

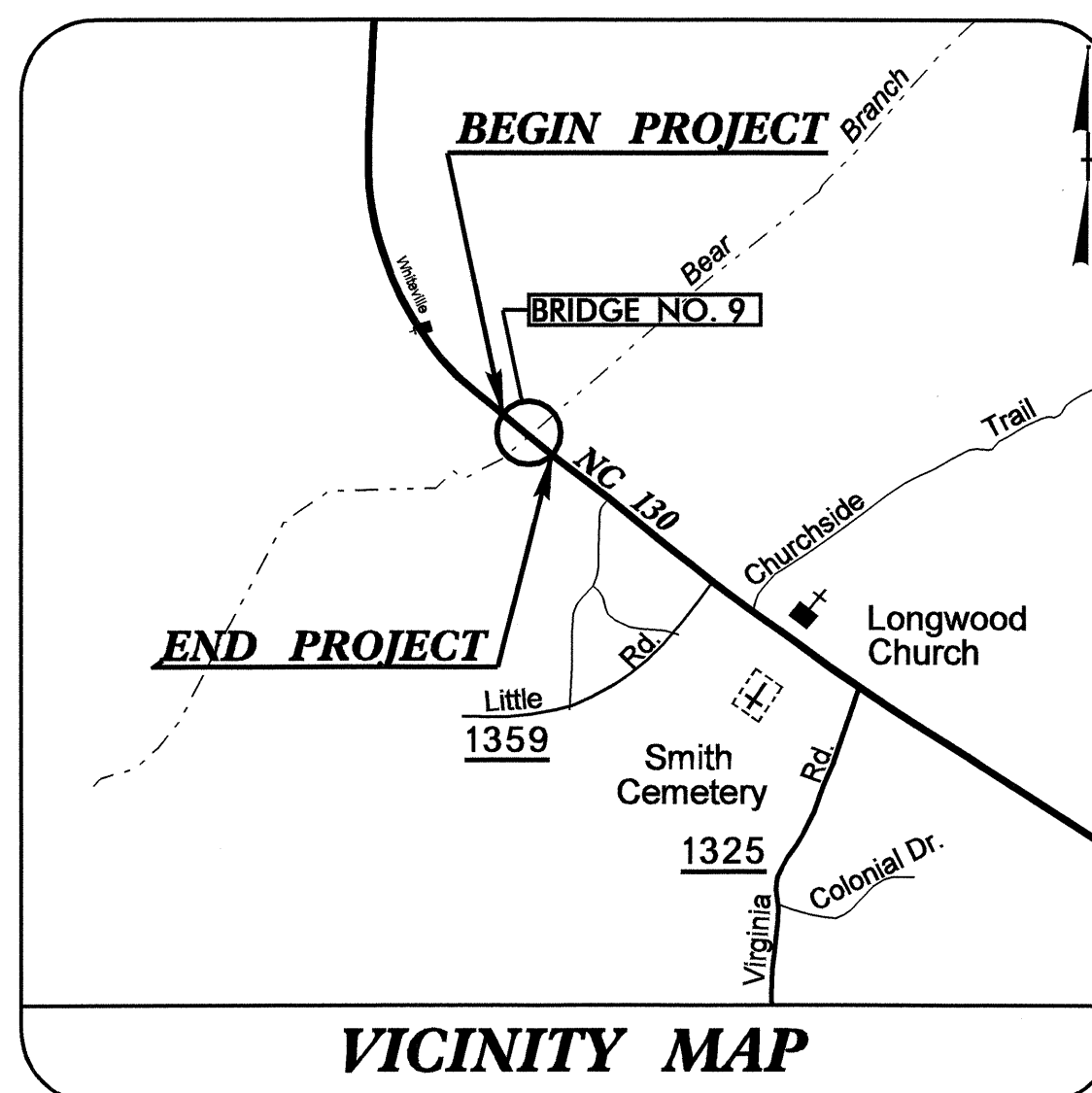
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4030		
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33397.1.1	BRSTP-130 (3)	PE	
33397.2.1	BRSTP-130 (3)	R/W + UTIL.	
33397.3.1	BRSTP-130 (3)	CONST.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

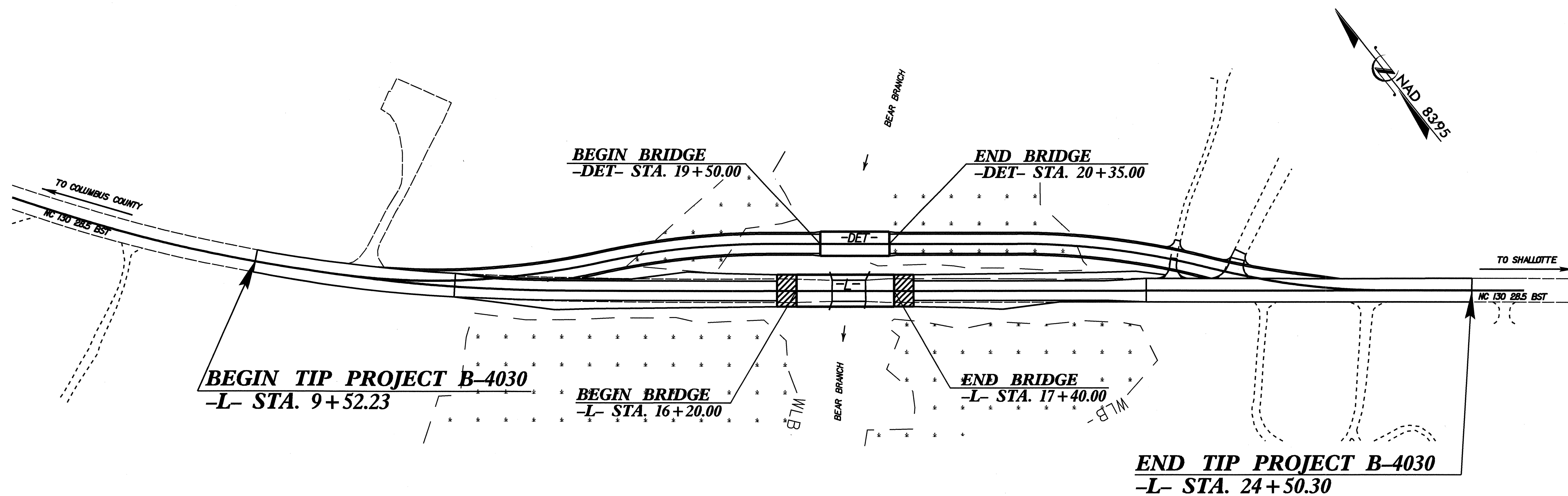
LOCATION: BRIDGE NO.9 OVER BEAR BRANCH ON NC 130

TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE



VICINITY MAP

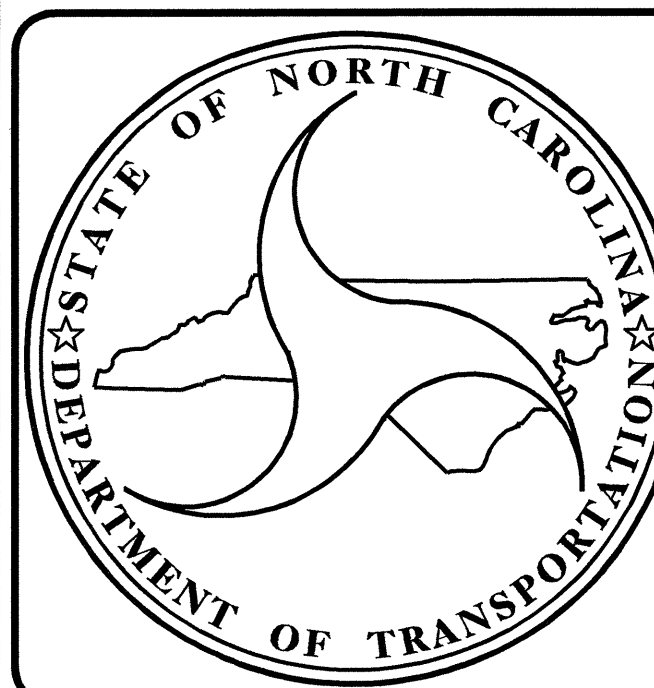
STRUCTURE



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02-JUN-2009 12:31
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Toogfins

CONTRACT: C202102 TIP PROJECT: B-4030

CONTRACT: C202102



DESIGN DATA

ADT 2009 =	4950
ADT 2029 =	7900
DHV =	9 %
D =	55%
T =	7 % *
V =	60 MPH
* TTST	4% DUAL 3%
FUNC. CLASS =	RURAL MINOR ARTERIAL

PROJECT LENGTH

Length Roadway Tip Project B-4030 =	0.261 Miles
Length Structure Tip Project B-4030 =	0.023 Miles
Total Length Tip Project B-4030 =	0.284 Miles

Prepared in the Office of:
**DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

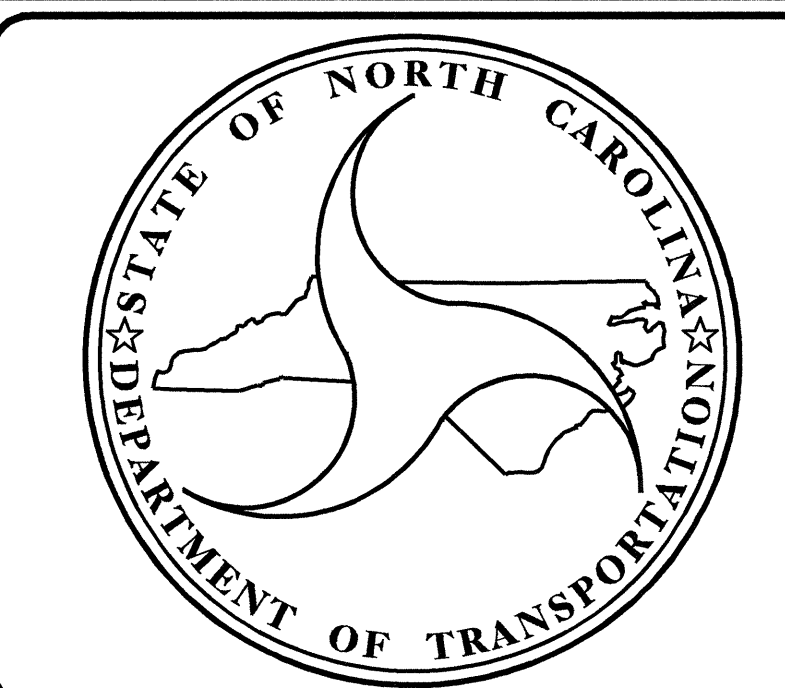
2006 STANDARD SPECIFICATIONS

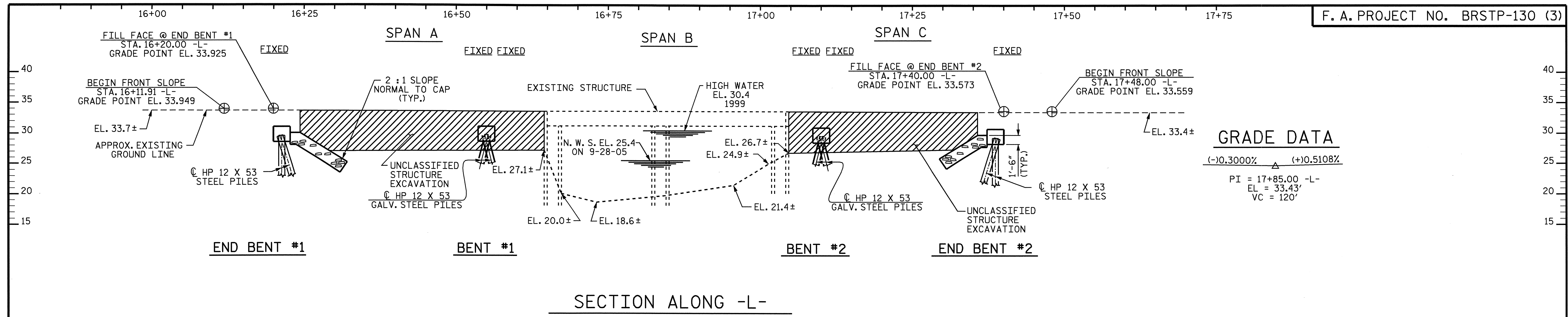
LETTING DATE:
AUGUST 18, 2009

Omar R. Azizi, P.E.
PROJECT ENGINEER

Timothy L. Coggins, P.E.
PROJECT DESIGN ENGINEER

STRUCTURE DESIGN UNIT
1000 BIRCH RIDGE DRIVE
RALEIGH, N.C. 27610

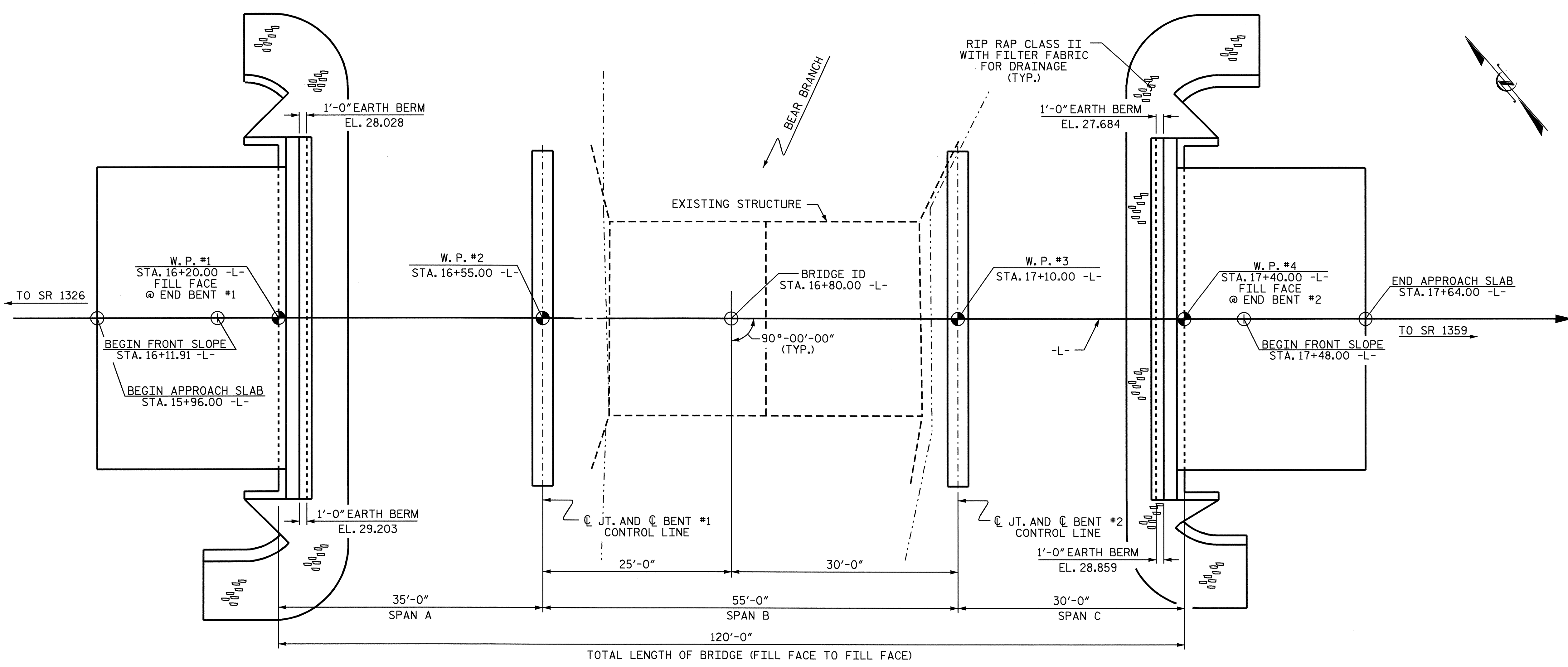




GRADE DATA

(-)0.3000% (+)0.5108%

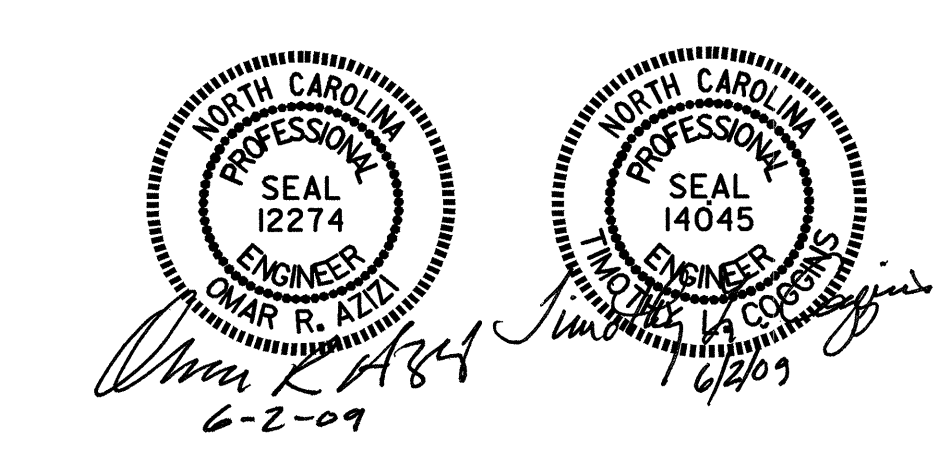
PI = 17+85.00 -L-
EL = 33.43'
VC = 120'



PROJECT NO. B-4030
 BRUNSWICK COUNTY
 STATION: 16+80.00 -L-

SHEET 1 OF 3 REPLACES BRIDGE NO. 9

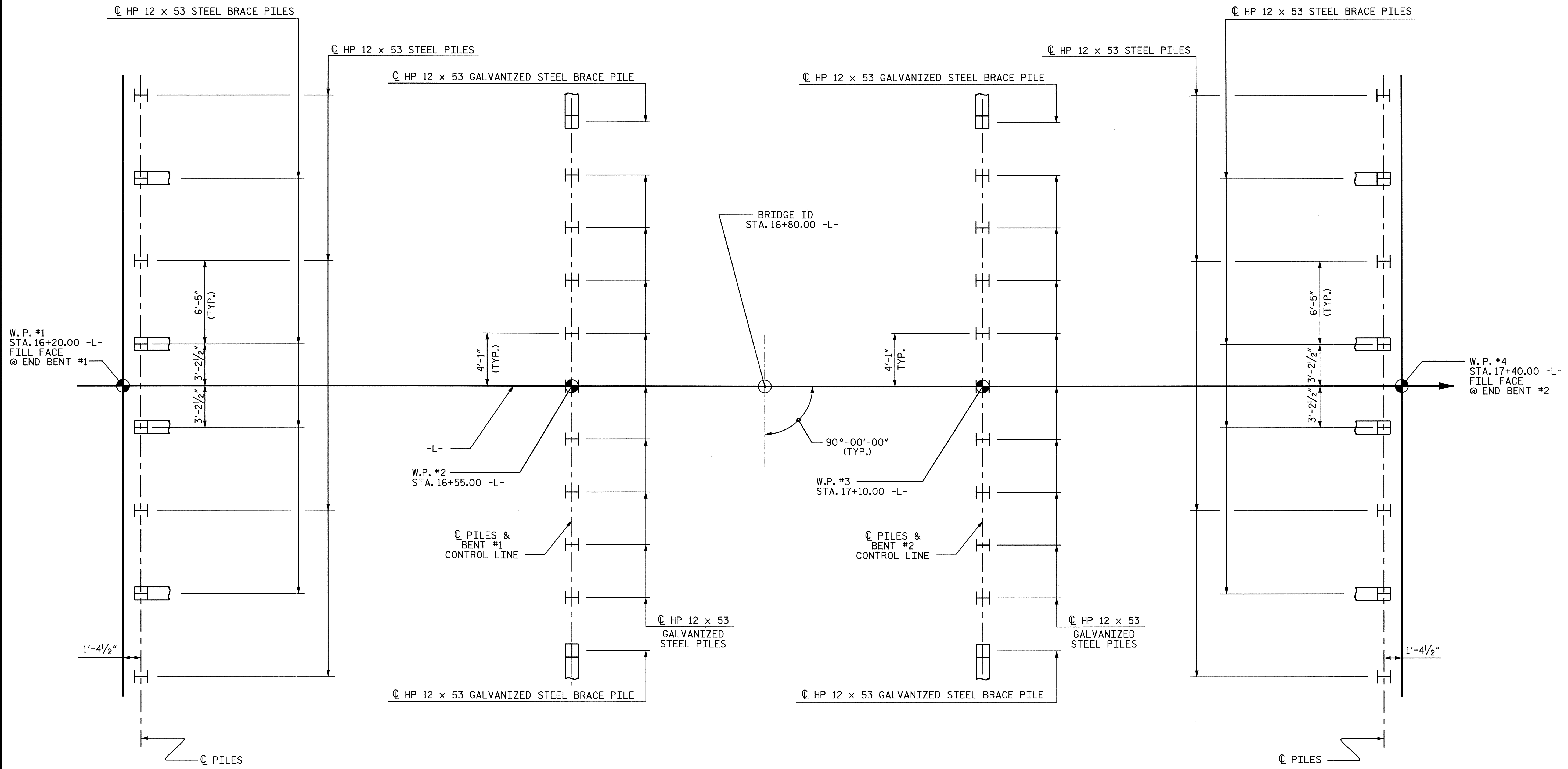
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE OVER BEAR BRANCH
 ON NC 130 BETWEEN
 SR 1326 AND SR 1359



DRAWN BY: B.N. BARODAWALA DATE: 11-18-08
 CHECKED BY: T.L. COGGINS DATE: 12/08

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			22



END BENT #1

BENT #1

BENT #2

END BENT #2

FOUNDATION LAYOUT

DIMENSIONS LOCATING PILES ARE SHOWN TO THE PILE CENTERLINE.
 BRACE PILES AT THE END BENTS ARE TO BE BATTERED @ 3 : 12.
 BRACE PILES AT THE BENTS ARE TO BE BATTERED @ 1/2 : 12.

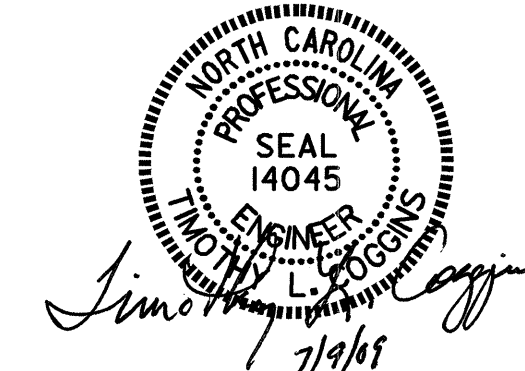
PROJECT NO. B-4030
BRUNSWICK COUNTY
 STATION: 16+80.00 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING

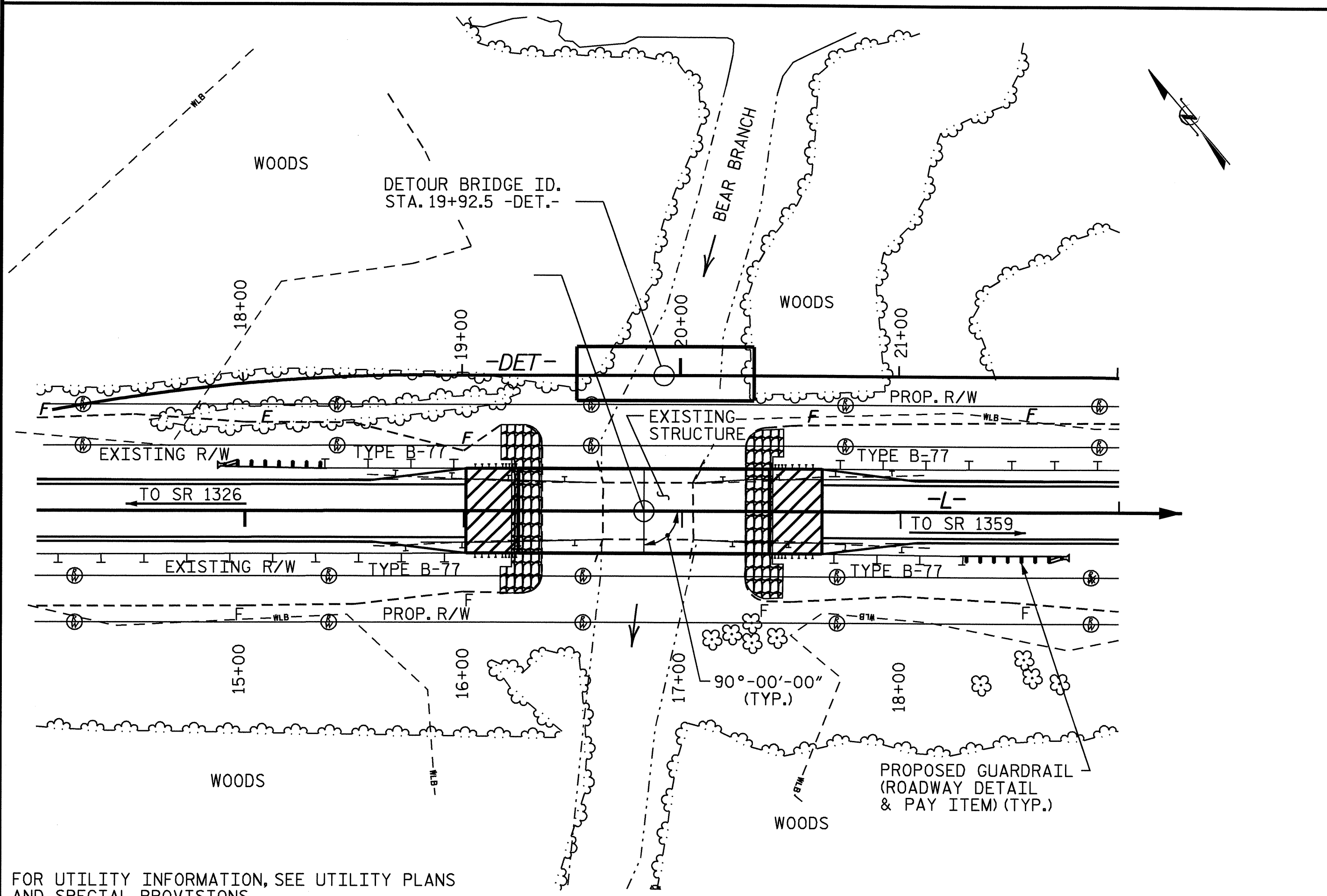
FOR BRIDGE OVER BEAR BRANCH
 ON NC 130 BETWEEN
 SR 1326 AND SR 1359



DRAWN BY : B.N.BARODAWALA DATE : 11/18/08
 CHECKED BY : T.L. COGGINS DATE : 12/08

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			22



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.

THE EXISTING STRUCTURE CONSISTING OF 2 SPANS, 1 @ 20'-9" & 1 @ 20'-6" ON A 7 LINE CONTINUOUS I-BEAM; CLEAR ROADWAY WIDTH OF 25.4 FT. AND 6/4" RC WITH 3/2" AWS FLOOR ON TIMBER CAPS ON TIMBER PILES WITH INTERIOR BENTS BEING CRUTCH AND LOCATED AT PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY NOT POSTED FOR LOAD LIMIT.

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 CONTRACTOR WILL BE REQUIRED TO CONSTRUCT, MAINTAIN AND AFTERWARDS REMOVE A TEMPORARY STRUCTURE AT STATION 19+92.50 -DET.- FOR USE DURING CONSTRUCTION OF THE PROPOSED STRUCTURE. FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY STRUCTURE, SEE SPECIAL PROVISIONS.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 35 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. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

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.

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

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.

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 16+80.00 -L-."

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS.

FOR CURING CONCRETE, SEE SPECIAL PROVISIONS.

FOR FORMS FOR CONCRETE BRIDGE DECKS, SEE SPECIAL PROVISIONS.

THIS BRIDGE SHALL BE CONSTRUCTED USING TOP-DOWN CONSTRUCTION METHODS. THE USE OF A TEMPORARY CAUSEWAY OR WORK BRIDGE IS NOT PERMITTED.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

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

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 A.

OBSERVE A 2 MONTH WAITING PERIOD AFTER CONSTRUCTING THE EMBANKMENT, END BENT AND REINFORCED BRIDGE APPROACH FILL, WHEN APPLICABLE, BEFORE BEGINNING APPROACH SLAB CONSTRUCTION AT END BENT NO. 2.

DRIVE PILES AT END BENT NO.1 AND 2 TO A REQUIRED BEARING CAPACITY OF 100 TONS PER PILE. THE REQUIRED BEARING CAPACITY IS EQUAL TO THE ALLOWABLE BEARING CAPACITY WITH A MINIMUM FACTOR OF SAFETY OF TWO.

DRIVE PILES AT BENT NO.1 AND 2 TO A REQUIRED BEARING CAPACITY OF 112 TONS PER PILE. THE REQUIRED BEARING CAPACITY IS EQUAL TO THE ALLOWABLE BEARING CAPACITY WITH A MINIMUM FACTOR OF SAFETY OF TWO PLUS ANY ADDITIONAL CAPACITY TO ACCOUNT FOR DOWNDRAW OR NEGATIVE SKIN FRICTION AND SCOUR.

DRIVE PILES AT BENT NO.1 AND 2 TO A TIP ELEVATION NO HIGHER THAN 4.0 FT. AND 6 FT. RESPECTIVELY.

THE ALLOWABLE BEARING CAPACITY FOR PILES AT END BENT NO.1 AND 2 IS 50 TONS PER PILE.

THE ALLOWABLE BEARING CAPACITY FOR PILES AT BENT NO.1 AND 2 IS 50 TONS PER PILE.

TESTING PILES WITH THE PILE DRIVING ANALYZER (PDA) FOR LRFD IS REQUIRED AT BENT NO.1 OR BENT NO.2. SEE PILE DRIVING ANALYZER FOR LRFD SPECIAL PROVISIONS.

