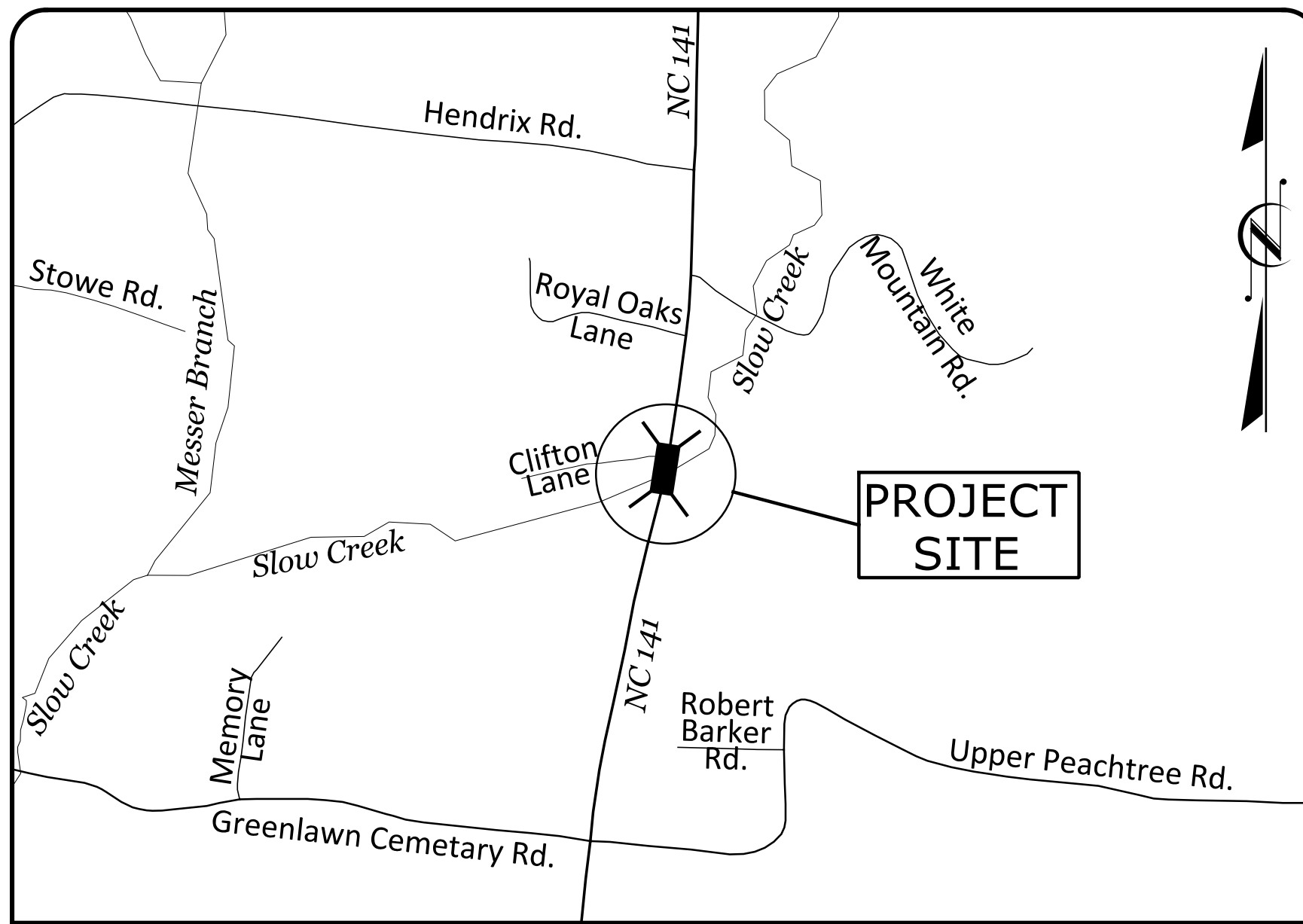


09\_08/2019

See Sheet 1-A For Index of Sheets  
See Sheet 1-B For Conventional Symbols



**VICINITY MAP**  
NOT TO SCALE

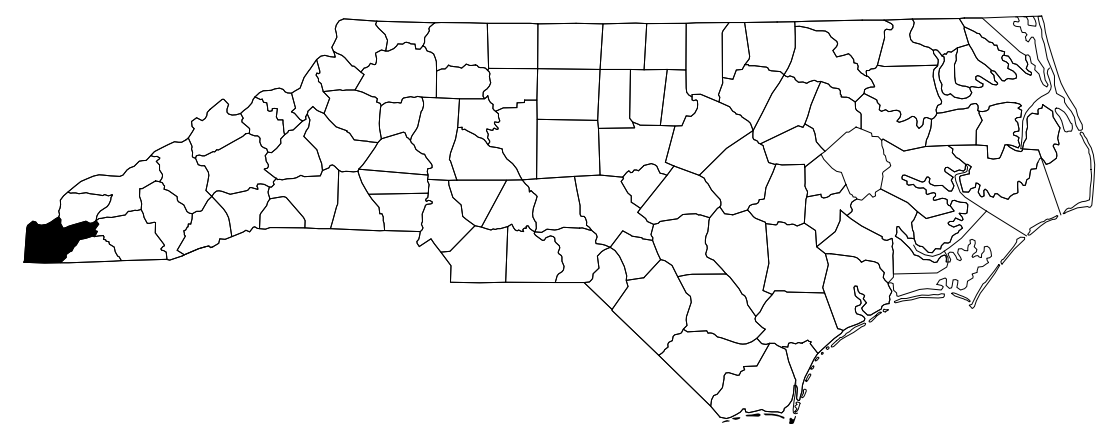
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**CHEROKEE COUNTY**

LOCATION: BRIDGE 190002 ON NC141 OVER SLOW CREEK

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0011	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
WBS 67011.1.1		PE	
WBS 67011.2.1		ROW, UTL.	
WBS 67011.3.1		CONST.	



**TIP PROJECT: BR-0011**

**CONTRACT: C204387**

**BEGIN TIP PROJECT BR-0011**  
-L- STA. 10+00.00

**BEGIN CONSTRUCTION**  
-L- STA. 12+00.00

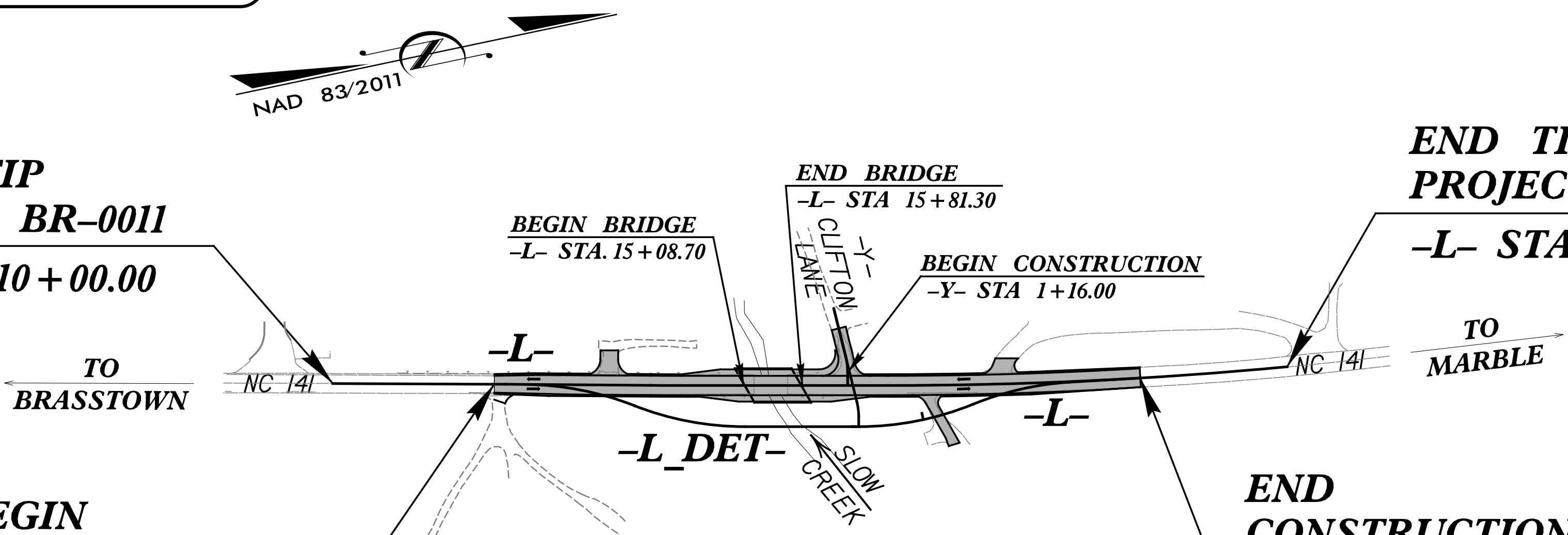
**BEGIN BRIDGE**  
-L- STA. 15+08.70

**END BRIDGE**  
-L- STA. 15+81.30

**BEGIN CONSTRUCTION**  
-Y- STA. 1+16.00

**END TIP PROJECT BR-0011**  
-L- STA. 21+82.40

**END CONSTRUCTION**  
-L- STA. 20+00.00



**STRUCTURE**

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**DESIGN DATA**

ADT 2018 =	4200 VPD
ADT 2040 =	4800 VPD
K =	9 %
D =	55 %
T =	6 % *
V =	50 MPH
* TTST =	1% DUAL 5%
FUNC CLASS =	MAJOR COLLECTOR REGIONAL TIER

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT BR-0011	=	0.210 MI.
LENGTH OF STRUCTURE TIP PROJECT BR-0011	=	0.014 MI.
TOTAL LENGTH OF TIP PROJECT BR-0011	=	0.224 MI.

Prepared for the North Carolina Department of Transportation  
In the Office of:

**vhb**  
940 Main Campus Drive, Suite 500  
Raleigh, NC 27606  
NC License No. C-3105

2018 STANDARD SPECIFICATIONS

LETTING DATE:  
APRIL 20, 2021

NCDOT CONTACT

MARK COLGAN, PE  
PROJECT ENGINEER

ELIZABETH LAWES, PE  
PROJECT DESIGN ENGINEER

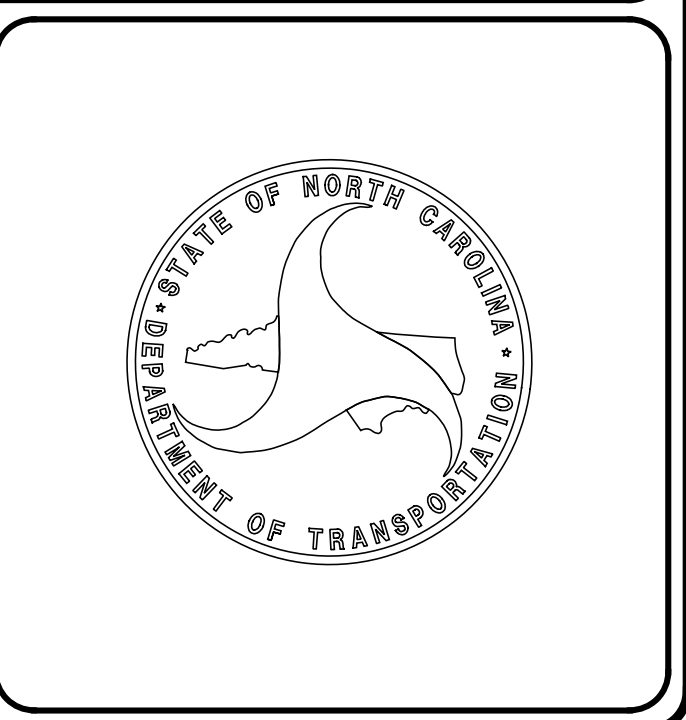
DAVID S. STUTTS, PE  
PROJECT ENGINEER-ROADWAY DESIGN

Documented by:

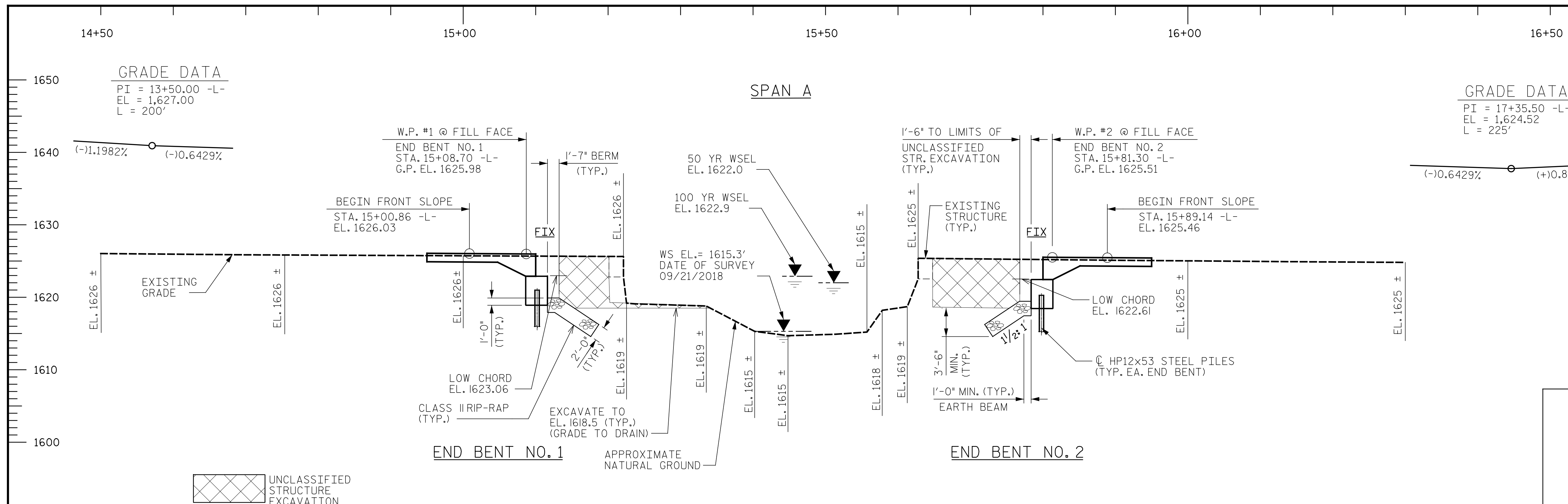
Elizabeth Lawes

SEAL  
044167  
12/2021  
ENGINEER  
ELIZABETH F. LAWES

ELIZABETH LAWES, PE  
SIGNATURE:



1/21/2021  
BR-0011\_rdy\_stro.tsh.dgn  
elawes



**GRADE DATA**  
 PI = 13+50.00 -L-  
 EL = 1,627.00  
 L = 200'

**GRADE DATA**  
 PI = 17+35.50 -L-  
 EL = 1,624.52  
 L = 225'

I HEREBY CERTIFY THESE PLANS  
 ARE AS-BUILT PLANS

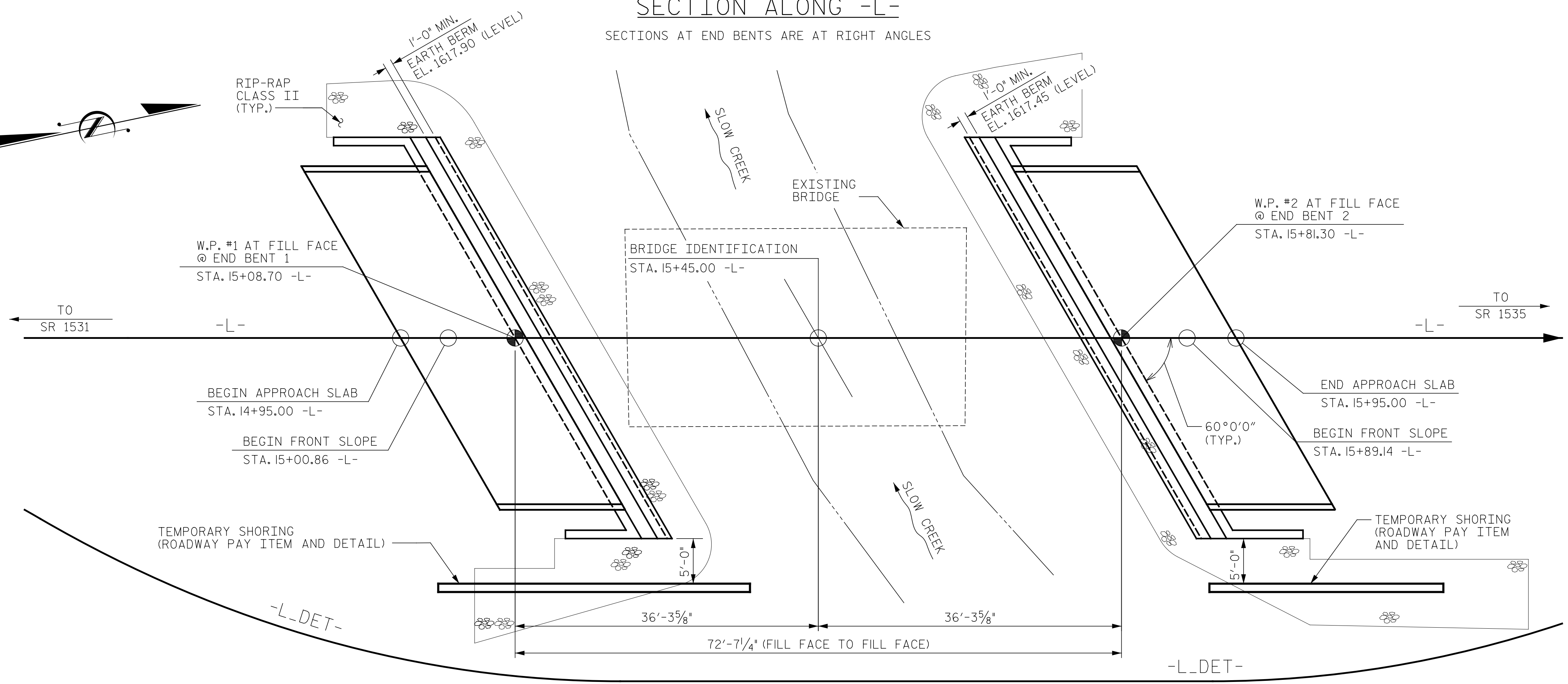
**BRIDGE HYDRAULIC DATA**

DESIGN DISCHARGE	= 1100	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 1622.0	FT
DRAINAGE AREA	= 3.1	SQ. MI.
BASE DISCHARGE	= 1400	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 1622.9	FT

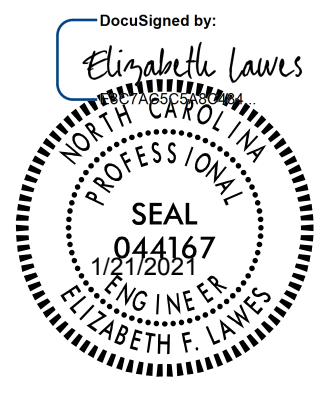
**OVERTOPPING DATA**

OVERTOPPING DISCHARGE	= 2800	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION*	= 1625.1	FT

\* OVERTOPPING OCCURS AT STA. -L- 17+17.7



PROJECT NO. BR-0011  
CHEROKEE COUNTY  
 STATION: 15+45.00 -L-  
 SHEET 1 OF 3 REPLACES BRIDGE NO. 190002



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 FOR BRIDGE OVER SLOW CREEK ON  
 NC 141 BETWEEN SR 1531 AND SR 1535

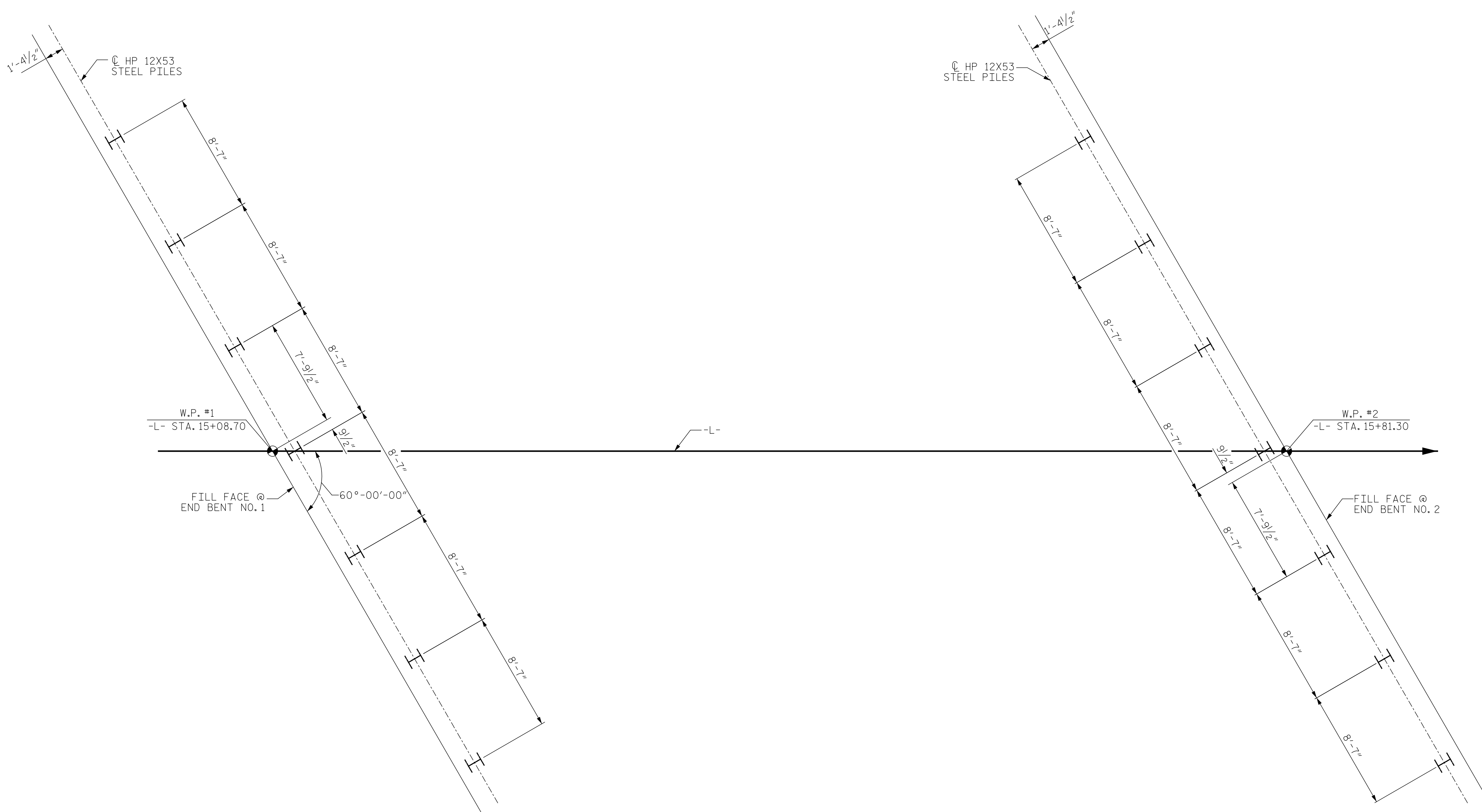
**PLAN**  
 (PILES NOT SHOWN FOR CLARITY)

DRAWN BY : KFS  
 CHECKED BY : EFL  
 DATE : 1/13/2021  
 DATE : 1/13/2021

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

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 Raleigh, NC 27606

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



END BENT NO. 1

END BENT NO. 2

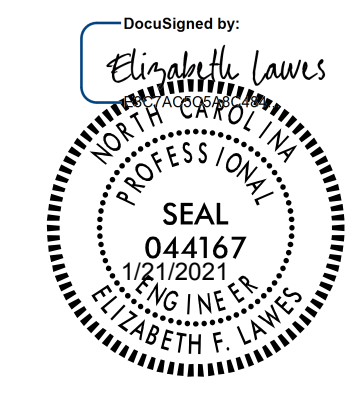
### FOUNDATION LAYOUT

DIMENSIONS LOCATING PILES ARE SHOWN TO THE CENTERLINE OF PILES

#### NOTES

- FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
- PILES AT END BENT NO. 1 AND END BENT NO. 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 132 TONS PER PILE.
- DRIVE PILES AT END BENT NO. 1 AND END BENT NO. 2 TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE.
- TESTING PILES WITH THE PDA DURING DRIVING, RESTRIKING, OR REDRIVING MAY BE REQUIRED. THE ENGINEER WILL DETERMINE THE NEED FOR PDA TESTING. FOR PDA TESTING, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
- STEEL H-PILE POINTS ARE REQUIRED FOR STEEL H-PILES AT END BENT NOS. 1 AND 2. FOR STEEL PILE POINTS, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

