



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

October 6, 2022

Addendum No. 2

RE: Contract # C204746

WBS # 34839.3.13

FEDERAL AID # 0074226

Forsyth County (U-2579AA)

FUTURE I-74 (WINSTON-SALEM NORTHERN BELTWAY)

FROM US-311 TO I-40.

October 18, 2022 Letting

To Whom It May Concern:

Reference is made to the plans and proposal form furnished to you on this project.

The following revisions have been made to the Cross Section plans.

Sheet No.	Revision
X-75	MSE wall removed from Cross Sections on this sheet.
X-238	-Y2FLYAB- Sta. 30+00 fill slope on the right side revised to a 2:1.

Please void the above listed Sheets in your plans and staple the revised Sheets thereto.

The following revisions have been made to the Structures plans.

Sheet No.	Revision
S1-9	Bill of Material quantities updated.
S1-67	Bill of Material quantities updated.
S5-02	Location of retaining wall changed, slope protection added, and brace piles added at End Bent 2.
S5-03	Note 14 revised.
S5-04	Note 15 revised. Brace Piles added at End Bent 2, pile spacing revised.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
CONTRACT STANDARDS AND DEVELOPMENT
1591 MAIL SERVICE CENTER
RALEIGH, NC 27699-1591

Telephone: (919) 707-6900
Fax: (919) 250-4127
Customer Service: 1-877-368-4968

Location:
1020 BIRCH RIDGE DR.
RALEIGH, NC 27610

Website: www.ncdot.gov

Sheet No.	Revision
S5-07	End Bent 2 and total quantities revised for Class A Concrete, Reinforcing Steel, Pile Driving Equipment Setup for HP 14x73 Steel Piles, HP 14x73 Steel Piles and 4" Slope Protection.
S5-11	Sketch at End Bent 2 revised to show brace piles.
S5-56	Anchor bolt length and projection revised.
S5-57	Beam Bolster height revised.
S5-68	Sketch at End Bent 2 revised to show brace piles.
S5-77	End Bent cap has been widened to 4'-6", brace piles added and pile spacing revised.
S5-78	Beam Bolster height revised.
S5-79	Bill of Material revised for additional cap width and piles.
S5-80	Slope Protection and quantity revised for End Bent 2.
S5-82	Bridge Approach Fill changed to Type I.

Please void the above listed Sheets in your plans and staple the revised Sheets thereto.

The following revisions have been made to the proposal.

Page No.	Revision
Proposal Cover	Note added that reads "Includes Addendum No. 2 Dated 10-06-2022".

Please void the above listed existing Page in your proposal and staple the revised Page thereto.

On the item sheets the following pay item revisions have been made:

<u>Item</u>	<u>Description</u>	<u>Old Quantity</u>	<u>New Quantity</u>
0015-0029000000-N-SP	TYPE III REINFORCED APPROACH FILL STATION (28+33.21 -Y2FLYAB-)	LS	DELETED
0050-0366000000-E-310	15" RC PIPE CULVERTS, CLASS III	1,136 LF	1,344 LF
0051-0372000000-E-310	18" RC PIPE CULVERTS, CLASS III	388 LF	300 LF
0059-0448200000-E-310	15" RC PIPE CULVERTS, CLASS IV	1,336 LF	844 LF

0090-0987000000-E-310	15" RC PIPE CULVERT, CLASS V	172 LF	204 LF
0402-8096000000-E-450	PILE EXCAVATION IN SOIL	477 LF	50 LF
0403-8097000000-E-450	PILE EXCAVATION NOT IN SOIL	32 LF	39 LF
0412-8182000000-E-420	CLASS A CONCRETE (BRIDGE)	4,218.6 CY	4,235.0 CY
0420-8217000000-E-425	REINFORCING STEEL (BRIDGE)	909,444 LB	912,235 LB
0427-8328200000-E-450	PILE DRIVING EQUIPMENT SETUP FOR HP 14 X 73 STEEL PILES	272 EA	276 EA
0429-8384000000-E-450	HP 14 X 73 STEEL PILES	13,435 LF	13,618.75 LF
0433-8531000000-E-462	4" SLOPE PROTECTION	2,136.7 SY	2,425.7 SY

The Contractor's bid must include these pay item revisions.

The electronic bidding file has been updated to reflect these revisions. Please download the Addendum File and follow the instructions for applying the addendum. Bid Express will not accept your bid unless the addendum has been applied.

The contract will be prepared accordingly.

Sincerely,

DocuSigned by:

 F81B6038A47A442...

Ronald E. Davenport, Jr., PE
 State Contract Officer

RED/cms
 Attachments

cc: Mr. Boyd Tharrington, PE
Mr. Pat Ivey, PE
Mr. Jon Weathersbee, PE
Mr. Ken Kennedy, PE
Project File (2)

Mr. Forrest Dungan, PE
Ms. Jaci Kincaid
Mr. Kyle Kempf
Ms. Lori Strickland
Mr. Mike Gwyn
Ms. Penny Higgins

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH, N.C.

PROPOSAL

INCLUDES ADDENDUM No.2 DATED 10-06-2022

DATE AND TIME OF BID OPENING: **Oct 18, 2022 AT 02:00 PM**

CONTRACT ID C204746
WBS 34839.3.13

FEDERAL-AID NO. 0074226
COUNTY FORSYTH
T.I.P NO. U-2579AA
MILES 1.536
ROUTE NO. I-74
LOCATION FUTURE I-74 (WINSTON-SALEM NORTHERN BELTWAY) FROM US-311 TO I-40.

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

NOTICE:

ALL BIDDERS SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATING THE PRACTICE OF GENERAL CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA WHICH REQUIRES THE BIDDER TO BE LICENSED BY THE N.C. LICENSING BOARD FOR CONTRACTORS WHEN BIDDING ON ANY NON-FEDERAL AID PROJECT WHERE THE BID IS \$30,000 OR MORE, EXCEPT FOR CERTAIN SPECIALTY WORK AS DETERMINED BY THE LICENSING BOARD. BIDDERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFRIGERATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA. NOTWITHSTANDING THESE LIMITATIONS ON BIDDING, THE BIDDER WHO IS AWARDED ANY FEDERAL - AID FUNDED PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING.

BIDS WILL BE RECEIVED AS SHOWN BELOW:

THIS IS A ROADWAY & STRUCTURE PROPOSAL

5% BID BOND OR BID DEPOSIT REQUIRED

County: FORSYTH

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
ROADWAY ITEMS						
0001	0000100000-N	800	MOBILIZATION	Lump Sum	L.S.	
0002	0000400000-N	801	CONSTRUCTION SURVEYING	Lump Sum	L.S.	
0003	0000700000-N	SP	FIELD OFFICE	Lump Sum	L.S.	
0004	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	Lump Sum	L.S.	
0005	0008000000-E	200	SUPPLEMENTARY CLEARING & GRUBBING	4 ACR		
0006	0015000000-N	205	SEALING ABANDONED WELLS	2 EA		
0007	0022000000-E	225	UNCLASSIFIED EXCAVATION	435,000 CY		
0008	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ***** (20+68.01 -Y2NBL-)	Lump Sum	L.S.	
0009	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ***** (22+84.09 -Y1-)	Lump Sum	L.S.	
0010	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ***** (28+33.21 -Y2FLYAB-)	Lump Sum	L.S.	
0011	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ***** (29+89.90 -Y2SBL-)	Lump Sum	L.S.	
0012	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ***** (30+02.29 -Y2FLYCA-)	Lump Sum	L.S.	
0013	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ***** (30+69.44 -Y1-)	Lump Sum	L.S.	
0014	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ***** (39+65.10 -Y2FLYCA-)	Lump Sum	L.S.	
0016	0029000000-N	SP	TYPE III REINFORCED APPROACH FILL, STATION ***** (30+69.44 -Y1-)	Lump Sum	L.S.	

County: FORSYTH

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0017	0029000000-N	SP	TYPE III REINFORCED APPROACH FILL, STATION ***** (39+65.10 -Y2FLYCA-)	Lump Sum	L.S.	
0018	0036000000-E	225	UNDERCUT EXCAVATION	1,750 CY		
0019	0106000000-E	230	BORROW EXCAVATION	640,000 CY		
0020	0127000000-N	235	EMBANKMENT SETTLEMENT GAUGES	10 EA		
0021	0134000000-E	240	DRAINAGE DITCH EXCAVATION	7,500 CY		
0022	0141000000-E	240	BERM DITCH CONSTRUCTION	1,050 LF		
0023	0156000000-E	250	REMOVAL OF EXISTING ASPHALT PAVEMENT	72,600 SY		
0024	0177000000-E	250	BREAKING OF EXISTING ASPHALT PAVEMENT	3,910 SY		
0025	0192000000-N	260	PROOF ROLLING	30 HR		
0026	0195000000-E	265	SELECT GRANULAR MATERIAL	22,450 CY		
0027	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZATION	127,000 SY		
0028	0199000000-E	SP	TEMPORARY SHORING	970 SF		
0029	0223000000-E	275	ROCK PLATING	2,550 SY		
0030	0241000000-E	SP	GENERIC GRADING ITEM GEOTEXTILE FOR EMBANKMENT STABILIZATION, TYPE 5	29,390 SY		
0031	0318000000-E	300	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	3,050 TON		
0032	0320000000-E	300	FOUNDATION CONDITIONING GEOTEXTILE	10,438 SY		
0033	0342000000-E	310	*** SIDE DRAIN PIPE (30")	1,380 LF		

County: FORSYTH

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0034	0342000000-E	310	*** SIDE DRAIN PIPE (36")	1,036 LF		
0035	0342000000-E	310	*** SIDE DRAIN PIPE (42")	180 LF		
0036	0342000000-E	310	*** SIDE DRAIN PIPE (48")	528 LF		
0037	0342000000-E	310	*** SIDE DRAIN PIPE (54")	48 LF		
0038	0342000000-E	310	*** SIDE DRAIN PIPE (60")	108 LF		
0039	0342000000-E	310	*** SIDE DRAIN PIPE (72")	212 LF		
0040	0343000000-E	310	15" SIDE DRAIN PIPE	5,024 LF		
0041	0344000000-E	310	18" SIDE DRAIN PIPE	2,000 LF		
0042	0345000000-E	310	24" SIDE DRAIN PIPE	932 LF		
0043	0348000000-E	310	*** SIDE DRAIN PIPE ELBOWS (15")	59 EA		
0044	0348000000-E	310	*** SIDE DRAIN PIPE ELBOWS (18")	32 EA		
0045	0348000000-E	310	*** SIDE DRAIN PIPE ELBOWS (24")	14 EA		
0046	0348000000-E	310	*** SIDE DRAIN PIPE ELBOWS (30")	2 EA		
0047	0348000000-E	310	*** SIDE DRAIN PIPE ELBOWS (36")	2 EA		
0048	0348000000-E	310	*** SIDE DRAIN PIPE ELBOWS (48")	2 EA		
0049	0348000000-E	310	*** SIDE DRAIN PIPE ELBOWS (54")	2 EA		
0050	0366000000-E	310	15" RC PIPE CULVERTS, CLASS III	1,344 LF		

County: FORSYTH

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0051	0372000000-E	310	18" RC PIPE CULVERTS, CLASS III	300 LF		
0052	0378000000-E	310	24" RC PIPE CULVERTS, CLASS III	584 LF		
0053	0384000000-E	310	30" RC PIPE CULVERTS, CLASS III	608 LF		
0054	0390000000-E	310	36" RC PIPE CULVERTS, CLASS III	632 LF		
0055	0396000000-E	310	42" RC PIPE CULVERTS, CLASS III	220 LF		
0056	0402000000-E	310	48" RC PIPE CULVERTS, CLASS III	132 LF		
0057	0408000000-E	310	54" RC PIPE CULVERTS, CLASS III	748 LF		
0058	0448000000-E	310	***** RC PIPE CULVERTS, CLASS IV (48")	236 LF		
0059	0448200000-E	310	15" RC PIPE CULVERTS, CLASS IV	844 LF		
0060	0448300000-E	310	18" RC PIPE CULVERTS, CLASS IV	604 LF		
0061	0448400000-E	310	24" RC PIPE CULVERTS, CLASS IV	136 LF		
0062	0448500000-E	310	30" RC PIPE CULVERTS, CLASS IV	628 LF		
0063	0448600000-E	310	36" RC PIPE CULVERTS, CLASS IV	172 LF		
0064	0448700000-E	310	42" RC PIPE CULVERTS, CLASS IV	248 LF		
0065	0576000000-E	310	*** CS PIPE CULVERTS, ***** THICK (48", 0.109")	88 LF		
0066	0582000000-E	310	15" CS PIPE CULVERTS, 0.064" THICK	672 LF		
0067	0588000000-E	310	18" CS PIPE CULVERTS, 0.064" THICK	40 LF		

County: FORSYTH

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0068	0594000000-E	310	24" CS PIPE CULVERTS, 0.064" THICK	144 LF		
0069	0636000000-E	310	*** CS PIPE ELBOWS, ***** THICK (15", 0.064")	6 EA		
0070	0636000000-E	310	*** CS PIPE ELBOWS, ***** THICK (24", 0.064")	2 EA		
0071	0636000000-E	310	*** CS PIPE ELBOWS, ***** THICK (48", 0.109")	2 EA		
0072	0973100000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B IN SOIL (15", 0.500")	128 LF		
0073	0973100000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B IN SOIL (18", 0.500")	332 LF		
0074	0973100000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B IN SOIL (24", 0.500")	602 LF		
0075	0973100000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B IN SOIL (30", 0.500")	284 LF		
0076	0973100000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B IN SOIL (36", 0.500")	308 LF		
0077	0973100000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B IN SOIL (42", 0.625")	112 LF		
0078	0973100000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B IN SOIL (48", 0.625")	656 LF		
0079	0973100000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B IN SOIL (60", 0.875)	146 LF		
0080	0973100000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B IN SOIL (72", 1.000")	190 LF		
0081	0973300000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B NOT IN SOIL (15", 0.500")	128 LF		
0082	0973300000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B NOT IN SOIL (18", 0.500")	332 LF		

County: FORSYTH

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0083	0973300000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B NOT IN SOIL (24", 0.500")	602 LF		
0084	0973300000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B NOT IN SOIL (30", 0.500")	284 LF		
0085	0973300000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B NOT IN SOIL (36", 0.500")	308 LF		
0086	0973300000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B NOT IN SOIL (42", 0.625")	112 LF		
0087	0973300000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B NOT IN SOIL (48", 0.625")	656 LF		
0088	0973300000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B NOT IN SOIL (60", 0.875)	146 LF		
0089	0973300000-E	330	*** WELDED STEEL PIPE, ***** THICK, GRADE B NOT IN SOIL (72", 1.000")	190 LF		
0090	0987000000-E	310	GENERIC PIPE ITEM 15" RC PIPE CULVERT, CLASS V	204 LF		
0091	0987000000-E	310	GENERIC PIPE ITEM 18" RC PIPE CULVERT, CLASS V	152 LF		
0092	0987000000-E	310	GENERIC PIPE ITEM 42" RC PIPE CULVERT, CLASS V	328 LF		
0093	0995000000-E	340	PIPE REMOVAL	5,818 LF		
0094	1011000000-N	500	FINE GRADING	Lump Sum	L.S.	
0095	1099500000-E	505	SHALLOW UNDERCUT	2,500 CY		
0096	1099700000-E	505	CLASS IV SUBGRADE STABILIZATION	100,200 TON		
0097	1110000000-E	510	STABILIZER AGGREGATE	500 TON		
0098	1115000000-E	SP	GEOTEXTILE FOR PAVEMENT STABILIZATION	47,367 SY		

County: FORSYTH

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0099	1121000000-E	520	AGGREGATE BASE COURSE	359 TON		
0100	1220000000-E	545	INCIDENTAL STONE BASE	1,000 TON		
0101	1297000000-E	607	MILLING ASPHALT PAVEMENT, **** DEPTH (1-1/2")	15,570 SY		
0102	1308000000-E	607	MILLING ASPHALT PAVEMENT, **** TO ***** (0" TO 1-1/2")	1,730 SY		
0103	1330000000-E	607	INCIDENTAL MILLING	1,750 SY		
0104	1491000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0C	48,810 TON		
0105	1503000000-E	610	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	53,700 TON		
0106	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	6,650 TON		
0107	1520000000-E	SP	ASPHALT CONC SURFACE COURSE, TYPE S9.5B (LEVELING COURSE)	100 TON		
0108	1523000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	39,100 TON		
0109	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	7,520 TON		
0110	1693000000-E	654	ASPHALT PLANT MIX, PAVEMENT REPAIR	520 TON		
0111	1840000000-E	665	MILLED RUMBLE STRIPS (ASPHALT CONCRETE)	65,500 LF		
0112	2000000000-N	806	RIGHT-OF-WAY MARKERS	48 EA		
0113	2022000000-E	815	SUBDRAIN EXCAVATION	1,344 CY		
0114	2026000000-E	815	GEOTEXTILE FOR SUBSURFACE DRAINS	4,000 SY		
0115	2036000000-E	815	SUBDRAIN COARSE AGGREGATE	672 CY		

County: FORSYTH

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0116	2044000000-E	815	6" PERFORATED SUBDRAIN PIPE	4,000 LF		
0117	2070000000-N	815	SUBDRAIN PIPE OUTLET	8 EA		
0118	2077000000-E	815	6" OUTLET PIPE	48 LF		
0119	2099000000-E	816	SHOULDER DRAIN	3,100 LF		
0120	2110000000-E	816	4" SHOULDER DRAIN PIPE	3,100 LF		
0121	2121000000-E	816	4" OUTLET PIPE FOR SHOULDER DRAINS	125 LF		
0122	2132000000-N	816	CONCRETE PAD FOR SHOULDER DRAIN PIPE OUTLET	5 EA		
0123	2143000000-E	818	BLOTTING SAND	500 TON		
0124	2209000000-E	838	ENDWALLS	70 CY		
0125	2220000000-E	838	REINFORCED ENDWALLS	34 CY		
0126	2253000000-E	840	PIPE COLLARS	8 CY		
0127	2275000000-E	SP	FLOWABLE FILL	1,260 CY		
0128	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	183 EA		
0129	2297000000-E	840	MASONRY DRAINAGE STRUCTURES	50 CY		
0130	2308000000-E	840	MASONRY DRAINAGE STRUCTURES	176.2 LF		
0131	2354000000-N	840	FRAME WITH GRATE, STD 840.22	5 EA		
0132	2364200000-N	840	FRAME WITH TWO GRATES, STD 840.20	58 EA		

County: FORSYTH

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0133	2365000000-N	840	FRAME WITH TWO GRATES, STD 840.22	90 EA		
0134	2367000000-N	840	FRAME WITH TWO GRATES, STD 840.29	9 EA		
0135	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)	2 EA		
0136	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)	4 EA		
0137	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	7 EA		
0138	2396000000-N	840	FRAME WITH COVER, STD 840.54	24 EA		
0139	2407000000-N	840	STEEL FRAME WITH TWO GRATES, STD 840.37	1 EA		
0140	2440000000-N	852	CONCRETE TRANSITIONAL SECTION FOR CATCH BASIN	13 EA		
0141	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	2,180 LF		
0142	2556000000-E	846	SHOULDER BERM GUTTER	12,000 LF		
0143	2619000000-E	850	4" CONCRETE PAVED DITCH	220 SY		
0144	2647000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (SURFACE MOUNTED)	260 SY		
0145	2724000000-E	857	PRECAST REINFORCED CONCRETE BARRIER, SINGLE FACED	900 LF		
0146	3030000000-E	862	STEEL BEAM GUARDRAIL	21,800 LF		
0147	3045000000-E	862	STEEL BEAM GUARDRAIL, SHOP CURVED	50 LF		
0148	3150000000-N	862	ADDITIONAL GUARDRAIL POSTS	10 EA		
0149	3210000000-N	862	GUARDRAIL END UNITS, TYPE CAT-1	19 EA		

County: FORSYTH

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0150	3287000000-N	SP	GUARDRAIL END UNITS, TYPE TL-3	33 EA		
0151	3317000000-N	SP	GUARDRAIL ANCHOR UNITS, TYPE B-77	36 EA		
0152	3360000000-E	863	REMOVE EXISTING GUARDRAIL	7,575 LF		
0153	3380000000-E	862	TEMPORARY STEEL BEAM GUARDRAIL	1,900 LF		
0154	3387000000-N	SP	TEMPORARY GUARDRAIL ANCHOR UNITS, TYPE ***** (CAT-1)	5 EA		
0155	3389150000-N	SP	TEMPORARY GUARDRAIL END UNITS, TYPE ***** (TL-3)	5 EA		
0156	3503000000-E	866	WOVEN WIRE FENCE, 47" FABRIC	10,175 LF		
0157	3509000000-E	866	4" TIMBER FENCE POSTS, 7'-6" LONG	637 EA		
0158	3515000000-E	866	5" TIMBER FENCE POSTS, 8'-0" LONG	165 EA		
0159	3557000000-E	866	ADDITIONAL BARBED WIRE	500 LF		
0160	3628000000-E	876	RIP RAP, CLASS I	8,200 TON		
0161	3635000000-E	876	RIP RAP, CLASS II	720 TON		
0162	3649000000-E	876	RIP RAP, CLASS B	1,100 TON		
0163	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	19,050 SY		
0164	4048000000-E	902	REINFORCED CONCRETE SIGN FOUNDATIONS	24 CY		
0165	4054000000-E	902	PLAIN CONCRETE SIGN FOUNDATIONS	7 CY		
0166	4057000000-E	SP	OVERHEAD FOOTING	247 CY		

County: FORSYTH

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0167	4060000000-E	903	SUPPORTS, BREAKAWAY STEEL BEAM	19,264 LB		
0168	4066000000-E	903	SUPPORTS, SIMPLE STEEL BEAM	11,317 LB		
0169	4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	3,565 LF		
0170	4078000000-E	903	SUPPORTS, 2-LB STEEL U-CHANNEL	142 EA		
0171	4082000000-E	903	SUPPORTS, WOOD	247 LF		
0172	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (-118+00.00 -40E-)	Lump Sum	L.S.	
0173	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (128+35.00 -L-)	Lump Sum	L.S.	
0174	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (16+09.00 -L-)	Lump Sum	L.S.	
0175	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (25+15.00 -Y1-)	Lump Sum	L.S.	
0176	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (31+97.00 -Y2SBL-)	Lump Sum	L.S.	
0177	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (-351+06.00 -52S-)	Lump Sum	L.S.	
0178	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (-40+00.00 -40E-)	Lump Sum	L.S.	
0179	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (43+96.00 -Y2NBL-)	Lump Sum	L.S.	
0180	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (55+69.00 -L-)	Lump Sum	L.S.	
0181	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (58+00.00 -Y2SBL-)	Lump Sum	L.S.	