THE SCOUR CRITICAL ELEVATION FOR BENT NO.1 AND NO.2 IS 19 FT. AND 22 FT. RESPECTIVELY. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

HYDRAULIC DATA

DESIGN DISCHARGE	= 1000 C.F.S.
FREQUENCY OF DESIGN FLOOD	= 50 YRS.
DESIGN HIGH WATER ELEVATION	= 29.5
DRAINAGE AREA	= 7.5 SQ. MI.
BASIC DISCHARGE (Q100)	= 1210 C.F.S.
BASIC HIGH WATER ELEVATION	= 29.8

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 2000+ C.F.S.
FREQUENCY OF OVERTOPPING FLOOD	= 500+ YRS.
OVERTOPPING FLOOD ELEVATION	= 33.5

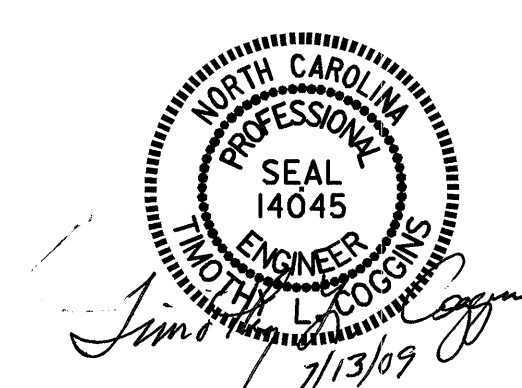
TOTAL BILL OF MATERIAL

	CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY STRUCTURE	REMOVAL OF EXISTING STRUCTURE	PDA ASSISTANCE	UNCLASSIFIED STRUCTURE EXCAVATION	CONCRETE WEARING SURFACE	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12 X 53 STEEL PILES	HP 12 X 53 GALVANIZED STEEL PILES	PILE REDRIVES	CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE	ELASTOMERIC BEARINGS	EVAZOTE JOINT SEALS	3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLABS			
	LUMP SUM	LUMP SUM	EACH	LUMP SUM	SQ. FT.	SQ. FT.	CU.YDS.	LUMP SUM	LBS.	NO.	LIN. FT.	NO.	LIN. FT.	EACH	LIN. FT.	TON	SQ.YDS.	LUMP SUM	LUMP SUM	NO.	LIN. FT.
SUPERSTRUCTURE					4537	5928		LUMP SUM					235.50				LUMP SUM	LUMP SUM	42	1645.00	
END BENT NO. 1							16.1		2489	8	240					157	175				
BENT NO. 1							11.4		2150			11	275								
BENT NO. 2							11.4		2150			11	385								
END BENT NO. 2							16.1		2489	8	200			140	155						
TOTAL	LUMP SUM	LUMP SUM	1	LUMP SUM	4537	5928	55.0	LUMP SUM	9278	16	440	22	660	24	235,50	297	330	LUMP SUM	LUMP SUM	42	1645.00

PROJECT NO. B-4030
BRUNSWICK COUNTY
 STATION: 16+80.00 -L-

SHEET 3 OF 3

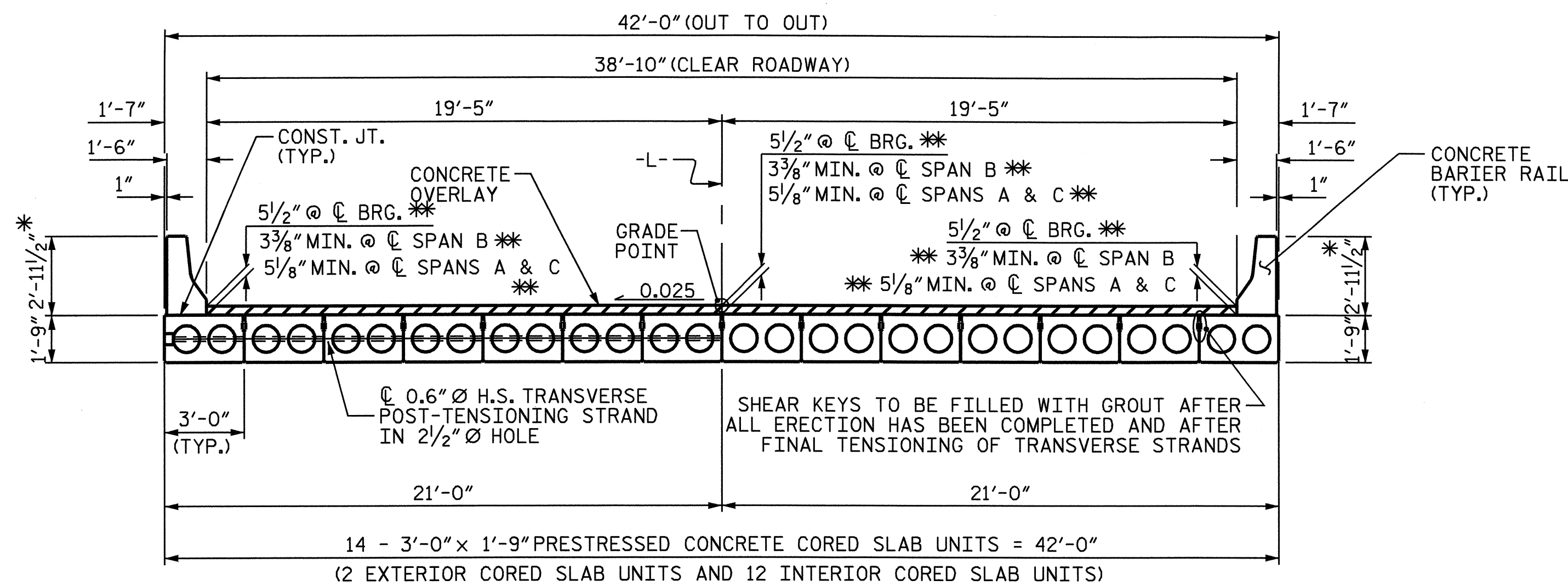
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE OVER BEAR BRANCH
 ON NC 130 BETWEEN
 SR 1326 AND SR 1359



DRAWN BY : B.N.BARODAWALA DATE : 11-18-08
 CHECKED BY : T.L. COGGINS DATE : 12-08

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
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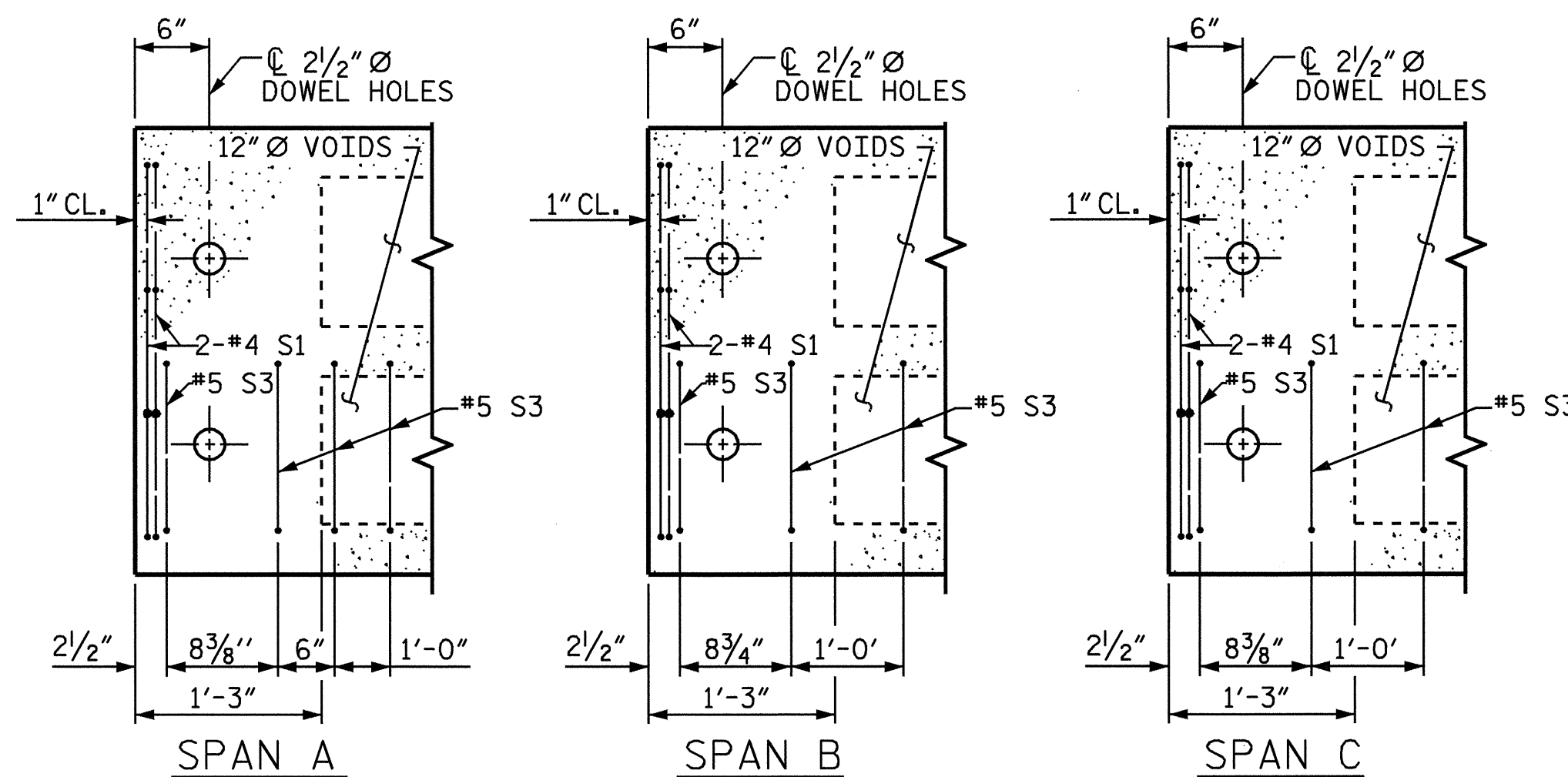
TOTAL SHEETS: 22



HALF SECTION @ INTERMEDIATE DIAPHRAGM HALF SECTION @ END BENT & BENT

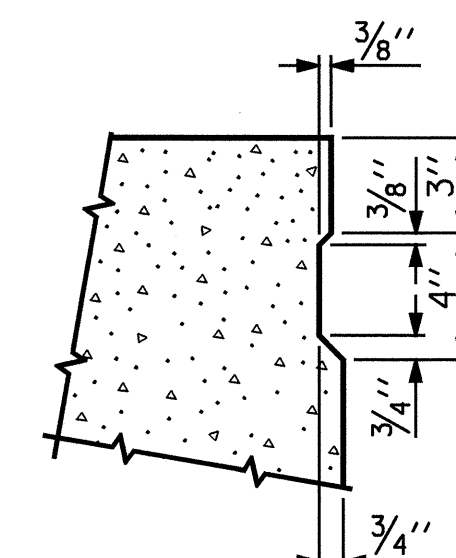
TYPICAL SECTION

* THE MINIMUM HEIGHT OF THE BARRIER RAIL IS SHOWN. THE HEIGHT OF THE BARRIER RAIL VARIES WHILE THE TOP OF THE RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE.
 ** BASED ON PREDICTED FINAL CAMBER AND THEORETICAL GRADE LINE ELEVATIONS.



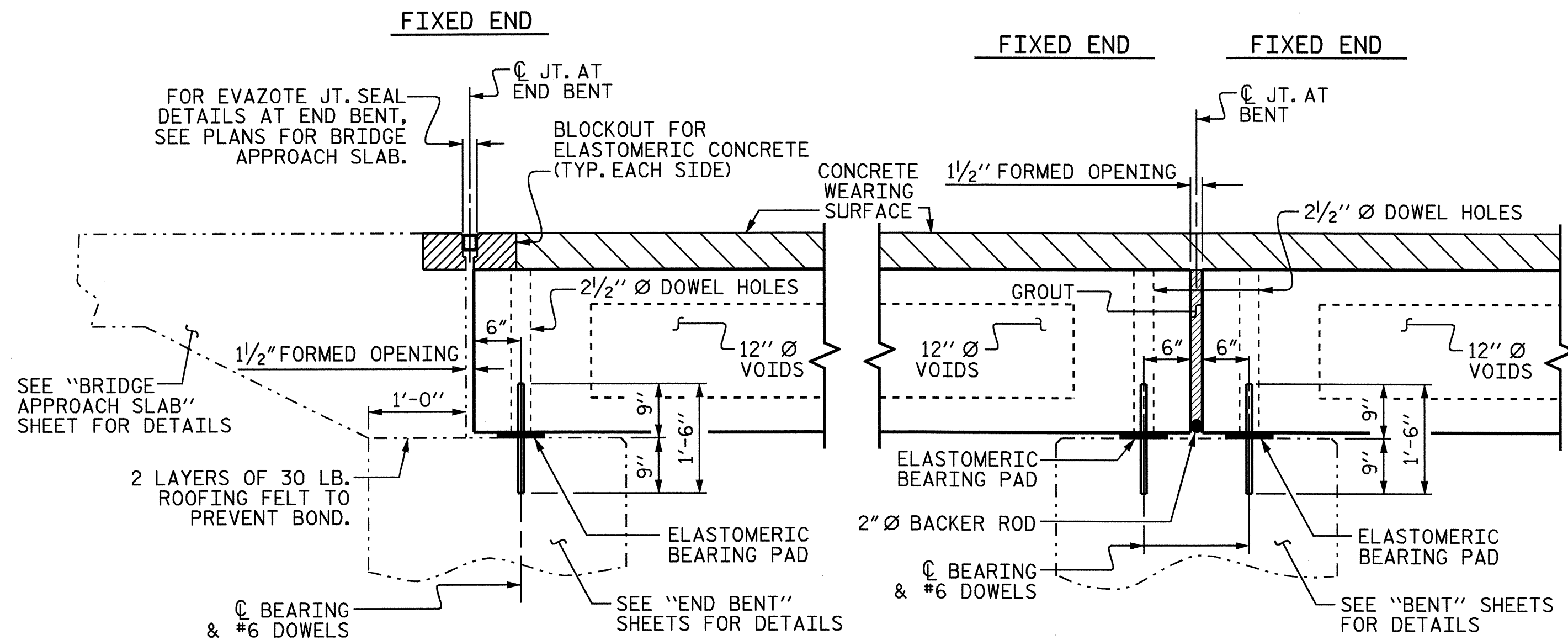
PART PLAN-EXTERIOR SECTION

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



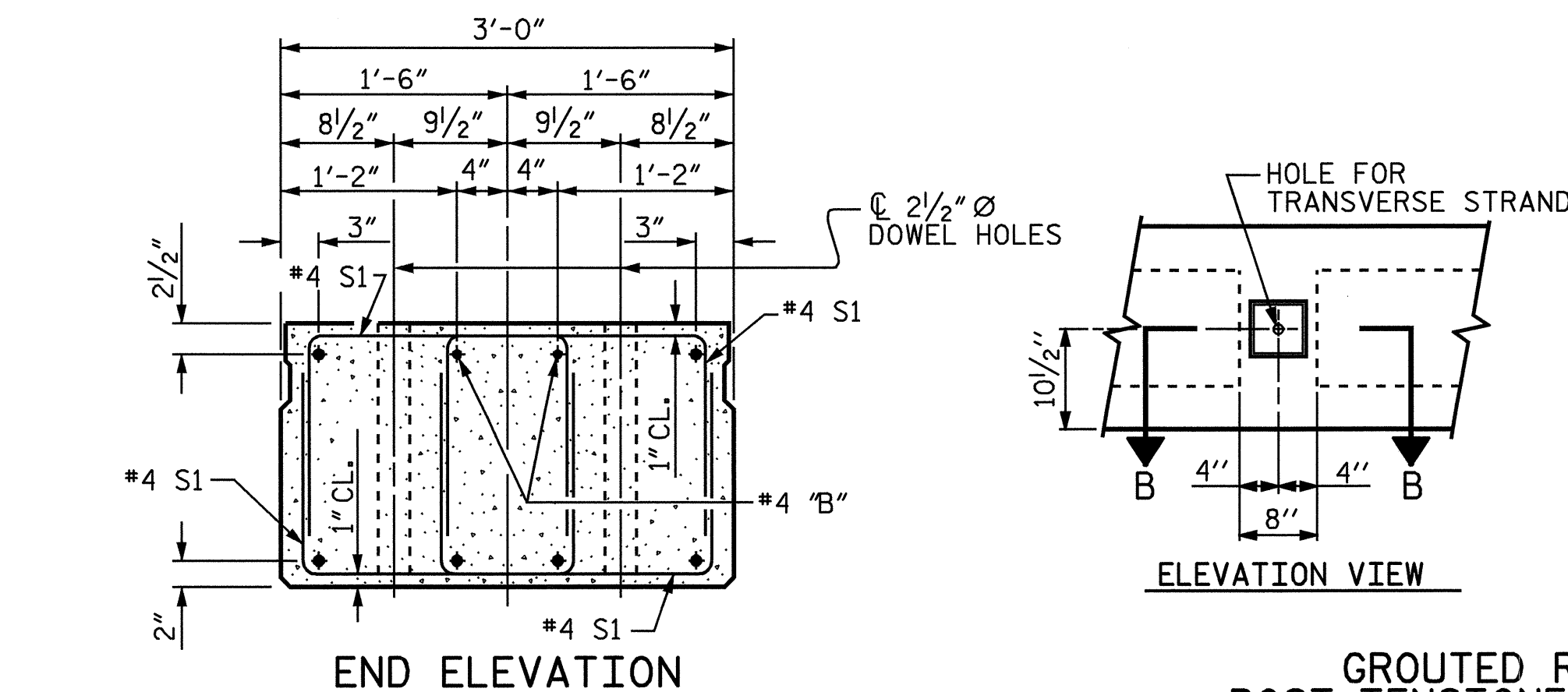
SHEAR KEY DETAIL

NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF EXTERIOR CORED SLABS.



SECTION AT END BENT

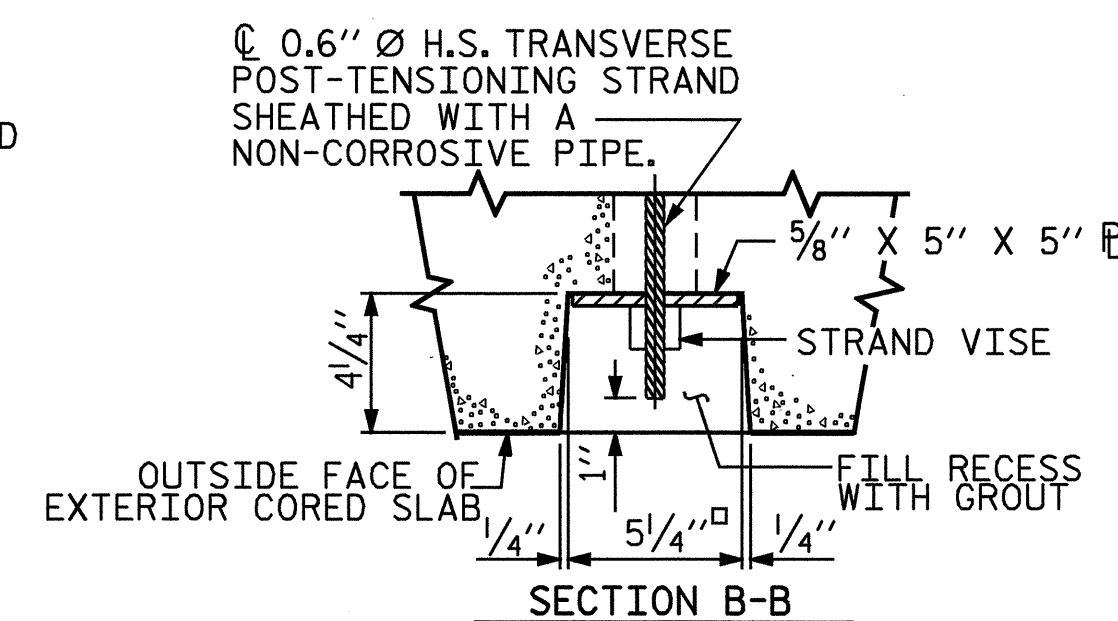
SECTION AT BENT



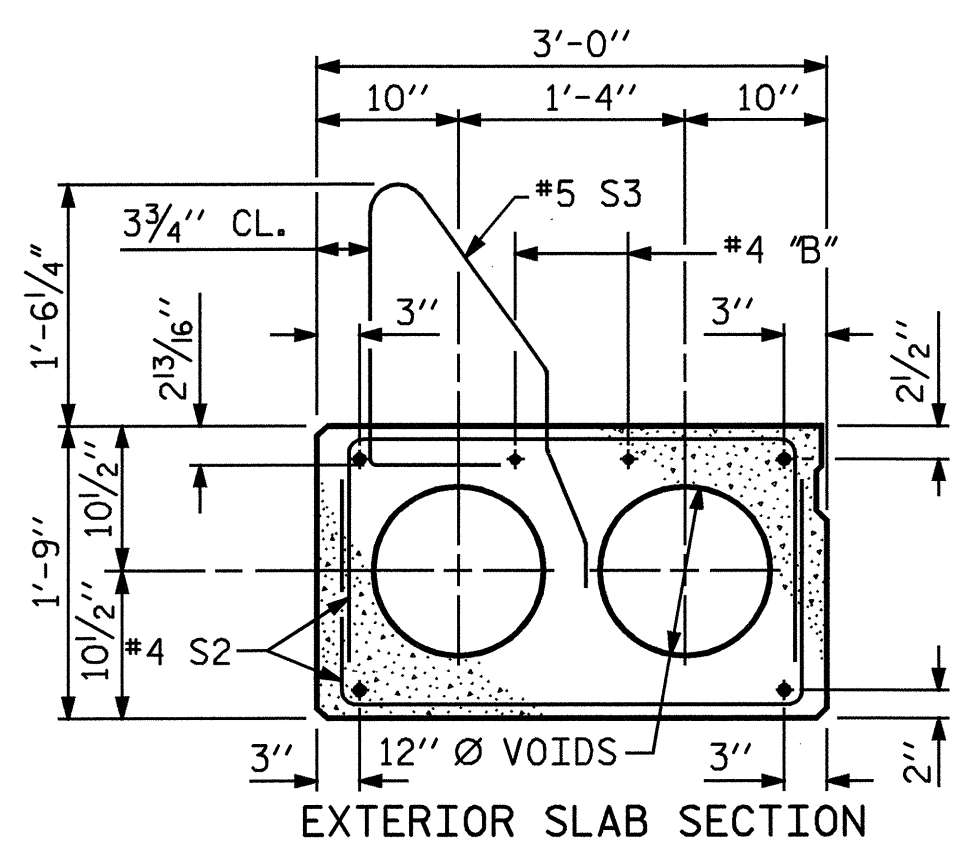
END ELEVATION

ELEVATION VIEW

SHOWING 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.

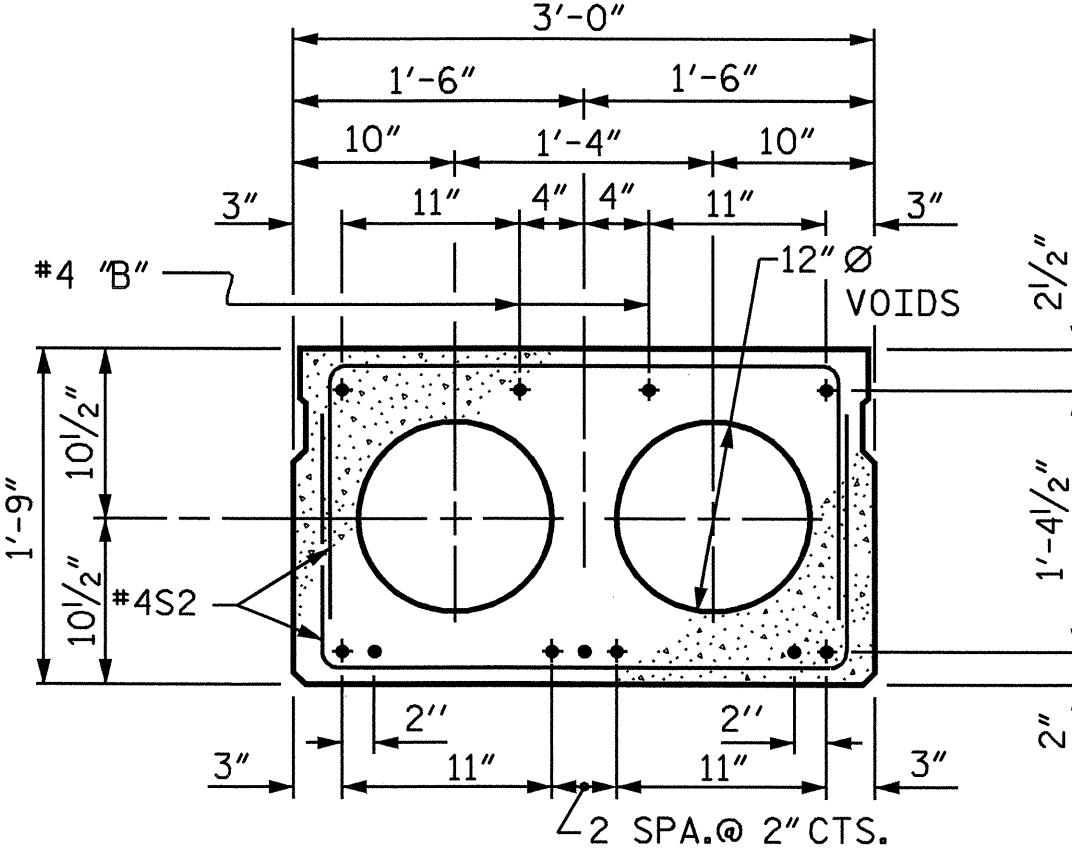


GROUTED RECESS AT END OF POST-TENSIONED STRAND-CORED SLABS



EXTERIOR SLAB SECTION

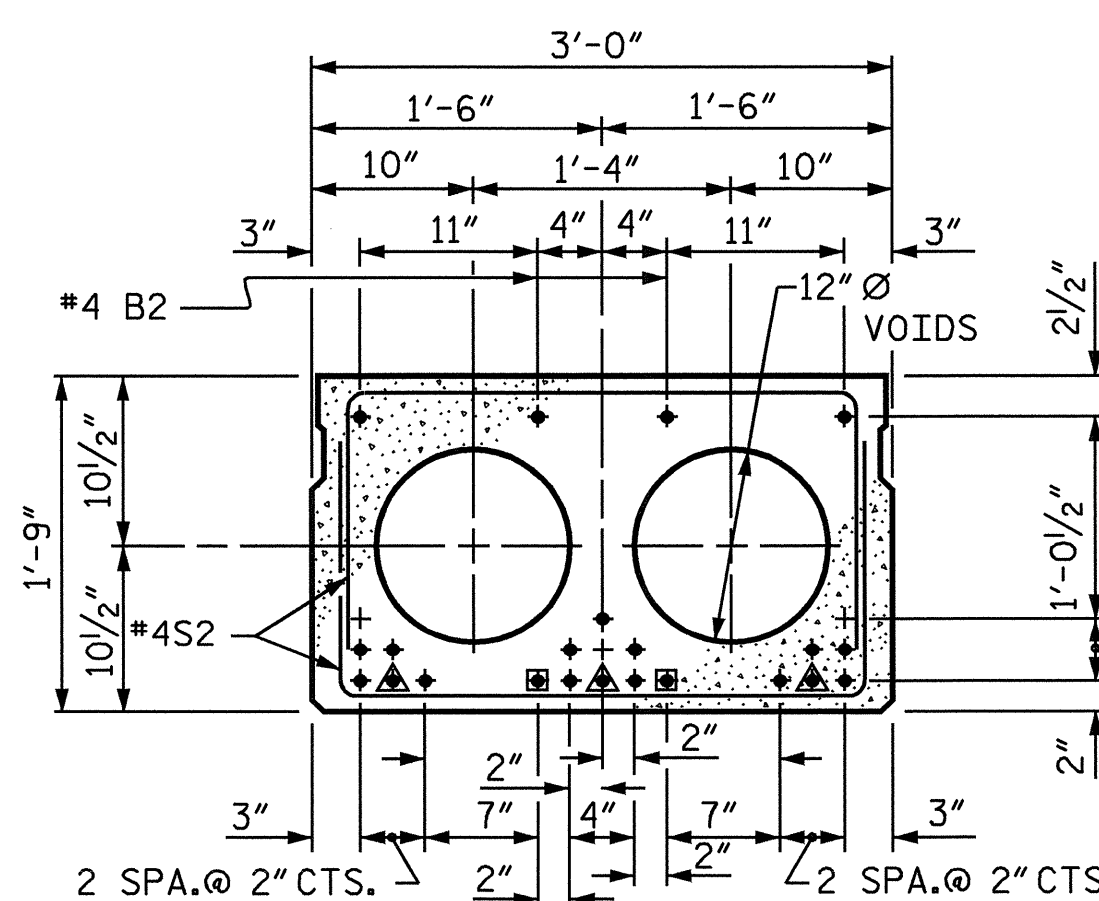
(FOR PRESTRESSED STRAND LAYOUT, SEE INTERIOR SLAB SECTION.)



**INTERIOR SLAB SECTION
0.6" Ø LOW RELAXATION STRAND LAYOUT**

(9 TOTAL STRANDS)

SPAN A & C



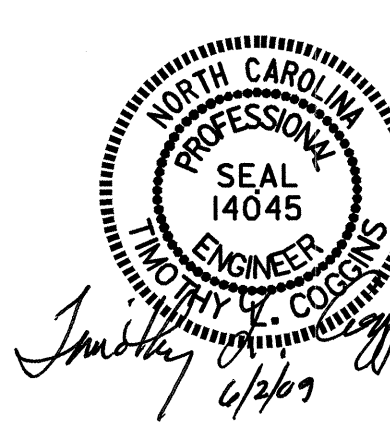
**INTERIOR SLAB SECTION
0.6" Ø LOW RELAXATION STRAND LAYOUT**

(20 TOTAL STRANDS, 5 SHEATHED)

SPAN B

- BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 8'-6" FROM END OF CORED SLAB UNIT, SEE STANDARD SPECIFICATIONS ARTICLE 1078-7.
- ▲ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 4'-6" FROM END OF CORED SLAB UNIT, SEE STANDARD SPECIFICATIONS ARTICLE 1078-7.

ASSEMBLED BY : ZR/P PARISI	DATE : 10-08
CHECKED BY : B.N. BARODAWALA	DATE : 10-08
DRAWN BY : WJH	4/89
CHECKED BY : FCJ	5/89
REV. 10/17/00	RWW/LES
REV. 7/10/01RR	RWW/LES
REV. 5/1/06	TLA/GM



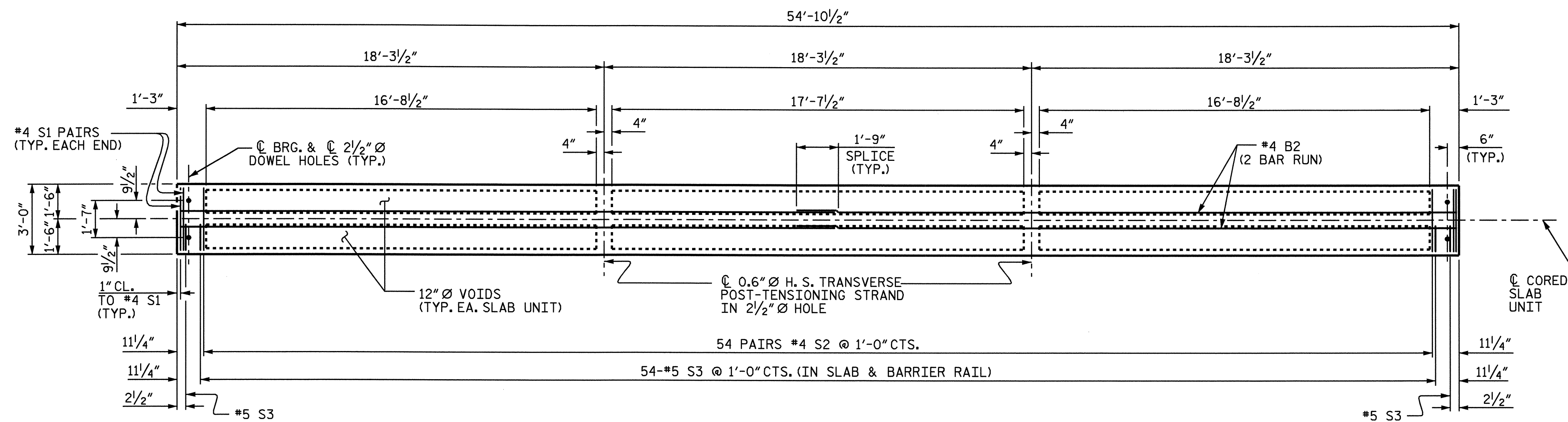
PROJECT NO. B-4030
 BRUNSWICK COUNTY
 STATION: 16+80.00 -L-

SHEET 1 OF 8

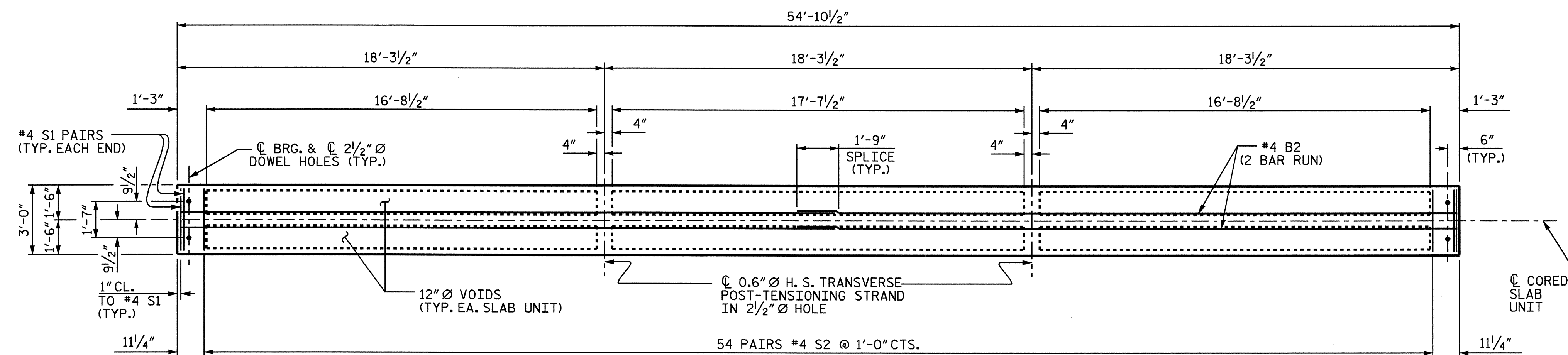
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 3'-0" X 1'-9"
 PRESTRESSED CONCRETE
 CORED SLAB UNIT

REVISIONS					SHEET NO.
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2			4		

TOTAL SHEETS: 22



PLAN OF EXTERIOR CORED SLAB UNIT



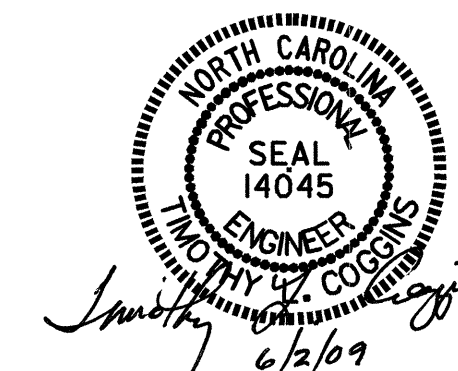
PLAN OF INTERIOR CORED SLAB UNIT

PROJECT NO. B-4030
BRUNSWICK COUNTY
 STATION: 16+80.00 -L-

SHEET 4 OF 8

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN B



DRAWN BY : ZR/P PARISI DATE : 5/15/07
 CHECKED BY : B.N. BARODAWALA DATE : 10-08

02-JUN-2009 12:28
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REVISIONS				SHEET NO.	
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2			4		
					TOTAL SHEETS
					22

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.)

