

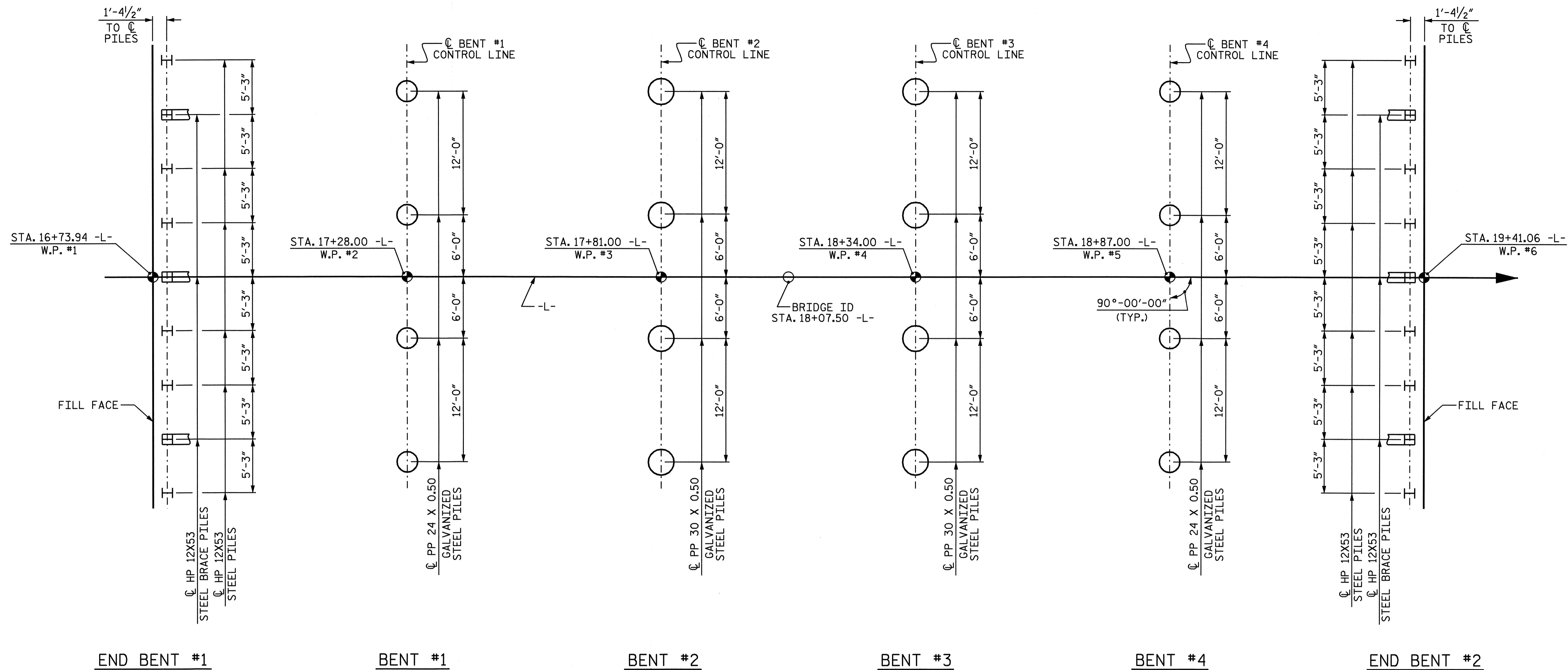
PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50 -L-

SHEET 1 OF 3 REPLACES BRIDGE No. 12

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE OVER BLACK RIVER ON NC 41 (TOMAHAWK RD.) BETWEEN SR 1119 & SR 1118

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			52

DRAWN BY : M.K. BEARD DATE : 4/2/07
 CHECKED BY : K.D. LAYNE DATE : 04/07



FOUNDATION LAYOUT

END BENT BRACE PILES ARE BATTERED AT 3:12 WHERE SHOWN.
DIMENSIONS LOCATING PILES ARE SHOWN TO THE CENTERLINE OF PILES.

NOTES

DRIVE PILES AT END BENT #1 AND END BENT #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.

THE ALLOWABLE BEARING CAPACITY FOR PILES AT END BENT #1 AND END BENT #2 IS 50 TONS PER PILE.

DRIVE PILES AT BENT #1 THROUGH BENT #3 TO A REQUIRED BEARING CAPACITY OF 320 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 DOWN DRAG OR NEGATIVE SKIN FRICTION AND SCOUR.

DRIVE PILES AT BENT #4 TO A REQUIRED BEARING CAPACITY OF 280 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 DOWN DRAG OR NEGATIVE SKIN FRICTION AND SCOUR.

THE ALLOWABLE BEARING CAPACITY FOR PILES AT BENT #1 THROUGH BENT #4 IS 130 TONS PER PILE.

INSTALL PILES AT BENT #1 AND BENT #4 TO A TIP ELEVATION NO HIGHER THAN -13,000.

INSTALL PILES AT BENT #2 AND BENT #3 TO A TIP ELEVATION NO HIGHER THAN -18,000.

SCOUR CRITICAL ELEVATION FOR BENT #1 AND BENT #4 IS ELEVATION 8,000. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

SCOUR CRITICAL ELEVATION FOR BENT #2 AND BENT #3 IS ELEVATION 0,000. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

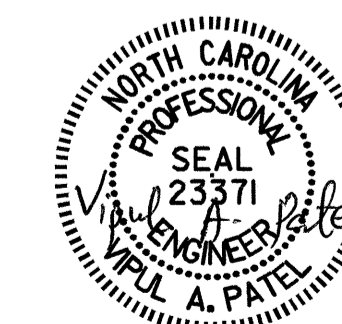
PIPE PILE PLATES ARE REQUIRED FOR THE PIPE PILES AT BENT #1 THROUGH BENT #4. USE PIPE PILE PLATES WITH A DIAMETER EQUAL TO THE PIPE PILE DIAMETER. SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

IT HAS BEEN ESTIMATED THAT A HAMMER WITH AN EQUIVALENT RATED ENERGY IN THE RANGE OF 90,000 TO 120,000 FT.-LBS. PER BLOW WILL BE REQUIRED TO DRIVE THE PILES AT BENT #1 THROUGH BENT #4. THIS ESTIMATED ENERGY RANGE DOES NOT RELEASE THE CONTRACTOR FROM ARTICLE 450-5 OF THE STANDARD SPECIFICATIONS.

TESTING THE FIRST PRODUCTION PILE WITH THE PILE DRIVING ANALYZER (PDA) DURING DRIVING, RESTRIKING OR REDRIVING IS REQUIRED AT BENT #1 OR BENT #4 AND AT BENT #2 OR BENT #3. SEE PILE DRIVING ANALYZER SPECIAL PROVISION.

PROJECT NO. B-1382
SAMPSON COUNTY
STATION: 18+07.50 -L-

SHEET 2 OF 3



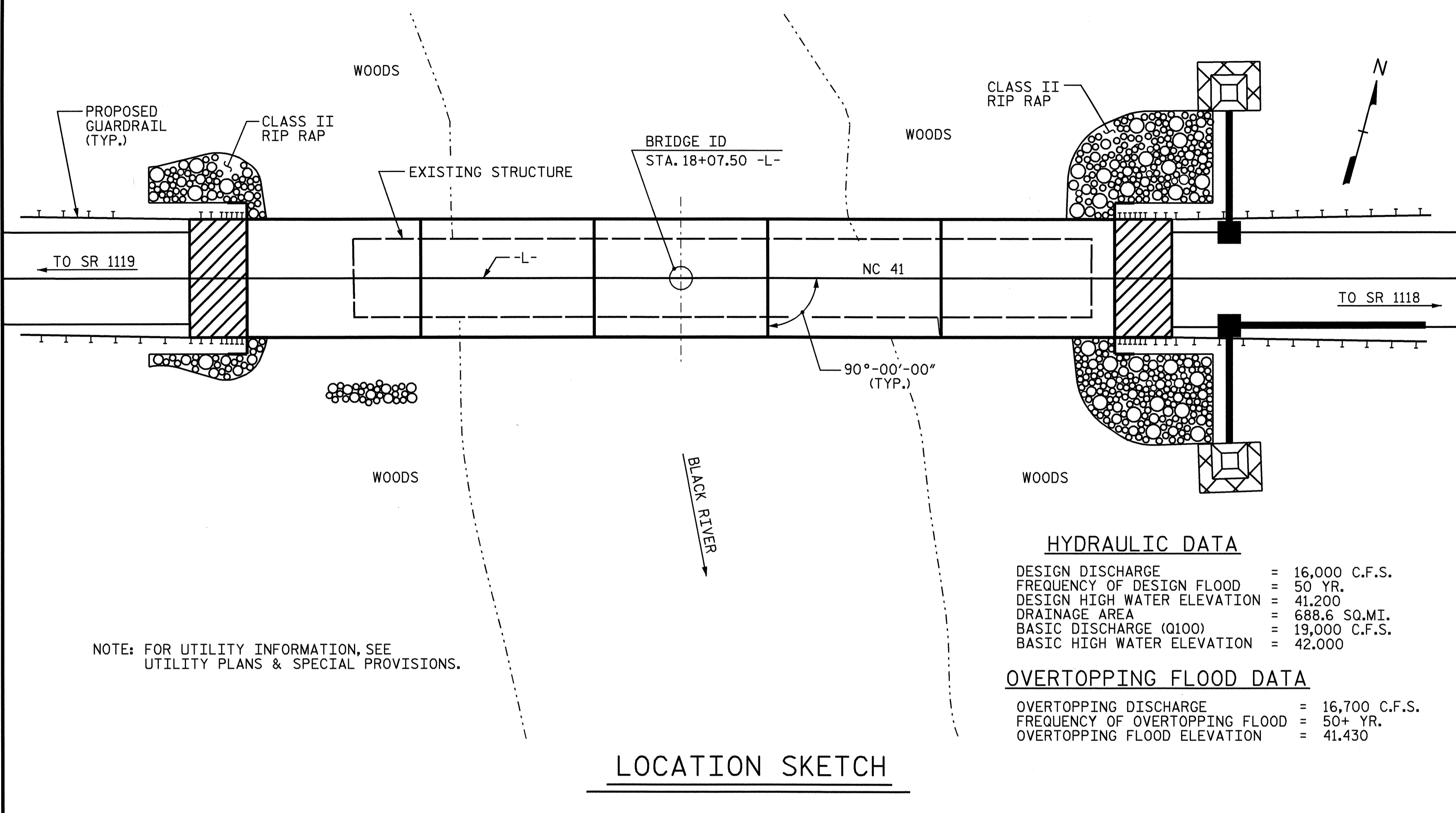
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE OVER BLACK
RIVER ON NC 41 (TOMAHAWK RD.)
BETWEEN SR 1119 & SR 1118

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			52

DRAWN BY : M.K. BEARD DATE : 4/4/07
CHECKED BY : K.D. LAYNE DATE : 04/07

NOTES



ASSUMED LIVE LOAD = HS20 OR ALTERNATE LOADING, EXCEPT THAT THE 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.

THE EXISTING STRUCTURE CONSISTING OF 1 SPAN @ 37'-9", 4 SPANS @ 37'-6" AND 1 SPAN @ 37'-9" WITH A REINFORCED CONCRETE DECK ON 4 LINES W27 X 94 I-BEAMS AND A CLEAR ROADWAY WIDTH OF 24'-0" AND HAVING A SUBSTRUCTURE CONSISTING OF REINFORCED CONCRETE CAPS ON TIMBER PILES AND LOCATED AT THE PROPOSED STRUCTURE SITE SHALL BE REMOVED.

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 30 FT. AT END BENT #1 AND 45 FT. AT END BENT #2 EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE MEASURED AND 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.

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.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, 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 CRANE SAFETY, 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 A.

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 38+37.00 -L-.'

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

NO WAITING PERIOD IS REQUIRED FOR END BENT CONSTRUCTION AFTER COMPLETION OF EMBANKMENT.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

HYDRAULIC DATA

DESIGN DISCHARGE = 16,000 C.F.S.
 FREQUENCY OF DESIGN FLOOD = 50 YR.
 DESIGN HIGH WATER ELEVATION = 41.200
 DRAINAGE AREA = 688.6 SQ.MI.
 BASIC DISCHARGE (Q100) = 19,000 C.F.S.
 BASIC HIGH WATER ELEVATION = 42.000

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 16,700 C.F.S.
 FREQUENCY OF OVERTOPPING FLOOD = 50+ YR.
 OVERTOPPING FLOOD ELEVATION = 41.430

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

LOCATION SKETCH

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	PDA TESTING	PDA ASSISTANCE	UNCLASSIFIED STRUCTURE EXCAVATION	CONCRETE WEARING SURFACE	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12X53 STEEL PILES	PP 24 X 0.50 GALVANIZED STEEL PILES	PP 30 X 0.50 GALVANIZED STEEL PILES	PIPE PILE PLATES	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	EA.	EA.	LUMP SUM	SQ. FT.	SQ. FT.	CU. YDS.	LUMP SUM	LBS.	NO.	LIN. FT.	NO.	LIN. FT.	NO.	LIN. FT.	EA.	EA.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	LUMP SUM	NO.	LIN. FT.	
SUPERSTRUCTURE				LUMP SUM	9421	9511		LUMP SUM								529.75			LUMP SUM	LUMP SUM	65	3436.88			
END BENT #1							16.4		2389	9	360						212	235							
BENT #1		1	1				16.6		2699			4	220			4	4								
BENT #2		1	1				19.1		2732			4	240			4	4								
BENT #3							19.1		2732			4	240			4	4								
BENT #4							16.6		2699			4	220			4	4								
END BENT #2							16.4		2388	9	495						270	300							
TOTAL	LUMP SUM	2	2	LUMP SUM	9421	9511	104.2	LUMP SUM	15639	18	855	8	440	8	480	16	16	529.75	482	535	LUMP SUM	LUMP SUM	65	3436.88	



PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50 -L-

SHEET 3 OF 3

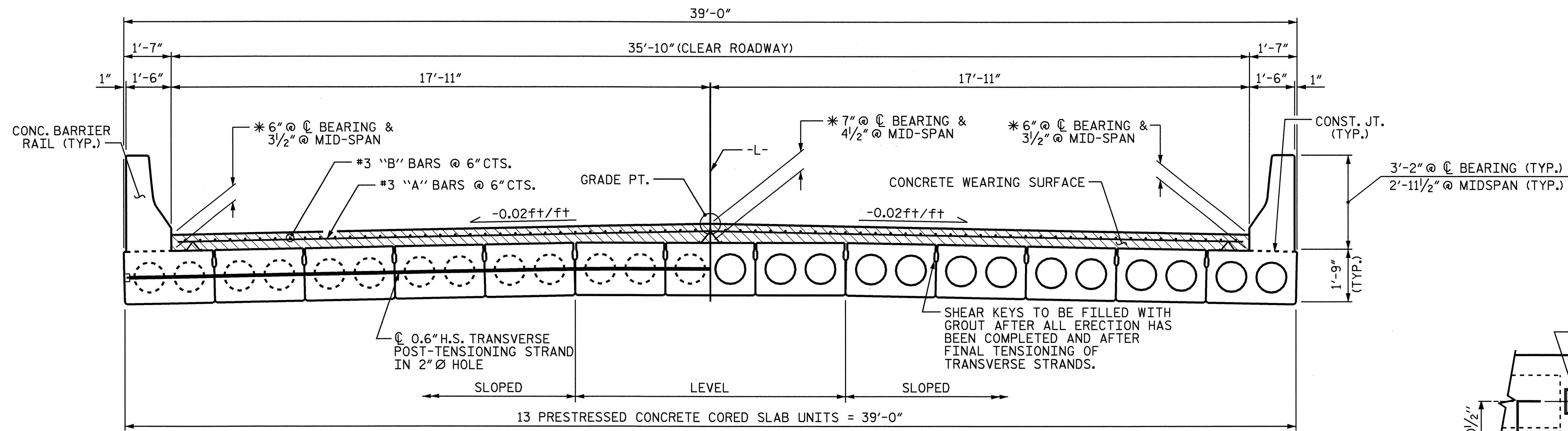
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING

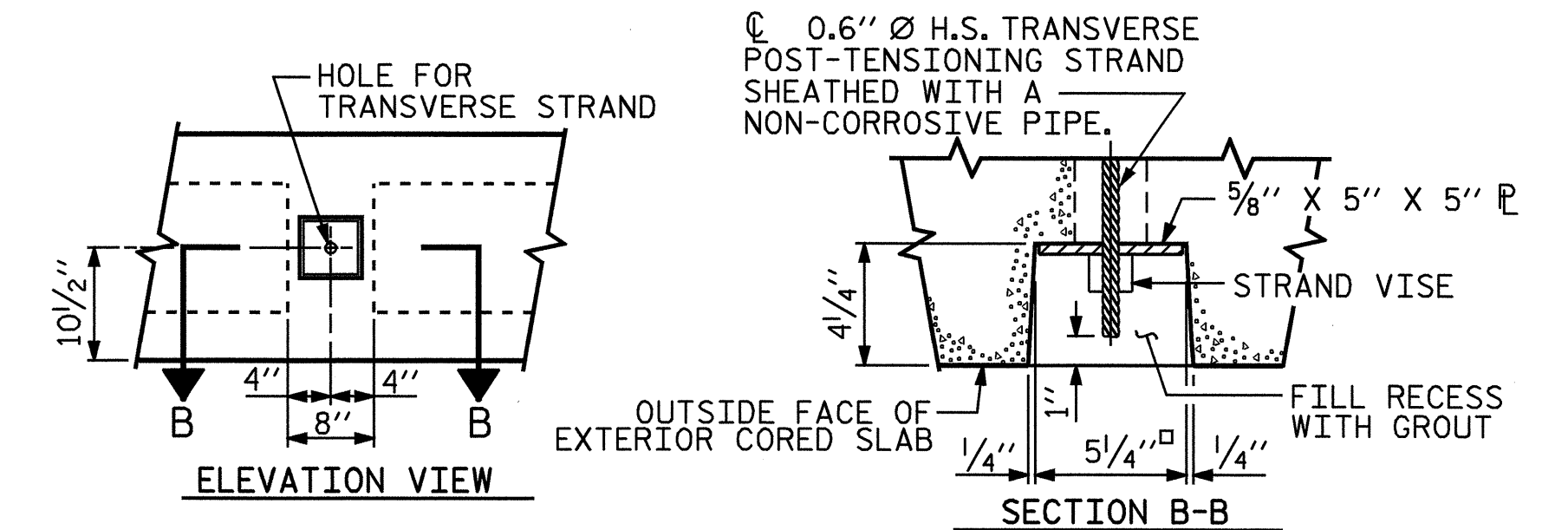
FOR BRIDGE OVER BLACK RIVER ON NC 41 (TOMAHAWK RD.) BETWEEN SR 1119 & SR 1118

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			52

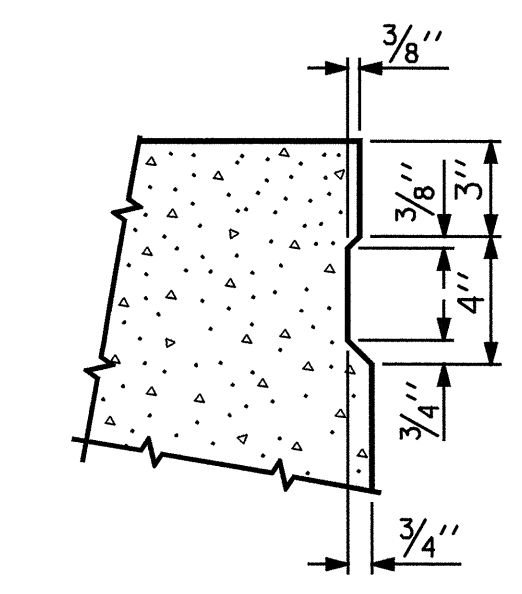
DRAWN BY : M.K. BEARD DATE : 4/2/07
 CHECKED BY : K.D. LAYNE DATE : 04/07



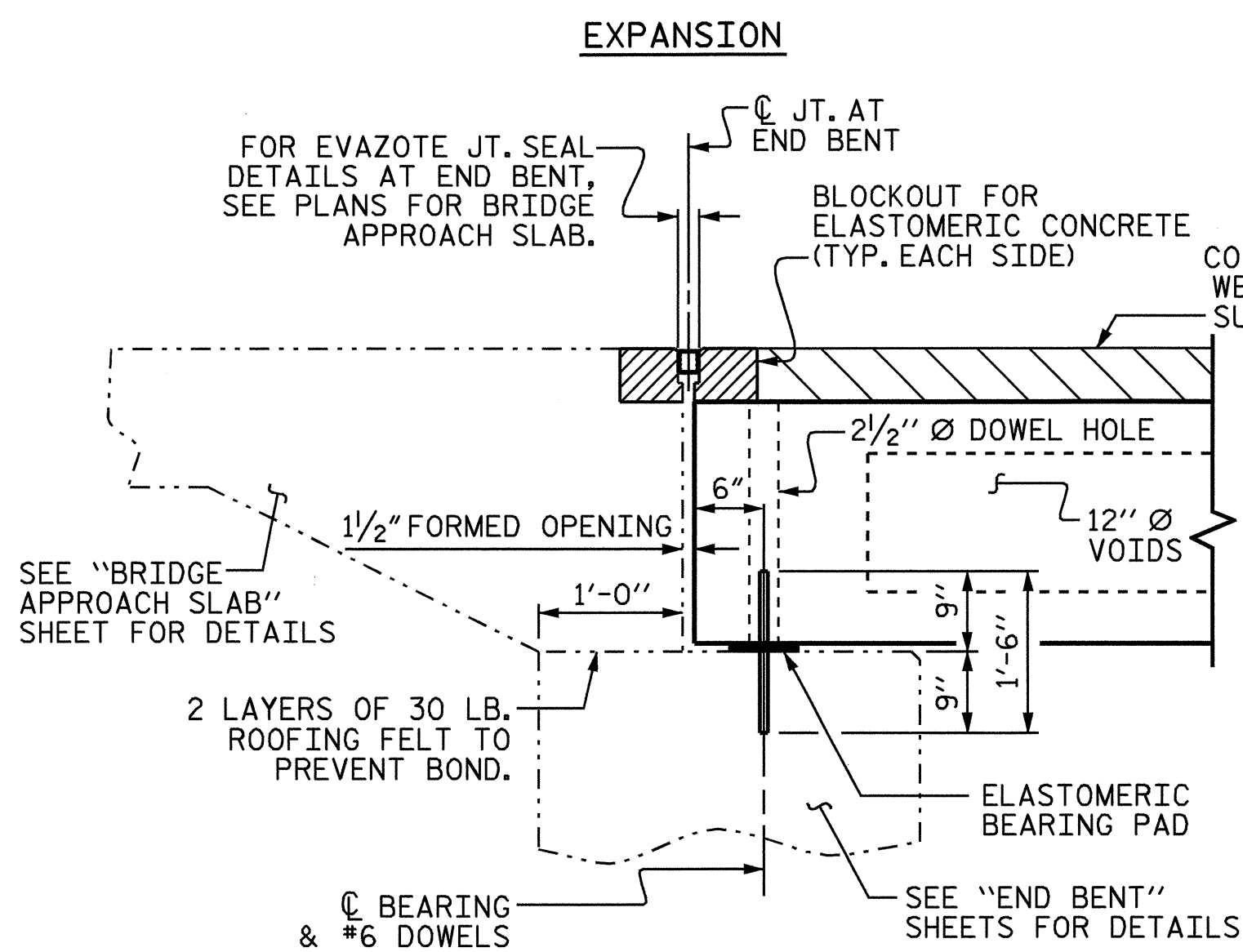
TYPICAL SECTION
 * BASED ON PREDICTED CAMBER & THEORETICAL GRADE LINE ELEVATIONS.



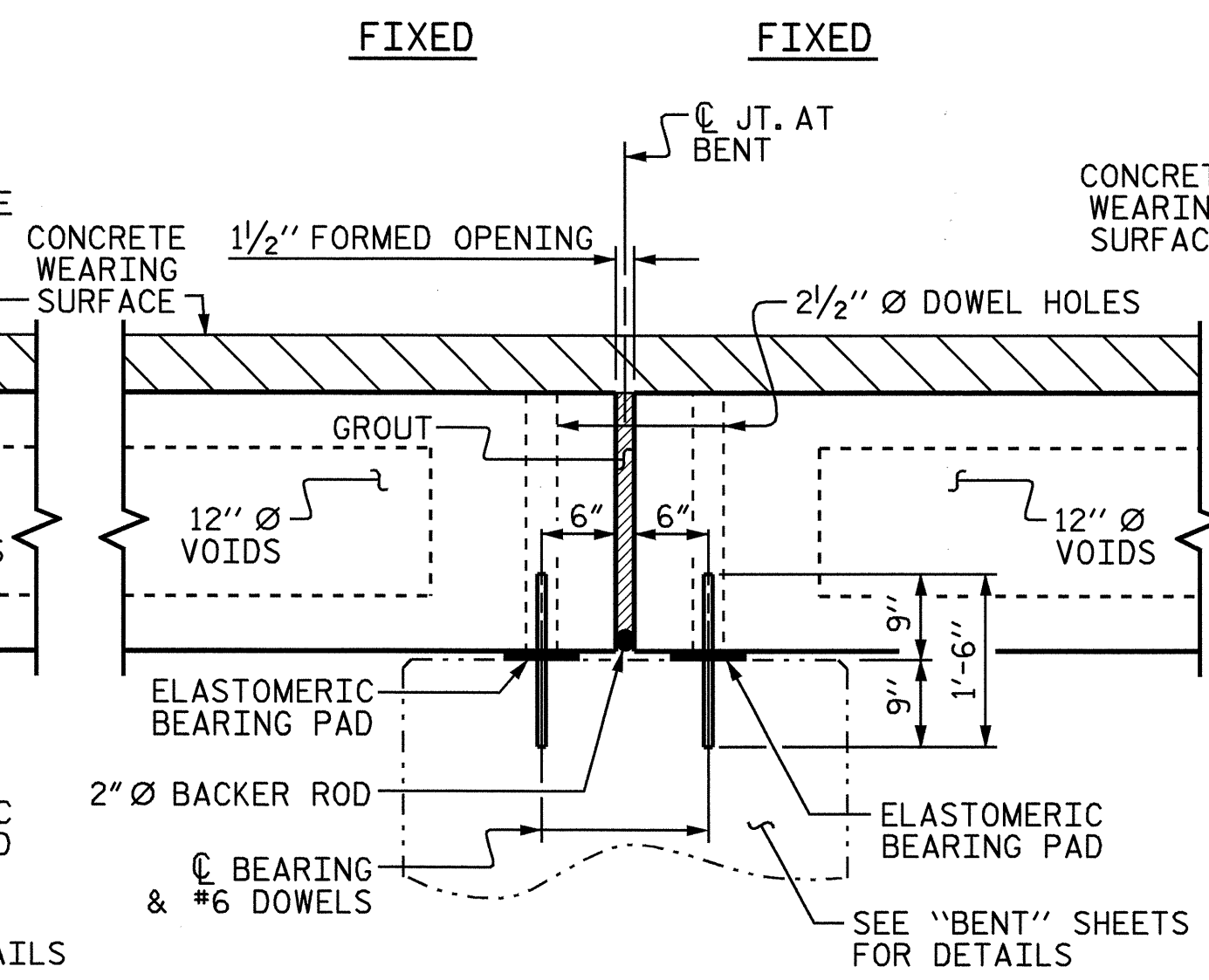
GROUTED RECESS AT END OF POST-TENSIONED STRAND-CORED SLABS



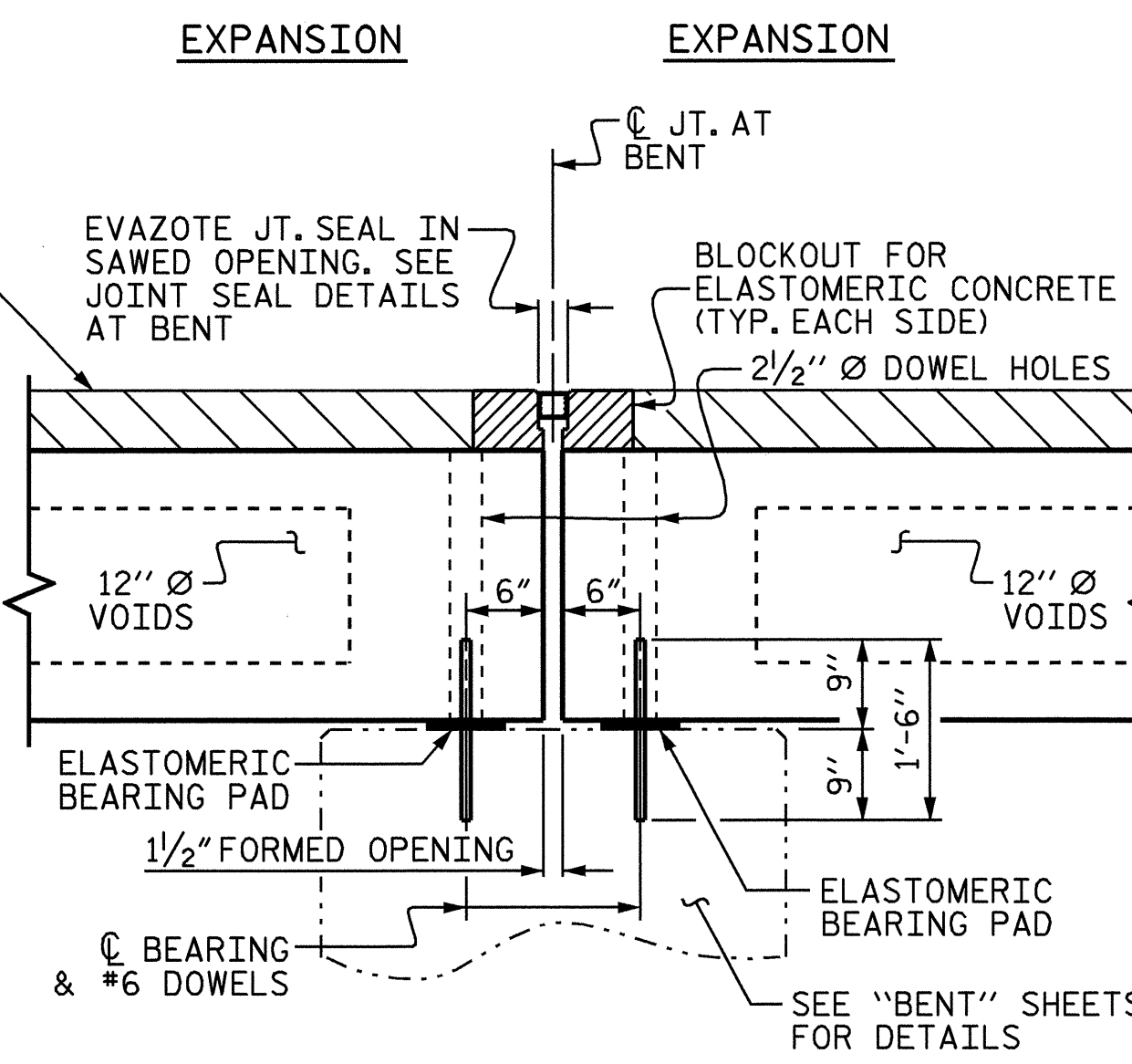
SHEAR KEY DETAIL
 NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF EXTERIOR CORED SLABS.



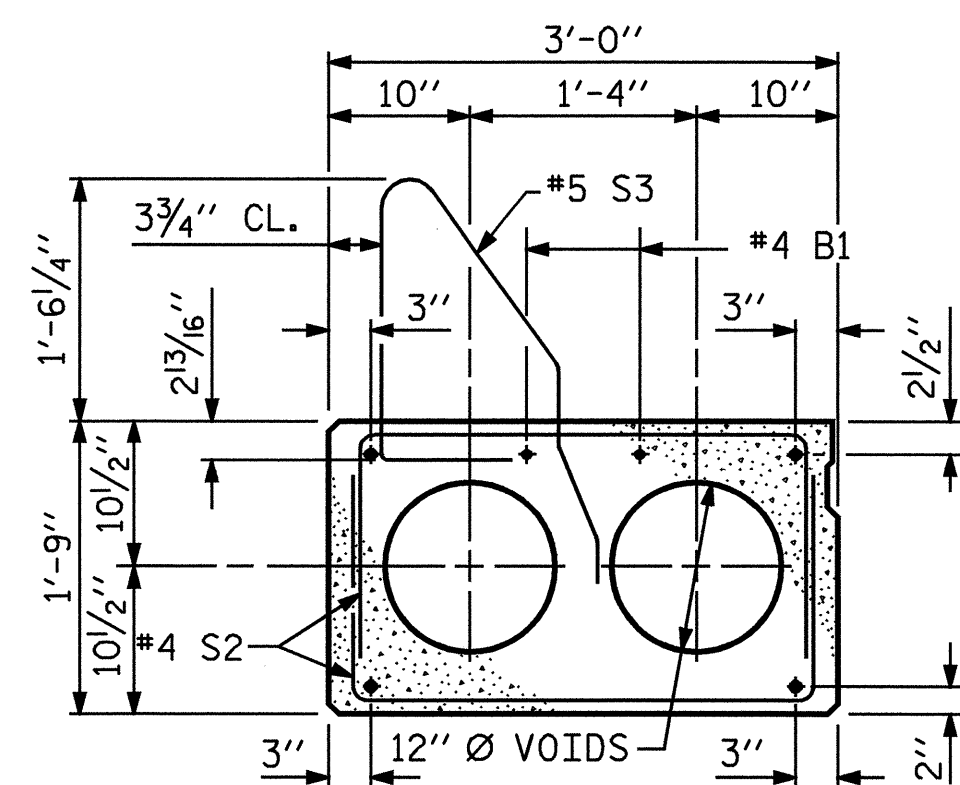
SECTION AT END BENT



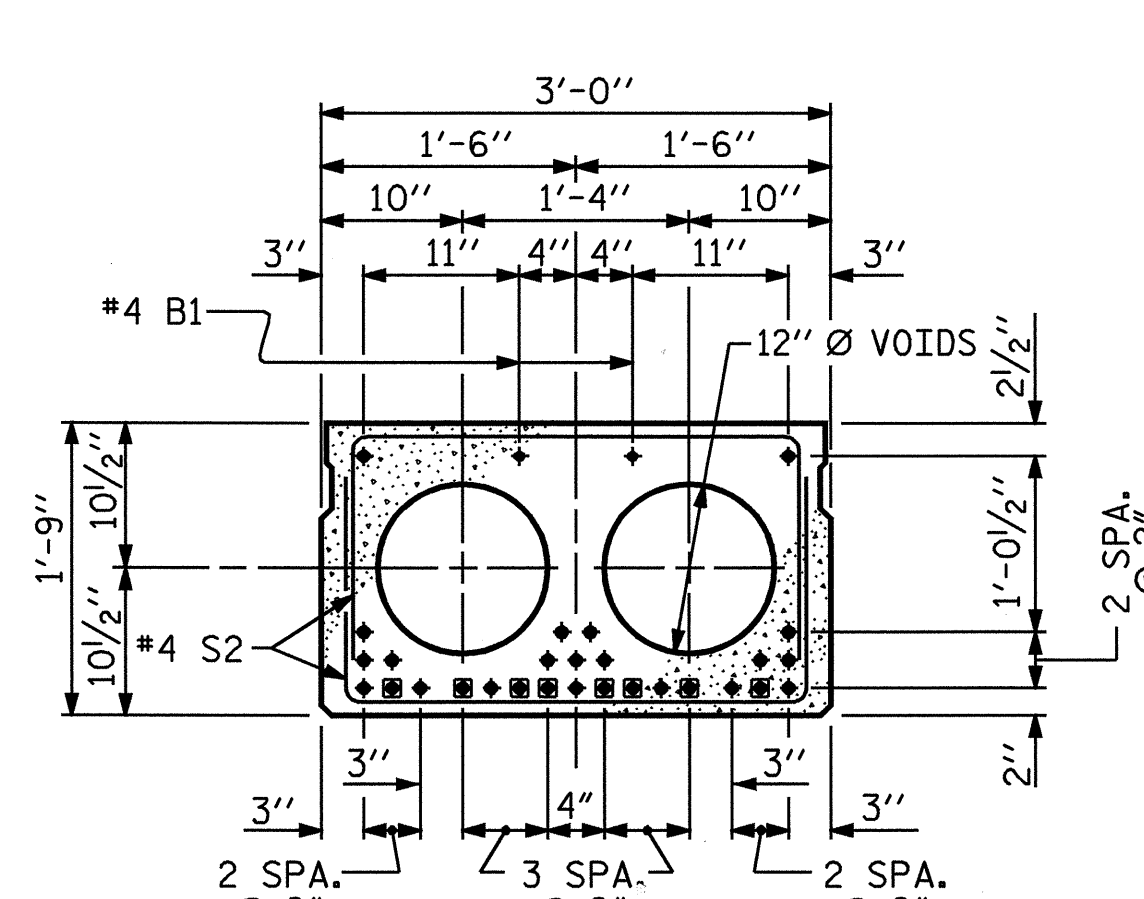
SECTION AT BENTS #1, #2 & #4



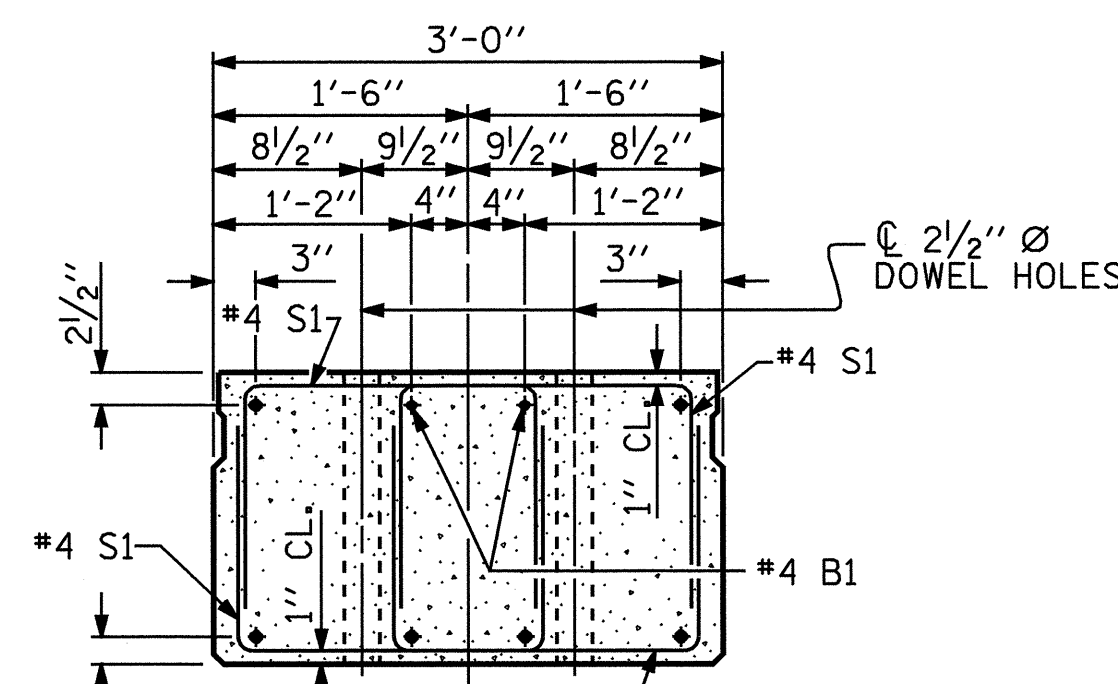
SECTION AT BENT #3



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



INTERIOR SLAB SECTION
 1/2" Ø LOW RELAXATION STRAND LAYOUT

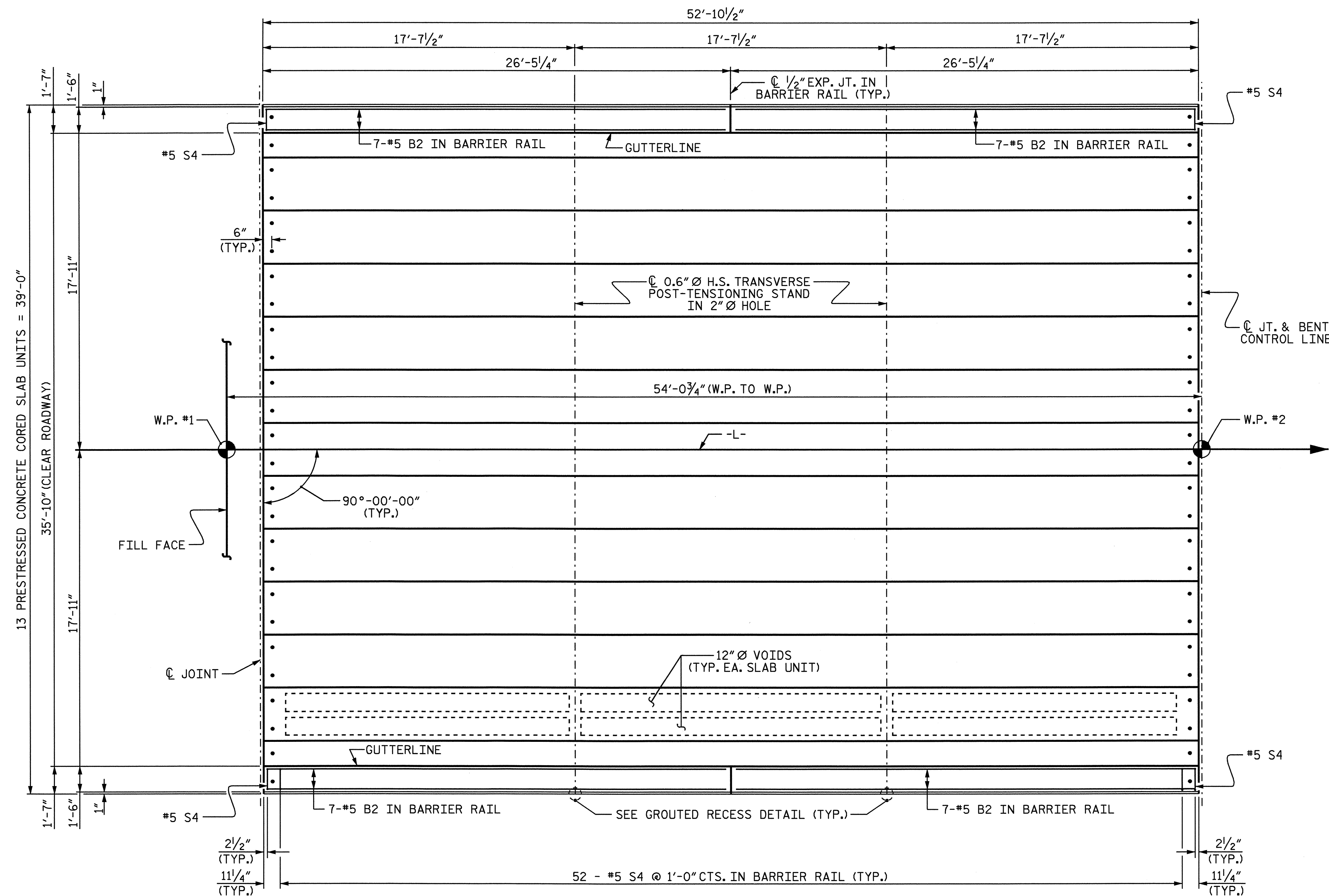


END ELEVATION
 SHOWING PLACEMENT OF DOUBLE STIRRUPS AND LOCATION OF DOWEL HOLES. (STRAND LAYOUT NOT SHOWN.) INTERIOR SLAB SECTION SHOWN-EXTERIOR SLAB SECTION SIMILAR EXCEPT SHEAR KEY LOCATION.

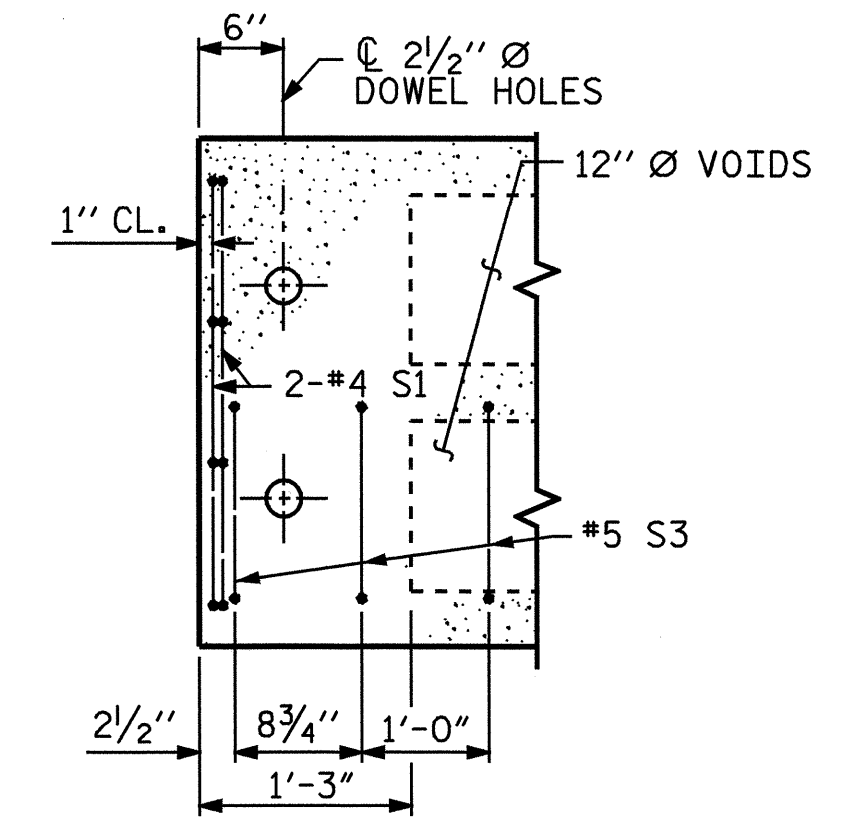
PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50 -L-

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH STANDARD 3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLAB UNIT					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					5-4
					TOTAL SHEETS 52

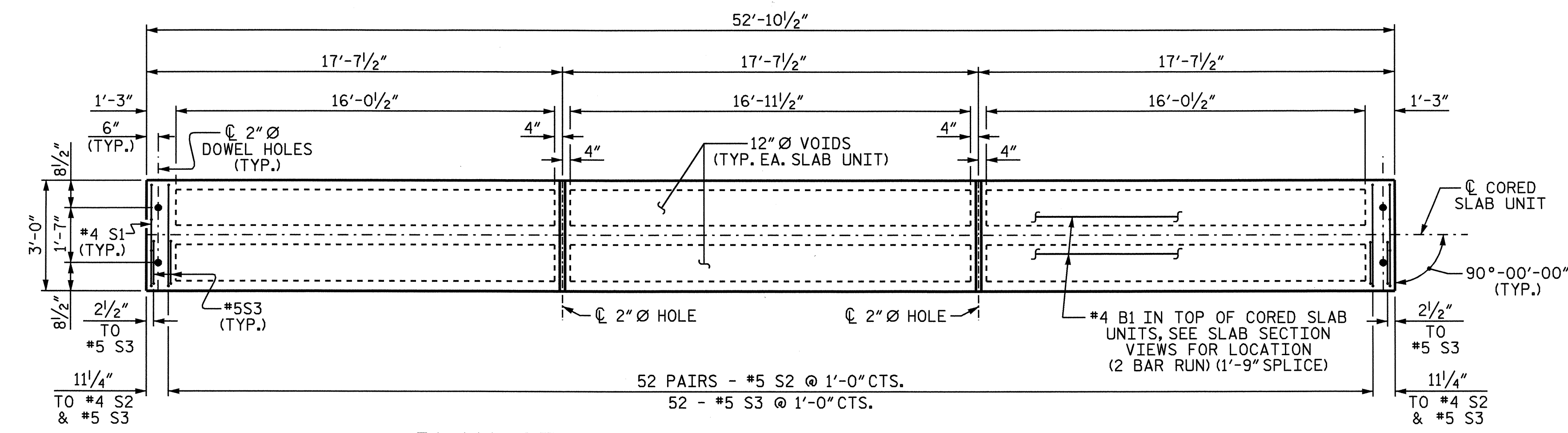
ASSEMBLED BY : M.K. BEARD	DATE : 1/26/06
CHECKED BY : K.D. LAYNE	DATE : 2/22/06
DRAWN BY : WJH 4/89	REV. 10/17/00 RWW/LES
CHECKED BY : FCJ 5/89	REV. 7/10/01RR RWW/LES
	REV. 5/1/06 TLA/GM



SPAN A



PART PLAN-EXTERIOR SECTION
 NOTE: EXTERIOR SECTION SHOWN-INTERIOR SECTION SIMILAR EXCEPT OMIT #5 S3 BARS.