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0182	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (69+20.00 -Y2SBL-)	Lump Sum	L.S.	
0183	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (70+74.00 -Y2NBL-)	Lump Sum	L.S.	
0184	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (71+22.00 -40E-)	Lump Sum	L.S.	
0185	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (82+00.00 -L-)	Lump Sum	L.S.	
0186	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (82+11.00 -Y2SBL-)	Lump Sum	L.S.	
0187	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (86+60.00 -L-)	Lump Sum	L.S.	
0188	4096000000-N	904	SIGN ERECTION, TYPE D	16 EA		
0189	4102000000-N	904	SIGN ERECTION, TYPE E	63 EA		
0190	4108000000-N	904	SIGN ERECTION, TYPE F	53 EA		
0191	4109000000-N	904	SIGN ERECTION, TYPE *** (OVERHEAD) (A)	71 EA		
0192	4109000000-N	904	SIGN ERECTION, TYPE *** (OVERHEAD) (B)	24 EA		
0193	4110000000-N	904	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (A)	58 EA		
0194	4110000000-N	904	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (B)	26 EA		
0195	4114000000-N	904	SIGN ERECTION, MILEMARKERS	140 EA		
0196	4115000000-N	904	SIGN ERECTION, OVERLAY (OVERHEAD)	8 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0197	4116000000-N	904	SIGN ERECTION, OVERLAY (GROUND MOUNTED)	43 EA		
0198	4149000000-N	907	DISPOSAL OF SIGN SYSTEM, OVERHEAD	3 EA		
0199	4152000000-N	907	DISPOSAL OF SIGN SYSTEM, STEEL BEAM	31 EA		
0200	4155000000-N	907	DISPOSAL OF SIGN SYSTEM, U- CHANNEL	153 EA		
0201	4234000000-N	907	DISPOSAL OF SIGN, A OR B (OVERHEAD)	41 EA		
0202	4236000000-N	907	DISPOSAL OF SIGN, A & B (GROUND MOUNTED)	21 EA		
0203	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	690 SF		
0204	4402000000-E	SP	HIGH VISIBILITY STATIONARY SIGNS	1,834 SF		
0205	4405000000-E	1110	WORK ZONE SIGNS (PORTABLE)	128 SF		
0206	4407000000-E	SP	HIGH VISIBILITY PORTABLE SIGNS	509 SF		
0207	4410000000-E	1110	WORK ZONE SIGNS (BARRICADE MOUNTED)	208 SF		
0208	4415000000-N	1115	FLASHING ARROW BOARD	8 EA		
0209	4420000000-N	1120	PORTABLE CHANGEABLE MESSAGE SIGN	6 EA		
0210	4422000000-N	1120	PORTABLE CHANGEABLE MESSAGE SIGN (SHORT TERM)	48 DAY		
0211	4423000000-N	SP	WORK ZONE DIGITAL SPEED LIMIT SIGNS	8 EA		
0212	4424000000-N	SP	WORK ZONE PRESENCE LIGHTING	18 EA		
0213	4432000000-N	SP	HIGH VISIBILITY DRUMS	323 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0214	4434000000-N	SP	SEQUENTIAL FLASHING WARNING LIGHTS	24 EA		
0215	4435000000-N	1135	CONES	34 EA		
0216	4445000000-E	1145	BARRICADES (TYPE III)	388 LF		
0217	4455000000-N	1150	FLAGGER	16 DAY		
0218	4465000000-N	1160	TEMPORARY CRASH CUSHIONS	14 EA		
0219	4470000000-N	1160	REMOVE & RESET TEMPORARY CRASH CUSHION	9 EA		
0220	4480000000-N	1165	TMA	4 EA		
0221	4485000000-E	1170	PORTABLE CONCRETE BARRIER	25,200 LF		
0222	4490000000-E	1170	PORTABLE CONCRETE BARRIER (ANCHORED)	487 LF		
0223	4500000000-E	1170	REMOVE AND RESET PORTABLE CONCRETE BARRIER	16,627 LF		
0224	4510000000-N	1190	LAW ENFORCEMENT	208 HR		
0225	4650000000-N	1251	TEMPORARY RAISED PAVEMENT MARKERS	2,965 EA		
0226	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	21,563 LF		
0227	4688000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (6", 90 MILS)	108,682 LF		
0228	4700000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (12", 90 MILS)	18,262 LF		
0229	4709000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)	55 LF		
0230	4720000000-E	1205	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS)	44 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0231	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	51 EA		
0232	4770000000-E	1205	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (II)	5,619 LF		
0233	4775000000-E	1205	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (6") (II)	8,157 LF		
0234	4785000000-E	1205	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (12") (II)	62 LF		
0235	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	53,663 LF		
0236	4825000000-E	1205	PAINT PAVEMENT MARKING LINES (12")	1,862 LF		
0237	4835000000-E	1205	PAINT PAVEMENT MARKING LINES (24")	206 LF		
0238	4840000000-N	1205	PAINT PAVEMENT MARKING CHARACTER	88 EA		
0239	4845000000-N	1205	PAINT PAVEMENT MARKING SYMBOL	112 EA		
0240	4847500000-E	SP	WORK ZONE PERFORMANCE PAVEMENT MARKING LINES, 6"	236,251 LF		
0241	4847600000-E	SP	WORK ZONE PERFORMANCE PAVEMENT MARKING LINES, 12"	13,248 LF		
0242	4850000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (4")	8,247 LF		
0243	4855000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (6")	151,529 LF		
0244	4860000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (8")	600 LF		
0245	4865000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (12")	7,447 LF		
0246	4870000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (24")	44 LF		
0247	4875000000-N	1205	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS	33 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0248	4900000000-N	1251	PERMANENT RAISED PAVEMENT MARKERS	58 EA		
0249	4905100000-N	SP	NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKER	1,670 EA		
0250	5255000000-N	1413	PORTABLE LIGHTING	Lump Sum	L.S.	
0251	5325600000-E	1510	6" WATER LINE	32 LF		
0252	5325800000-E	1510	8" WATER LINE	165 LF		
0253	5327400000-E	1510	24" WATER LINE	74 LF		
0254	5329000000-E	1510	DUCTILE IRON WATER PIPE FITTINGS	6,175 LB		
0255	5540000000-E	1515	6" VALVE	4 EA		
0256	5648000000-N	1515	RELOCATE WATER METER	3 EA		
0257	5666000000-N	1515	FIRE HYDRANT	3 EA		
0258	5673000000-E	1515	FIRE HYDRANT LEG	83 LF		
0259	5686500000-E	1515	WATER SERVICE LINE	39 LF		
0260	5691300000-E	1520	8" SANITARY GRAVITY SEWER	1,461 LF		
0261	5691600000-E	1520	16" SANITARY GRAVITY SEWER	1,080 LF		
0262	5691800000-E	1520	20" SANITARY GRAVITY SEWER	39 LF		
0263	5692000000-E	1520	30" SANITARY GRAVITY SEWER	2,062 LF		
0264	5768000000-N	1520	SANITARY SEWER CLEAN-OUT	4 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0265	5768500000-E	1520	SEWER SERVICE LINE	400 LF		
0266	5775000000-E	1525	4' DIA UTILITY MANHOLE	10 EA		
0267	5776000000-E	1525	5' DIA UTILITY MANHOLE	19 EA		
0268	5777000000-E	1525	6' DIA UTILITY MANHOLE	3 EA		
0269	5781000000-E	1525	UTILITY MANHOLE WALL 4' DIA	54 LF		
0270	5782000000-E	1525	UTILITY MANHOLE WALL 5' DIA	144 LF		
0271	5783000000-E	1525	UTILITY MANHOLE WALL 6' DIA	18 LF		
0272	5798000000-E	1530	ABANDON *** UTILITY PIPE (15")	1,704 LF		
0273	5804000000-E	1530	ABANDON 12" UTILITY PIPE	465 LF		
0274	5810000000-E	1530	ABANDON 16" UTILITY PIPE	38 LF		
0275	5812000000-E	1530	ABANDON 20" UTILITY PIPE	1,455 LF		
0276	5813000000-E	1530	ABANDON 24" UTILITY PIPE	63 LF		
0277	5814000000-E	1530	ABANDON 30" UTILITY PIPE	659 LF		
0278	5815000000-N	1530	REMOVE WATER METER	2 EA		
0279	5815500000-N	1530	REMOVE FIRE HYDRANT	4 EA		
0280	5816000000-N	1530	ABANDON UTILITY MANHOLE	15 EA		
0281	5828000000-N	1530	REMOVE UTILITY MANHOLE	2 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0282	5835000000-E	1540	*** ENCASEMENT PIPE (54")	260 LF		
0283	5835700000-E	1540	16" ENCASEMENT PIPE	100 LF		
0284	6000000000-E	1605	TEMPORARY SILT FENCE	62,925 LF		
0285	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	3,640 TON		
0286	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	13,760 TON		
0287	6012000000-E	1610	SEDIMENT CONTROL STONE	9,110 TON		
0288	6015000000-E	1615	TEMPORARY MULCHING	415.5 ACR		
0289	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	22,600 LB		
0290	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEEDING	114.5 TON		
0291	6024000000-E	1622	TEMPORARY SLOPE DRAINS	9,585 LF		
0292	6029000000-E	SP	SAFETY FENCE	800 LF		
0293	6030000000-E	1630	SILT EXCAVATION	23,690 CY		
0294	6036000000-E	1631	MATTING FOR EROSION CONTROL	59,405 SY		
0295	6037000000-E	SP	COIR FIBER MAT	180 SY		
0296	6038000000-E	SP	PERMANENT SOIL REINFORCEMENT MAT	5,000 SY		
0297	6042000000-E	1632	1/4" HARDWARE CLOTH	9,410 LF		
0298	6046000000-E	1636	TEMPORARY PIPE FOR STREAM CROSSING	50 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0299	6069000000-E	1638	STILLING BASINS	2,309 CY		
0300	6070000000-N	1639	SPECIAL STILLING BASINS	10 EA		
0301	6071012000-E	SP	COIR FIBER WATTLE	3,480 LF		
0302	6071014000-E	SP	COIR FIBER WATTLE BARRIER	490 LF		
0303	6071020000-E	SP	POLYACRYLAMIDE (PAM)	3,405 LB		
0304	6071030000-E	1640	COIR FIBER BAFFLE	2,275 LF		
0305	6071050000-E	SP	*** SKIMMER (1-1/2")	12 EA		
0306	6071050000-E	SP	*** SKIMMER (2")	2 EA		
0307	6071050000-E	SP	*** SKIMMER (2-1/2")	3 EA		
0308	6084000000-E	1660	SEEDING & MULCHING	333 ACR		
0309	6087000000-E	1660	MOWING	270 ACR		
0310	6090000000-E	1661	SEED FOR REPAIR SEEDING	4,200 LB		
0311	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	11.5 TON		
0312	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	8,200 LB		
0313	6108000000-E	1665	FERTILIZER TOPDRESSING	246 TON		
0314	6111000000-E	SP	IMPERVIOUS DIKE	710 LF		
0315	6114500000-N	1667	SPECIALIZED HAND MOWING	10 MHR		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0316	6114800000-N	SP	MANUAL LITTER REMOVAL	1 MHR		
0317	6114900000-E	SP	LITTER DISPOSAL	2 TON		
0318	6117000000-N	SP	RESPONSE FOR EROSION CONTROL	75 EA		
0319	6117500000-N	SP	CONCRETE WASHOUT STRUCTURE	10 EA		
0320	6120000000-E	SP	CULVERT DIVERSION CHANNEL	1,400 CY		
0321	6132000000-N	SP	GENERIC EROSION CONTROL ITEM FABRIC INSERT INLET PROTECTION DEVICE	88 EA		
0322	6132000000-N	SP	GENERIC EROSION CONTROL ITEM FABRIC INSERT INLET PROTECTION DEVICE CLEANOUT	88 EA		
0323	7279000000-E	1715	TRACER WIRE	20,451 LF		
0324	7300000000-E	1715	UNPAVED TRENCHING (***** (1, 2")	1,447 LF		
0325	7300000000-E	1715	UNPAVED TRENCHING (***** (2, 2")	13,448 LF		
0326	7300000000-E	1715	UNPAVED TRENCHING (***** (3, 2")	1,488 LF		
0327	7301000000-E	1715	DIRECTIONAL DRILL (***** (2, 2")	5,515 LF		
0328	7348000000-N	1716	JUNCTION BOX (OVER-SIZED, HEAVY DUTY)	29 EA		
0329	7360000000-N	1720	WOOD POLE	7 EA		
0330	7516000000-E	1730	COMMUNICATIONS CABLE (** FIBER) (144)	14,730 LF		
0331	7516000000-E	1730	COMMUNICATIONS CABLE (** FIBER) (72)	6,074 LF		
0332	7528000000-E	1730	DROP CABLE	1,689 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0333	7540000000-N	1731	SPLICE ENCLOSURE	8 EA		
0334	7552000000-N	1731	INTERCONNECT CENTER	11 EA		
0335	7566000000-N	1733	DELINEATOR MARKER	37 EA		
0336	7980000000-N	SP	GENERIC SIGNAL ITEM 10KVA SINGLE PHASE TRANSFORMER	1 EA		
0337	7980000000-N	SP	GENERIC SIGNAL ITEM 5/8" X 10' GROUNDING ELECTRODE	43 EA		
0338	7980000000-N	SP	GENERIC SIGNAL ITEM CCTV EXTENSION POLE	1 EA		
0339	7980000000-N	SP	GENERIC SIGNAL ITEM CCTV METAL POLE (50')	5 EA		
0340	7980000000-N	SP	GENERIC SIGNAL ITEM DIGITAL CCTV CAMERA ASSEMBLY	6 EA		
0341	7980000000-N	SP	GENERIC SIGNAL ITEM DMS ACCESS LADDER	3 EA		
0342	7980000000-N	SP	GENERIC SIGNAL ITEM DMS PEDESTAL STRUCTURE	3 EA		
0343	7980000000-N	SP	GENERIC SIGNAL ITEM DYNAMIC MESSAGE SIGN (TYPE 2C)	3 EA		
0344	7980000000-N	SP	GENERIC SIGNAL ITEM EQUIPMENT CABINET DISCONNECT	10 EA		
0345	7980000000-N	SP	GENERIC SIGNAL ITEM ETHERNET EDGE SWITCH	8 EA		
0346	7980000000-N	SP	GENERIC SIGNAL ITEM FIELD EQUIPMENT CABINET	5 EA		
0347	7980000000-N	SP	GENERIC SIGNAL ITEM HUB CABINET	1 EA		
0348	7980000000-N	SP	GENERIC SIGNAL ITEM HUB CABINET BASE EXTENDER	1 EA		
0349	7980000000-N	SP	GENERIC SIGNAL ITEM HUB CABINET FOUNDATION	1 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0350	7980000000-N	SP	GENERIC SIGNAL ITEM JUNCTION BOX (SPECIAL OVERSIZED)	8 EA		
0351	7980000000-N	SP	GENERIC SIGNAL ITEM JUNCTION BOX (STANDARD SIZE)	26 EA		
0352	7980000000-N	SP	GENERIC SIGNAL ITEM METER BASE/DISCONNECT COMBINATION PANEL	7 EA		
0353	7980000000-N	SP	GENERIC SIGNAL ITEM SOIL TEST	5 EA		
0354	7980000000-N	SP	GENERIC SIGNAL ITEM WOOD PEDESTAL	1 EA		
0355	7990000000-E	SP	GENERIC SIGNAL ITEM #4 SOLID BARE COPPER GROUNDING CONDUCTOR	430 LF		
0356	7990000000-E	SP	GENERIC SIGNAL ITEM 3-WIRE COPPER FEEDER CONDUCTORS	2,239 LF		
0357	7990000000-E	SP	GENERIC SIGNAL ITEM 4-WIRE COPPER FEEDER CONDUCTORS	1,897 LF		
0358	7992000000-E	SP	GENERIC SIGNAL ITEM DRILLED PIER FOUNDATION	5 CY		
0359	7992000000-E	SP	GENERIC SIGNAL ITEM OVERHEAD FOOTINGS	24 CY		
CULVERT ITEMS						
0360	8056000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ***** (32+77.50 -L-)	Lump Sum	L.S.	
0361	8065000000-N	SP	ASBESTOS ASSESSMENT	Lump Sum	L.S.	
0362	8126000000-N	414	CULVERT EXCAVATION, STA ***** (32+77.50 -L-)	Lump Sum	L.S.	
0363	8126000000-N	414	CULVERT EXCAVATION, STA ***** (36+27.30 -L-)	Lump Sum	L.S.	
0364	8126000000-N	414	CULVERT EXCAVATION, STA ***** (78+68.93 -Y2-)	Lump Sum	L.S.	

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0365	8133000000-E	414	FOUNDATION CONDITIONING MATERIAL, BOX CULVERT	1,293 TON		
0366	8196000000-E	420	CLASS A CONCRETE (CULVERT)	2,144 CY		
0367	8245000000-E	425	REINFORCING STEEL (CULVERT)	262,053 LB		
0368	8590000000-E	876	RIP RAP, CLASS ** (I)	722 TON		
0369	8622000000-E	876	GEOTEXTILE FOR DRAINAGE	1,195 SY		
WALL ITEMS						
0370	8801000000-E	SP	MSE RETAINING WALL NO **** (1)	1,875 SF		
0371	8801000000-E	SP	MSE RETAINING WALL NO **** (2)	4,205 SF		
0372	8801000000-E	SP	MSE RETAINING WALL NO **** (3)	9,155 SF		
0373	8801000000-E	SP	MSE RETAINING WALL NO **** (4)	2,625 SF		
0374	8801000000-E	SP	MSE RETAINING WALL NO **** (5)	275 SF		
0375	8802010000-E	SP	SOIL NAIL RETAINING WALLS	2,560 SF		
0376	8802015100-N	SP	SOIL NAIL VERIFICATION TESTS	2 EA		
0377	8802015110-N	SP	SOIL NAIL PROOF TESTS	8 EA		
0378	8847000000-E	SP	GENERIC RETAINING WALL ITEM ARCHITECTURAL SURFACE TREATMENT (SOUND BARRIER WALL)	57,008 SF		
0379	8847000000-E	SP	GENERIC RETAINING WALL ITEM SOUND BARRIER WALL -NW7-	29,793 SF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
STRUCTURE ITEMS						
0380	803500000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ***** (20+68.01 -Y2NBL-)	Lump Sum	L.S.	
0381	803500000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ***** (29+89.90 -Y2SBL-)	Lump Sum	L.S.	
0382	806500000-N	SP	ASBESTOS ASSESSMENT	Lump Sum	L.S.	
0383	808400000-N	410	FOUNDATION EXCAVATION FOR END BENT ** AT STATION ***** (1, 20+68.01 -Y2NBL-)	Lump Sum	L.S.	
0384	808400000-N	410	FOUNDATION EXCAVATION FOR END BENT ** AT STATION ***** (1, 29+89.90 -Y2SBL-)	Lump Sum	L.S.	
0385	808400000-N	410	FOUNDATION EXCAVATION FOR END BENT ** AT STATION ***** (2, 20+68.01 -Y2NBL-)	Lump Sum	L.S.	
0386	808400000-N	410	FOUNDATION EXCAVATION FOR END BENT ** AT STATION ***** (2, 29+89.90 -Y2SBL-)	Lump Sum	L.S.	
0387	809100000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (1, 20+68.01 -Y2NBL-)	Lump Sum	L.S.	
0388	809100000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (1, 28+33.21 -Y2FLYAB-)	Lump Sum	L.S.	
0389	809100000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (1, 29+89.90 -Y2SBL-)	Lump Sum	L.S.	
0390	809100000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (1,30+02.29 -Y2FLYCA-)	Lump Sum	L.S.	
0391	809100000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (1,30+69.44 -Y1-)	Lump Sum	L.S.	
0392	809100000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (1,39+65.10 -Y2FLYCA-)	Lump Sum	L.S.	
0393	809100000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (2, 28+33.21 -Y2FLYAB-)	Lump Sum	L.S.	

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0394	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (2,20+68.01 -Y2NBL-)	Lump Sum	L.S.	
0395	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (2,29+89.90 -Y2SBL-)	Lump Sum	L.S.	
0396	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (2,30+02.29 -Y2FLYCA-)	Lump Sum	L.S.	
0397	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (2,39+65.10 -Y2FLYCA-)	Lump Sum	L.S.	
0398	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (3, 28+33.21 -Y2FLYAB-)	Lump Sum	L.S.	
0399	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (3,39+65.10 -Y2FLYCA-)	Lump Sum	L.S.	
0400	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (4,39+65.10 -Y2FLYCA-)	Lump Sum	L.S.	
0401	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (5,39+65.10 -Y2FLYCA-)	Lump Sum	L.S.	
0402	8096000000-E	450	PILE EXCAVATION IN SOIL	50 LF		
0403	8097000000-E	450	PILE EXCAVATION NOT IN SOIL	39 LF		
0404	8105500000-E	411	***-*** DIA DRILLED PIERS IN SOIL (5'-0")	293.42 LF		
0405	8105600000-E	411	***-*** DIA DRILLED PIERS NOT IN SOIL (5'-0")	135 LF		
0406	8111000000-E	411	PERMANENT STEEL CASING FOR ***- *** DIA DRILLED PIER (5'-0")	156.4 LF		
0407	8112730000-N	450	PDA TESTING	3 EA		
0408	8113000000-N	411	SID INSPECTIONS	1 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0409	8115000000-N	411	CSL TESTING	2 EA		
0410	8147000000-E	420	REINFORCED CONCRETE DECK SLAB	140,631 SF		
0411	8161000000-E	420	GROOVING BRIDGE FLOORS	167,767.5 SF		
0412	8182000000-E	420	CLASS A CONCRETE (BRIDGE)	4,235 CY		
0413	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ***** (20+68.01 -Y2NBL-)	Lump Sum	L.S.	
0414	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ***** (22+84.09 -Y1-)	Lump Sum	L.S.	
0415	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ***** (28+33.21 -Y2FLAYAB-)	Lump Sum	L.S.	
0416	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ***** (29+89.90 -Y2SBL-)	Lump Sum	L.S.	
0417	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ***** (30+02.29 -Y2FLYCA-)	Lump Sum	L.S.	
0418	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ***** (30+69.44 -Y1-)	Lump Sum	L.S.	
0419	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ***** (39+65.10 -Y2FLYCA-)	Lump Sum	L.S.	
0420	8217000000-E	425	REINFORCING STEEL (BRIDGE)	912,235 LB		
0421	8238000000-E	425	SPIRAL COLUMN REINFORCING STEEL (BRIDGE)	28,249 LB		
0422	8274000000-E	430	MODIFIED 63" PRESTRESSED CONC GIRDERS	571.56 LF		
0423	8280000000-E	440	APPROX LBS STRUCTURAL STEEL	7,832,823 LS		
0424	8296000000-N	442	POLLUTION CONTROL	Lump Sum	L.S.	

County: FORSYTH

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0426	8328200000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES (HP 12 X 53)	72 EA		
0427	8328200000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES (HP 14 X 73)	276 EA		
0428	8364000000-E	450	HP 12 X 53 STEEL PILES	3,627 LF		
0429	8384000000-E	450	HP 14 X 73 STEEL PILES	13,618.75 LF		
0430	8391000000-N	450	STEEL PILE POINTS	8 EA		
0431	8392500000-E	450	PREDRILLING FOR PILES	200 LF		
0432	8503000000-E	460	CONCRETE BARRIER RAIL	6,757.03 LF		
0433	8531000000-E	462	4" SLOPE PROTECTION	2,425.7 SY		
0434	8559000000-E	SP	CLASS II, SURFACE PREPARATION	43.1 SY		
0435	8654000000-N	SP	DISC BEARINGS	Lump Sum	L.S.	
0436	8657000000-N	430	ELASTOMERIC BEARINGS	Lump Sum	L.S.	
0437	8664000000-E	SP	SHOTCRETE REPAIRS	111.7 CF		
0438	8678000000-E	SP	EPOXY RESIN INJECTION	100.8 LF		
0439	8706000000-N	SP	EXPANSION JOINT SEALS	Lump Sum	L.S.	
0440	8713000000-N	SP	MODULAR EXPANSION JOINT SEALS	Lump Sum	L.S.	
0441	8860000000-N	SP	GENERIC STRUCTURE ITEM CLEANING AND PAINTING EXISTING WEATHERING STEEL FOR BRIDGE #330394	Lump Sum	L.S.	
0442	8860000000-N	SP	GENERIC STRUCTURE ITEM PAINTING CONTAINMENT FOR BRIDGE #330394	Lump Sum	L.S.	

County: FORSYTH

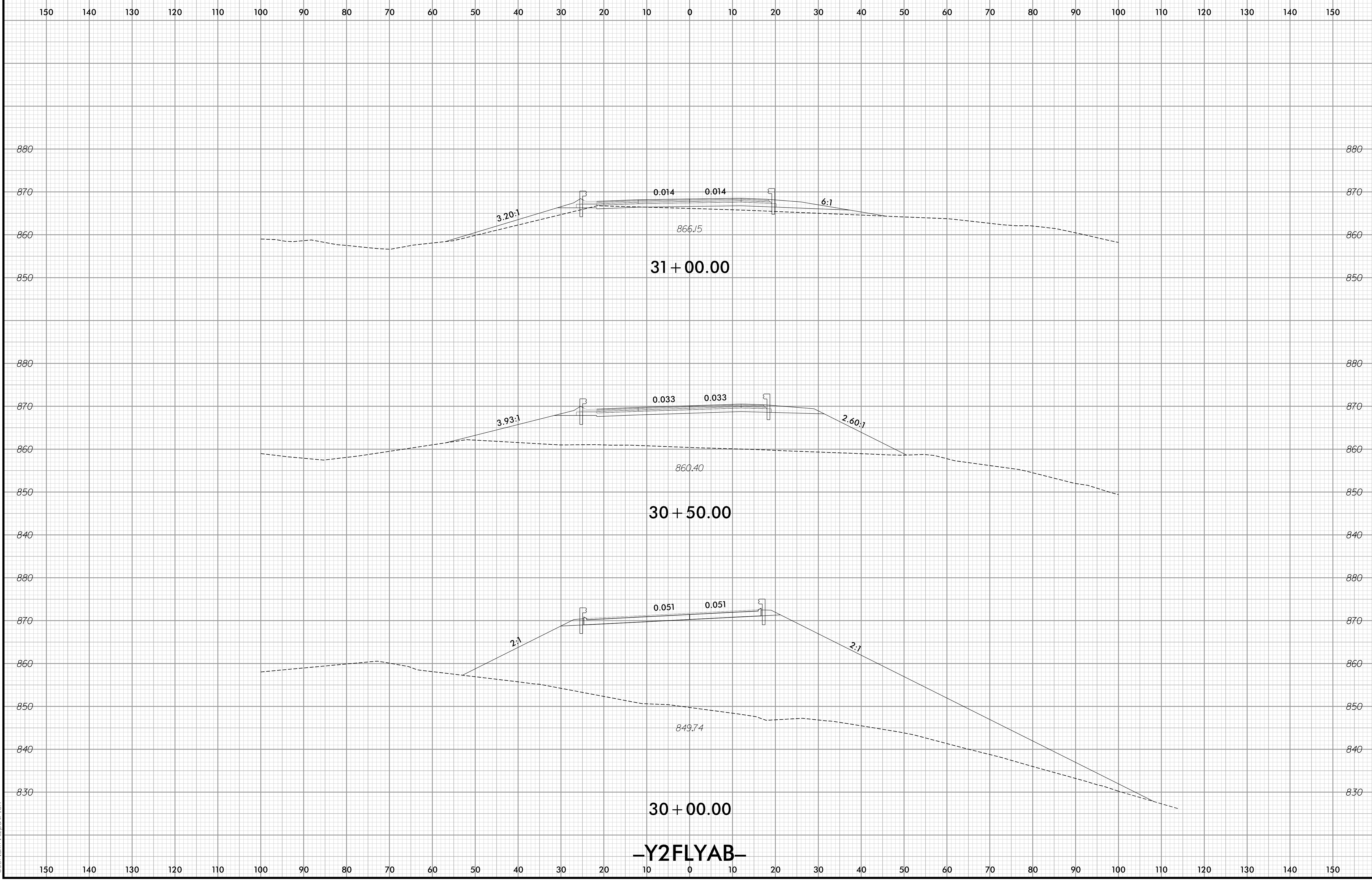
Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0443	8860000000-N	SP	GENERIC STRUCTURE ITEM POST-TENSIONING ENCASEMENT	Lump Sum	L.S.	
0444	8860000000-N	SP	GENERIC STRUCTURE ITEM POST-TENSIONING TENDONS	Lump Sum	L.S.	
0445	8860000000-N	SP	GENERIC STRUCTURE ITEM STRIP SEAL EXPANSION JOINT	Lump Sum	L.S.	
0446	8867000000-E	SP	GENERIC STRUCTURE ITEM FOAM JOINT SEALS FOR PRESERVATION	522.11 LF		
0447	8867000000-E	SP	GENERIC STRUCTURE ITEM POURABLE SILICONE JOINT SEALANT	445.08 LF		
0448	8881000000-E	SP	GENERIC STRUCTURE ITEM 6000 PSI CONCRETE	75.2 CY		
0449	8889000000-E	SP	GENERIC STRUCTURE ITEM BEAM REPAIR PLATING	11.8 LB		
0450	8892000000-E	SP	GENERIC STRUCTURE ITEM BRIDGE JOINT DEMOLITION	219 SF		
0451	8892000000-E	SP	GENERIC STRUCTURE ITEM CONCRETE MEDIAN REPLACEMENT	955.5 SF		
0452	8892000000-E	SP	GENERIC STRUCTURE ITEM EPOXY COATING	1,542.1 SF		
0453	8893000000-E	SP	GENERIC STRUCTURE ITEM CONCRETE DECK REPAIR FOR POLYMER CONCRETE OVERLAY	43.1 SY		
0454	8893000000-E	SP	GENERIC STRUCTURE ITEM PLACING AND FINISHING POLYMER CONCRETE OVERLAY	5,331.5 SY		
0455	8893000000-E	SP	GENERIC STRUCTURE ITEM SCARIFYING BRIDGE DECK	4,625.5 SY		
0456	8893000000-E	SP	GENERIC STRUCTURE ITEM SHOTBLASTING BRIDGE DECK	4,625.5 SY		
0457	8897000000-N	SP	GENERIC STRUCTURE ITEM 11-3/4" DIA MICROPILES	82 EA		
0458	8897000000-N	SP	GENERIC STRUCTURE ITEM CLEANING AND PAINTING EXISTING BEARINGS WITH HIGH RATIO CALCIUM SULFONATE	32 EA		

County: FORSYTH

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0459	8897000000-N	SP	GENERIC STRUCTURE ITEM DEMONSTRATION MICROPILES	1 EA		
0460	8897000000-N	SP	GENERIC STRUCTURE ITEM MICROPILE PROOF TESTS	8 EA		
0461	8897000000-N	SP	GENERIC STRUCTURE ITEM MICROPILE VERIFICATION TESTS	1 EA		
0462	8897000000-N	SP	GENERIC STRUCTURE ITEM STEEL BEARING KEEPER ANGLE ASSEMBLY	1 EA		
0463	8897000000-N	SP	GENERIC STRUCTURE ITEM STEEL BEARING RETAINER ANGLE ASSEMBLY	1 EA		
***** BEGIN SCHEDULE AA ***** ***** (2 ALTERNATES) *****						
0464 AA1	8881000000-E	SP	GENERIC STRUCTURE ITEM POLYESTER POLYMER CONCRETE MATERIALS	121.1 CY		
*** OR ***						
0465 AA2	8881000000-E	SP	GENERIC STRUCTURE ITEM EPOXY POLYMER CONCRETE MATERIALS	121.1 CY		
***** END SCHEDULE AA *****						

