

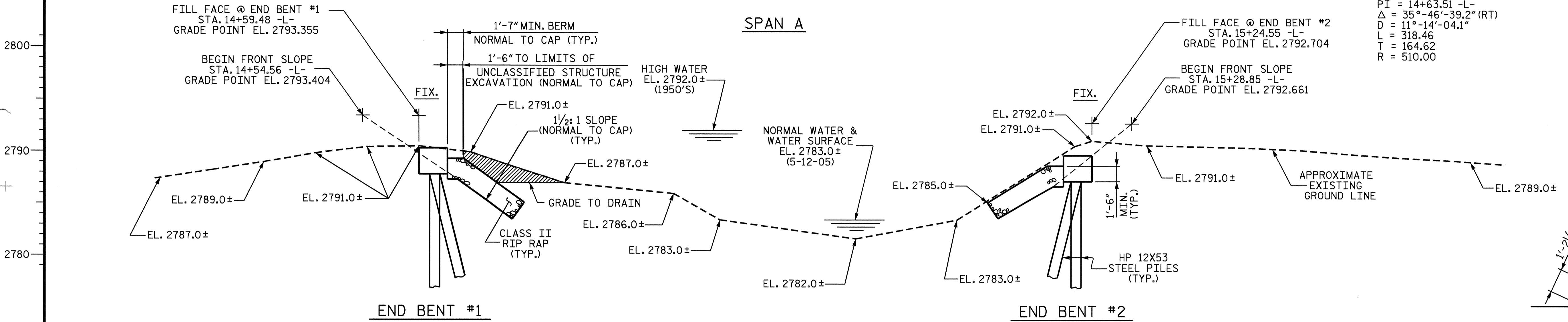
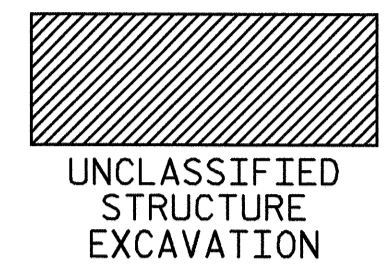
HORIZONTAL CURVE DATA

PI = 14+63.51 -L-
 $\Delta = 35^\circ-46'-39.2''$ (RT)
 D = $11^\circ-14'-04.1''$
 L = 318.46
 T = 164.62
 R = 510.00

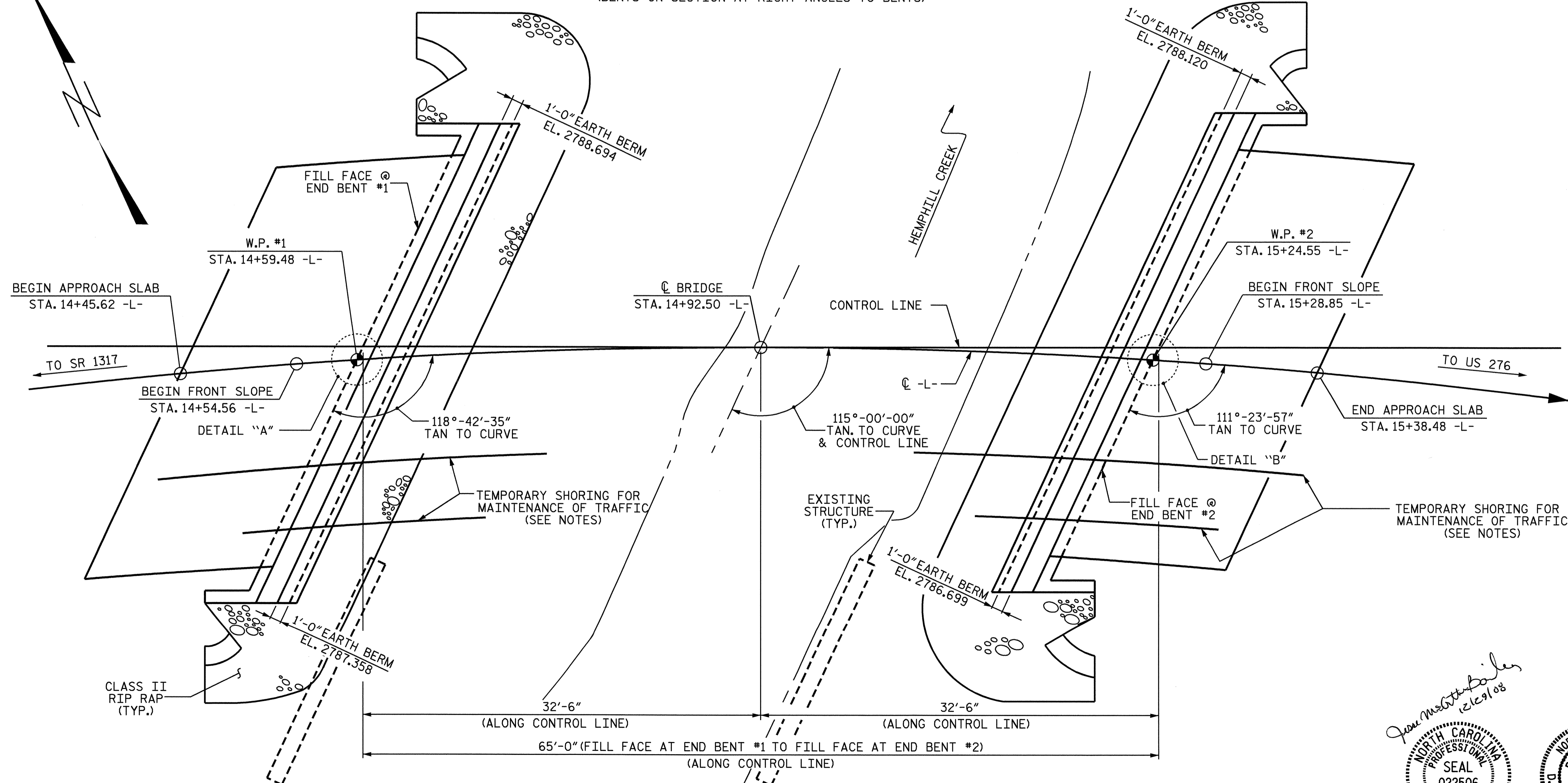
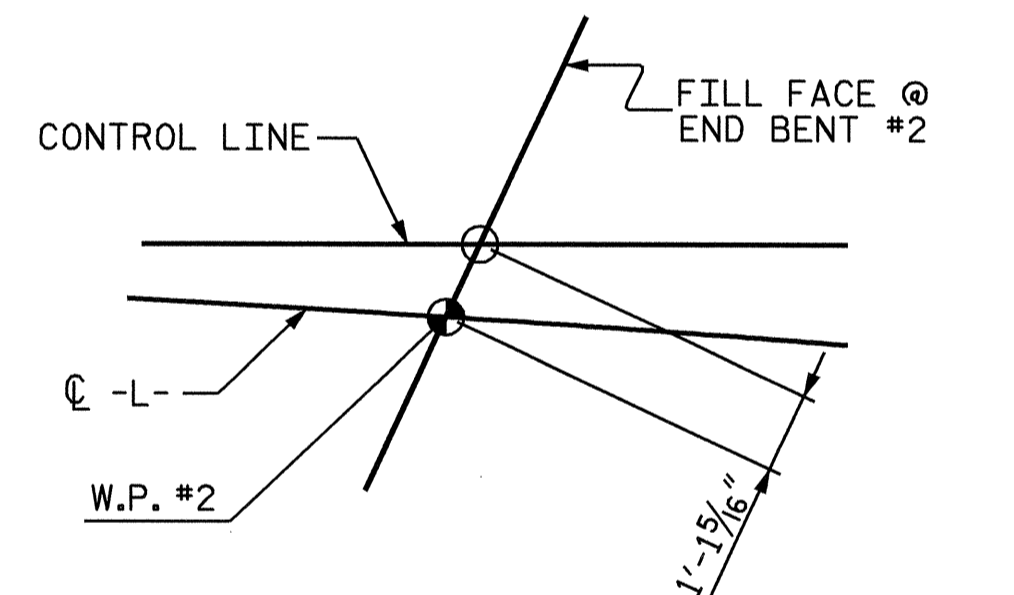
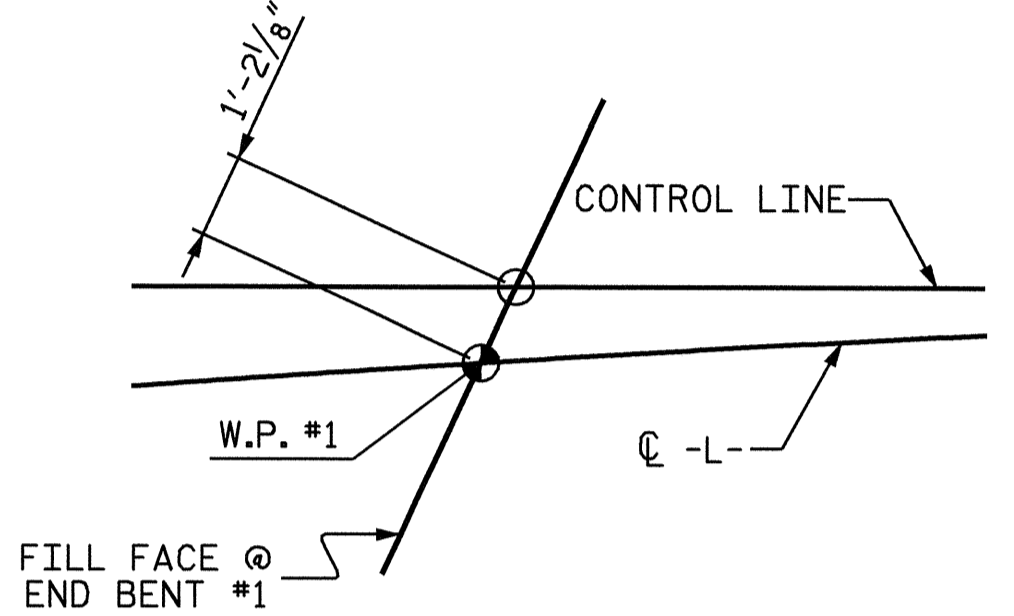
(-)-1.000% Δ (-)-2.0920%

PI = 16+00.00
 EL. = 2791.950
 VC = 100'

GRADE DATA



SECTION ALONG C-L- (BENTS ON SECTION AT RIGHT ANGLES TO BENTS)



PLAN (PILES NOT SHOWN FOR CLARITY)

PROJECT NO. B-3343
HAYWOOD COUNTY
 STATION: 14+92.50 -L-

SHEET 1 OF 4 REPLACE BRIDGE #48

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

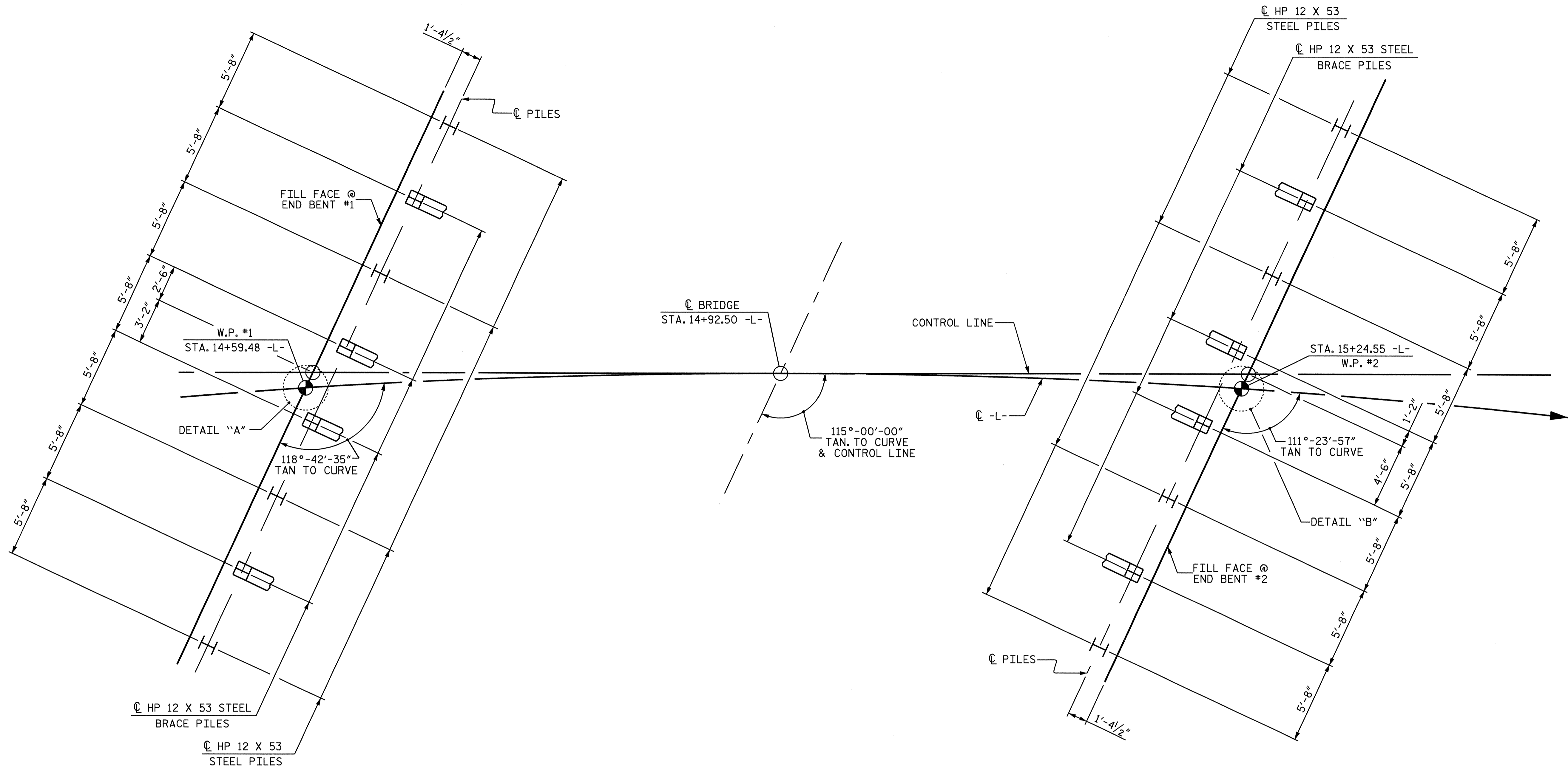
GENERAL DRAWING
 FOR BRIDGE ON SR 1318
 OVER HEMPHILL CREEK
 BETWEEN SR 1317
 AND US 276

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

TOTAL SHEETS 24

DRAWN BY : W.B. HILL DATE : 8/24/07
 CHECKED BY : D.A. DAVENPORT DATE : 11/06



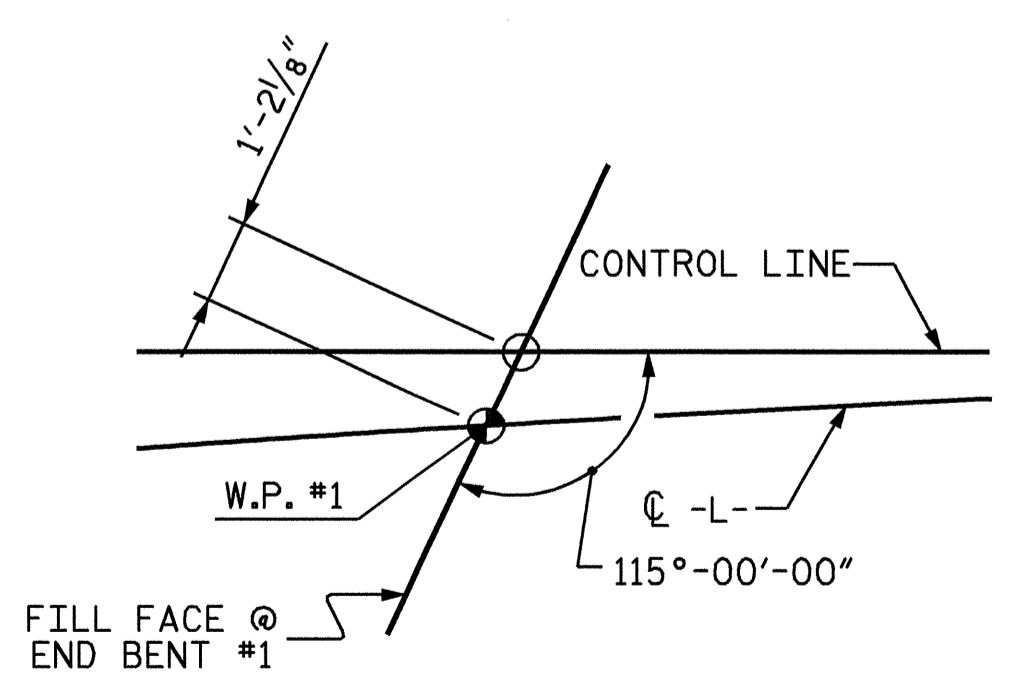


END BENT #1

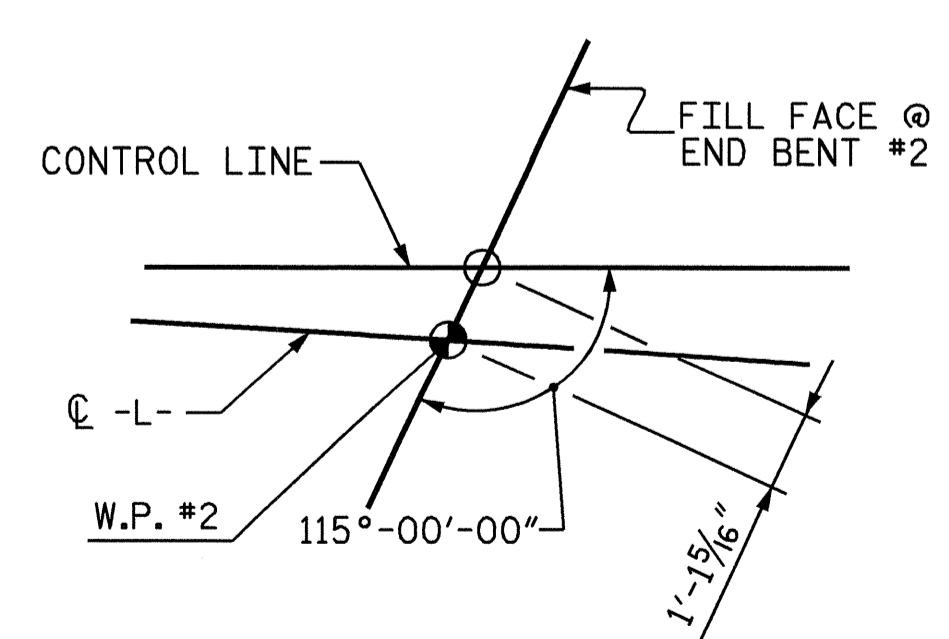
END BENT #2

FOUNDATION LAYOUT

HP 12 X 53 STEEL BRACE PILES ARE BATTERED 3:12.
DIMENSIONS LOCATING PILES ARE SHOWN TO
THE PILE CENTERLINE.



DETAIL "A"

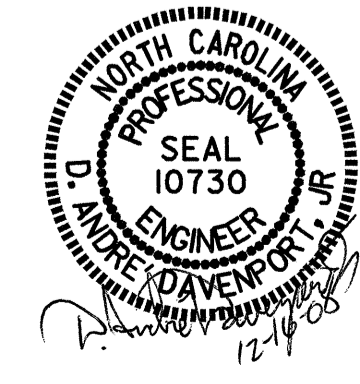


DETAIL "B"

PROJECT NO. B-3343
HAYWOOD COUNTY
STATION: 14+92.50 -L-

SHEET 2 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
FOR BRIDGE ON SR 1318
OVER HEMPHILL CREEK
BETWEEN SR 1317
AND US 276

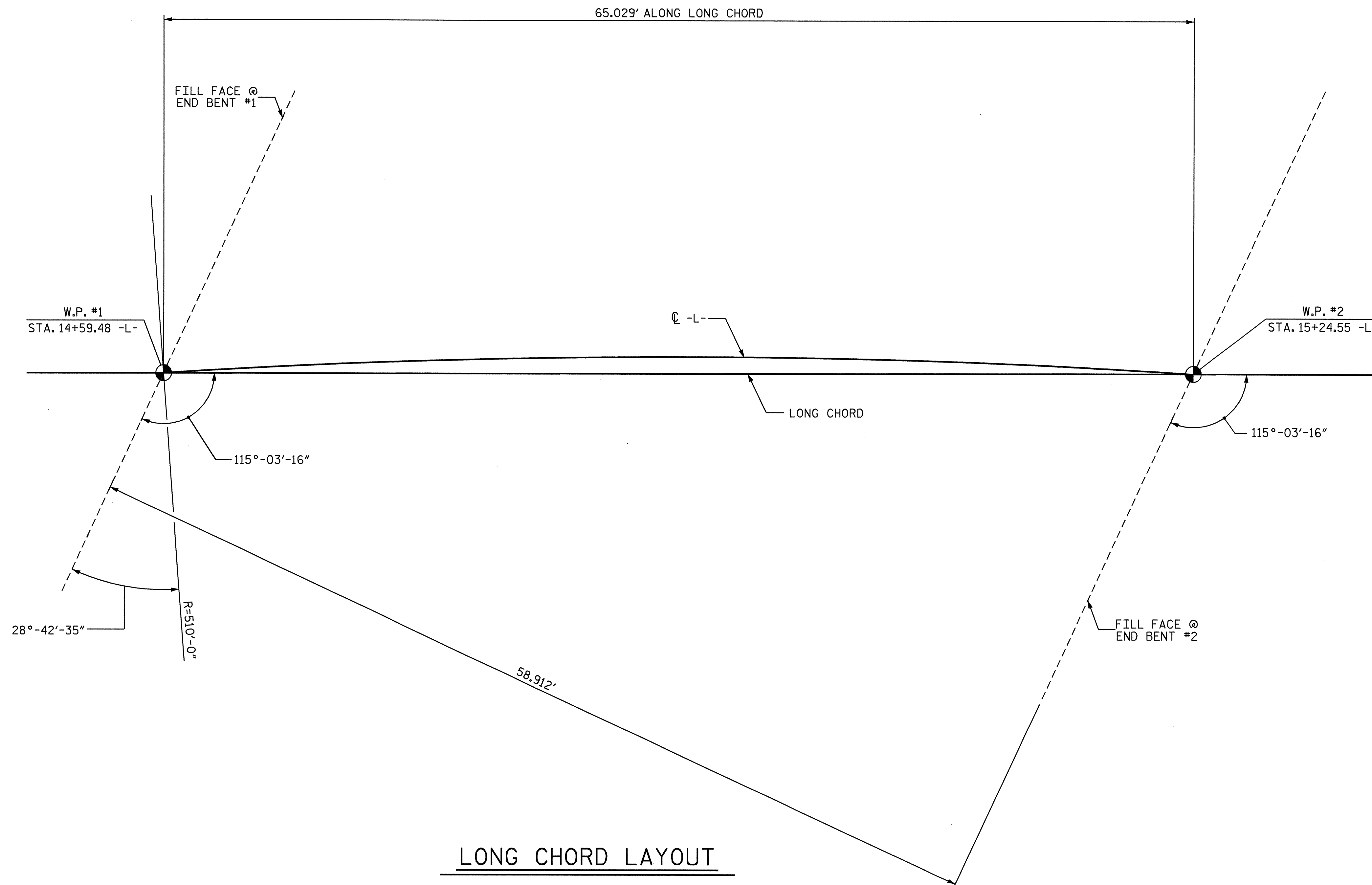


DRAWN BY : A. SORSENGINH DATE : 8/27/07
CHECKED BY : D.A. DAVENPORT DATE : 10/08

REVISIONS						SHEET NO. S-2
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 24
2			4			

HORIZONTAL CURVE DATA

PI = 14+63.51 -L-
 Δ = 35°-46'-39.2" (RT)
D = 11°-14'-04.1"
L = 318.46
T = 164.62
R = 510.00

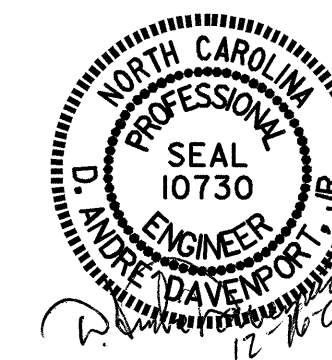


LONG CHORD LAYOUT

PROJECT NO. B-3343
HAYWOOD COUNTY
STATION: 14+92.50 -L-

SHEET 3 OF 4

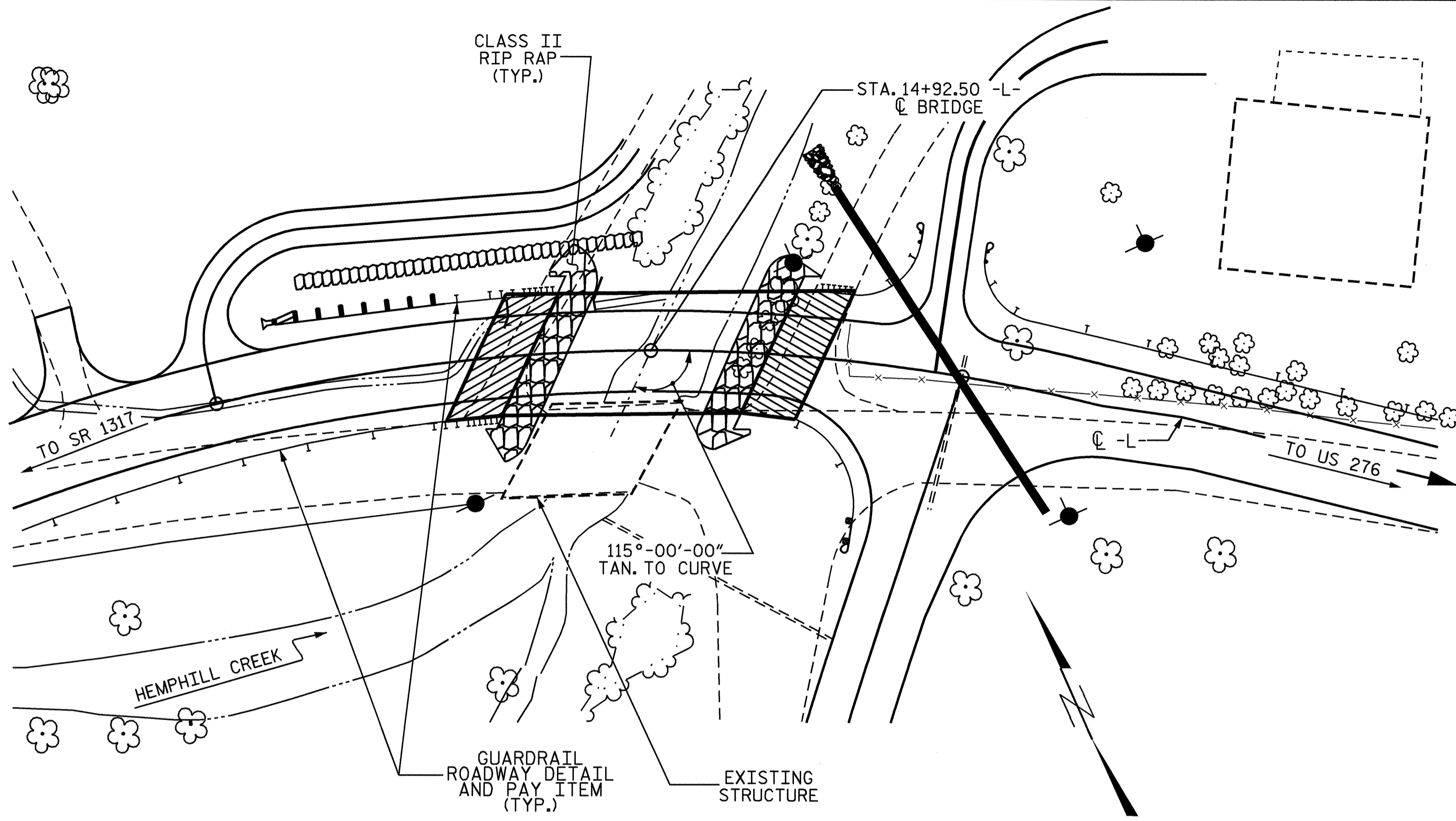
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
FOR BRIDGE ON SR 1318
OVER HEMPHILL CREEK
BETWEEN SR 1317
AND US 276



DRAWN BY : A. SORSENGINH DATE : 8/27/07
CHECKED BY : D.A. DAVENPORT DATE : 10/08

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			24

BENCH MARK NO. 2: CHISELED SQUARE ON NORTHEAST END WINGWALL, 35.94' RIGHT STA. 13+23.12 -BL-, EL. 2797.930



HYDRAULIC DATA

DESIGN DISCHARGE = 1,400 CFS.
 FREQUENCY OF DESIGN FLOOD = 25 YRS.
 DESIGN HIGH WATER ELEVATION = 2791.200
 DRAINAGE AREA = 5.3 SQ. MI.
 BASIC DISCHARGE (Q100) = 2,120 CFS.
 BASIC HIGH WATER ELEVATION = 2793.500

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 1,875 CFS.
 FREQUENCY OF OVERTOPPING FLOOD = 50+ YRS.
 OVERTOPPING FLOOD ELEVATION = 2792.500

NOTE: FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH

NOTES

ASSUMED LIVE LOAD = HS20 OR ALTERNATE LOADING, EXCEPT THAT CORED SLAB UNITS HAVE BEEN DESIGNED FOR HS25.

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

FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.

THIS BRIDGE HAS BEEN DESIGNED BY THE STRENGTH DESIGN METHOD AS SPECIFIED IN AASHTO STANDARD SPECIFICATIONS.

AFTER SERVING AS A TEMPORARY STRUCTURE THE EXISTING STRUCTURE CONSISTING OF A SINGLE SPAN @ 36'-0", TIMBER FLOOR ON I-BEAMS AND 3" ASPHALT WEARING SURFACE ON MASONRY YOUNG ABUTMENTS WITH A CLEAR ROADWAY WIDTH OF 24'-6" AND LOCATED AT THE PROPOSED SITE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMITATION MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

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

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 23 FT. EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION.

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

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18 "EVALUATING SCOUR AT BRIDGES", MAY, 2001.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO STANDARD SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES FOR SEISMIC PERFORMANCE CATEGORY B.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

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 BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.

STEEL PILE POINTS ARE REQUIRED FOR STEEL PILES AT END BENT NO. 1 AND END BENT NO. 2. SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

DRIVE PILES AT END BENT NO. 1 AND END BENT NO. 2 TO A REQUIRED BEARING CAPACITY OF 120 TONS PER PILE. THE REQUIRED BEARING CAPACITY IS EQUAL TO THE ALLOWABLE BEARING CAPACITY WITH A MINIMUM FACTOR OF SAFETY OF TWO.

THE ALLOWABLE BEARING CAPACITY FOR PILES AT END BENT NO. 1 AND END BENT NO. 2 IS 60 TONS PER PILE.

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.

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 AT STATION 14+92.50-L".

DUE TO THE PRESENCE OF BOULDERS THAT MAY PREVENT PILE PENETRATION, PILE EXCAVATION MAY BE REQUIRED AT END BENT NO. 1 AND END BENT NO. 2. SEE SPECIAL PROVISIONS.

THE REQUIRED TIP ELEVATIONS AT END BENT NO. 1 ARE EL. 2725.000 LEFT AND EL. 2731.000 RIGHT.

THE REQUIRED TIP ELEVATIONS AT END BENT NO. 2 ARE EL. 2751.000 LEFT AND EL. 2735.000 RIGHT.

