			40

SUMMARY OF PILE INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

						Driven Piles			Predrilling for Piles*		ſ	Drilled-In Piles	
End Bent/ Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Factored Resistance per Pile TONS	Pile Cut-Off (Top of Pile) Elevation FT	Estimated Pile Length per Pile FT	Scour Critical Elevation FT	Min Pile Tip (Tip No Higher Than) Elev FT	Required Driving Resistance (RDR)** per Pile TONS	Total Pile Redrives Quantity EACH	Predrilling Length per Pile Lin FT	Predrilling Elevation (Elev Not To Predrill Below) FT	Maximum Predrilling Dia INCHES	Pile Excavation (Bottom of Hole) Elev FT	Pile Exc Not In Soil per Pile Lin FT	Pile Exc In Soil per Pile Lin FT
End Bent No. 1, Piles 1-7	99	See Structure	35			165							
End Bent No. 2, Piles 1-7	93	Plans	35			155							
]						

*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. Factored Resistance + Factored Downdrag Load + Factored Dead Load Nominal Scour Resistance $\frac{1}{2}$ + Nominal Downdrag Resistance + -***RDR*

Dynamic Resistance Factor

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 TONS	Factored Downdrag Load per Pile TONS	Factored Dead Load* per Pile TONS	Dynamic Resistance Factor	Nominal Downdrag Resistance per Pile TONS	Nominal Scour Resistance per Pile TONS	Scour Resistance Factor (Default = 1.00)
End Bent No. 1, Piles 1-7	98			0.60			1.00
End Bent No. 2, Piles 1-7	92			0.60			1.00

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

SUMMARY OF DRILLED PIER INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

End Bent/ Bent No, Pier(s) #(-#) (e.g., "Bent 1, Piers 1-3")	Factored Resistance per Pier TONS	Minimum Pier Tip (Tip No Higher Than) Elevation FT	Required Tip Resistance per Pier TSF	Scour Critical Elevation FT	Minimum Drilled Pier Penetration Into Rock per Pier Lin FT	Drilled Pier Length* per Pier Lin FT	Drilled Pier Length Not In Soil* per Pier Lin FT	Drilled Pier Length In Soil* per Pier Lin FT	Permanent Steel Casing Required? YES or MAYBE	Permanent Steel Casing Tip Elevation (Elev Not To Extend Casing Below) FT	Permanent Steel Casing Length** per Pier Lin FT
Bent No. 1, Pier 1	381	857.0	20		10.0		10.0	14.9			
Bent No. 1, Piers 2-3	381	854.0	20		10.0		10.0	17.9			
Bent No. 2, Piers 1-2	381	857.0	20		10.0		10.0	14.9			
Bent No. 2, Pier 3	381	861.0	20		10.0		10.0	10.9			
TOTAL QTY:							60.0	91.4			

*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

**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 Casting for Dia. Drilled Pier" in accordance with Article 411-7 of the NCDOT Standard Specifications .

NOTES:

1. The Pile and Drilled Pier Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (Shiping Yang, PE #031361) on 12-20-2022. 2. Total Pile Driving Equipment Setup quantity (not shown in Pile Foundation Tables) equals the number of driven piles, i.e., the number of piles with a Required Driving Resistance. 3. The Engineer will determine the need for PDA Testing, Pipe Pile Plates, Permanent Steel Casing, SPTs, CSL Testing, SID Inspections and PITs when these items may be required.

Scour Resistance Factor

Р	ile Driving Analyz	Pile Order Le	engths		
End Bent/ Bent No	PDA Testing Required? YES or MAYBE	PDA Test Pile Length FT	Total PDA Testing Quantity EACH	End Bent/ Bent No(s)	Pile Order Length Basis* EST or PDA

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

(Blank entries indicate item is not applicable to structure)

End Bent/	Dino Dilo	S	teel Pile Points	,	
End Bent/ Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Pipe Pile Plates Required? YES or MAYBE	Pipe Pile Cutting Shoes Required? YES	Pipe Pile Conical Points Required? YES	H-Pile Points Required? YES	Steel Pile Tips Required? YES
TOTAL QTY:					

(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) Required? YES or MAYBE	Crosshole Sonic Logging (CSL) Required?* YES or MAYBE	Total CSL Tube Length (For All Tubes) per Pier Lin FT	Shaft Inspection Device (SID) Required? YES or MAYBE	Pile Integrity Test (PIT) Required? MAYBE
		MAYBE	105.6		
		MAYBE	117.6		
		MAYBE	105.6		
		MAYBE	89.6		
TOTAL QTY:			641.6		

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

3/21/2023 | 5:57 AM PD

SUMMARY OF PDA/PILE ORDER LENGTHS

(Blank entries indicate item is not applicable to structure)

SUMMARY OF PILE ACCESSORIES

SUMMARY OF DRILLED PIER TESTING

PROJECT NO. B-5783 (NBL)

Davidson

_COUNTY

STATION: <u>21+33.46 -EL- (13+40.20 -EY1-)</u>

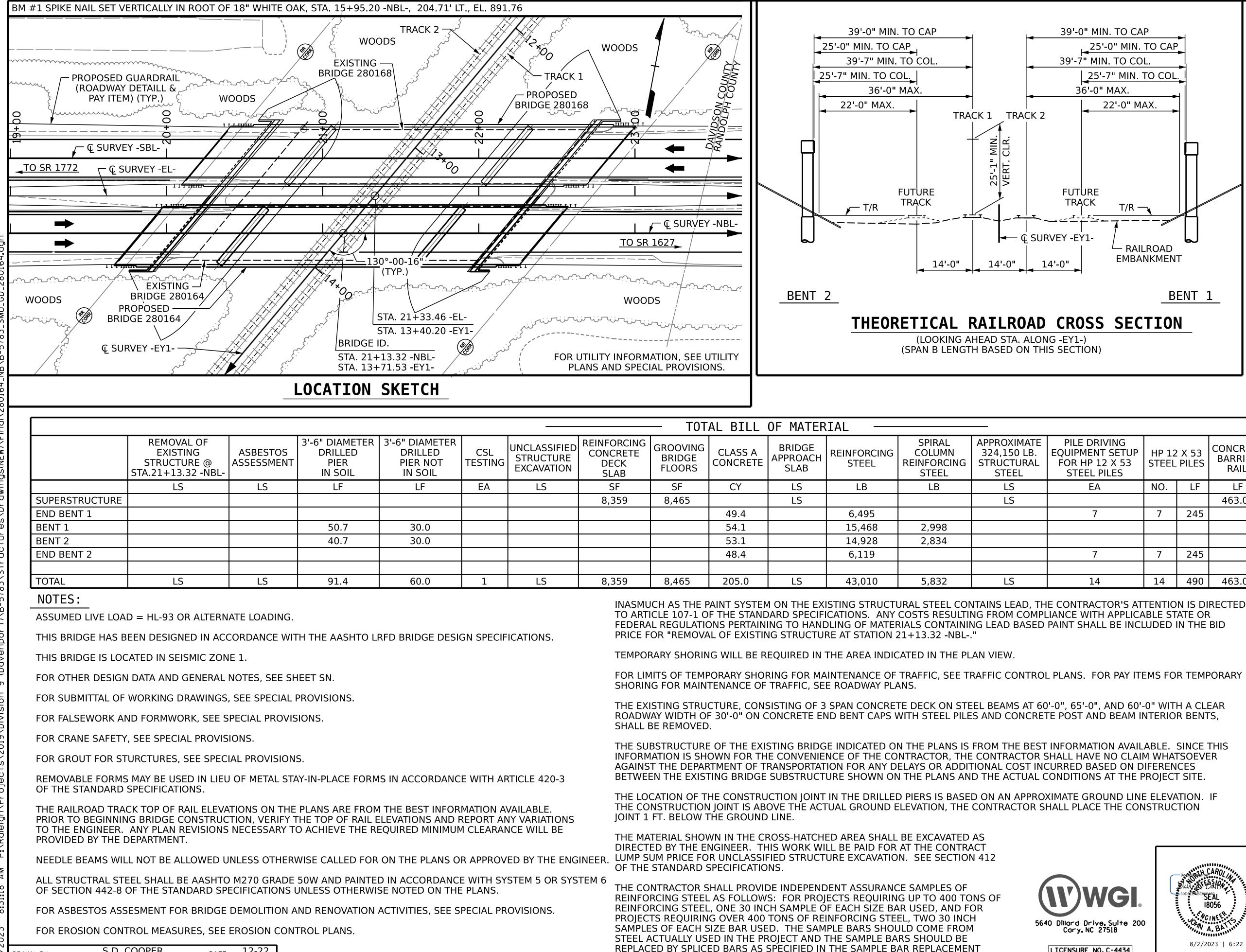
SHEET 3 OF 4

Bridge #164

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

PILE AND DRILLED PIER FOUNDATION TABLES

SIGNATURE DATE			REVI	SIONS	3		sheet no. S1-03
DOCUMENT NOT CONSIDERED	NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL
FINAL UNLESS ALL	1			3			SHEETS
SIGNATURES COMPLETED	2			4			40



	DRAWN BY :		S.D. C	COOPER	DATE :	12-22
- 1	CHECKED BY	:	J.A.	BATTS	DATE :	12-22
5	DESIGN ENGI		RECORD: _	J.A. BATTS	DATE :	12-22

		— тот	AL BILL	OF MATER	RIAL —									
JNCLASSIFIED STRUCTURE EXCAVATION	REINFORCING CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLAB	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	APPROXIMATE 324,150 LB. STRUCTURAL STEEL	PILE DRIVING EQUIPMENT SETUP FOR HP 12 X 53 STEEL PILES		2 X 53 - PILES	CONCRETE BARRIER RAIL	4" SLOPE PROTECTION	ELASTOMERIC BEARINGS	EXPANSION JOINT SEALS
LS	SF	SF	CY	LS	LB	LB	LS	EA	NO.	LF	LF	SY	LS	LS
	8,359	8,465		LS			LS				463.08		LS	LS
			49.4		6,495			7	7	245		440		
			54.1		15,468	2,998								
			53.1		14,928	2,834								
			48.4		6,119			7	7	245		445		
LS	8,359	8,465	205.0	LS	43,010	5,832	LS	14	14	490	463.08	885	LS	LS
	SHORIN THE EX ROADW	IG FOR MAIN ISTING STRU	ITENANCE OF ICTURE, CON IF 30'-0" ON (TRAFFIC, SE SISTING OF 3	E ROADWAY PLA	ANS. TE DECK ON STE	EEL BEAMS AT 60	L PLANS. FOR PAY IT)'-0", 65'-0", AND 60' TE POST AND BEAM I	-0" WIT	H A CLI	EAR ⁻ S,	PROJECT	NO. <u>B</u> -	-5783
	THE SU	BSTRUCTUR	E OF THE EXI	STING BRIDO	E INDICATED O	N THE PLANS IS	FROM THE BEST	INFORMATION AVAIL	ABLE.	SINCE -	THIS		IDSON	
								SHALL HAVE NO CLAI			ĒR			
TCLE 420-3								CURRED BASED ON D CONDITIONS AT THE F				STATION:	21+13.3	2 -NBL-
									2					
AILABLE. VARIATIONS	THE CO	NSTRUCTIO		OVE THE AC				XIMATE GROUND LIN HALL PLACE THE CON			IF	SHEET 4 OF 4	STATE OF NORTH CAROL	INA
CE WILL BE	DIRECT	ED BY THE E	NGINEER. TH	HIS WORK WI	LL BE PAID FOR	BE EXCAVATED	АСТ						ENT OF TRAN	
D BY THE ENG			OR UNCLASSII SPECIFICATIC		URE EXCAVATIO	N. SEE SECTIO	N 412							
TEM 5 OR SYS ⁻	TEM 6 THE CO	NTRACTOR S	SHALL PROVII	DE INDEPENI		CE SAMPLES OF IG UP TO 400 TO		W WGI		Doebsonid by	AROLINA Sales EAL	I-85BUS	FOR BRIDGE /US 29/US FOLK SOUTH	70 (-NBL
VISIONS.	REINFO	RCING STEE	L, ONE 30 INC	CH SAMPLE C	F EACH SIZE BA	AR USED, AND F EL, TWO 30 INC	OR			IE NG	EAL 3056	BETWEEN	SR 1772 A	ND SR 162

REPLACED BY SPLICED BARS AS SPECIFIED IN THE SAMPLE BAR REPLACEMENT CHART. PAYMENT FOR THE SAMPLE BARS AND REPLACEMENT REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

LICENSURE NO.

DOCUM **UNLESS**

SAMPLE BAR REPLACEMENT								
SIZE	LENGTH							
#3	6'-2"							
#4	7'-4"							
#5	8'-6"							
#6	9'-8"							
#7	10'-10"							
#8	12'-0"							
#9	13'-2"							
#10	14'-6"							
#11	15'-10"							

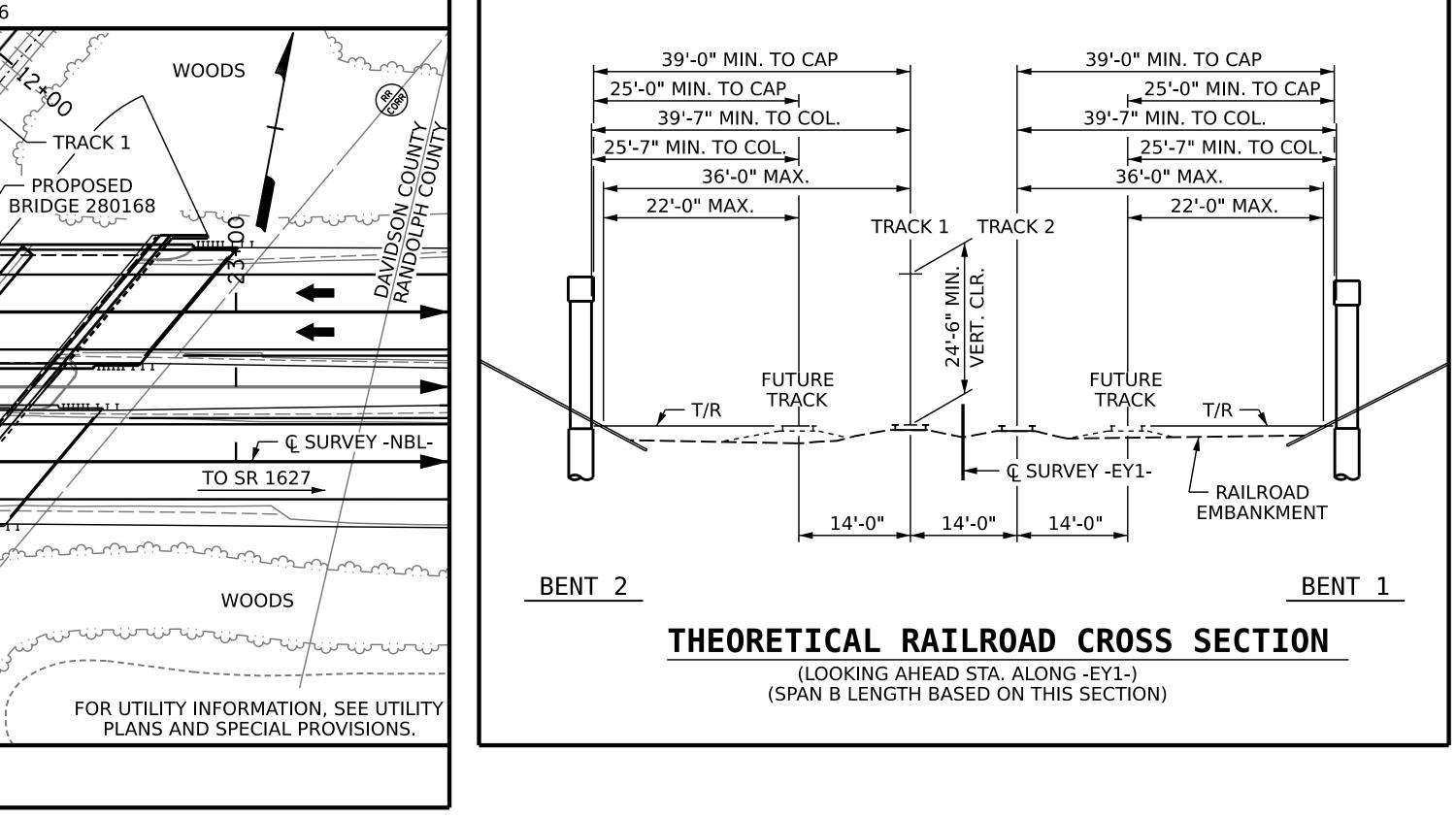
NOTE:

SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND fy= 60ksi.

	WITH A CLEAR ERIOR BENTS,							
	-	PF	ROJEC	CT NO.	_	B	-5783	
ON AVAILABLE. SINCE THIS NO CLAIM WHATSOEVER ED ON DIFERENCES				AVIDS				UNTY
SED ON DIFE AT THE PRO	RENCES JECT SITE.	S1	TATI	ON: 2	1-	+13.3	82 -NB	L
UND LINE E THE CONST	LEVATION. IF	Sł	HEET 4	OF 4				
			DEPA	STATE RTMENT		NORTH CARG		TION
[GENER			AWING	G
/GI _®	Doctorial by CAROL DULL AS ESSALON 30D00 OUBERSOCIAL I8056	(DVER	FOR BUS./US NORFOLI EEN SR	5 / K	SOUTH	70 (- HERN RA	AILWAY
e.Suite 200 7518	MCINET STAT							
.C-4434	8/2/2023 6:22 AM PDT	NO.	BY:	REVIS DATE:	NO.	NS BY:	DATE:	SHEET NO. S1-04
INT NOT CONSIDERED FINAL					3 4			total sheets 40

BM #1 SPIKE NAIL SE	T VERTICALLY IN ROOT	OF 18" WHITE (/ 7		LT., EL. 89	91.76
			EXISTING BRIDGE 280	J 7		H)
			BRIDGE ID STA. 21+53.61 -S	BL-\		
	O GUARDRAIL	-بن-بن-بن-بالا	STA. 13+08.87 -E	۲ ۱- (محتمی (HH	
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+	+				+ 	77
_	RVEY -SBL-					//
TO SR 1772	– @ SURVEY -EL-		///			
					00-16" **** YP.)	

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(Ar Ar	PROPOSED —	5 KH				
	BRIDGE 280164	3 - LI LI	<u> </u>	TA. 21+33.46 -EL TA. 13+40.20 -EY	/	
<u> </u>	SURVEY -EY1-	LH -	Erek			، کن
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		_	LOCATION	SKETCH		
	REMOVAL OF		3'-6" DIAMETER	3'-6" DIAMETER		
	EXISTING STRUCTURE @	ASBESTOS ASSESSMENT	DRILLED	DRILLED PIER NOT	CSL TESTING	UNCL
	STA.21+53.61 -SBL-		IN SOIL	IN SOIL		EXC
SUPERSTRUCTURE	LS	LS	LF	LF	EA	
END BENT 1						
BENT 1			30.6	30.0		
BENT 2 END BENT 2			60.1	30.0		
	LS	LS	90.7	60.0	1	
NOTES:						
	OAD = HL-93 OR ALTE					
	S BEEN DESIGNED IN A		IIH THE AASHTO	LRFD BRIDGE DE	SIGN SPEC	LIFICAI
THIS BRIDGE IS	LOCATED IN SEISMIC Z	ONE 1.				
FOR OTHER DES	IGN DATA AND GENERA	AL NOTES, SEE S	SHEET SN.			
FOR SUBMITTAL	OF WORKING DRAWIN	GS, SEE SPECIA	L PROVISIONS.			
FOR FALSEWORK	KAND FORMWORK, SEI	E SPECIAL PROV	ISIONS.			
FOR CRANE SAF	ETY, SEE SPECIAL PRO	VISIONS.				
FOR GROUT FOR	STURCTURES, SEE SP	ECIAL PROVISIO	NS.			
	RMS MAY BE USED IN L RD SPECIFICATIONS.	IEU OF METAL S	TAY-IN-PLACE FOF	RMS IN ACCORDAN	NCE WITH	ARTIC
PRIOR TO BEGIN	RACK TOP OF RAIL ELE NING BRIDGE CONSTR ER. ANY PLAN REVISIO	UCTION, VERIFY	THE TOP OF RAIL	_ ELEVATIONS ANI	D REPORT	ANY V
	IE DEPARTMENT. WILL NOT BE ALLOWEI	O UNLESS OTHE	RWISE CALLED FC	OR ON THE PLANS	OR APPRO	oved e
ALL STRUCTRAL	STEEL SHALL BE AASH -8 OF THE STANDARD	ITO M270 GRAD	E 50W AND PAINT	ED IN ACCORDAN	ICE WITH S	SYSTE
	ASSESMENT FOR BRID					
FOR EROSION C	ONTROL MEASURES, SI	EE EROSION CO	NTROL PLANS.			
RAWN BY :S.	D. COOPER DA	ATE: 12-22				
CHECKED BY : DESIGN ENGINEER OF RECO	J.A. BATTS	$\frac{12-22}{12-22}$				



		— тот	AL BILL	OF MATEF	RIAL —									
CLASSIFIED TRUCTURE (CAVATION	REINFORCIN CONCRETE DECK SLAB		CLASS A CONCRETE	BRIDGE APPROACH SLAB	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	APPROXIMATE 324,150 LB. STRUCTURAL STEEL	EQUIPMENT SETUP	HP 12 STEEL		CONCRETE BARRIER RAIL	4" SLOPE PROTECTION	ELASTOMERIC BEARINGS	EXPANSIO JOINT SEALS
LS	SF	SF	CY	LS	LB	LB	LS	EA	NO.	LF	LF	SY	LS	LS
	8,359	8,465		LS			LS				463.08		LS	LS
			52.0		6,355			7	7	245		440		
			53.3		14,163	2,586								
			52.7		16,032	3,191								
			48.6		6,200			7	7	230		445		
LS	8,359	8,465	206.6	LS	42,750	5,777	LS	14	14	475	463.08	885	LS	LS
	SHO The RO	DRING FOR MA E EXISTING STF	INTENANCE (RUCTURE, CO OF 30'-0" ON	DF TRAFFIC, S	SEE ROADWAY F - 3 SPAN CONCF	PLANS. RETE DECK ON S	TEEL BEAMS AT	OL PLANS. FOR PAY 1 60'-0", 65'-0", AND 6 RETE POST AND BEAM	0'-0" W	ITH A C	LEAR			3-5783
	THE	SUBSTRUCTU	IRE OF THE E					ST INFORMATION AVA R SHALL HAVE NO CL/				PROJECT	VIDSON	C(
TICLE 420-3	AGA	AINST THE DEP	ARTMENT OF	TRANSPORT	ATION FOR ANY	DELAYS OR ADI	DITIONAL COST I	NCURRED BASED ON CONDITIONS AT THE	DIFERE	INCES		STATION	1: 21+53.	
AILABLE. VARIATION	THE		ON JOINT IS A	ABOVE THE A				OXIMATE GROUND LI SHALL PLACE THE CO				SHEET 4 OF	STATE OF NORTH CA	
CE WILL BE D BY THE EN	DIR IGINEER. LUN	ECTED BY THE 1P SUM PRICE	ENGINEER. FOR UNCLAS	THIS WORK	WILL BE PAID FO	LL BE EXCAVATE DR AT THE CONT TON. SEE SECTI	RACT		Г				IMENT OF TRA	RAWIN
TEM 5 OR S	YSTEM 6 THE		R SHALL PRO	VIDE INDEPE		NCE SAMPLES O ING UP TO 400		W WG		Doed Sign	ALCAROZINA SEBSURA SEBSURA SEAL	OVER NC	FOR BRIDG S./US 29/U RFOLK SOUT	S 70 (- HERN R/
VISIONS.	REI PRO SAN	NFORCING STE DJECTS REQUIP 1PLES OF EACH	EL, ONE 30 I NG OVER 40 SIZE BAR U	NCH SAMPLE 00 TONS OF F SED. THE SA	É ÓF EACH SÍZE REINFORCING S AMPLE BARS SH	BAR USED, AND TEEL, TWO 30 IN OULD COME FR(FOR ICH OM	5640 Dillard Drive, Suite 2 Cary, NC 27518			18056 MGINEER V. A. BATTS	BETWEE	EN SR 1772	AND SR
				-		BARS SHOULD B BAR REPLACEM		LICENSURE NO. C-4434			2/2023 6:23 AM		REVISIONS	0.175
	CH	ART. PAYMENT	FOR THE SA	MPLE BARS A	AND REPLACEME	ENT REINFORCIN						NO. BY:	DATE: NO. BY:	DATE:
	STE	EL SHALL BE C	CONSIDERED	INCIDENTAL	TO VARIOUS PA	Y ITEMS.		UNLESS ALL SIG				2	4	

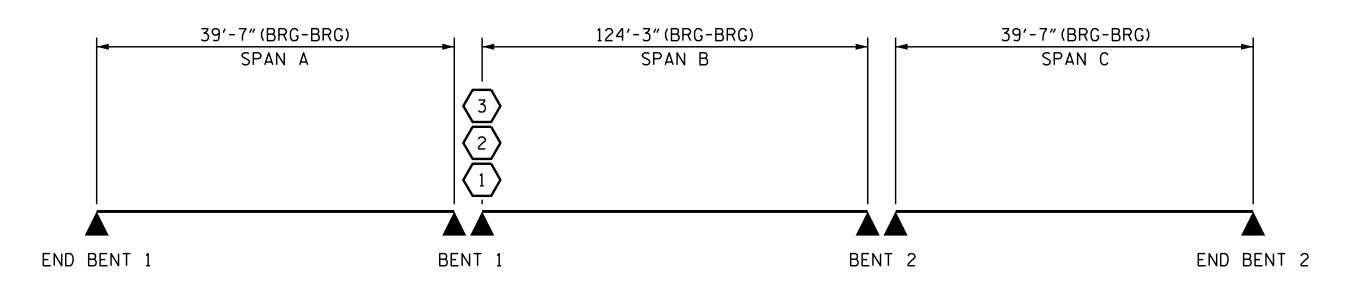
	E BAR Cement
SIZE	LENGTH
#3	6'-2"
#4	7'-4"
#5	8'-6"
#6	9'-8"
#7	10'-10"
#8	12'-0"
#9	13'-2"
#10	14'-6"
#11	15'-10"

NOTE:

SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND fy = 60ksi.

	WITH A CLEAR ERIOR BENTS,								
		PF	ROJEC	T NO	• _	B	8-5783		
ON AVAILABLE. SINCE THIS NO CLAIM WHATSOEVER			D	AVID	SC		C0 61 -SB	UNTY L-	
	LEVATION. IF								
THE CONST			HEET 4	UF 4					
				RTMENT	0	RALEIGH	NSPORTA		
/GI _®	GENERAL DRAWING FOR BRIDGE ON I-85BUS./US 29/US 70 (-SBL-) OVER NORFOLK SOUTHERN RAILWAY BETWEEN SR 1772 AND SR 1627								
e,Suite 200 7518	W A. BAT	A. BATININ							
.C-4434	8/2/2023 6:23 AM PD	- NO.	BY:	REV.	ISIO NO.		DATE:	SHEET NO. S2-04	
	NSIDERED FINAL	1 2			3			TOTAL SHEETS	
ALL SIGNATU	IRES COMPLETED	2			4			40	

										STRE	NGTH	I LIM	IT ST	ATE				SI	ERVIC	EII	LIMIT	STA	ΤE
										MOMENT					SHEAR						MOMENT		
LEVEL		VEHICLE	WEIGHT (W) (TONS)	CONTROLLING (#)	MINIMUM RATING FACTORS (RF)	TONS = W × RF	LIVE-LOAD FACTORS (Y _{LL})	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (f†)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (f†)	LIVE-LOAD LIVE-LOAD	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM
		HL-93 (INVENTORY)	N⁄A	$\langle 1 \rangle$	1.58		1.75	0.626	1.73	В	I	62.13	0.959	1.58	В	I	0	1.30	0.626	1.82	В	I	6
DESIGN		HL-93 (OPERATING)	N/A		2.05		1.35	0.626	2.24	В	I	62.13	0.959	2.05	В	I	0	1.00	0.626	2.37	В	I	6
LOAD RATING		HS-20 (INVENTORY)	36.000	2	2.50	90.0	1.75	0.626	3.21	В	I	62.13	0.959	2.50	В	I	0	1.30	0.626	2.68	В	I	6
		HS-20 (OPERATING)	36.000		4.50	162.0	1.35	0.626	5.78	В	I	62.13	0.959	4.50	В	I	0	1.00	0.626	4.82	В	I	(
		SH	12 . 500		6.81	85.1	1.40	0.626	8.47	В	I	62.13	0.959	6.81	В	I	0	1.30	0.626	7.08	В	I	(
	ш	S3C	21.500		3.98	85.6	1.40	0.626	4.94	В	I	62.13	0.959	3.98	В	I	0	1.30	0.626	4.14	В	I	(
	ICLE	S3A	22.750		3.77	85.8	1.40	0.626	4.68	В	I	62.13	0.959	3.77	В	I	0	1.30	0.626	3.92	В	I	
	VEHICLI \$V)	S4A	26.750		3.26	87.2	1.40	0.626	4.08	В	I	62.13	0.959	3.26	В	I	0	1.30	0.626	3.41	В	I	
	ШŰ	S5A	30 . 500		2.93	89.4	1.40	0.626	3.59	В		62.13	0.959	2.93	В	1	0	1.30	0.626	3.00	В		
EGAL	SINGL	S6A	34.500		2.62	90.4	1.40	0.626	3.23	В	I	62.13	0.959	2.62	В	I	0	1.30	0.626	2.70	В		
LOAD		S7B	38.500		2.41	92.8	1.40	0.626	2.92	В	1	62.13	0.959	2.41	В	1	0	1.30	0.626	2.44	В		
		S7A	40.000		2.39	95.6	1.40	0.626	2.86	В	1	62.13	0.959	2.40	В	I	0	1.30	0.626	2.39	В	1	
	К К К	Τ4Α	28.250		3.13	88.4	1.40	0.626	3.96	В	1	62.13	0.959	3.13	В	1	0	1.30	0.626	3.32	В		
TRA TRA1 TST)	Т5В	32.000		2.88	92.2	1.40	0.626	3.49	В	1	62.13	0.959	2.88	В	1	0	1.30	0.626	2.92	В			
	Тба	36.000		2.61	94.0	1.40	0.626	3.16	В	I	62.13	0.959	2.61	В	1	0	1.30	0.626	2.65	В			
	TRUCK SEMI- (T	Т7А	40.000		2.44	97.6	1.40	0.626	2.94	В		62.13	0.959	2.44	В		0	1.30	0.626	2.46	В		
		Т7В	40.000	3	2.32	92.8	1.40	0.626	3.03	В		62.13	0.959	2.32	В		0	1.30	0.626	2.53	В		



LRF	R	SL	JMN

2023			
21/	DRAWN BY : S.D. COOP	PER DATE : .	12-22
37.	CHECKED BY : J.A. BAT	TS DATE : .	12-22
	DESIGN ENGINEER OF RECORD:	A. BATTS DATE : .	12-22

MARY



LICENSURE NO. C

DOCUMEN UNLESS AL

LOAD FACTORS:

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

NOTES:

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

COMMENTS:

1. 2.

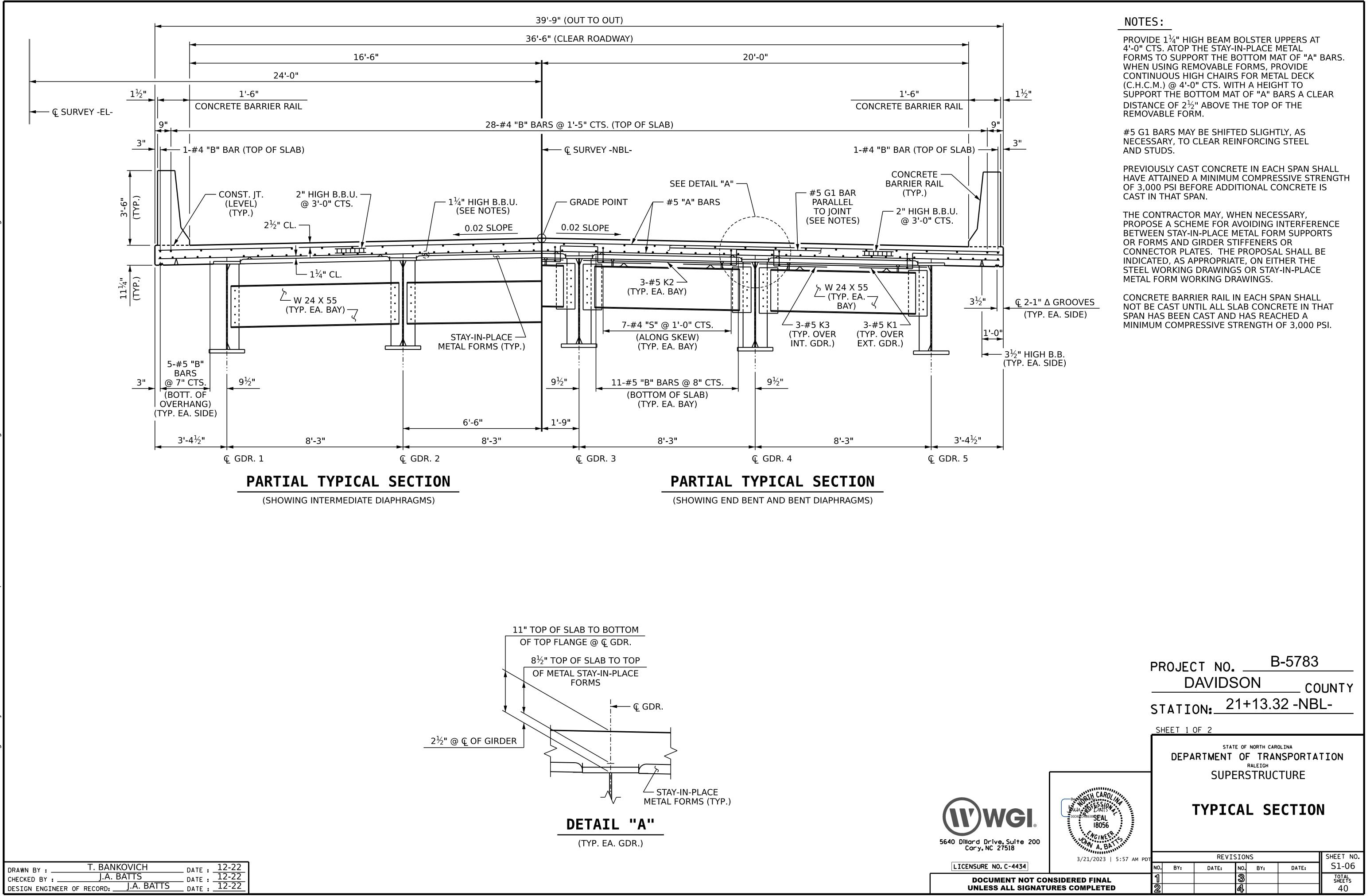
3.

4.

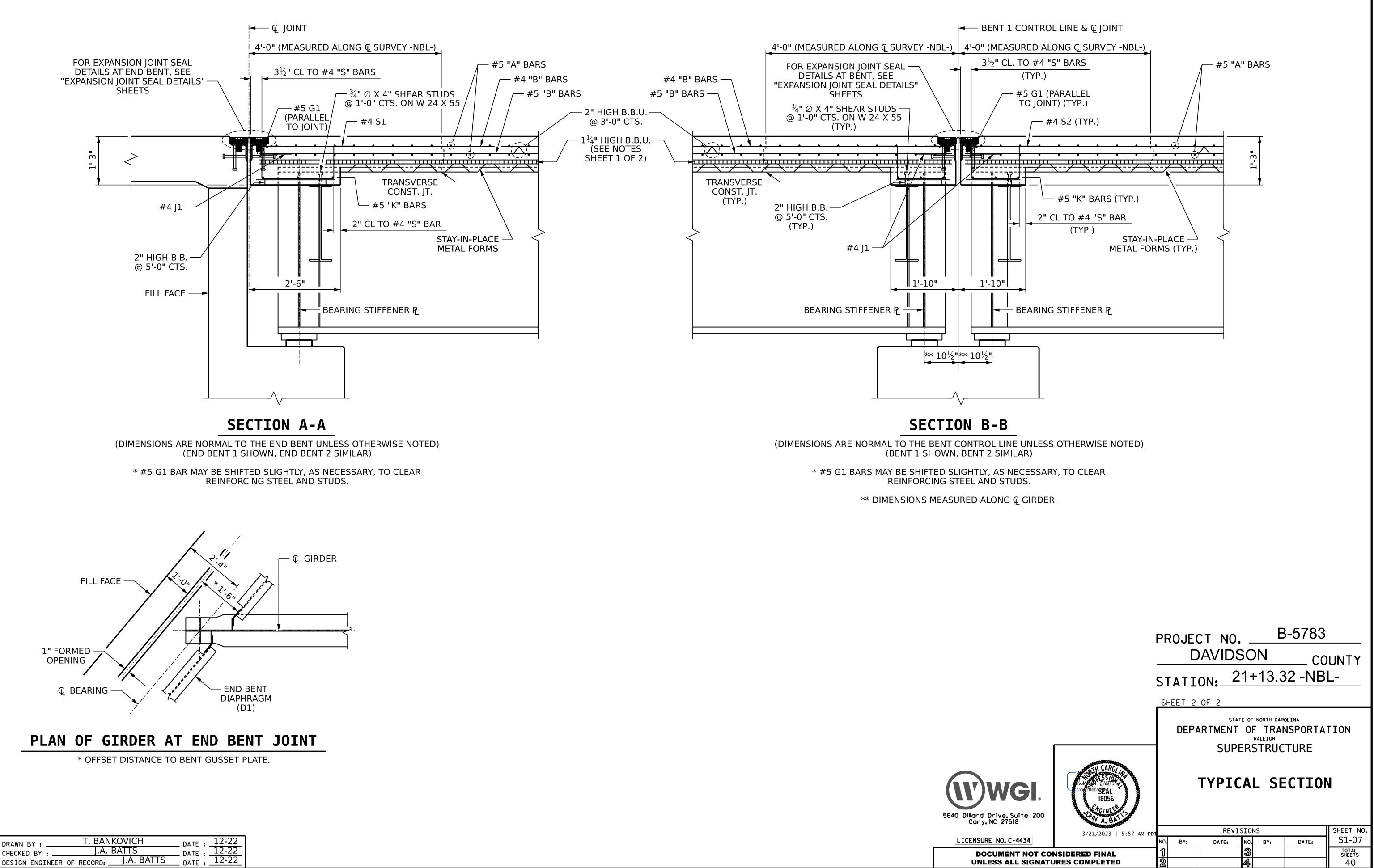
CONTROLLING LOAD RATING
 Output
 Control contro control control contro

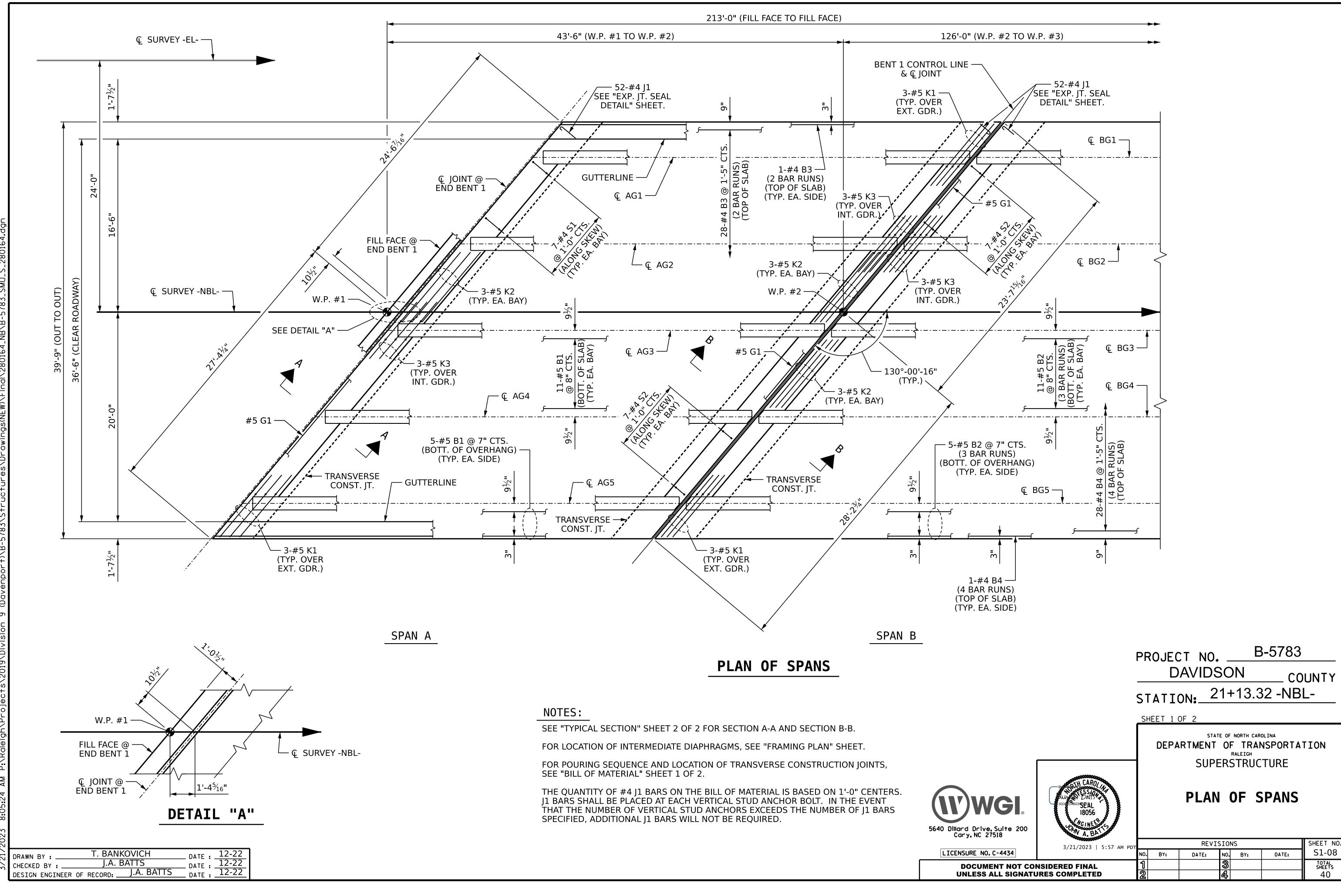
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		DEPA	STATE OF	F NORTH CAR F TRAI RALEIGH		TION
GI.	CAROL CAROL Durie Les SSION BOULLESSION BO	L	.RFR SL STEEL			R
, Suite 200 7518	A. BA		(INTERST	ATE T	RAFFIC	,
C-4434	3/21/2023 5:57 AM PDT		REVISIO		0.175	SHEET NO. S1-05
	NSIDERED FINAL IRES COMPLETED	NO. ВҮ: 1 2	DATE: NO. 33	BY:	DATE:	TOTAL SHEETS 40