1445/Oct05/Q12454762.25/D2186166246210/E463

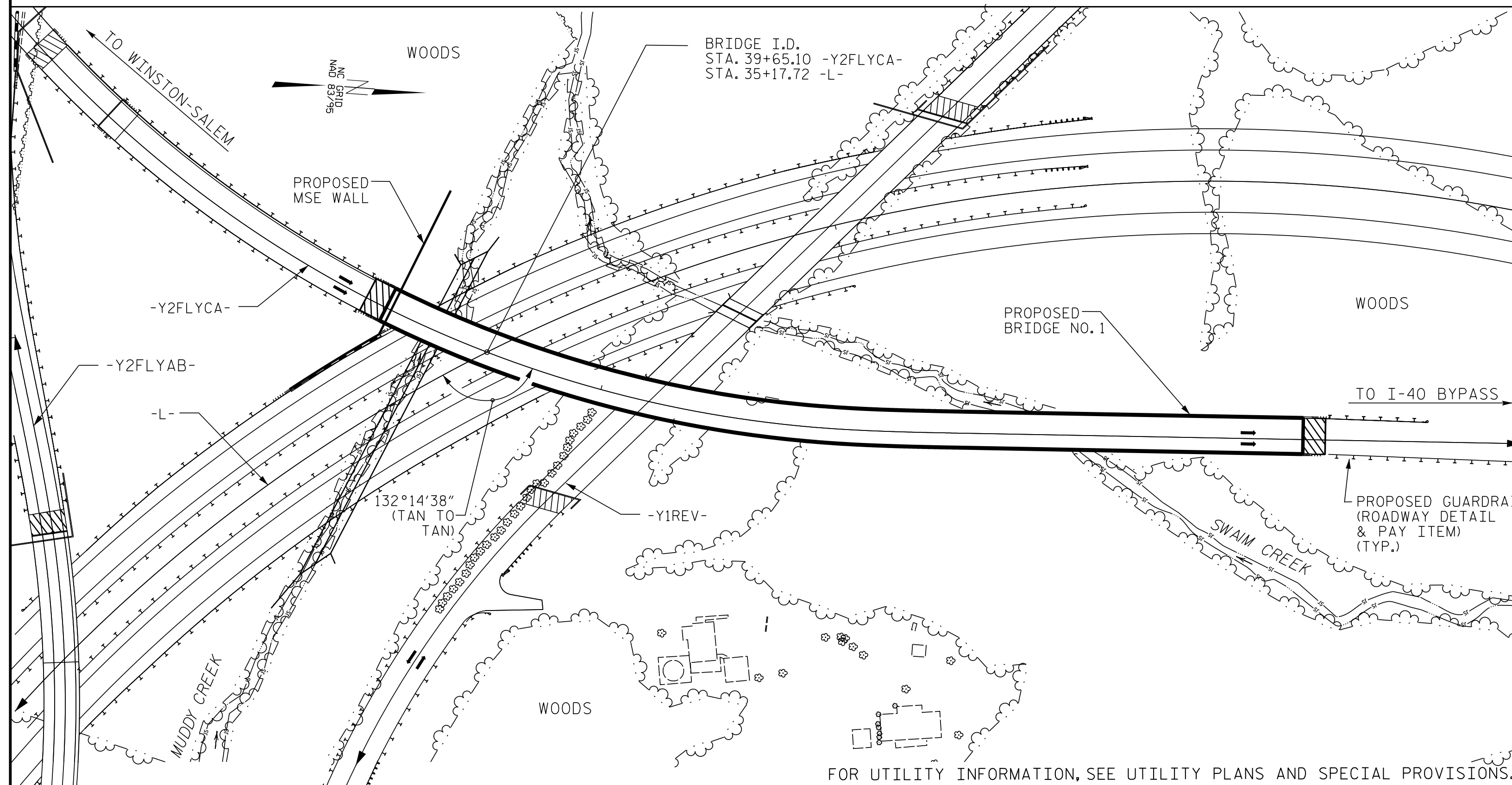
Total Amount Of Bid For Entire Project :



9/30/2022 11:03:36 AM
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User:amf1zpe@trick

-Y2FLYAB-

BM#4: N 842,239.136 E 1,662,449.676 -Y2FLYCA- STA. 46+31.14 1117.35' RT. ELEV. 876.61'



LOCATION SKETCH

TOTAL BILL OF MATERIAL

	FOUNDATION EXCAVATION FOR BENT	PILE EXCAVATION IN SOIL	PILE EXCAVATION NOT IN SOIL	5'-0" Ø DRILLED PIERS IN SOIL	5'-0" Ø DRILLED PIERS NOT IN SOIL	PERMANENT STEEL CASING FOR 5'-0" Ø DRILLED PIERS	PDA TESTING	CSL TESTING	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	STRUCTURAL STEEL
	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	SQ.FT.	SQ.FT.	CU.YDS.	LUMP SUM	LBS.	LBS.	APPROX. LBS. 3,188,000
SUPERSTRUCTURE									45,427	40,557		LUMP SUM			LUMP SUM
END BENT NO. 1		50.0	39.0								71.1		12,257		
BENT NO. 1	LUMP SUM			107.67	41.00	94.64					391.4		109,352	5,425	
BENT NO. 2	LUMP SUM			94.75	41.00	61.76					415.6		127,604	4,957	
BENT NO. 3	LUMP SUM										429.9		80,810		
BENT NO. 4	LUMP SUM										413.7		75,942		
BENT NO. 5	LUMP SUM										353.2		69,977		
END BENT NO. 2											81.3		13,376		
TOTAL	LUMP SUM	50.0	39.0	202.42	82.00	156.40	1	1	45,427	40,557	2,156.2	LUMP SUM	489,318	10,382	LUMP SUM

	PILE DRIVING EQUIPMENT SETUP FOR HP 14 X 73 STEEL PILES	HP 14 X 73 STEEL PILES	CONCRETE BARRIER RAIL	4" SLOPE PROTECTION	ELASTOMERIC BEARINGS	DISC BEARINGS	EXPANSION JOINT SEALS	MODULAR EXPANSION JOINT SEALS
	EACH	NO.	LIN.FT.	LIN.FT.	SQ. YARDS	LUMP SUM	LUMP SUM	LUMP SUM
SUPERSTRUCTURE				2141.59		LUMP SUM	LUMP SUM	LUMP SUM
END BENT NO. 1	11	11	572		14			
BENT NO. 1								
BENT NO. 2								
BENT NO. 3	43	43	1,466					
BENT NO. 4	35	35	1,368					
BENT NO. 5	29	29	1,327					
END BENT NO. 2	17	17	1,224		360			
TOTAL	135	135	5,957	2141.59	374	LUMP SUM	LUMP SUM	LUMP SUM

GENERAL NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

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

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

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

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50W, EXCEPT AS NOTED, 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.

THE CLASS AA CONCRETE IN THE BRIDGE DECK SHALL CONTAIN FLY ASH OR GROUND GRANULATED BLAST FURNACE SLAG AT THE SUBSTITUTION RATE SPECIFIED IN ARTICLE 1024-1 AND IN ACCORDANCE WITH ARTICLES 1024-5 AND 1024-6 OF THE STANDARD SPECIFICATIONS. NO PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE COST OF THE REINFORCED CONCRETE DECK SLAB.

FOR MAINTENANCE AND PROTECTION OF TRAFFIC BENEATH PROPOSED STRUCTURE, SEE SPECIAL PROVISIONS.

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

FOR MASS CONCRETE, SEE SPECIAL PROVISIONS. BENTS 1, 2, 3, 4, & 5 INCLUDE MASS CONCRETE.

FOR MSE RETAINING WALLS, SEE GEOTECHNICAL SPECIAL PROVISIONS.

ALL FALSEWORK AND FORMS FOR THE CAST-IN-PLACE DECK SLAB CONTINUOUS UNIT SHALL REMAIN IN PLACE UNTIL THE ENTIRE UNIT IS CAST AND CURED.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE SAMPLE BARS SHOULD COME FROM STEEL ACTUALLY USED IN THE PROJECT AND THE SAMPLE BARS SHOULD BE 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.

SAMPLE BAR REPLACEMENT

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

NOTE: SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND $f_y = 60\text{ksi}$

PROJECT NO. U-2579AA
 FORSYTH COUNTY
 STATION: 39+65.10 -Y2FLYCA-
 35+17.72 -L-
 SHEET 9 OF 9

Boone, NC 828-355-9933
 Tri-Cities, TN 423-467-8401
 Knoxville, TN 865-546-5800
 Spartanburg, SC 864-574-4775
 Asheville, NC 828-253-2796
 Charleston, SC 843-974-5650
 Middleboro, KY 606-248-6600
 Raleigh, NC 919-877-9455
 Charlotte, NC 704-357-0488
 Atlanta, GA 770-627-3590

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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 BRIDGE ON -Y2FLYCA-
 OVER FUTURE I-74
 FROM US 311 TO I-40

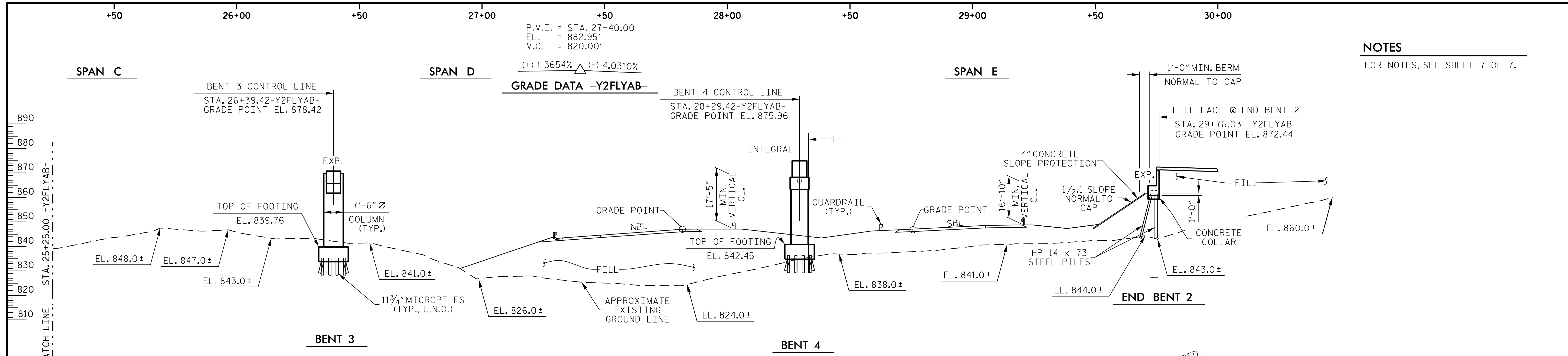


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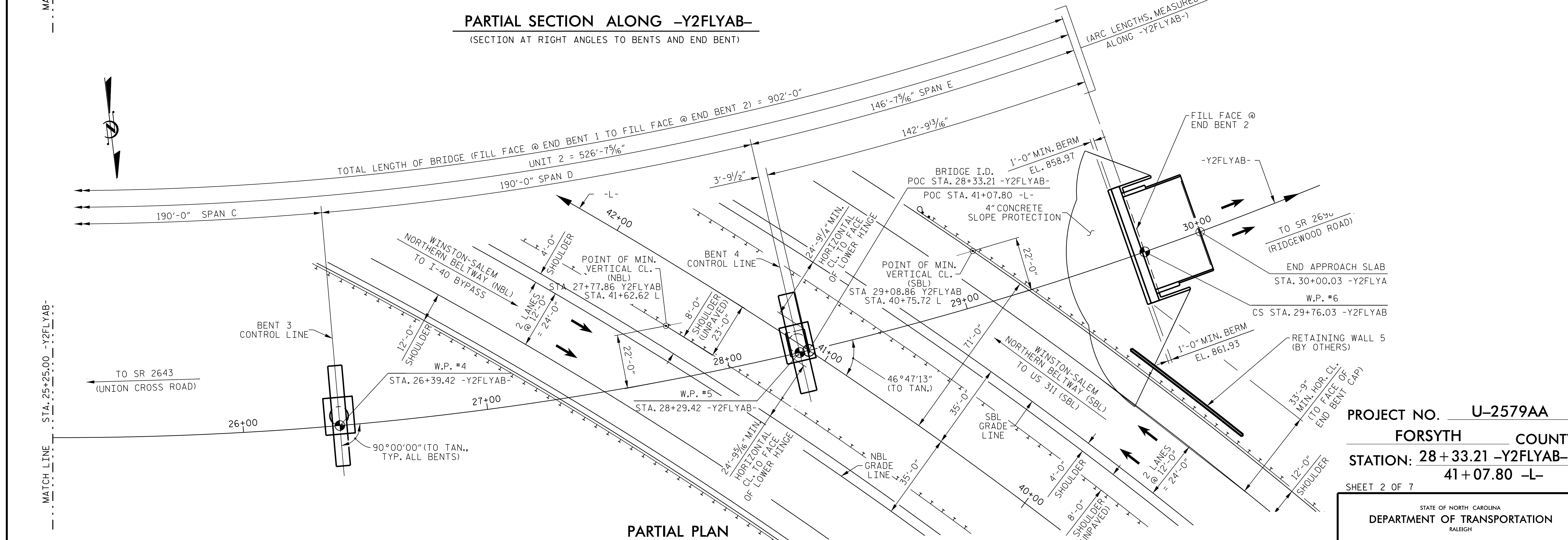
DWN. BY: AW
 CHKD. BY: PRG
 DES. EGR. OF RECORD: RTS

DATE: 03/2022
 DATE: 03/2022
 DATE: 03/2022

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-9
1			3			TOTAL SHEETS 92
2			4			



NOTES
FOR NOTES, SEE SHEET 7 OF 7.



HORIZONTAL CURVE DATA Y2FLYAB-

PI STA. 25+18.52	PIs STA. 30+30.05
Δ = 41° 18' 21.6" (LT.)	Θs = 3° 29' 22.0"
D = 4° 18' 28.6"	Ls = 162.00'
L = 958.83'	LT = 108.02'
T = 501.32'	ST = 54.02'
R = 1,330.00'	

HORIZONTAL CURVE DATA -L-

PI STA. 38+52.35
Δ = 102° 02' 03.1" (LT.)
D = 3° 09' 55.8"
L = 3,223.31'
T = 2,236.53'
R = 1,810.00'

GRADE DATA -L- PILES NOT SHOWN IN PLAN VIEW.

P.V.I. = STA. 49+68.13
EL. = 876.50'
V.C. = 560'
(+) 3.4198% (-) 1.1955%

NOTE: ROADWAY LANE DIMENSIONS AND OFFSETS ARE RADIAL TO -L-.

PROJECT NO. **U-2579AA**
FORSYTH COUNTY
 STATION: **28 + 33.21 -Y2FLYAB-**
41 + 07.80 -L-
 SHEET 2 OF 7

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING

BRIDGE OVER WINSTON-SALEM NORTHERN BELTWAY (-L-) ON US 311 NBL FLYOVER (-Y2FLYAB-) BETWEEN SR 2643 AND SR 2698

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

TOTAL SHEETS: **84**

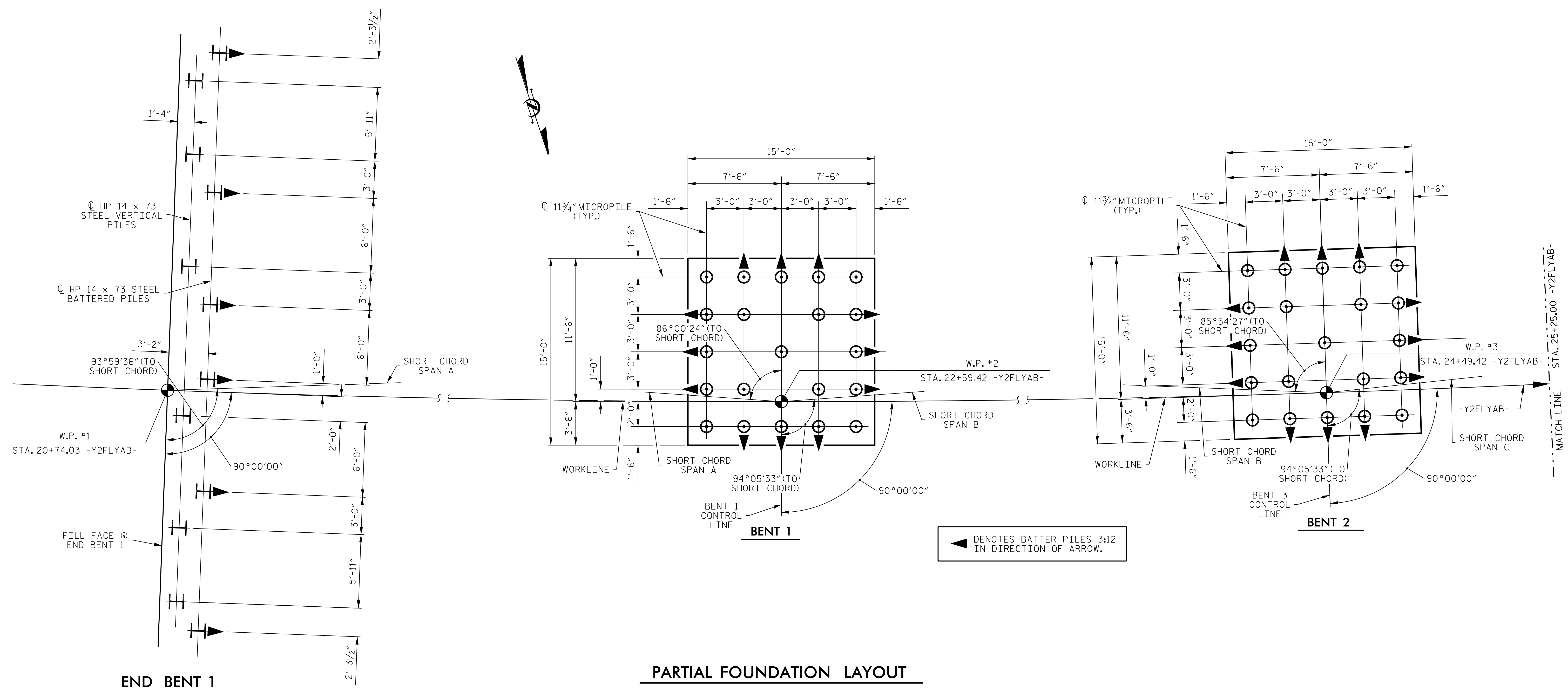
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 UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
 034539
GREGORY H. SHIFTER
 9/29/2022

PLANS PREPARED BY:
PARSONS
 5540 CenterView Drive, Suite 217
 Raleigh, NC 27606-3386
 NC LICENSE No. F-0246
 FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DRAWN BY:	J. CAYETANO	DATE:	9-21
CHECKED BY:	J. B. TAYLOR	DATE:	9-21
DESIGN ENGINEER:	J. B. TAYLOR	DATE:	9-21

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PARTIAL FOUNDATION LAYOUT

END BENT 1

FOUNDATION RECOMMENDATION NOTES

- FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
- PILES AT END BENT NO.1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 168 TONS PER PILE.
- DRIVE PILES AT END BENT NO.1 TO A REQUIRED DRIVING RESISTANCE OF 280 TONS PER PILE.
- FOR MICROPILES, SEE MICROPILES PROVISION.
- USE PRIME DOMESTIC REINFORCING CASINGS WITH YIELD STRENGTHS OF AT LEAST 80 KSI AND A MINIMUM WALL THICKNESS OF 0.489 IN FOR MICROPILES AT BENT NOS.1 THROUGH 4.
- REINFORCING CASING FOR MICROPILES ARE TO BE INSTALLED TO A DEPTH OF 20 FT BELOW THE BOTTOM OF FOOTING ELEVATION. MINIMUM CASING LENGTH IS REQUIRED TO RESIST A LATERAL FACTORED LOAD OF 7 KIPS PER PILE. NO CASING JOINTS WILL BE LOCATED WITHIN 10 FEET BELOW BOTTOM OF FOOTING.
- MICROPILE ESTIMATED LENGTHS ARE BASED ON NCDOT GEOTECHNICAL DESIGN ASSUMPTIONS AND IS FOR INFORMATION PURPOSES ONLY. CONTRACTOR TO VERIFY MICROPILE LENGTHS FOR ESTIMATING PURPOSES.
- A MINIMUM OF ONE VERIFICATION TEST IS REQUIRED ON A DEMONSTRATION MICROPILE INSTALLED AT THE SITE. ADDITIONAL VERIFICATION TEST AND DEMONSTRATION PILES MAY BE REQUIRED TO VERIFY ALL GEOTECHNICAL DESIGN BOND ASSUMPTIONS. PERFORM VERIFICATION TEST ON DEMONSTRATION PILE NEAR BENT NO.3. LOCATION OF DEMONSTRATION PILE IS TO BE APPROVED BY ENGINEER.
- PROOF TESTING IS REQUIRED AT EACH BENT LOCATION.
- DESIGN MICROPILES AT BENT NO.1 FOR A FACTORED LOAD RESISTANCE OF 240 TONS/PILE AND 35 TONS/PILE UPLIFT RESISTANCE.
- DESIGN MICROPILES AT BENT NO.2 FOR A FACTORED LOAD RESISTANCE OF 240 TONS/PILE AND 90 TONS/PILE UPLIFT RESISTANCE.
- DESIGN MICROPILES AT BENT NO.3 FOR A FACTORED LOAD RESISTANCE OF 240 TONS/PILE AND 40 TONS/PILE UPLIFT RESISTANCE.
- DESIGN MICROPILES AT BENT NO.4 FOR A FACTORED LOAD RESISTANCE OF 240 TONS/PILE AND 70 TONS/PILE UPLIFT RESISTANCE.
- PILES AT END BENT NO.2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 135 TONS PER PILE.

PROJECT NO. U-2579AA
FORSYTH COUNTY
 STATION: 28 + 33.21 -Y2FLYAB-
41 + 07.80 -L-
 SHEET 3 OF 7

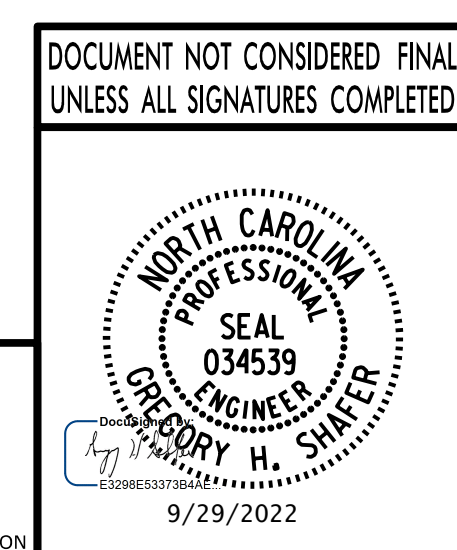
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING

**BRIDGE OVER WINSTON-SALEM
 NORTHERN BELTWAY (-L-) ON
 US 311 NBL FLYOVER (-Y2FLYAB-)
 BETWEEN SR 2643 AND SR 2698**

REVISIONS				SHEET No.	
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2			4		

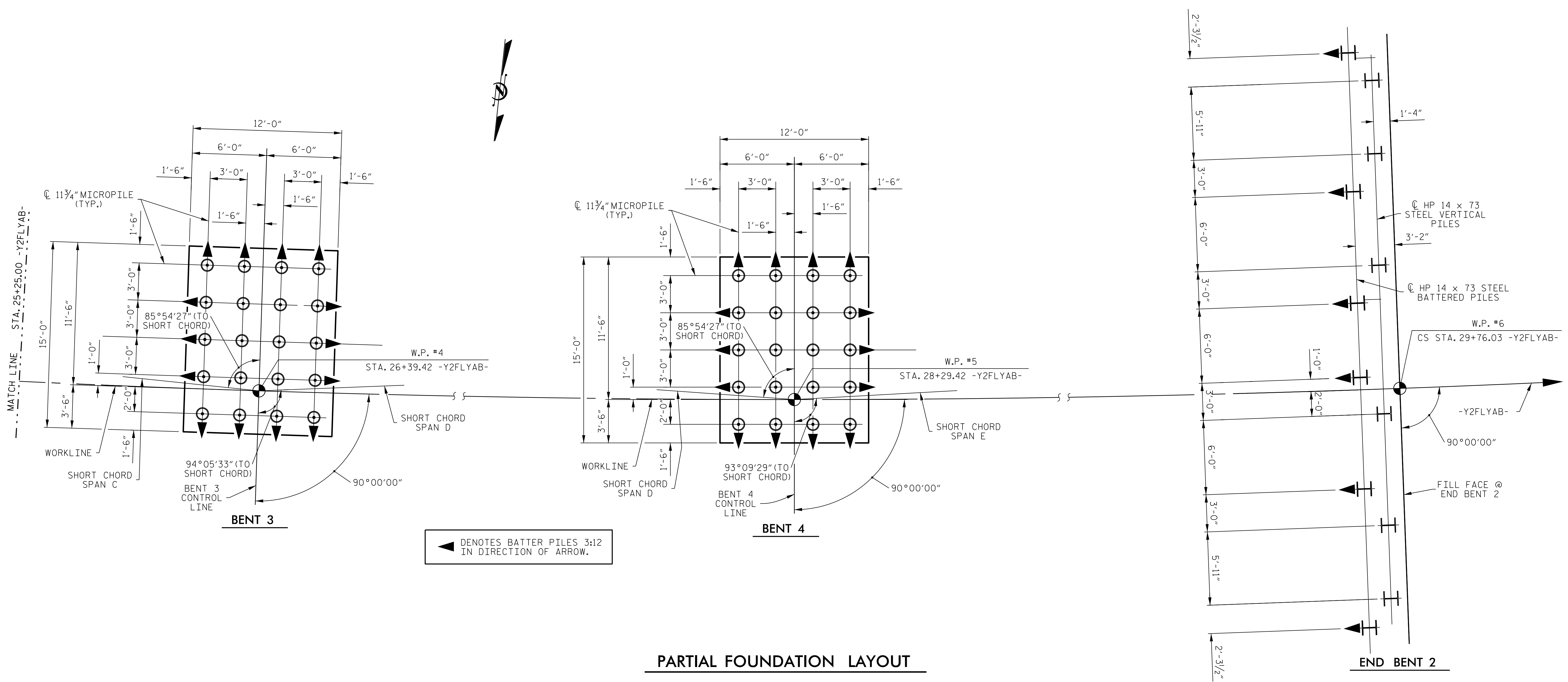
TOTAL SHEETS: **84**



PLANS PREPARED BY:
PARSONS
 5540 CenterView Drive, Suite 217
 Raleigh, NC 27606-3386
 NC LICENSE No. F-0246
 FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DRAWN BY :	J. CAYETANO	DATE :	9-21
CHECKED BY :	J. B. TAYLOR	DATE :	9-21
DESIGN ENGINEER :	J. B. TAYLOR	DATE :	9-21

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▲ DENOTES BATTER PILES 3:12 IN DIRECTION OF ARROW.

PARTIAL FOUNDATION LAYOUT

FOUNDATION RECOMMENDATION NOTES (CONTINUED)

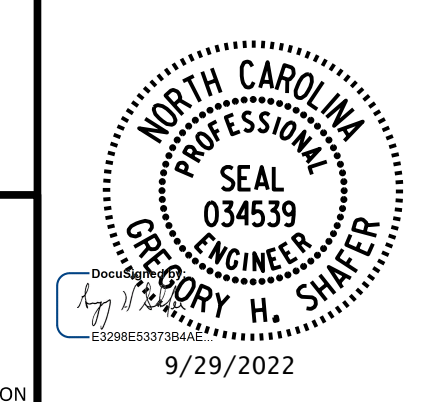
- 15. DRIVE PILES AT END BENT NO.2 TO A REQUIRED DRIVING RESISTANCE OF 225 TONS PER PILE. THIS REQUIRED DRIVING RESISTANCE INCLUDES ADDITIONAL RESISTANCE FOR DOWNDRAG.
- 16. TESTING PILES WITH THE PDA DURING DRIVING, RESTRIKING OR REDRIVING AT END BENT NO.2 MAY BE REQUIRED. THE ENGINEER WILL DETERMINE THE NEED FOR PDA TESTING. FOR PDA TESTING, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
- 17. OBSERVE A ONE MONTH WAITING PERIOD AFTER CONSTRUCTING THE EMBANKMENT, END BENT AND REINFORCED BRIDGE APPROACH FILL, IF APPLICABLE, BEFORE BEGINNING APPROACH SLAB CONSTRUCTION AT END BENT NO.2. FOR BRIDGE WAITING PERIODS, SEE ROADWAY PLANS AND SECTION 235 OF THE STANDARD SPECIFICATIONS.
- 18. IT HAS BEEN ESTIMATED THAT A HAMMER WITH AN EQUIVALENT RATED ENERGY IN THE RANGE OF 50,000~70,000 FT-LBS PER BLOW WILL BE REQUIRED TO DRIVE PILES AT END BENT NO.1 AND 2. THIS ESTIMATED ENERGY RANGE DOES NOT RELEASE THE CONTRACTOR FROM PROVIDING DRIVING EQUIPMENT IN ACCORDANCE WITH SUBARTICLE 450-3(D)(2) OF THE STANDARD SPECIFICATIONS.