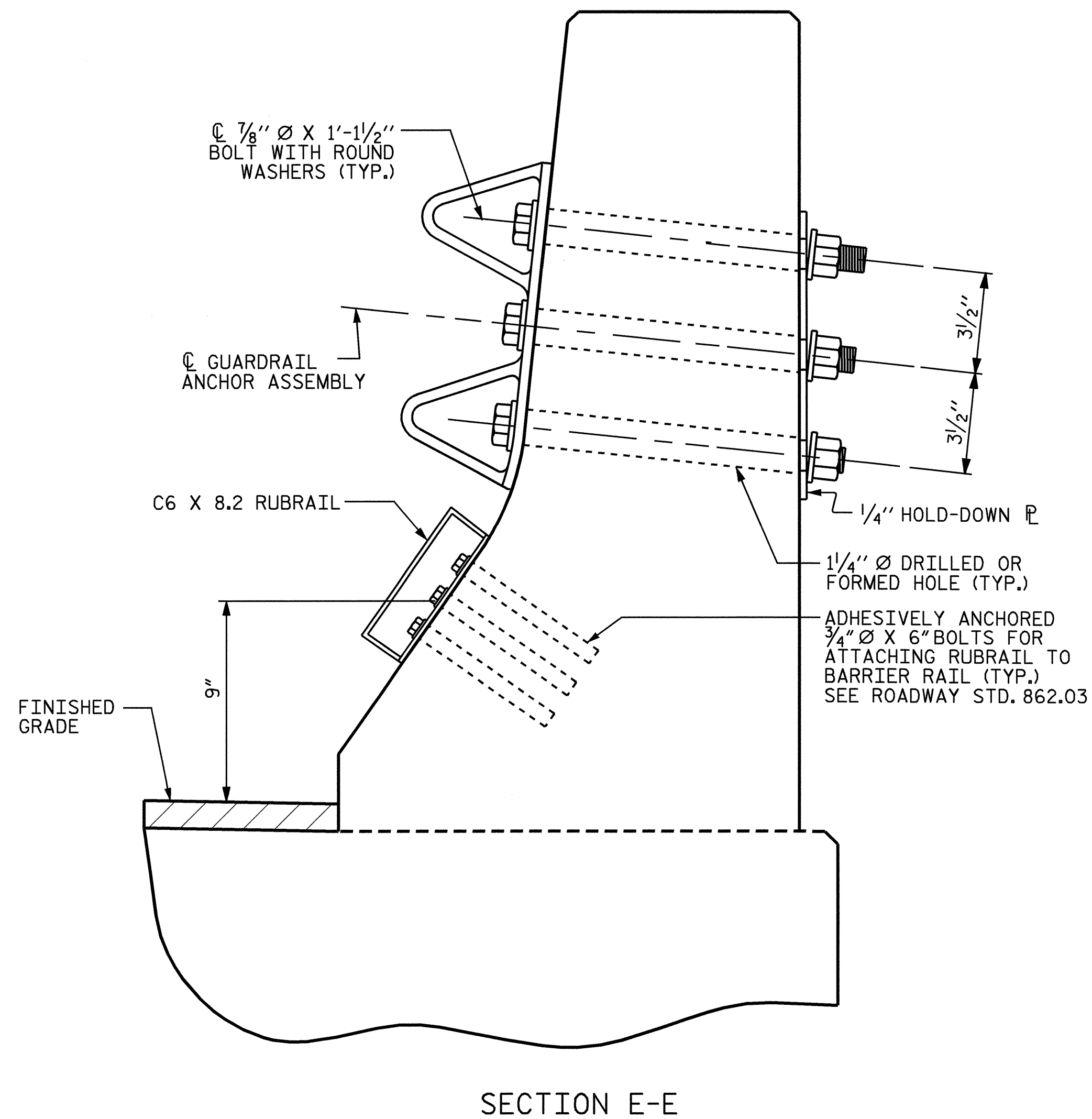
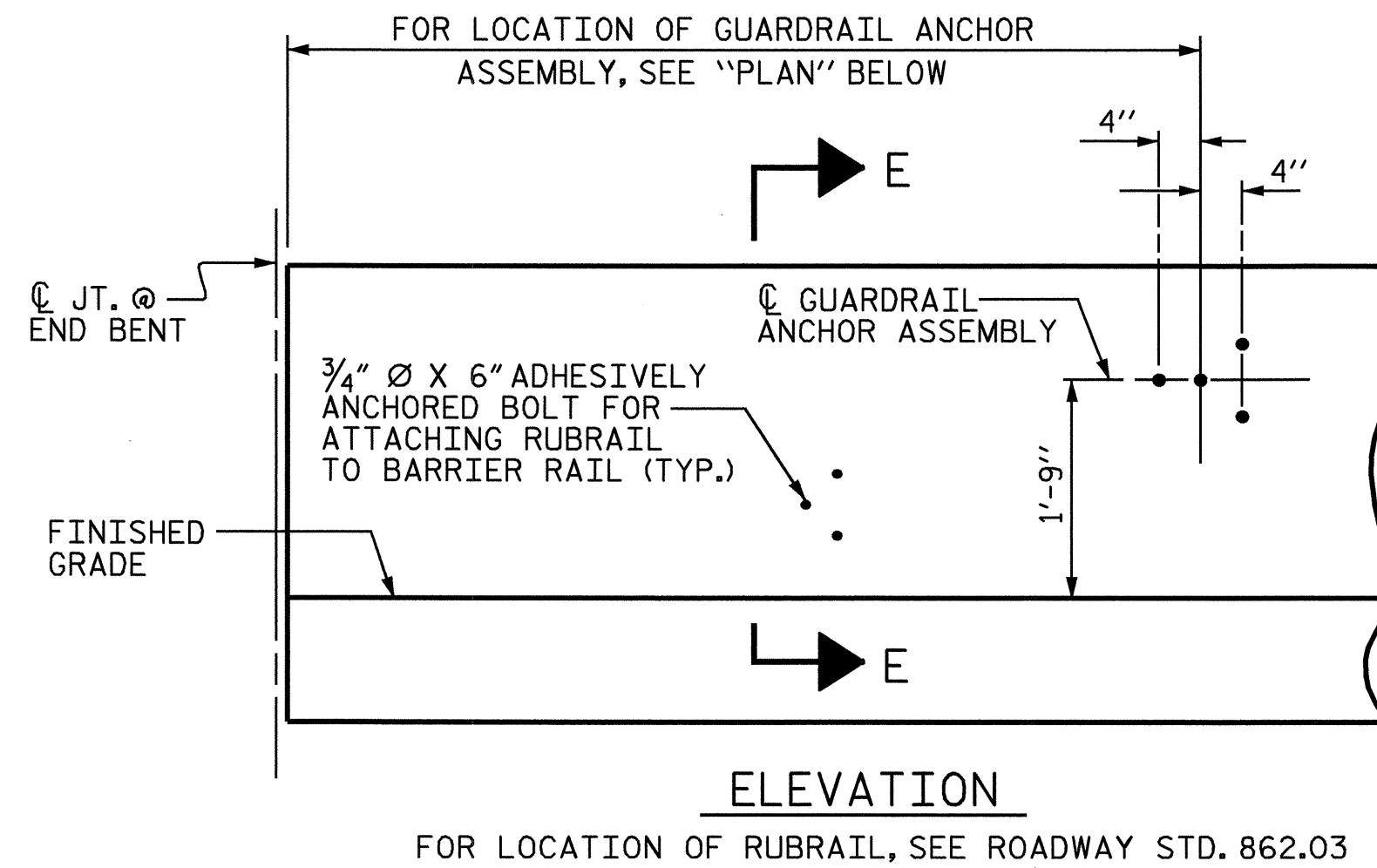
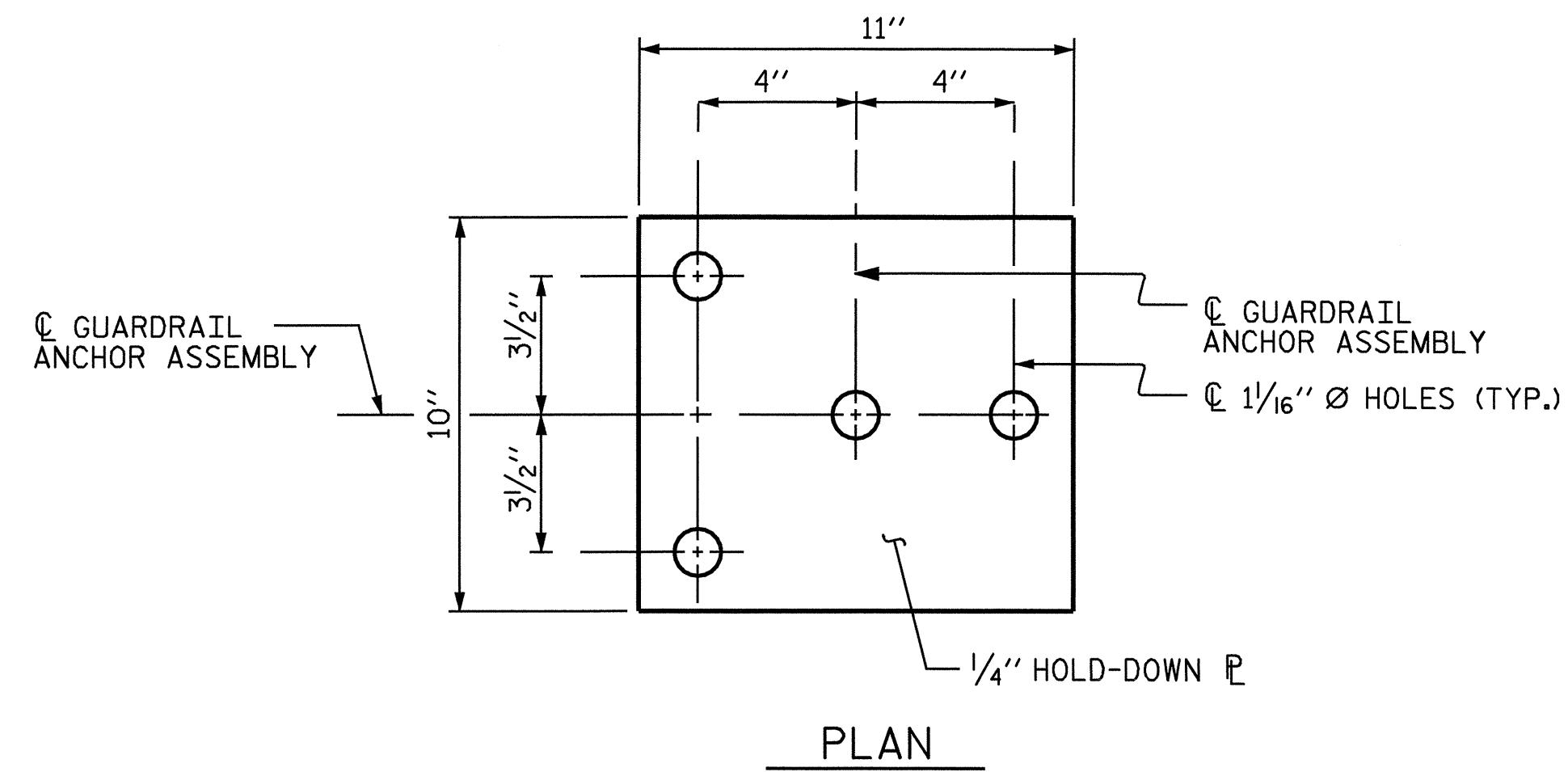
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

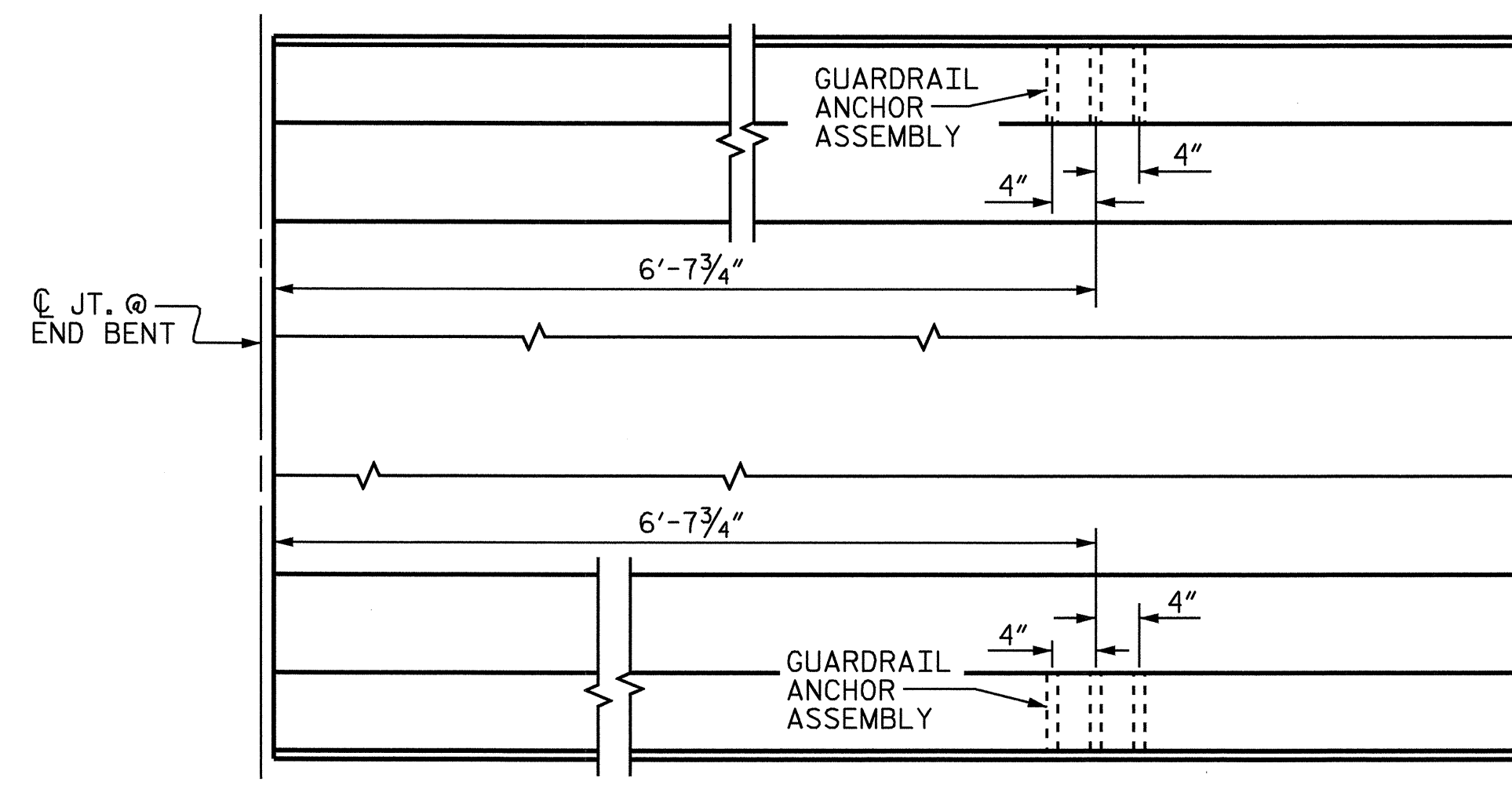
THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR CONCRETE BARRIER RAIL.

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.

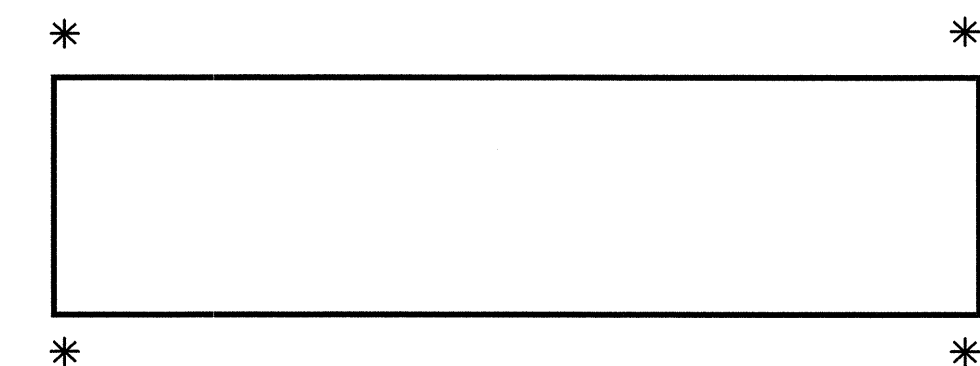


GUARDRAIL ANCHOR ASSEMBLY DETAILS



LOCATION OF ANCHORS FOR GUARDRAIL

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



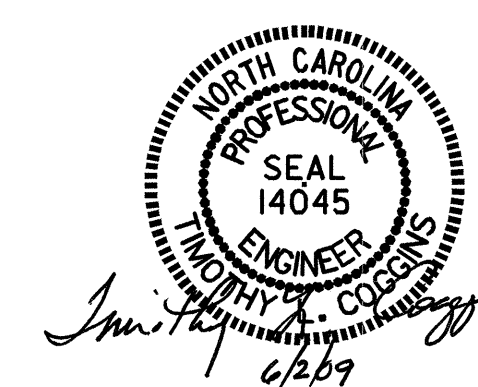
SKETCH SHOWING POINTS OF ATTACHMENTS

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. B-4030
BRUNSWICK COUNTY
STATION: 16+80.00 -L-

SHEET 6 OF 8

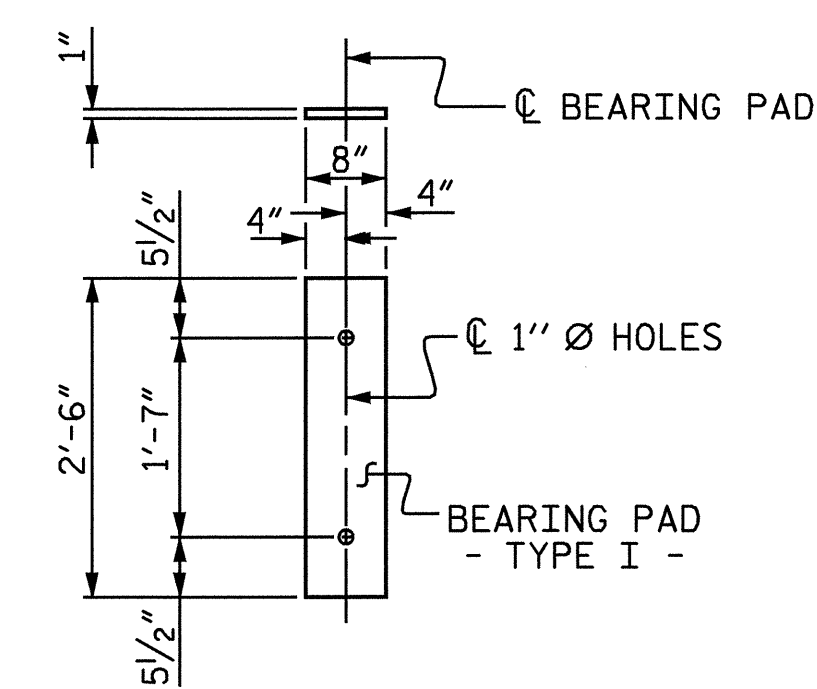
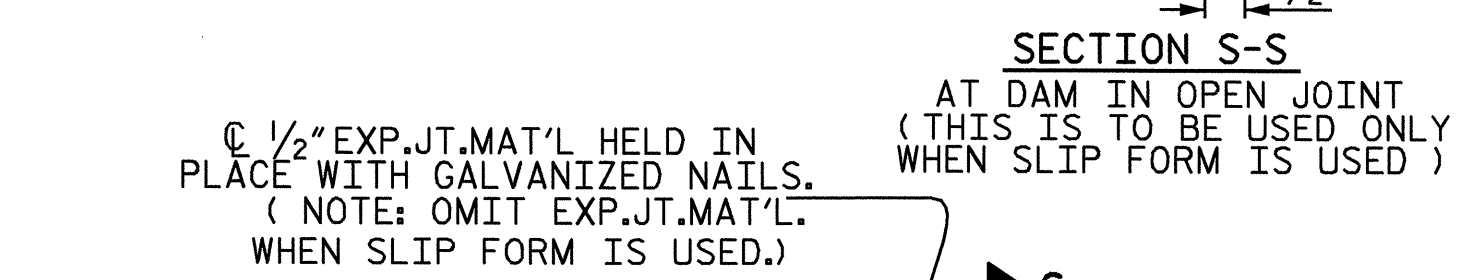
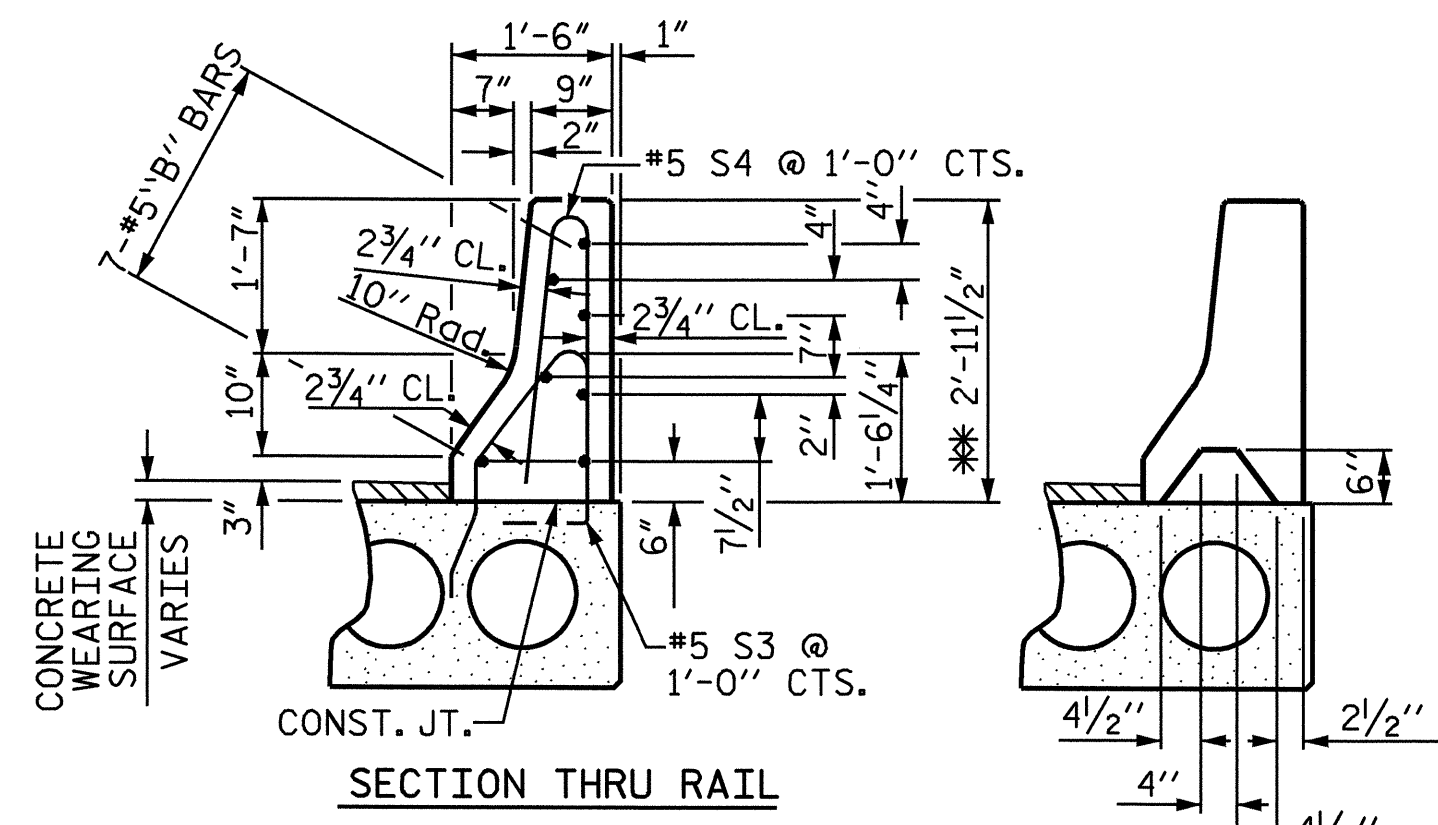
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
GUARDRAIL ANCHORAGE
FOR BARRIER RAIL



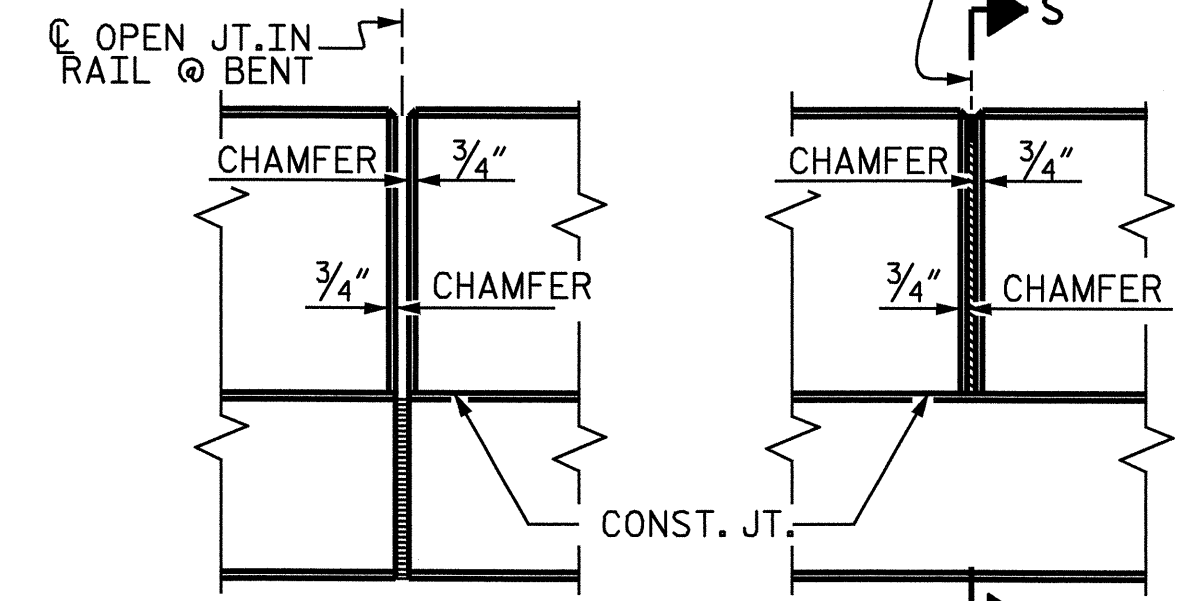
ASSEMBLED BY : PEGGY PARISI DATE : 11-08
CHECKED BY : B.N. BARODAWALA DATE : 11-08
DRAWN BY : TLA 5/06
CHECKED BY : GM 5/06

ADDED 5/1/06R KMM/GM

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	5-9
1			3			TOTAL SHEETS
2			4			22



ELASTOMERIC BEARING DETAILS
(50 DUROMETER)



BARRIER RAIL DETAILS
* THE MINIMUM HEIGHT OF THE BARRIER RAIL IS SHOWN. THE HEIGHT OF THE BARRIER RAIL VARIES WHILE THE TOP OF THE RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE.

BILL OF MATERIAL FOR CONCRETE BARRIER RAIL								
BAR	BARS PER SPAN			TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	SPAN A	SPAN B	SPAN C					
* B4	28			28	#5	STR.	16'-6"	482
* B5		28		28	#5	STR.	27'-1"	791
* B6			14	14	#5	STR.	28'-5"	415
* S4	72	112	60	244	#5	2	5'-9"	1463
* EPOXY COATED REINFORCING STEEL								3151 LBS.
CLASS AA CONCRETE								28.9 CU. YDS.
CONCRETE BARRIER RAIL								235.50 LIN. FT.

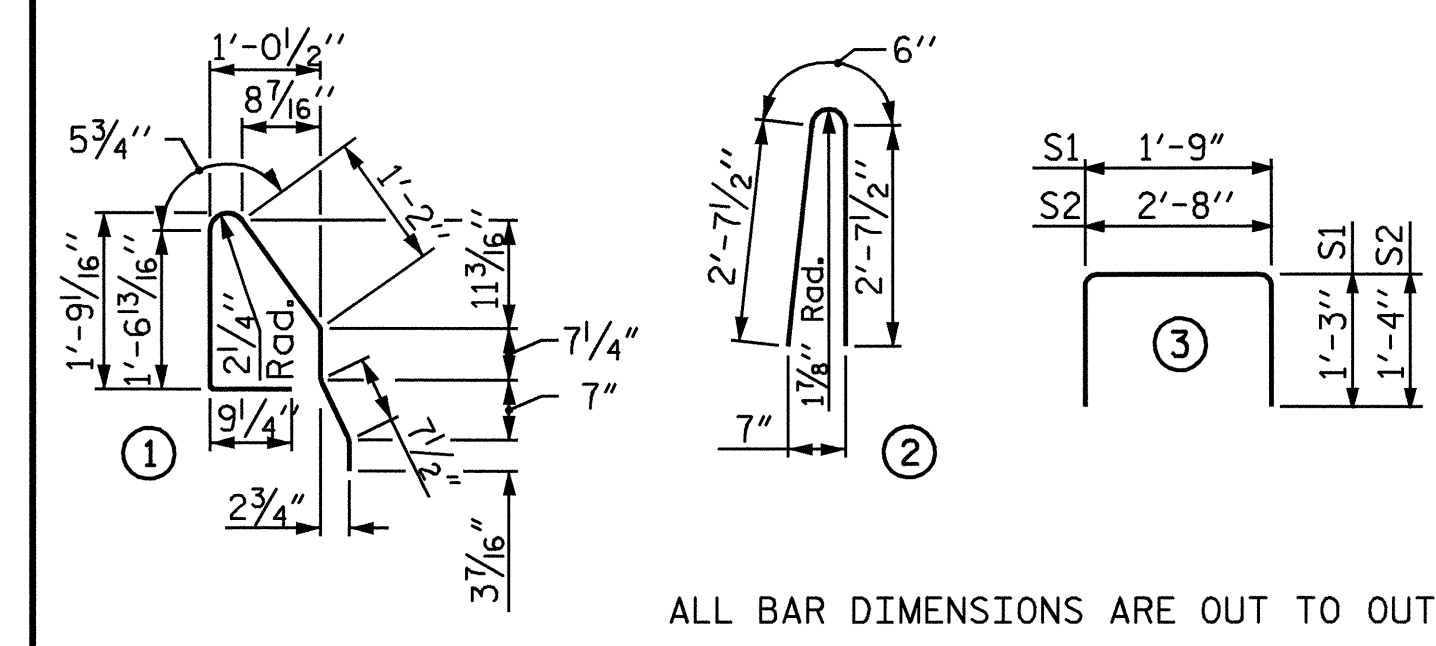
DEAD LOAD DEFLECTION AND CAMBER			
	3'-0" X 1'-9" 0.6" Ø L.R. STRAND		
	SPAN A	SPAN B	SPAN C
CAMBER (SLAB ALONE IN PLACE)	1/16" ↑	2 5/8" ↑	3/8" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD	1/16" ↓	1/2" ↓	1/16" ↓
FINAL CAMBER	3/8" ↑	2 1/8" ↑	5/16" ↑

GRADE 270 STRANDS	
	0.6" Ø L.R.
AREA (SQUARE INCHES)	0.217
ULTIMATE STRENGTH (LBS. PER STRAND)	58,600
APPLIED PRESTRESS (LBS. PER STRAND)	43,950

ASSEMBLED BY : ZR/P PARISI DATE : 11-08
 CHECKED BY : B.N. BARODAWALA DATE : 11-08
 DRAWN BY : WJH 4/89 REV. 7/10/01 RWW/LES
 CHECKED BY : FCJ 5/89 REV. 5/7/03RRR RWW/JTE
 REV. 5/1/06 TLA/GM

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BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR ONE CORED SLAB SECTION "SPAN A"

BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B1	4	#4	STR	17'-8"	47	17'-8"	47
S1	8	#4	3	4'-3"	23	4'-3"	23
S2	68	#4	3	5'-4"	242	5'-4"	242
* S3	36	#5	1	5'-6"	207		
REINFORCING STEEL				312 LBS.		312 LBS.	
* EPOXY COATED REINFORCING STEEL				207 LBS.			
6000 P.S.I. CONCRETE				4.7 CU. YDS.		4.7 CU. YDS.	
0.6" Ø L.R. STRANDS				No. 9		No. 9	

BILL OF MATERIAL FOR ONE CORED SLAB SECTION "SPAN B"

BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B2	4	#4	STR	28'-2"	75	28'-2"	75
S1	8	#4	3	4'-3"	23	4'-3"	23
S2	108	#4	3	5'-4"	385	5'-4"	385
* S3	56	#5	1	5'-6"	321		
REINFORCING STEEL				483 LBS.		483 LBS.	
* EPOXY COATED REINFORCING STEEL				321 LBS.			
8000 P.S.I. CONCRETE				7.6 CU. YDS.		7.6 CU. YDS.	
0.6" Ø L.R. STRANDS				No. 20		No. 20	

BILL OF MATERIAL FOR ONE CORED SLAB SECTION "SPAN C"

BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B3	2	#4	STR	28'-5"	38	28'-5"	38
S1	8	#4	3	4'-3"	23	4'-3"	23
S2	56	#4	3	5'-4"	200	5'-4"	200
* S3	30	#5	1	5'-6"	172		
REINFORCING STEEL				261 LBS.		261 LBS.	
* EPOXY COATED REINFORCING STEEL				172 LBS.			
6000 P.S.I. CONCRETE				4.1 CU. YDS.		4.1 CU. YDS.	
0.6" Ø L.R. STRANDS				No. 9		No. 9	

CORED SLABS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
SPAN A	EXTERIOR C.S.	2	33'-9 3/4"
	INTERIOR C.S.	12	33'-9 3/4"
SPAN B	EXTERIOR C.S.	2	54'-10 1/2"
	INTERIOR C.S.	12	54'-10 1/2"
SPAN C	EXTERIOR C.S.	2	28'-9 3/4"
	INTERIOR C.S.	12	28'-9 3/4"
TOTAL		42	1645'-0"

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 NON-SHRINK GROUT.