COMMENT NUMBER

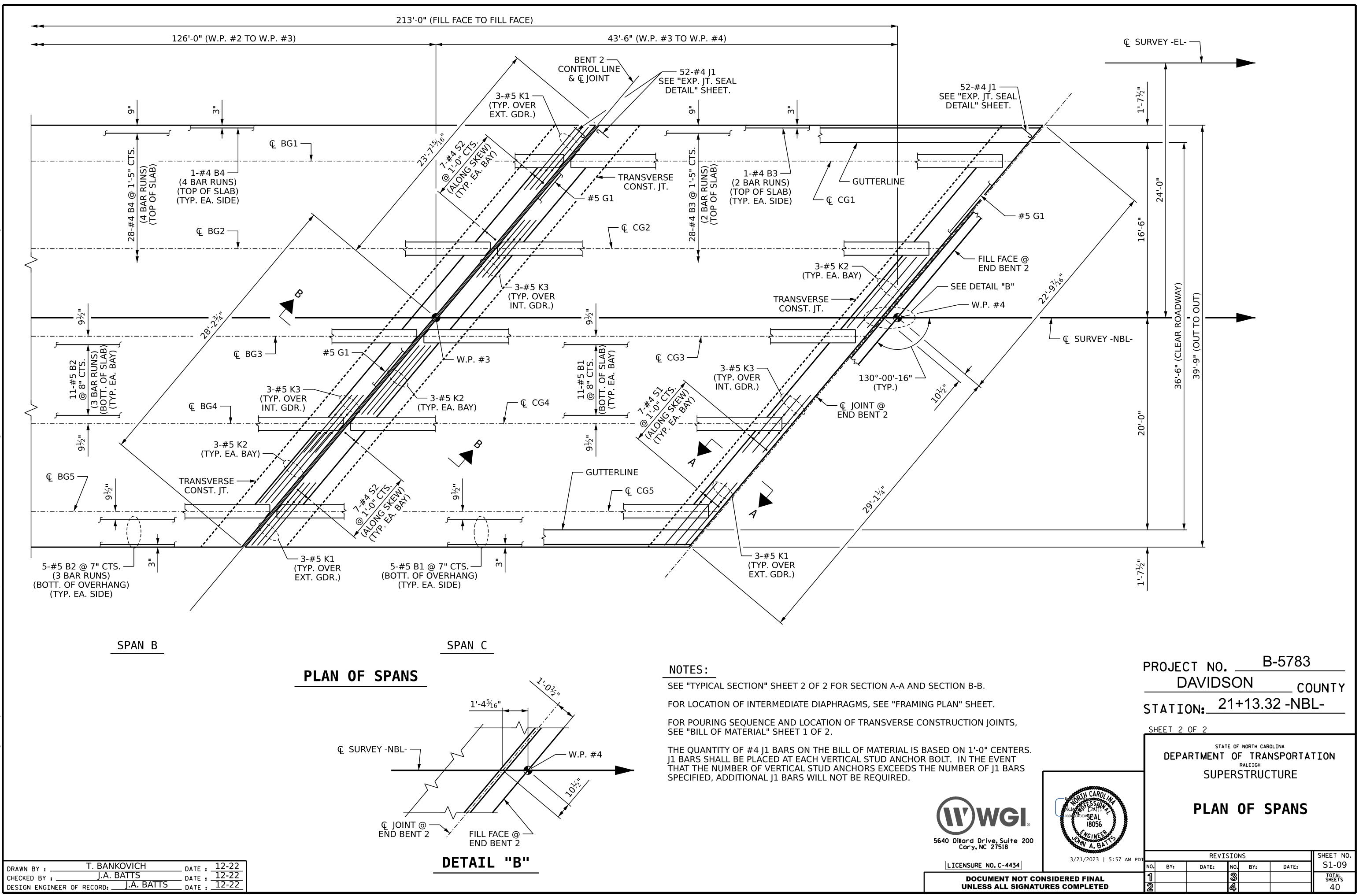


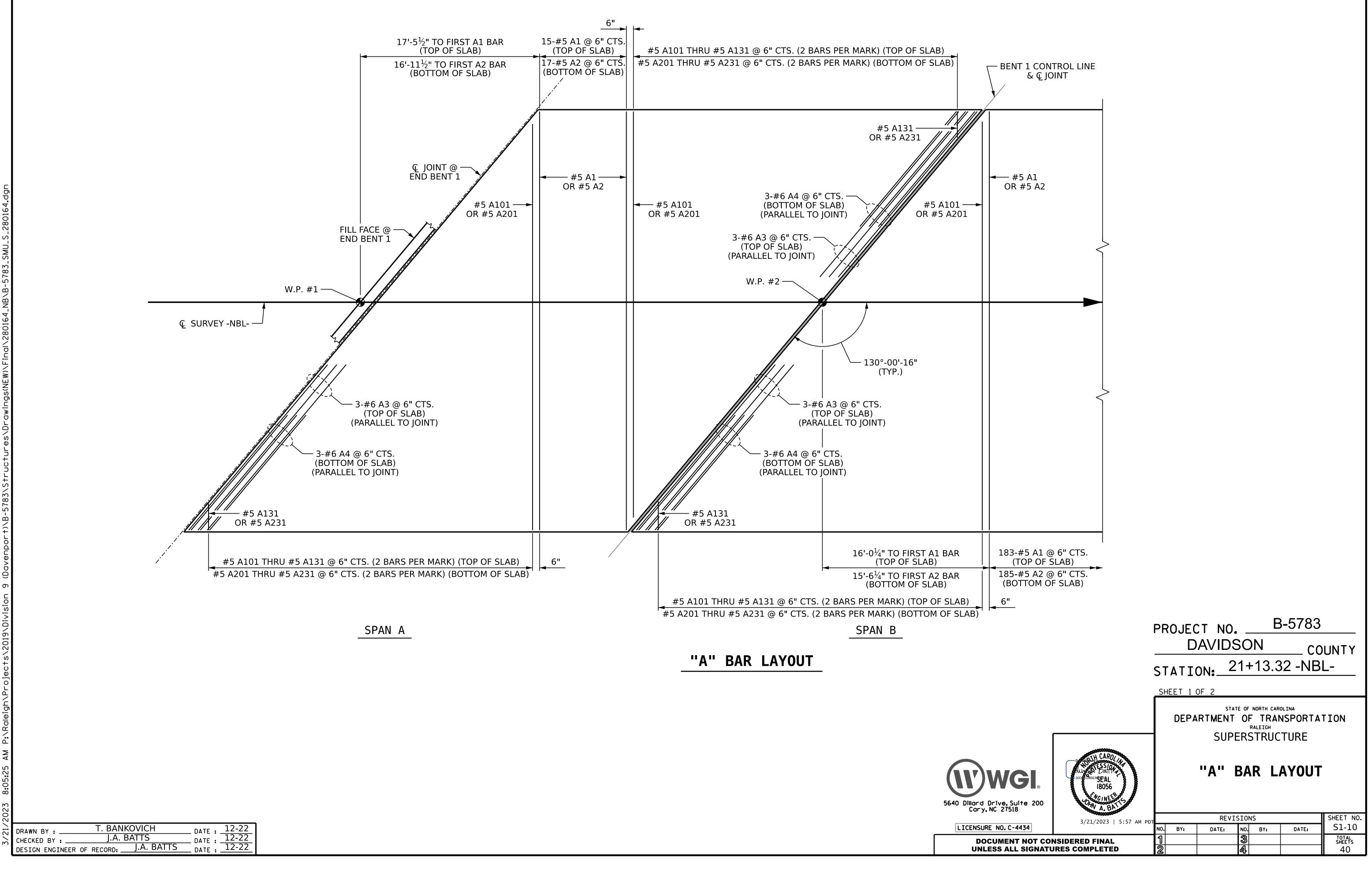
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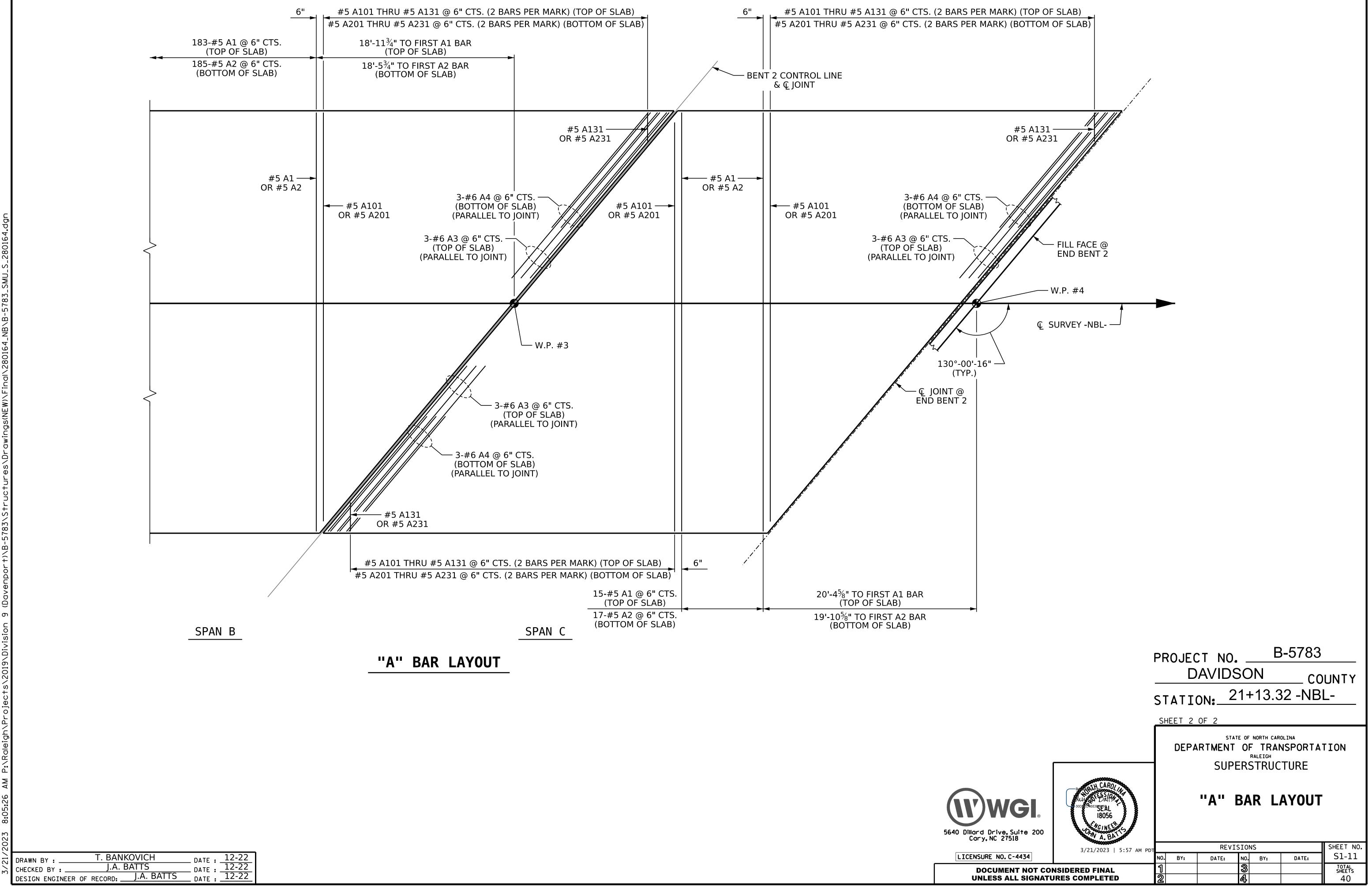


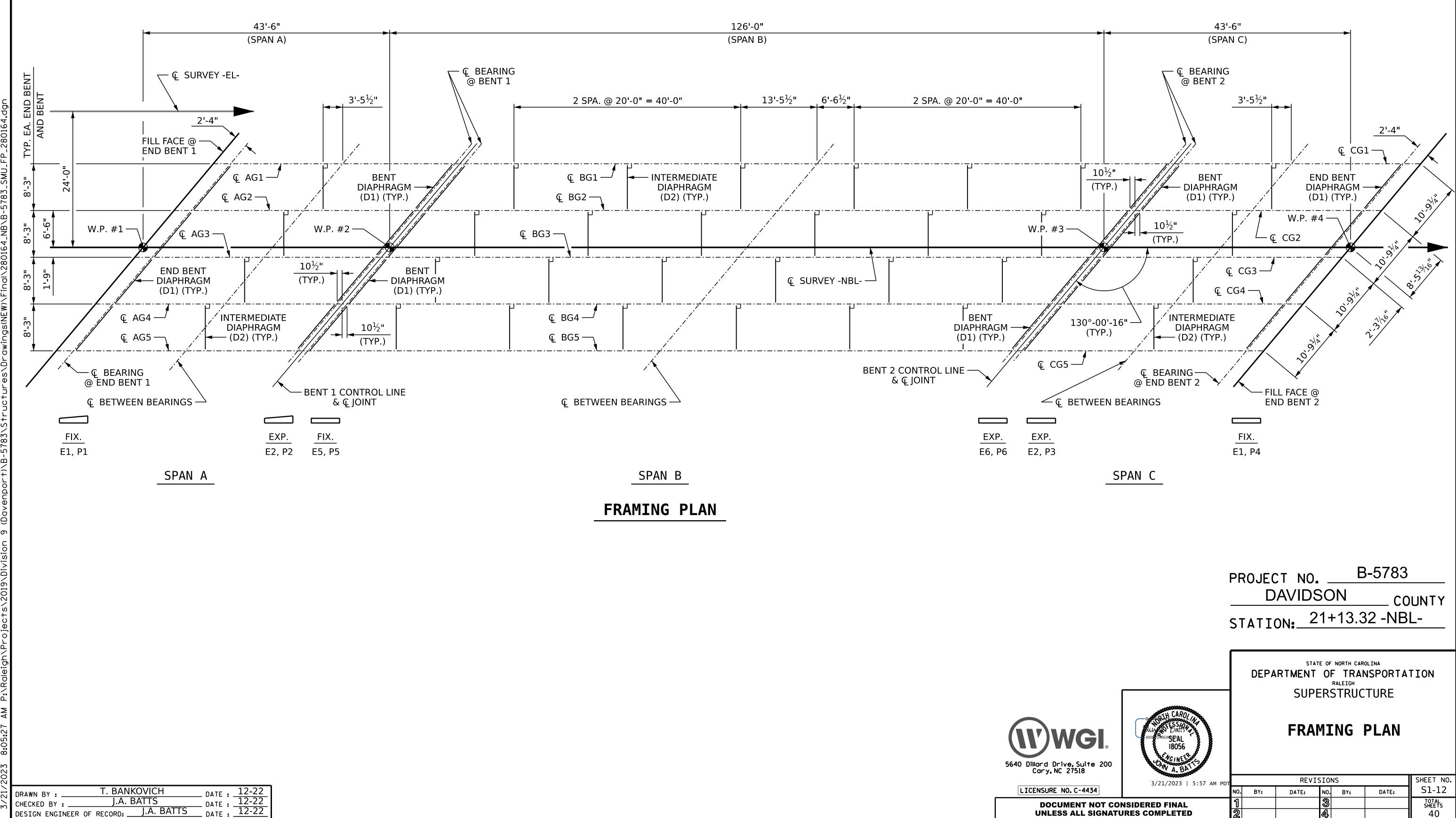


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	<i>'' 2</i>	10		" "	

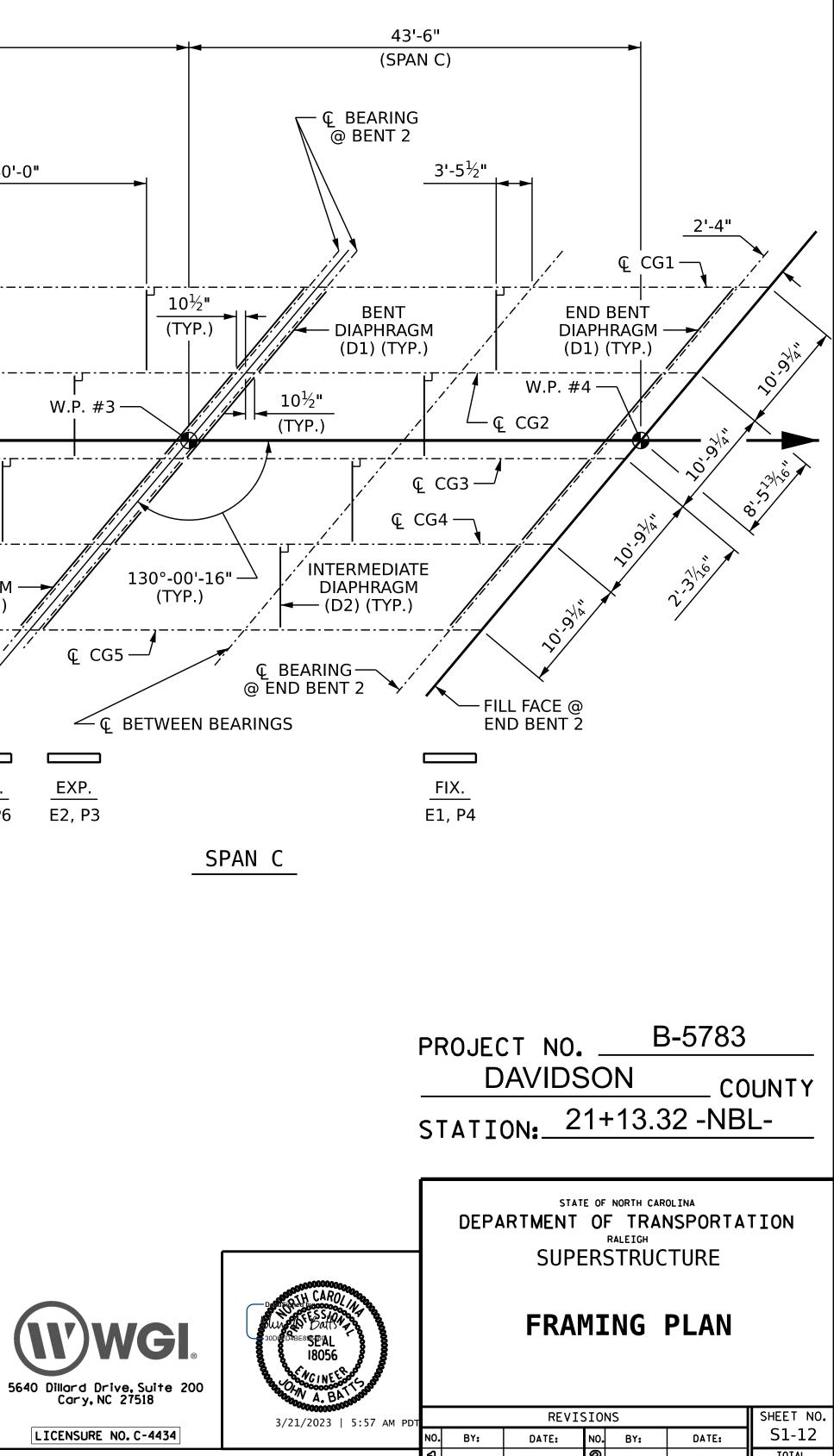






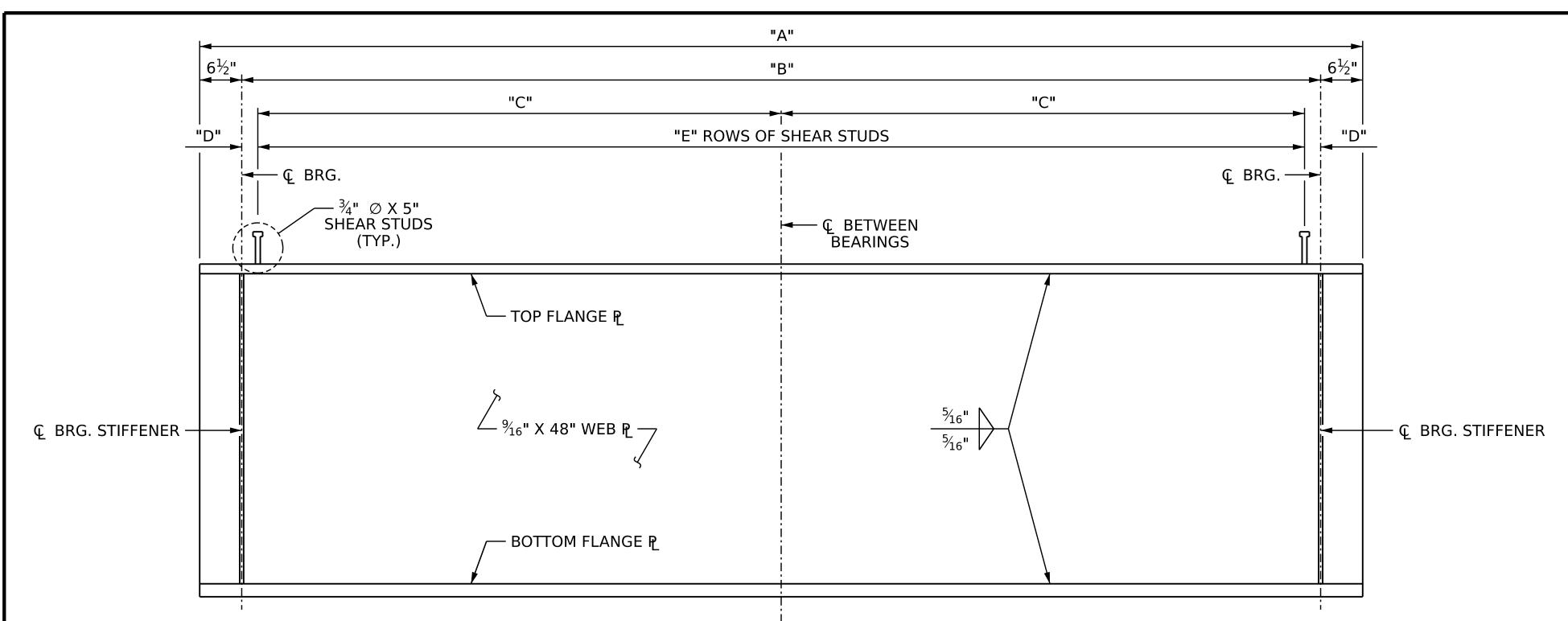


\sim						
/17	DRAWN BY : .		T. BAN	KOVICH	DATE :	12-22
\geq	CHECKED BY	!		BATTS	DATE :	12-22
• ,	DESIGN ENGI	NEER OF R	ECORD: _	J.A. BATTS	DATE :	12-22
	DESIGN ENGI	NEER OF R	ECORD: _	J.A. DATTS	DATE :	



40

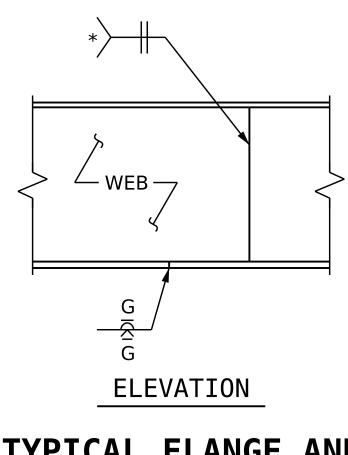
NOTES: FOR DIAPHRAGM DETAILS, SEE "STRUCTURAL STEEL DETAILS" SHEETS. FOR ELASTOMERIC BEARINGS AND SOLE PLATES, SEE "ELASTOMERIC BEARING DETAILS" SHEETS.

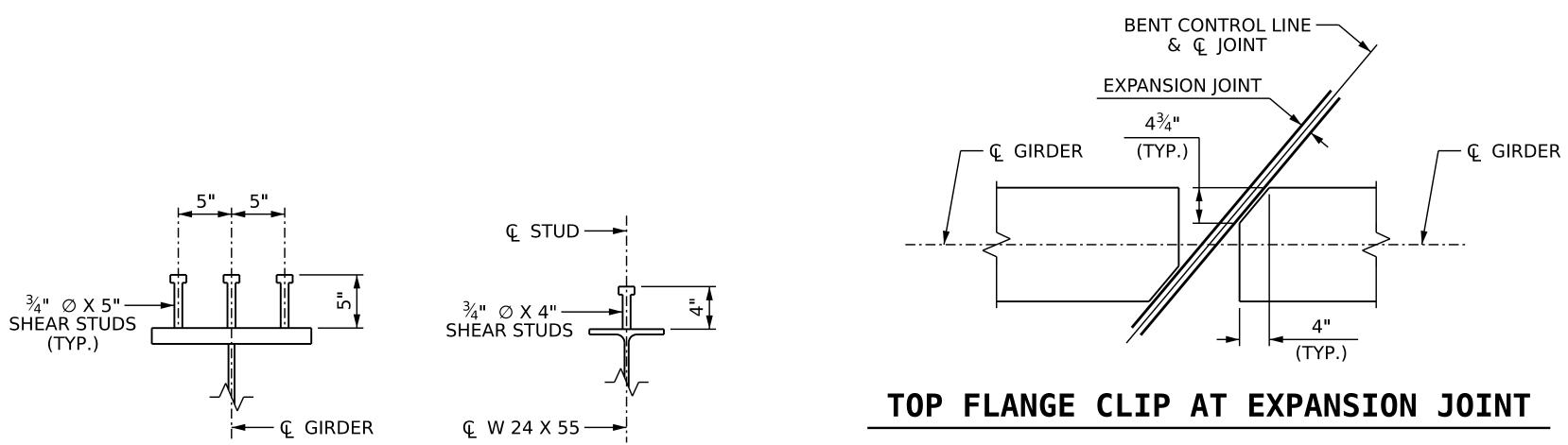


ELEVATION OF GIRDER

(FOR CLARITY, CONNECTOR PLATES FOR INTERMEDIATE DIAPHRAGMS NOT SHOWN, FOR PLACEMENT SEE "SUPERSTRUCTURE FRAMING PLAN" SHEETS.) (SEE "GIRDER DIMENSION TABLE" FOR DIMENSIONS)

				GIRDER	DIMENSION TABLE		
SPAN	"A"	"B"	"C"	"D"	"E"	TOP FLANGE	BOTTOM FLANGE
А	40'-8"	39'-7"	19'-8½"	1"	87 ROWS @ $5\frac{1}{2}$ " CTS. (3 STUDS PER ROW)	1" X 15" P	1½" X 15"
В	125'-4"	124'-3"	62'-1"	1/2"	299 ROWS @ 5" CTS. (3 STUDS PER ROW)	1½" X 15" ₽	2" X 20"
С	40'-8"	39'-7"	19'-8 ¹ ⁄2"	1"	87 ROWS @ $5\frac{1}{2}$ " CTS. (3 STUDS PER ROW)	1" X 15" P	1½" X 15"



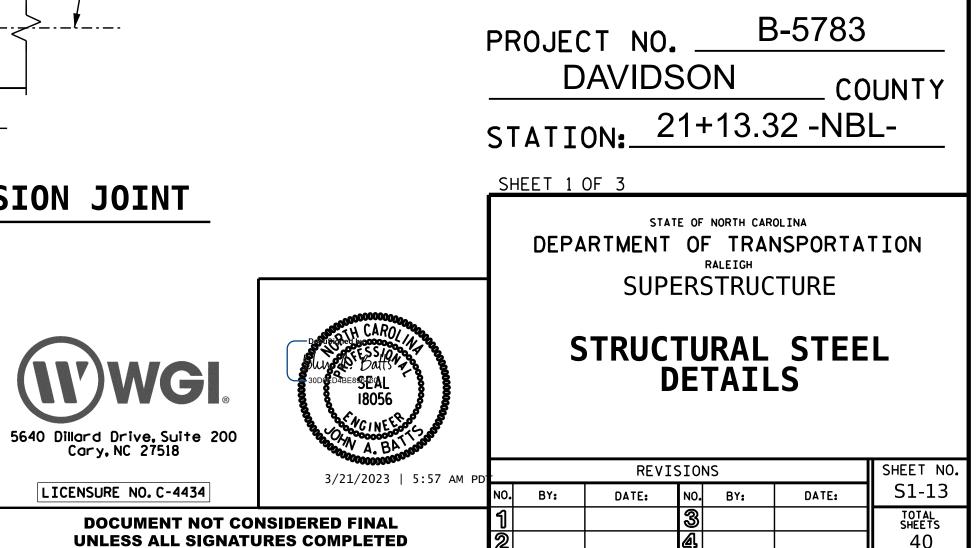


TYPICAL FLANGE AND WEB BUTT JOINT

* GRIND SMOOTH AND FLUSH ON OUTER FACE OF EXTERIOR GIRDERS

DRAWN BY :	T. BANKOVICH	
CHECKED BY :	J.A. BATTS	
	EER OF RECORD: J.A. BATTS	

SHEAR STUD DETAILS



NOTES:

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50W AND PAINTED IN ACCORDANCE WITH SYSTEM 5 OR SYSTEM 6 OF THE STRUCTURAL STEEL SHOP COATINGS PROGRAM AND SECTION 442-8 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

ALL DIMENSIONS SHOWN ARE HORIZONTAL OR VERTICAL, UNLESS OTHERWISE NOTED.

ALL FIELD CONNECTIONS TO BE $\frac{7}{8}$ " DIA. HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED.

BEARING STIFFENERS ARE TO BE PLACED NORMAL TO BE THE WEB OF THE GIRDER AND SHALL BE PLUMB.

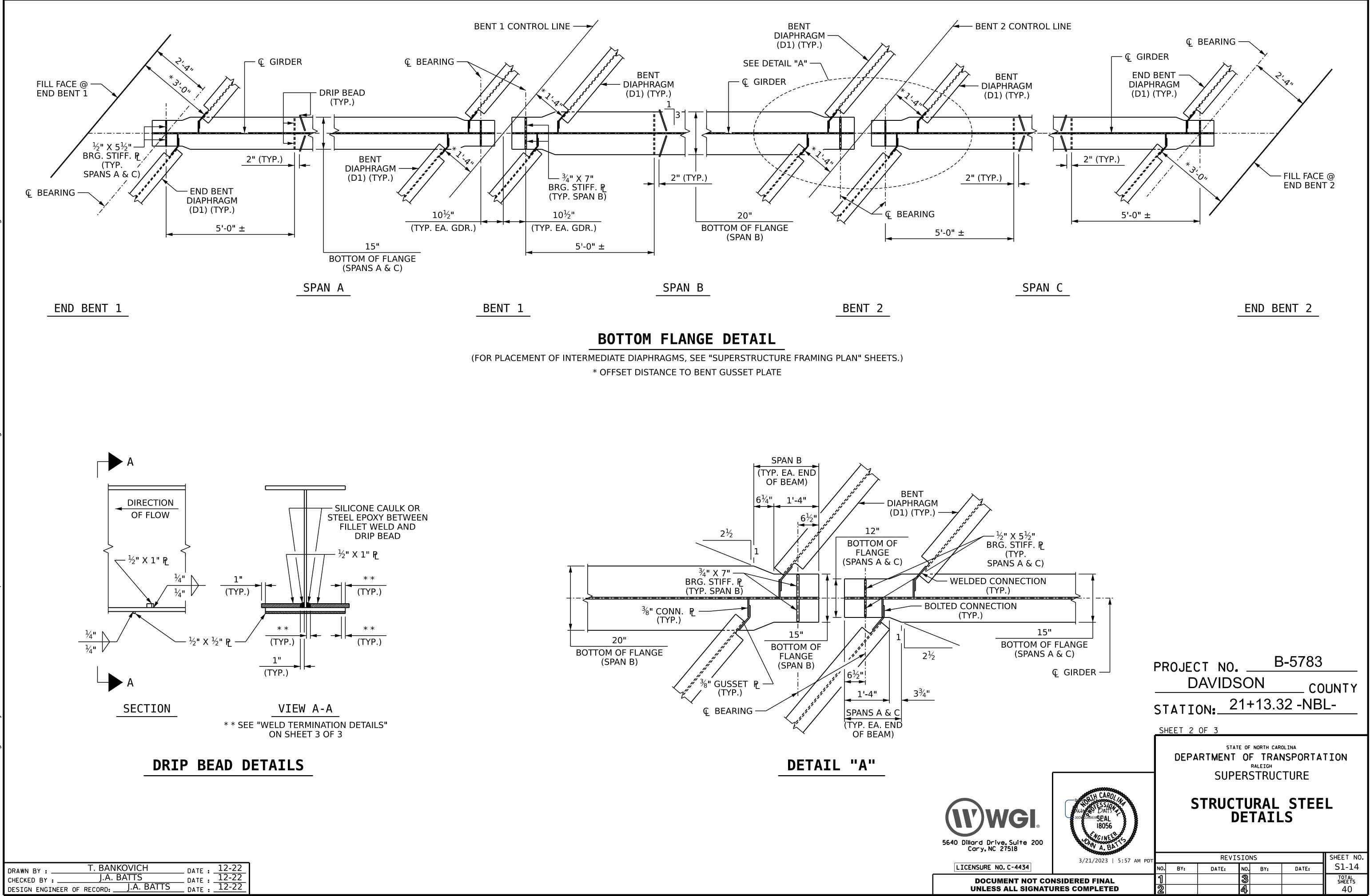
A CHARPY V-NOTCH TEST IS REQUIRED FOR WEB PLATES AND BOTTOM FLANGE PLATES FOR ALL GIRDERS AND IN ACCORDANCE WITH ARTICLE 1072-7 OF THE STANDARD SPECIFICATIONS.

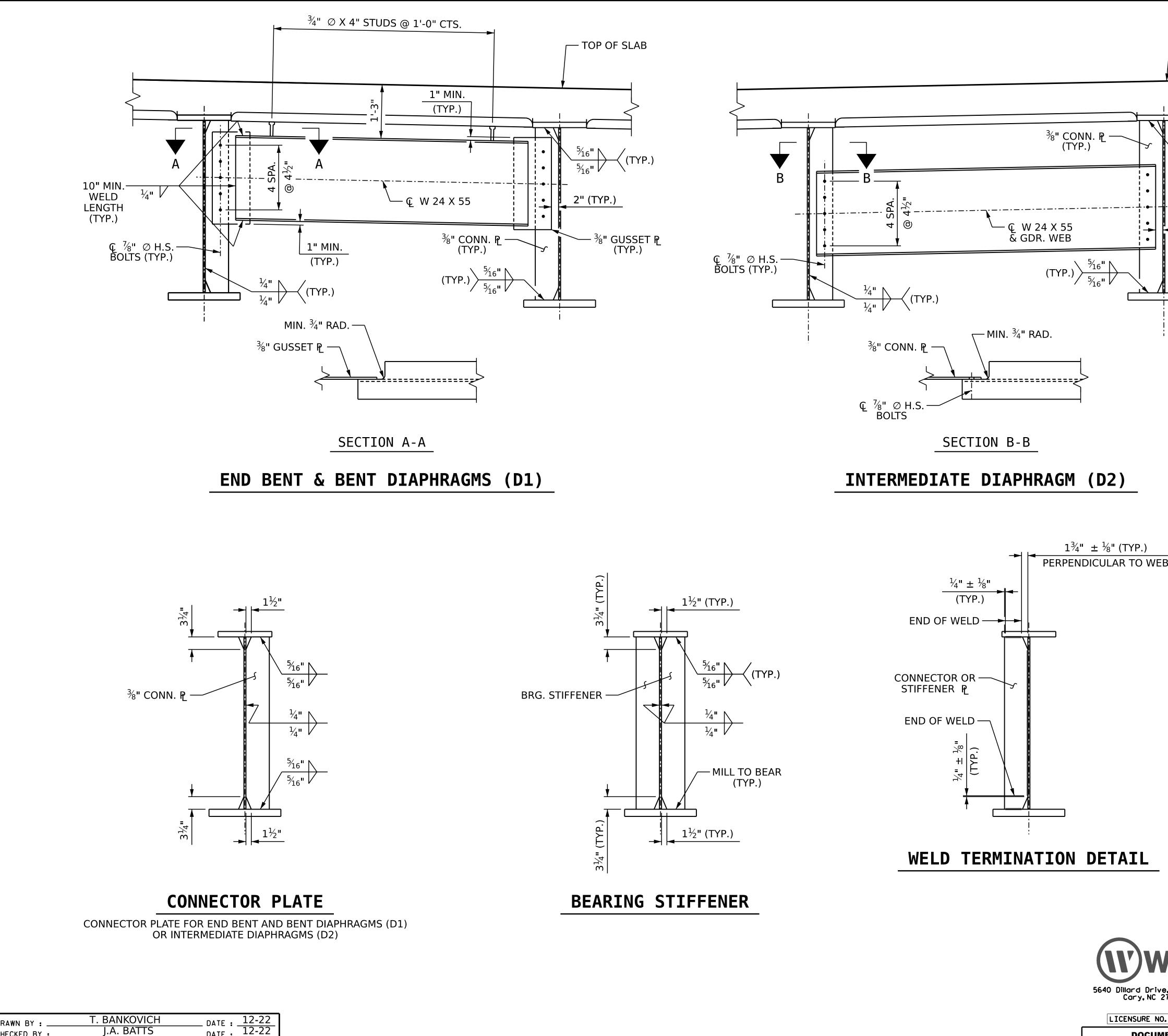
PERMITTED FLANGE AND WEB SHOP SPLICES SHALL NOT BE LOCATED WITHIN 15 FEET OF MAXIMUM DEAD LOAD DEFLECTION. KEEP 2 FEET MINIMUM BETWEEN WEB AND FLANGE SHOP SPLICES, KEEP 6" MINIMUM BETWEEN CONNECTOR PLATE WELDS AND WEB OR FLANGE SHOP SPLICES.

STUDS ON GIRDERS MAY BE SHIFTED UP TO 1" IF NECESSARY TO CLEAR FLANGE SPLICE WELD.

TENSION ON THE AASHTO A325 BOLTS SHALL BE CALIBRATED USING DIRECT TENSION INDICATOR WASHERS IN ACCORDANCE WITH ARTICLE 440-8 OF THE STANDARD SPECIFICATIONS.

FABRICATORS SHALL DETAIL DIAPHRAGM MEMBERS AND CONNECTIONS FOR FULL DEAD LOAD FIT UP, GIRDERS SHALL BE PLUMB AFTER THE FULL AMOUNT OF DEAD LOAD IS APPLIED.





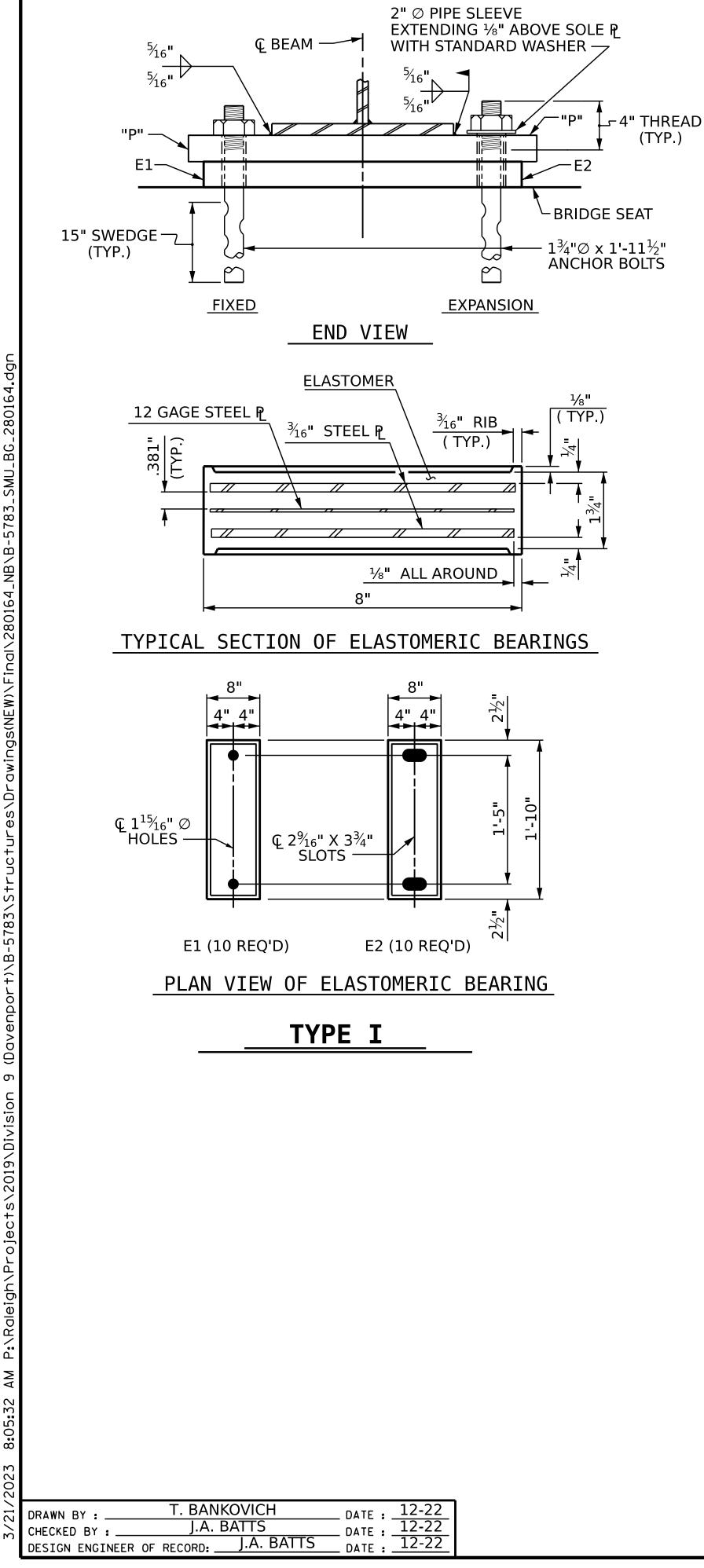
	DRAWN BY : .		T. BAN	IKOVICH	DATE :	12-2
	CHECKED BY	:		BATTS	DATE :	12-2
'	DESIGN ENGI	NEER OF	RECORD:	J.A. BATTS	DATE :	12-2



 3	
	PROJECT NO. <u>B-5783</u> <u>DAVIDSON</u> COUNTY STATION: <u>21+13.32 -NBL-</u>
CAROLINA STAN	SHEET 3 OF 3 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUPERSTRUCTURE STRUCTURAL STEEL
AGI e. Suite 200 27518 D. C-4434 MENT NOT CONSIDERED FINAL ALL SIGNATURES COMPLETED	DETAILS REVISIONS SHEET NO. NO. BY: DATE: NO. BY: DATE: SI-15 1 3

TOP OF SLAB $5_{16}''$ (TYP.)