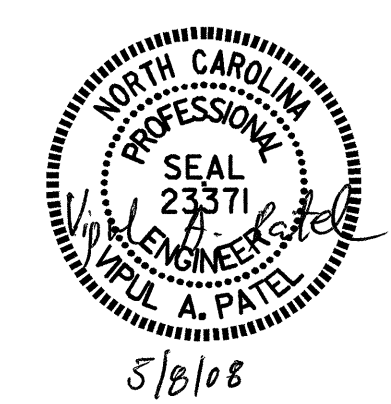
PLAN OF CORED SLAB UNIT (SPANS A-E)

EXTERIOR SLAB UNIT SHOWN, INTERIOR SLAB UNIT SIMILAR, EXCEPT OMIT #5 S3 BARS

PROJECT NO. B-1382
 SAMPSON COUNTY
 STATION: 18+07.50 -L-

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

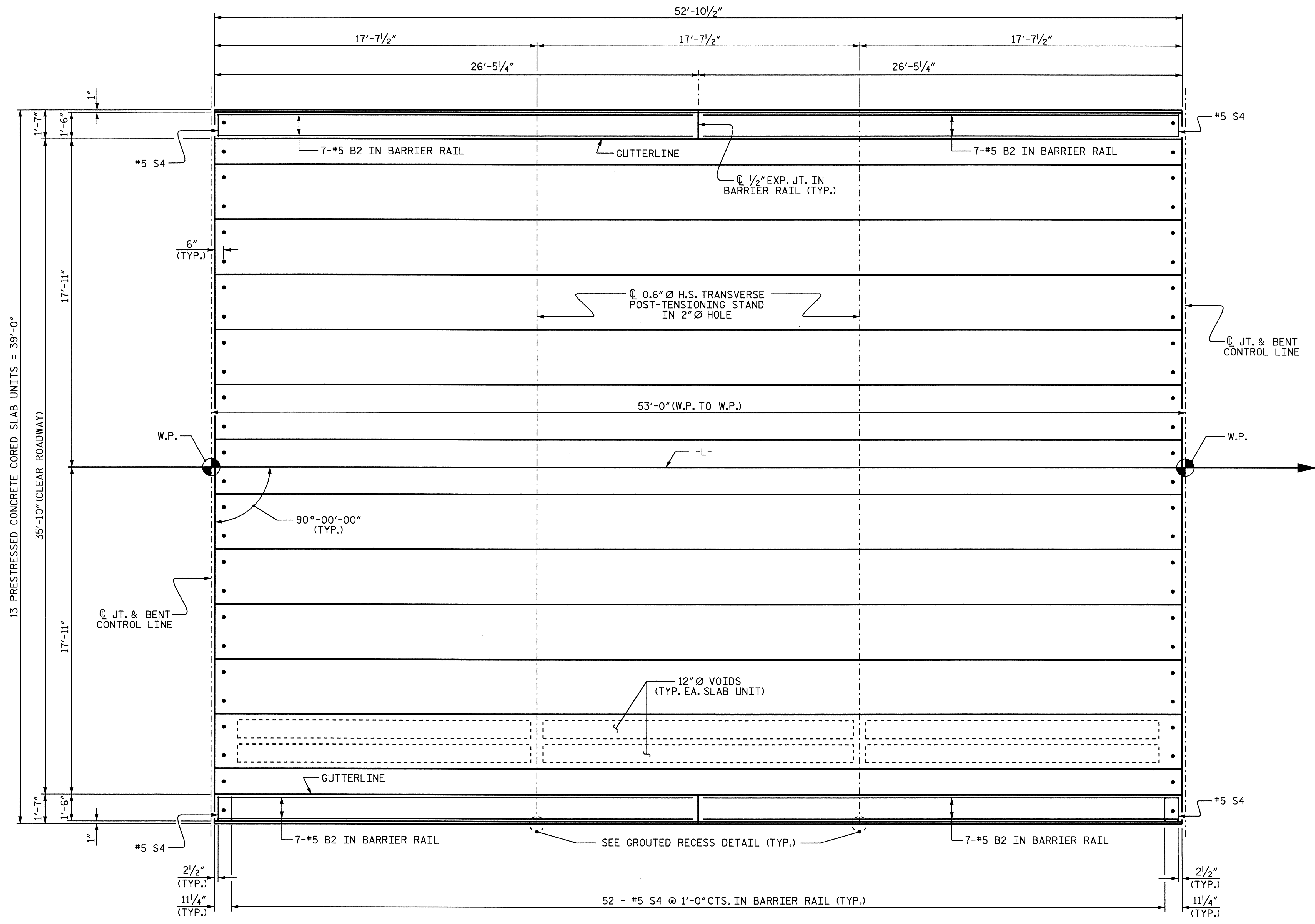
SUPERSTRUCTURE
 PLAN OF SPAN A



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			52

DRAWN BY: M.K. BEARD DATE: 1/24/06
 CHECKED BY: K.D. LAYNE DATE: 2/22/06

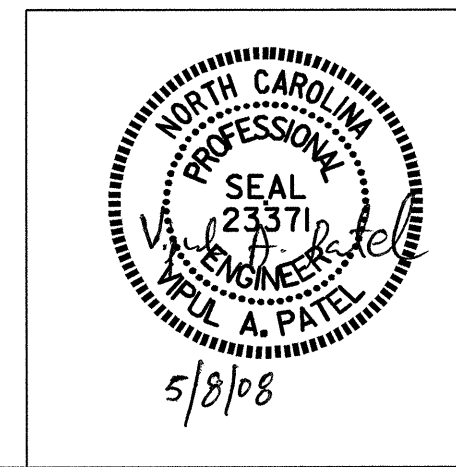
07-MAY-2008 14:06
 R:\STRUCTURES\B1382\str*1\Plans\B-1382.ed.01.CS.dgn
 adombrowski



PLAN OF SPAN

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50 -L-

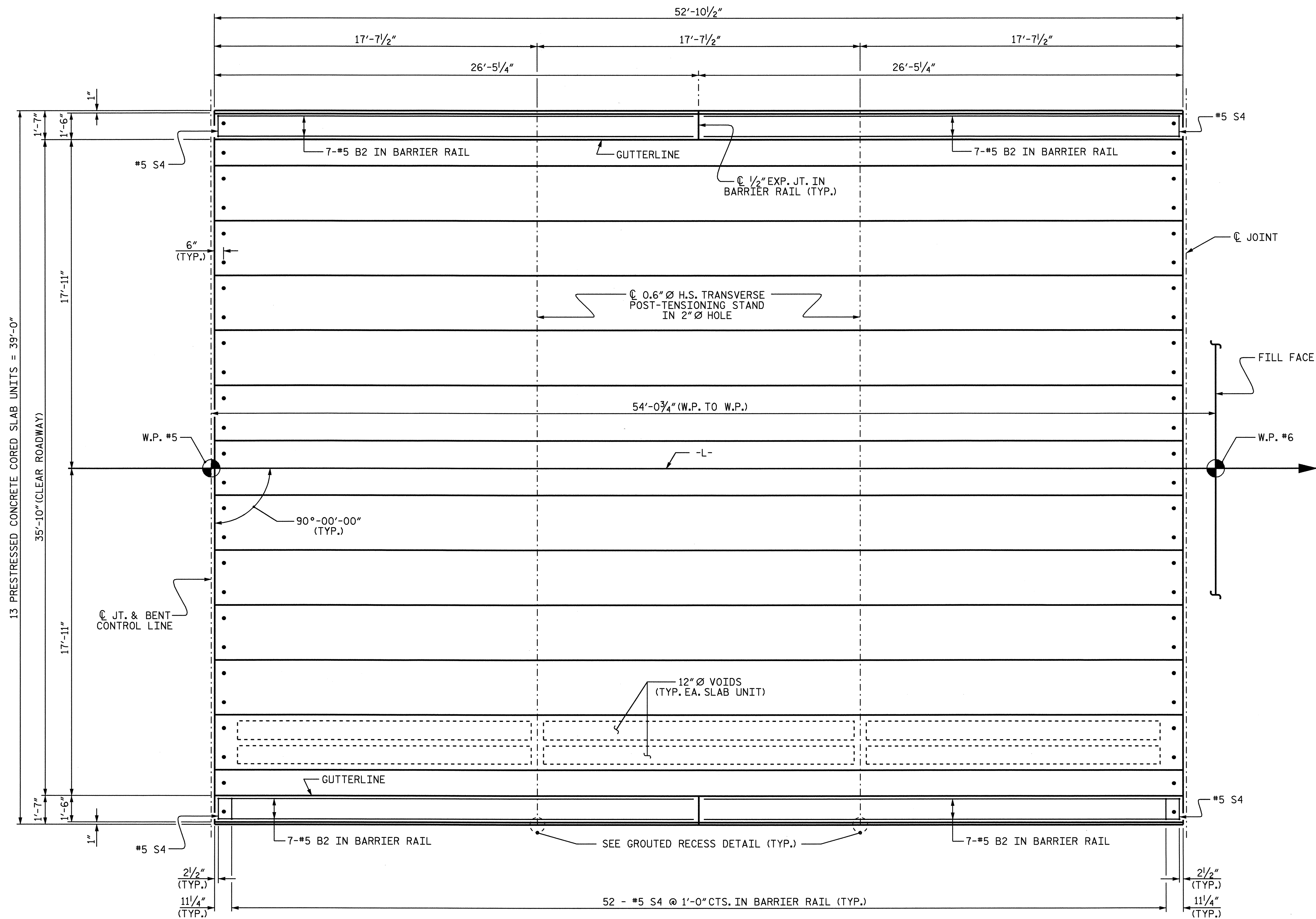
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 PLAN OF SPAN
 B, C OR D



DRAWN BY : M.K. BEARD DATE : 1/24/06
 CHECKED BY : K.D. LAYNE DATE : 2/22/06

07-MAY-2008 14:05
 R:\Structure\B1382\str\1\Plans\B-1382.sd.01_CS.dgn
 sdombrowaki

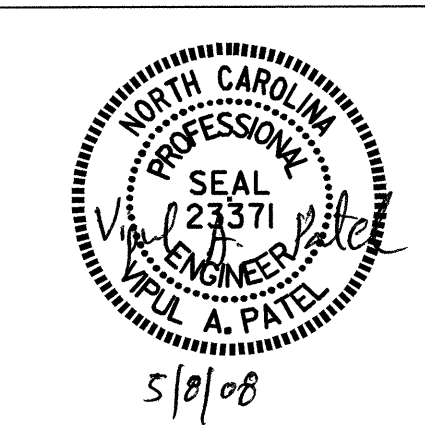
REVISIONS						SHEET NO. S-6
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 52
2			4			



PLAN OF SPAN E

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50 -L-

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 PLAN OF SPAN E



DRAWN BY : M.K. BEARD DATE : 1/24/06
 CHECKED BY : K.D. LAYNE DATE : 2/22/06

07-MAY-2008 14:05
 R:\Structure\B1382\str\1\Plans\B-1382.ed.01_CS.dgn
 sdombrowski

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-7
1			3			TOTAL SHEETS
2			4			52

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 M11.

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.)

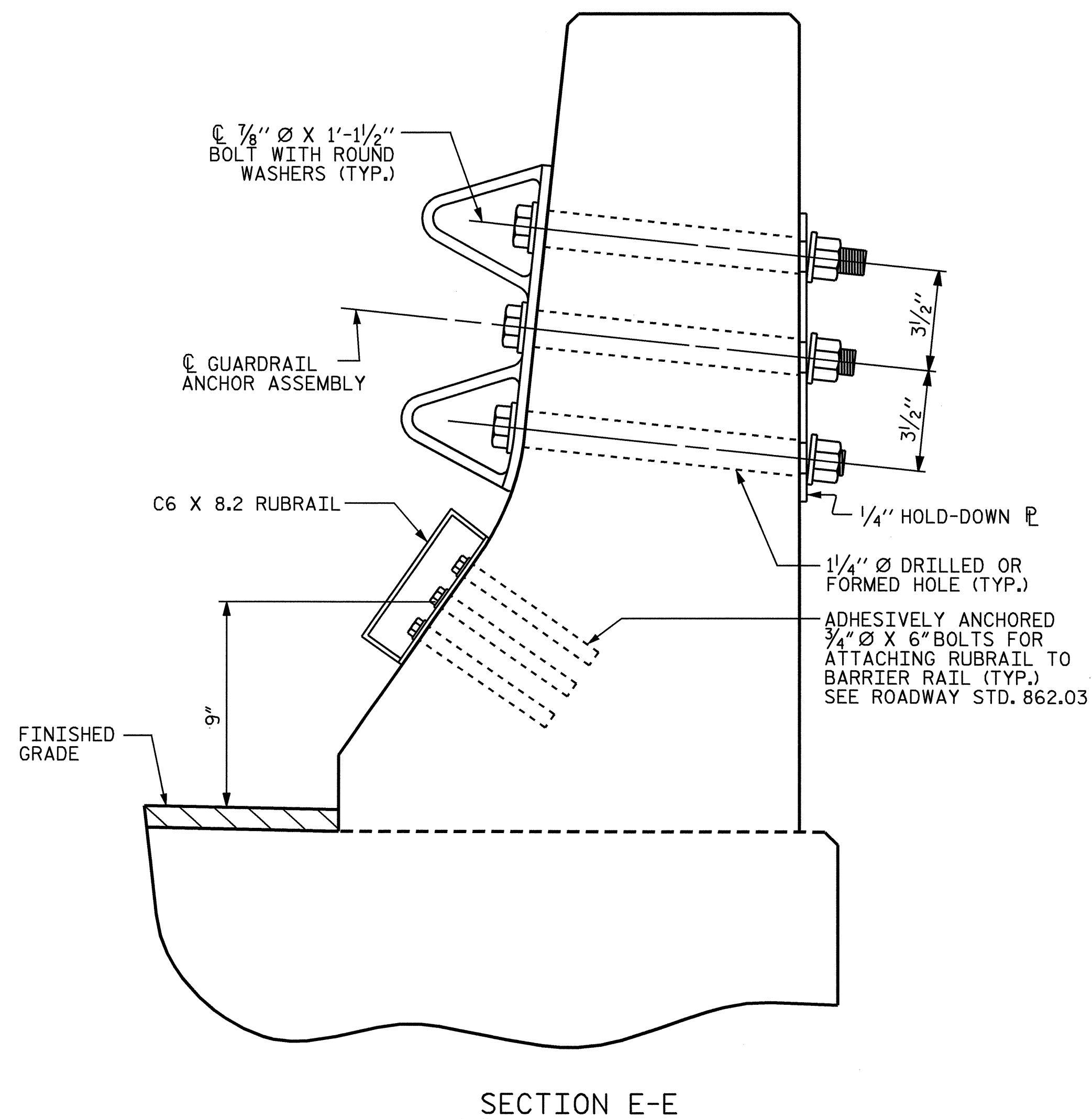
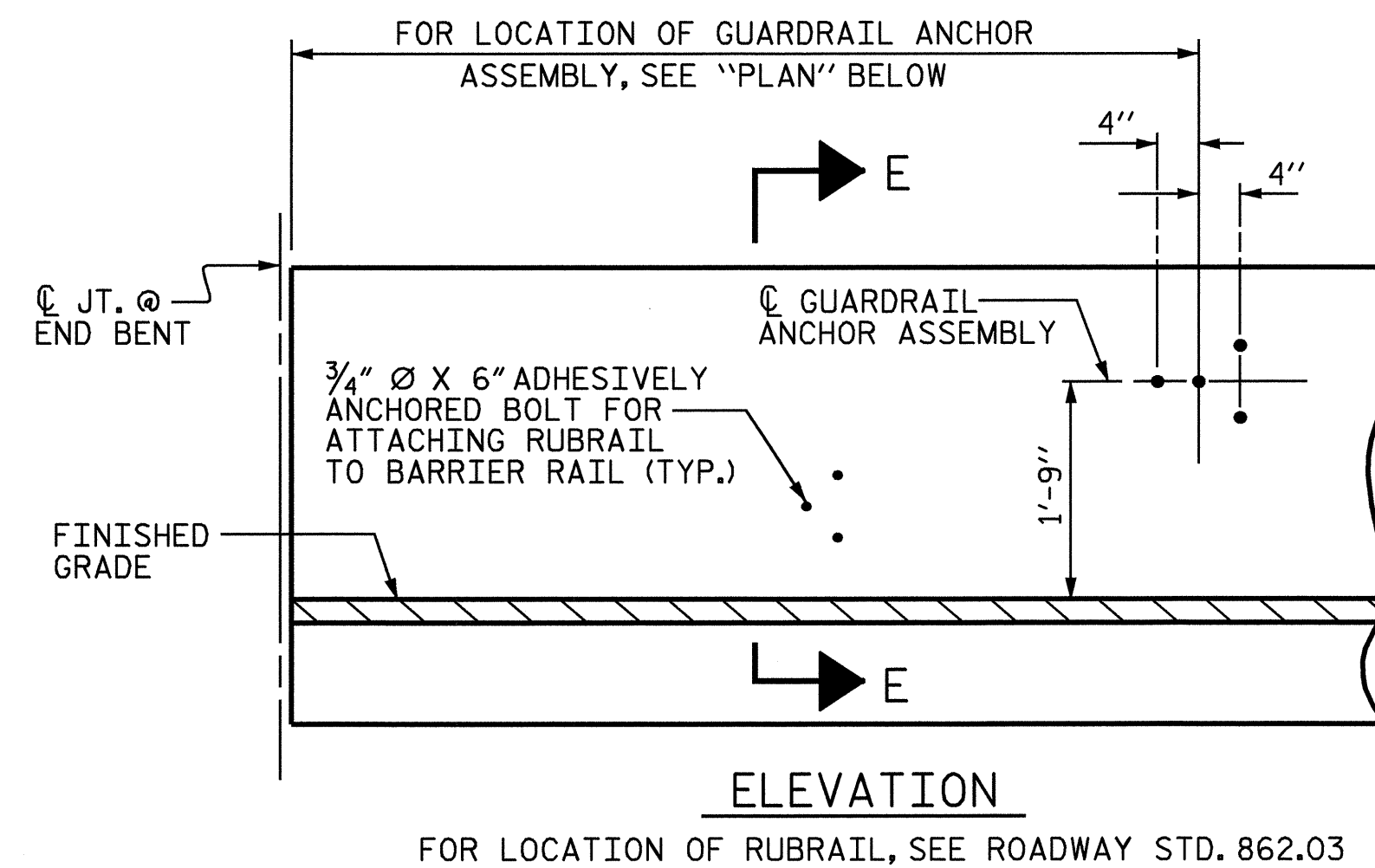
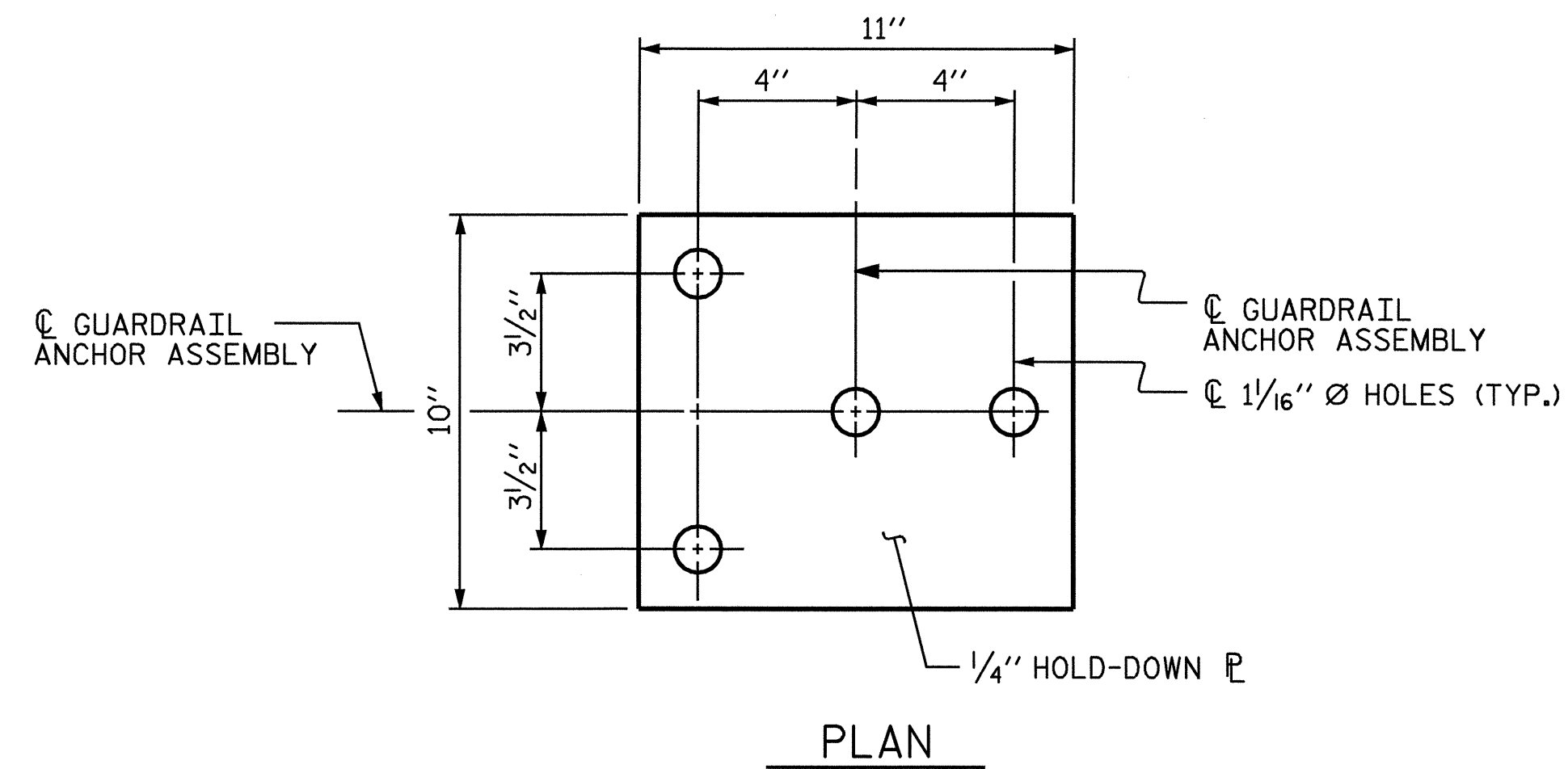
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

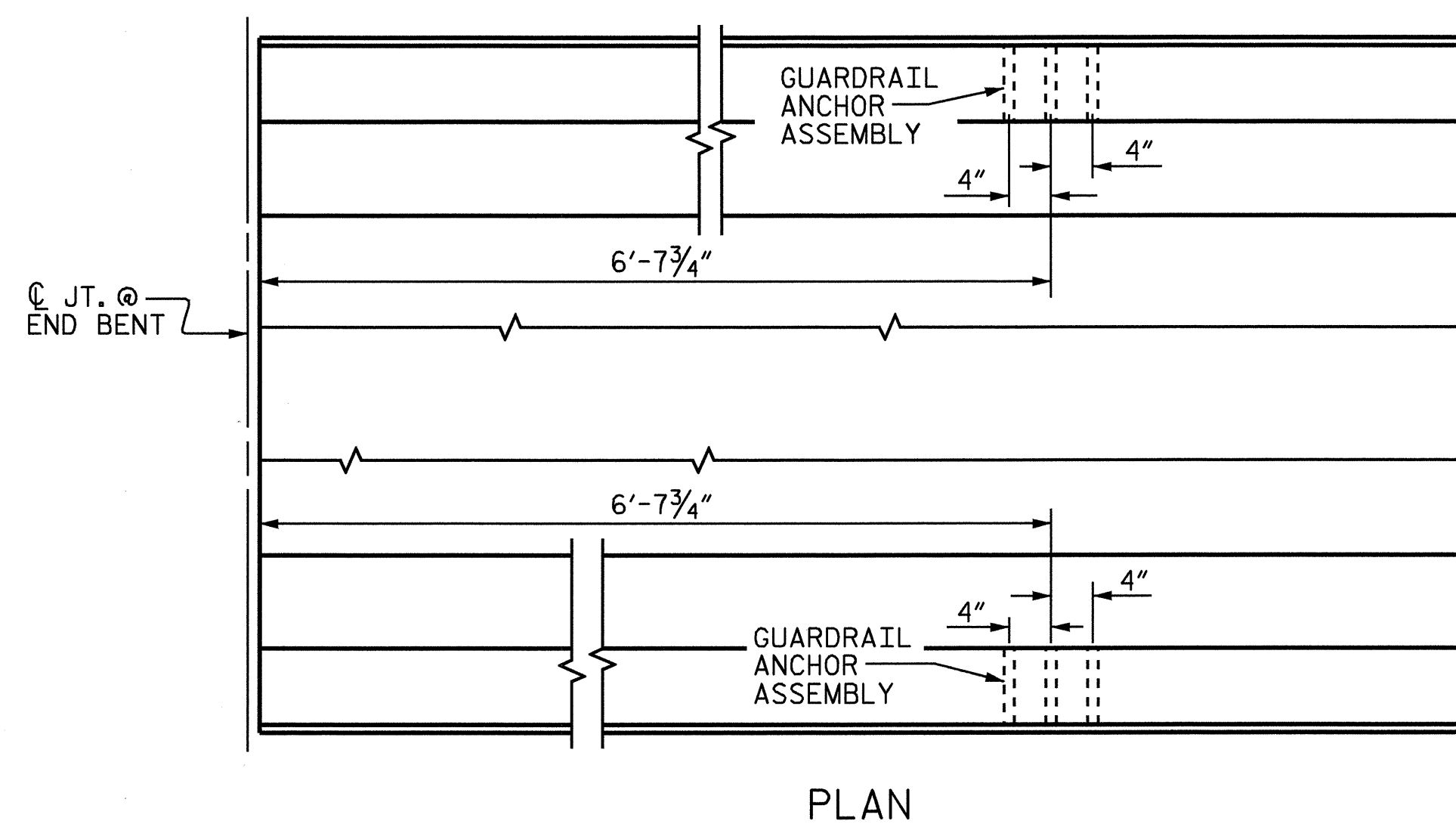
THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR CONCRETE BARRIER RAIL.

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.

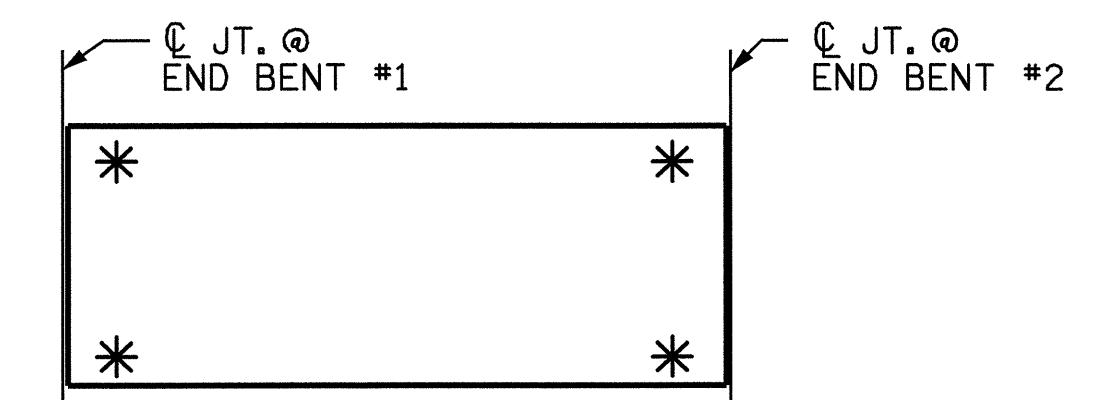


GUARDRAIL ANCHOR ASSEMBLY DETAILS



LOCATION OF ANCHORS FOR GUARDRAIL

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



SKETCH SHOWING POINTS OF ATTACHMENTS

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

ASSEMBLED BY : M.K. BEARD	DATE : 1/26/06
CHECKED BY : K.D. LAYNE	DATE : 2/22/06
DRAWN BY : TLA 5/06	ADDED 5/1/06R KMM/GM
CHECKED BY : GM 5/06	

07-MAY-2008 14:05
R:\Structure\B1382\str\1\Plans\B-1382.ed_01_CS.dgn
sdombrowski

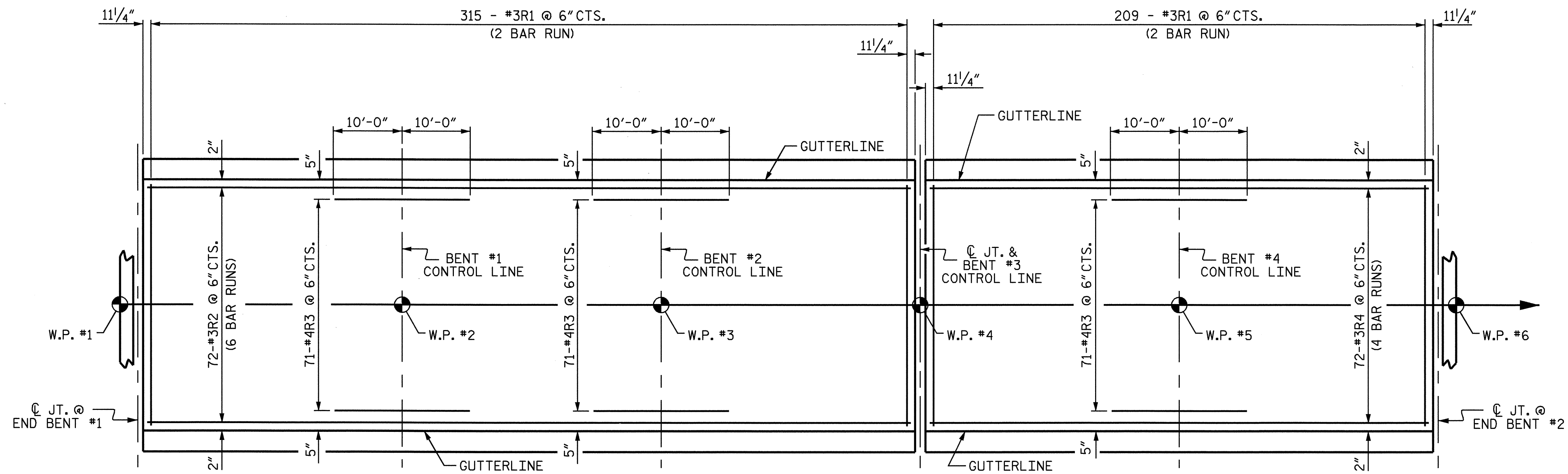


PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50 -L-

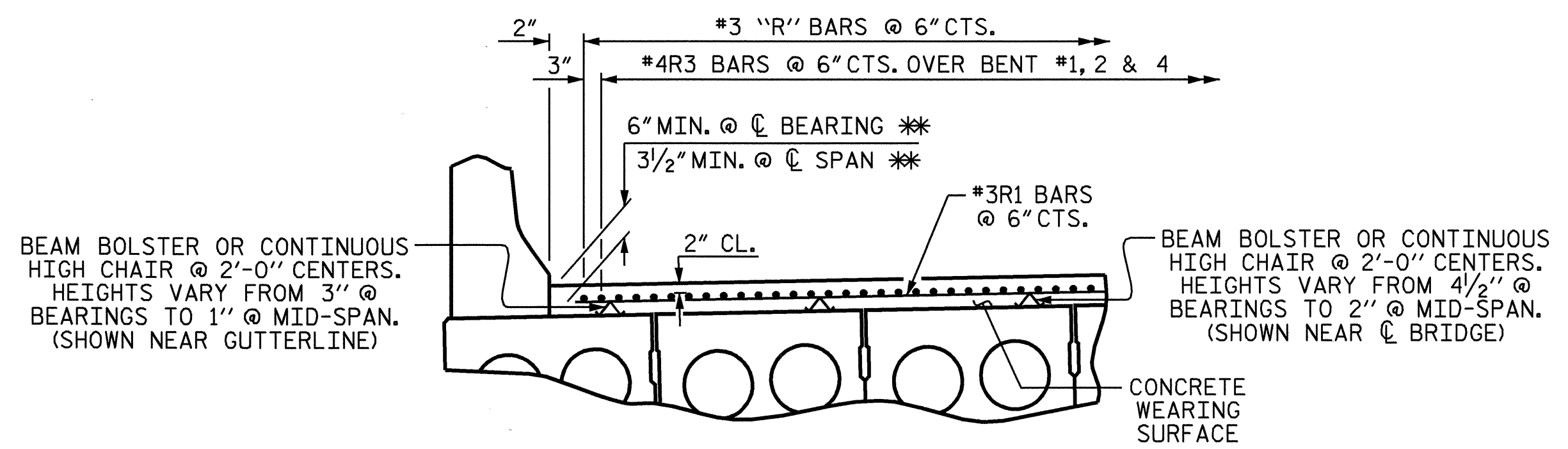
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD GUARDRAIL ANCHORAGE FOR BARRIER RAIL					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-8					TOTAL SHEETS 52

STR. #1

STD. NO. GRA2



PLAN SHOWING CONCRETE WEARING SURFACE REINFORCING STEEL



REINFORCING FOR CONCRETE WEARING SURFACE
 *BASED ON PREDICTED FINAL CAMBER AND THEORETICAL GRADE LINE ELEVATIONS

BILL OF MATERIAL FOR CONCRETE WEARING SURFACE					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*R1	1048	#3	STR	18'-5"	7256
*R2	432	#3	STR	27'-4"	4440
*R3	213	#4	STR	20'-0"	2846
*R4	288	#3	STR	27'-1"	2933
*EPOXY COATED REINFORCING STEEL				LBS.	17475
CONCRETE WEARING SURFACE				SQ. FT.	9421

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

NOTES

PLACEMENT OF THE CONCRETE WEARING SURFACE SHALL OCCUR AFTER CASTING THE CONCRETE RAIL. THE COST OF THE #3 & #4 BARS CAST WITH THE CONCRETE WEARING SURFACE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE WEARING SURFACE. FOR CONCRETE WEARING SURFACE, SEE SPECIAL PROVISIONS.

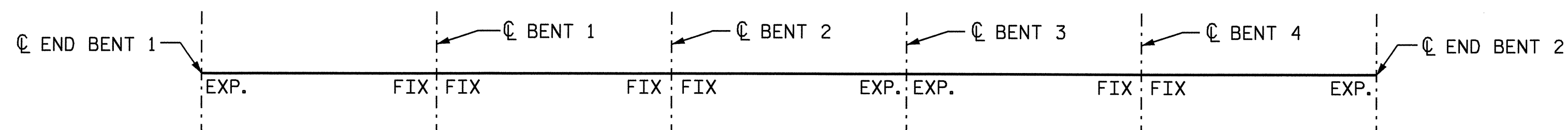
PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50 -L-



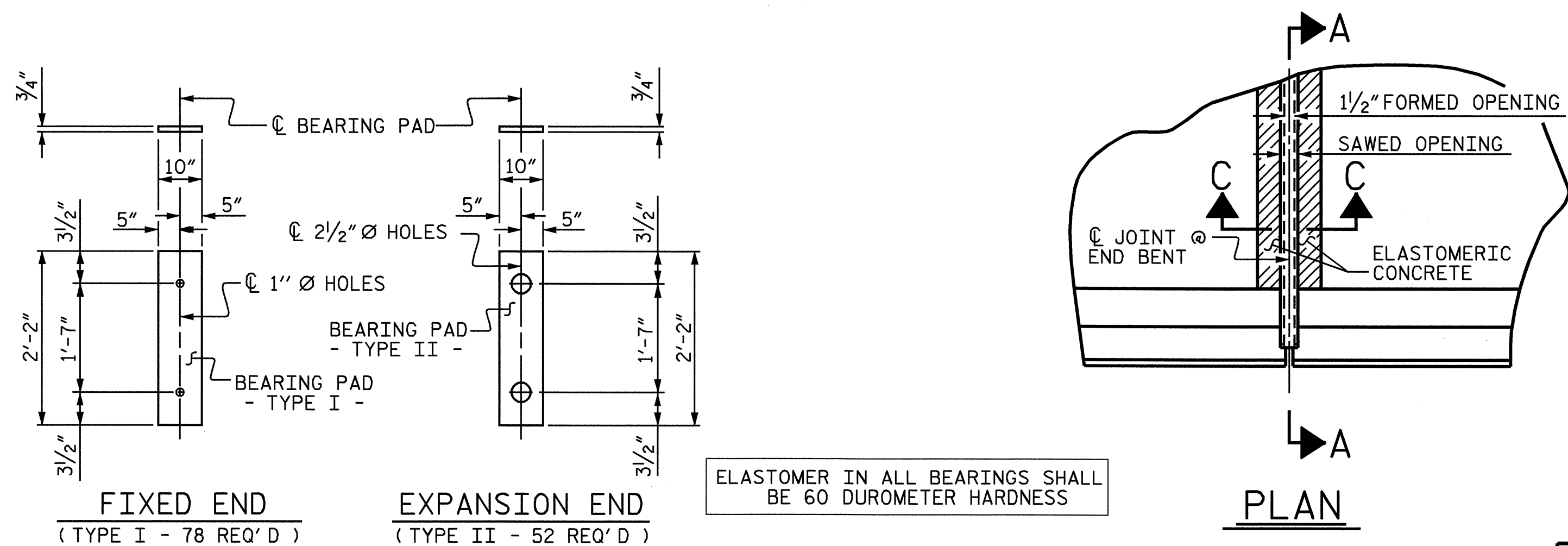
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 3'-0" X 1'-9"
 PRESTRESSED
 CONCRETE CORED
 SLAB UNIT

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS
2			4			52

DRAWN BY: M.K. BEARD DATE: 3/26/08
 CHECKED BY: K.D. LAYNE DATE: 3/26/08



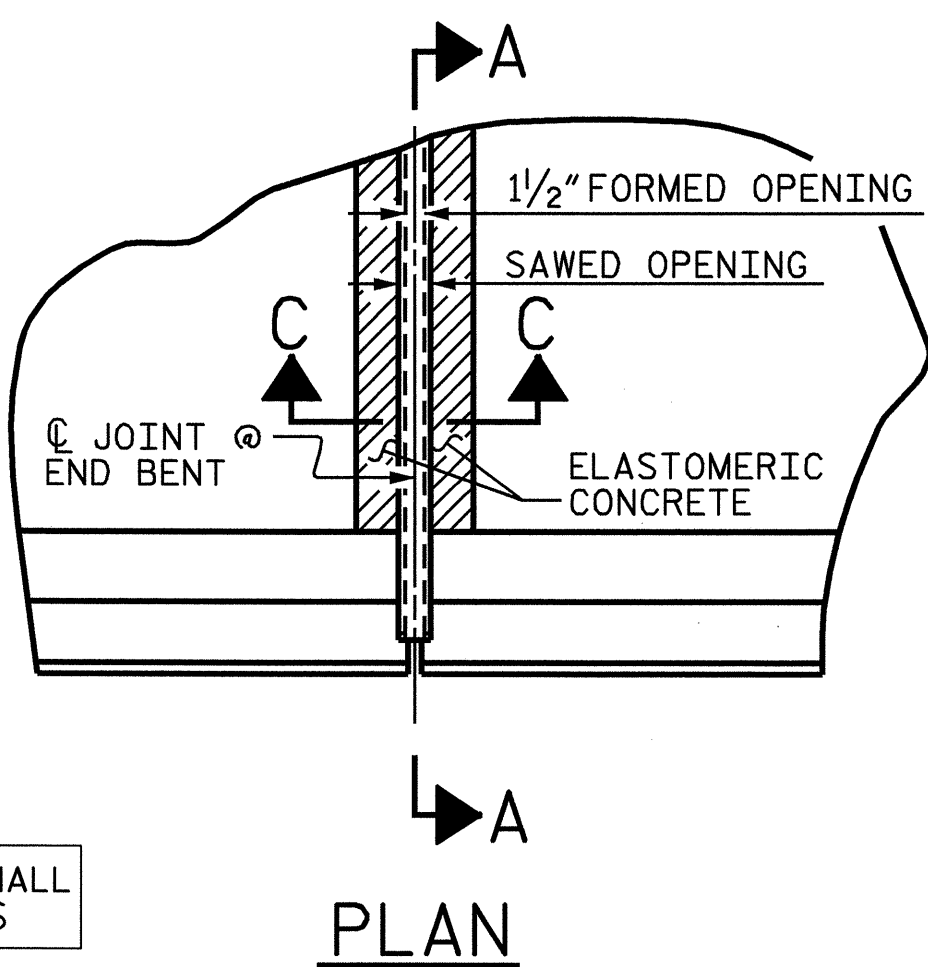
ELASTOMERIC BEARING LOCATION SKETCH



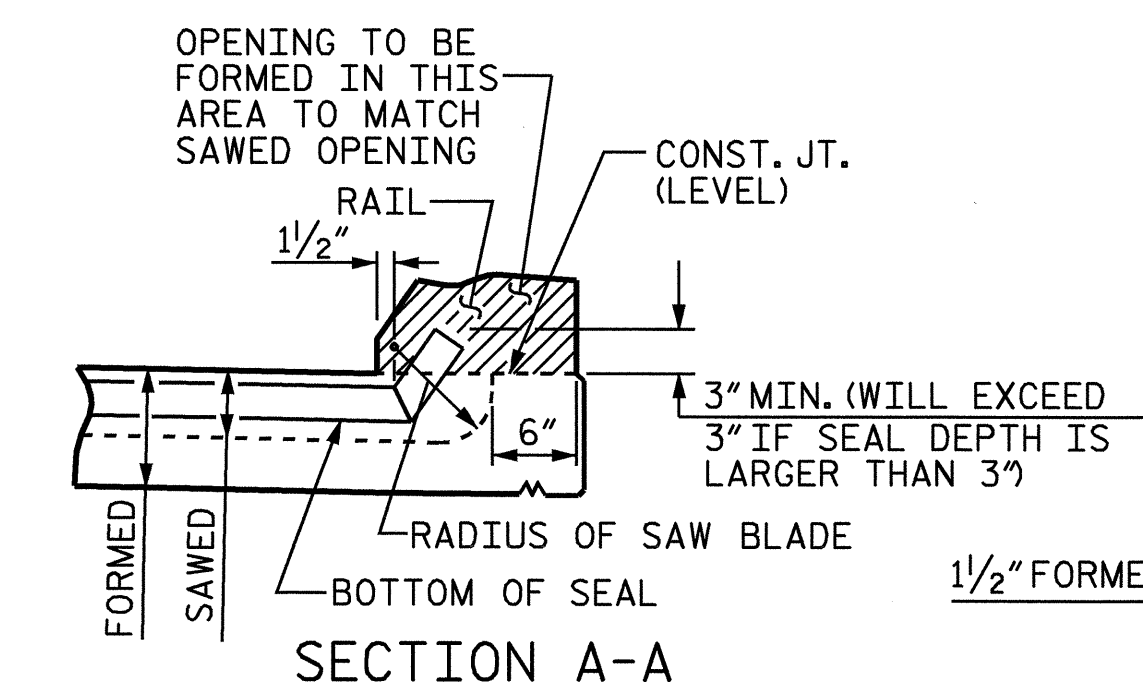
FIXED END (TYPE I - 78 REQ'D)
EXPANSION END (TYPE II - 52 REQ'D)

ELASTOMERIC BEARING DETAILS

ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS

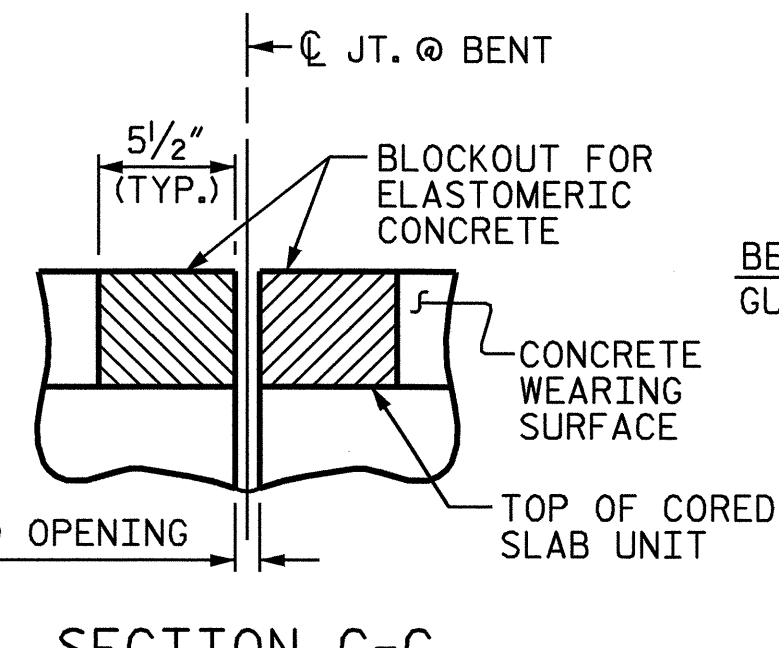


PLAN



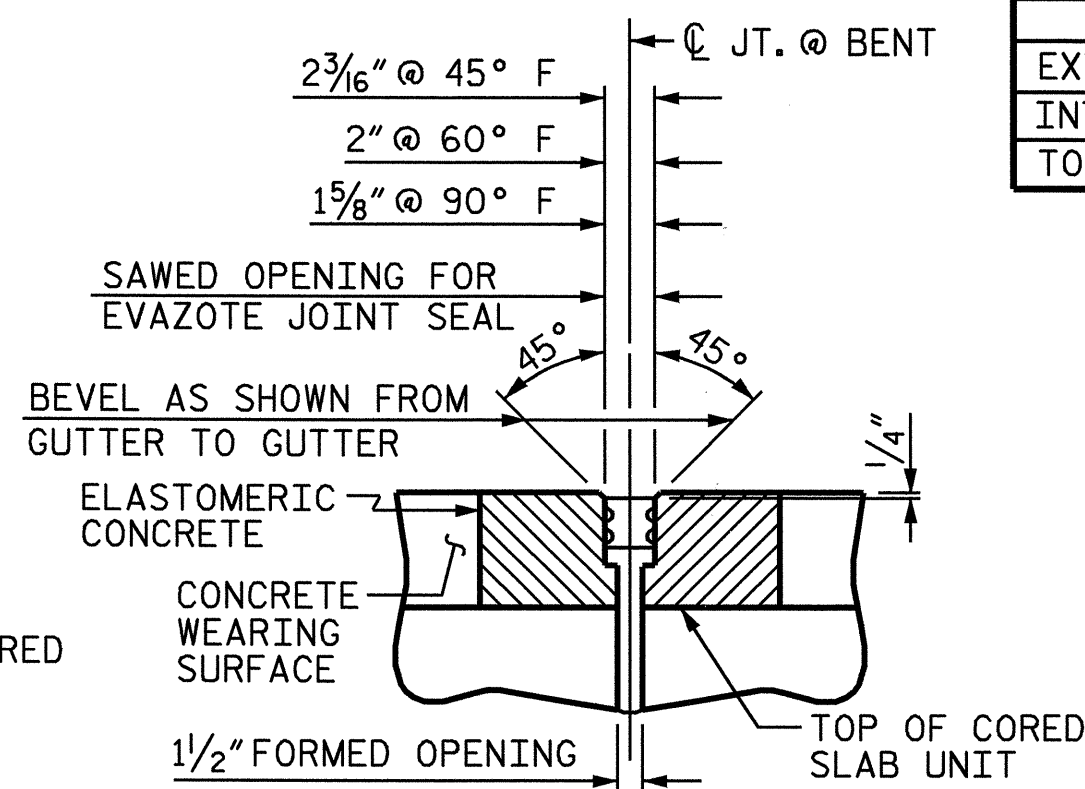
SECTION A-A

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



SECTION C-C

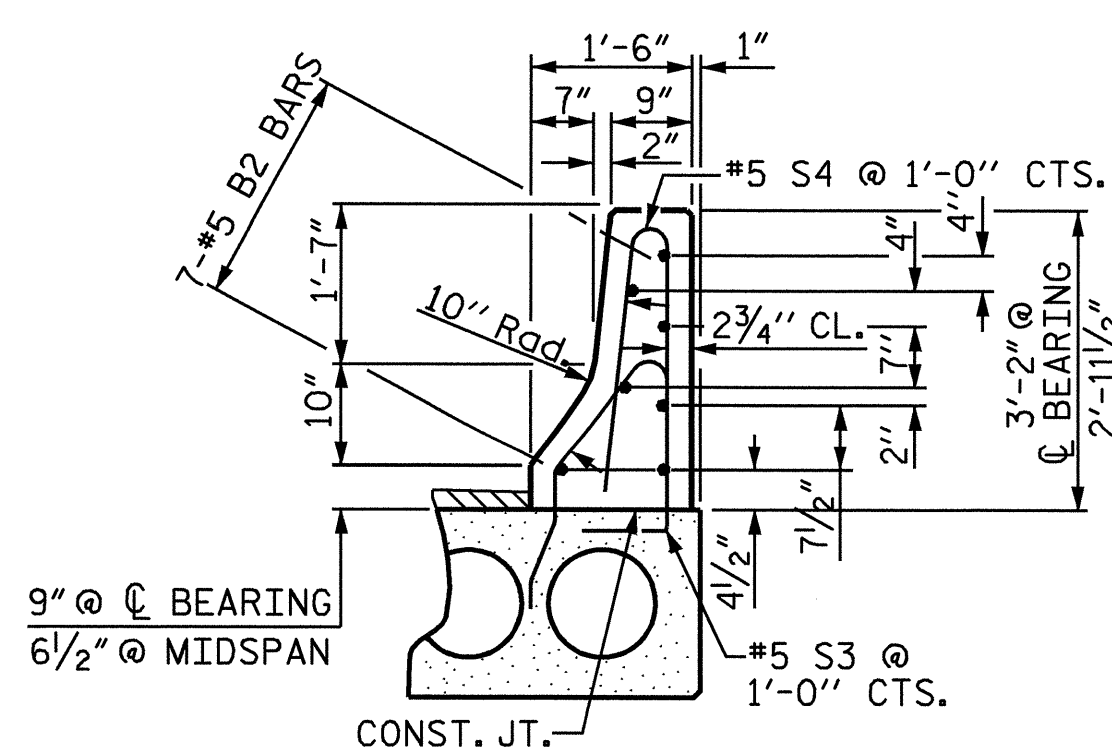
EVAZOTE JOINT SEAL (PRE-SAWED ELASTOMERIC CONCRETE DIMENSIONS)



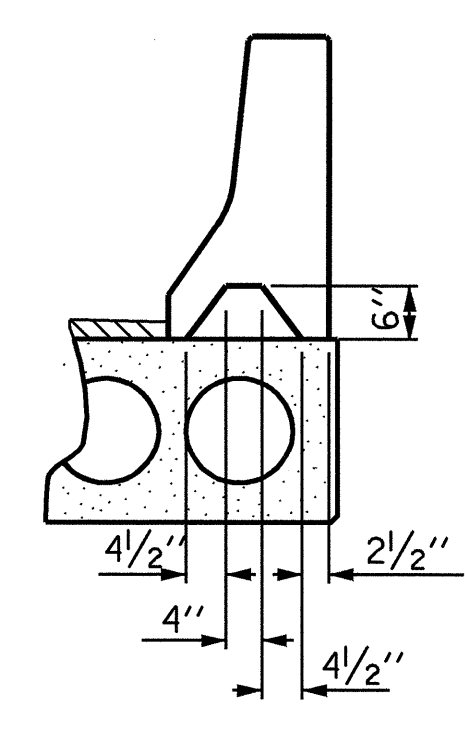
SECTION C-C
EVAZOTE JOINT SEAL

JOINT SEAL DETAILS AT BENT #3

(SHOWING PARTIAL DEPTH BLOCKOUT)

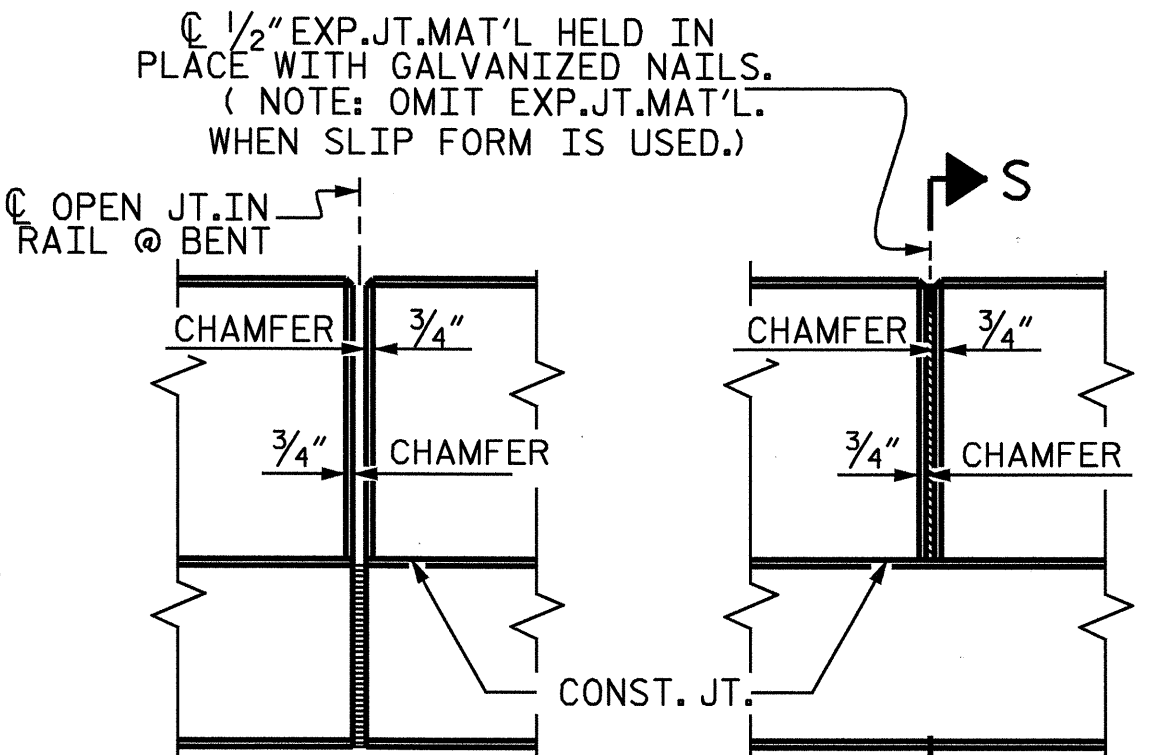


SECTION THRU RAIL



SECTION S-S

AT DAM IN OPEN JOINT (THIS IS TO BE USED ONLY WHEN SLIP FORM IS USED)

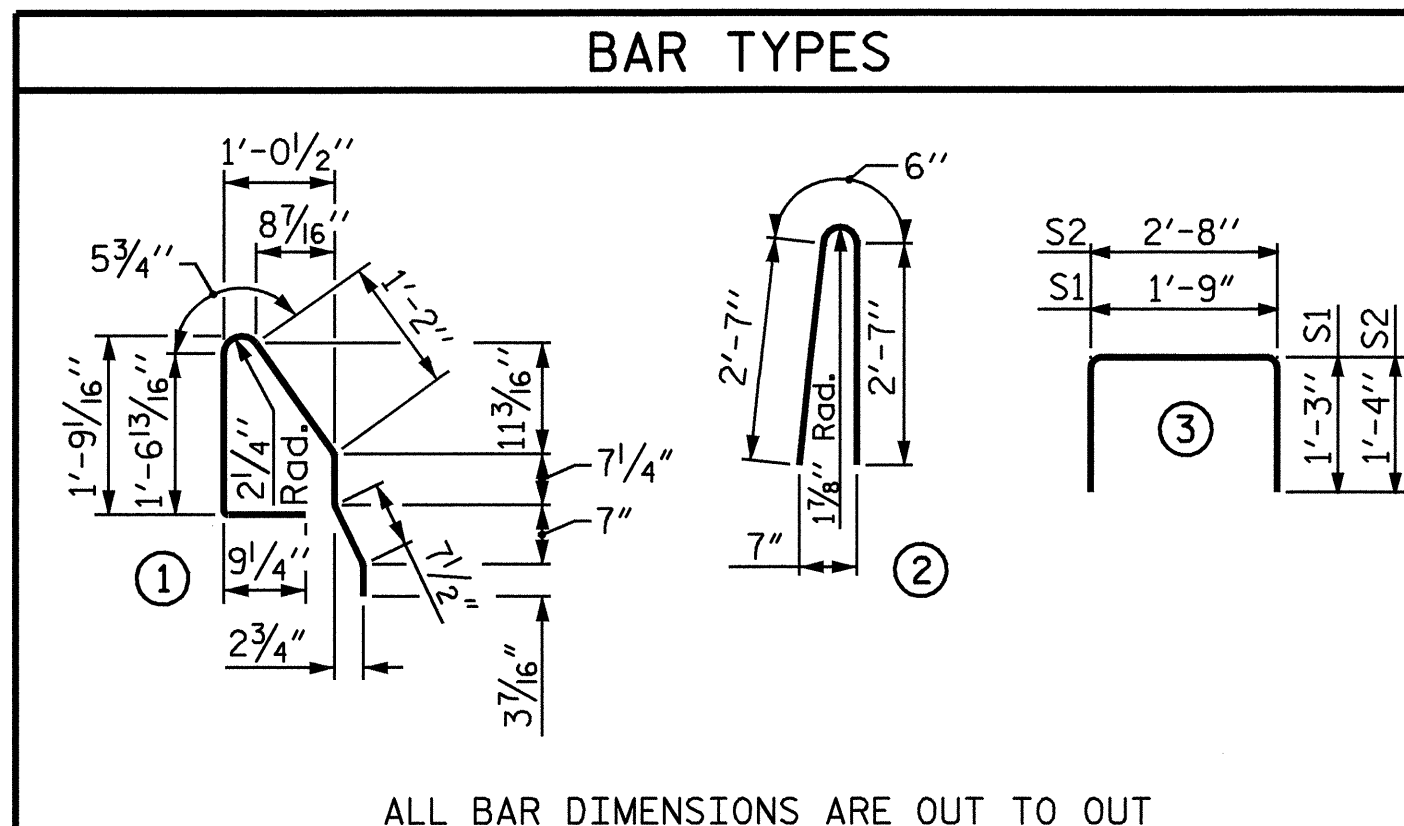


ELEVATION AT EXPANSION JOINTS

BARRIER RAIL DETAILS

ASSEMBLED BY : M.K. BEARD DATE : 1/26/06
CHECKED BY : K.D. LAYNE DATE : 2/22/06
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

19-JUN-2008 12:27
R:\Structures\B1382\str#1\Plans\B-1382.sd.01.CS.dgn
sdombrowski



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR ONE CORED SLAB SECTION

BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B1	4	# 4	STR	27'-2"	73	18'-9"	73
S1	8	# 4	3	4'-3"	23	4'-3"	23
S2	104	# 4	3	5'-4"	371	5'-4"	371
* S3	54	# 5	1	5'-6"	310		
REINFORCING STEEL				467 LBS.		467 LBS.	
* EPOXY COATED REINFORCING STEEL				310 LBS.			
6,000 P.S.I. CONCRETE				7.4 CU. YDS.		7.3 CU. YDS.	
1/2" Ø L.R. STRANDS				No. 28		No. 28	

CORED SLABS REQUIRED

	No.	LENGTH	TOTAL LENGTH
EXTERIOR C.S.	10	52'-10 1/2"	528'-9"
INTERIOR C.S.	55	52'-10 1/2"	2908'-1 1/2"
TOTAL	65		3436'-10 1/2"

GRADE 270 STRANDS

AREA (SQUARE INCHES)	1/2" Ø L.R.
ULTIMATE STRENGTH (LBS. PER STRAND)	41,300
APPLIED PRESTRESS (LBS. PER STRAND)	30,980

DEAD LOAD DEFLECTION AND CAMBER

	3'-0" x 1'-9"
CAMBER (SLAB ALONE IN PLACE)	1/2" Ø L.R. STRAND 3" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	5/16" ↓
FINAL CAMBER	2 1/16" ↑

** DOES NOT INCLUDE DEFLECTION DUE TO RAIL & FUTURE WEARING SURFACE

BILL OF MATERIAL FOR CONCRETE BARRIER RAIL

BAR	BARS PER SPAN					TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	SPAN	A SPAN	B SPAN	C SPAN	D SPAN	E				
* B2	28	28	28	28	28	140	#5	STR	26'-1"	3809
* S4	108	108	108	108	108	540	#5	2	5'-8"	3192
* EPOXY COATED REINFORCING STEEL									7001 LBS.	
CLASS AA CONCRETE									69.5 CU. YDS.	
TOTAL LIN. FT. OF CONCRETE BARRIER RAIL									529.75 LIN. FT.	