SPECIAL NOTES

- 1. COFFERDAMS ARE REQUIRED TO PERFORM THE FOUNDATION EXCAVATION AT BENT NOS.1 AND 2 DUE TO HIGH GROUNDWATER ELEVATIONS AT THESE LOCATIONS. FOR COFFERDAMS, SEE SECTION 410 OF THE STANDARD SPECIFICATIONS.

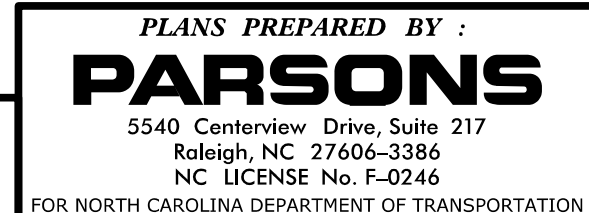
PROJECT NO. **U-2579AA**
FORSYTH COUNTY
 STATION: **28 + 33.21 -Y2FLYAB-**
41 + 07.80 -L-
 SHEET 4 OF 7

DOCUMENT NOT CONSIDERED FINAL
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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
BRIDGE OVER WINSTON-SALEM
NORTHERN BELTWAY (-L-) ON
US 311 NBL FLYOVER (-Y2FLYAB-)
BETWEEN SR 2643 AND SR 2698

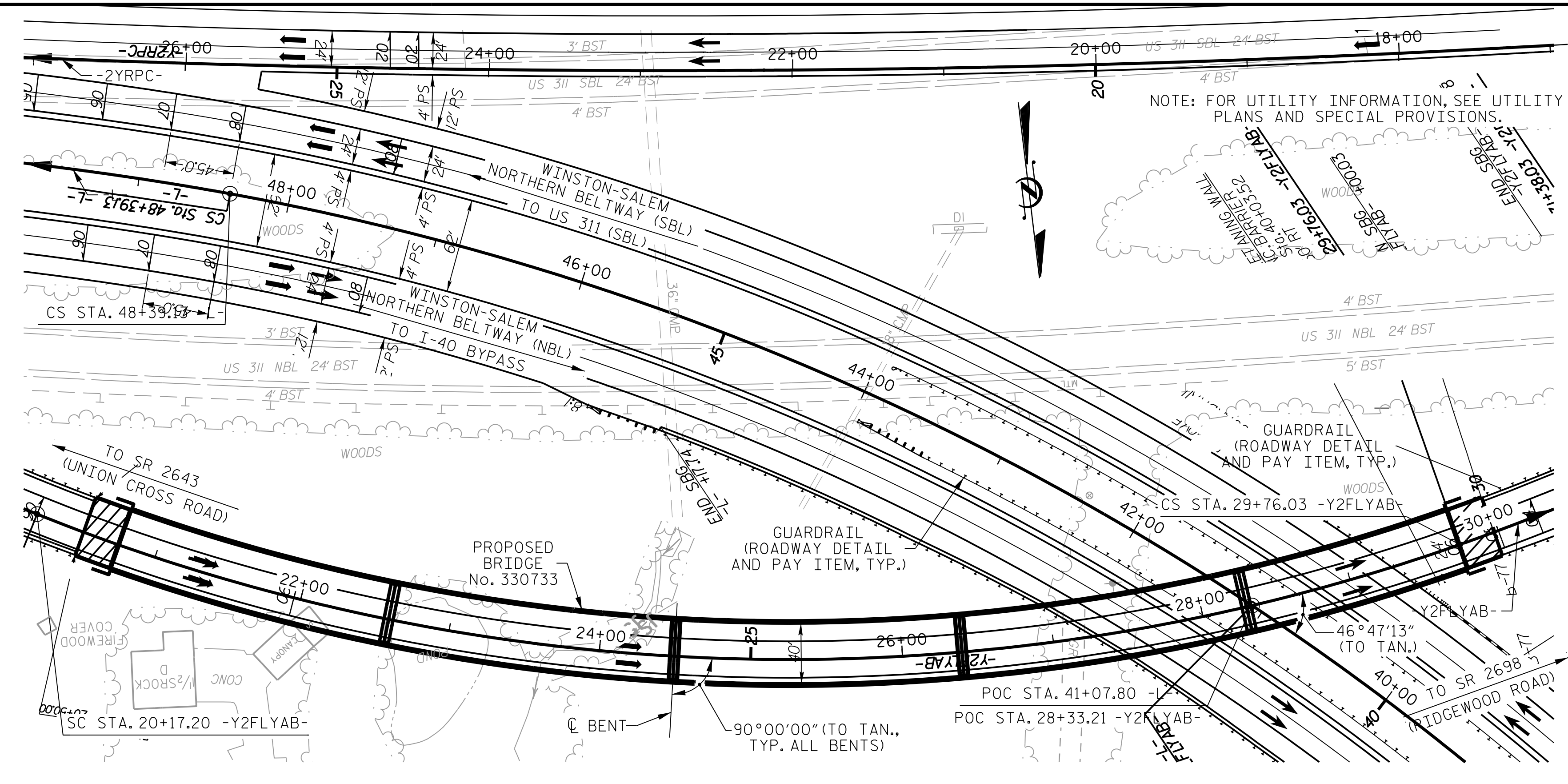
DRAWN BY : J. CAYETANO DATE : 9-21
 CHECKED BY : J. B. TAYLOR DATE : 9-21
 DESIGN ENGINEER : J. B. TAYLOR DATE : 9-21



REVISIONS						SHEET No.
No.	BY:	DATE:	No.	BY:	DATE:	S5-04
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2			4			84

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BENCHMARK: #7 - 903.20' LEFT OF STA. 28+02.52 -Y2FLYAB-
EL. 910.02 (N 840172.10 E 1661779.00)



LOCATION SKETCH

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"

NOTES

- ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.
- THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
- THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.
- FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.
- FOR TEMPORARY BENTS, SEE SPECIAL PROVISIONS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.
- FOR POST TENSIONING TENDONS, SEE SPECIAL PROVISIONS.
- FOR 6000 PSI CONCRETE, SEE SPECIAL PROVISIONS.
- FOR MASS CONCRETE, SEE SPECIAL PROVISIONS. BENTS 1, 2, 3 AND 4 INCLUDE MASS CONCRETE.
- REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.
- NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.
- ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50W AND PAINTED IN ACCORDANCE WITH SYSTEM 5 OR SYSTEM 6 OF ARTICLE 442-8 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- FOR EROSION CONTROLS, SEE EROSION CONTROL PLANS.

TOTAL BILL OF MATERIAL

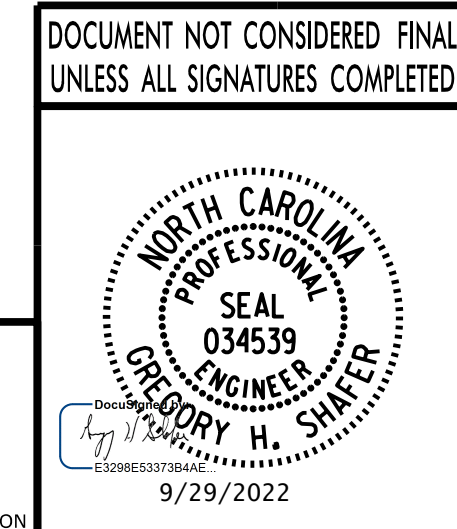
	FOUNDATION EXCAVATION AT BENT	PDA TESTING	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	APPROX. 2,099,664 LBS STRUCTURAL STEEL	PILE DRIVING EQUIPMENT SETUP FOR HP14x73	HP14X73 STEEL PILES	CONCRETE BARRIER RAIL	
	LUMP SUM	EA.	SQ. FT.	SQ. FT.	CU. YDS.	LUMP SUM	LBS.	LBS.	LUMP SUM	EA.	NO.	LIN. FT.	LIN. FT.
SUPERSTRUCTURE			38,784	34,851		LUMP SUM			LUMP SUM				1,834.2
END BENT 1					61.3		10,034			12	12	660	
BENT 1	LUMP SUM				184.8		44,459	2,173					
BENT 2	LUMP SUM				185.8		49,135	2,198					
BENT 3	LUMP SUM				148.9		37,318	1,226					
BENT 4					71.6		36,733	1,211					
END BENT 2					61.4		10,062			12	12	480	
TOTAL	LUMP SUM	1	38,784	34,851	713.8	LUMP SUM	187,741	6,808	LUMP SUM	24	24	1,140	1,834.2

	4" SLOPE PROTECTION	ELASTOMERIC BEARINGS	EXPANSION JOINT SEALS	PT TENDONS	PT ENCASEMENT	6000 PSI CONCRETE	.1175" DIA. MICROPILES	DEMONSTRATION PILE	VERIFICATION TESTS	PROOF TESTS
	SO. YD.	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	CU. YDS.	EA.	EA.	EA.	EA.
SUPERSTRUCTURE		LUMP SUM	LUMP SUM							
END BENT 1	100									
BENT 1							21			1
BENT 2							21			1
BENT 3							20	1	1	1
BENT 4				LUMP SUM	LUMP SUM	75.2	20			1
END BENT 2	300									
TOTAL	400	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	75.2	82	1	1	8 *

* ONE PROOF TEST IS REQUIRED FOR EACH BENT, PLUS 4 ADDITIONAL CONTINGENCY AS NEEDED

PROJECT NO. U-2579AA
FORSYTH COUNTY
 STATION: 28+33.21 -Y2FLYAB-
41+07.80 -L-
 SHEET 7 OF 7

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
BRIDGE OVER WINSTON-SALEM NORTHERN BELTWAY (-L-) ON US 311 NBL FLYOVER (-Y2FLYAB-) BETWEEN SR 2643 AND SR 2698



PLANS PREPARED BY:
PARSONS
 5540 CenterView Drive, Suite 217
 Raleigh, NC 27606-3386
 NC LICENSE No. F-0246
 FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DRAWN BY : J. CAYETANO DATE : 9-21
 CHECKED BY : J. B. TAYLOR DATE : 9-21
 DESIGN ENGINEER : J. B. TAYLOR DATE : 9-21

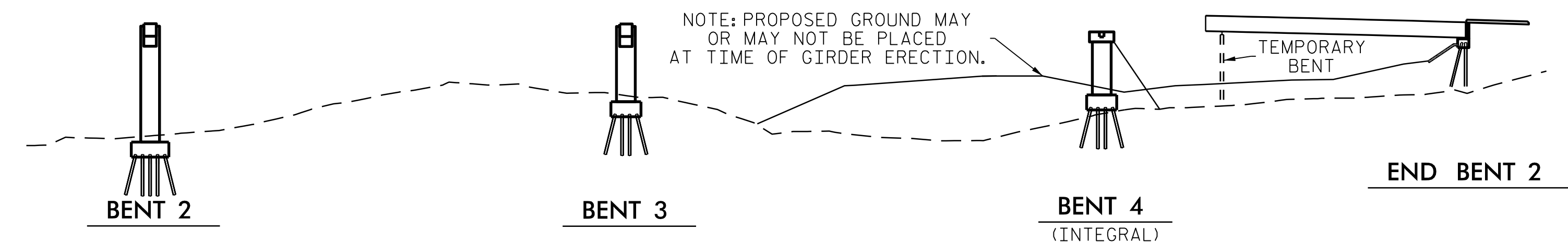
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No.	BY:	DATE:	No.	BY:	DATE:	S5-07
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2			4			84

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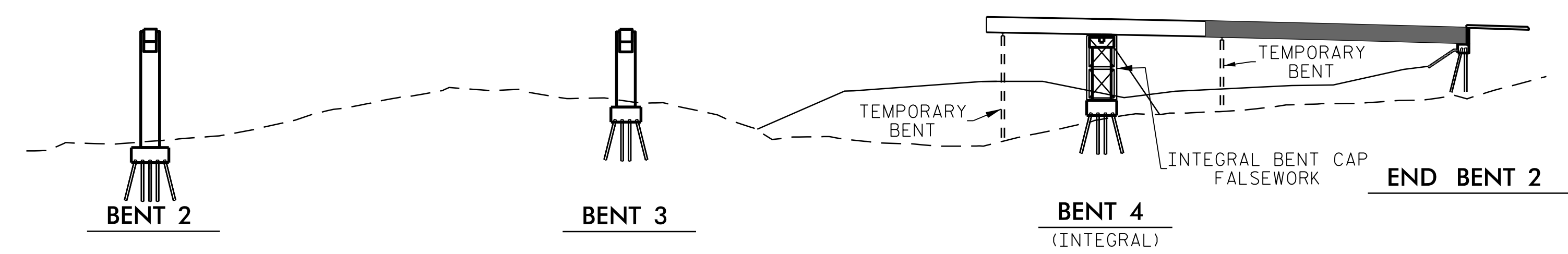
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SPAN C SPAN D SPAN E

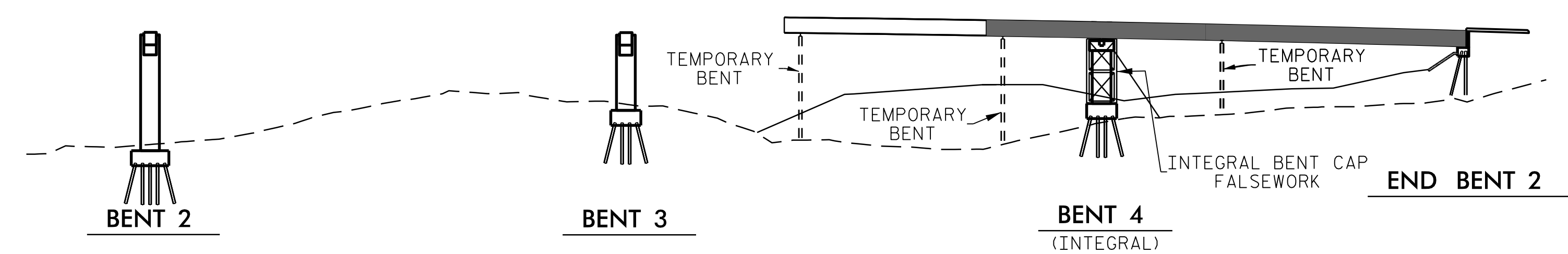
NOTES
FOR ERECTION NOTES, SEE SHEET 1 OF 2.



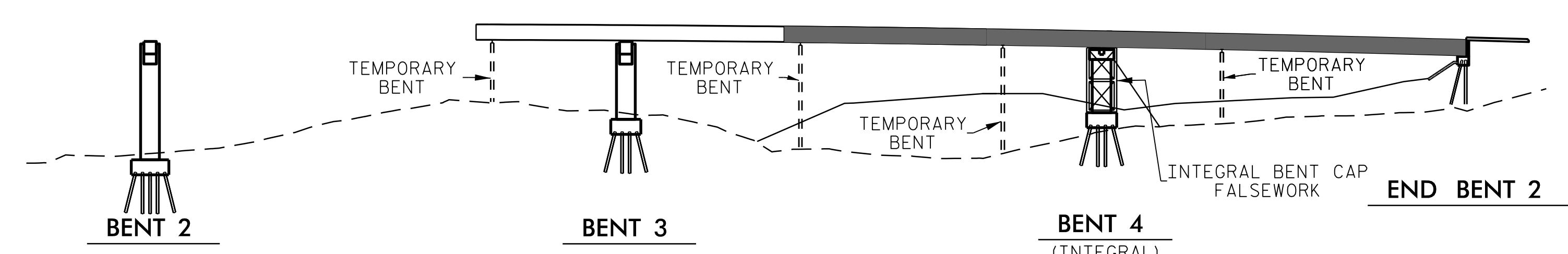
UNIT 2 STEP 1 GIRDER ERECTION



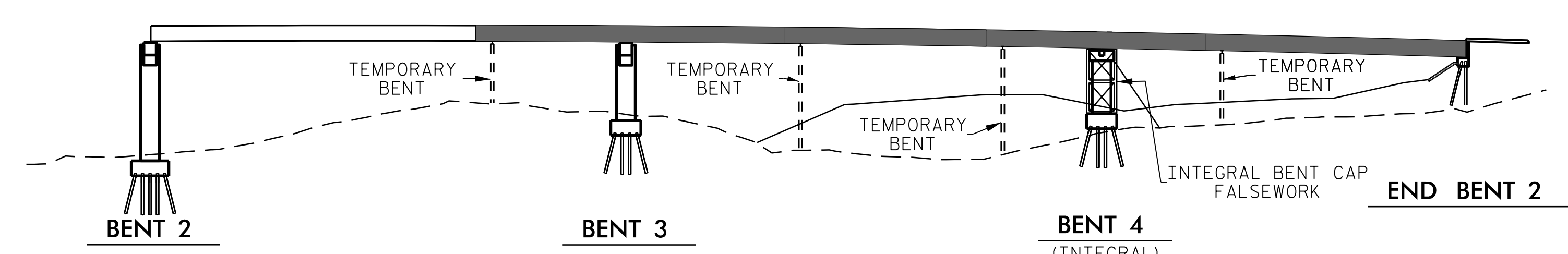
UNIT 2 STEP 2 GIRDER ERECTION



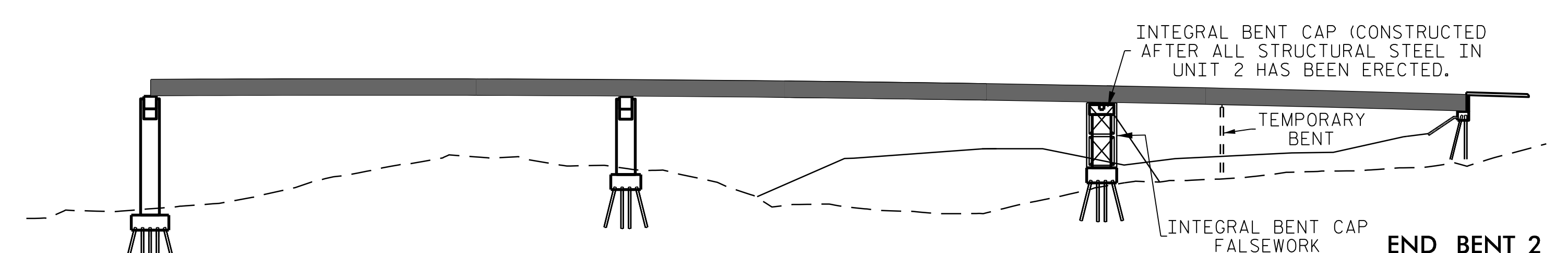
UNIT 2 STEP 3 GIRDER ERECTION



UNIT 2 STEP 4 GIRDER ERECTION



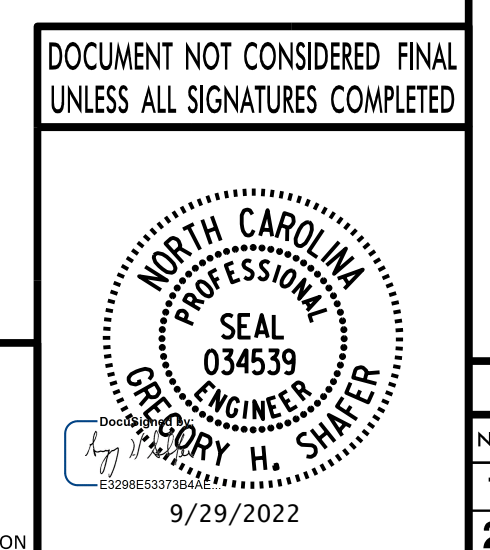
UNIT 2 STEP 5 GIRDER ERECTION



UNIT 2 STEP 6 GIRDER ERECTION

PROJECT NO. U-2579AA
FORSYTH COUNTY
 STATION: 28+33.21 -Y2FLYAB-
41+07.80 -L-
 SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
CONSTRUCTION SEQUENCE

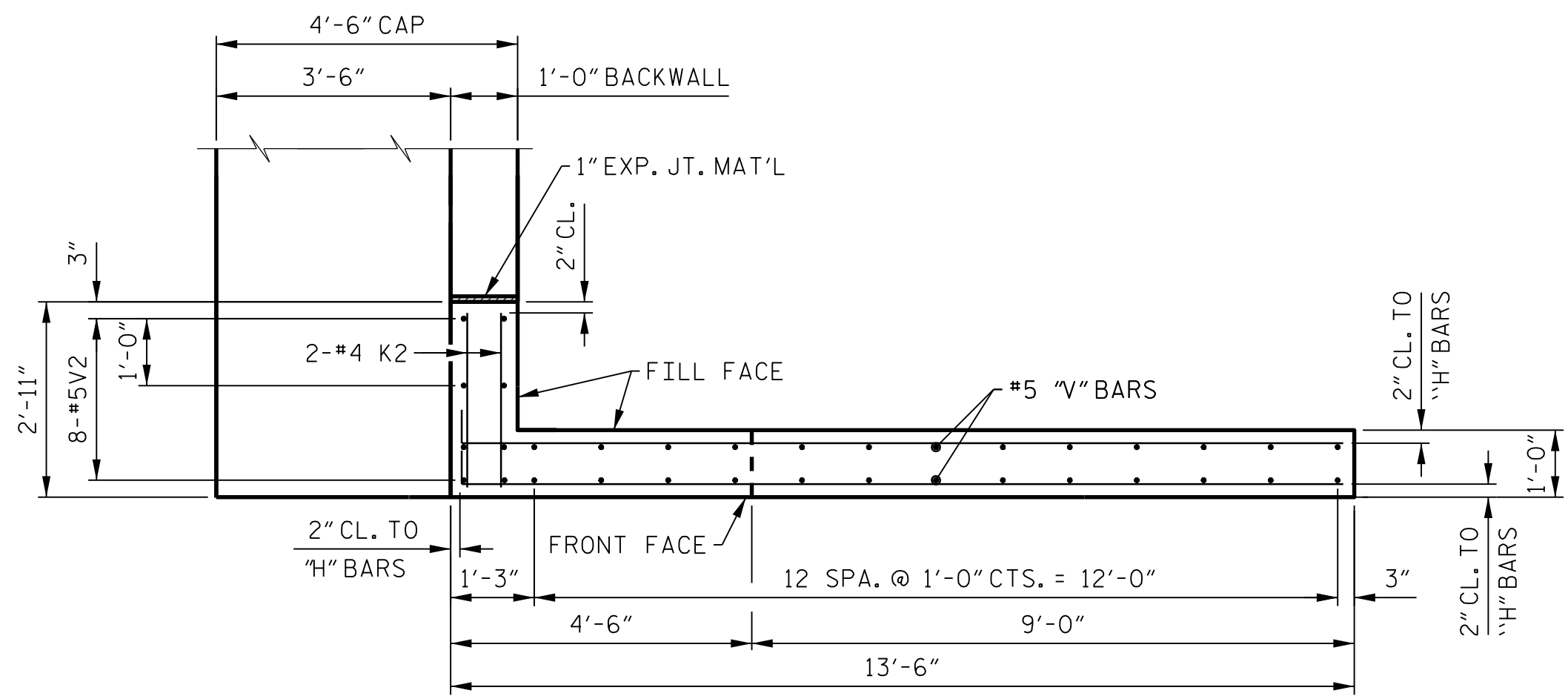


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 Raleigh, NC 27606-3386
 NC LICENSE No. F-0246
 FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

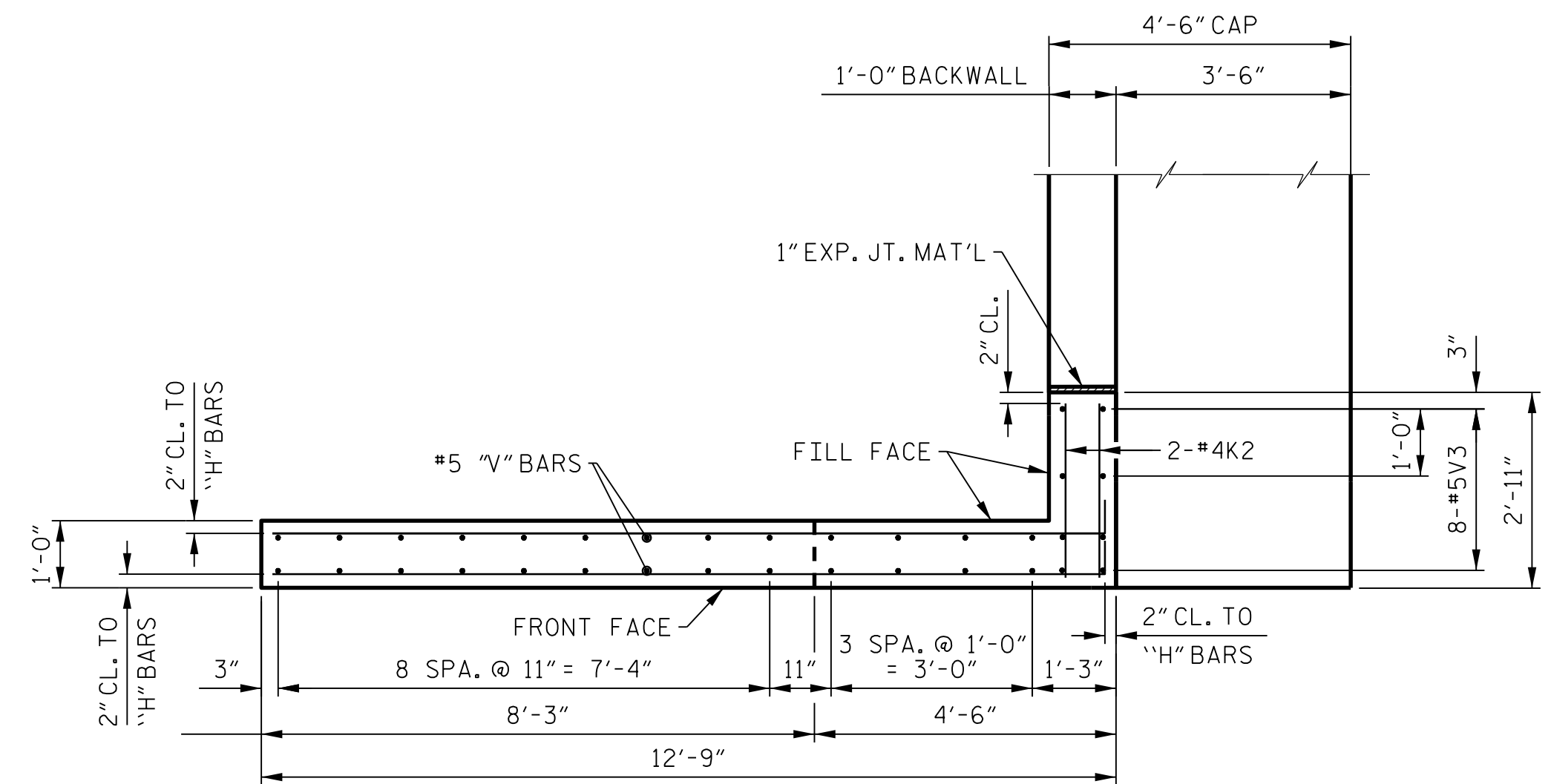
DRAWN BY : J. CAYETANO DATE : 9-21
 CHECKED BY : J. B. TAYLOR DATE : 9-21
 DESIGN ENGINEER : J. B. TAYLOR DATE : 9-21

REVISIONS						SHEET No.
No.	BY:	DATE:	No.	BY:	DATE:	TOTAL SHEETS
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2			4			