PROJECT NO. BR-0011  
CHEROKEE COUNTY  
 STATION: 15+45.00 -L-  
 SHEET 2 OF 3 REPLACES BRIDGE NO. 190002



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STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 FOR BRIDGE OVER SLOW CREEK ON  
 NC 141 BETWEEN SR 1531 AND SR 1535

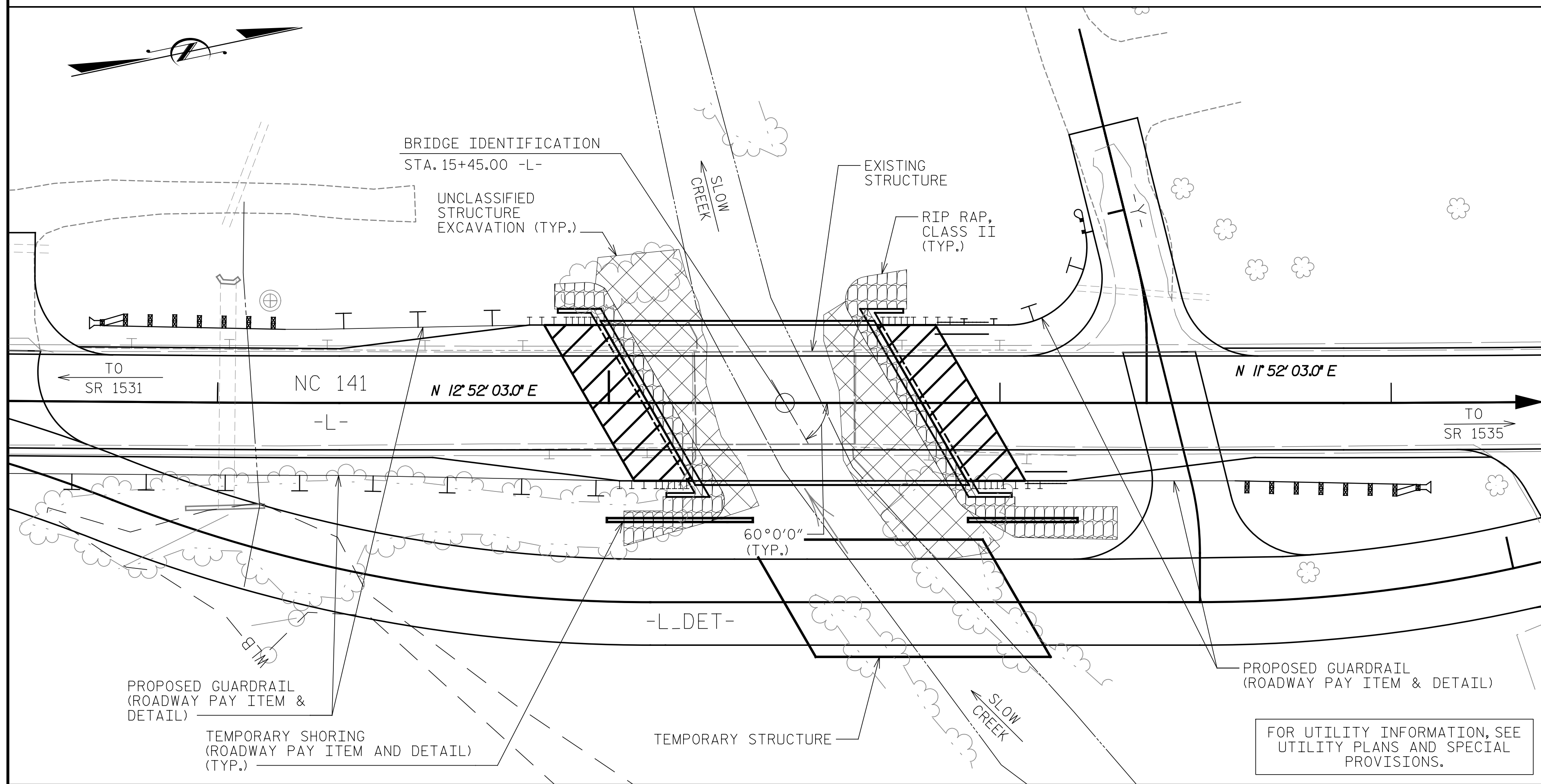
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			15

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DRAWN BY : KFS  
 CHECKED BY : EFL  
 DATE : 1/13/2021  
 DATE : 1/13/2021

BENCHMARK #2: (BENCHTIE NAIL SET IN 30" ASH) 162.6' LT. OF -L-, STA. 15+34.30, ELEV. 1619.67'



-LOCATION SKETCH-

GENERAL NOTES:

- ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.
- THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
- THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.
- FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.
- FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.
- THE EXISTING SINGLE SPAN BRIDGE, WITH SPAN OF 40'-6", WITH A CLEAR ROADWAY WIDTH OF 24'-6", WITH A STEEL PLANK FLOOR ON (11) LINES OF STEEL I-BEAMS, WITH SUBSTRUCTURES CONSISTING OF TIMBER CAP/TIMBER POSTS LOCATED AT THE PROPOSED BRIDGE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY NOT POSTED FOR LOAD LIMIT.
- REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED IN A MANNER THAT PREVENTS DEBRIS FROM FALLING INTO THE WATER. THE CONTRACTOR SHALL SUBMIT DEMOLITION PLANS FOR REVIEW AND REMOVE BRIDGE IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.
- INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE".
- THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. THE INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.
- THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 40 FT (LEFT) AND 30 FT (RIGHT) AT END BENT No. 1 AND 26 FT (LEFT) AND 40 FT (RIGHT) AT END BENT No. 2, OF THE CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.
- TEMPORARY SHORING WILL BE REQUIRED IN THE AREAS INDICATED IN THE PLAN VIEW, SHEET 1 OF 3.
- FOR LIMITS OF TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS. FOR PAY ITEM FOR TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE ROADWAY PLANS.
- FOR CONCRETE WEARING SURFACE, SEE SPECIAL PROVISIONS.
- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18 - EVALUATING SCOUR AT BRIDGES".
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATIONS ACTIVITIES, SEE SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL

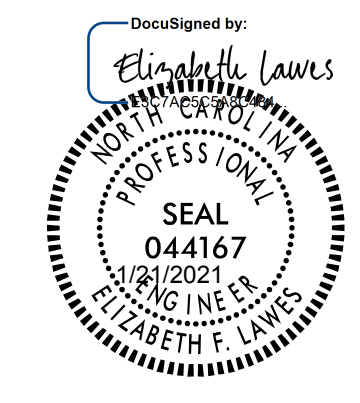
	CONSTRUCTION MAINTENANCE AND REMOVAL OF TEMPORARY STRUCTURE	REMOVAL OF EXISTING STRUCTURE	ASBESTOS ASSESSMENT	PDA TESTING	UNCLASSIFIED STRUCTURE EXCAVATION	CONCRETE WEARING SURFACE	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL
	LUMP SUM	LUMP SUM	LUMP SUM	NO.	LUMP SUM	SQ. FT.	SQ. FT.	CU. YDS.	LUMP SUM	LBS.
SUPERSTRUCTURE						2789	3646			
END BENT 1								29.8		3680
END BENT 2								29.8		3680
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	1	LUMP SUM	2789	3646	59.6	LUMP SUM	7360

TOTAL BILL OF MATERIAL

	PILE DRIVING EQUIPMENT SET UP FOR HP 12 X 53 STEEL PILES	HP 12 X 53 STEEL PILES	STEEL PILE POINTS	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLABS		
	NO.	NO.	LIN. FT.	NO.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	NO.	LIN. FT.
SUPERSTRUCTURE					140.29				14	980.00
END BENT 1	7	7	210	7		71	53			
END BENT 2	7	7	175	7		90	67			
TOTAL	14	14	385	14	140.29	161	120	LUMP SUM	14	980.00

PROJECT NO. BR-0011  
CHEROKEE COUNTY  
 STATION: 15+45.00 -L-

SHEET 3 OF 3 REPLACES BRIDGE NO. 190002



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 FOR BRIDGE OVER SLOW CREEK ON  
 NC 141 BETWEEN SR 1531 AND SR 1535



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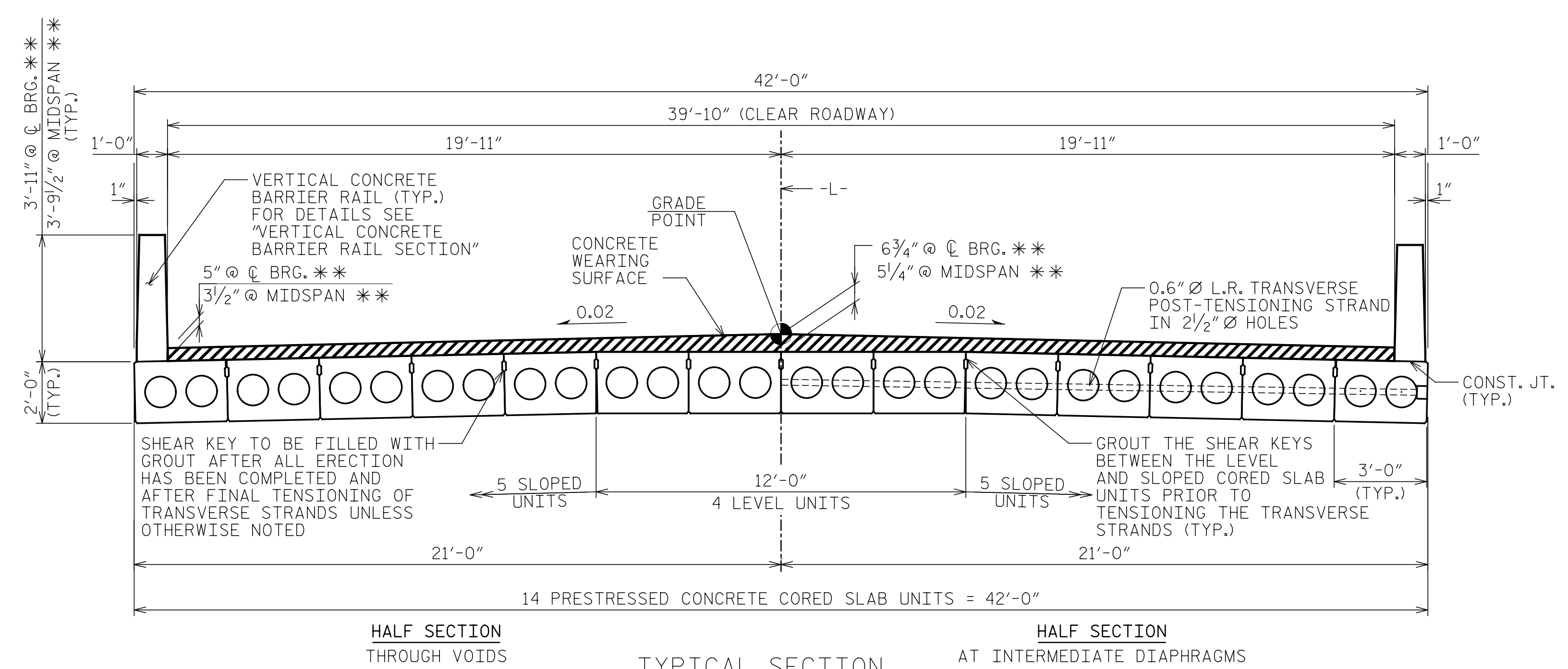
VHB Engineering NC, P.C. (C-3705)  
 940 Main Campus Drive, Suite 500  
 Raleigh, NC 27606

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

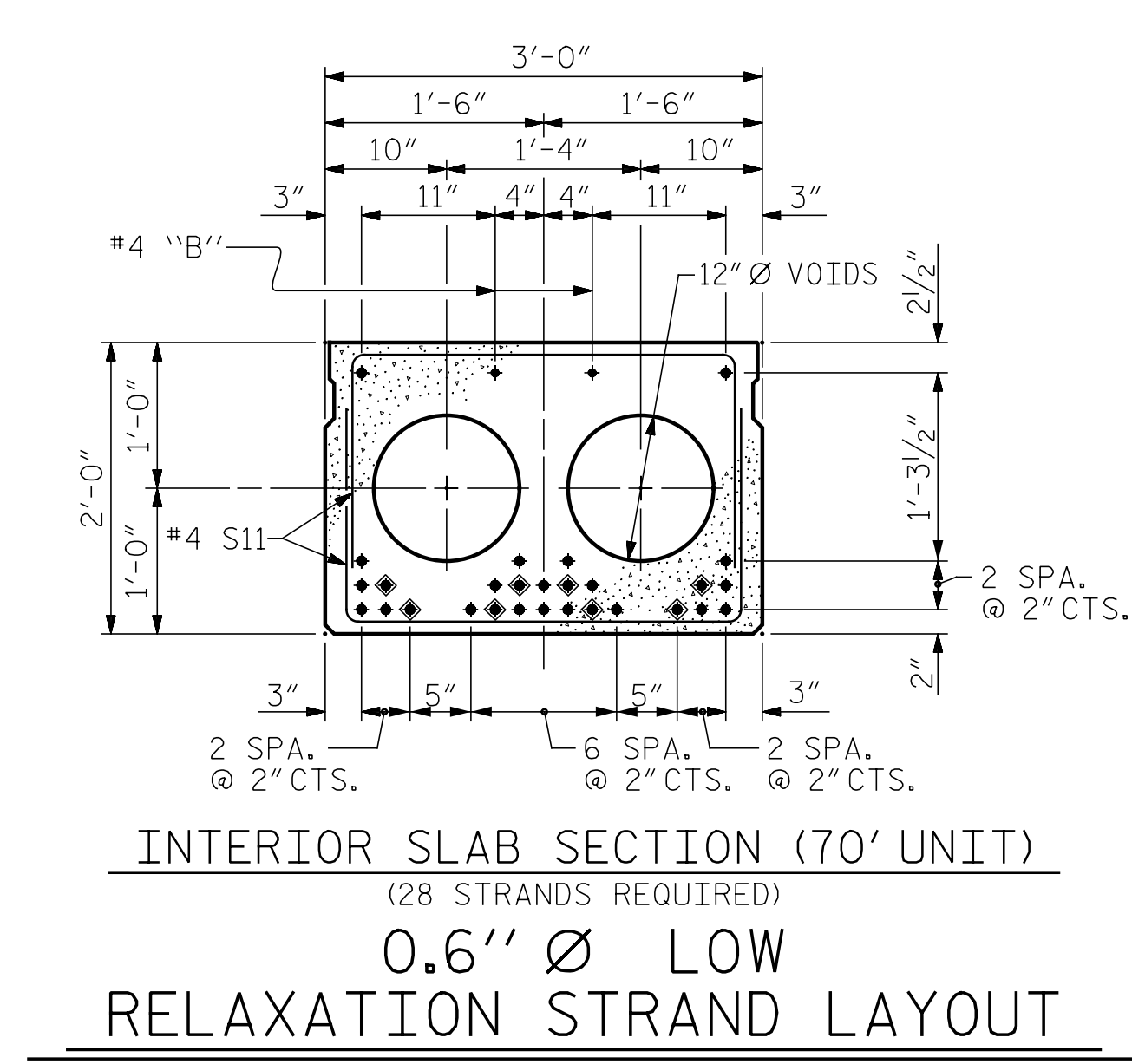
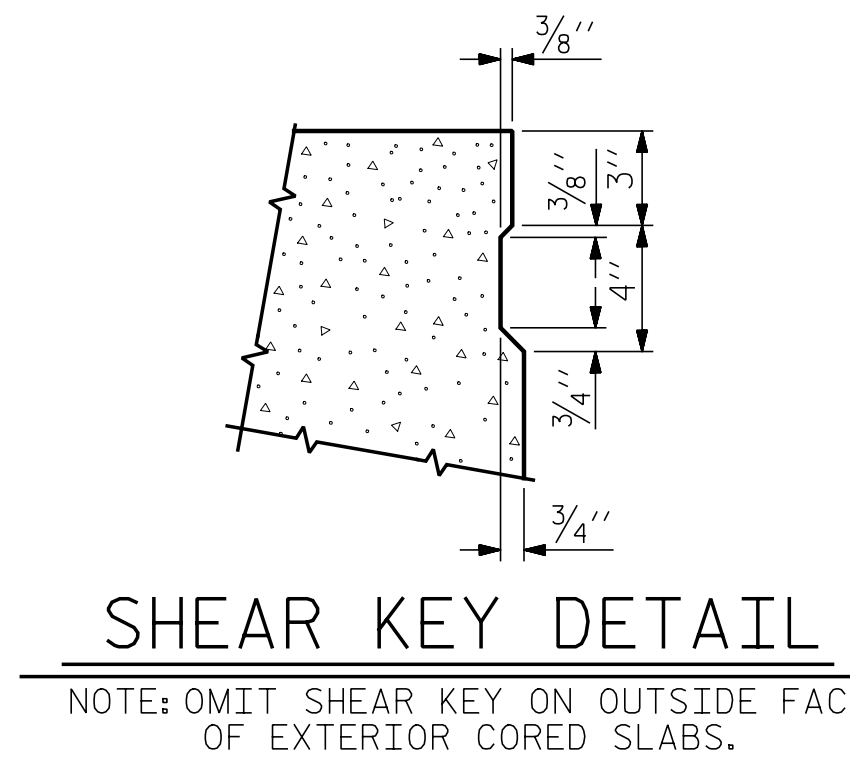
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DRAWN BY : KFS  
 CHECKED BY : EFL  
 DATE : 1/21/2021  
 DATE : 1/21/2021