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

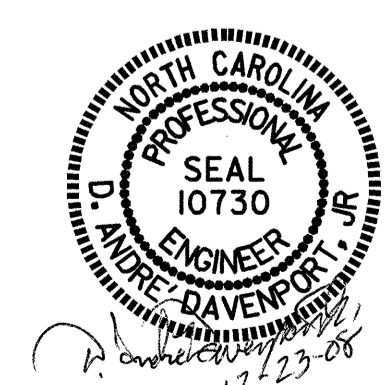
TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	PILE EXCAVATION IN SOIL	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12 X 53 STEEL PILES		STEEL PILE POINTS	CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLABS
	LUMP SUM	LIN. FT.	LUMP SUM	CU. YD.	LUMP SUM	LBS.	NO.	LIN. FT.	EACH	LIN. FT.	TONS	SQ. YD.	LUMP SUM	LIN. FT.
SUPERSTRUCTURE														
END BENT NO. 1		40		14.0		2171	8	500	8		70	75		
END BENT NO. 2		40		13.9		2171	8	380	8		110	125		
TOTAL	LUMP SUM	80	LUMP SUM	27.9	LUMP SUM	4342	16	880	16	125.04	180	200	LUMP SUM	687.67

PROJECT NO. B-3343
HAYWOOD COUNTY
 STATION: 14+92.50 -L-

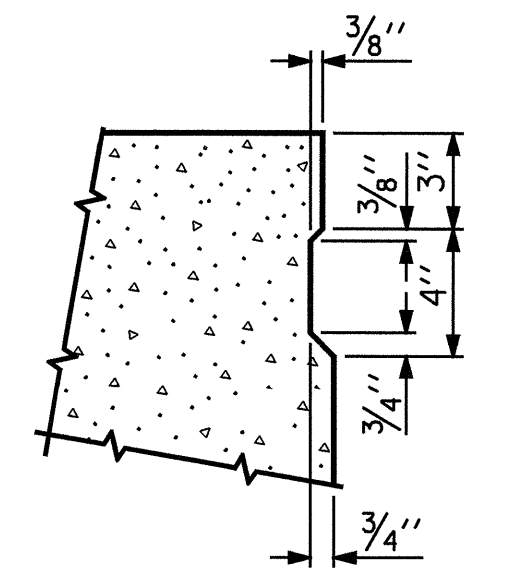
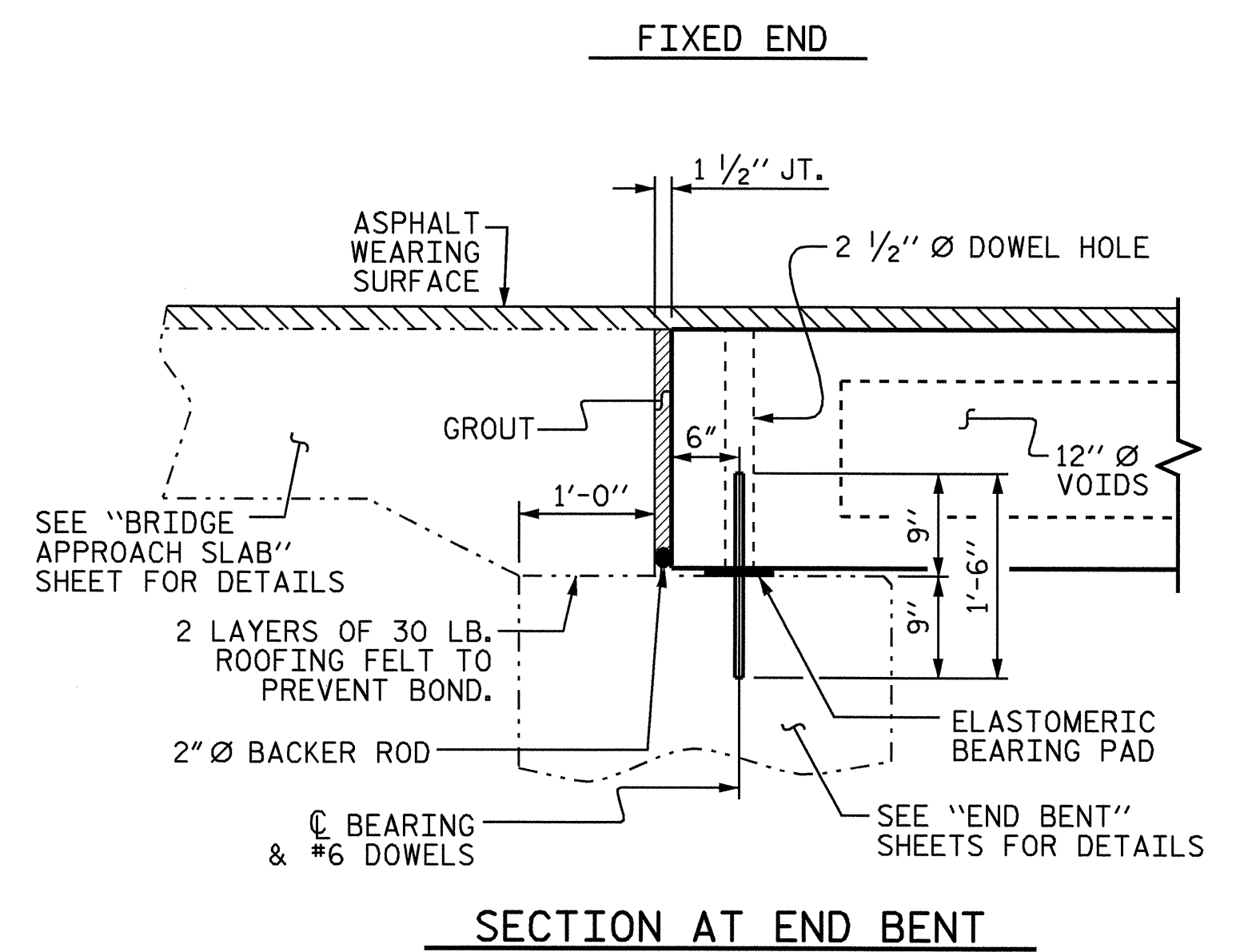
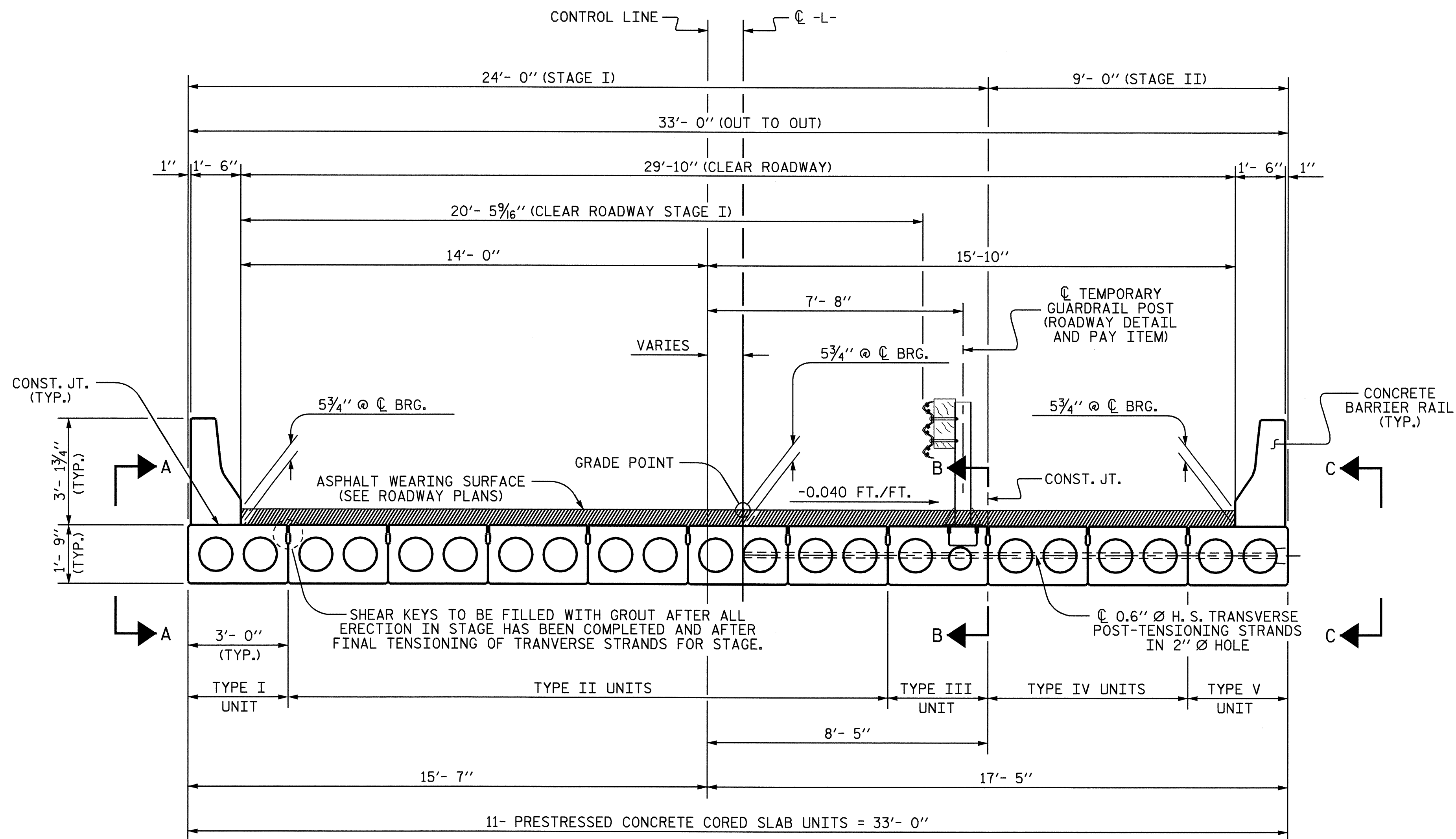
SHEET 4 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE ON SR 1318
 OVER HEMPILL CREEK
 BETWEEN SR 1319 AND
 US 276



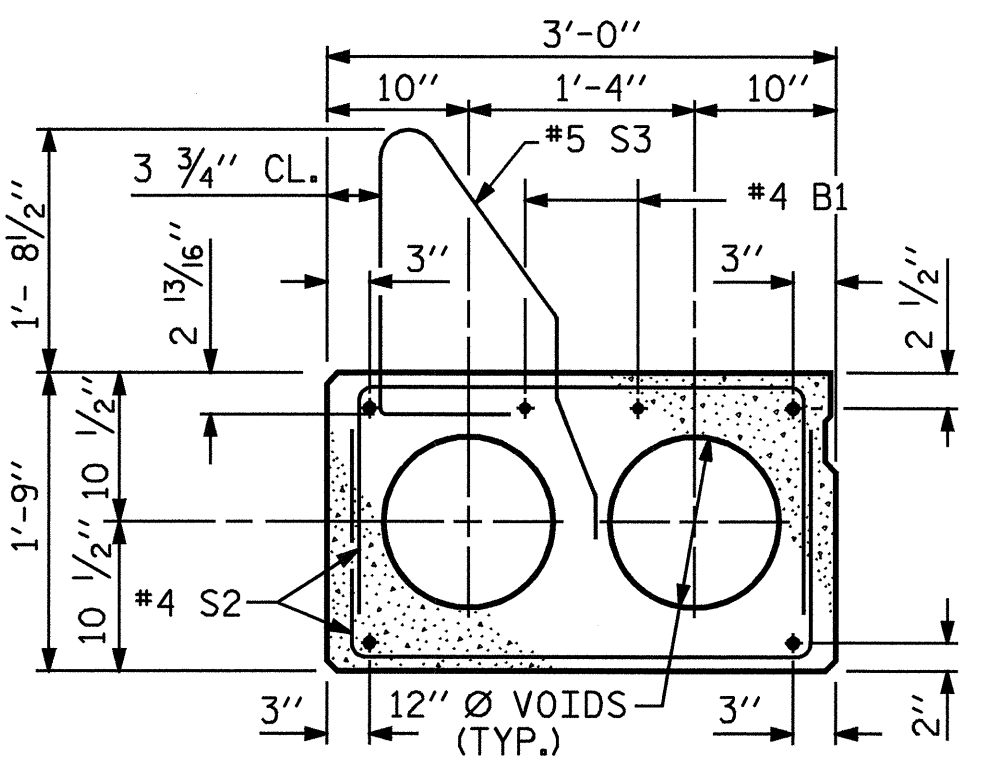
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 24
2			4			S-4

DRAWN BY: A. SORSENGINH DATE: 8/28/07
 CHECKED BY: D.A. DAVENPORT DATE: 10/08

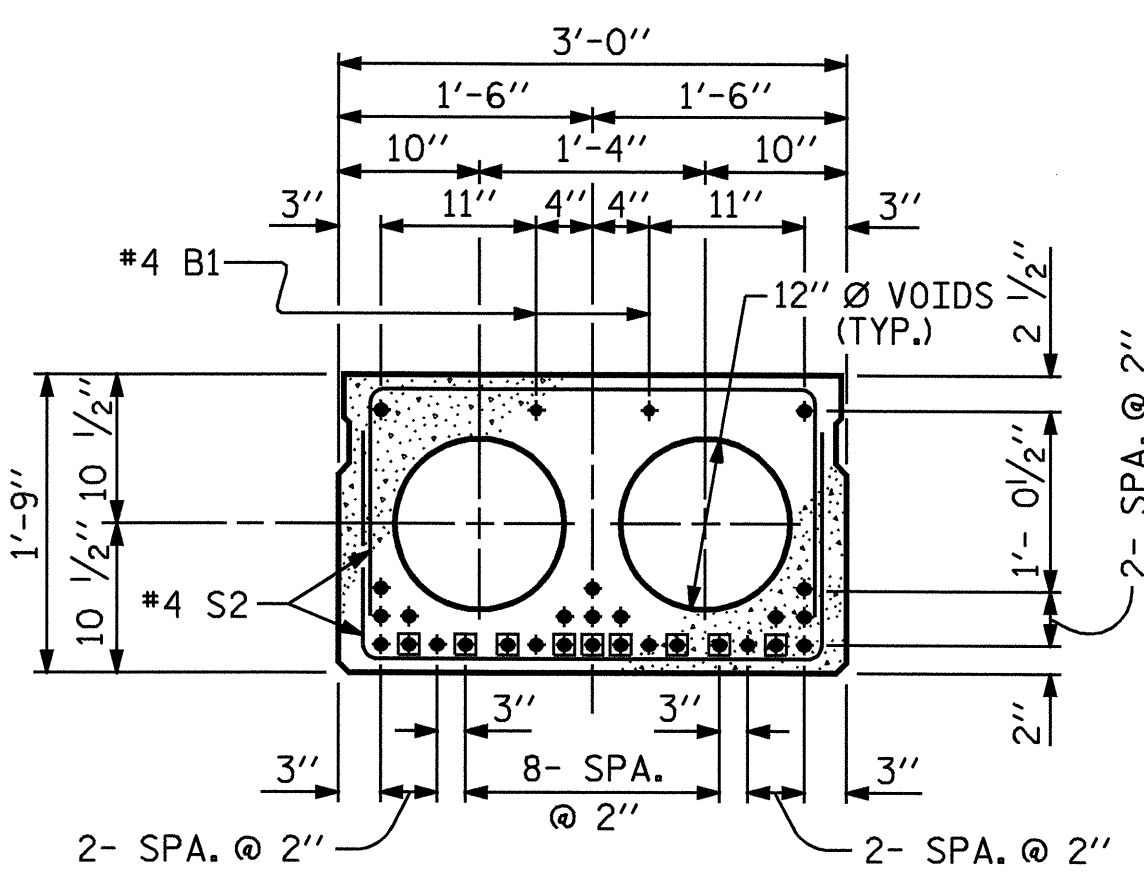


SHEAR KEY DETAIL
 NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF TYPE I & TYPE V CORED SLAB UNITS.

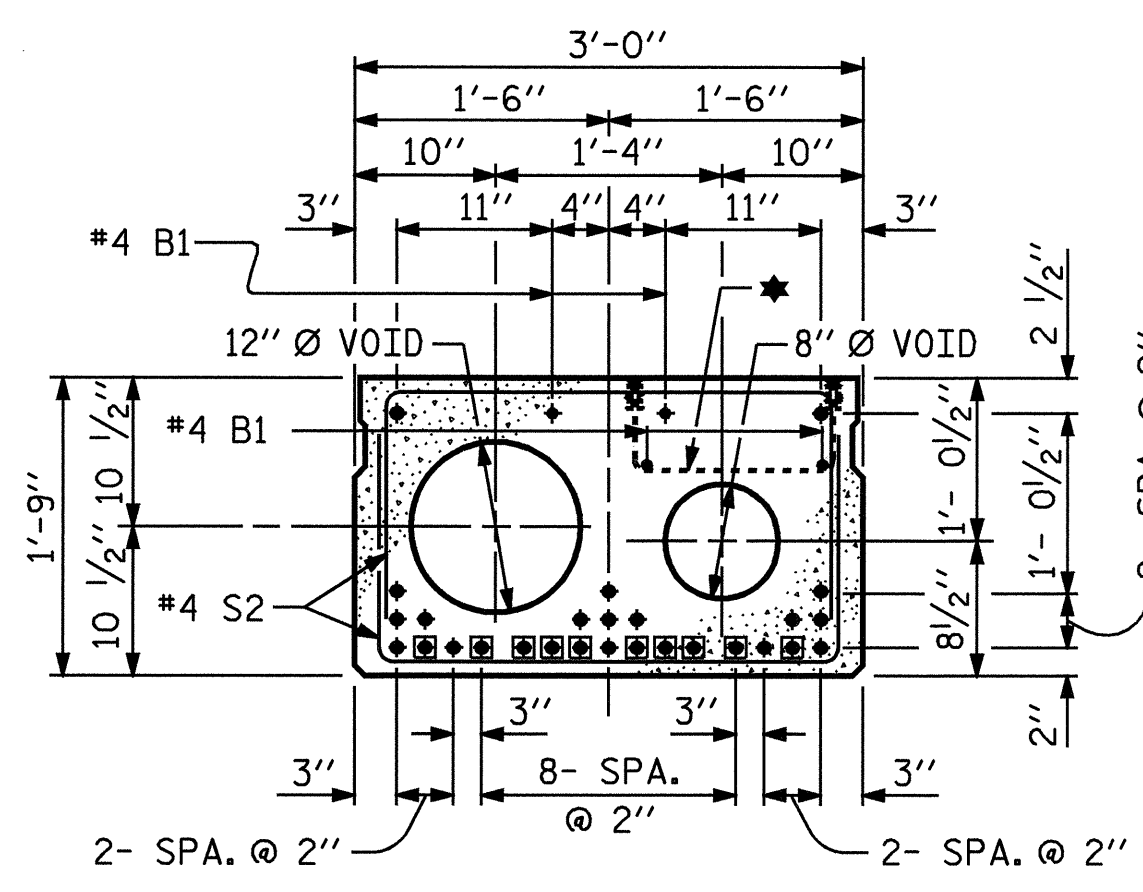
PROJECT NO. B-3343
HAYWOOD COUNTY
 STATION: 14+92.50 -L-
 SHEET 1 OF 8



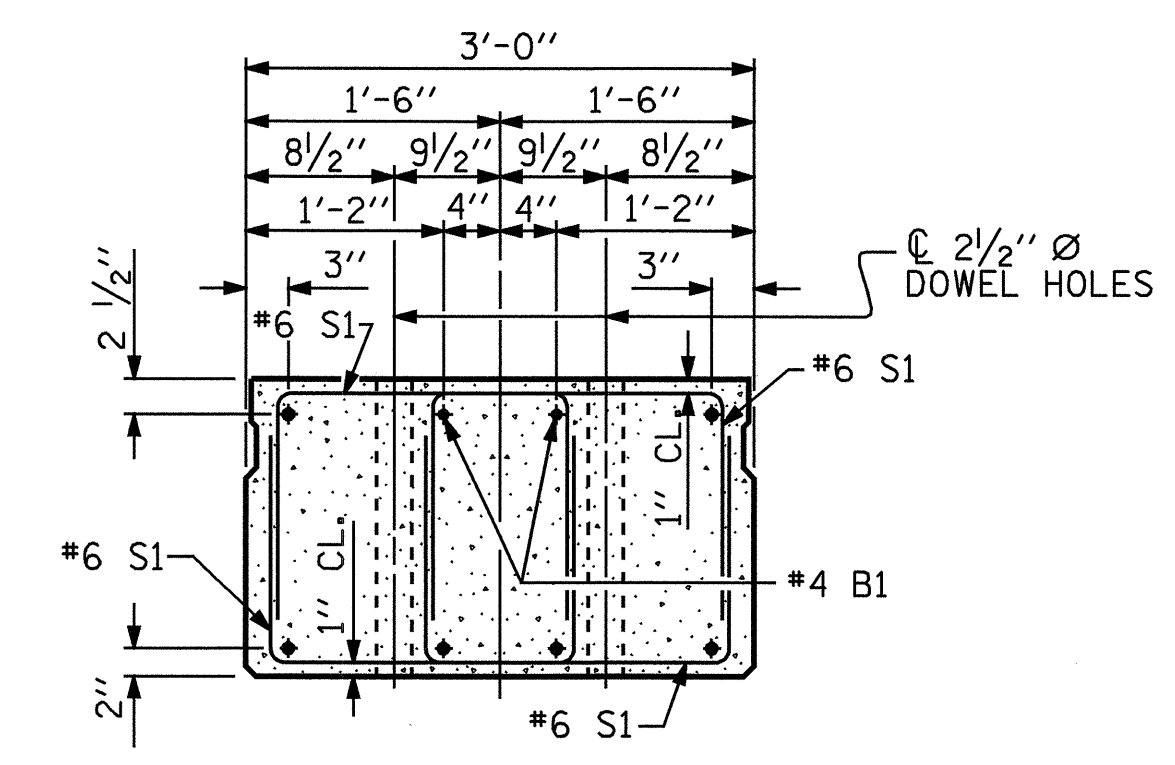
EXTERIOR SLAB SECTION (TYPE I & TYPE V)
 (FOR PRESTRESSED STRAND LAYOUT, SEE INTERIOR SLAB SECTION.)



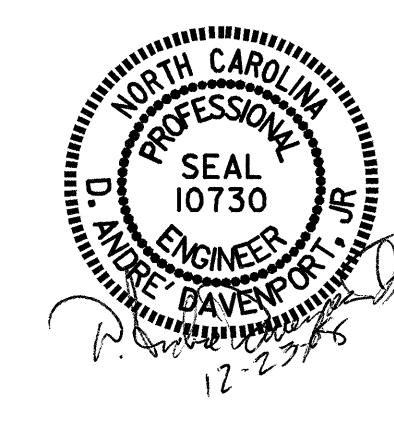
INTERIOR SLAB SECTION (TYPE II & TYPE IV)
0.6" Ø LOW RELAXATION STRAND LAYOUT
 (27 STRANDS)



INTERIOR SLAB SECTION (TYPE III)
0.6" Ø LOW RELAXATION STRAND LAYOUT
 (27 STRANDS)
 * FOR TEMPORARY GUARDRAIL ANCHOR ASSEMBLY LOCATION, SEE "ANCHORAGE DETAILS FOR TEMPORARY GUARDRAIL ANCHOR ASSEMBLY FOR TYPE III CORED SLAB UNIT" SHEET.



END ELEVATION
 SHOW PLACEMENT OF DOUBLE STIRRUPS AND LOCATION OF DOWEL HOLES. (STRAND LAYOUT NOT SHOWN) INTERIOR SLAB SECTION SHOWN-EXTERIOR SLAB SECTION SIMILAR EXCEPT SHEAR KEY LOCATION.

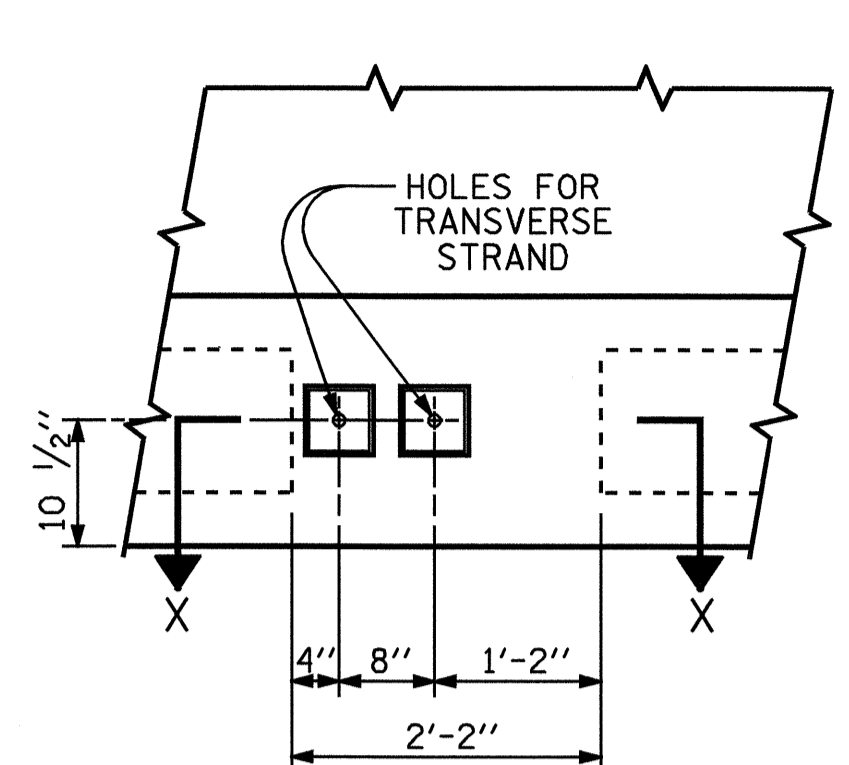


3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLAB UNIT

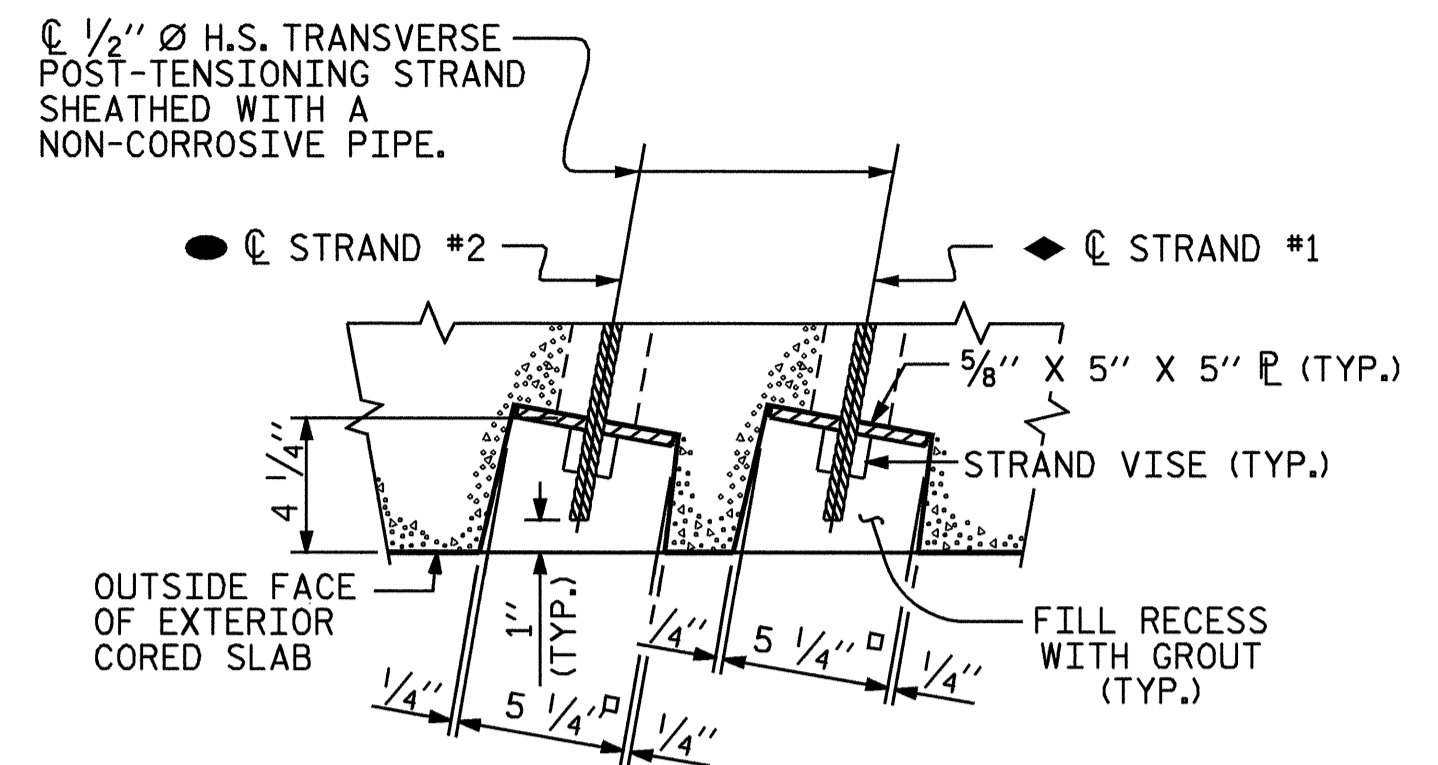
ASSEMBLED BY : <u>D. A. GLADDEN</u> DATE : <u>10-26-06</u>
CHECKED BY : <u>C. YARBROUGH</u> DATE : <u>1-16-07</u>
DRAWN BY : <u>WJH</u> 4/89
CHECKED BY : <u>FCJ</u> 5/89
REV. 10/17/00 RWW/LES
REV. 7/10/01RR RWW/LES
REV. 5/1/06 TLA/GM

■ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 5'- 2" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS ARTICLE 1078-7.