GROOVING BRIDGE FLOORS

APPROACH SLABS	900	SQ. FT.
BRIDGE DECK	8611	SQ. FT.
TOTAL	9511	SQ. FT.

ELASTOMERIC CONCRETE

BENT NO.	ELASTOMERIC CONCRETE (CU. FT.)
3	17.8
TOTAL	17.8

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 1/2" Ø DOWEL HOLES AT EXPANSION ENDS OF SLAB SECTIONS SHALL BE FILLED WITH JOINT SEALER MATERIAL TO 1/2" ABOVE THE TOP OF DOWELS AND THEN FILLED WITH GROUT.

THE JOINT SEALER MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TYPE SL LOW MODULUS SILICONE SEALANT. 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 4500 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.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

FOR EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE EVAZOTE JOINT SEAL SHALL BE 2 1/2".

ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS

PROJECT NO. B-1382
SAMPSON COUNTY
STATION: 18+07.50 -L-

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



REVISIONS						SHEET NO. 5-10
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 52
2			4			

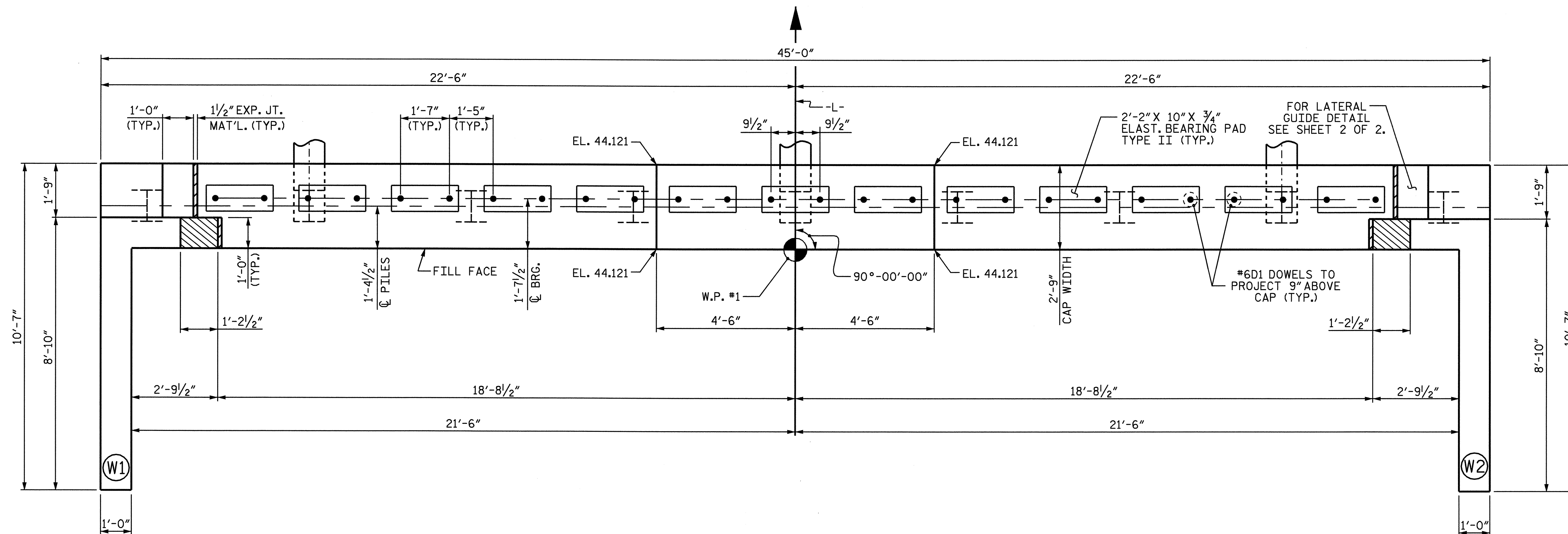
NOTES

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

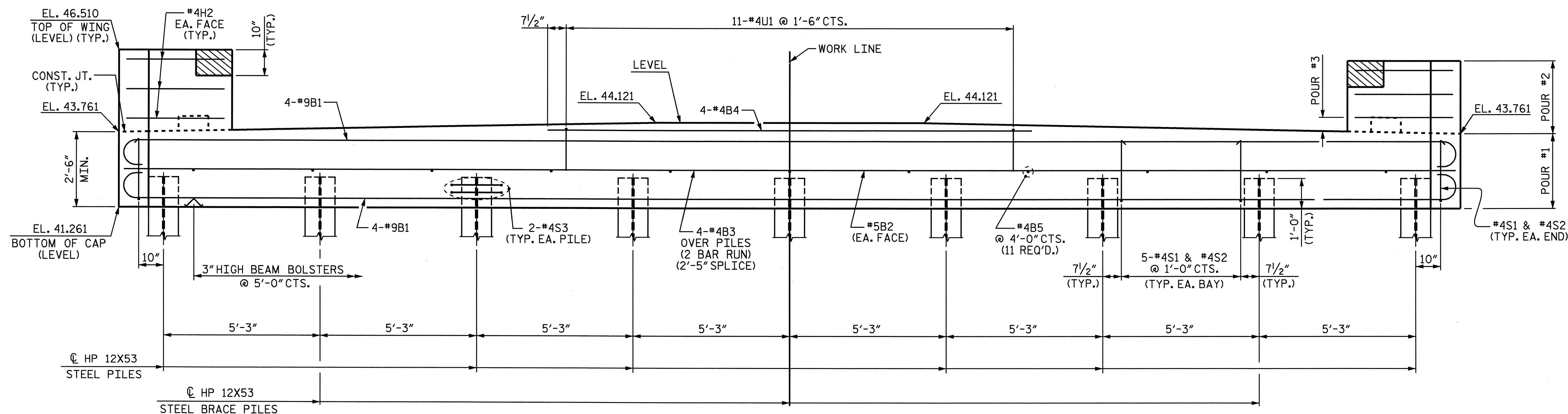
THE CONTRACTOR SHALL PROVIDE FOR INSTALLATION OF THE 4" DIAMETER DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS, SEE THE ROADWAY PLANS. REINFORCING STEEL IN THE WING WALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.

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 CONCRETE BARRIER RAIL AND END POST IS CAST IF SLIP FORMING IS USED.



PLAN



ELEVATION

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT #1

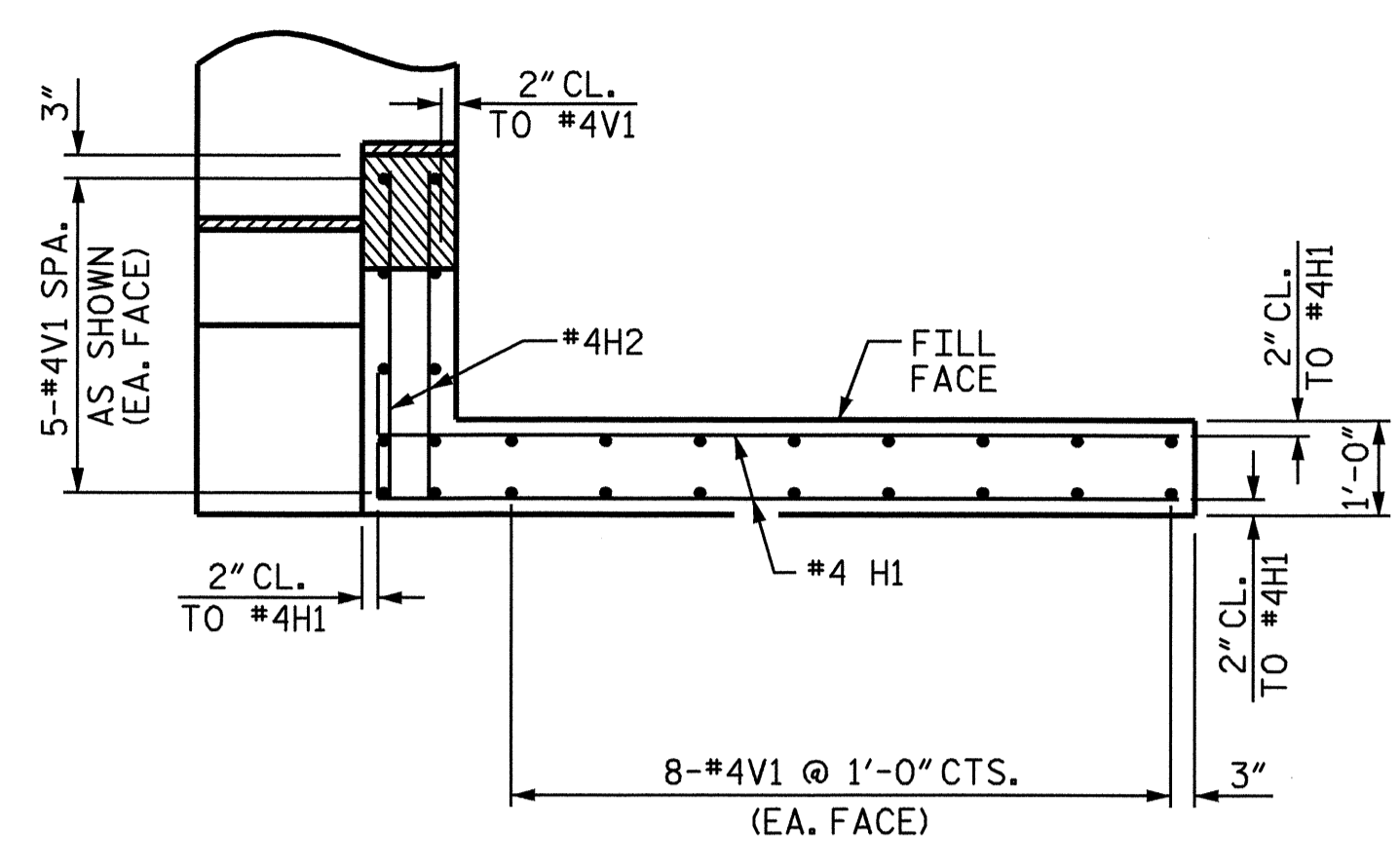


DRAWN BY: M.K. BEARD DATE: 9/29/06
 CHECKED BY: K.D. LAYNE DATE: 10/10/06

07-MAY-2008 14:05
 R:\Structures\B1382\str#1\Plans\B-1382.ed.01.Ebts.dgn
 sdombrowski

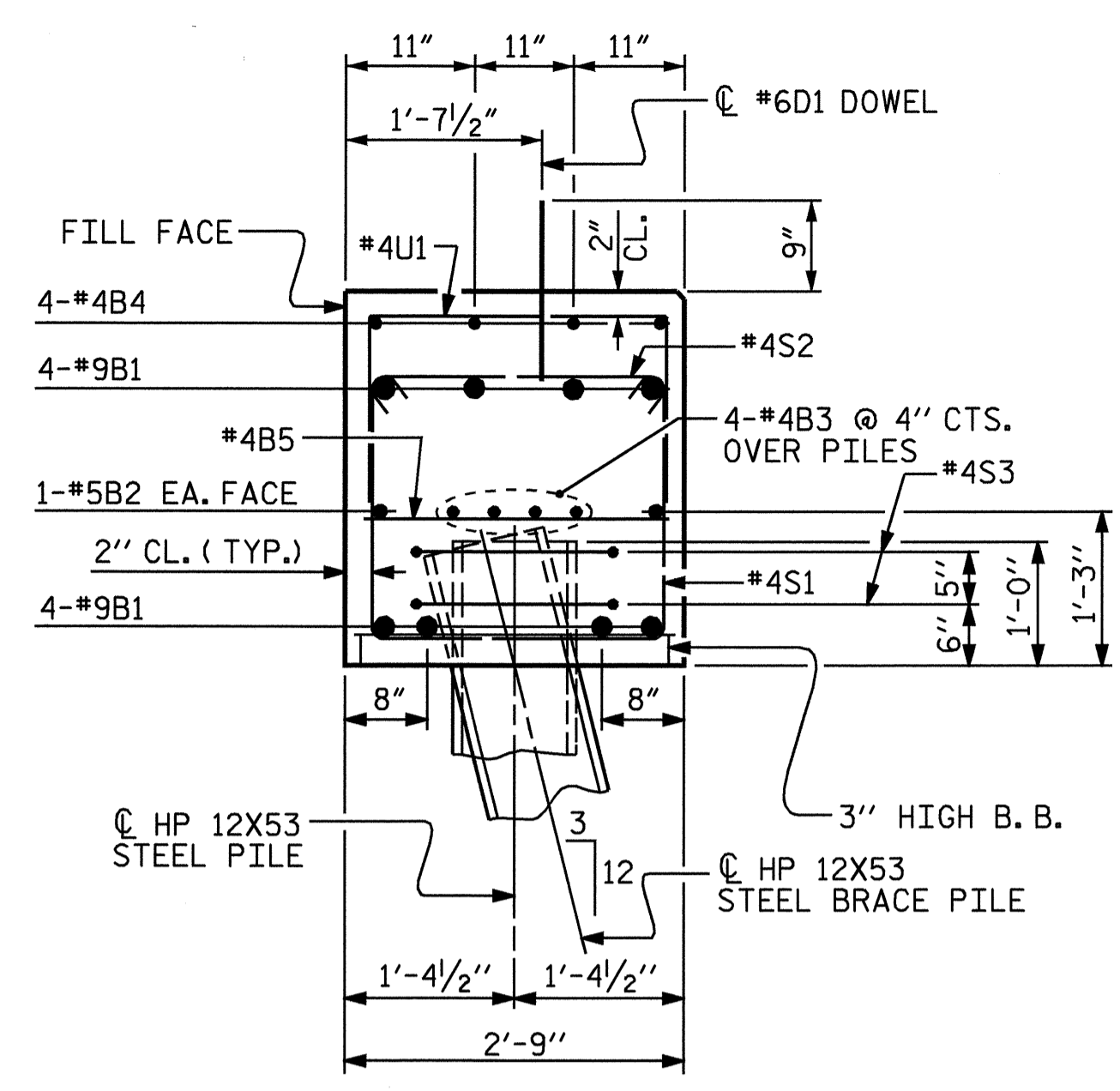
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			52

STR. #1

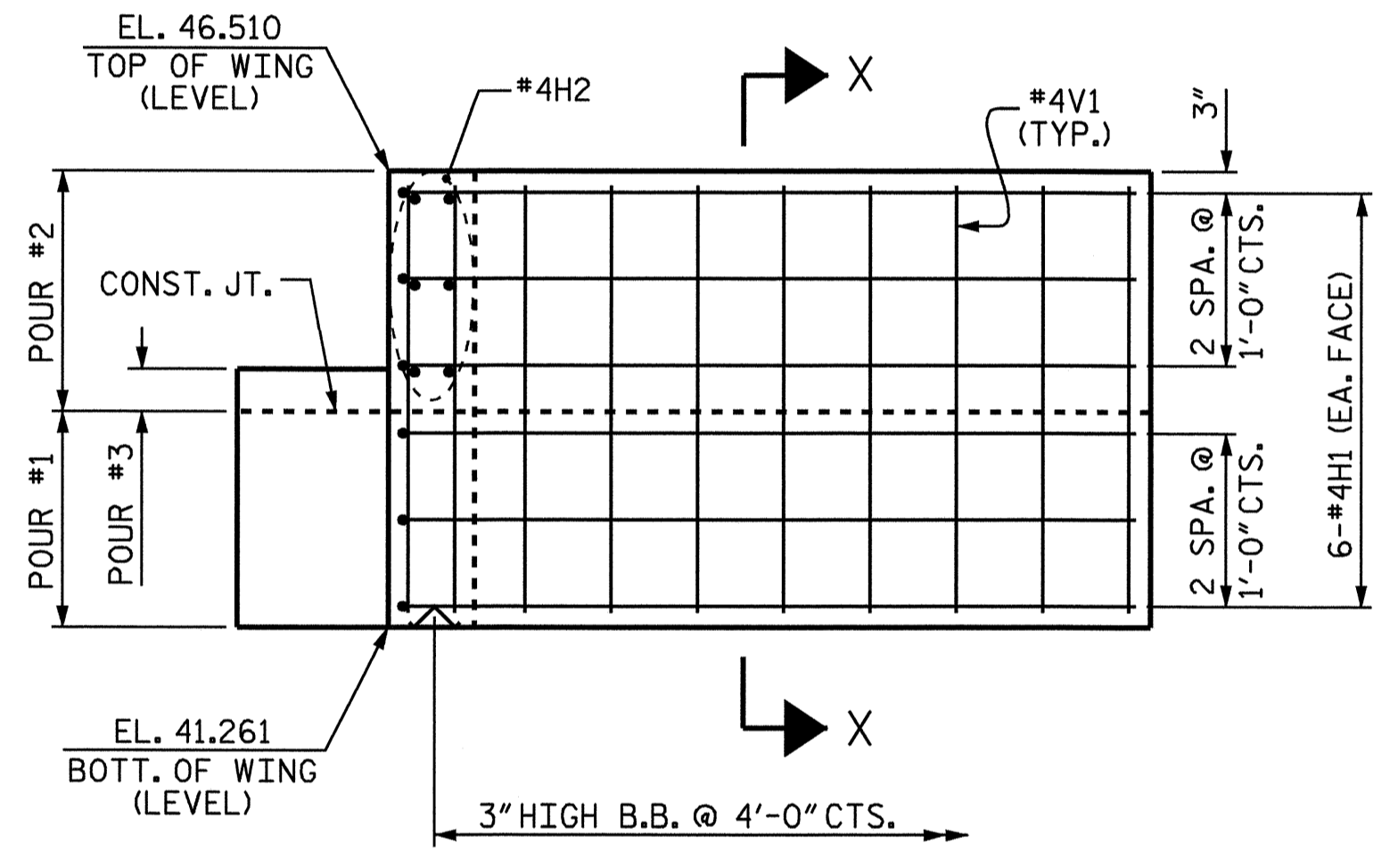


PLAN OF WING

LEFT WING (W1) SHOWN, RIGHT WING (W2) SIMILAR.

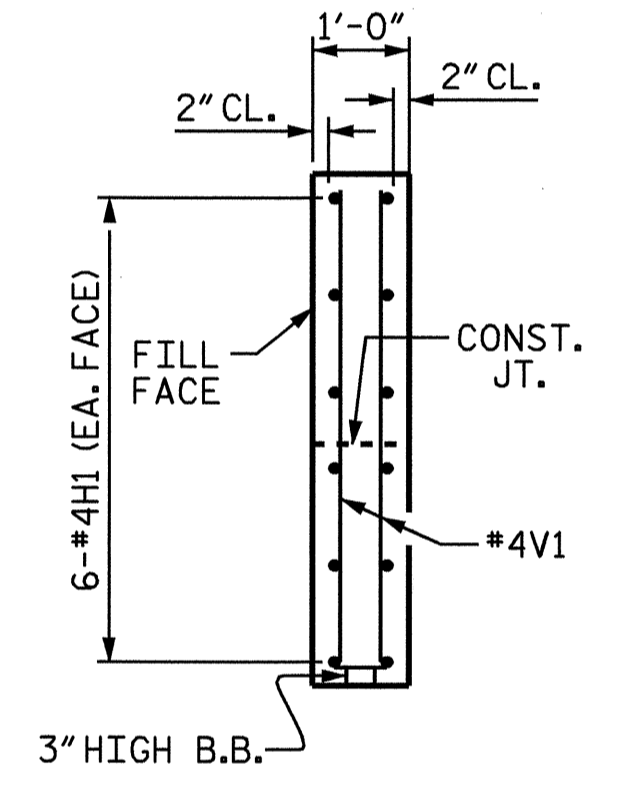


SECTION THRU CAP

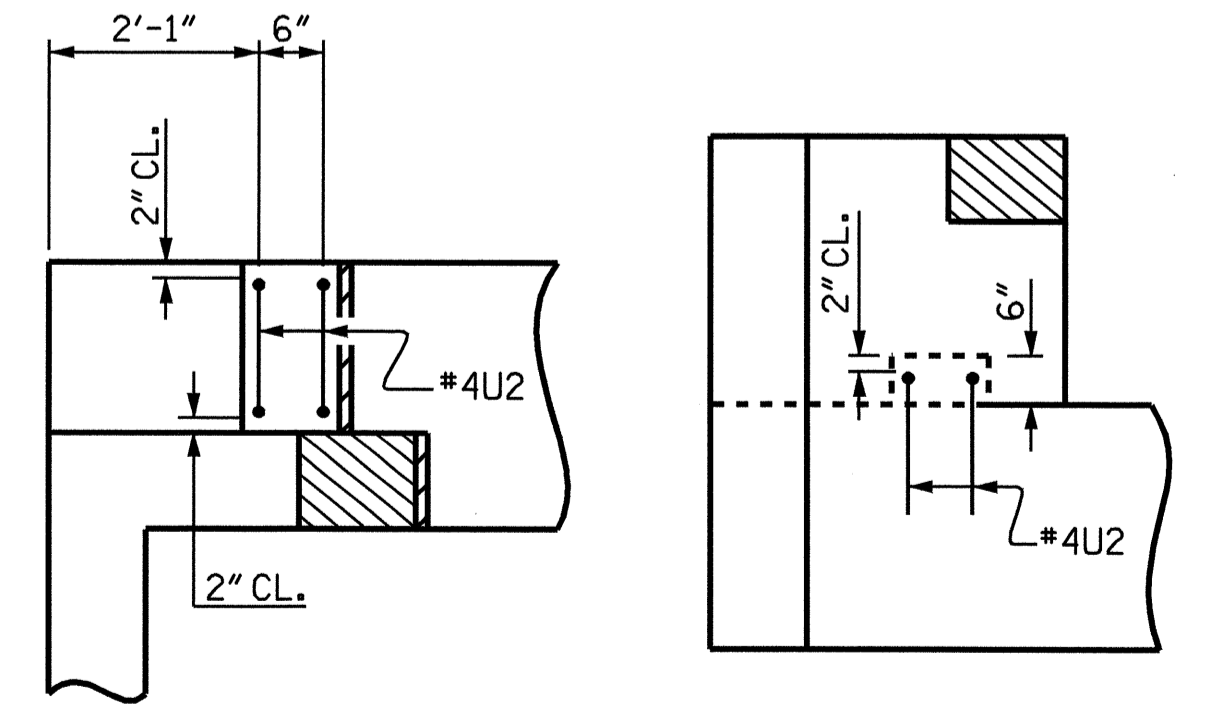


ELEVATION OF WING

LEFT WING (W1) SHOWN, RIGHT WING (W2) SIMILAR.

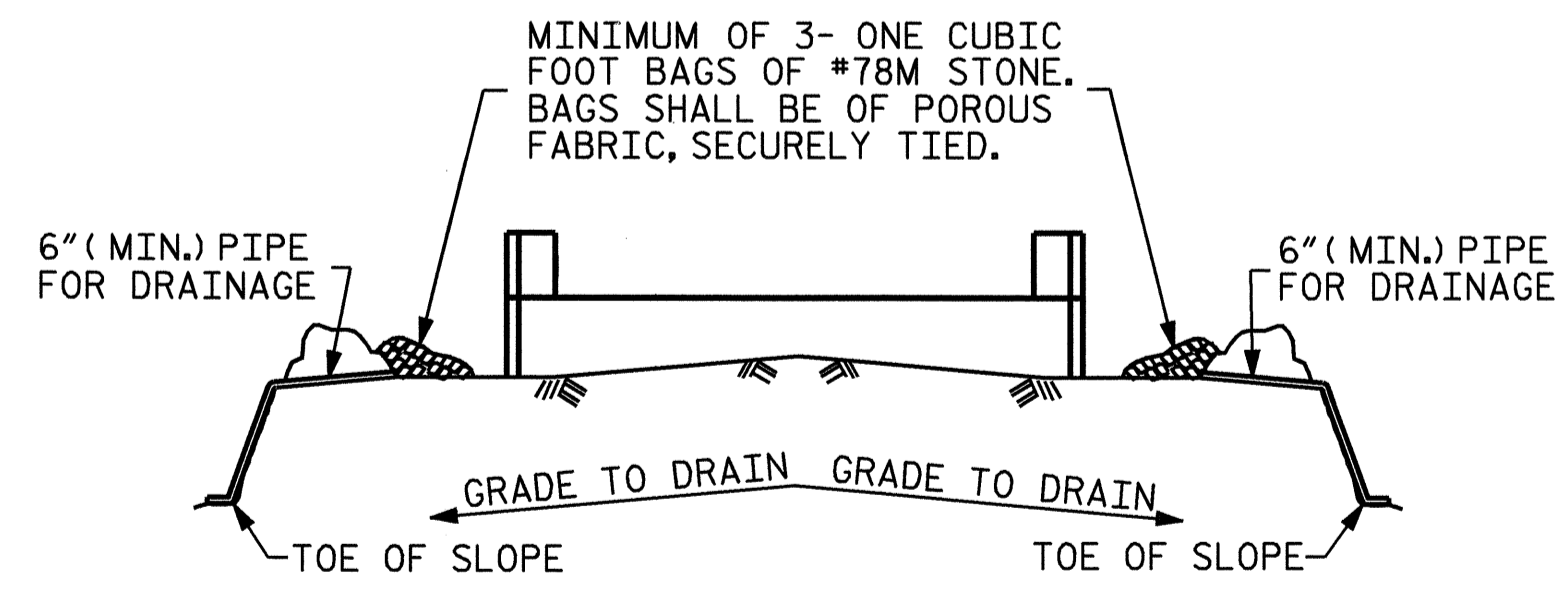


SECTION X-X



LATERAL GUIDE DETAILS

(EACH END SIMILAR)



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.

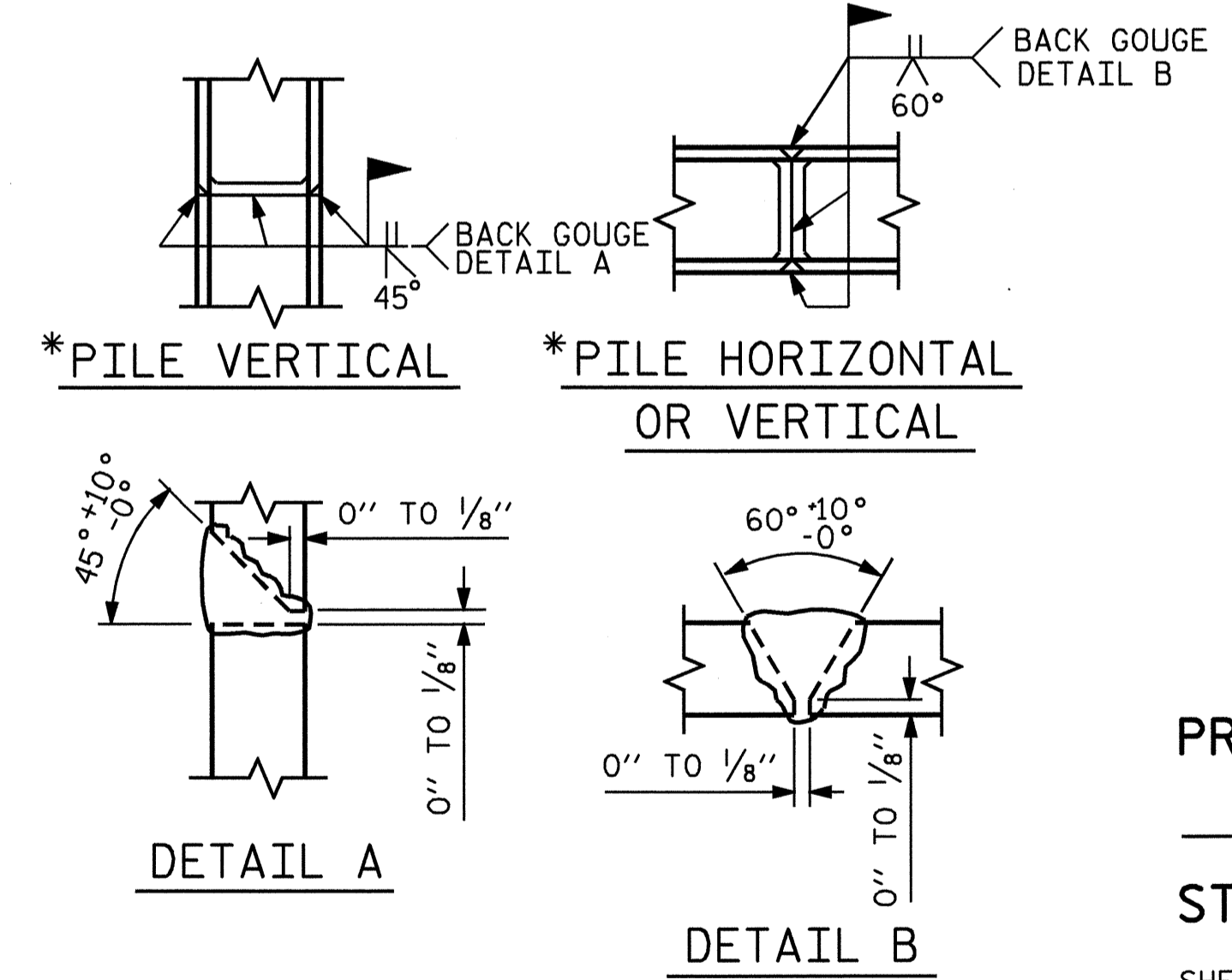
TEMPORARY DRAINAGE AT END BENT

BAR TYPES

BILL OF MATERIAL

END BENT #1					
BAR	No.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9		47'-0"	1278
B2	2	#5	STR	44'-8"	93
B3	8	#4	STR	23'-7"	126
B4	4	#4	STR	16'-3"	43
B5	11	#4	STR	2'-5"	18
D1	26	#6	STR	1'-6"	59
H1	24	#4	3	9'-2"	147
H2	12	#4	STR	3'-5"	27
S1	42	#4	4	7'-5"	208
S2	42	#4	2	3'-2"	89
S3	18	#4	6	6'-6"	78
U1	11	#4	5	5'-5"	40
U2	4	#4	5	4'-5"	12
V1	52	#4	STR	4'-11"	171
REINFORCING STEEL					2389 LBS.
CLASS "A" CONCRETE BREAKDOWN					
POUR #1 CAP & LOWER WINGS					CU. YDS. 13.9
POUR #2 UPPER WINGS					CU. YDS. 2.4
POUR #3 LATERAL GUIDES					CU. YDS. 0.1
CLASS "A" CONCRETE TOTAL					CU. YDS. 16.4
HP 12X53 STEEL PILES					No. 9 360 LIN. FT.

ALL BAR DIMENSIONS ARE OUT TO OUT.



* POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

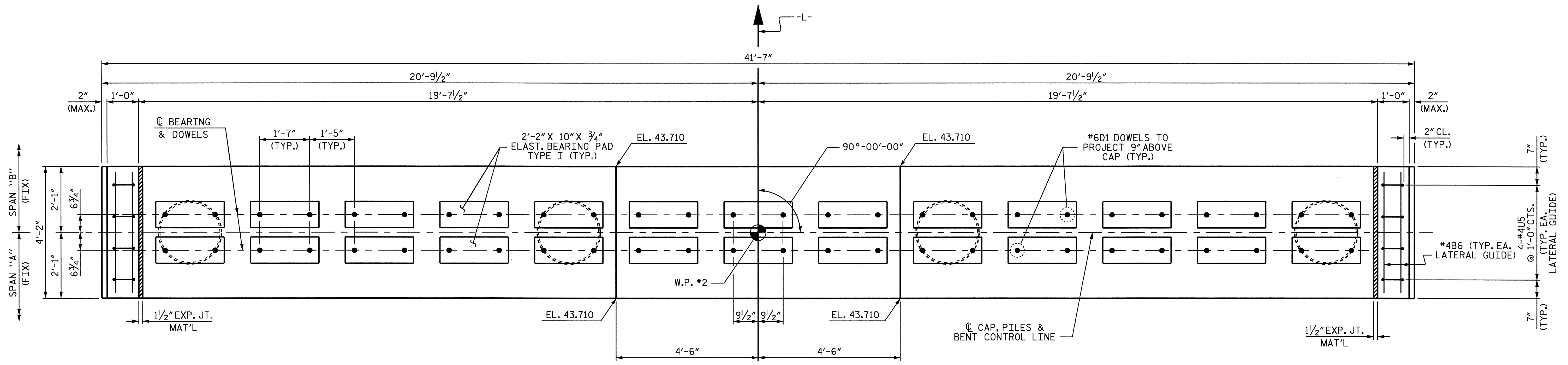
SUBSTRUCTURE
 END BENT #1



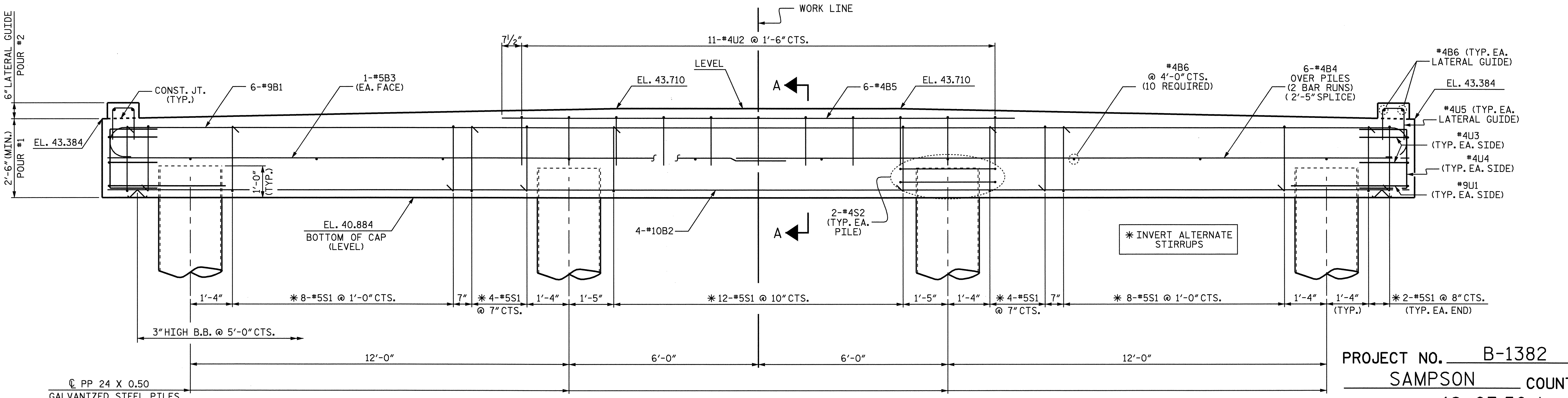
DRAWN BY : M.K. BEARD DATE : 9/29/06
 CHECKED BY : K.D. LAYNE DATE : 10/10/06

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

TOTAL SHEETS: **52**



PLAN

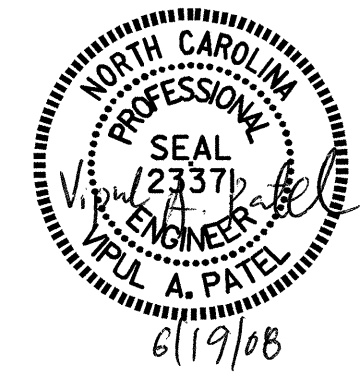


ELEVATION

FOR REINFORCING STEEL AND OTHER DETAILS FOR PIPE PILES, SEE "24" STEEL PIPE PILE" SHEET

NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.
 THE LATERAL GUIDE AT EACH END OF CAP IS NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.

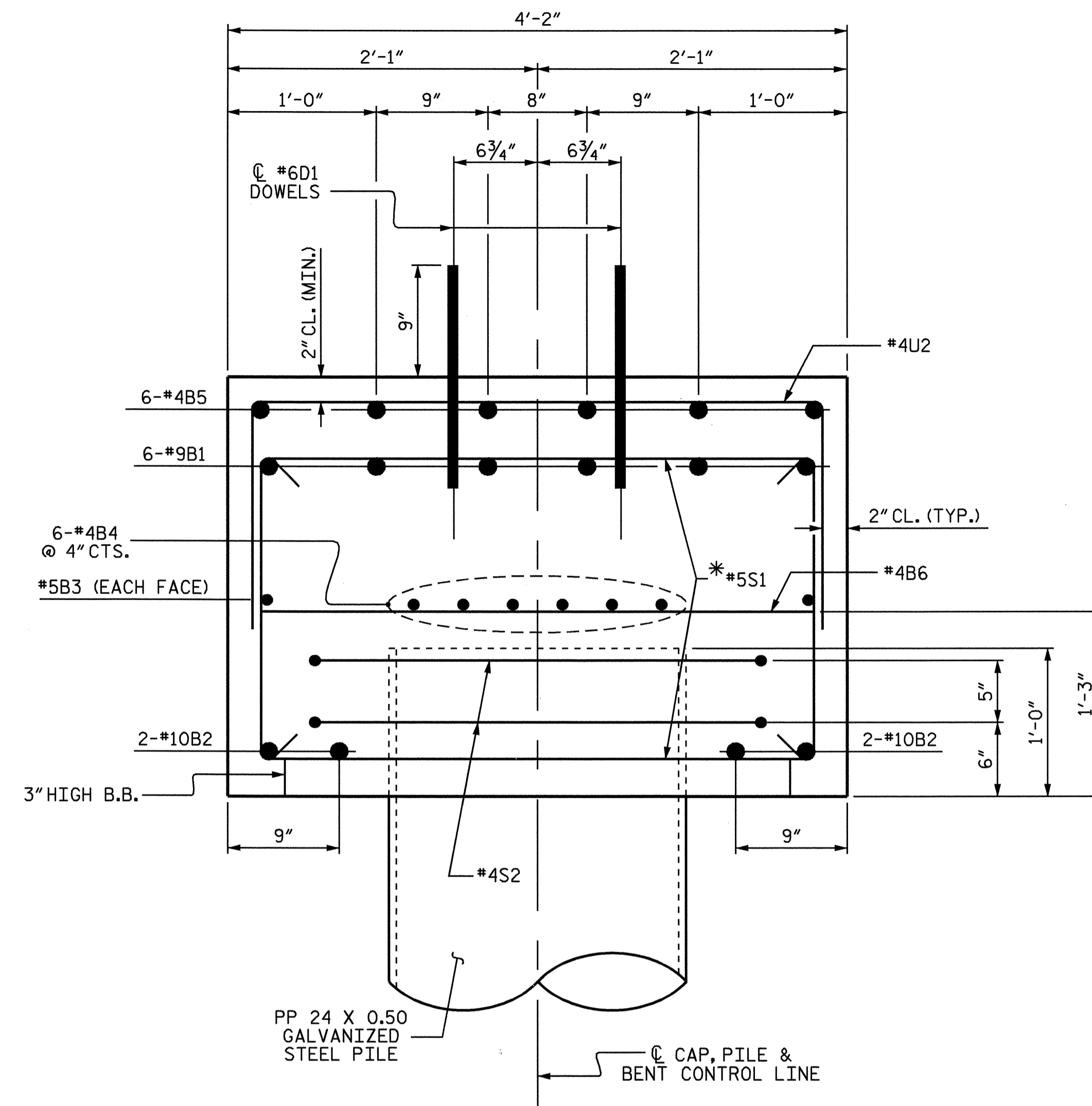


PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50-L-

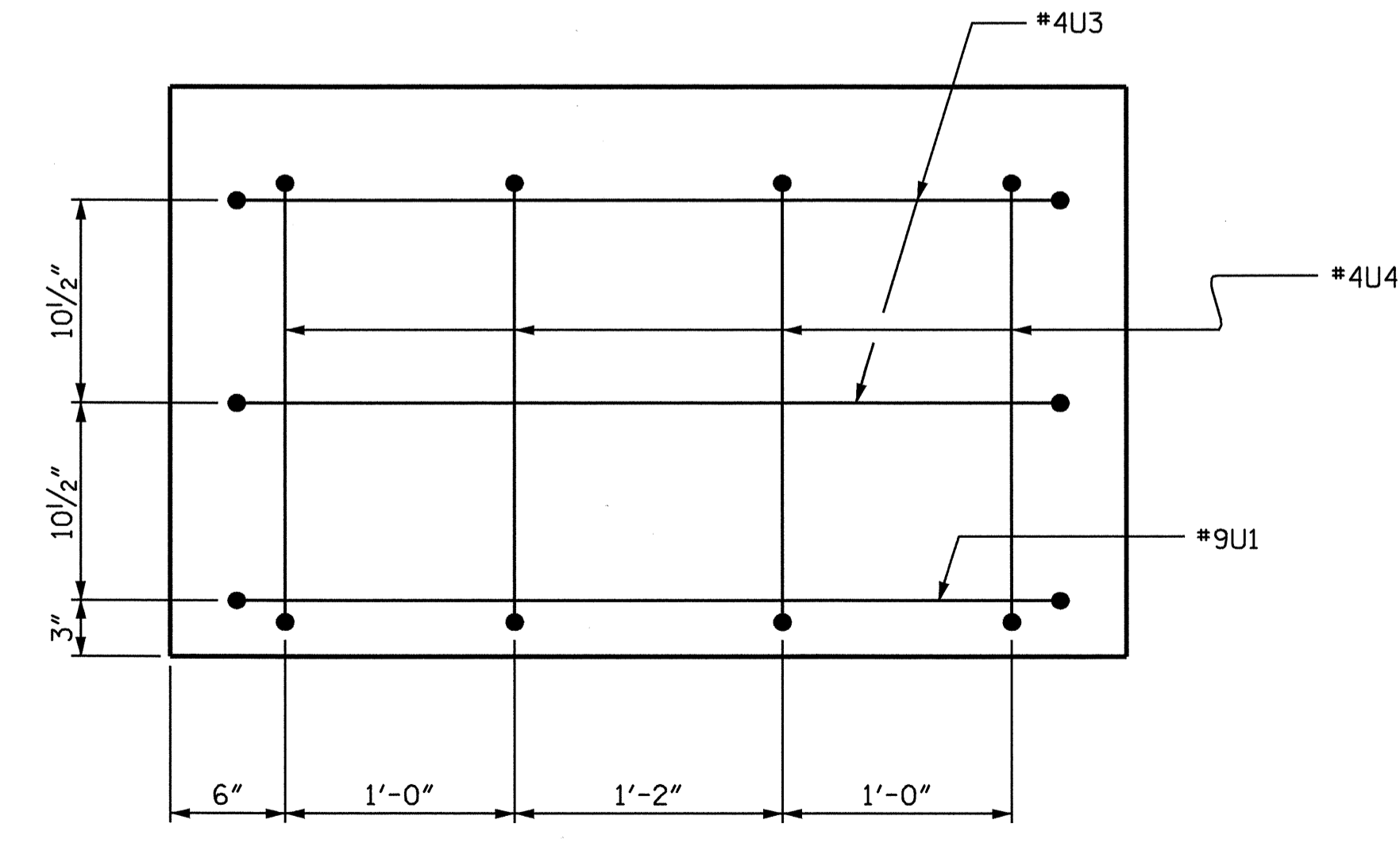
SHEET 1 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE BENT #1					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S-13 TOTAL SHEETS 52

DRAWN BY: S.H. SOCKWELL DATE: 8/07/06
 CHECKED BY: M.K. BEARD DATE: 8/14/06



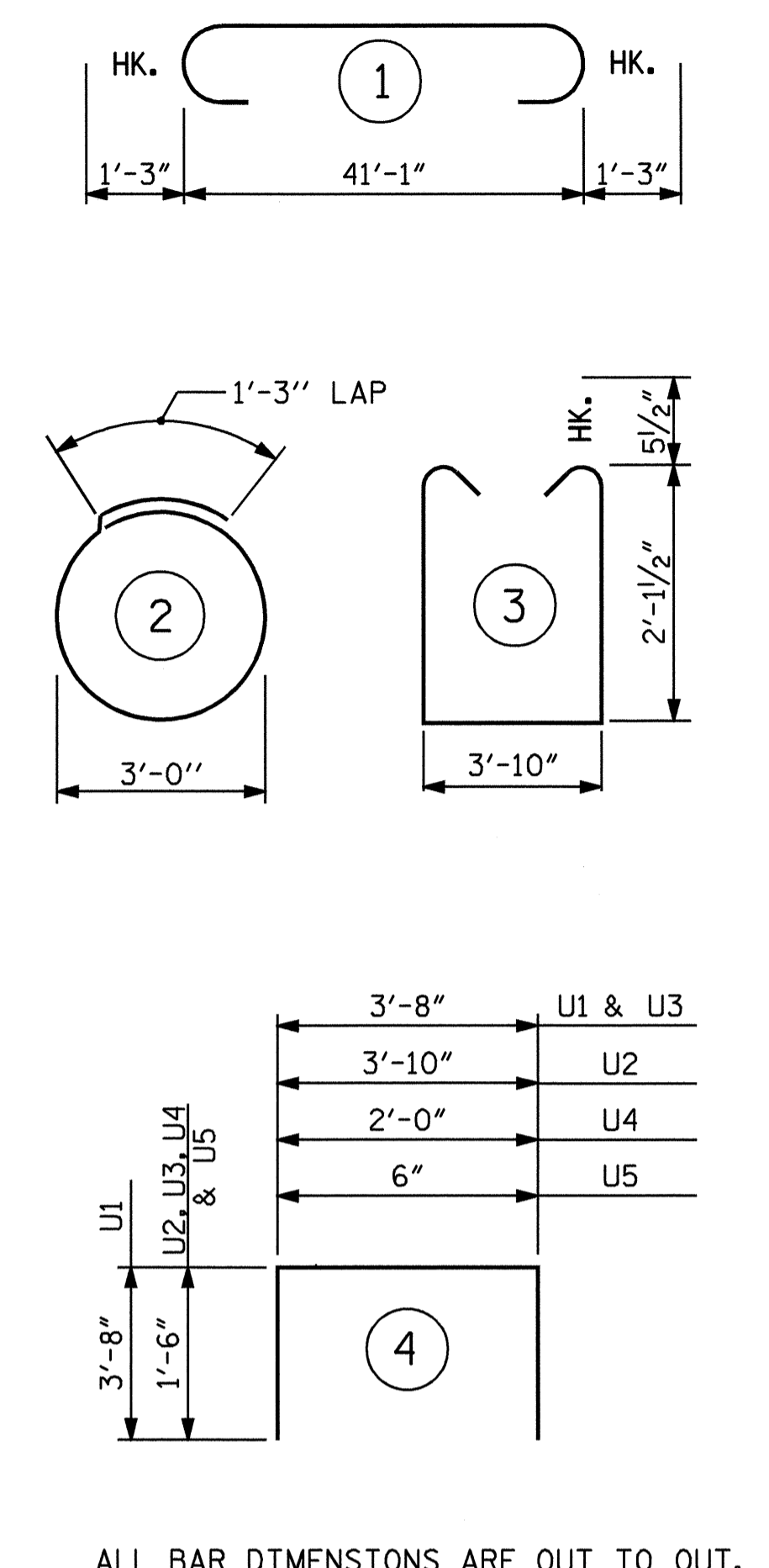
SECTION A-A
 FOR REINFORCING STEEL AND OTHER DETAILS FOR PIPE PILES,
 SEE "24" STEEL PIPE PILE" SHEET
 * INVERT ALTERNATE STIRRUPS



END VIEW

DRAWN BY : S.H. SOCKWELL DATE : 8/01/06
 CHECKED BY : M.K. BEARD DATE : 8/14/06

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

BENT #1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	6	#9	1	43'-7"	889
B2	4	#10	STR	41'-3"	710
B3	2	#5	STR	41'-3"	86
B4	12	#4	STR	21'-10"	175
B5	6	#4	STR	16'-3"	65
B6	14	#4	STR	3'-10"	36
D1	52	#6	STR	1'-6"	117
S1	40	#5	3	9'-0"	375
S2	8	#4	2	10'-9"	57
U1	2	#9	4	11'-0"	75
U2	11	#4	4	6'-10"	50
U3	4	#4	4	6'-8"	18
U4	8	#4	4	5'-0"	27
U5	8	#4	4	3'-6"	19

REINFORCING STEEL = 2699 LBS

CLASS "A" CONCRETE

POUR #1 CAP	16.4 yds ³
POUR #2 LATERAL GUIDES	0.2 yds ³
TOTAL	16.6 yds³

PP 24 X 0.50 GALVANIZED STEEL PILES No. 4 220 lin.ft.

PIPE PILE PLATES	4 EA
PILE REDRIVES	4 EA
PDA TESTING	1 EA
PDA ASSISTANCE	1 EA

CONCRETE DISPLACED BY THE PP 24 X 0.5 GALVANIZED STEEL PILES HAS BEEN DEDUCTED FROM THE TOTAL QUANTITY.