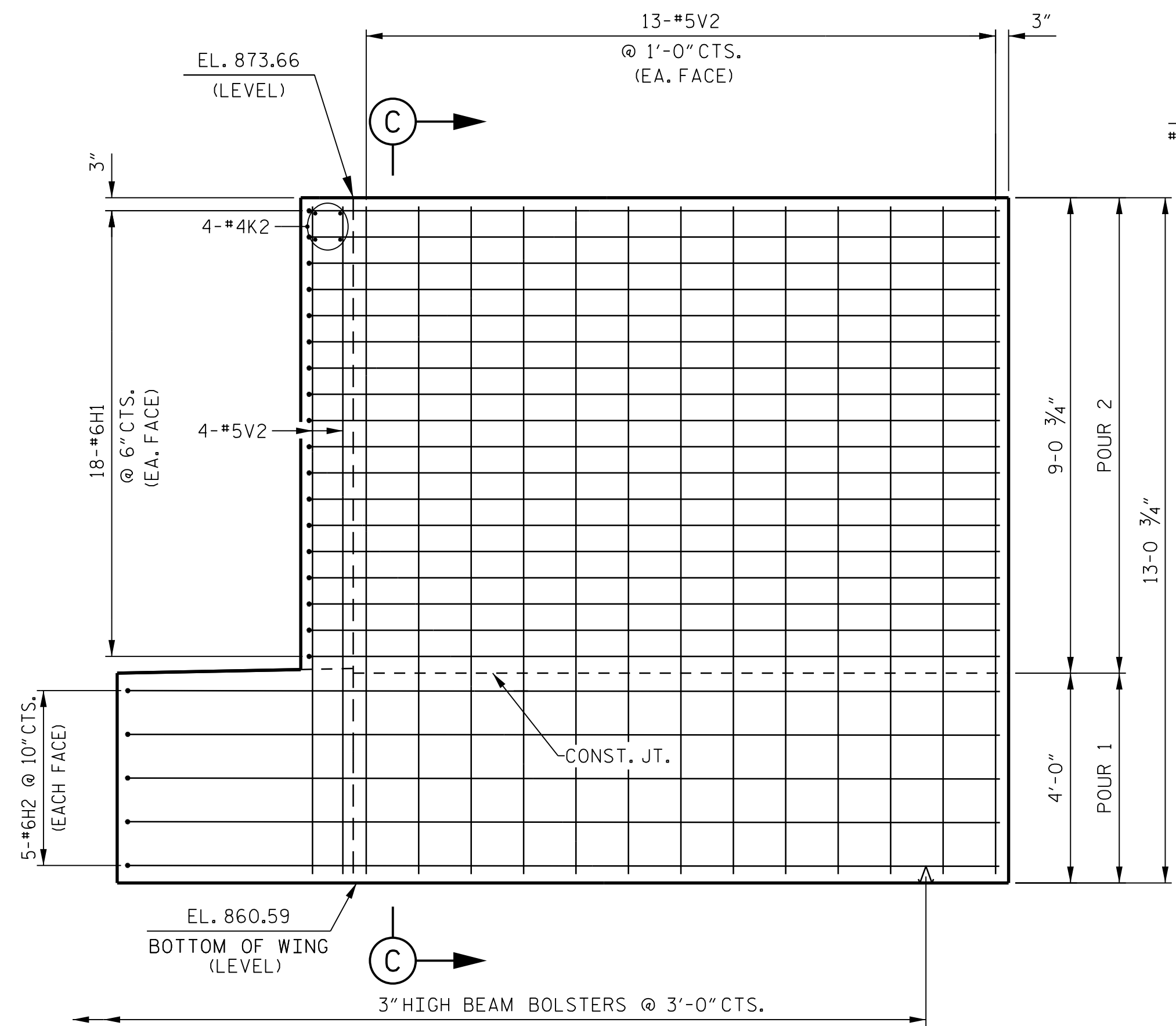
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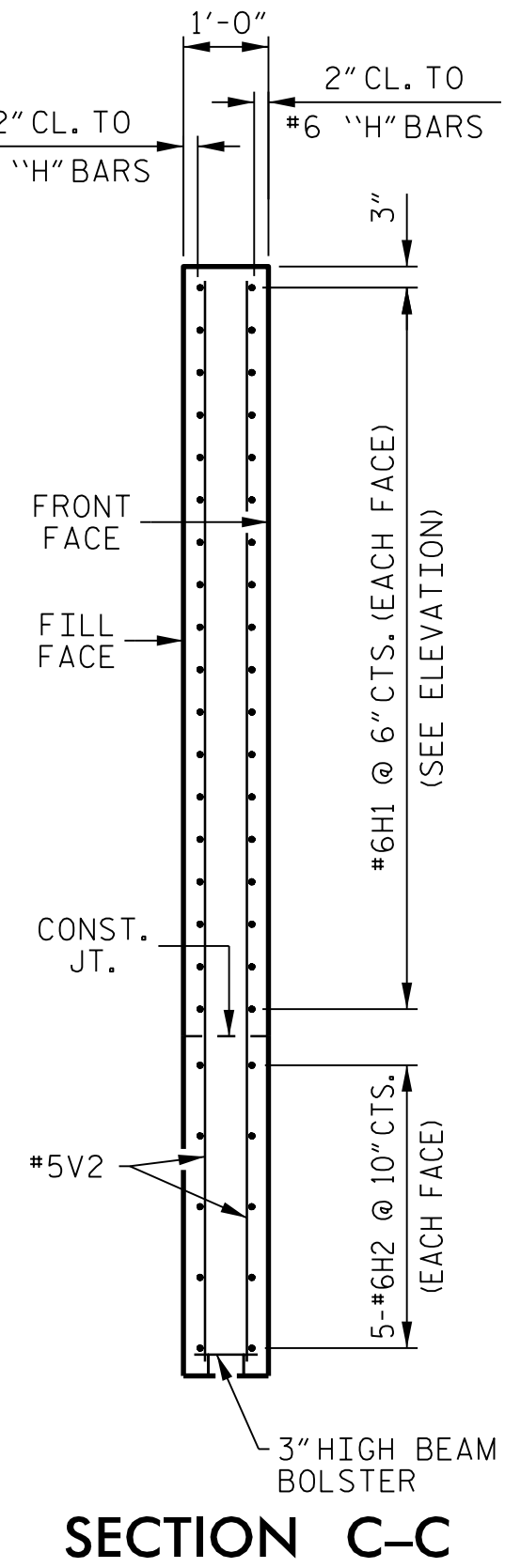
PLAN OF WING W1



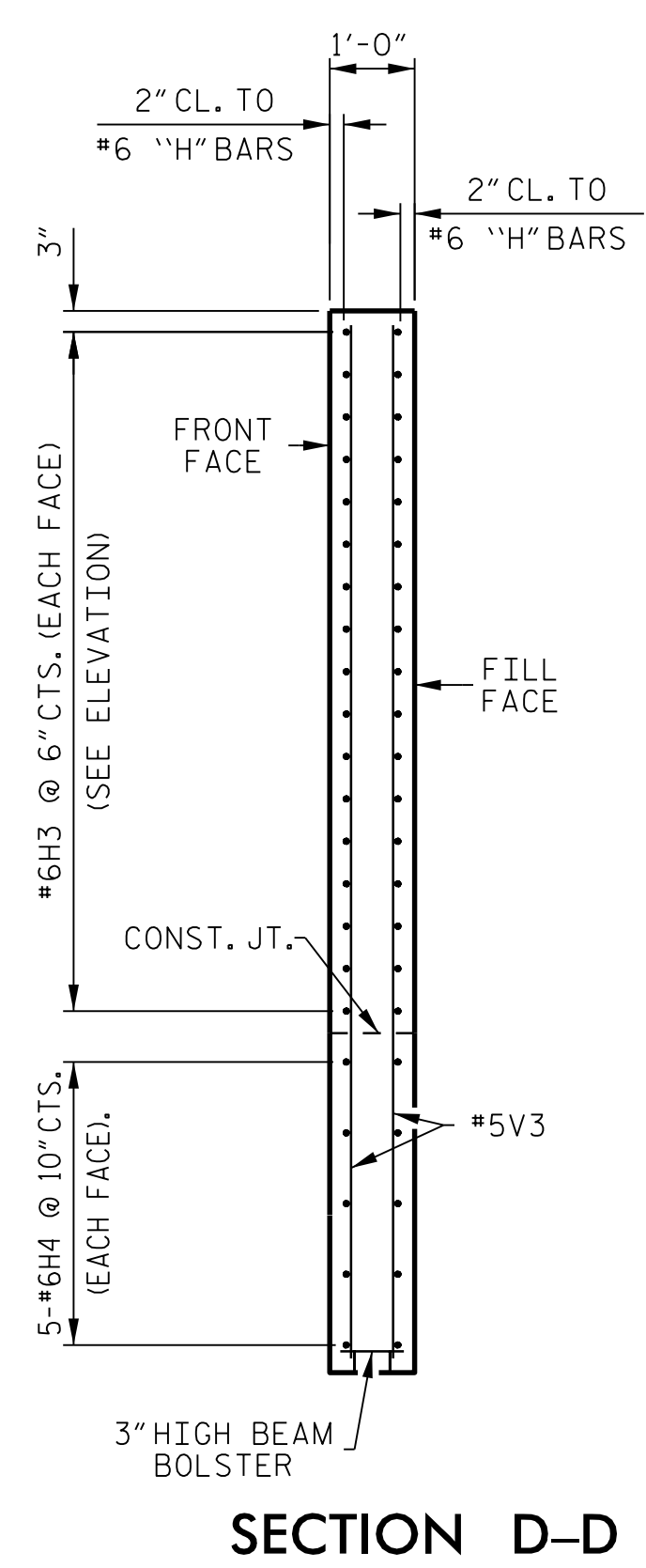
PLAN OF WING W2



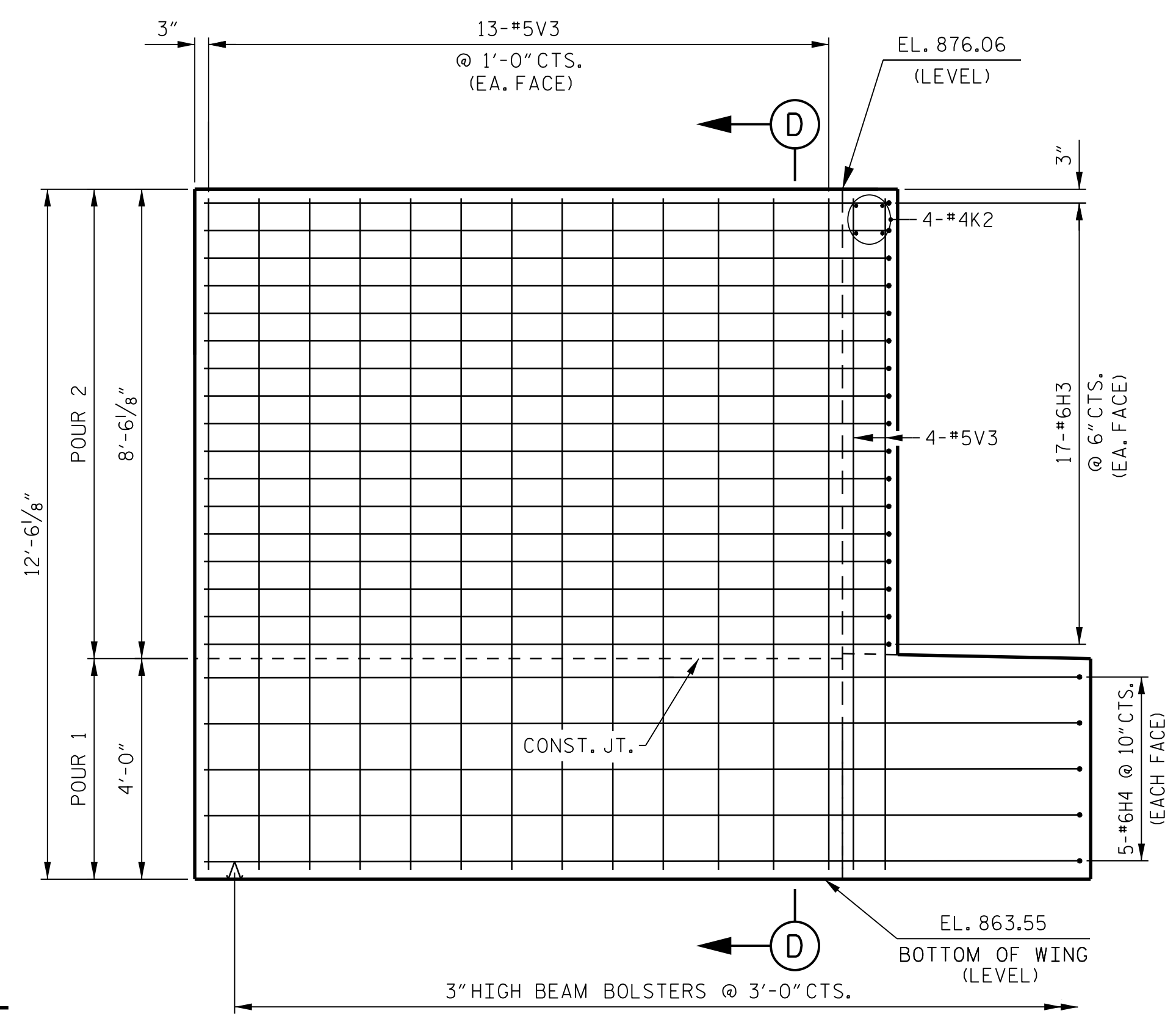
ELEVATION OF WING W1



SECTION C-C



SECTION D-D



ELEVATION OF WING W2

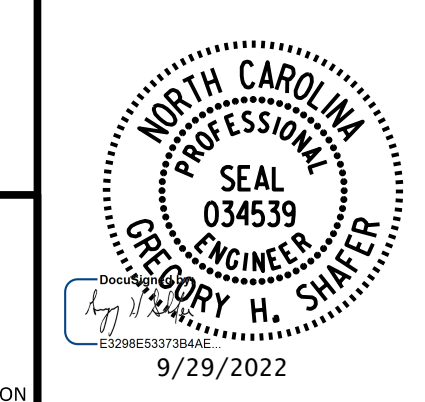
PROJECT NO. U-2579AA
 FORSYTH COUNTY
 STATION: 28 + 33.21 -Y2FLYAB-
41 + 07.80 -L-
 SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE

END BENT 1
 WINGWALL DETAILS

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

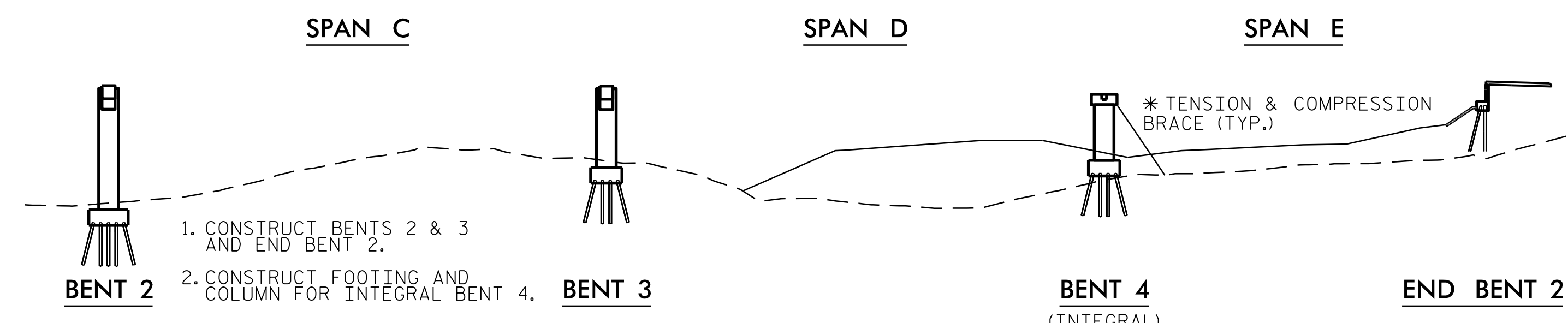


PLANS PREPARED BY:
PARSONS
 5540 CenterView Drive, Suite 217
 Raleigh, NC 27606-3386
 NC LICENSE No. F-0246
 9/29/2022

DRAWN BY :	J. CAYETANO	DATE :	9-21
CHECKED BY :	J. B. TAYLOR	DATE :	9-21
DESIGN ENGINEER :	J. B. TAYLOR	DATE :	9-21

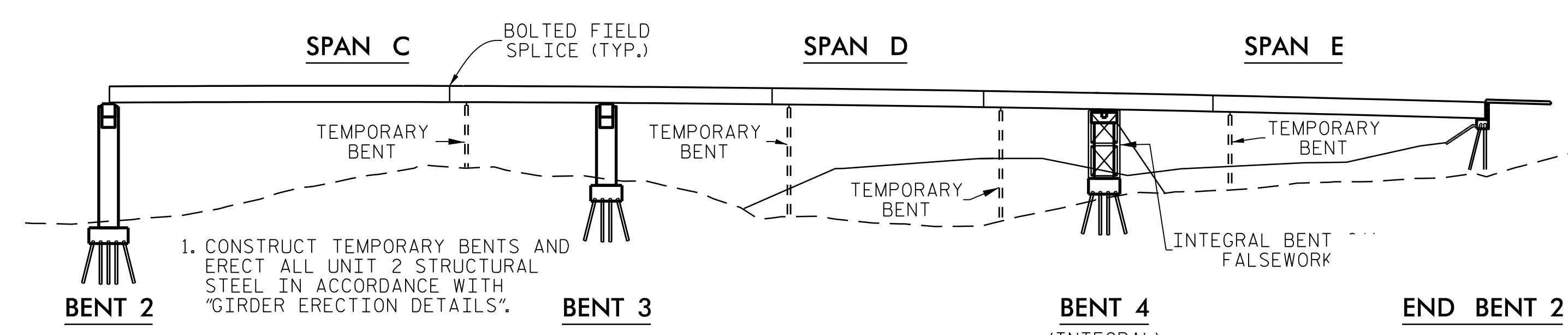
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No.	BY:	DATE:	No.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS
					84

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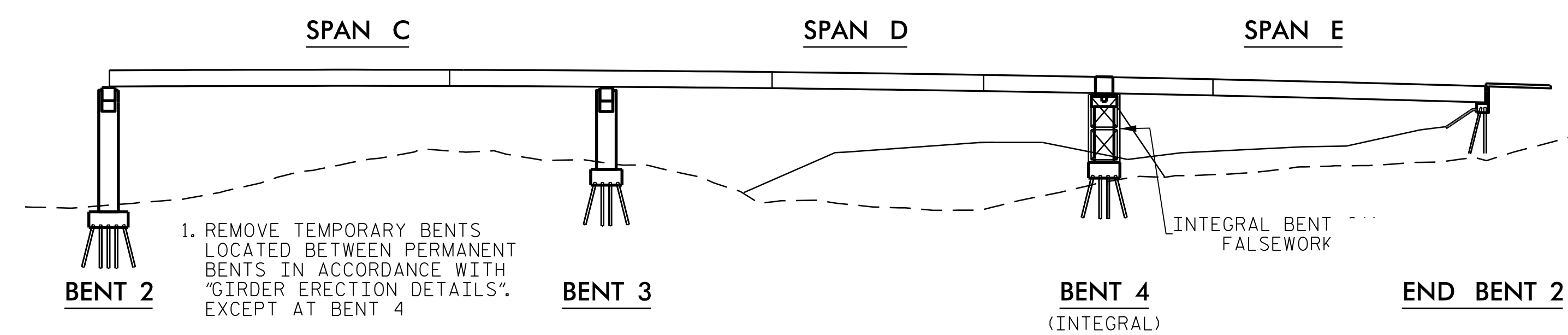
1. CONSTRUCT BENTS 2 & 3 AND END BENT 2.
2. CONSTRUCT FOOTING AND COLUMN FOR INTEGRAL BENT 4.

STAGE 1



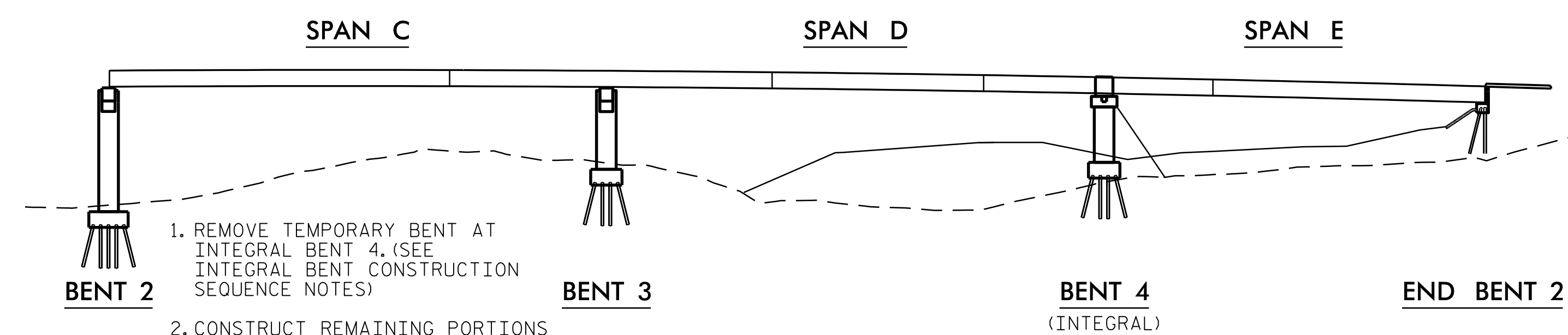
1. CONSTRUCT TEMPORARY BENTS AND ERECT ALL UNIT 2 STRUCTURAL STEEL IN ACCORDANCE WITH "GIRDER ERECTION DETAILS".

STAGE 2



1. REMOVE TEMPORARY BENTS LOCATED BETWEEN PERMANENT BENTS IN ACCORDANCE WITH "GIRDER ERECTION DETAILS", EXCEPT AT BENT 4
2. CONSTRUCT INTEGRAL CAP (SEE INTEGRAL BENT CONSTRUCTION SEQUENCE NOTES)

STAGE 3



1. REMOVE TEMPORARY BENT AT INTEGRAL BENT 4. (SEE INTEGRAL BENT CONSTRUCTION SEQUENCE NOTES)
2. CONSTRUCT REMAINING PORTIONS OF SPANS C THRU E.

STAGE 4

INTEGRAL BENT CONSTRUCTION SEQUENCE

THIS BRIDGE IS DESIGNED FOR THE CONSTRUCTION SEQUENCE SHOWN. IF THE CONTRACTOR USES AN ALTERNATE DESIGN AS ALLOWED BY THE SPECIAL PROVISION FOR POST-TENSIONING TENDONS, THE CONTRACTOR BECOMES RESPONSIBLE FOR CHANGES TO THE CONSTRUCTION SEQUENCE. THE REVISED CONSTRUCTION SEQUENCE SHALL BE SUBMITTED FOR APPROVAL WITH THE ALTERNATE POST-TENSIONING DESIGN. THE FOLLOWING CONSTRUCTION SEQUENCE SHALL APPLY UNLESS OTHERWISE APPROVED IN WRITING BY THE ENGINEER.

1. CONSTRUCT FOOTING, COLUMN AND LOWER-HINGE IN ACCORDANCE WITH THE PLANS.
2. ERECT TEMPORARY FALSEWORK. TEMPORARY FALSEWORK SHALL SUPPORT GIRDERS ON BOTH SIDES OF INTEGRAL CAP. GIRDER SUPPORT SHALL BE WITHIN 5'-0" OF CENTERLINE BENT.
3. ERECT ALL STRUCTURAL STEEL IN SPANS C THRU E. STRUCTURAL STEEL SHALL BE SUPPORTED BY TEMPORARY FALSEWORK AT BENT 4.
4. WHEN FOOTING, COLUMN AND LOWER-HINGE CONCRETE HAS ATTAINED THE SPECIFIED COMPRESSIVE STRENGTH VALUE (f'c), CONSTRUCT INTEGRAL CAP, INCLUDING POST-TENSIONING DUCTS, GROUT TUBES AND ANCHORAGES REQUIRED FOR CAP, IN ACCORDANCE WITH THE PLANS.
5. WHEN CAP CONCRETE HAS ATTAINED THE SPECIFIED INITIAL COMPRESSIVE STRENGTH VALUE (f'ci), INSTALL POST-TENSIONING TENDONS IN THE CAP (T1-T7) AND TENSION IN THE ORDER SHOWN BELOW.
6. WHEN TENSIONING OF THE CAP TENDONS (T1-T7) IS COMPLETE, TENDONS SHALL BE GROUTED AND ANCHORAGES SHALL BE PROTECTED. SEE POST-TENSIONING SPECIAL PROVISION FOR PROTECTION OF END ANCHORAGES.
7. REMOVE TEMPORARY FALSEWORK AFTER COMPLETION OF INTEGRAL CAP.
8. CAST DECK AND RAILS AS SPECIFIED IN THE SUPERSTRUCTURE PLANS.

POST-TENSION DATA

CONCRETE
 CAP & UPPER HINGE
 STRENGTH AT 28 DAYS (f'c) = 6.0 KSI
 STRENGTH AT POST-TENSIONING (f'c) = 4.5 KSI

LOWER HINGE
 STRENGTH AT 28 DAYS (f'c) = 6.0 KSI

FOOTING AND COLUMN
 STRENGTH AT 28 DAYS (f'c) = 3.0 KSI

TENDONS IN BENT CAP 4
 T1, T2, T3: 22-0.6" DIA., GRADE 270, SEVEN WIRE, LOW RELAXATION STRANDS PER TENDON
 T4, T5: 22-0.6" DIA., GRADE 270, SEVEN WIRE, LOW RELAXATION STRANDS PER TENDON
 T6, T7: 9-0.6" DIA., GRADE 270, SEVEN WIRE, LOW RELAXATION STRANDS PER TENDON

FRICTION (μ) = 0.20
 WOBBLE (K) = 0.0002/FT
 ANCHOR SET = 0.25"
 MODULUS OF ELASTICITY (Es) = 28,500 KSI
 JACKING FORCE BEFORE ANCHOR SET = 205 KSI (ALL TENDONS)

DUCTS
 T1-T5: MINIMUM 4 1/2" NOMINAL DIAMETER GALVANIZED RIGID OR SEMI-RIGID DUCTS
 T6 & T7: MINIMUM 3" NOMINAL DIAMETER GALVANIZED RIGID OR SEMI-RIGID DUCTS

TENDON STRESSING NOTES

STRESS ALL CAP TENDONS (T1-T7) FROM THE SAME END.
 DURING STRESSING NO PERSONS SHALL BE DIRECTLY BEHIND EITHER END OF TENDONS.

INTEGRAL BENT NOTES

NO CONCRETE SHALL BE PLACED IN ANY PORTION OF THE BENT UNTIL REVIEW OF THE POST-TENSIONING SYSTEM SUBMITTED BY THE CONTRACTOR HAS BEEN COMPLETED.
 POST-TENSIONING BEARING PLATES FOR CAP TENDONS (T1-T7) SHALL BE FABRICATED OF HOT-ROLLED STEEL CONFORMING TO ASTM A588 AND APPROVED BY THE ENGINEER. BEARING PLATES SHALL FIT FLAT AGAINST THE GIRDER WEB AND RECEIVE AN ANSI 500 FINISH ON THE SURFACE IN CONTACT WITH THE WEB. CENTERLINE OF THE TENDONS IS TO BE NORMAL TO OUTSIDE FACE OF BEARING PLATE.

POST-TENSIONING ANCHORAGE DETAILS SHALL BE DETERMINED BY THE POST-TENSIONING MATERIALS SUPPLIER. DETAILS SHALL BE SHOWN ON THE SHOP DRAWINGS AND SUBMITTED TO THE ENGINEER FOR APPROVAL. THE ANCHORAGE SYSTEM AND LENGTH OF PROJECTING PRESTRESSING STEEL AT THE DEAD END ANCHORAGES SHALL PERMIT JACKING WITH THE SAME JACKING EQUIPMENT USED ON THE LIVE END. SEE SPECIAL PROVISION FOR POST-TENSIONING TENDONS.

BAR REINFORCEMENT INTERFERING WITH DUCT ALIGNMENT SHALL BE ADJUSTED AS APPROVED BY THE ENGINEER.

SPECIAL CARE SHALL BE TAKEN TO ENSURE PROPER CONSOLIDATION OF CONCRETE UNDER THE TOP FLANGE OF THE GIRDERS DURING PLACEMENT OF CONCRETE FOR INTEGRAL CAP AND ANCHORAGE ENCASUREMENTS TO ELIMINATE FORMATION OF VOIDS BENEATH TOP FLANGE.