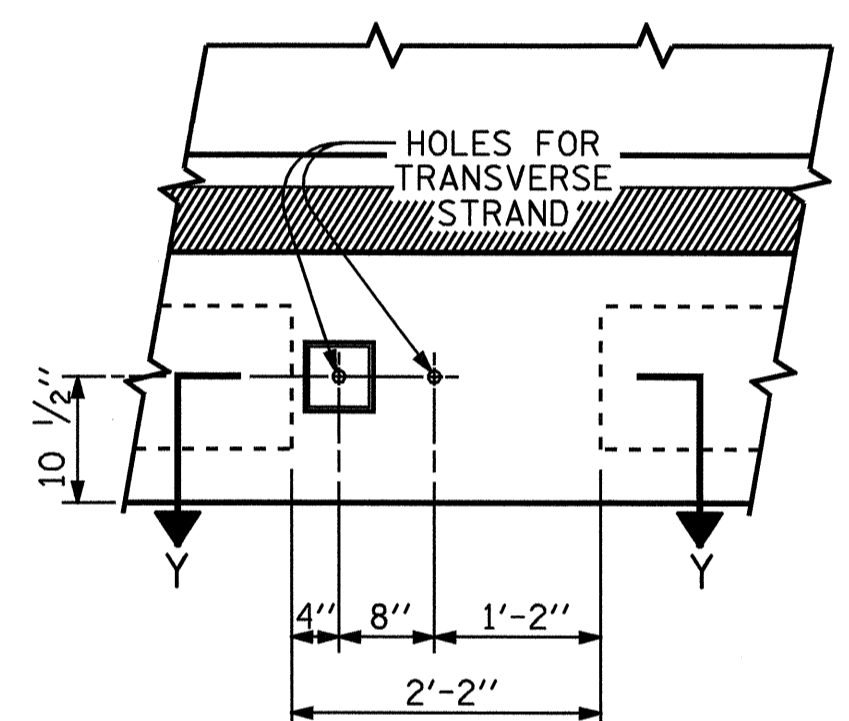
REVISIONS						SHEET NO. S-5
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 24
2			4			



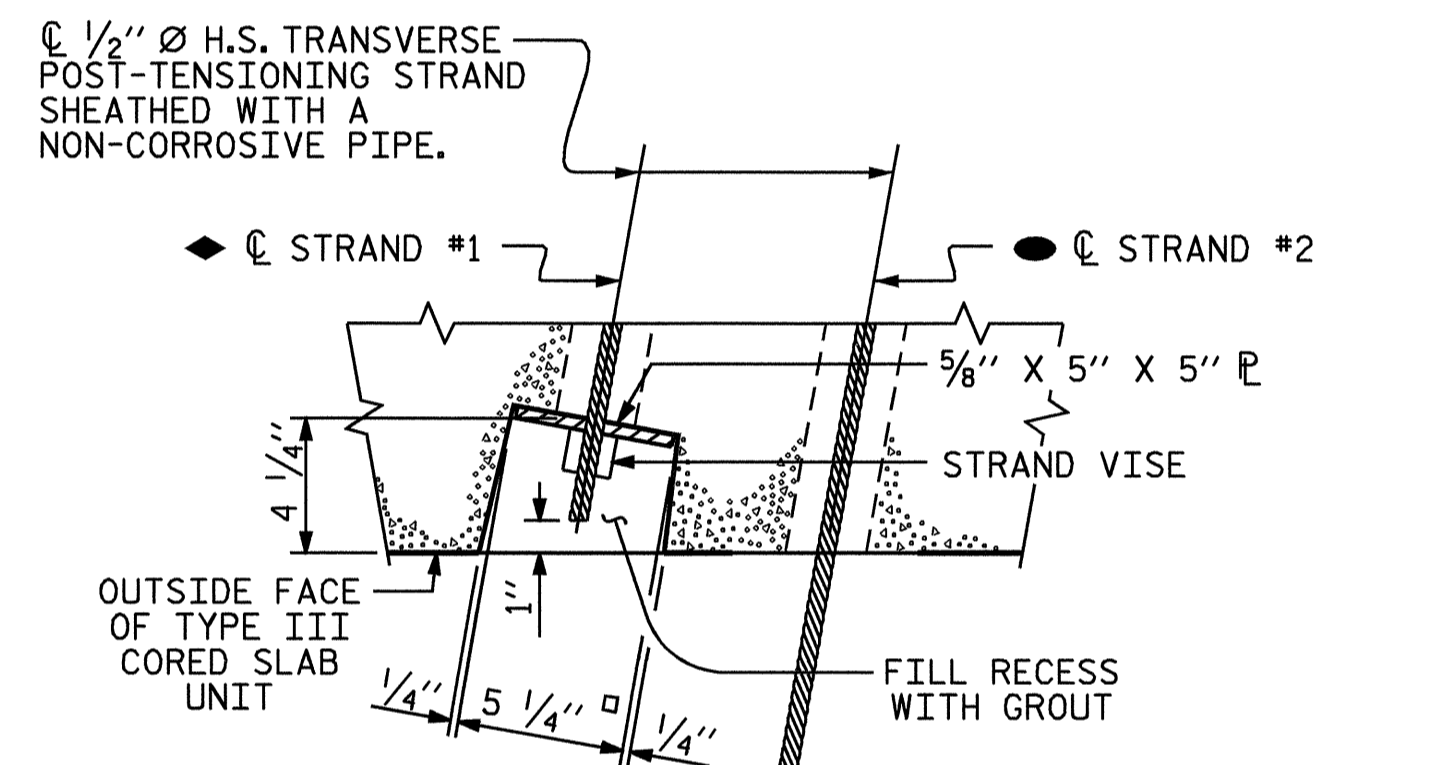
ELEVATION VIEW A-A
SEE "TYPICAL SECTION" (SHEET 1 OF 8)



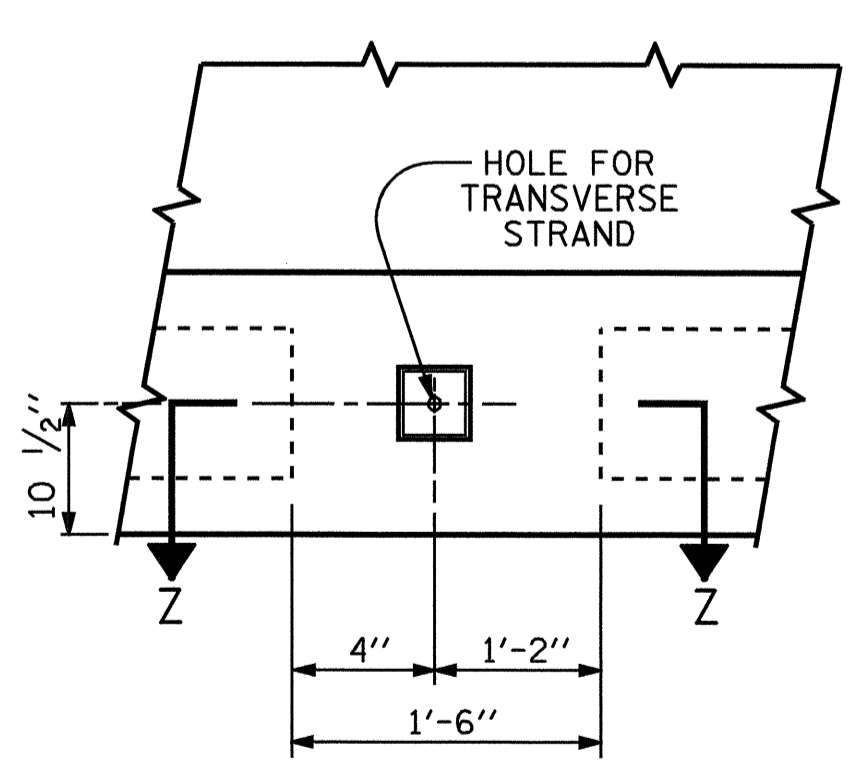
SECTION X-X



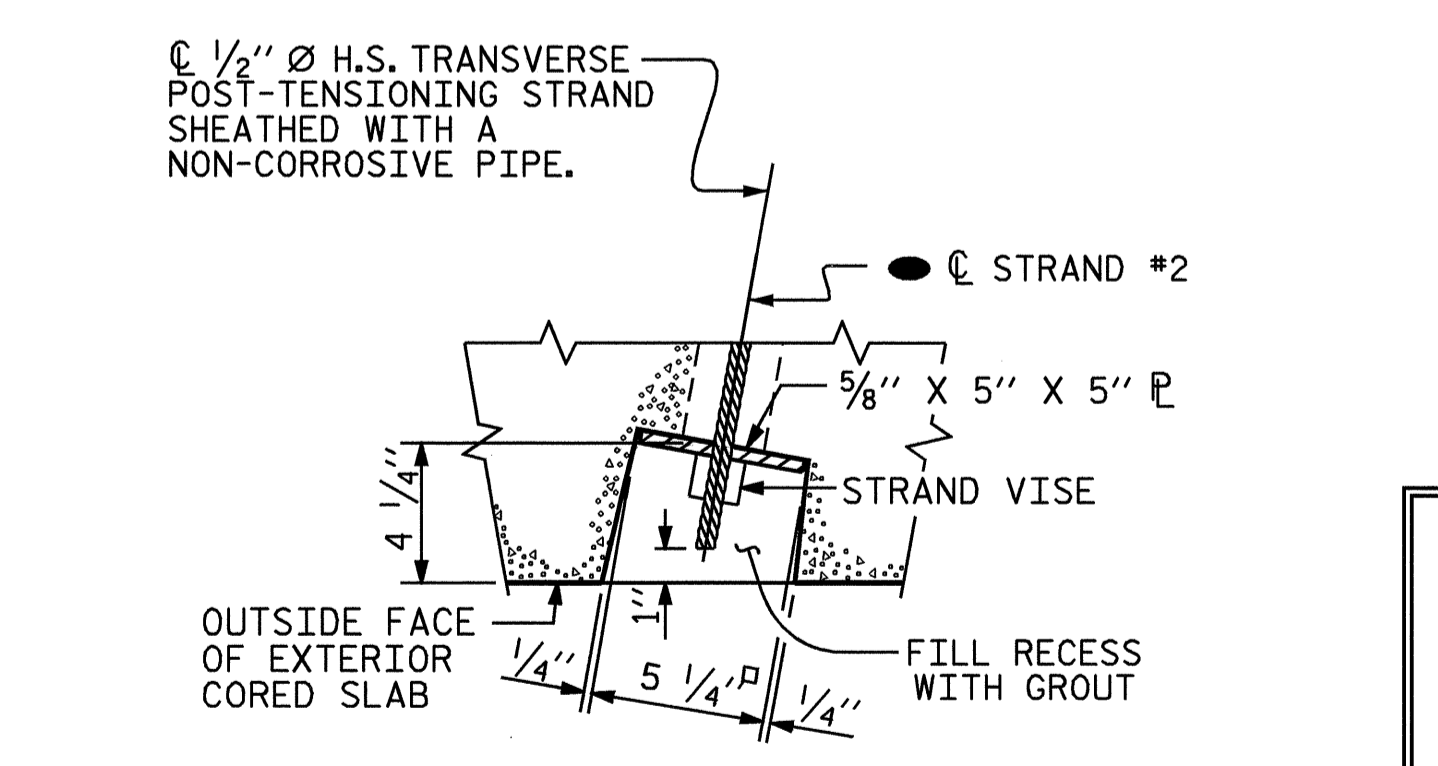
ELEVATION VIEW B-B
SEE "TYPICAL SECTION" (SHEET 1 OF 8)



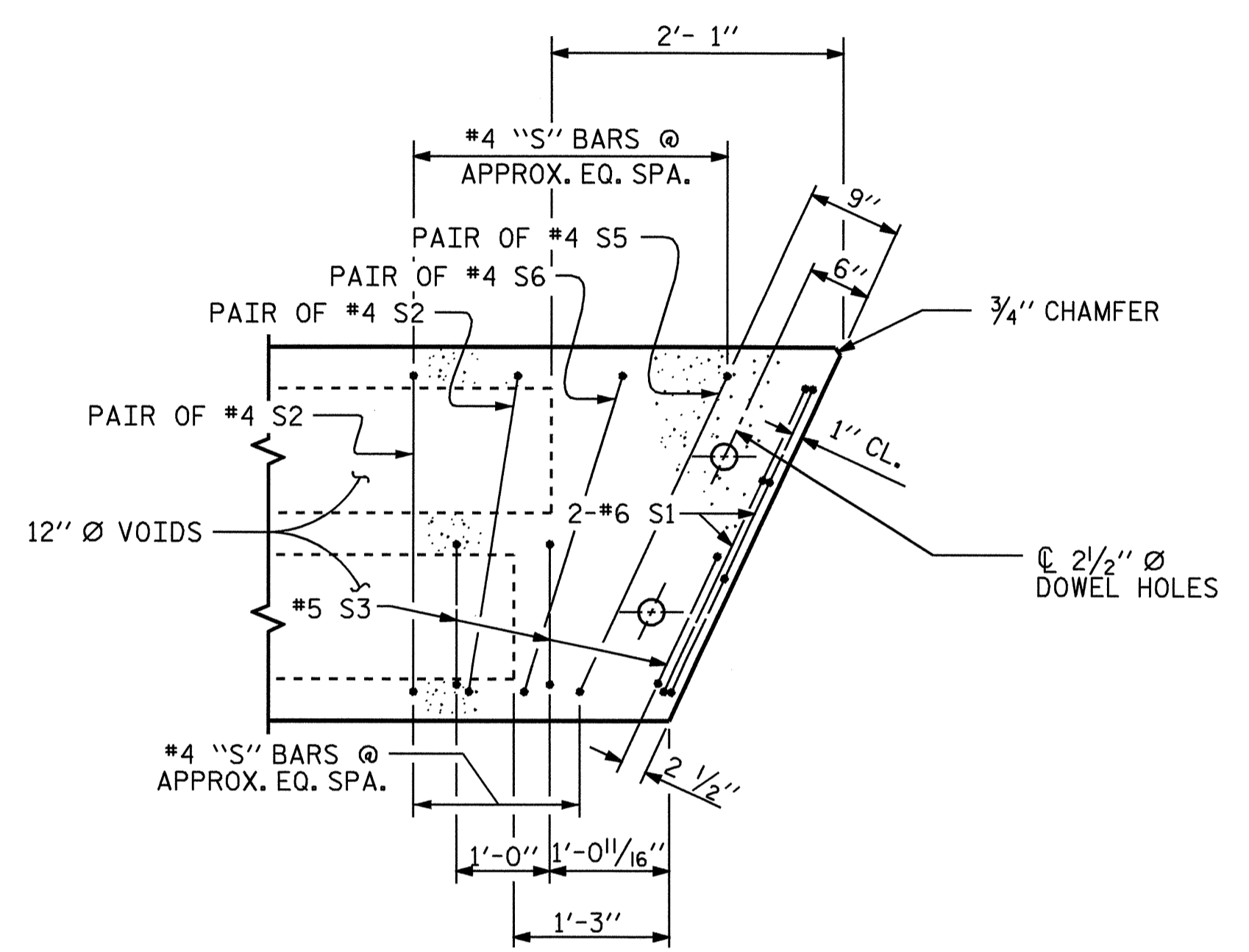
SECTION Y-Y



ELEVATION VIEW "C-C"
SEE "TYPICAL SECTION" (SHEET 1 OF 8)



SECTION Z-Z



PART PLAN-EXTERIOR SECTION

NOTE: EXTERIOR SECTION SHOWN-INTERIOR SECTION SIMILAR EXCEPT OMIT S3 BARS.

- ◆ STRAND #1 GOES THROUGH 8 CORED SLAB UNITS (TO BE TENSIONED DURING STAGE 1 CONSTRUCTION)
- STRAND #2 GOES THROUGH ALL 11 CORED SLAB UNITS (TO BE TENSIONED DURING STAGE 2 CONSTRUCTION)

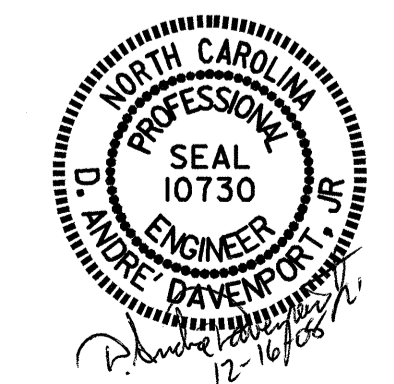
GROUTED RECESS AT END OF POST-TENSIONED STRAND-CORED SLABS

PROJECT NO. B-3343
HAYWOOD COUNTY
STATION: 14+92.50 -L-

SHEET 2 OF 8

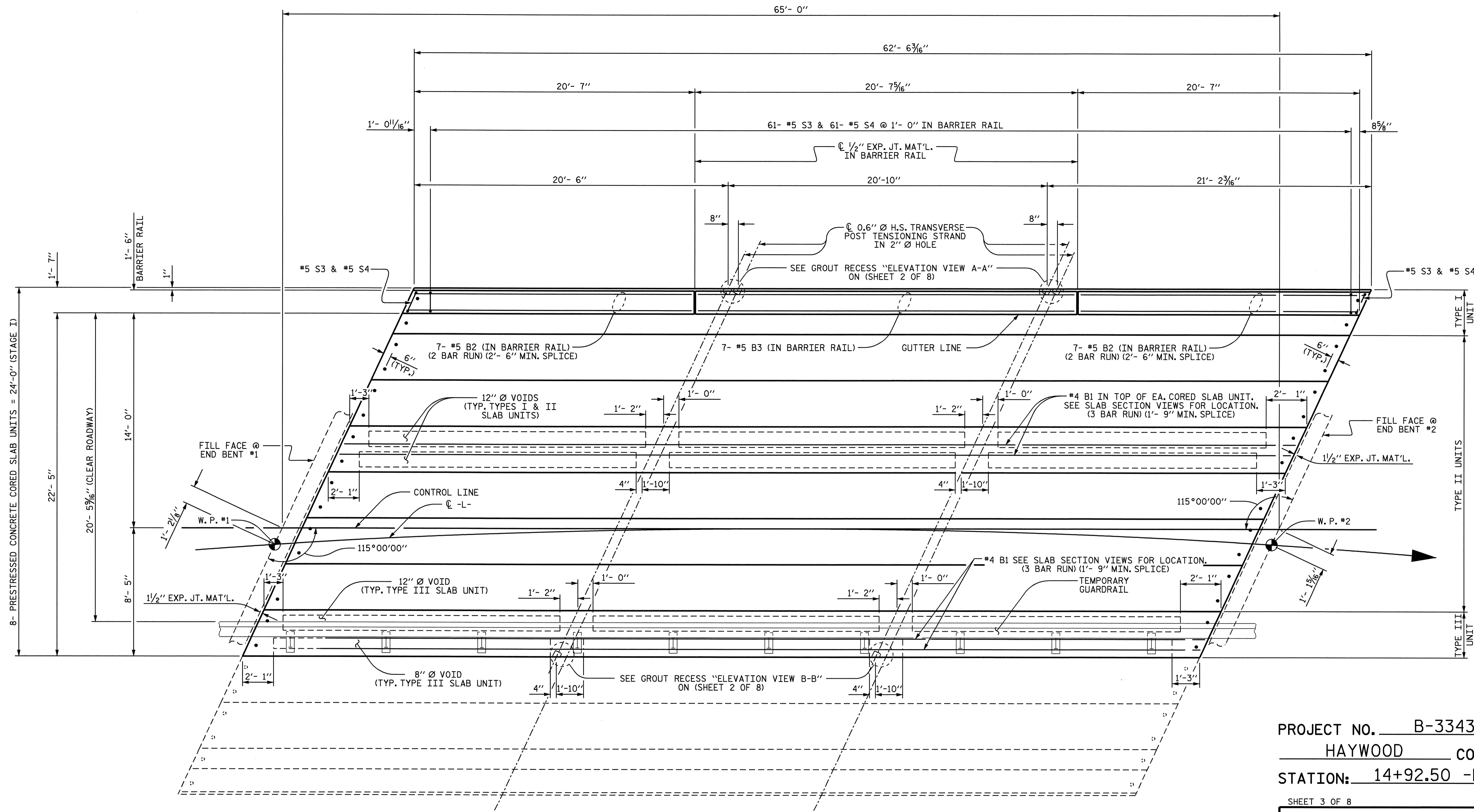
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

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



REVISIONS						SHEET NO. S-6
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 24
2			4			

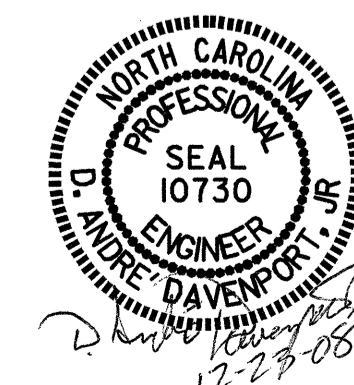
ASSEMBLED BY : <u>D. A. GLADDEN</u> DATE : <u>10-26-06</u>
CHECKED BY : <u>C. YARBROUGH</u> DATE : <u>1-16-07</u>
DRAWN BY : <u>WJH</u> 4/89 REV. 10/17/00 RWW/LES
CHECKED BY : <u>FCJ</u> 5/89 REV. 7/10/01RR RWW/LES
REV. 5/1/06 TLA/GM



PLAN OF SPAN A (STAGE I)

PROJECT NO. B-3343
HAYWOOD COUNTY
 STATION: 14+92.50 -L-

SHEET 3 OF 8



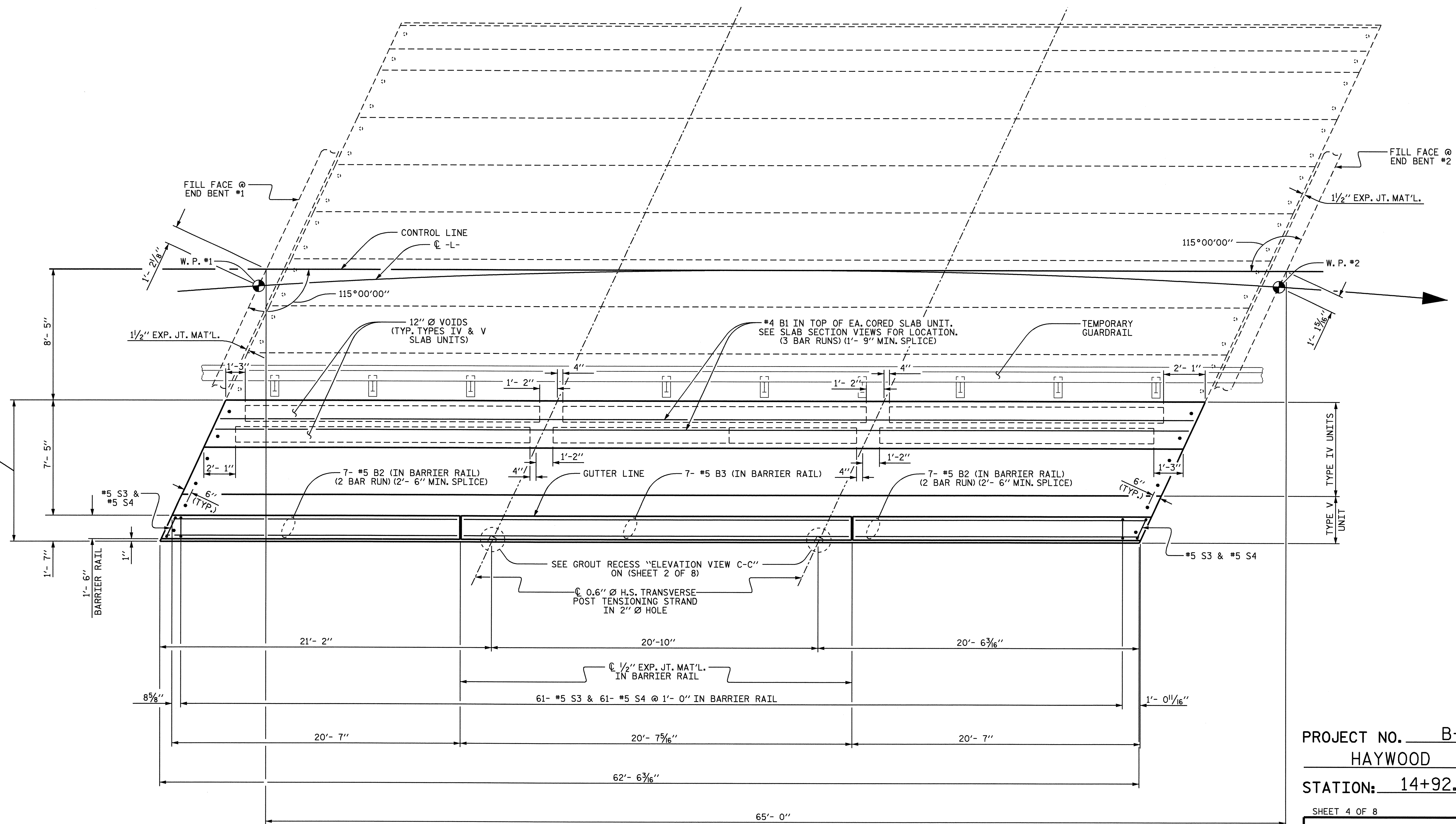
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 3'-0" X 1'-9"
 PRESTRESSED CONCRETE
 CORED SLAB UNIT
 PLAN OF SPAN A
 (STAGE I)

REVISIONS						SHEET NO. S-7
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 24
2			4			

DRAWN BY : D. A. GLADDEN DATE : 10-31-06
 CHECKED BY : C. YARBROUGH DATE : 1-16-07

23-DEC-2008 10:57
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 adavenport

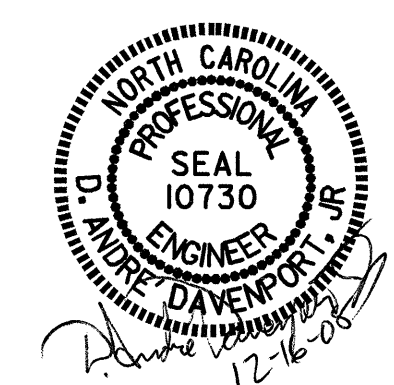
3- PRESTRESSED CONCRETE CORED SLAB UNITS = 9'-0" (STAGE II)



PLAN OF SPAN A (STAGE II)

PROJECT NO. B-3343
HAYWOOD COUNTY
 STATION: 14+92.50 -L-

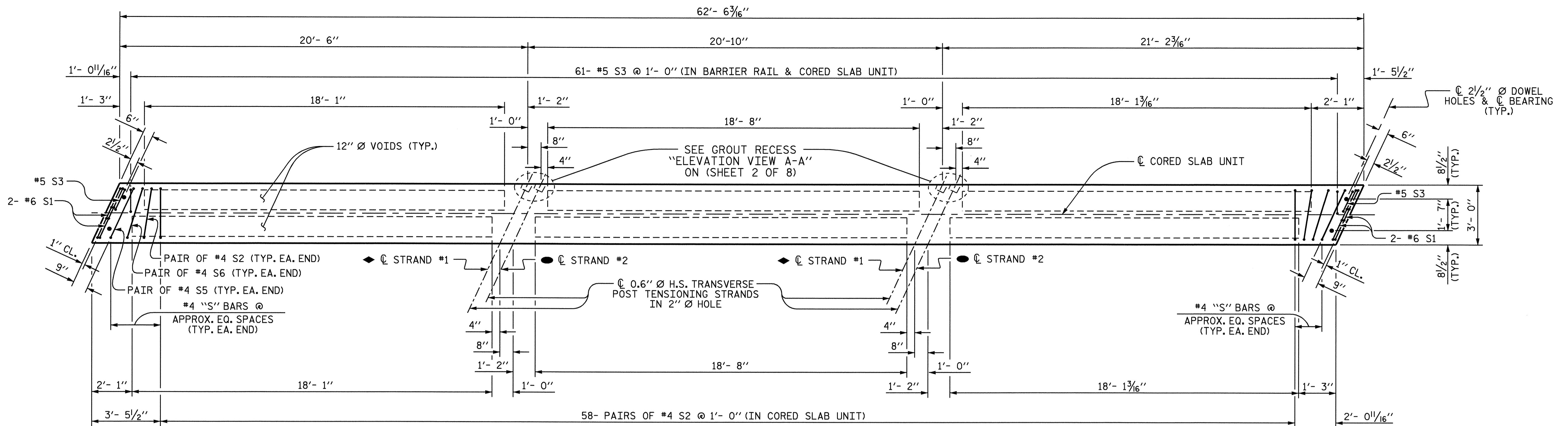
SHEET 4 OF 8



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 3'-0" X 1'-9"
 PRESTRESSED CONCRETE
 CORED SLAB UNIT
 PLAN OF SPAN A
 (STAGE II)

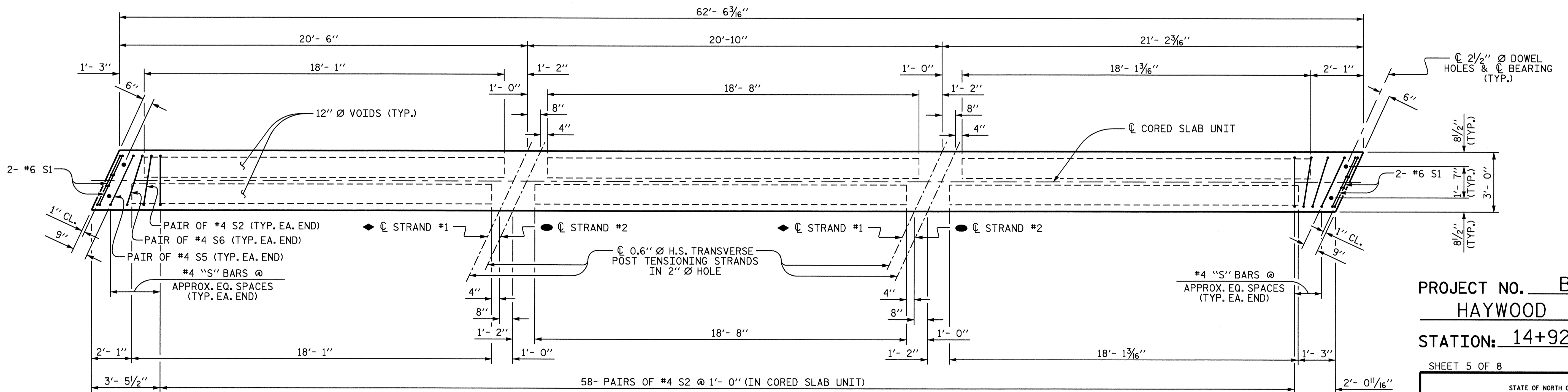
DRAWN BY: D. A. GLADDEN DATE: 10-31-06
 CHECKED BY: C. YARBROUGH DATE: 1-16-07

REVISIONS						SHEET NO. S-8 TOTAL SHEETS 24
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



PLAN OF EXTERIOR CORED SLAB UNIT (TYPE I)

- ◆ STRAND #1 GOES THROUGH 8 CORED SLAB UNITS AND WILL BE TENSIONED DURING STAGE 1 CONSTRUCTION.
- STRAND #2 GOES THROUGH ALL 11 CORED SLAB UNITS AND WILL BE TENSIONED DURING STAGE 2 CONSTRUCTION.



PLAN OF INTERIOR CORED SLAB UNIT (TYPE II)

- ◆ STRAND #1 GOES THROUGH 8 CORED SLAB UNITS AND WILL BE TENSIONED DURING STAGE 1 CONSTRUCTION.
- STRAND #2 GOES THROUGH ALL 11 CORED SLAB UNITS AND WILL BE TENSIONED DURING STAGE 2 CONSTRUCTION.

PROJECT NO. B-3343
HAYWOOD COUNTY
 STATION: 14+92.50 -L-

SHEET 5 OF 8

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

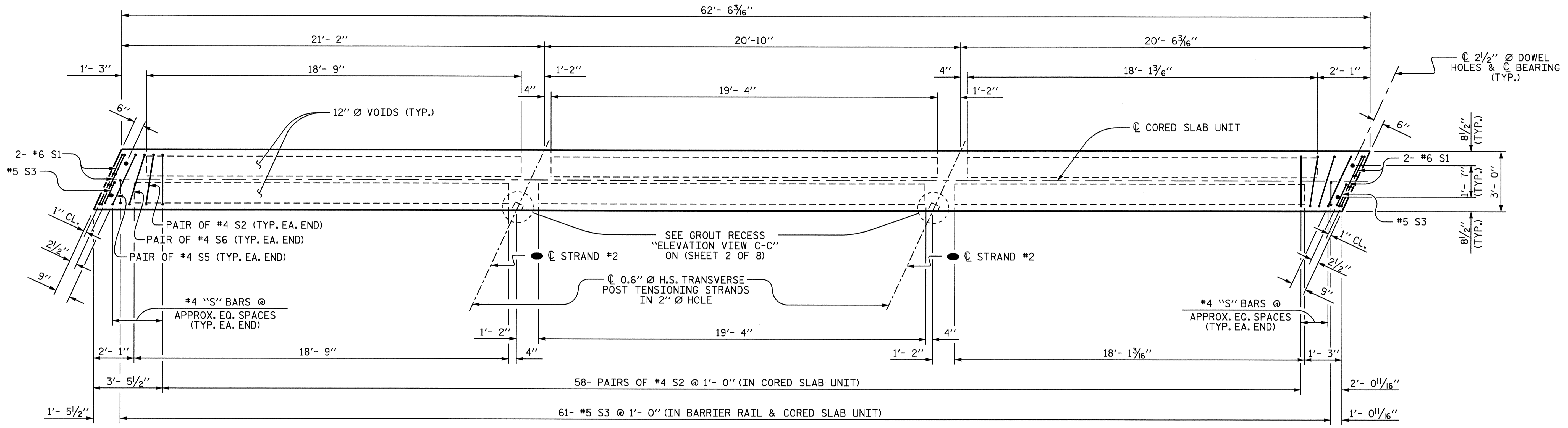
3'-0" X 1'-9"
 PRESTRESSED CONCRETE
 CORED SLAB UNIT
 DETAILS



DRAWN BY: D. A. GLADDEN DATE: 10-31-06
 CHECKED BY: C. YARBROUGH DATE: 1-16-07

10-DEC-2008 12:41
 r:\structures\dgladden\mlorostation\B3343_sd.os.dgn
 dgladden

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS
2			4			24

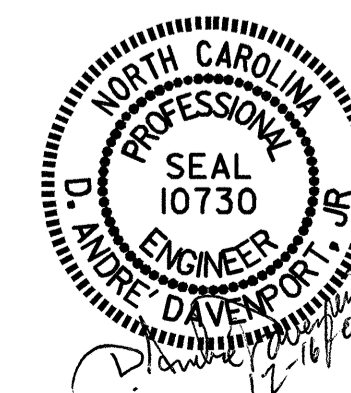


PLAN OF EXTERIOR CORED SLAB UNIT (TYPE V)

● STRAND #2 GOES THROUGH ALL 11 CORED SLAB UNITS AND WILL BE TENSIONED DURING STAGE 2 CONSTRUCTION.