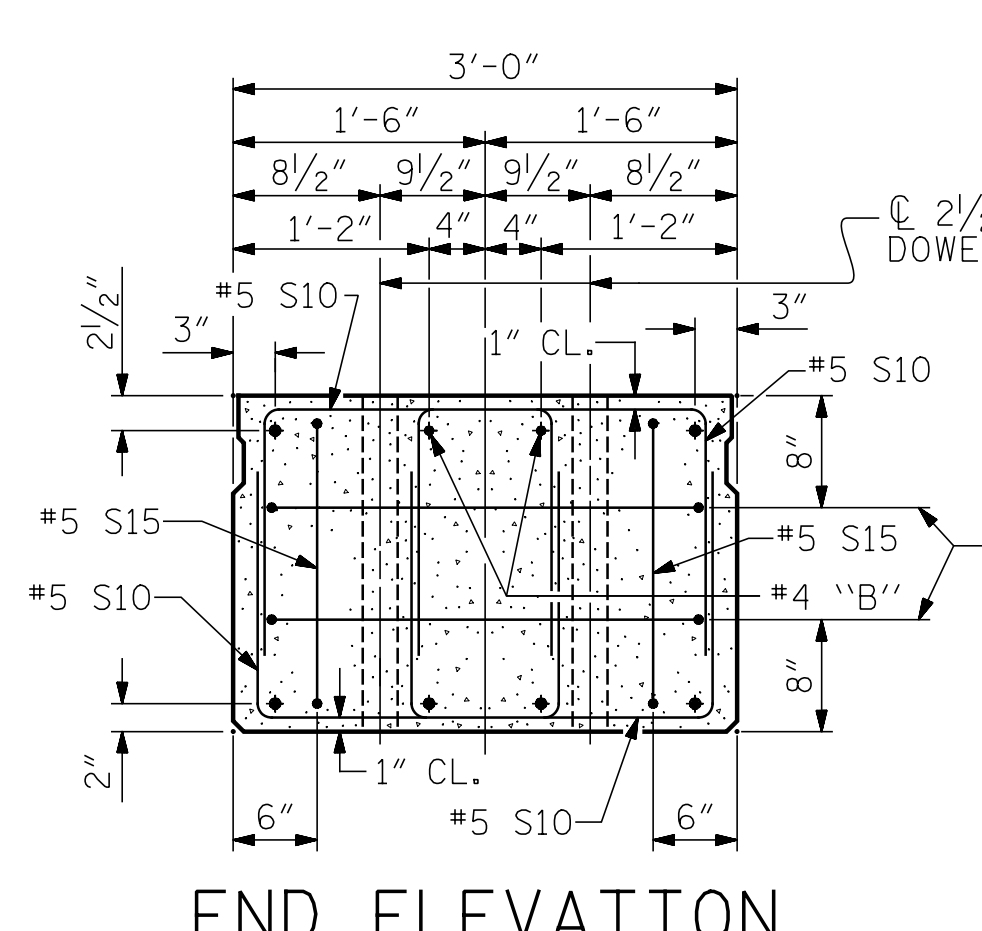




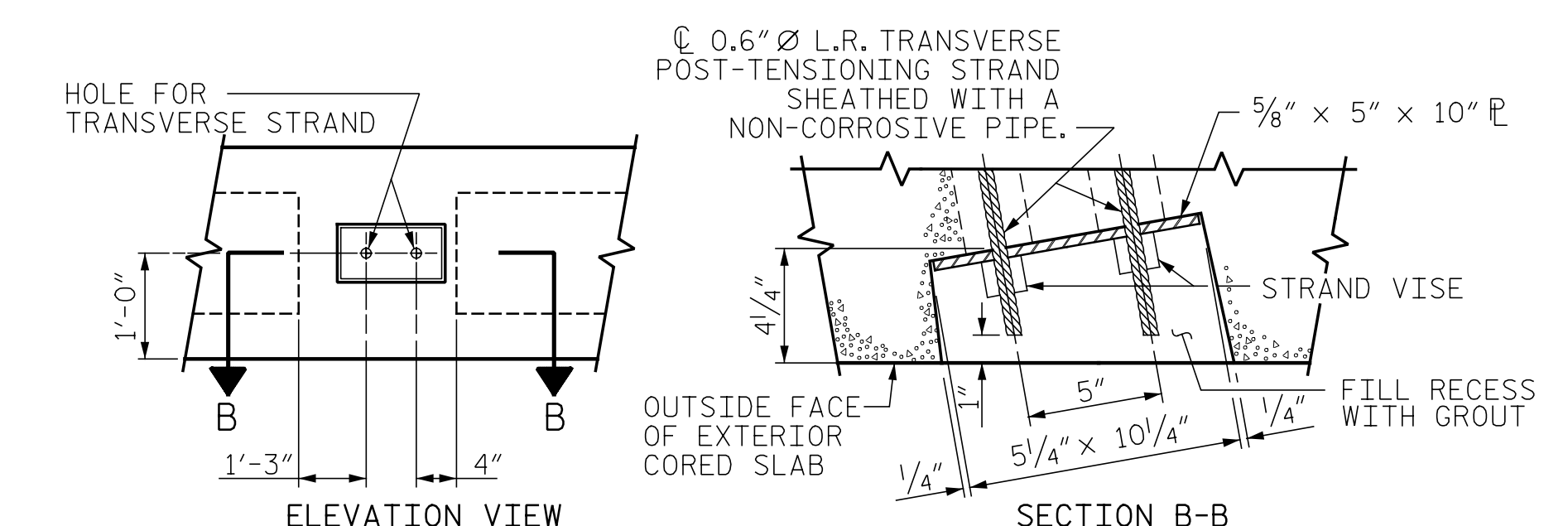
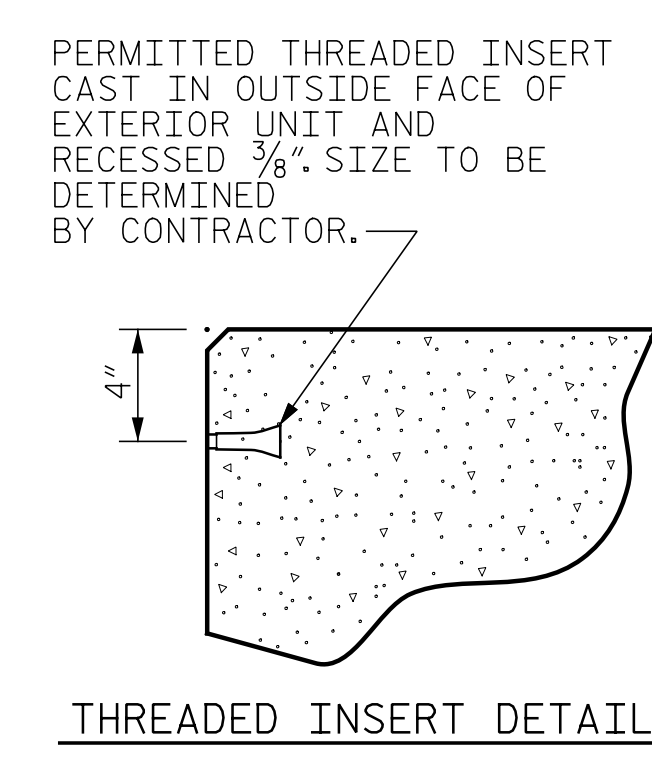
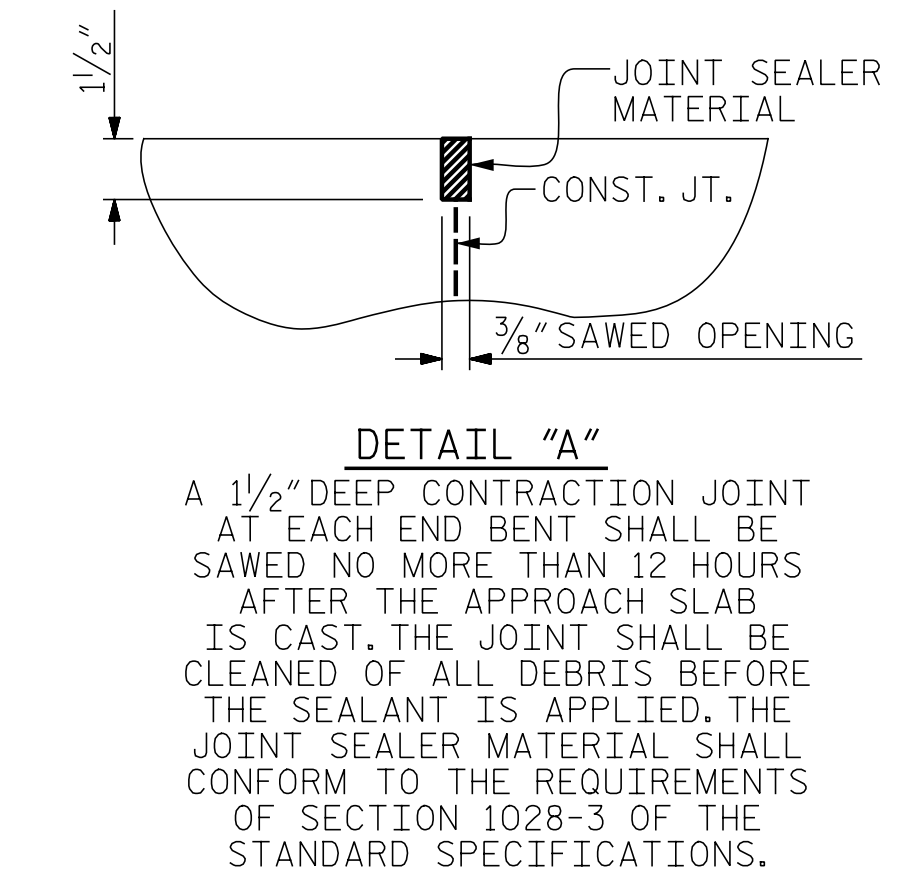
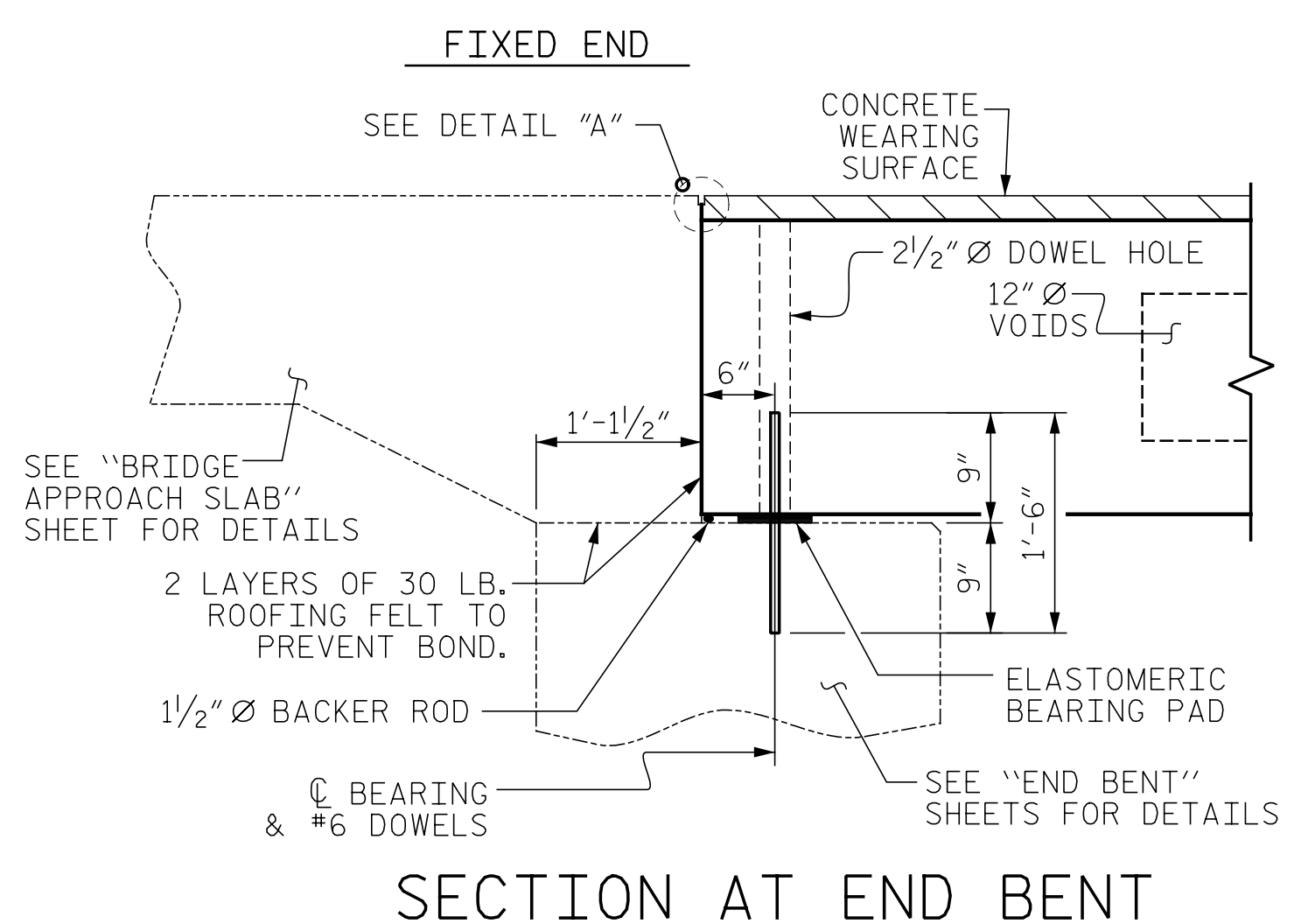
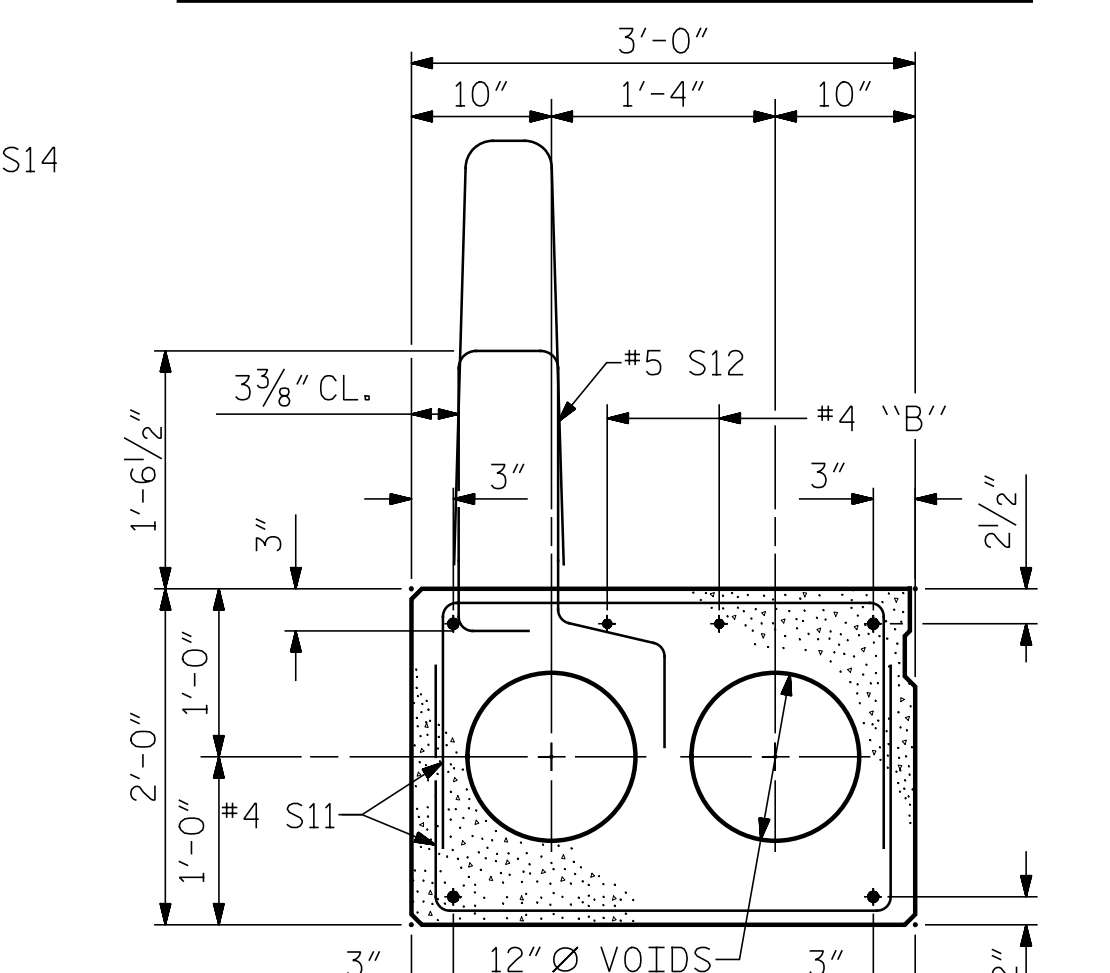
\*\*BASED ON PREDICTED FINAL CAMBER AND THEORETICAL GRADE LINE ELEVATIONS. THE CONCRETE WEARING SURFACE THICKNESS AND HEIGHT OF THE BARRIER RAIL VARIES WHILE THE TOP OF THE BARRIER RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE.



◆ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 12'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.



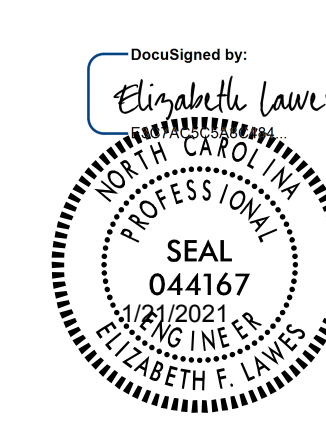
**DEBONDING LEGEND**



**GRADED RECESS AT END OF POST-TENSIONED STRAND-CORED SLABS**

PROJECT NO. BR-0011  
CHEROKEE COUNTY  
 STATION: 15+45.00 -L-

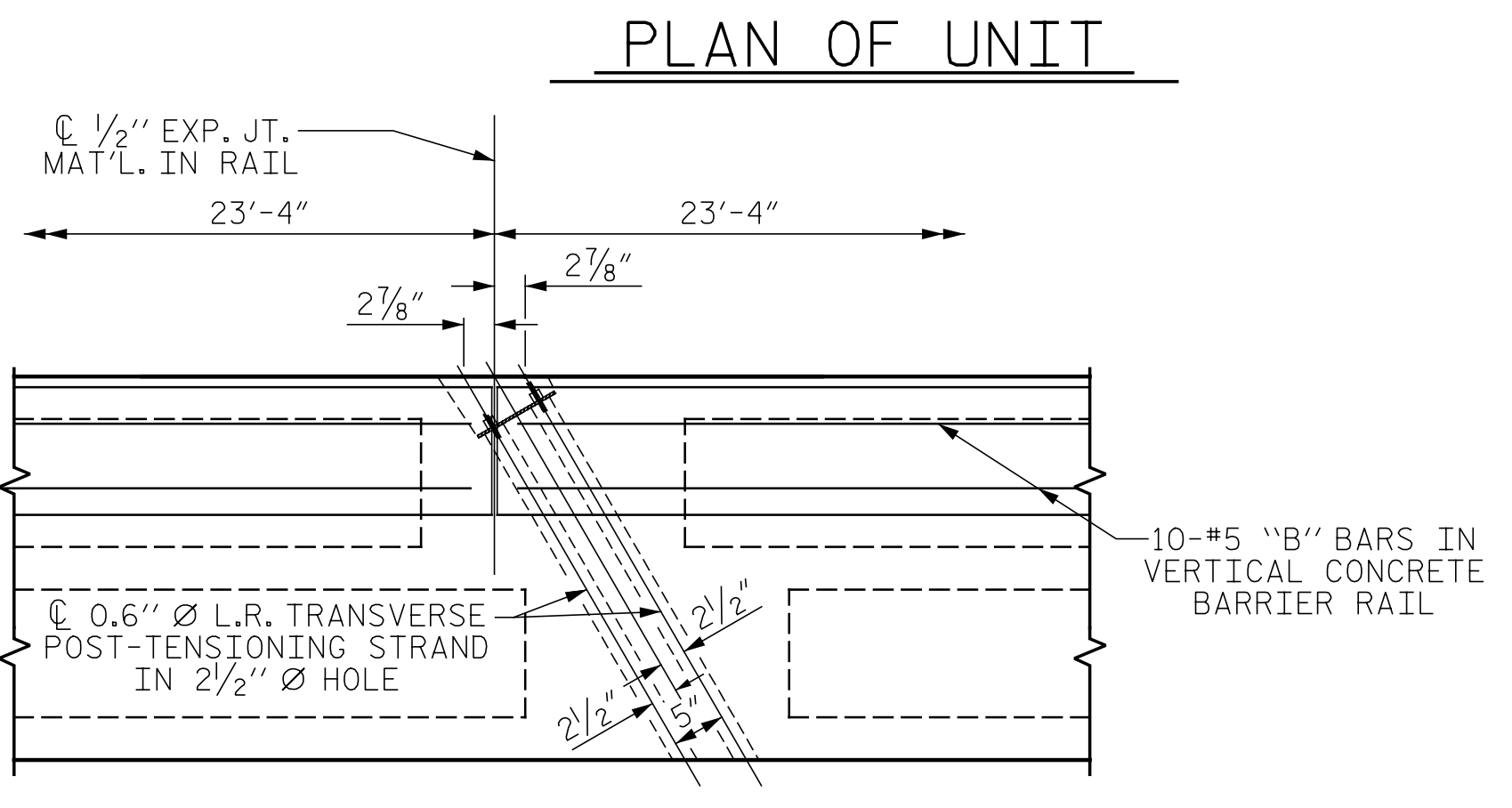
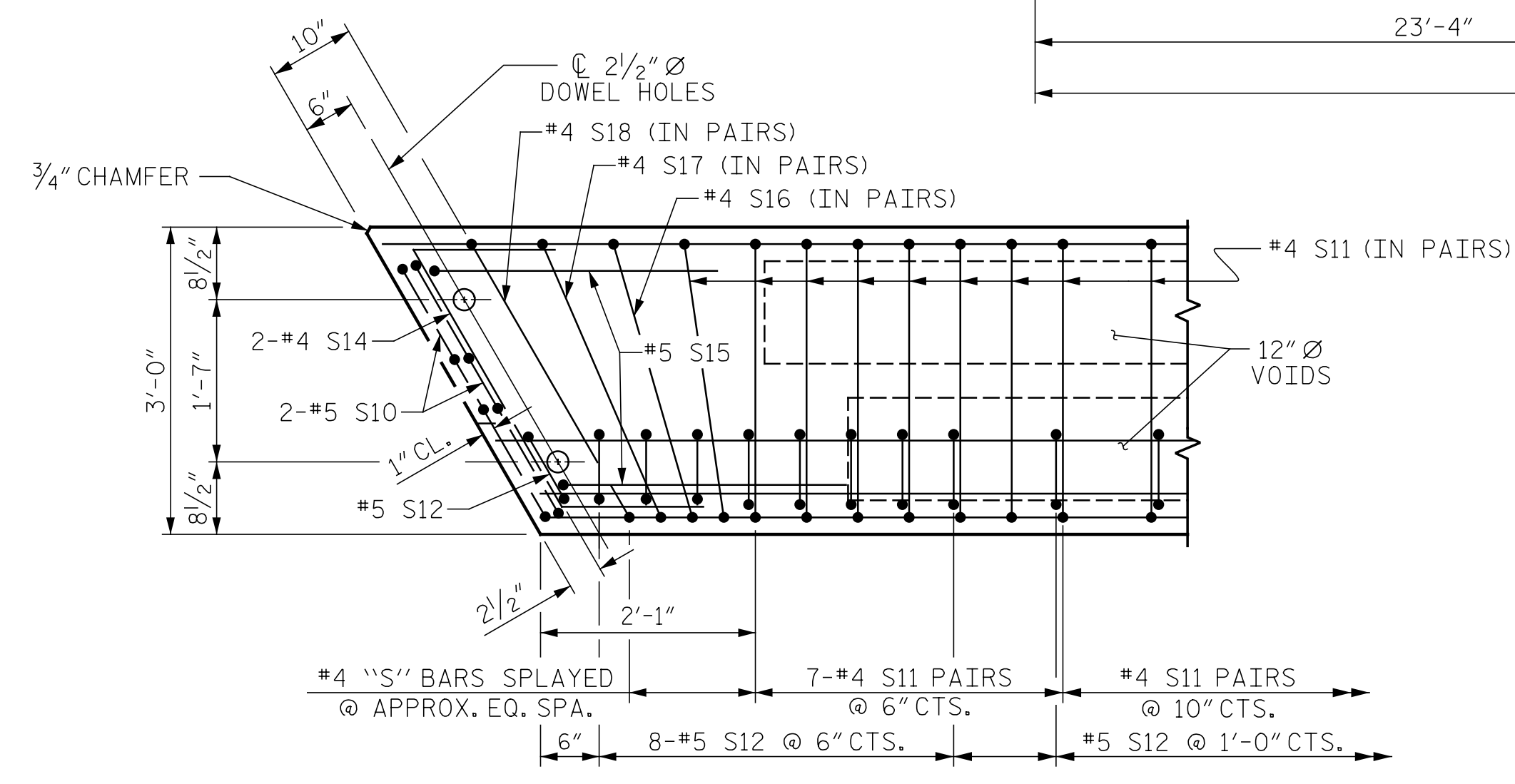
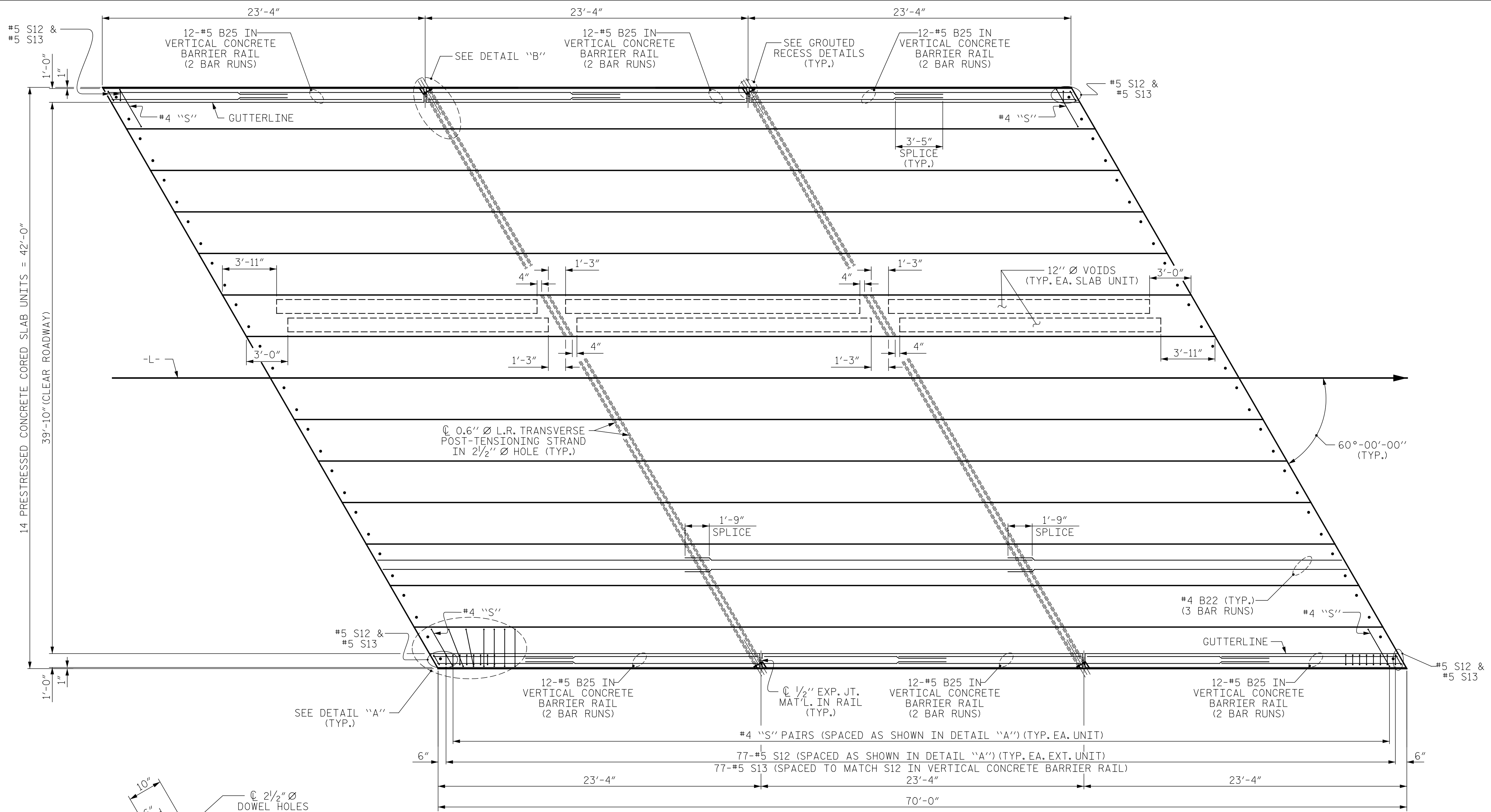
SHEET 1 OF 3  
 STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 3'-0" X 2'-0"  
 PRESTRESSED CONCRETE  
 CORED SLAB UNIT



ASSEMBLED BY : EFL	DATE : 1/13/2021
CHECKED BY : KFS	DATE : 1/13/2021
DRAWN BY : MAA 6/10	REV. 8/14 MAA/TMG
CHECKED BY : MKT 7/10	

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NO.	BY:	DATE:	NO.	BY:	DATE:	15
1			3			
2			4			



PLAN OF UNIT

DETAIL "A"

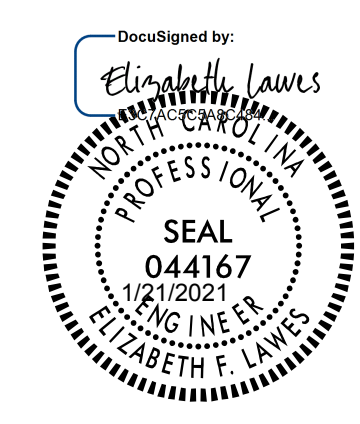
DETAIL "B"

(SIMILAR EACH END OF UNIT)  
 NOTE: EXTERIOR UNIT SHOWN - INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S12 BARS.