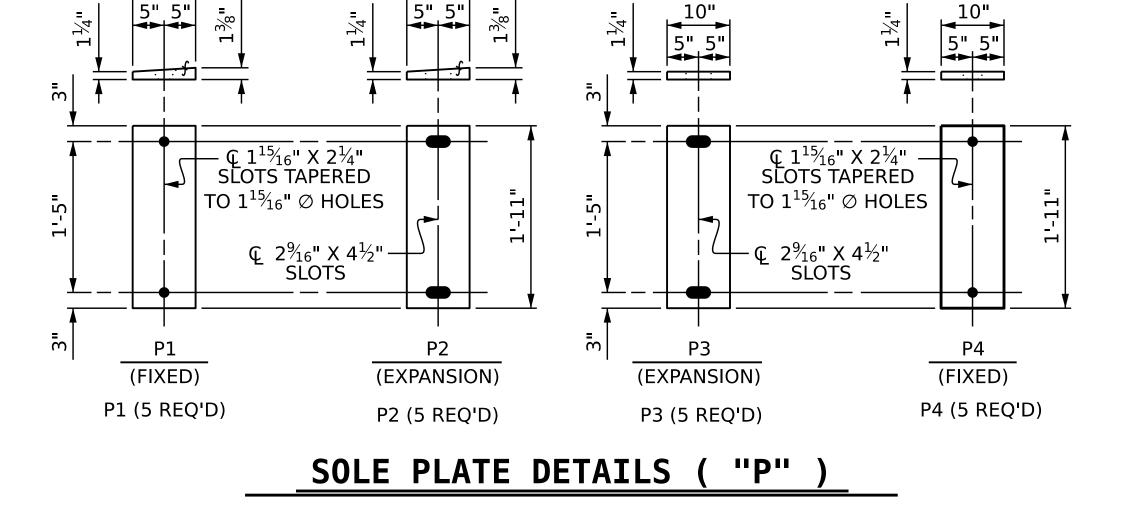
2" (TYP.)





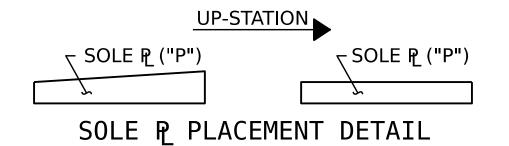
LICENSURE NO. C.

DOCUMEN **UNLESS AL**



10"

10"



NOTES

AT ALL FIXED POINTS OF SUPPORT, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF $\frac{1}{2}$ " TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

THE 2" Ø PIPE SLEEVE SHALL BE CUT FROM SCHEDULE 40 PVC PLASTIC PIPE. THE PVC PLASTIC PIPE SHALL MEET THE **REQUIREMENTS OF ASTM D1785.**

THE PAYMENT FOR THE PIPE SLEEVES SHALL BE INCLUDED IN THE SEVERAL PAY ITEMS.

FOR PAINTED STRUCTURAL STEEL (EXCLUDING AASHTO M270 GRADE 50W), SOLE PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

FOR AASHTO M270 GRADE 50W STRUCTURAL STEEL, SOLE PLATE SHALL BE AASHTO M270 GRADE 50W AND SHALL NOT BE GALVANIZED. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

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 BOLTS, NUTS AND WASHERS. SHOP INSPECTION IS REQUIRED.

WHEN FIELD WELDING THE SOLE PLATE TO THE GIRDER FLANGE, 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.

ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

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

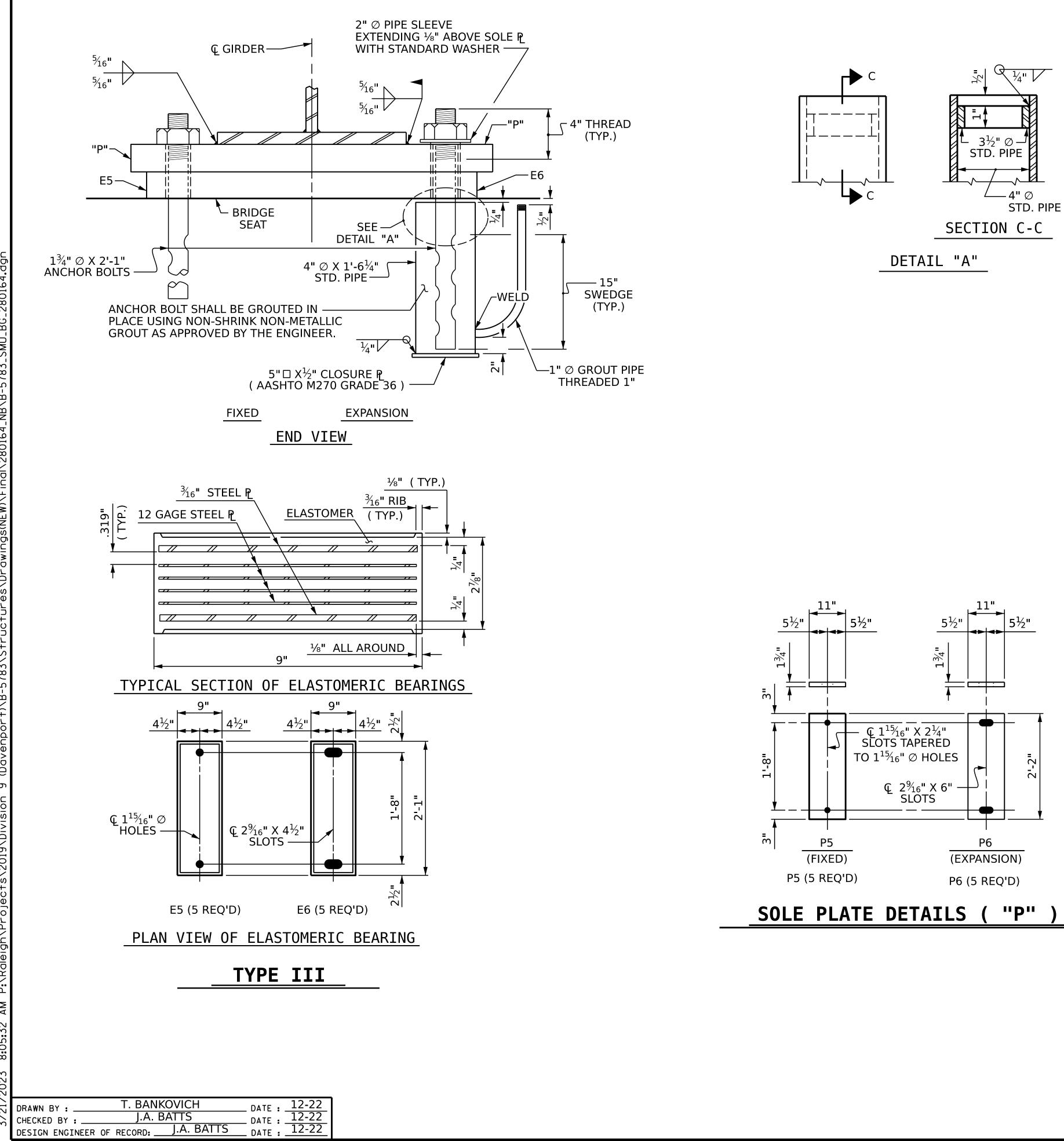
FOR STEEL REINFORCED ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FOLLOWING PROCEDURE, WHICH MAY BE REQUIRED BY THE ENGINEER, TO RESET ELASTOMERIC BEARINGS DUE TO GIRDER TRANSLATION AND END ROTATION:

1. ONCE THE DECK HAS CURED, THE GIRDERS SHALL BE JACKED AND THE ELASTOMERIC BEARING SLOTS CENTERED AS NEARLY AS PRACTICAL ABOUT THE BEARING STIFFENER. THIS OPERATION SHALL BE PERFORMED AT APPROXIMATELY 60°F.

THE CONTRACTOR MAY PROPOSE ALTERNATE METHODS, PROVIDED DETAILS ARE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.

D.L	XIMUM ALLOWABLE SERVICE LOADS	D	CT NO AVIDSC 0N:21+)N		UNTY L-
GI ©	SOLUTE DABESSESAL 18056	DEPA	STATE OF ARTMENT OF SUPERS	RALEIGH STRUC	NSPORTA TURE BEAR]	
4434	3/21/2023 5:57 AM PD	NO. BY:	REVISION DATE: NO.	NS By:	DATE:	SHEET NO. S1-16
	NSIDERED FINAL IRES COMPLETED	1	3 4			total sheets 40







LICENSURE NO.C









NOTES

AT ALL FIXED POINTS OF SUPPORT, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF $\frac{1}{2}$ " TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

THE 2" Ø PIPE SLEEVE SHALL BE CUT FROM SCHEDULE 40 PVC PLASTIC PIPE. THE PVC PLASTIC PIPE SHALL MEET THE **REOUIREMENTS OF ASTM D1785.**

THE PAYMENT FOR THE PIPE SLEEVES SHALL BE INCLUDED IN THE SEVERAL PAY ITEMS.

FOR PAINTED STRUCTURAL STEEL (EXCLUDING AASHTO M270 GRADE 50W), SOLE PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

FOR AASHTO M270 GRADE 50W STRUCTURAL STEEL, SOLE PLATE SHALL BE AASHTO M270 GRADE 50W AND SHALL NOT BE GALVANIZED. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

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

WHEN FIELD WELDING THE SOLE PLATE TO THE GIRDER FLANGE. 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

ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

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

FOR STEEL REINFORCED ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.

THE CLOSURE PLATE, GROUT PIPE AND STANDARD PIPE FOR THE EXPANSION ASSEMBLY NEED NOT BE GALVANIZED.

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FOLLOWING PROCEDURE, WHICH MAY BE REOUIRED BY THE ENGINEER. TO RESET ELASTOMERIC BEARINGS DUE TO GIRDER TRANSLATION AND END ROTATION:

1. ONCE THE DECK HAS CURED, THE GIRDERS SHALL BE JACKED THEN THE ANCHOR BOLTS AND ELASTOMERIC BEARING SLOTS CENTERED AS NEARLY AS PRACTICAL ABOUT THE BEARING STIFFENER. THIS OPERATION SHALL BE PERFORMED AT APPROXIMATELY 60°F.

2. AFTER CENTERING THE ELASTOMERIC BEARING SLOTS AND ANCHOR BOLTS, THE ANCHOR BOLTS SHALL BE GROUTED.

THE CONTRACTOR MAY PROPOSE ALTERNATE METHODS, PROVIDED DETAILS ARE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.

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IT NOT COI	NSIDERED FINAL IRES COMPLETED	1 2		DATE:	™0. 3 4	01:	UAIL:	TOTAL SHEETS 40

			— [DEAD	LOA	AD D	EFLE	CTI	ON T	ABL	E FO	R G	CRDE	RS								
											ç	SPAN A	Į									
	GIRDERS G1-G5																					
TWENTIETH POINTS		0	.05	.10	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	.75	.80	.85	.90	.95	1.00
DEFLECTION DUE TO WEIGHT OF STEEL	¥	0	.000	.000	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.000	.000	0
* DEFLECTION DUE TO WEIGHT OF SLAB	¥	0	.001	.002	.003	.004	.005	.005	.006	.006	.006	.006	.006	.006	.006	.005	.005	.004	.003	.002	.001	0
DEFLECTION DUE TO WEIGHT OF RAIL	¥	0	.000	.000	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.000	.000	0
TOTAL DEAD LOAD DEFLECTION	•	0	.001	.002	.005	.006	.007	.007	.008	.008	.008	.008	.008	.008	.008	.007	.007	.006	.005	.002	.001	0
VERTICAL CURVE ORDINATE	•	0	.002	.005	.007	.008	.010	.011	.012	.012	.013	.013	.013	.012	.012	.011	.010	.008	.007	.005	.002	0
SUPERELEVATION ORDINATE		0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
REQUIRED CAMBER	♦	0	¹ ⁄16"	¹ ⁄16"	¹ ⁄8"	³ ⁄ ₁₆ "	³ ⁄16"	³ ⁄16"	1⁄4"	1⁄4"	¹⁄₄"	¹ ⁄4"	¹ ⁄4"	¹⁄₄"	¹⁄₄"	³ ⁄16"	³ ⁄16"	³ ⁄ ₁₆ "	¹ ⁄8"	¹ ⁄16"	¹ ⁄16"	0

* INCLUDES SLAB, BUILDUPS & STAY-IN-PLACE FORMS. ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

		DEAD LOAD DEFLECTION TABLE FOR GIRDERS																				
											ç	SPAN	В									
									GI	RDERS	5 G1-	G5 (6) THR	U.50	0)							
FORTIETH POINTS		0	.025	.050	.075	.100	.125	.150	.175	.200	.225	.250	.275	.300	.325	.350	.375	.400	.425	.450	.475	.500
DEFLECTION DUE TO WEIGHT OF STEEL	•	0	.010	.021	.031	.041	.050	.059	.068	.077	.085	.092	.099	.105	.111	.115	.120	.123	.126	.128	.129	.129
* DEFLECTION DUE TO WEIGHT OF SLAB	¥	0	.019	.046	.074	.100	.126	.152	.176	.198	.220	.240	.258	.275	.290	.303	.314	.324	.331	.336	.339	.340
DEFLECTION DUE TO WEIGHT OF RAIL	¥	0	.007 .014 .022 .029 .035 .042 .048 .054 .060 .065 .070 .074 .078 .081 .084 .087 .088 .090 .091 .091 .091													.091						
TOTAL DEAD LOAD DEFLECTION	¥	0	.036 .081 .127 .170 .211 .253 .292 .329 .365 .397 .427 .454 .479 .499 .518 .534 .545 .554 .559 .560																			
VERTICAL CURVE ORDINATE	4	0	.012	.024	.035	.046	.056	.065	.074	.082	.089	.096	.102	.107	.112	.116	.120	.123	.125	.126	.127	.128
SUPERELEVATION ORDINATE	A	0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
REQUIRED CAMBER	♦	0	⁹ ⁄16"	1¼"	1 ¹⁵ ⁄16"	2 ⁵ ⁄8"	3¼"	3 ¹³ ⁄16"	4 ⁷ ⁄16"	4 ¹⁵ ⁄ ₁₆ "	5½"	5 ¹⁵ ⁄16"	6 ³ ⁄8"	6 ³ ⁄4"	7 ¹ ⁄8"	7 ^{7⁄} 16"	7 ¹¹ ⁄16"	7 ¹⁵ ⁄16"	8½16"	8 ³ ⁄16"	8¼"	8 ⁵ ⁄16"
											ç	SPAN	В									
									GIRD	ERS (G1-G5	(.50	00 TH	RU 1.	000)							
FORTIETH POINTS		.500	.525	.550	.575	.600	.625	.650	.675	.700	.725	.750	.775	.800	.825	.850	.875	.900	.925	.950	.975	1.00
DEFLECTION DUE TO WEIGHT OF STEEL	¥	.129	.129	.128	.126	.123	.120	.115	.111	.105	.099	.092	.085	.077	.068	.059	.050	.041	.031	.021	.010	0
* DEFLECTION DUE TO WEIGHT OF SLAB	¥	.340	.339	.336	.331	.324	.314	.303	.290	.275	.258	.240	.220	.198	.176	.152	.126	.100	.074	.046	.019	0
DEFLECTION DUE TO WEIGHT OF RAIL	¥	.091	.091	.090	.088	.087	.084	.081	.078	.074	.070	.065	.060	.054	.048	.042	.035	.029	.022	.014	.007	0
TOTAL DEAD LOAD DEFLECTION	¥	.560	.559	.554	.545	.534	.518	.499	.479	.454	.427	.397	.365	.329	.292	.253	.211	.170	.127	.081	.036	0
VERTICAL CURVE ORDINATE	A	.128	.127	.126	.125	.123	.120	.116	.112	.107	.102	.096	.089	.082	.074	.065	.056	.046	.035	.024	.012	0
SUPERELEVATION ORDINATE	A	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
REQUIRED CAMBER	▲	8 ⁵ ⁄16"	8¼"	8 ³ ⁄16"	8 ¹ ⁄ ₁₆ "	7 ¹⁵ ⁄16"	7 ¹¹ ⁄16"	7 ^{7⁄} 16"	7½"	6¾"	6 ³ ⁄8"	5 ¹⁵ ⁄16"	5 ¹ ⁄ ₂ "	4 ¹⁵ ⁄16"	4½6"	3 ³ ⁄16"	2 ¹¹ ⁄16"	2 ⁵ ⁄8"	1 ¹⁵ ⁄16"	1¼"	⁹ ⁄16"	0
* INCLUDES SLAB, BUILDUPS & STAY-IN-PLA	CE	FORMS																				

* INCLUDES SLAB, BUILDUPS & STAY-IN-PLACE FORMS. ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

			— [DEAD	LOA	AD D	EFLE	CTI	ON T	ABL	E F0	R G	CRDE	RS								
	SPAN C																					
	GIRDERS G1-G5																					
TWENTIETH POINTS		0	.05	.10	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	.75	.80	.85	.90	.95	1.00
DEFLECTION DUE TO WEIGHT OF STEEL	♦	0	.000	.000	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.000	.000	0
* DEFLECTION DUE TO WEIGHT OF SLAB	¥	0	.001	.002	.003	.004	.005	.005	.006	.006	.006	.006	.006	.006	.006	.005	.005	.004	.003	.002	.001	0
DEFLECTION DUE TO WEIGHT OF RAIL	♦	0	.000	.000	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.000	.000	0
TOTAL DEAD LOAD DEFLECTION	¥	0	.001	.002	.005	.006	.007	.007	.008	.008	.008	.008	.008	.008	.008	.007	.007	.006	.005	.002	.001	0
VERTICAL CURVE ORDINATE	▲	0	.002	.005	.007	.008	.010	.011	.012	.012	.013	.013	.013	.012	.012	.011	.010	.008	.007	.005	.002	0
SUPERELEVATION ORDINATE	4	0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
REQUIRED CAMBER	▲	0	¹ ⁄16"	¹ ⁄16"	¹ ⁄8"	³ ⁄16"	³ ⁄16"	³ ⁄16"	¹ ⁄4"	¹ ⁄4"	¹⁄₄"	¹ ⁄4"	¹ ⁄4"	¹ ⁄4"	¹⁄₄ ''	³ ⁄16"	³ ⁄16"	³ ⁄16"	1⁄8"	¹ ⁄16"	¹ ⁄16"	0

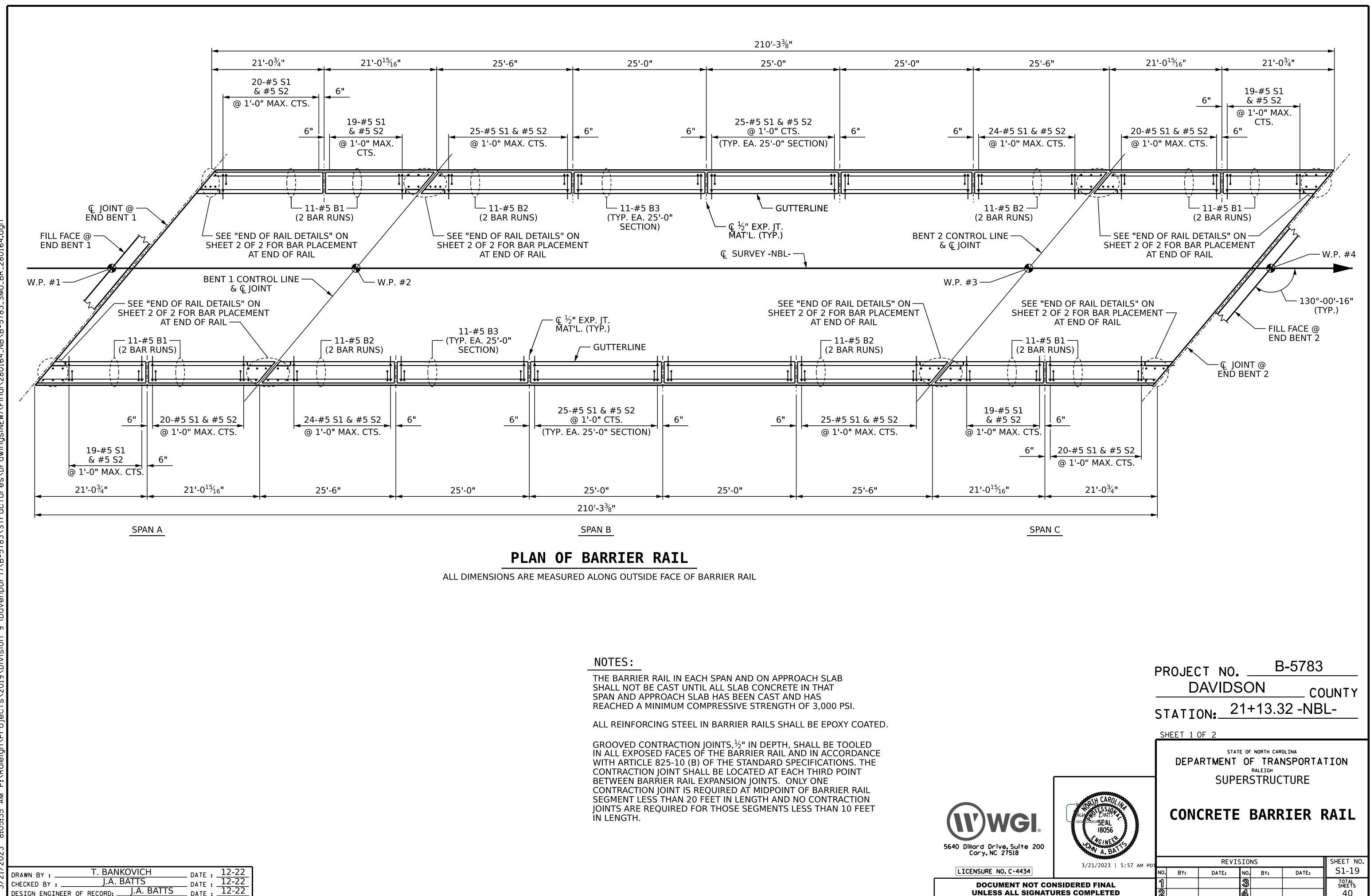
* INCLUDES SLAB, BUILDUPS & STAY-IN-PLACE FORMS. ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

201						
	DRAWN BY : _		S.D. CC		DATE :	12-22
ì	CHECKED BY : DESIGN ENGIN		,	BATTS J.A. BATTS	DATE :	12-22
	DESIGN ENGIN	NEER OF F		J., .: D, .: 10	DATE :	

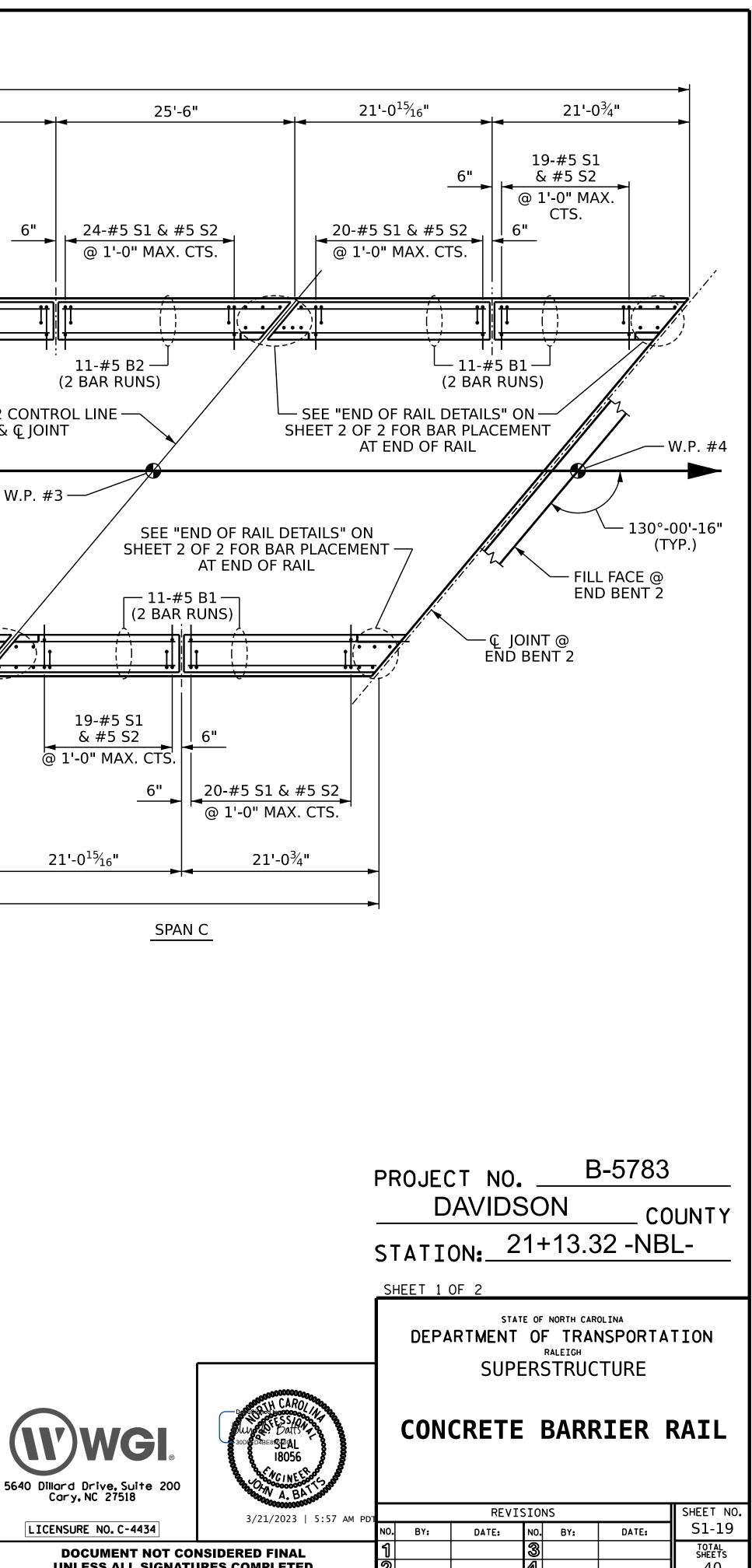


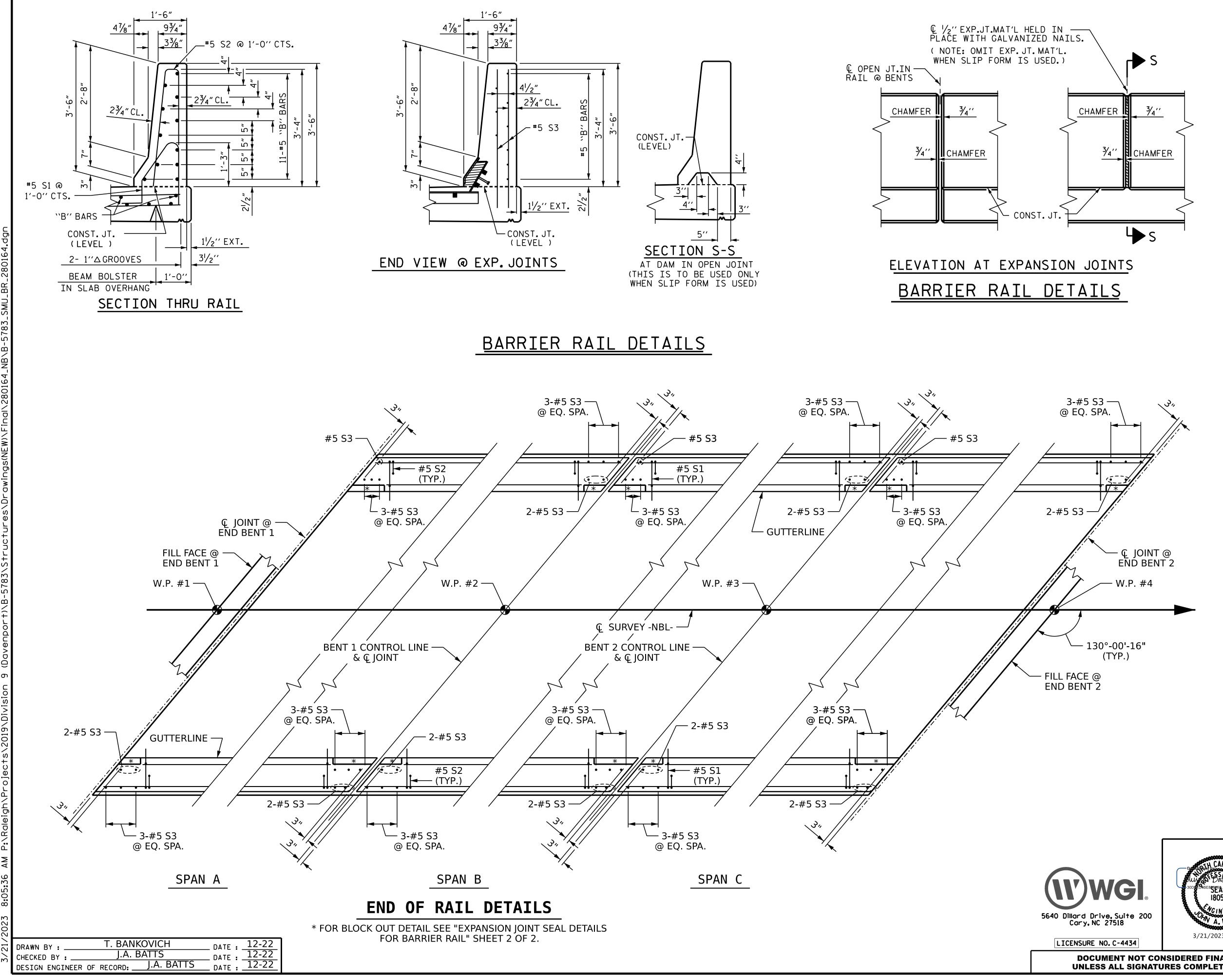
LICENSURE NO. C

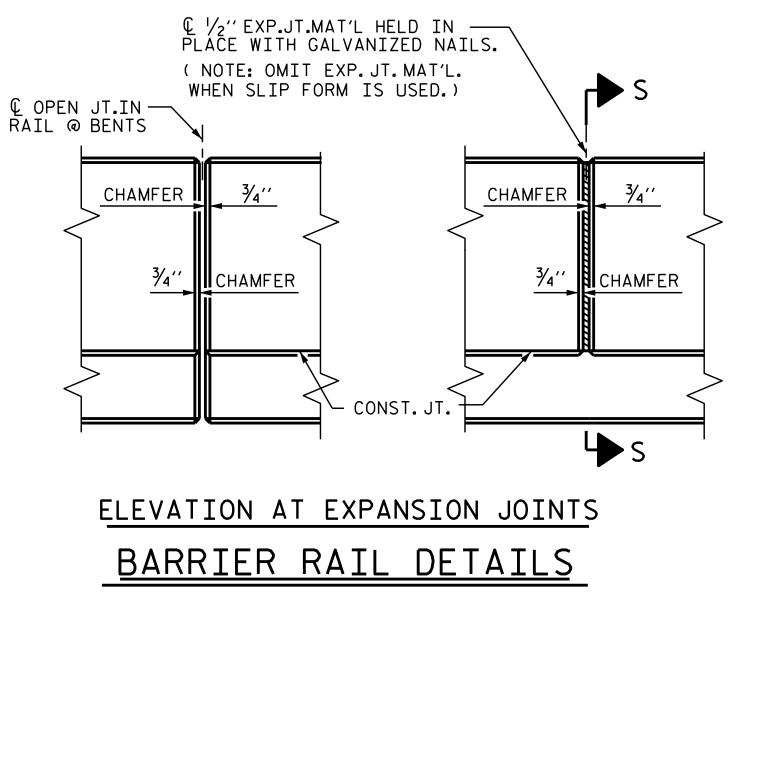
		PROJECT DA STATIO	VIDSC	DN		UNTY L-
		DEPAR	STATE OF TMENT O SUPER	RALEIGH	NSPORTA	TION
Dillard Drive, Suite 200 Cary, NC 27518	SOLDE BABE BACE OF AL 18056) LOAD D GIR			
ICENSURE NO. C-4434	3/21/2023 5:57 AM PDT		REVISIO		DATE	SHEET NO. S1-18
DOCUMENT NOT CO UNLESS ALL SIGNATU		NO. ВY: 1 2	DATE: NO.	, ,	DATE:	TOTAL SHEETS 40



V						
$\left \right $	DRAWN BY : .		T. BAN	KOVICH	DATE :	12-22
-	CHECKED BY		J.A.	BATTS	DATE :	12-22
' '	DESIGN ENGI	NEER OF	RECORD: _	J.A. BATTS	DATE :	12-22

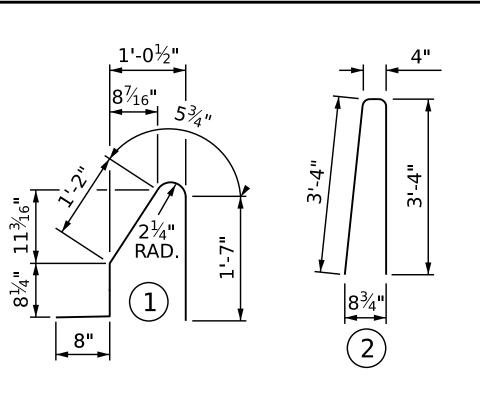






00'-16" YP.)						
		D	CT NO. AVIDS ON: 2	ON		UNTY L-
		SHEET 2				
		DEPA	RTMENT	OF NORTH CAR OF TRAI RALEIGH	NSPORTA	TION
GI®	SEAL 18056	CON	CRETE	BARF	RIER F	RAIL
′518 C-4434	3/21/2023 5:57 AM PDT		REVIS			SHEET NO. S1-20
INT NOT CO	NSIDERED FINAL IRES COMPLETED	NO. BY: 1 2	DATE:	NO. BY: 3 4	DATE:	TOTAL SHEETS 40

BAR TYPES

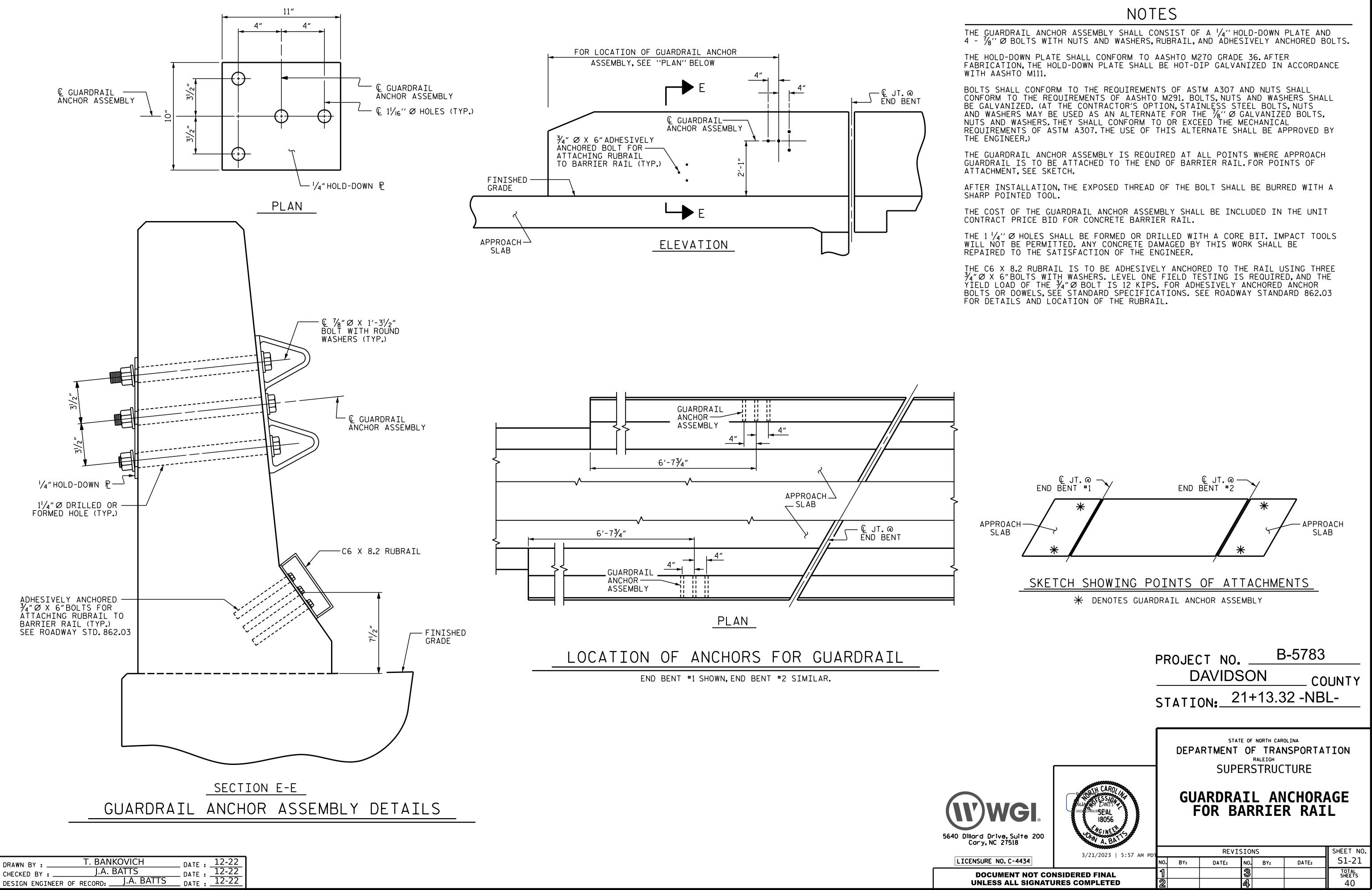


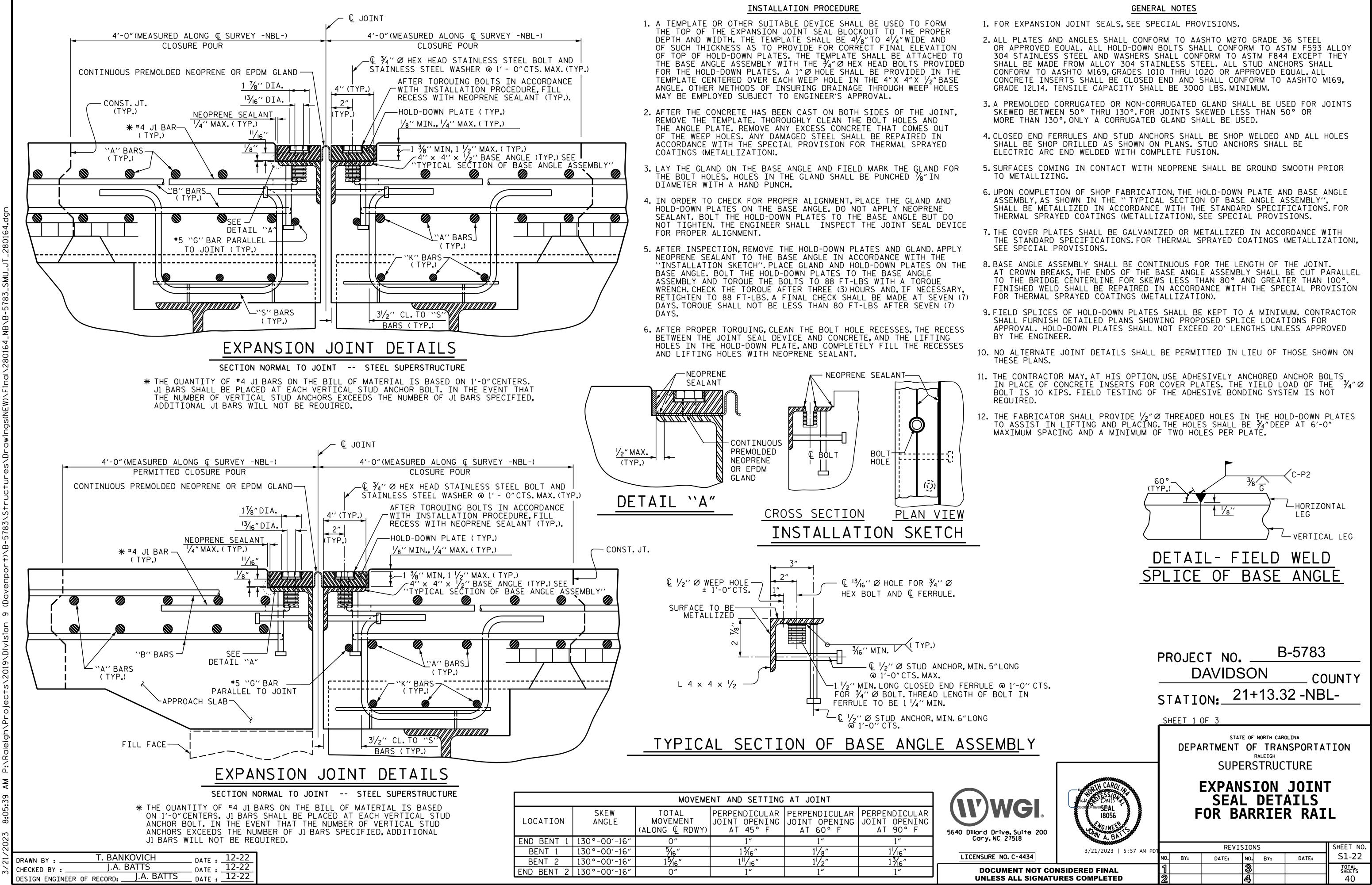
ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL									
FOR CONCRETE BARRIER RAIL									
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT				
* B1	176	#5	STR	12'-2"	2233				
* B2	88	#5	STR	14'-4"	1316				
* B3	66	#5	STR	24'-7"	1692				
* S1	404	#5	1	4'-7"	1931				
* S2	404	#5	2	7'-0"	2950				
* S3	57	#5	STR	4'-0"	238				
EPOXY CC	DATED								
REINFORG	CING S	ΓEEL			10360 LB				
CLASS AA	A CONC	RETE B	REAKDO	WN	57.1 CY				
CONCRET	E BAR	RIER RA	IL						
SUPERST	RUCTU	RE			420.56 LF				
* * APPRC	DACH S	LAB			42.52 LF				
TOTAL					463.08 LF				