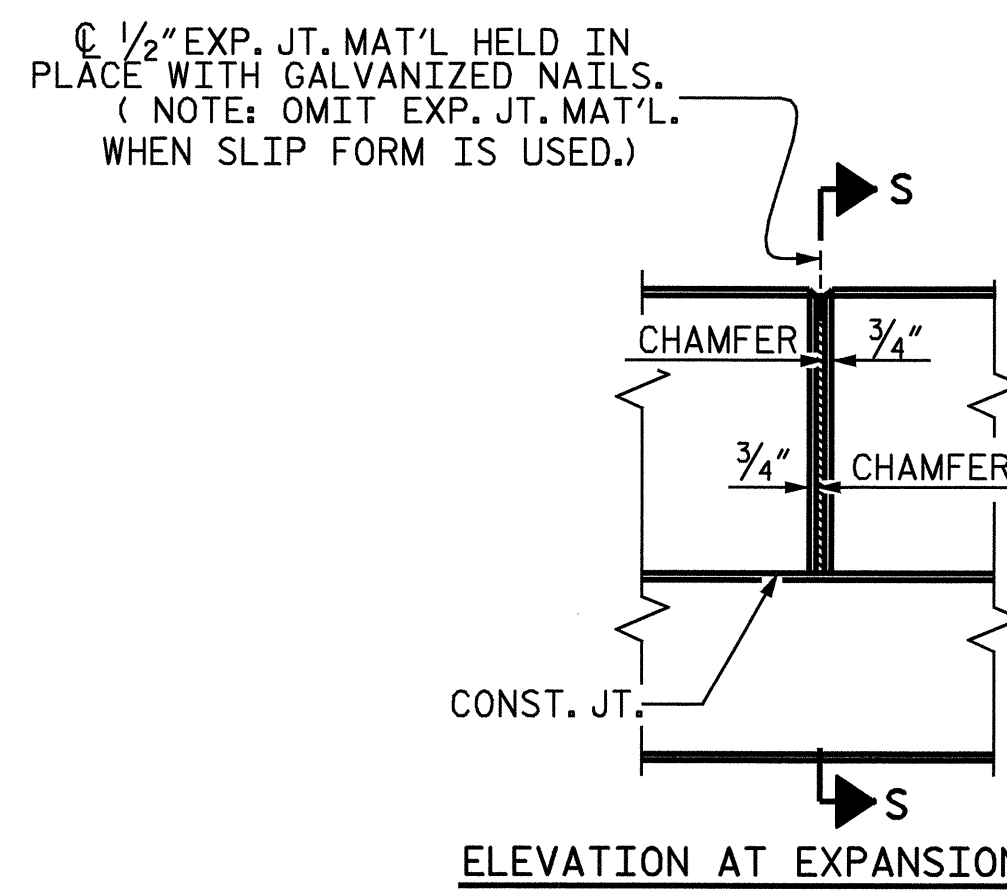
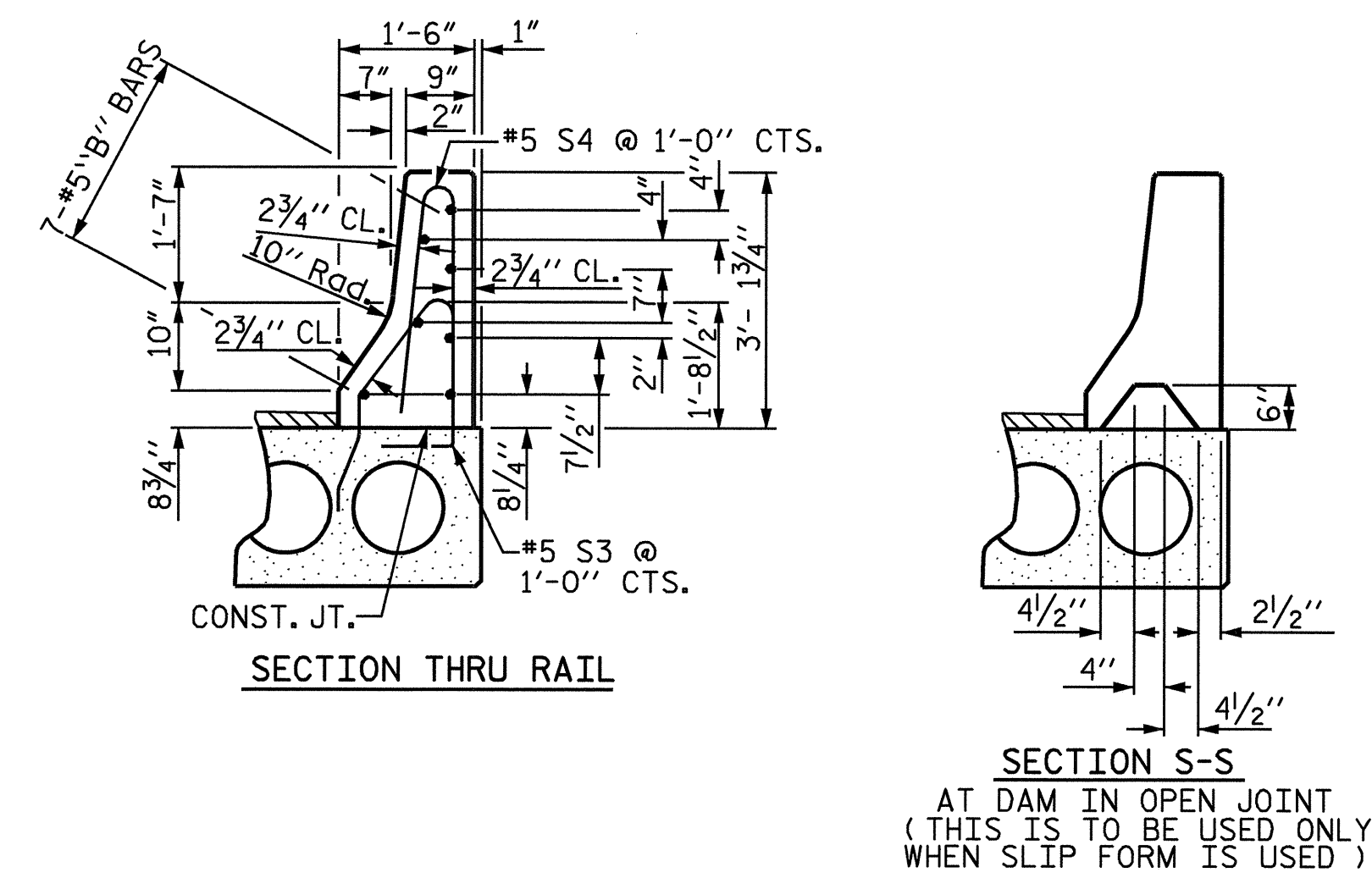
PROJECT NO. B-3343
HAYWOOD COUNTY
 STATION: 14+92.50 -L-

SHEET 7 OF 8

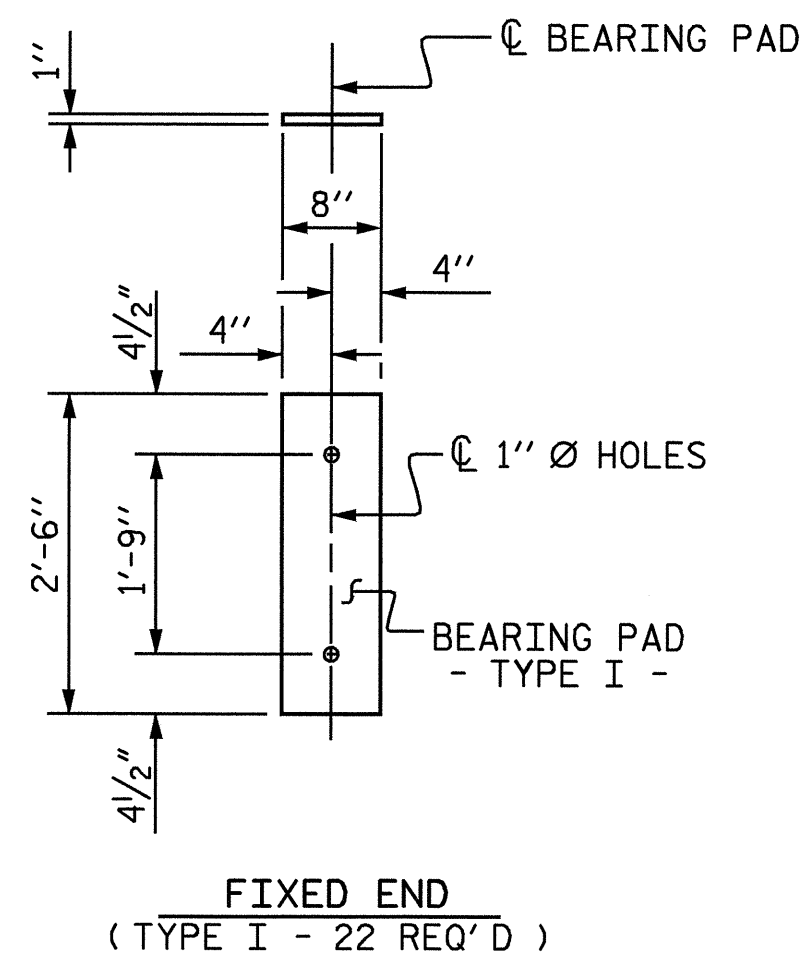


STATE OF NORTH CAROLINA					
DEPARTMENT OF TRANSPORTATION					
RALEIGH					
3'-0" X 1'-9"					
PRESTRESSED CONCRETE					
CORED SLAB UNIT					
DETAILS					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO.
					S-11
					TOTAL SHEETS
					24

DRAWN BY: D. A. GLADDEN DATE: 10-31-06
 CHECKED BY: C. YARBROUGH DATE: 1-16-07

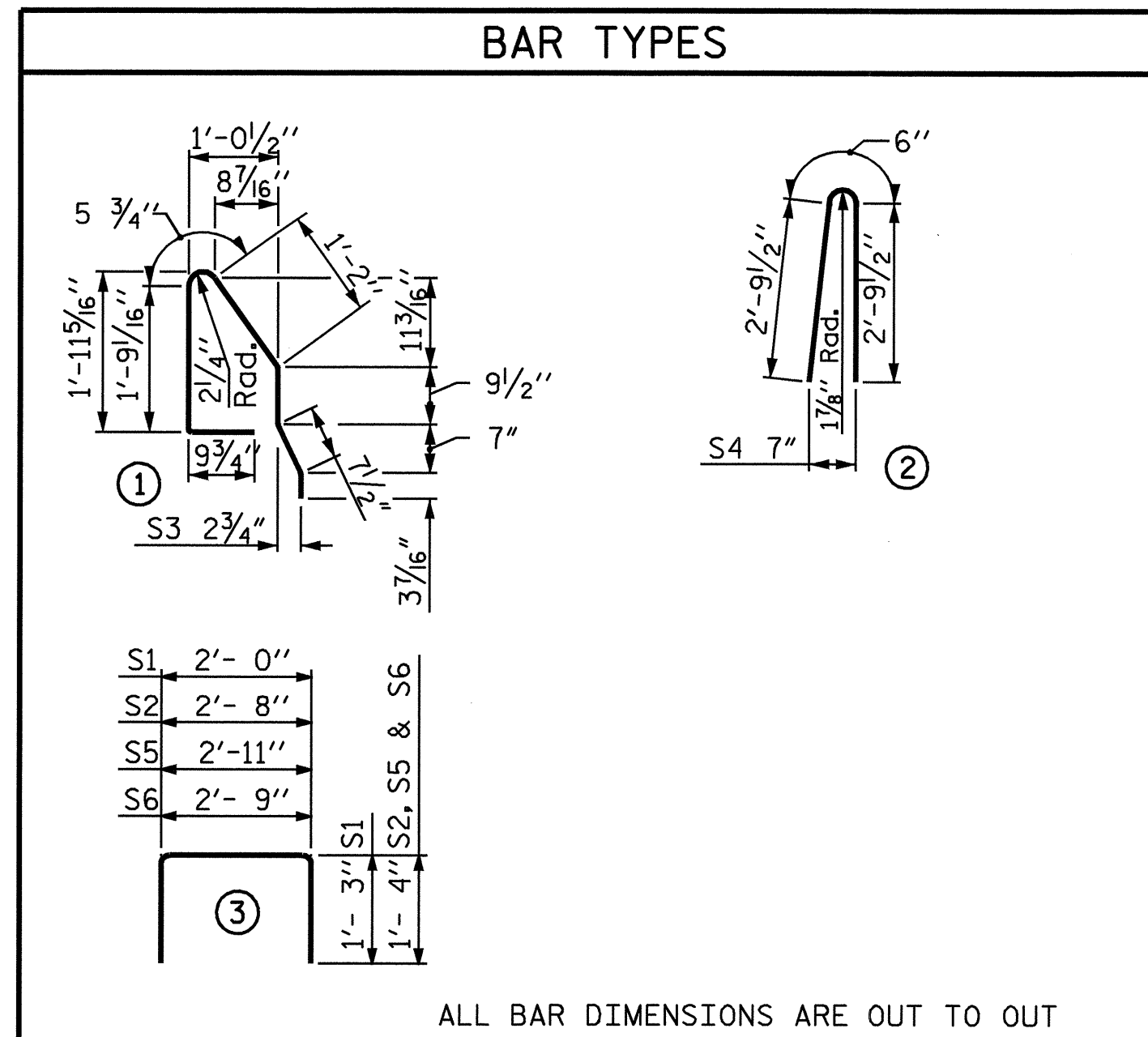


BARRIER RAIL DETAILS



ELASTOMERIC BEARING DETAIL

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



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR ONE CORED SLAB SECTION													
SPAN A													
				STAGE I				STAGE II					
BAR	NUMBER	SIZE	TYPE	TYPE I UNIT LENGTH	TYPE I UNIT WEIGHT	TYPE II UNIT LENGTH	TYPE II UNIT WEIGHT	TYPE III UNIT LENGTH	TYPE III UNIT WEIGHT	TYPE IV UNIT LENGTH	TYPE IV UNIT WEIGHT	TYPE V UNIT LENGTH	TYPE V UNIT WEIGHT
B1	6	#4	STR	21'-11"	88	21'-11"	88			21'-11"	88	21'-11"	88
B1	12	#4	STR					21'-11"	176				
B4	20	#3	STR					2'- 8"	20				
S1	8	#6	3	4'- 6"	54	4'- 6"	54	4'- 6"	54	4'- 6"	54	4'- 6"	54
S2	120	#4	3	5'- 4"	428	5'- 4"	428	5'- 4"	428	5'- 4"	428	5'- 4"	428
* S3	63	#5	1	5'-11"	389							5'-11"	389
S5	4	#4	3	5'- 7"	15	5'- 7"	15	5'- 7"	15	5'- 7"	15	5'- 7"	15
S6	4	#4	3	5'- 5"	14	5'- 5"	14	5'- 5"	14	5'- 5"	14	5'- 5"	14
REINFORCING STEEL				LBS.	599		599		707		599		599
* EPOXY COATED REINFORCING STEEL				LBS.	389								389
7,400 P.S.I. CONCRETE				CU. YDS.	9.0		9.0		9.0		9.0		9.0
0.6" Ø L.R. STRANDS				No.	27		27		27		27		27

DEAD LOAD DEFLECTION AND CAMBER						
		STAGE I		STAGE II		
		TYPE I	TYPE II	TYPE III	TYPE IV	TYPE V
		0.6" Ø L.R. STRAND	0.6" Ø L.R. STRAND	0.6" Ø L.R. STRAND	0.6" Ø L.R. STRAND	0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)		4 ¹⁵ / ₁₆ " ↑	4 ¹⁵ / ₁₆ " ↑	4 ¹ / ₂ " ↑	4 ¹⁵ / ₁₆ " ↑	4 ¹⁵ / ₁₆ " ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **		1 ³ / ₁₆ " ↓	1 ³ / ₁₆ " ↓	1 ³ / ₁₆ " ↓	1 ³ / ₁₆ " ↓	1 ³ / ₁₆ " ↓
FINAL CAMBER		4 ¹ / ₈ " ↑	4 ¹ / ₈ " ↑	3 ¹ / ₁₆ " ↑	4 ¹ / ₈ " ↑	4 ¹ / ₈ " ↑

** INCLUDES FUTURE WEARING SURFACE

BILL OF MATERIAL FOR CONCRETE BARRIER RAIL											
STAGE I						STAGE II					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B2	28	#5	STR	11'-8"	341	* B2	28	#5	STR	11'-8"	341
* B3	7	#5	STR	20'-2"	147	* B3	7	#5	STR	20'-2"	147
* S4	63	#5	2	6'-1"	400	* S4	63	#5	2	6'-1"	400
* EPOXY COATED REINFORCING STEEL						* EPOXY COATED REINFORCING STEEL					
888 LBS.						888 LBS.					
CLASS AA CONCRETE						CLASS AA CONCRETE					
7.9 CU.YDS.						7.9 CU.YDS.					
TOTAL LIN. FT. OF CONCRETE BARRIER RAIL						TOTAL LIN. FT. OF CONCRETE BARRIER RAIL					
62.52 LIN. FT.						62.52 LIN. FT.					

NOTES

ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL REINFORCING STEEL CAST WITH THE CORED SLAB SECTIONS SHALL BE GRADE 60 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE CORED SLABS.

RECESSES FOR TRANSVERSE STRANDS SHALL BE GROUTED AFTER THE TENSIONING OF THE STRANDS.

THE 2 1/2" Ø DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH GROUT.

THE 2" BACKER ROD SHALL CONFORM TO THE REQUIREMENTS OF TYPE M BOND BREAKER. SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.

WHEN CORED SLABS ARE CAST, A POSITIVE HOLD-DOWN SYSTEM SHALL BE EMPLOYED TO PREVENT VOIDS FROM RISING OR MOVING SIDWAYS. THIS SYSTEM SHALL BE DESIGNED TO BE LEFT IN PLACE UNTIL THE CONCRETE HAS REACHED RELEASE STRENGTH. AT LEAST THREE WEEKS PRIOR TO CASTING CORED SLABS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND COMMENT, DETAILED DRAWINGS OF THE PROPOSED HOLD-DOWN SYSTEM. IN ADDITION TO STRUCTURAL DETAILS, LOCATION AND SPACING OF THE HOLD-DOWNS SHALL BE INDICATED.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE CORED SLAB UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 5800 PSI.

ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE CORED SLAB UNIT ENDS.

APPLY EPOXY PROTECTIVE COATING TO CORED SLAB UNIT ENDS.

VERTICAL GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A VERTICAL CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF BARRIER RAIL SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

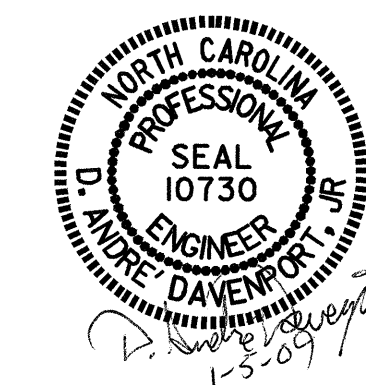
CORED SLABS REQUIRED				
	NUMBER	LENGTH	TOTAL LENGTH	
STAGE I	TYPE I	1	62'- 6 ³ / ₁₆ "	62'- 6 ³ / ₁₆ "
	TYPE II	6	62'- 6 ³ / ₁₆ "	375'- 1 ¹ / ₈ "
	TYPE III	1	62'- 6 ³ / ₁₆ "	62'- 6 ³ / ₁₆ "
	STAGE I TOTAL	8	62'- 6 ³ / ₁₆ "	500'- 1 ¹ / ₂ "
STAGE II	TYPE IV	2	62'- 6 ³ / ₁₆ "	125'- 0 ³ / ₈ "
	TYPE V	1	62'- 6 ³ / ₁₆ "	62'- 6 ³ / ₁₆ "
	STAGE II TOTAL	3	62'- 6 ³ / ₁₆ "	187'- 6 ³ / ₁₆ "
TOTAL	11		687'- 8 ¹ / ₁₆ "	

PROJECT NO. B-3343
HAYWOOD COUNTY
 STATION: 14+92.50 -L-

SHEET 8 OF 8

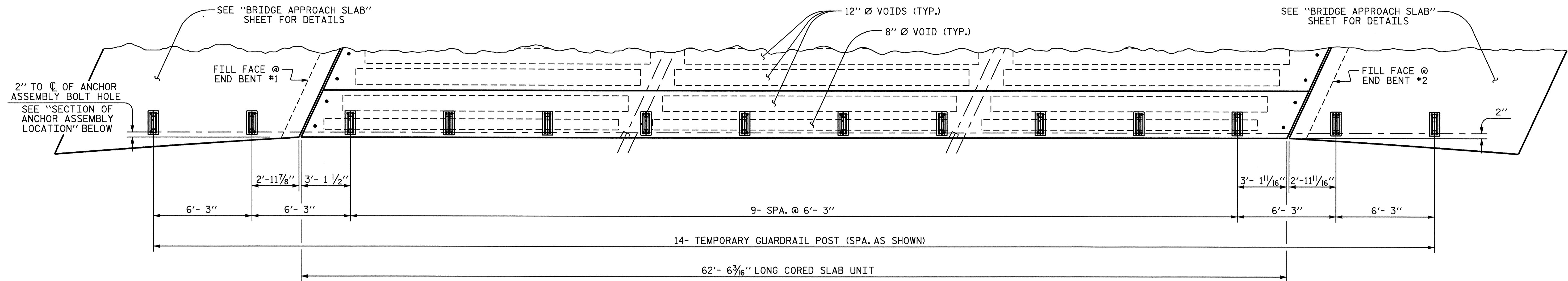
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

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



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-12
1			3			TOTAL SHEETS 24
2			4			

ASSEMBLED BY : D. A. GLADDEN DATE : 10-26-06
 CHECKED BY : C. YARBROUGH DATE : 1-16-07
 DRAWN BY : WJH 4/89
 CHECKED BY : FCJ 5/89
 REV. 7/10/01 RWW/LES
 REV. 5/7/03RRR RWW/JTE
 REV. 5/1/06 TLA/GM



RAIL POST SPACING FOR TEMPORARY GUARDRAIL

(TYPE III CORED SLAB UNIT IN STAGE I CONSTRUCTION)

NOTES

THE TEMPORARY GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF THE FOLLOWING COMPONENTS :

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

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

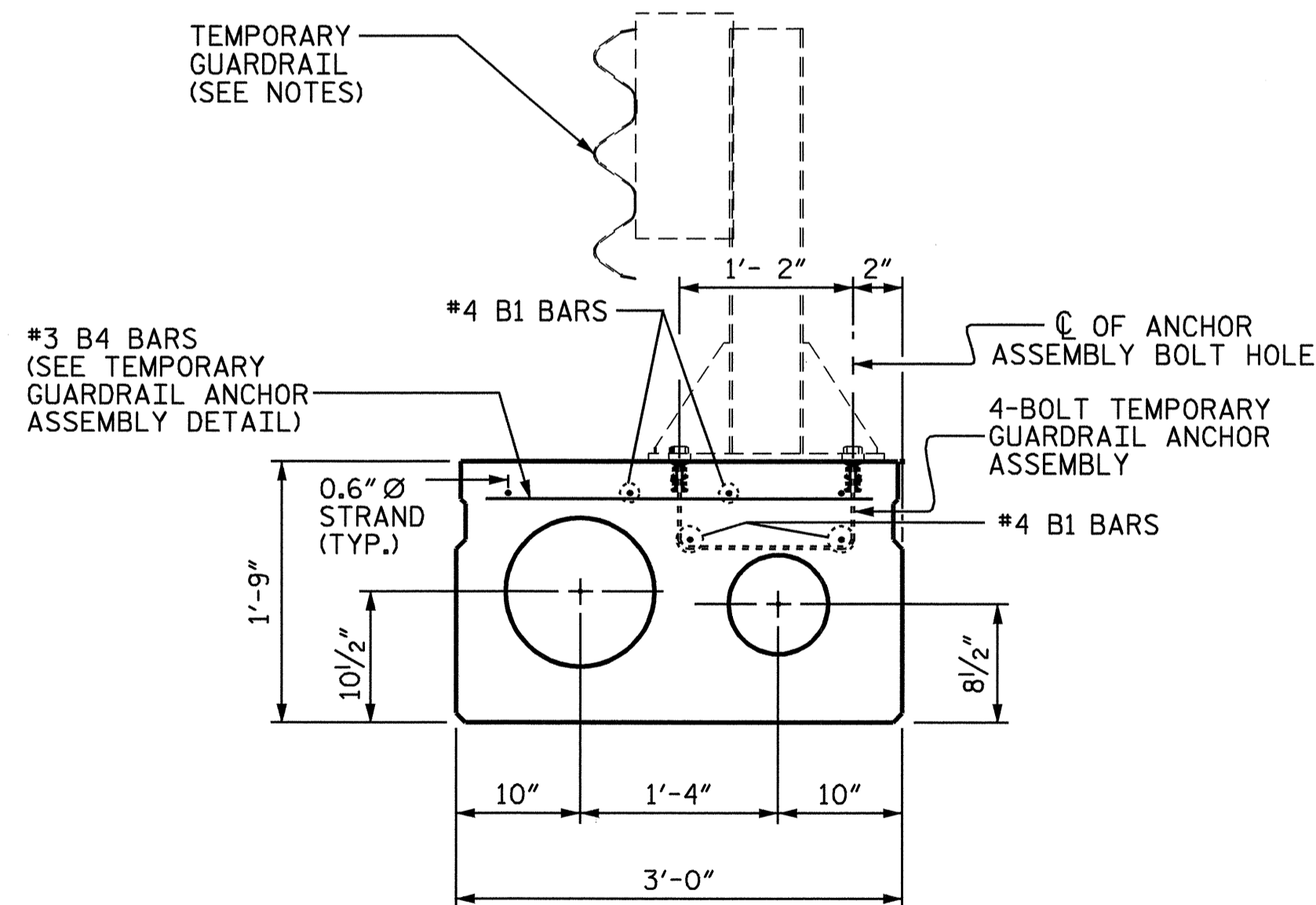
THE COST OF THE TEMPORARY GUARDRAIL ANCHOR ASSEMBLY COMPLETE IN PLACE, SHALL BE INCLUDED, AS APPLICABLE, IN THE UNIT CONTRACT PRICE BID FOR 3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLAB OR LUMP SUM PRICE BID FOR APPROACH SLABS.

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

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

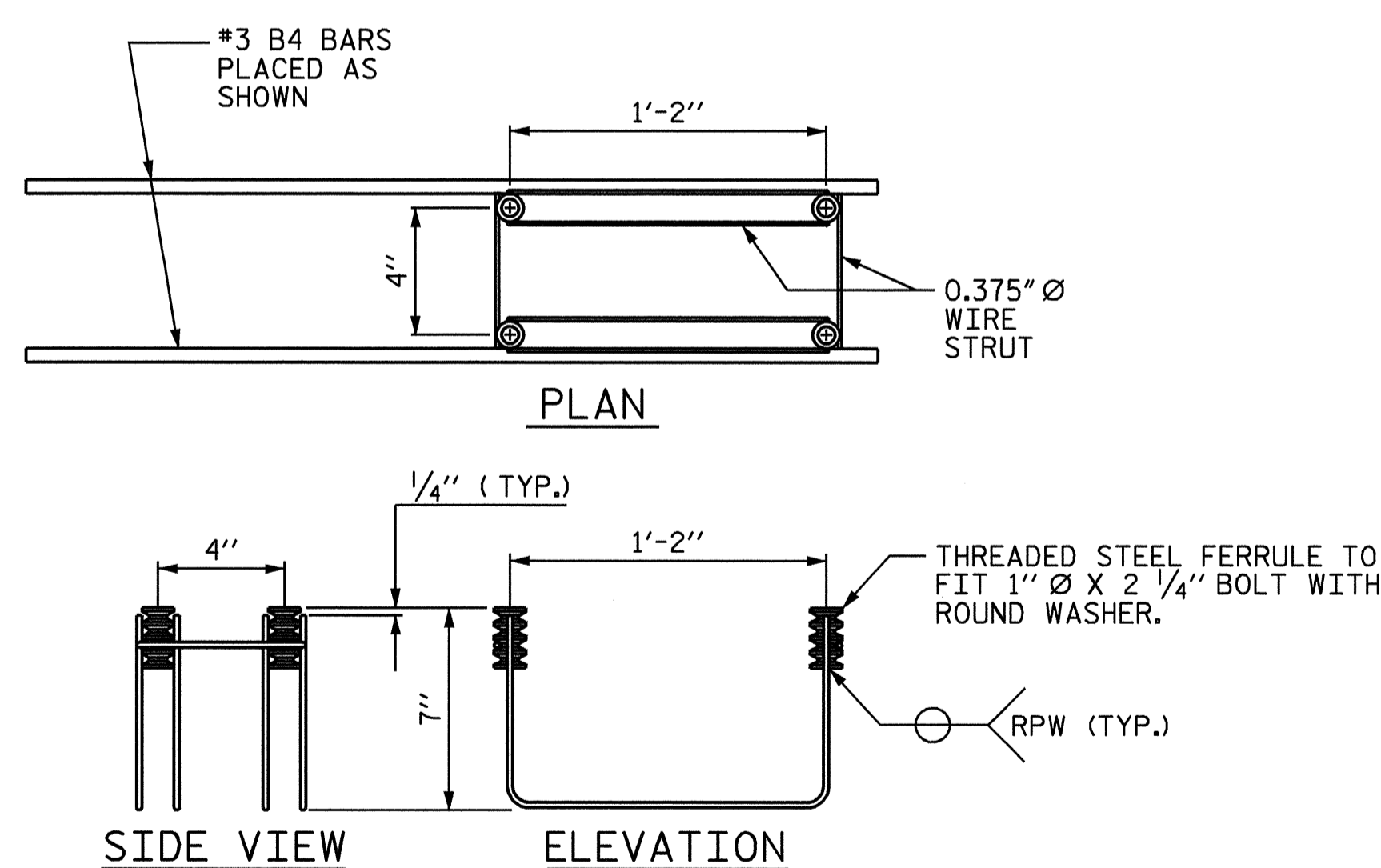
PAYMENT FOR TEMPORARY GUARDRAIL POST, AND POST BASE PLATES IS INCLUDED IN ROADWAY PAY ITEMS.

PROJECT NO. B-3343
HAYWOOD COUNTY
 STATION: 14+92.50 -L-



SECTION OF ANCHOR ASSEMBLY LOCATION

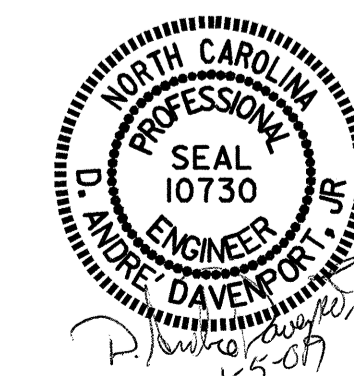
(TYPE III UNIT OF STAGE 1)



TEMPORARY GUARDRAIL ANCHOR ASSEMBLY

(10 ASSEMBLIES REQUIRED IN CORED SLAB UNIT III
 4 ASSEMBLIES REQUIRED IN THE APPROACH SLABS)

DRAWN BY : D. A. GLADDEN DATE : 11-13-06
 CHECKED BY : C. YARBROUGH DATE : 1-16-07



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

ANCHORAGE DETAILS FOR
 TEMPORARY GUARDRAIL
 ANCHOR ASSEMBLY FOR
 TYPE III CORED SLAB UNIT

REVISIONS						SHEET NO. S-13
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 24
2			4			

NOTES

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

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.)