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50-L-

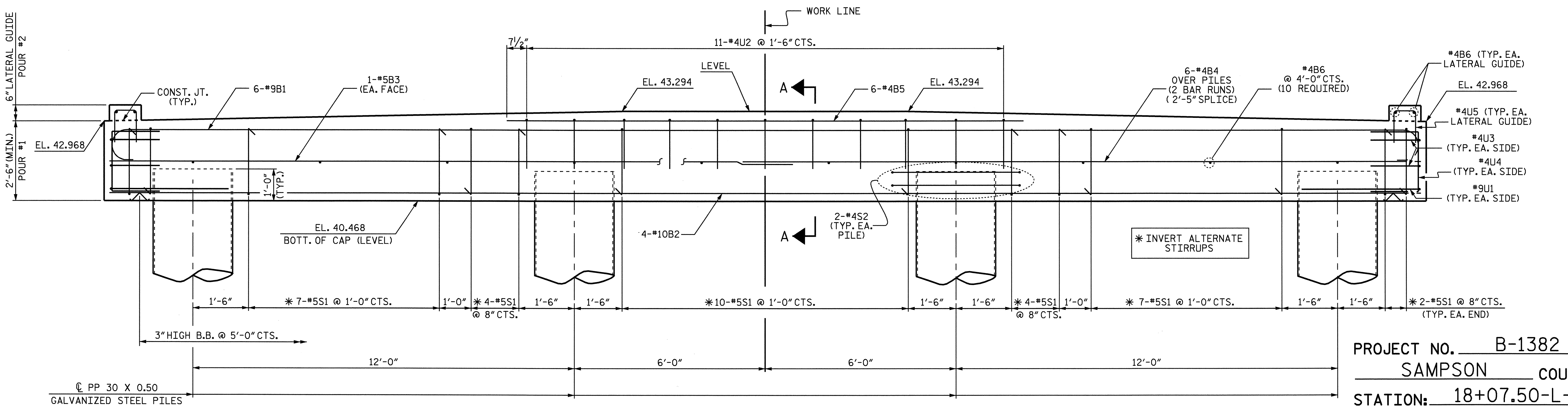
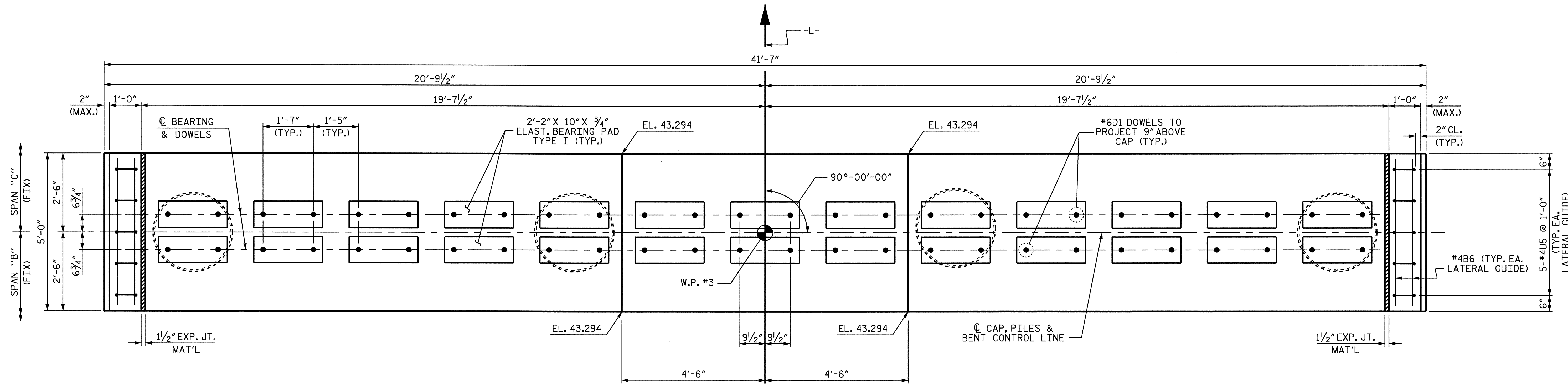
SHEET 2 OF 2

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



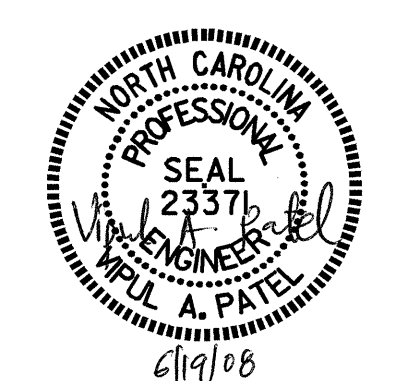
REVISIONS						SHEET NO. S-14
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 52
2			4			

STR. #1



ELEVATION
FOR REINFORCING STEEL AND OTHER DETAILS FOR PIPE PILES,
SEE "30" STEEL PIPE PILE" SHEET

NOTES
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.
THE LATERAL GUIDE AT EACH END OF CAP IS NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.

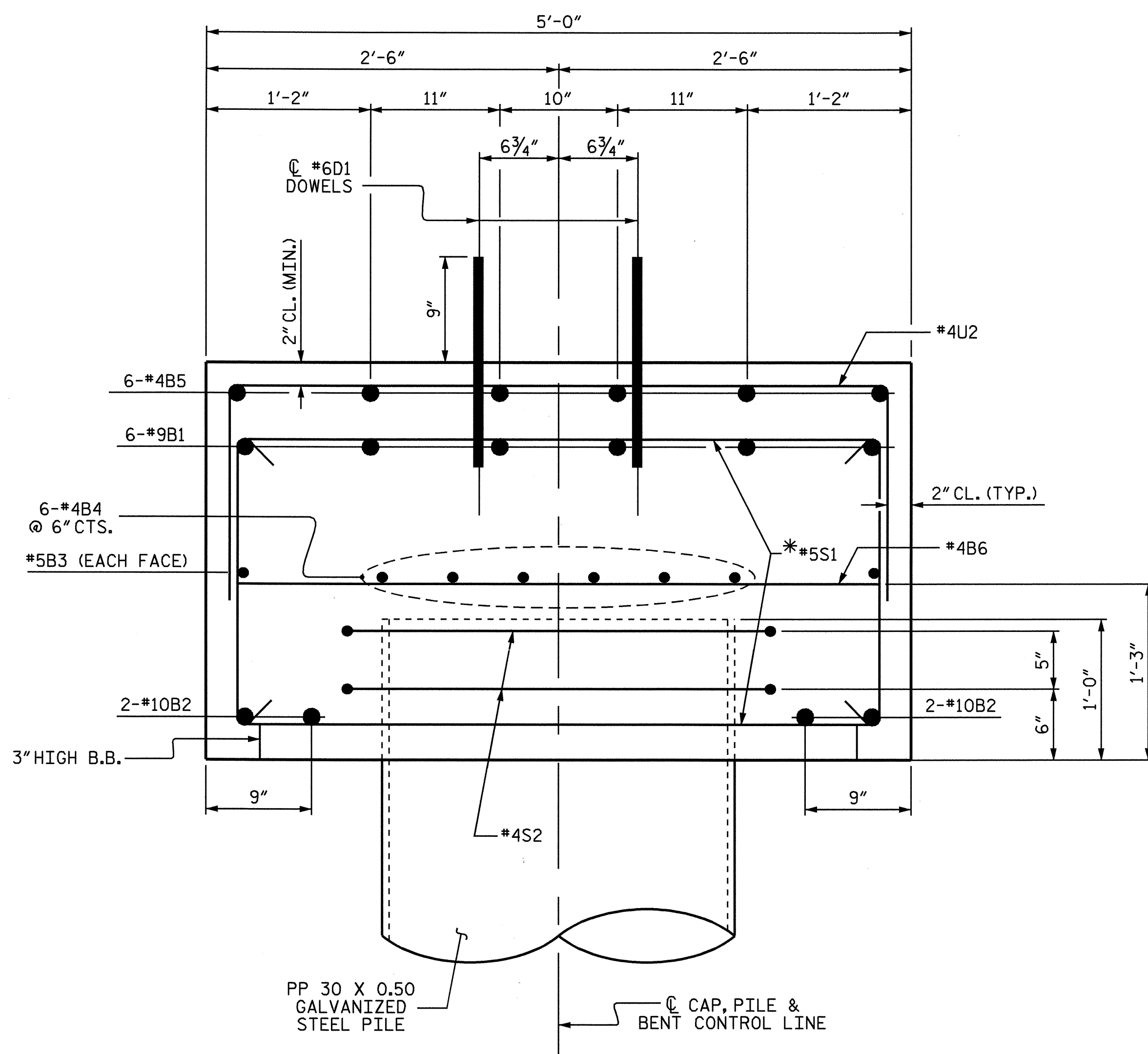


PROJECT NO. B-1382
SAMPSON COUNTY
STATION: 18+07.50-L-

SHEET 1 OF 2

REVISIONS						SHEET NO. S-15
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 52
2			4			

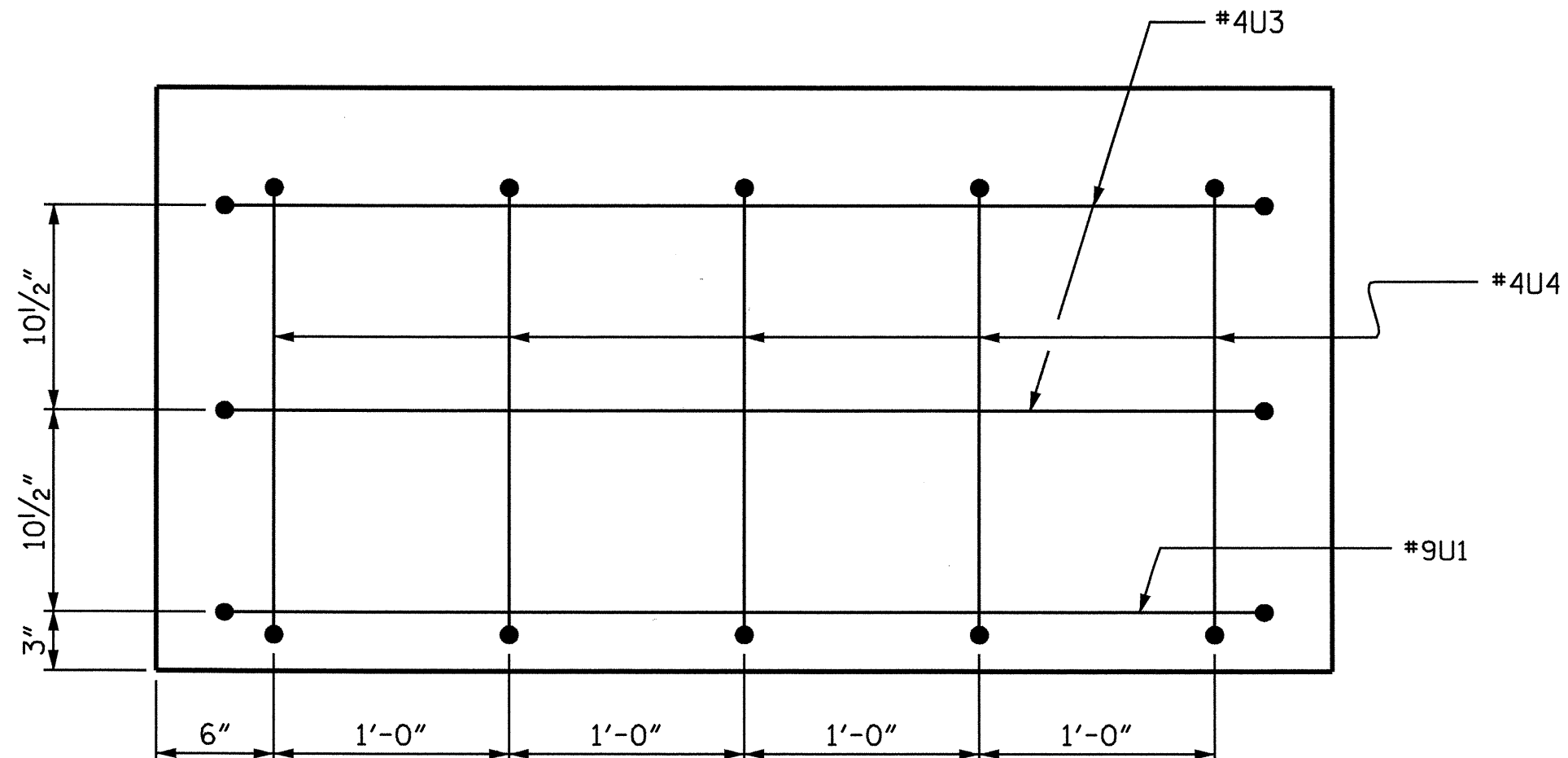
DRAWN BY: S.H. SOCKWELL DATE: 8/07/06
CHECKED BY: M.K. BEARD DATE: 8/14/06



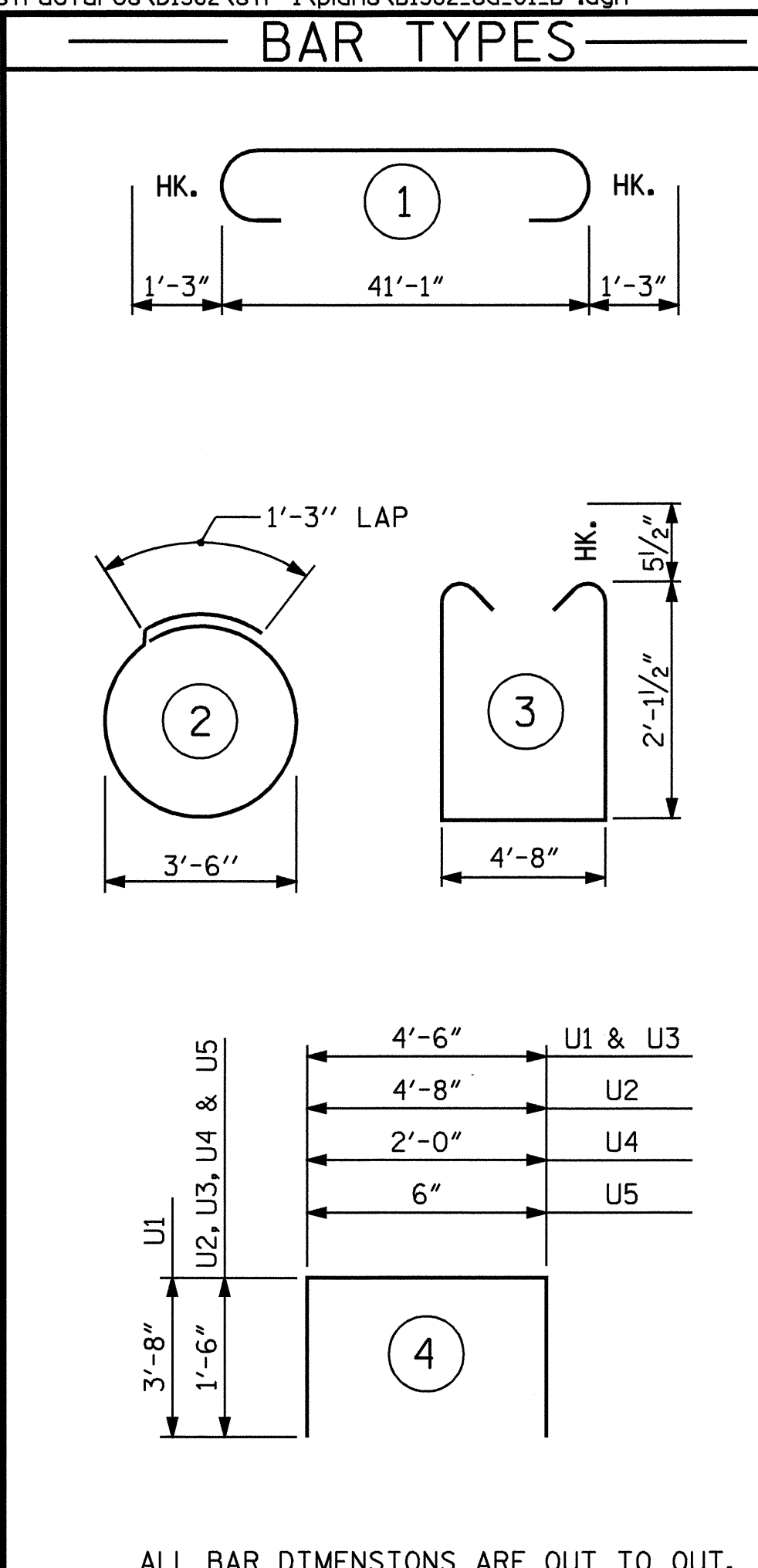
SECTION A-A

FOR REINFORCING STEEL AND OTHER DETAILS FOR PIPE PILES, SEE "30" STEEL PIPE PILE" SHEET

* INVERT ALTERNATE STIRRUPS



END VIEW



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
BENT #2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	6	#9	1	43'-7"	889
B2	4	#10	STR	41'-3"	710
B3	2	#5	STR	41'-3"	86
B4	12	#4	STR	21'-10"	175
B5	6	#4	STR	16'-3"	65
B6	14	#4	STR	4'-8"	44
D1	52	#6	STR	1'-6"	117
S1	36	#5	3	9'-10"	369
S2	8	#4	2	12'-3"	65
U1	2	#9	4	11'-10"	80
U2	11	#4	4	7'-8"	56
U3	4	#4	4	7'-6"	20
U4	10	#4	4	5'-0"	33
U5	10	#4	4	3'-6"	23

REINFORCING STEEL = 2732 LBS

CLASS "A" CONCRETE	
POUR #1 CAP	18.9 yds ³
POUR #2 LATERAL GUIDES	0.2 yds ³
TOTAL	19.1 yds³

PP 30 X 0.50 GALVANIZED STEEL PILES No. 4 240 ln.ft.

PIPE PILE PLATES	4 EA
PILE REDRIVES	4 EA
PDA TESTING	1 EA
PDA ASSISTANCE	1 EA

CONCRETE DISPLACED BY THE PP 30 X 0.5 GALVANIZED STEEL PILES HAS BEEN DEDUCTED FROM THE TOTAL QUANTITY.

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50-L-

SHEET 2 OF 2

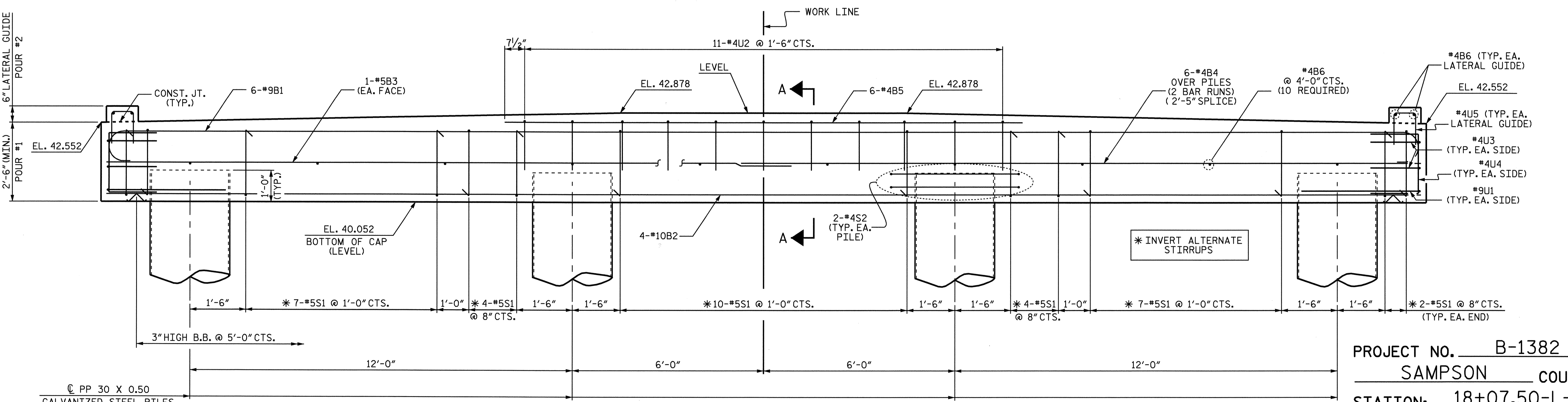
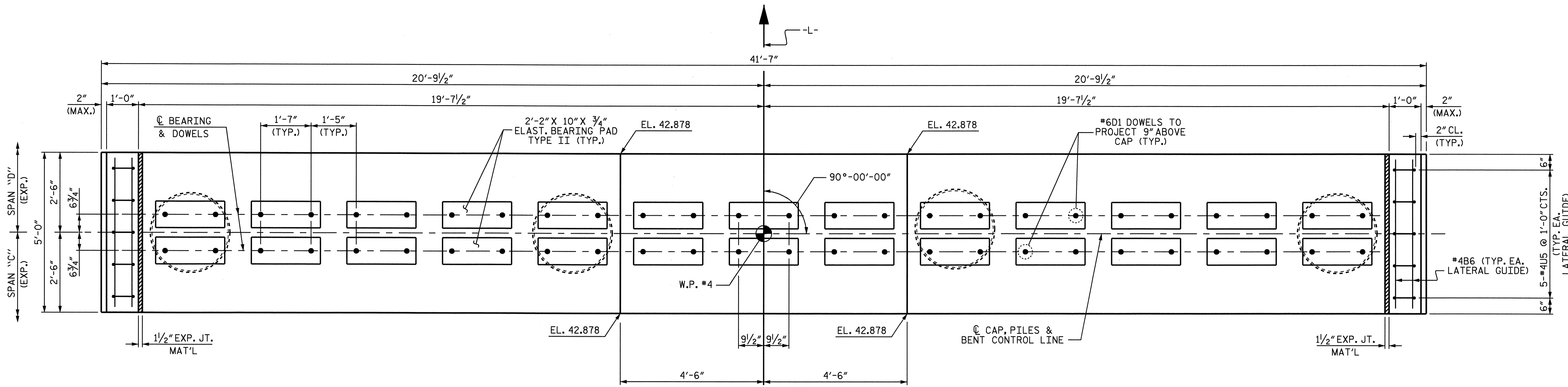
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 BENT #2



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-16
1			3			TOTAL SHEETS
2			4			52

DRAWN BY: S.H. SOCKWELL DATE: 8/07/06
 CHECKED BY: M.K. BEARD DATE: 8/14/06

STR. #1



PROJECT NO. B-1382
 SAMPSON COUNTY
 STATION: 18+07.50-L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE BENT #3					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-17					TOTAL SHEETS 52

ELEVATION

FOR REINFORCING STEEL AND OTHER DETAILS FOR PIPE PILES, SEE "30" STEEL PIPE PILE" SHEET

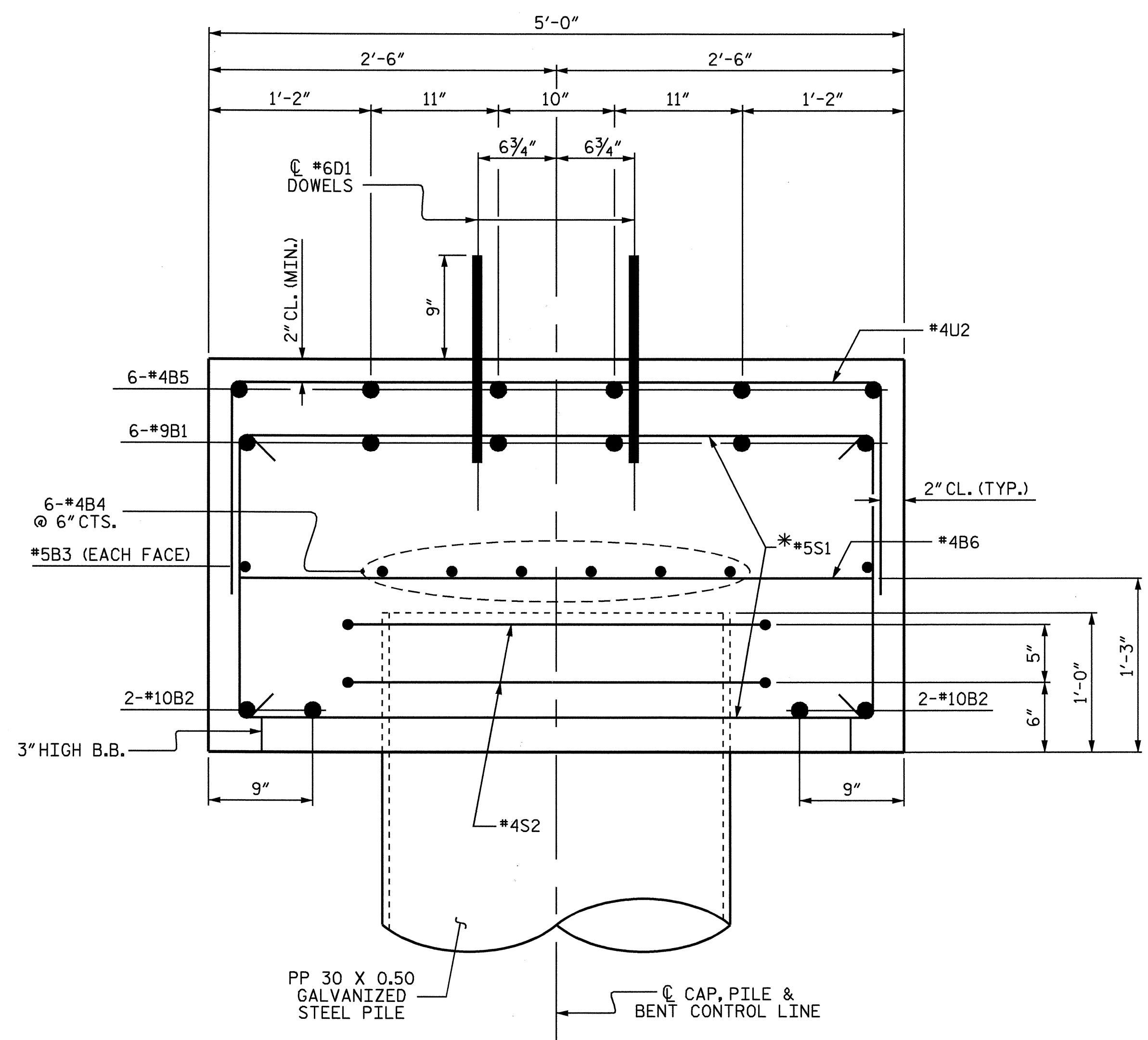
NOTES

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

THE LATERAL GUIDE AT EACH END OF CAP IS NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.



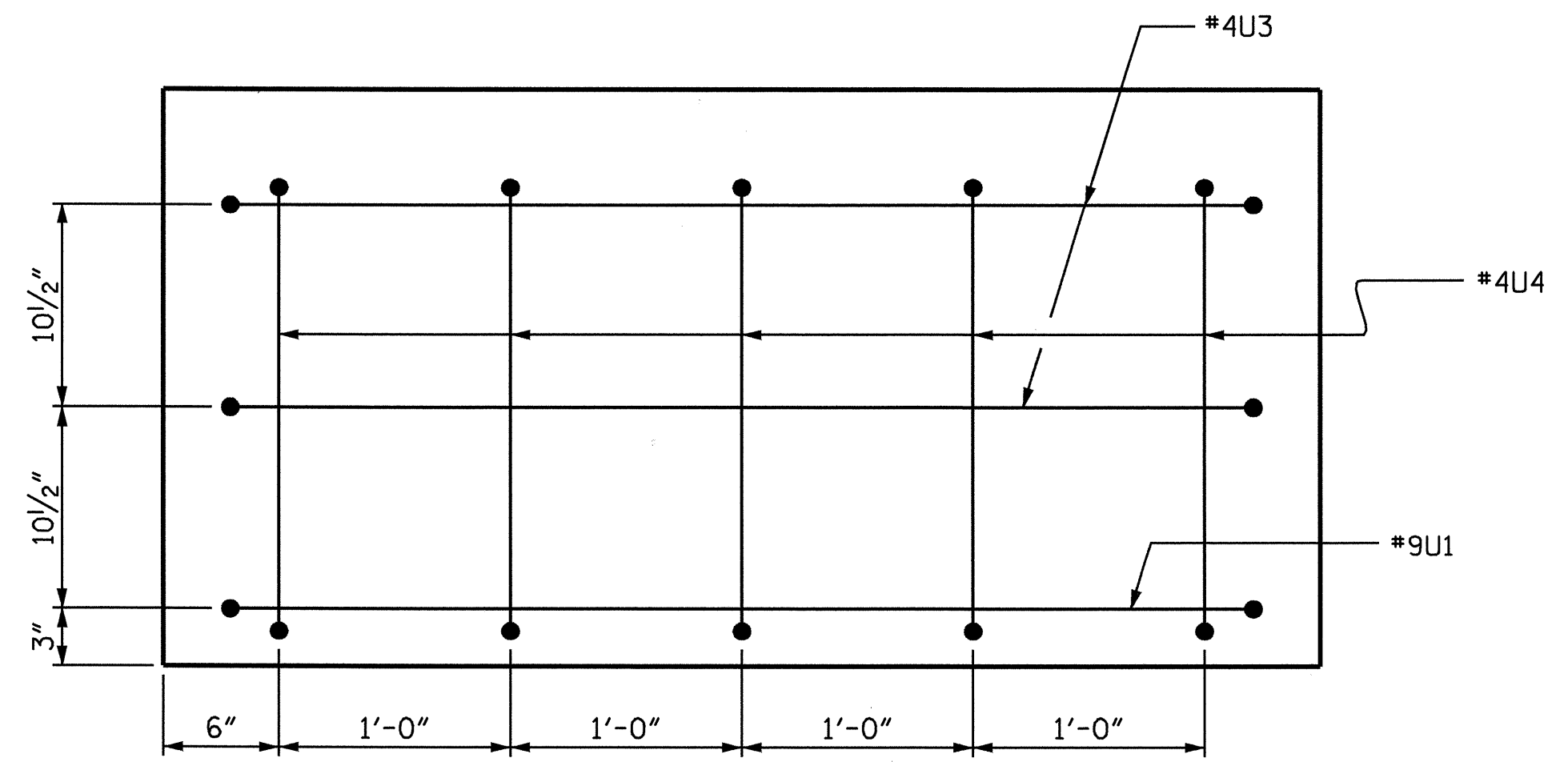
DRAWN BY: S.H. SOCKWELL DATE: 8/07/06
 CHECKED BY: M.K. BEARD DATE: 8/14/06



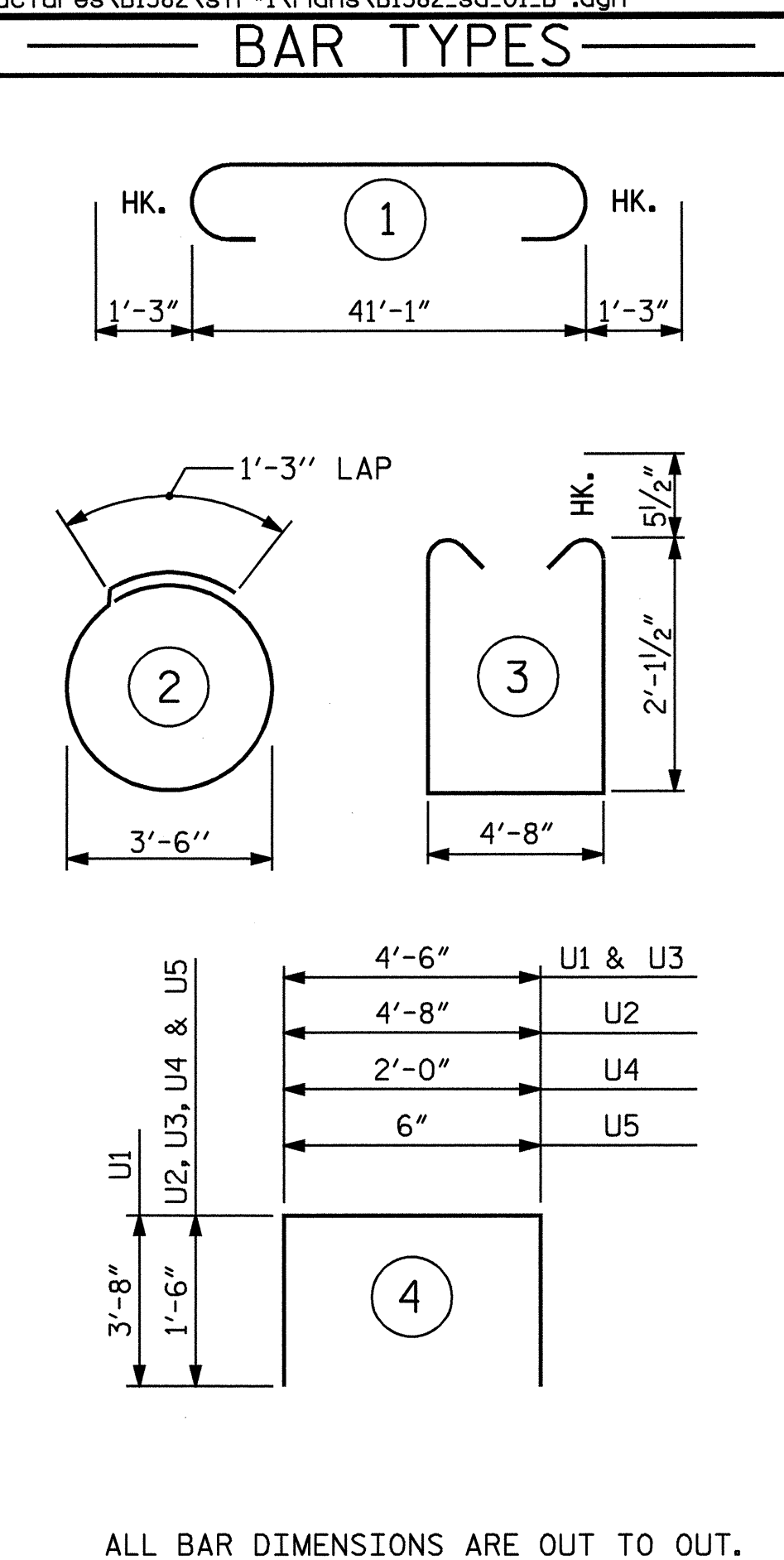
SECTION A-A

FOR REINFORCING STEEL AND OTHER DETAILS FOR PIPE PILES, SEE "30" STEEL PIPE PILE" SHEET

* INVERT ALTERNATE STIRRUPS



END VIEW



ALL BAR DIMENSIONS ARE OUT TO OUT.

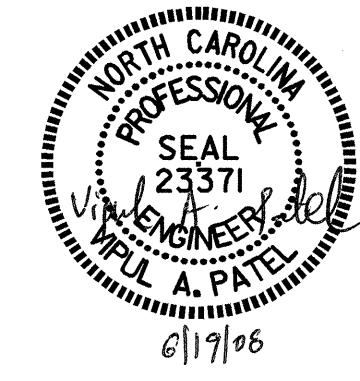
BILL OF MATERIAL					
BENT #3					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	6	#9		43'-7"	889
B2	4	#10	STR	41'-3"	710
B3	2	#5	STR	41'-3"	86
B4	12	#4	STR	21'-10"	175
B5	6	#4	STR	16'-3"	65
B6	14	#4	STR	4'-8"	44
D1	52	#6	STR	1'-6"	117
S1	36	#5	3	9'-10"	369
S2	8	#4	2	12'-3"	65
U1	2	#9	4	11'-10"	80
U2	11	#4	4	7'-8"	56
U3	4	#4	4	7'-6"	20
U4	10	#4	4	5'-0"	33
U5	10	#4	4	3'-6"	23
REINFORCING STEEL					= 2732 LBS
CLASS "A" CONCRETE					
POUR #1 CAP					18.9 yds ³
POUR #2 LATERAL GUIDES					0.2 yds ³
TOTAL					19.1 yds ³
PP 30 X 0.50 GALVANIZED STEEL PILES No. 4					240 ln.ft.
PIPE PILE PLATES					4 EA
PILE REDRIVES					4 EA

CONCRETE DISPLACED BY THE PP 30 X 0.5 GALVANIZED STEEL PILES HAS BEEN DEDUCTED FROM THE TOTAL QUANTITY.

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50-L-

SHEET 2 OF 2

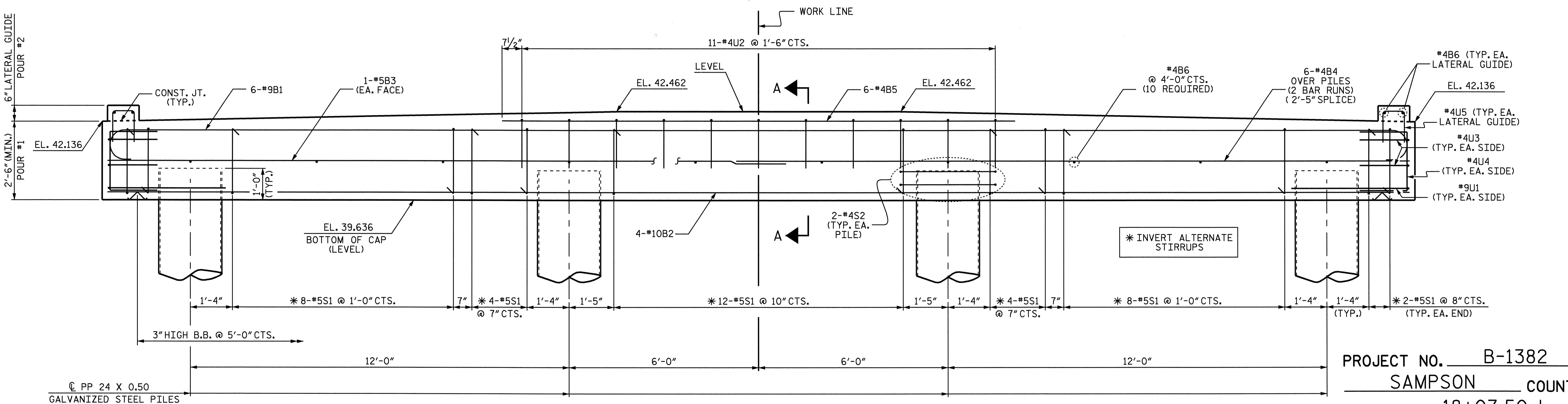
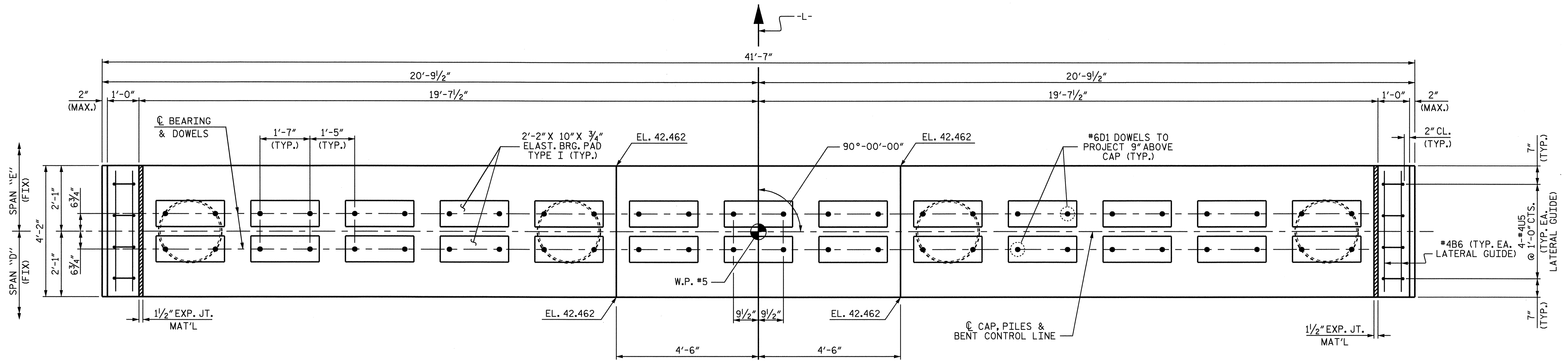
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 BENT #3



DRAWN BY: S.H. SOCKWELL DATE: 8/07/06
 CHECKED BY: M.K. BEARD DATE: 8/14/06

REVISIONS						SHEET NO. S-18
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 52
2			4			

STR. #1



PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50-L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 BENT #4

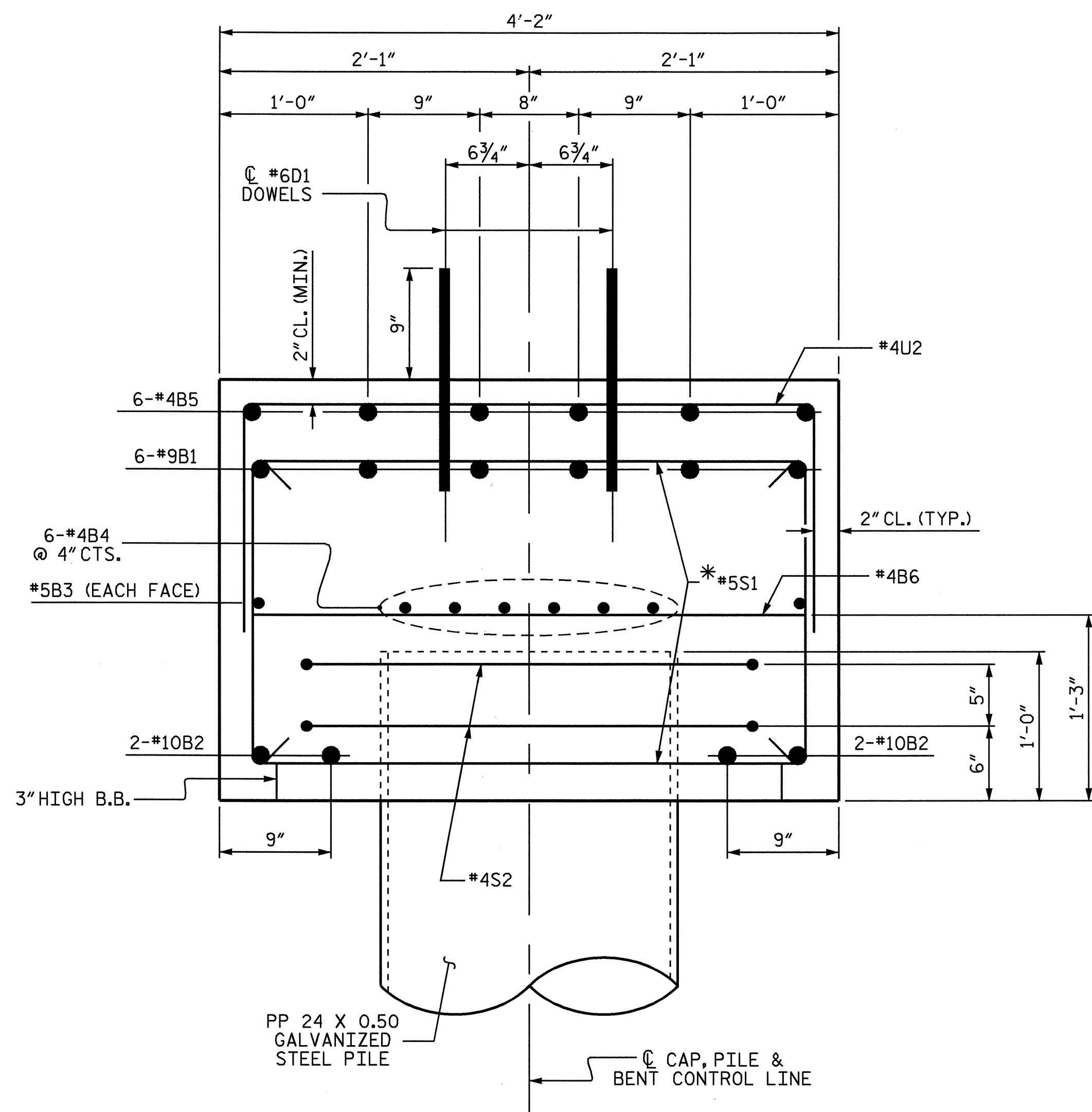
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-19
1			3			TOTAL SHEETS
2			4			52

ELEVATION
 FOR REINFORCING STEEL AND OTHER DETAILS FOR PIPE PILES,
 SEE "24" STEEL PIPE PILE" SHEET

NOTES
 STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.
 THE LATERAL GUIDE AT EACH END OF CAP IS NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.



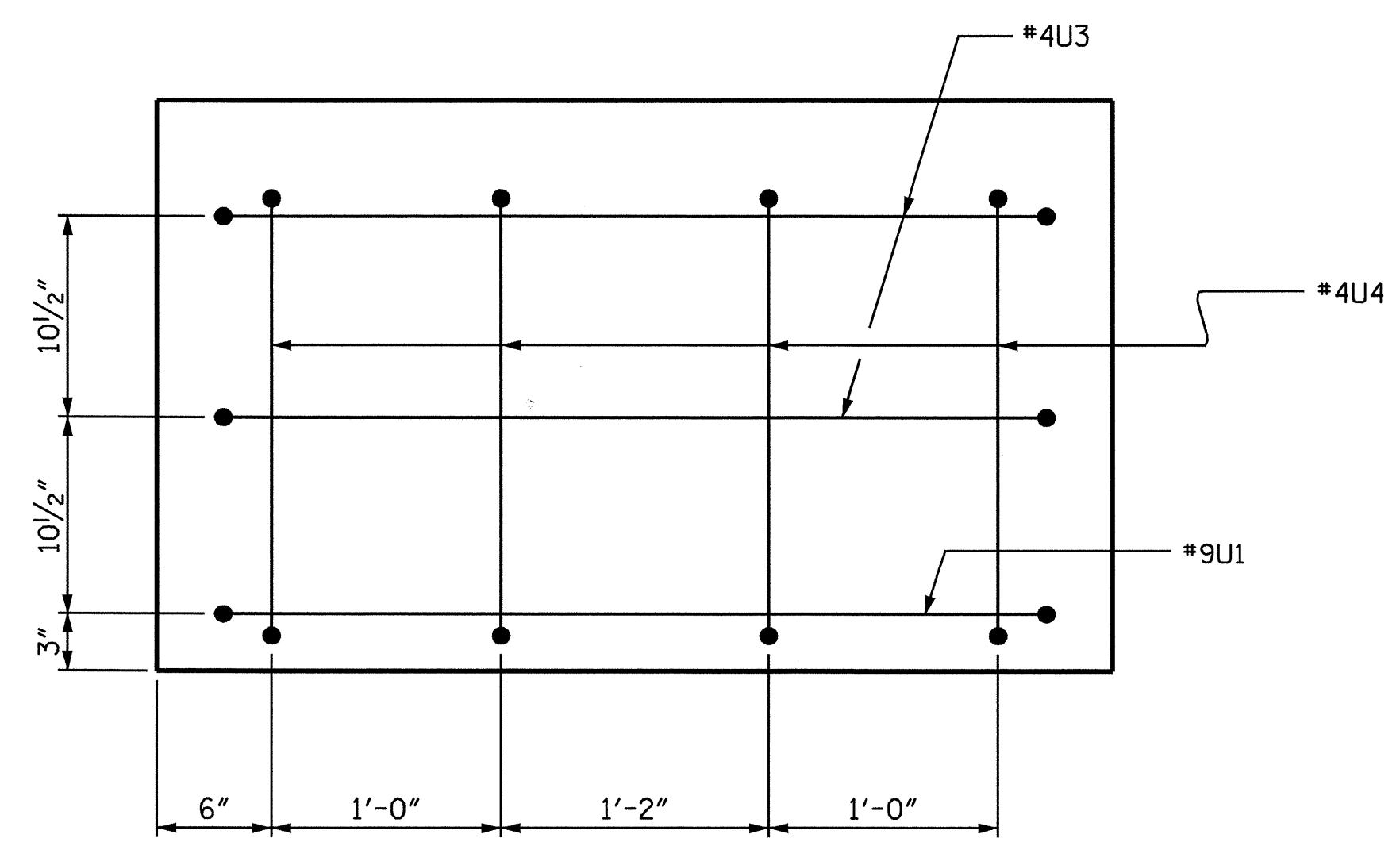
DRAWN BY: S.H. SOCKWELL DATE: 8/07/06
 CHECKED BY: M.K. BEARD DATE: 8/14/06



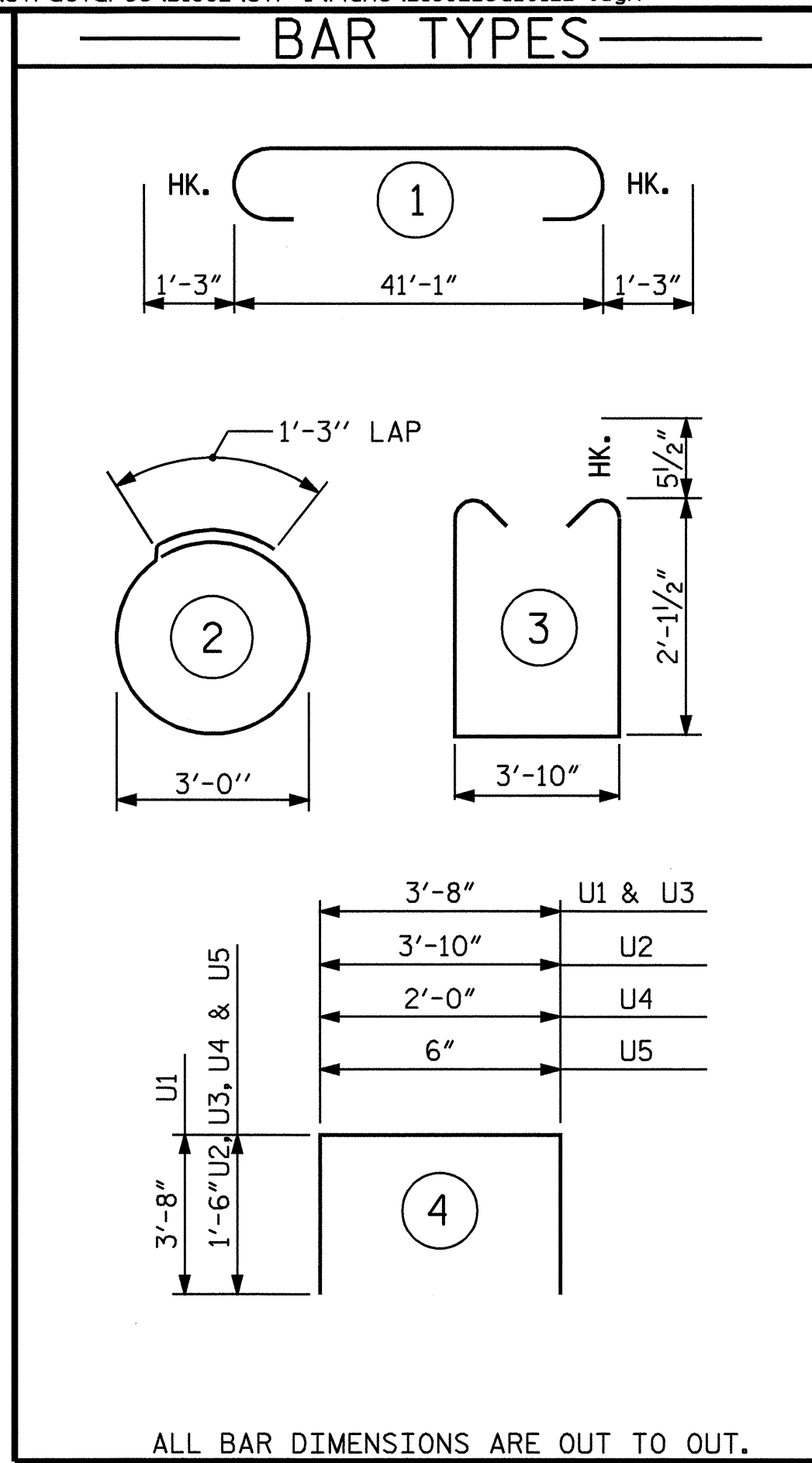
SECTION A-A

FOR REINFORCING STEEL AND OTHER DETAILS FOR PIPE PILES, SEE "24" STEEL PIPE PILE" SHEET

* INVERT ALTERNATE STIRRUPS



END VIEW

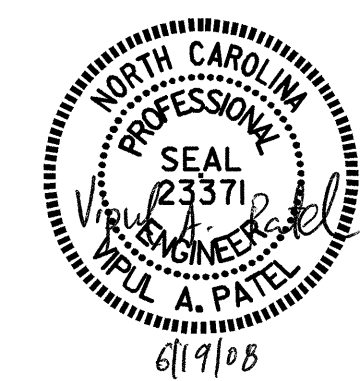


BILL OF MATERIAL					
BENT #4					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	6	#9		43'-7"	889
B2	4	#10	STR	41'-3"	710
B3	2	#5	STR	41'-3"	86
B4	12	#4	STR	21'-10"	175
B5	6	#4	STR	16'-3"	65
B6	14	#4	STR	3'-10"	36
D1	52	#6	STR	1'-6"	117
S1	40	#5	3	9'-0"	375
S2	8	#4	2	10'-9"	57
U1	2	#9	4	11'-0"	75
U2	11	#4	4	6'-10"	50
U3	4	#4	4	6'-8"	18
U4	8	#4	4	5'-0"	27
U5	8	#4	4	3'-6"	19
REINFORCING STEEL					= 2699 LBS
CLASS "A" CONCRETE					
POUR #1 CAP					16.4 yds ³
POUR #2 LATERAL GUIDES					0.2 yds ³
TOTAL					16.6 yds ³
PP 24 X 0.50 GALVANIZED STEEL PILES No. 4					220 lln.ft.
PIPE PILE PLATES					4 EA
PILE REDRIVES					4 EA

ALL BAR DIMENSIONS ARE OUT TO OUT.