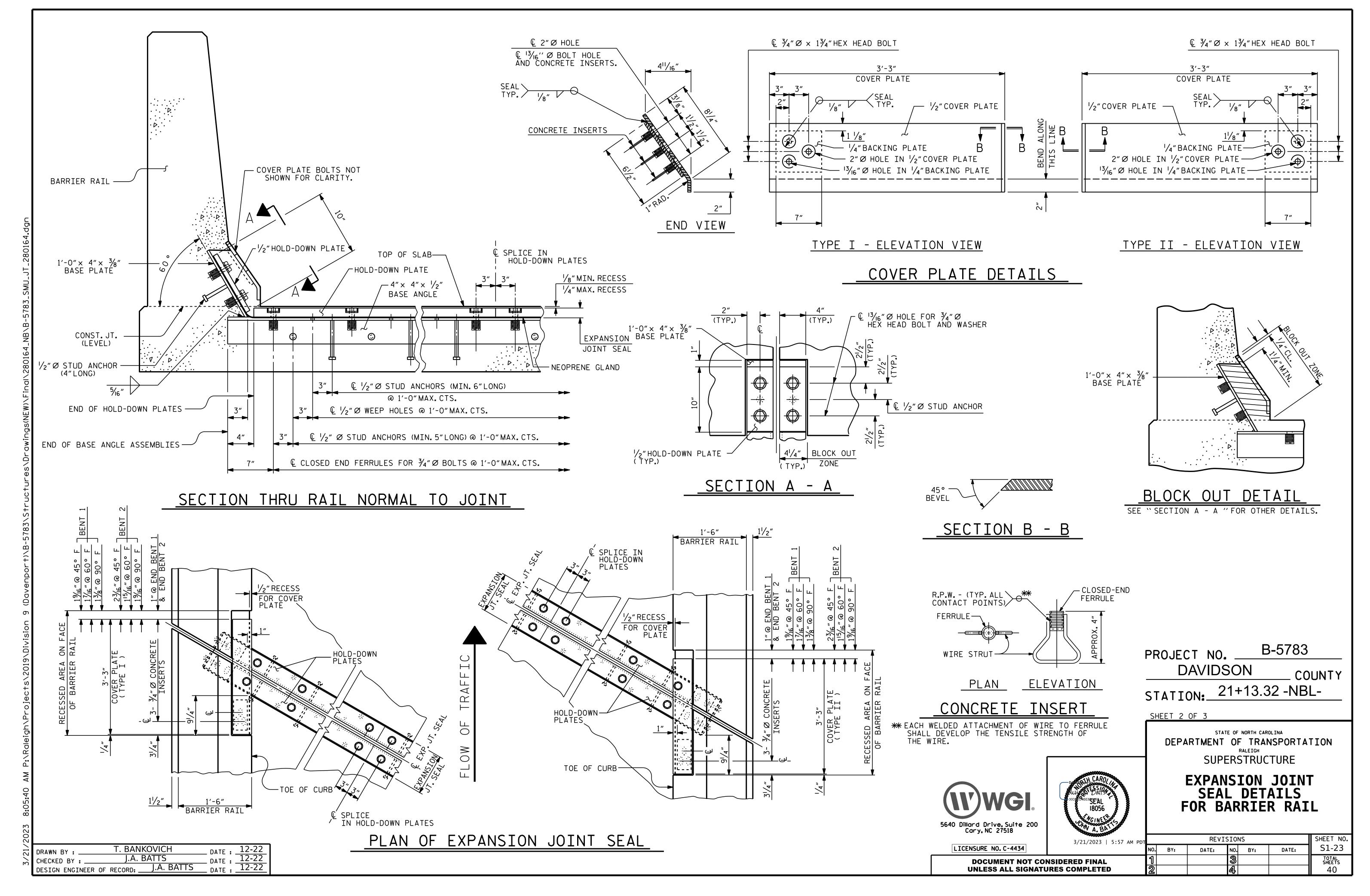
* INDICATES EPOXY COATED REINFORCING STEEL

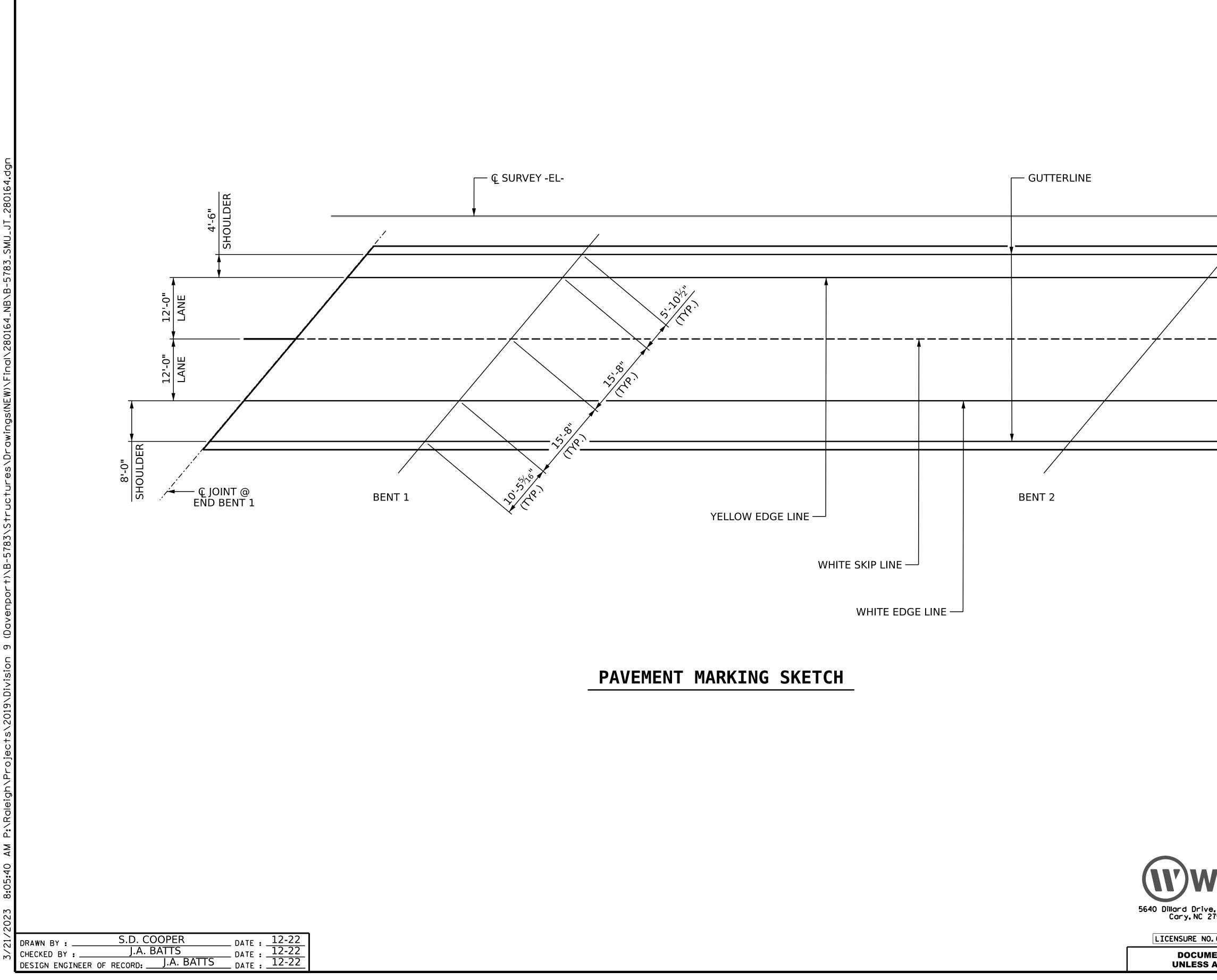
* * FOR EPOXY COATED REINFORCING STEEL AND CLASS AA CONCRETE IN THE BARRIER RAIL ON THE APPROACH SLABS, SEE "BRIDGE APPROACH SLAB - BARRIER RAILS DETAIL" SHEET.





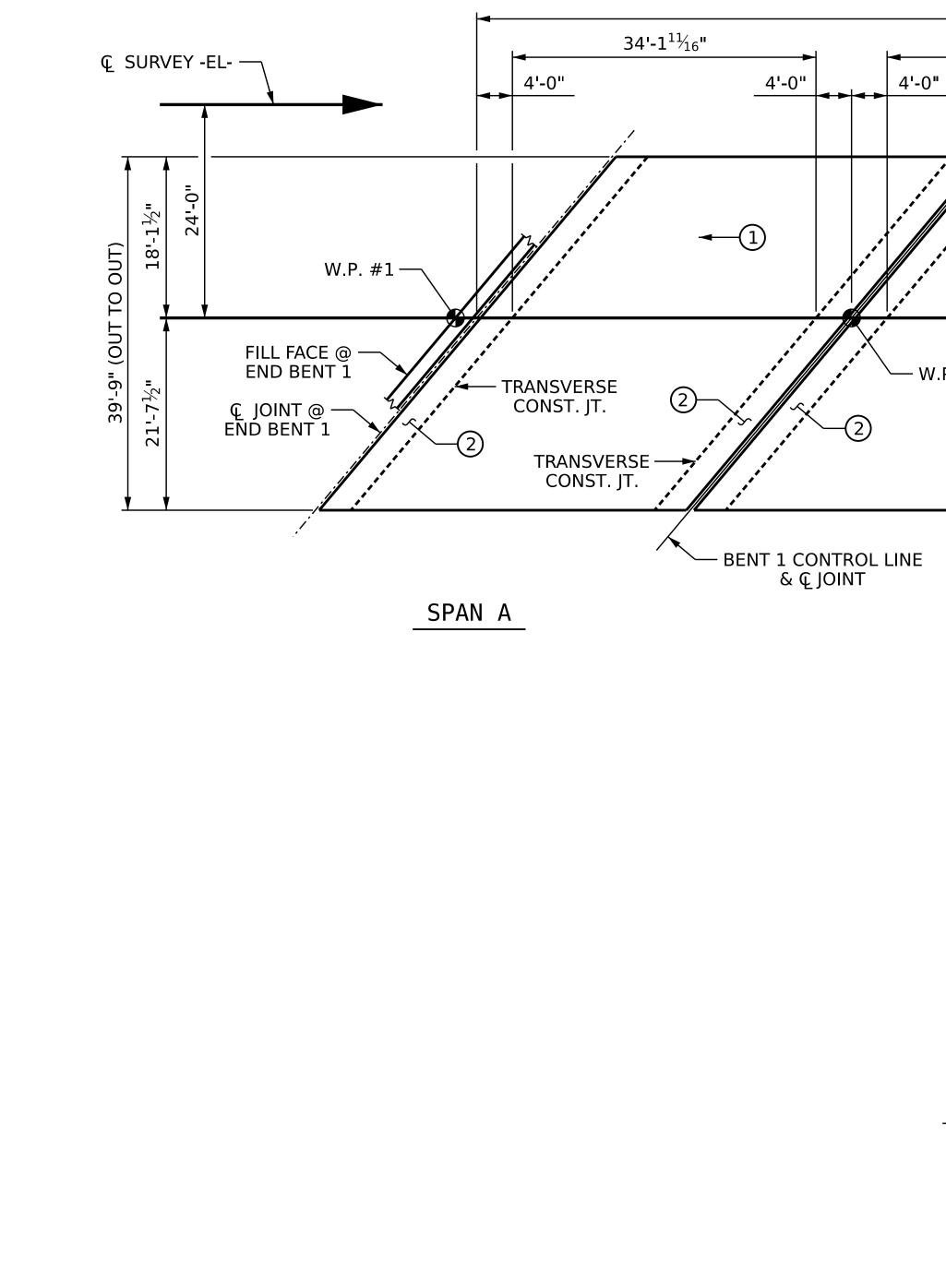
		AT JOINT	INT AND SETTING	MOVEME		
5640 Dillard Drive, S	PERPENDICULAR JOINT OPENING AT 90° F	PERPENDICULAR JOINT OPENING AT 60° F	JOINT OPENING	TOTAL MOVEMENT (ALONG & RDWY)	SKEW ANGLE	LOCATION
Cary, NC 275	1"	1″	1″	0"	130°-00'-16"	END BENT 1
LICENSURE NO.C	1 ¹ / ₁₆ "	11/8"	1 ³ / ₁₆ "	/10	130°-00'-16"	BENT 1
	1 ³ / ₁₆ "	11/2"	1 ¹¹ / ₁₆ "	15/16″	130°-00'-16″	BENT 2
DOCUME	1″	1"	1″	0"	130°-00'-16"	END BENT 2
' UNLESS AI		•				







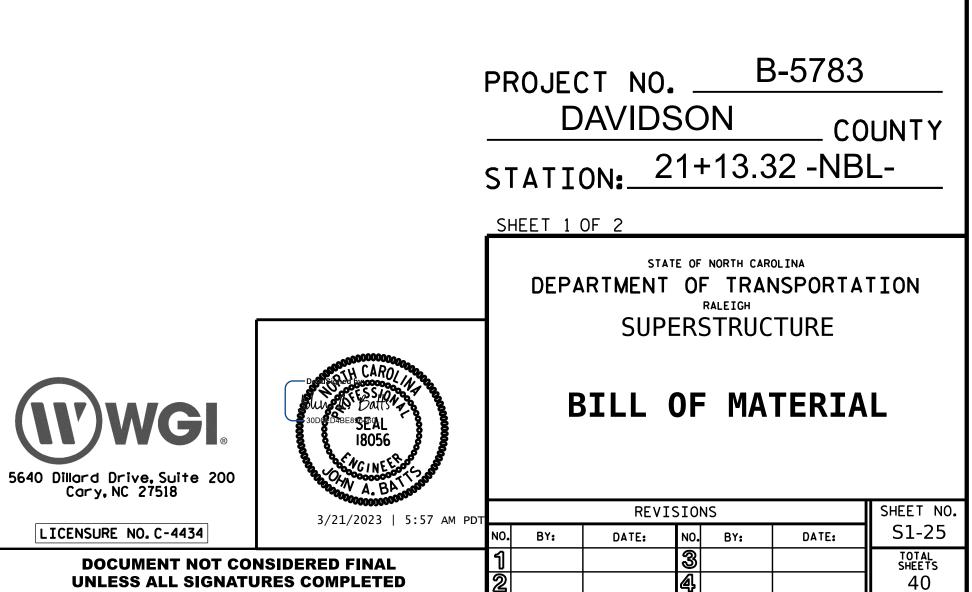
	E SURVEY -NBL- & CROWN LINE
· END BENT 2	
	PROJECT NO. B-5783 DAVIDSON COUNTY STATION: 21+13.32 -NBL-
VGCI () ve. Suite 200 27518	DEPARTMENT OF TRANSPORTATION RALEIGH SUPERSTRUCTURE EXPANSION JOINT SEAL DETAILS FOR BARRIER RAIL
MENT NOT CONSIDERED FINAL S ALL SIGNATURES COMPLETED	REVISIONSSHEET NO.NO.BY:DATE:NO.BY:DATE:S1-2413

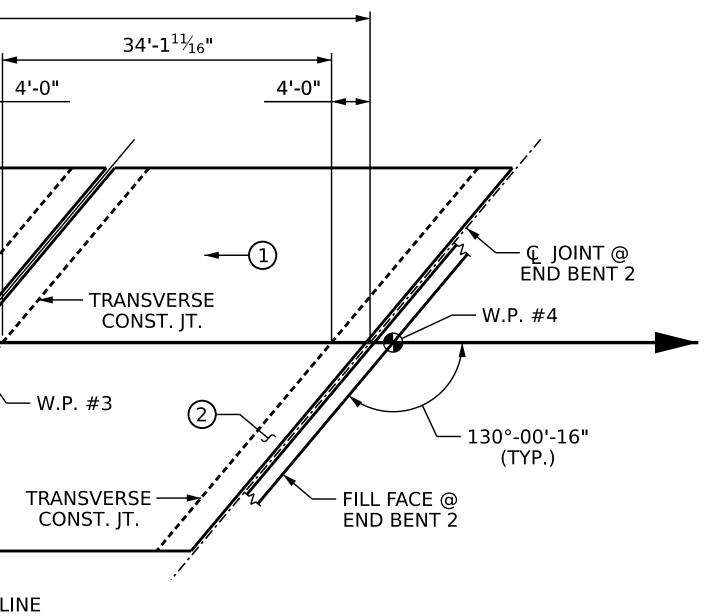


20						
21/	DRAWN BY :	-	T. BAN	KOVICH	DATE :	12-22
3/2	DRAWN BY : _ CHECKED BY :		J.A. I	BATTS	DATE :	12-22
. ,	DESIGN ENGI	NEER OF R	ECORD: _	J.A. BATTS	DATE :	12-22

210'-3³/₈" (\bigcirc JOINT @ END BENT 1 TO \bigcirc JOINT AT END BENT 2) 118'-0" 4'-0" -1 - TRANSVERSE CONST. JT. € SURVEY -NBL- — - W.P. #2 TRANSVERSE — CONST. JT. - BENT 2 CONTROL LINE & © JOINT SPAN B SPAN C POUR SEQUENCE AND LAYOUT FOR COMPUTING **REINFORCED CONCRETE DECK SLAB AREA** (SQ. FT. 8,359) **(#)** INDICATES POUR NUMBER AND DIRECTION ► TRANSVERSE CONST. JT. ³⁄4" TOP OF SLAB — \backslash (TYP.) 2¾" – 2¾" — ³⁴ (TY TRANSVERSE CONSTRUCTION JOINT DETAIL

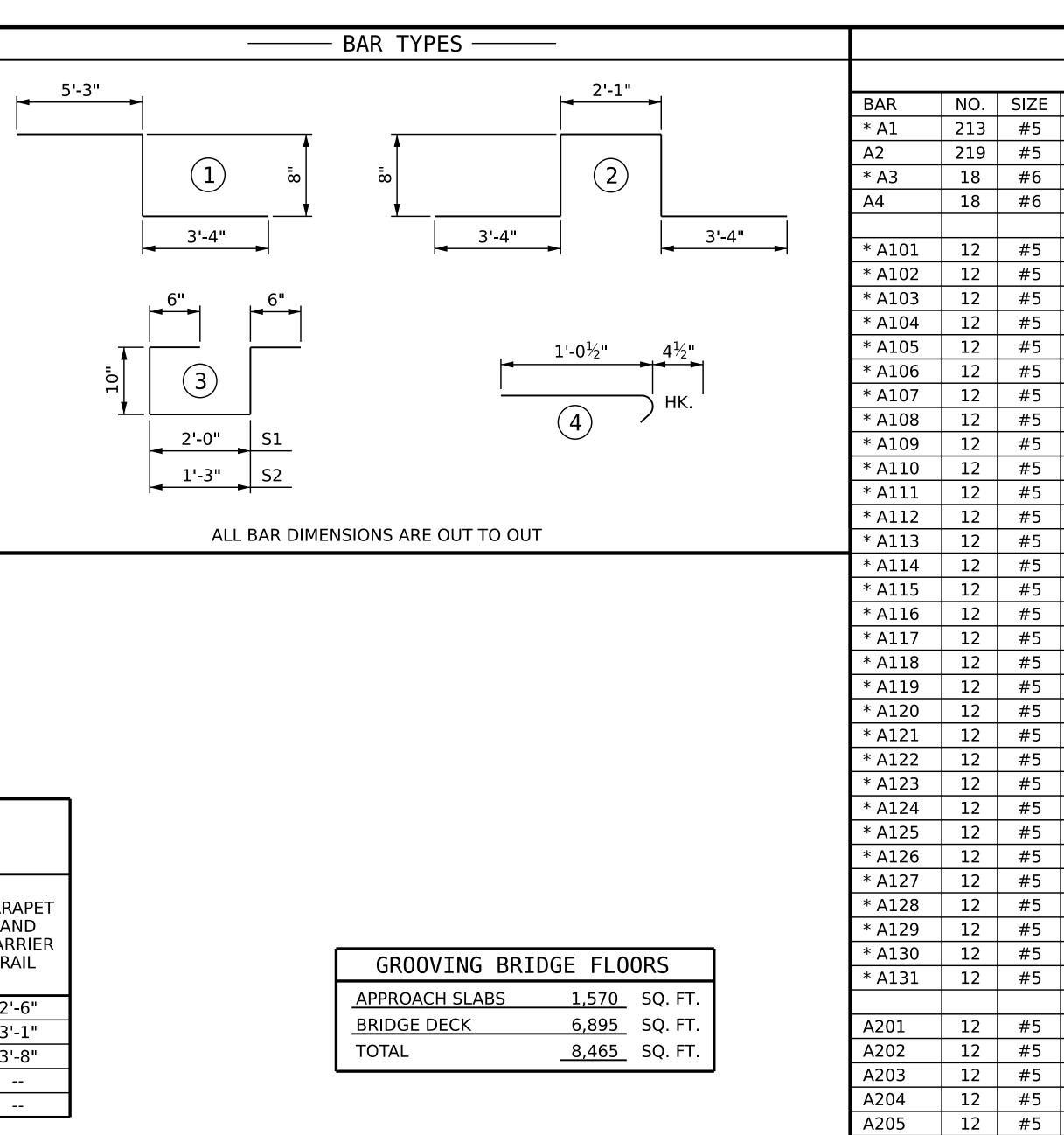
NOTE: REINFORCING STEEL IN SLAB NOT SHOWN. LONGITUDINAL REINFORCING STEEL SHALL BE CONTINUOUS THRU JOINT.





	LENGTHS	STRUCTURE 5 ARE BASE 1INIMUM SP	D ON TH	E FOLLOWI	
BAR SIZE	EXCEPT SLABS,	SUPERSTRUCTURE EXCEPT APPROACH SLABS, PARAPET, AND BARRIER RAIL EPOXY	ACH SLABS	PARA Al BAR	
	EPOXY COATED	UNCOATED	EPOXY COATED	UNCOATED	R/
#4	1'-11"	1'-7"	1'-11"	1'-7"	2'-
#5	2'-5"	2'-0"	2'-5"	2'-0"	3'-
#6	2'-10"	2'-5"	3'-7"	2'-5"	3'-
#7	4'-2"	2'-9"			_
#8	4'-9"	3'-2"			-

8:05:4			
2023			
21/	DRAWN BY : T. BANKOVICH	DATE :	12-22
3/21.	CHECKED BY : J.A. BATTS	DATE :	12-22
(1	DESIGN ENGINEER OF RECORD: J.A. BATTS	DATE :	12-22
•			



SUPERSTRUCTURE BILL OF MATERIAL									
	CLASS AA CONCRETE	REINFORCING STEEL	EPOXY COATED REINFORCING STEEL						
	CY	LB	LB						
POUR 1	223.6								
POUR 2 43.1									
TOTAL * *	266.7	29,359	24,410						

* * QUANTITIES FOR BARRIER RAIL ARE NOT INCLUDED



#5

#5

#5

12 #5

12

12

12

A206

A207

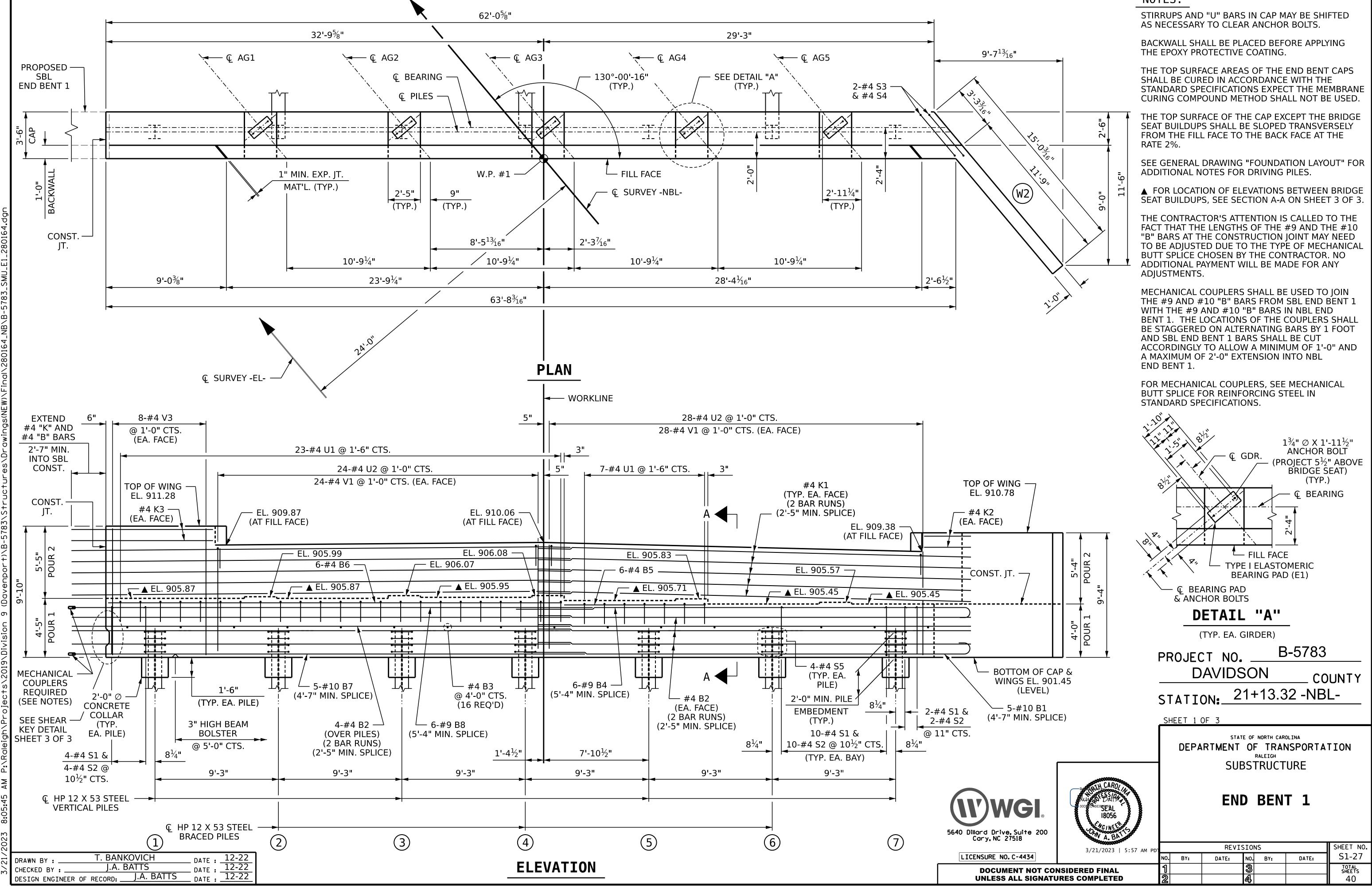
A208

A209

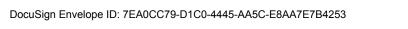
LICENSURE NO.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

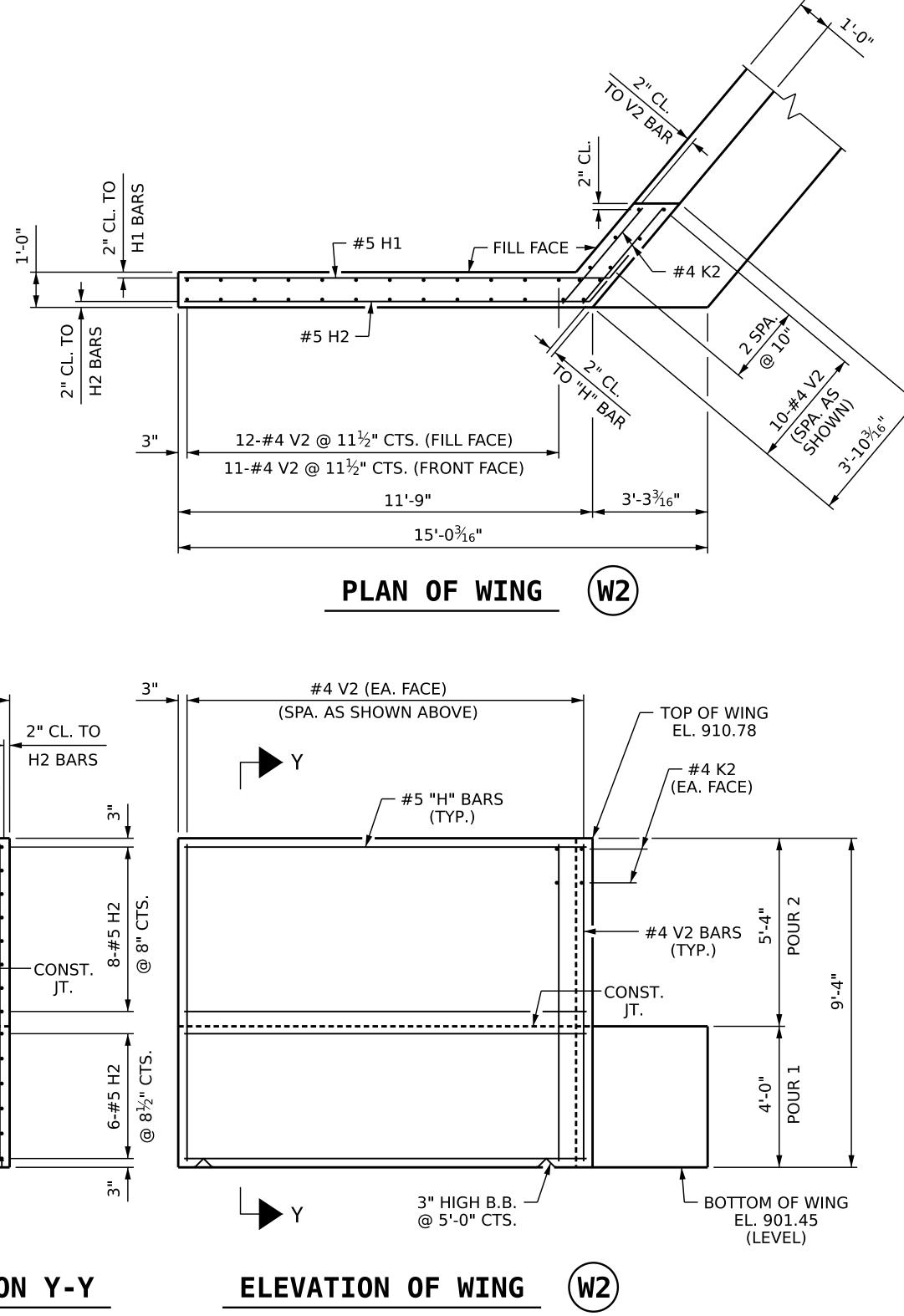
	B	ILL OF	MATERIA	AL				
		SPANS A						
TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
STR	39'-5" 39'-5"	8757 9003	A210 A211	12 12	#5 #5	STR	27'-8"	346
STR STR	20'-7"	556	A211 A212	12	#5 #5	STR STR	26'-5" 25'-3"	331 316
STR	16'-0"	433	A213	12	#5	STR	23'3	301
			A214	12	#5	STR	22'-10"	286
STR	38'-4"	480	A215	12	#5	STR	21'-8"	271
STR	37'-2"	465	A216	12	#5	STR	20'-6"	257
STR STR	36'-0" 34'-9"	451 435	A217 A218	12 12	#5 #5	STR STR	19'-3" 18'-1"	241 226
STR	33'-7"	435	A210 A219	12	#5 #5	STR	16'-11"	220
STR	32'-5"	406	A220	12	#5	STR	15'-9"	197
STR	31'-2"	390	A221	12	#5	STR	14'-6"	181
STR	30'-0"	375	A222	12	#5	STR	13'-4"	167
STR	28'-10"	361	A223	12	#5	STR	12'-2"	152
STR STR	27'-8" 26'-5"	346 331	A224 A225	12 12	#5 #5	STR STR	10'-11" 9'-9"	137 122
STR	25'-3"	316	A225	12	#5 #5	STR	8'-7"	122
STR	24'-1"	301	A227	12	#5	STR	7'-4"	92
STR	22'-10"	286	A228	12	#5	STR	6'-2"	77
STR	21'-8"	271	A229	12	#5	STR	5'-0"	63
STR	20'-6"	257	A230	12	#5	STR	3'-10"	48
STR STR	19'-3" 18'-1"	241 226	A231	12	#5	STR	2'-7"	32
STR	16'-11"	220	B1	108	#5	STR	41'-7"	4684
STR	15'-9"	197	B2	162	#5	STR	43'-2"	7294
STR	14'-6"	181	* B3	120	#4	STR	21'-10"	1750
STR	13'-4"	167	* B4	120	#4	STR	32'-10"	2632
STR	12'-2"	152	* C1		<i></i>	CTD		222
STR STR	10'-11" 9'-9"	137 122	* G1	6	#5	STR	51'-6"	322
STR	9-9 8'-7"	107	* J1	312	#4	4	1'-5"	295
STR	7'-4"	92						
STR	6'-2"	77	* K1	36	#5	1	9'-3"	347
STR	5'-0"	63	* K2	72	#5	STR	10'-3"	770
STR	3'-10"	48	* K3	54	#5	2	10'-1"	568
STR	2'-7"	32	* S1	56	#4	3	4'-8"	175
STR	38'-4"	480	* S2	112	#4	3	3'-11"	293
STR	37'-2"	465						
STR	36'-0"	451	REINFOR	CING S	FEEL			29359 LB
STR	34'-9"	435						
STR STR	33'-7" 32'-5"	420 406	EPOXY C					24410 LB
STR	31'-2"	390						
STR	30'-0"	375				JAIED K	EINFORCIN	GSIEEL
STR	28'-10"	361						
			PRC		NO. VIDS	SON	B-5783	SUNTY
			STA	TION	N:2	1+13	.32 -NE	BL-
			SHEE	<u>ET 2 OF</u>	2			
				DEPAR	TMENT	RALEIGH	ANSPORTA	TION
G	®	CAROLINA CAR	00000000	BI			ATERIA	NL
, Suite 20		OCHCINE COR	ş					
7518		21/2023 5:57			REVIS	IONS		SHEET NO.
.C-4434			NO.	BY:	DATE:	NO. BY:	DATE:	S1-26 TOTAL
	CONSIDERE		1 2			3 4		total sheets 40

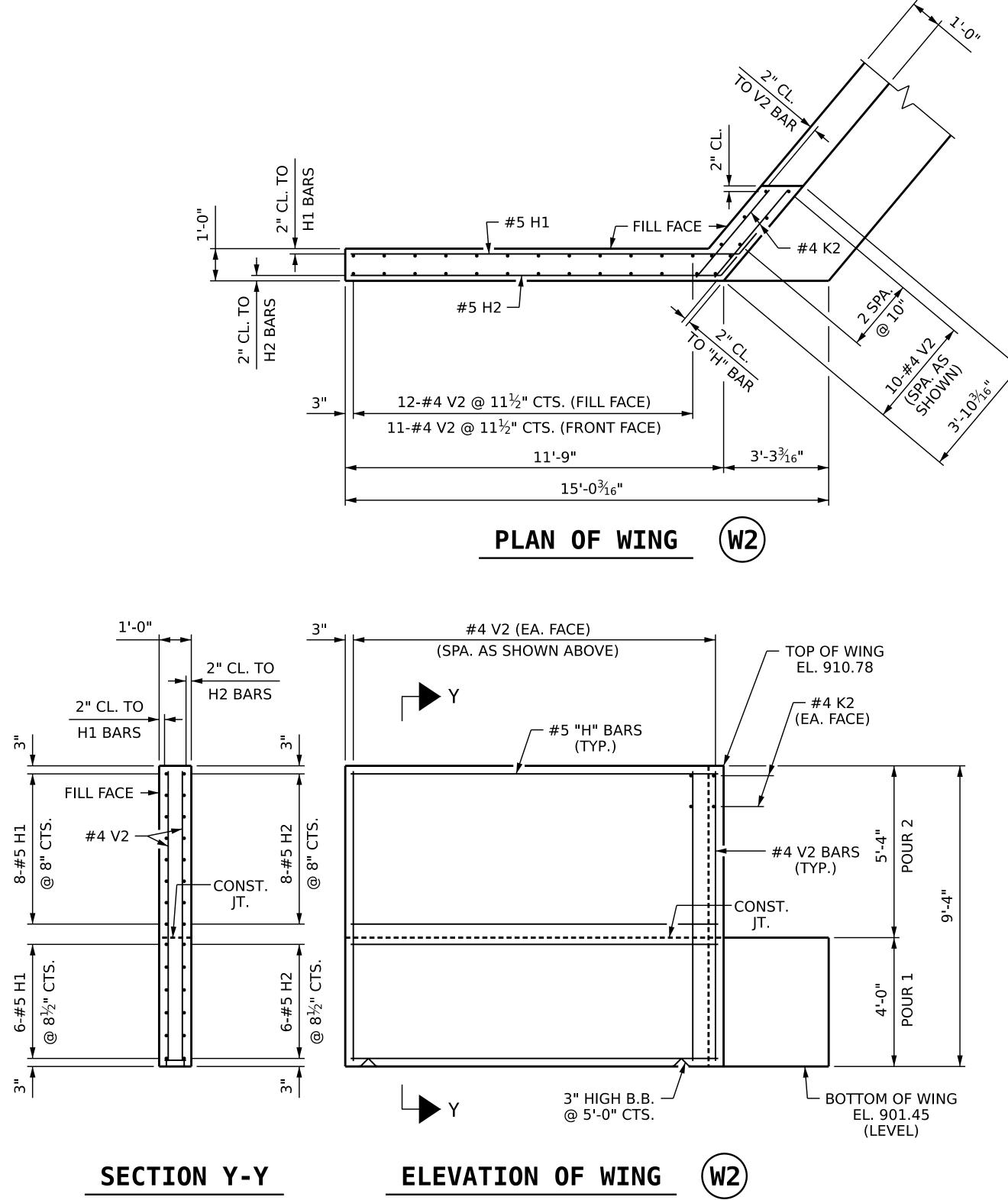


NOTES:









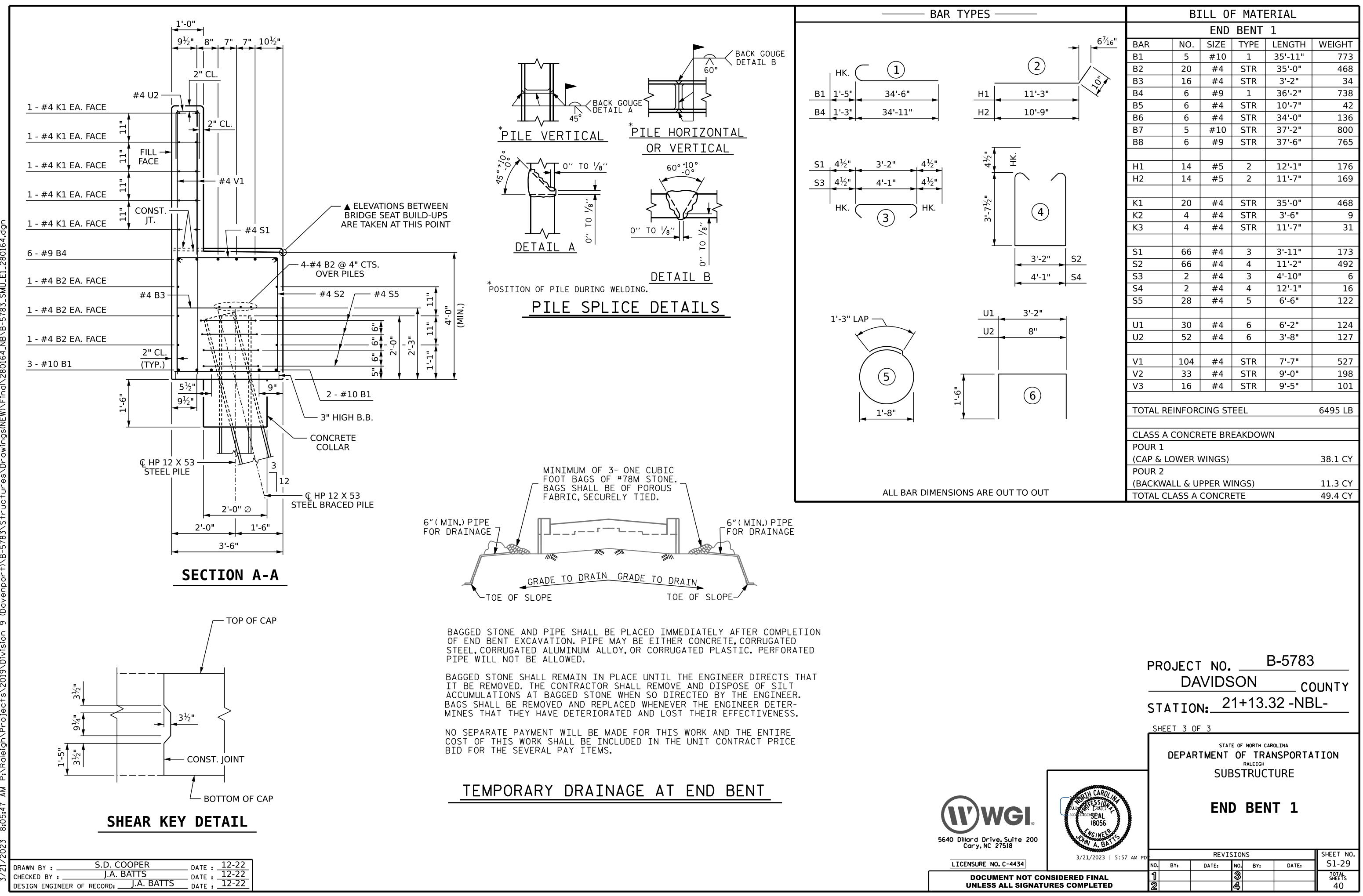
20						
21/	DRAWN BY : .	S	5.D. CO	OPER	DATE :	12-22
3/2	CHECKED BY		J.A. B.	ATTS	DATE :	12-22
1. 1	DESIGN ENGI		CORD:	J.A. BATTS	DATE :	12-22