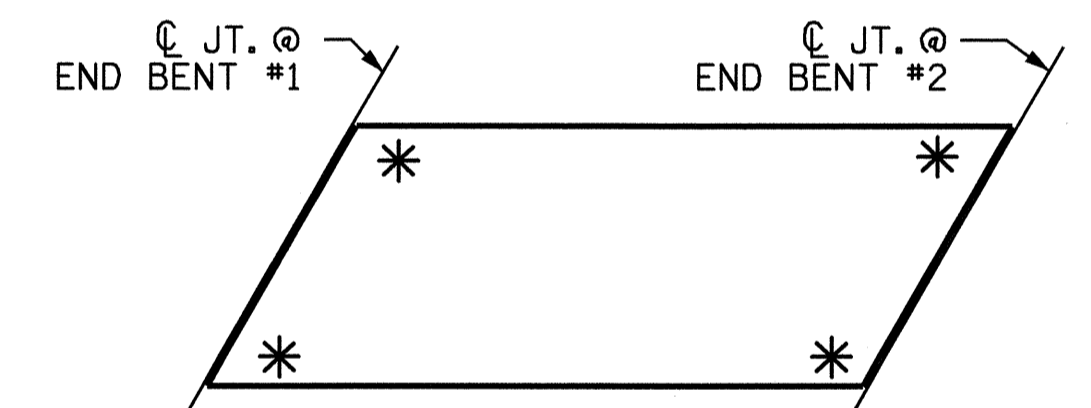
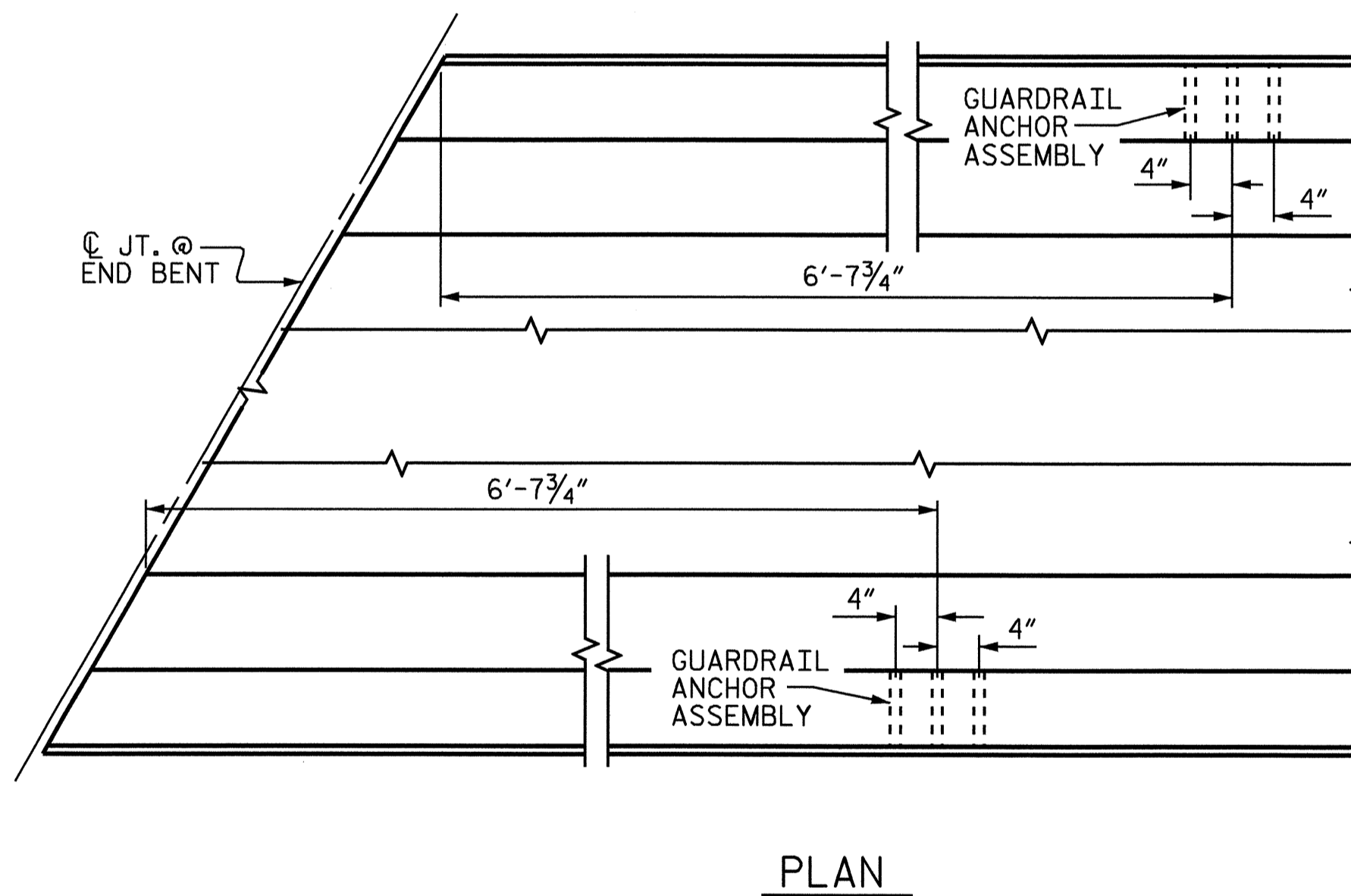
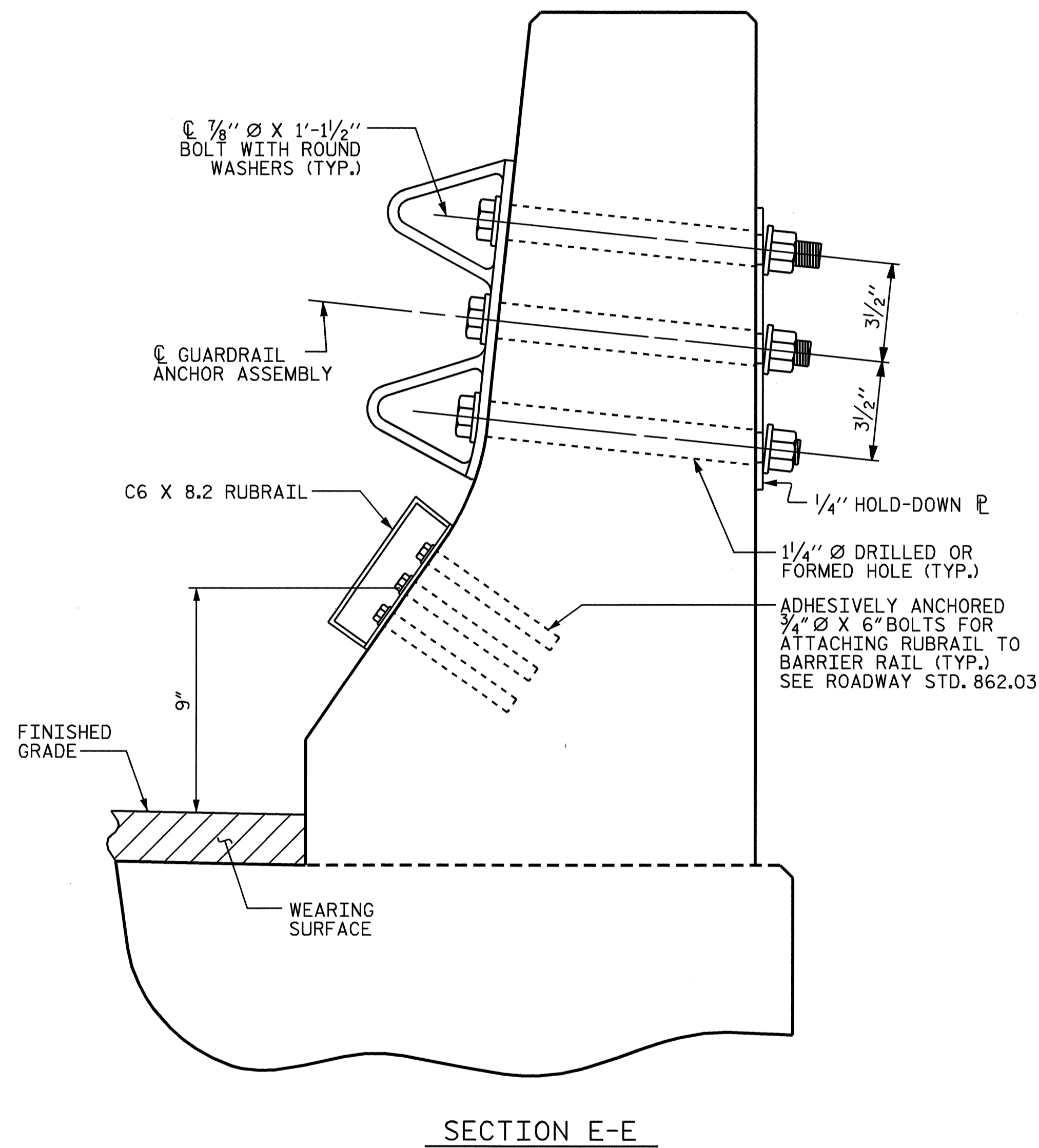
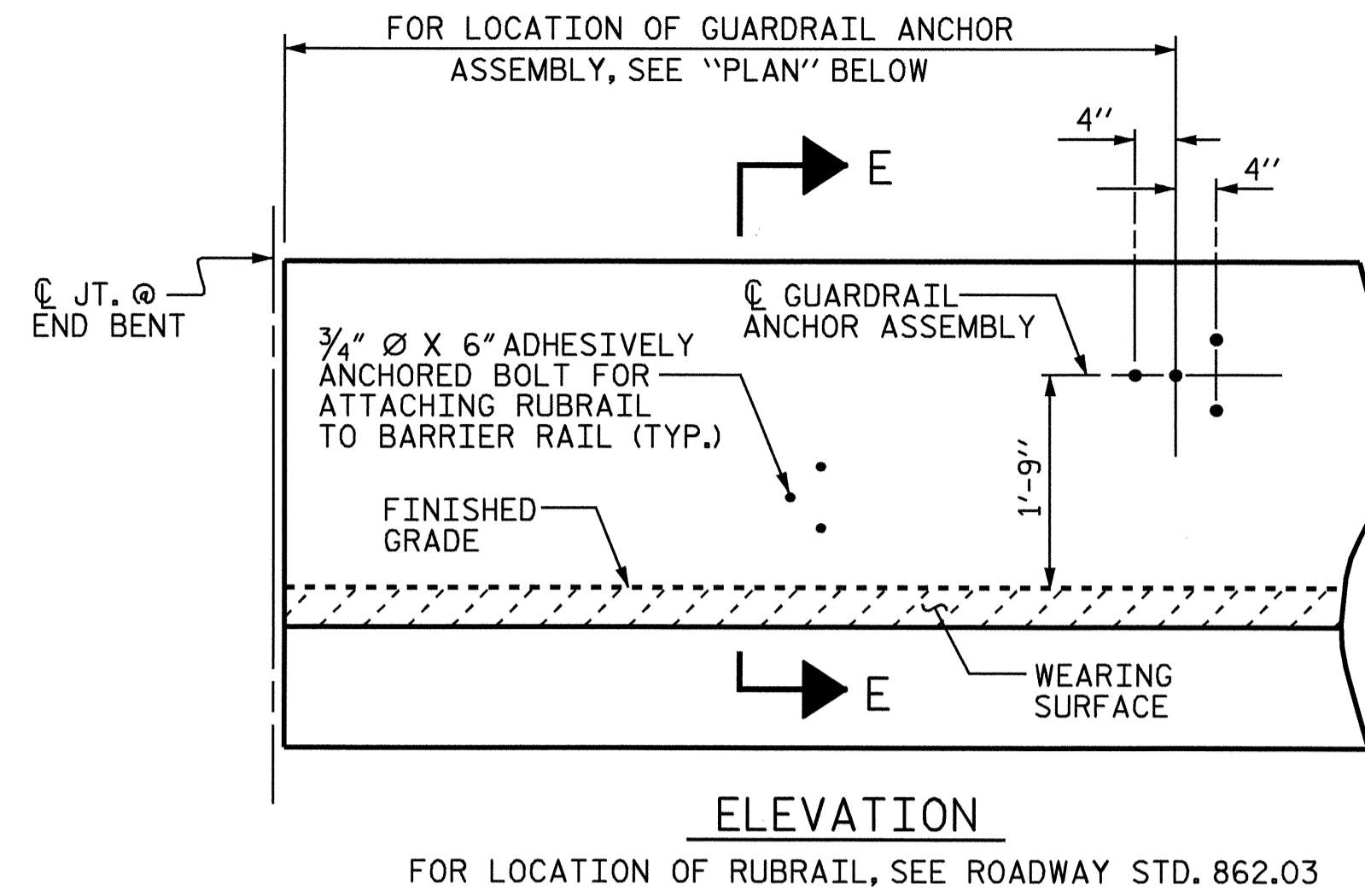
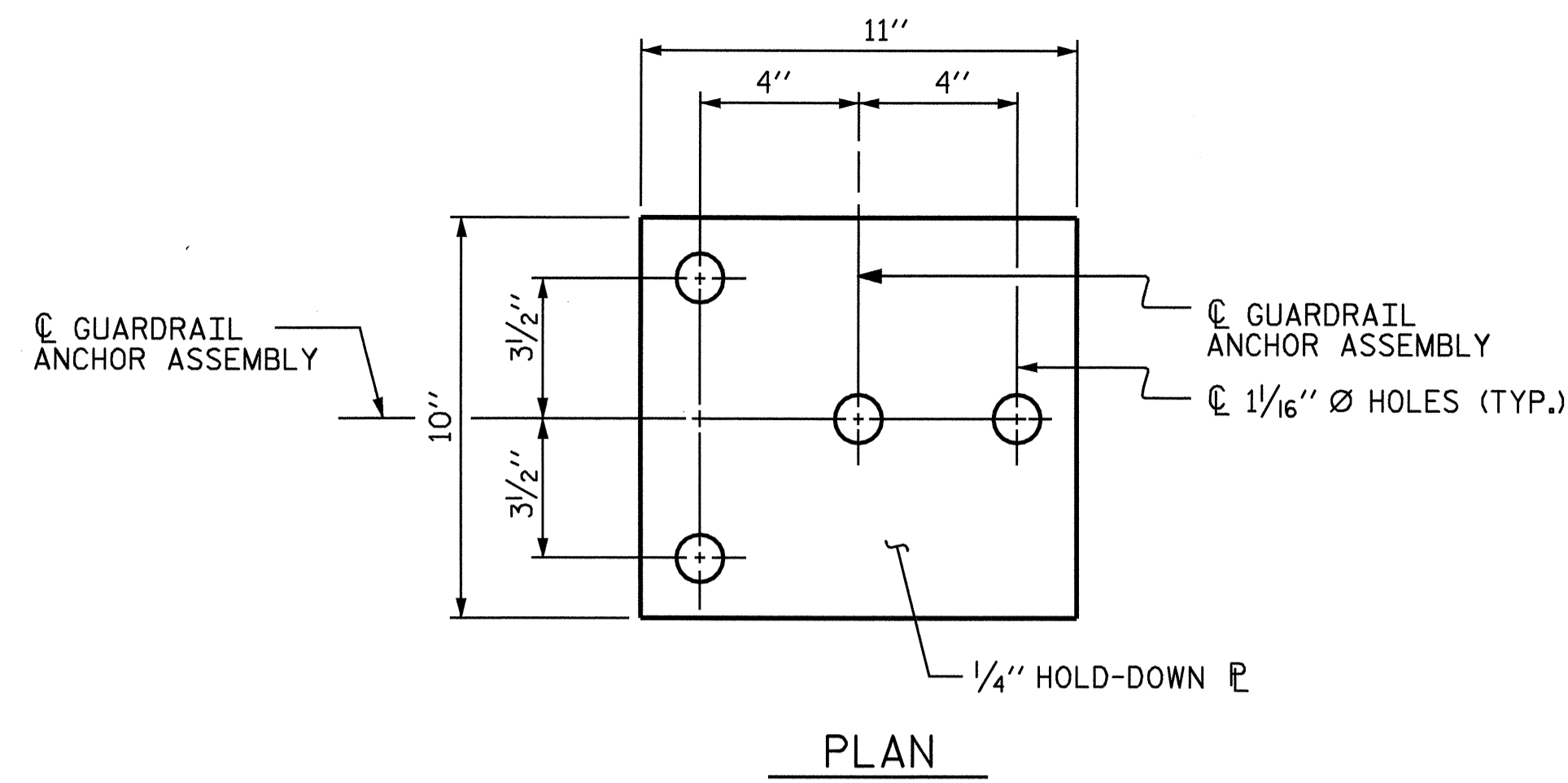
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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 CONCRETE BARRIER RAIL.

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

THE C6 X 8.2 RUBRAIL IS TO BE ADHESIVELY ANCHORED TO THE RAIL USING THREE 3/4" Ø X 6" BOLTS WITH WASHERS. LEVEL ONE FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE 3/4" Ø BOLT IS 12 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE SPECIAL PROVISIONS. SEE ROADWAY STANDARD 862.03 FOR DETAILS AND LOCATION OF THE RUBRAIL.



SKETCH SHOWING POINTS OF ATTACHMENTS
* DENOTES GUARDRAIL ANCHOR ASSEMBLY

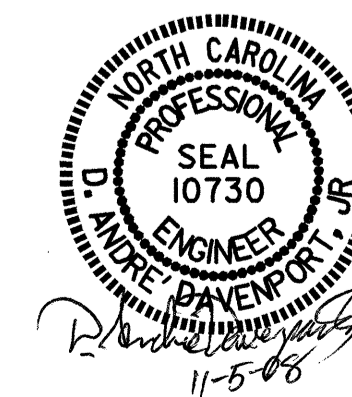
LOCATION OF ANCHORS FOR GUARDRAIL

END BENT #1 SHOWN, END BENT #2 SIMILAR.

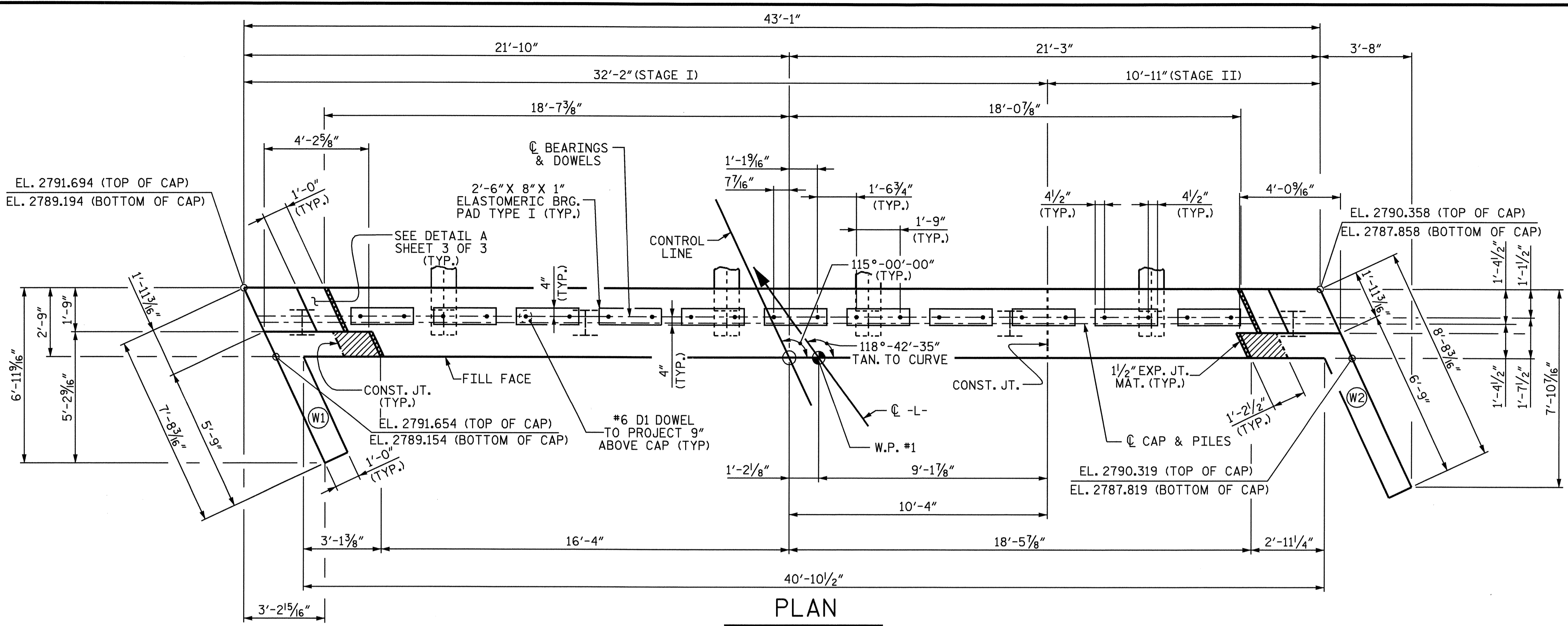
GUARDRAIL ANCHOR ASSEMBLY DETAILS

PROJECT NO. B-3343
HAYWOOD COUNTY
 STATION: 14+92.50-L-

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD GUARDRAIL ANCHORAGE FOR BARRIER RAIL					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-14					TOTAL SHEETS 24



ASSEMBLED BY : D.A. DAVENPORT DATE : 10/08
 CHECKED BY : C. YARBROUGH DATE : 10/08
 DRAWN BY : TLA 5/06 ADDED 5/1/06R KMM/GM
 CHECKED BY : GM 5/06

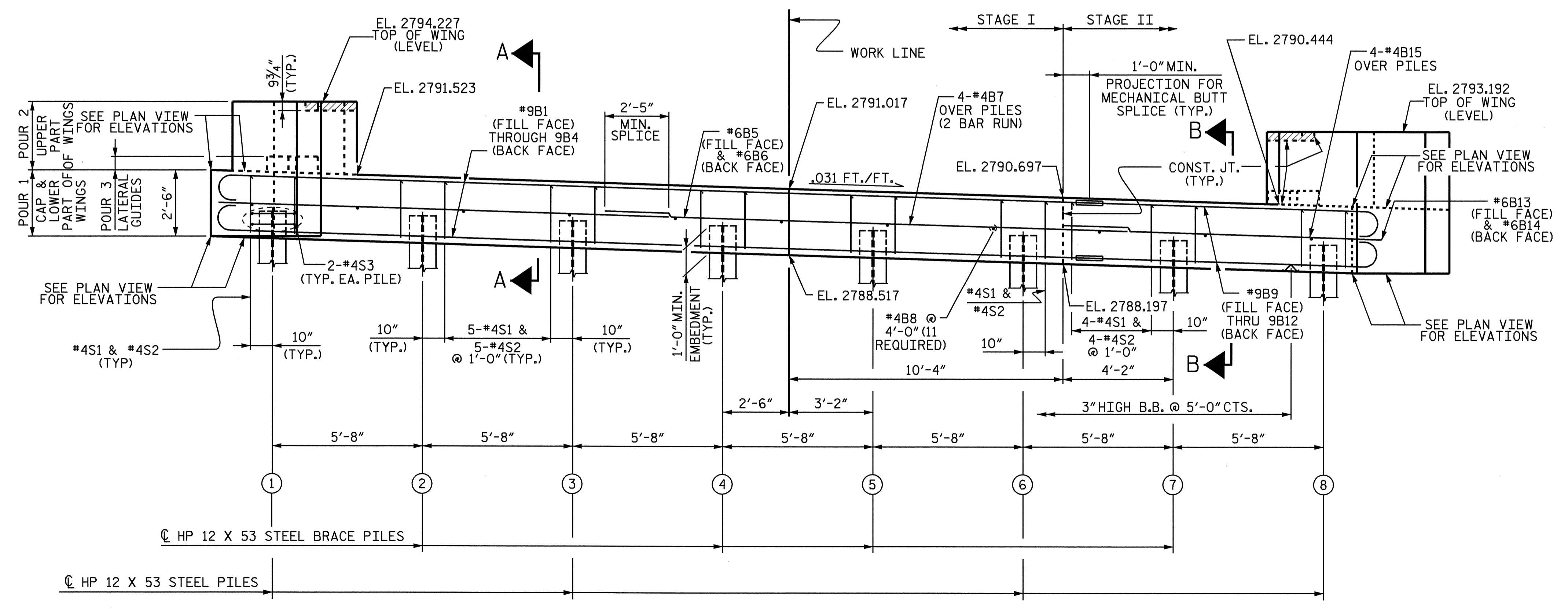


PLAN

NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.
 THE LATERAL GUIDE AT EACH END OF THE CAP IS NOT TO BE POURED UNTIL AFTER CORED SLAB UNITS ARE IN PLACE.
 THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE BARRIER RAILS ARE CAST IF SLIP FORMING IS USED.

TOP OF PILE ELEVATIONS	
PILE #	ELEVATION
1	EL. 2790.137
2	EL. 2789.962
3	EL. 2789.786
4	EL. 2789.610
5	EL. 2789.435
6	EL. 2789.259
7	EL. 2789.083
8	EL. 2788.908



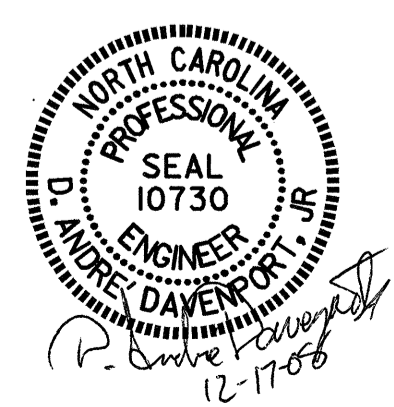
ELEVATION

PROJECT NO. B-3343
HAYWOOD COUNTY
 STATION: 14+92.50-L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT #1

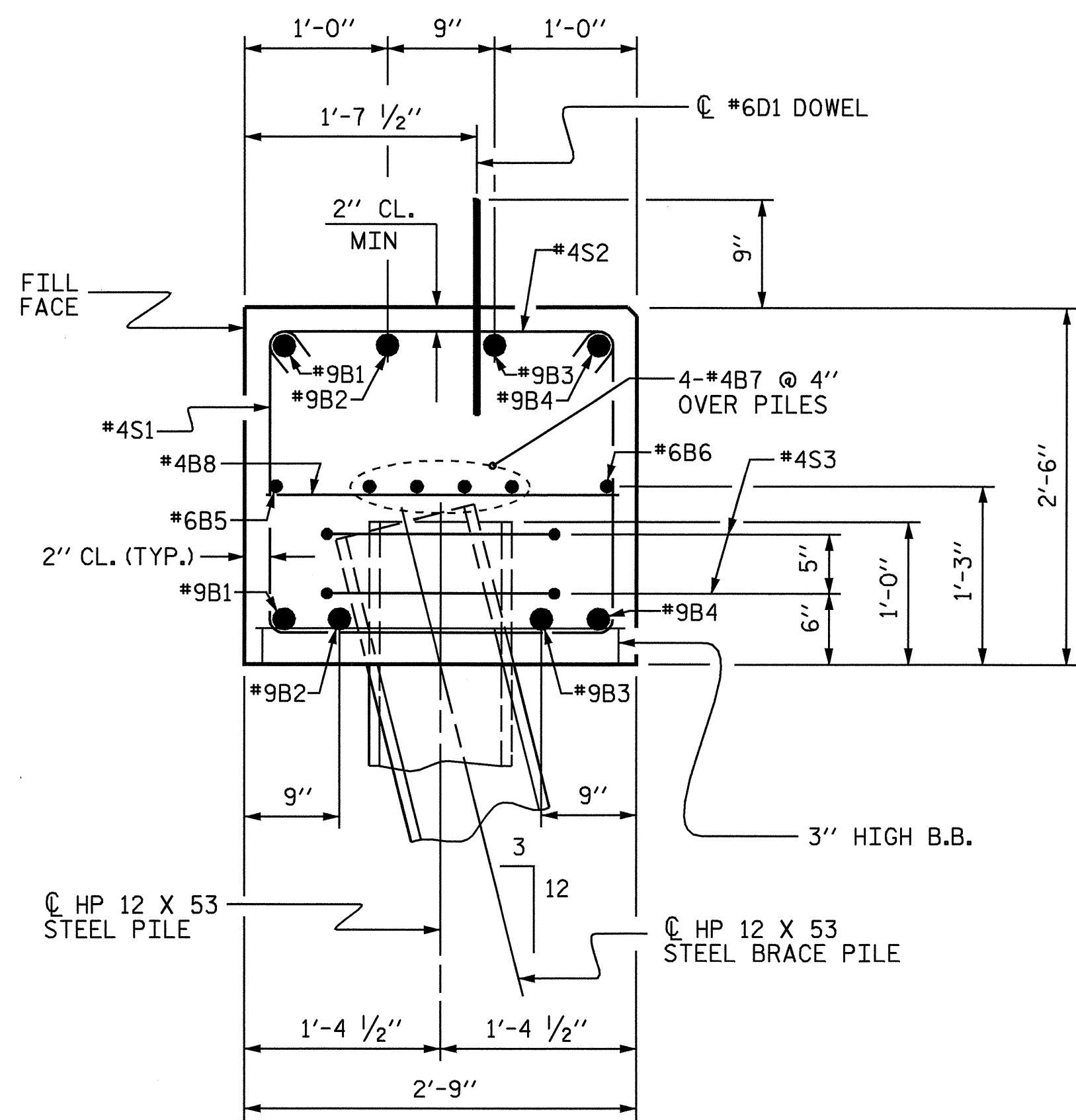


DRAWN BY : H. T. BARBOUR DATE : 8-8-07
 CHECKED BY : D. A. GLADDEN DATE : 3-08

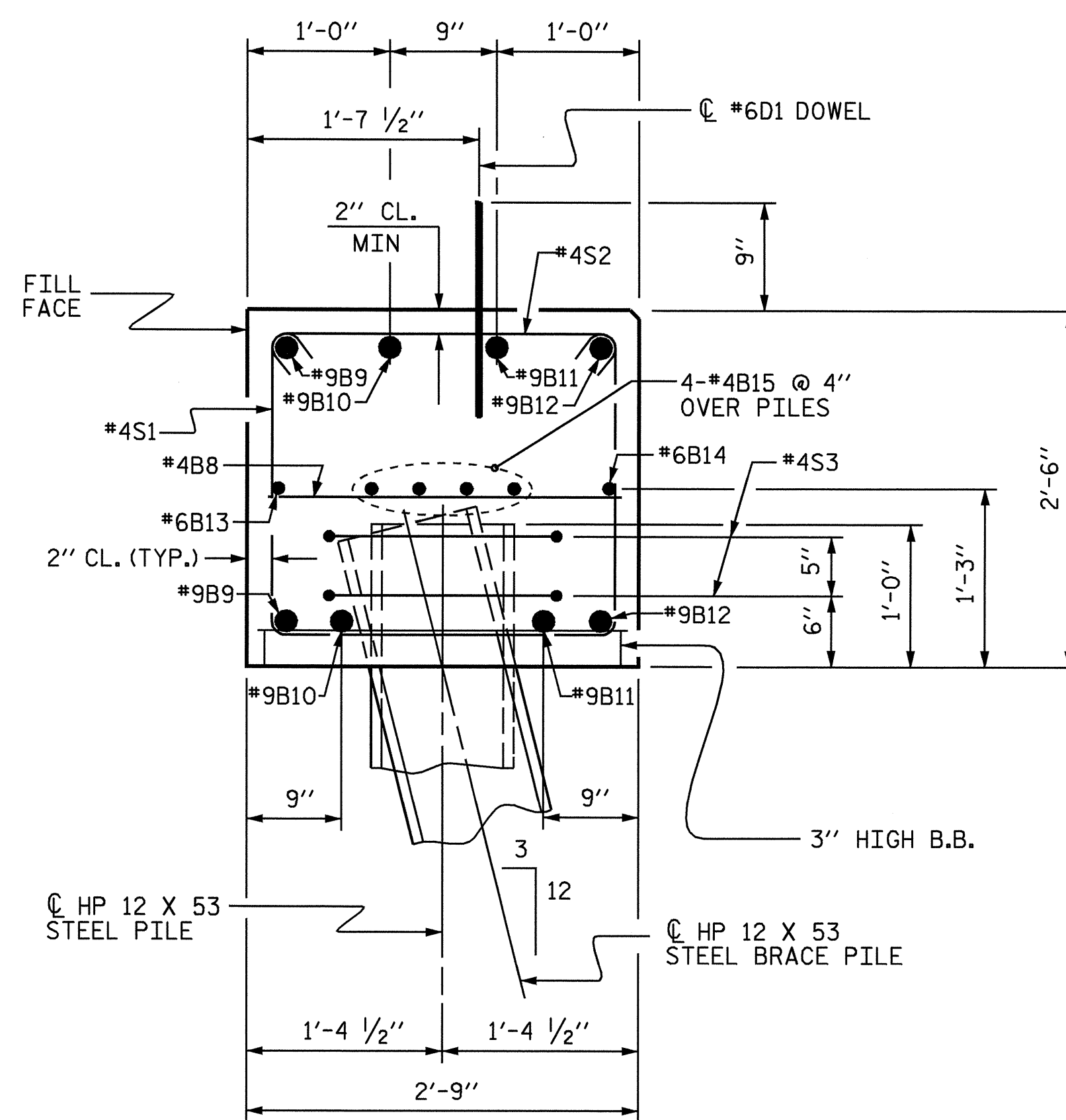
17-DEC-2008 12:28
 y:\Structure\Hbarbour\Microstation\B-3343.ed.E*.dgn
 adavenport

REVISIONS						SHEET NO. S-15
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 24
2			4			

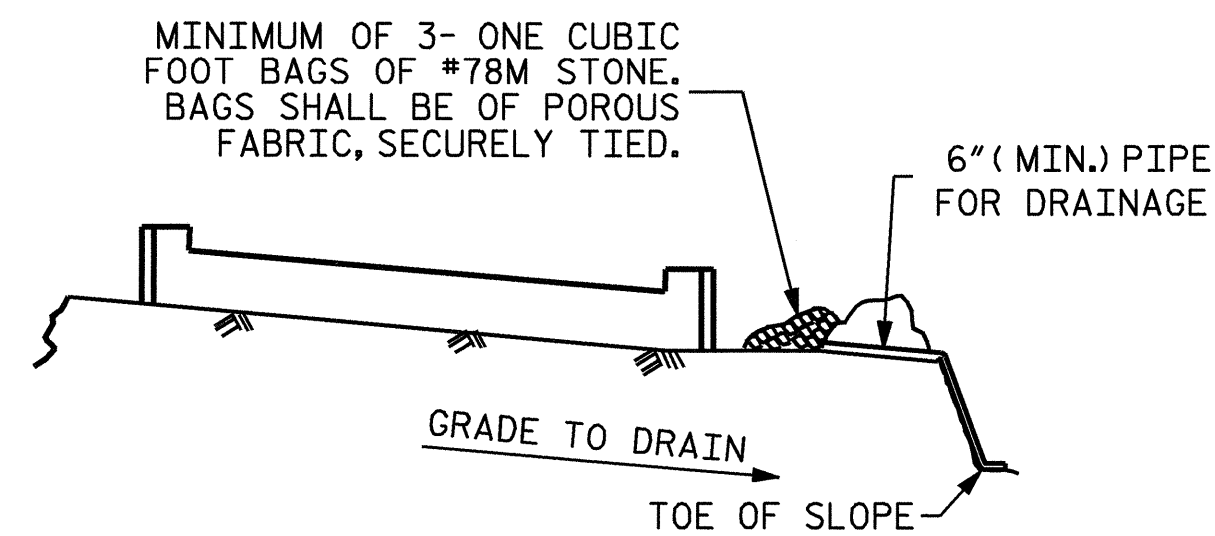
NCDDG



SECTION A-A



SECTION B-B



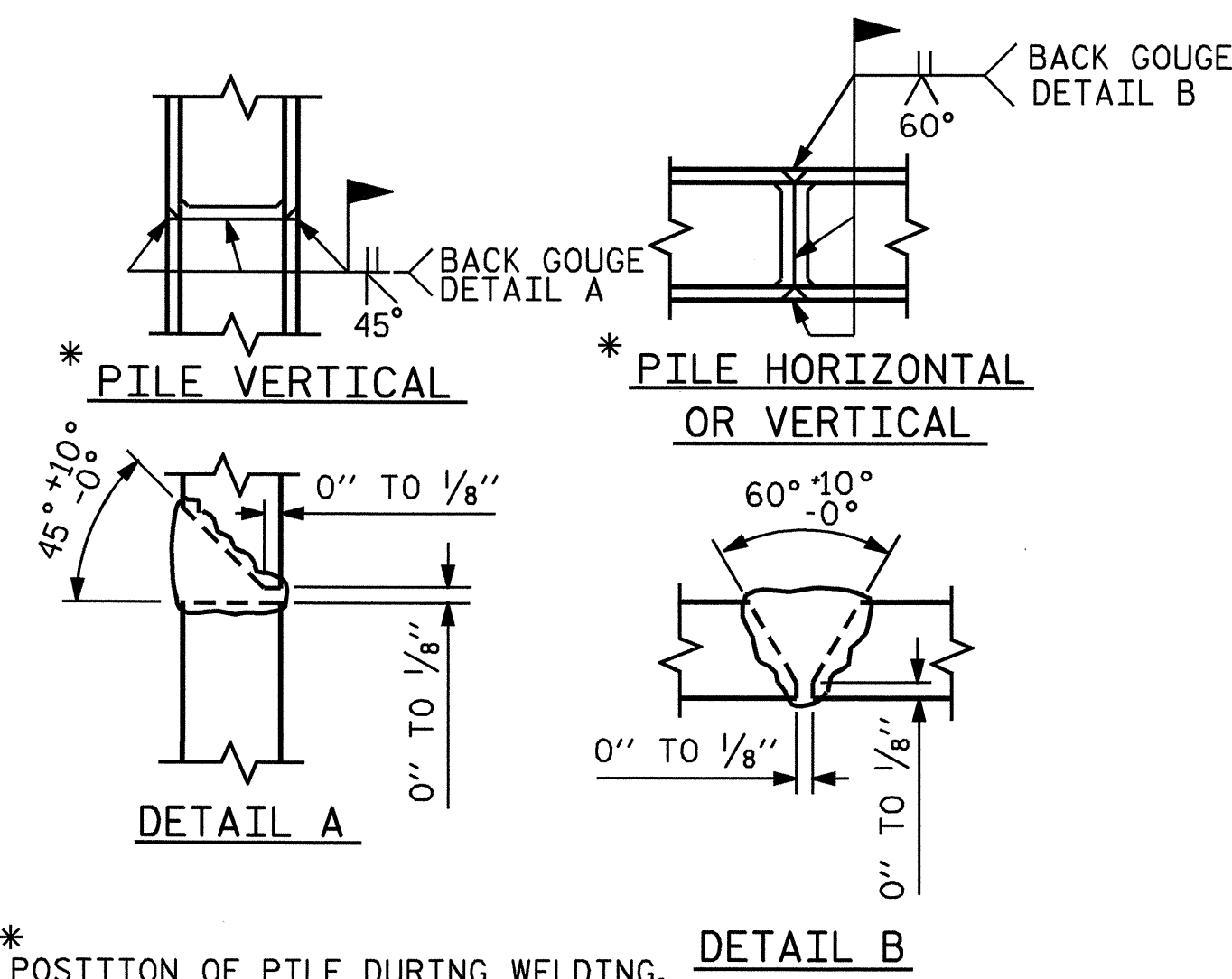
BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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.