THE 2" Ø 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 SIDEWAYS. 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.

WHEN A CONCRETE WEARING SURFACE IS DETAILED ON THE CORED SLAB BRIDGE TYPICAL SECTION, THE TOP SURFACE OF THE CORED SLAB UNITS SHALL HAVE A 3/8" RAKED FINISH.

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 4000 PSI FOR SPAN A & C AND 6000 PSI FOR SPAN B.

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.

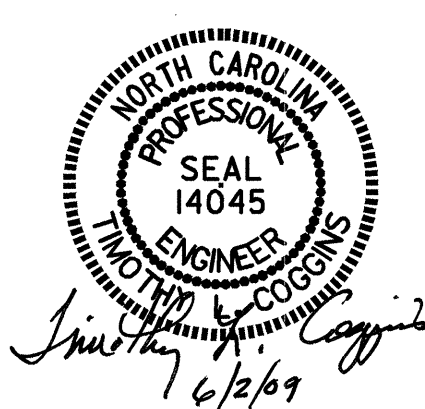
VERTICAL GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOoled IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A VERTICAL CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION 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.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

GROOVING BRIDGE FLOORS	
APPROACH SLABS	1724 SQ.FT.
BRIDGE DECK	4204 SQ.FT.
TOTAL	5928 SQ.FT.

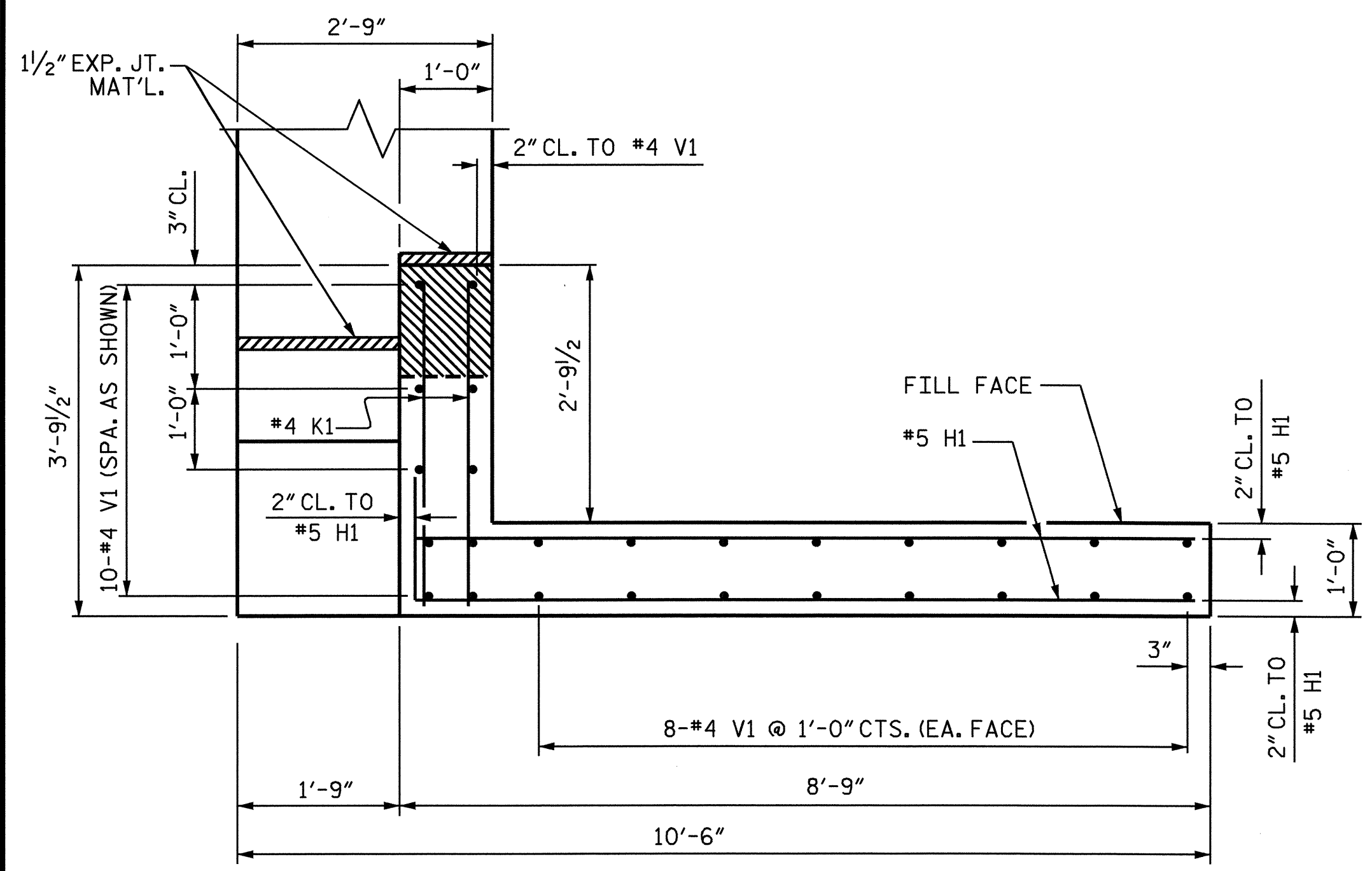
PROJECT NO. B-4030
 BRUNSWICK COUNTY
 STATION: 16+80.00 -L-

SHEET 8 OF 8

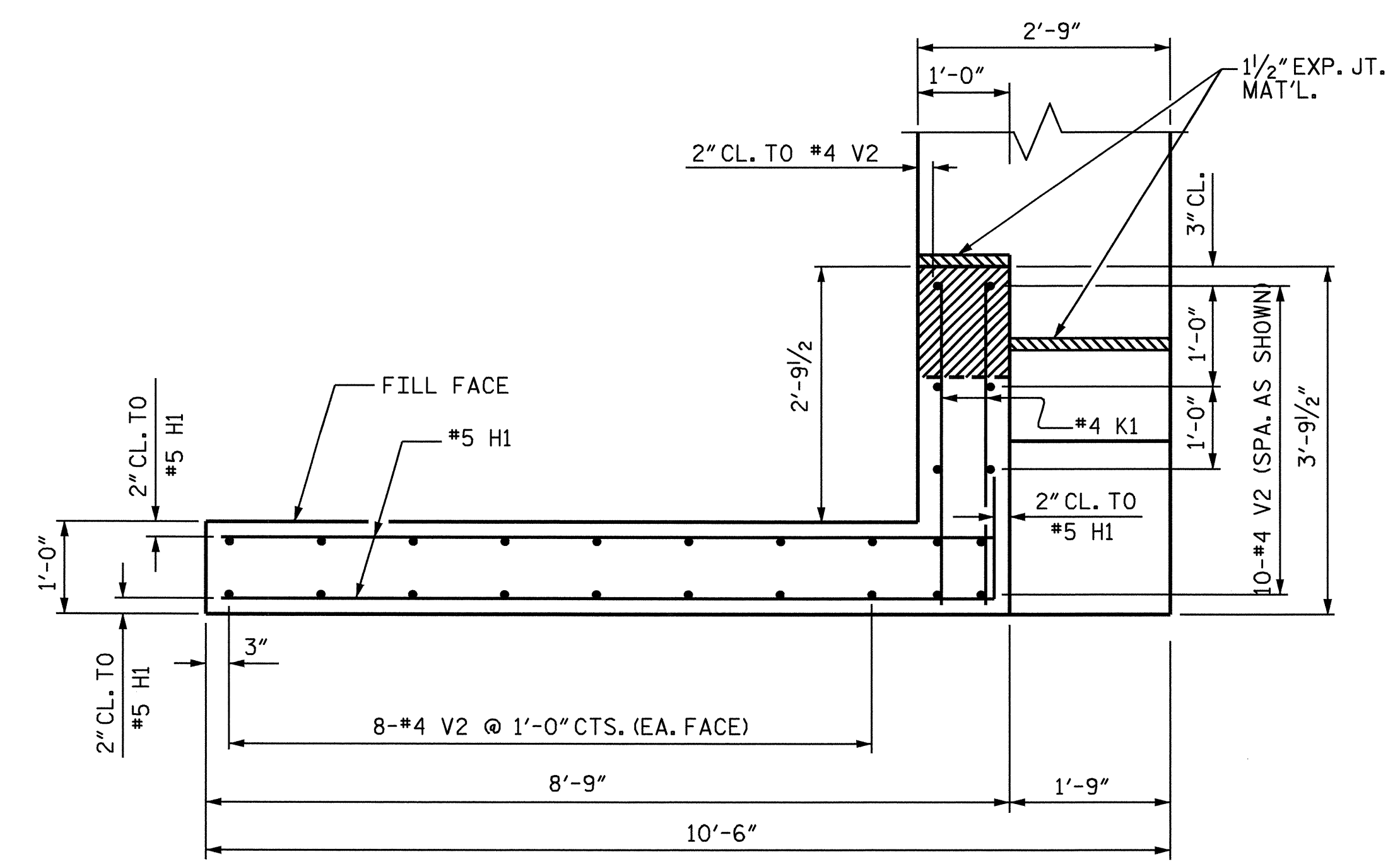


STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					SHEET NO. 5-11
STANDARD					
3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLAB UNIT					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					22

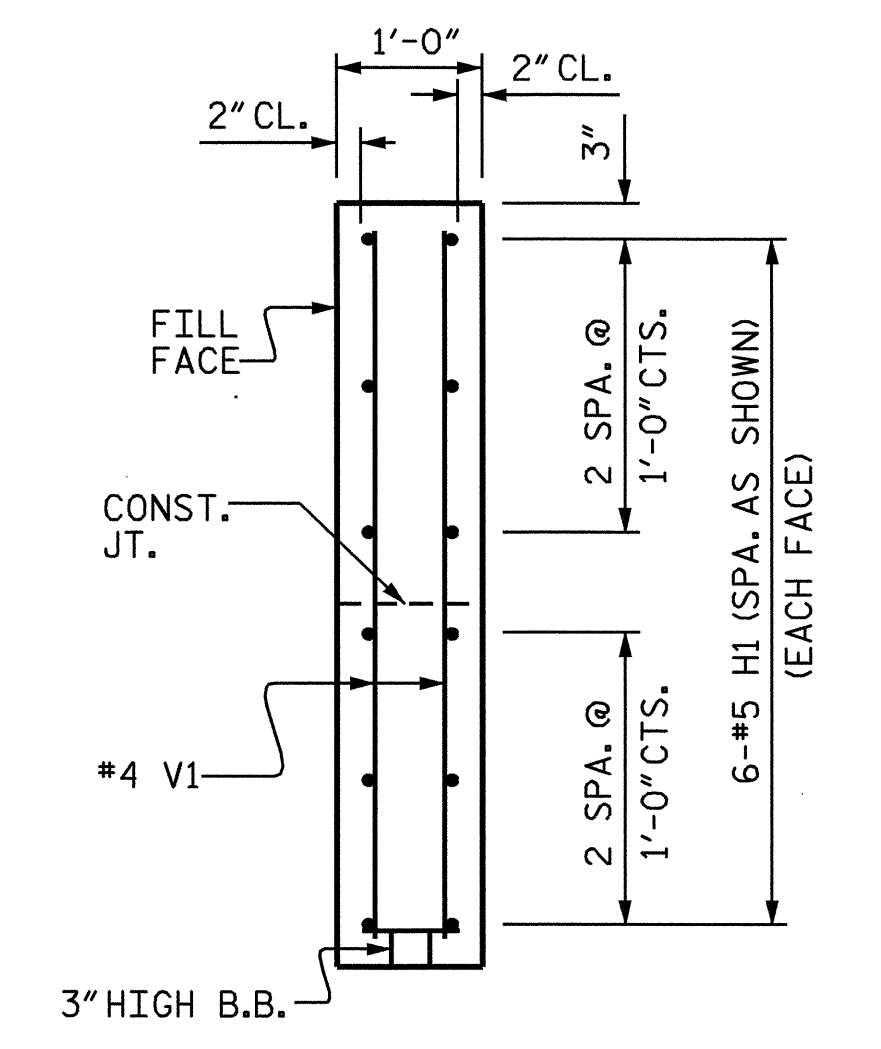
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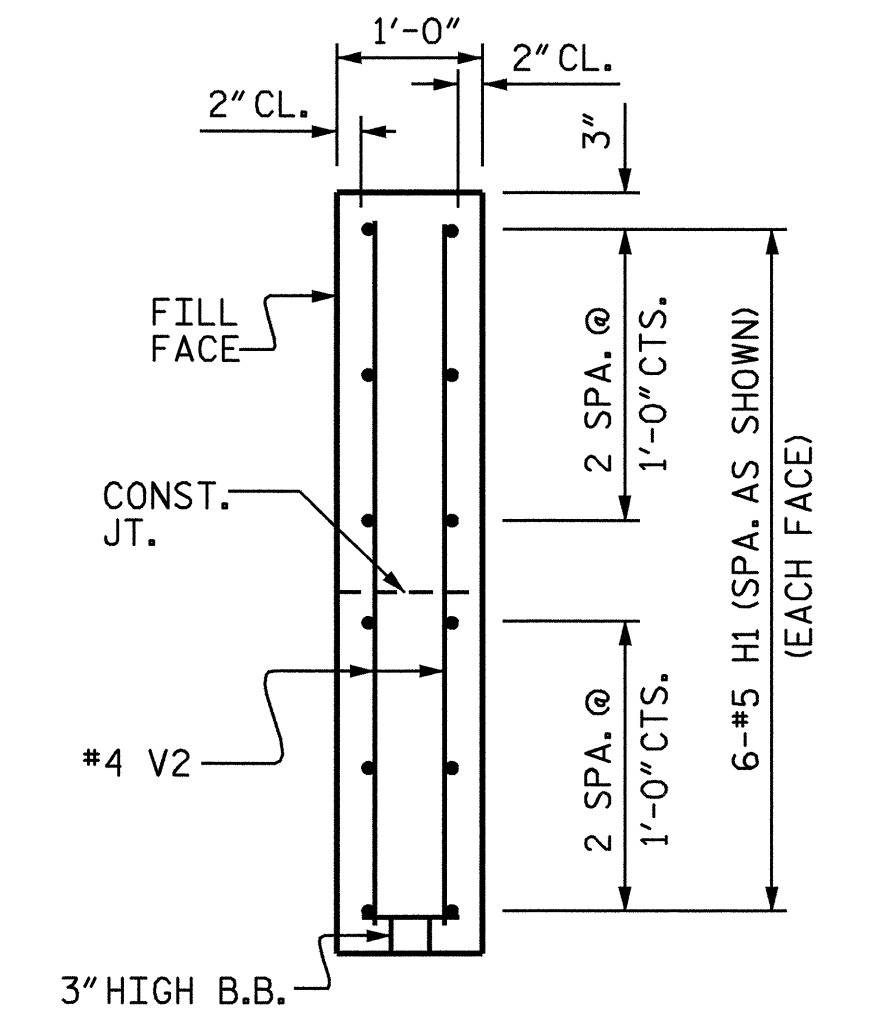
PLAN OF LEFT WING (W1)



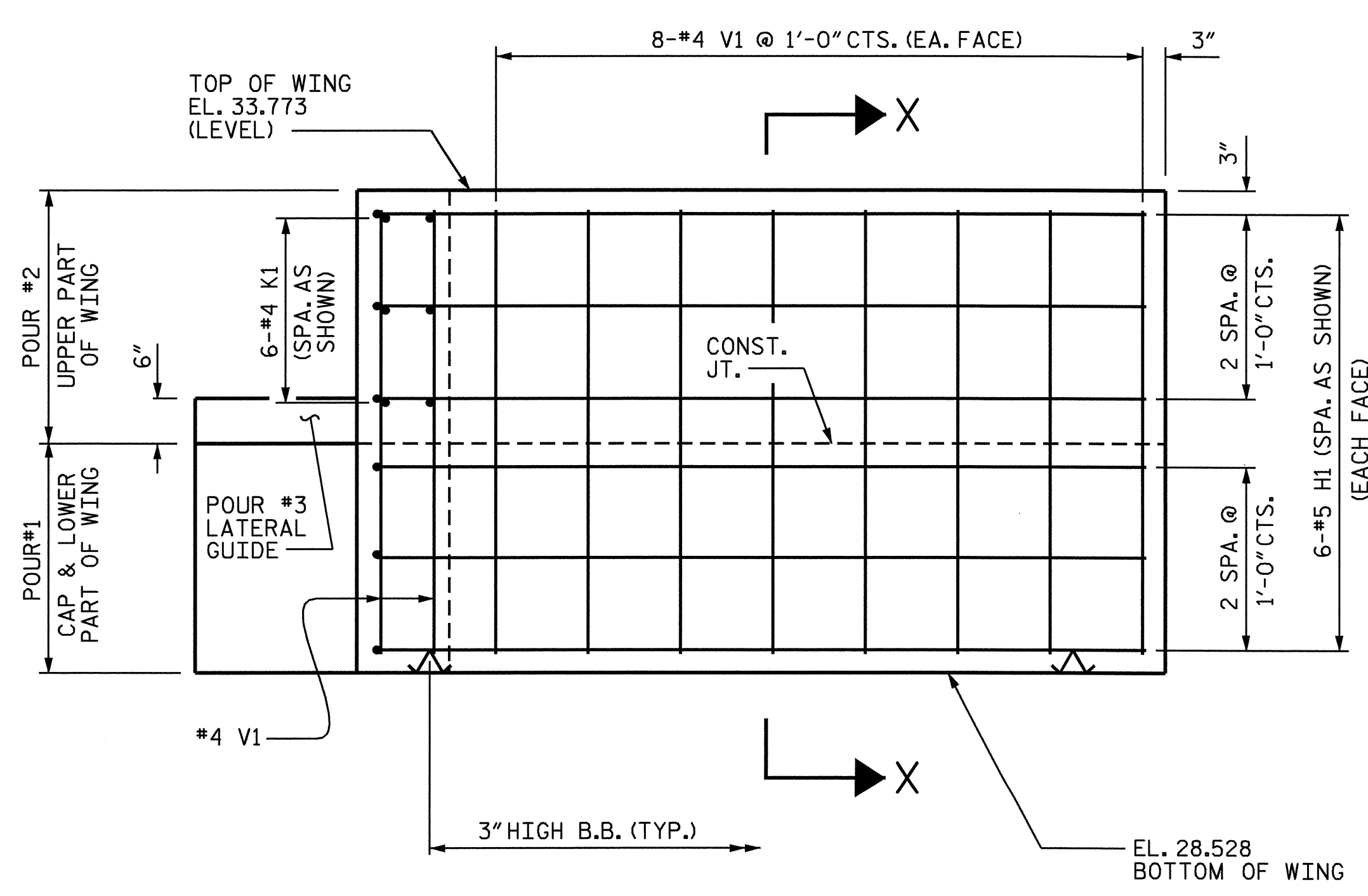
PLAN OF RIGHT WING (W2)



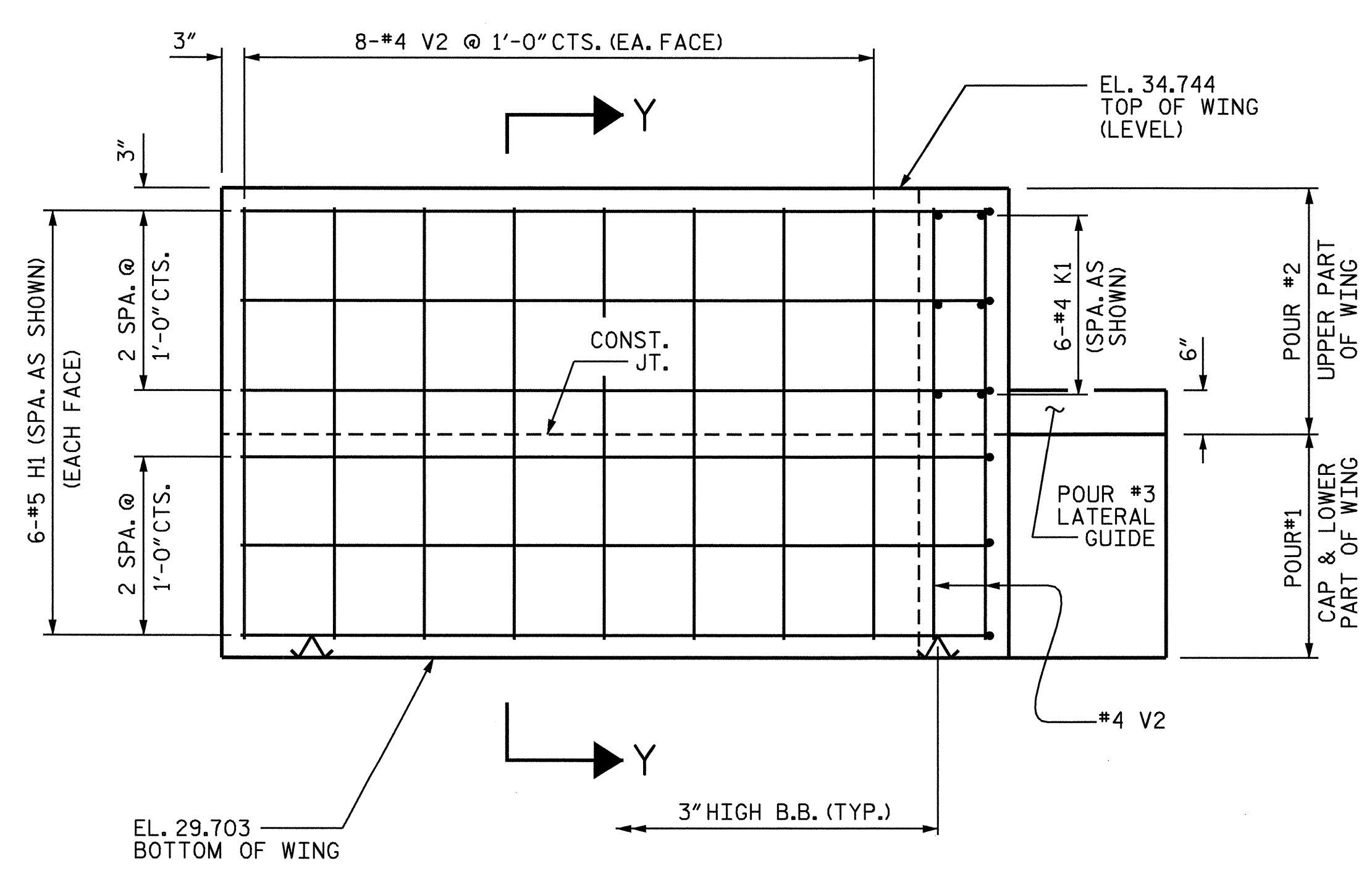
SECTION X-X



SECTION Y-Y



ELEVATION OF LEFT WING (W1)

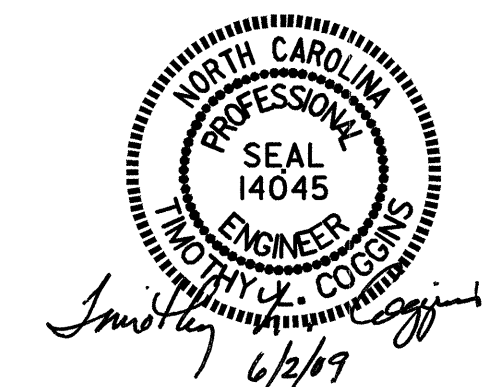


ELEVATION OF RIGHT WING (W2)

PROJECT NO. B-4030
 BRUNSWICK COUNTY
 STATION: 16+80.00 -L-

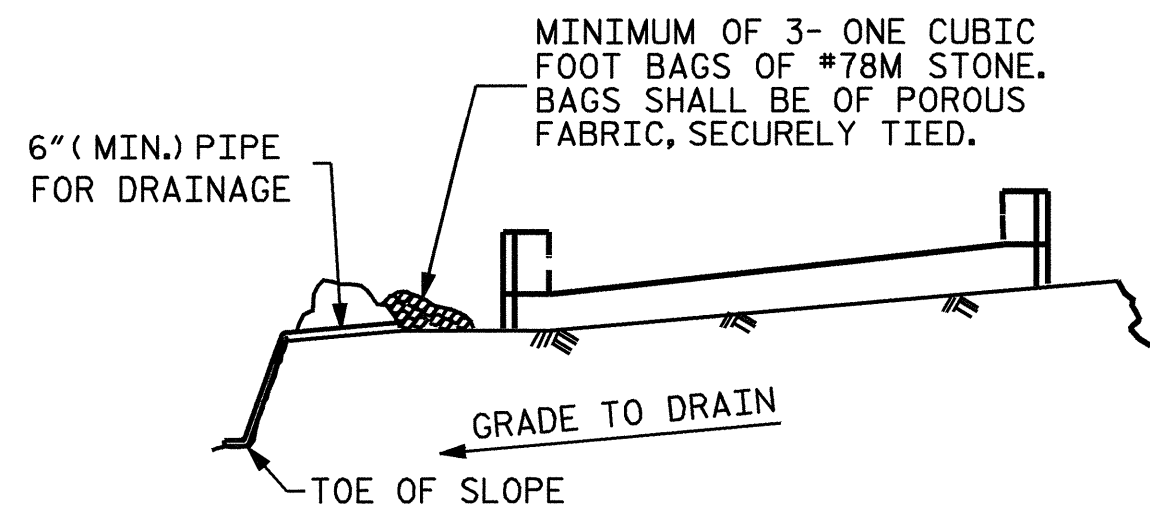
SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT #1



DRAWN BY: M.D.PISO/PSAP DATE: 10/2008
 CHECKED BY: B.N.BARODAWALA DATE: 10/2008

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-13	
1			3			TOTAL SHEETS	
2			4			22	

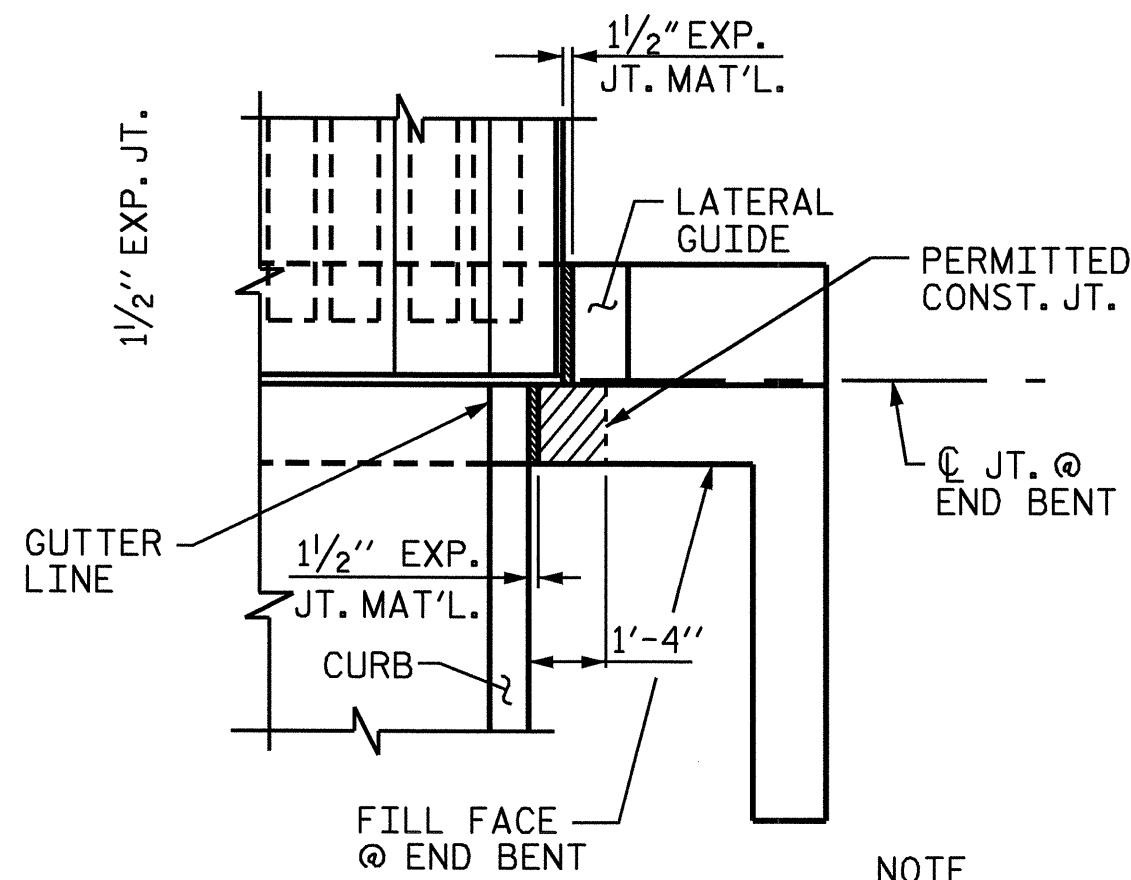


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

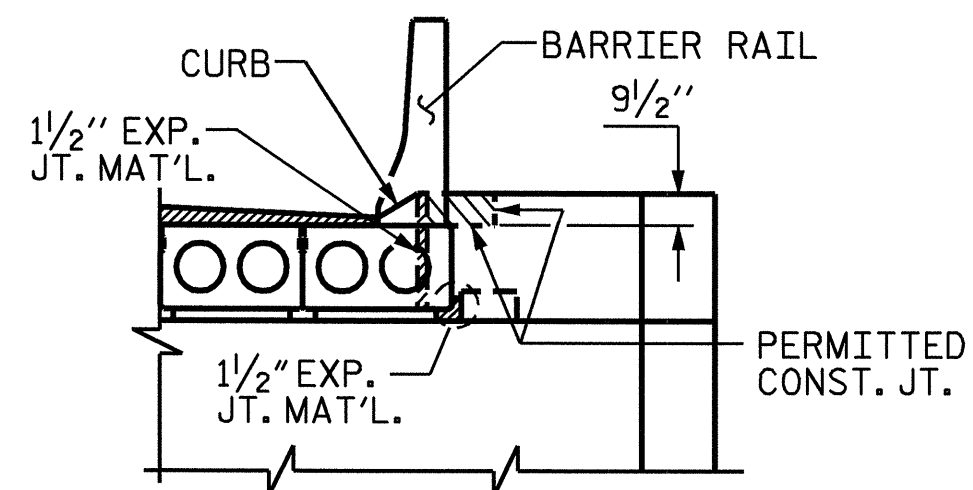
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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