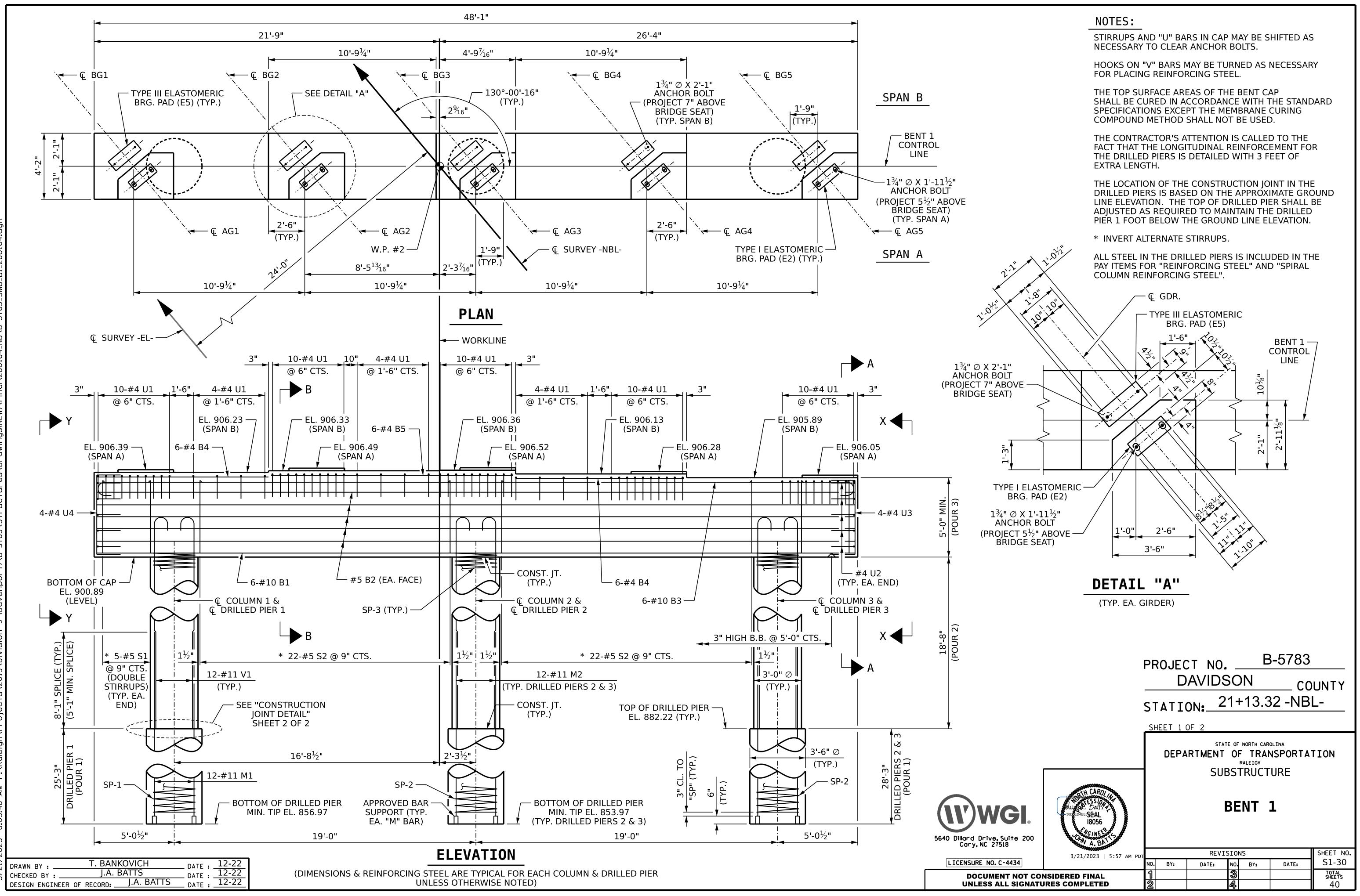
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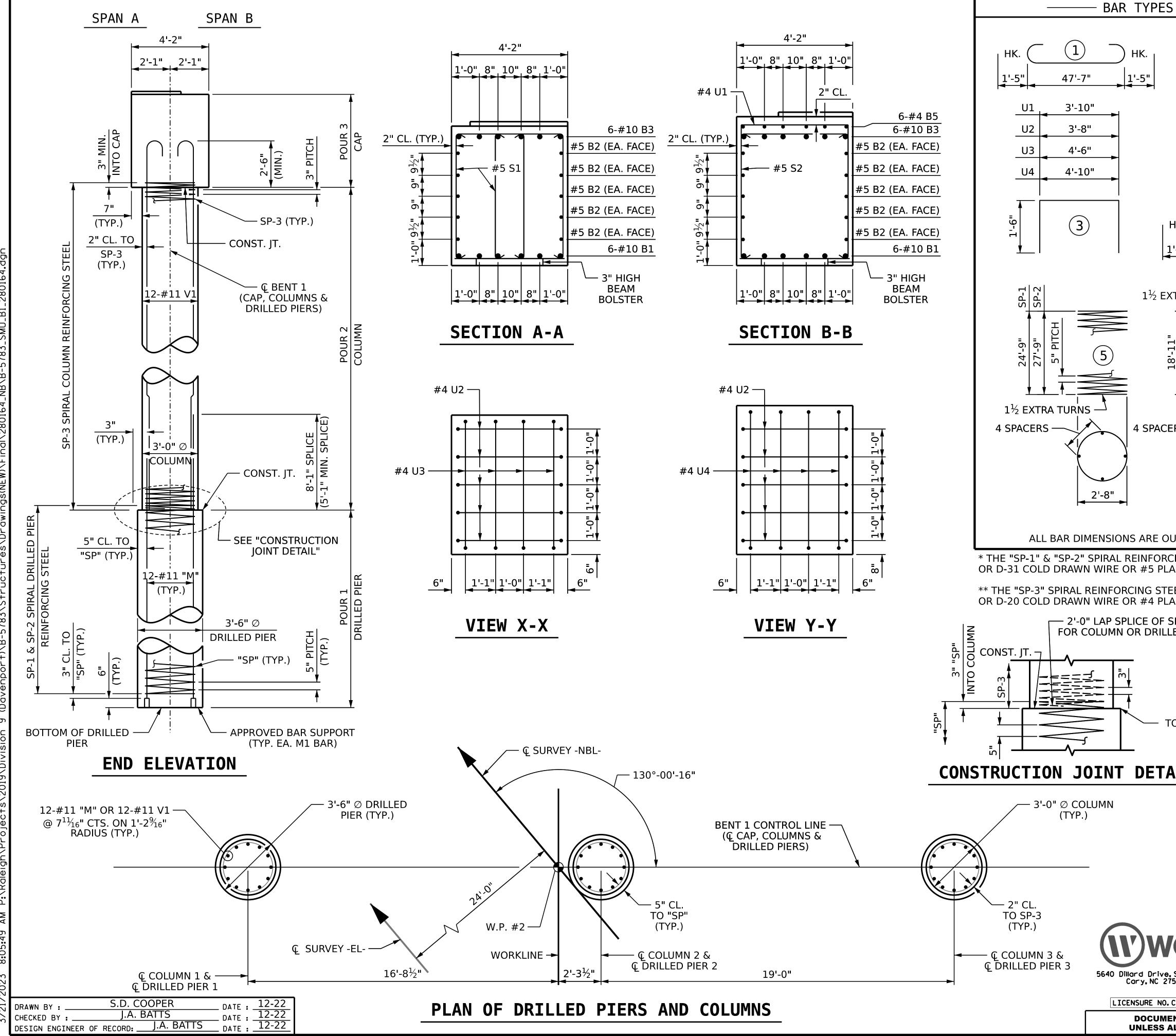
		D	CT NO. AVIDS 0N: 2	ON	8-5783 C0 82 -NB	UNTY L-
		SHEET 2	OF 3			
		DEPA	RTMENT	OF NORTH CARG	NSPORTA	TION
/GI _®	CAROL WELSON BATTS		END	BEN ⁻	T 1	
e.Suite 200 7518	20000000000000000000000000000000000000		DENTE	TONC		
.C-4434	3/21/2023 5:57 AM PDT	NO. BY:	REVIS DATE:	10NS NO. BY:	DATE:	SHEET NO. S1-28
	NSIDERED FINAL IRES COMPLETED	1		3 4		total sheets 40



		BILL OF MATERIAL						
		END BENT 1						
- → 6 ⁷ ⁄ ₁₆ '	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT		
	B1	5	#10	1	35'-11"	773		
(2) /	B2	20	#4	STR	35'-0"	468		
	B3	16	#4	STR	3'-2"	34		
11'-3"	B4	6	#9	1	36'-2"	738		
	B5	6	#4	STR	10'-7"	42		
10'-9"	B6	6	#4	STR	34'-0"	136		
	B7	5	#10	STR	37'-2"	800		
	B8	6	#9	STR	37'-6"	765		
Н Н								
I	H1	14	#5	2	12'-1"	176		
\frown \frown	H2	14	#5	2	11'-7"	169		
	К1	20	#4	STR	35'-0"	468		
	K2	4	#4	STR	3'-6"	9		
	К3	4	#4	STR	11'-7"	31		
3'-2" S2	S1	66	#4	3	3'-11"	173		
	S2	66	#4	4	11'-2"	492		
4'-1" S4	S3	2	#4	3	4'-10"	6		
	S4	2	#4	4	12'-1"	16		
	S5	28	#4	5	6'-6"	122		
3'-2"								
8"	U1	30	#4	6	6'-2"	124		
►►	U2	52	#4	6	3'-8"	127		
	_							
	V1	104	#4	STR	7'-7"	527		
	V2	33	#4	STR	9'-0"	198		
$\overline{\epsilon}$	V3	16	#4	STR	9'-5"	101		
(6)								
	TOTAL F	REINFOR	CING ST	EEL		6495 LB		
		CLASS A CONCRETE BREAKDOWNPOUR 1(CAP & LOWER WINGS)38.1 CY						
	POUR 2							
UT TO OUT	-	ALL & U		-		11.3 CY		
	TOTAL C	CLASS A	CONCR	TE		49.4 CY		

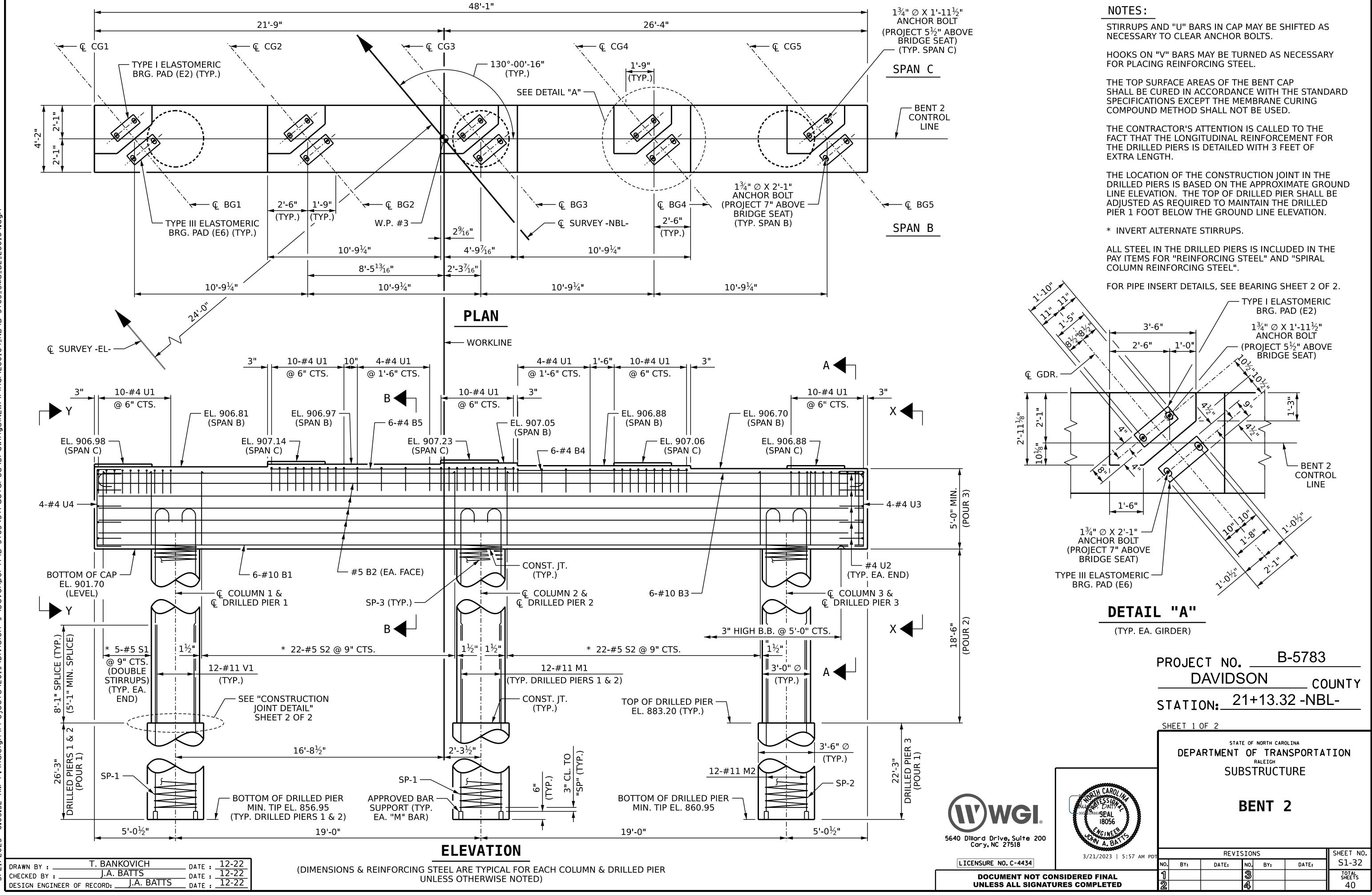


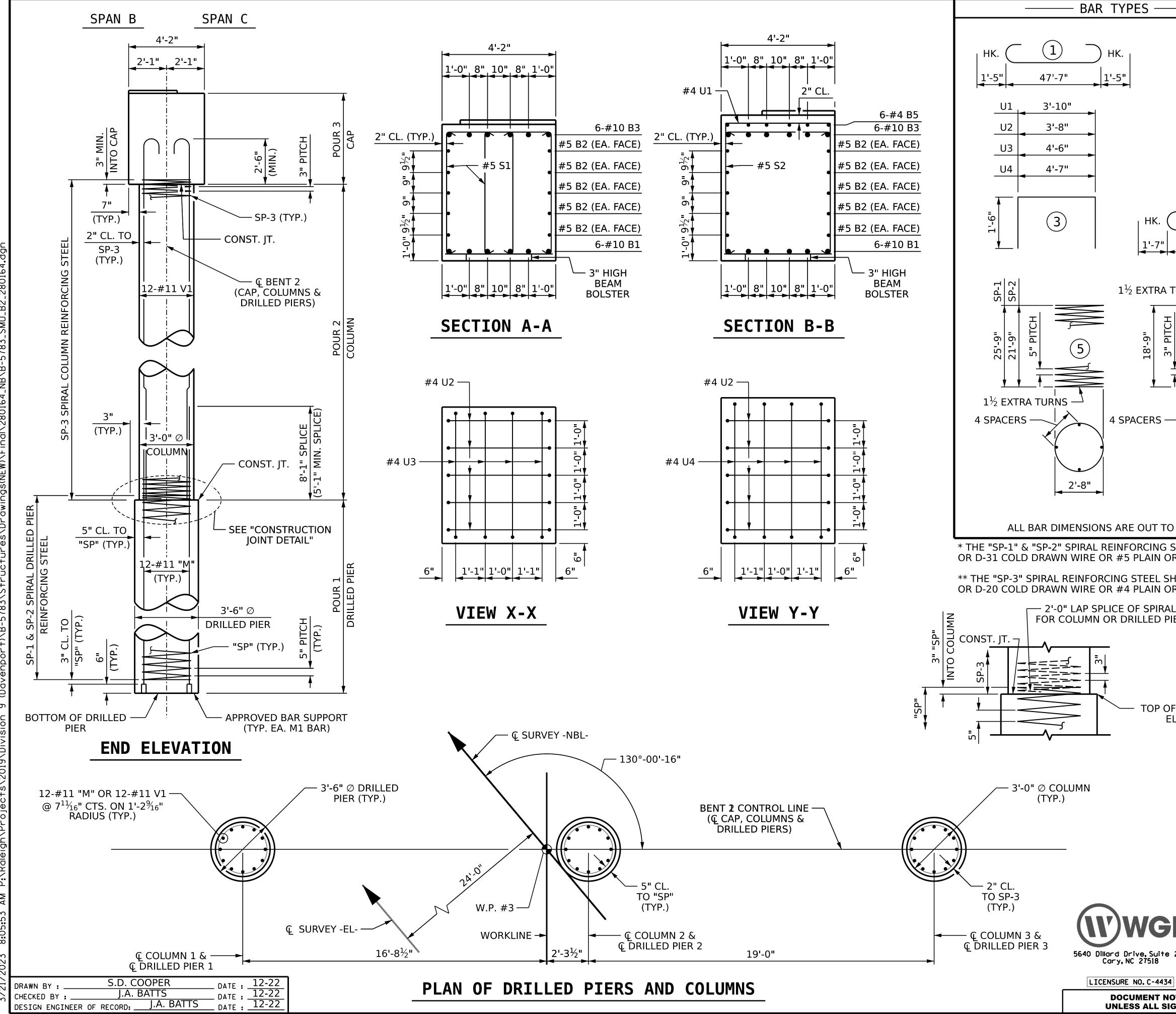




5						
=			BI	ENT 1		
HK. ↓2 ¹	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
	B1	6	#10	STR	47'-9"	1233
$\uparrow (\land \land)$	B1 B2	10	#10	STR	47'-9"	498
	B3	6	#10		50'-5"	1302
-7 ¹ / ₂ "	B4	12	#4	STR	10'-7"	85
	B5	6	#4	STR	15'-5"	62
	M1	12	#11	STR	32'-10"	2093
S1 2'-6"	M2	24	#11	STR	35'-10"	4569
	112		" + +	511	33 10	4505
S2 3'-10"	61				121.04	264
	S1	20	#5	2	12'-8"	264
	S2	44	#5	2	14'-0"	642
нк. (4)	U1	62	#4	3	6'-10"	283
	U2	10	#4	3	6'-8"	45
.'-7" 21'-2"				3		
	U3	4	#4		7'-6"	20
	U4	4	#4	3	7'-10"	21
TRA TURNS	V1	36	#11	4	22'-9"	4351
H	SP-1	1	*	5	503'-9"	525
PITCH			*	-		
	SP-2	2		5	569'-9"	1188
	SP-3	3	**	6	641'-0"	1285
	REINFOF	RCING S	TEEL			15468 LB
		-				
	SPIRAL (FI		2998 LB
	JFINAL (2990 LD
		\				
$\checkmark \vee$ \vee	CLASS `	A" CON	ICRETE	BREAKD	OWN	
¥ •	POUR 2	(COLUM	NS)			14.7 CY
\land	POUR 3	(CAP)				39.4 CY
	TOTAL					54.1 CY
2'-8"						
	DRILLED		0			
	DRILLED	PIER C				
┝╉────┣┤		PIER C				29.1 CY
UT TO OUT	DRILLED	PIER C				29.1 CY
UT TO OUT CING STEEL SHALL BE W21 AIN OR DEFORMED BAR.	DRILLED	PIER C				29.1 CY
UT TO OUT CING STEEL SHALL BE W21 AIN OR DEFORMED BAR.	DRILLED	PIER C				29.1 CY
UT TO OUT CING STEEL SHALL BE W21 AIN OR DEFORMED BAR. EEL SHALL BE W20	DRILLED	PIER C				29.1 CY
UT TO OUT CING STEEL SHALL BE W21 AIN OR DEFORMED BAR. EEL SHALL BE W20	DRILLED	PIER C				29.1 CY
UT TO OUT CING STEEL SHALL BE W21 AIN OR DEFORMED BAR. EEL SHALL BE W20 AIN OR DEFOMED BAR. SPIRAL	DRILLED	PIER C				29.1 CY
UT TO OUT CING STEEL SHALL BE W21 AIN OR DEFORMED BAR. EEL SHALL BE W20 AIN OR DEFOMED BAR. SPIRAL	DRILLED	PIER C				29.1 CY
UT TO OUT	DRILLED	PIER C				29.1 CY
UT TO OUT CING STEEL SHALL BE W21 AIN OR DEFORMED BAR. EEL SHALL BE W20 AIN OR DEFOMED BAR. SPIRAL	DRILLED	PIER C				29.1 CY
UT TO OUT CING STEEL SHALL BE W21 AIN OR DEFORMED BAR. EEL SHALL BE W20 AIN OR DEFOMED BAR. SPIRAL	DRILLED	PIER C				29.1 CY
UT TO OUT CING STEEL SHALL BE W21 AIN OR DEFORMED BAR. EEL SHALL BE W20 AIN OR DEFOMED BAR. SPIRAL	DRILLED	PIER C				29.1 CY
UT TO OUT CING STEEL SHALL BE W21 AIN OR DEFORMED BAR. EEL SHALL BE W20 AIN OR DEFOMED BAR. SPIRAL	DRILLED	PIER C				29.1 CY
UT TO OUT CING STEEL SHALL BE W21 AIN OR DEFORMED BAR. EEL SHALL BE W20 AIN OR DEFOMED BAR. SPIRAL	DRILLED	PIER C				29.1 CY
UT TO OUT CING STEEL SHALL BE W21 AIN OR DEFORMED BAR. EL SHALL BE W20 AIN OR DEFOMED BAR. SPIRAL ED PIER	DRILLED	PIER C				29.1 CY
UT TO OUT CING STEEL SHALL BE W21 AIN OR DEFORMED BAR. EEL SHALL BE W20 AIN OR DEFOMED BAR. SPIRAL ED PIER	DRILLED	PIER C				29.1 CY
UT TO OUT CING STEEL SHALL BE W21 AIN OR DEFORMED BAR. EEL SHALL BE W20 AIN OR DEFOMED BAR. SPIRAL ED PIER	DRILLED	PIER C				29.1 CY
UT TO OUT CING STEEL SHALL BE W21 AIN OR DEFORMED BAR. EEL SHALL BE W20 AIN OR DEFOMED BAR. SPIRAL ED PIER	DRILLED	PIER C)		
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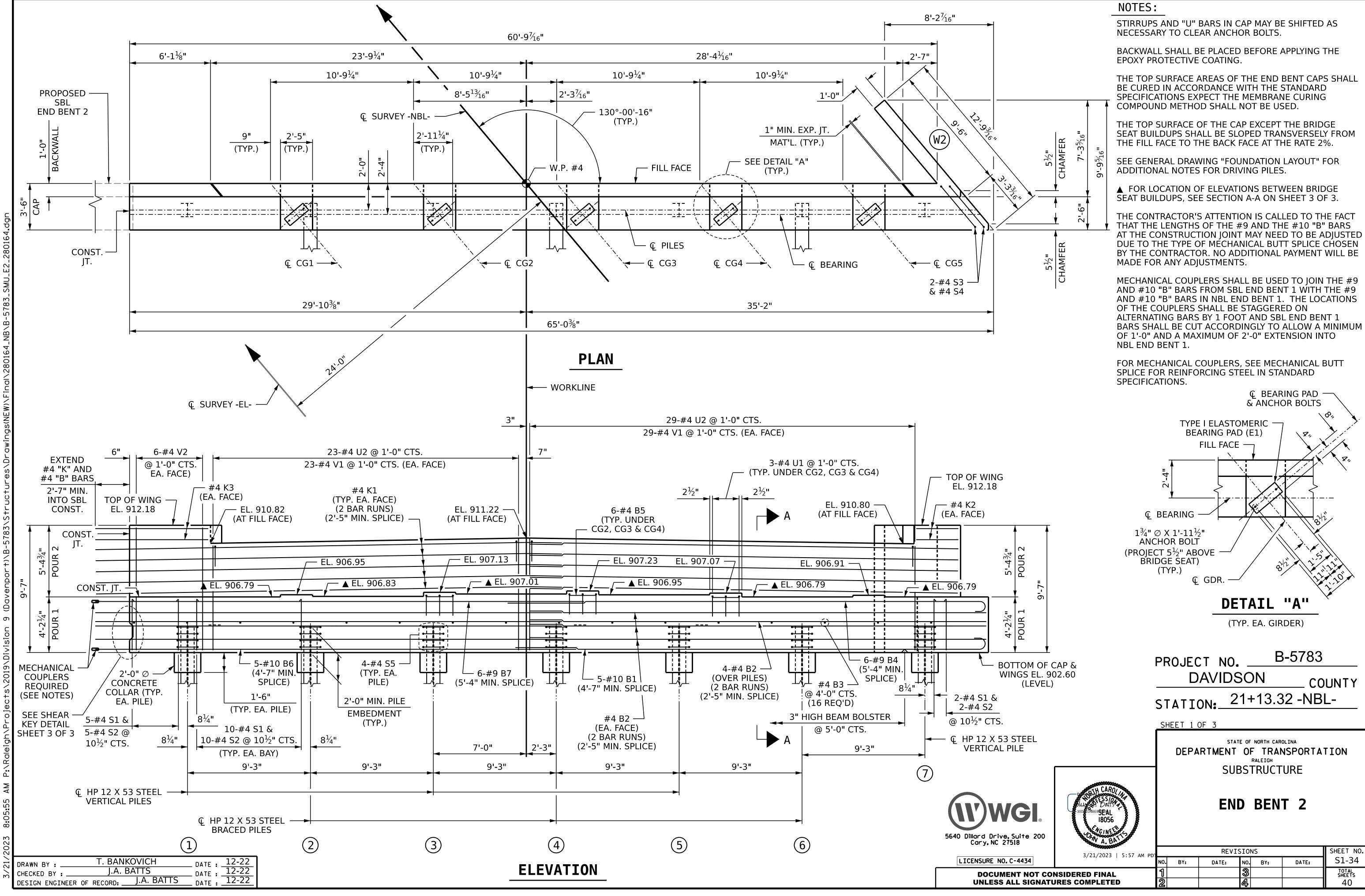
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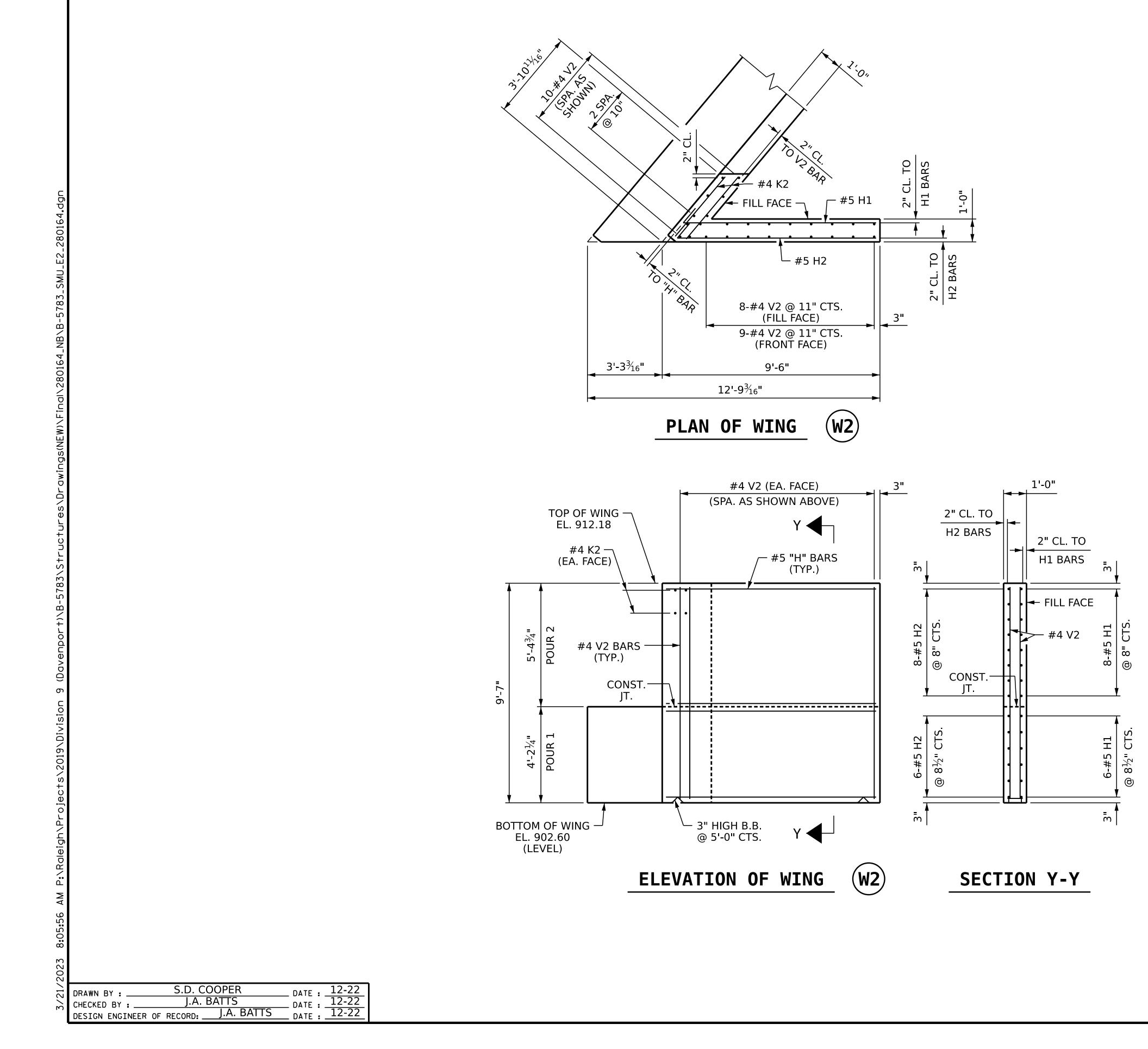




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TO OUT DRILLED PIER CONCRETE POUR 1 (DRILLED PIERS) 26.6 C NOR DEFORMED BAR. L L SHALL BE W20 NOR DEFOMED BAR. IRAL D PIER P OF DRILLED PIER PROJECT NO. B-5783 DAVIDSON COUNTY STATE OF MORTH CAROLINA DEPARTMENT OF TRANSPORTATION SUBSTRUCTURE BENT 2 BENT 2	-									
I TO OUT POUR 1 (DRILLED PIERS) 26.6 C N OR DEFORMED BAR. 1			DRILLED	PIERS:						
PROJECT NO. B-5783 DAVIDSON COUNTY STATION: 21+13.32 -NBL- SHEET 2 OF 2 STATE OF MORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEGH SUBSTRUCTURE BENT 2										
N OR DEFORMED BAR. L SHALL BE W20 N OR DEFOMED BAR. IRAL D PIER PROJECT NO. <u>B-5783</u> <u>DAVIDSON</u> COUNTY STATION: <u>21+13.32 -NBL-</u> SHEET 2 OF 2 DEPARTMENT OF TRANSPORTATION RALEIGH SUBSTRUCTURE BENT 2	10001		POUR 1 (DRILLE	D PIERS	5)		26.6 CY		
P OF DRILLED PIER EL. 883.20 PROJECT NO. B-5783 DAVIDSON COUNTY STATION: 21+13.32 -NBL- SHEET 2 OF 2 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEICH SUBSTRUCTURE BENT 2	N OR DEFO	DRMED BAR. E W20								
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PROJECT NO. <u>B-5783</u> <u>DAVIDSON</u> COUNTY STATION: <u>21+13.32 -NBL-</u> SHEET 2 OF 2 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUBSTRUCTURE BENT 2										
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8 A. BANNE	6	8 8 18056 8	800							
3 South A. BA mart		Bas Control NE Frank	5 ⁵⁵							
	8	Barry A. BAT								

REVISIONS SHEET NO. 3/21/2023 | 5:57 AM PD S1-33 NO. BY: DATE: DATE: NO. BY: TOTAL SHEETS DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED 40



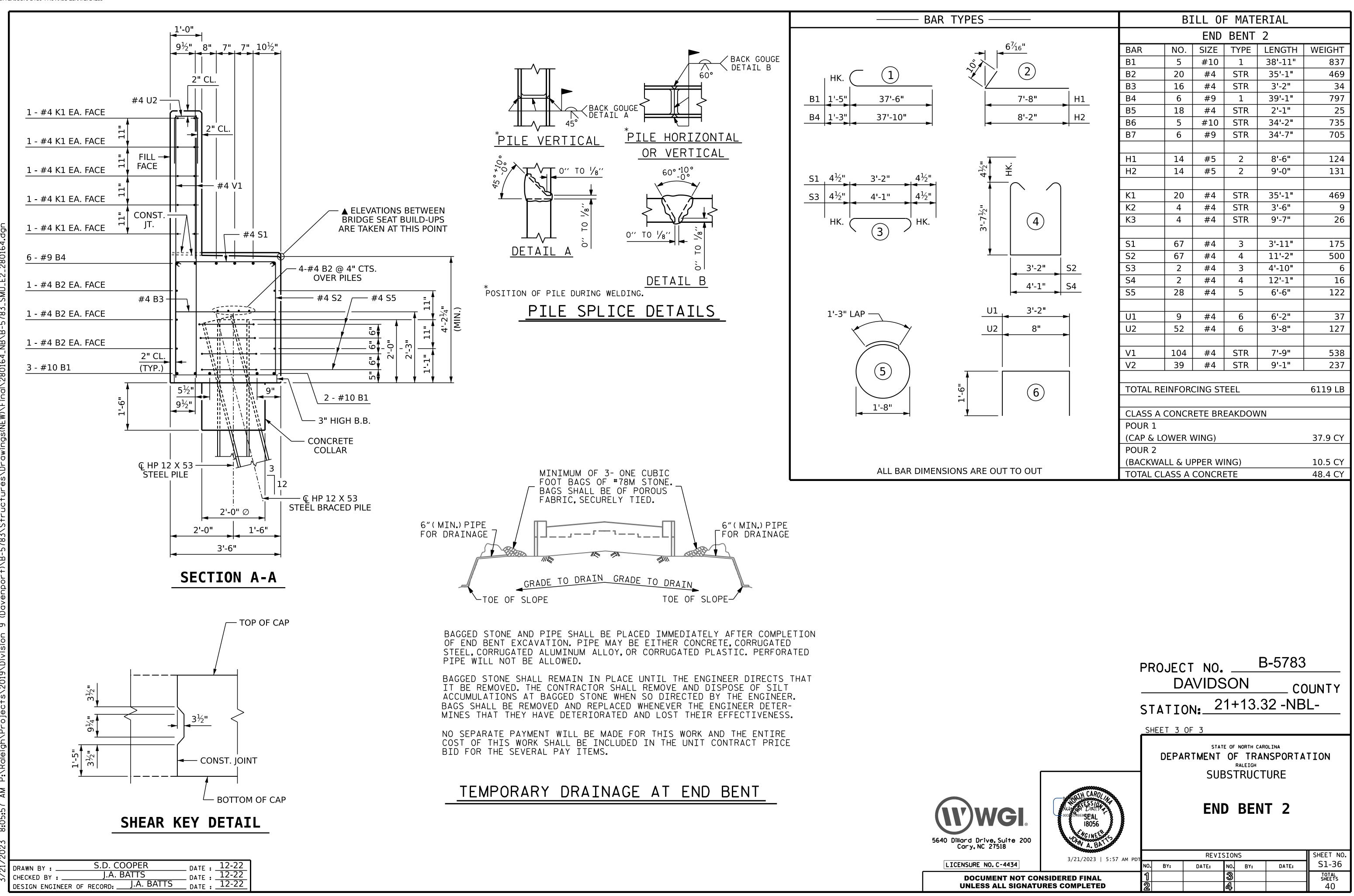




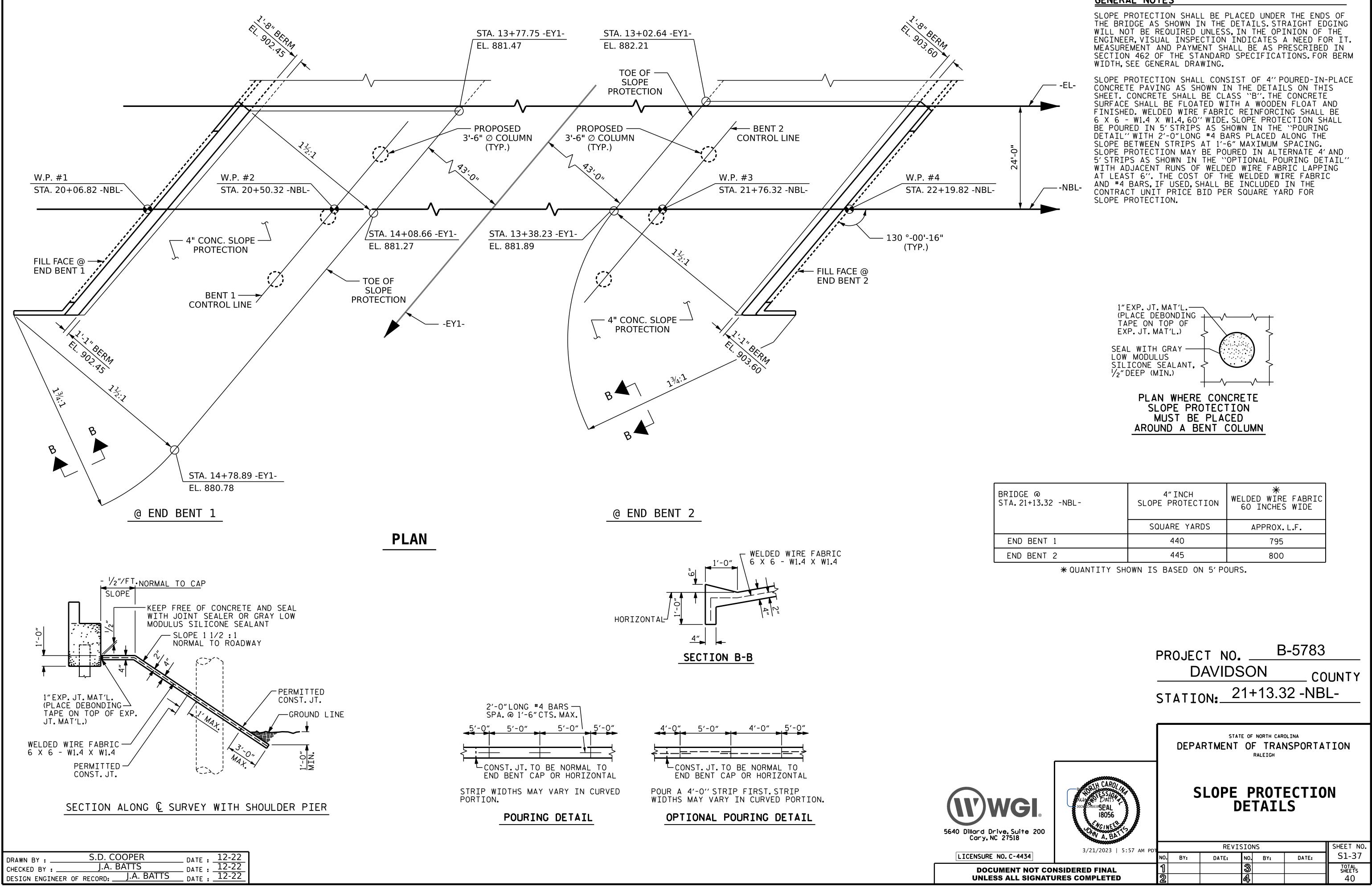
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Í		DEPA	RTMENT OF	NORTH CAROLI TRANS RALEIGH RUCTU	PORTAT	ION
/GI _®	CAROLANGE STRAL BODGE CHEESCEAL 18056		END	BENT	2	
e, Suite 200 7518	A. BA					
. C-4434	3/21/2023 5:57 AM PDT	NO. BY:			DATE	SHEET NO. S1-35
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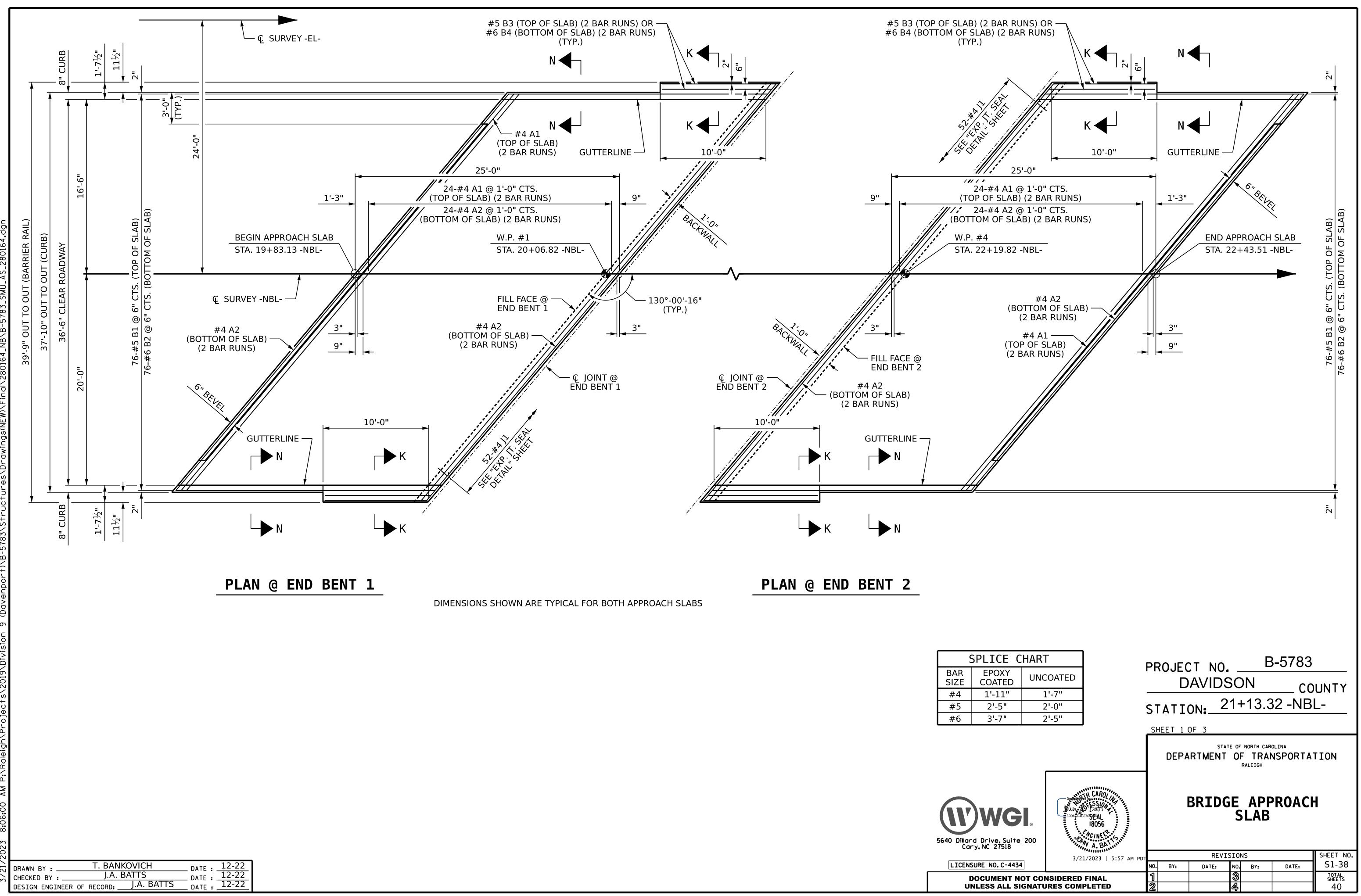