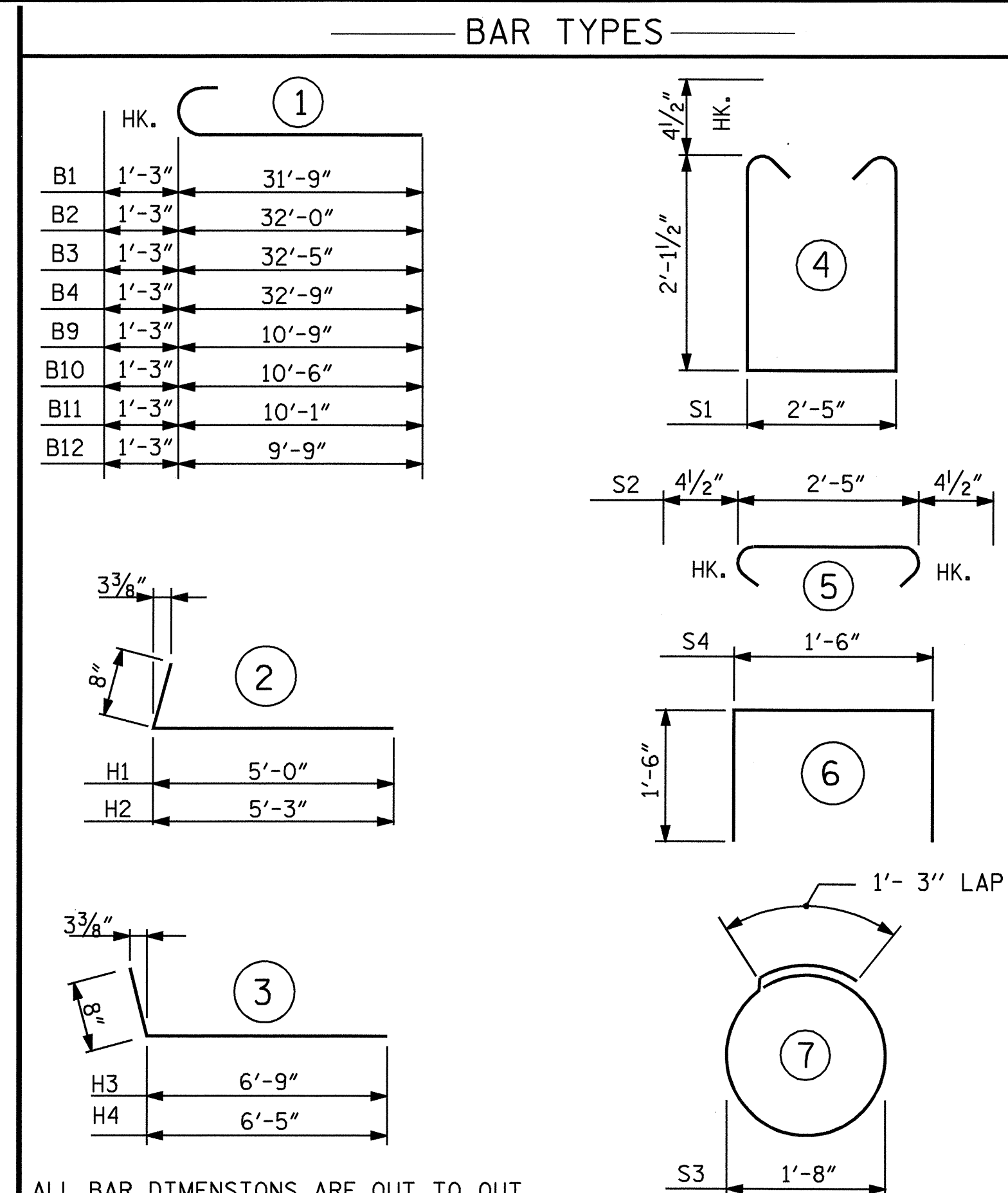
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT

DRAWN BY: H.T. BARBOUR DATE: 8-23-07
 CHECKED BY: D.A. GLADDEN DATE: 3-08

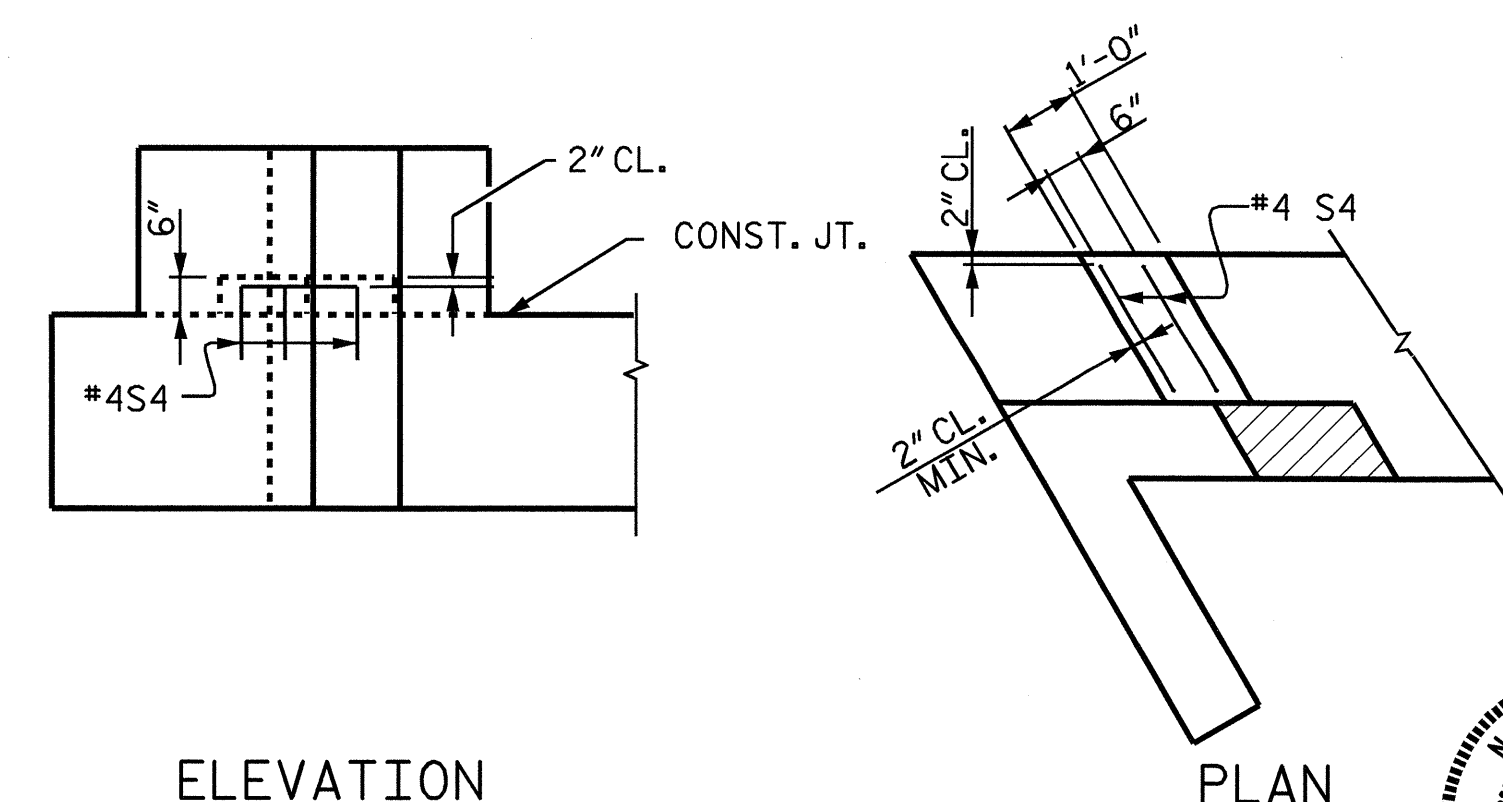


PILE SPLICE DETAILS



ALL BAR DIMENSIONS ARE OUT TO OUT.

	STAGE I	STAGE II	TOTAL
REINFORCING STEEL =	1538 LBS.	633 LBS.	2171 LBS.
CLASS A CONCRETE			
POUR #1 CAP AND LOWER PART OF WINGS	8.4 CU. YDS.	3.5 CU. YDS.	11.9 CU. YDS.
POUR #2 UPPER PART OF WINGS	.8 CU. YDS.	1.1 CU. YDS.	1.9 CU. YDS.
POUR #3 LATERAL GUIDES	.1 CU. YDS.	.1 CU. YDS.	.2 CU. YDS.
TOTAL	9.3 CU. YDS.	4.7 CU. YDS.	14.0 CU. YDS.
HP 12x53 STEEL PILES	NO. 6 380 LIN. FT.	NO. 2 120 LIN. FT.	NO. 8 500 LIN. FT.
STEEL PILE POINTS	6 EA.	2 EA.	8 EA.



ELEVATION

PLAN

DETAIL 'A'
(EACH END SIMILAR)

BILL OF MATERIAL

END BENT NO. 1					
STAGE I					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	2	#9	1	33'-0"	224
B2	2	#9	1	33'-3"	226
B3	2	#9	1	33'-8"	229
B4	2	#9	1	34'-0"	231
B5	1	#6	STR	34'-8"	52
B6	1	#6	STR	35'-8"	54
B7	8	#4	STR	18'-4"	98
B8	8	#4	STR	2'-5"	13
D1	17	#6	STR	1'-6"	38
H1	6	#4	2	5'-8"	23
H2	6	#4	2	5'-11"	24
S1	27	#4	4	7'-5"	134
S2	27	#4	5	3'-2"	57
S3	12	#4	7	6'-6"	52
S4	2	#4	6	4'-6"	6
K1	6	#4	STR	3'-9"	15
V1	20	#4	STR	4'-8"	62
REINFORCING STEEL = 1538					
STAGE II					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B8	3	#4	STR	2'-5"	5
B9	2	#9	1	12'-0"	82
B10	2	#9	1	11'-9"	80
B11	2	#9	1	11'-4"	77
B12	2	#9	1	11'-0"	75
B13	1	#6	STR	11'-9"	18
B14	1	#6	STR	10'-8"	16
B15	4	#4	STR	11'-0"	29
D1	5	#6	STR	1'-6"	11
H3	6	#4	3	7'-5"	30
H4	6	#4	3	7'-1"	28
S1	10	#4	4	7'-5"	50
S2	10	#4	5	3'-2"	21
S3	4	#4	7	6'-6"	17
S4	2	#4	6	4'-6"	6
K2	6	#4	STR	3'-10"	15
V2	22	#4	STR	5'-0"	73
REINFORCING STEEL = 633					

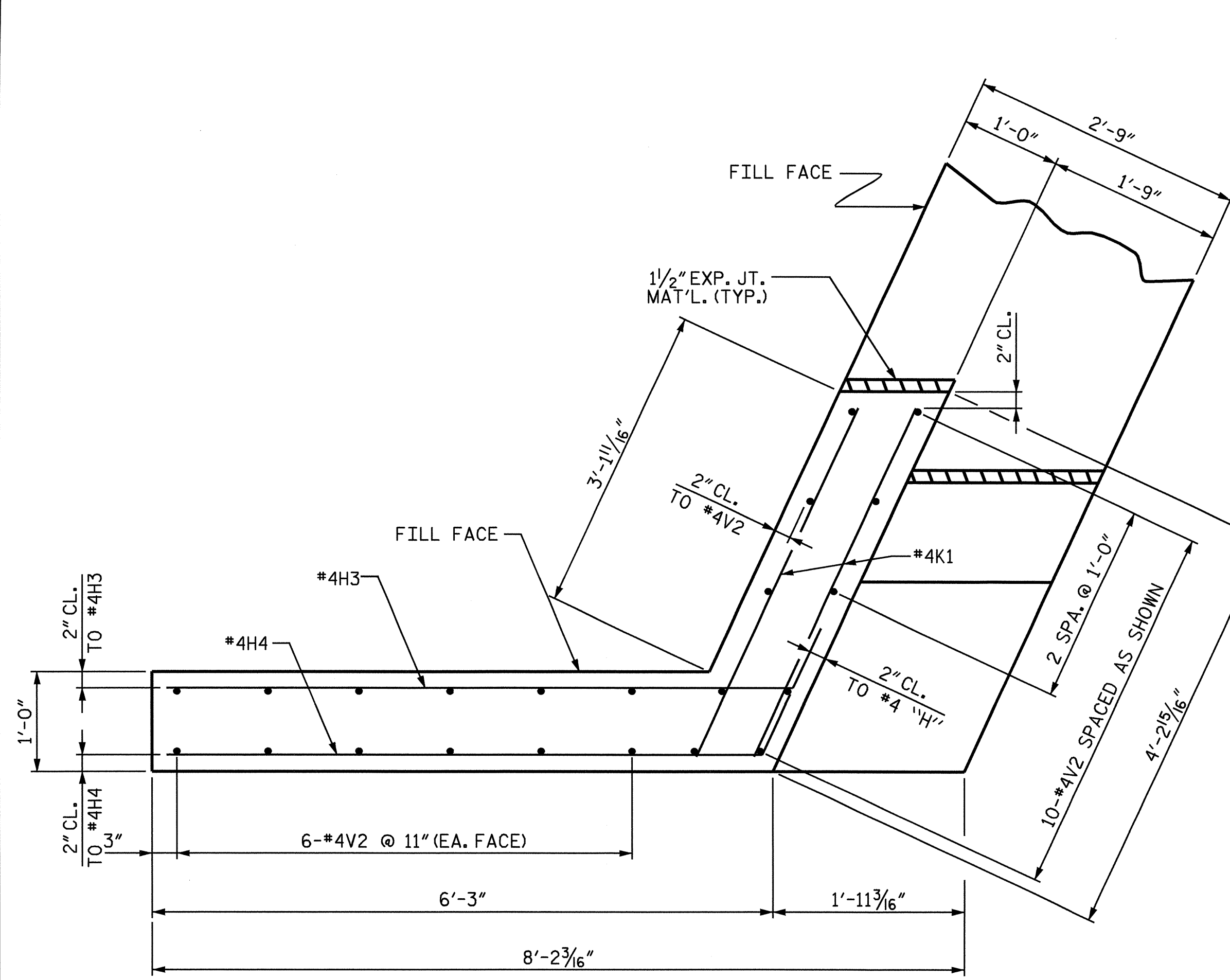
PROJECT NO. B-3343
 HAYWOOD COUNTY
 STATION: 14+92.50-L-

SHEET 3 OF 3

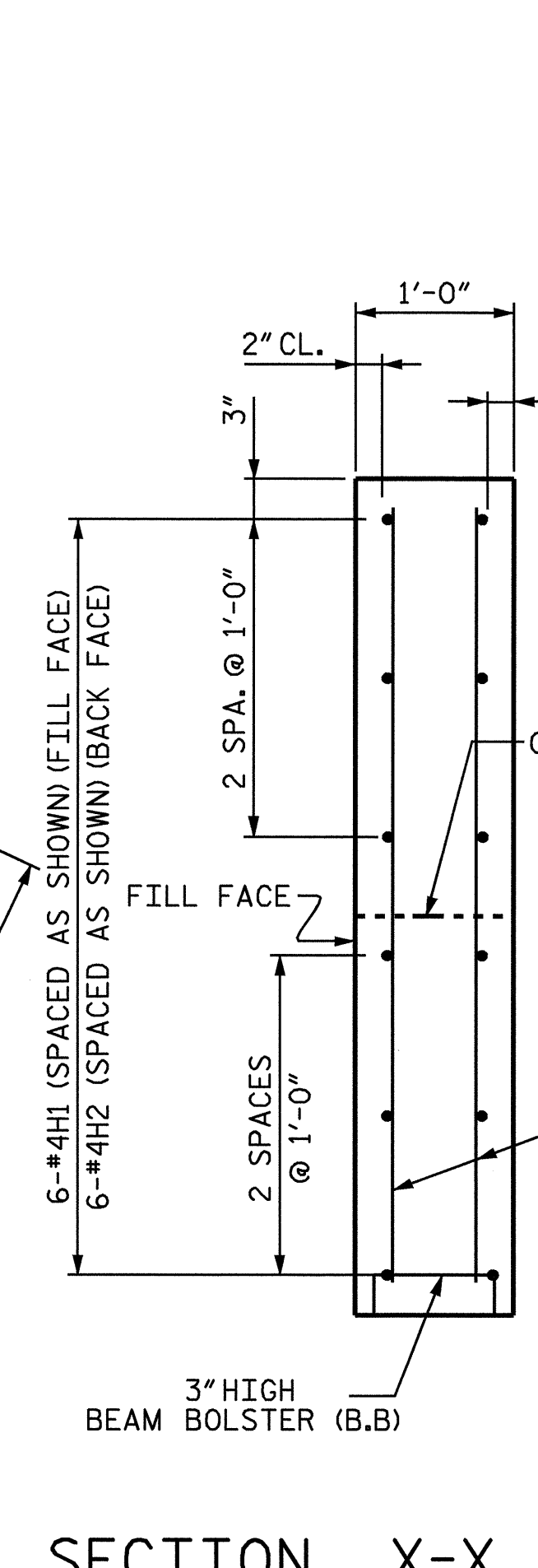
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE END BENT #1					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. S-17
TOTAL SHEETS 24