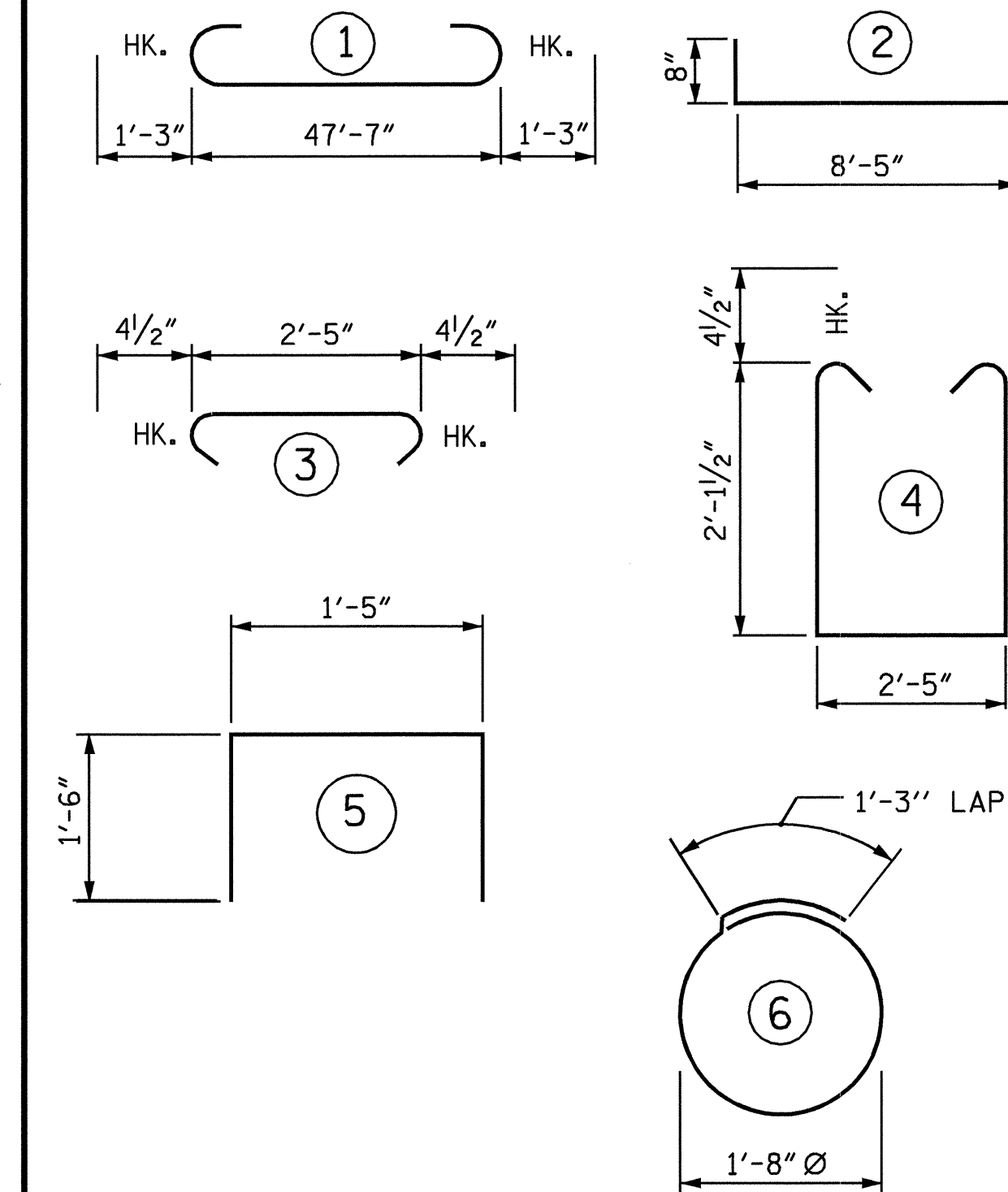
PLAN



ELEVATION

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

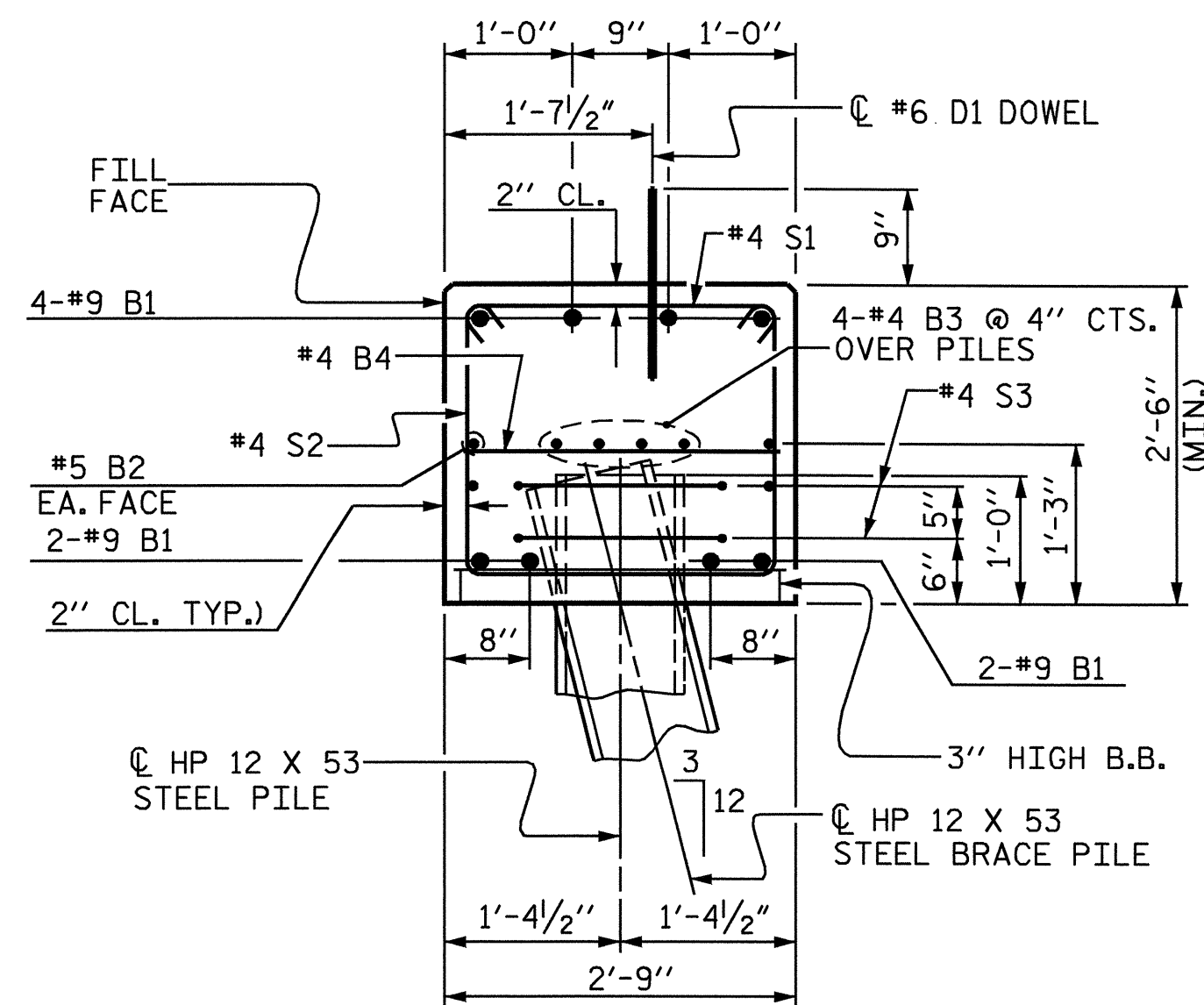
BLOCKOUT IN WING WALL FOR CORED SLAB



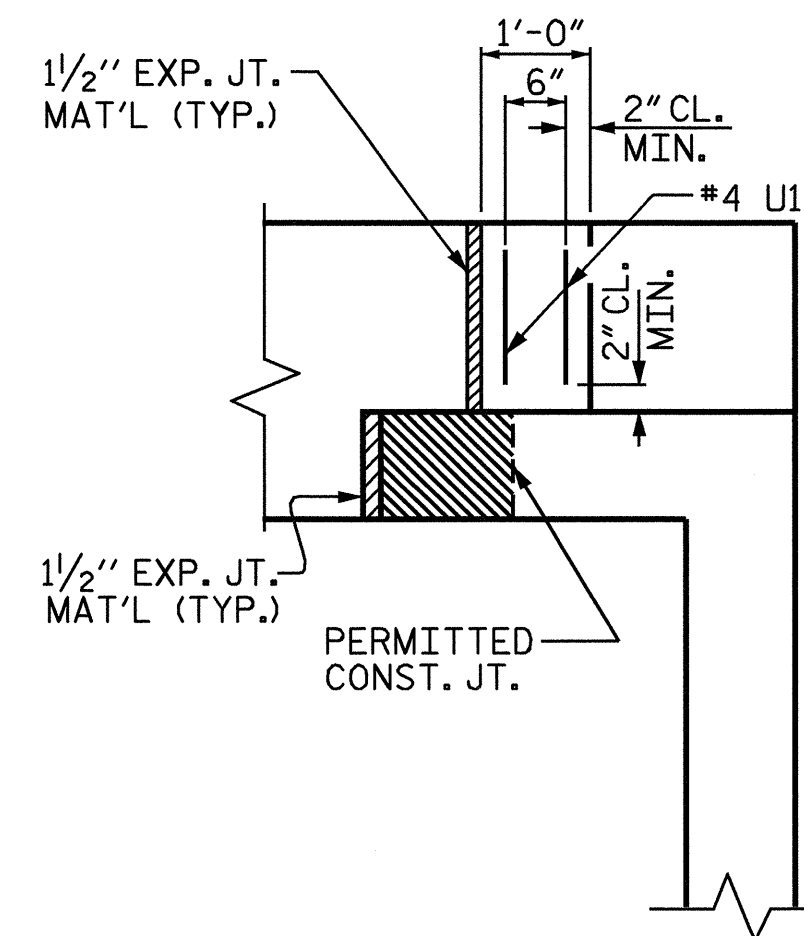
ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL

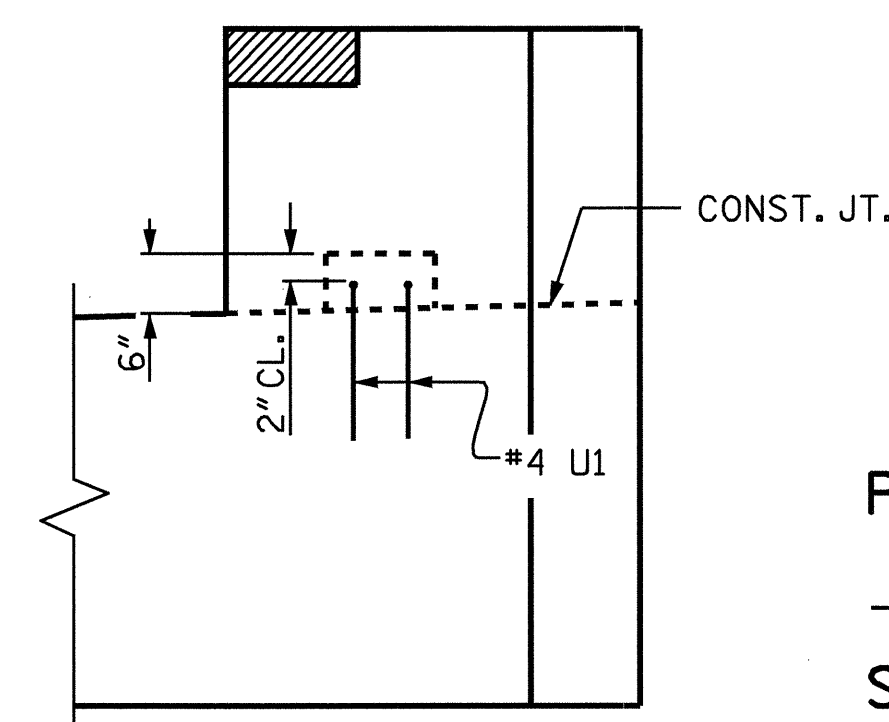
END BENT #1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	9	1	50'-1"	1362
B2	2	5	STR	47'-8"	99
B3	8	4	STR	25'-1"	134
B4	12	4	STR	2'-5"	19
D1	28	6	STR	1'-6"	63
H1	24	5	2	9'-1"	227
K1	12	4	STR	3'-5"	27
S1	44	4	3	3'-2"	93
S2	44	4	4	7'-5"	218
S3	16	4	6	6'-6"	69
U1	4	4	5	4'-5"	12
V1	26	4	STR	4'-11"	85
V2	26	4	STR	4'-8"	81
REINFORCING STEEL					2489 LBS.
CLASS "A" CONCRETE					
POUR #1 CAP & LOWER WINGS					13.7 C.Y.
POUR #2 UPPER WINGS					2.3 C.Y.
POUR #3 LATERAL GUIDES					0.1 C.Y.
TOTAL CLASS "A" CONCRETE					16.1 C.Y.
HP 12 X 53 STEEL PILES					
NO. 8 LIN. FT.					240 LIN. FT.



SECTION A-A



PLAN



ELEVATION

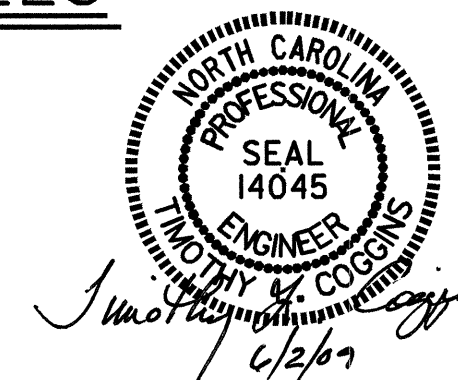
LATERAL GUIDE DETAILS

(EACH END SIMILAR)

PROJECT NO. B-4030
BRUNSWICK COUNTY
 STATION: 16+80.00 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT #1



DRAWN BY : M.D.PISO/PSAP DATE : 10/2008
 CHECKED BY : B.N.BARODAWALA DATE : 10/2008

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

TOTAL SHEETS: 22

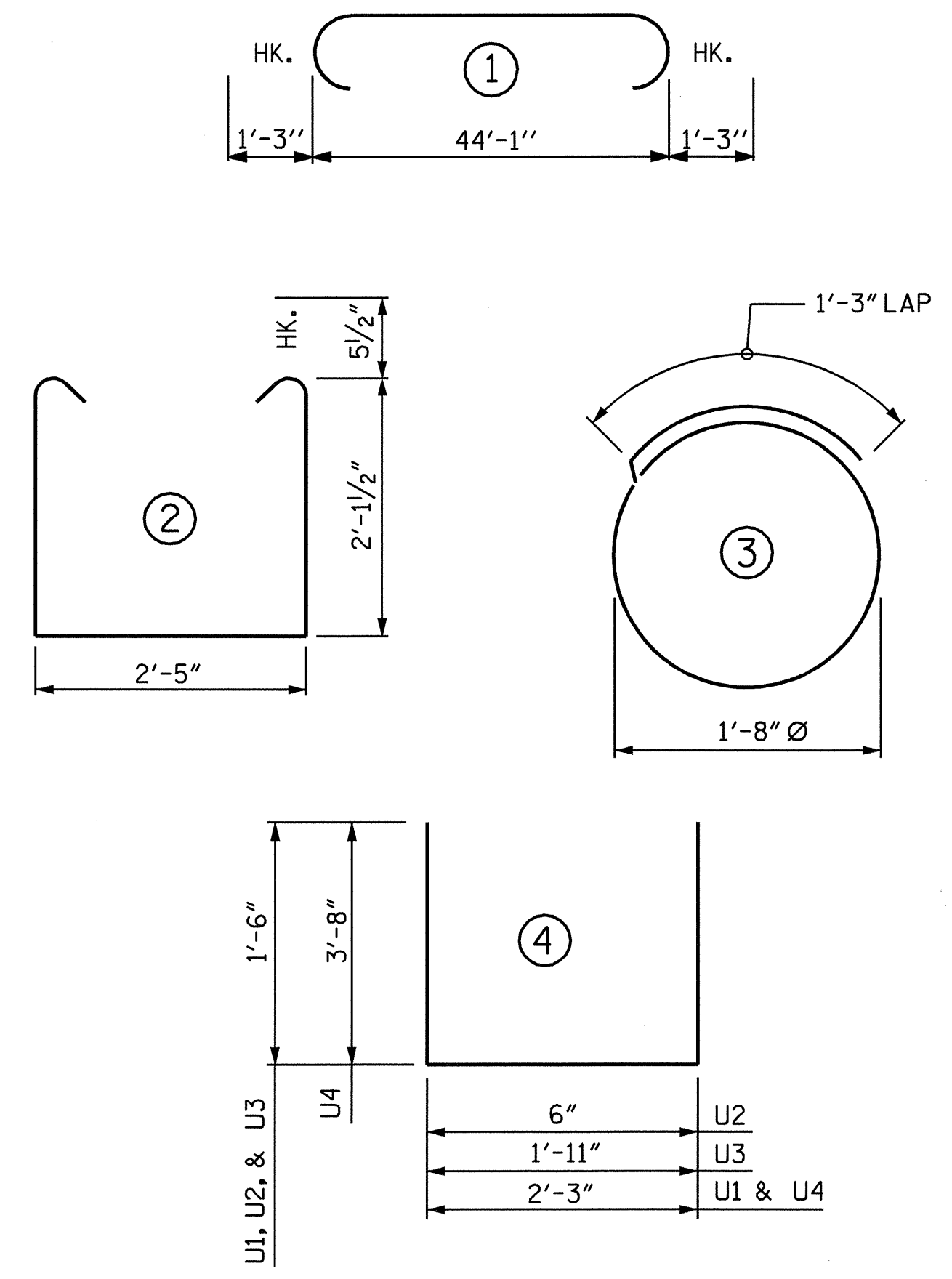
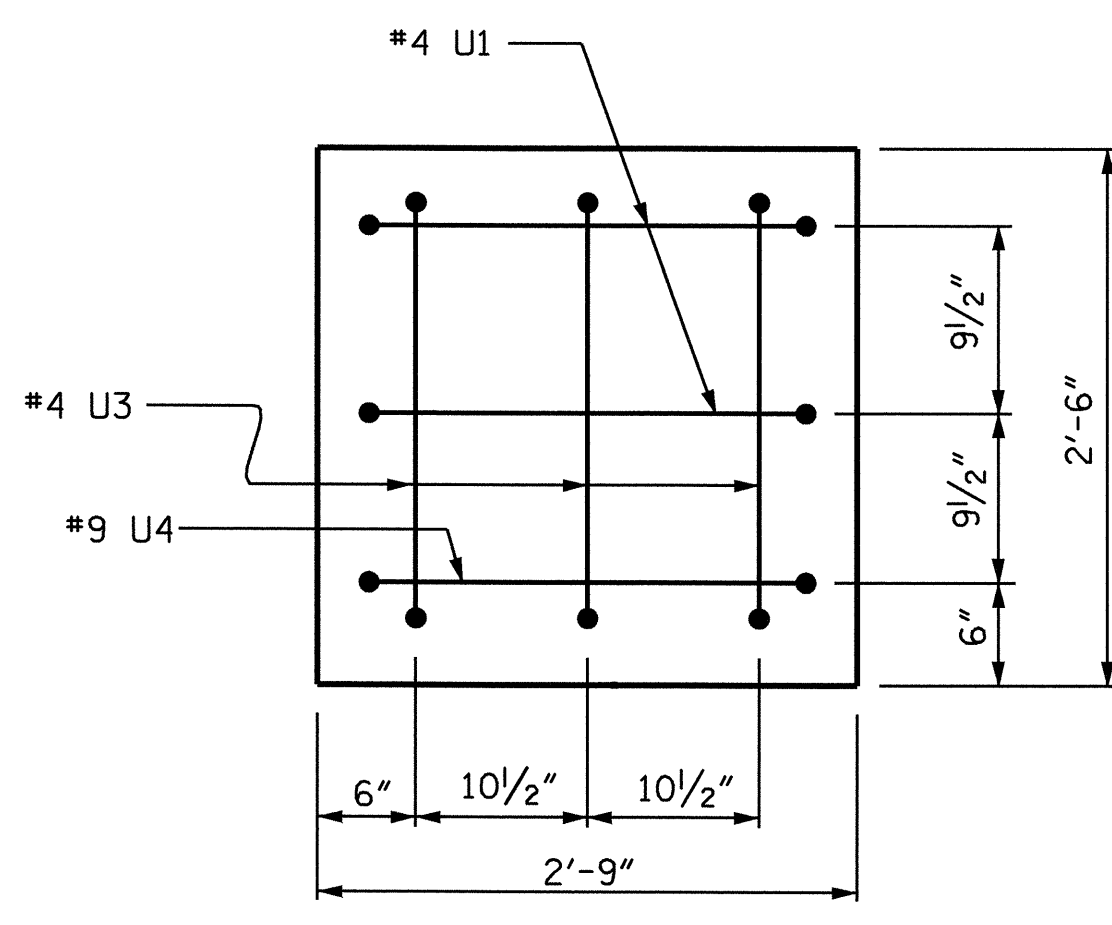
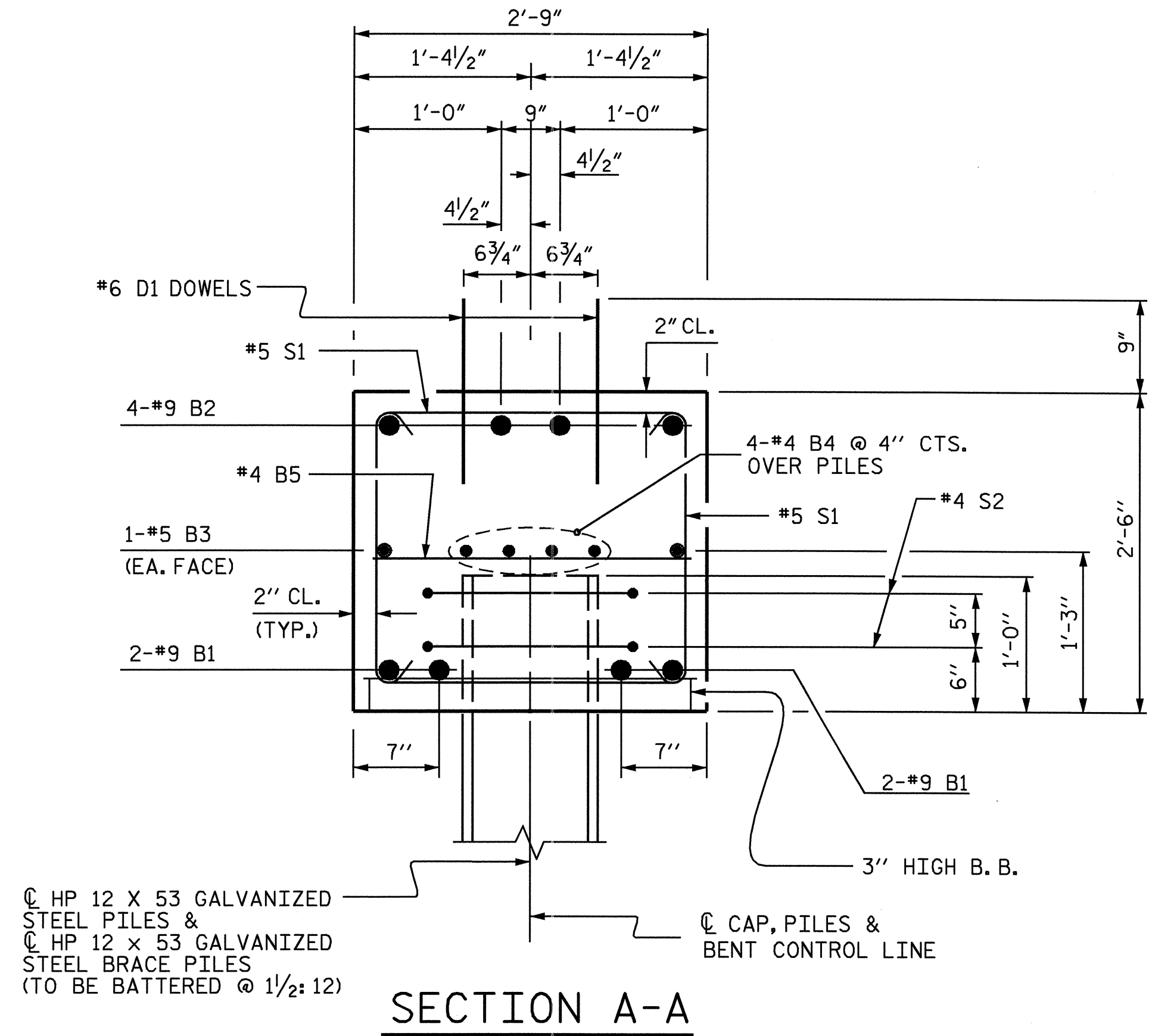
BAR TYPES

BILL OF MATERIAL

FOR ONE BENT (2 REQUIRED)

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	4	#9	STR	44'-2"	601
B2	4	#9	1	46'-7"	634
B3	2	#5	STR	44'-2"	92
B4	8	#4	STR	23'-4"	125
B5	16	#4	STR	2'-5"	26
D1	56	#6	STR	1'-6"	126
S1	42	#5	2	7'-7"	332
S2	22	#4	3	6'-6"	96
U1	4	#4	4	5'-3"	14
U2	8	#4	4	3'-6"	19
U3	6	#4	4	4'-11"	20
U4	2	#9	4	9'-7"	65

REINFORCING STEEL	2150 LBS.
CLASS "A" CONCRETE POUR #1 CAP	11.3 C.Y.
POUR #2 (LATERAL GUIDE)	0.1 C.Y.
TOTAL CLASS "A" CONCRETE	11.4 C.Y.
HP 12 X 53 GALVANIZED STEEL PILES	
BENT #1 NO.11	LIN. FT. 275
BENT #2 NO.11	LIN. FT. 385

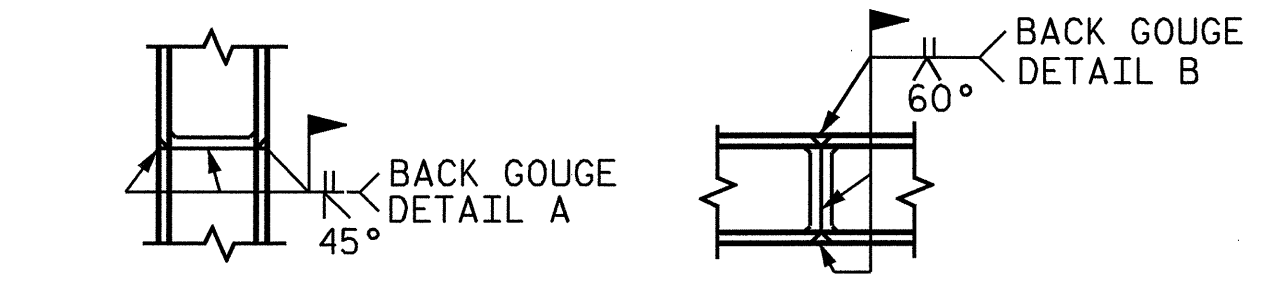


ALL BAR DIMENSIONS ARE OUT TO OUT

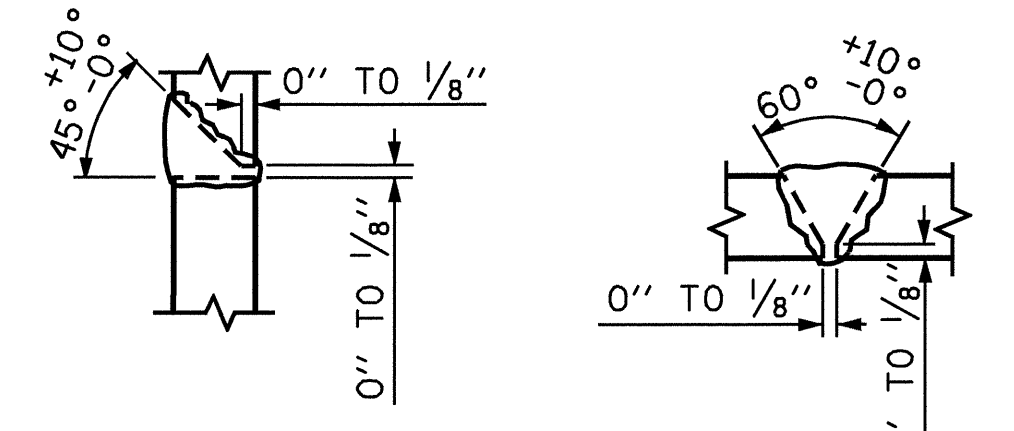
HP 12 X 53 GALVANIZED STEEL PILES & HP 12 X 53 GALVANIZED STEEL BRACE PILES (TO BE BATTERED @ 1/2: 12)

SECTION A-A

END VIEW
(TYP. EA. END)



* PILE VERTICAL * PILE HORIZONTAL OR VERTICAL



DETAIL A DETAIL B

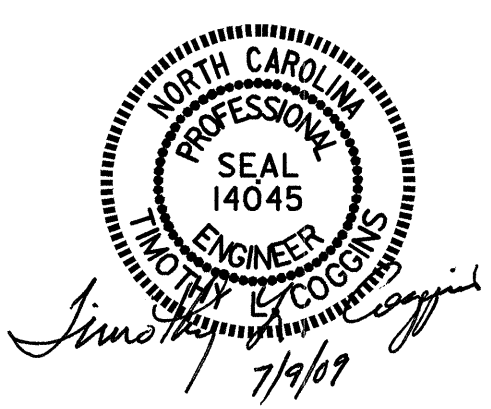
* POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS

PROJECT NO. B-4030
BRUNSWICK COUNTY
STATION: 16+80.00 -L-

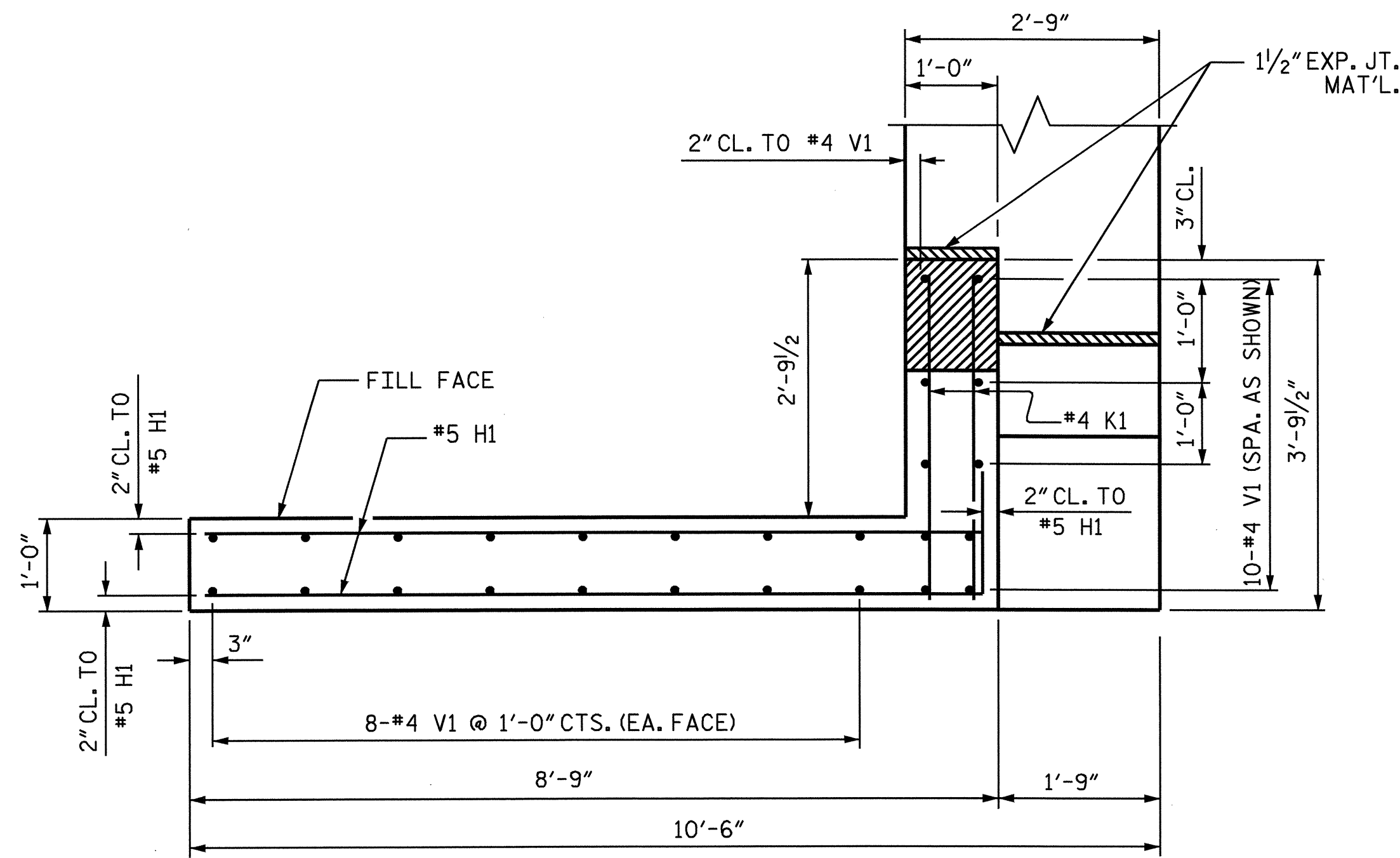
SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE
BENT #1 & #2