		B]	ILL OI	F MATI	ERIAL	
			END	BENT	2	
6 ⁷ ⁄16"	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
	B1	5	#10	1	38'-11"	837
· (2)	B2	20	#4	STR	35'-1"	469
	B3	16	#4	STR	3'-2"	34
7'-8" H1	B4	6	#9	1	39'-1"	797
	B5	18	#4	STR	2'-1"	25
8'-2" H2	B6	5	#10	STR	34'-2"	735
	B7	6	#9	STR	34'-7"	705
▲ .	H1	14	#5	2	8'-6"	124
Ě	H2	14	#5	2	9'-0"	131
$\neg \land$						
	K1	20	#4	STR	35'-1"	469
	K2	4	#4	STR	3'-6"	9
	K3	4	#4	STR	9'-7"	26
	S1	67	#4	3	3'-11"	175
	S2	67	#4	4	11'-2"	500
3'-2" S2	S3	2	#4	3	4'-10"	6
4'-1" S4	S4	2	#4	4	12'-1"	16
	S5	28	#4	5	6'-6"	122
J1 3'-2"						
J1 3'-2" →	U1	9	#4	6	6'-2"	37
J2 8"	U2	52	#4	6	3'-8"	127
	V1	104	#4	STR	7'-9"	538
	V2	39	#4	STR	9'-1"	237
6	TOTAL RE	INFOR	CING ST	EEL		6119 LB
I I	CLASS A	CONCR	ETE BR	EAKDOV	٧N	
	POUR 1					
	(CAP & L0	OWER N	VING)			37.9 CY
	POUR 2	_				
	(BACKWA		10.5 CY			
OUT TO OUT	TOTAL CL	48.4 CY				

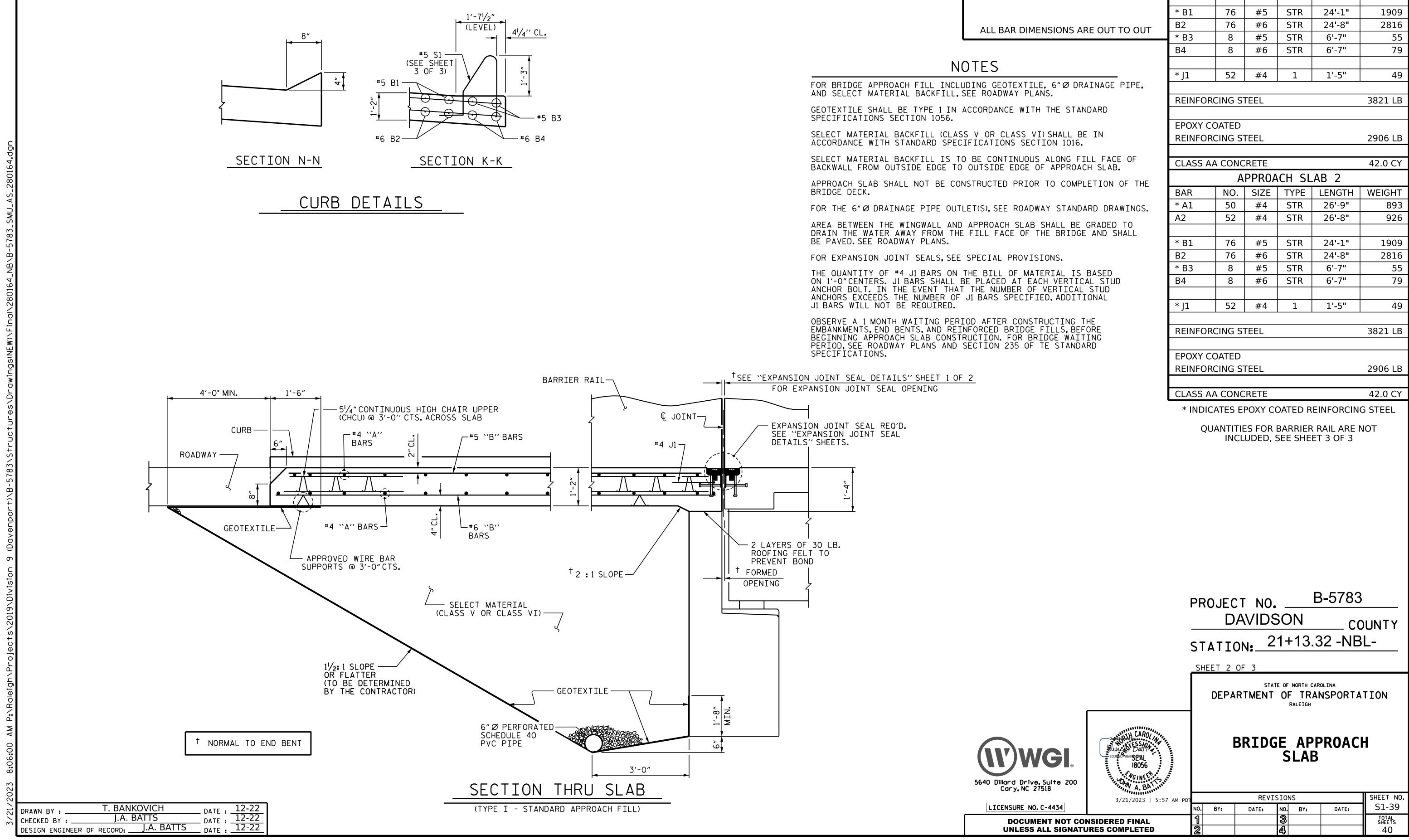


GENERAL NOTES

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	SPLIC
BAR SIZE	EPO COAT
#4	1'-1
#5	2'-5
#6	3'-7

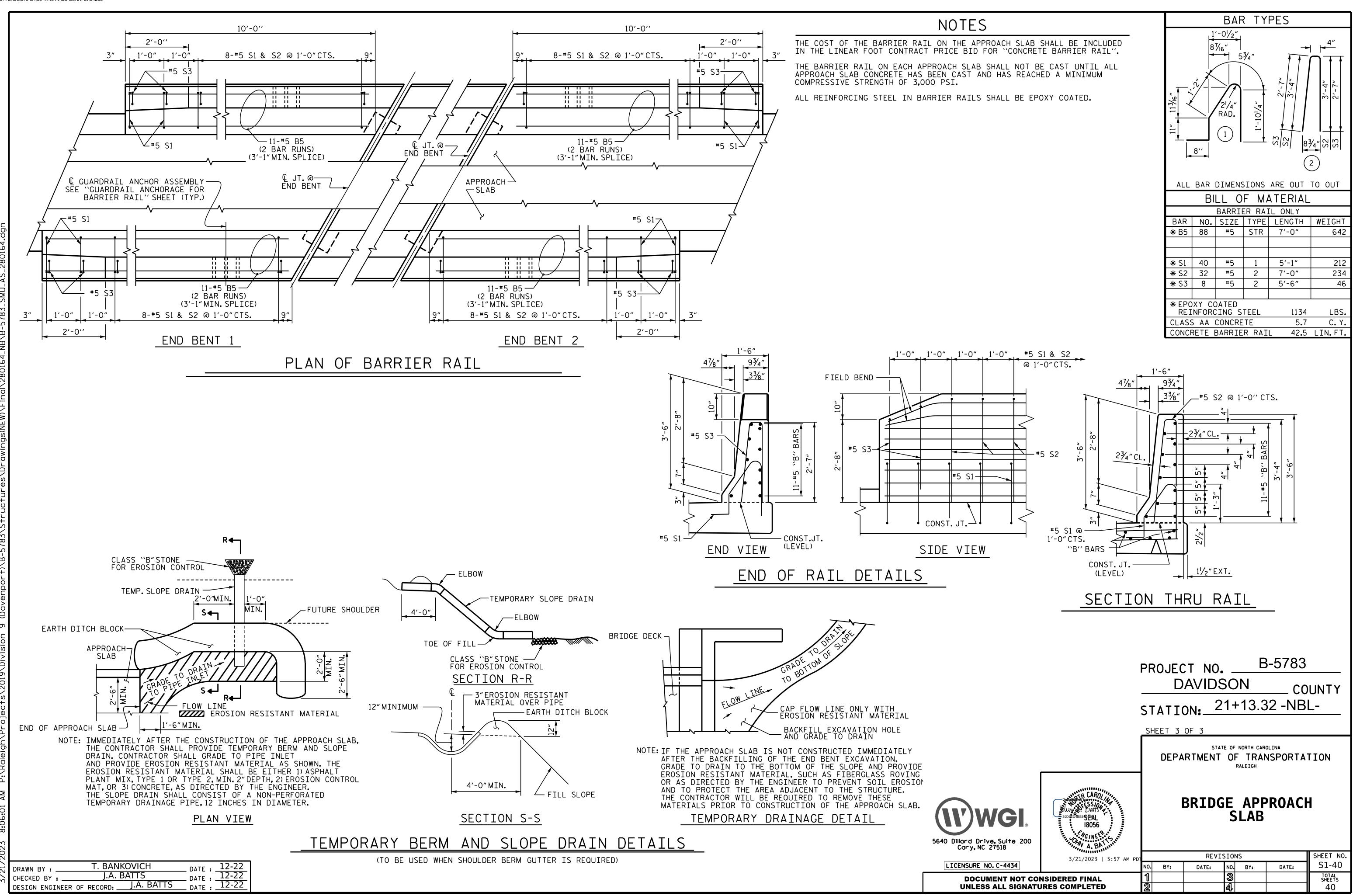


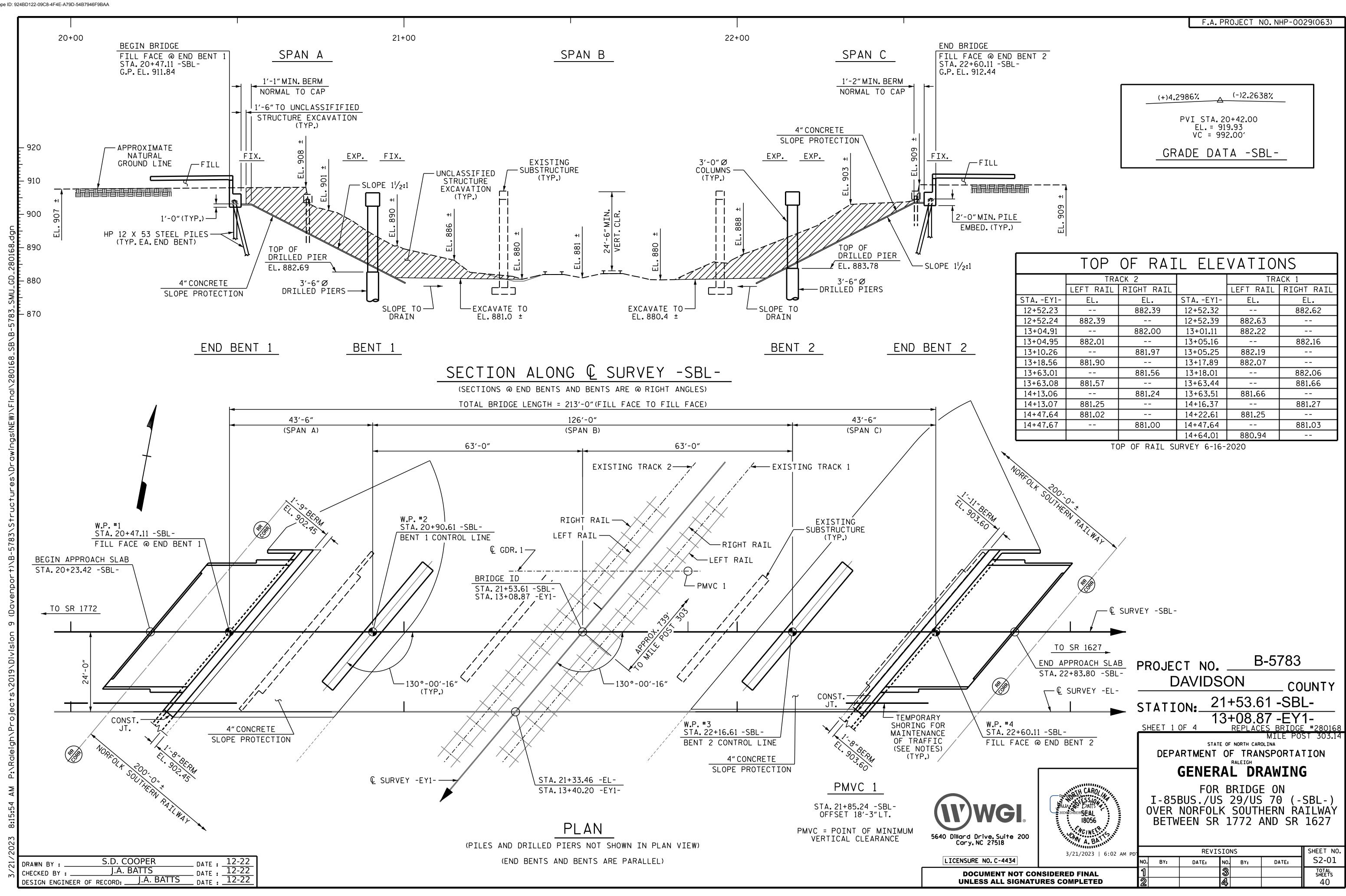
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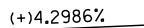


BAR TYPES ———		B	LL 0	F MATI	ERIAL				
		Δ	PPROA	CH SL	AR 1				
1'-0 ¹ / ₂ " 4 ¹ / ₂ "	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT			
	* A1	50	#4	STR	26'-9"	893			
HK.	A1	50	#4	STR	26'-8"	926			
			<i>"</i> 1	511	20 0	520			
	* B1	76	#5	STR	24'-1"	1909			
	B2	76	#6	STR	24'-8"	2816			
ENSIONS ARE OUT TO OUT	* B3	8	#5	STR	6'-7"	55			
	B4	8	#6	STR	6'-7"	79			
	* J1	52	#4	1	1'-5"	49			
_E, 6″Ø DRAINAGE PIPE, Ans.									
	REINFOR	CING S	FEEL			3821 LB			
H THE STANDARD									
	EPOXY CO	DATED							
(I) SHALL BE IN TION 1016.	REINFOR	CING S	ΓEEL			2906 LB			
S ALONG FILL FACE OF OF APPROACH SLAB.	CLASS AA	A CONC	RETE			42.0 CY			
R TO COMPLETION OF THE	APPROACH SLAB 2								
	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT			
WAY STANDARD DRAWINGS.	* A1	50	#4	STR	26'-9"	893			
	A2	52	#4	STR	26'-8"	926			
SHALL BE GRADED TO THE BRIDGE AND SHALL									
	* B1	76	#5	STR	24'-1"	1909			
SIONS.	B2	76	#6	STR	24'-8"	2816			
TERIAL IS BASED	* B3	8	#5	STR	6'-7"	55			
ACH VERTICAL STUD	B4	8	#6	STR	6'-7"	79			
VERTICAL STUD IED, ADDITIONAL									
	* J1	52	#4	1	1'-5"	49			
TRUCTING THE									
FILLS, BEFORE RIDGE WAITING	REINFOR	CING S	FEEL			3821 LB			
TE STANDARD									
	EPOXY CO								
	REINFOR	CING S	IEEL			2906 LB			
	CLASS AA					42.0 CY			
	* INDIC	ATES E	POXY CO	DATED R	EINFORCIN	G STEEL			
	QU		S FOR	BARRIER	RAIL ARE	NOT			
					ET 3 OF 3				

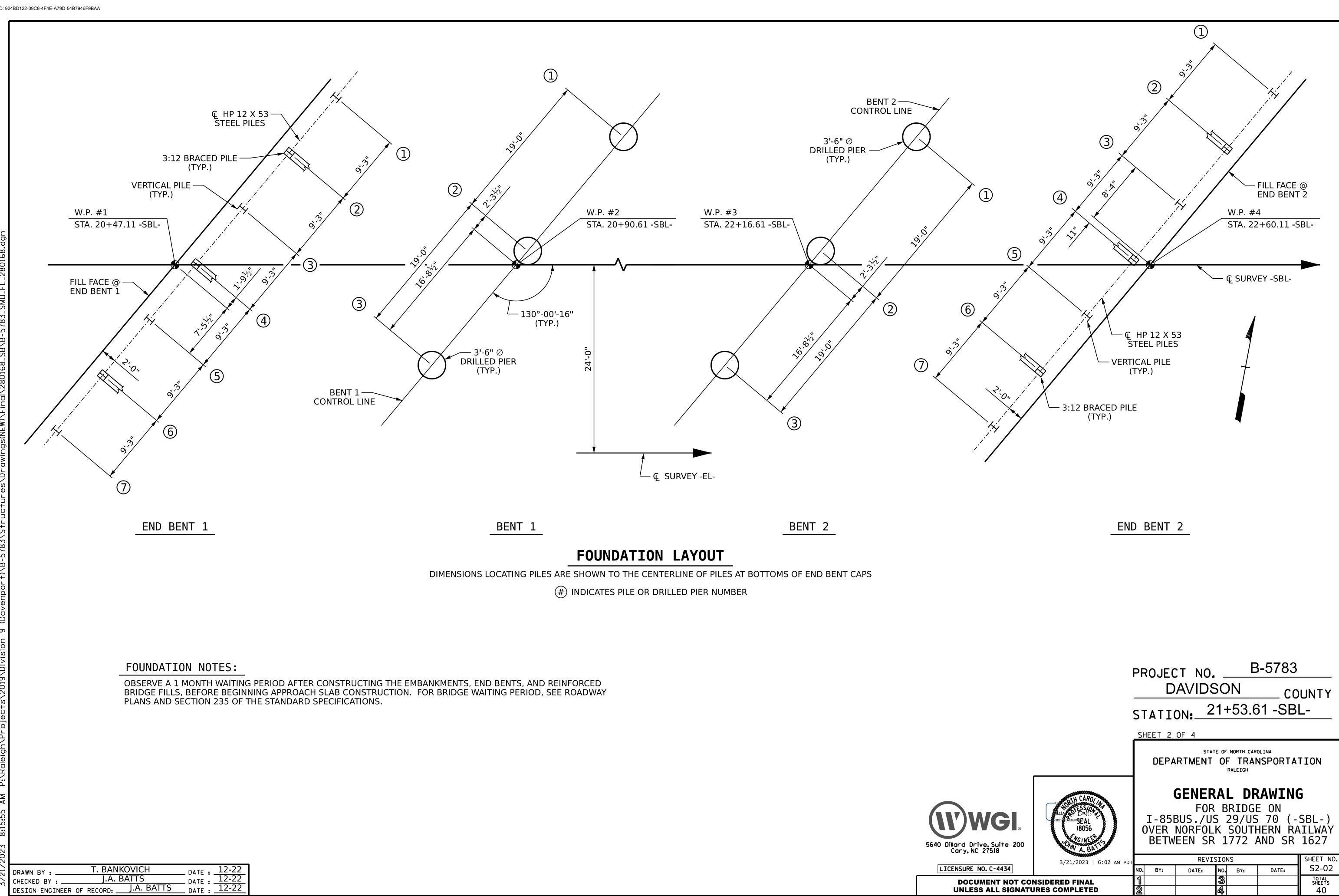
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	TOP OF RAIL ELEVATIONS										
	TRA	CK 2		TRA	ACK 1						
	LEFT RAIL	RIGHT RAIL		LEFT RAIL	RIGHT RAIL						
STAEY1-	EL.	EL.	STAEY1-	EL.	EL.						
12+52.23		882.39	12+52.32		882.62						
12+52.24	882.39		12+52.39	882.63							
13+04.91		882.00	13+01.11	882.22							
13+04.95	882.01		13+05.16		882.16						
13+10.26		881.97	13+05.25	882.19							
13+18.56	881.90		13+17.89	882.07							
13+63.01		881.56	13+18.01		882.06						
13+63.08	881.57		13+63.44		881.66						
14+13.06		881.24	13+63.51	881.66							
14+13.07	881.25		14+16.37		881.27						
14+47.64	881.02		14+22.61	881.25							
14+47.67		881.00	14+47.64		881.03						
			14+64.01	880.94							



3/21/2023 6:02	AM PDT			SHEET NO.				
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IENT NOT CONSIDERED FINAL		1			3			TOTAL SHEETS
ALL SIGNATURES COMPLETED	4	2			4			40

SUMMARY OF PILE INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

					Driven Piles		Predrilling for Piles*			Drilled-In Piles			
End Bent/ Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Factored Resistance per Pile TONS	Pile Cut-Off (Top of Pile) Elevation FT	Estimated Pile Length per Pile FT	Scour Critical Elevation FT	Min Pile Tip (Tip No Higher Than) Elev FT	Required Driving Resistance (RDR)** per Pile TONS	Total Pile Redrives Quantity EACH	Predrilling Length per Pile Lin FT	Predrilling Elevation (Elev Not To Predrill Below) FT	Maximum Predrilling Dia INCHES	Pile Excavation (Bottom of Hole) Elev FT	Pile Exc Not In Soil per Pile Lin FT	Pile Exc In Soil per Pile Lin FT
End Bent No. 1, Piles 1-7	96		35			160	•						
End Bent No. 2, Piles 1-4	96	See Structure	35			160							
End Bent No. 2, Piles 5-7	96	Plans	30			160	1						
]						

*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. Factored Resistance + Factored Downdrag Load + Factored Dead Load Nominal Scour Resistance $\frac{1}{2}$ + Nominal Downdrag Resistance + -***RDR*

Dynamic Resistance Factor

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 TONS	Factored Downdrag Load per Pile TONS	Factored Dead Load* per Pile TONS	Dynamic Resistance Factor	Nominal Downdrag Resistance per Pile TONS	Nominal Scour Resistance per Pile TONS	Scour Resistance Factor (Default = 1.00)
End Bent No. 1, Piles 1-7	95			0.60			1.00
End Bent No. 2, Piles 1-7	95			0.60			1.00

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

SUMMARY OF DRILLED PIER INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

End Bent/ Bent No, Pier(s) #(-#) (e.g., "Bent 1, Piers 1-3")	Factored Resistance per Pier TONS	Minimum Pier Tip (Tip No Higher Than) Elevation FT	Required Tip Resistance per Pier TSF	Scour Critical Elevation FT	Minimum Drilled Pier Penetration Into Rock per Pier Lin FT	Drilled Pier Length* per Pier Lin FT	Drilled Pier Length Not In Soil* per Pier Lin FT	Drilled Pier Length In Soil* per Pier Lin FT	Permanent Steel Casing Required? YES or MAYBE	Permanent Steel Casing Tip Elevation (Elev Not To Extend Casing Below) FT	Permanent Steel Casing Length** per Pier Lin FT
Bent No. 1, Pier 1	381	866.0	20		10.0		10.0	6.2			
Bent No. 1, Piers 2-3	381	860.0	20		10.0		10.0	12.2			
Bent No. 2, Piers 1	381	858.0	20		10.0		10.0	14.7			
Bent No. 2, Pier 2-3	381	850.0	20		10.0		10.0	22.7			
TOTAL QTY:							60.0	90.7			

*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.

**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 Casting for ____ Dia. Drilled Pier" in accordance with Article 411-7 of the NCDOT Standard Specifications.

NOTES:

1. The Pile and Drilled Pier Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (Shiping Yang, PE #031361) on 12-20-2022. 2. Total Pile Driving Equipment Setup quantity (not shown in Pile Foundation Tables) equals the number of driven piles, i.e., the number of piles with a Required Driving Resistance. 3. The Engineer will determine the need for PDA Testing, Pipe Pile Plates, Permanent Steel Casing, SPTs, CSL Testing, SID Inspections and PITs when these items may be required.

Scour Resistance Factor

F	Pile Driving Analyz	Pile Order Lengths			
End Bent/ Bent No	PDA Testing Required? YES or MAYBE	PDA Test Pile Length FT	Total PDA Testing Quantity EACH	End Bent/ Bent No(s)	Pile Order Length Basis* EST or PDA

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

(Blank entries indicate item is not applicable to structure)

End Bent/	Dina Dila	S	teel Pile Points		
Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Pipe Pile Plates Required? YES or MAYBE	Pipe Pile Cutting Shoes Required? YES	Pipe Pile Conical Points Required? YES	H-Pile Points Required? YES	Steel Pile Tips Required? YES
TOTAL QTY:					

(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) Required? YES or MAYBE	Crosshole Sonic Logging (CSL) Required?* YES or MAYBE	Total CSL Tube Length (For All Tubes) per Pier Lin FT	Shaft Inspection Device (SID) Required? YES or MAYBE	Pile Integrity Test (PIT) Required? MAYBE
		MAYBE	70.8		
		MAYBE	94.8		
		MAYBE	104.8		
		MAYBE	136.8		
TOTAL QTY:			638.8		

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

3/21/2023 | 6:02 AM PD

SUMMARY OF PDA/PILE ORDER LENGTHS

(Blank entries indicate item is not applicable to structure)

SUMMARY OF PILE ACCESSORIES

SUMMARY OF DRILLED PIER TESTING

PROJECT NO. B-5783 (SBL)

Davidson

_COUNTY

STATION: <u>21+33.46 -EL- (13+40.20 -EY1-)</u>

SHEET 3 OF 4

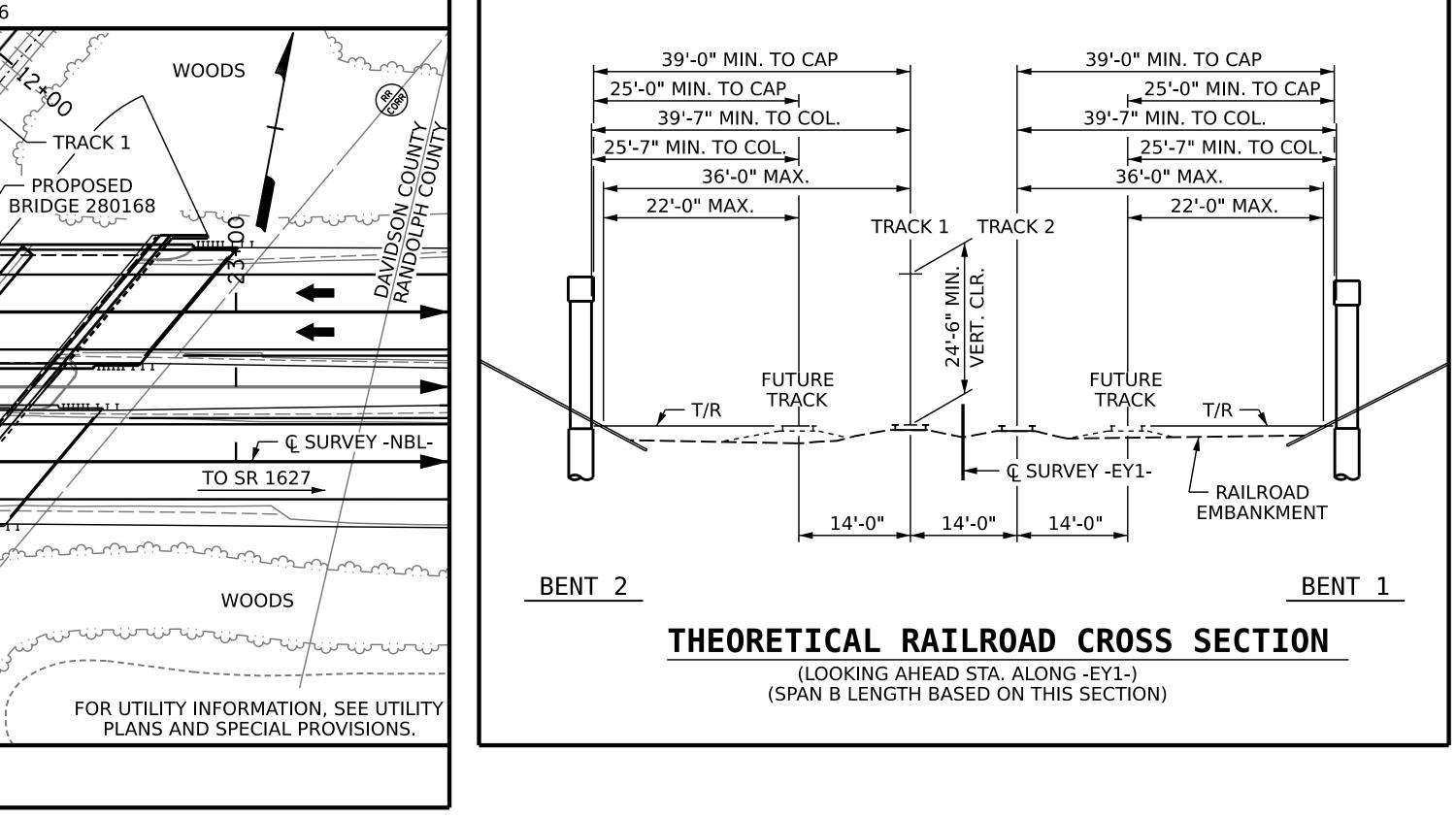
Bridge #168

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

PILE AND DRILLED PIER FOUNDATION TABLES

SIGNATURE DAT	E		REV	ISIONS	5		sheet no. S2-03
DOCUMENT NOT CONSID	ERED NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL
FINAL UNLESS ALL	1			3			SHEETS
SIGNATURES COMPLE	TED 2			4			40

BI	M #1 SPIKE NAIL SET	VERTICALLY IN ROOT	OF 18" WHITE	OAK, STA. 15+95		LT., EL. 89	91.76
				EXISTIN BRIDGE 28		3 X X	K
				BRIDGE ID	کن		
ŶŶ	PROPOSED	GUARDRAIL	~~	STA. 21+53.61 -9 STA. 13+08.87 -E		ΜH	× \
~	U ····································	' DETAILL & ۲۰۰۰ M) (TYP.) ۲۲۹۰ (۲۷۹	woods	woo			۲
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<u></u> .	المرابعة الم	EXISTING —	h j	A A A A A A A A A A A A A A A A A A A	مت ز ب ر ب ر ب ب	m n n	بالمريد
	WOODS	BRIDGE 280164	3 H				
مذ	urining 🌮 BF	RIDGE 280164	3° . H.H.H	· <u> </u>	STA. 21+33.46 -EL	_ /	^
		JRVEY -EY1-	- XXX	S. S.	STA. 13+40.20 -EY	1- (**	کن ن کن
	ε. ψ. st ε:	کنی			/	كننكون	
	/ 1	5 X.					ļ
			-	LUCATIO	N SKETCH		
		REMOVAL OF		3'-6" DIAMETER			UNCL
		EXISTING STRUCTURE @	ASBESTOS ASSESSMENT		DRILLED PIER NOT	CSL TESTING	STR
		STA.21+53.61 -SBL- LS	LS	IN SOIL LF	IN SOIL LF	EA	
	SUPERSTRUCTURE						
	END BENT 1			20.6	20.0		
	BENT 1 BENT 2			30.6 60.1	30.0 30.0		
	END BENT 2						
	TOTAL	LS	LS	90.7	60.0	1	
	NOTES:	1			1		
	ASSUMED LIVE LC	DAD = HL-93 OR ALTE	RNATE LOADING	<u>.</u>			
	THIS BRIDGE HAS	BEEN DESIGNED IN A	ACCORDANCE V	VITH THE AASHTC	D LRFD BRIDGE DE	SIGN SPEC	
	THIS BRIDGE IS LO	OCATED IN SEISMIC Z	ONE 1.				
	FOR OTHER DESIG	GN DATA AND GENER	AL NOTES, SEE	SHEET SN.			
		OF WORKING DRAWIN					
		AND FORMWORK, SE					
		TY, SEE SPECIAL PRO					
		STURCTURES, SEE SP		NIS			
							۸ מדורי
		MS MAY BE USED IN L D SPECIFICATIONS.	ICU UF METAL S	DIAT-IN-PLACE FU			ARTIC
	TO THE ENGINEER	IING BRIDGE CONSTR R. ANY PLAN REVISIO	-				
	PROVIDED BY THE	E DEPARTMENT.					
	NEEDLE BEAMS W	/ILL NOT BE ALLOWE	O UNLESS OTHE	RWISE CALLED F	OR ON THE PLANS	OR APPRC	OVED E
		TEEL SHALL BE AASH 8 OF THE STANDARD					
		SSESMENT FOR BRID					
		NTROL MEASURES, SI			,		
			ATE: 12-22				
		A. BATTS	$\frac{12 - 22}{12 - 22}$ $\frac{12 - 22}{12 - 22}$ $\frac{12 - 22}{12 - 22}$				



STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

		— тот	AL BILL	OF MATER	IAL —									
CLASSIFIED TRUCTURE (CAVATION	REINFORCING CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLAB	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	APPROXIMATE 324,150 LB. STRUCTURAL STEEL	PILE DRIVING EQUIPMENT SETUP FOR HP 12 X 53 STEEL PILES	HP 12 STEEL		CONCRETE BARRIER RAIL	4" SLOPE PROTECTION	ELASTOMERIC BEARINGS	EXPANSIC JOINT SEALS
LS	SF	SF	CY	LS	LB	LB	LS	EA	NO.	LF	LF	SY	LS	LS
	8,359	8,465		LS			LS				463.08		LS	LS
			52.0		6,355			7	7	245		440		
			75.5		14,163	2,586								
			86.0		16,032	3,191								
			48.6		6,200			7	7	230		445		
LS	8,359	8,465	262.1	LS	42,750	5,777	LS	14	14	475	463.08	885	LS	LS
	SHOF THE E ROAE	RING FOR MA	INTENANCE (RUCTURE, CO OF 30'-0" ON	DF TRAFFIC, S	SEE ROADWAY P 3 SPAN CONCR	PLANS. RETE DECK ON S	TEEL BEAMS AT	ROL PLANS. FOR PAY 60'-0", 65'-0", AND 6 RETE POST AND BEAM	0'-0" W	ITH A C	LEAR	PROJECT		3-5783
TICLE 420-3	INFO AGAI	RMATION IS S	SHOWN FOR T ARTMENT OF	THE CONVEN TRANSPORT	IENCE OF THE C ATION FOR ANY	CONTRACTOR, T DELAYS OR ADI	HE CONTRACTO	ST INFORMATION AVA R SHALL HAVE NO CLA NCURRED BASED ON L CONDITIONS AT THE	AIM WH DIFERE	ATSOE' ENCES	VER		VIDSON	CC
AILABLE. 7 VARIATIONS CE WILL BE	THE G JOINT	CONSTRUCTION 1 FT. BELOV	ON JOINT IS A V THE GROUI	BOVE THE A ND LINE.	CTUAL GROUNE		IE CONTRACTOR	OXIMATE GROUND LI				SHEET 4 OF	STATE OF NORTH CA	
D BY THE EN	DIRE GINEER, LUMP	CTED BY THE	ENGINEER. FOR UNCLAS	THIS WORK	NILL BE PAID FC	OR AT THE CONT ION. SEE SECTI	RACT		Γ			GE	FOR BRIDG	
TEM 5 OR SY	STEM 6 THE (REINI REINI PROJI SAMF STEE REPL	CONTRACTOF FORCING STE FORCING STE ECTS REQUIR PLES OF EACH L ACTUALLY U ACED BY SPL	R SHALL PRO EL AS FOLLO EL, ONE 30 I ING OVER 40 I SIZE BAR U JSED IN THE ICED BARS A	/IDE INDEPE WS: FOR PR NCH SAMPLE 00 TONS OF F SED. THE SA PROJECT AN S SPECIFIED	OJECTS REQUIR OF EACH SIZE REINFORCING ST AMPLE BARS SHO D THE SAMPLE E IN THE SAMPLE	NCE SAMPLES O ING UP TO 400 BAR USED, AND FEEL, TWO 30 IN OULD COME FRO BARS SHOULD B BAR REPLACEM ENT REINFORCIN	TONS OF FOR ICH OM E IENT	5640 Dillard Drive, Suite 2 Cary, NC 27518	200	3/21,	CAROL ESSION BATISH BATISH BATISH BATISH BATISH CINEE CAROL BATISH CINEE CAROL BATISH COMBER	OVER NC BETWEE	S./US 29/U RFOLK SOUT N SR 1772 REVISIONS DATE: NO. BY:	S 70 (- HERN RA
					TO VARIOUS PA			DOCUMENT NO	T CONSI	DERED	FINAL		3	

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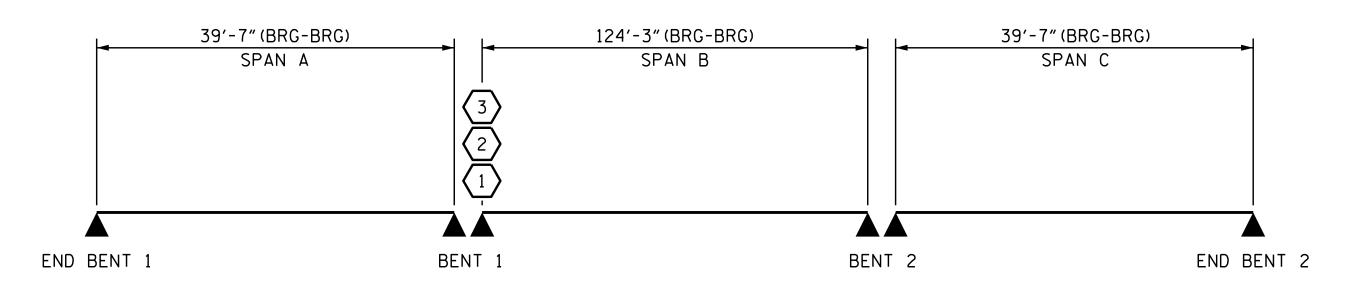
	E BAR Cement
SIZE	LENGTH
#3	6'-2"
#4	7'-4"
#5	8'-6"
#6	9'-8"
#7	10'-10"
#8	12'-0"
#9	13'-2"
#10	14'-6"
#11	15'-10"

NOTE:

SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND fy = 60ksi.