CONCRETE DISPLACED BY THE PP 24 X 0.5 GALVANIZED STEEL PILES HAS BEEN DEDUCTED FROM THE TOTAL QUANTITY.

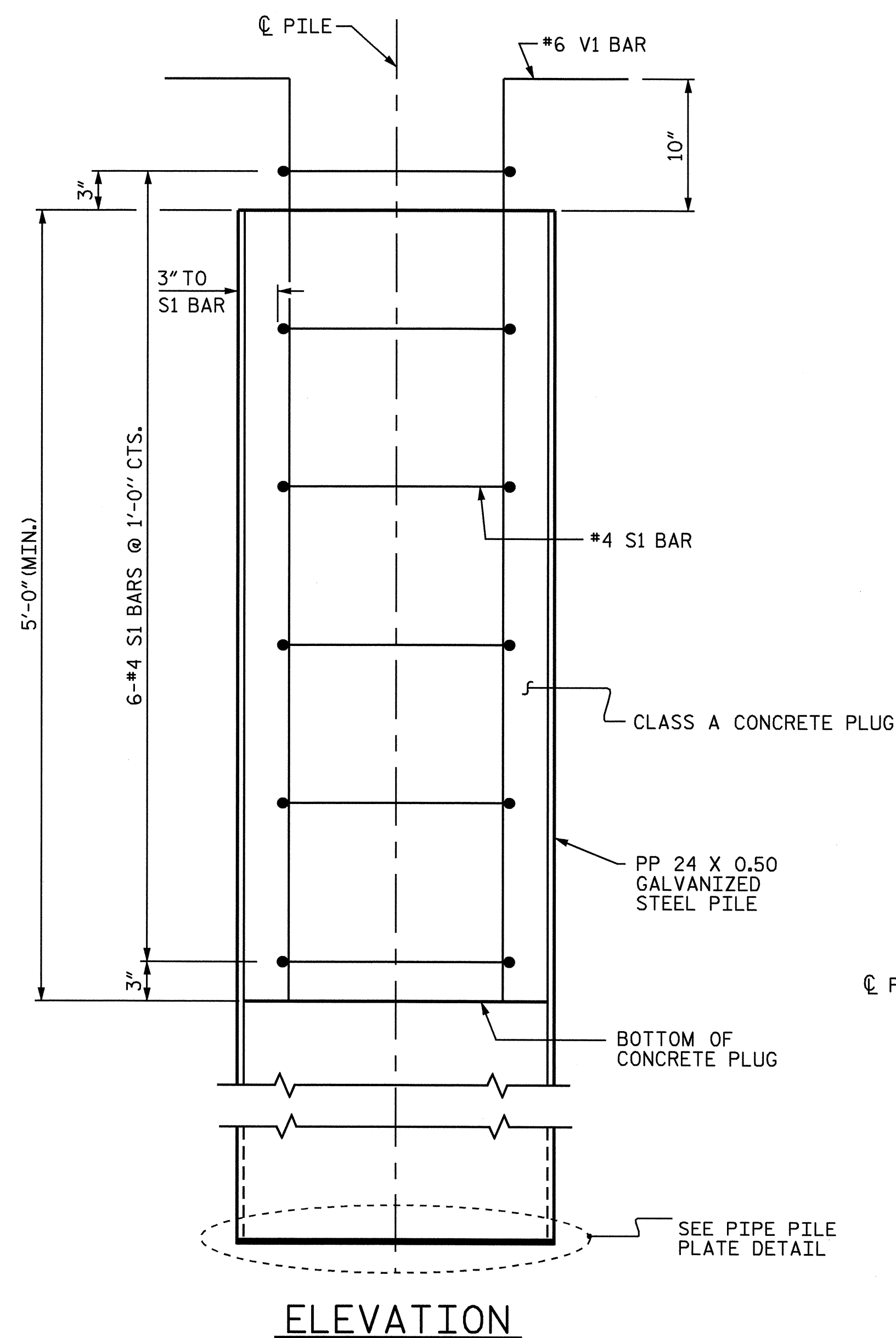
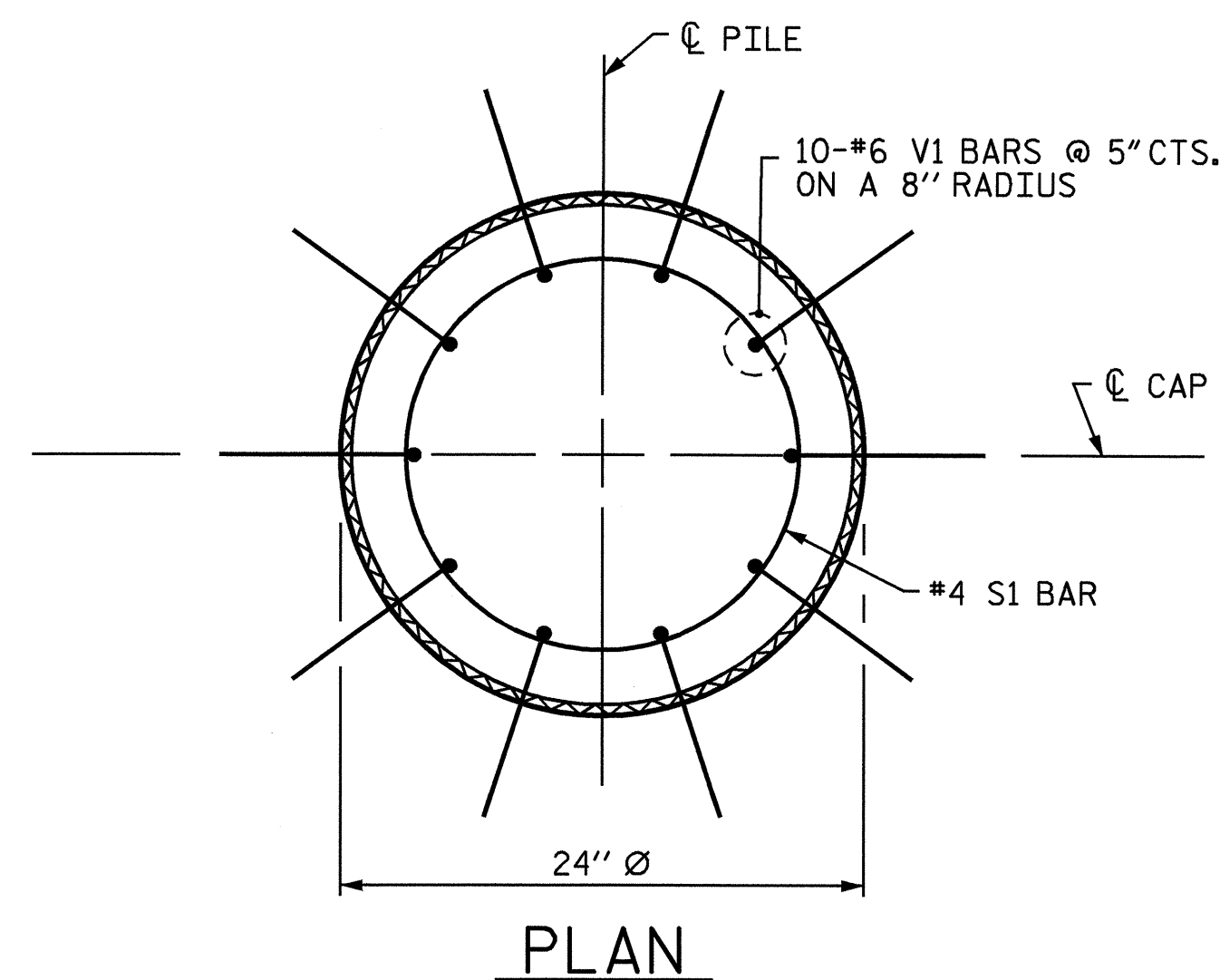
DRAWN BY : S.H. SOCKWELL DATE : 8/01/06
 CHECKED BY : M.K. BEARD DATE : 8/14/06



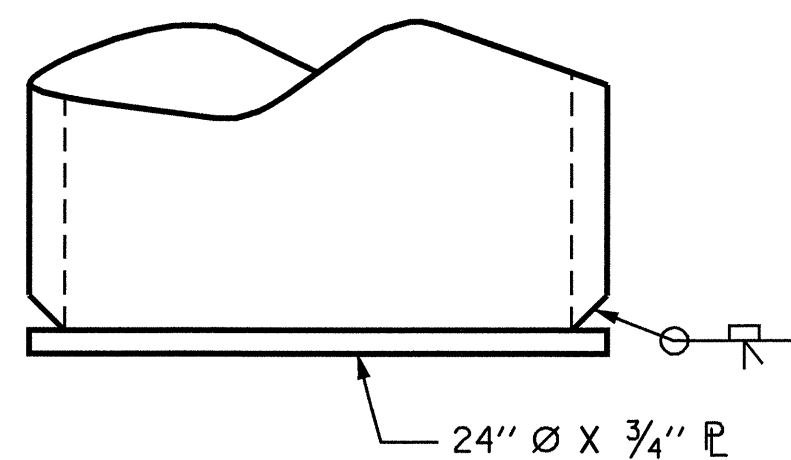
PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50-L-

SHEET 2 OF 2

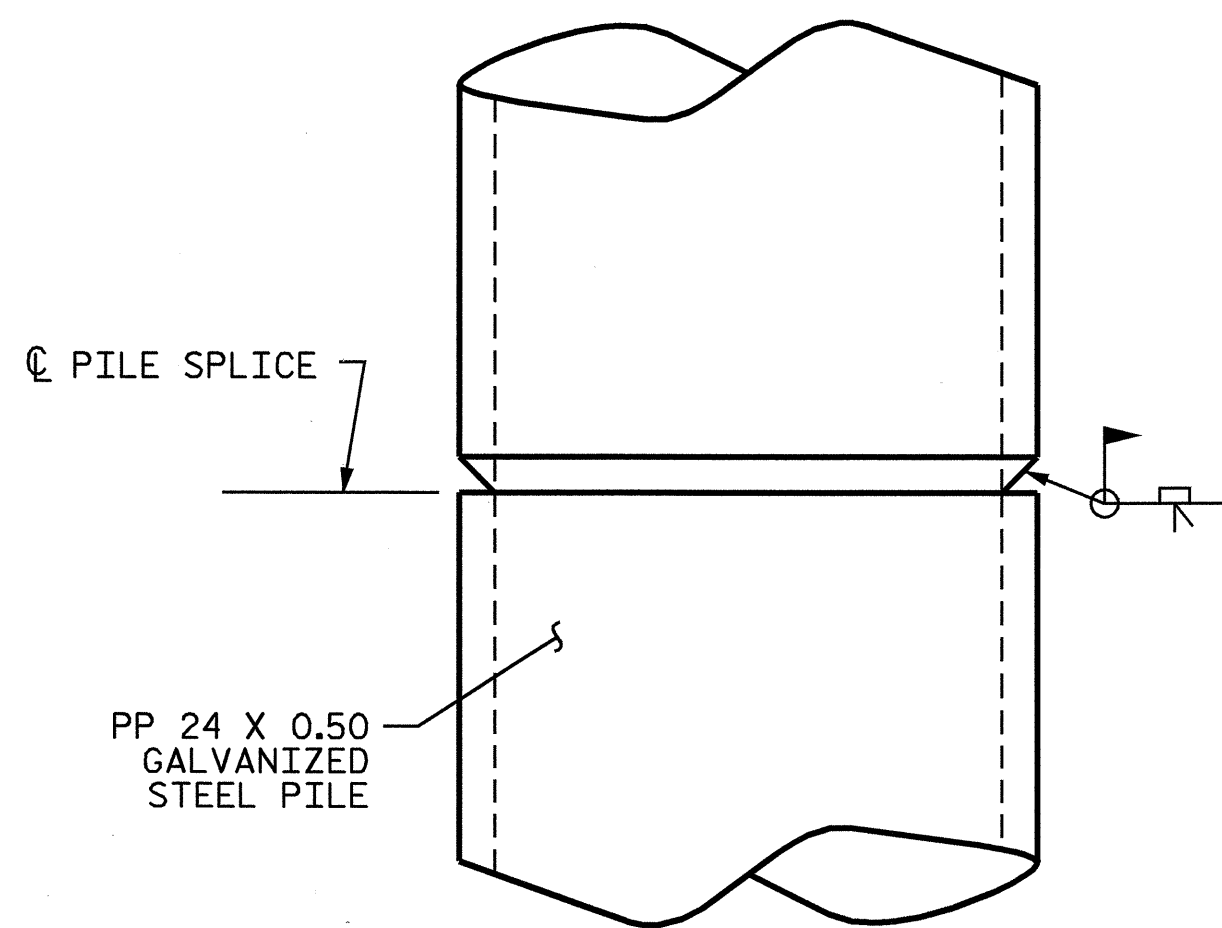
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE BENT #4					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					S-20
					TOTAL SHEETS 52



PP 24 X 0.50 GALVANIZED STEEL PILE
(CLOSED END)



PIPE PILE PLATE DETAIL
(4 REQUIRED PER BENT)



PIPE PILE SPLICE DETAIL

NOTES

PIPE PILES SHALL BE IN ACCORDANCE WITH SECTION 1084 OF THE STANDARD SPECIFICATIONS.

GALVANIZE STEEL PIPE PILES IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS UNLESS METALLIZING IS REQUIRED. GALVANIZING OR METALLIZING PIPE PILE PLATES IS NOT REQUIRED.

PIPE PILE PLATES, IF REQUIRED, SHALL BE IN ACCORDANCE WITH SECTION 450 OF THE STANDARD SPECIFICATIONS.

REMOVE AND REPLACE OR REPAIR TO THE SATISFACTION OF THE ENGINEER PILES THAT ARE DAMAGED, DEFORMED OR COLLAPSED DURING INSTALLATION OR DRIVING.

PILE SPLICES SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND AWS D1.1.

FOR CLOSED END PIPE PILES, REMOVE ALL SOIL AND WATER FROM INSIDE THE PILES JUST PRIOR TO PLACING REINFORCING STEEL AND CONCRETE FOR THE CONCRETE PLUG.

FOR OPEN END PIPE PILES, REMOVE ENOUGH SOIL AND WATER FROM INSIDE THE PILES TO CONSTRUCT THE CONCRETE PLUG WITHOUT FOULING THE CONCRETE.

FORM THE CONCRETE PLUG SUCH THAT THE REINFORCING STEEL OR CONCRETE DOES NOT MOVE AND THE CLEARANCE FROM THE REINFORCING STEEL TO THE INSIDE OF THE PILE IS MAINTAINED AFTER CONCRETE PLACEMENT. DO NOT PLACE CONCRETE IN THE BENT CAP UNTIL THE CONCRETE PLUG HAS ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI.

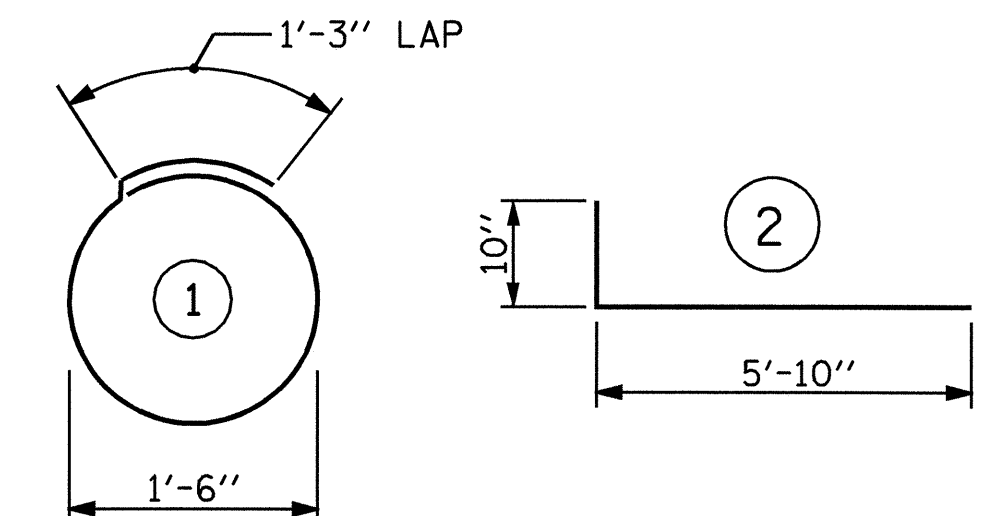
THE REINFORCING STEEL, CLASS A CONCRETE, AND GALVANIZING ARE CONSIDERED INCIDENTAL TO THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR PP 24 X 0.50 GALVANIZED STEEL PILES.

BILL OF MATERIAL FOR ONE
PP 24 X 0.50 GALVANIZED STEEL PILE

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	6	#4	1	6'-0"	24
V1	10	#6	2	6'-8"	100
REINFORCING STEEL =				124	lbs

CLASS A CONCRETE	
5'-0" MINIMUM PLUG	0.5 CY

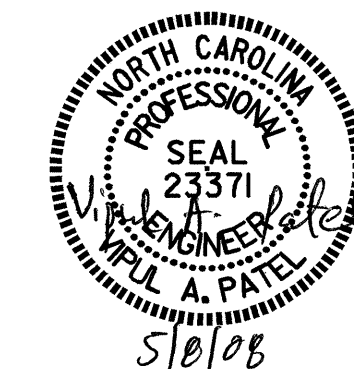
BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

PROJECT NO. B-1382
SAMPSON COUNTY
STATION: 18+07.50-L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
24" STEEL PIPE PILE

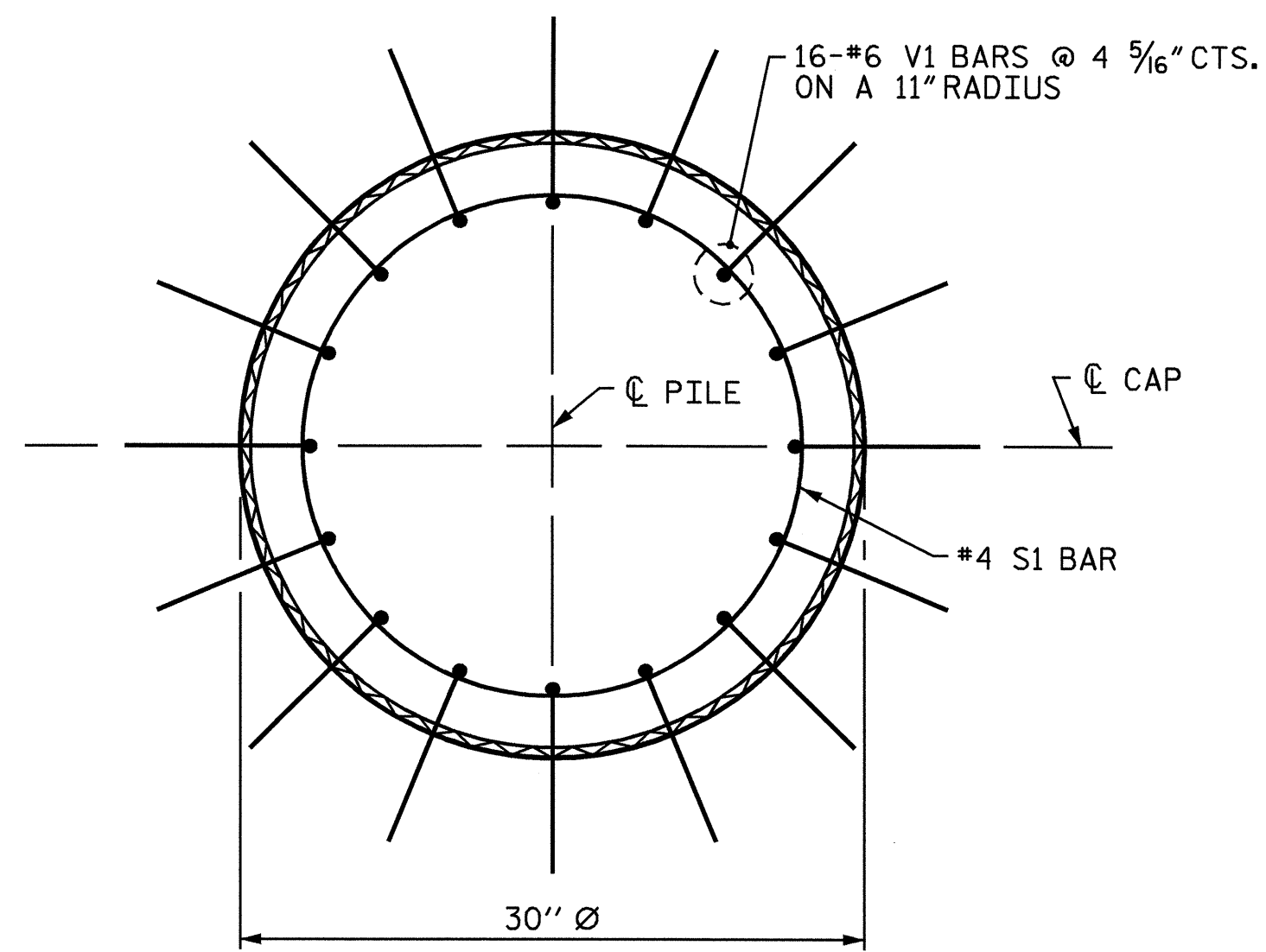


ASSEMBLED BY : S. DOMBROWSKI	DATE : 05/08
CHECKED BY : V. PATEL	DATE : 05/08
DRAWN BY : TLA 8/05	ADDED 10/1/05
CHECKED BY : GM 9/05	REV. 5/1/06R MAA/KMM

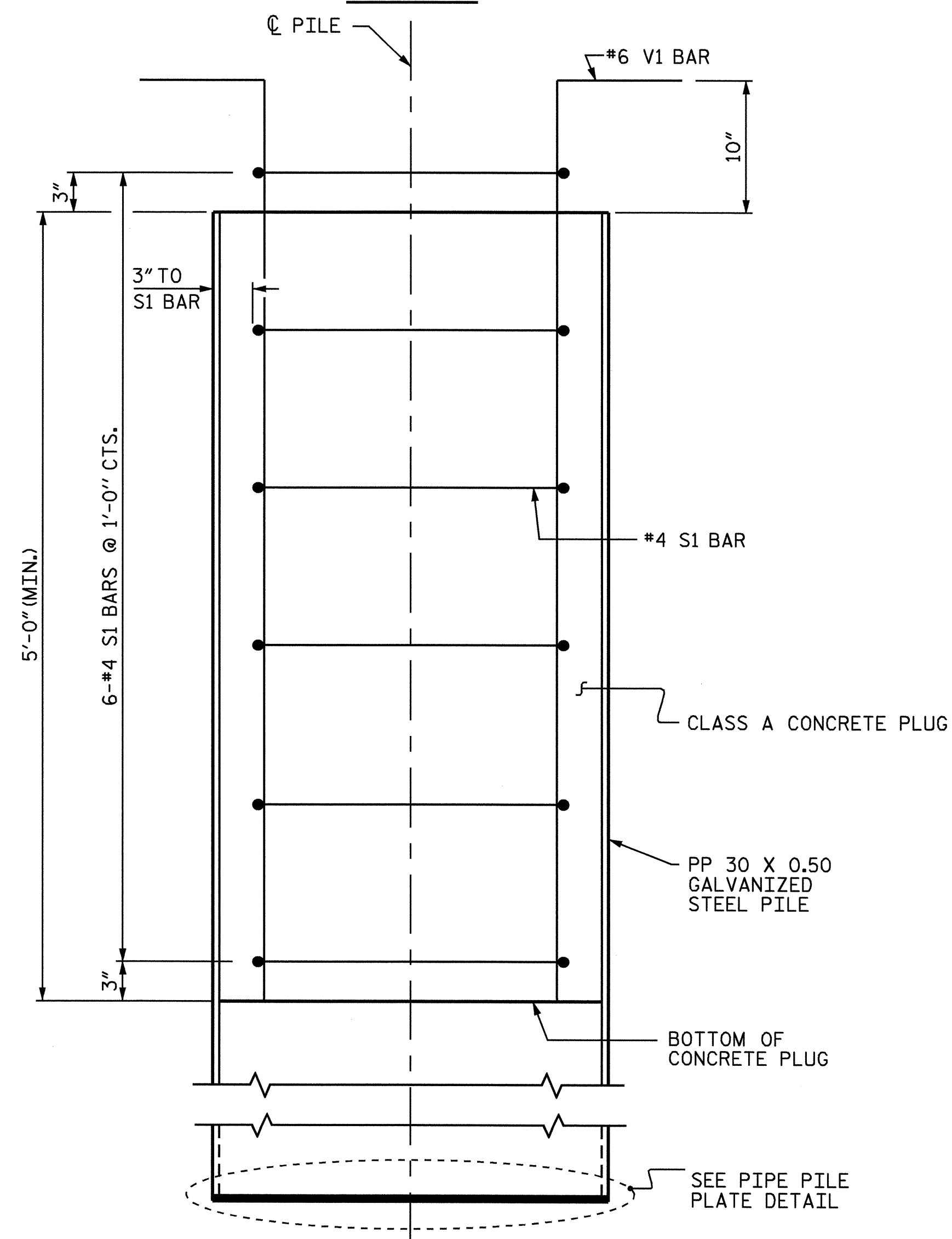
07-MAY-2008 14:05
R:\Structure\B1382\str\1\Plans\B1382.sd_01.B*.dgn
sdombrowski

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-21
1			3			TOTAL SHEETS
2			4			52

STD. NO. SPP4



PLAN



ELEVATION

PP 30 X 0.50 GALVANIZED STEEL PILE
(CLOSED END)

NOTES

PIPE PILES SHALL BE IN ACCORDANCE WITH SECTION 1084 OF THE STANDARD SPECIFICATIONS.

GALVANIZE STEEL PIPE PILES IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS UNLESS METALLIZING IS REQUIRED. GALVANIZING OR METALLIZING PIPE PILE PLATES IS NOT REQUIRED.

PIPE PILE PLATES, IF REQUIRED, SHALL BE IN ACCORDANCE WITH SECTION 450 OF THE STANDARD SPECIFICATIONS.

REMOVE AND REPLACE OR REPAIR TO THE SATISFACTION OF THE ENGINEER PILES THAT ARE DAMAGED, DEFORMED OR COLLAPSED DURING INSTALLATION OR DRIVING.

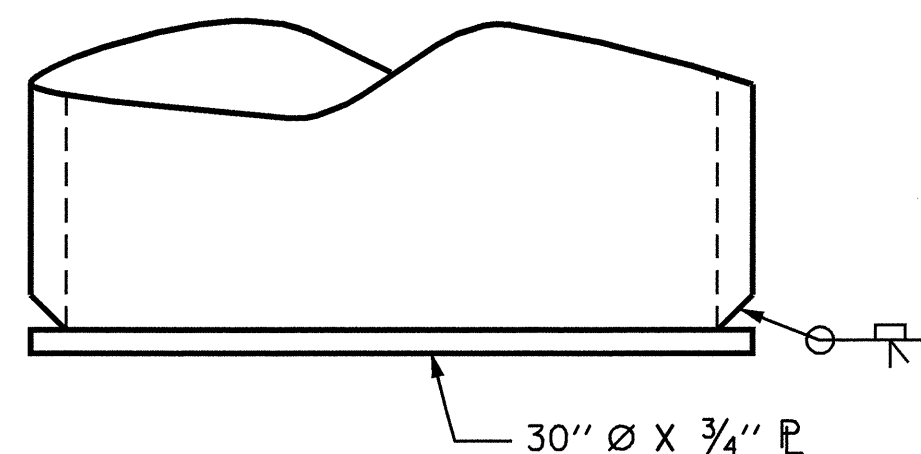
PILE SPLICES SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND AWS D1.1.

FOR CLOSED END PIPE PILES, REMOVE ALL SOIL AND WATER FROM INSIDE THE PILES JUST PRIOR TO PLACING REINFORCING STEEL AND CONCRETE FOR THE CONCRETE PLUG.

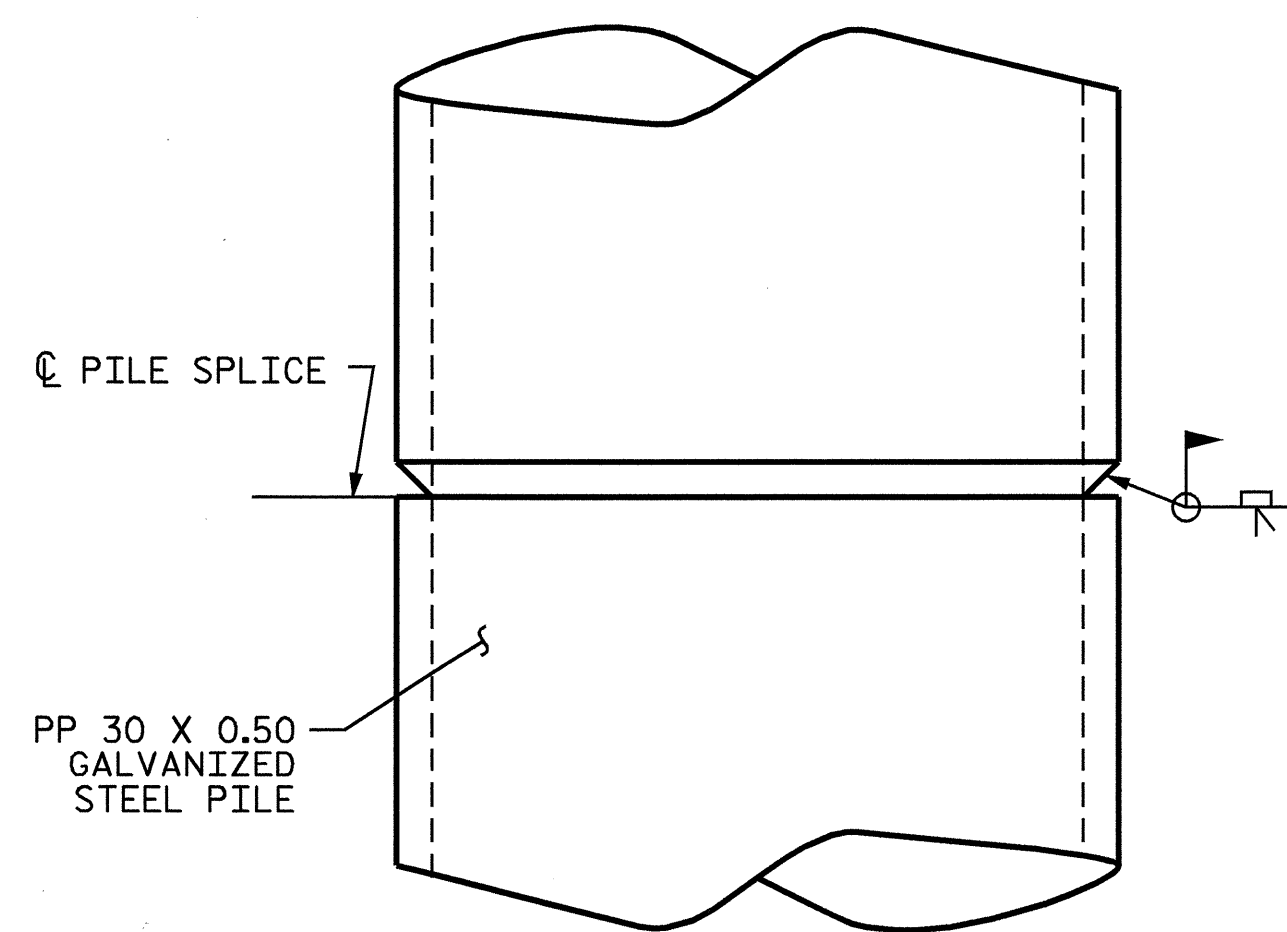
FOR OPEN END PIPE PILES, REMOVE ENOUGH SOIL AND WATER FROM INSIDE THE PILES TO CONSTRUCT THE CONCRETE PLUG WITHOUT FOULING THE CONCRETE.

FORM THE CONCRETE PLUG SUCH THAT THE REINFORCING STEEL OR CONCRETE DOES NOT MOVE AND THE CLEARANCE FROM THE REINFORCING STEEL TO THE INSIDE OF THE PILE IS MAINTAINED AFTER CONCRETE PLACEMENT. DO NOT PLACE CONCRETE IN THE BENT CAP UNTIL THE CONCRETE PLUG HAS ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI.

THE REINFORCING STEEL, CLASS A CONCRETE, AND GALVANIZING ARE CONSIDERED INCIDENTAL TO THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR PP 30 X 0.50 GALVANIZED STEEL PILES.



PIPE PILE PLATE DETAIL
(4 REQUIRED PER BENT)



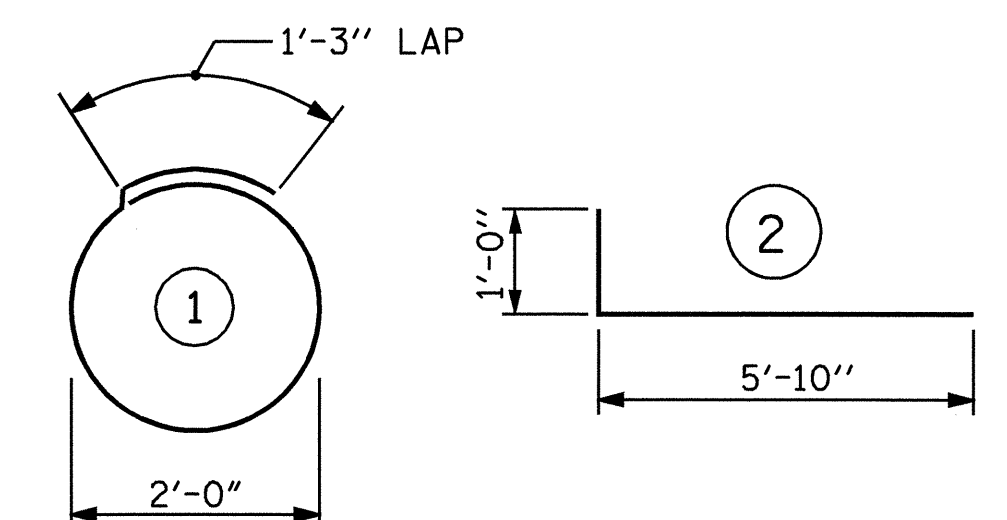
PIPE PILE SPLICE DETAIL

BILL OF MATERIAL FOR ONE
PP 30 X 0.50 GALVANIZED STEEL PILE

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	6	#4	1	7'-7"	30
V1	16	#6	2	6'-10"	164
REINFORCING STEEL =				194	lbs

CLASS A CONCRETE
5'-0" MINIMUM PLUG 0.8 CY

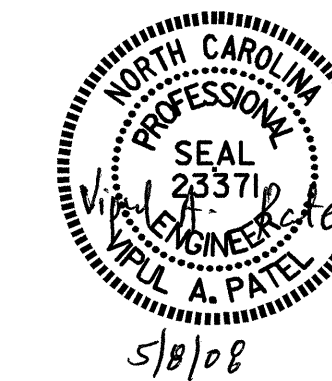
BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

PROJECT NO. B-1382
SAMPSON COUNTY
STATION: 18+07.50-L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
30" STEEL PIPE PILE



ASSEMBLED BY : S. DOMBROWSKI	DATE : 05/08
CHECKED BY : V. PATEL	DATE : 05/08
DRAWN BY : TLA 8/05	ADDED 10/1/05
CHECKED BY : GM 9/05	REV. 5/1/06R MAA/KMM

07-MAY-2008 14:04
R:\Structures\B1382\str*1\Plans\B1382.sd_01.B*.dgn
sdombrowski

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-22
1			3			TOTAL SHEETS
2			4			52

STD. NO. SPP5

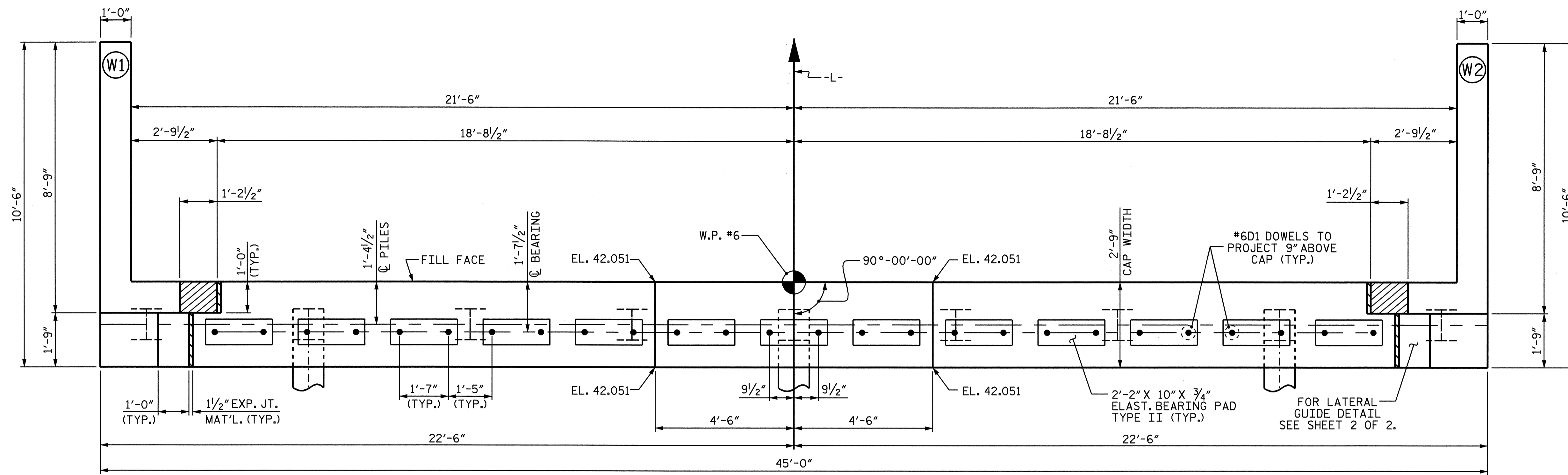
NOTES

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

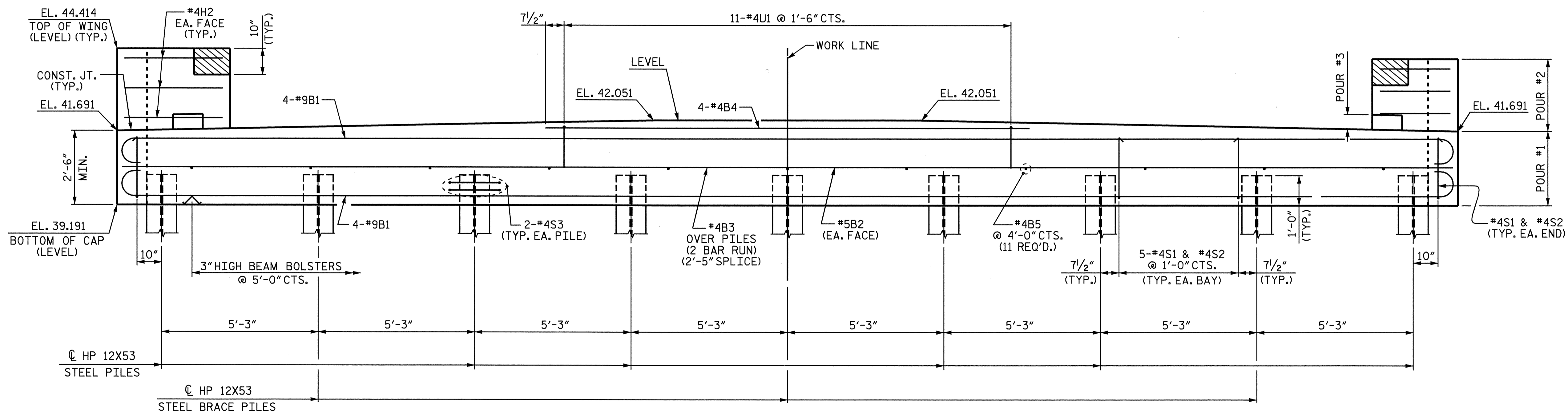
THE CONTRACTOR SHALL PROVIDE FOR INSTALLATION OF THE 4" DIAMETER DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS, SEE THE ROADWAY PLANS. REINFORCING STEEL IN THE WING WALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.

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 CONCRETE BARRIER RAIL AND END POST IS CAST IF SLIP FORMING IS USED.



PLAN



ELEVATION

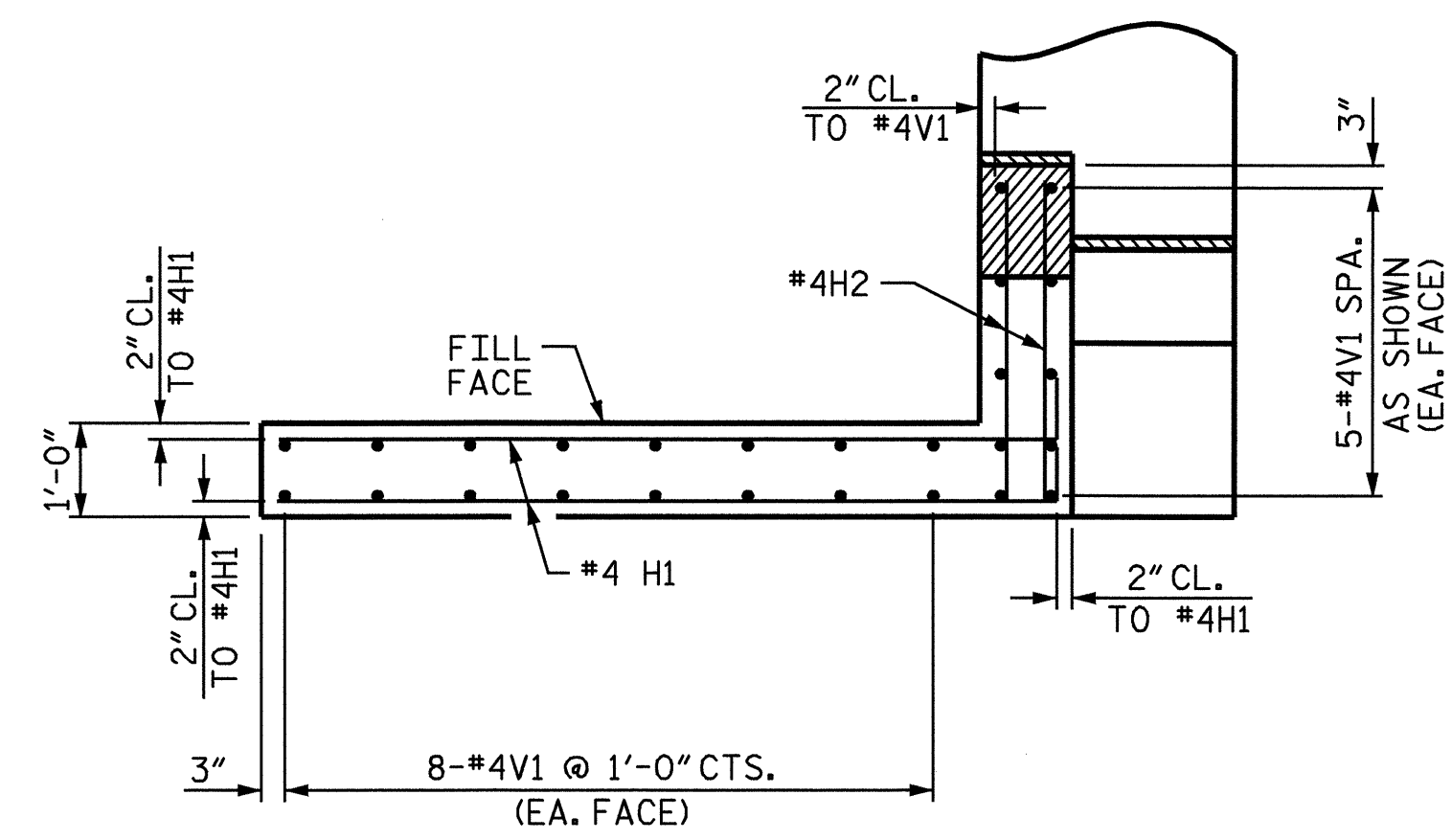
PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE END BENT #2					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-23					TOTAL SHEETS 52

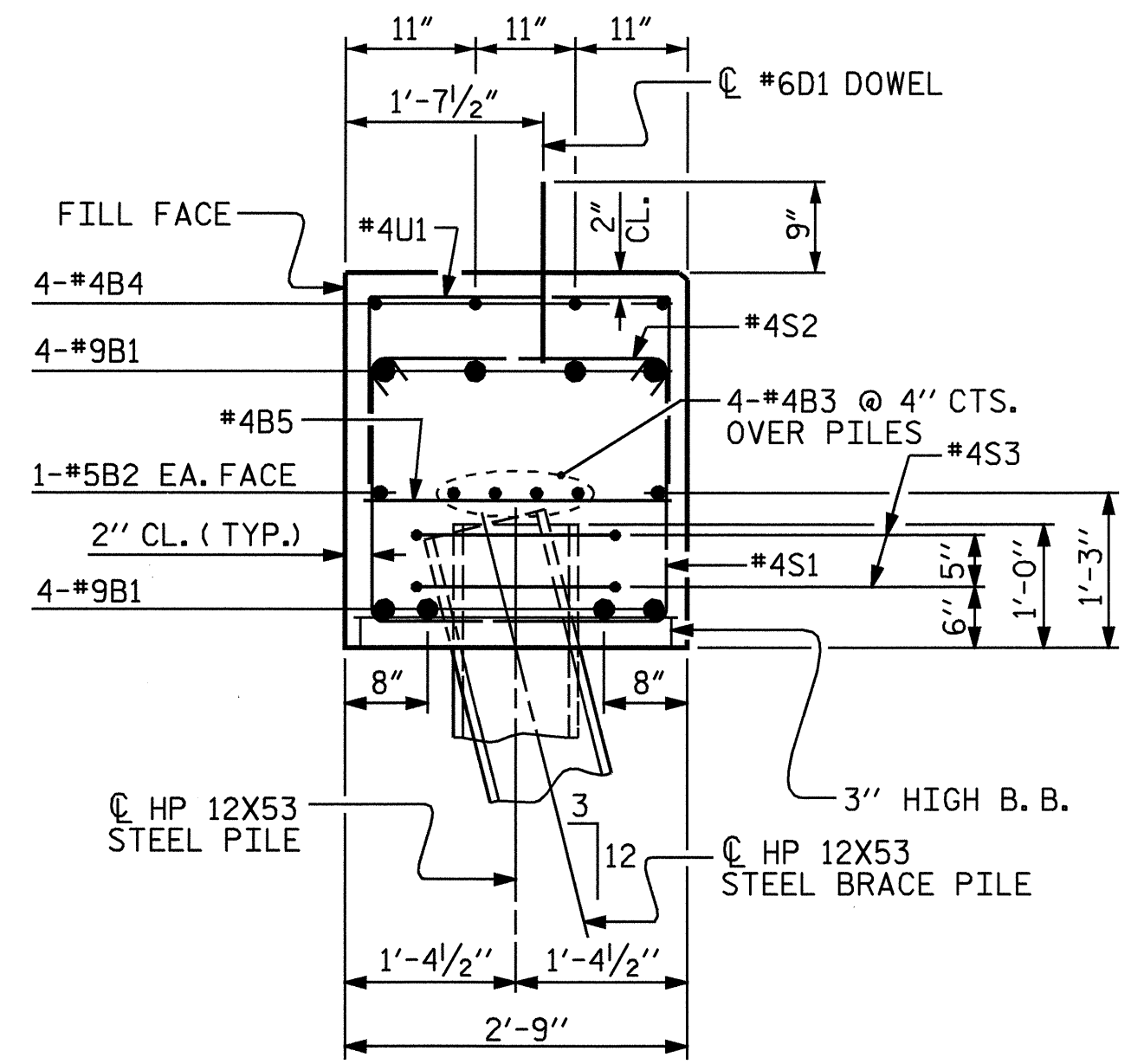


DRAWN BY: M.K. BEARD DATE: 9/29/06
 CHECKED BY: K.D. LAYNE DATE: 10/10/06

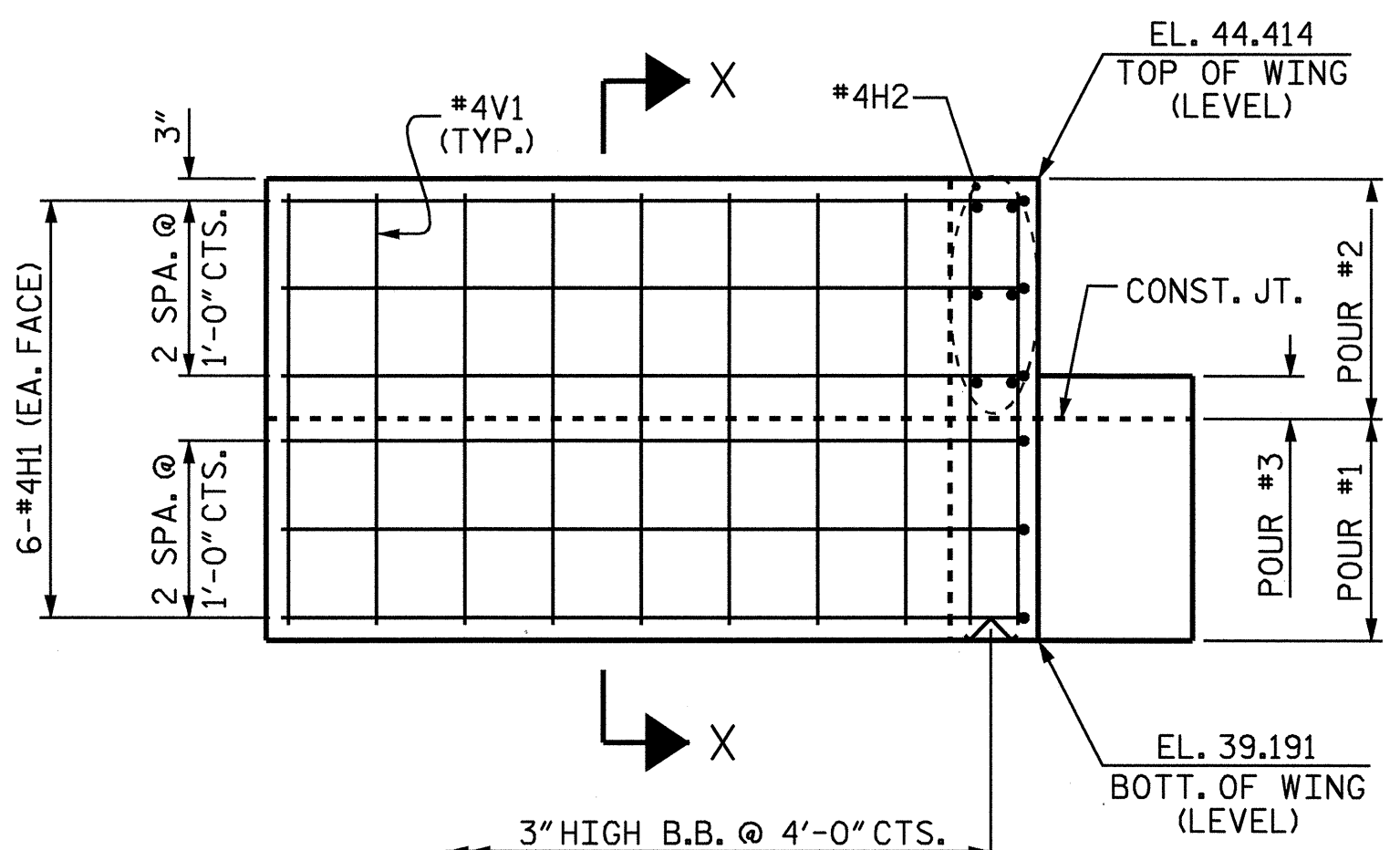


PLAN OF WING

LEFT WING (W1) SHOWN, RIGHT WING (W2) SIMILAR.