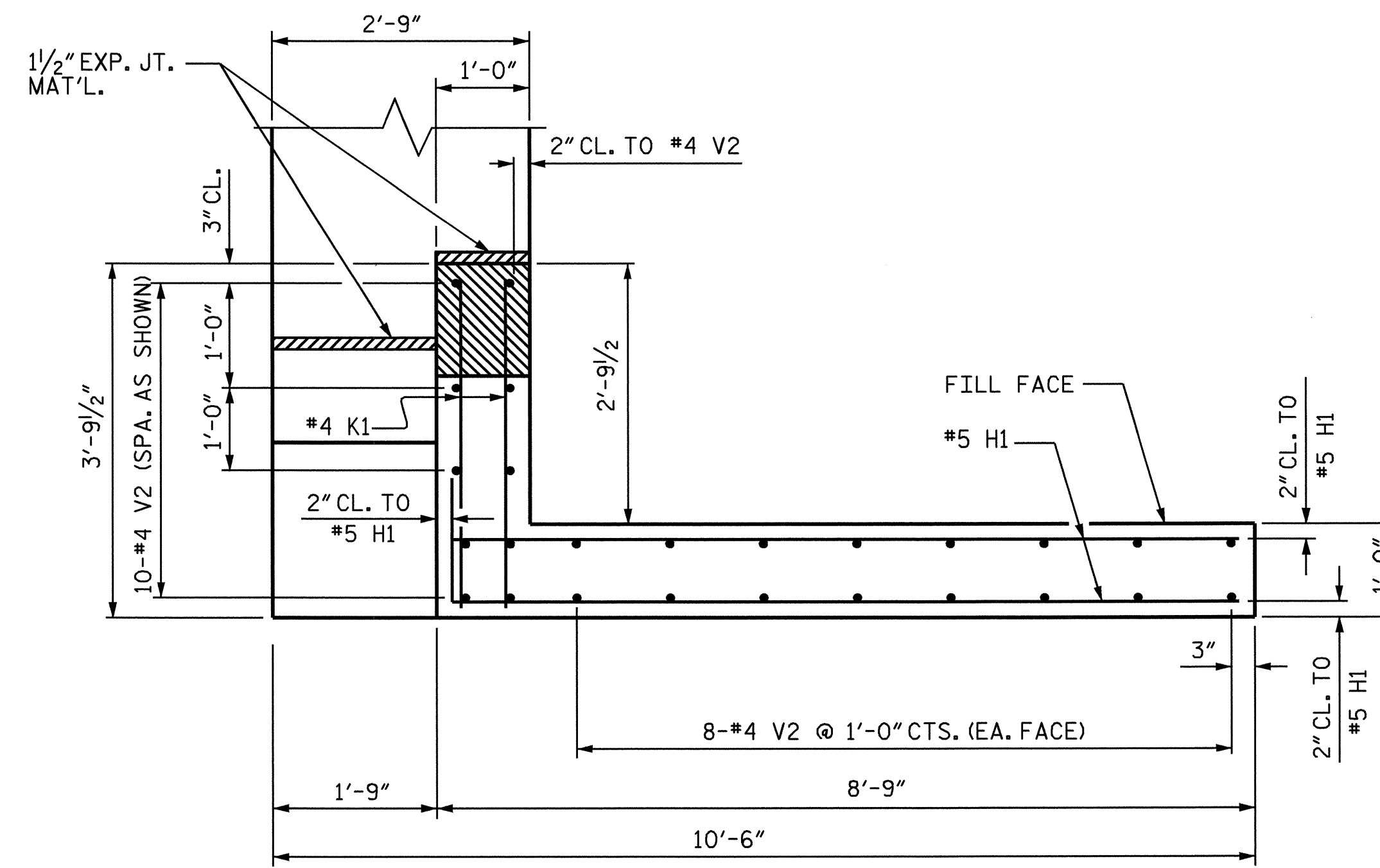


REVISIONS						SHEET NO. S-16
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 22
2			4			

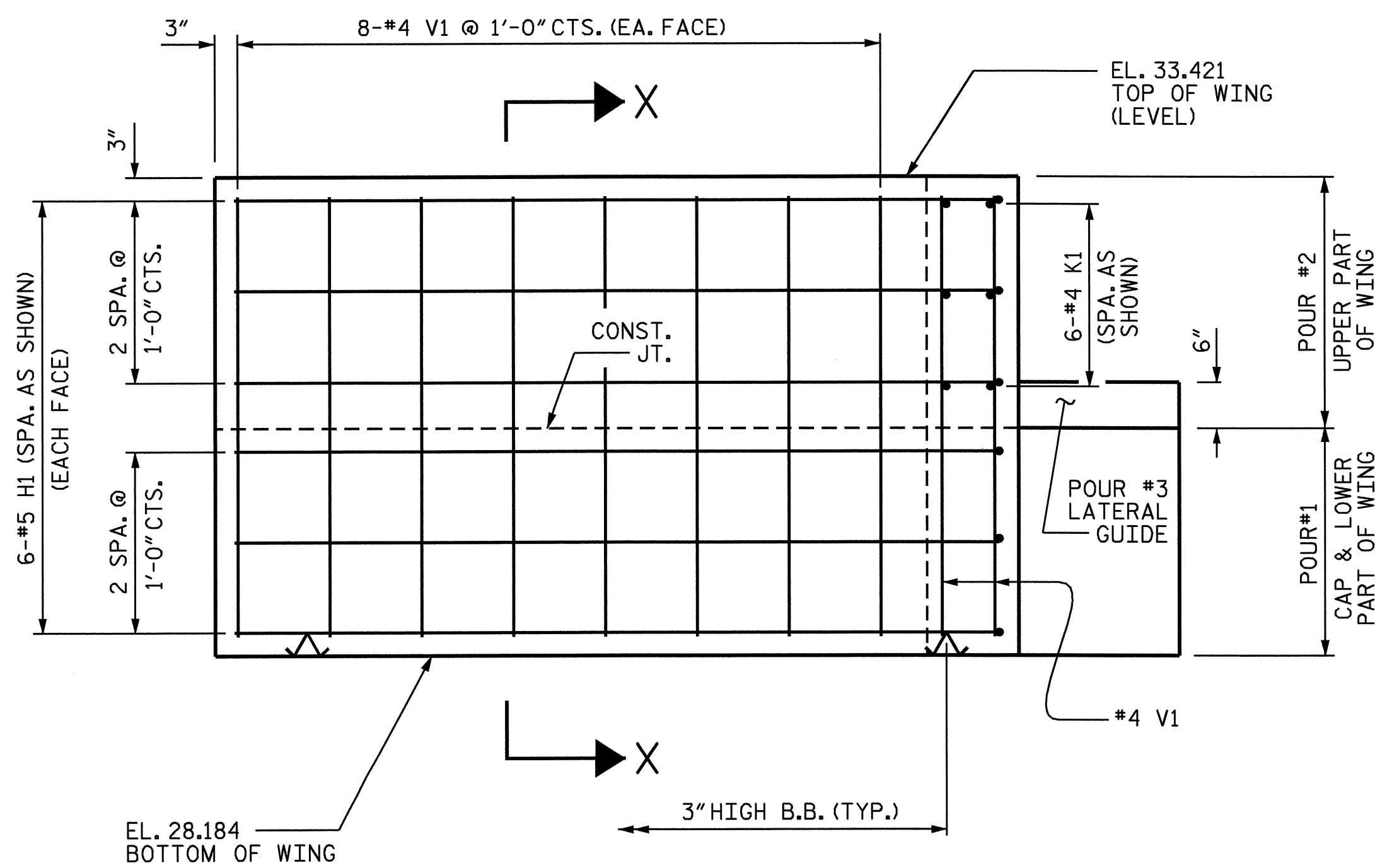
DRAWN BY: M.D.PISO DATE: 9/2008
CHECKED BY: B.N.BARODAWALA DATE: 10/2008



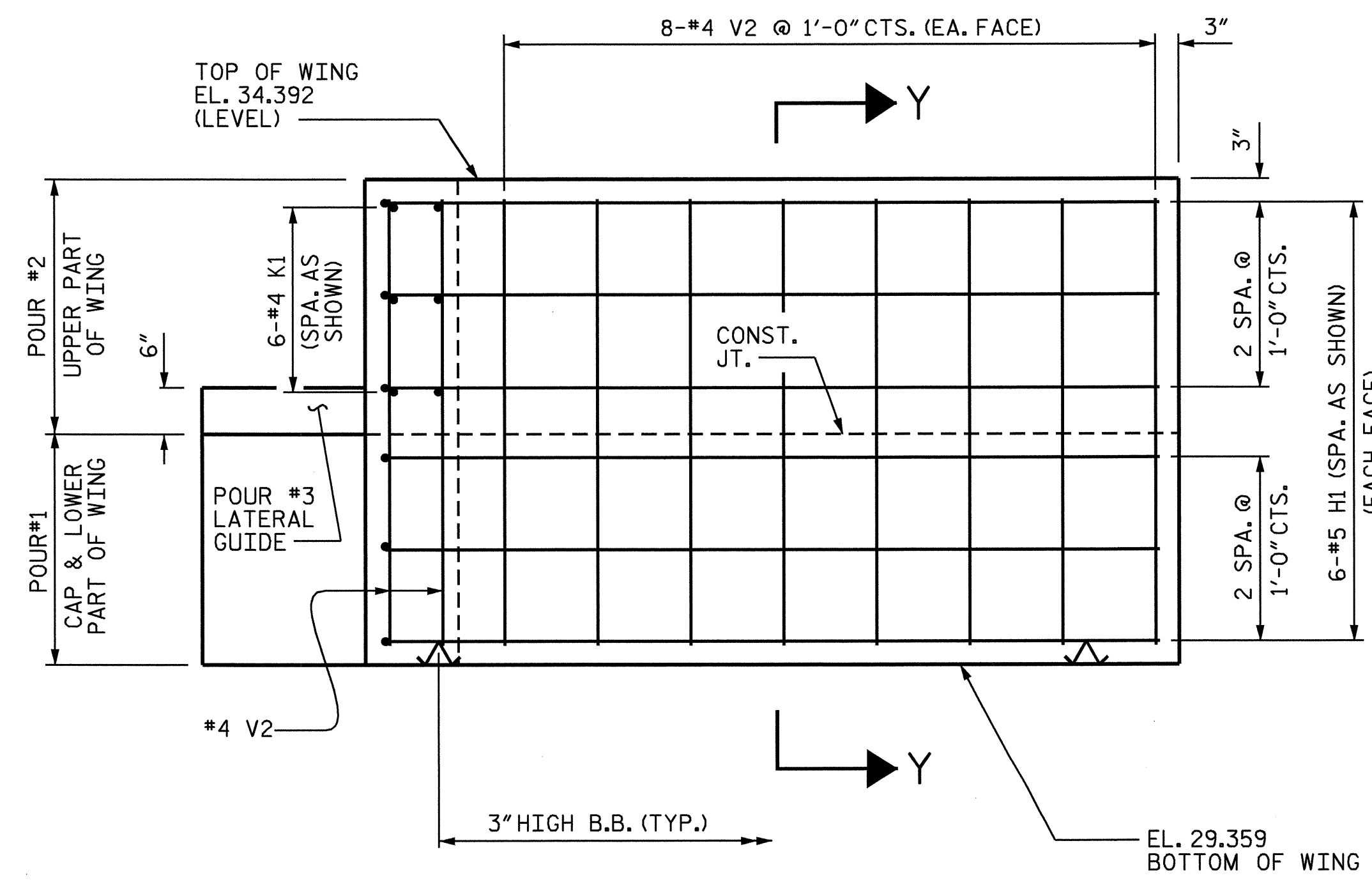
PLAN OF LEFT WING (W1)



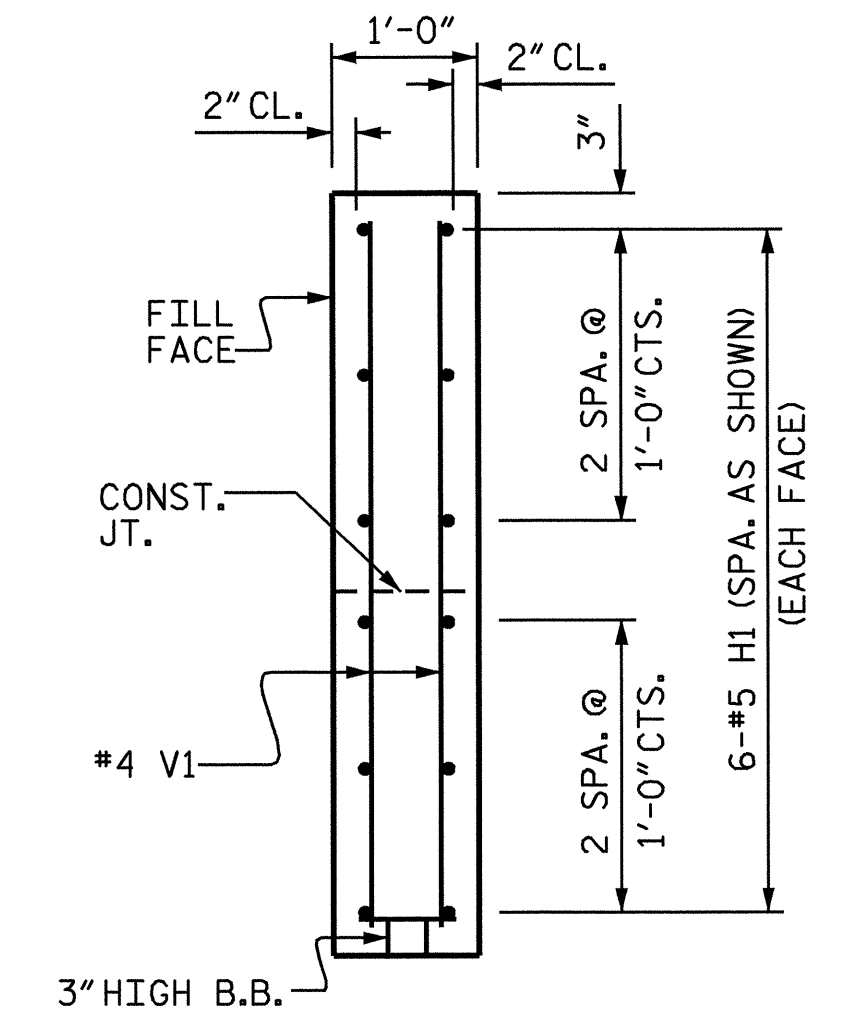
PLAN OF RIGHT WING (W2)



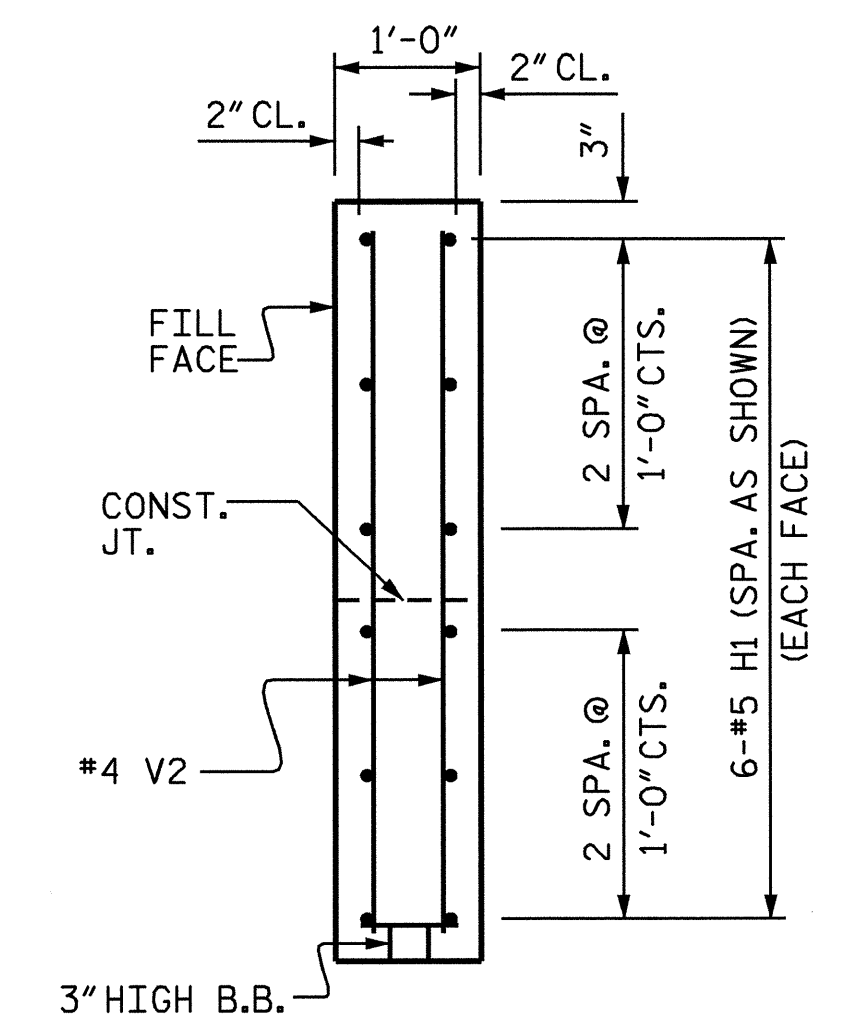
ELEVATION OF LEFT WING (W1)



ELEVATION OF RIGHT WING (W2)



SECTION X-X



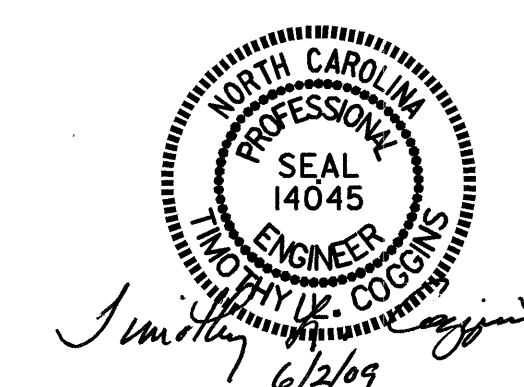
SECTION Y-Y

PROJECT NO. B-4030
 BRUNSWICK COUNTY
 STATION: 16+80.00 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

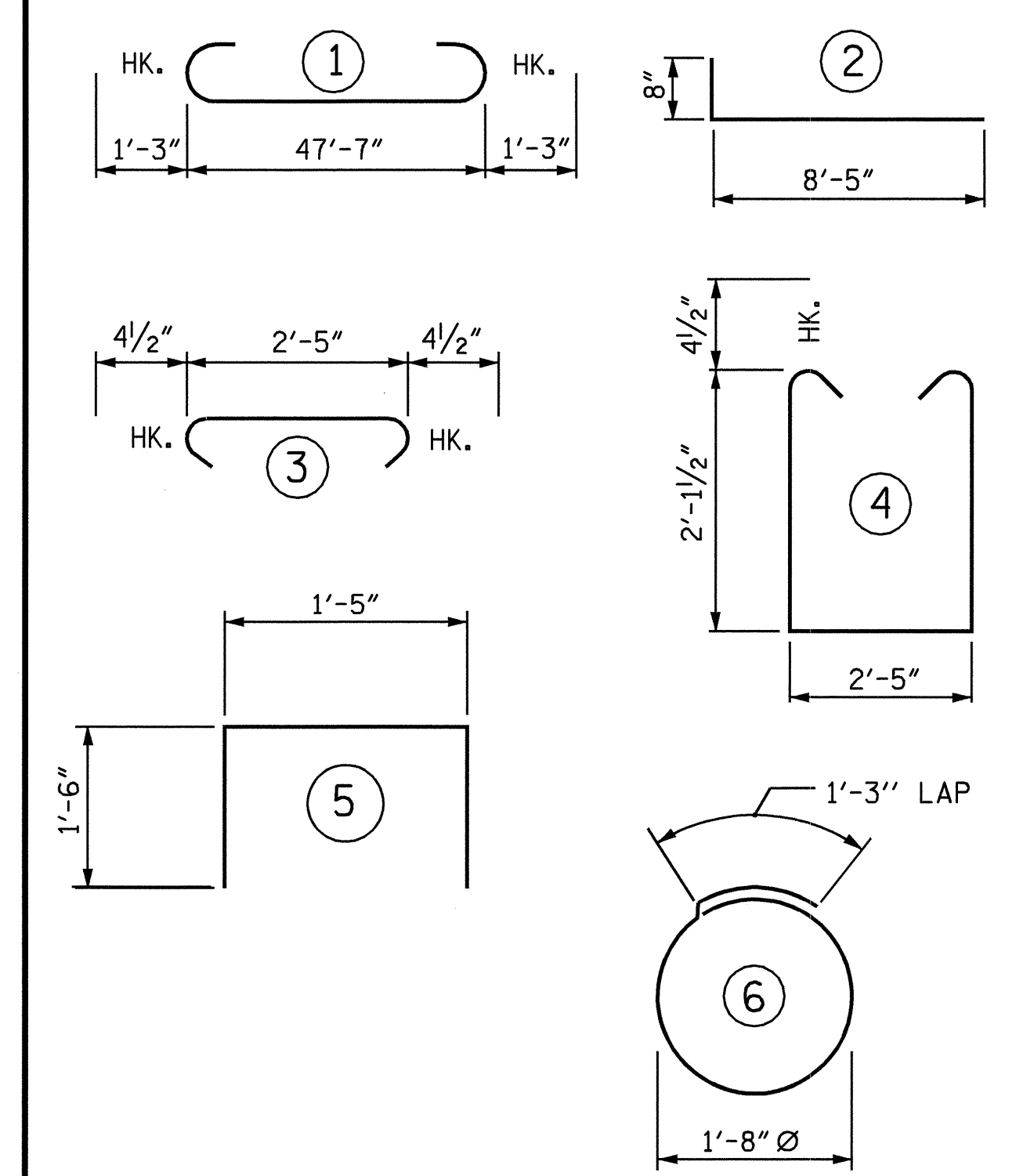
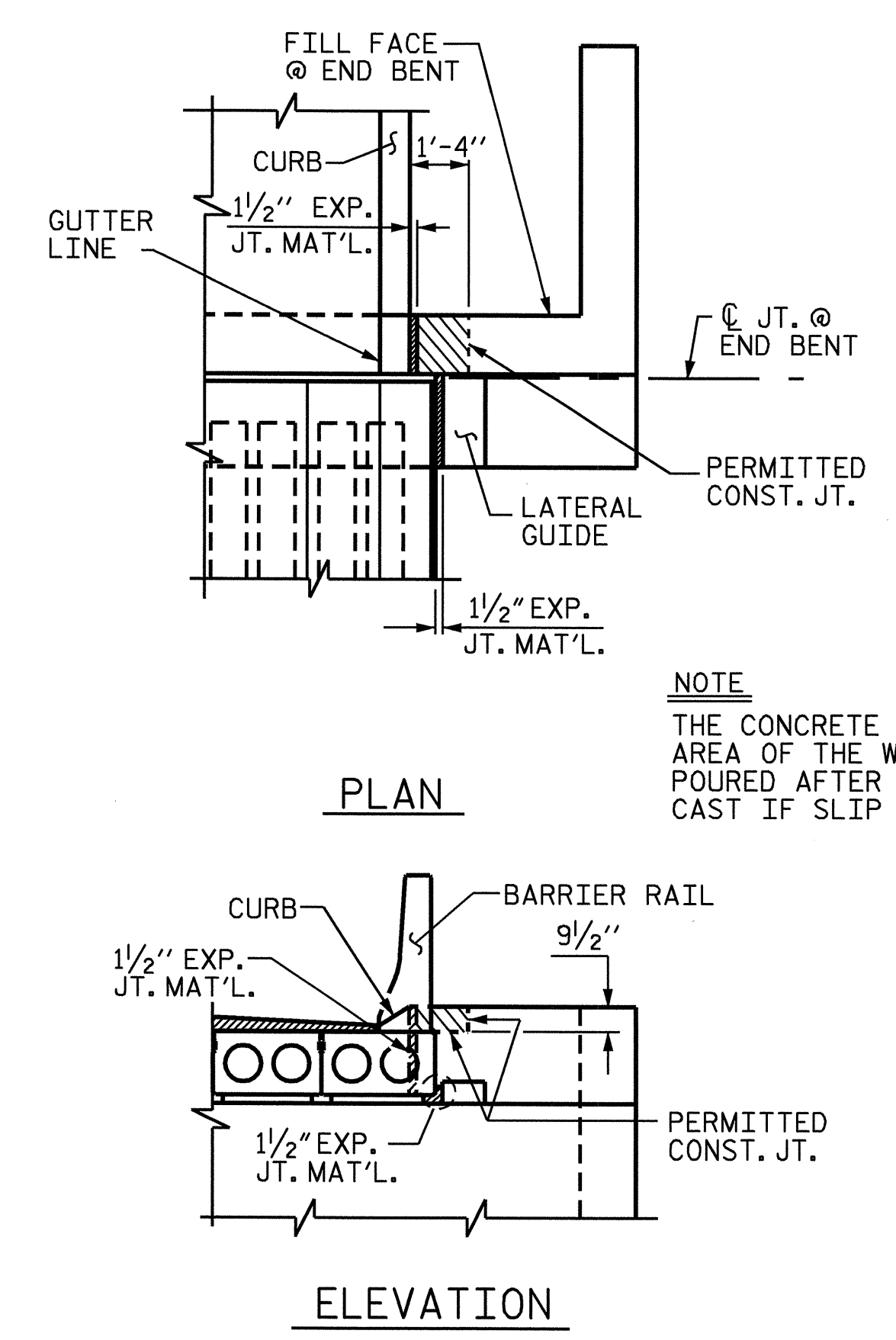
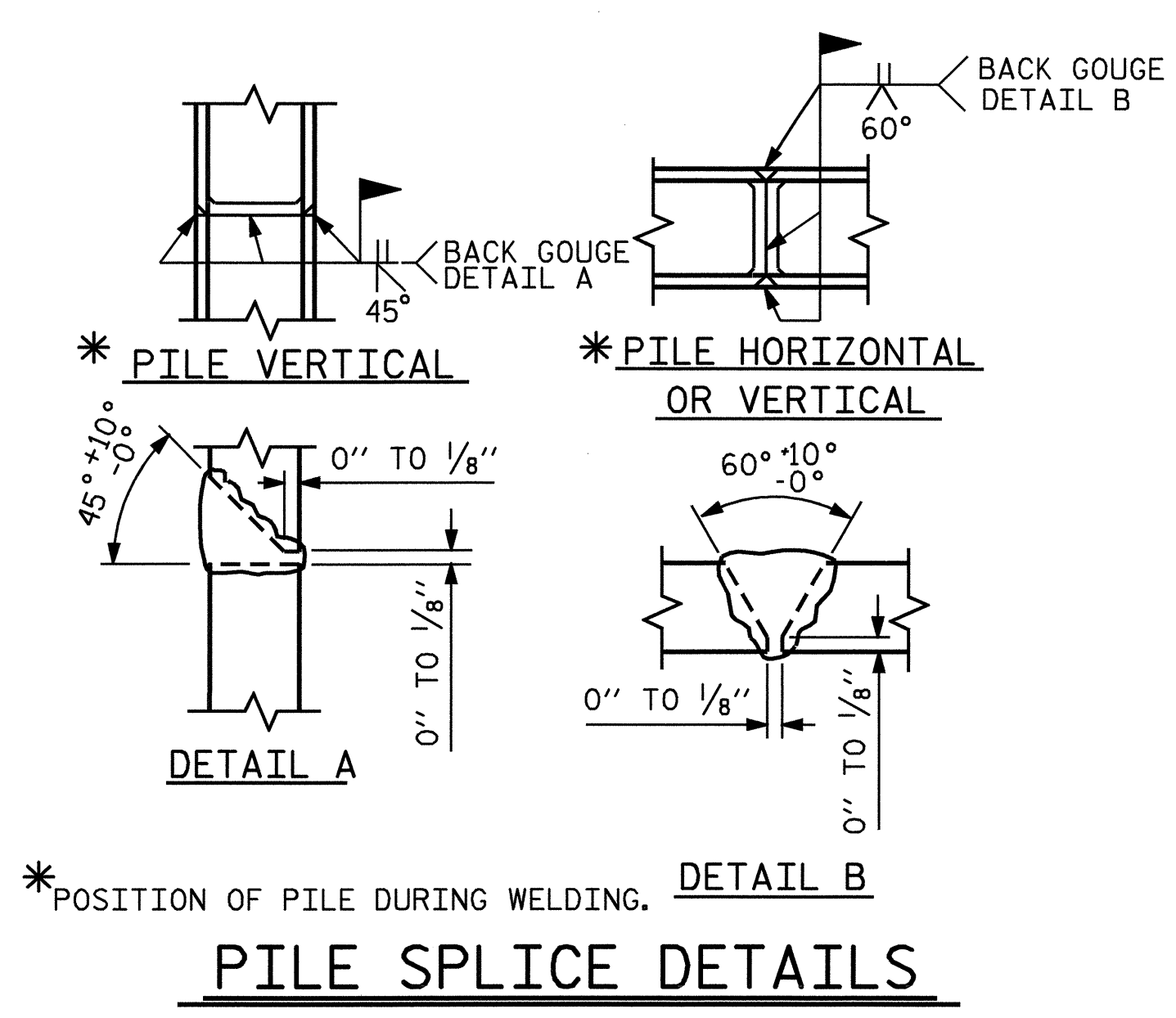
SUBSTRUCTURE
 END BENT #2