	WITH A CLEAR							
	ERIOR BENTS,	PF	ROJEC	CT NO.		В	-5783	
NO CLAIM V SED ON DIFE	LE. SINCE THIS VHATSOEVER		D	AVIDS	SC			UNTY
AT THE PRO	JECT SITE.	S1	TATI(ON:_∠		55.0	61 -SB	
UND LINE E THE CONST	LEVATION. IF	SI	HEET 4	OF 4				
IGI . e. Suite 200 7518	Depresent CARO/ Journey Low SSION Journey Low SSION Journey Low Statts Journey Low Statts	(I-85E DVER	RTMENT GENER FOR BUS./US NORFOLI	OF A B S K	RALEIGH RIDGE 29/US SOUTH	NSPORTA	SBL-) ILWAY
. C-4434	3/21/2023 6:02 AM PDT	NO.	BY:	REVIS	NO.	NS BY:	DATE:	SHEET NO. S2-04
ENT NOT CO		1 2			3		UAIL:	TOTAL SHEETS
ALL SIGNATU	RES COMPLETED	2			4			40

										STRE	NGTH	I LIM	IT ST	ATE				SI	ERVIC	E II I	LIMIT	STA	TE
										MOMENT					SHEAR						MOMENT		
LEVEL		VEHICLE	WEIGHT (W) (TONS)	CONTROLLING (#	MINIMUM RATING FACTORS (RF)	TONS = W × RF	LIVE-LOAD FACTORS (Y _{LL})	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (f†)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (f†)	LIVE-LOAD FACTORS (Y _{LL})	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF
		HL-93 (INVENTORY)	NZA	$\langle 1 \rangle$	1.58		1.75	0.626	1.73	В		62.13	0.959	1.58	В	I	0	1.30	0.626	1.82	В		62.3
DESIGN LOAD		HL-93 (OPERATING)	N/A		2.05		1.35	0.626	2.24	В	1	62.13	0.959	2.05	В	I	0	1.00	0.626	2.37	В		62.
RATING	TING H	HS-20 (INVENTORY)	36.000	2	2.50	90.0	1.75	0.626	3.21	В	- 1	62.13	0.959	2.50	В	I	0	1.30	0.626	2.68	В		62.
		HS-20 (OPERATING)	36.000		4.50	162.0	1.35	0.626	5.78	В	I	62.13	0.959	4.50	В	I	0	1.00	0.626	4.82	В	<u> </u>	62.
		SH	12.500		6.81	85.1	1.40	0.626	8.47	В	I	62.13	0.959	6.81	В	I	0	1.30	0.626	7.08	В		62
	S3C	21.500		3.98	85.6	1.40	0.626	4.94	В	- 1	62.13	0.959	3.98	В	I	0	1.30	0.626	4.14	В		62	
	VEHICLE (V)	S3A	22.750		3.77	85.8	1.40	0.626	4.68	В	I	62.13	0.959	3.77	В	I	0	1.30	0.626	3.92	В		62
	<pre></pre>	S4A	26.750		3.26	87.2	1.40	0.626	4.08	В	I	62.13	0.959	3.26	В		0	1.30	0.626	3.41	В		62.
	SINGLE (SV	S5A	30.500		2.93	89.4	1.40	0.626	3.59	В		62.13	0.959	2.93	В		0	1.30	0.626	3.00	В		62.
LEGAL	SIN	S6A	34.500		2.62	90.4	1.40	0.626	3.23	В		62.13	0.959	2.62	В	I	0	1.30	0.626	2.70	В		62
LOAD RATING		S7B	38.500		2.41	92.8	1.40	0.626	2.92	В		62.13	0.959	2.41	В	I	0	1.30	0.626	2.44	В		62
		S7A	40.000		2.39	95.6	1.40	0.626	2.86	В	I	62.13	0.959	2.40	В	I	0	1.30	0.626	2.39	В		62.
	N N N	Т4А	28.250		3.13	88.4	1.40	0.626	3.96	В	I	62.13	0.959	3.13	В	I	0	1.30	0.626	3.32	В		62.
	ACT AILE T)	T5B	32.000		2.88	92.2	1.40	0.626	3.49	В	I	62.13	0.959	2.88	В	I	0	1.30	0.626	2.92	В		62
	TACTOR TRACTOR SEMI-TRAILER TEWI-TRAILER TEWI-TRAILER T2B T2B		36.000		2.61	94.0	1.40	0.626	3.16	В		62.13	0.959	2.61	В		0	1.30	0.626	2.65	В		62
			40.000		2.44	97.6	1.40	0.626	2.94	В		62.13	0.959	2.44	B		0	1.30	0.626	2.46	B		62.
		T7B	40.000	3	2.32	92.8	1.40	0.626	3.03	В		62.13	0.959	2.32	В		0	1.30	0.626	2.53	В		62



<u>LRFR</u>	SUMM

202						
/21/	DRAWN BY : .		S.D. CO	OPER	DATE :	12-22
37.	CHECKED BY	:	J.A. B	ATTS	DATE :	12-22
1. 1	DESIGN ENGI	NEER OF	RECORD:	J.A. BATTS	DATE :	12-22

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MARY



LICENSURE NO.

DOCUMEN UNLESS AL

LOAD FACTORS:

DESIGN LOAD RATING	LIMIT STATE	γ_{DC}	$\gamma_{D\mathbf{W}}$
	STRENGTH I	1.25	1.50
FACTORS	SERVICE II	1.00	1.00

NOTES:

JMBER

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COMMENT

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

COMMENTS:

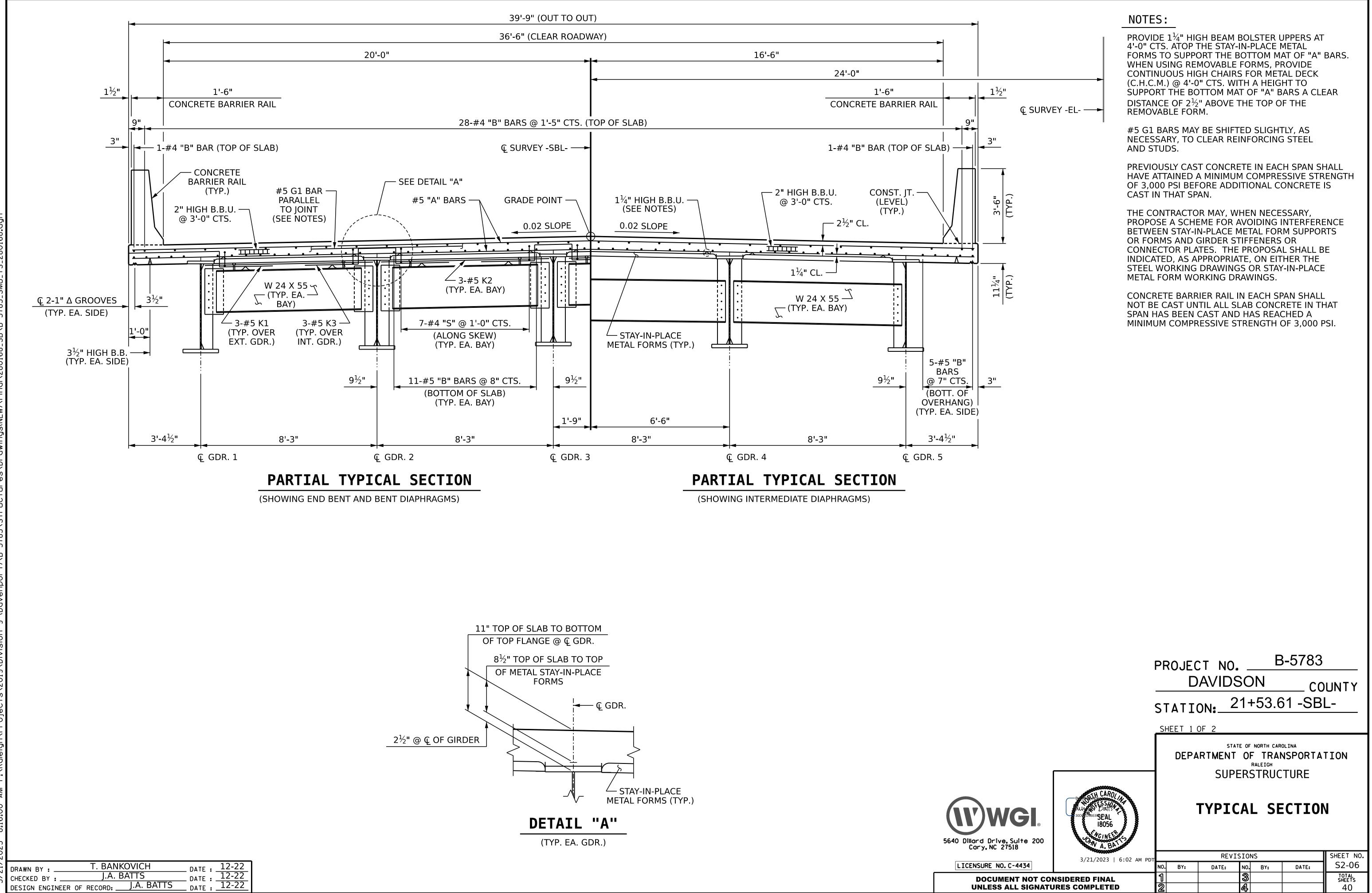
1. 2.

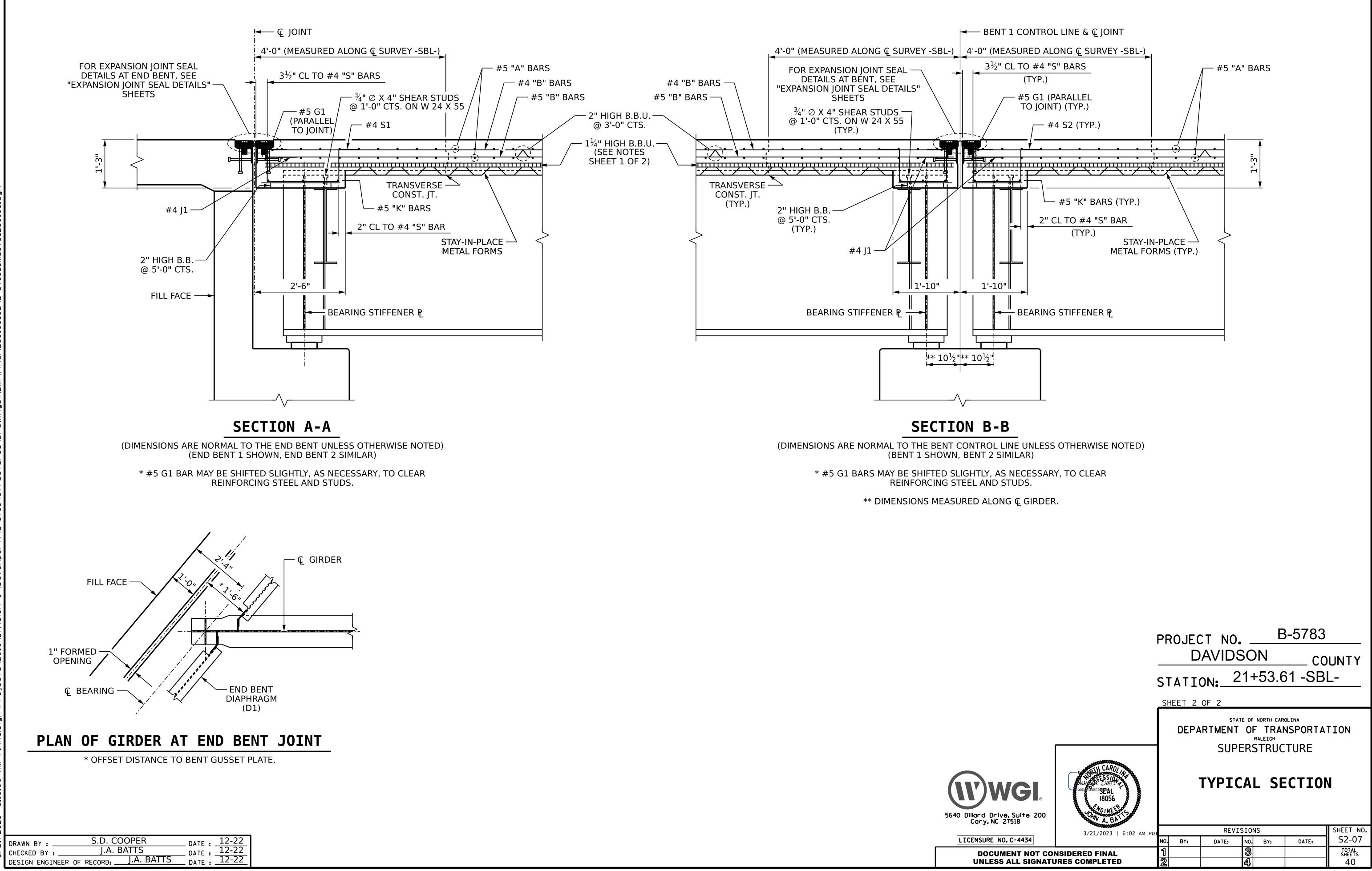
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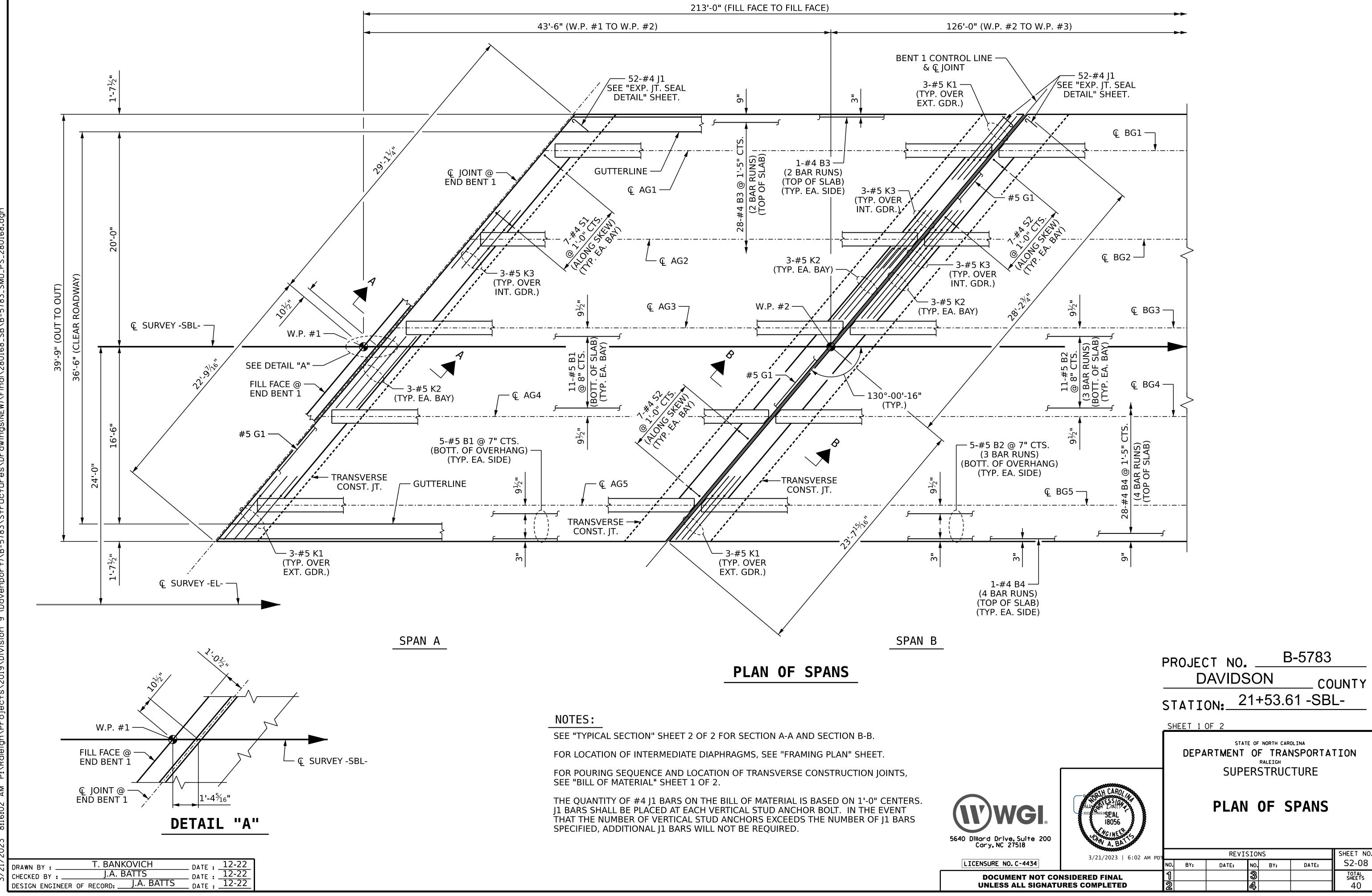
4.

CONTROLLING LOAD RATING
 Output
 Control contro control control contro

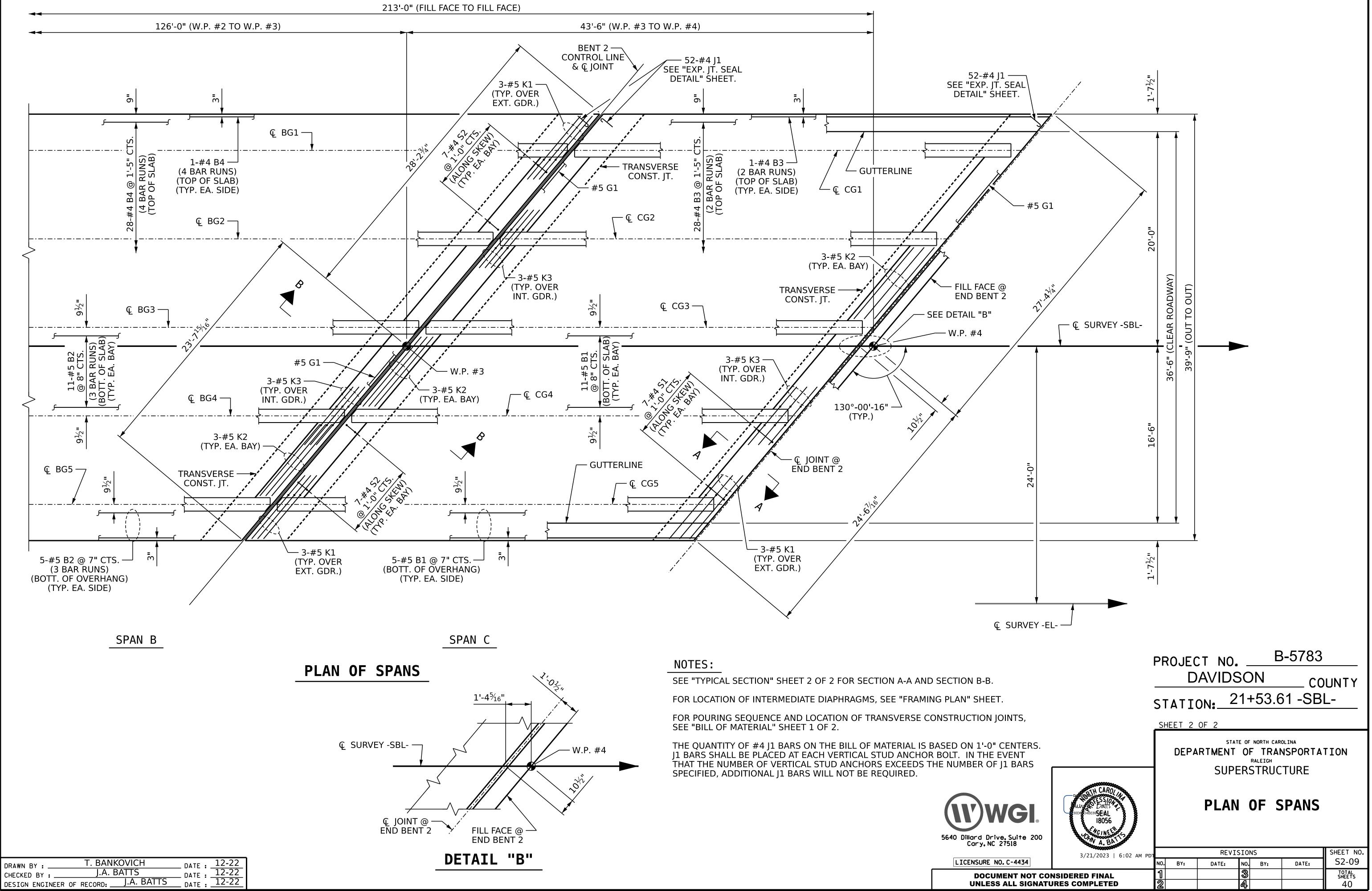
	PROJECT NO. B-5783 DAVIDSON COUNT STATION: 21+53.61 -SBL-	— Y —
	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH	
GI CINES	LRFR SUMMARY FOR STEEL GIRDERS	
e, Suite 200	(INTERSTATE TRAFFIC)	
3/21/2023		
.C-4434	NO. BY: DATE: NO. BY: DATE: S2-	
ENT NOT CONSIDERED FINAL ALL SIGNATURES COMPLETED	1 3 III SHEE 4(

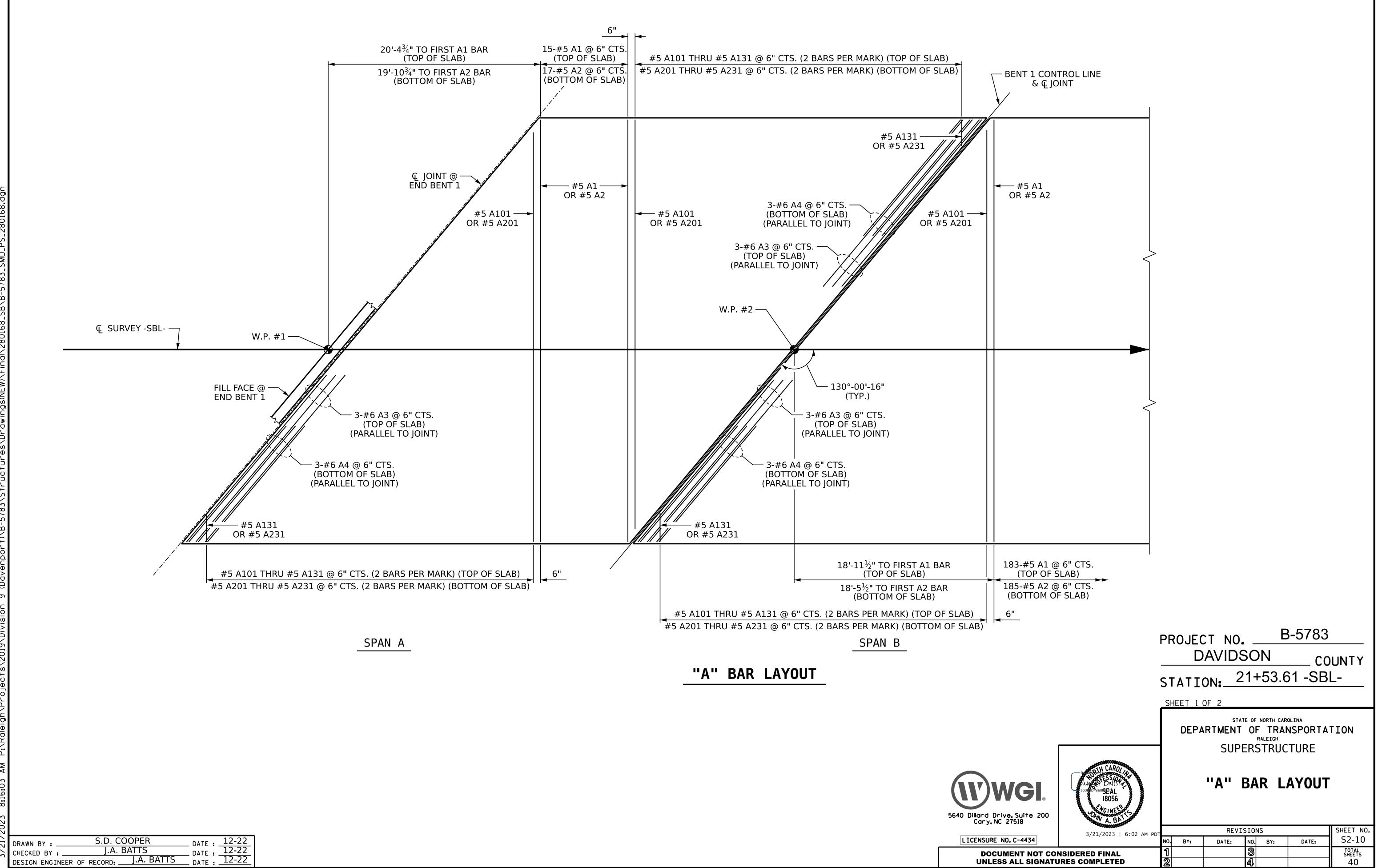


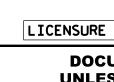


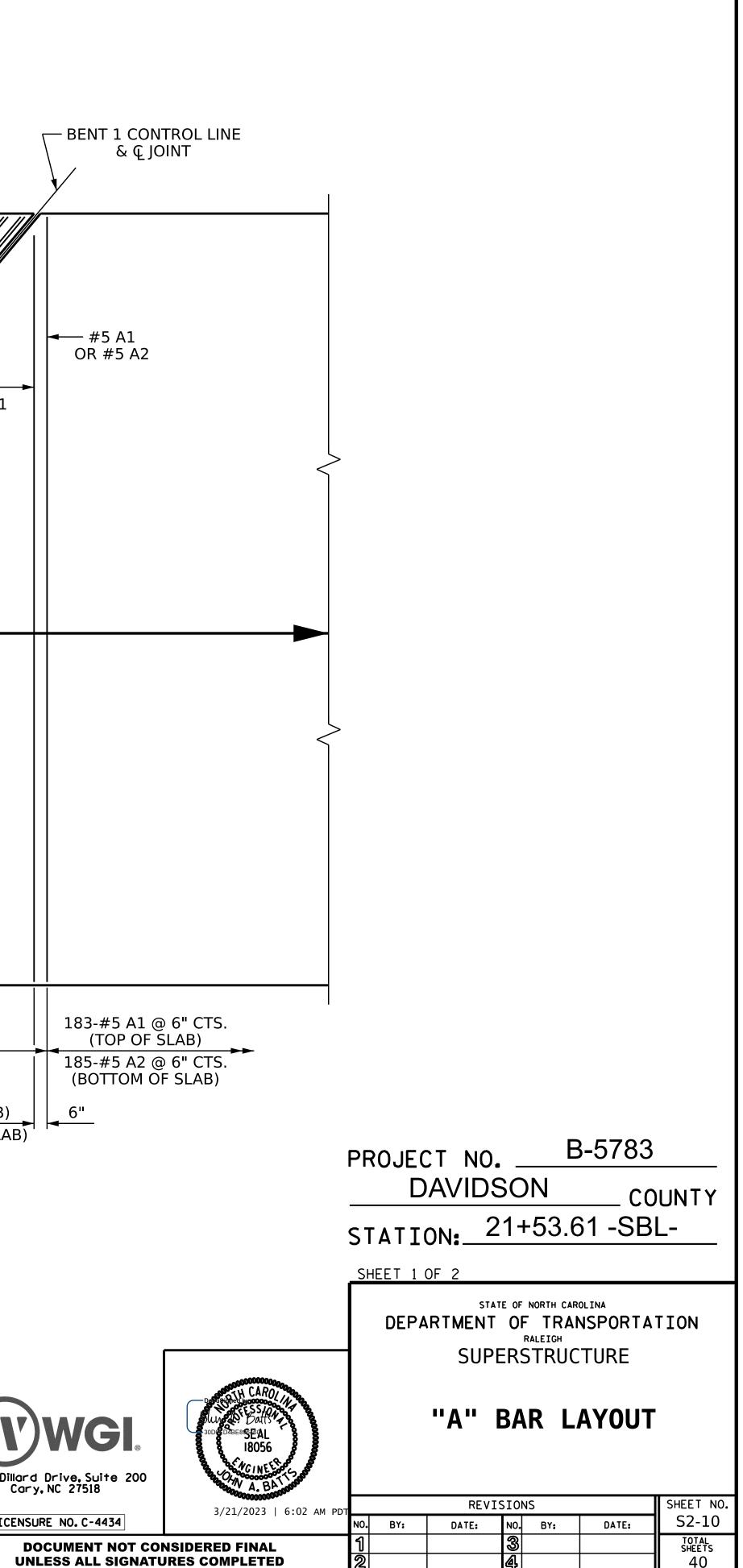


2 TO W.P. #3))
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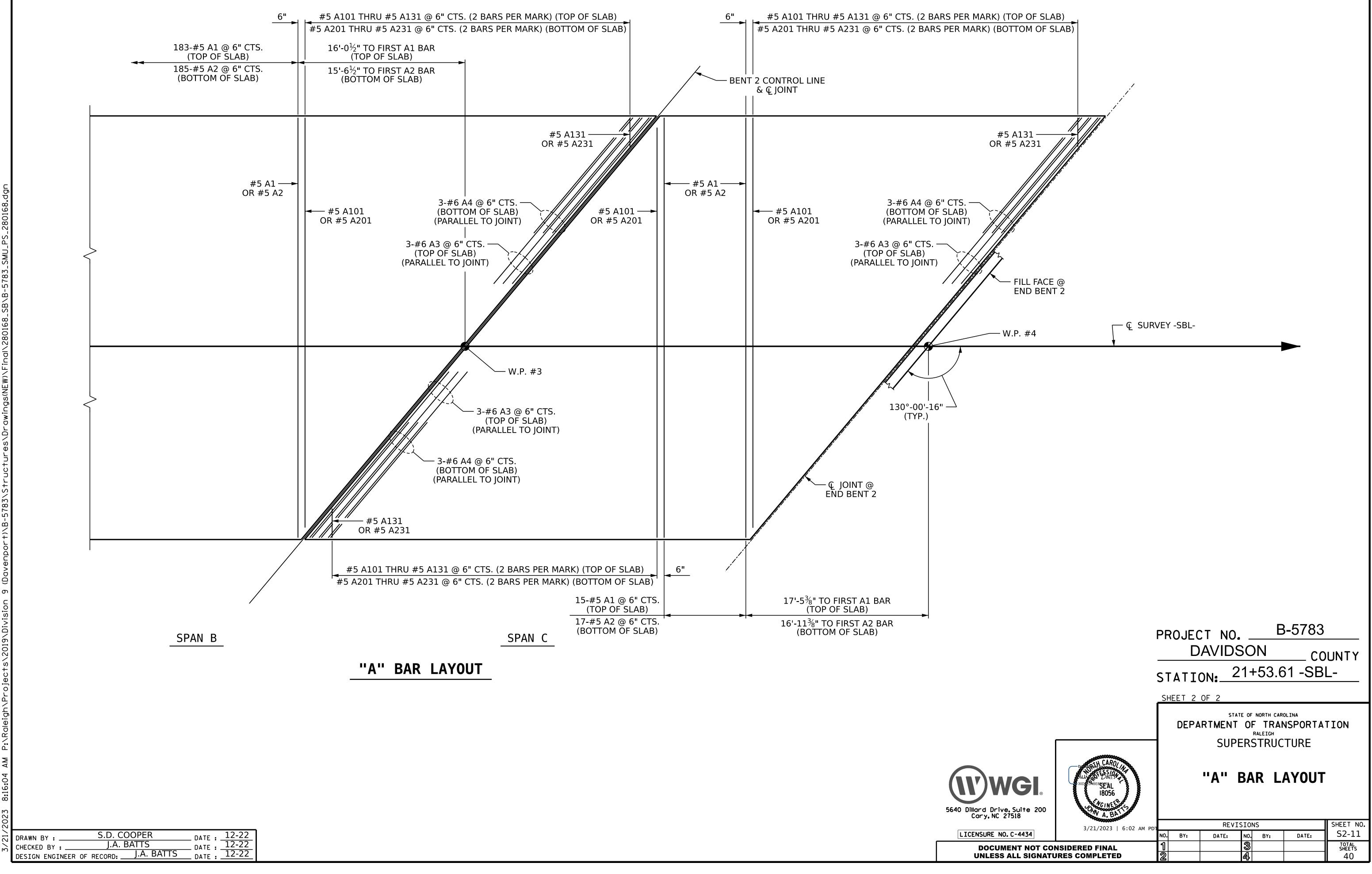


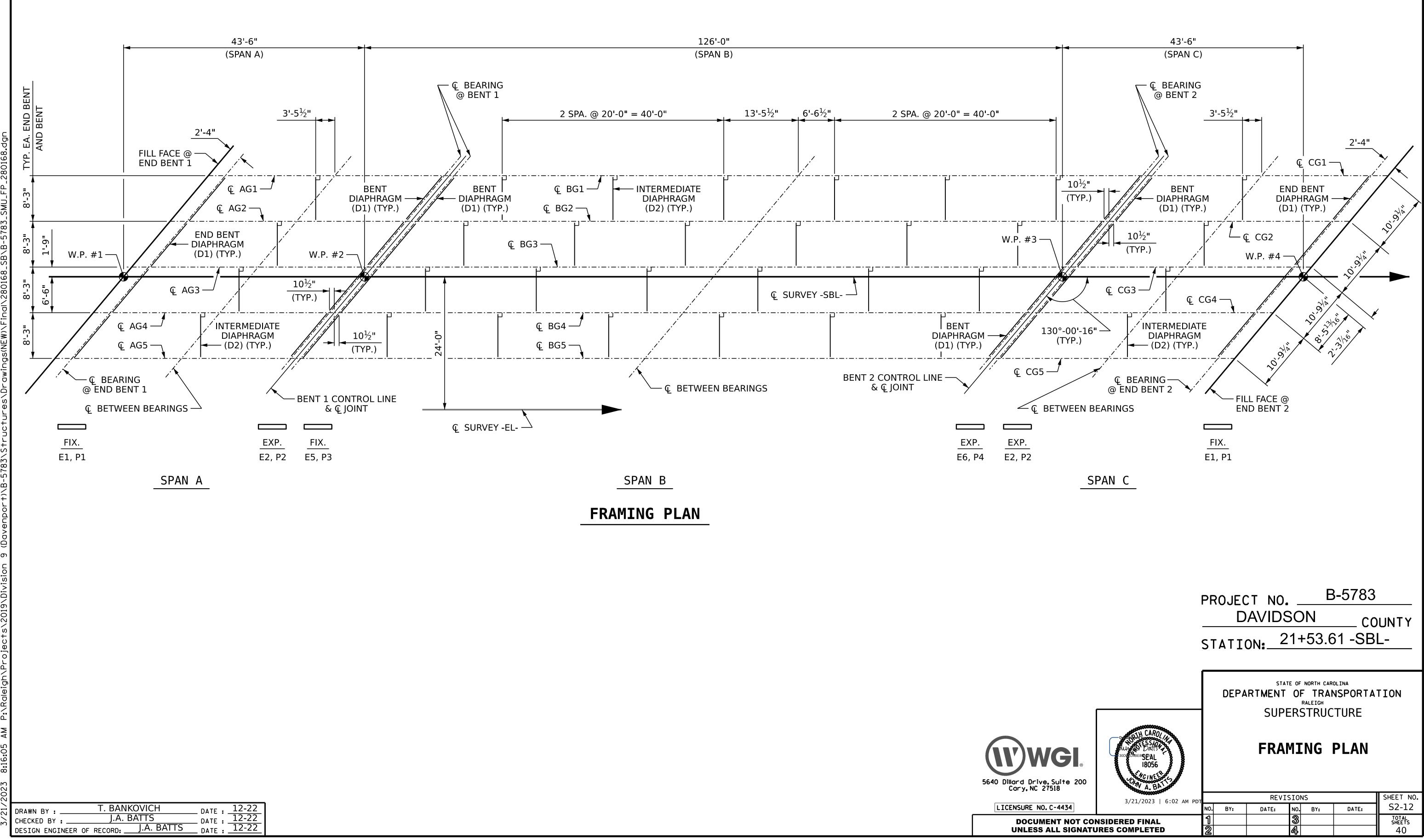








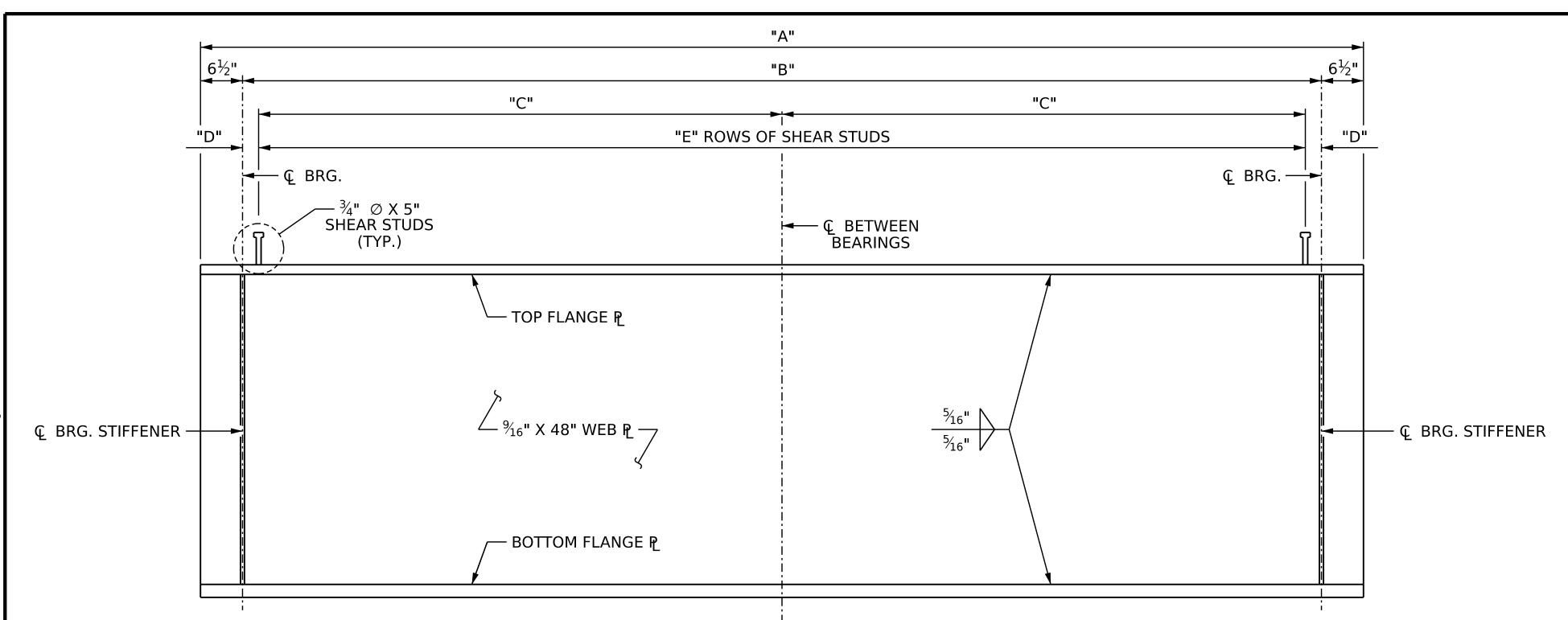






FOR DIAPHRAGM DETAILS, SEE "STRUCTURAL STEEL DETAILS" SHEETS.

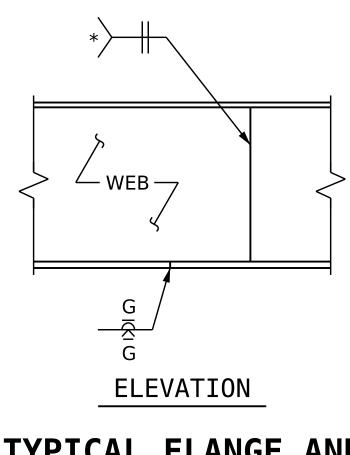
FOR ELASTOMERIC BEARINGS AND SOLE PLATES, SEE "ELASTOMERIC BEARING DETAILS" SHEETS.

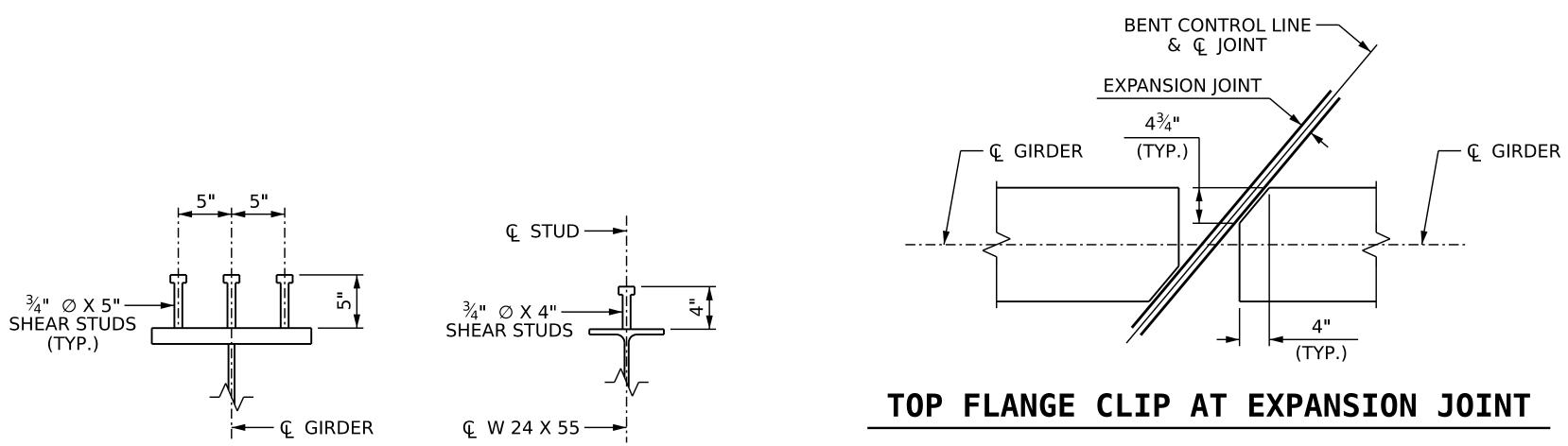


ELEVATION OF GIRDER

(FOR CLARITY, CONNECTOR PLATES FOR INTERMEDIATE DIAPHRAGMS NOT SHOWN, FOR PLACEMENT SEE "SUPERSTRUCTURE FRAMING PLAN" SHEETS.) (SEE "GIRDER DIMENSION TABLE" FOR DIMENSIONS)

	GIRDER DIMENSION TABLE													
SPAN	"A"	"B"	"C"	"D"	"E"	TOP FLANGE	BOTTOM FLANGE							
А	40'-8"	39'-7"	19'-8½"	1"	87 ROWS @ $5\frac{1}{2}$ " CTS. (3 STUDS PER ROW)	1" X 15" P	1½" X 15"							
В	125'-4"	124'-3"	62'-1"	1/2"	299 ROWS @ 5" CTS. (3 STUDS PER ROW)	1½" X 15" ₽	2" X 20"							
С	40'-8"	39'-7"	19'-8 ¹ ⁄2"	1"	87 ROWS @ $5\frac{1}{2}$ " CTS. (3 STUDS PER ROW)	1" X 15" P	1½" X 15"							



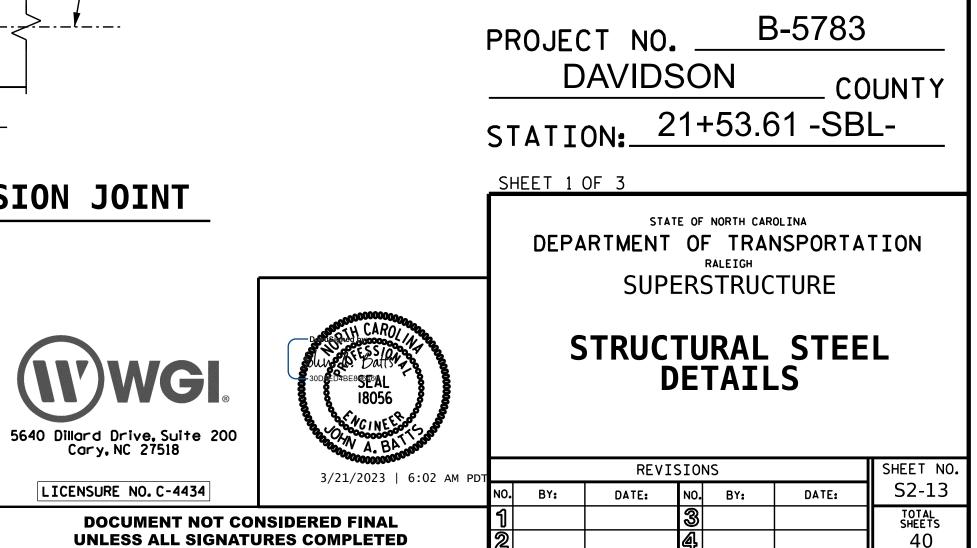


TYPICAL FLANGE AND WEB BUTT JOINT

* GRIND SMOOTH AND FLUSH ON OUTER FACE OF EXTERIOR GIRDERS

DRAWN BY :	T. BANKOVICH	
CHECKED BY :	J.A. BATTS	
DESIGN ENGINEER	OF RECORD: J.A. BATTS	DATE :12-22

SHEAR STUD DETAILS



NOTES:

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50W AND PAINTED IN ACCORDANCE WITH SYSTEM 5 OR SYSTEM 6 OF THE STRUCTURAL STEEL SHOP COATINGS PROGRAM AND SECTION 442-8 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

ALL DIMENSIONS SHOWN ARE HORIZONTAL OR VERTICAL, UNLESS OTHERWISE NOTED.