AFTER CASTING CAP BUT PRIOR TO TENSIONING OF THE CAP, THE ENGINEER SHALL THOROUGHLY INSPECT THE INTERFACE BETWEEN THE GIRDER FLANGES AND CONCRETE TO LOCATE ANY VOIDS DUE TO INCOMPLETE CONSOLIDATION DURING PLACEMENT OF CONCRETE. IF VOIDS ARE DETECTED OR AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL REMOVE A SUFFICIENT VOLUME OF CONCRETE AND REPLACE WITH NON-SHRINK GROUT.

ENCASEMENT OF THE POST-TENSIONING ANCHORAGES SHALL BE SUBJECT TO THE SAME INSPECTION AND REPAIR CRITERIA AS SPECIFIED FOR THE CAP ABOVE.

TOP SURFACE OF THE CAP SHALL BE INTENTIONALLY ROUGHENED WITH A WIRE BRUSH WHEN CAST AND THOROUGHLY CLEANED PRIOR TO PLACING DECK CONCRETE.

THE DUCTS AND STRANDS SHALL BE FREE OF DIRT, LOOSE RUST AND OTHER DELETERIOUS SUBSTANCE BEFORE INSTALLING TENDONS. POST-TENSIONING DUCTS SHALL BE FILLED WITH GROUT AFTER STRESSING HAS BEEN COMPLETED. SEE SPECIAL PROVISION FOR POST-TENSIONING TENDONS.

THERE IS NO PAYMENT FOR THE TEMPORARY FALSEWORK AS THE TEMPORARY FALSEWORK IS CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF BENT 4.

(* PROVIDE BRACING TO RESTRAIN THE SUPERSTRUCTURE AT THE TOP OF BENT 4 AFTER THE COLUMNS ARE CONSTRUCTED. BRACING TO REMAIN IN PLACE UNTIL INTEGRAL BENT CAP CONSTRUCTION IS COMPLETE.

TENDON STRESSING DATA					
TENDON	LOCATION	STRESSING SEQUENCE	JACKING FORCE	ELONGATION BEFORE	ELONGATION AFTER
			BEFORE ANCHOR SET	ANCHOR SET	ANCHOR SET
			KIPS	IN.	IN.
T1	CAP	6	978	3.10	2.85
T2	CAP	3	978	3.10	2.85
T3	CAP	7	978	3.10	2.85
T4	CAP	1	978	2.97	2.72
T5	CAP	2	978	2.97	2.72
T6	CAP	4	400	3.10	2.85
T7	CAP	5	400	3.10	2.85

PROJECT NO. **U-2579AA**
FORSYTH COUNTY
 STATION: **28 + 33.21 -Y2FLYAB-**
41 + 07.80 -L-
 SHEET 1 OF 9

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
BENT 4
SCHEMATIC SEQUENCE OF CONSTRUCTION AND NOTES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

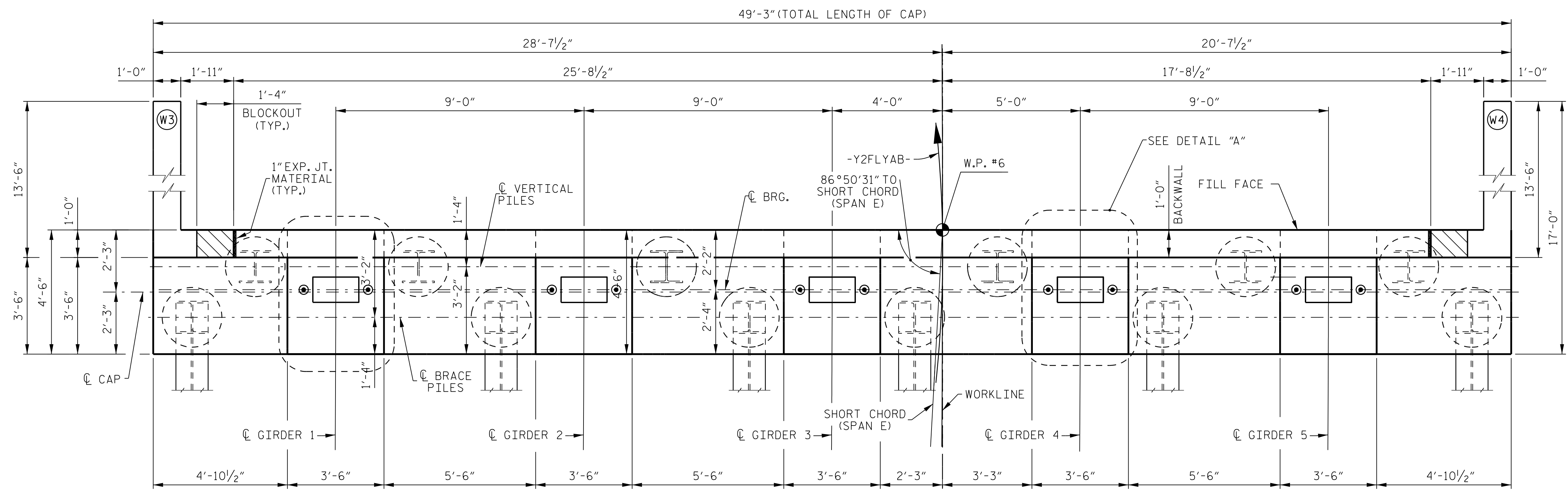
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
 034539
CHRISTOPHER H. SHAFER
 9/29/2022

PLANS PREPARED BY:
PARSONS
 5540 CenterView Drive, Suite 217
 Raleigh, NC 27606-3386
 NC LICENSE No. F-0246
 FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

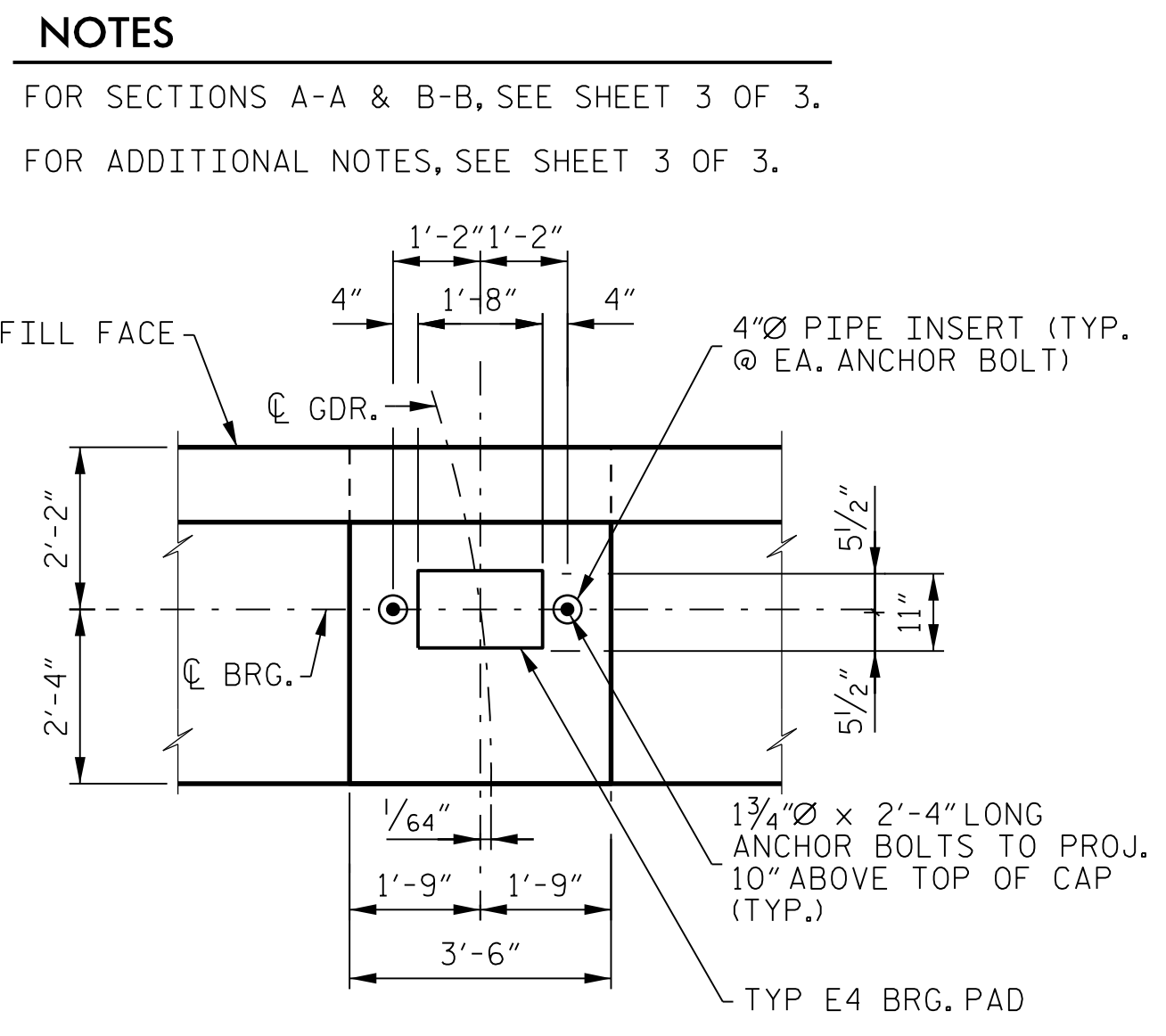
DRAWN BY : J. CAYETANO DATE : 9-21
 CHECKED BY : J. B. TAYLOR DATE : 9-21
 DESIGN ENGINEER : J. B. TAYLOR DATE : 9-21

REVISIONS						SHEET No. S5-68
No.	BY:	DATE:	No.	BY:	DATE:	
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2			4			

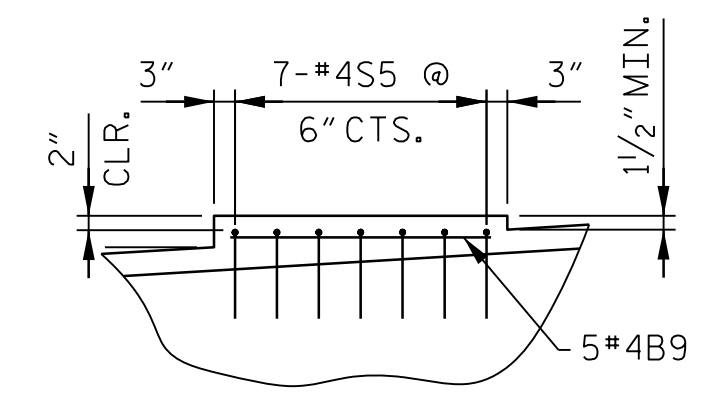
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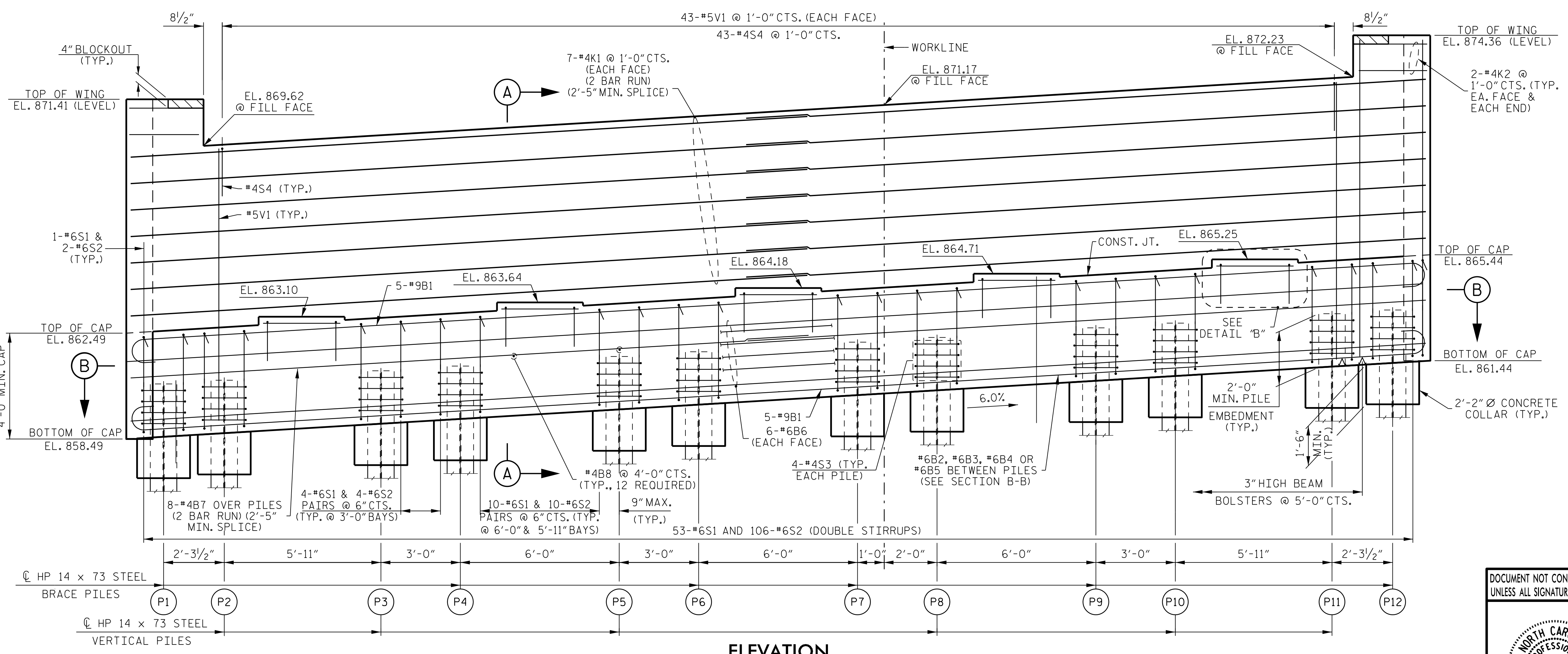
PLAN



DETAIL "A"



DETAIL "B"



ELEVATION

NOTES

FOR SECTIONS A-A & B-B, SEE SHEET 3 OF 3.
FOR ADDITIONAL NOTES, SEE SHEET 3 OF 3.

TOP OF PILE ELEVATIONS

PILE	TOP OF PILE ELEVATIONS
P1	860.57
P2	860.71
P3	861.07
P4	861.25
P5	861.65
P6	861.79
P7	862.14
P8	862.32
P9	862.68
P10	862.86
P11	863.22
P12	863.36

PROJECT NO. **U-2579AA**
FORSYTH COUNTY
STATION: **28 + 33.21 -Y2FLYAB-**
41 + 07.80 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE
END BENT 2
PLAN & ELEVATION

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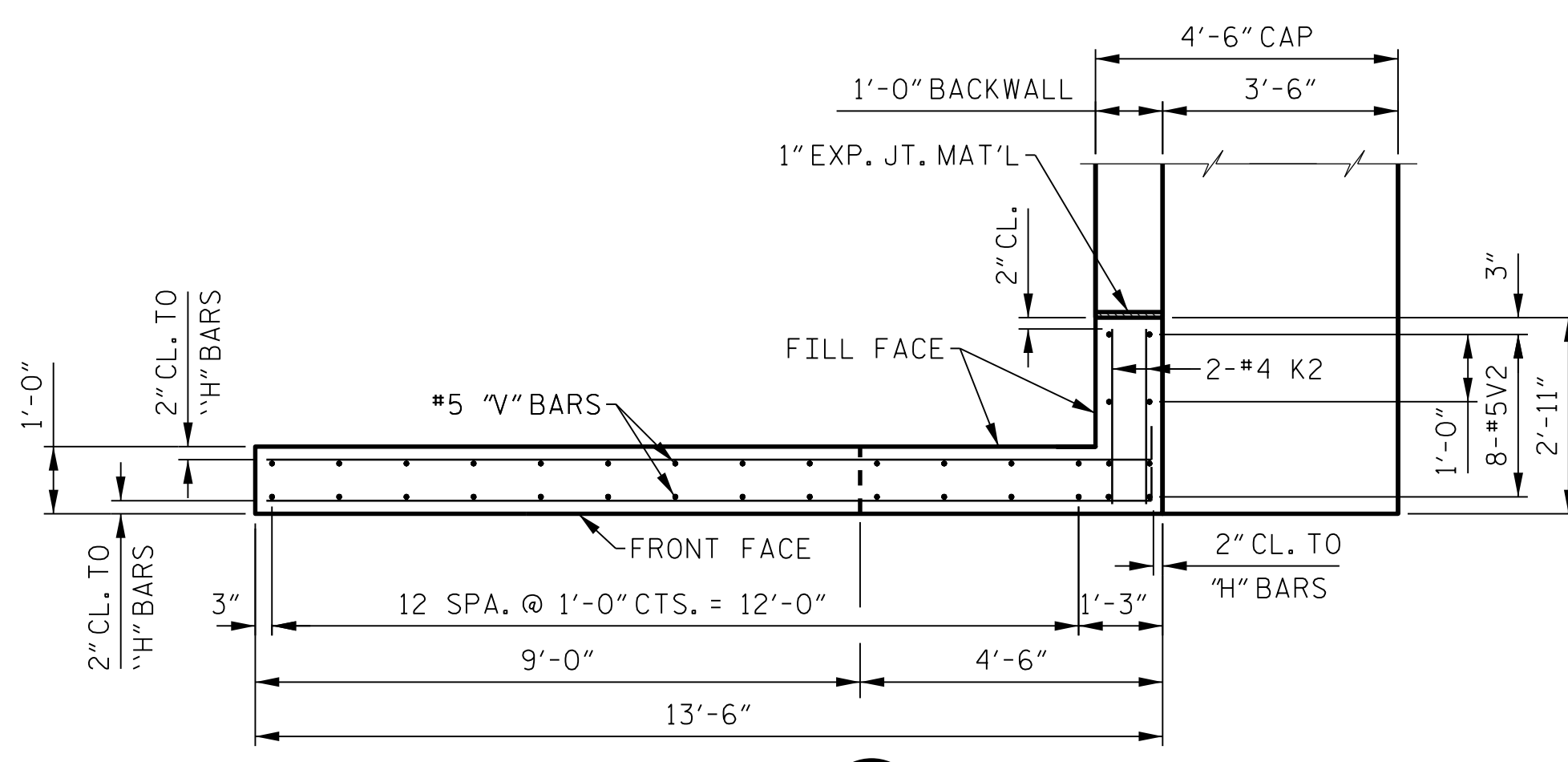


PLANS PREPARED BY:
PARSONS
5540 CenterView Drive, Suite 217
Raleigh, NC 27606-3386
NC LICENSE No. F-0246
FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

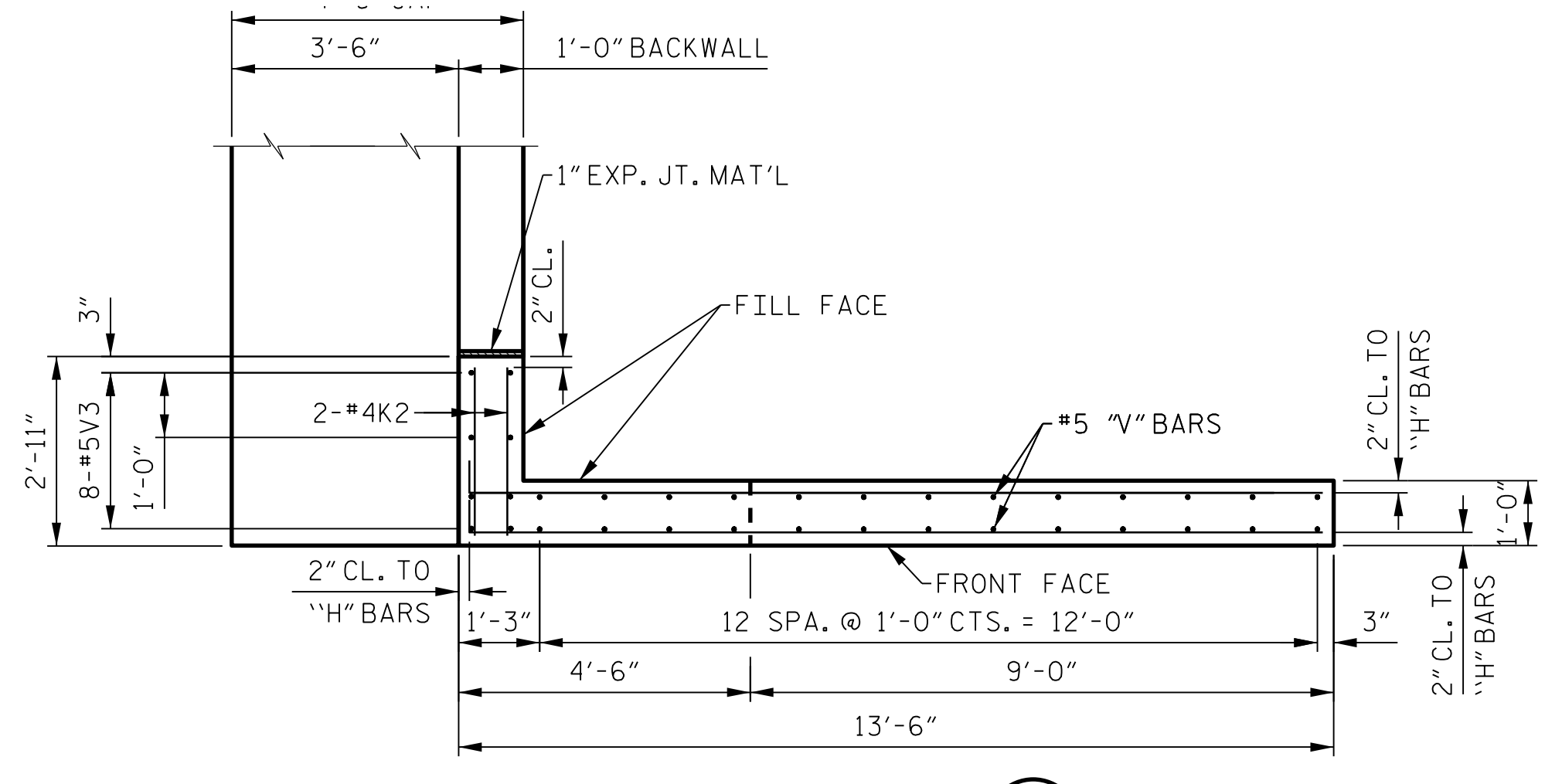
DRAWN BY: J. CAYTANO DATE: 9-21
CHECKED BY: J. B. TAYLOR DATE: 9-21
DESIGN ENGINEER: J. B. TAYLOR DATE: 9-21

REVISIONS		SHEET No.	
No.	BY:	DATE:	S5-77
1		3	TOTAL SHEETS
2		4	84

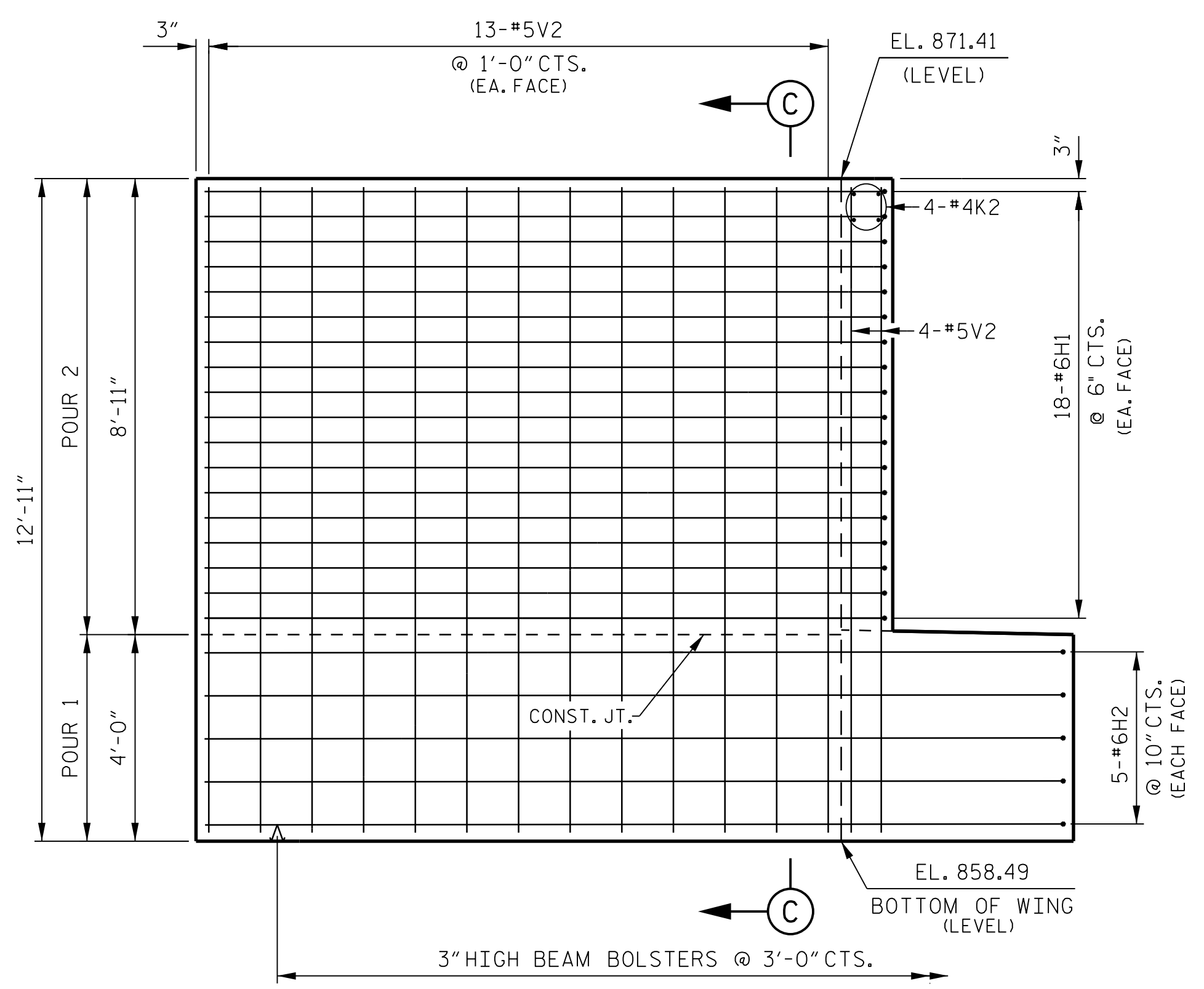
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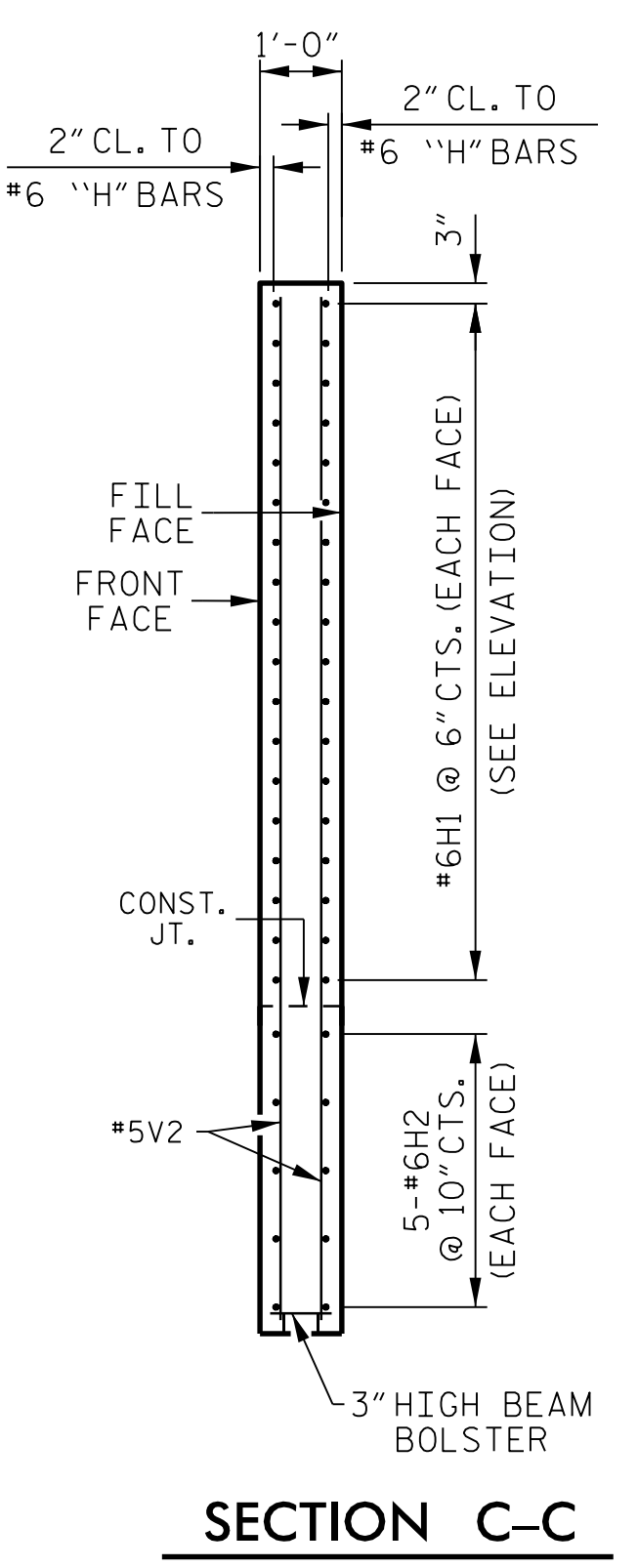
PLAN OF WING W3