DRAWN BY: M.D.PISO/PSAP DATE: 10/2008
 CHECKED BY: B.N.BARODAWALA DATE: 10/2008

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

TOTAL SHEETS: 22

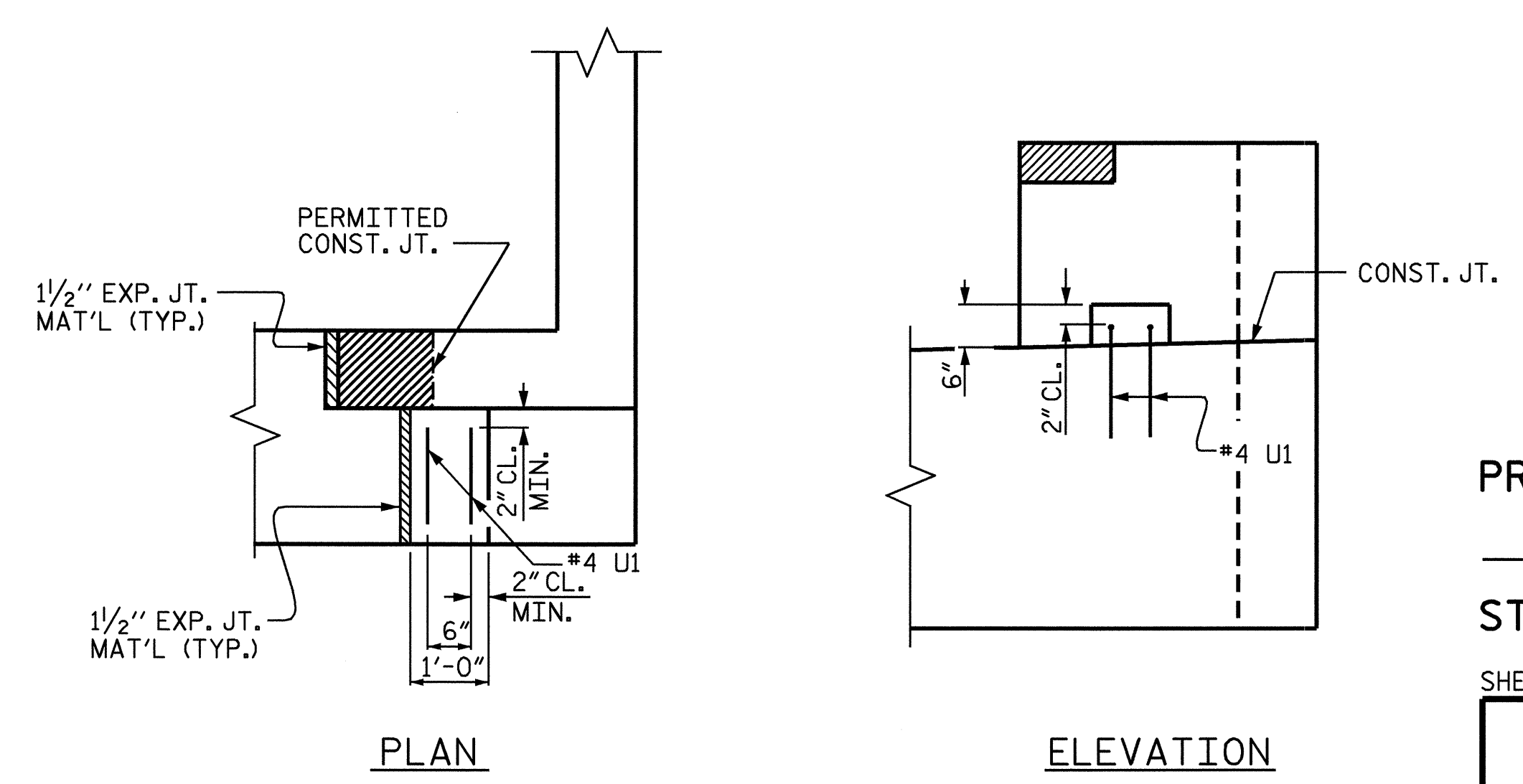
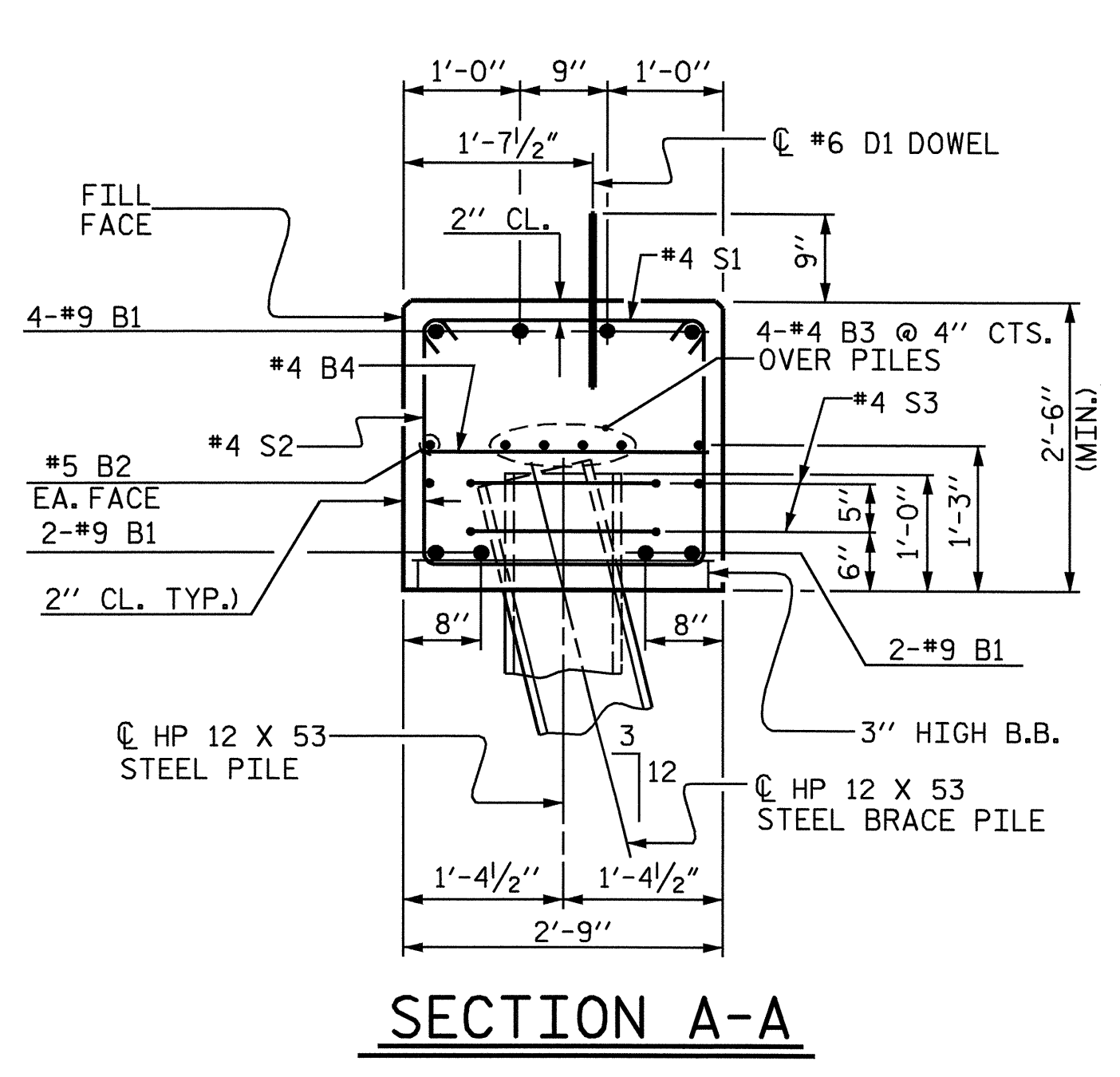


ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL

END BENT #2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	9	1	50'-1"	1362
B2	2	5	STR	47'-8"	99
B3	8	4	STR	25'-1"	134
B4	12	4	STR	2'-5"	19
D1	28	6	STR	1'-6"	63
H1	24	5	2	9'-1"	227
K1	12	4	STR	3'-5"	27
S1	44	4	3	3'-2"	93
S2	44	4	4	7'-5"	218
S3	16	4	6	6'-6"	69
U1	4	4	5	4'-5"	12
V1	26	4	STR	4'-11"	85
V2	26	4	STR	4'-8"	81
REINFORCING STEEL					2489 LBS.
CLASS "A" CONCRETE					
POUR #1 CAP & LOWER WINGS					13.7 C.Y.
POUR #2 UPPER WINGS					2.3 C.Y.
POUR #3 LATERAL GUIDES					0.1 C.Y.
TOTAL CLASS "A" CONCRETE					16.1 C.Y.
HP 12 X 53 STEEL PILES					
NO. 8		LIN. FT.		200 LIN. FT.	

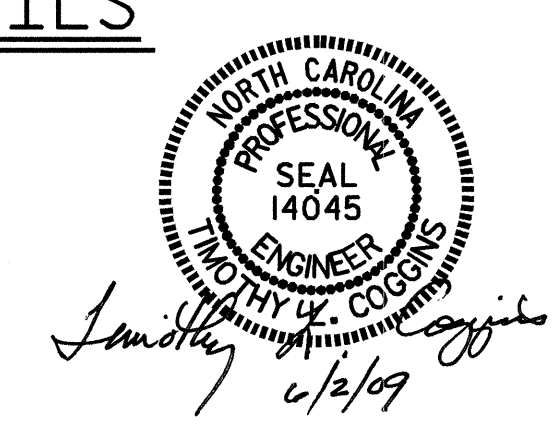
BLOCKOUT IN WING WALL FOR CORED SLAB



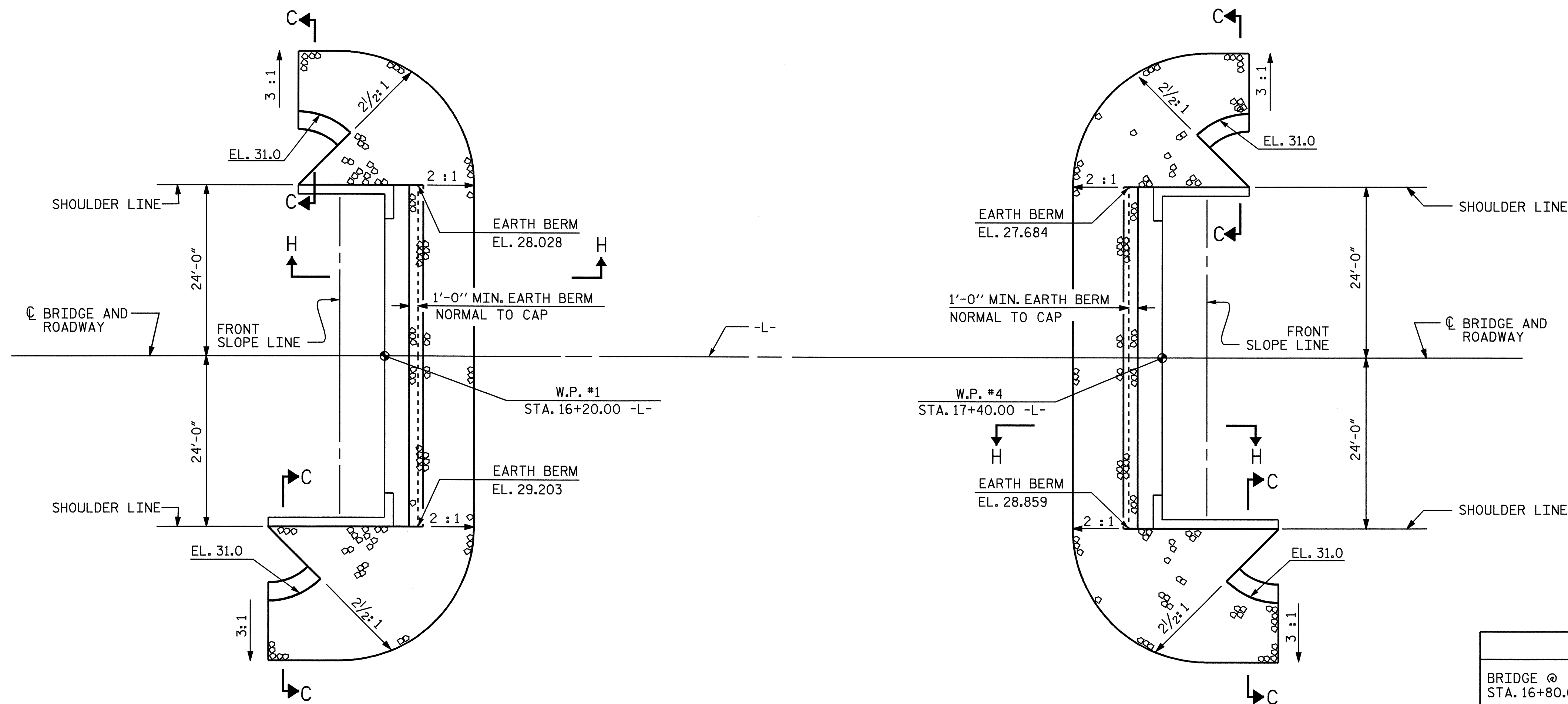
LATERAL GUIDE DETAILS
 (EACH END SIMILAR)

PROJECT NO. B-4030
 BRUNSWICK COUNTY
 STATION: 16+80.00 -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:
1			3		
2			4		
					TOTAL SHEETS 22

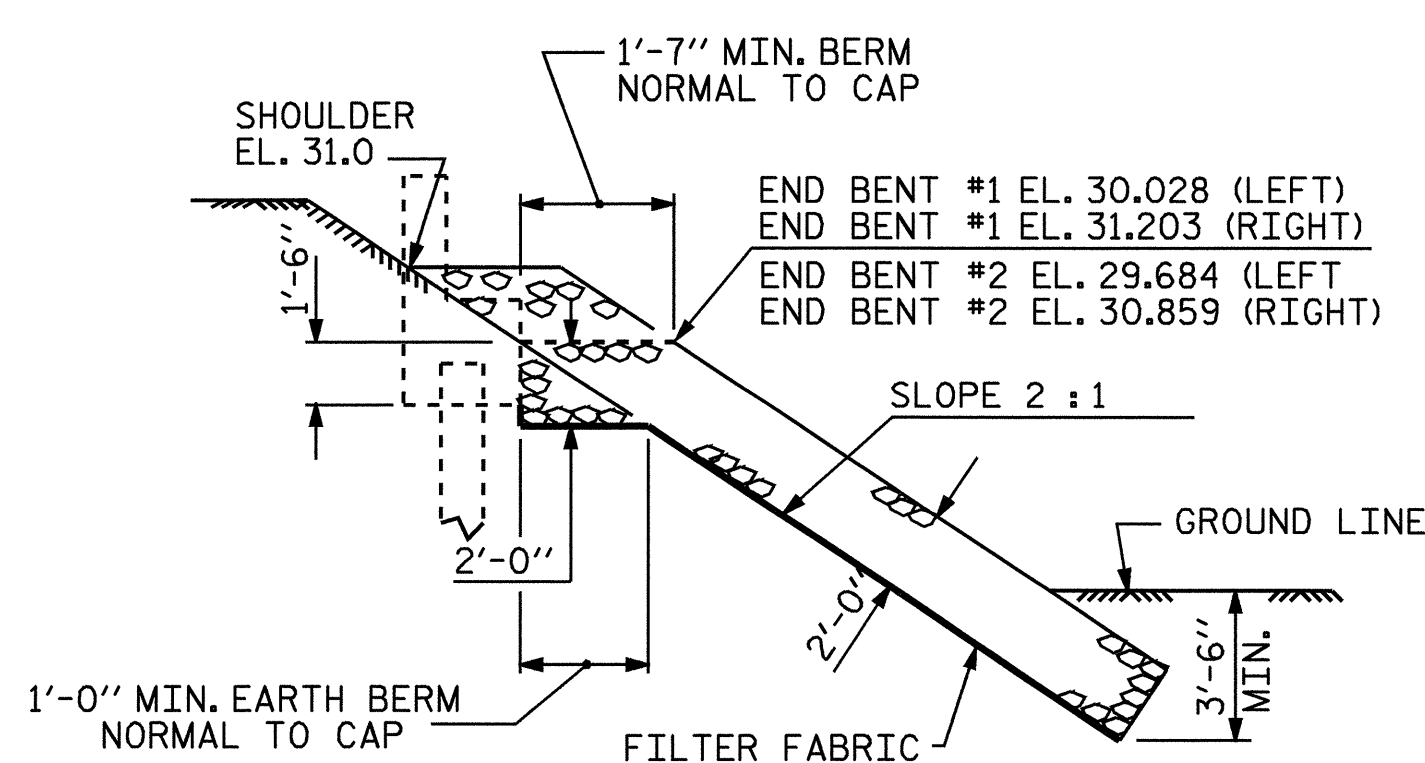


DRAWN BY : M.D.PISO/PSAP DATE : 10/2008
 CHECKED BY : B.N.BARODAWALA DATE : 10/2008

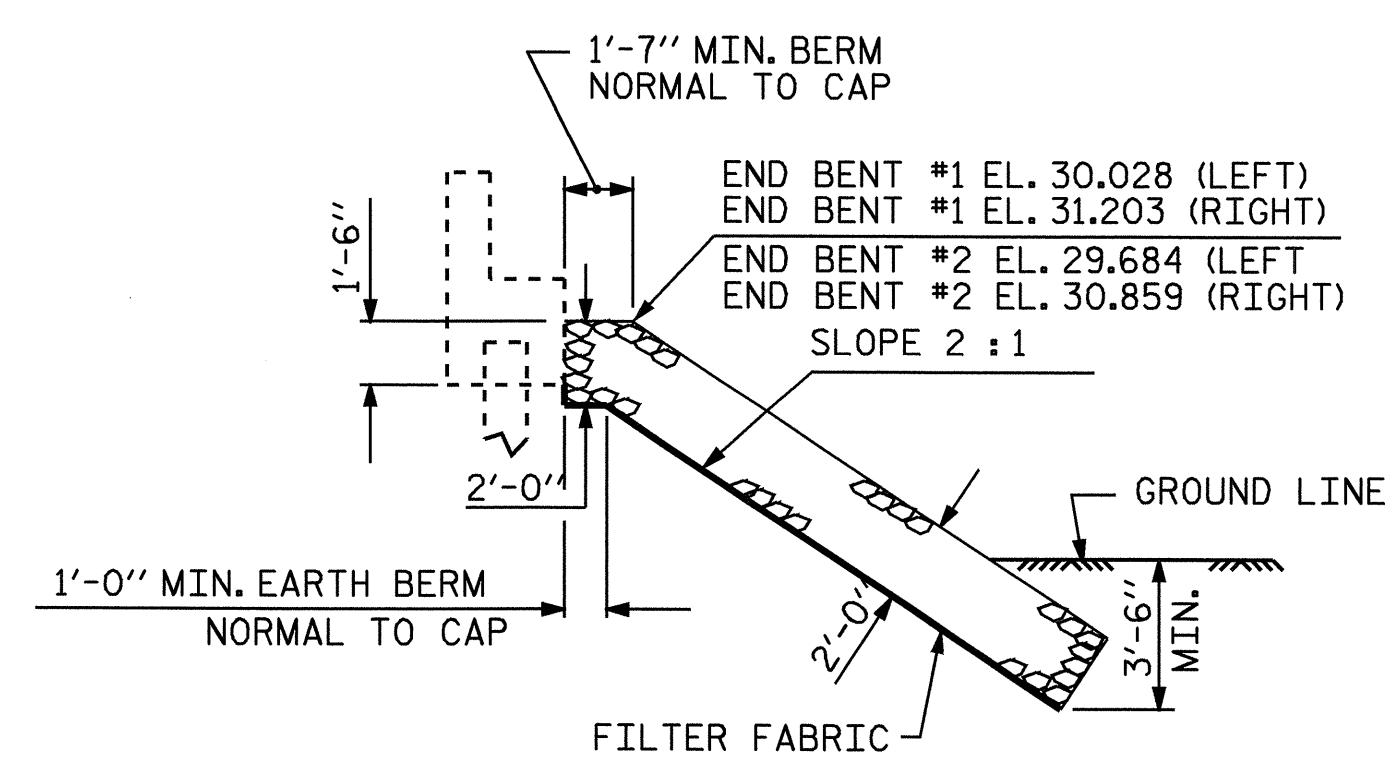


PLAN

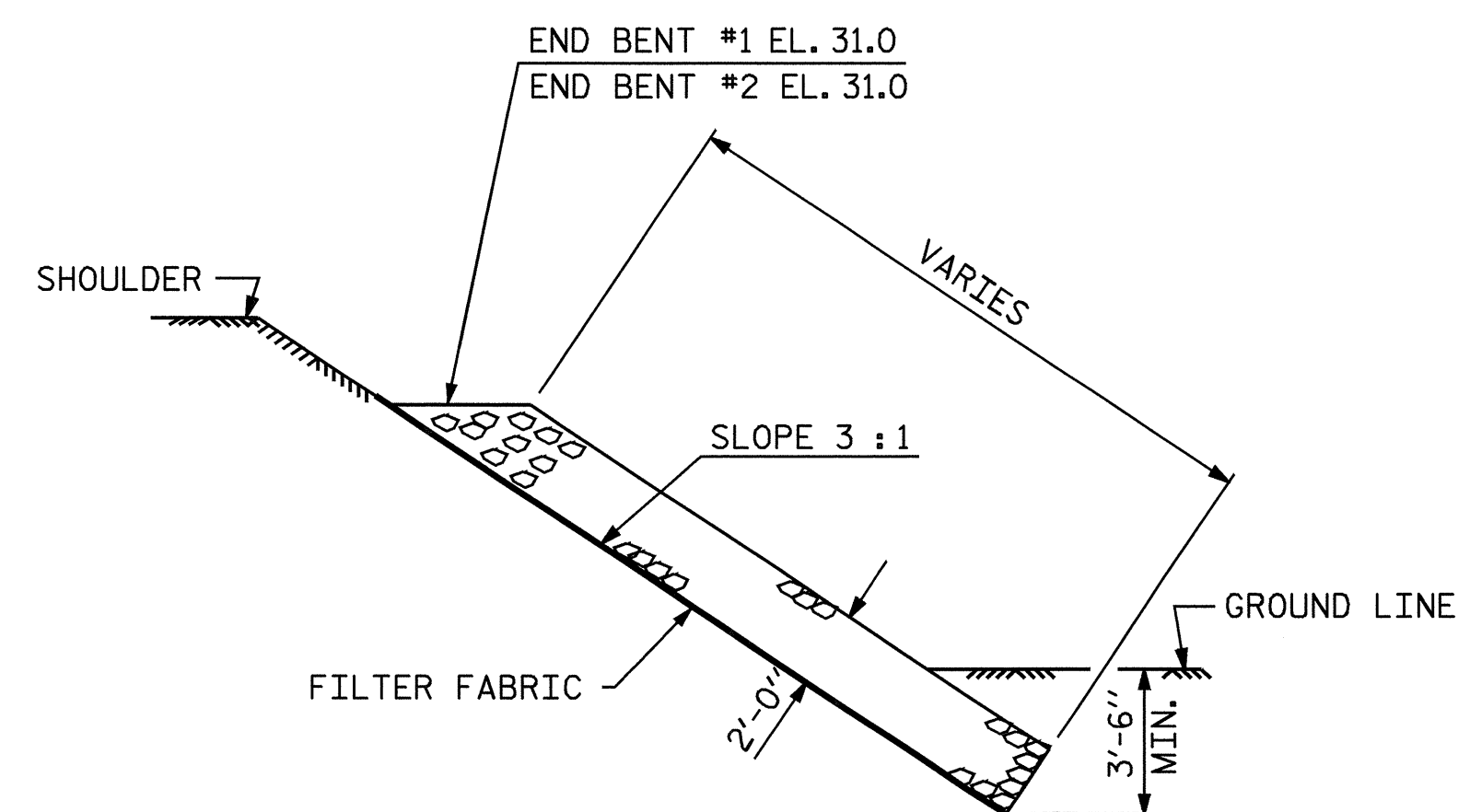
ESTIMATED QUANTITIES		
BRIDGE @ STA. 16+80.00 -L-	RIP RAP, CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	157	175
END BENT 2	140	155



SECTION H-H



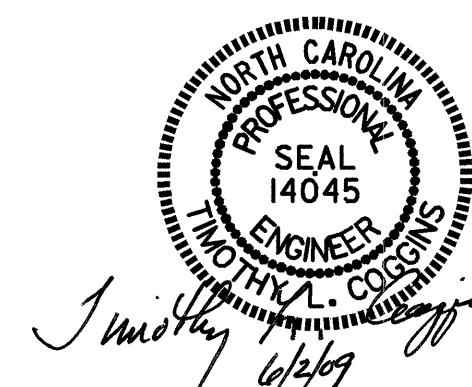
SECTION C-C
BERM RIP RAPPED



SECTION C-C

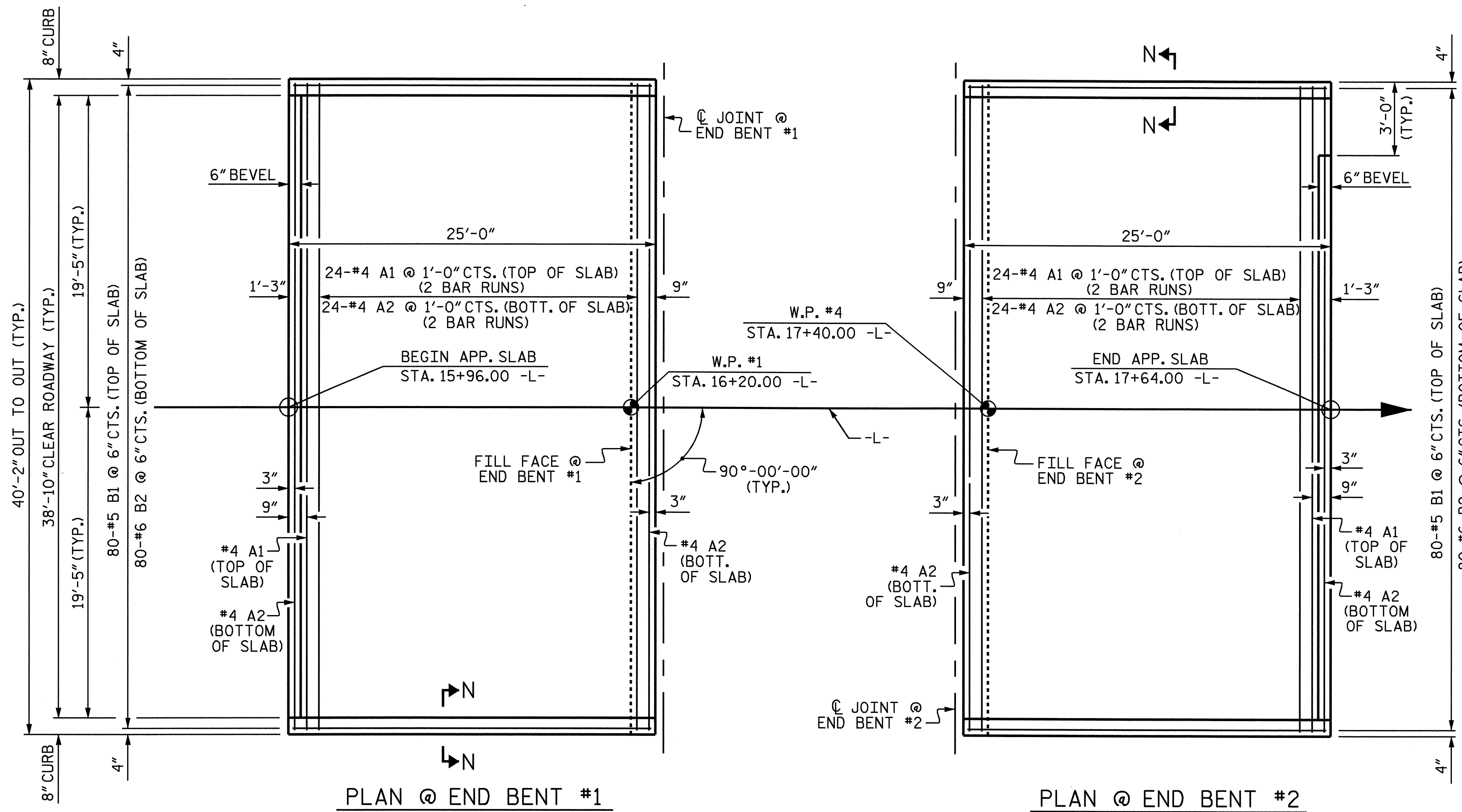
PROJECT NO. B-4030
BRUNSWICK COUNTY
 STATION: 16+80.00 -L-

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



ASSEMBLED BY : M.D.PISO DATE : 10/2008
 CHECKED BY : J.B.WILSON DATE : 10/2008
 DRAWN BY : FCJ 2/88 REV. 8/16/99 RWW/LES
 CHECKED BY : ARB 8/88 REV. 10/17/00 RWW/LES
 REV. 5/1/06 TLA/GM

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-20
1			3			TOTAL SHEETS
2			4			22



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

NOTES

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

FOR REINFORCED BRIDGE APPROACH FILL INCLUDING FABRIC, IMPERMEABLE GEOMEMBRANE, 4" Ø DRAINAGE PIPE, #78M STONE, AND SELECT MATERIAL, SEE ROADWAY PLANS.

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

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

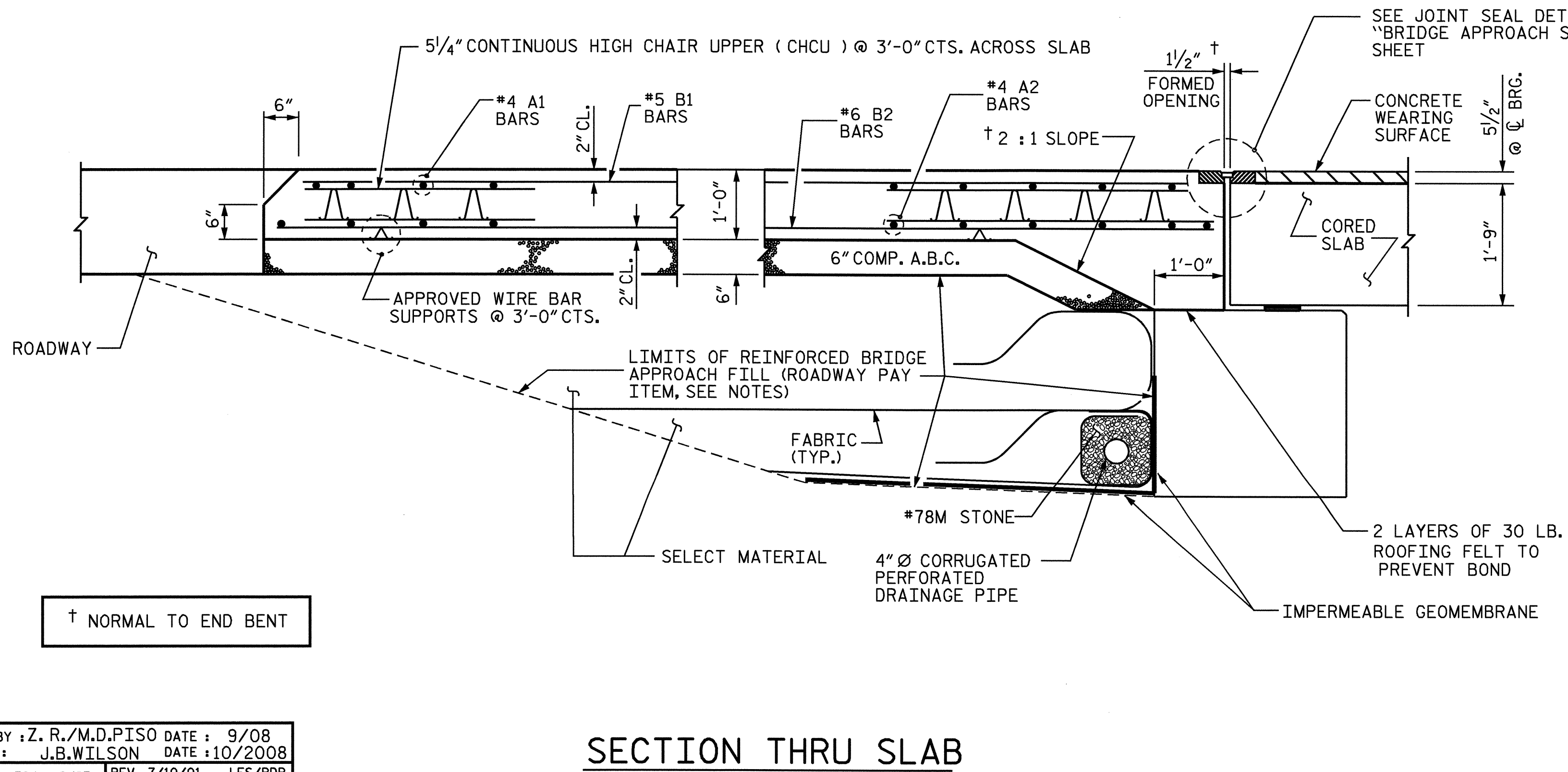
THE CONTRACTOR MAY USE 4" TYPE B-25.0B ASPHALT CONCRETE BASE COURSE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE BASE COURSE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB, AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB.

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.