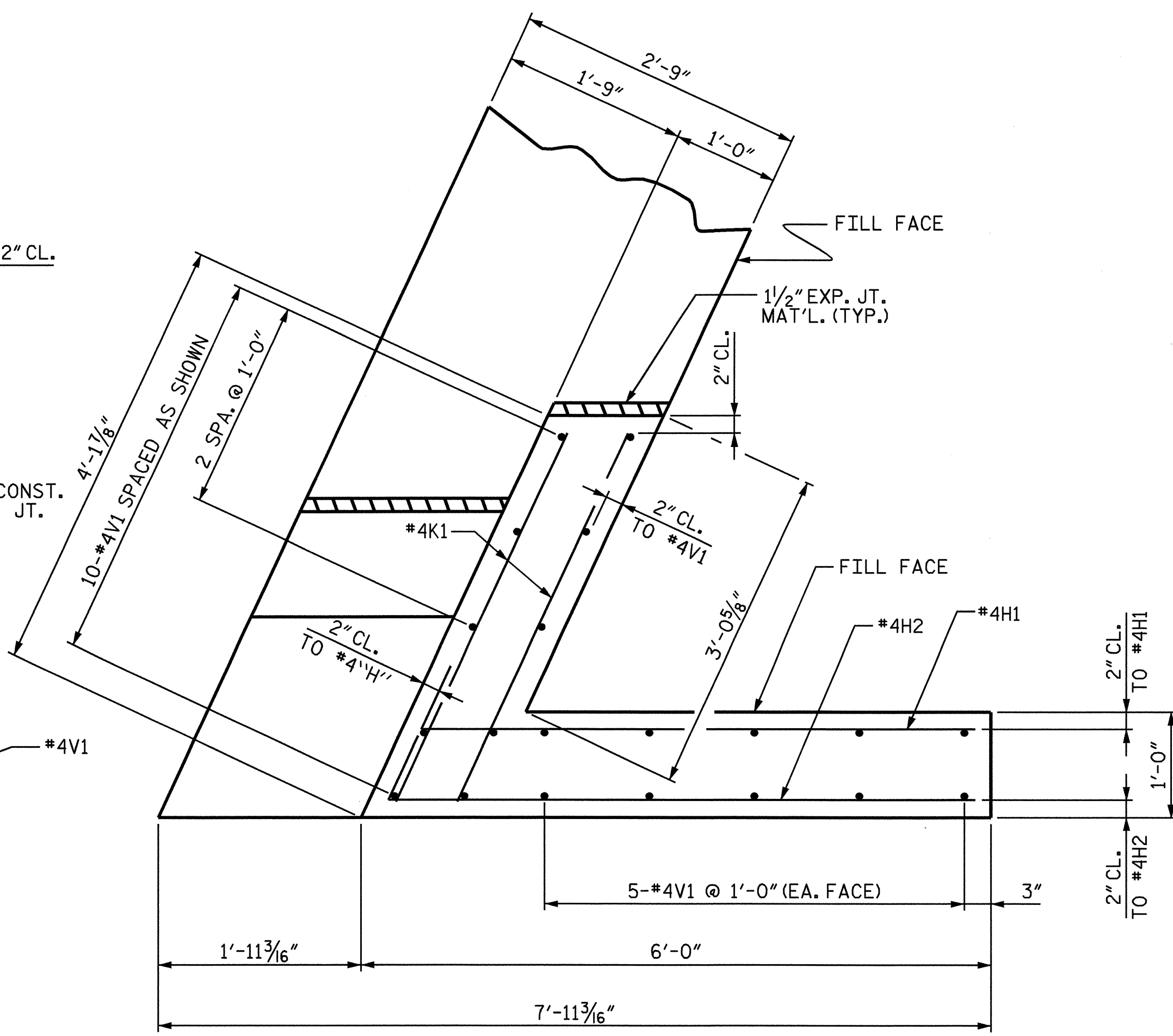




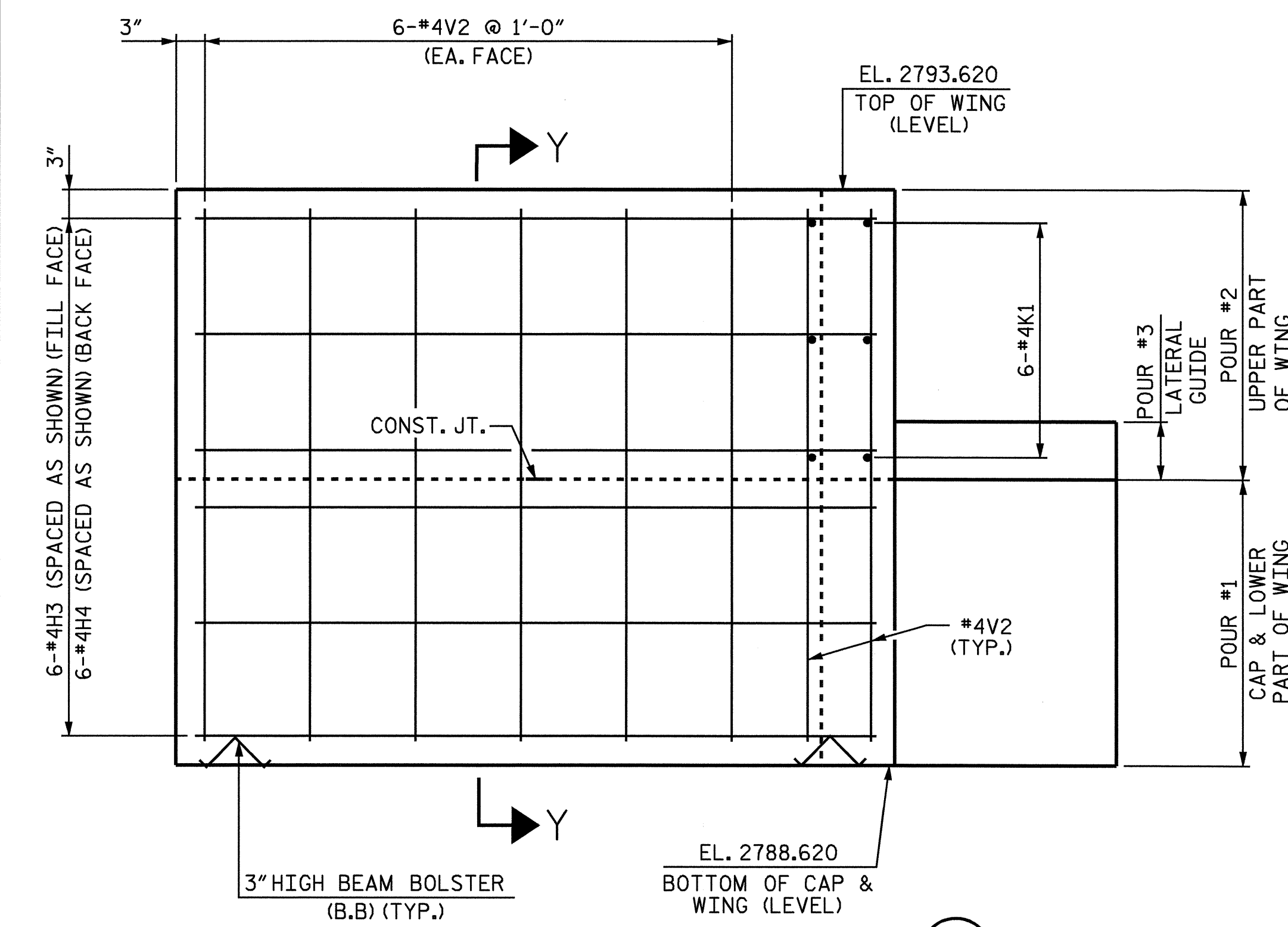
PLAN OF LEFT WING (W1)
STAGE I



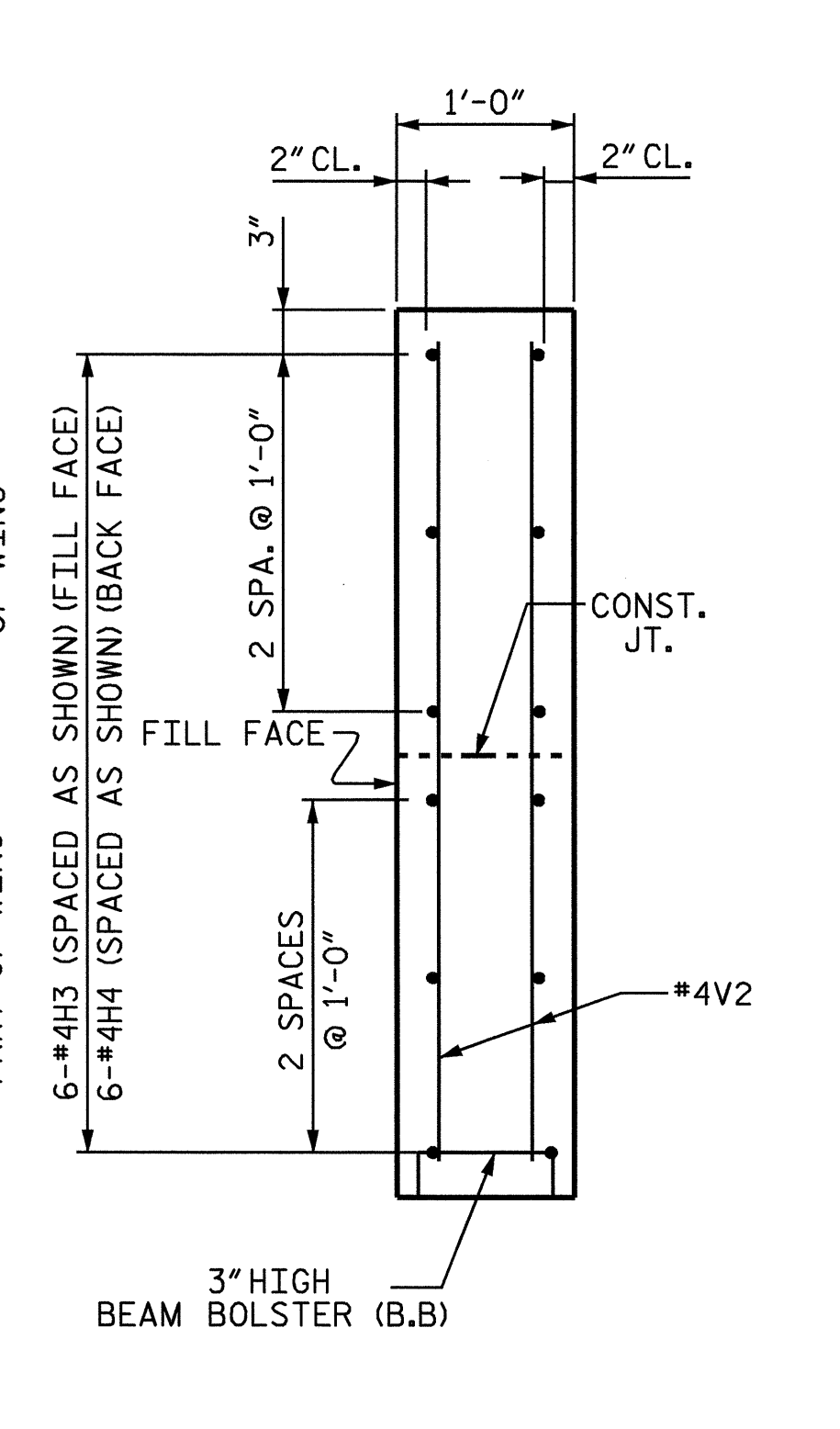
SECTION X-X



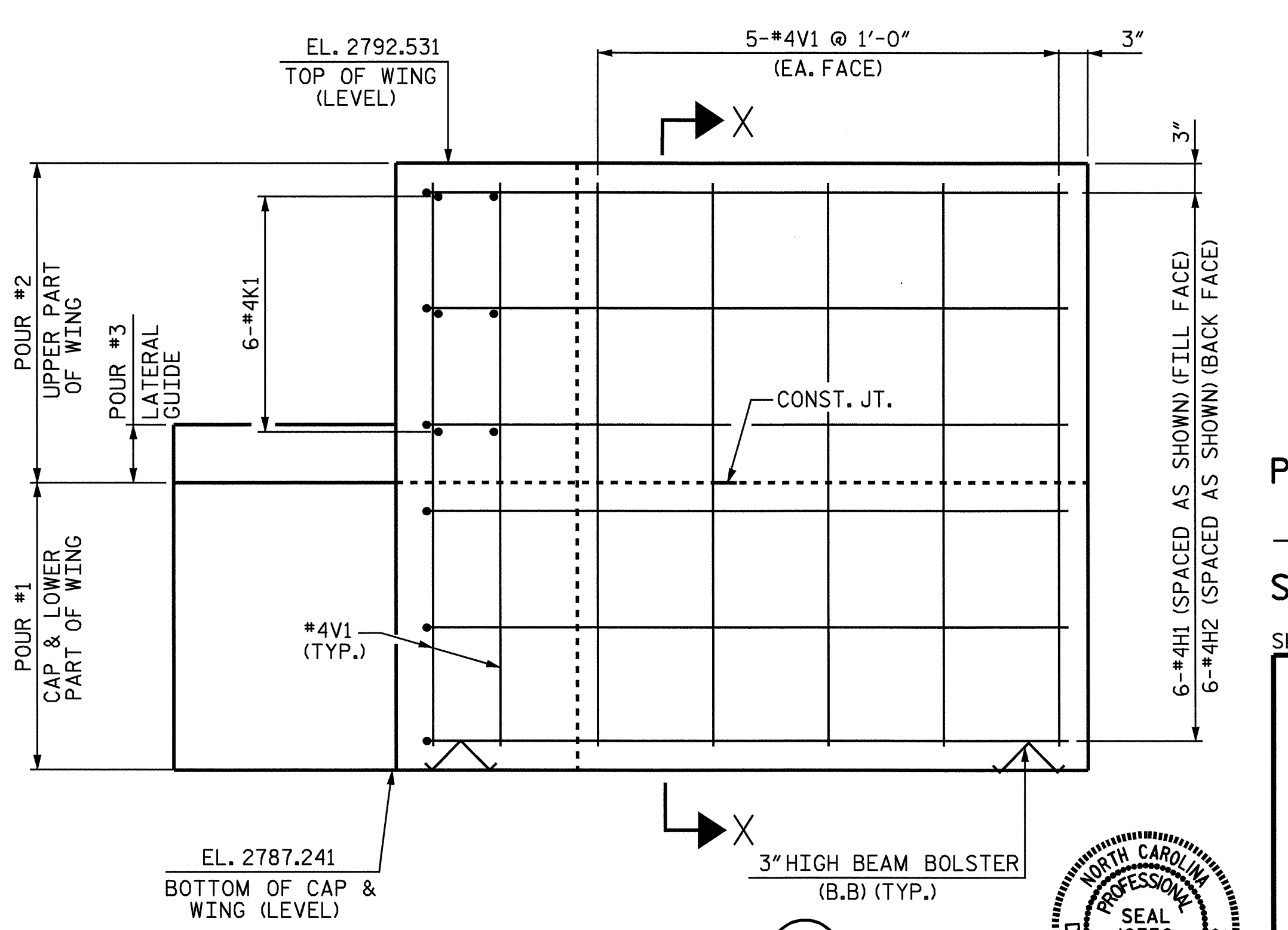
PLAN OF RIGHT WING (W2)
STAGE II



ELEVATION OF LEFT WING (W1)
STAGE I



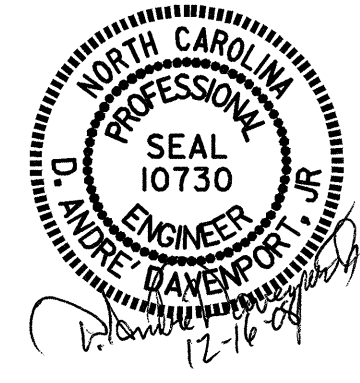
SECTION Y-Y



ELEVATION OF RIGHT WING (W2)
STAGE II

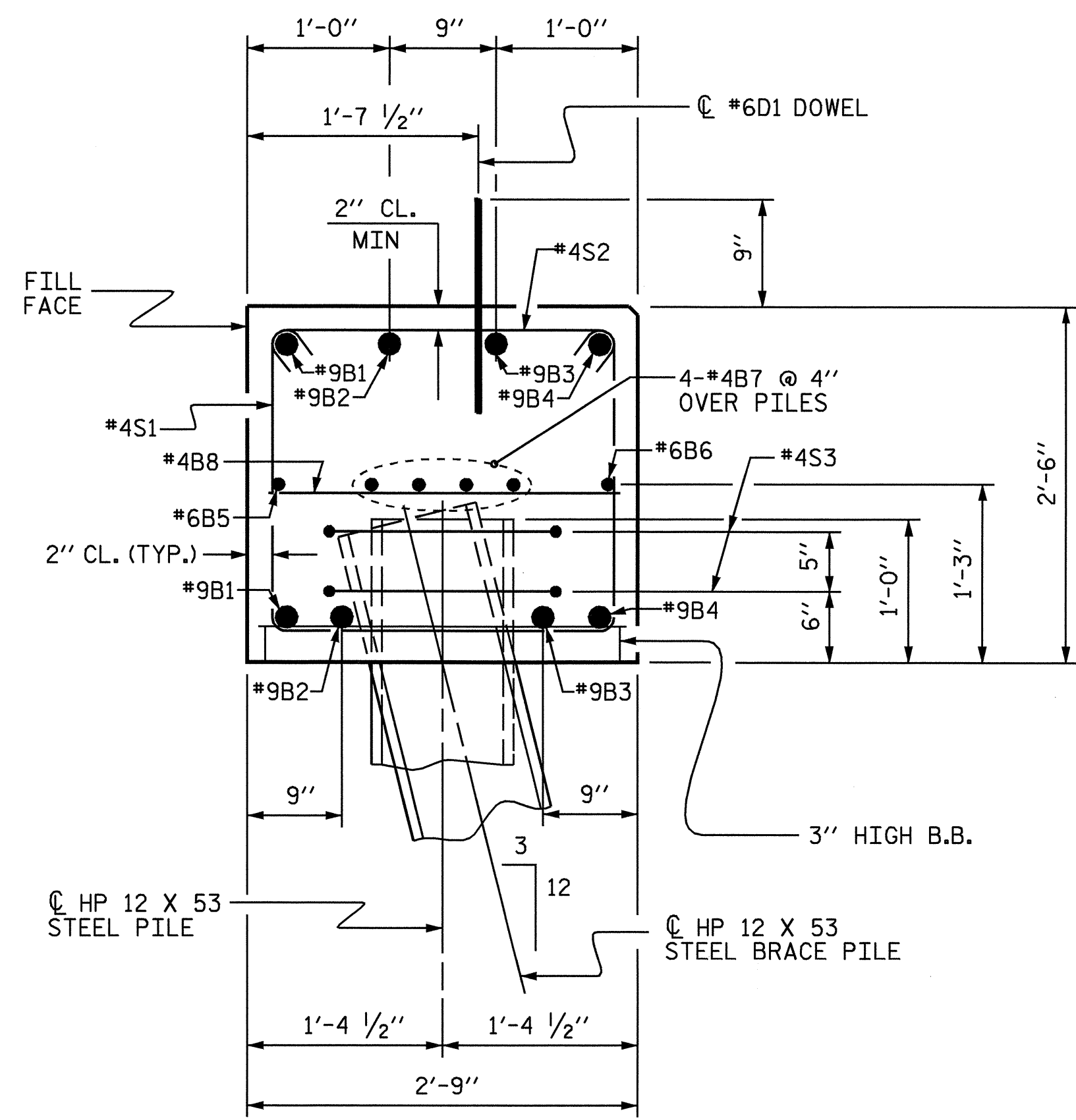
PROJECT NO. B-3343
HAYWOOD COUNTY
 STATION: 14+92.50-L-
 SHEET 2 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE END BENT #2					
SHEET NO. S-19					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS 24

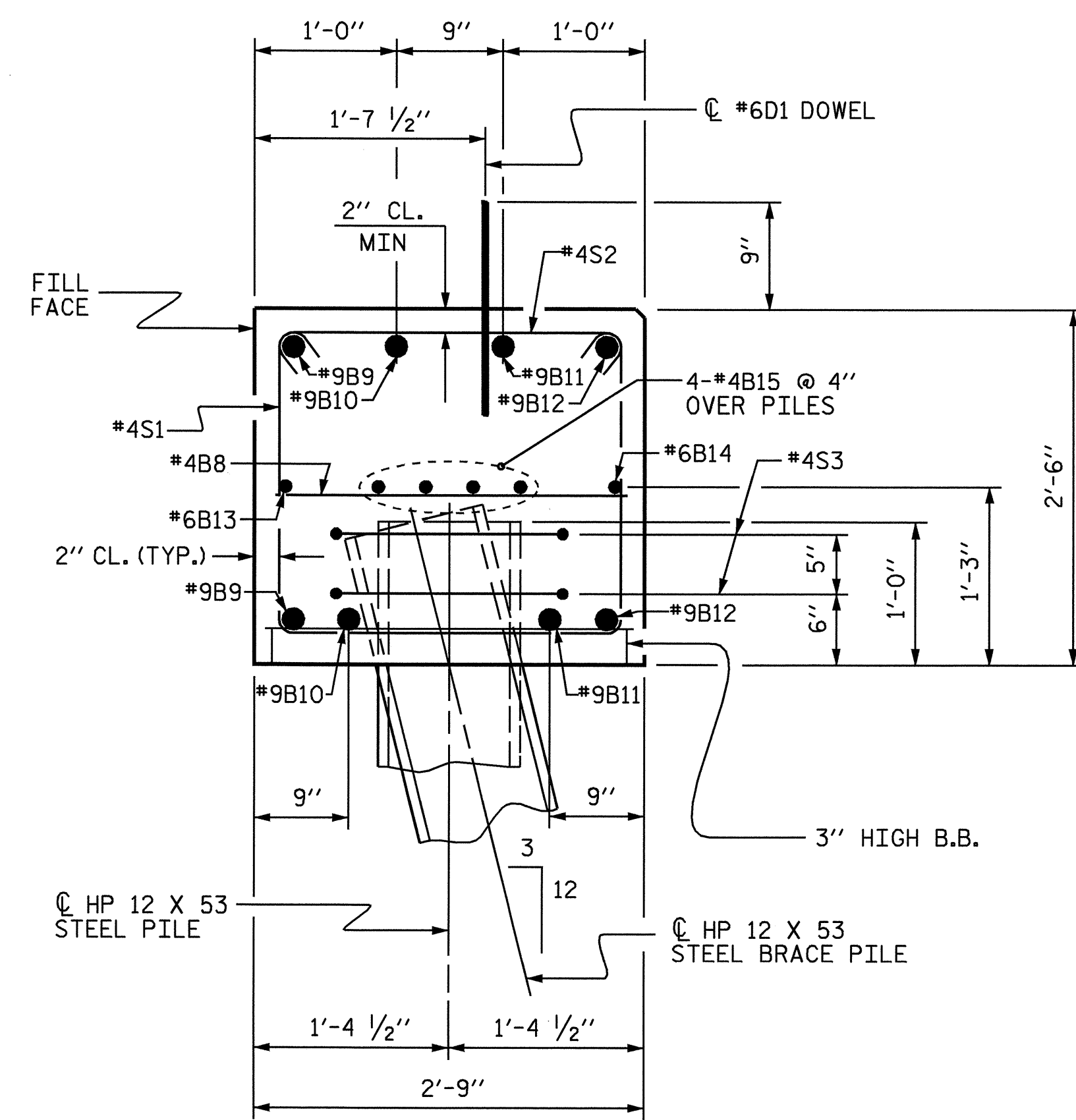


DRAWN BY: H.T. BARBOUR DATE: 8-22-07
 CHECKED BY: D.A. GLADDEN DATE: 3-08

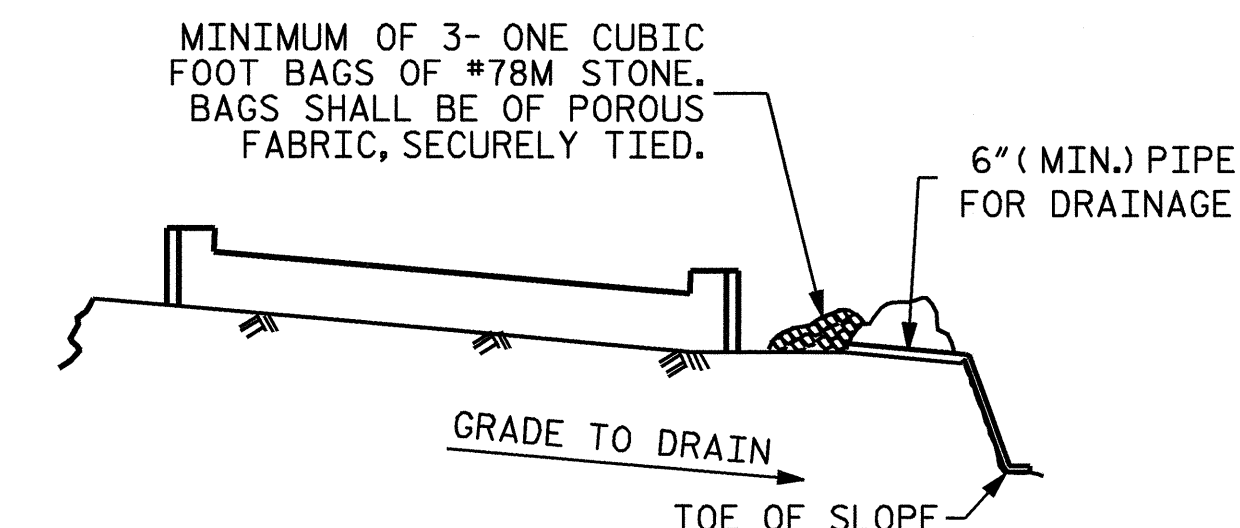
11-DEC-2008 16:07
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 TBARBOUR



SECTION A-A



SECTION B-B



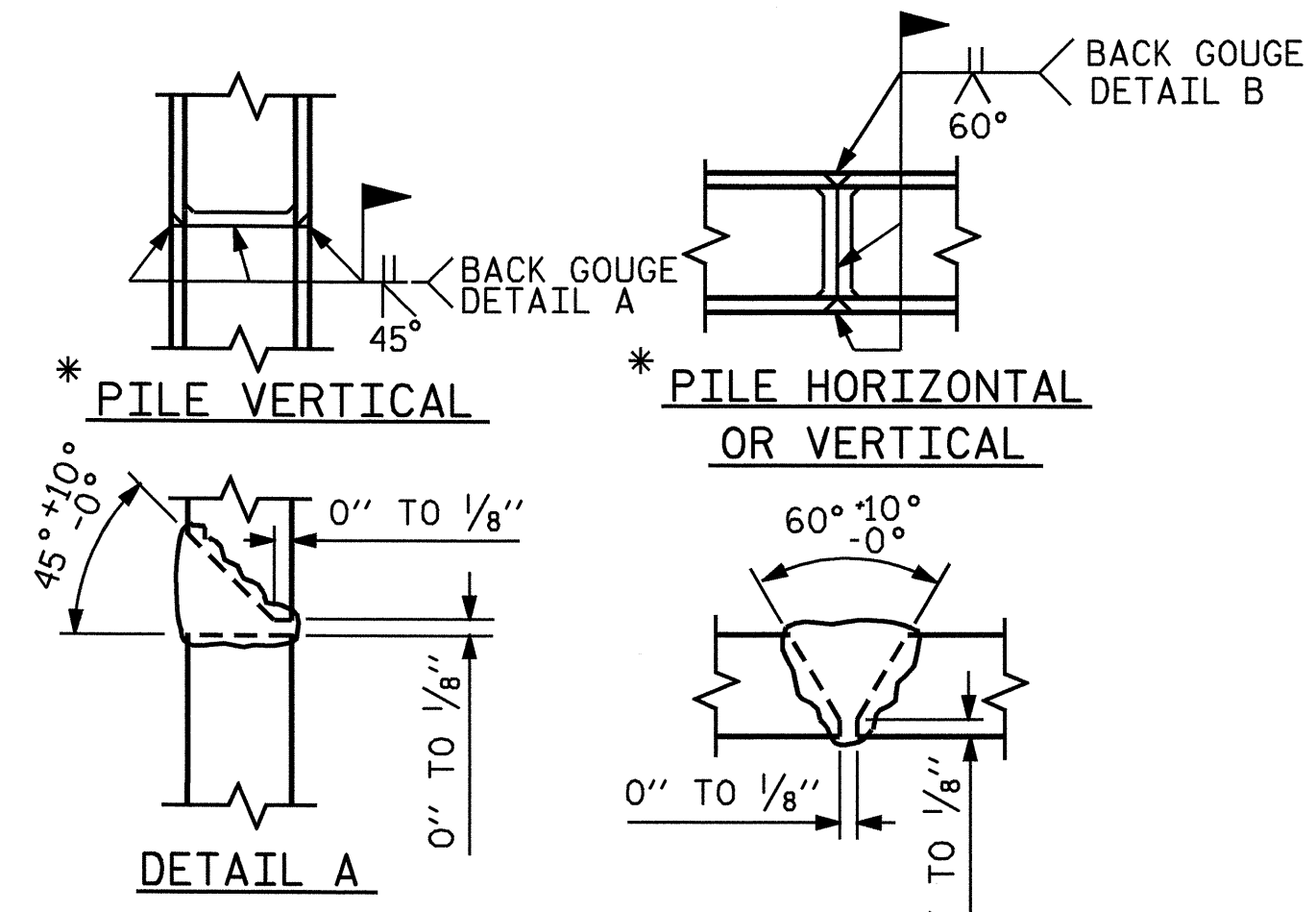
MINIMUM OF 3- ONE CUBIC FOOT BAGS OF #78M STONE. BAGS SHALL BE OF POROUS FABRIC, SECURELY TIED.

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

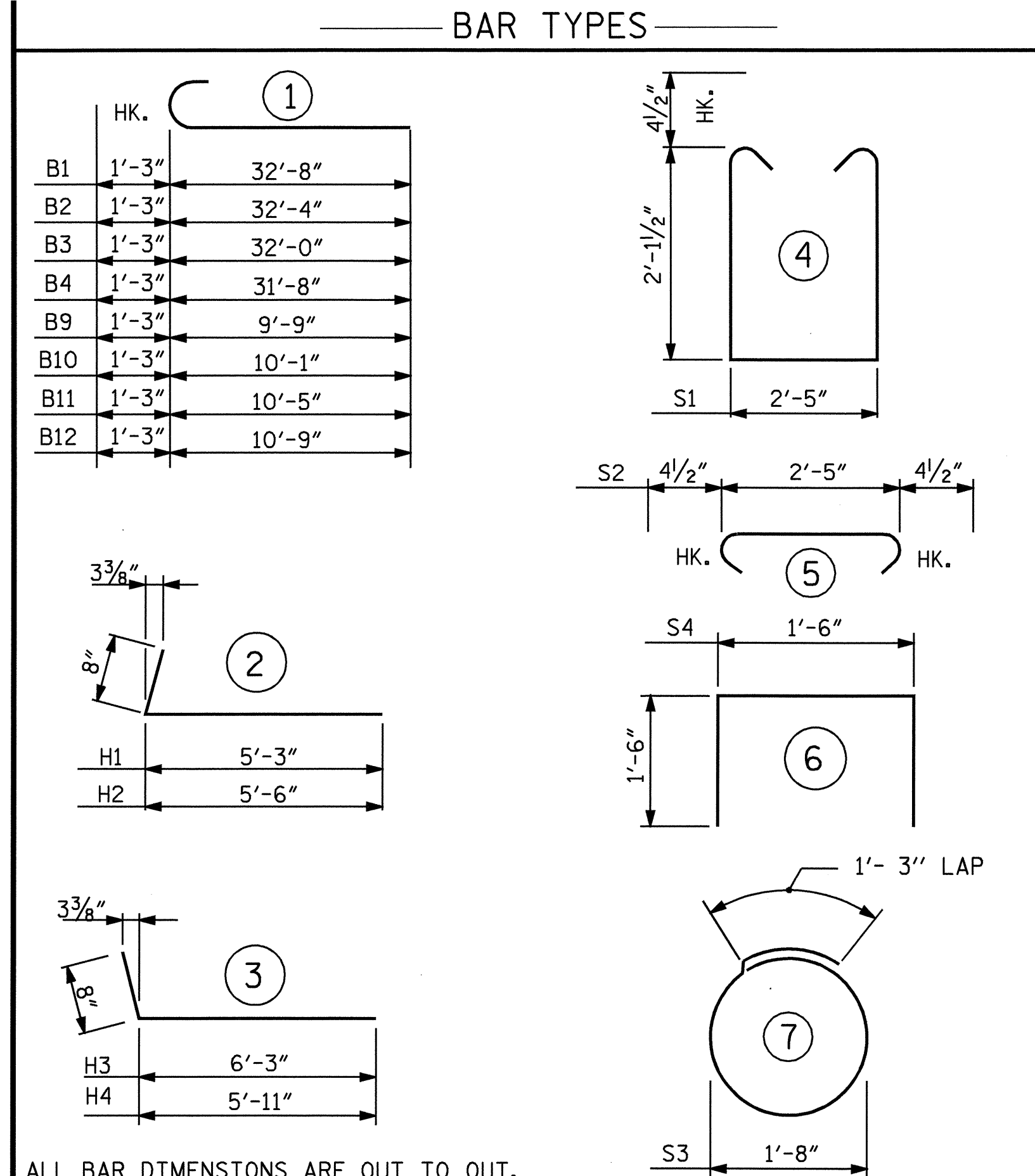
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT



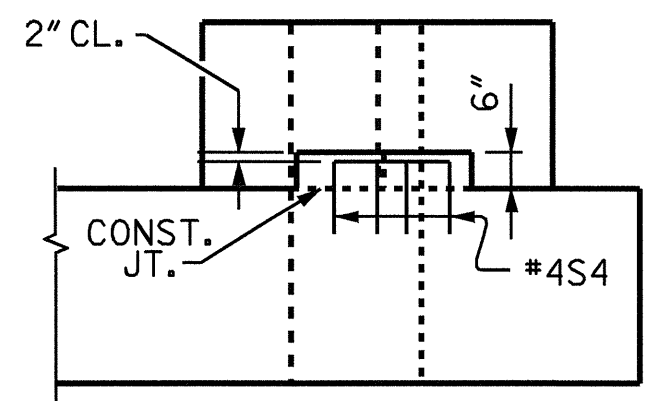
* POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS

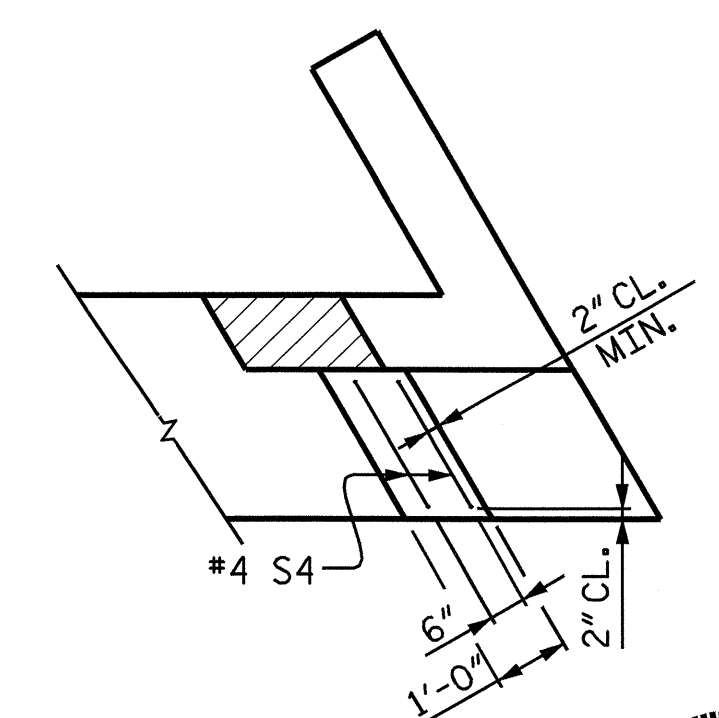


ALL BAR DIMENSIONS ARE OUT TO OUT.

	STAGE I	STAGE II	TOTAL
REINFORCING STEEL =	1553 LBS.	618 LBS.	2171 LBS.
CLASS A CONCRETE POUR #1 CAP AND LOWER PART OF WINGS	8.5 CU. YDS.	3.4 CU. YDS.	11.9 CU. YDS.
POUR #2 UPPER PART OF WINGS	0.9 CU. YDS.	0.9 CU. YDS.	1.8 CU. YDS.
POUR #3 LATERAL GUIDES	0.1 CU. YDS.	0.1 CU. YDS.	0.2 CU. YDS.
TOTAL	9.5 CU. YDS.	4.4 CU. YDS.	13.9 CU. YDS.
HP 12x53 STEEL PILES	NO. 6 270 LIN. FT.	NO. 2 110 LIN. FT.	NO. 8 380 LIN. FT.
STEEL PILE POINTS	6 EA.	2 EA.	8 EA.



ELEVATION



PLAN

DETAIL 'A'
(EACH END SIMILAR)

BILL OF MATERIAL

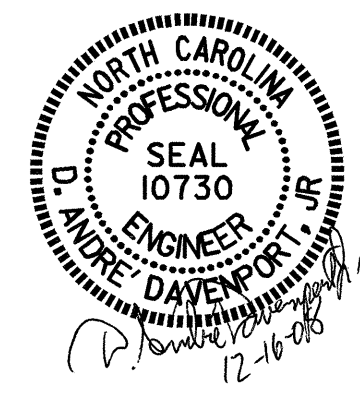
END BENT NO. 2					
STAGE I					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	2	#9	1	33'-11"	231
B2	2	#9	1	33'-7"	228
B3	2	#9	1	33'-3"	226
B4	2	#9	1	32'-11"	224
B5	1	#6	STR	35'-8"	56
B6	1	#6	STR	34'-7"	52
B7	8	#4	STR	18'-3"	98
B8	8	#4	STR	2'-5"	13
D1	17	#6	STR	1'-6"	38
H3	6	#4	3	6'-11"	28
H4	6	#4	3	6'-7"	26
S1	27	#4	4	7'-5"	134
S2	27	#4	5	3'-2"	57
S3	12	#4	7	6'-6"	52
S4	2	#4	6	4'-6"	6
K1	6	#4	STR	3'-10"	15
V2	22	#4	STR	4'-8"	69
REINFORCING STEEL =					1553
STAGE II					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B8	3	#4	STR	2'-5"	5
B9	2	#9	1	11'-0"	75
B10	2	#9	1	11'-4"	77
B11	2	#9	1	11'-8"	79
B12	2	#9	1	12'-0"	82
B13	1	#6	STR	10'-10"	16
B14	1	#6	STR	11'-11"	18
B15	4	#4	STR	11'-1"	30
D1	5	#6	STR	1'-6"	11
H1	6	#4	2	5'-11"	24
H2	6	#4	2	6'-2"	25
S1	10	#4	4	7'-5"	50
S2	10	#4	5	3'-2"	21
S3	4	#4	7	6'-6"	17
S4	2	#4	6	4'-6"	6
K1	6	#4	STR	3'-10"	15
V1	20	#4	STR	5'-0"	67
REINFORCING STEEL =					618

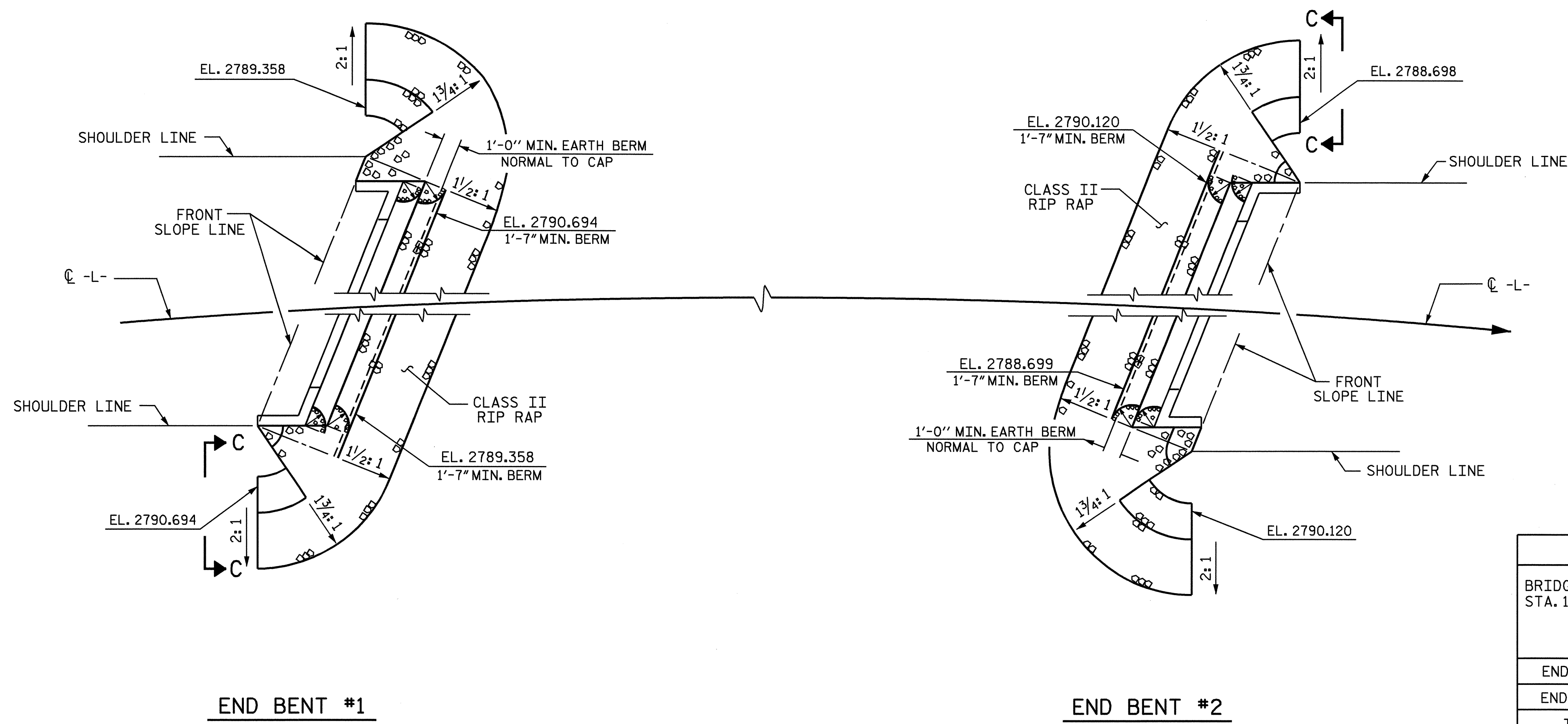
PROJECT NO. B-3343
 HAYWOOD COUNTY
 STATION: 14+92.50-L-
 SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 END BENT #2**