#4 S11 BARS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO GROUDED RECESS AND 2 1/2" Ø TRANSVERSE POST-TENSIONING STRAND HOLES

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PROJECT NO. BR-0011  
 CHEROKEE COUNTY  
 STATION: 15+45.00 -L-

SHEET 2 OF 3  
 STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 PLAN OF 70' UNIT  
 39'-10" CLEAR ROADWAY  
 60° SKEW

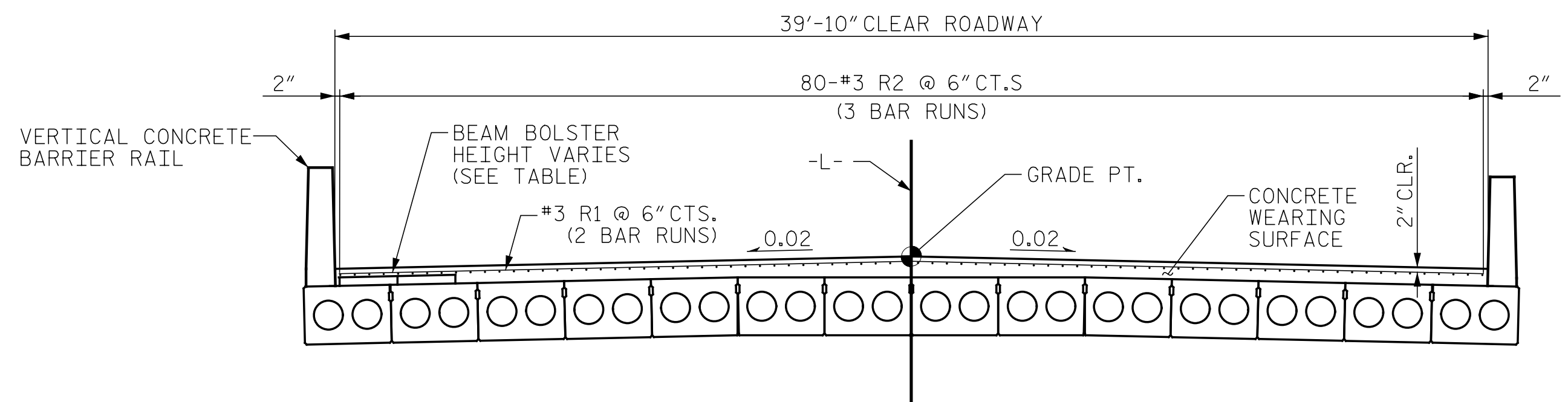
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DRAWN BY : MAA 6/10	REV. 12/5/11 MAA/AAC
CHECKED BY : MKT 7/10	REV. 8/14 MAA/TMG

1/13/2021  
 BR-0011\_SD\_CS\_S6.dgn  
 ksmilach

REVISIONS						TOTAL SHEETS
NO.	BY:	DATE:	NO.	BY:	DATE:	15
1			3			
2			4			







**REINFORCING STEEL FOR CONCRETE WEARING SURFACE**

BEAM AND SLAB BOLSTER HEIGHTS ARE BASED UPON PREDICTED FINAL CAMBER AND THEORETICAL GRADE LINE ELEVATIONS AND VARY BETWEEN  $\phi$  BEARING AND MID-SPAN.

**NOTES:**

PLACEMENT OF THE CONCRETE WEARING SURFACE SHALL OCCUR AFTER CASTING THE VERTICAL CONCRETE BARRIER RAILS.

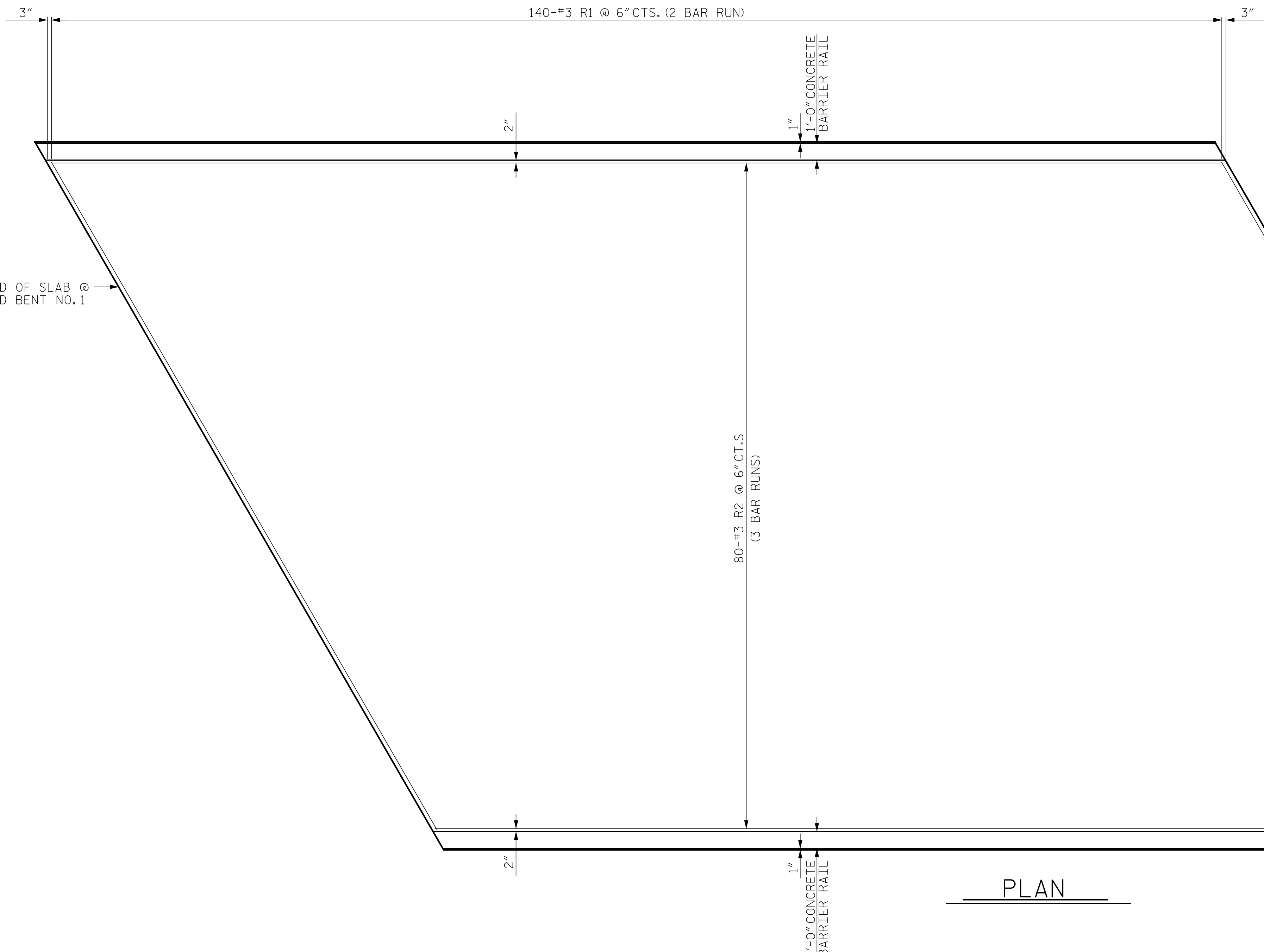
THE COST OF THE REINFORCING STEEL CAST WITH THE CONCRETE WEARING SURFACE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE WEARING SURFACE.

FOR CONCRETE WEARING SURFACE, SEE SPECIAL PROVISIONS.

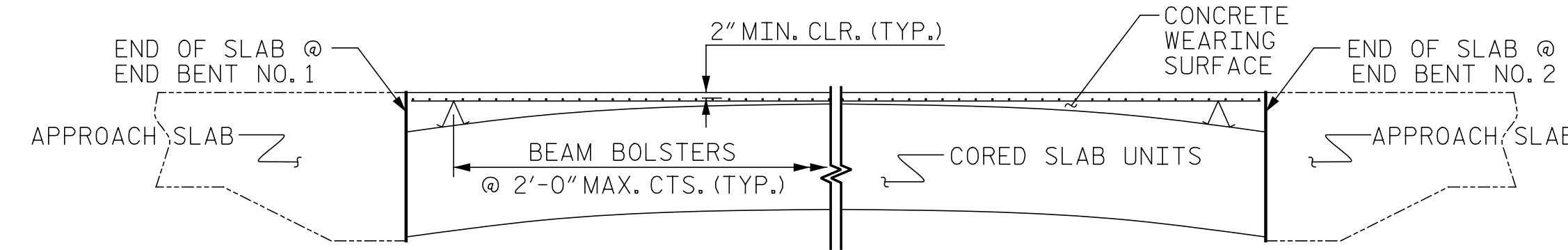
FIBERS SHALL BE ADDED TO THE CONCRETE WEARING SURFACE IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

ALL REINFORCING STEEL FOR THE CONCRETE WEARING SURFACE SHALL BE EPOXY COATED.

BILL OF MATERIAL					
CONCRETE WEARING SURFACE					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*R1	280	#3	STR	23'-6"	2474
*R2	240	#3	STR	24'-3"	2188
* EPOXY COATED REINFORCING STEEL 4662 LBS.					
CLASS AA CONCRETE 36.7 CY					
CONCRETE WEARING SURFACE 2789 SQ. FT.					
FOR GROOVING BRIDGE FLOOR QUANTITY, SEE SHEET S-7					



**PLAN**



**ELEVATION**

SPlice LENGTH CHART	
BAR SIZE	EPOXY COATED
#3	1'-3"

BEAM BOLSTER HEIGHT			
AT $\phi$ BEARINGS		AT MID-SPAN	
GUTTERS	GRADE PT.	GUTTERS	GRADE PT.
2 1/4"	3 3/4"	3/4"	2 1/4"

PROJECT NO. BR-0011  
CHEROKEE COUNTY  
 STATION: 15+45.00 -L-



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**SUPERSTRUCTURE**  
**CONCRETE WEARING SURFACE DETAILS**

ASSEMBLED BY : EFL DATE : 1/13/2021  
 CHECKED BY : KFS DATE : 1/13/2021  
 DESIGN ENGINEER OF RECORD : MAC DATE : 1/13/2021

1/13/2021  
 BR-0011\_SD\_CS\_S8.dgn  
 ksmlach

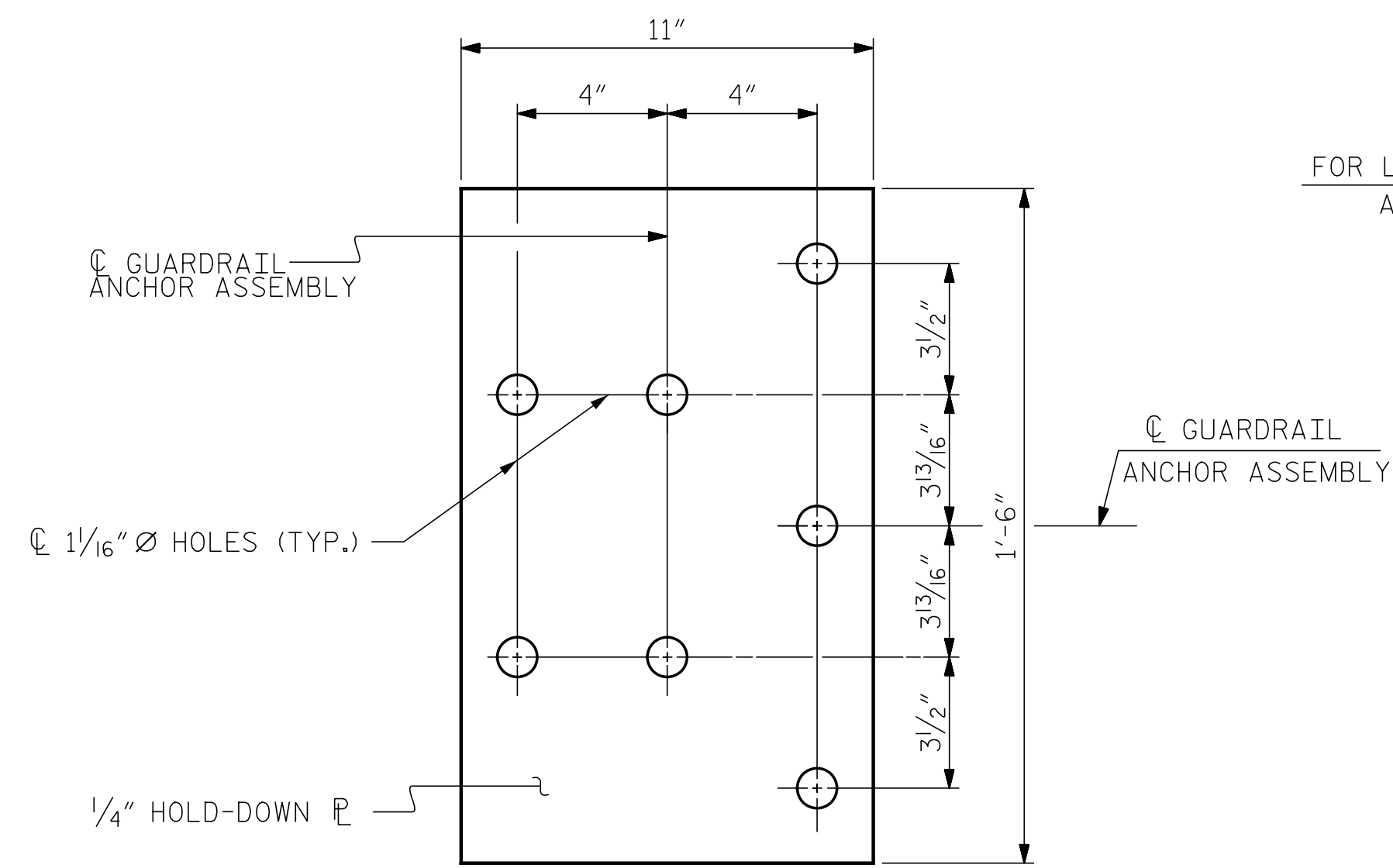
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS
2			4			15

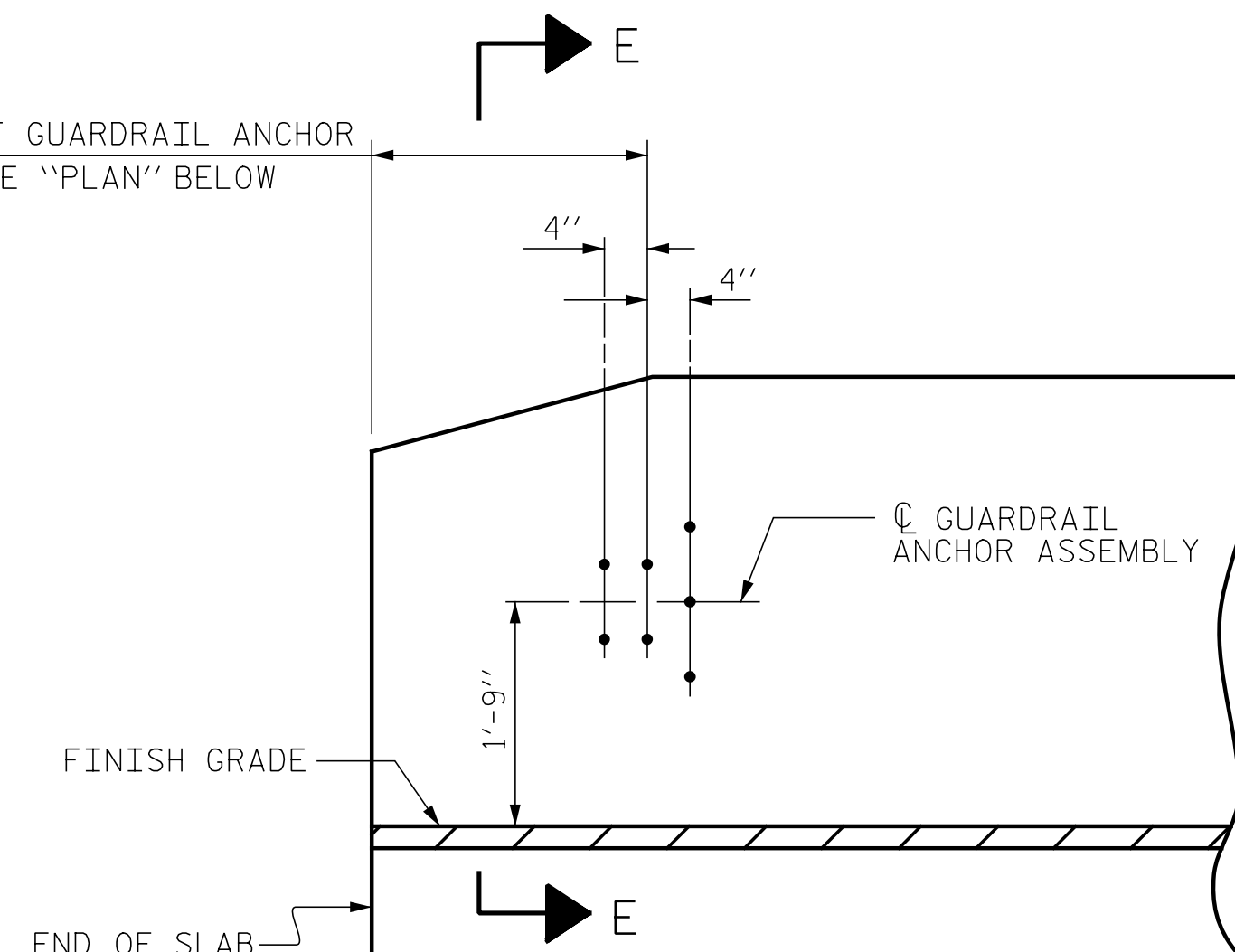
NOTES

- THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 7 - 7/8" Ø BOLTS WITH NUTS AND WASHERS.
- THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.
- BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)
- THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.
- AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.
- THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR VERTICAL CONCRETE BARRIER RAIL.
- THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE VERTICAL CONCRETE BARRIER RAIL TO CLEAR ASSEMBLY BOLTS.
- THE 1 1/4" Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

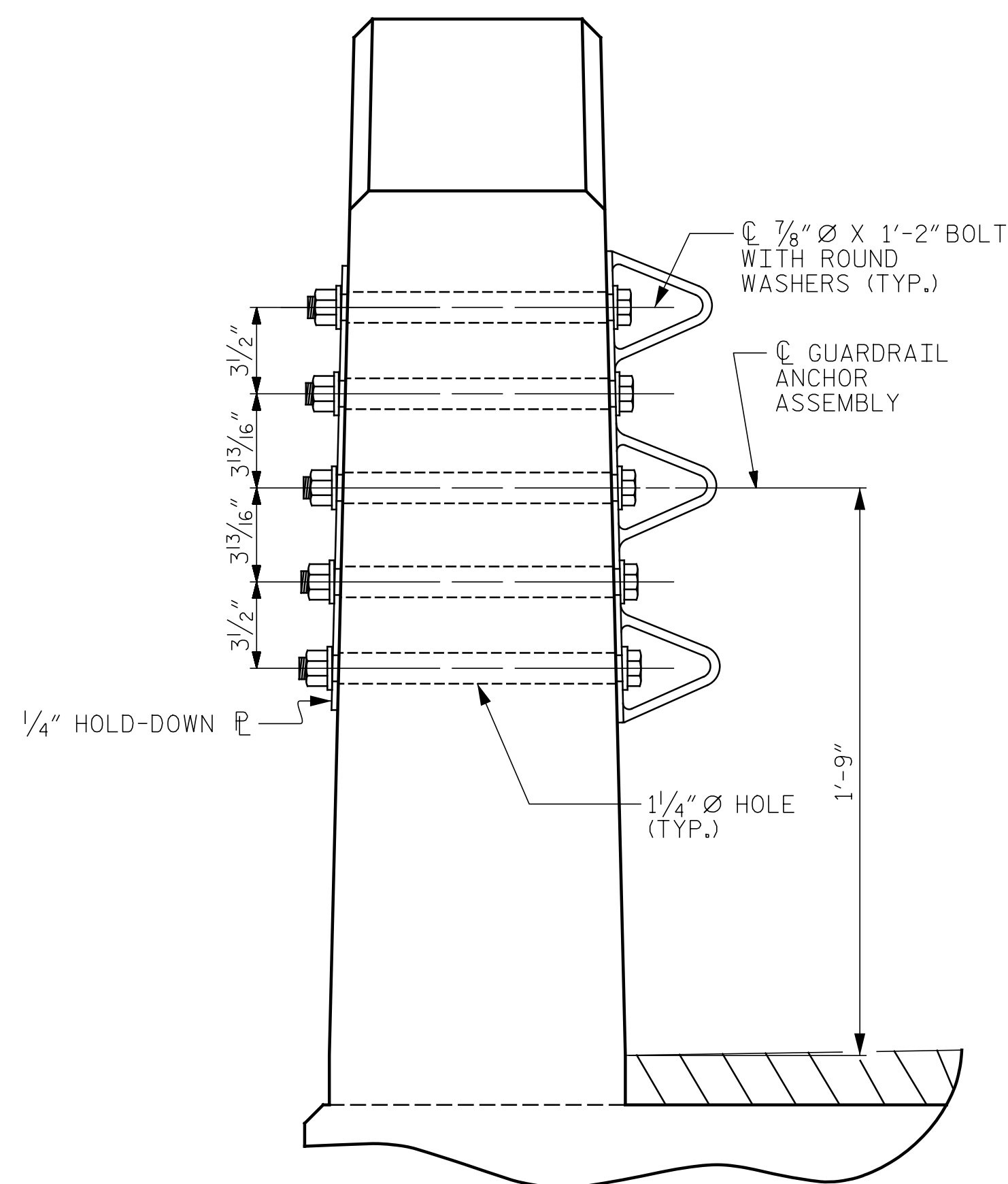


PLAN

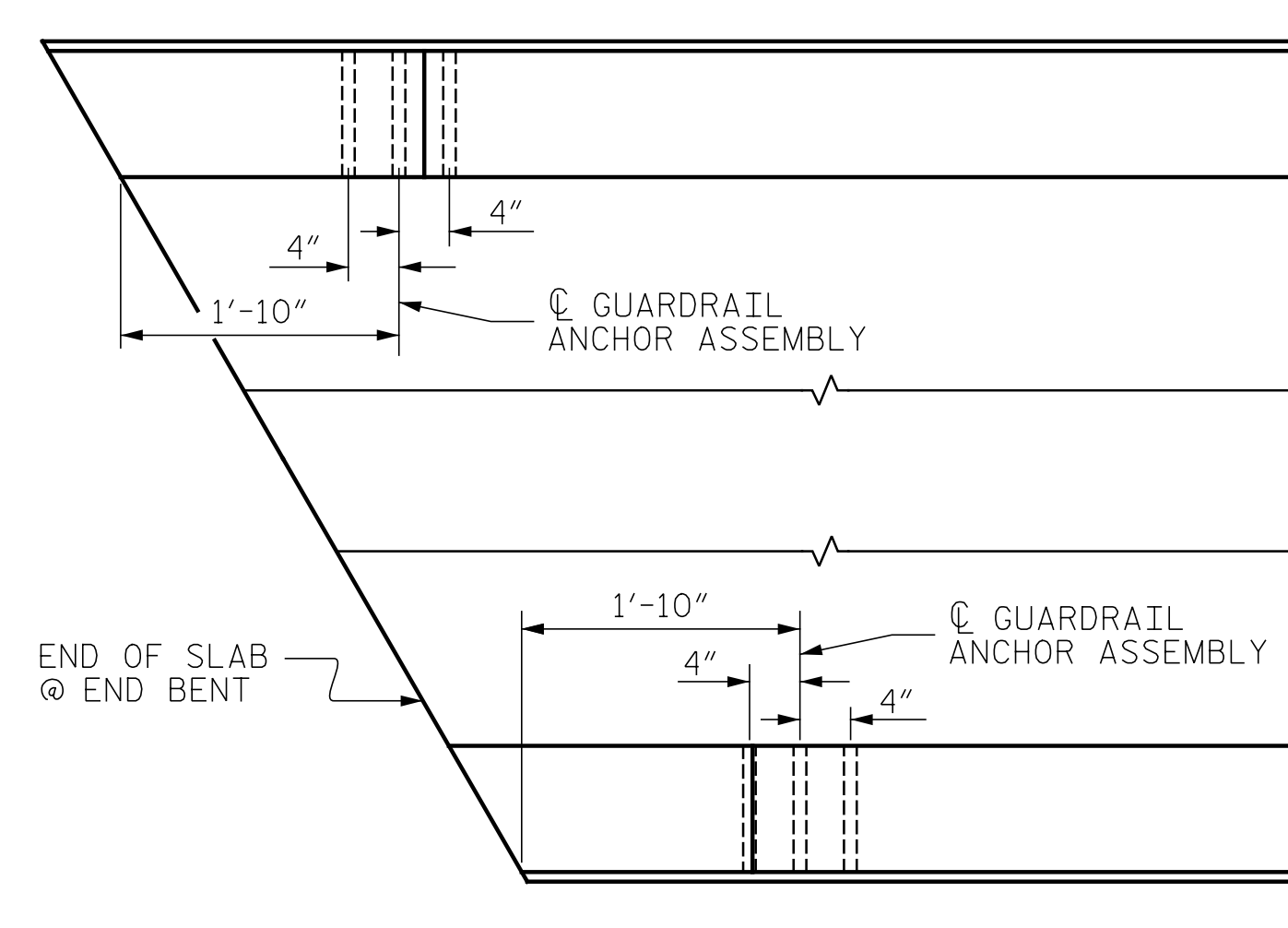
FOR LOCATION OF GUARDRAIL ANCHOR ASSEMBLY, SEE "PLAN" BELOW



ELEVATION



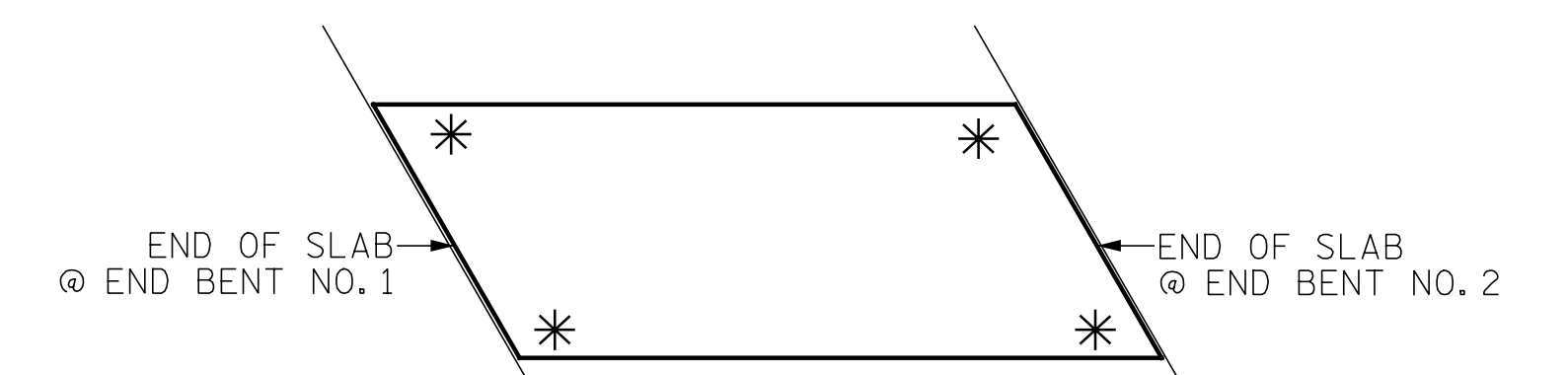
SECTION E-E  
GUARDRAIL ANCHOR ASSEMBLY DETAILS