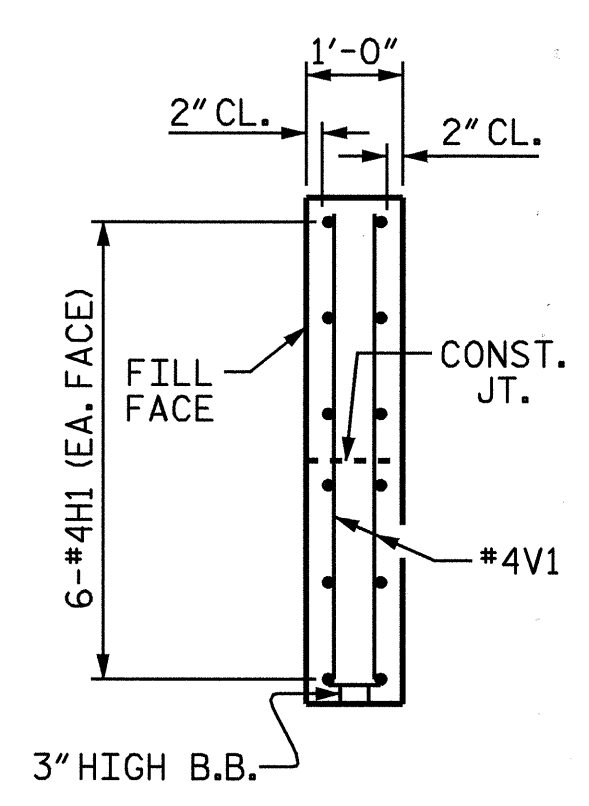


SECTION THRU CAP

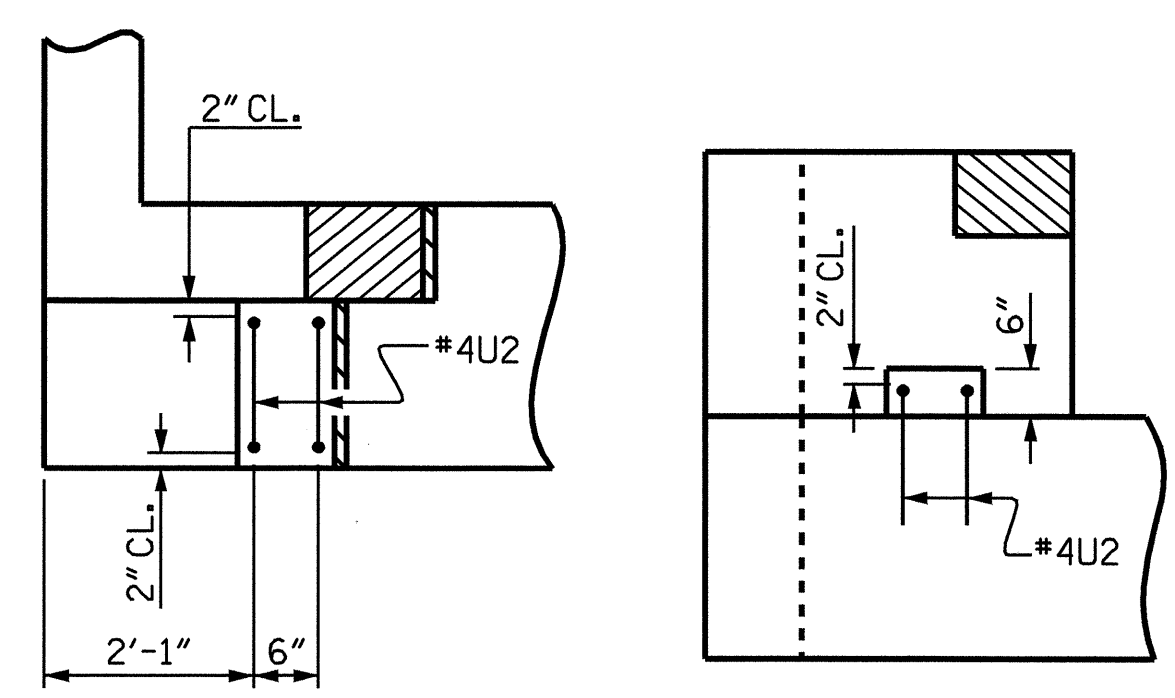


ELEVATION OF WING

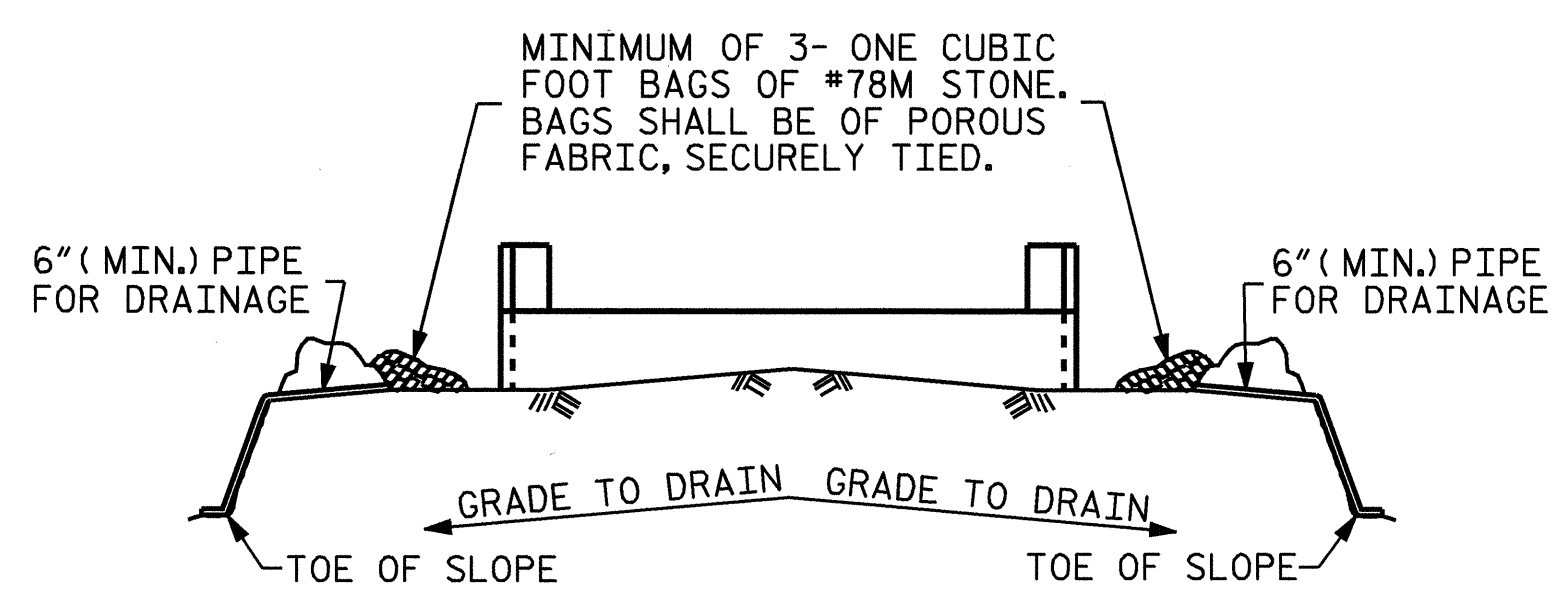
LEFT WING (W1) SHOWN, RIGHT WING (W2) SIMILAR.



SECTION X-X



LATERAL GUIDE DETAILS
(EACH END SIMILAR)



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.

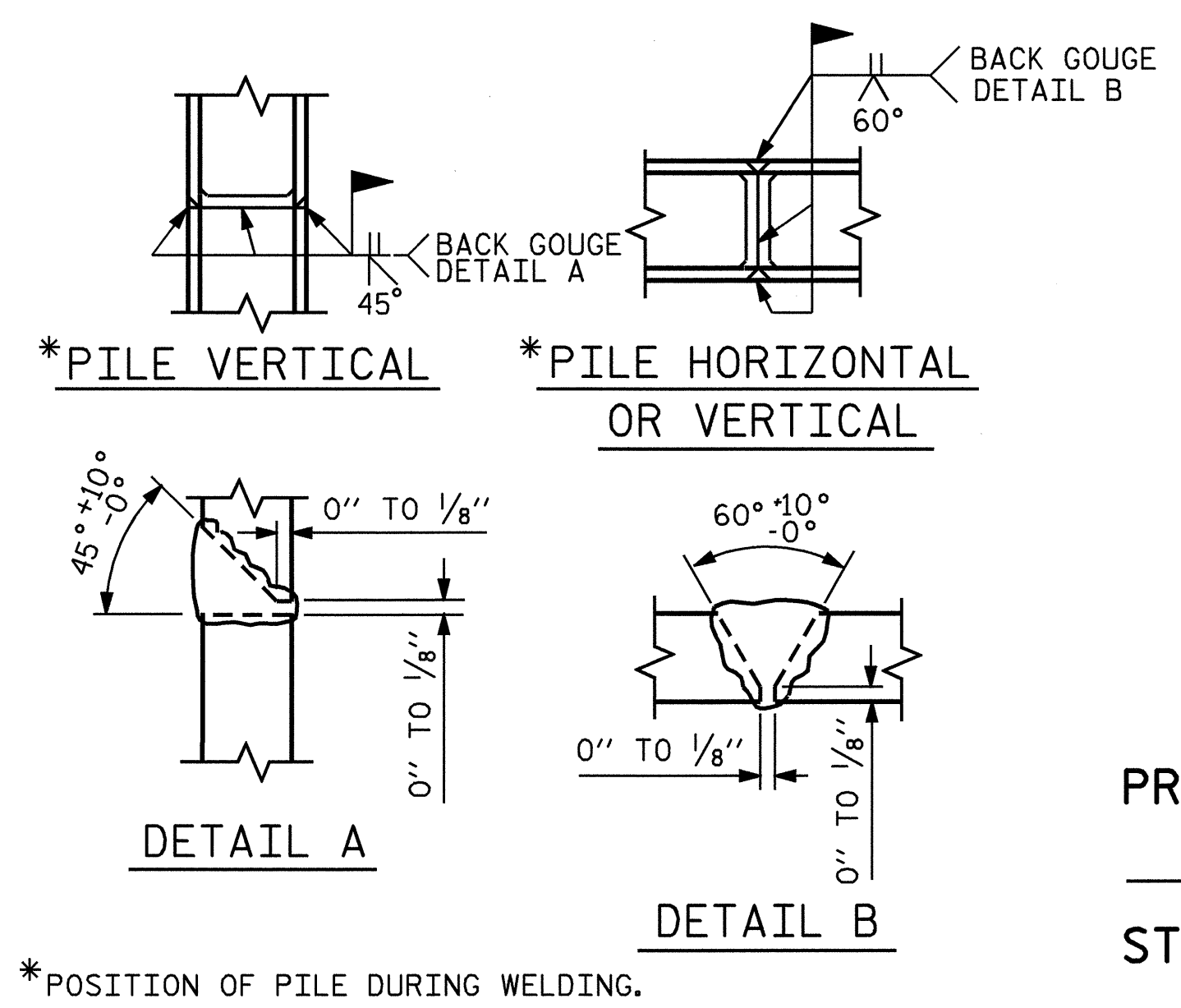
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT

BAR TYPES

ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
END BENT #2					
BAR No.	SIZE	TYPE	LENGTH	WEIGHT	
B1	8	#9	1	47'-0"	1278
B2	2	#5	STR	44'-8"	93
B3	8	#4	STR	23'-7"	126
B4	4	#4	STR	16'-3"	43
B5	11	#4	STR	2'-5"	18
D1	26	#6	STR	1'-6"	59
H1	24	#4	3	9'-1"	146
H2	12	#4	STR	3'-5"	27
S1	42	#4	4	7'-5"	208
S2	42	#4	2	3'-2"	89
S3	18	#4	6	6'-6"	78
U1	11	#4	5	5'-5"	40
U2	4	#4	5	4'-5"	12
V1	52	#4	STR	4'-11"	171
REINFORCING STEEL					2388 LBS.
CLASS "A" CONCRETE BREAKDOWN					
POUR #1 CAP & LOWER WINGS				CU. YDS.	13.9
POUR #2 UPPER WINGS				CU. YDS.	2.4
POUR #3 LATERAL GUIDES				CU. YDS.	0.1
CLASS "A" CONCRETE TOTAL				CU. YDS.	16.4
HP 12X53 STEEL PILES				No. 9	495 LIN. FT.



PILE SPLICE DETAILS

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

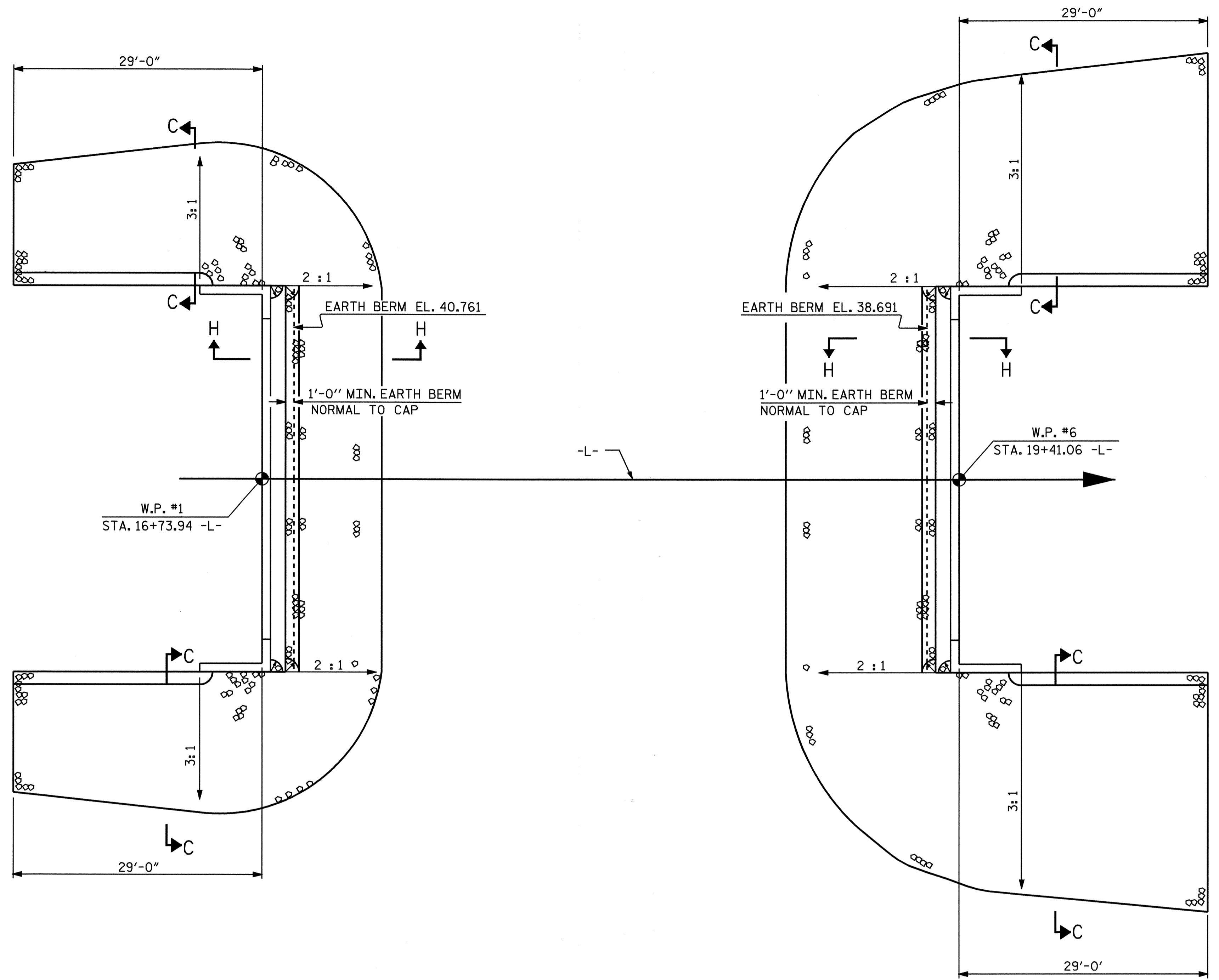
SUBSTRUCTURE
 END BENT #2

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

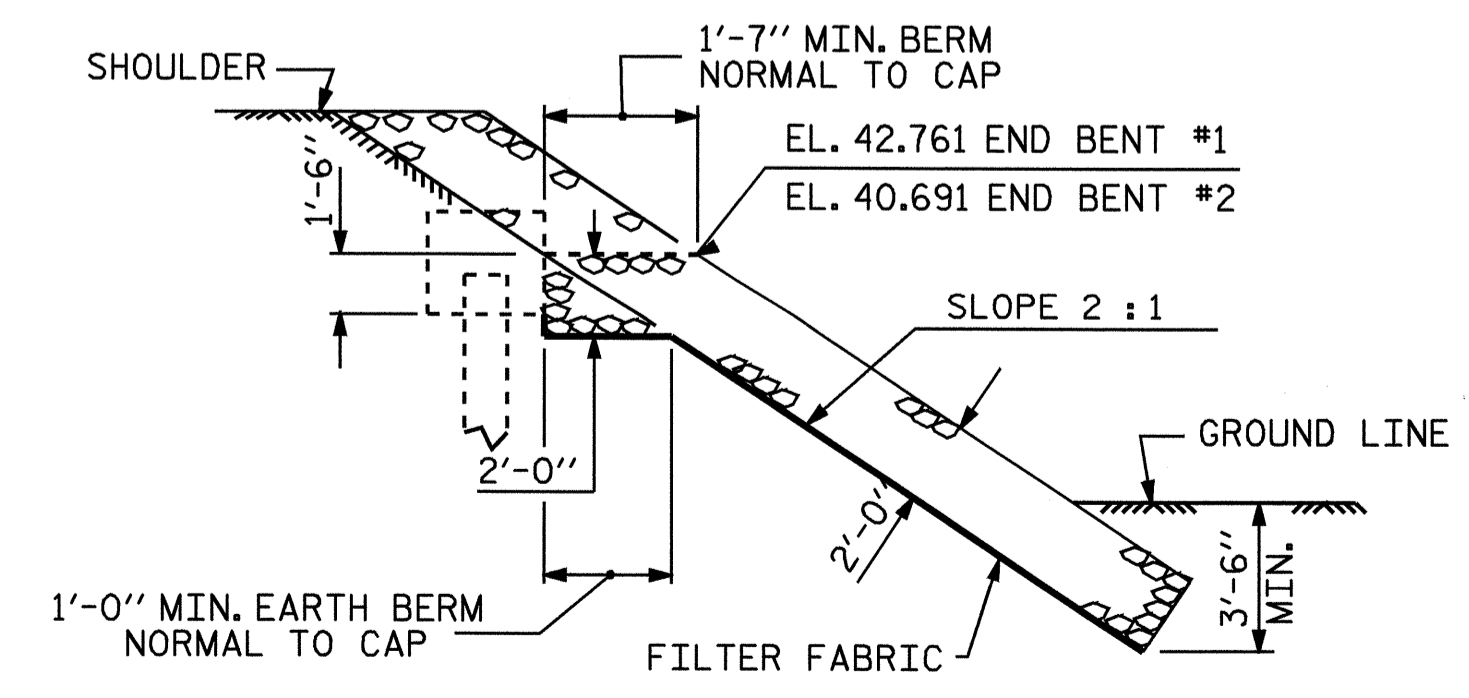
SHEET NO. **S-24**
 TOTAL SHEETS **52**



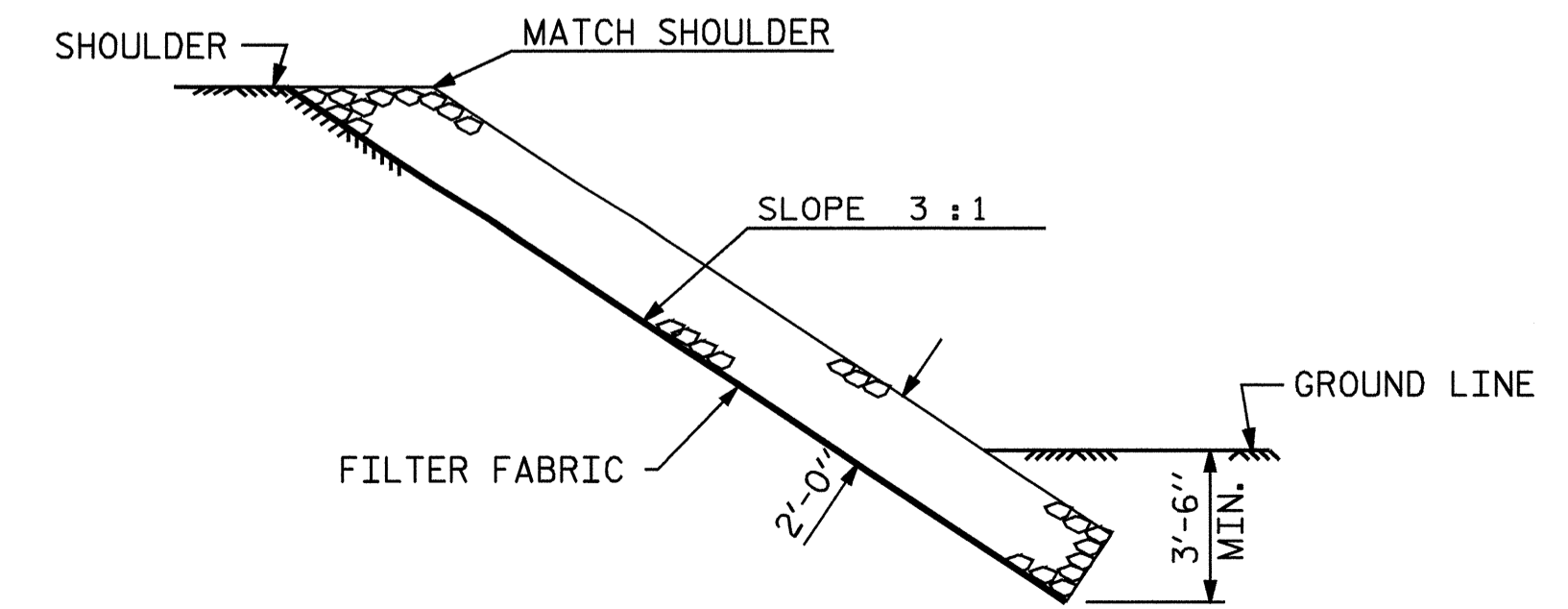
DRAWN BY: M.K. BEARD DATE: 9/29/06
 CHECKED BY: K.D. LAYNE DATE: 10/10/06



ESTIMATED QUANTITIES		
BRIDGE @ STA. 18+07.50 -L-	RIP RAP CLASS II	FILTER FABRIC FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT #1	212	235
END BENT #2	270	300



SECTION H-H

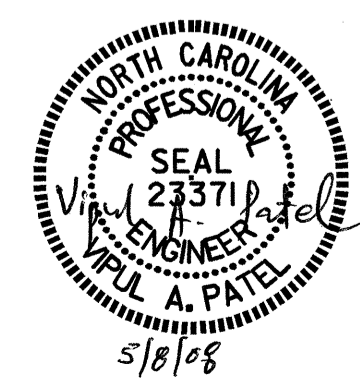


SECTION C-C

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50 -L-

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

— RIP RAP DETAILS —



ASSEMBLED BY : G. A. THOMPSON DATE : 12/05
 CHECKED BY : J. P. Adams DATE : 2/8/06
 DRAWN BY : FCJ 2/88 REV. 7/17/98 REK/RWW
 CHECKED BY : ARB 8/88 REV. 8/16/99 RWW/LES
 REV. 10/17/00 RWW/LES

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

TOTAL SHEETS: 52

NOTES

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 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.

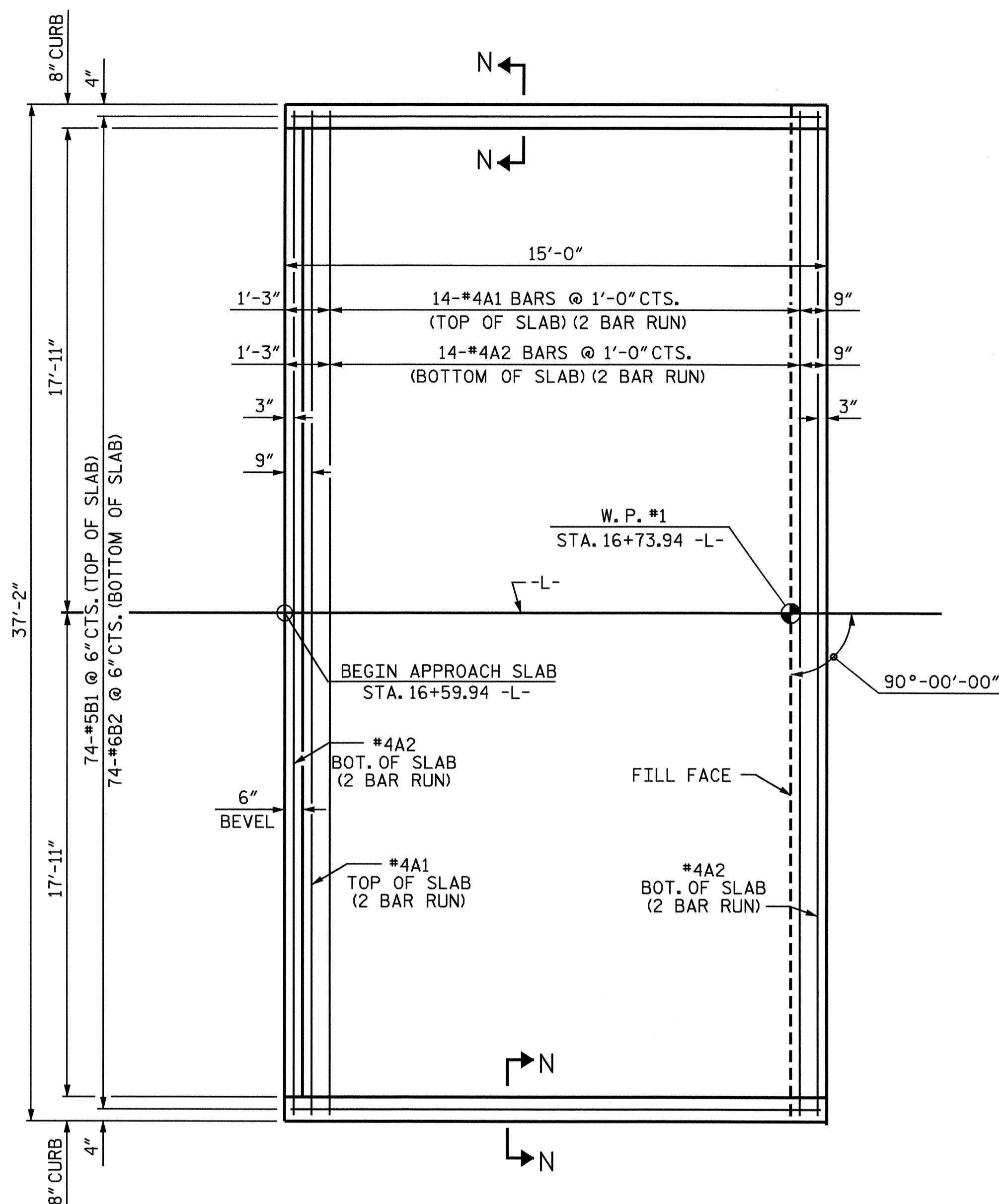
THE CONTRACTOR MAY USE 5" CLASS "A" CONCRETE BASE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE CONCRETE BASE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB. THE CONCRETE SHALL BE FINISHED TO A SMOOTH SURFACE AND A LAYER 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 EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.

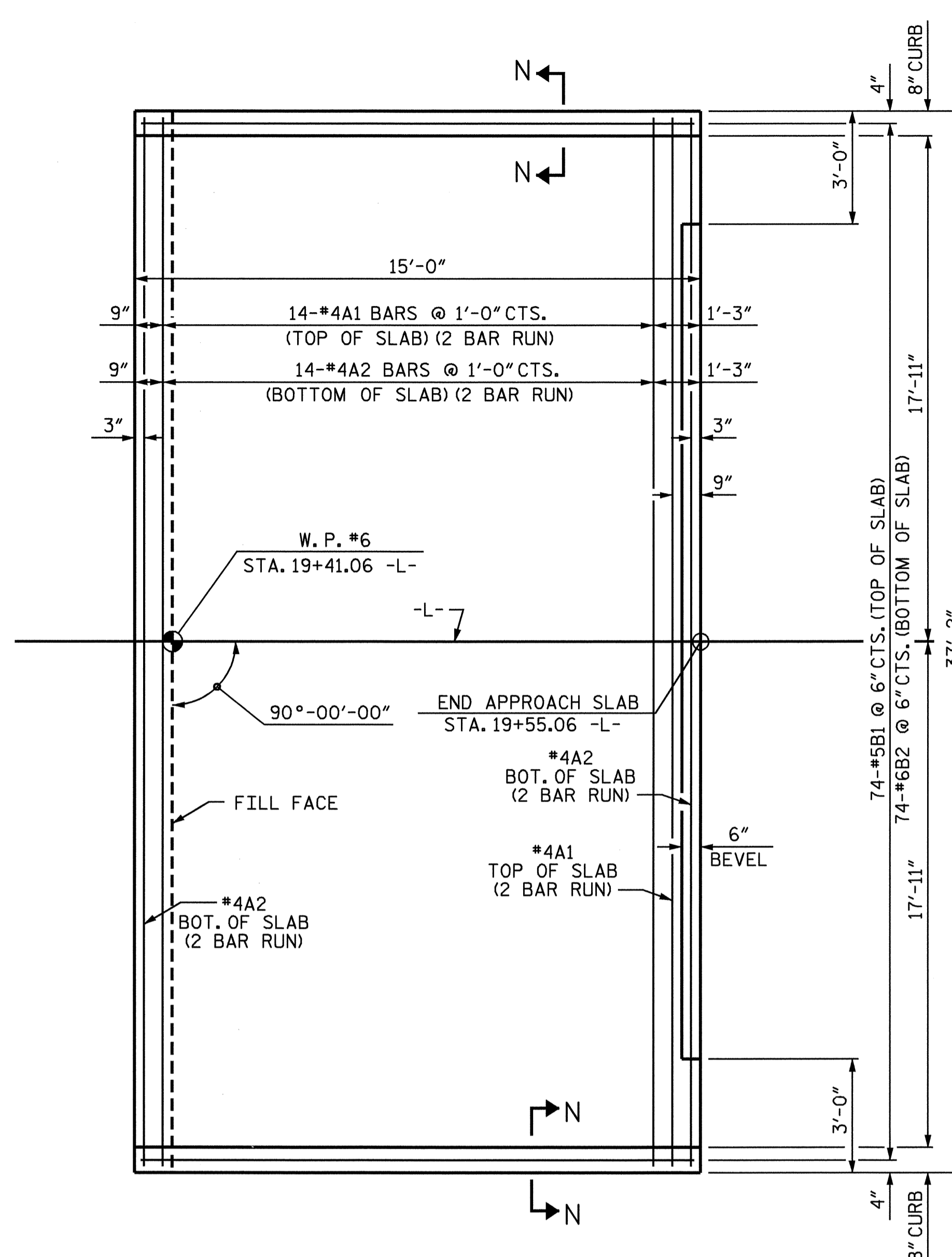
THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE EVAZOTE JOINT SEAL SHALL BE 2 1/2".

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

APPROACH SLAB GROOVING IS REQUIRED. PAYMENT FOR APPROACH SLAB GROOVING IS INCLUDED IN THE "GROOVING BRIDGE PAY ITEM".



PLAN OF APPROACH SLAB @ END BENT #1



PLAN OF APPROACH SLAB @ END BENT #2

SPLICE CHART

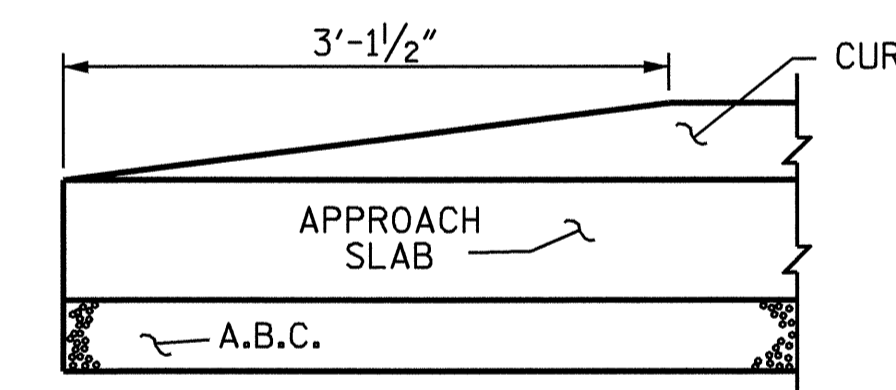
BAR	SIZE	SPLICE LENGTH
A1	#4	2'-0"
A2	#4	1'-9"

BILL OF MATERIAL FOR ONE APPROACH SLAB (2 REQ'D.)

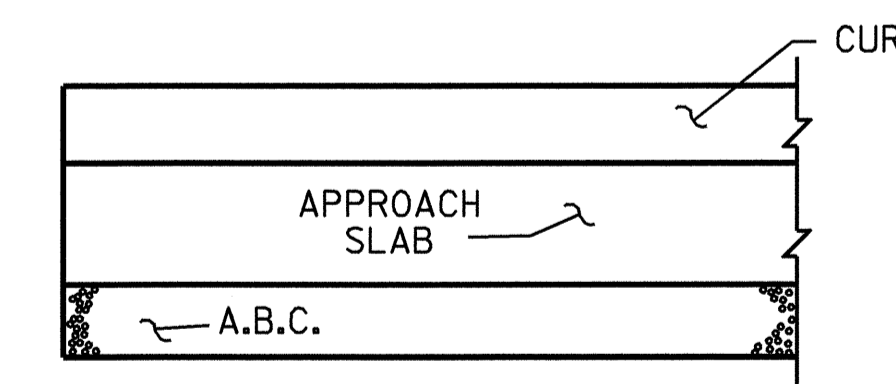
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	30	#4	STR	19'- 5"	389
A2	32	#4	STR	19'- 4"	413
*B1	74	#5	STR	13'- 8"	1,055
B2	74	#6	STR	14'- 8"	1,630

REINFORCING STEEL	LBS.	2,043
*EPOXY COATED REINFORCING STEEL	LBS.	1,444
CLASS AA CONCRETE	C. Y.	24.5

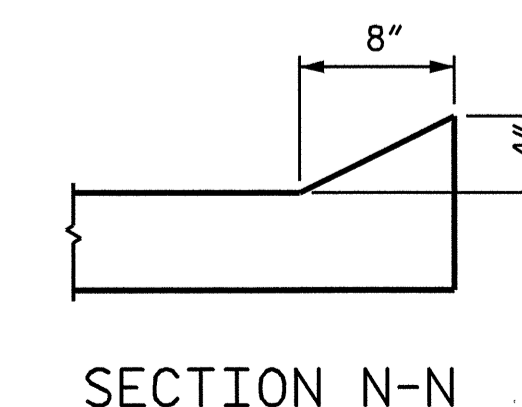
ELASTOMERIC CONCRETE		
AT END BENT #1	Cu. ft.	17.8
AT END BENT #2	Cu. ft.	17.8
TOTAL	Cu. ft.	35.6



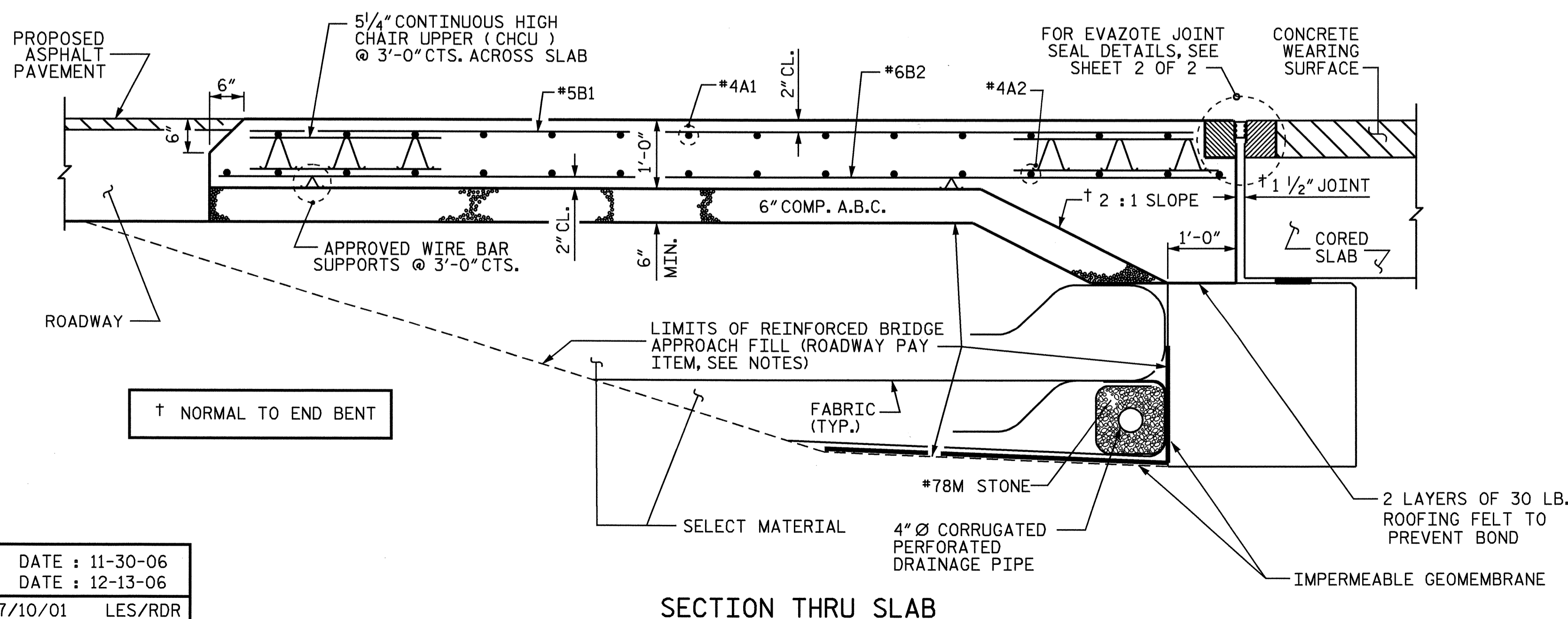
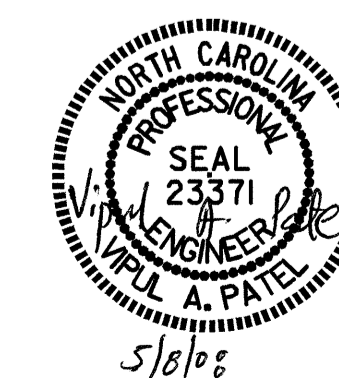
END OF CURB WITHOUT SHOULDER BERM GUTTER



END OF CURB WITH SHOULDER BERM GUTTER



SECTION N-N



SECTION THRU SLAB

ASSEMBLED BY : KEITH D. LAYNE	DATE : 11-30-06
CHECKED BY : R. G. EMERSON	DATE : 12-13-06
DRAWN BY : FCJ 6/87	REV. 7/10/01 LES/RDR
CHECKED BY : EGA 6/87	REV. 5/7/03R RWW/JTE
	REV. 5/1/06R KMM/GM

07-MAY-2008 14:04
R:\STRUCTURE\B1382\str#1\Plans\B1382.sd.01.AS.dgn
sdombrowski

PROJECT NO. B-1382
SAMPSON COUNTY
STATION: 18+07.50 -L-

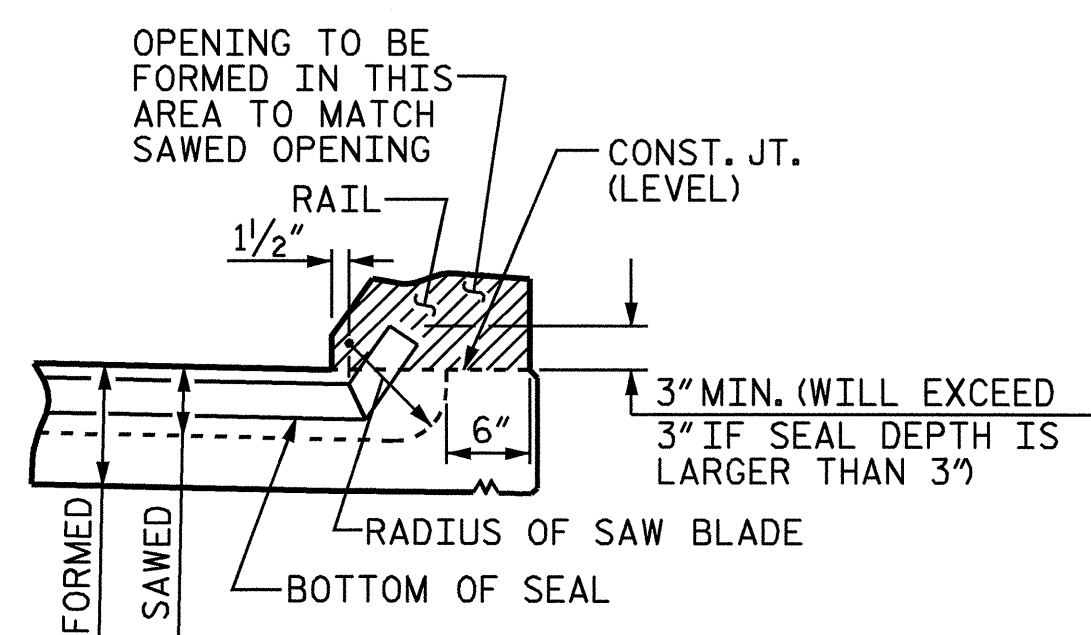
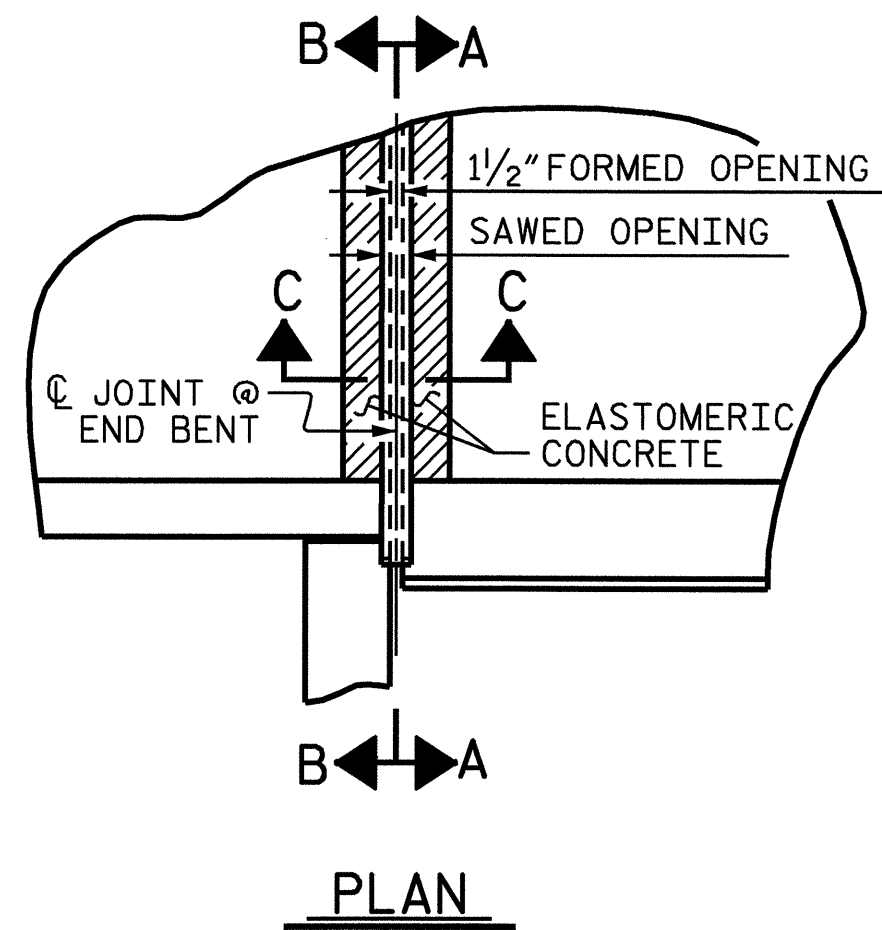
SHEET 1 OF 2

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

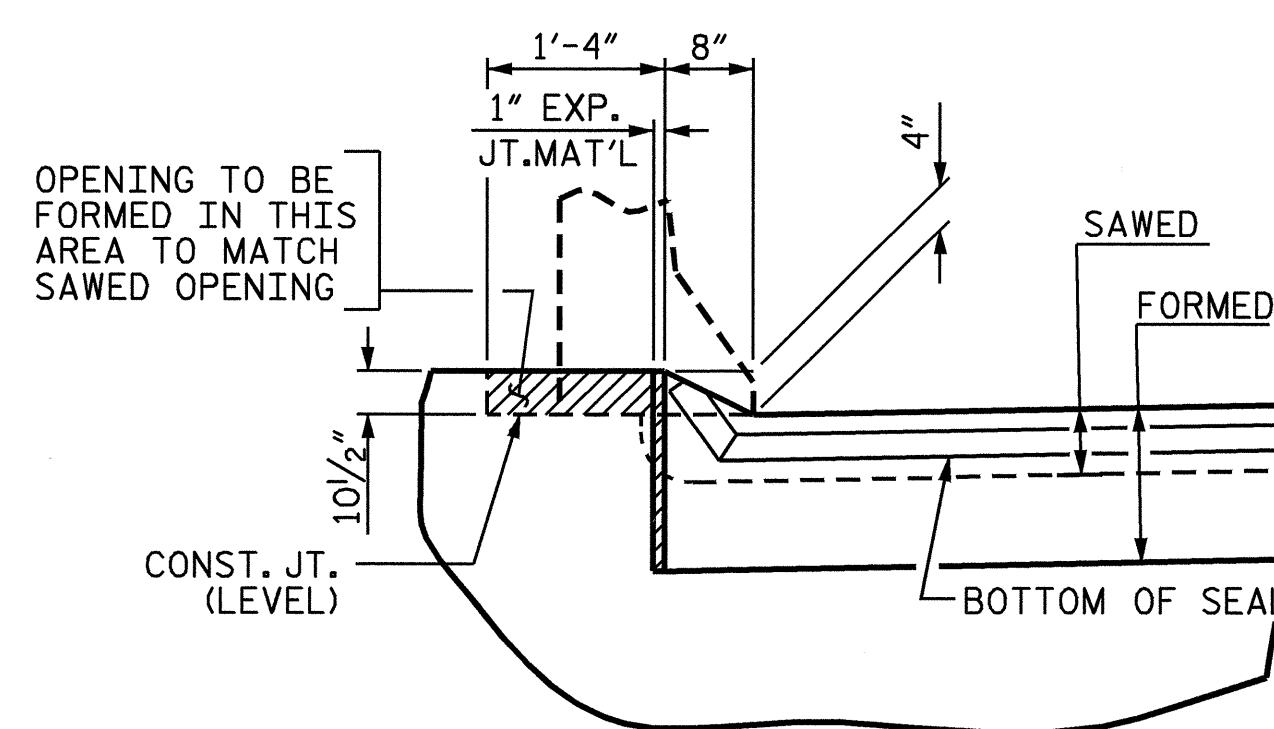
REVISIONS					SHEET NO.
NO.	BY	DATE	NO.	DATE	
1			3		S-26
2			4		TOTAL SHEETS 52

STR. #1

STD. NO. BAS7



SECTION A-A

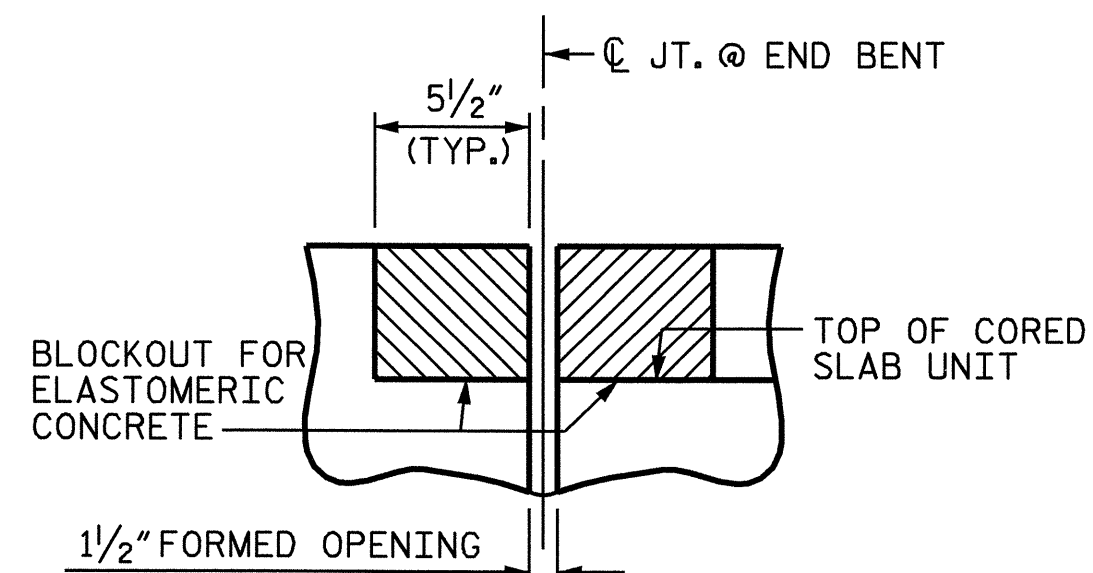


SECTION B-B

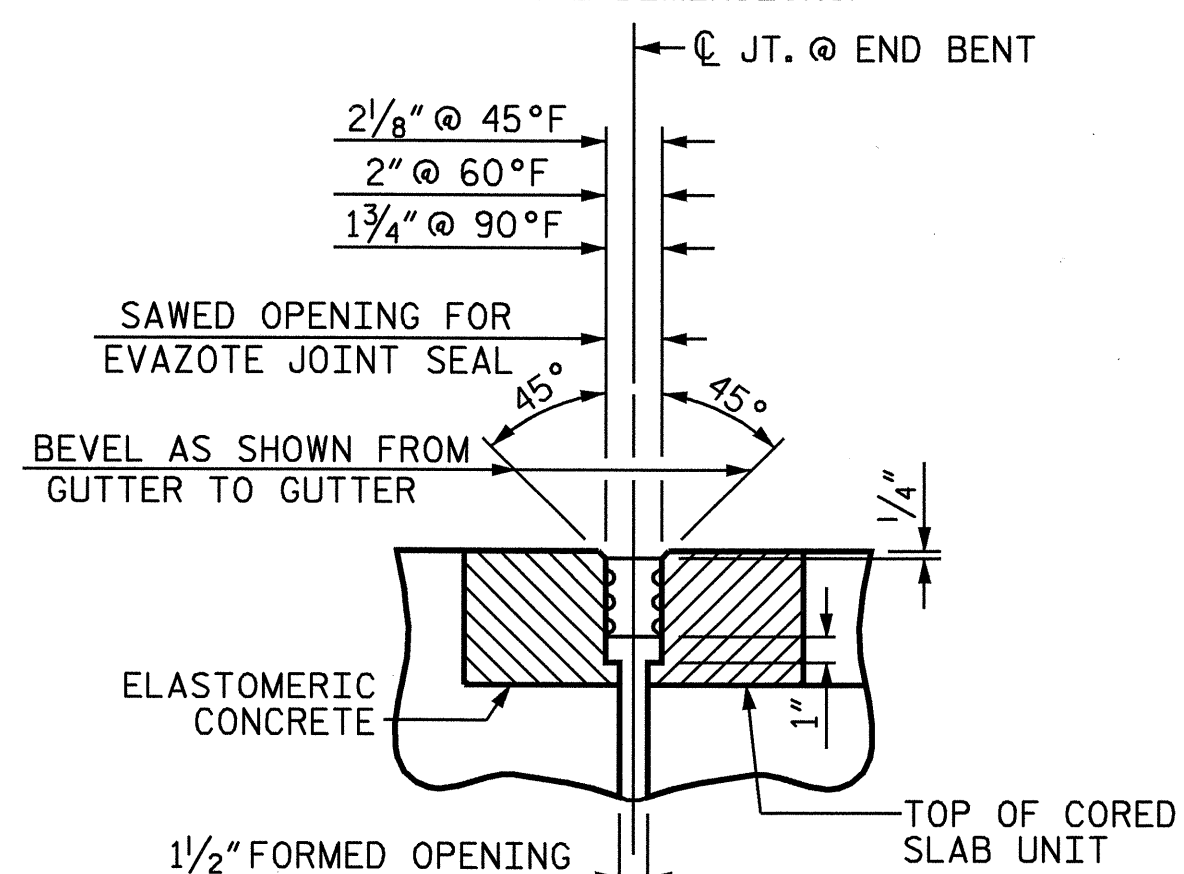
JOINT SEAL DETAILS @ END BENT

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

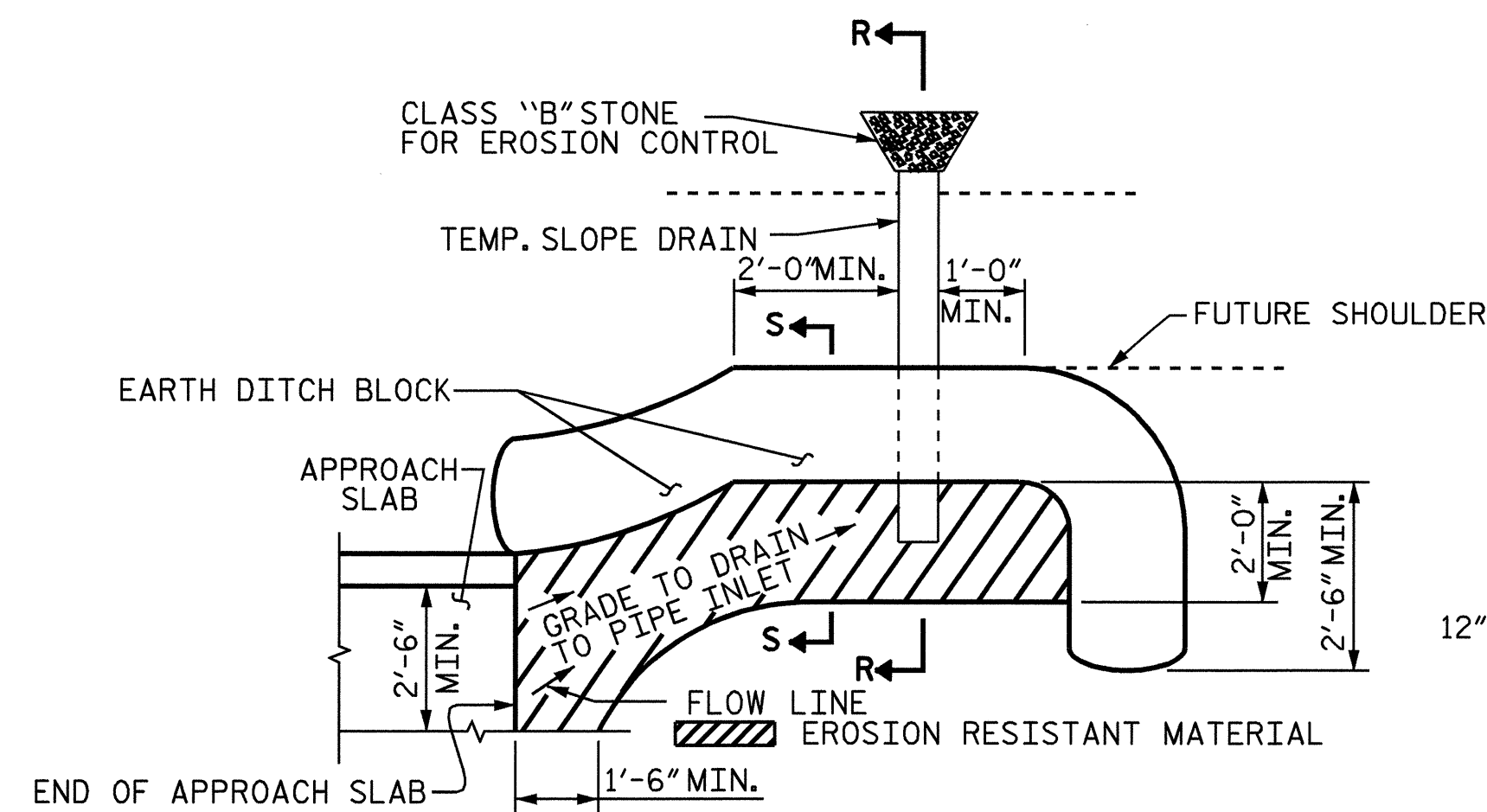
THE JOINT SHALL BE SAWED PRIOR TO THE CASTING OF THE BARRIER RAIL.