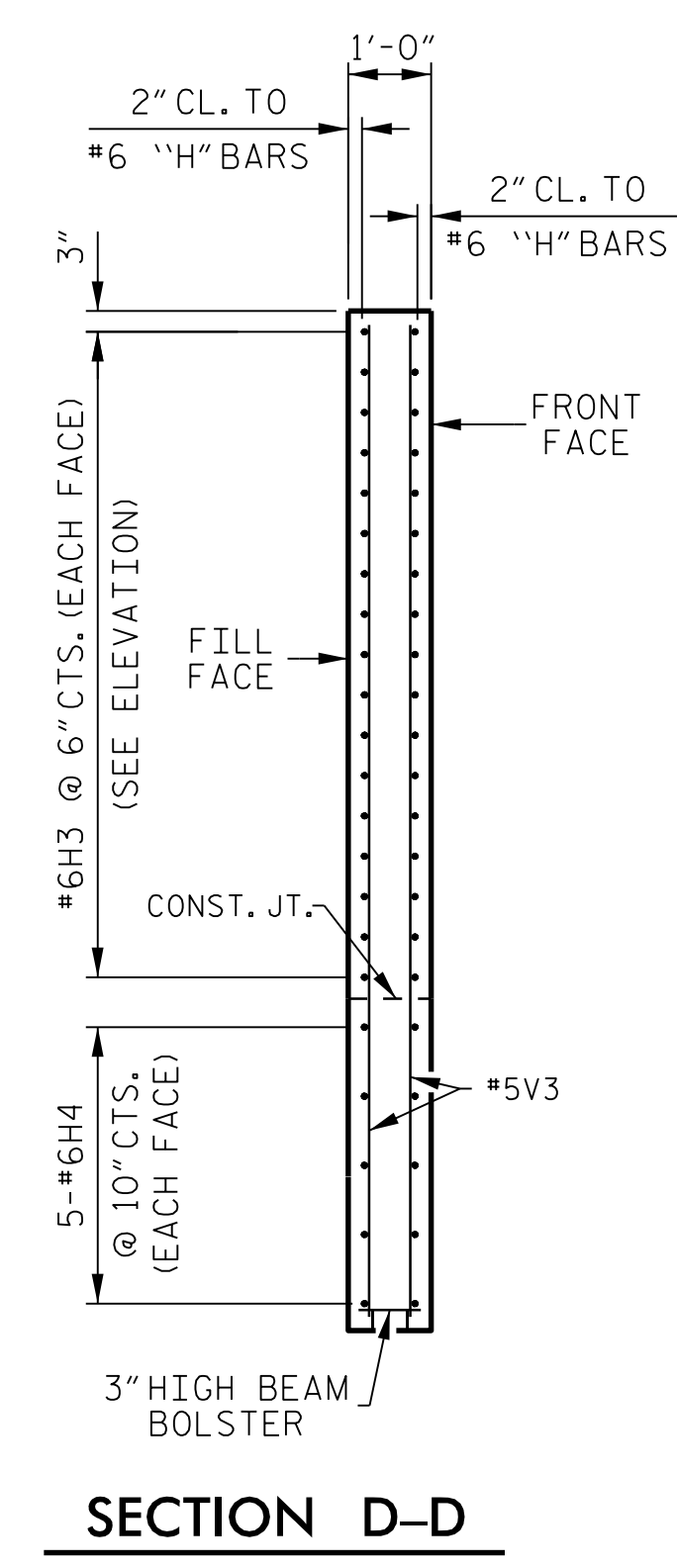
PLAN OF WING W4



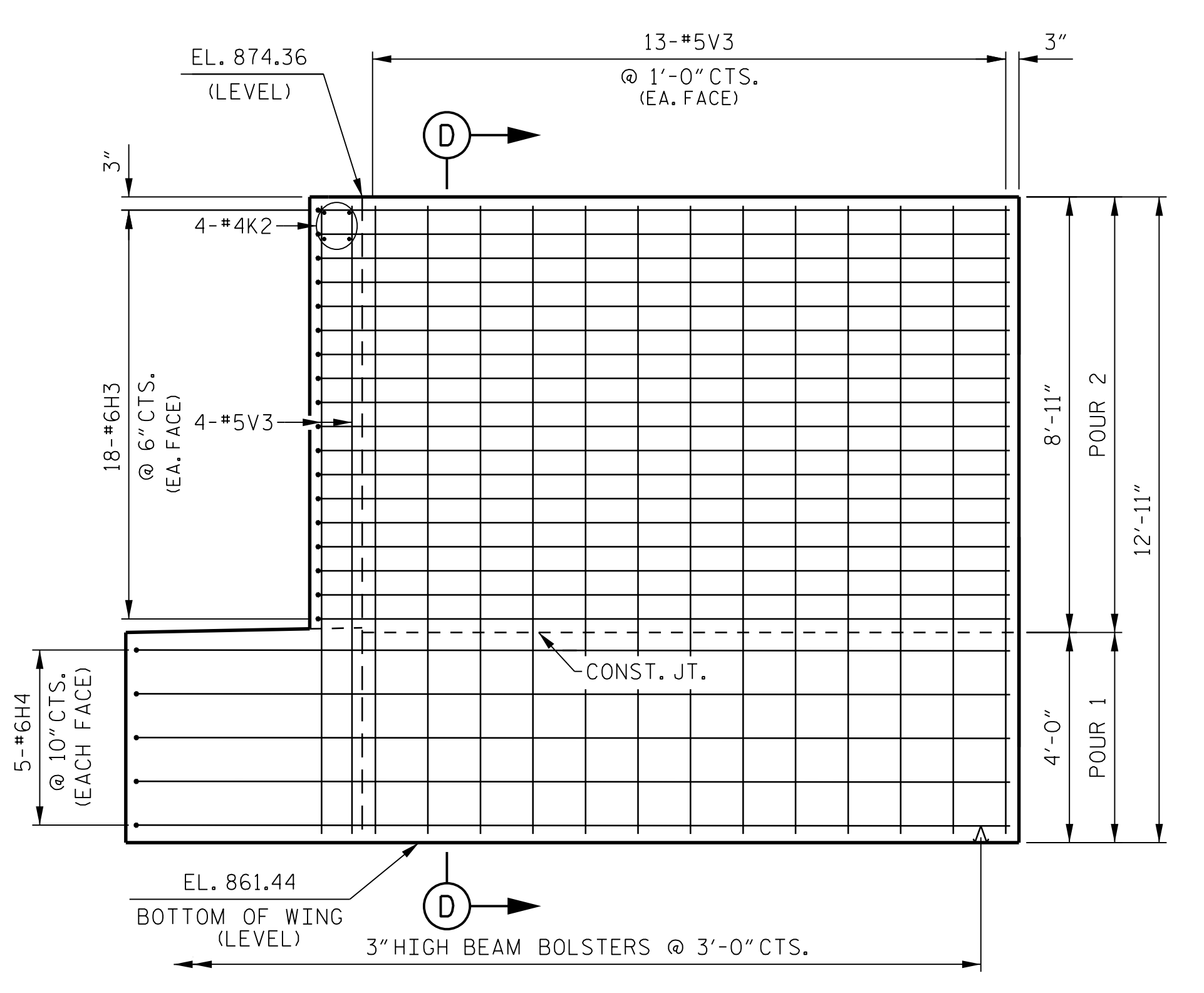
ELEVATION OF WING W3



SECTION C-C



SECTION D-D

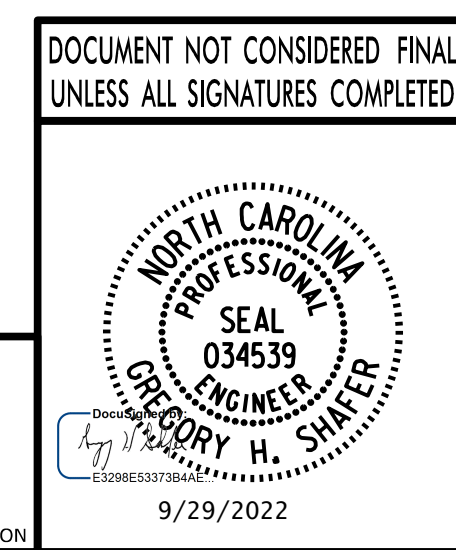


ELEVATION OF WING W4

PROJECT NO. U-2579AA
 FORSYTH COUNTY
 STATION: 28 + 33.21 -Y2FLYAB-
41 + 07.80 -L-

SHEET 2 OF 3

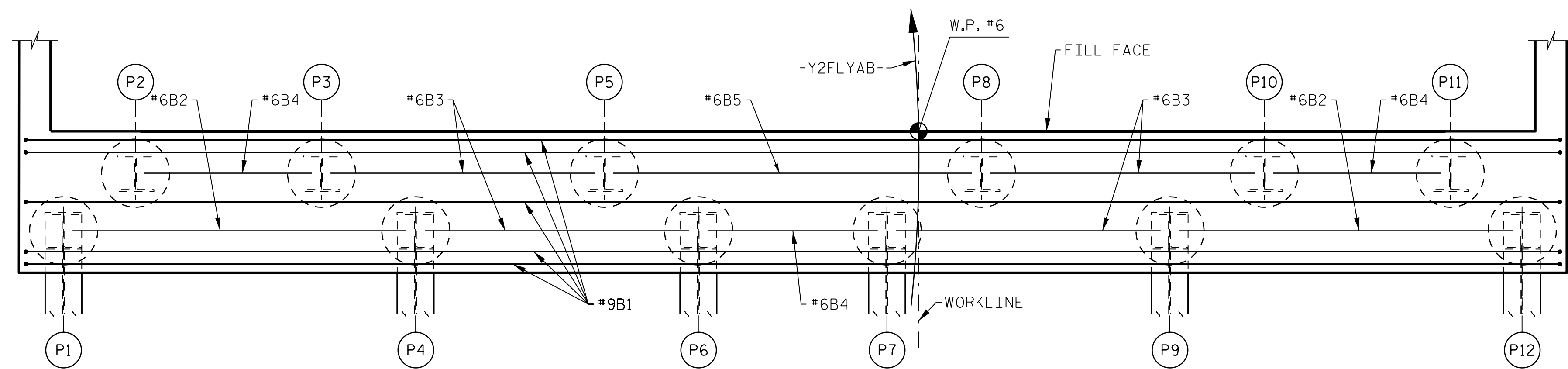
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE END BENT 2 WINGWALL DETAILS					
REVISIONS					
No.	BY:	DATE:	No.	BY:	DATE:
1			3		
2			4		
SHEET No. S5-78					TOTAL SHEETS 84



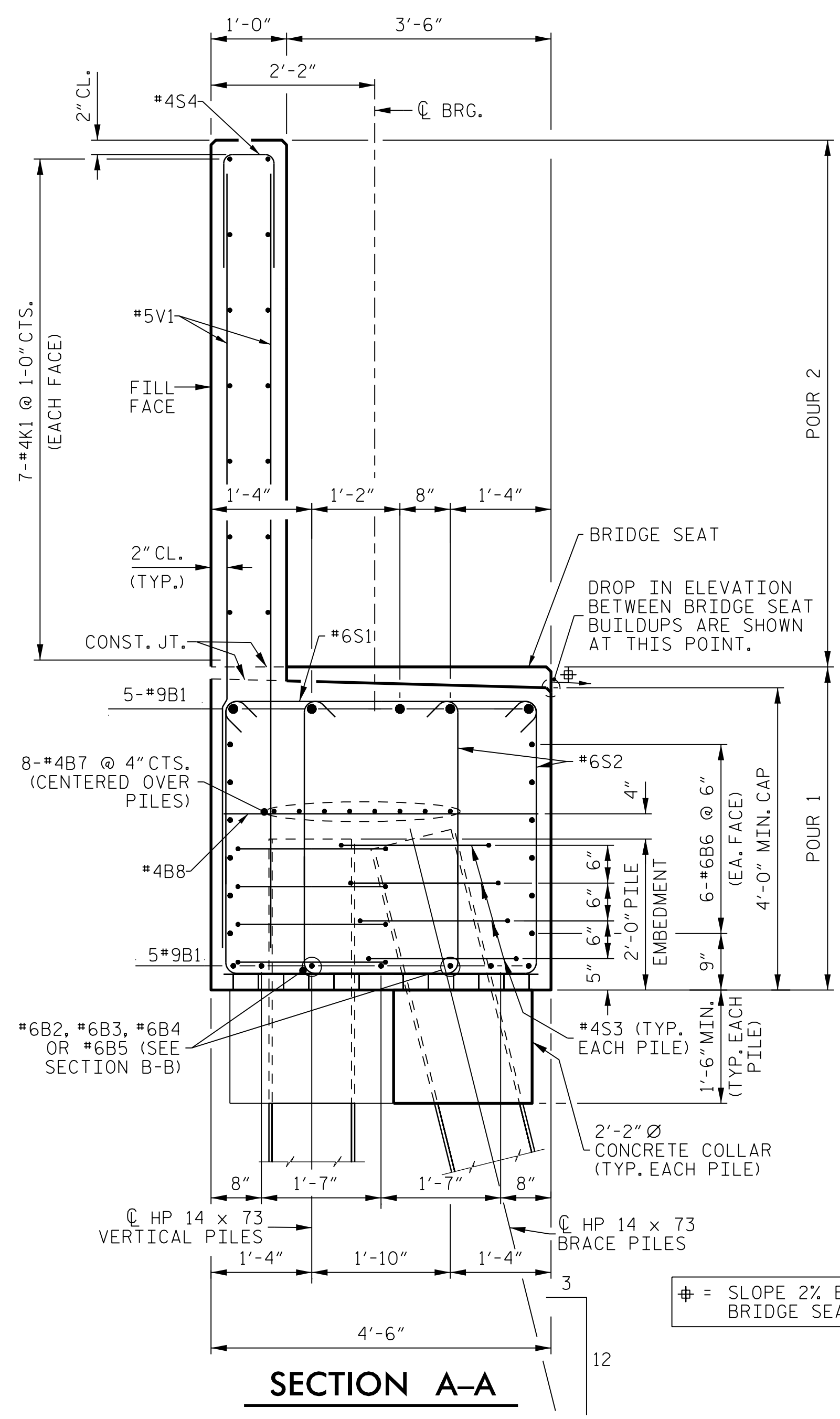
PLANS PREPARED BY:
PARSONS
 5540 CenterView Drive, Suite 217
 Raleigh, NC 27606-3386
 NC LICENSE No. F-0246
 FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DRAWN BY: J. CAYETANO DATE: 9-21
 CHECKED BY: J. B. TAYLOR DATE: 9-21
 DESIGN ENGINEER: J. B. TAYLOR DATE: 9-21

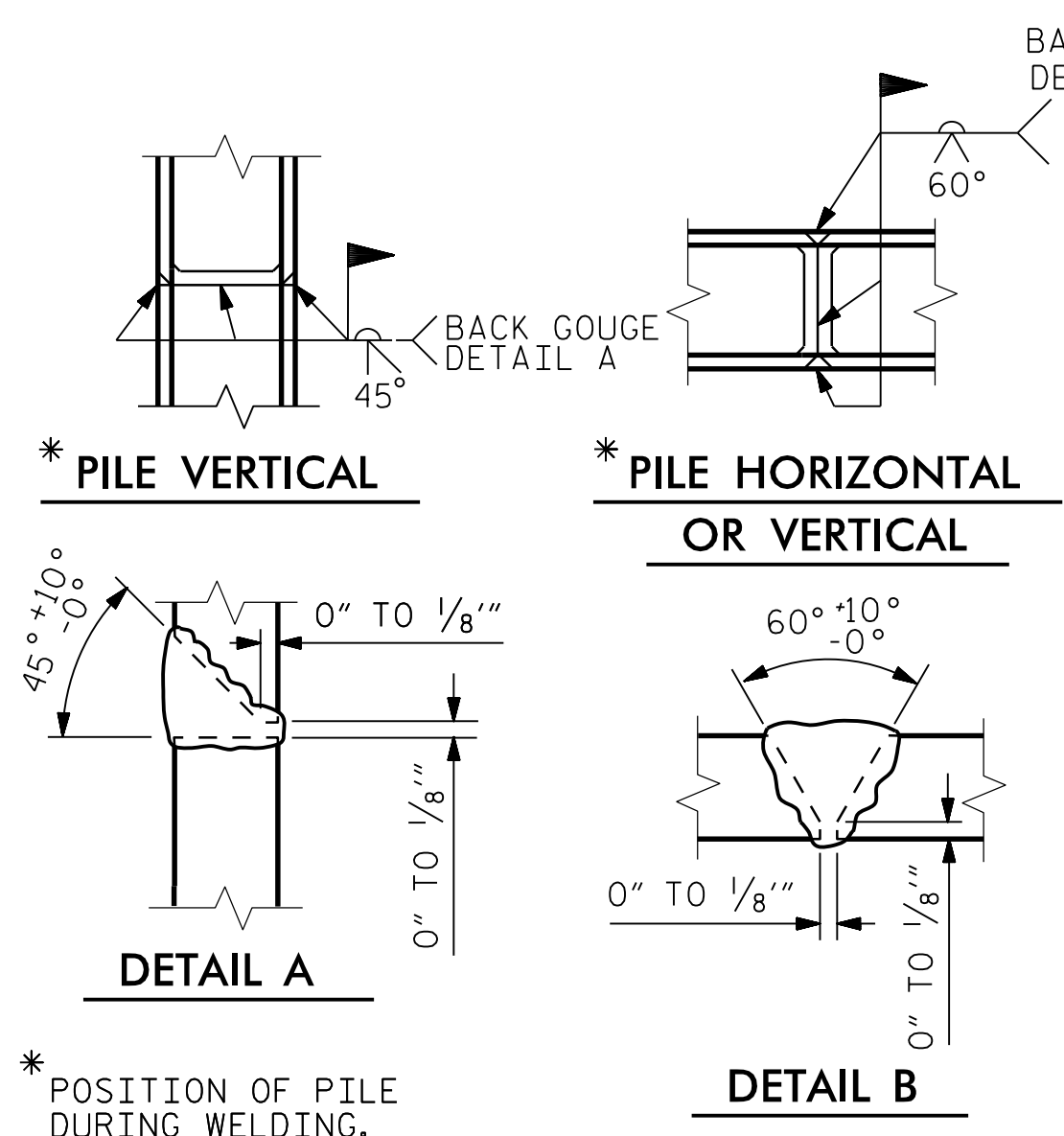
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SECTION B-B

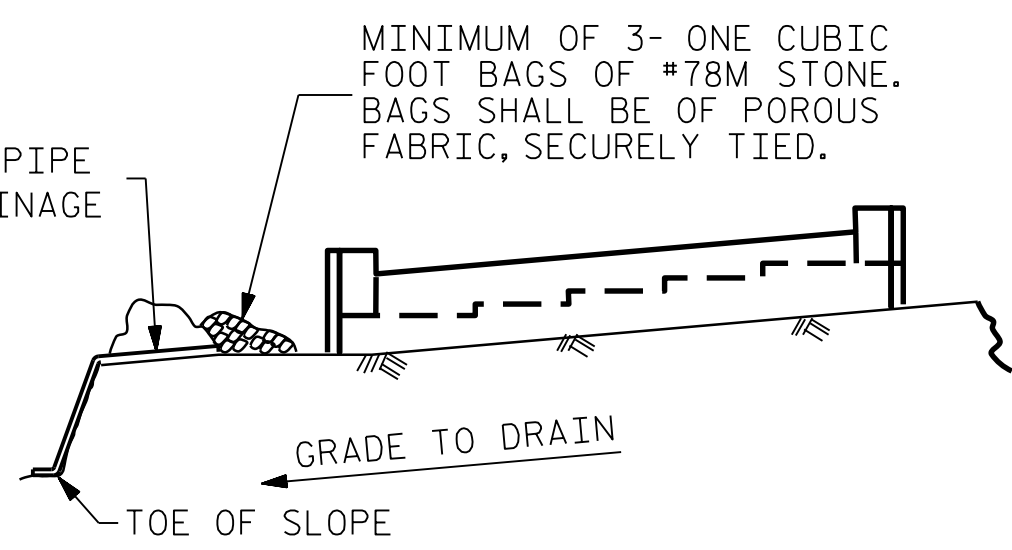


SECTION A-A



NOTES

- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
- BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.
- THE TOP SURFACE AREA OF THE END BENT CAP SHALL BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT THAT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.
- THE TOP SURFACE OF THE END BENT CAP EXCEPT THE BRIDGE SEAT BUILD-UPS SHALL BE SLOPED TRANSVERSELY FROM THE FILL FACE TO THE FRONT FACE AT THE RATE OF 2%.
- THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE BARRIER RAIL (PARAPET AND END POST) ARE CAST IF SLIP FORMING IS USED.



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

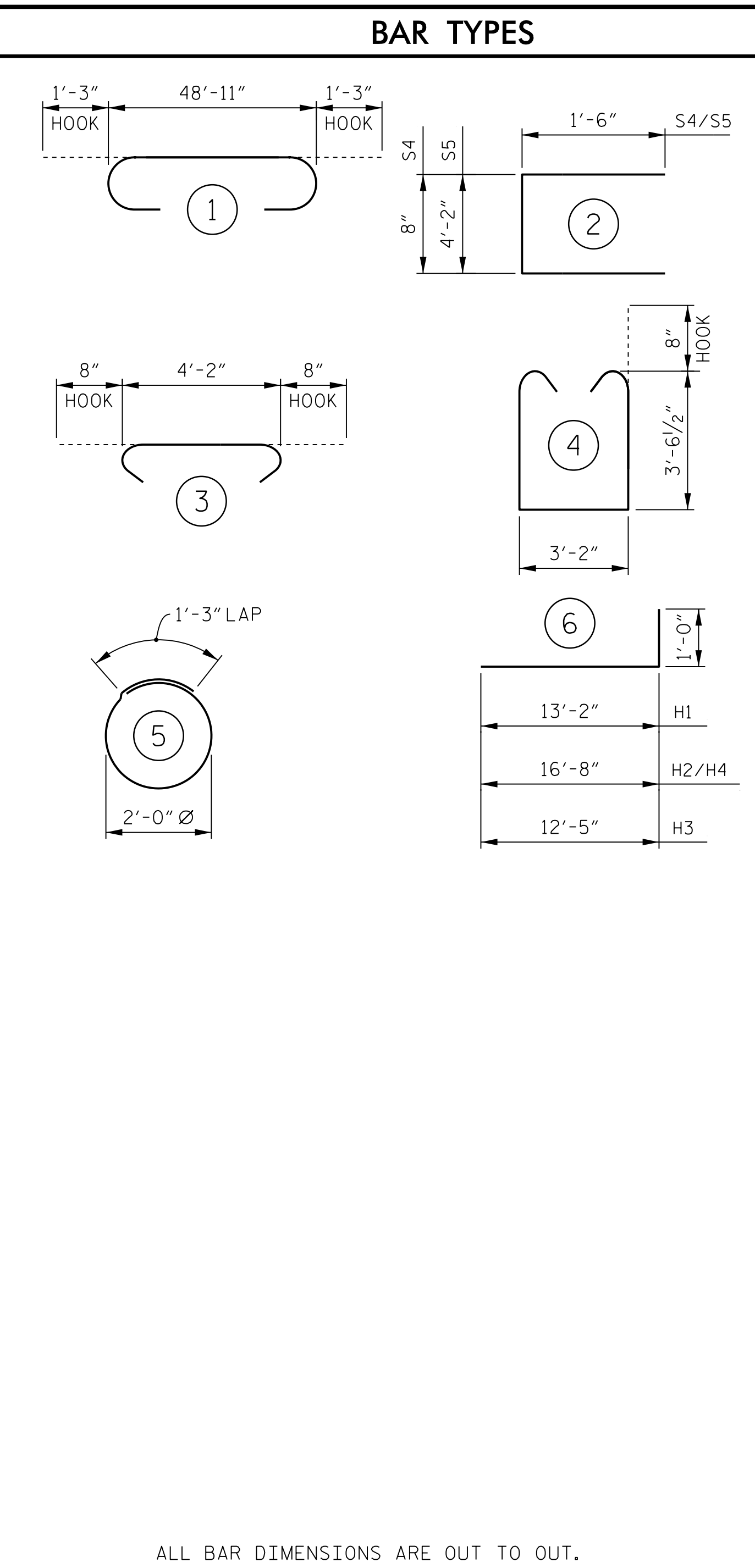
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

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

TEMPORARY DRAINAGE AT END BENT

BILL OF MATERIAL
END BENT 2

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	10	#9	I	51'- 5"	1,748
B2	2	#6	STR	10'- 7"	32
B3	4	#6	STR	8'- 5"	51
B4	3	#6	STR	5'- 4"	24
B5	1	#6	STR	11'- 5"	17
B6	12	#6	STR	48'- 11"	882
B7	16	#4	STR	25'- 8"	274
B8	12	#4	STR	4'- 2"	33
B9	25	#4	STR	3'- 2"	53
H1	36	#6	6	14'- 2"	766
H2	10	#6	6	17'- 8"	265
H3	36	#6	6	14'- 2"	766
H4	10	#6	6	17'- 8"	265
K1	14	#4	STR	25'- 8"	240
K2	8	#4	STR	2'- 7"	14
S1	53	#6	3	5'- 6"	438
S2	106	#6	4	11'- 7"	1,844
S3	48	#4	5	7'- 7"	243
S4	43	#4	2	3'- 8"	105
S5	35	#4	2	7'- 2"	168
V1	86	#5	STR	10'- 7"	942
V2	34	#5	STR	12'- 7"	446
V3	34	#5	STR	12'- 7"	446
REINFORCING STEEL				LBS.	10,062
CLASS 'A' CONCRETE					
POUR #1		CU. YDS.	36.7		
POUR #2		CU. YDS.	24.7		
TOTAL		CU. YDS.	61.4		
HP14x73 STEEL PILES		NO. 12	LIN. FT.	480.0	
PILE DRIVING EQUIPMENT SETUP FOR HP 14 x 73 STEEL PILES 12 EACH					



PROJECT NO. U-2579AA
FORSYTH COUNTY
 STATION: 28 + 33.21 -Y2FLYAB-
41 + 07.80 -L-
 SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
END BENT 2
DETAILS