PLAN

LOCATION OF ANCHORS FOR GUARDRAIL

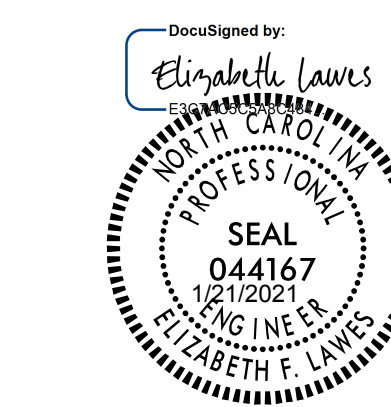
END BENT NO. #1 SHOWN, END BENT NO. #2 SIMILAR.



SKETCH SHOWING POINTS OF ATTACHMENT

\* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. BR-0011  
CHEROKEE COUNTY  
STATION: 15+45.00 -L-



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940 Main Campus Drive, Suite 500  
Raleigh, NC 27606

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

ASSEMBLED BY : EFL DATE : 1/13/2021  
CHECKED BY : KFS DATE : 1/13/2021

DRAWN BY : MAA 5/10 MAA/GM  
CHECKED BY : GM 5/10 MAA/TMG  
REV. 6/13 MAA/GM  
REV. 1/15 MAA/TMG  
REV. 5/18 MAA/TMG

1/13/2021  
BR-0011\_SD\_GR\_S9.dgn  
ksmlach

DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			9
2			4			15

(SHT 1b) STD. NO. GRA3

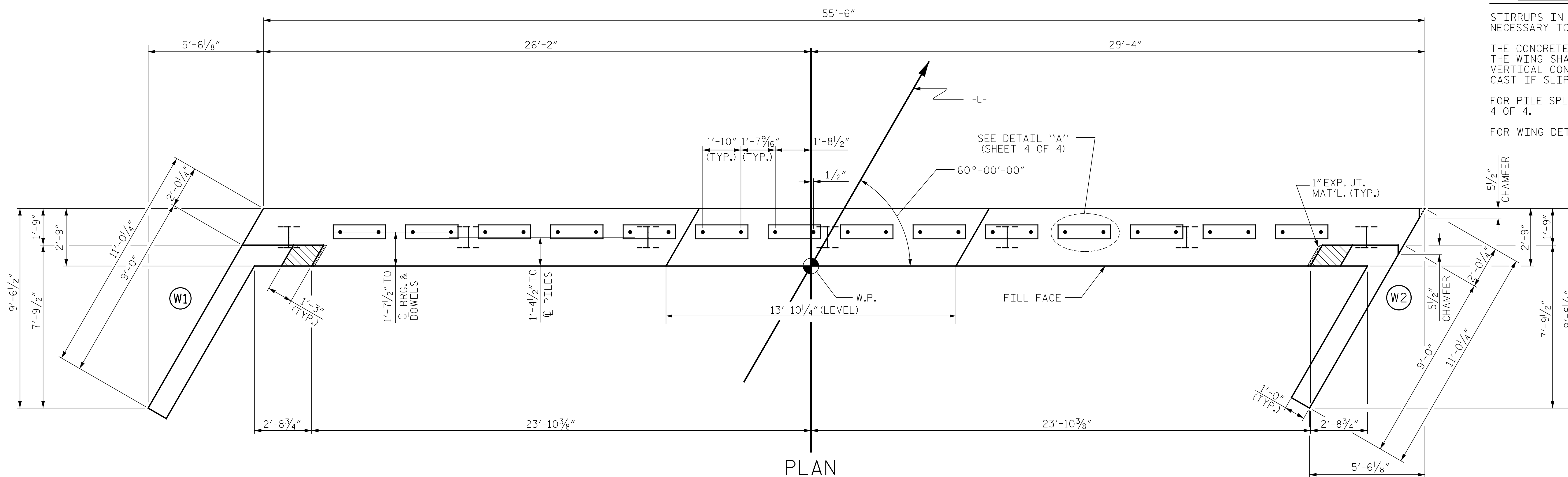
**NOTES**

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

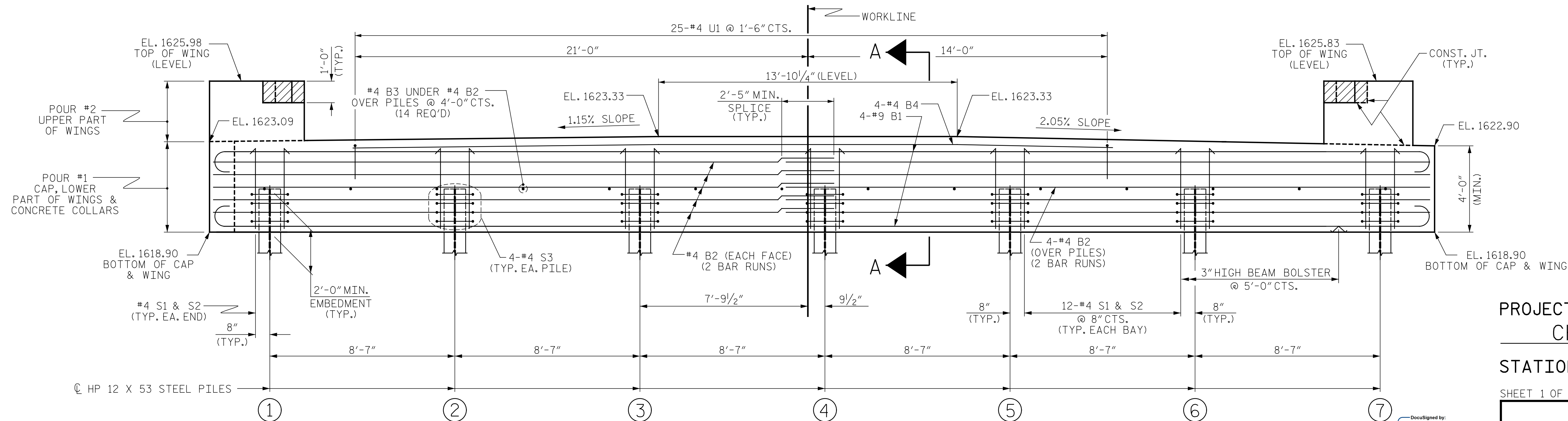
THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

FOR PILE SPLICE DETAILS, SEE SHEET 4 OF 4.

FOR WING DETAILS, SEE SHEET 3 OF 4.



**PLAN**

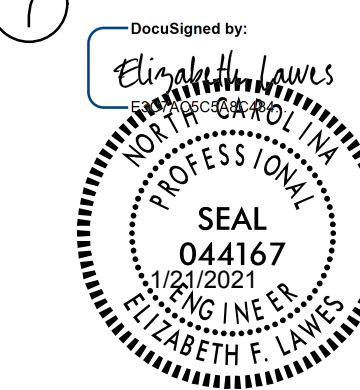


**ELEVATION**

WINGS NOT SHOWN FOR CLARITY.  
FOR SECTION A-A, SEE SHEET 4 OF 4.  
CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY.  
SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 4 OF 4.

PROJECT NO. BR-0011  
CHEROKEE COUNTY  
STATION: 15+45.00 -L-

SHEET 1 OF 4



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
  
SUBSTRUCTURE  
END BENT No. 1

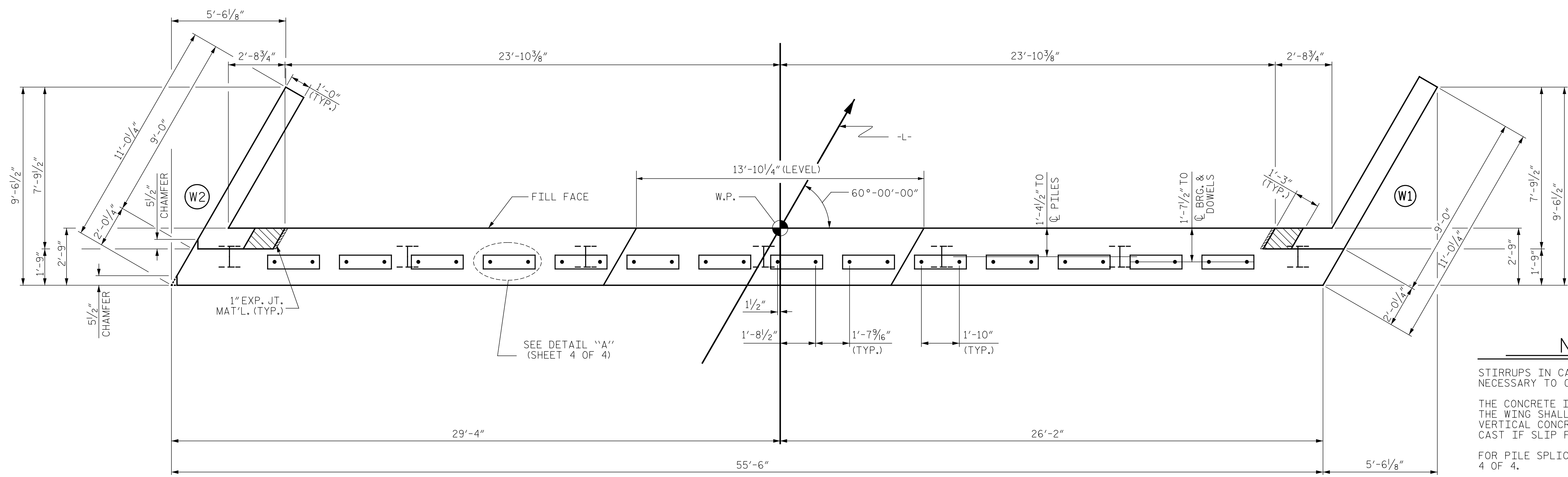
ASSEMBLED BY : EFL	DATE : 1/13/2021
CHECKED BY : KFS	DATE : 1/13/2021
DRAWN BY : WJH 12/11	REV. 4/15
CHECKED BY : AAC 12/11	MAA/TMG

1/13/2021  
BR-0011\_SD\_F\_S10.dgn  
ksmlach

DOCUMENT NOT CONSIDERED  
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SIGNATURES COMPLETED

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Raleigh, NC 27606

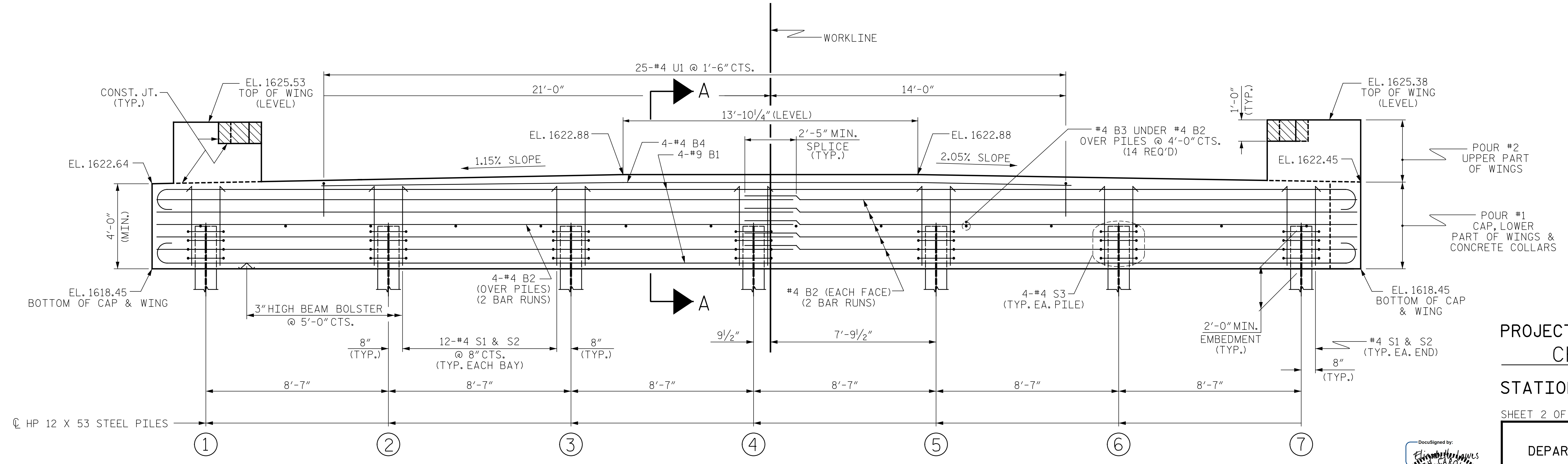
REVISIONS						TOTAL SHEETS
NO.	BY:	DATE:	NO.	BY:	DATE:	15
1			3			
2			4			



PLAN

NOTES

- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.
- THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.
- FOR PILE SPLICE DETAILS, SEE SHEET 4 OF 4.
- FOR WING DETAILS, SEE SHEET 3 OF 4.

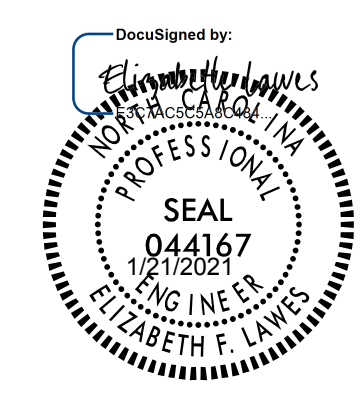


ELEVATION

WINGS NOT SHOWN FOR CLARITY.  
 FOR SECTION A-A, SEE SHEET 4 OF 4.  
 CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY.  
 SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 4 OF 4.

PROJECT NO. BR-0011  
 CHEROKEE COUNTY  
 STATION: 15+45.00 -L-

SHEET 2 OF 4



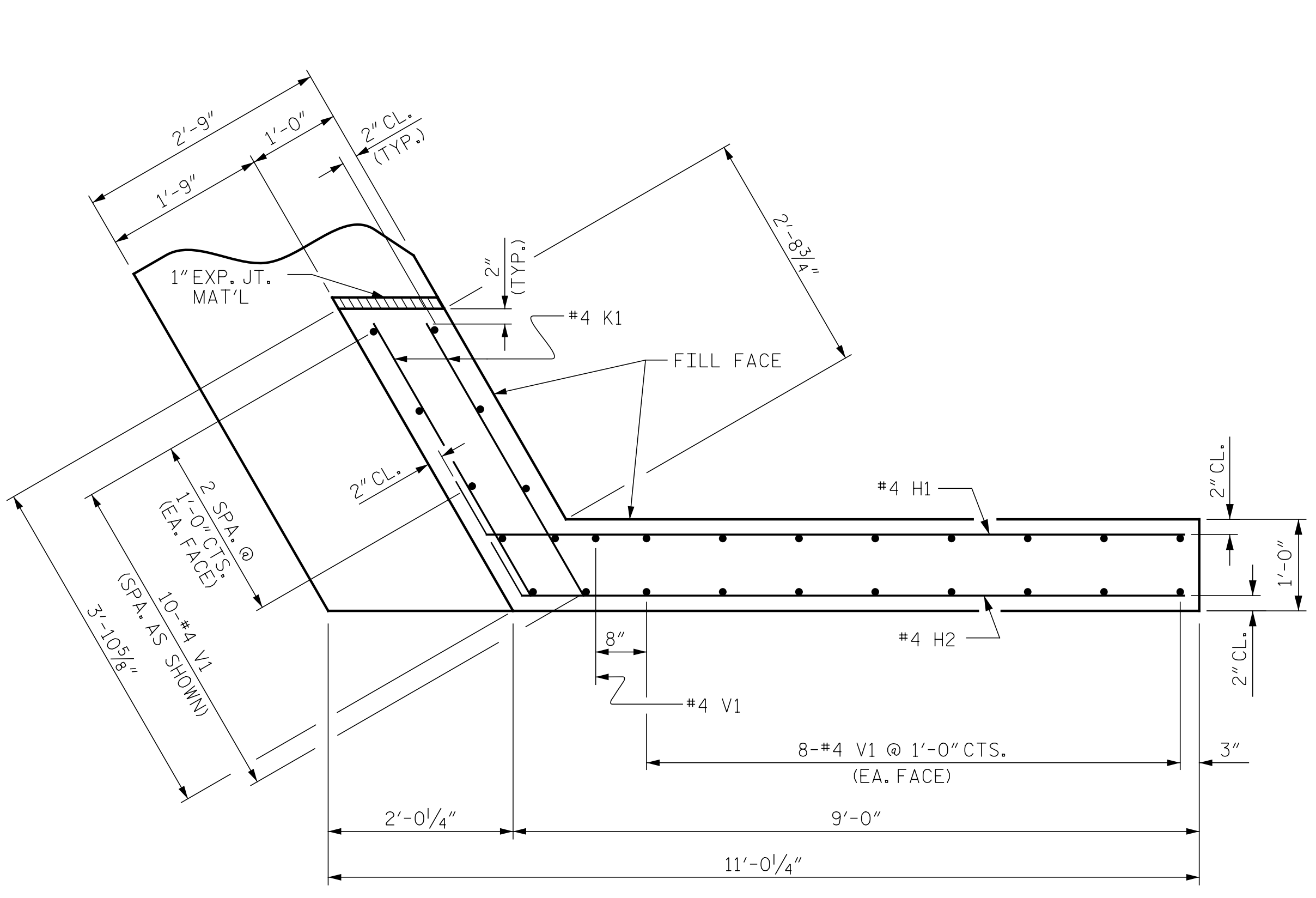
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SUBSTRUCTURE  
 END BENT No. 2

ASSEMBLED BY : EFL	DATE : 1/13/2021
CHECKED BY : KFS	DATE : 1/13/2021
DRAWN BY : WJH 12/11	REV. 4/15
CHECKED BY : AAC 12/11	MAA/TMG

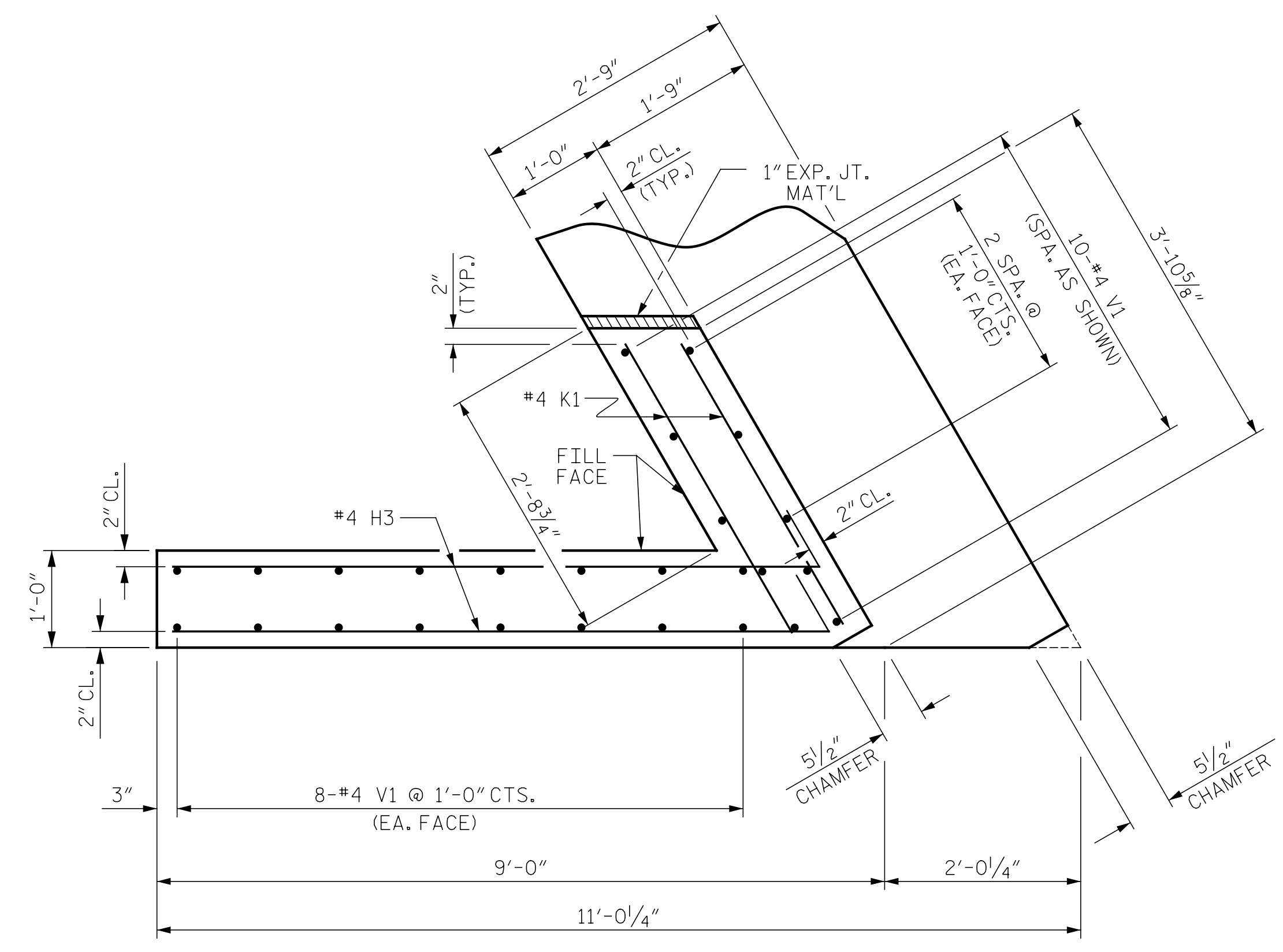
DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