SECTION C-C
EVAZOTE JOINT SEAL
(PRE-SAWED ELASTOMERIC CONCRETE DIMENSIONS)



SECTION C-C
EVAZOTE JOINT SEAL

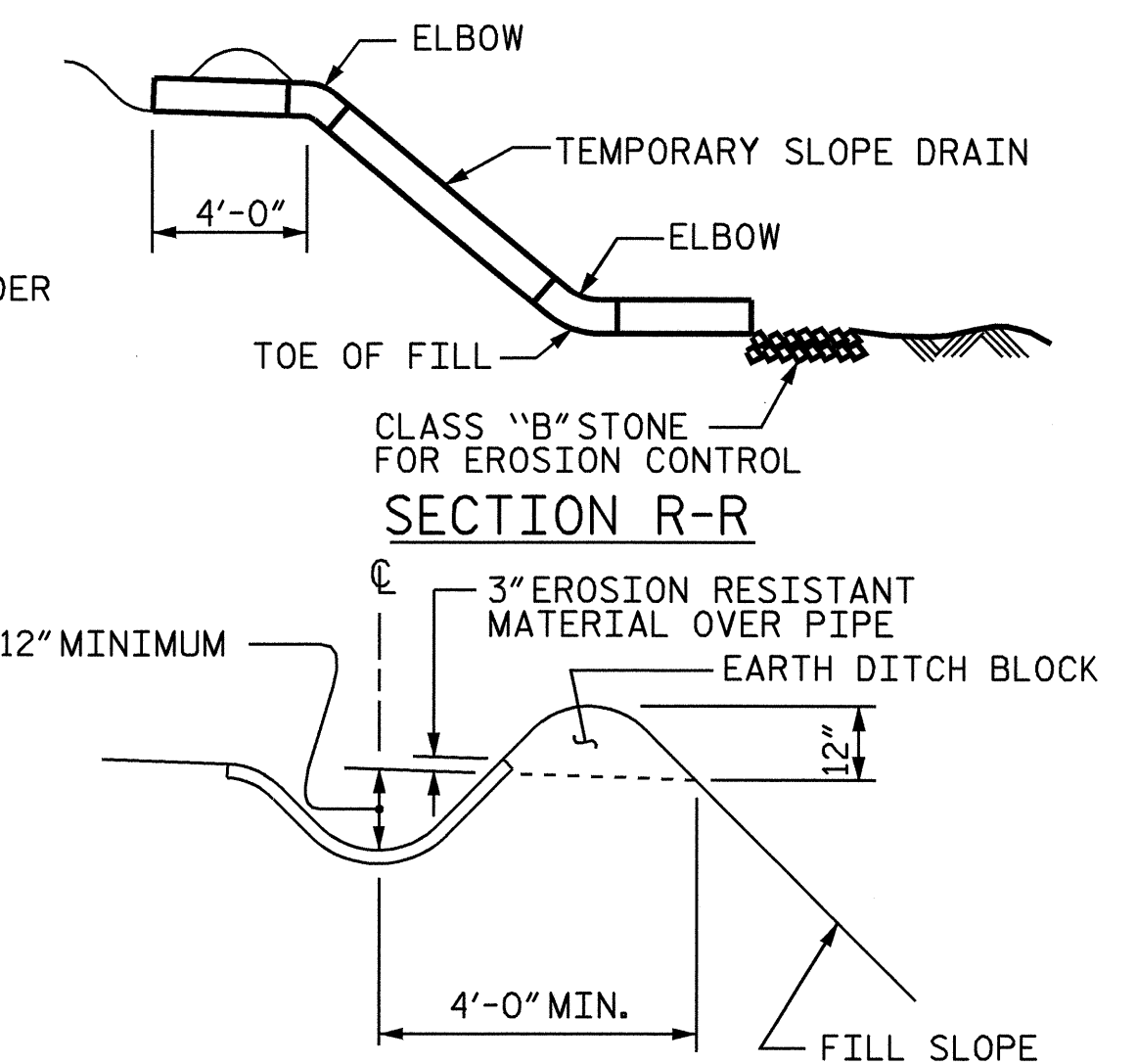


PLAN VIEW

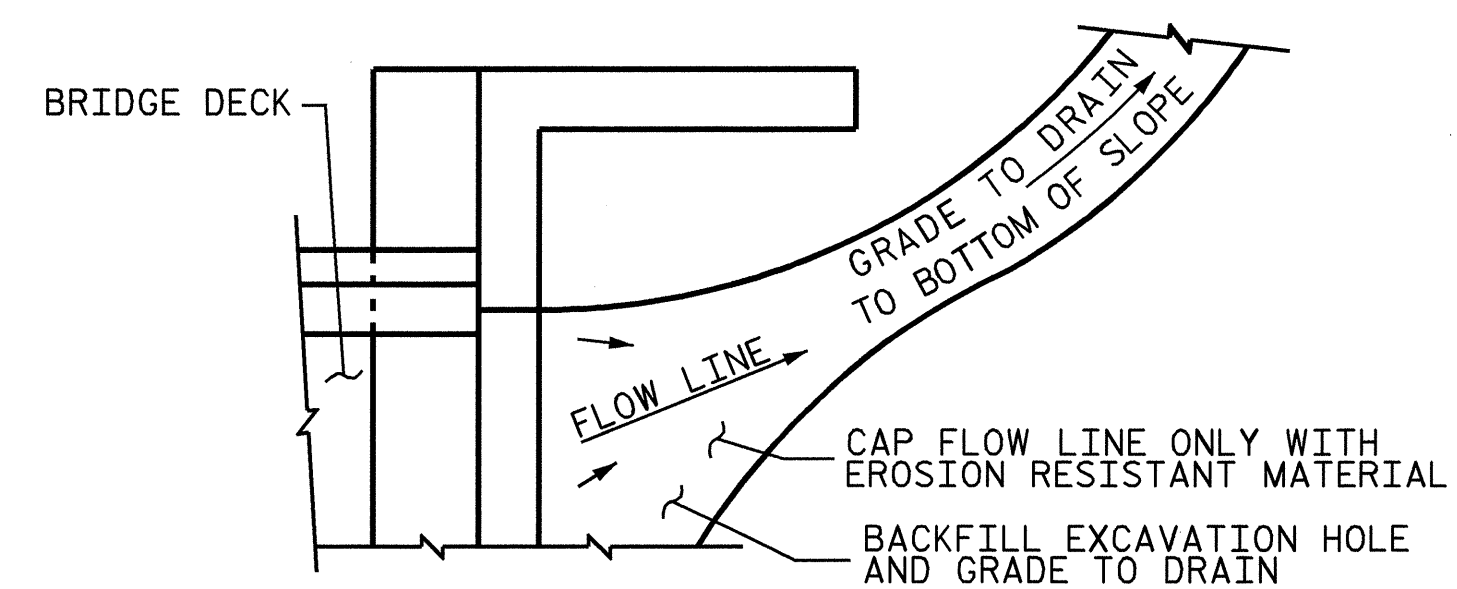
TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)

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.



SECTION S-S



TEMPORARY DRAINAGE DETAIL

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.

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 18+07.50 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 BRIDGE APPROACH
 SLAB DETAILS



ASSEMBLED BY : KEITH D. LAYNE	DATE : 11-30-06
CHECKED BY : R. G. EMERSON	DATE : 12-13-06
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

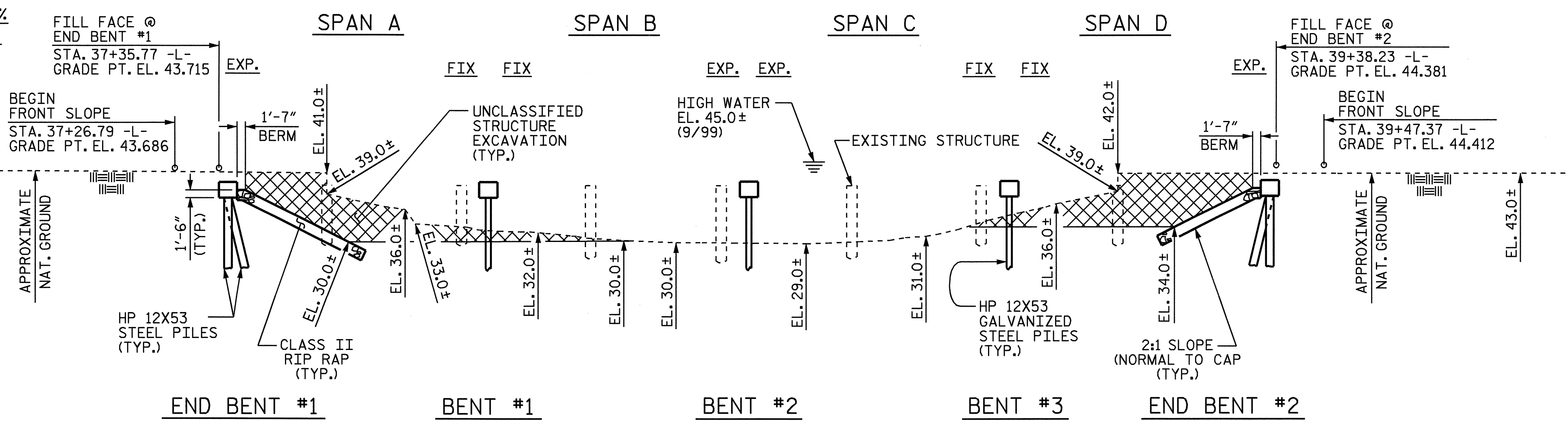
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-27
1			3			TOTAL SHEETS
2			4			52

GRADE DATA

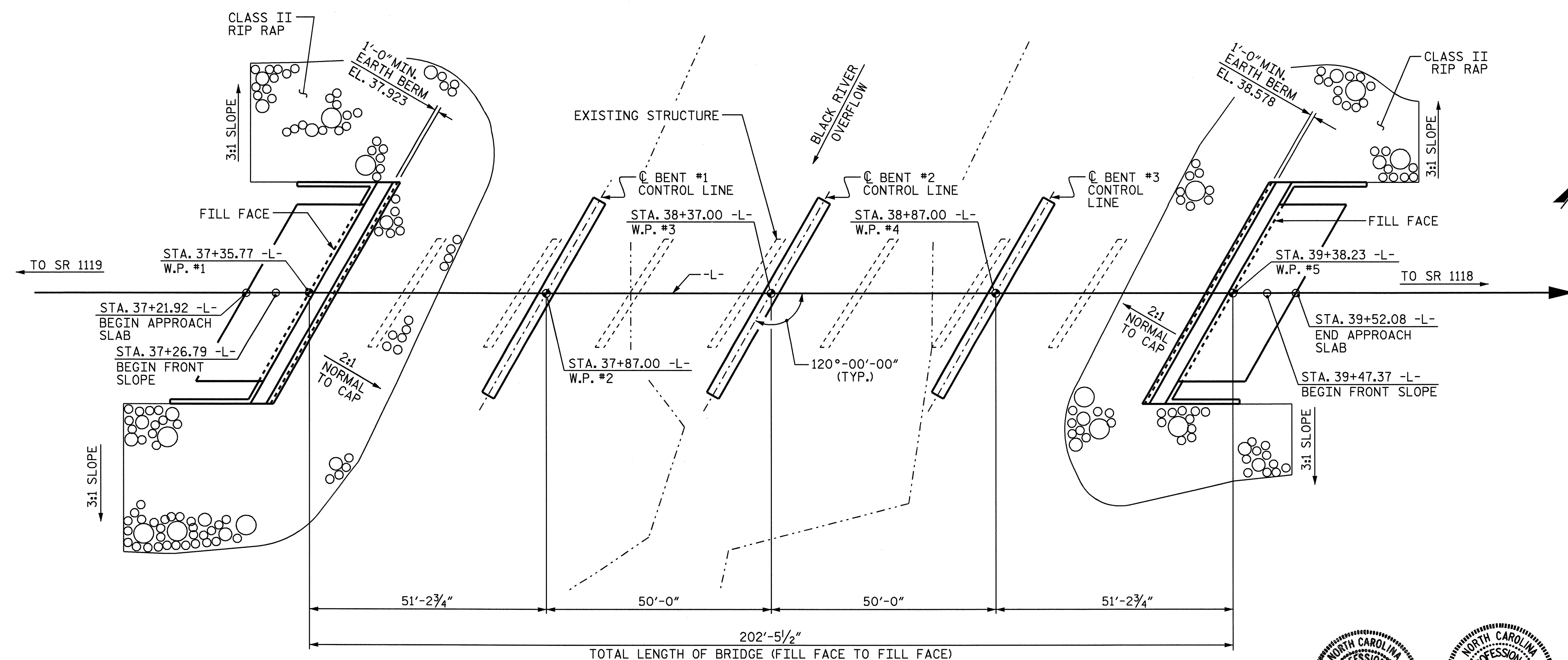
+0.6364% Δ +0.3291%
 PI = 36+40.00 -L-
 EL = 43.400
 VC = 100'

GRADE DATA

+0.3291% Δ -0.8711%
 PI = 40+35.00 -L-
 EL = 44.700
 VC = 180'



SECTION ALONG -L-
 SECTION TAKEN @ RIGHT ANGLES TO BENTS.



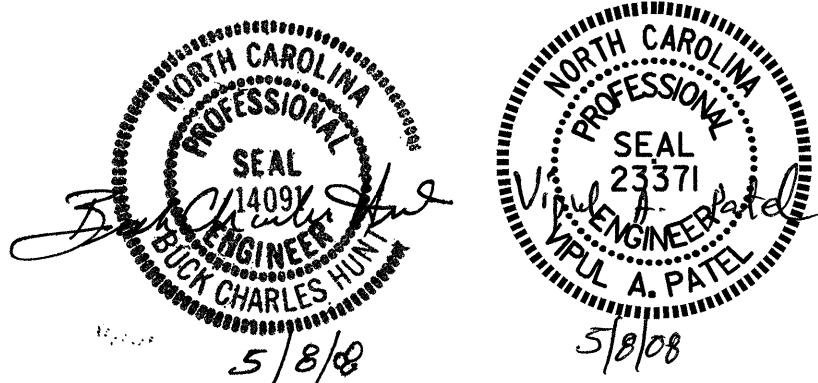
PLAN

PILES NOT SHOWN IN PLAN VIEW

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 38+37.00 -L-

SHEET 1 OF 3 REPLACES BRIDGE NO. 26

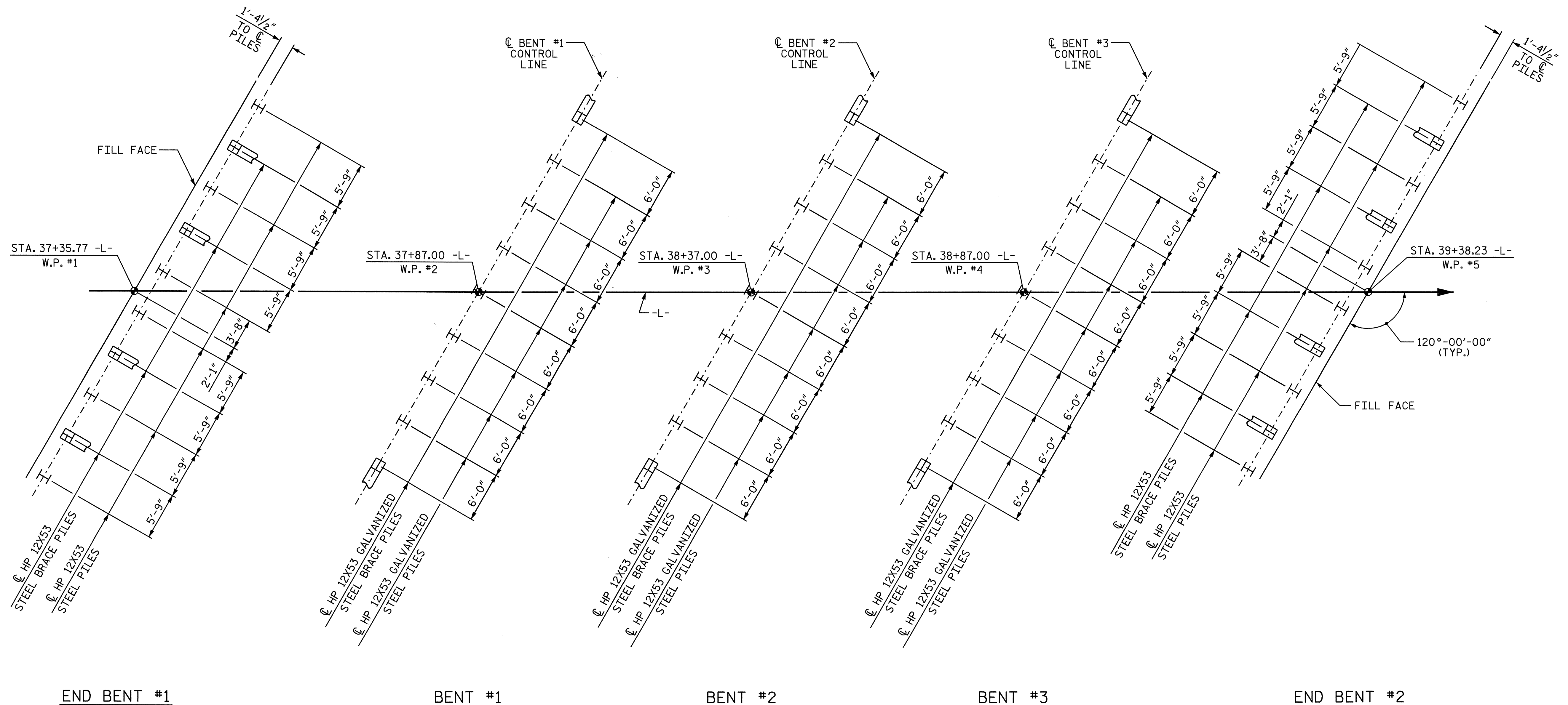
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE OVER BLACK
 RIVER OVERFLOW ON
 NC 41 (TOMAHAWK RD.)
 BETWEEN SR 1119 & SR 1118



DRAWN BY: M.K. BEARD DATE: 3/28/07
 CHECKED BY: K.D. LAYNE DATE: 04/07

07-MAY-2008 14:09
 R:\Structures\B1382\str#2\Plans\B-1382_sd.02.d0.dgn
 sdombrowski

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-28
1			3			TOTAL SHEETS
2			4			52



FOUNDATION LAYOUT

END BENT BRACE PILES ARE BATTERED AT 3:12 WHERE SHOWN.
 BENT BRACE PILES ARE BATTERED AT 1 1/2:12 WHERE SHOWN.
 DIMENSIONS LOCATING PILES ARE SHOWN TO THE CENTERLINE OF PILES.

NOTES

DRIVE PILES AT END BENT #1 AND END BENT #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.

THE ALLOWABLE BEARING CAPACITY FOR PILES AT END BENT #1 AND END BENT #2 IS 50 TONS PER PILE.

DRIVE PILES AT BENT #1 THROUGH BENT #3 TO A REQUIRED BEARING CAPACITY OF 110 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 DOWN DRAG OR NEGATIVE SKIN FRICTION AND SCOUR.

THE ALLOWABLE BEARING CAPACITY FOR PILES AT BENT #1 THROUGH BENT #3 IS 50 TONS PER PILE.

INSTALL PILES AT BENT #1 THROUGH BENT #3 TO A TIP ELEVATION NO HIGHER THAN 10.000.

SCOUR CRITICAL ELEVATION FOR BENT #1 THROUGH BENT #3 IS ELEVATION 20.000. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

TESTING PILES WITH THE PILE DRIVING ANALYZER DURING DRIVING, RESTRIKING OR REDRIVING MAY BE REQUIRED. THE ENGINEER WILL DETERMINE THE NEED FOR PDA TESTING. SEE PILE DRIVING ANALYZER SPECIAL PROVISION.

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 38+37.00 -L-

SHEET 2 OF 3



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE OVER
 BLACK RIVER OVERFLOW
 ON NC 41 (TOMAHAWK RD.)
 BETWEEN SR 1119 & SR 1118

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-29
1			3			TOTAL SHEETS
2			4			52

DRAWN BY : M.K. BEARD DATE : 3/29/07
 CHECKED BY : K.D. LAYNE DATE : 04/07

BENCH MARK #2 : R.R. SPIKE SET IN 6" OAK TREE @ STA. 40+30.00 -BL-, 195' LT., EL. 39.250

NOTES

ASSUMED LIVE LOAD = HS20 OR ALTERNATE LOADING, EXCEPT THAT THE 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.

THE EXISTING STRUCTURE CONSISTING OF 1 SPAN @ 25'-3", 4 SPANS @ 25'-0" AND 1 SPAN @ 25'-3" WITH A CONCRETE DECK ON 6 LINES W16 X 40 I-BEAMS WITH A CLEAR ROADWAY WIDTH OF 24'-0" AND HAVING A SUBSTRUCTURE CONSISTING OF REINFORCED CONCRETE CAPS ON TIMBER PILES AND LOCATED AT THE PROPOSED STRUCTURE SITE SHALL BE REMOVED.

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 50 FT. EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD 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.

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.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, 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 CRANE SAFETY, SEE SPECIAL PROVISIONS.

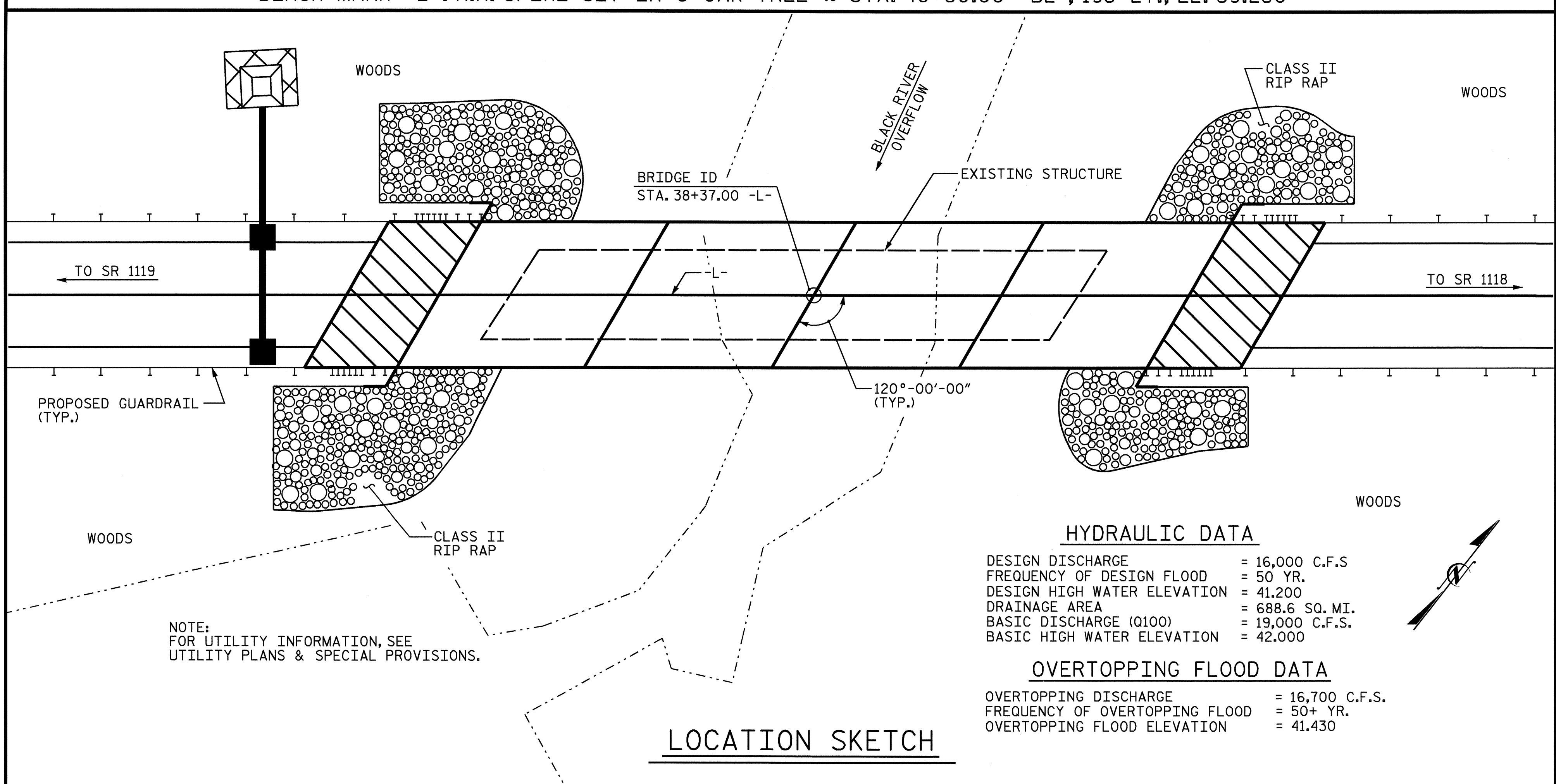
THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO STANDARD SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES FOR SEISMIC PERFORMANCE CATEGORY A.

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 38+37.00 -L-."

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

NO WAITING PERIOD IS REQUIRED FOR END BENT CONSTRUCTION AFTER COMPLETION OF EMBANKMENT.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.



HYDRAULIC DATA

DESIGN DISCHARGE	= 16,000 C.F.S
FREQUENCY OF DESIGN FLOOD	= 50 YR.
DESIGN HIGH WATER ELEVATION	= 41.200
DRAINAGE AREA	= 688.6 SQ. MI.
BASIC DISCHARGE (Q100)	= 19,000 C.F.S.
BASIC HIGH WATER ELEVATION	= 42.000

OVERTOPPING FLOOD DATA

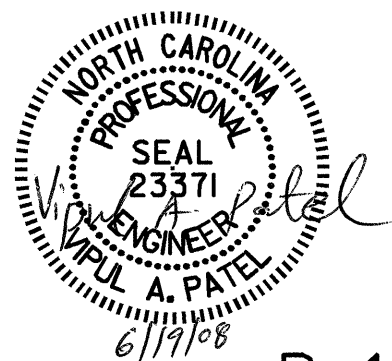
OVERTOPPING DISCHARGE	= 16,700 C.F.S.
FREQUENCY OF OVERTOPPING FLOOD	= 50+ YR.
OVERTOPPING FLOOD ELEVATION	= 41.430

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

LOCATION SKETCH

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	PDA TESTING	PDA ASSISTANCE	UNCLASSIFIED STRUCTURE EXCAVATION	CONCRETE WEARING SURFACE	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12X53 STEEL PILES	HP 12X53 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	EA.	EA.	CU. YDS.	SQ. FT.	SQ. FT.	CU. YDS.	LUMP SUM	LBS.	NO.	LIN. FT.	EA.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	LUMP SUM	NO.	LIN. FT.		
SUPERSTRUCTURE					7679	8022		LUMP SUM					399.72			LUMP SUM	LUMP SUM	56	2792.13		
END BENT #1				750			19.9		2960	10	300			467	520						
BENT #1							15.1		2616			9	360								
BENT #2							15.1		2616			9	405								
BENT #3							15.1		2616			9	360								
END BENT #2				1030			19.9		2960	10	450			336	370						
TOTAL	LUMP SUM	1	1	1780	7679	8022	85.1	LUMP SUM	13,768	20	750	27	1125	20	399.72	803	890	LUMP SUM	LUMP SUM	56	2792.13



PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 38+37.00 -L-

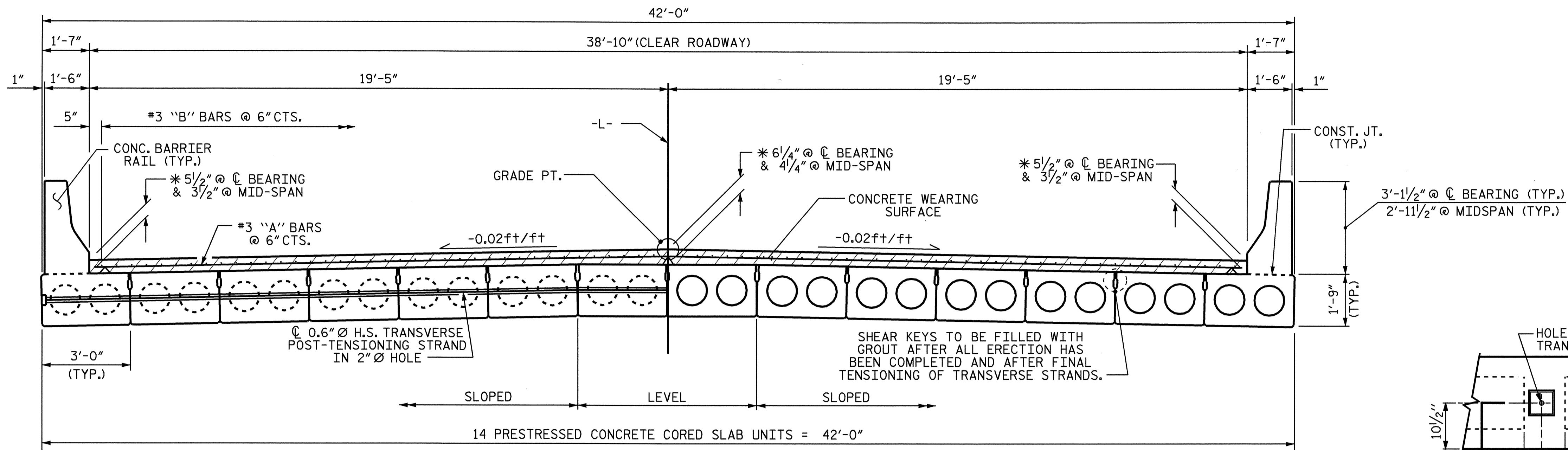
SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE OVER
 BLACK RIVER OVERFLOW
 ON NC 41 (TOMAHAWK RD.)
 BETWEEN SR 1119 & SR 1118

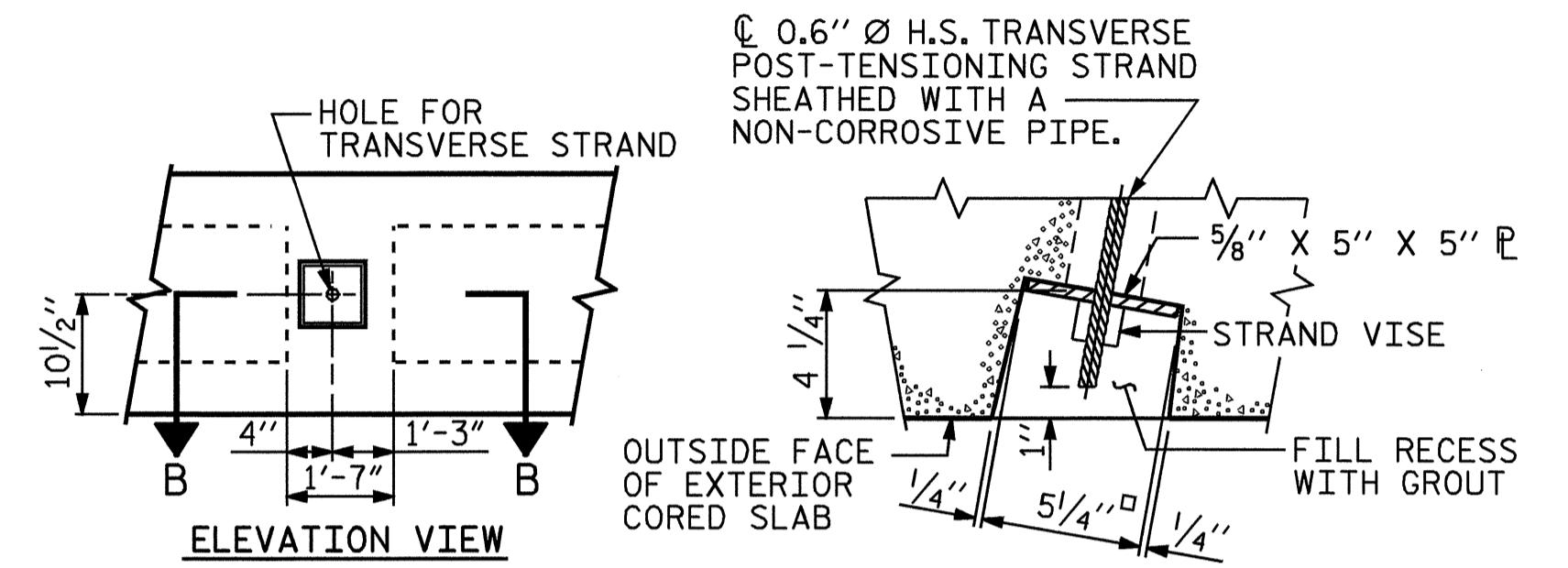
DRAWN BY : M.K. BEARD DATE : 3/28/07
 CHECKED BY : K.D. LAYNE DATE : 04/07

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-30
1			3			TOTAL SHEETS
2			4			52

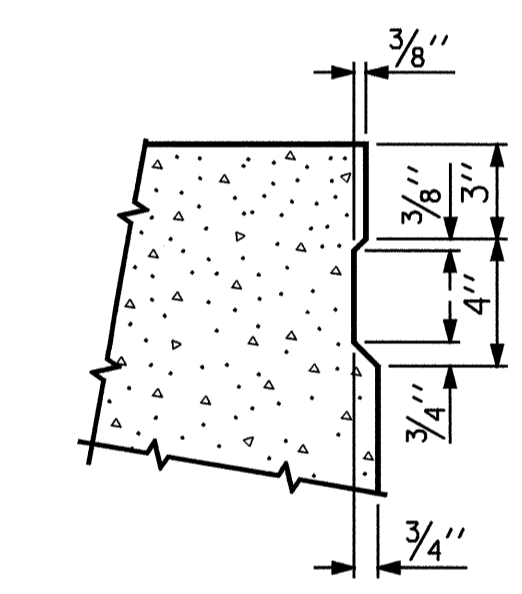


TYPICAL SECTION

*BASED ON PREDICTED CAMBER & THEORETICAL GRADE LINE ELEVATIONS

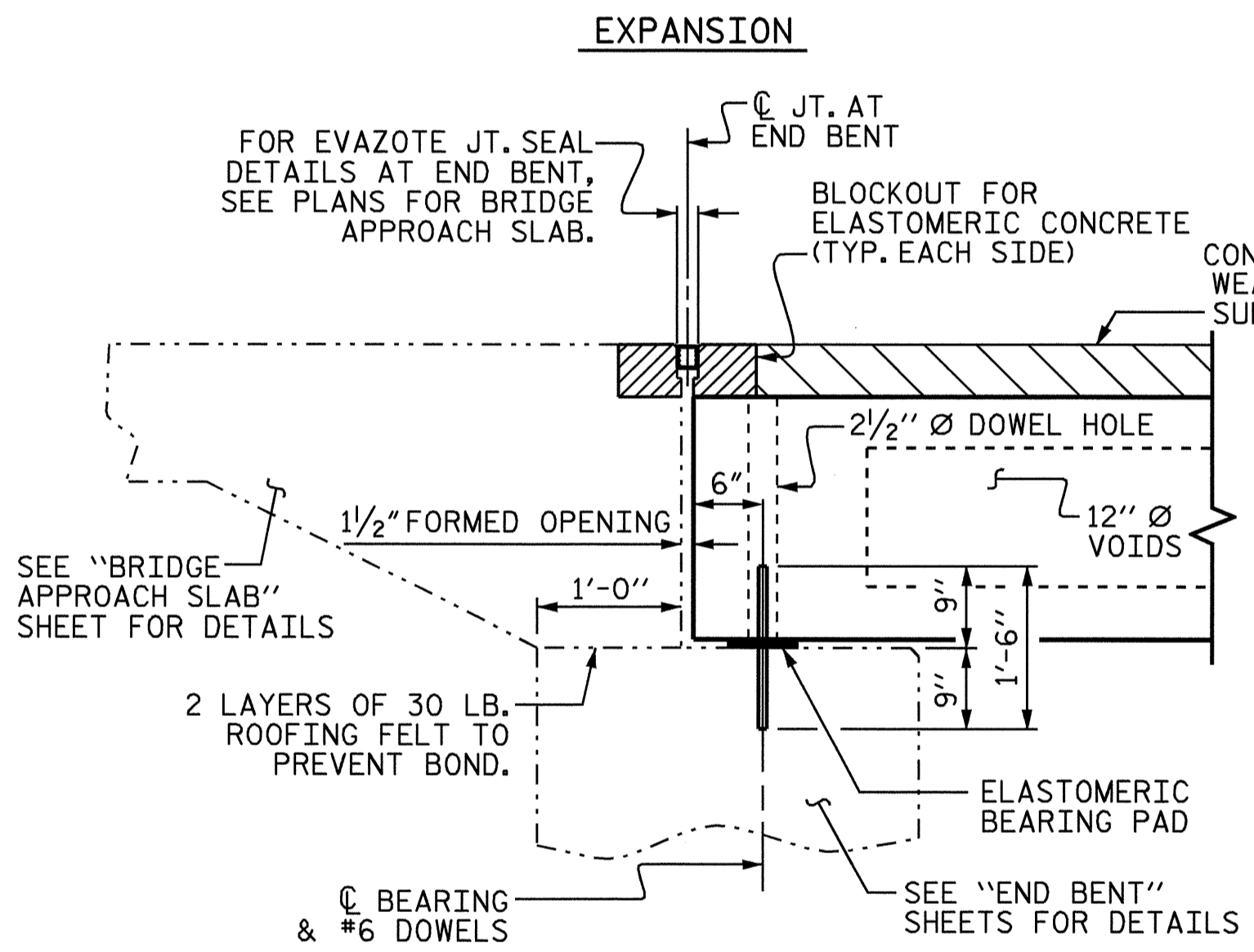


GROUTED RECESS AT END OF POST-TENSIONED STRAND-CORED SLABS

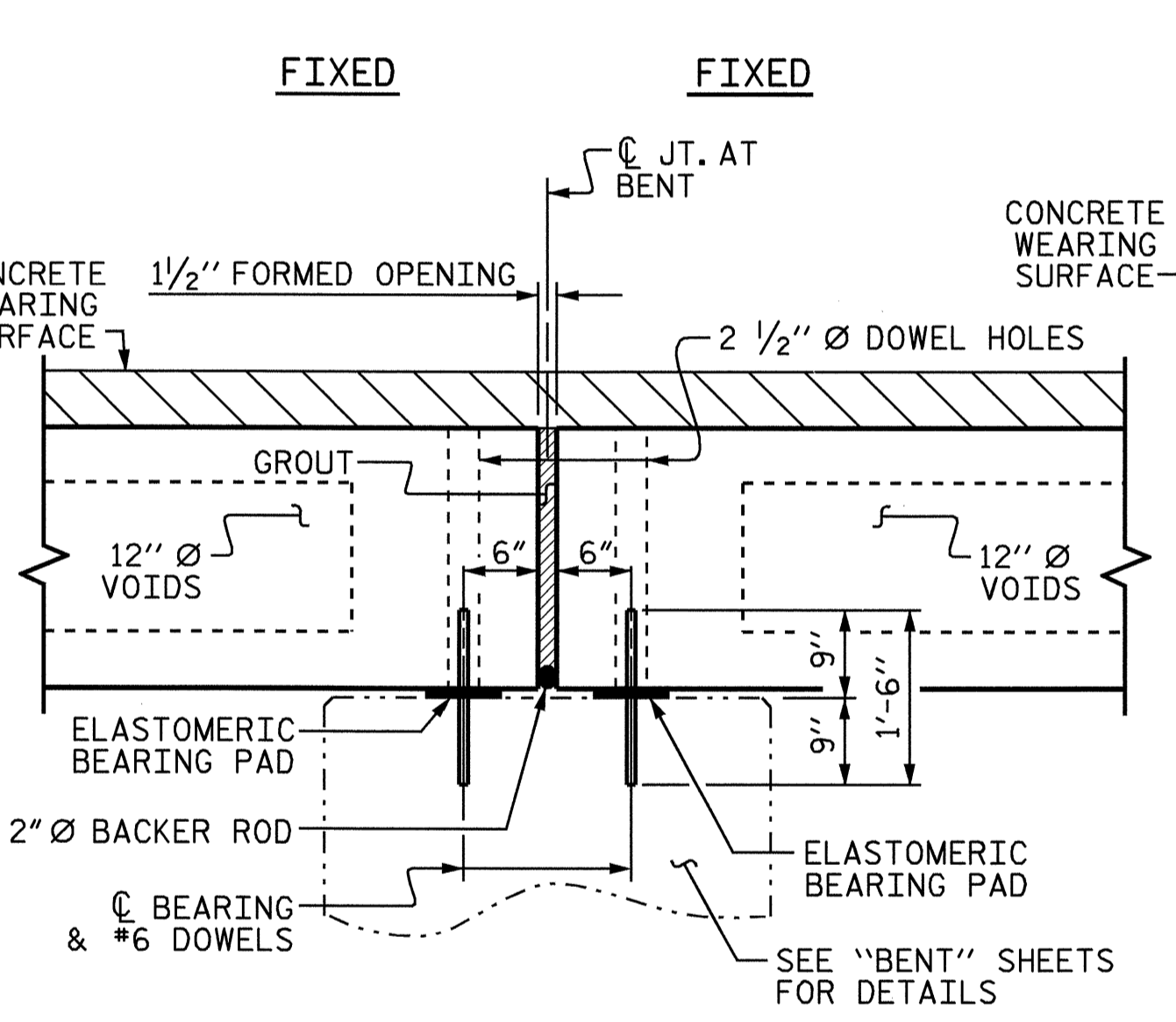


SHEAR KEY DETAIL

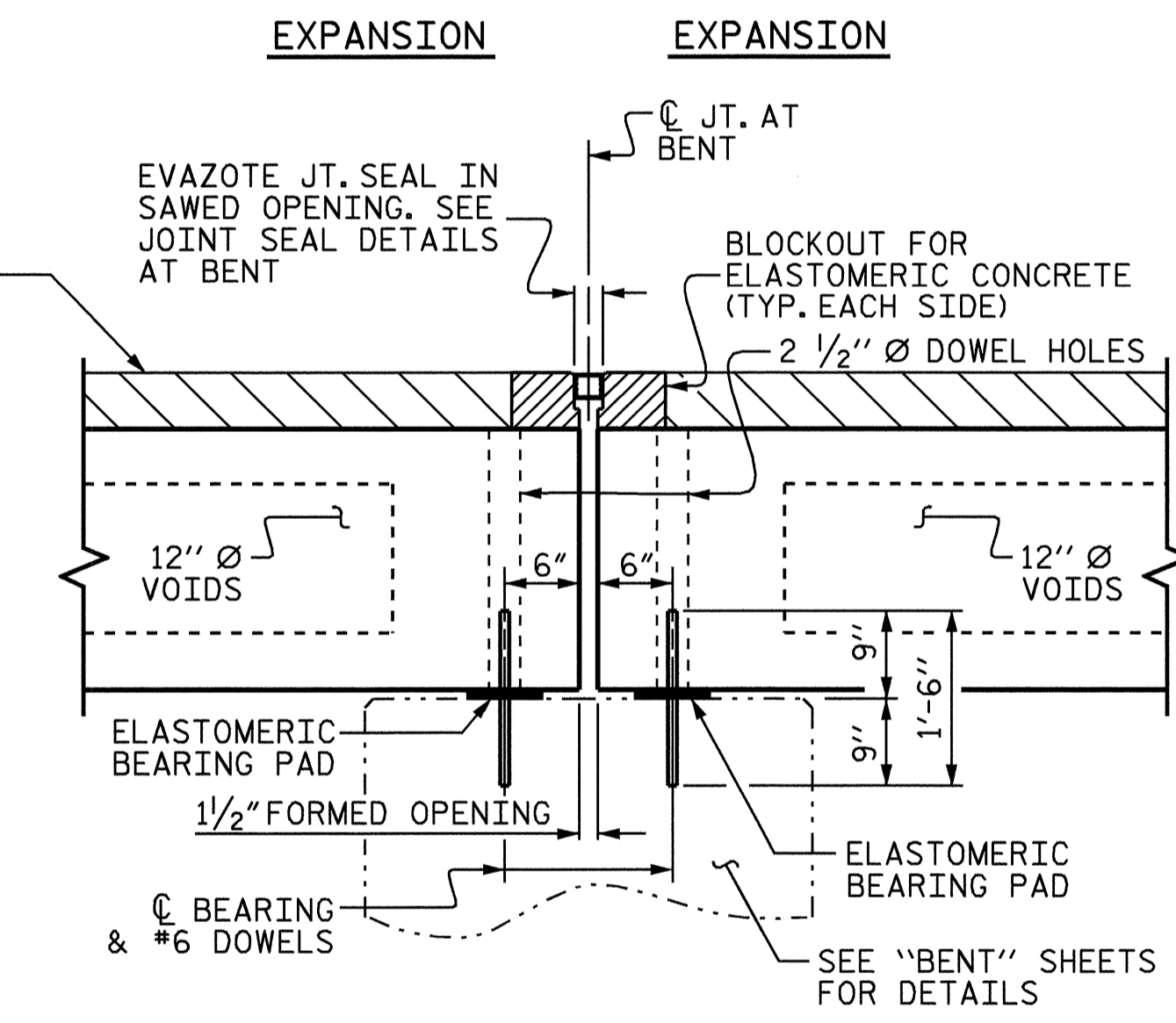
NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF EXTERIOR CORED SLABS.



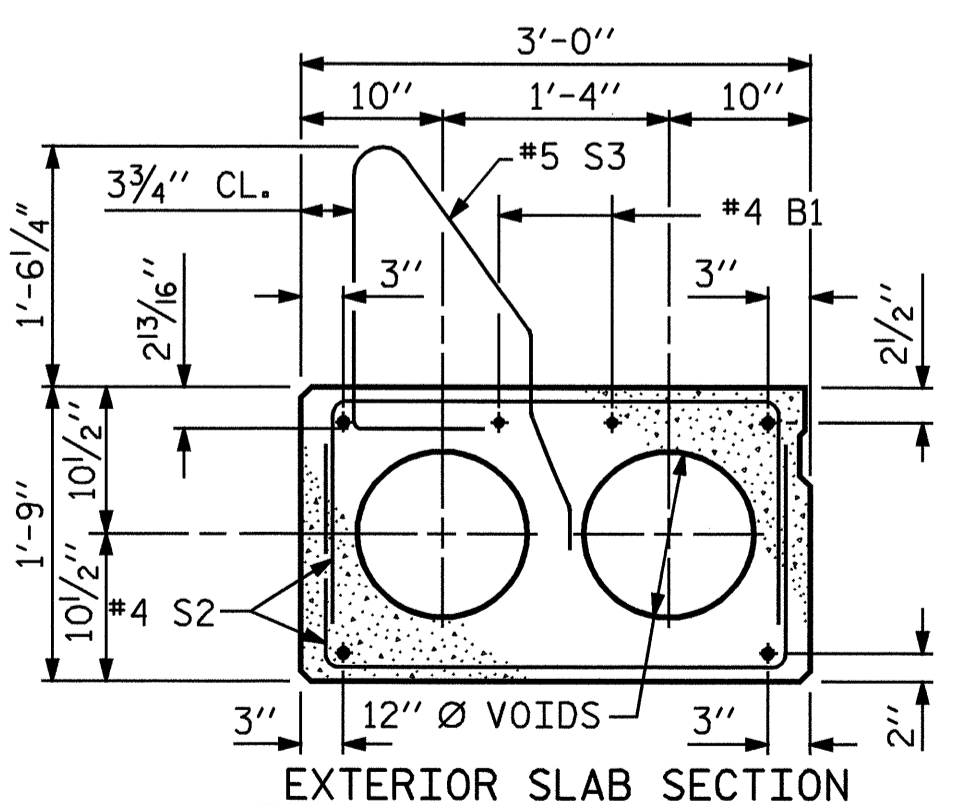
SECTION AT END BENTS



SECTION AT BENTS #1 & #3

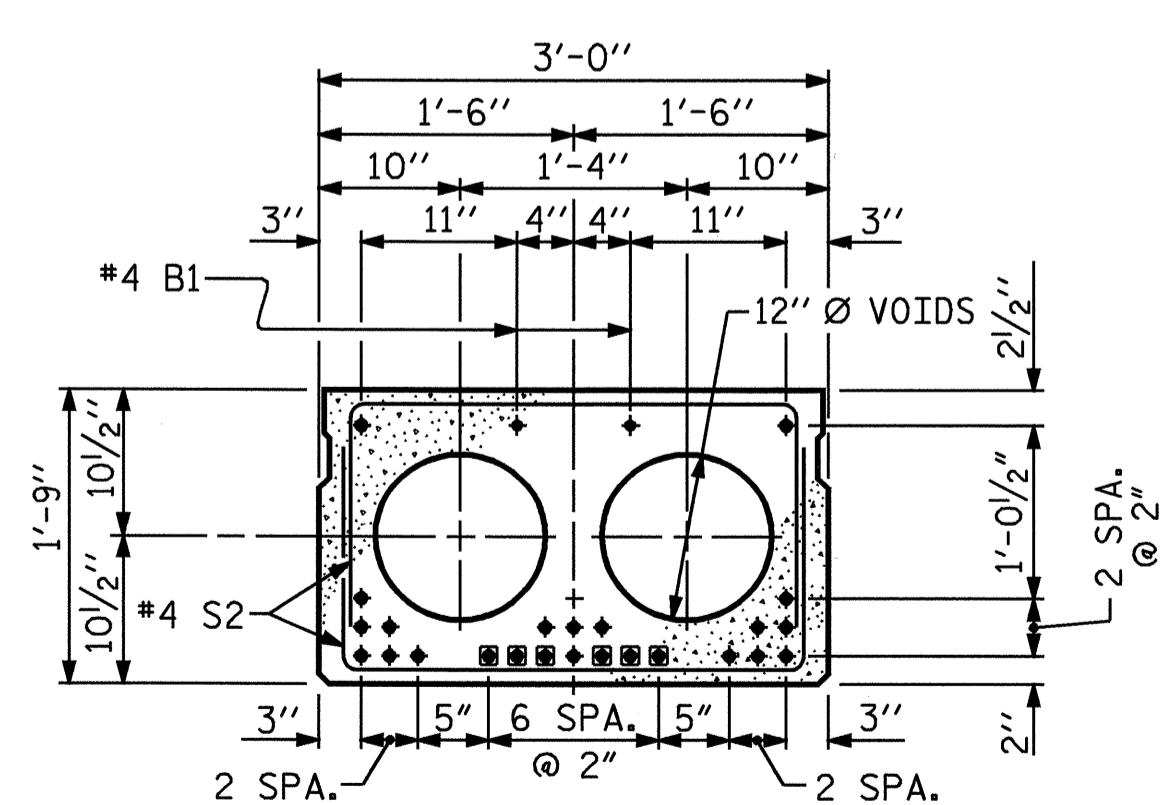


SECTION AT BENT #2



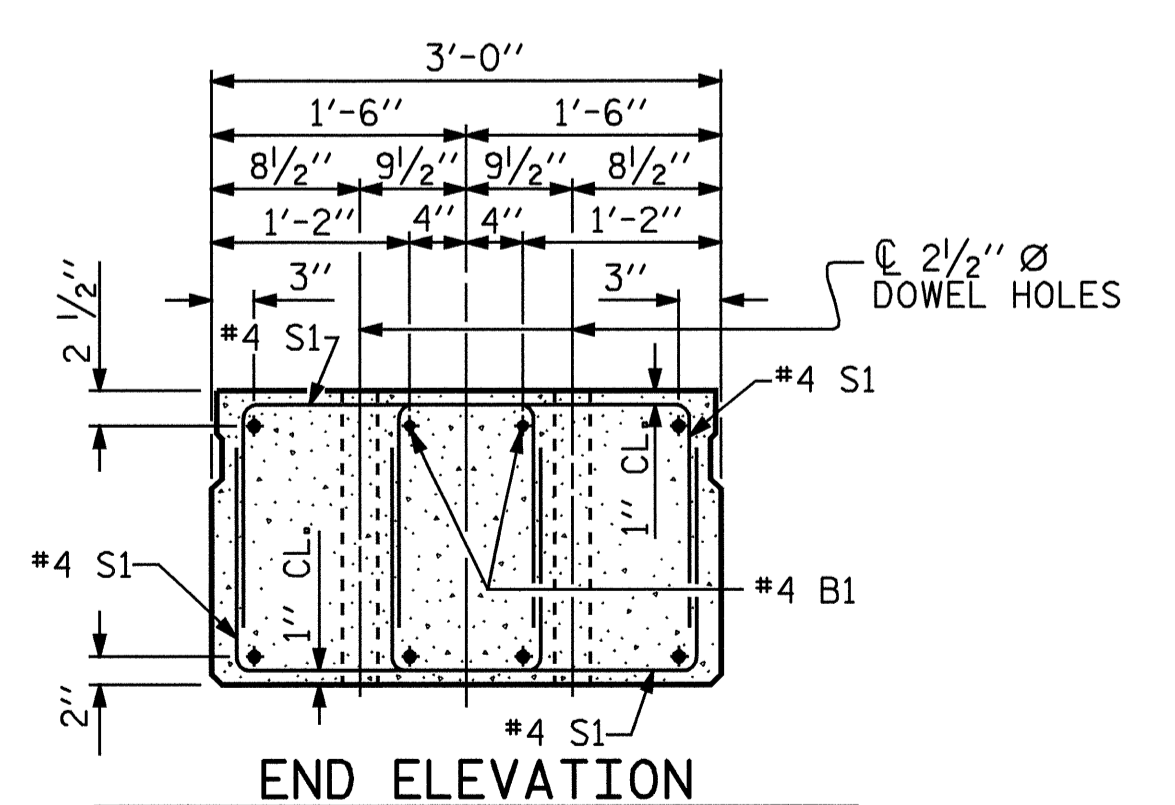
EXTERIOR SLAB SECTION

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



INTERIOR SLAB SECTION

1/2" Ø LOW RELAXATION STRAND LAYOUT

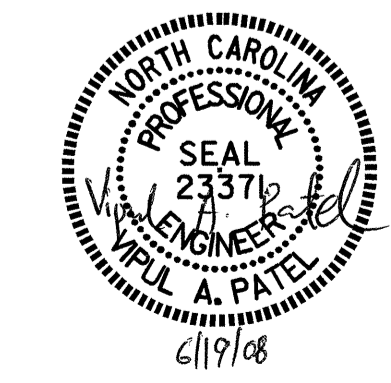


END ELEVATION

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.