REVISIONS						SHEET No.
No.	BY:	DATE:	No.	BY:	DATE:	S5-79
1			3			TOTAL SHEETS
2			4			84

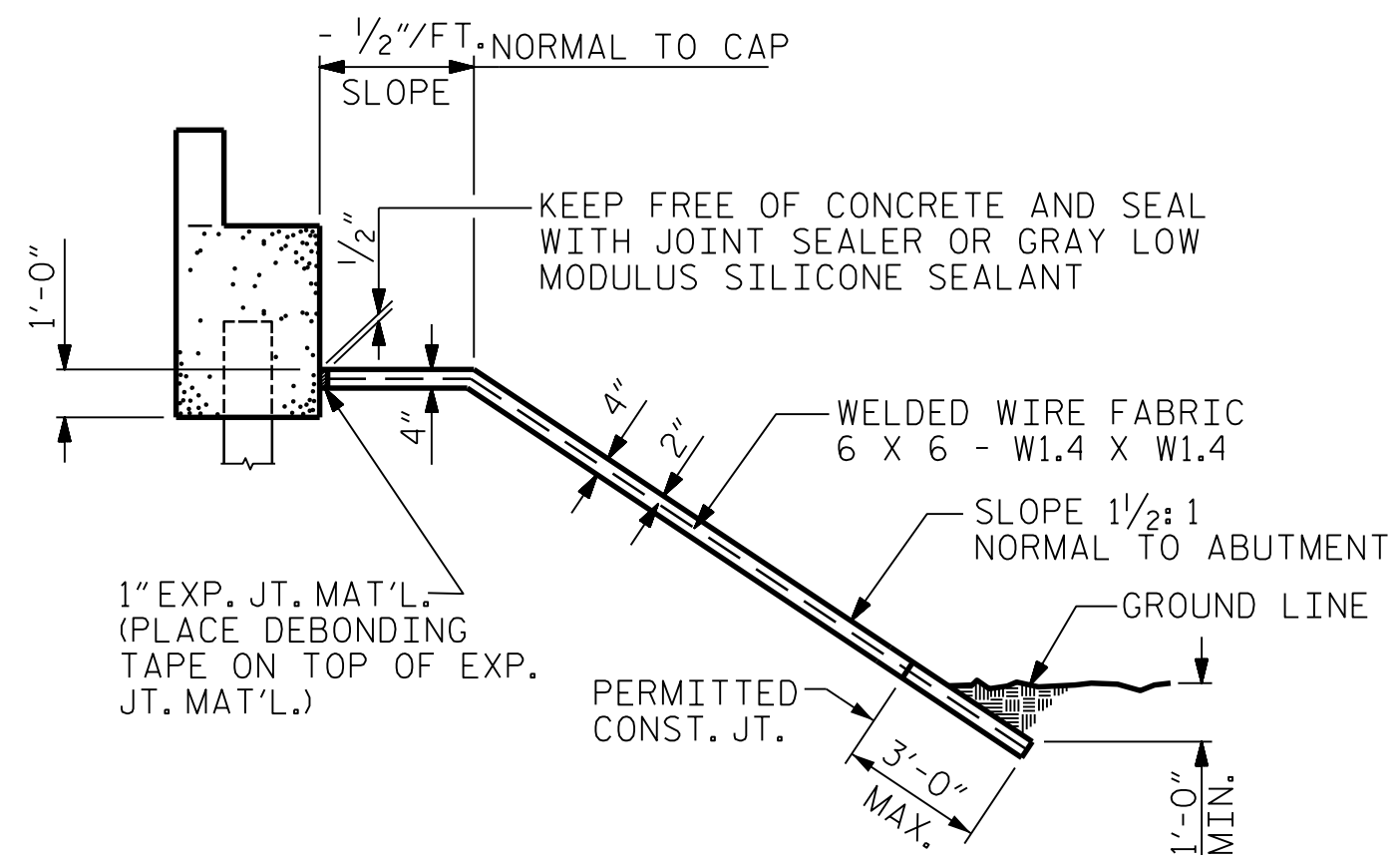
DRAWN BY : J. CAYETANO DATE : 9-21
 CHECKED BY : J. B. TAYLOR DATE : 9-21
 DESIGN ENGINEER : J. B. TAYLOR DATE : 9-21

PLANS PREPARED BY :
PARSONS
 5540 Centerview Drive, Suite 217
 Raleigh, NC 27606-3386
 NC LICENSE No. T-0246
 FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

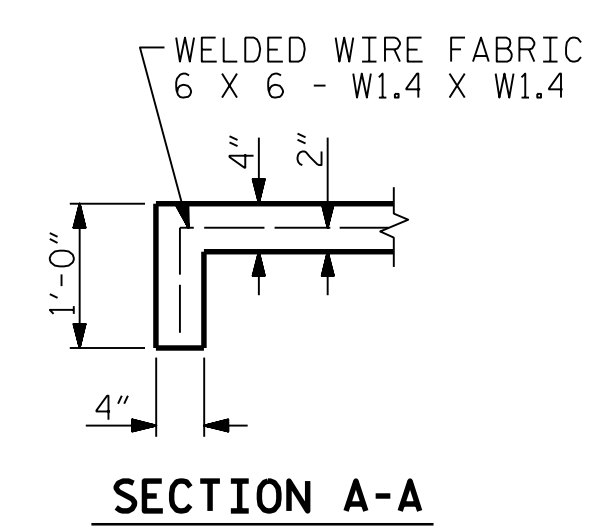
DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA
 PROFESSIONAL SEAL
 034539
GREGORY H. SHEPHERD
 CIVIL ENGINEER
 9/29/2022

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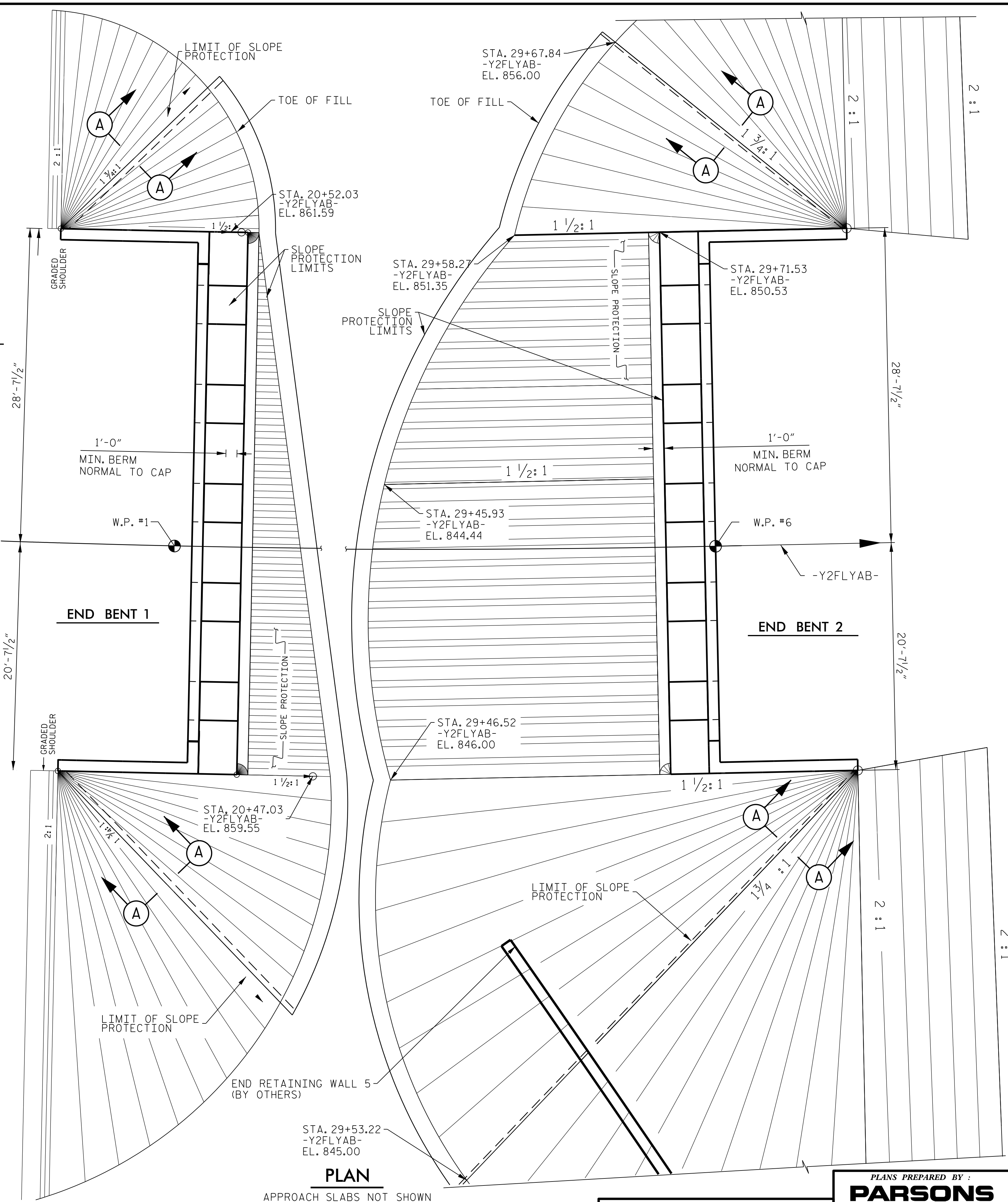
SECTION ALONG C SURVEY WHEN DITCH IS NOT PROVIDED



SECTION A-A

BRIDGE AT STA.28 + 33.21 -Y2FLYAB-	4" SLOPE PROTECTION	WELDED WIRE FABRIC 60" WIDE *
	SQUARE YARDS	APPROX. LINEAR FEET
END BENT 1	100	180
END BENT 2	300	540

* QUANTITY SHOWN IS BASED ON 5' POURS.



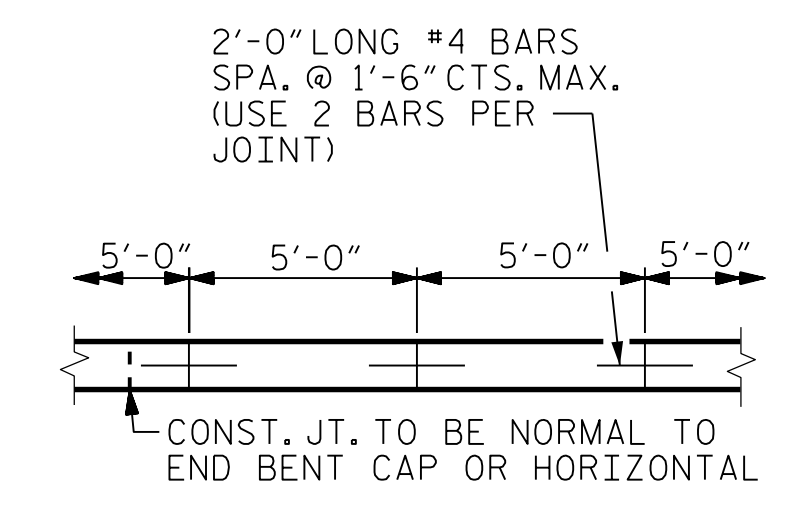
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APPROACH SLABS NOT SHOWN

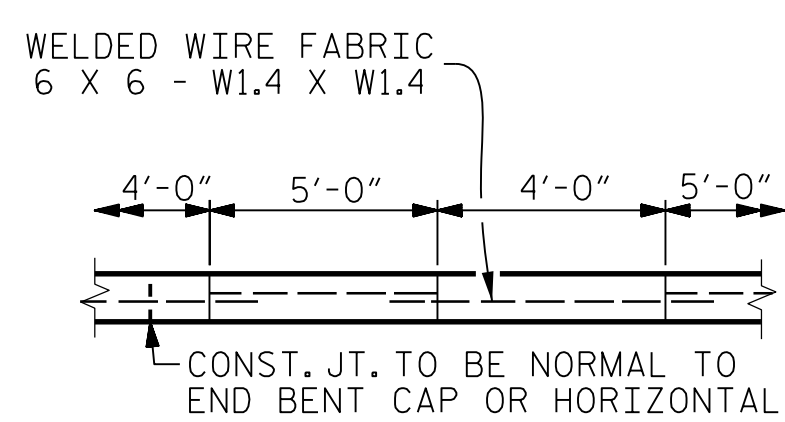
GENERAL NOTES

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

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



POURING DETAIL



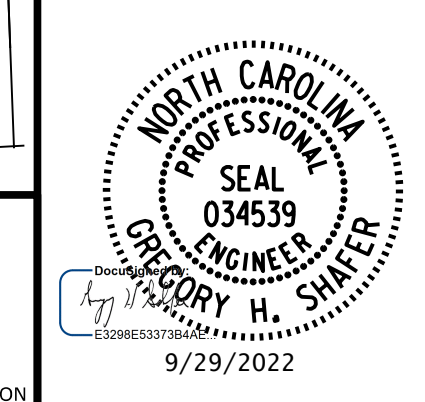
OPTIONAL POURING DETAIL

PROJECT NO. U-2579AA
 FORSYTH COUNTY
 STATION: 28 + 33.21 -Y2FLYAB-
41 + 07.80 -L-
 BRIDGE No. 330733

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SLOPE PROTECTION DETAILS

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

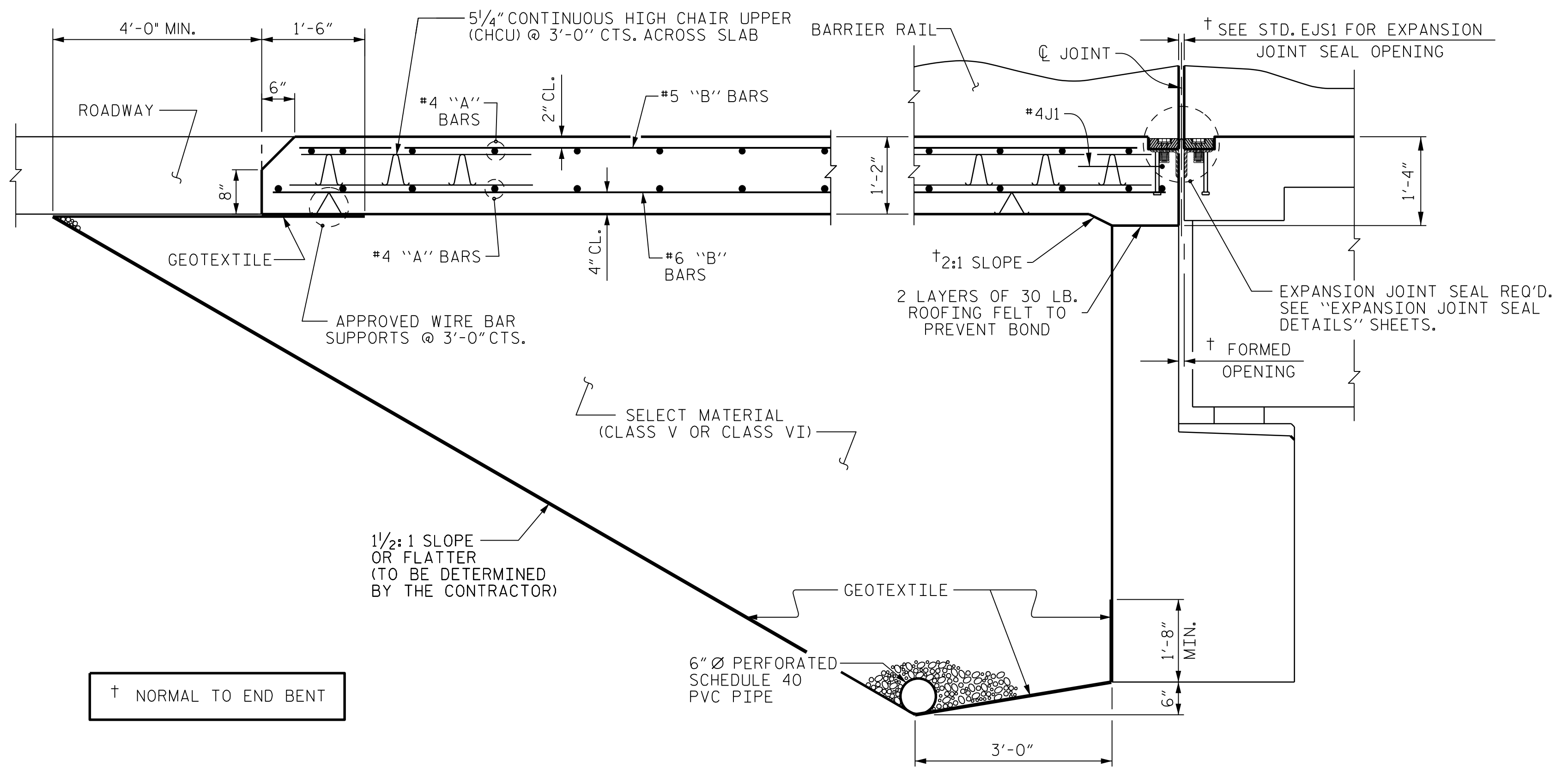


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 Raleigh, NC 27606-3386
 NC LICENSE No. F-0246
 FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

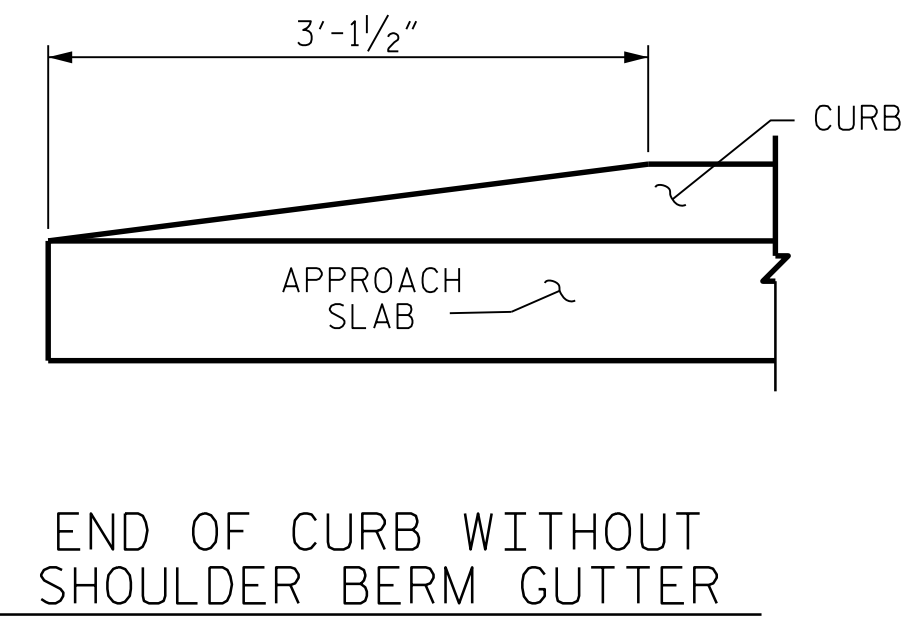
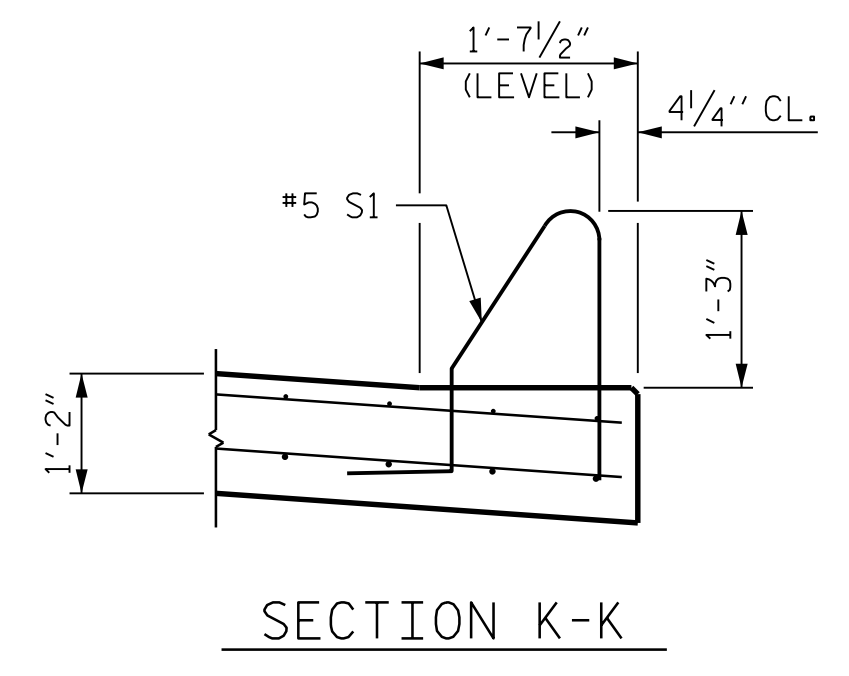
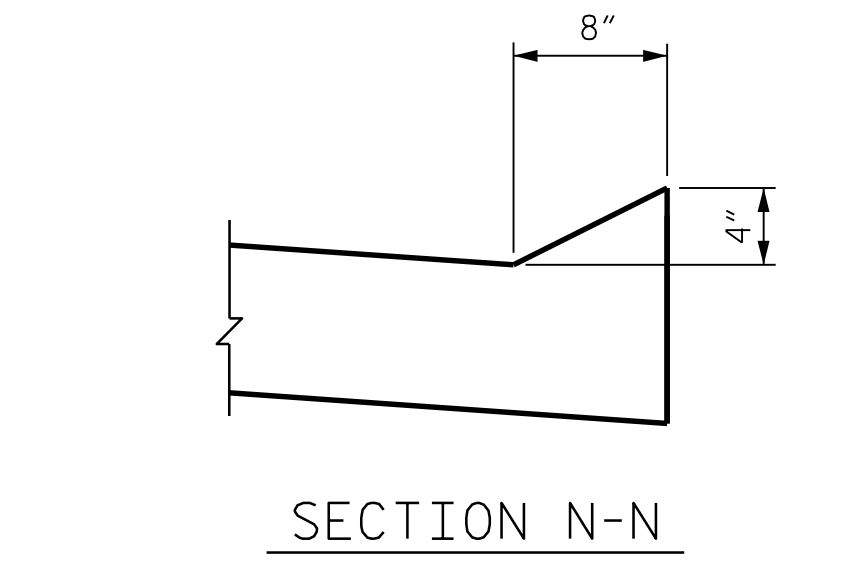
DRAWN BY :	J. CAYETANO	DATE :	9-21
CHECKED BY :	J. B. TAYLOR	DATE :	9-21
DESIGN ENGINEER :	J. B. TAYLOR	DATE :	9-21

REVISIONS				SHEET No.	
No.	BY:	DATE:	No.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS
					84

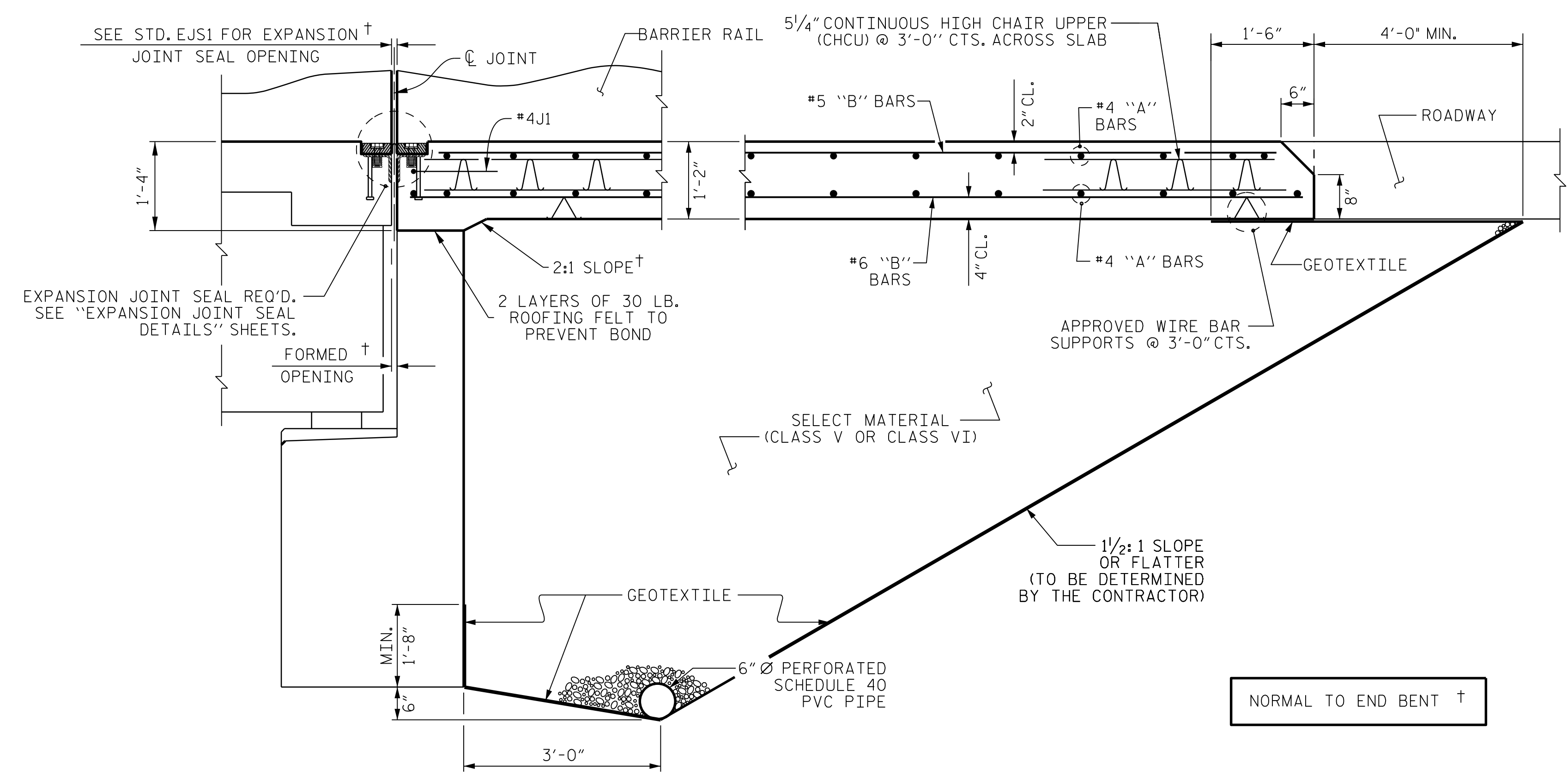
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SECTION THRU SLAB @ END BENT 1
(TYPE I - BRIDGE APPROACH FILL)



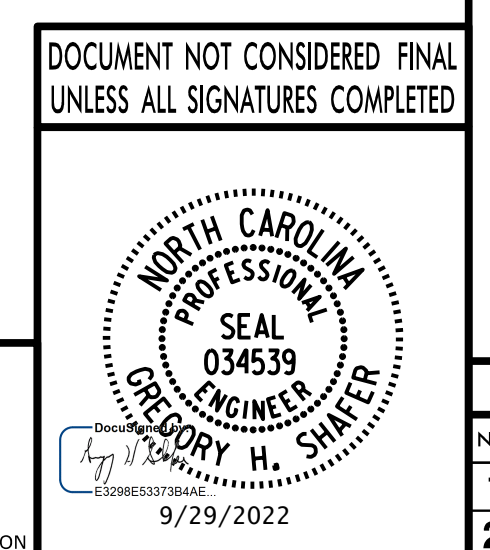
CURB DETAILS



SECTION THRU SLAB @ END BENT 2
(TYPE I - BRIDGE APPROACH FILL)

PROJECT NO. U-2579AA
 FORSYTH COUNTY
 STATION: 28+33.21 -Y2FLYAB-
41+07.80 -L-
 SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
**BRIDGE APPROACH SLAB
 FOR FLEXIBLE PAVEMENT**



PLANS PREPARED BY:
PARSONS
 5540 CenterView Drive, Suite 217
 Raleigh, NC 27606-3386
 NC LICENSE No. F-0246
 FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DRAWN BY : J. CAYETANO DATE : 9-21
 CHECKED BY : J. B. TAYLOR DATE : 9-21
 DESIGN ENGINEER : J. B. TAYLOR DATE : 9-21

REVISIONS						SHEET No. S5-82
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