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 Raleigh, NC 27606

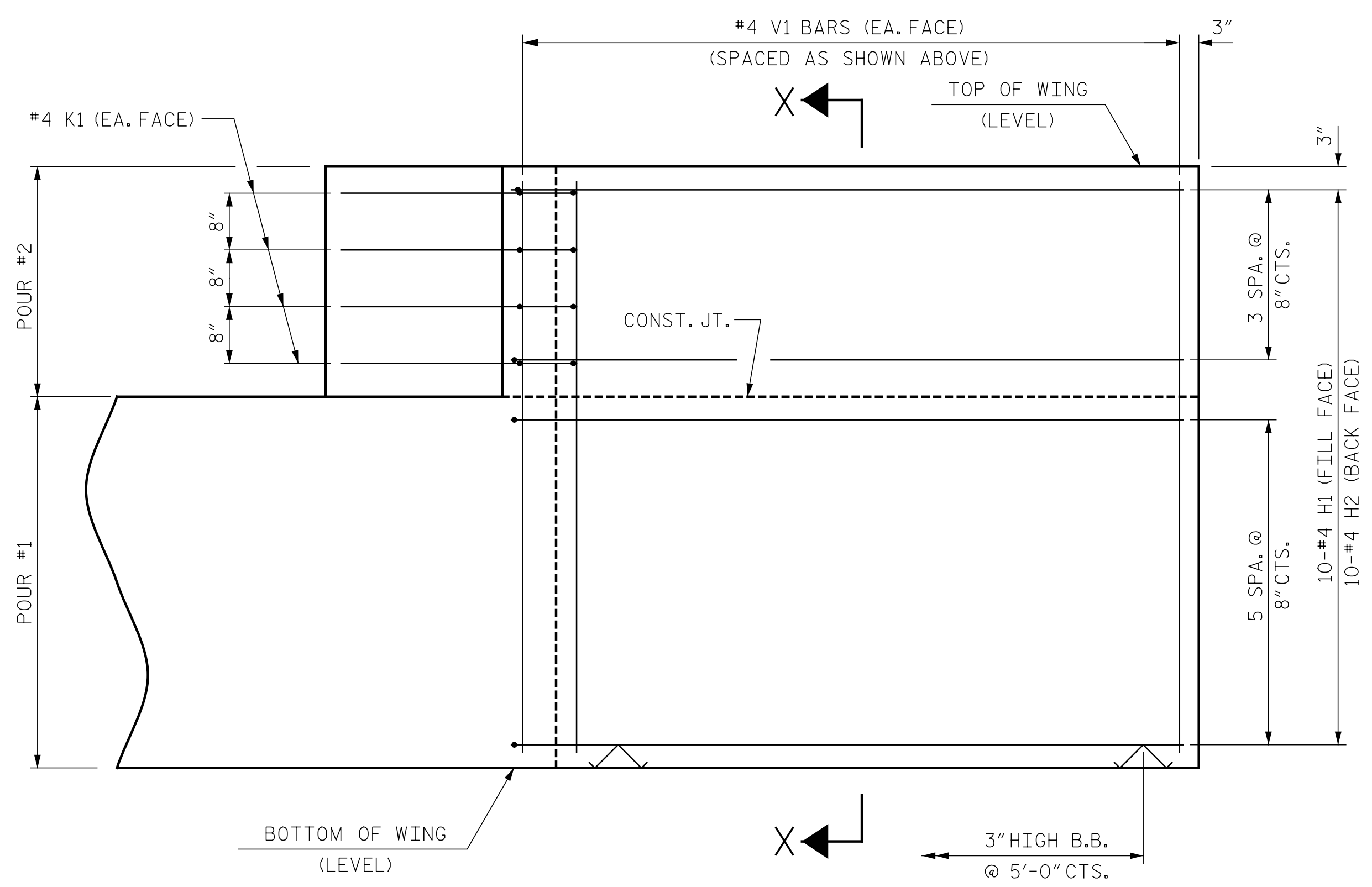
REVISIONS						TOTAL SHEETS
NO.	BY:	DATE:	NO.	BY:	DATE:	15
1			3			
2			4			



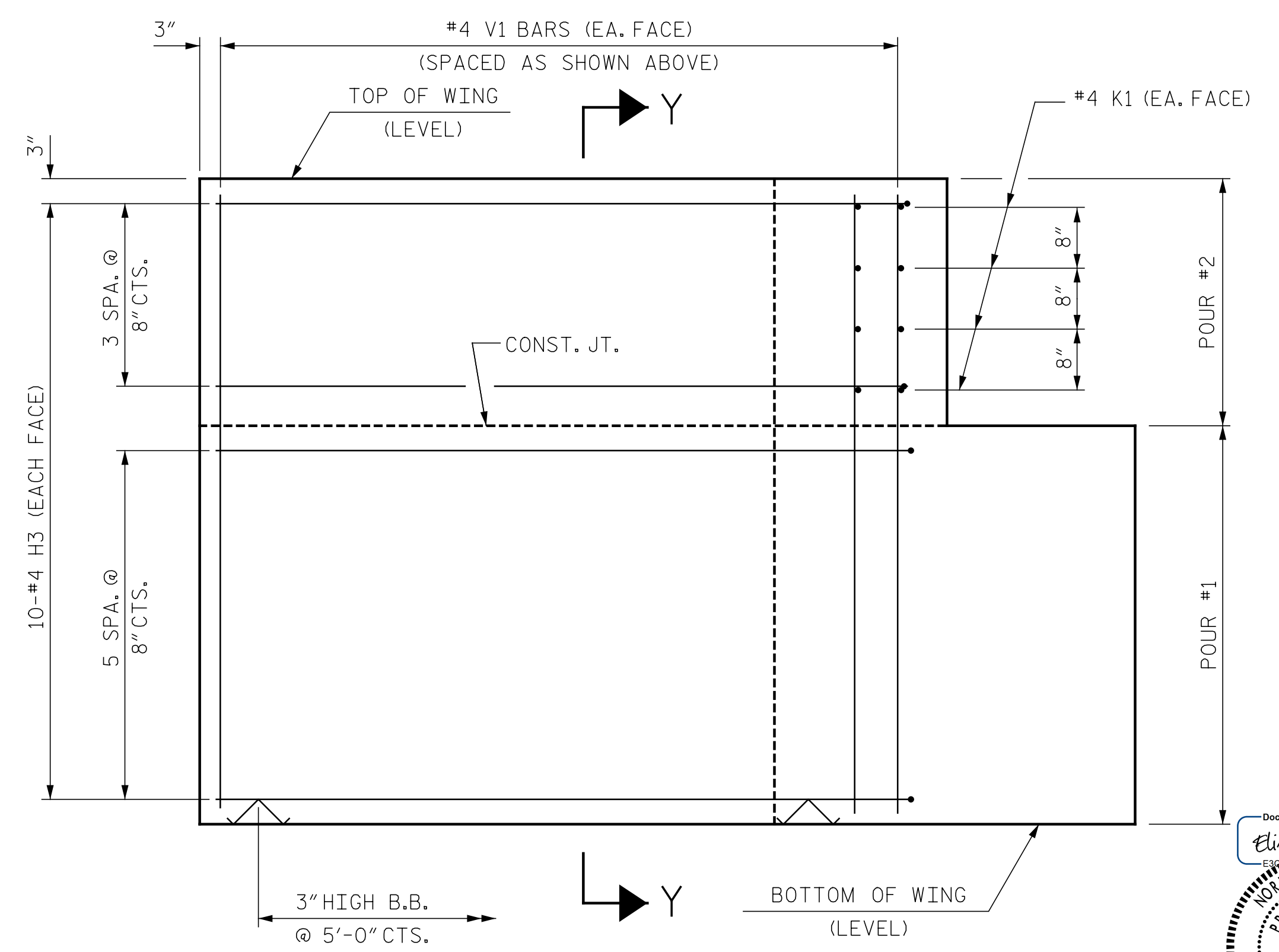
PLAN OF WING (W1)



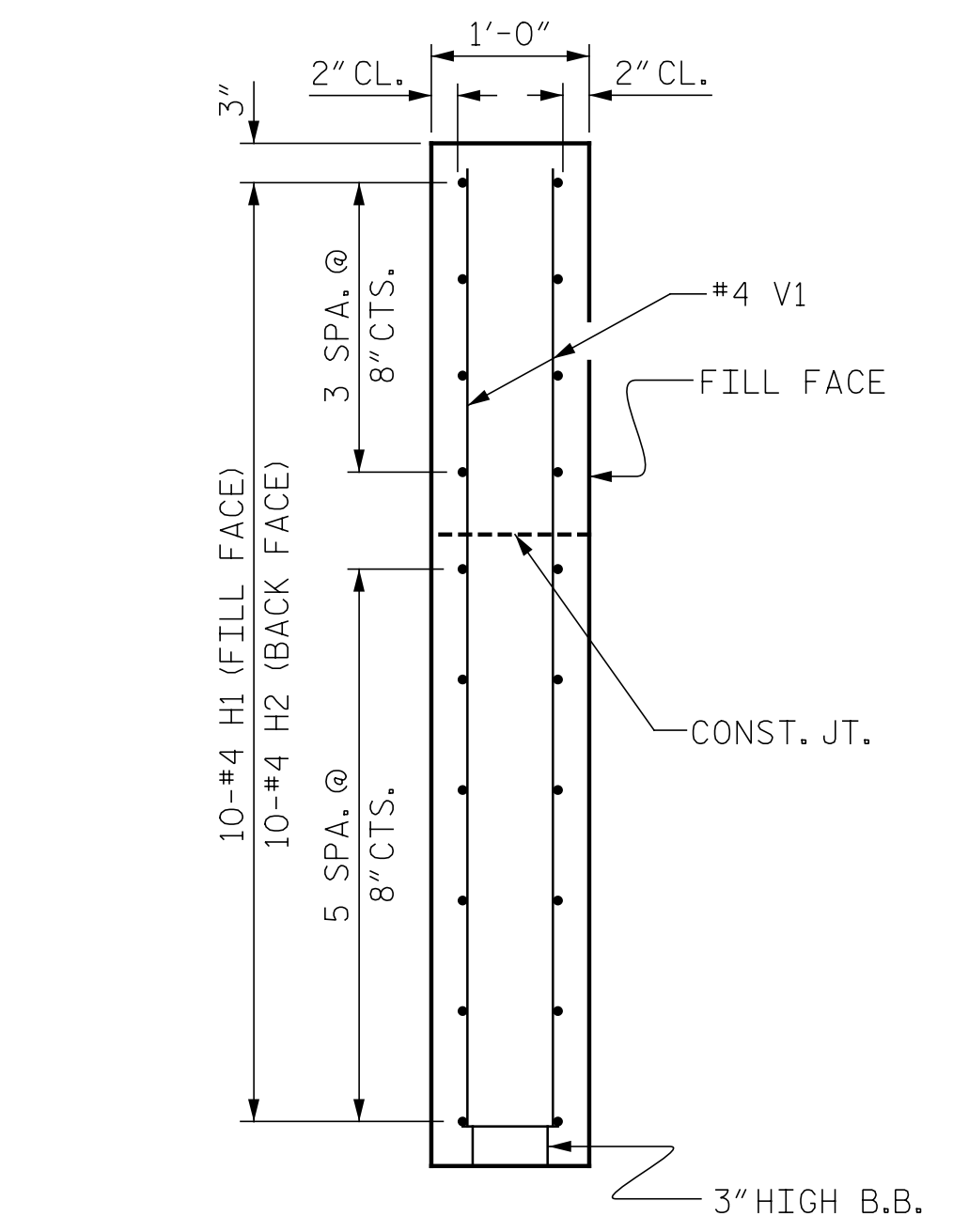
PLAN OF WING (W2)



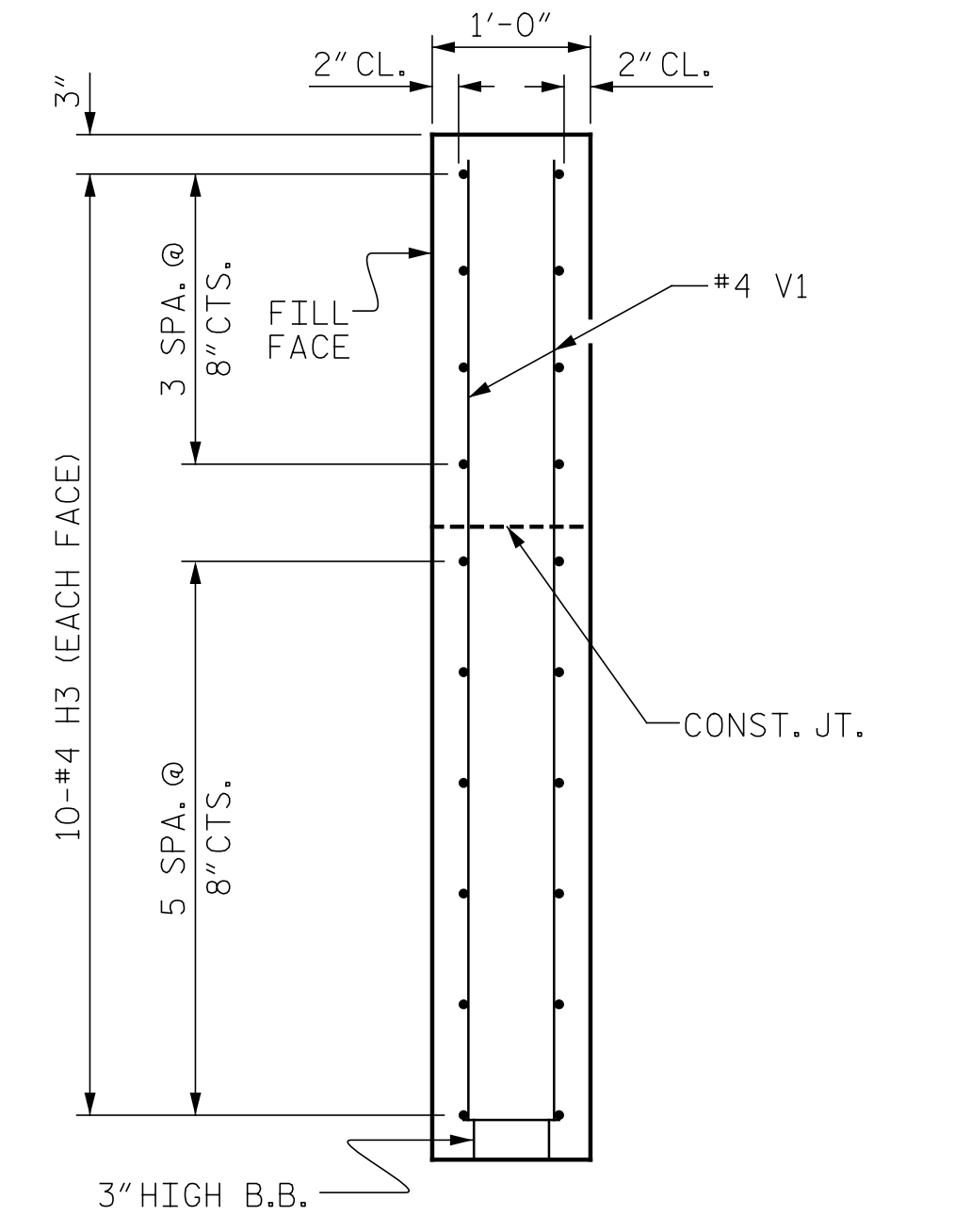
ELEVATION OF WING (W1)



ELEVATION OF WING (W2)



SECTION X-X



SECTION Y-Y

WING DETAILS

ASSEMBLED BY : EFL	DATE : 1/13/2021
CHECKED BY : KFS	DATE : 1/13/2021
DRAWN BY : WJH	12/11
CHECKED BY : AAC	12/11
REV. 4/15	MAA/TMG

1/13/2021  
BR-0011\_SD\_F\_S12.dgn  
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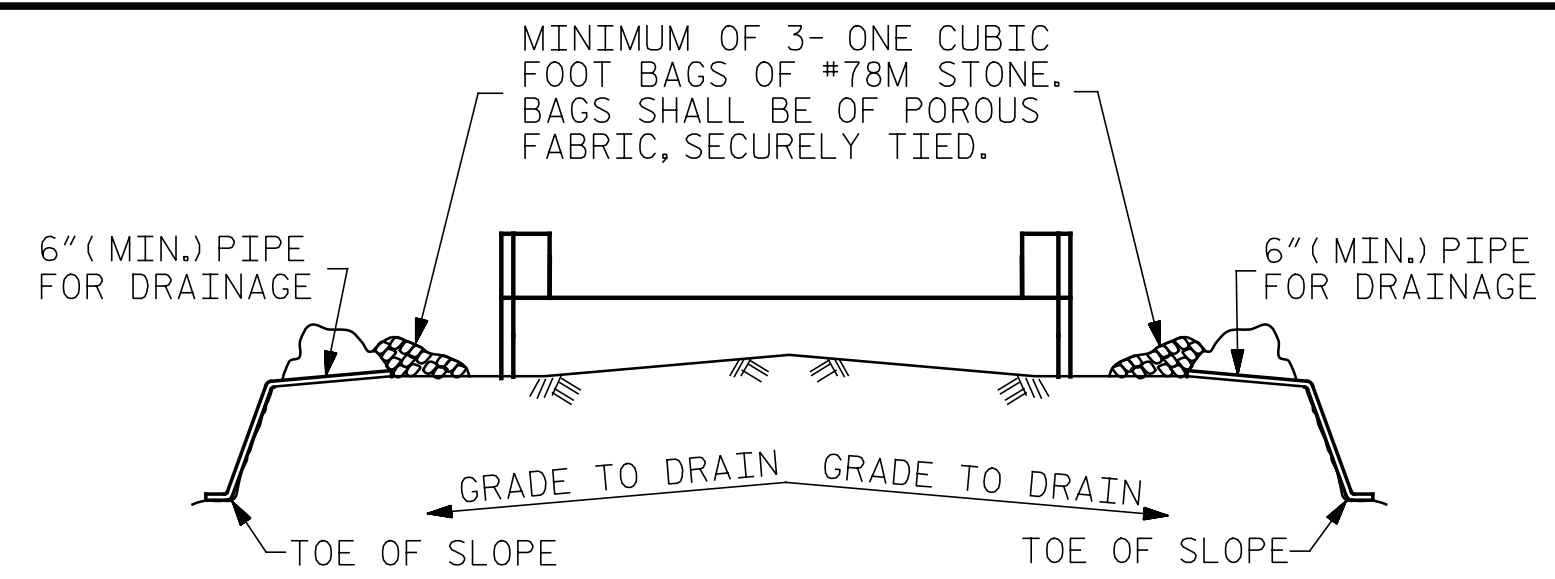
DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

DocuSigned by:  
*Elizabeth F. Laws*  
PROFESSIONAL SEAL  
044167  
12/24/2021  
ELIZABETH F. LAWS

**vhb**  
VHB Engineering NC, P.C. (C-3705)  
940 Main Campus Drive, Suite 500  
Raleigh, NC 27606

PROJECT NO. BR-0011  
CHEROKEE COUNTY  
STATION: 15+45.00 -L-  
SHEET 3 OF 4

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO. S-12
SUBSTRUCTURE END BENT WING DETAILS						TOTAL SHEETS 15
REVISIONS						
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



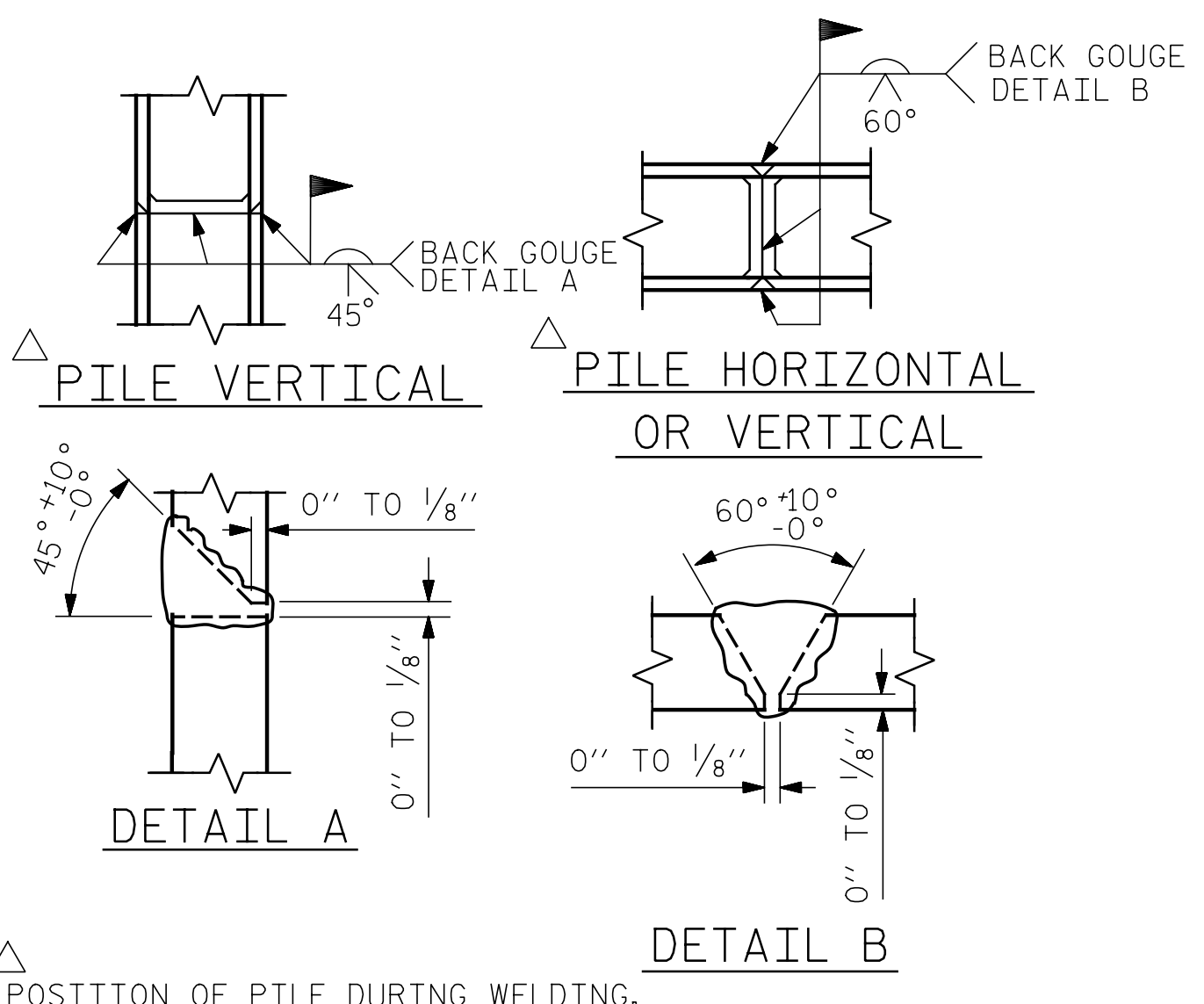
MINIMUM OF 3- ONE CUBIC FOOT BAGS OF #78M STONE. BAGS SHALL BE OF POROUS FABRIC, SECURELY TIED.

BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION.