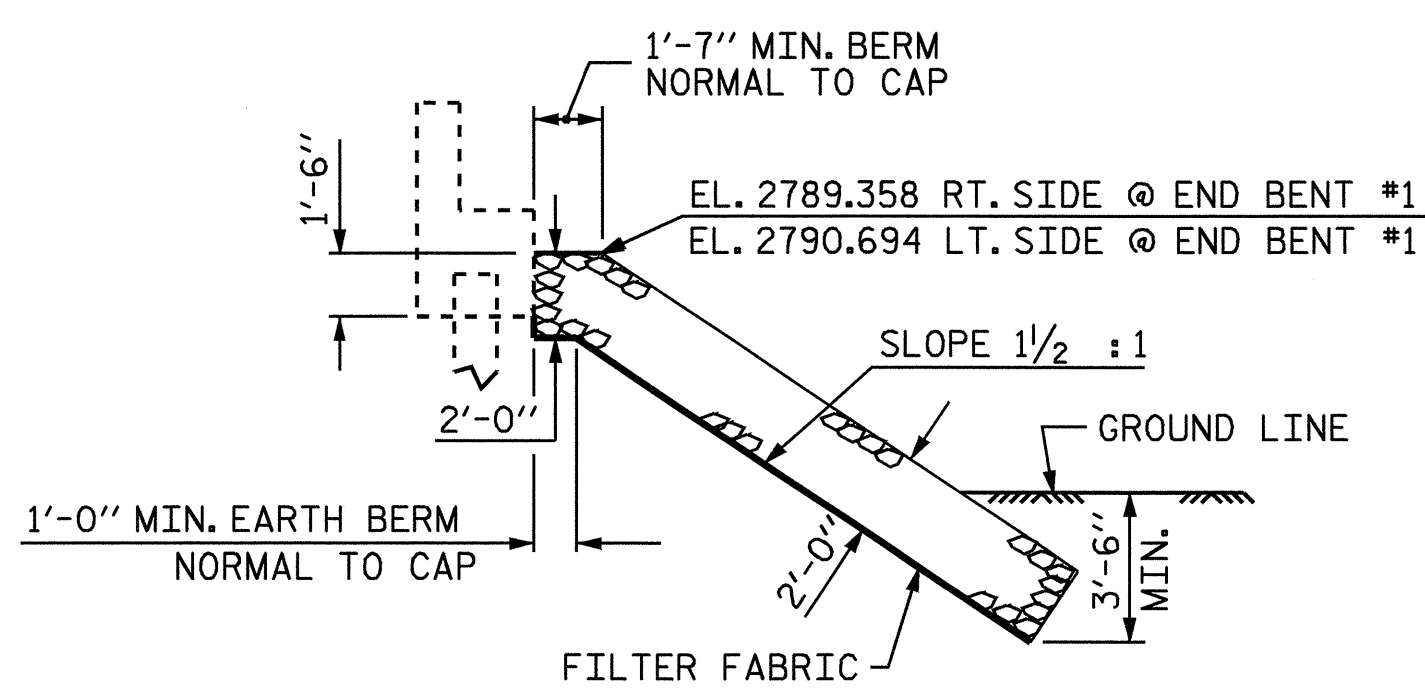
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-20	
1			3			TOTAL	24
2			4			SHEETS	



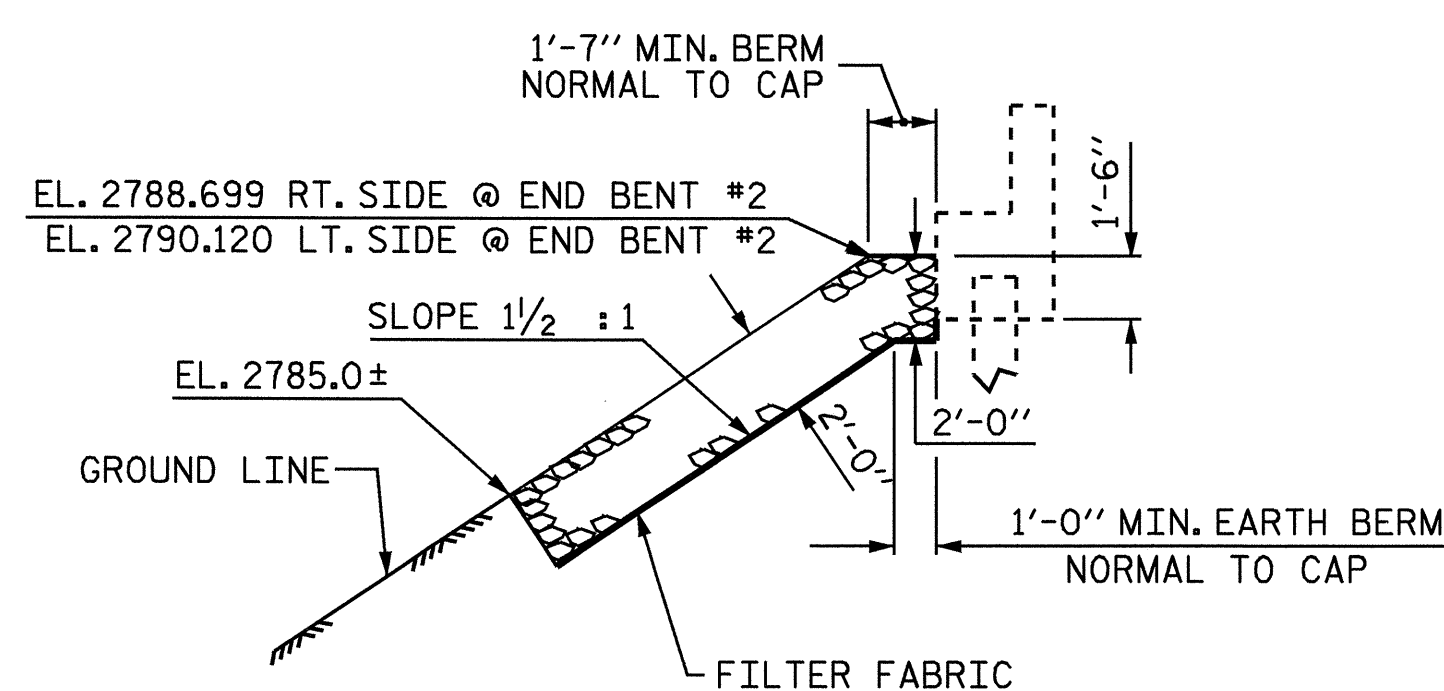


PLAN

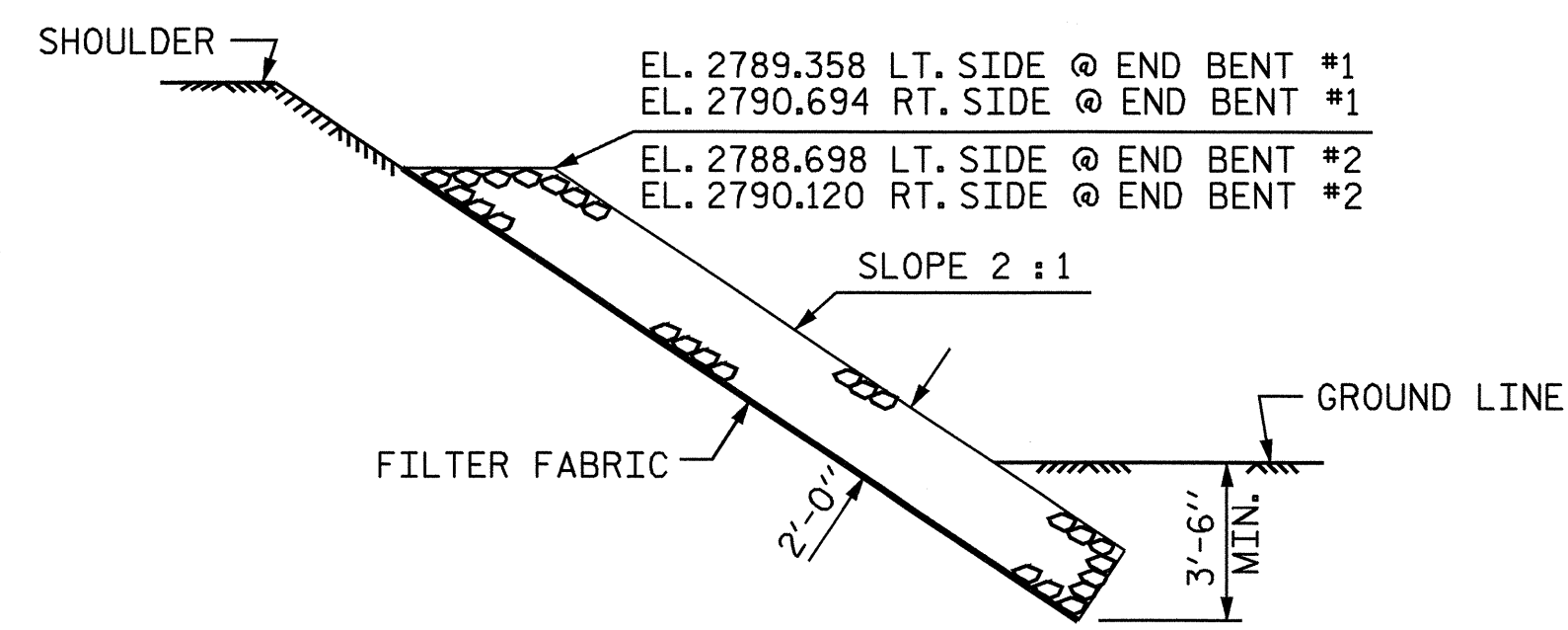
ESTIMATED QUANTITIES		
BRIDGE @ STA. 14+92.50 -L-	CLASS II RIP RAP	FILTER FABRIC FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	70	75
END BENT 2	110	125
TOTAL	180	200



SECTION @ END BENT #1

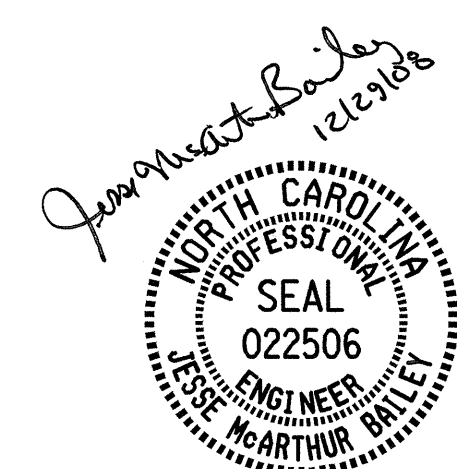


SECTION @ END BENT #2



SECTION C-C

PROJECT NO. B-3343
HAYWOOD COUNTY
 STATION: 14+92.50 -L-



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
—RIP RAP DETAILS—					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

ASSEMBLED BY : M. G. SHAIKH DATE : 01-23-06
 CHECKED BY : A. SORSENGINH DATE : 01-25-07
 DRAWN BY : REK 1/84
 CHECKED BY : RDU 1/84

REV. 8/16/99 RWW/LES
 REV. 10/17/00 RWW/LES
 REV. 5/1/06 TLA/GM

29-DEC-2008 14:10
 Z:\structures\mshalkh\mlocrostation\B-3343.sd.rddgn
 tbarbour

SKEW > 90° STD. NO. RR3

NOTES

FOR BRIDGE APPROACH FILL INCLUDING FABRIC, 4" Ø DRAINAGE PIPE, AND #78M STONE BACKFILL, SEE ROADWAY PLANS.

APPROACH SLAB SHALL NOT BE CONSTRUCTED PRIOR TO COMPLETION OF THE BRIDGE DECK.

FABRIC SHALL BE TYPE 1 ENGINEERING FABRIC IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 1056.

*78M STONE BACKFILL (CLASS V SELECT MATERIAL) SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 1016.

*78M STONE 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.

THE 6" COMP. A.B.C. SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB AND SHALL EXTEND 1'-0" OUTSIDE OF EACH EDGE OF THE APPROACH SLAB.

THE CONTRACTOR MAY USE 4" TYPE B-25.0B ASPHALT CONCRETE BASE COURSE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE BASE COURSE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB, AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB.

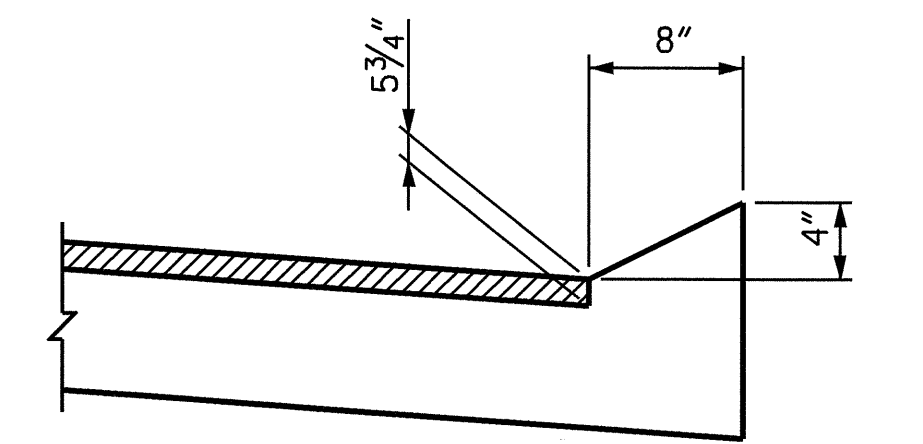
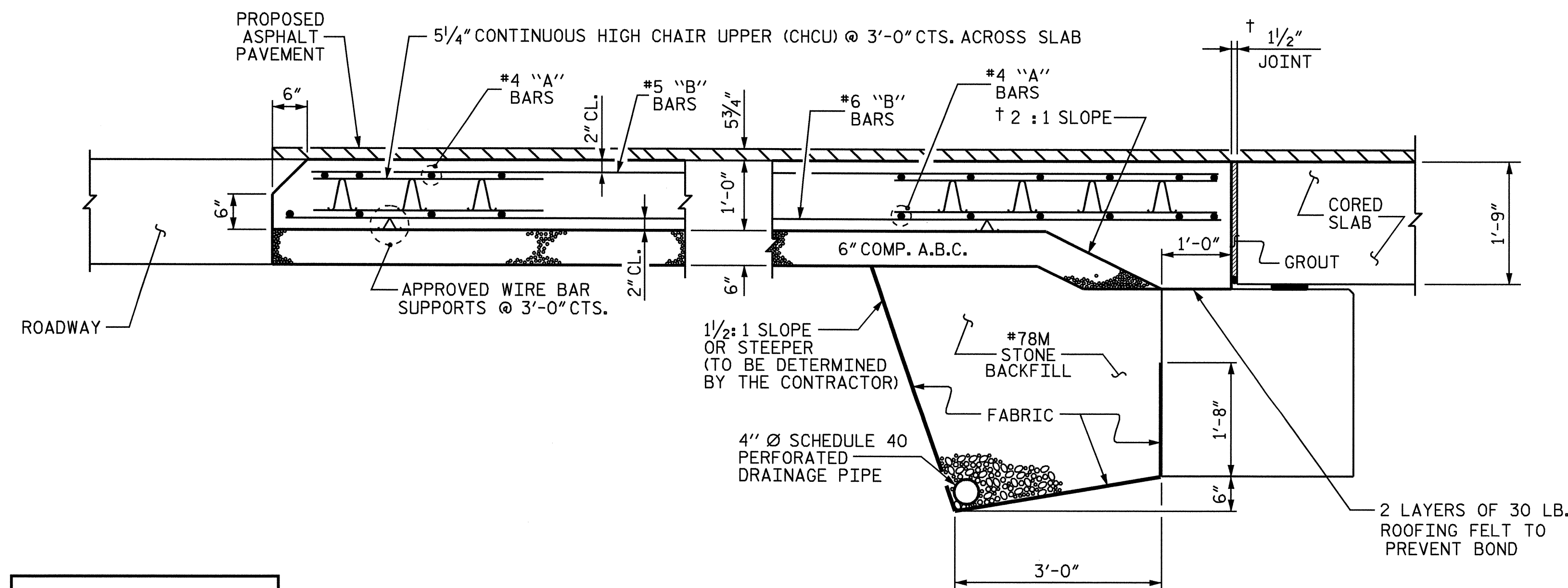
THE CONTRACTOR MAY USE 5" CLASS "A" CONCRETE BASE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE CONCRETE BASE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB, AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB. THE CONCRETE SHALL BE FINISHED TO A SMOOTH SURFACE AND A LAYER OF 30 LB ROOFING FELT SHALL BE PLACED BETWEEN THE CONCRETE BASE AND THE APPROACH SLAB TO PREVENT BOND. THE APPROACH SLAB SHALL NOT BE CAST UNTIL THE CONCRETE BASE HAS REACHED AN AGE OF THREE CURING DAYS.

FOR JOINT DETAILS, SEE "PRESTRESSED CONCRETE CORED SLAB UNIT" SHEETS.

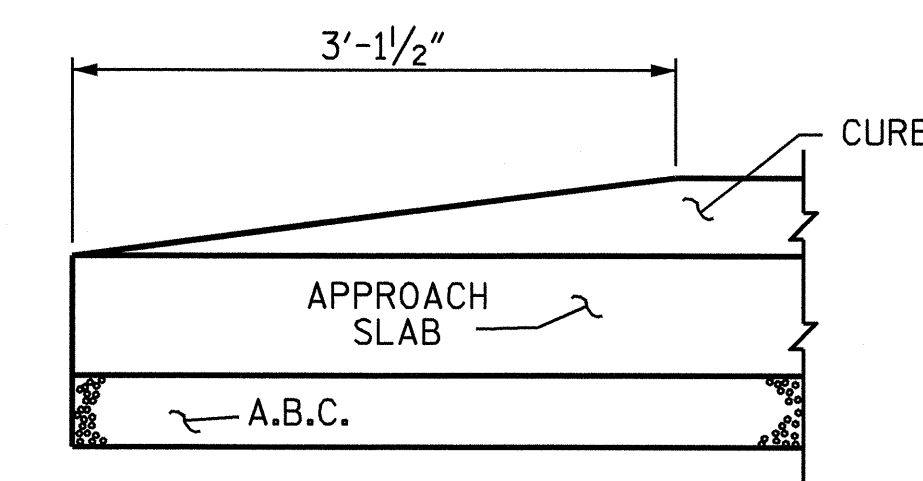
THE JOINT AT THE END BENT SHALL BE GROUTED AS SOON AS PRACTICAL AFTER THE CONSTRUCTION OF THE APPROACH SLABS.

APPROACH SLAB GROOVING IS NOT REQUIRED.

BILL OF MATERIAL						BILL OF MATERIAL							
APPROACH SLAB AT EB #1 STAGE I						APPROACH SLAB AT EB #2 STAGE I							
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT		
*A1	16	#4	STR	28'-5"	304	*A5	16	#4	STR	28'-0"	299		
A2	16	#4	STR	28'-1"	300	A6	16	#4	STR	27'-9"	297		
*B1	45	#5	STR	13'-11"	653	*B5	47	#5	STR	14'-0"	686		
B2	45	#6	STR	14'-5"	974	B6	47	#6	STR	14'-7"	1029		
REINFORCING STEEL					LBS.	1274	REINFORCING STEEL					LBS.	1326
* EPOXY COATED REINFORCING STEEL					LBS.	957	* EPOXY COATED REINFORCING STEEL					LBS.	985
CLASS AA CONCRETE					C. Y.	13.7	CLASS AA CONCRETE					C. Y.	14.6
APPROACH SLAB AT EB #1 STAGE II						APPROACH SLAB AT EB #2 STAGE II							
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT		
*A3	16	#4	STR	8'-7"	92	*A7	16	#4	STR	8'-5"	90		
A4	16	#4	STR	8'-7"	92	A8	16	#4	STR	8'-5"	90		
*B3	15	#5	STR	14'-1"	220	*B7	16	#5	STR	14'-1"	235		
B4	15	#6	STR	14'-8"	330	B8	16	#6	STR	14'-8"	352		
REINFORCING STEEL					LBS.	422	REINFORCING STEEL					LBS.	442
* EPOXY COATED REINFORCING STEEL					LBS.	312	* EPOXY COATED REINFORCING STEEL					LBS.	325
CLASS AA CONCRETE					C. Y.	5.0	CLASS AA CONCRETE					C. Y.	5.3



SECTION N-N



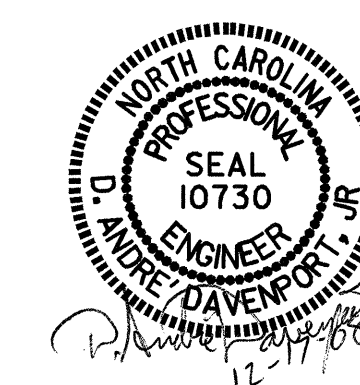
END OF CURB WITHOUT SHOULDER BERM GUTTER

CURB DETAILS

PROJECT NO. B-3343
HAYWOOD COUNTY
 STATION: 14+92.50 -L-

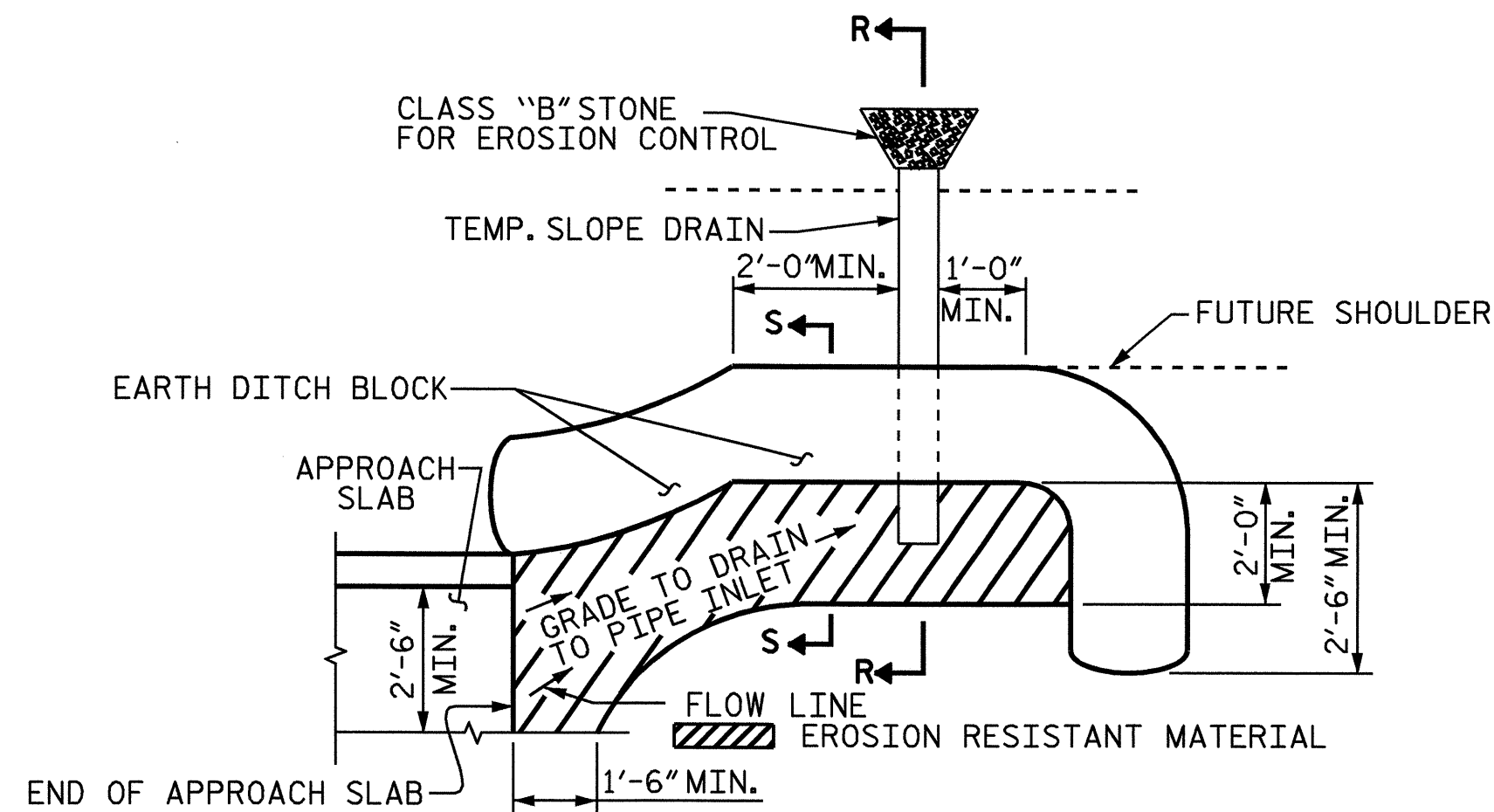
SHEET 2 OF 3

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



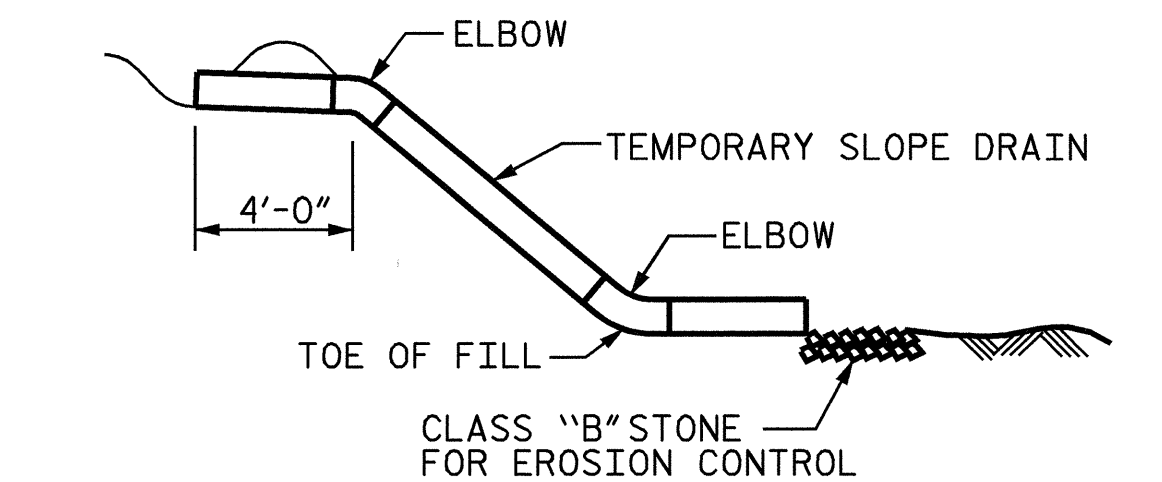
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-23
1			3			TOTAL SHEETS
2			4			24

ASSEMBLED BY : A. SORSENGINH	DATE : 12/5/06
CHECKED BY : M. G. SHAIKH	DATE : 1/07
DRAWN BY : FCJ	6/87
CHECKED BY : EGA	6/87
REV. 7/10/01	LES/RDR
REV. 5/7/03R	RWW/JTE
REV. 5/1/06	TLA/GM

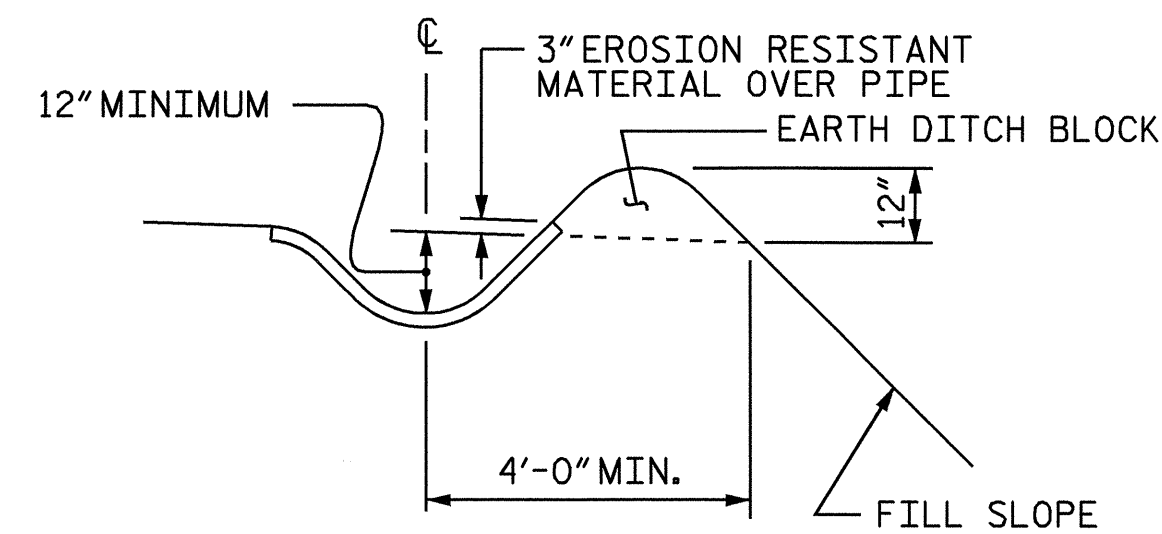


NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN.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

PLAN VIEW



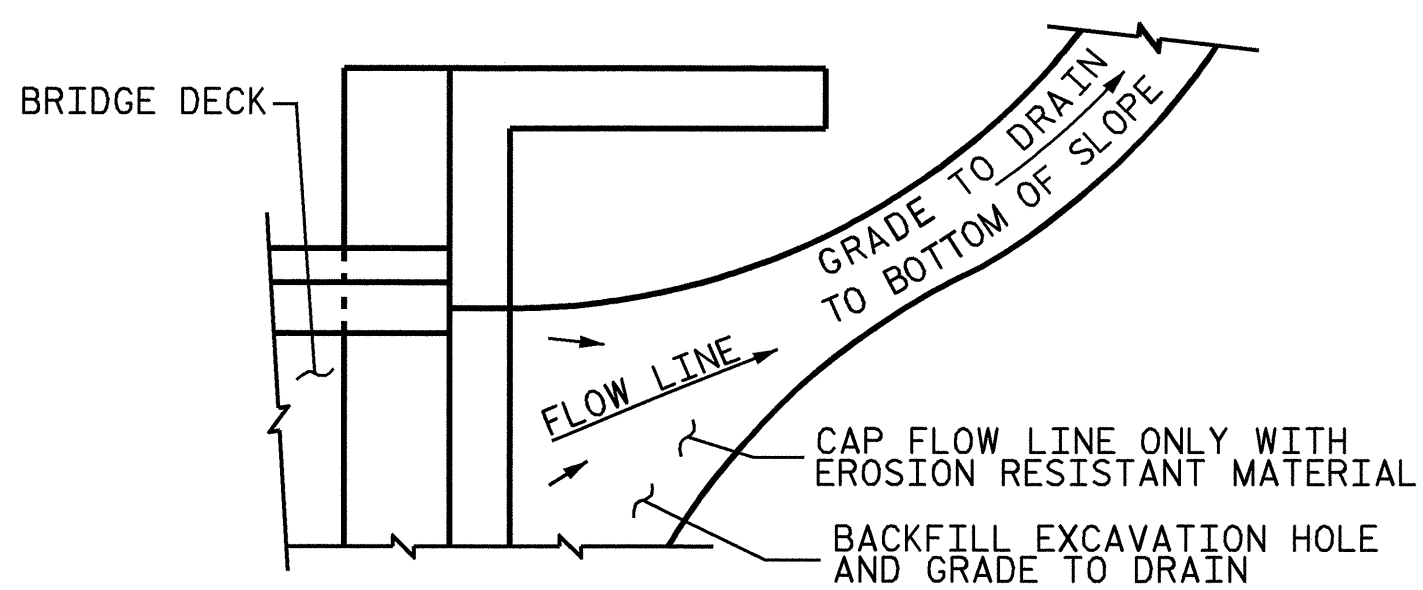
SECTION R-R



SECTION S-S

TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



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

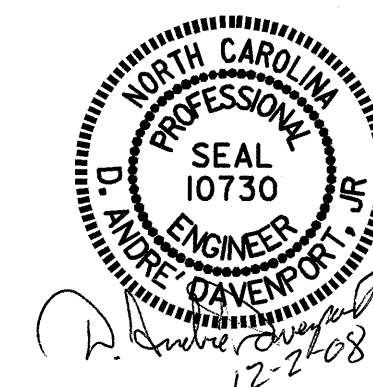
TEMPORARY DRAINAGE DETAIL

PROJECT NO. B-3343
HAYWOOD COUNTY
 STATION: 14+92.50 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BRIDGE APPROACH SLAB DETAILS



ASSEMBLED BY :	A. SORSENGIH	DATE :	12/6/06
CHECKED BY :	M. G. SHAIKH	DATE :	1/07
DRAWN BY :	FCJ 11/88	REV. 10/17/00	RWW/LES
CHECKED BY :	ARB 11/88	REV. 5/17/03	RWW/JTE
		REV. 5/1/06	TLA/GM

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-24
1			3			TOTAL SHEETS
2			4			24