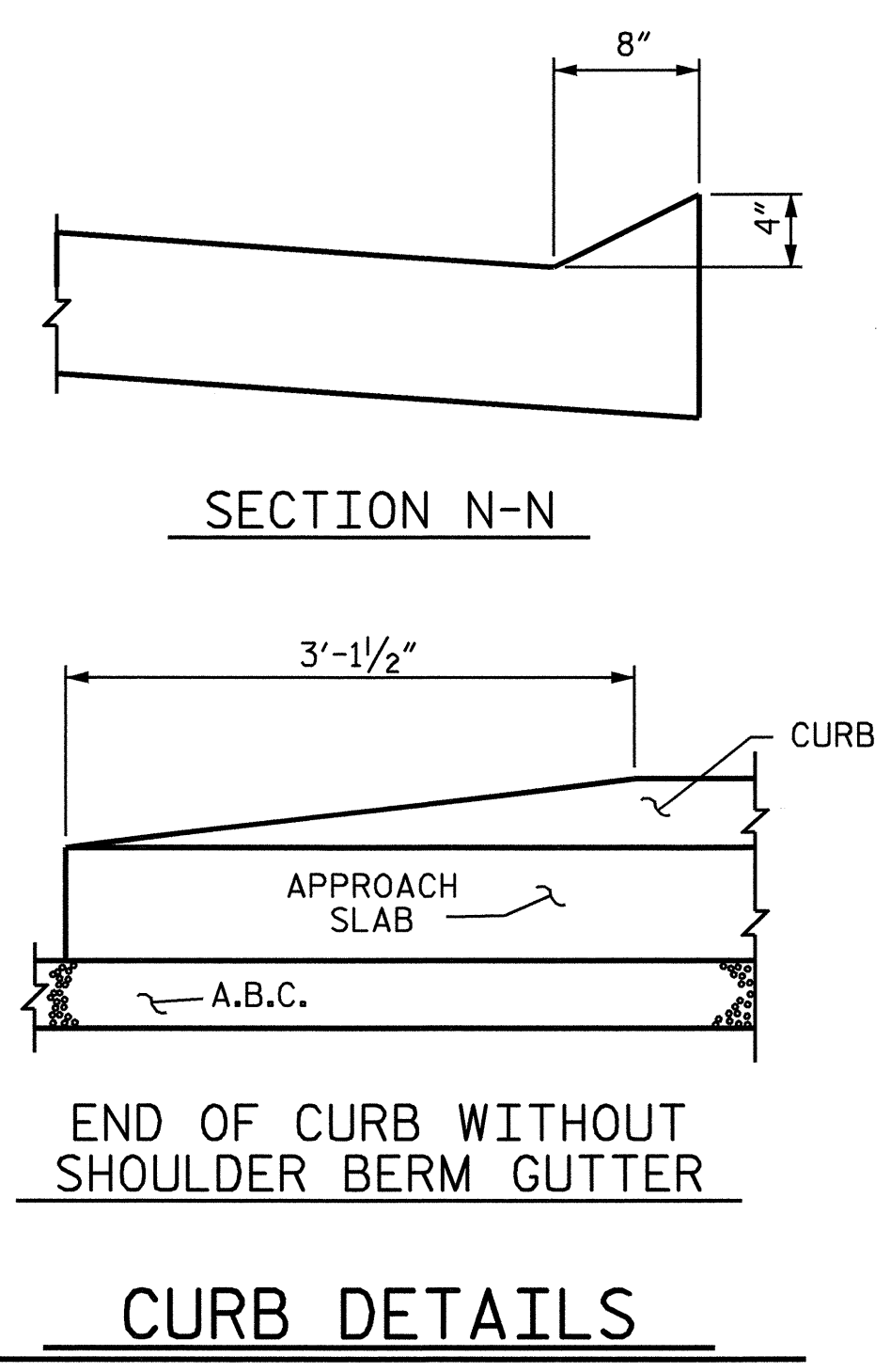
WITH EVAZOTE JOINT SEAL
 FOR EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.
 THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE EVAZOTE JOINT SEAL SHALL BE 3/16".
 FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

WITH CONCRETE WEARING SURFACE
 APPROACH SLABS SHALL BE POURED AFTER CONCRETE OVERLAY IS POURED.
 THE JOINT SHALL BE SAWED AFTER THE CASTING OF THE BARRIER RAIL.

BILL OF MATERIAL					
FOR ONE APPROACH SLAB (2 REQ'D)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	50	#4	STR	20'-11"	699
A2	52	#4	STR	20'-10"	724
*B1	80	#5	STR	23'-9"	1982
B2	80	#6	STR	24'-8"	2964
REINFORCING STEEL				LBS.	3688
*EPOXY COATED REINFORCING STEEL				LBS.	2681
CLASS AA CONCRETE				C. Y.	42.7
SPLICE CHART					
BAR SIZE		SPLICE LENGTH			
#4 A1		2'-0"			
#4 A2		1'-9"			



SECTION THRU SLAB

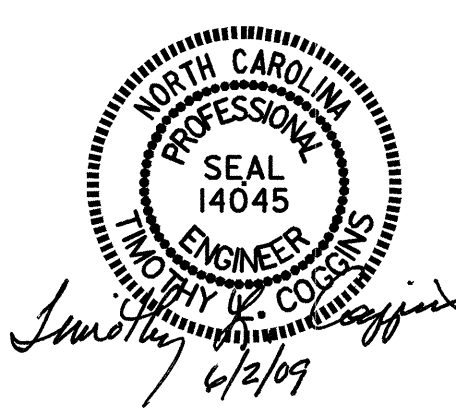


CURB DETAILS

PROJECT NO. B-4030
BRUNSWICK COUNTY
 STATION: 16+80.00 -L-

SHEET 1 OF 2

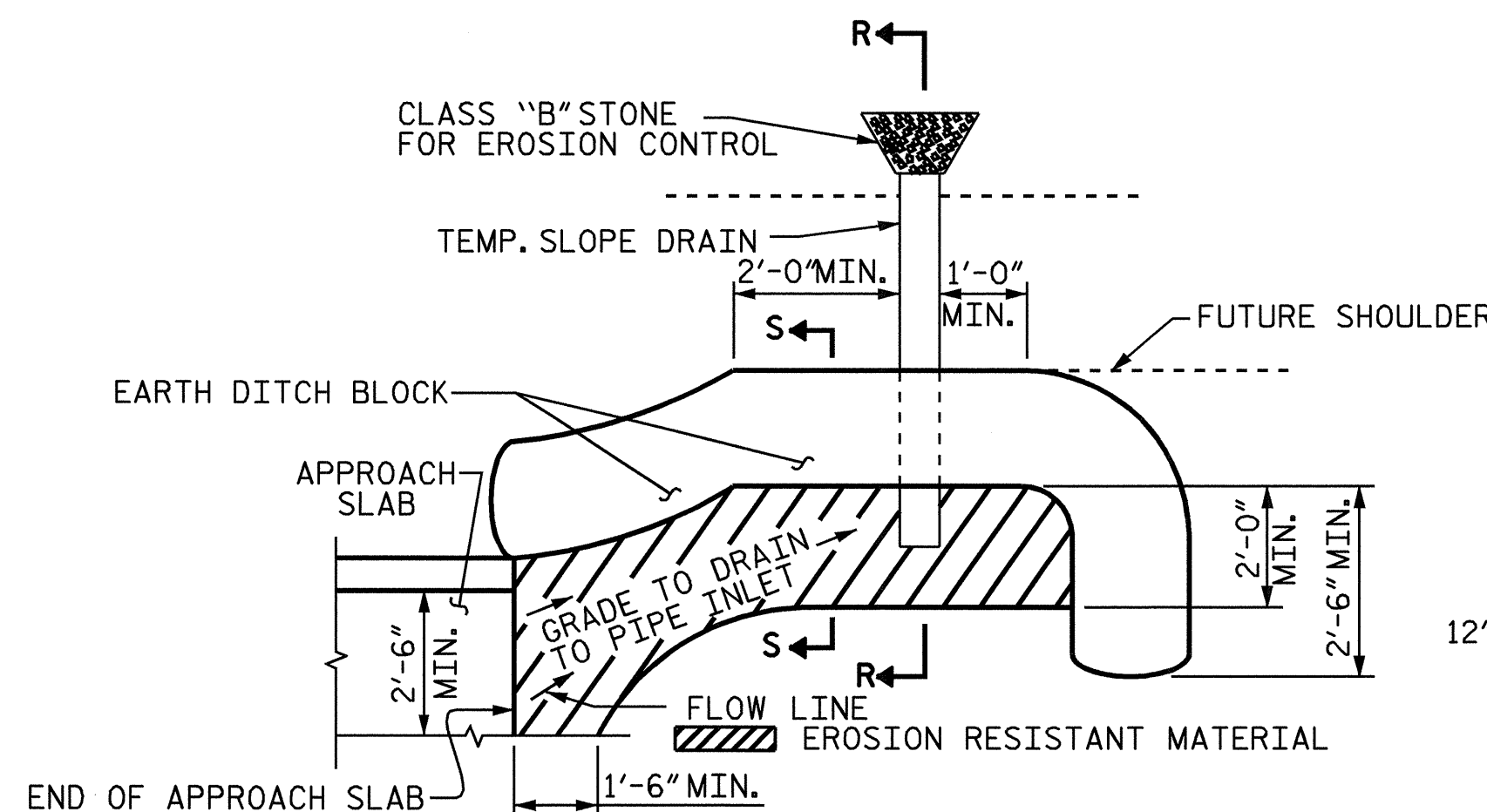
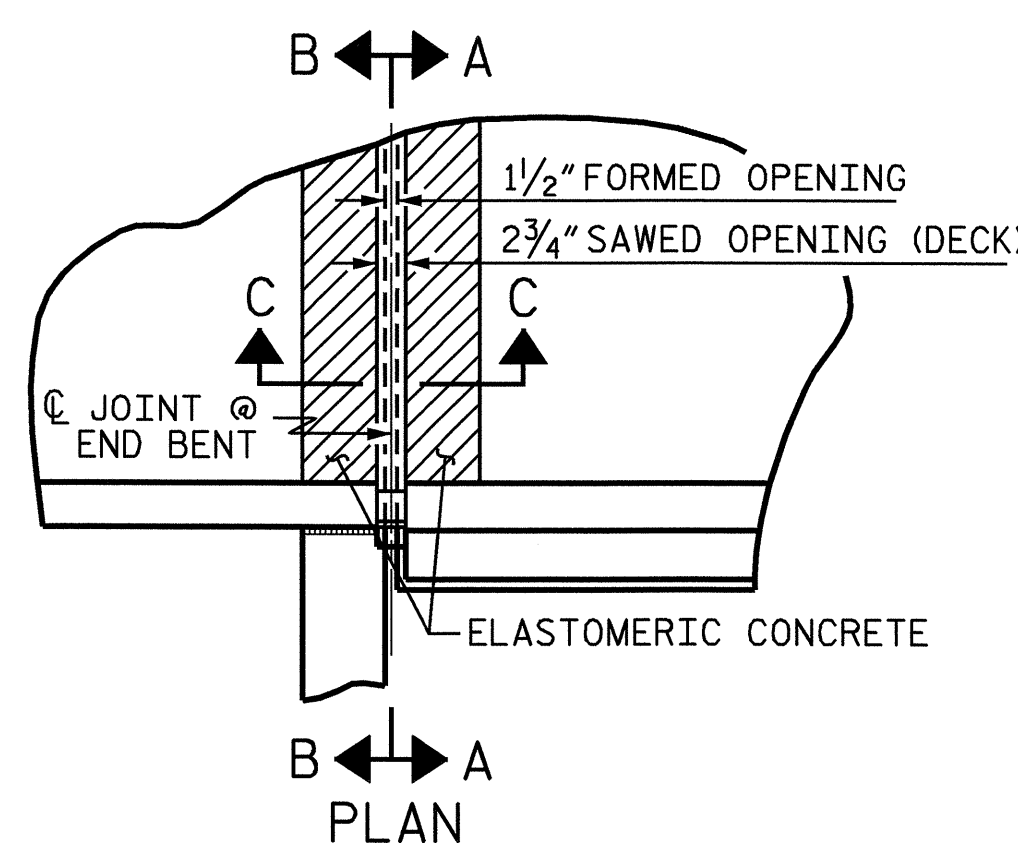
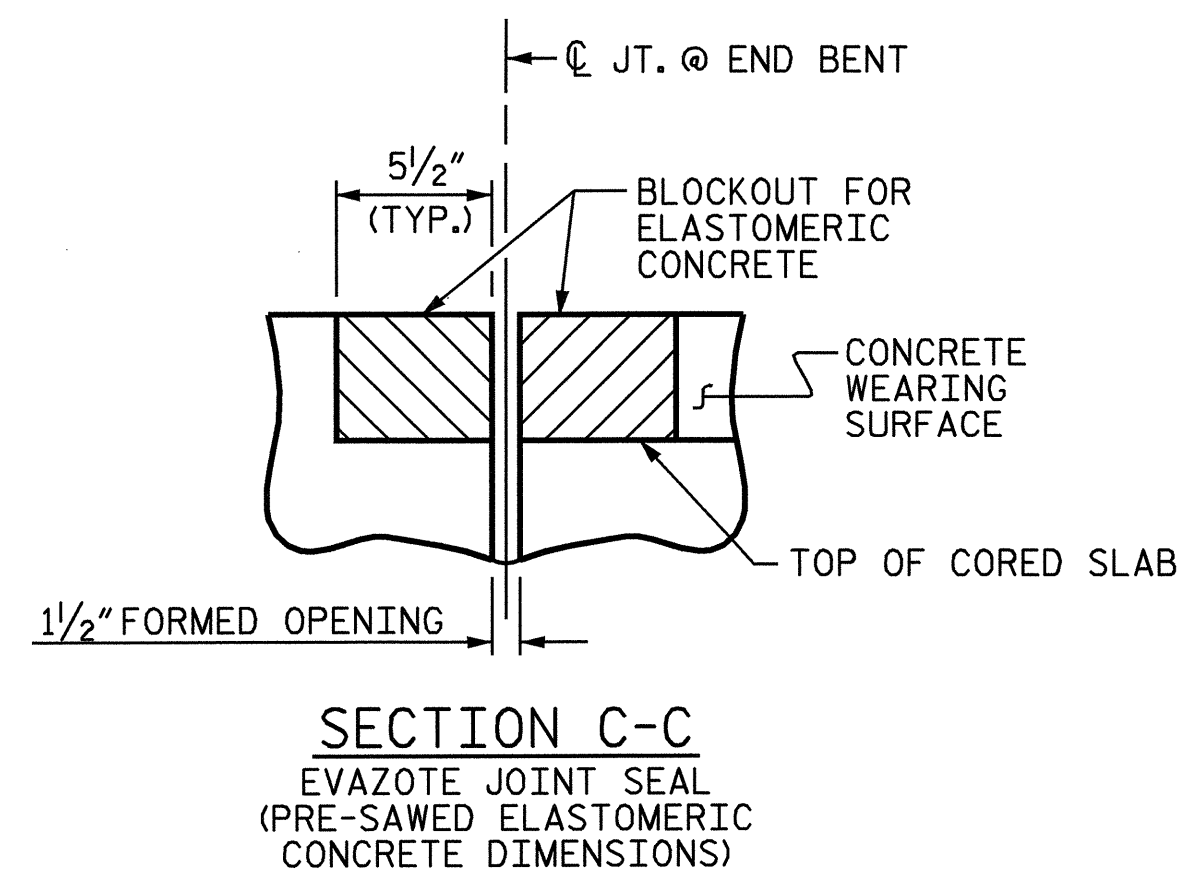
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 BRIDGE APPROACH SLAB
 FOR PRESTRESSED CONCRETE
 CORED SLAB



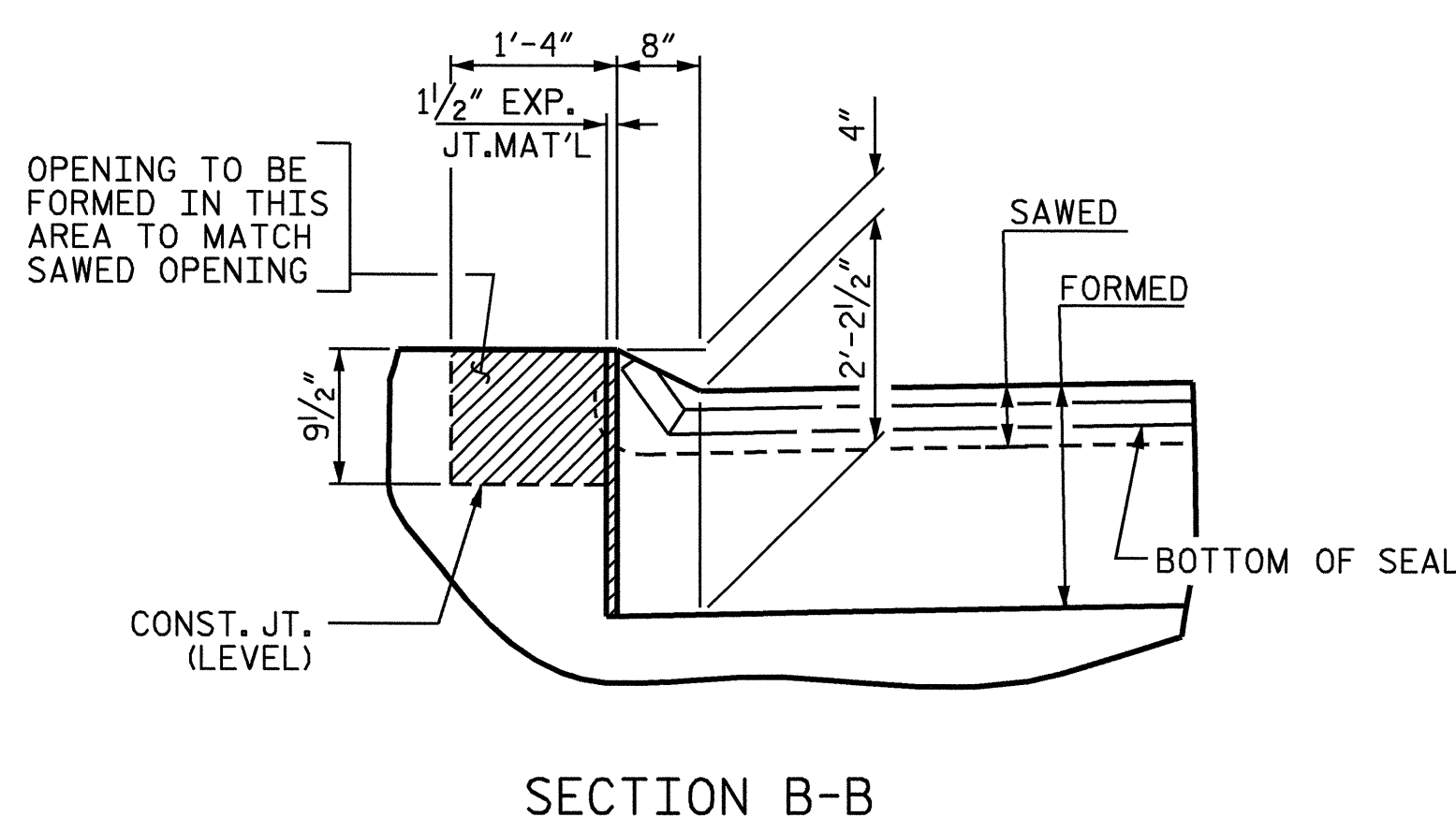
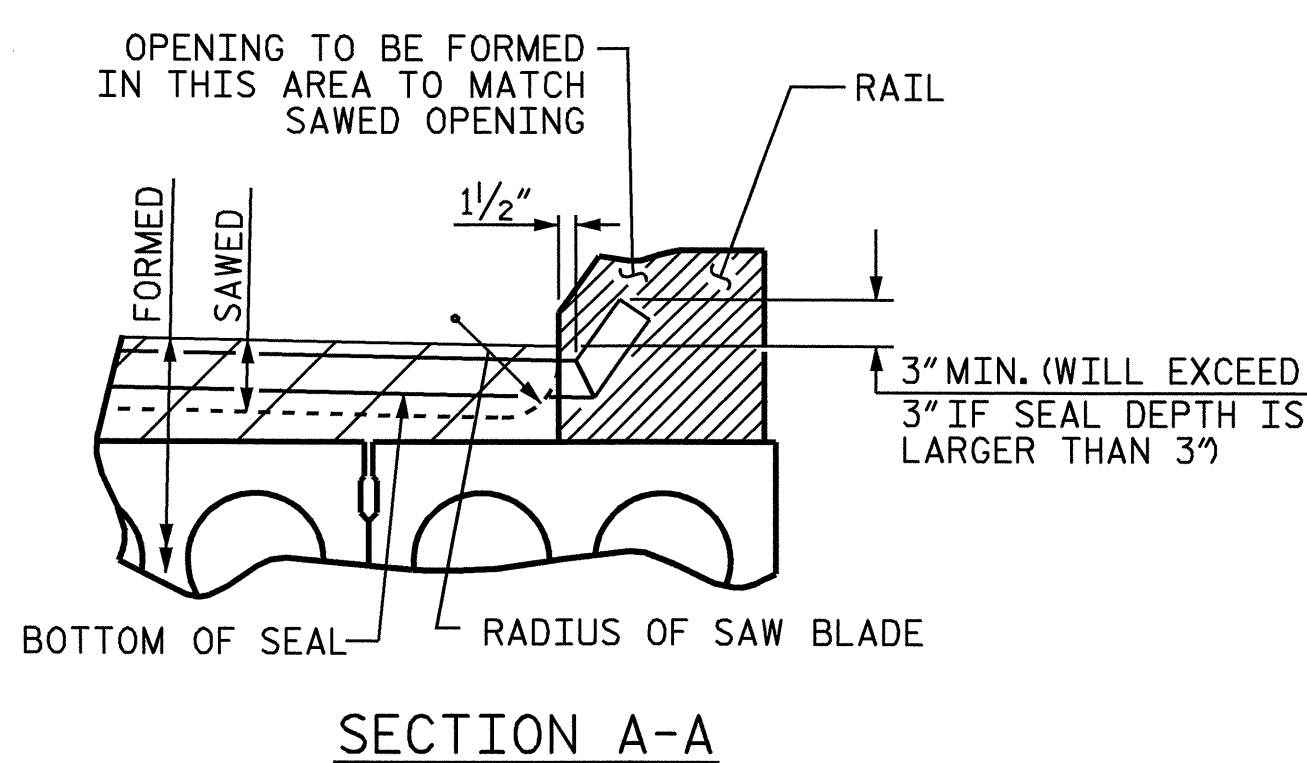
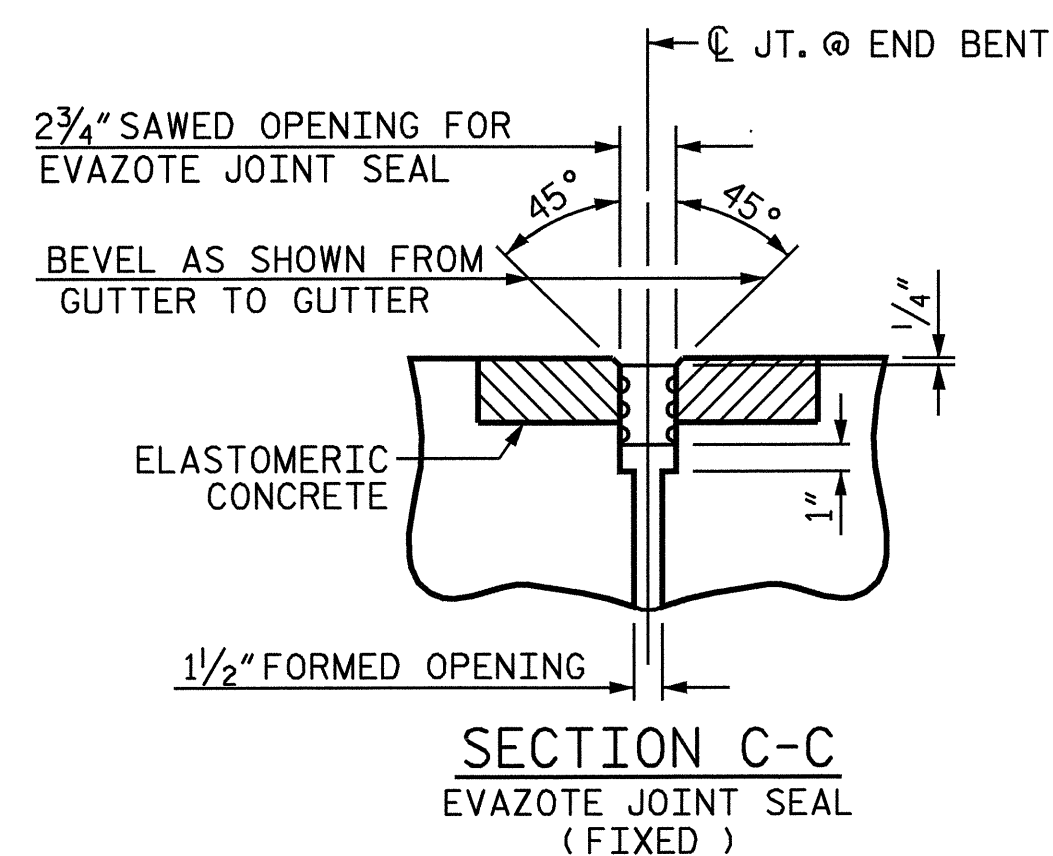
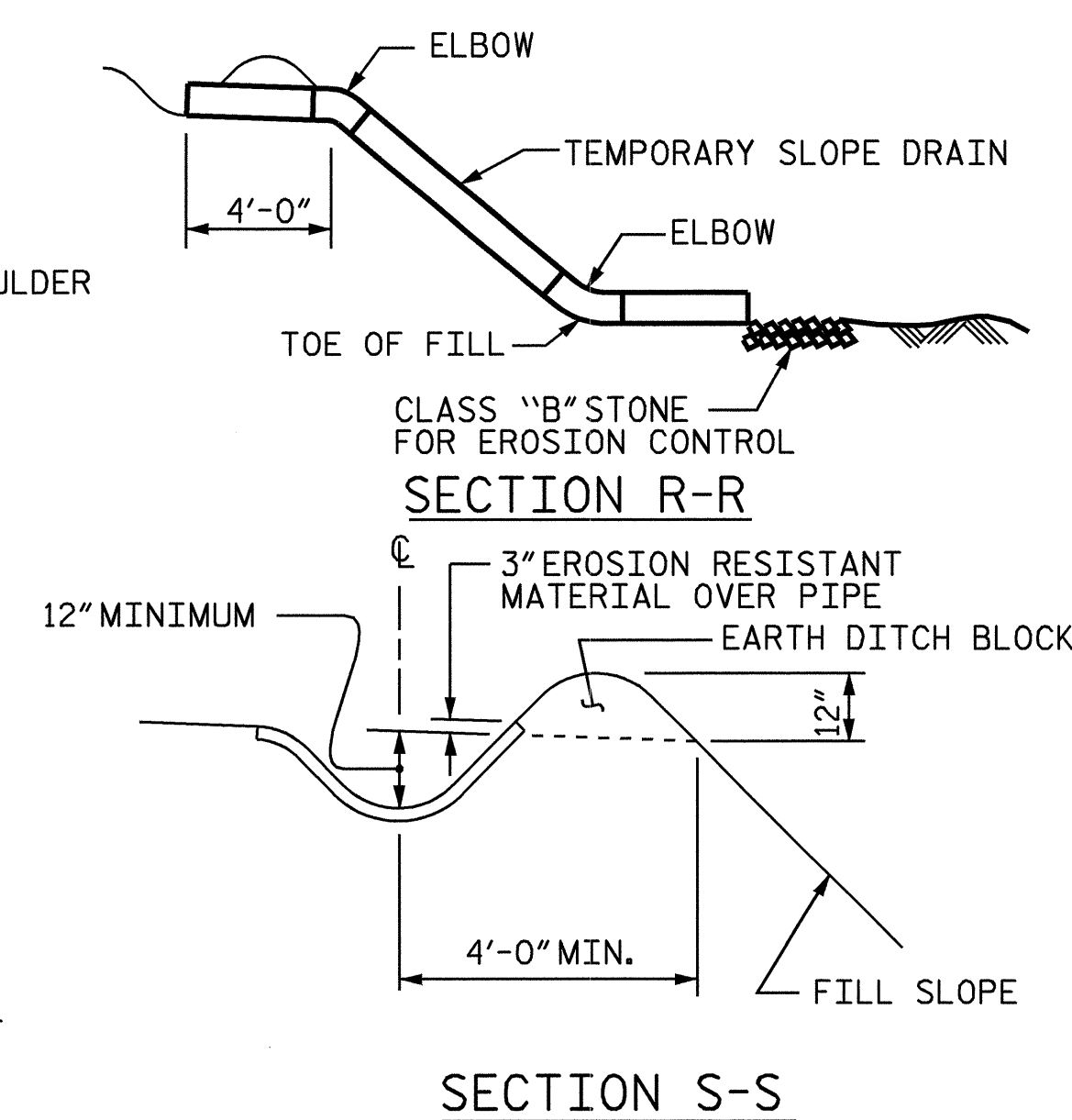
ASSEMBLED BY : Z. R./M.D. PISO	DATE : 9/08
CHECKED BY : J.B. WILSON	DATE : 10/2008
DRAWN BY : FCJ	6/87
CHECKED BY : EGA	6/87
REV. 7/10/01	LES/RDR
REV. 5/7/03R	RWW/JTE
REV. 5/1/06	TLA/GM

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

TOTAL SHEETS: 22



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.

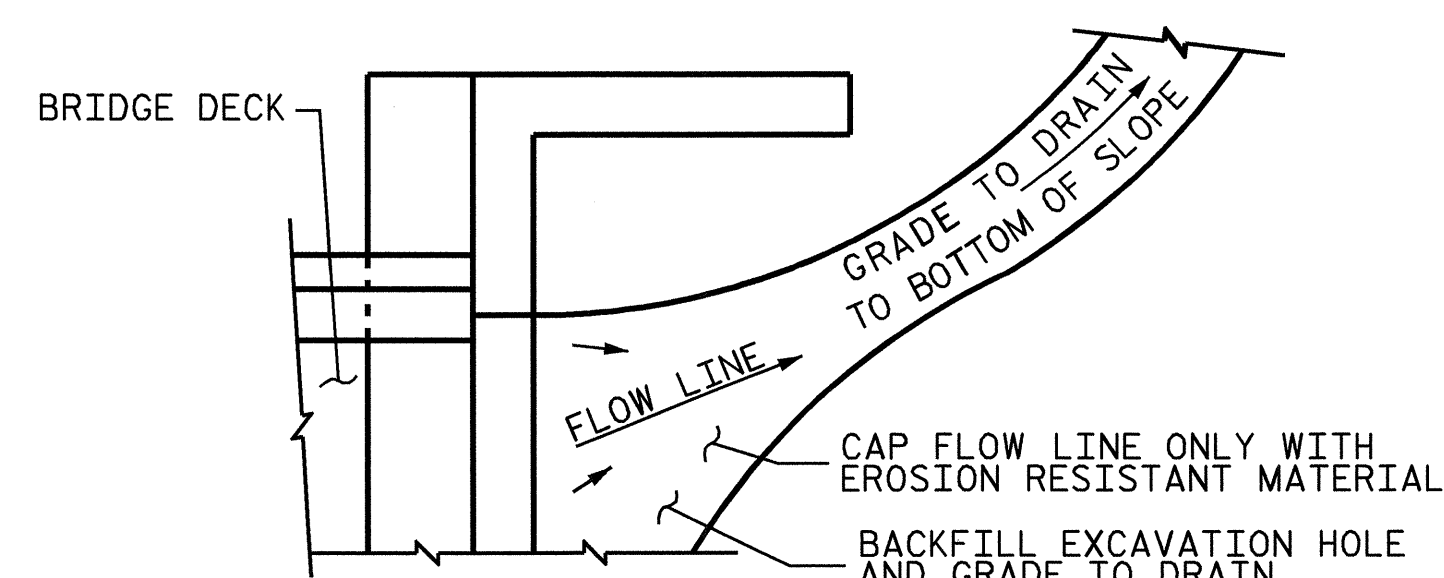


JOINT SEAL DETAILS @ END BENT

EVAZOTE JOINT SEAL TO BE CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF THE BARRIER RAIL.

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

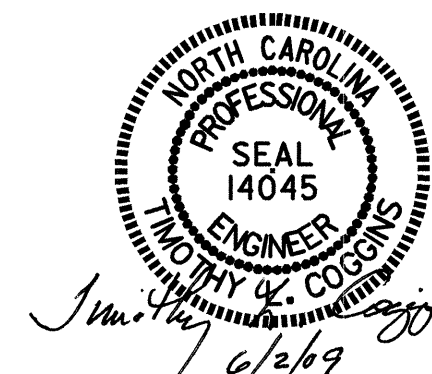
ELASTOMERIC CONCRETE	
END BENT NO.	ELASTOMERIC CONCRETE * (CU. FT.)
1	16.3
2	16.3
TOTAL	32.6

* BASED ON THE MINIMUM BLOCKOUT SHOWN.

JOINT SEAL DETAILS @ END BENT

ASSEMBLED BY : Z.R./M.D.PISO DATE : 5/06-9/08
 CHECKED BY : J.B.WILSON DATE : 10/2008
 DRAWN BY : FCJ 11/88 REV. 10/17/00 RWW/LES
 CHECKED BY : ARB 11/88 REV. 5/7/03 RWW/JTE
 REV. 5/1/06R MAA/KMM

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PROJECT NO. B-4030
BRUNSWICK COUNTY
 STATION: 16+80.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					1988	
STANDARD					SHEET NO.	
BRIDGE APPROACH SLAB DETAILS					S-22	
REVISIONS					TOTAL SHEETS	
NO.	BY:	DATE:	NO.	BY:	DATE:	22
1			3			
2			4			

STD. NO. BAS10 (SHT 6)