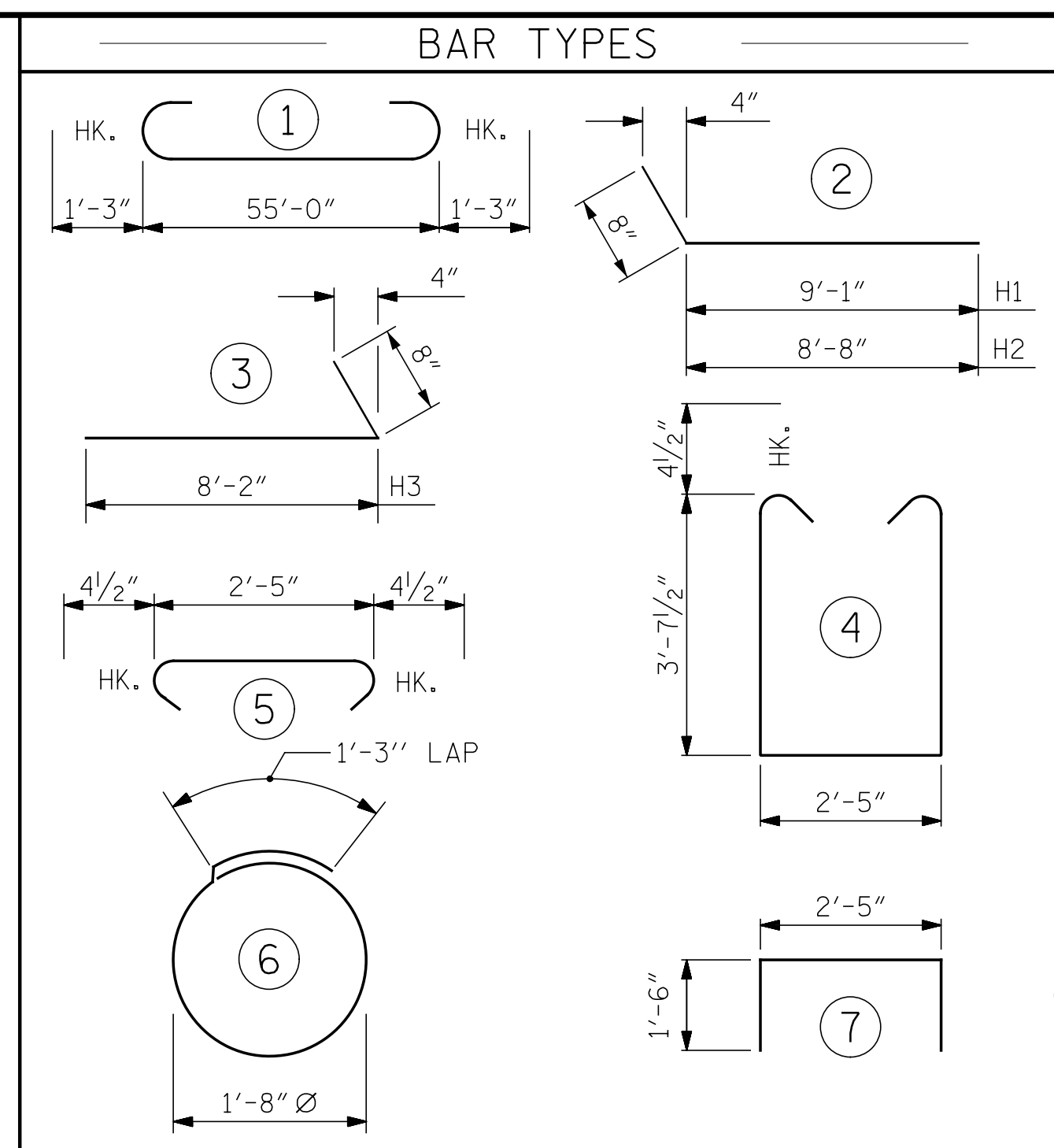
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

COORDINATE TEMPORARY DRAINAGE WITH ROADWAY TEMPORARY SHORING.

TEMPORARY DRAINAGE AT END BENT



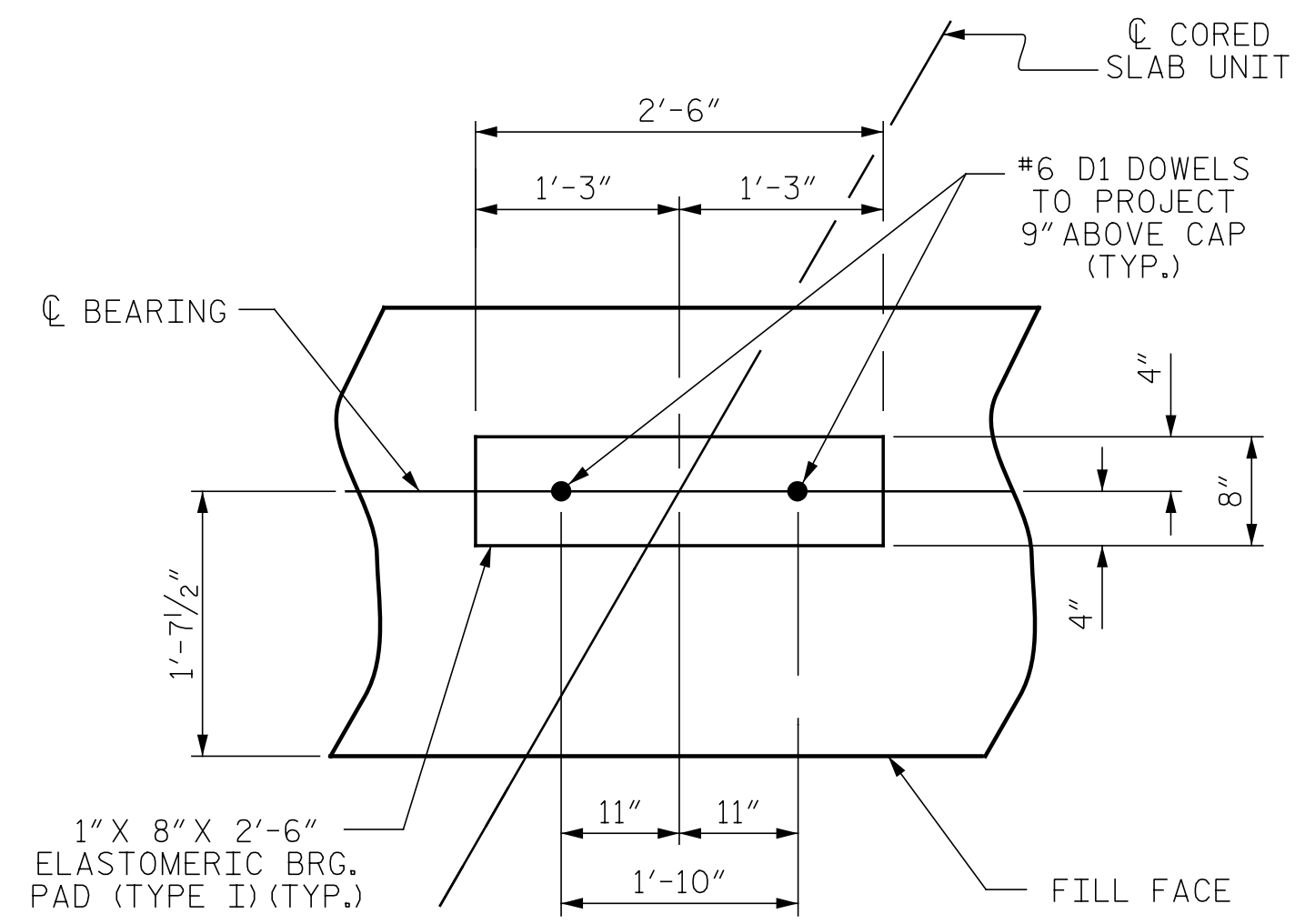
PILE SPLICE DETAILS



ALL BAR DIMENSIONS ARE OUT TO OUT.

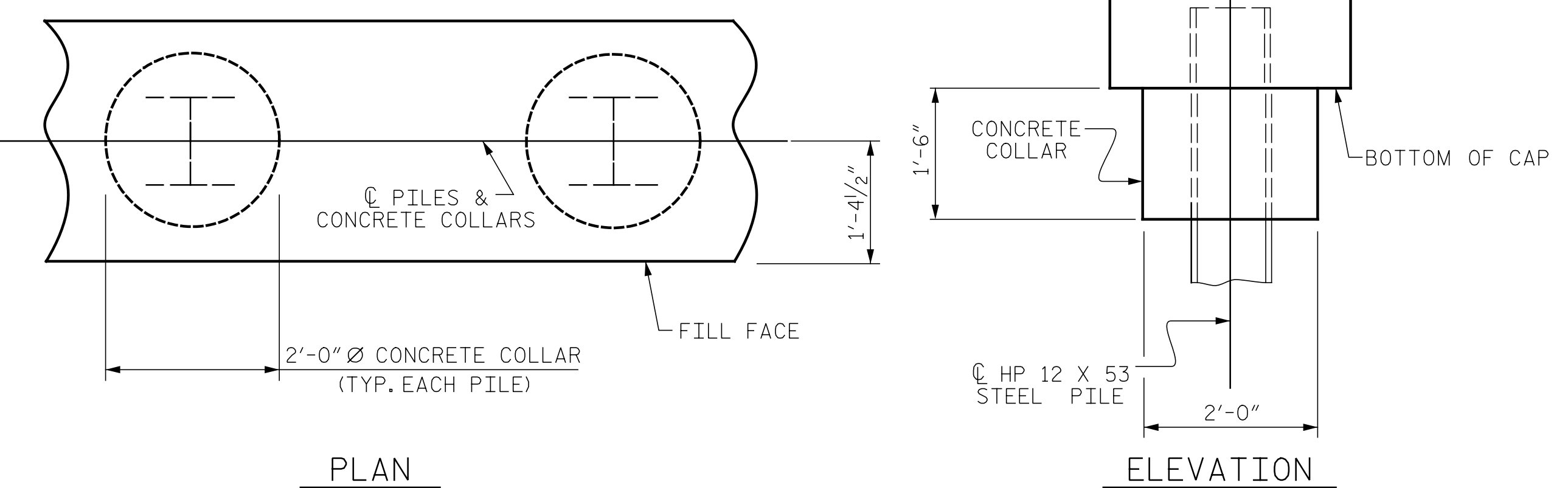
Table with 2 columns: END BENT No. 1 and END BENT No. 2. Rows include steel piles, pile driving equipment, and steel pile points.

Table titled 'BILL OF MATERIAL FOR ONE END BENT' with columns for BAR NO., SIZE, TYPE, LENGTH, and WEIGHT. Includes a sub-table for REINFORCING STEEL and CLASS A CONCRETE BREAKDOWN.



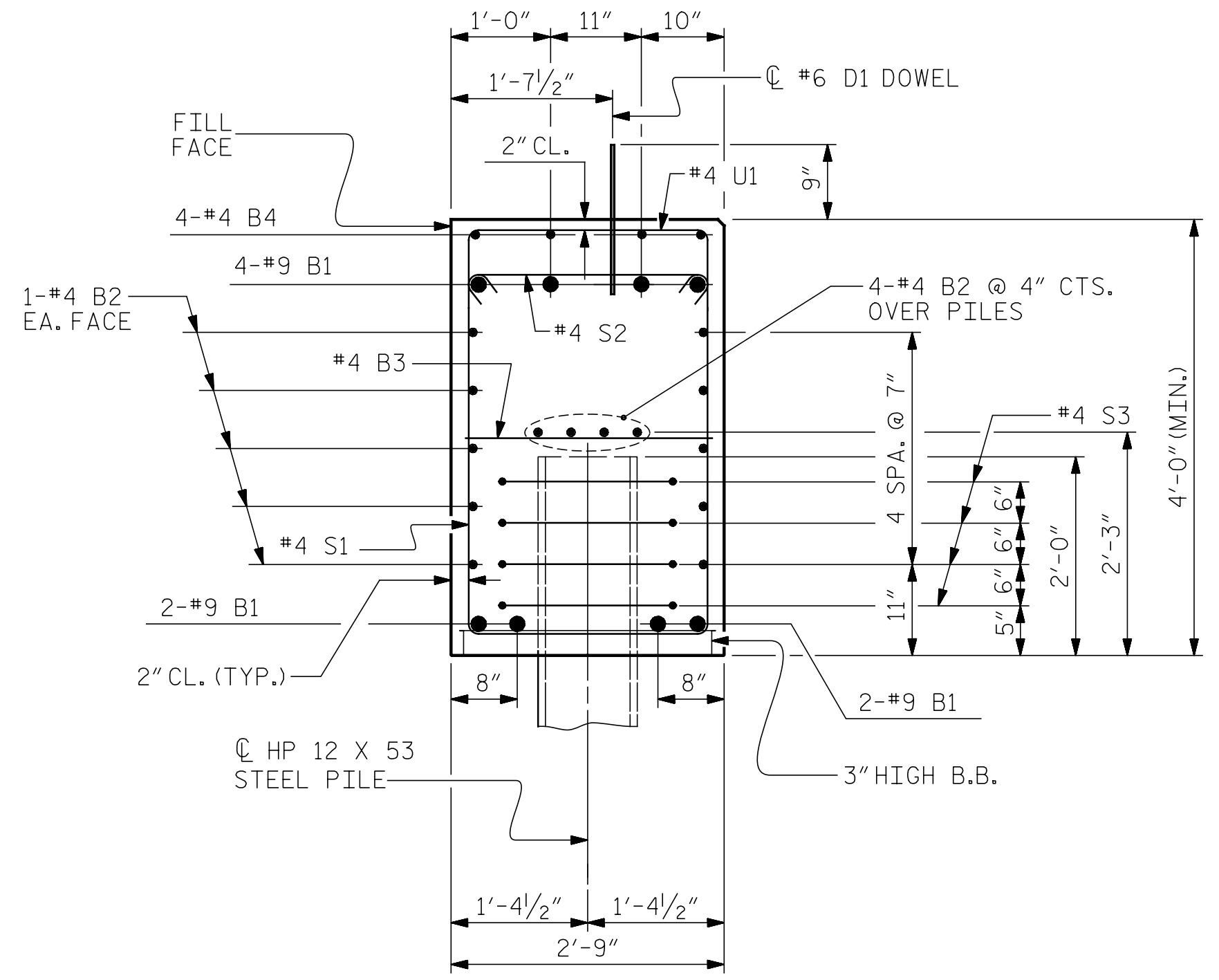
DETAIL 'A'

(END BENT No. 1 SHOWN, END BENT No. 2 SIMILAR BY ROTATION)



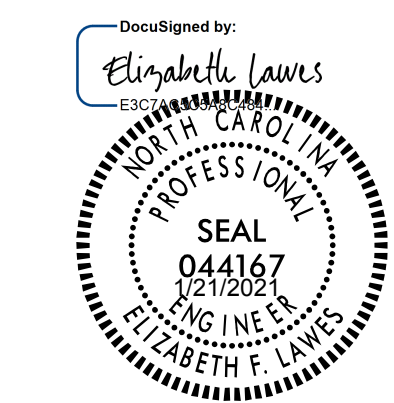
CORROSION PROTECTION FOR STEEL PILES DETAIL

(END BENT No. 1 SHOWN, END BENT No. 2 SIMILAR BY ROTATION)



SECTION A-A

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



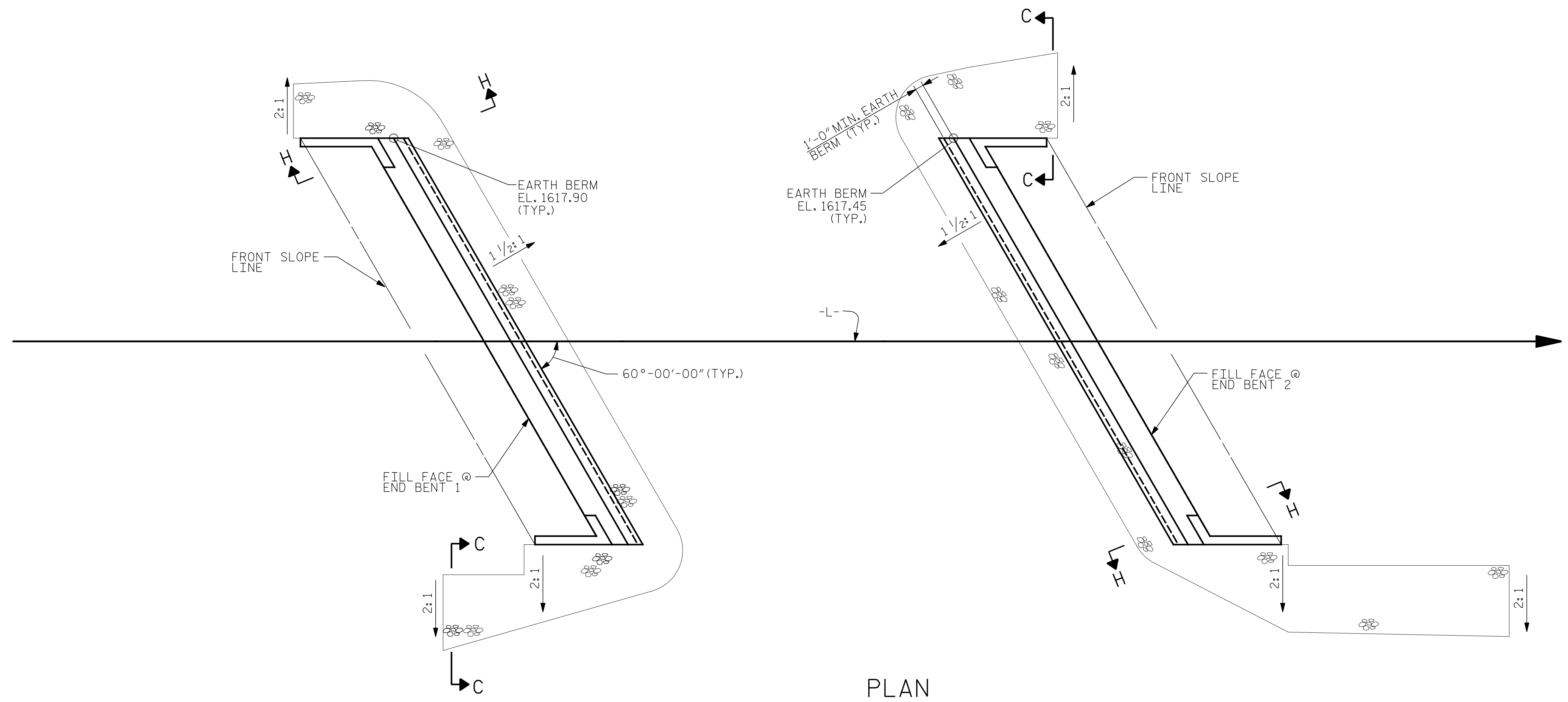
PROJECT NO. BR-0011  
CHEROKEE COUNTY  
STATION: 15+45.00 -L-

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
SUBSTRUCTURE  
END BENT No. 1 & 2  
DETAILS

Table with columns for ASSEMBLED BY, CHECKED BY, DRAWN BY, CHECKED BY, DATE, and REV.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Table with columns for NO., BY:, DATE:, NO., BY:, DATE:, SHEET NO., and TOTAL SHEETS.