ALL FIELD CONNECTIONS TO BE $\frac{7}{8}$ " DIA. HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED.

BEARING STIFFENERS ARE TO BE PLACED NORMAL TO BE THE WEB OF THE GIRDER AND SHALL BE PLUMB.

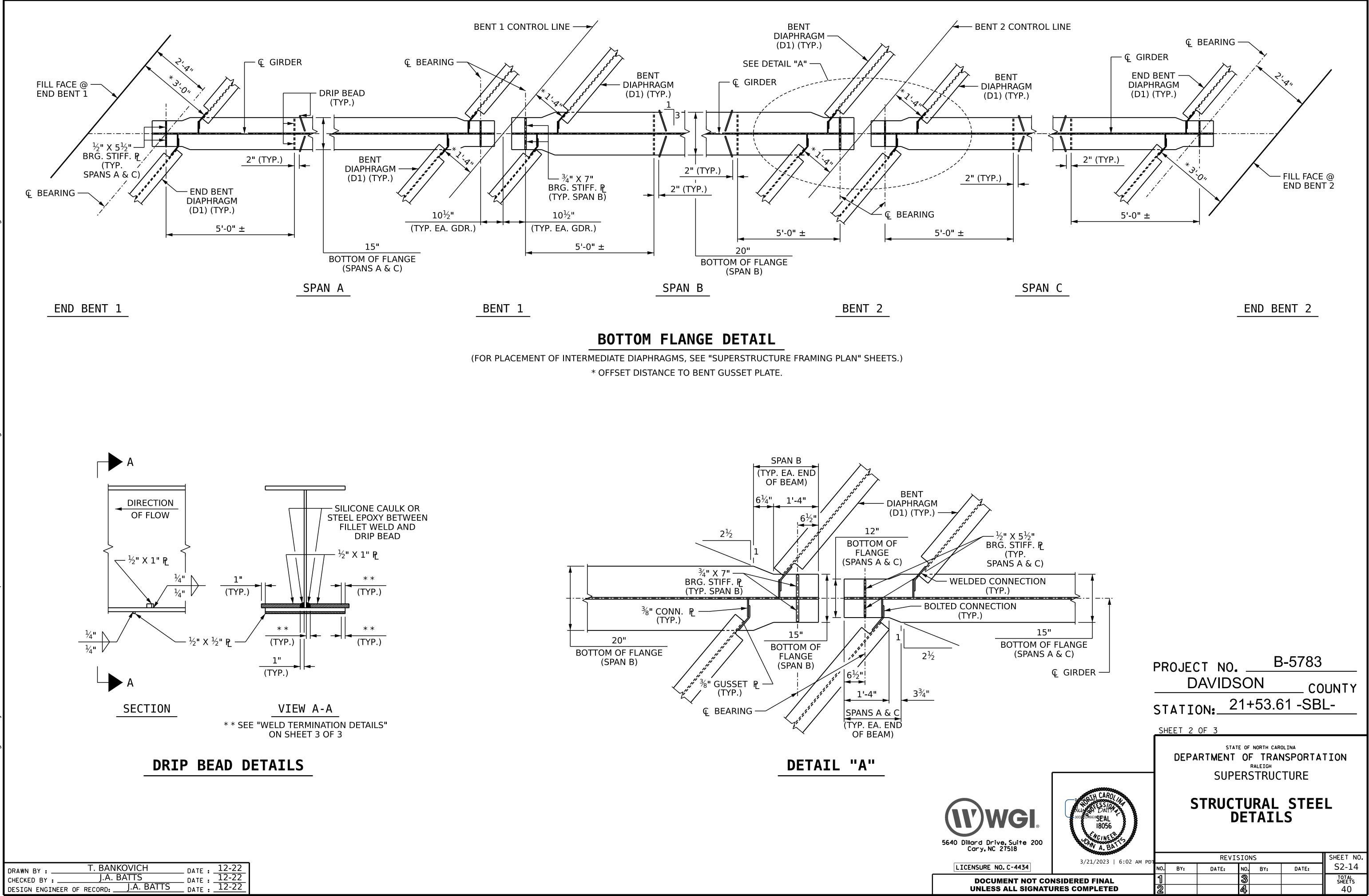
A CHARPY V-NOTCH TEST IS REQUIRED FOR WEB PLATES AND BOTTOM FLANGE PLATES FOR ALL GIRDERS AND IN ACCORDANCE WITH ARTICLE 1072-7 OF THE STANDARD SPECIFICATIONS.

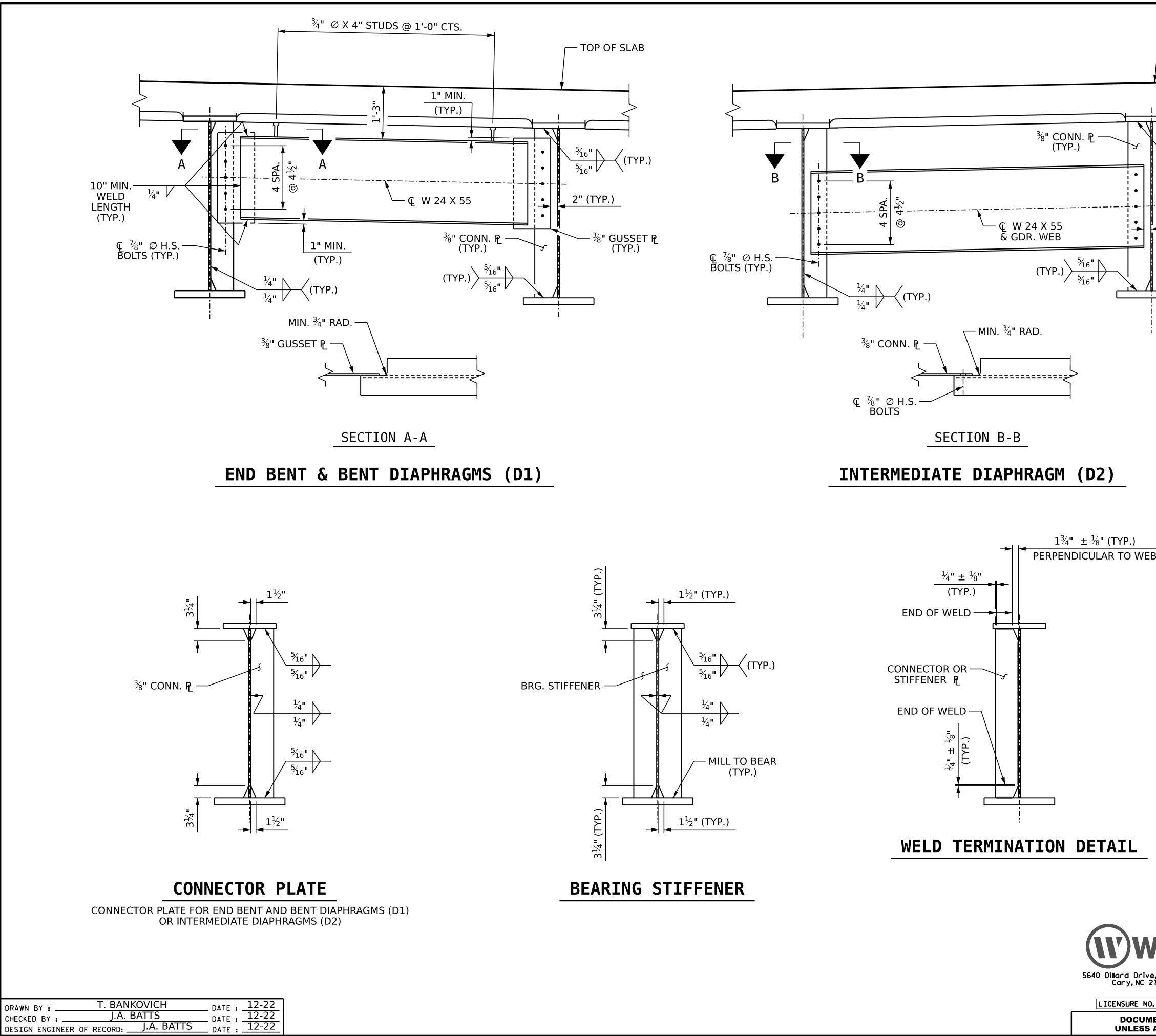
PERMITTED FLANGE AND WEB SHOP SPLICES SHALL NOT BE LOCATED WITHIN 15 FEET OF MAXIMUM DEAD LOAD DEFLECTION. KEEP 2 FEET MINIMUM BETWEEN WEB AND FLANGE SHOP SPLICES, KEEP 6" MINIMUM BETWEEN CONNECTOR PLATE WELDS AND WEB OR FLANGE SHOP SPLICES.

STUDS ON GIRDERS MAY BE SHIFTED UP TO 1" IF NECESSARY TO CLEAR FLANGE SPLICE WELD.

TENSION ON THE AASHTO A325 BOLTS SHALL BE CALIBRATED USING DIRECT TENSION INDICATOR WASHERS IN ACCORDANCE WITH ARTICLE 440-8 OF THE STANDARD SPECIFICATIONS.

FABRICATORS SHALL DETAIL DIAPHRAGM MEMBERS AND CONNECTIONS FOR FULL DEAD LOAD FIT UP, GIRDERS SHALL BE PLUMB AFTER THE FULL AMOUNT OF DEAD LOAD IS APPLIED.



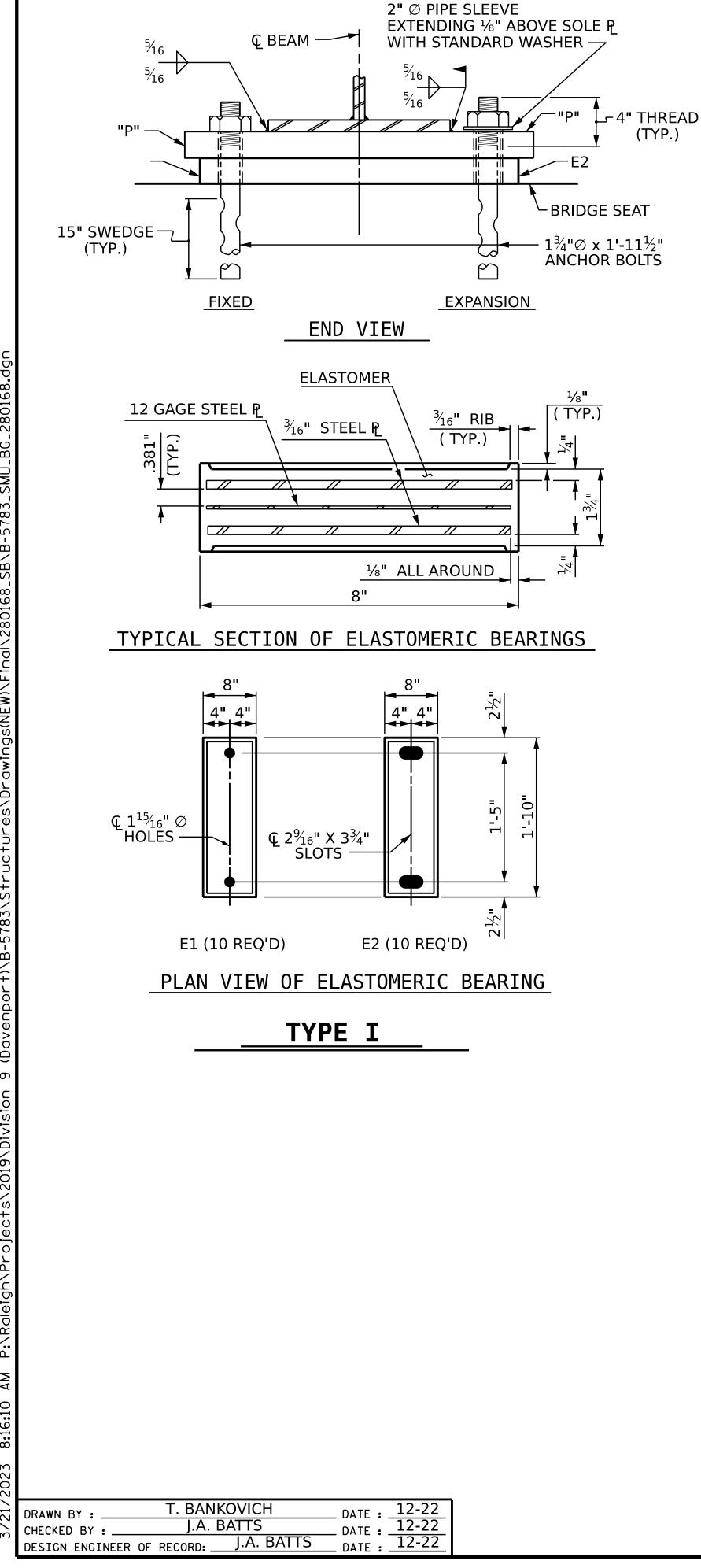




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		T NO. AVIDSC	DN	8-5783 C0 \$1 -SB	UNTY
	STATIC SHEET 3 (- 55.0		<u> </u>
			RALEIGH	NSPORTA	TION
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3/21/2023 6:02 AM PDT ENT NOT CONSIDERED FINAL	NO. BY:	REVISIO	. ВҮ:	DATE:	SHEET NO. S2-15 TOTAL SHEETS
ALL SIGNATURES COMPLETED	2	A			40

TOP OF SLAB $5_{16}''$ (TYP.)

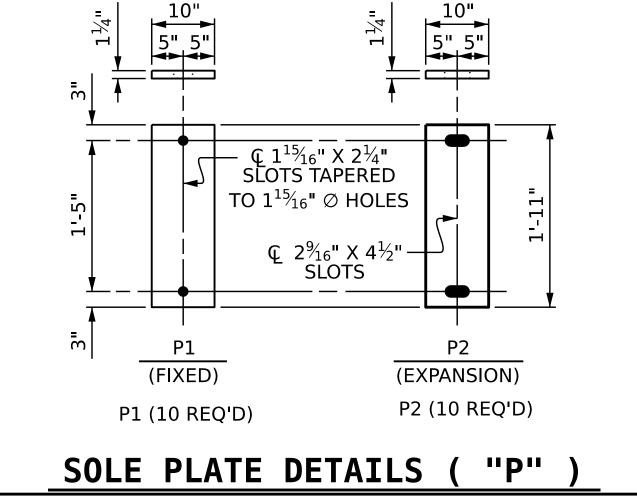
2" (TYP.)





LICENSURE NO. C.

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NOTES

AT ALL FIXED POINTS OF SUPPORT, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF $\frac{1}{2}$ " TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

THE 2" Ø PIPE SLEEVE SHALL BE CUT FROM SCHEDULE 40 PVC PLASTIC PIPE. THE PVC PLASTIC PIPE SHALL MEET THE **REQUIREMENTS OF ASTM D1785.**

THE PAYMENT FOR THE PIPE SLEEVES SHALL BE INCLUDED IN THE SEVERAL PAY ITEMS.

FOR PAINTED STRUCTURAL STEEL (EXCLUDING AASHTO M270 GRADE 50W), SOLE PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

FOR AASHTO M270 GRADE 50W STRUCTURAL STEEL, SOLE PLATE SHALL BE AASHTO M270 GRADE 50W AND SHALL NOT BE GALVANIZED. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

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 BOLTS, NUTS AND WASHERS. SHOP INSPECTION IS REQUIRED.

WHEN FIELD WELDING THE SOLE PLATE TO THE GIRDER FLANGE, 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.

ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

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

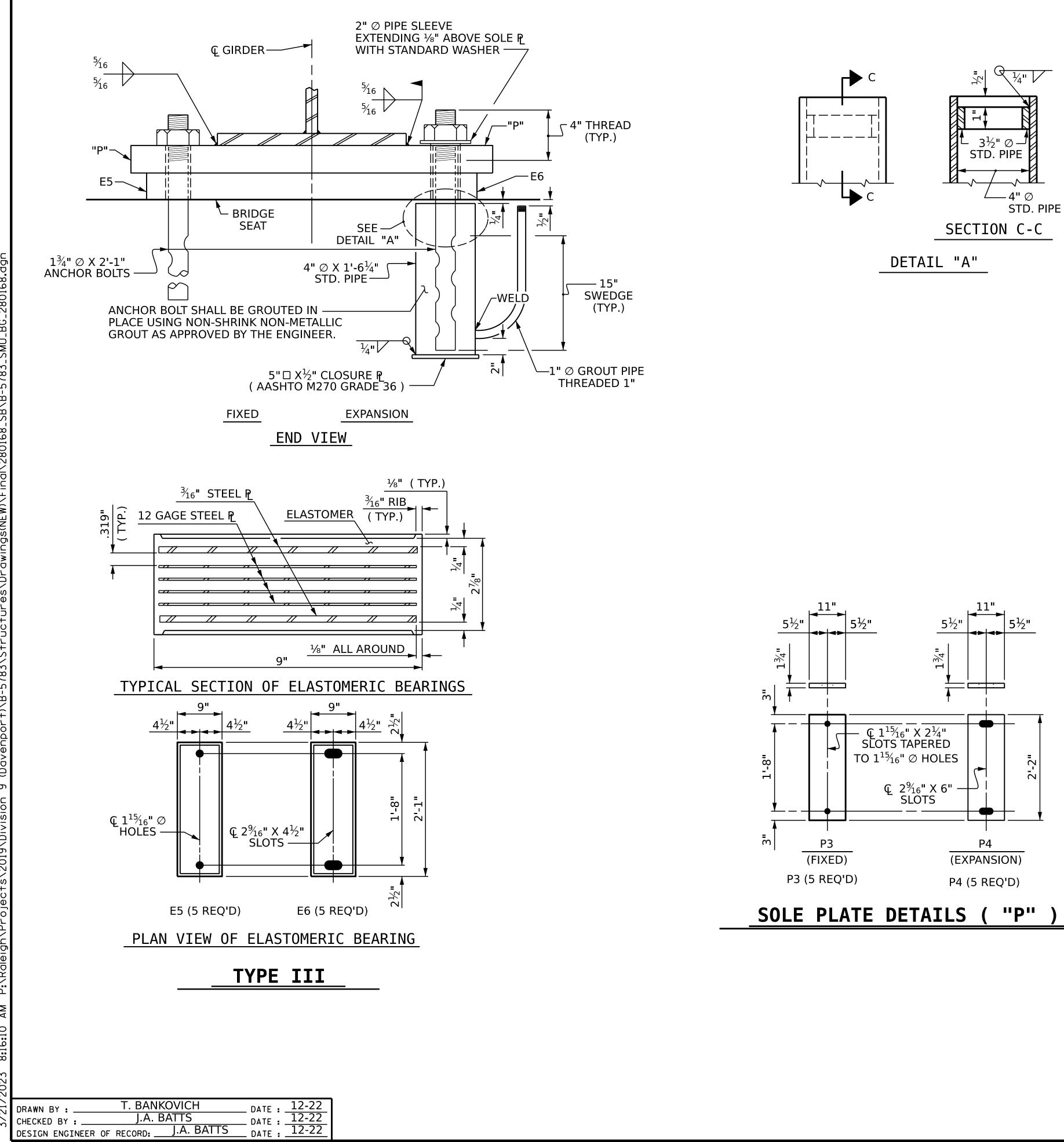
FOR STEEL REINFORCED ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FOLLOWING PROCEDURE, WHICH MAY BE REQUIRED BY THE ENGINEER, TO RESET ELASTOMERIC BEARINGS DUE TO GIRDER TRANSLATION AND END ROTATION:

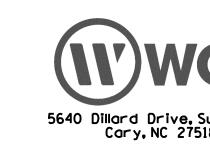
1. ONCE THE DECK HAS CURED, THE GIRDERS SHALL BE JACKED AND THE ELASTOMERIC BEARING SLOTS CENTERED AS NEARLY AS PRACTICAL ABOUT THE BEARING STIFFENER. THIS OPERATION SHALL BE PERFORMED AT APPROXIMATELY 60°F.

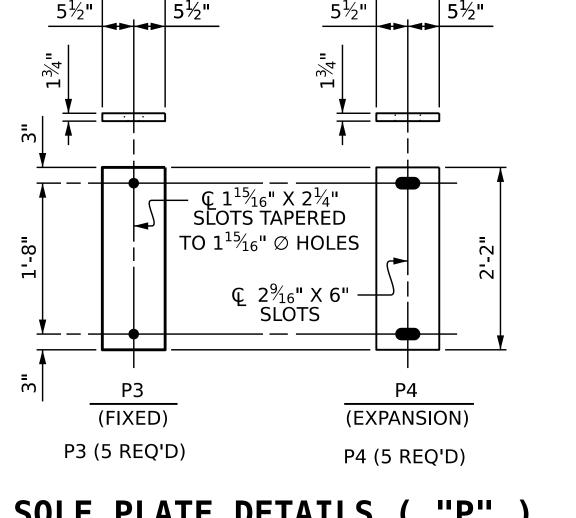
THE CONTRACTOR MAY PROPOSE ALTERNATE METHODS, PROVIDED DETAILS ARE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.

D.L	XIMUM ALLOWABLE SERVICE LOADS	D	CT NO OAVIDSC ON: 21-)N		UNTY L-
GI B uite 200	CAROL DUNCESSEAL BODGE DATES SEAL BODGE ALBODG		SUPERS	RALEIGH STRUC	NSPORTA TURE BEARJ	
4434	3/21/2023 6:02 AM PD	NO. BY:	REVISION DATE: NO.	NS BY:	DATE:	SHEET NO. S2-16
	NSIDERED FINAL IRES COMPLETED	1	3 4			total sheets 40









NOTES

AT ALL FIXED POINTS OF SUPPORT, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF $\frac{1}{2}$ " TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

THE 2" Ø PIPE SLEEVE SHALL BE CUT FROM SCHEDULE 40 PVC PLASTIC PIPE. THE PVC PLASTIC PIPE SHALL MEET THE **REOUIREMENTS OF ASTM D1785.**

THE PAYMENT FOR THE PIPE SLEEVES SHALL BE INCLUDED IN THE SEVERAL PAY ITEMS.

FOR PAINTED STRUCTURAL STEEL (EXCLUDING AASHTO M270 GRADE 50W), SOLE PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

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

WHEN FIELD WELDING THE SOLE PLATE TO THE GIRDER FLANGE. 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

ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

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

FOR STEEL REINFORCED ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.

THE CLOSURE PLATE, GROUT PIPE AND STANDARD PIPE FOR THE EXPANSION ASSEMBLY NEED NOT BE GALVANIZED.

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FOLLOWING PROCEDURE, WHICH MAY BE REQUIRED BY THE ENGINEER, TO RESET ELASTOMERIC BEARINGS DUE TO GIRDER TRANSLATION AND END ROTATION:

1. ONCE THE DECK HAS CURED, THE GIRDERS SHALL BE JACKED THEN THE ANCHOR BOLTS AND ELASTOMERIC BEARING SLOTS CENTERED AS NEARLY AS PRACTICAL ABOUT THE BEARING STIFFENER. THIS OPERATION SHALL BE PERFORMED AT APPROXIMATELY 60°F.

2. AFTER CENTERING THE ELASTOMERIC BEARING SLOTS AND ANCHOR BOLTS, THE ANCHOR BOLTS SHALL BE GROUTED.

THE CONTRACTOR MAY PROPOSE ALTERNATE METHODS, PROVIDED DETAILS ARE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.

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	NSIDERED FINAL	12			3 A			total sheets 40

	DEAD LOAD DEFLECTION TABLE FOR GIRDERS																					
		SPAN A																				
			GIRDERS G1-G5																			
TWENTIETH POINTS		0	.05	.10	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	.75	.80	.85	.90	.95	1.00
DEFLECTION DUE TO WEIGHT OF STEEL	•	0	.000	.000	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.000	.000	0
* DEFLECTION DUE TO WEIGHT OF SLAB	•	0	.001	.002	.003	.004	.005	.005	.006	.006	.006	.006	.006	.006	.006	.005	.005	.004	.003	.002	.001	0
DEFLECTION DUE TO WEIGHT OF RAIL	¥	0	.000	.000	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.000	.000	0
TOTAL DEAD LOAD DEFLECTION	¥	0	.001	.002	.005	.006	.007	.007	.008	.008	.008	.008	.008	.008	.008	.007	.007	.006	.005	.002	.001	0
VERTICAL CURVE ORDINATE	≜	0	.002	.005	.007	.008	.010	.011	.012	.012	.013	.013	.013	.012	.012	.011	.010	.008	.007	.005	.002	0
SUPERELEVATION ORDINATE		0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
REQUIRED CAMBER	≜	0	¹ ⁄16"	¹ ⁄16"	1⁄8"	³ ⁄16"	³ ⁄16"	³ ⁄16"	¹ ⁄4"	1⁄4"	¹ ⁄4"	¹∕₄"	¹ ⁄4"	¹⁄₄"	¹⁄₄"	³ ⁄16"	³ ⁄16"	3⁄16"	1⁄8"	¹ ⁄16"	¹ ⁄16"	0

* INCLUDES SLAB, BUILDUPS & STAY-IN-PLACE FORMS. ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

DEAD LOAD DEFL FORTIETH POINTS 0 .025 .050 .075 .100 .125 DEFLECTION DUE TO WEIGHT OF STEEL 0 | .010 | .021 | .031 | .041 | .050 0 .019 .046 .074 .100 .126 * DEFLECTION DUE TO WEIGHT OF SLAB 0 .007 .014 .022 .029 .035 DEFLECTION DUE TO WEIGHT OF RAIL 0 .036 .081 .127 .170 .21 TOTAL DEAD LOAD DEFLECTION .012 .024 .035 .046 .050 VERTICAL CURVE ORDINATE 0 SUPERELEVATION ORDINATE 000. 000. 000. 000. 000. 000. $\frac{9}{16}$ " | $1\frac{1}{4}$ " | $1\frac{15}{16}$ " | $2\frac{5}{8}$ " | $3\frac{1}{4}$ REQUIRED CAMBER 0 FORTIETH POINTS .500 .525 .550 .575 .600 .62 DEFLECTION DUE TO WEIGHT OF STEEL .129 .129 .128 .126 .123 .120 .340 .339 .336 .331 .324 .314 * DEFLECTION DUE TO WEIGHT OF SLAB .091 .091 .090 .088 .087 .084 DEFLECTION DUE TO WEIGHT OF RAIL .560 .559 .554 .545 .534 .518 TOTAL DEAD LOAD DEFLECTION .128 .127 .126 .125 .123 .120 VERTICAL CURVE ORDINATE 000. 000. 000. 000. 000. 000. SUPERELEVATION ORDINATE $8^{5}_{16} 8^{5}_{16} 8^{1}_{4} 8^{1}_{4} 8^{3}_{16} 8^{1}_{16} 7^{1}_{16} 7^{1}_{16} 7^{1}_{16}$ **REQUIRED CAMBER**

* INCLUDES SLAB, BUILDUPS & STAY-IN-PLACE FORMS.

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

			- [DEAD	LOA	AD D	EFLE		ON T	ABLI	E F0	R G	ERDE	RS								
	SPAN C																					
	GIRDERS G1-G5																					
TWENTIETH POINTS		0	.05	.10	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	.75	.80	.85	.90	.95	1.00
DEFLECTION DUE TO WEIGHT OF STEEL	•	0	.000	.000	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.000	.000	0
* DEFLECTION DUE TO WEIGHT OF SLAB	•	0	.001	.002	.003	.004	.005	.005	.006	.006	.006	.006	.006	.006	.006	.005	.005	.004	.003	.002	.001	0
DEFLECTION DUE TO WEIGHT OF RAIL	•	0	.000	.000	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.000	.000	0
TOTAL DEAD LOAD DEFLECTION	¥	0	.001	.002	.005	.006	.007	.007	.008	.008	.008	.008	.008	.008	.008	.007	.007	.006	.005	.002	.001	0
VERTICAL CURVE ORDINATE	4	0	.002	.005	.007	.008	.010	.011	.012	.012	.013	.013	.013	.012	.012	.011	.010	.008	.007	.005	.002	0
SUPERELEVATION ORDINATE	•	0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
REQUIRED CAMBER	4	0	¹ ⁄16"	¹ ⁄16"	1⁄8"	³ ⁄16"	³ ⁄16"	³ ⁄16"	¹ ⁄4"	¹ ⁄4"	¼ ''	1∕₄"	¹⁄₄"	¹ ⁄4"	¹⁄₄"	³ ⁄16"	³ ⁄16"	³ ⁄16"	¹∕ ₈ "	¹ ⁄16"	¹ ⁄16"	0

* INCLUDES SLAB, BUILDUPS & STAY-IN-PLACE FORMS. ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

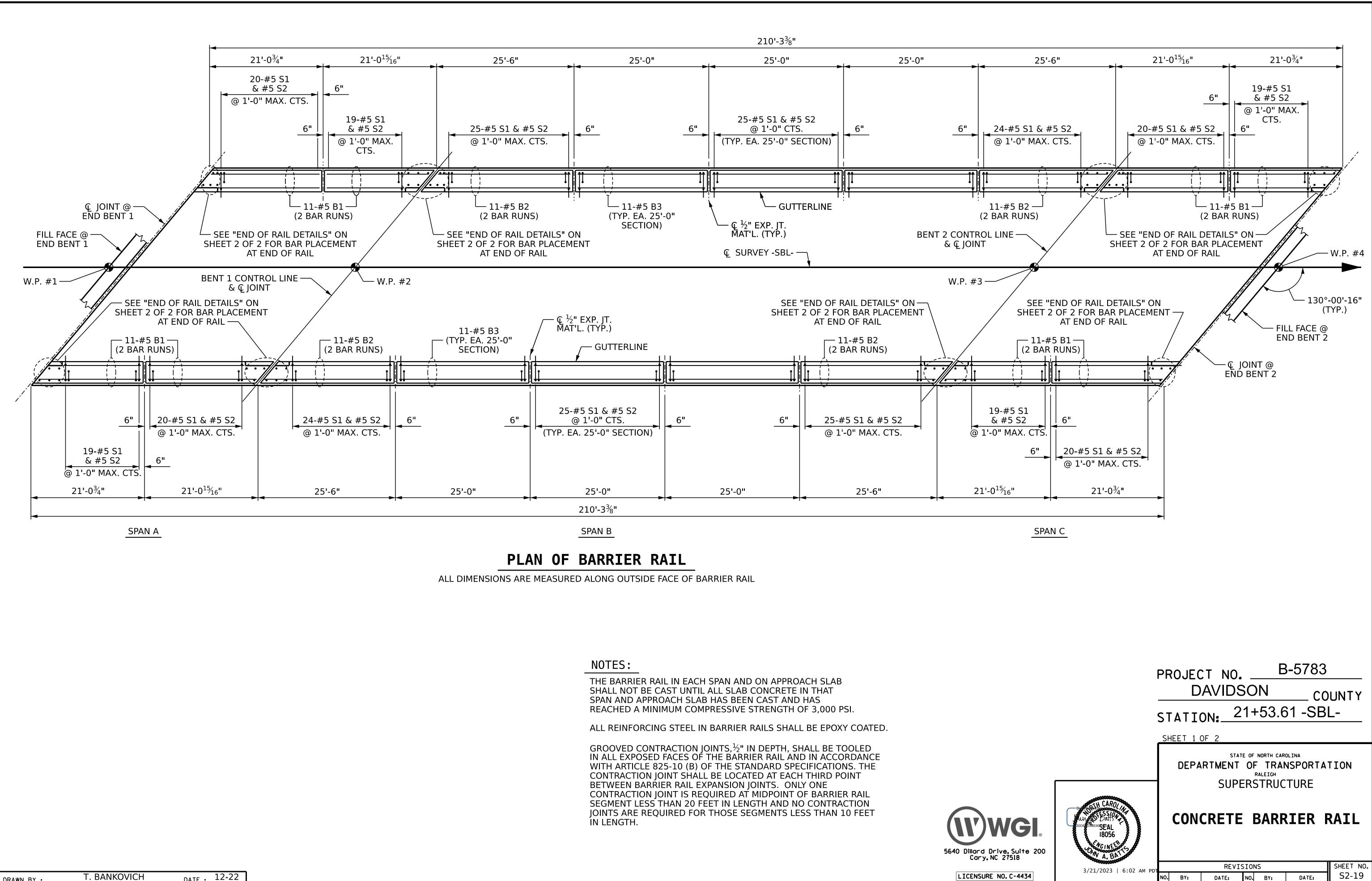
202					
71	DRAWN BY :	T. BANI	KOVICH	DATE :	12-22
	CHECKED BY : _	J.A. I	BATTS	DATE :	12-22
	DESIGN ENGINE	ER OF RECORD:	J.A. BATTS	DATE :	12-22

LE		<u>ON T</u>		E F0	R G]	<u>ERDE</u>	RS								
				S	SPAN B	3									
		GI	RDERS	5 G1-	G5 (0) THRI	U .50	0)							
25	.150	.175	.200	.225	.250	.275	.300	.325	.350	.375	.400	.425	.450	.475	.500
50	.059	.068	.077	.085	.092	.099	.105	.111	.115	.120	.123	.126	.128	.129	.129
26	.152	.176	.198	.220	.240	.258	.275	.290	.303	.314	.324	.331	.336	.339	.340
35	.042	.048	.054	.060	.065	.070	.074	.078	.081	.084	.087	.088	.090	.091	.091
11	.253	.292	.329	.365	.397	.427	.454	.479	.499	.518	.534	.545	.554	.559	.560
56	.065	.074	.082	.089	.096	.102	.107	.112	.116	.120	.123	.125	.126	.127	.128
00	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
¹ ⁄4"	3 ¹³ ⁄16"	4 ⁷ ⁄ ₁₆ "	4 ¹⁵ ⁄16"	5½"	5 ¹⁵ ⁄16"	6 ³ ⁄8"	6 ³ ⁄4"	7½"	7 ^{7⁄} 16"	7 ¹¹ ⁄16"	7 ¹⁵ ⁄16"	8½6"	8 ³ ⁄16"	8¼"	8 ⁵ ⁄16"
				S	SPAN B	3									
		GIRD	DERS (31-G5	(.50	00 THI	RU 1.	000)							
25	.650	.675	.700	.725	.750	.775	.800	.825	.850	.875	.900	.925	.950	.975	1.00
20	.115	.111	.105	.099	.092	.085	.077	.068	.059	.050	.041	.031	.021	.010	0
14	.303	.290	.275	.258	.240	.220	.198	.176	.152	.126	.100	.074	.046	.019	0
84	.081	.078	.074	.070	.065	.060	.054	.048	.042	.035	.029	.022	.014	.007	0
18	.499	.479	.454	.427	.397	.365	.329	.292	.253	.211	.170	.127	.081	.036	0
20	.116	.112	.107	.102	.096	.089	.082	.074	.065	.056	.046	.035	.024	.012	0
00	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
/16 "	7 ^{7⁄} 16"	7 ¹ ⁄8"	6 ³ ⁄4"	6 ³ ⁄ ₈ "	5 ¹⁵ ⁄16"	5½"	4 ¹⁵ ⁄16"	4 ^{7⁄} 16"	3 ³ ⁄16"	2 ¹¹ ⁄16"	2 ⁵ ⁄8"	1 ¹⁵ ⁄16"	1¼"	⁹ ⁄16"	0

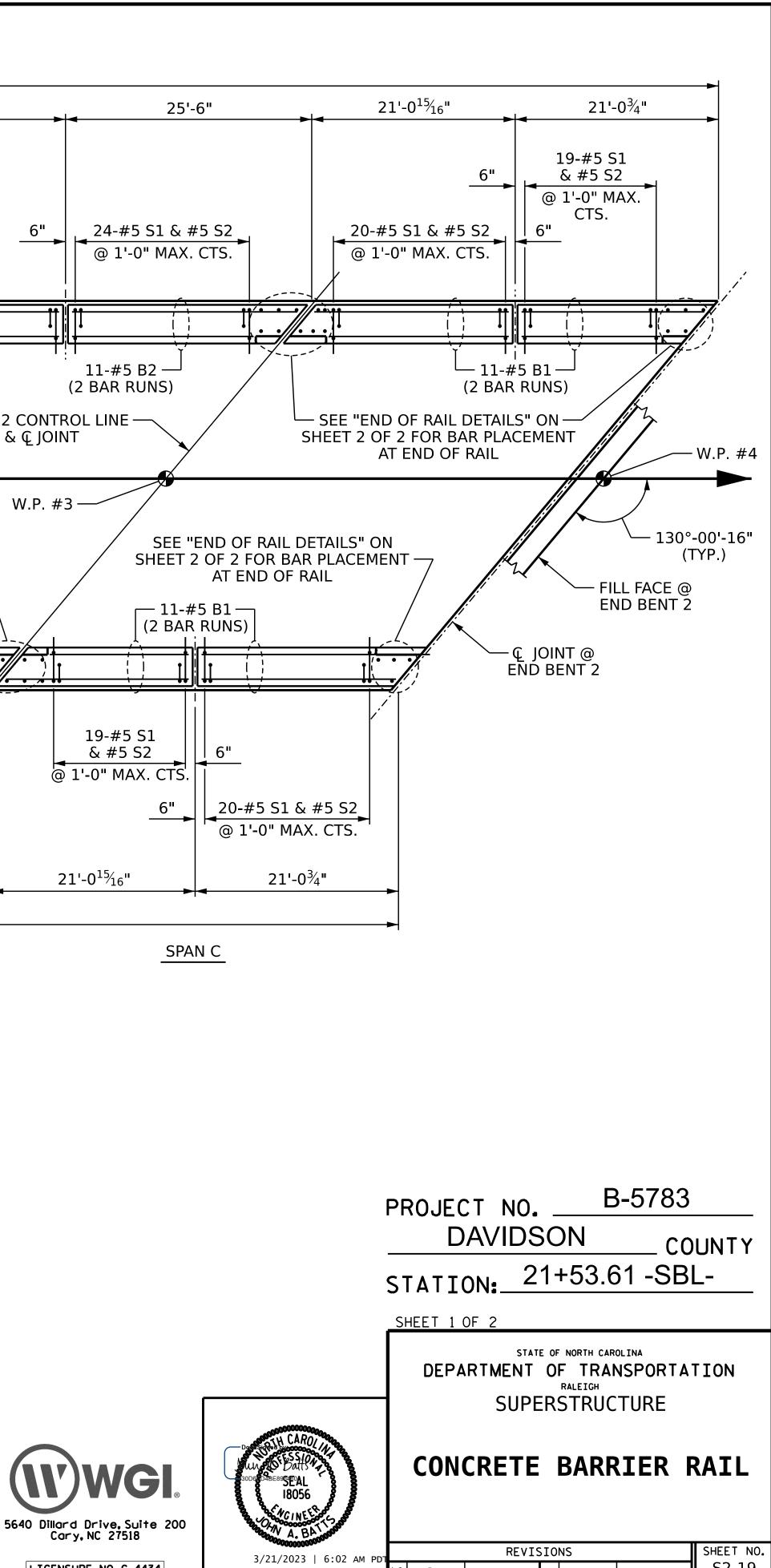


LICENSURE NO. C

		PROJECT NO DAVID	SON	5783 COUNTY 1 -SBL-						
		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUPERSTRUCTURE								
Dillard Drive, Suite 200 Cary, NC 27518	BODDE CHILL LOCATION A. BA		OAD DEF IRDER (LECTION CAMBER						
CENSURE NO. C-4434	3/21/2023 6:02 AM PDT	REV	ISIONS	SHEET NO. DATE: S2-18						
DOCUMENT NOT CON UNLESS ALL SIGNATU		1 2	3 4	TOTAL SHEETS 40						



	NKOVICH	DATE :	12-22
J.A.	. BATTS	DATE :	12-22
INEER OF RECORD:	J.A. BATTS	DATE :	12-22
•	J.A	J.A. BATTS	J.A. BATTS DATE :



LICENSURE NO. C-4434

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TOTAL SHEETS

40