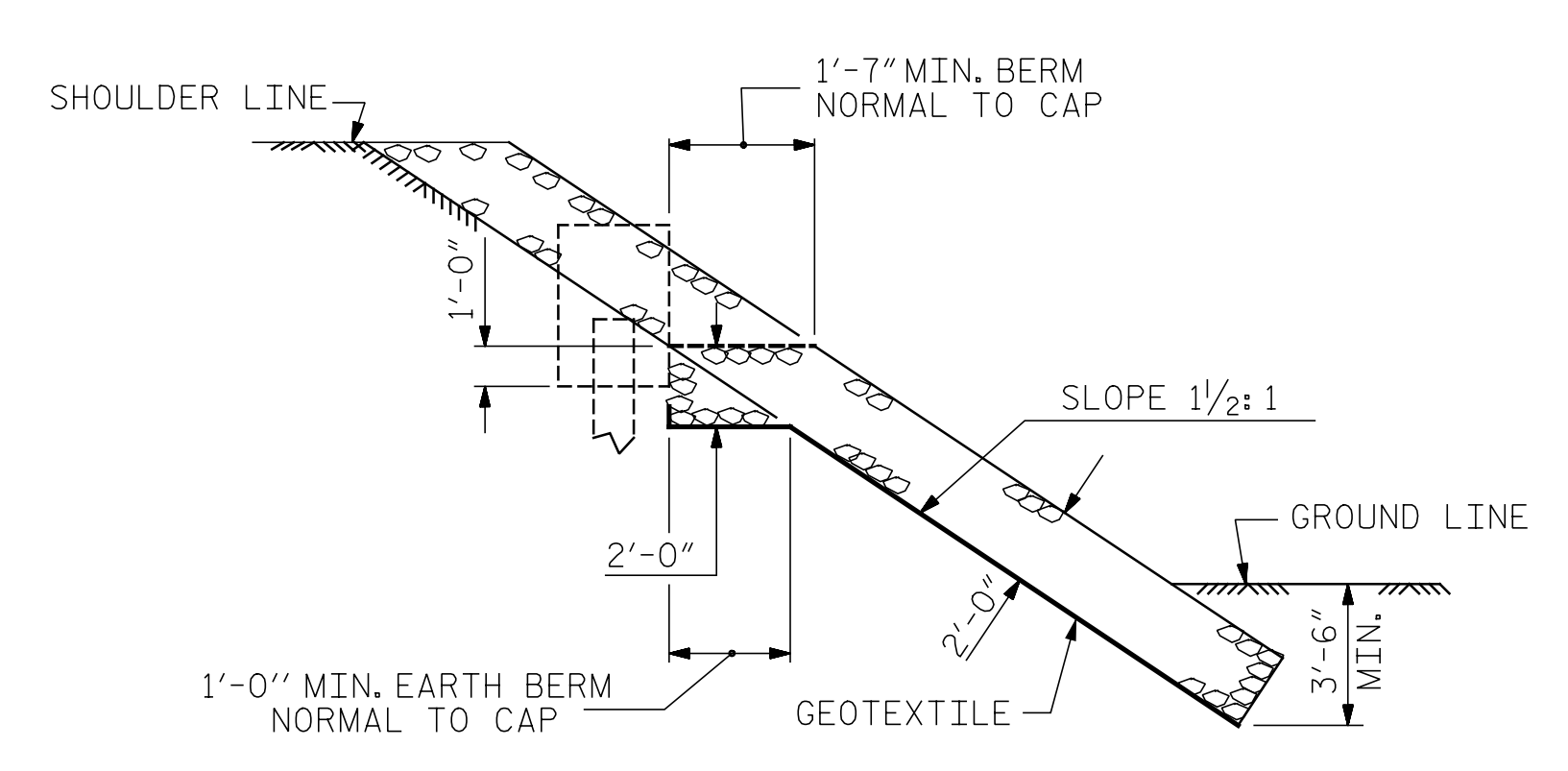


END BENT NO. 1

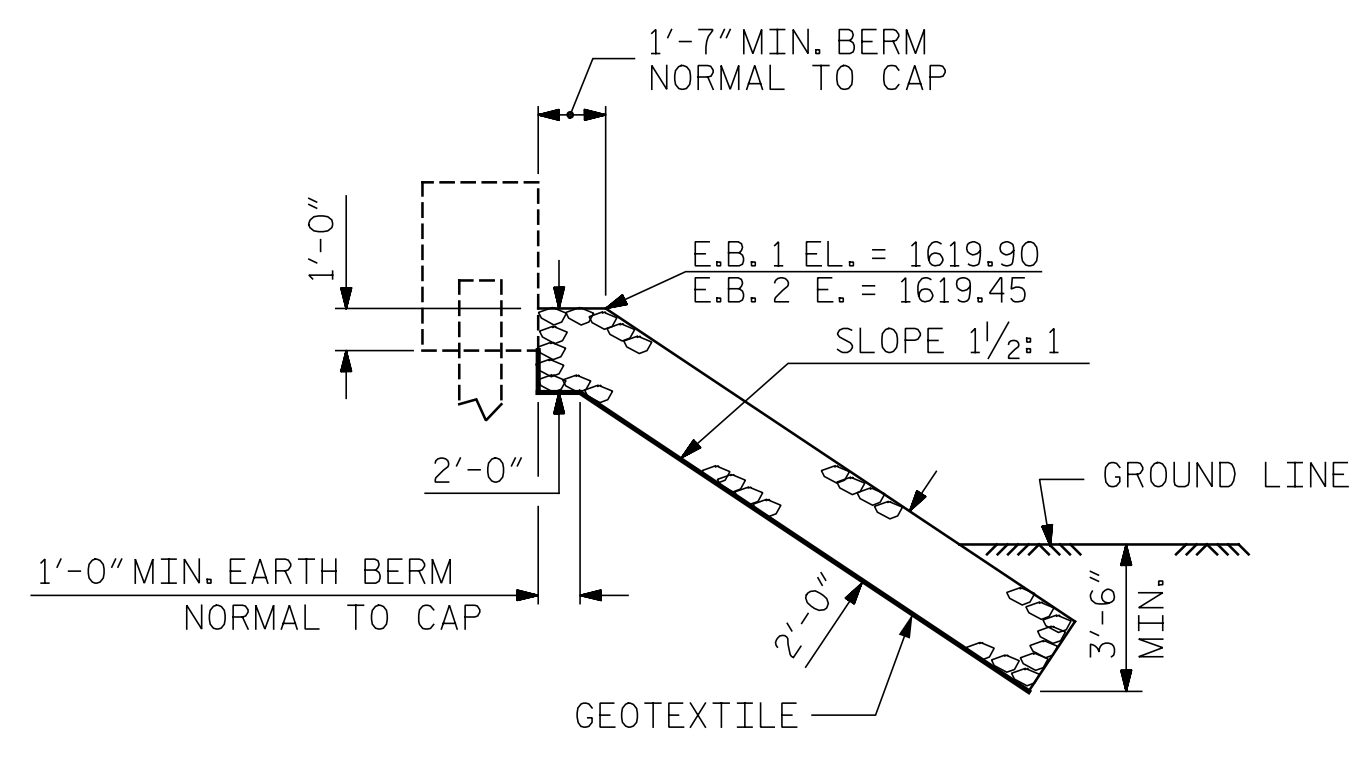
END BENT NO. 2

PLAN

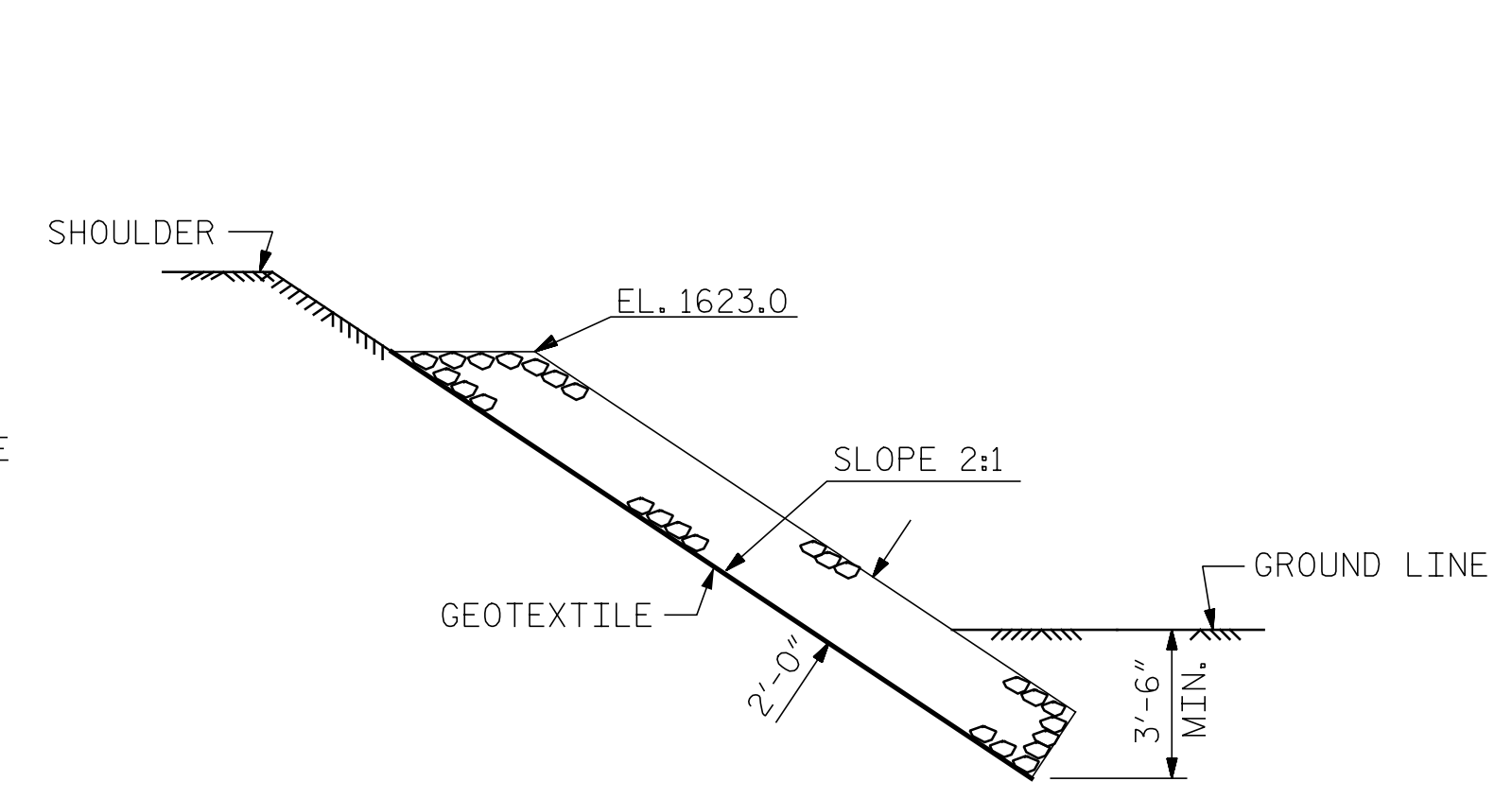
ESTIMATED QUANTITIES		
BRIDGE @ STA. 15+45.00 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	71	53
END BENT 2	90	67



SECTION H-H

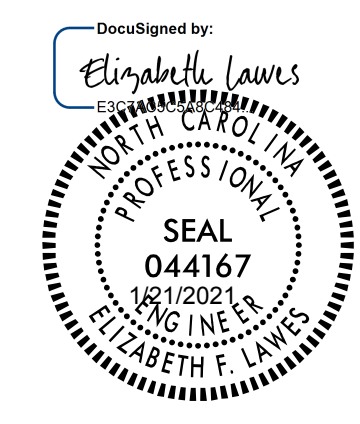


SECTION C-C  
BERM RIP RAPPED



SECTION C-C

PROJECT NO. BR-0011  
CHEROKEE COUNTY  
 STATION: 15+45.00 -L-



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 = RIP RAP DETAILS =

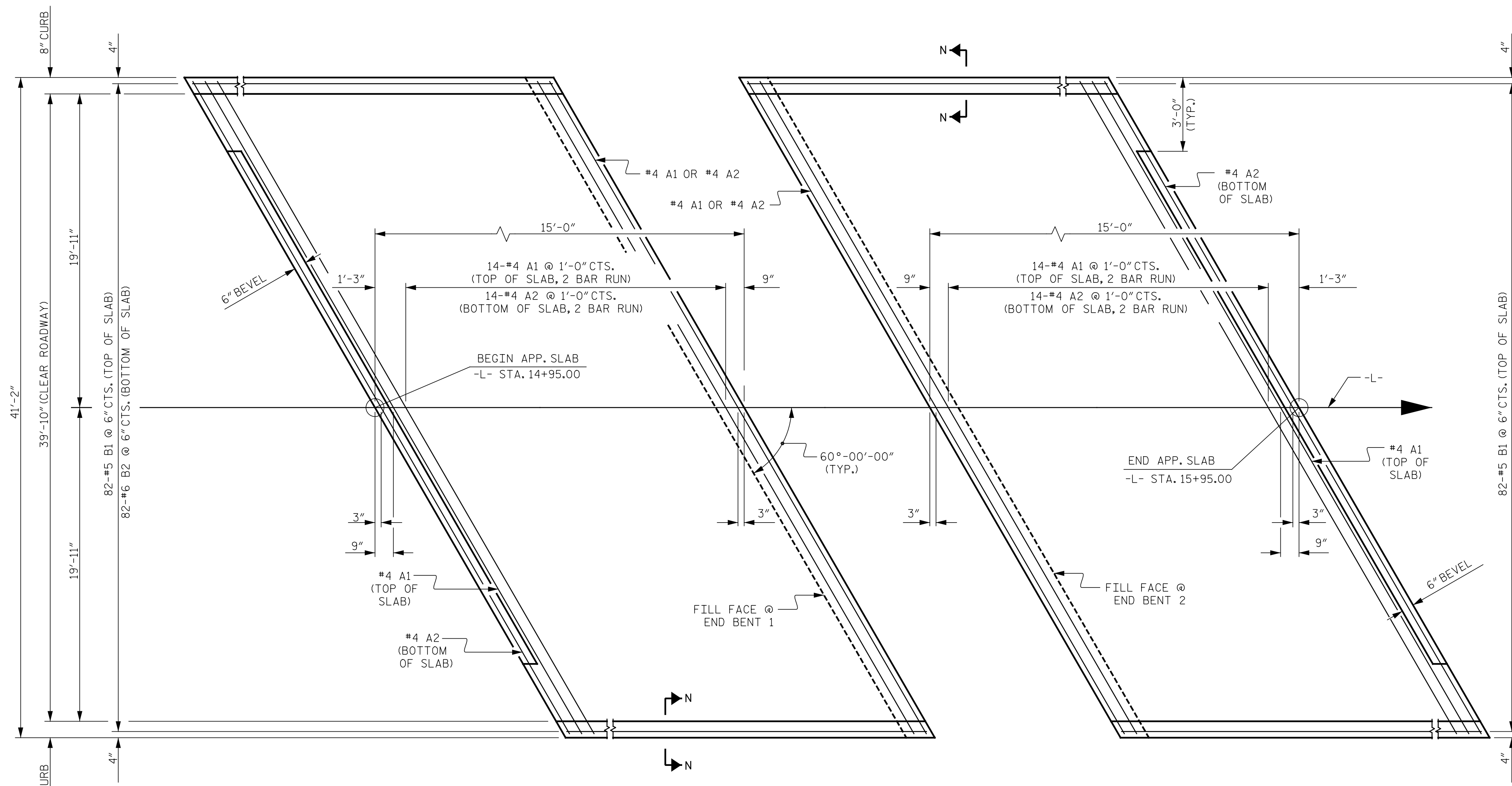
ASSEMBLED BY : EFL	DATE : 1/13/2021
CHECKED BY : KFS	DATE : 1/13/2021
DRAWN BY : REK 1/84	REV. 5/1/06R TLA/GM
CHECKED BY : RDU 1/84	REV. 10/1/11 MAA/GM
	REV. 12/21/11 MAA/GM

1/13/2021  
 BR-0011\_SD\_rr\_S14.dgn  
 ksmilach

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 Raleigh, NC 27606

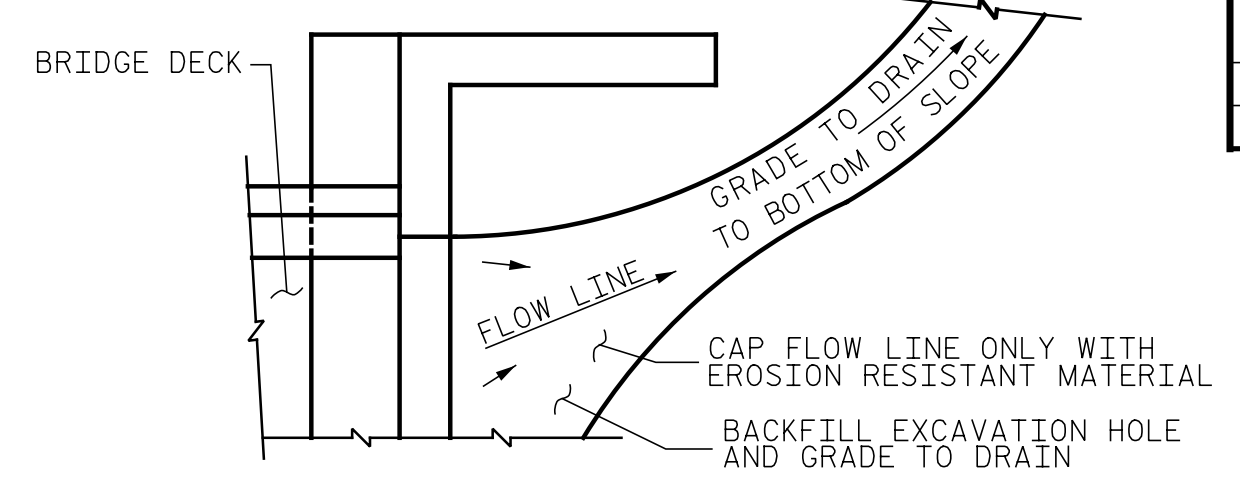
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-14
1			3			TOTAL SHEETS
2			4			15



PLAN @ END BENT 1 PLAN @ END BENT 2  
DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS

NOTES

FOR BRIDGE APPROACH FILL INCLUDING GEOTEXTILE, 4" Ø DRAINAGE PIPE, AND SELECT MATERIAL BACKFILL, SEE ROADWAY PLANS.  
 GEOTEXTILE SHALL BE TYPE I IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 1056.  
 SELECT MATERIAL BACKFILL (CLASS V OR CLASS VI) SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 1016.  
 SELECT MATERIAL BACKFILL IS TO BE CONTINUOUS ALONG FILL FACE OF BACKWALL FROM OUTSIDE EDGE TO OUTSIDE EDGE OF APPROACH SLAB.  
 FOR THE 4" Ø DRAINAGE PIPE OUTLET(S), SEE ROADWAY STANDARD DRAWINGS.  
 AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.



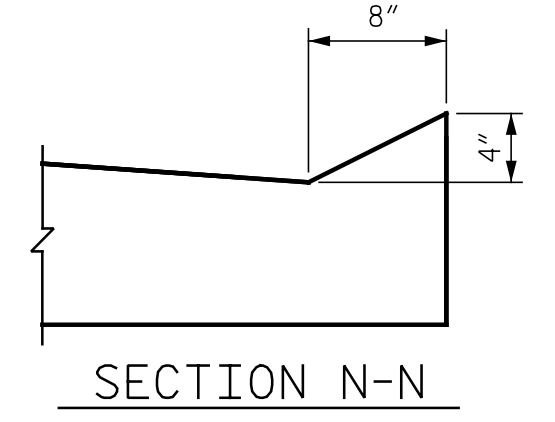
NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT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

TEMPORARY DRAINAGE DETAIL

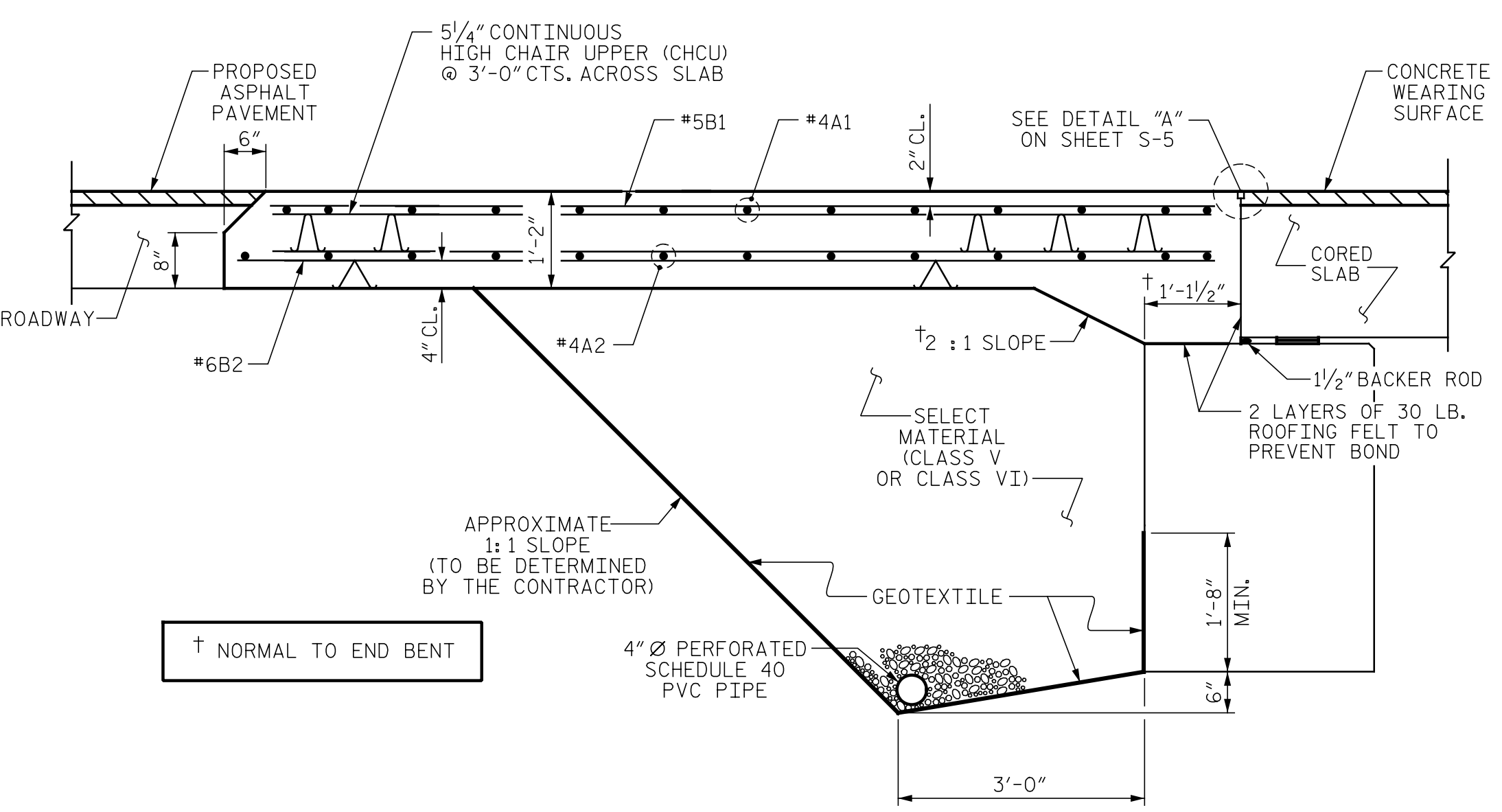
BILL OF MATERIAL					
APPROACH SLAB AT EB #1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	32	#4	STR	24'-7"	526
A2	32	#4	STR	24'-5"	522
* B1	82	#5	STR	14'-1"	1205
B2	82	#6	STR	14'-7"	1796
REINFORCING STEEL					LBS. 2318
* EPOXY COATED REINFORCING STEEL					LBS. 1731
CLASS AA CONCRETE					C. Y. 33.1
APPROACH SLAB AT EB #2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	32	#4	STR	24'-7"	526
A2	32	#4	STR	24'-5"	522
* B1	82	#5	STR	14'-1"	1205
B2	82	#6	STR	14'-7"	1796
REINFORCING STEEL					LBS. 2318
* EPOXY COATED REINFORCING STEEL					LBS. 1731
CLASS AA CONCRETE					C. Y. 33.1

SPLICE LENGTHS

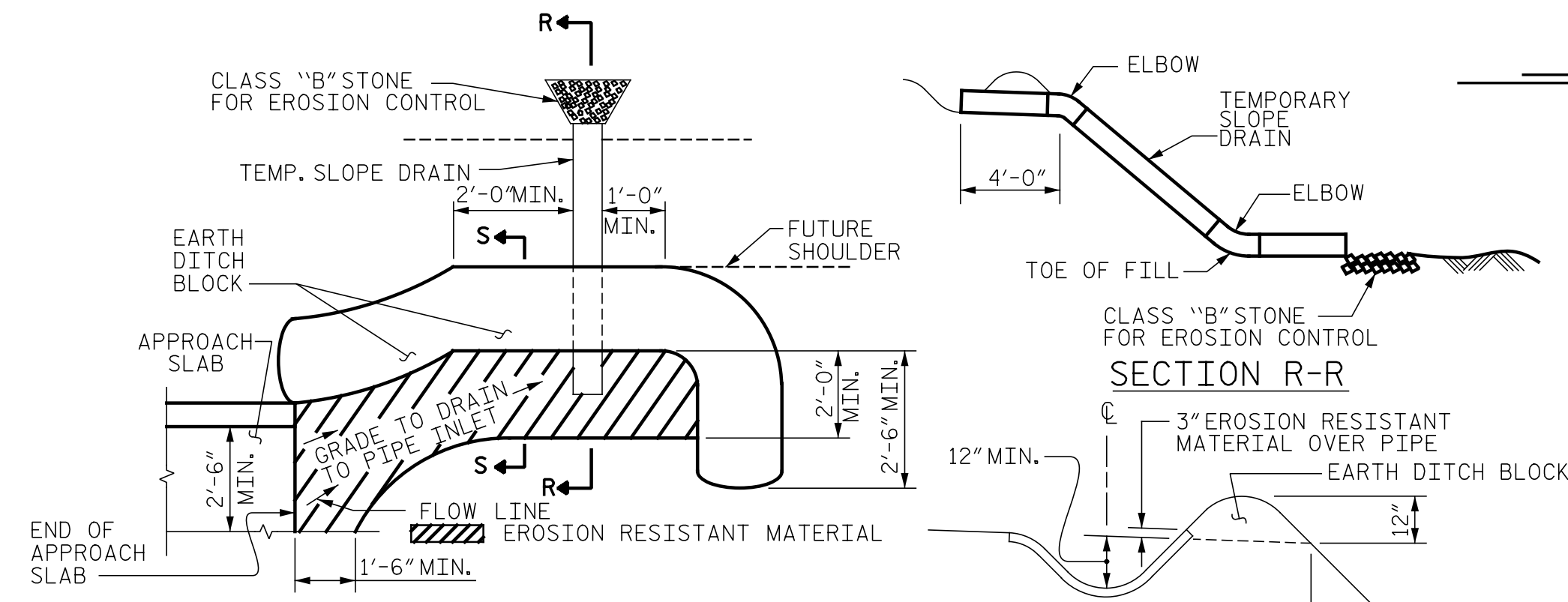
BAR SIZE	EPOXY COATED	UNCOATED
#4	1'-11"	1'-7"
#5	2'-5"	2'-0"
#6	3'-7"	2'-5"



CURB DETAILS

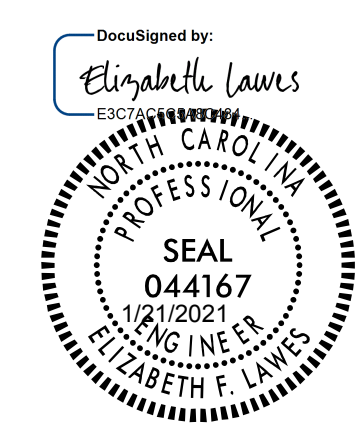


SECTION THRU SLAB  
(TYPE II - MODIFIED APPROACH FILL)



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

PROJECT NO. BR-0011  
 CHEROKEE COUNTY  
 STATION: 15+45.00 -L-



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 BRIDGE APPROACH SLAB  
 FOR PRESTRESSED CONCRETE  
 CORED SLAB UNIT

ASSEMBLED BY : EFL	DATE : 1/13/2021
CHECKED BY : KFS	DATE : 1/13/2021
DRAWN BY : SHS/MAA 5-09	REV. 12-17 MAA/THC
CHECKED BY : BCH 5-09	REV. 08-19 BNB/THC

DOCUMENT NOT CONSIDERED  
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 940 Main Campus Drive, Suite 500  
 Raleigh, NC 27606

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



## STANDARD NOTES

### DESIGN DATA:

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

### MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2018 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N.C. DEPARTMENT OF TRANSPORTATION.

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

### CONCRETE:

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

### CONCRETE CHAMFERS:

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

### DOWELS:

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

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

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

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

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

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

### REINFORCING STEEL:

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

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

### STRUCTURAL STEEL:

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

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST  $\frac{3}{16}$ " IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

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

### HANDRAILS AND POSTS:

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

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

### SPECIAL NOTES:

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

# ENGLISH

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