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

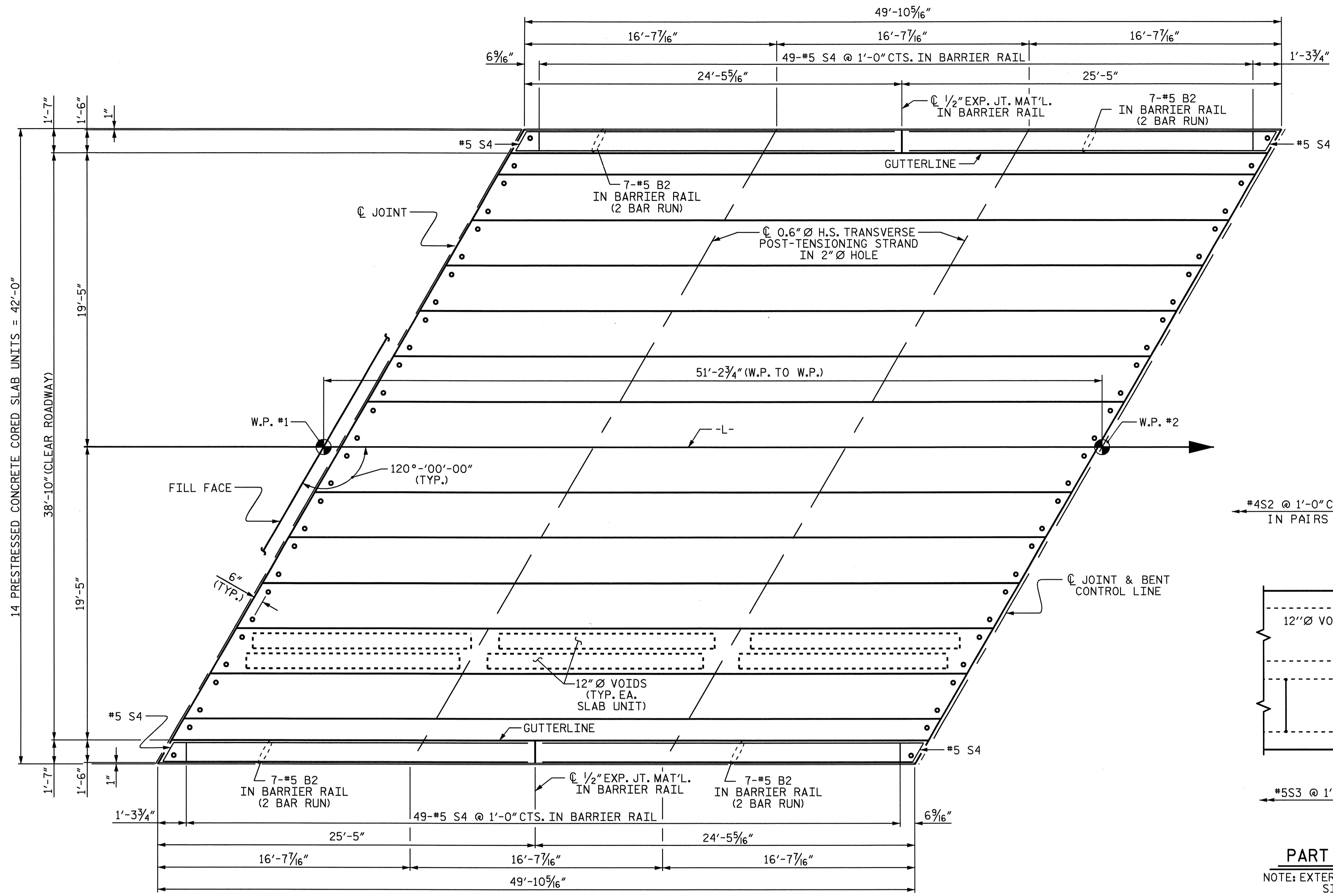
ASSEMBLED BY : M.K. BEARD	DATE : 10/28/05
CHECKED BY : K.D. LAYNE	DATE : 12/05
DRAWN BY : WJH 4/89	REV. 10/17/00 RWW/LES
CHECKED BY : FCJ 5/89	REV. 7/10/01RR RWW/LES
	REV. 5/1/06 TLA/GM



PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 38+37.00 -L-

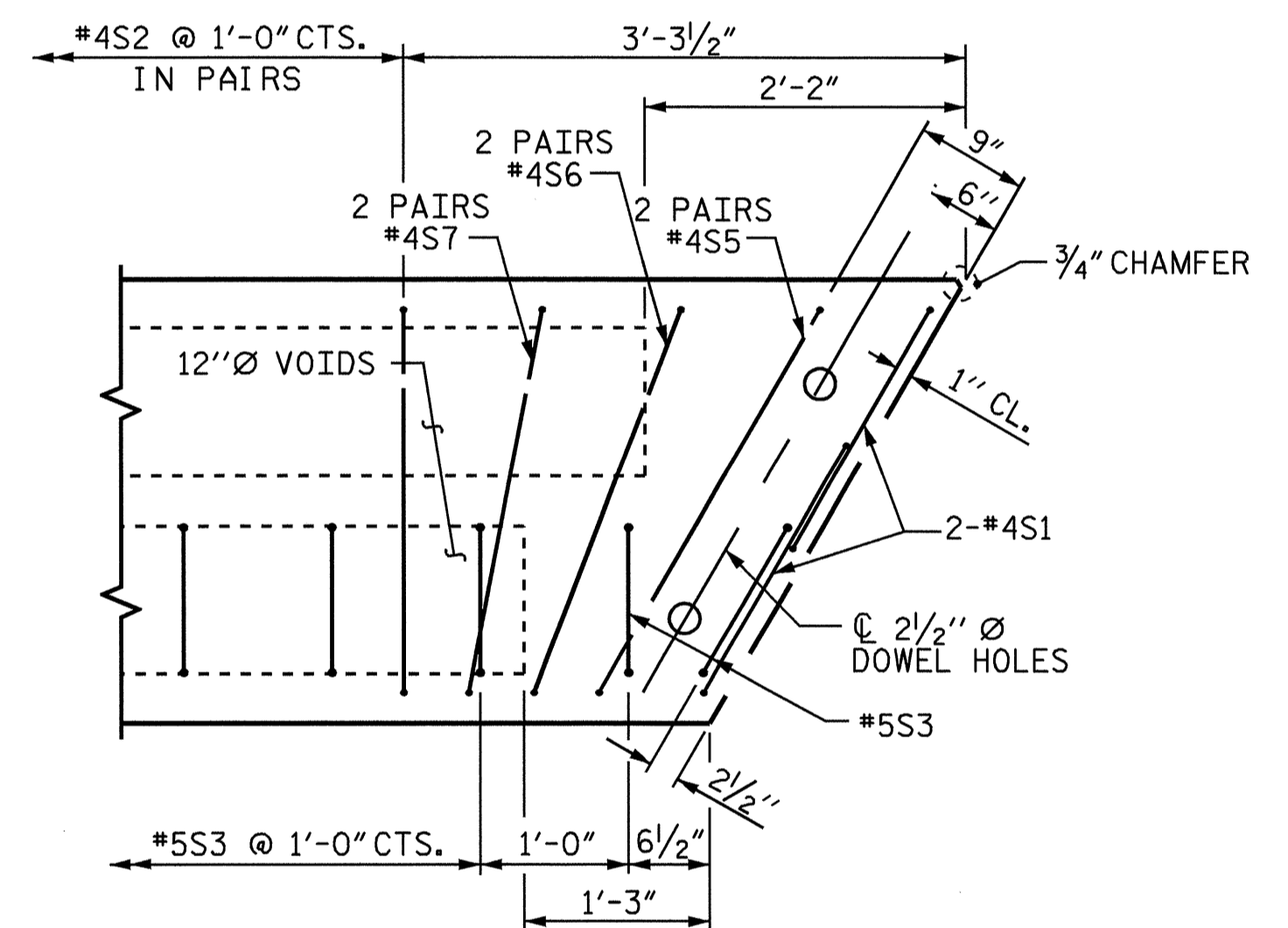
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
STANDARD
3'-0" X 1'-9"
PRESTRESSED CONCRETE
CORED SLAB UNIT

REVISIONS						SHEET NO. S-31
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 52
2			4			



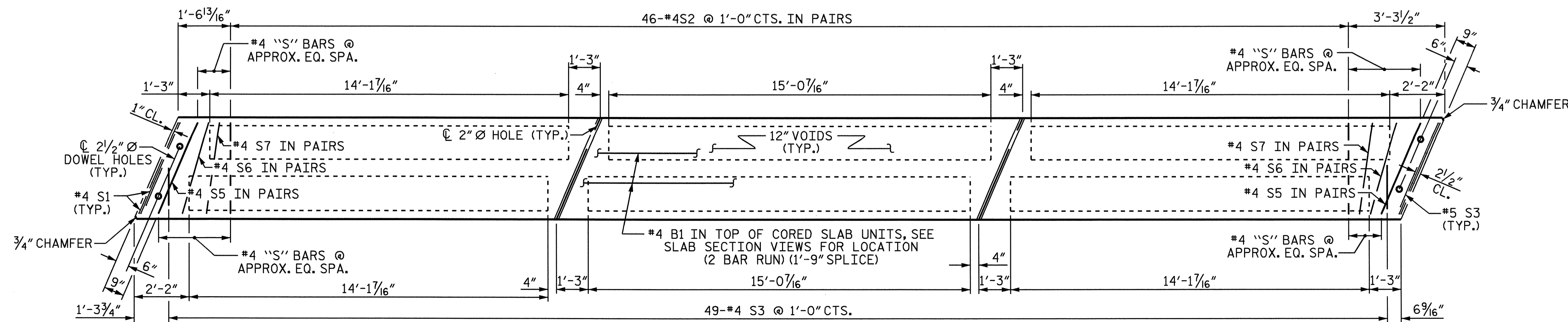
PLAN OF SPAN A

SPLICE FOR #5 B2 = 3'-5"



PART PLAN-EXTERIOR SECTION

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



PLAN OF EXTERIOR CORED SLAB UNIT (FOR SPANS A, B, C OR D)

(INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S3 BARS)

PROJECT NO. B-1382
 SAMPSON COUNTY
 STATION: 38+37.00 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 PLAN OF SPAN A

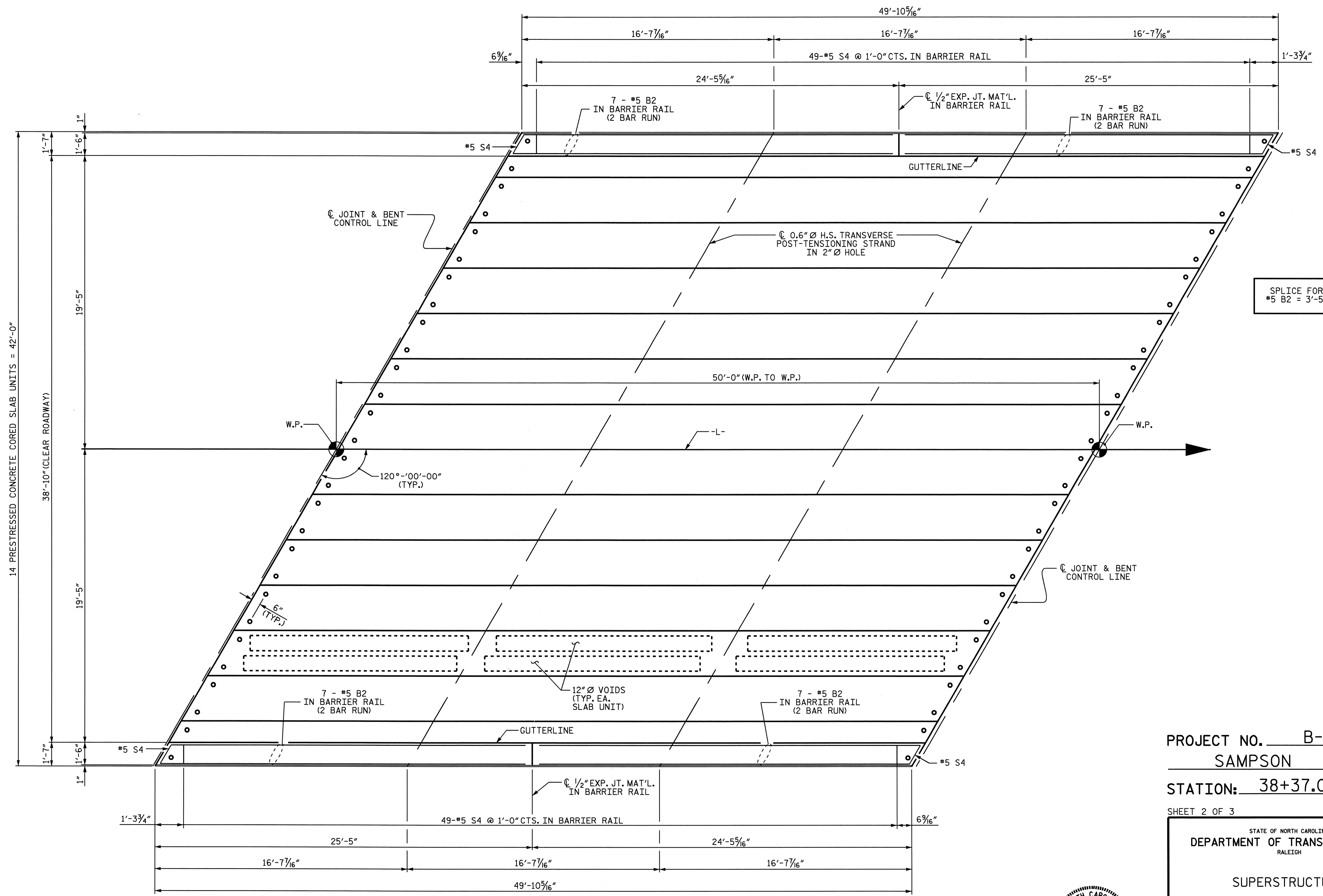


REVISIONS						SHEET NO. S-32
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 52
2			4			

DRAWN BY: M.K. BEARD DATE: 11/2/05
 CHECKED BY: K.D. LAYNE DATE: 12/05

19-JUN-2008 10:13
 r:\structures\B1382\str#2\Plans\B-1382.sd.02.cs.dgn
 chunt

STR. #2



SPLICE FOR #5 B2 = 3'-5"

PLAN OF SPAN B OR C

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 38+37.00 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

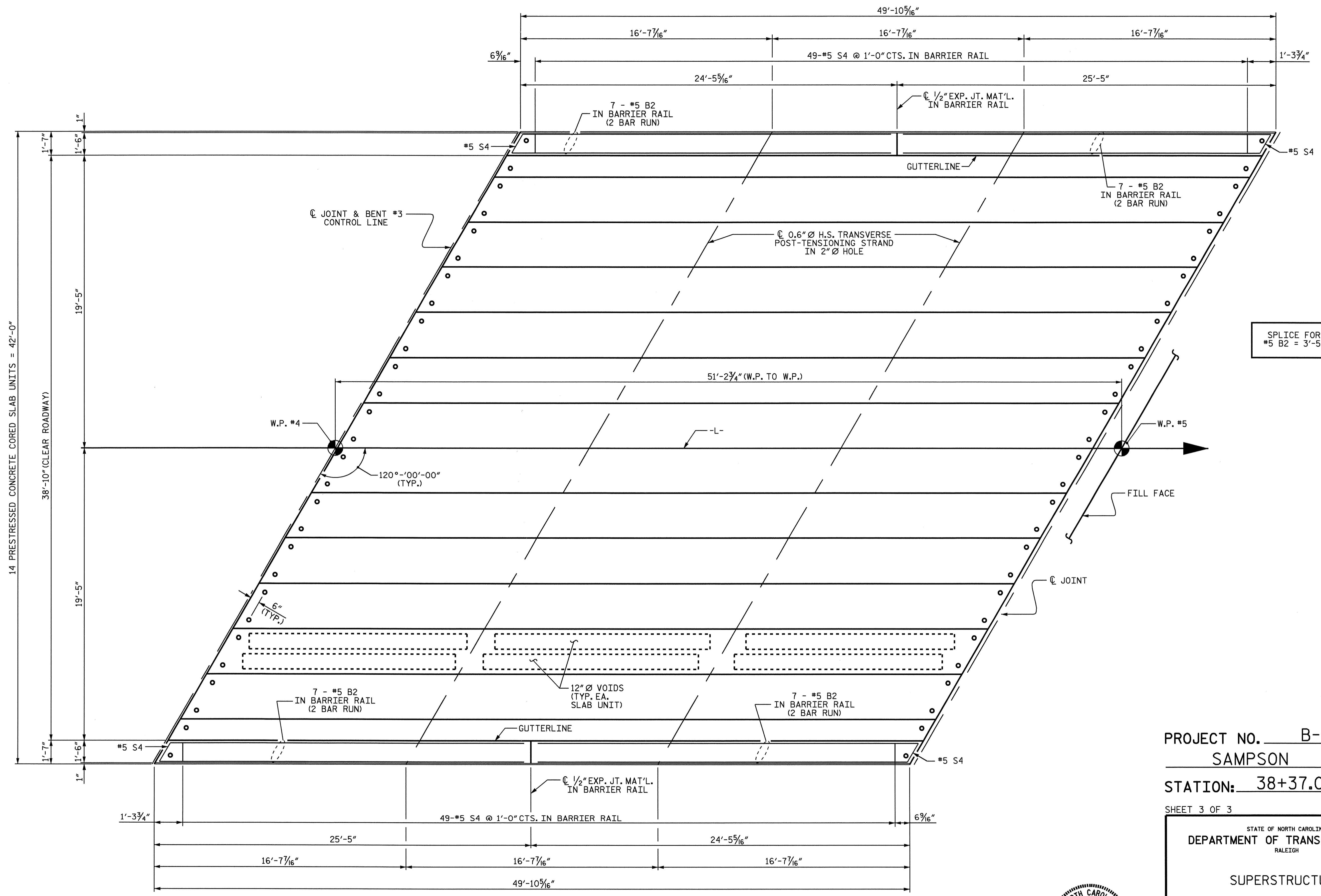
SUPERSTRUCTURE
 PLAN OF SPAN B OR C



DRAWN BY : M.K. BEARD DATE : 10/31/05
 CHECKED BY : K.D. LAYNE DATE : 12/05

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-33
1			3			TOTAL SHEETS
2			4			52

19-JUN-2008 12:26
 R:\Structures\B1382\str#2\Plans\B-1382.sd.02.CS.dgn
 sdombrowski



SPLICE FOR #5 B2 = 3'-5"

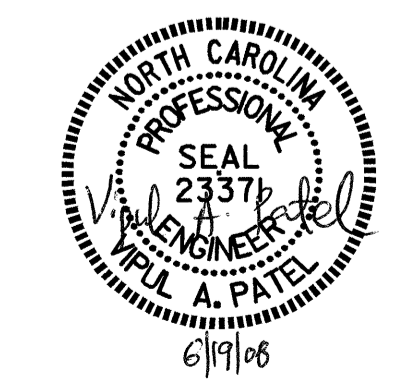
PLAN OF SPAN D

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 38+37.00 -L-
 SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 PLAN OF SPAN D

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-34
1			3			TOTAL SHEETS
2			4			52



DRAWN BY : M.K. BEARD DATE : 10/31/05
 CHECKED BY : K.D. LAYNE DATE : 12/05

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 4 - 1/8" 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 1/8" 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.)

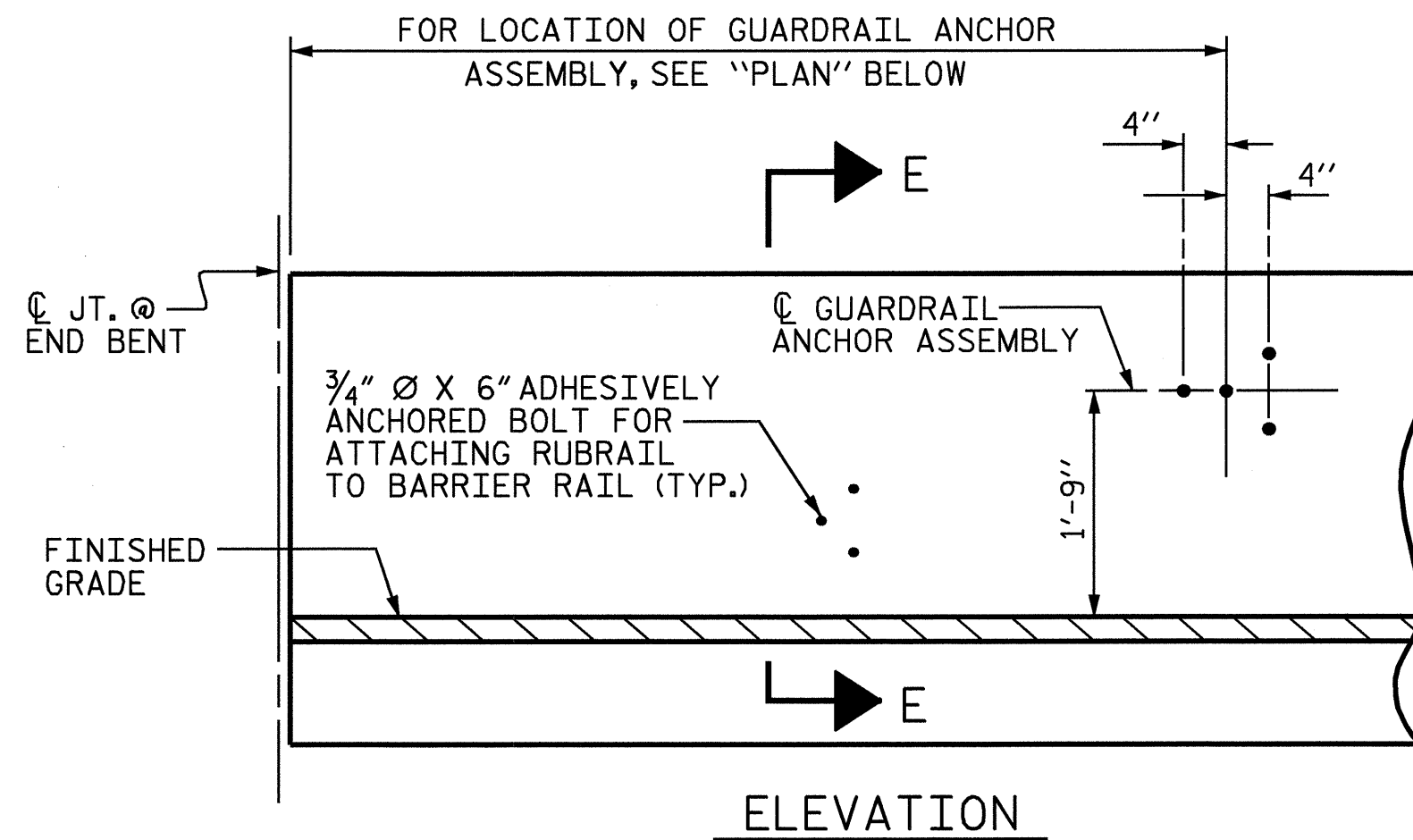
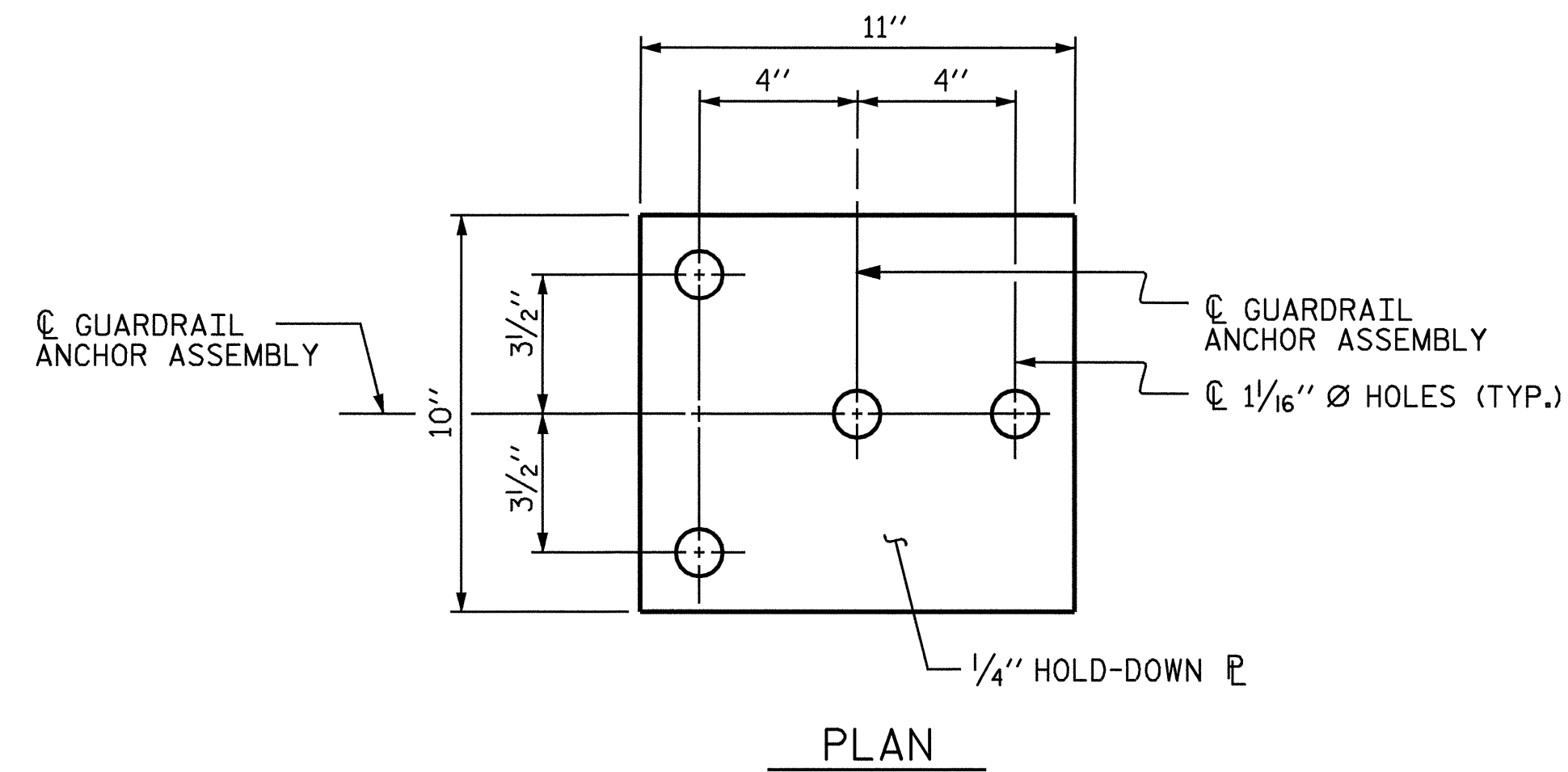
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

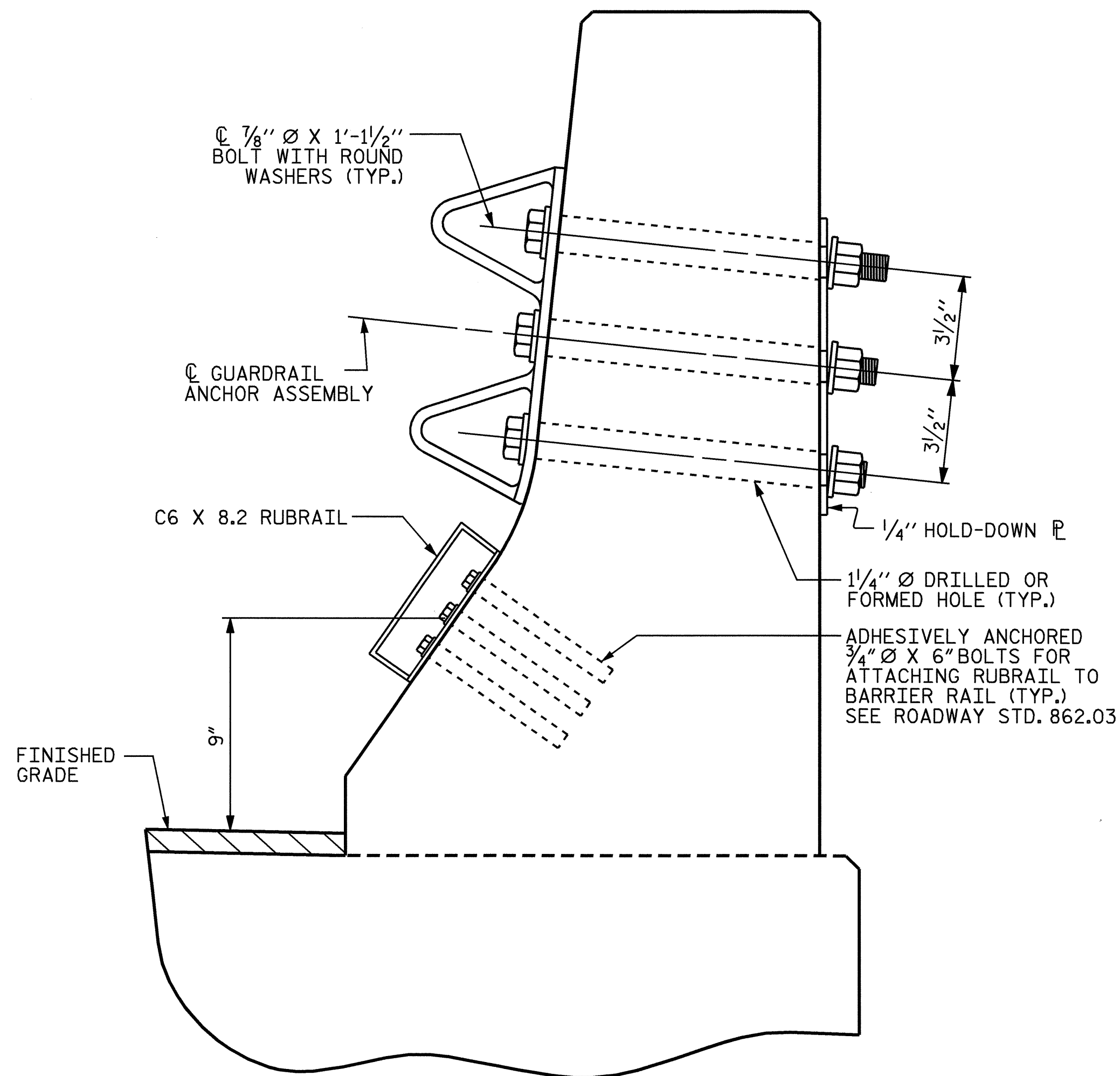
THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR CONCRETE BARRIER RAIL.

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.

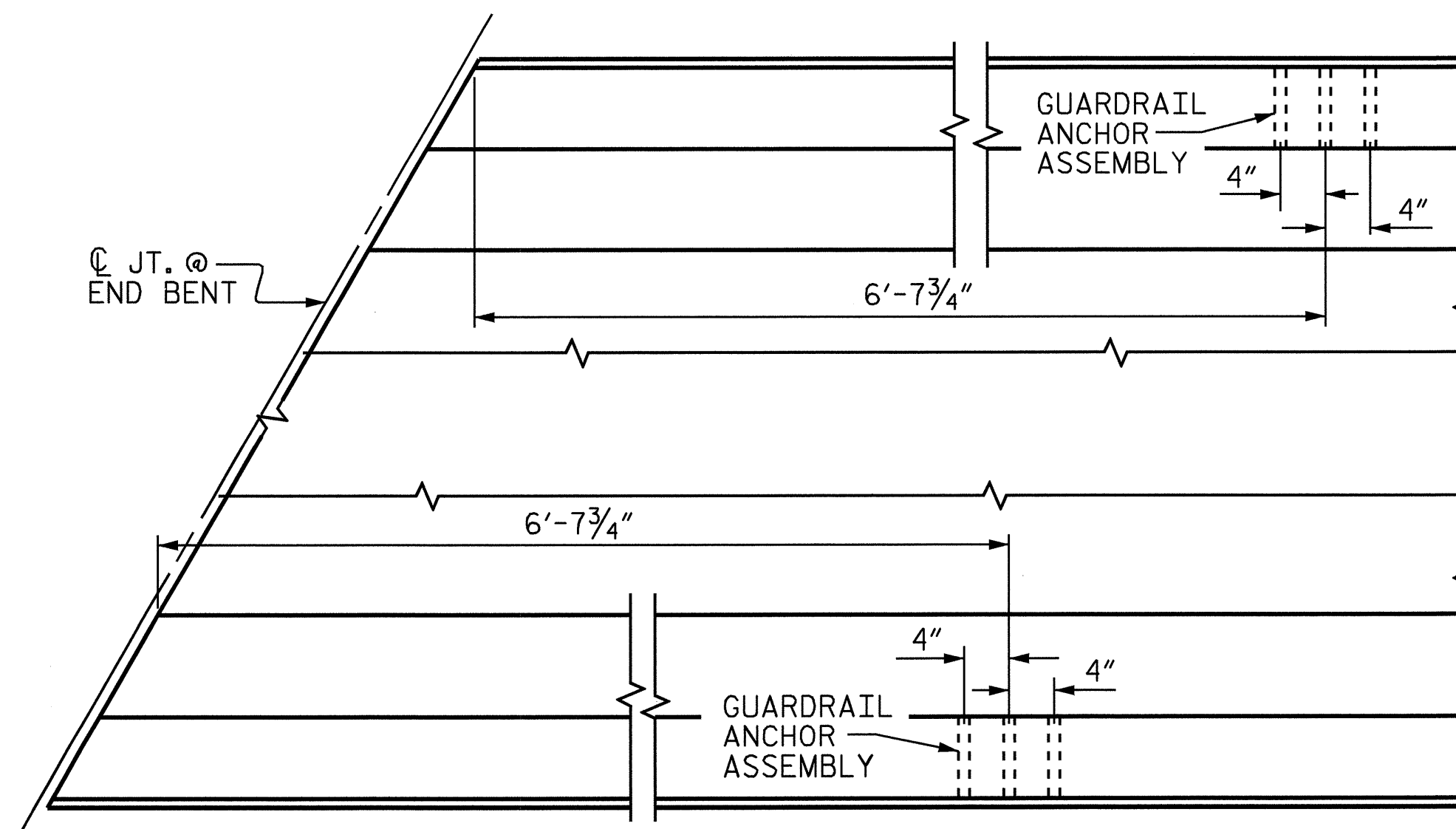
THE C6 X 8.2 RUBRAIL IS TO BE ADHESIVELY ANCHORED TO THE RAIL USING THREE 3/4" Ø X 6" BOLTS WITH WASHERS. LEVEL ONE FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE 3/4" Ø BOLT IS 12 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE SPECIAL PROVISIONS. SEE ROADWAY STANDARD 862.03 FOR DETAILS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



FOR LOCATION OF RUBRAIL, SEE ROADWAY STD. 862.03

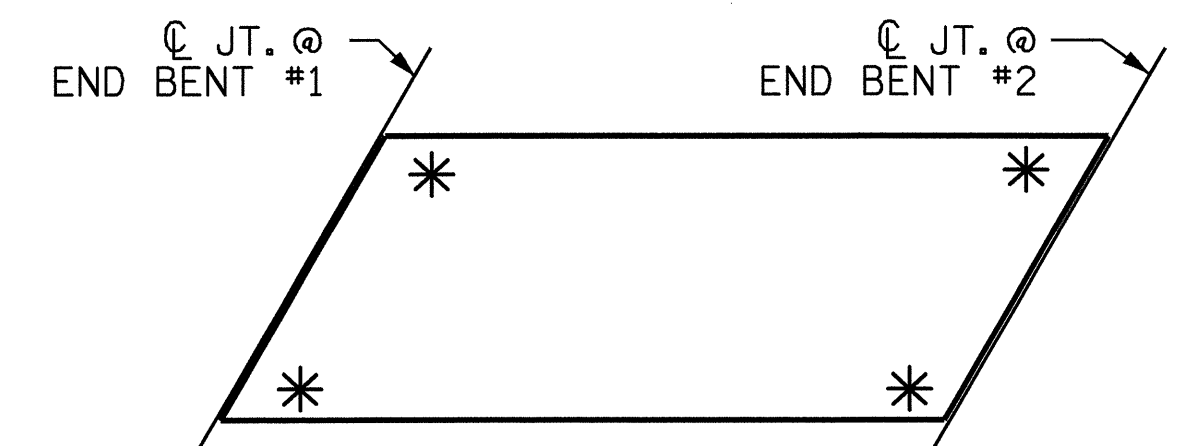


SECTION E-E
GUARDRAIL ANCHOR ASSEMBLY DETAILS



LOCATION OF ANCHORS FOR GUARDRAIL

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



SKETCH SHOWING POINTS OF ATTACHMENTS

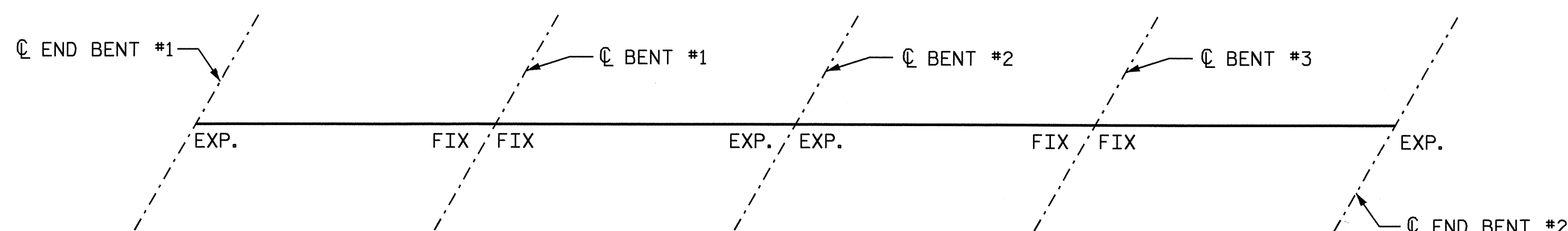
* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. B-1382
SAMPSON COUNTY
STATION: 38+37.00 -L-

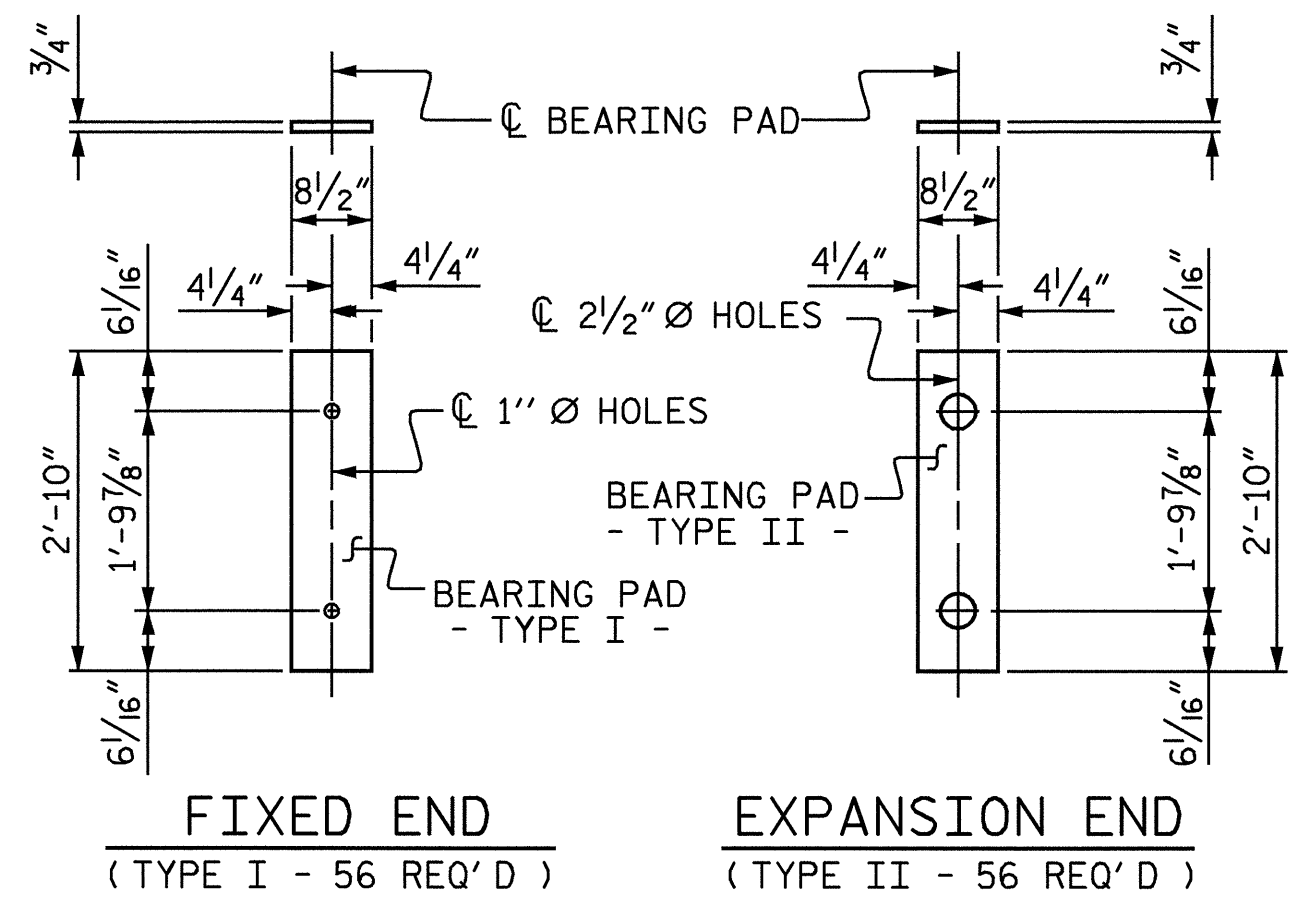
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD GUARDRAIL ANCHORAGE FOR BARRIER RAIL					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-35					TOTAL SHEETS 52



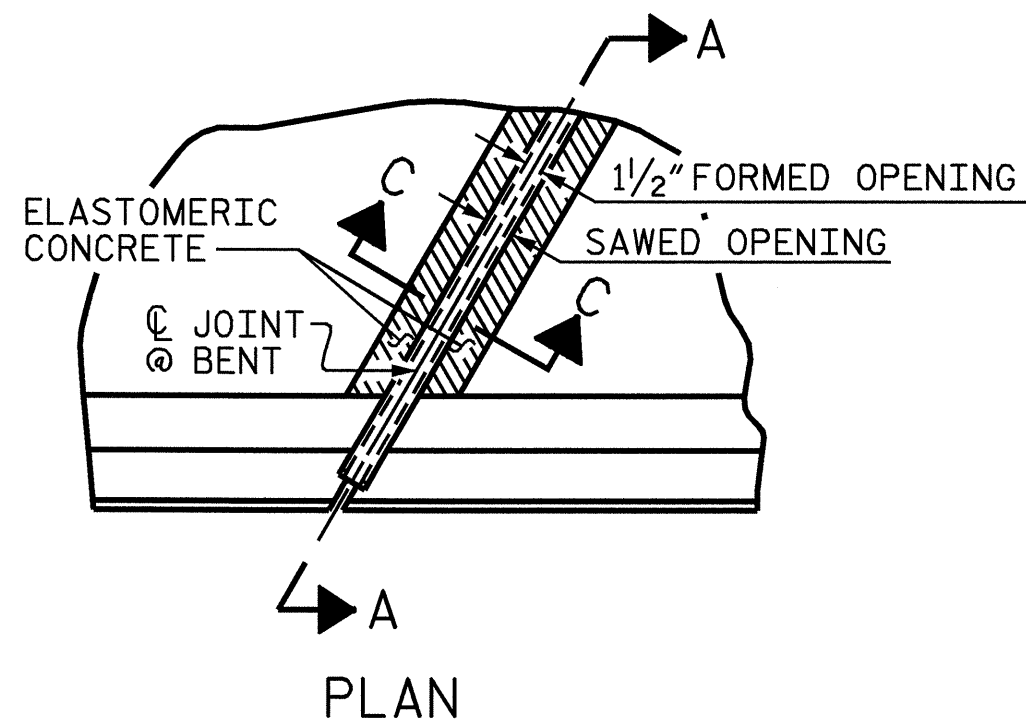
ASSEMBLED BY : M.K. BEARD DATE : 11/2/05
CHECKED BY : K.D. LAYNE DATE : 12/05
DRAWN BY : TLA 5/06 ADDED 5/1/06R KMM/GM
CHECKED BY : GM 5/06



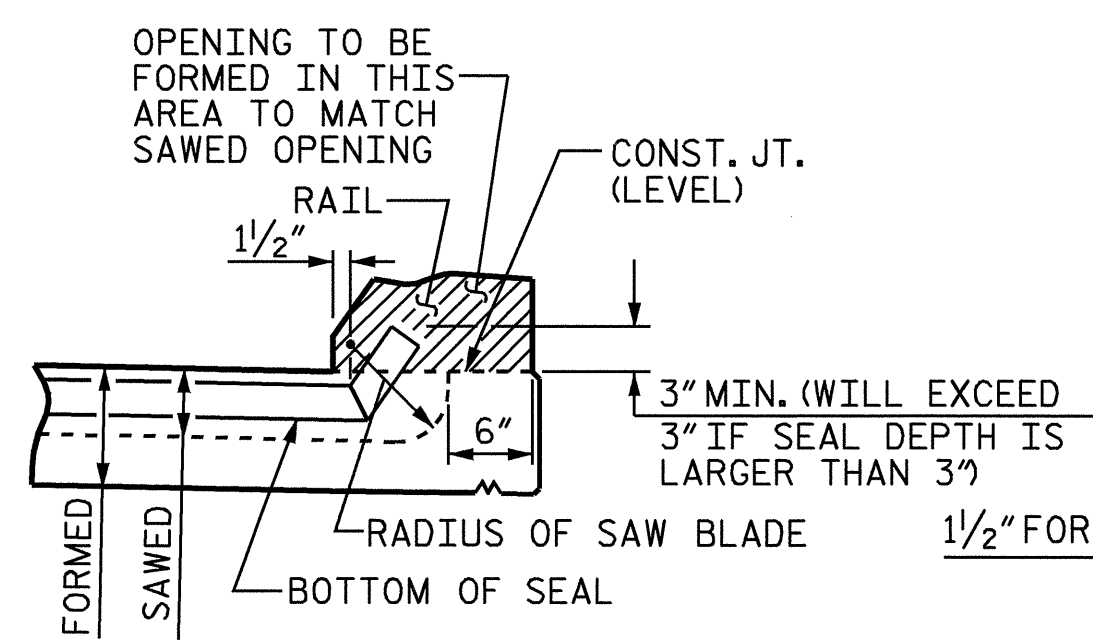
ELASTOMERIC BEARING LOCATION SKETCH



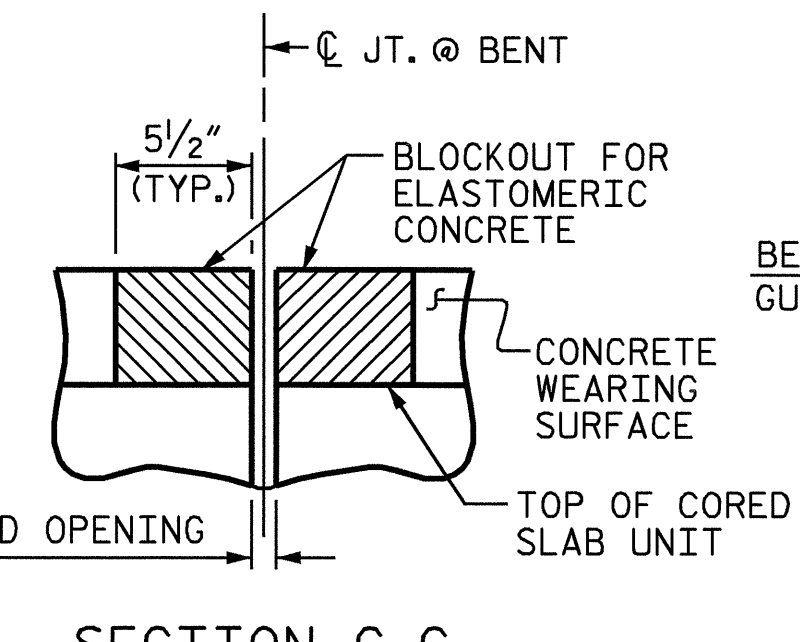
ELASTOMERIC BEARING DETAILS



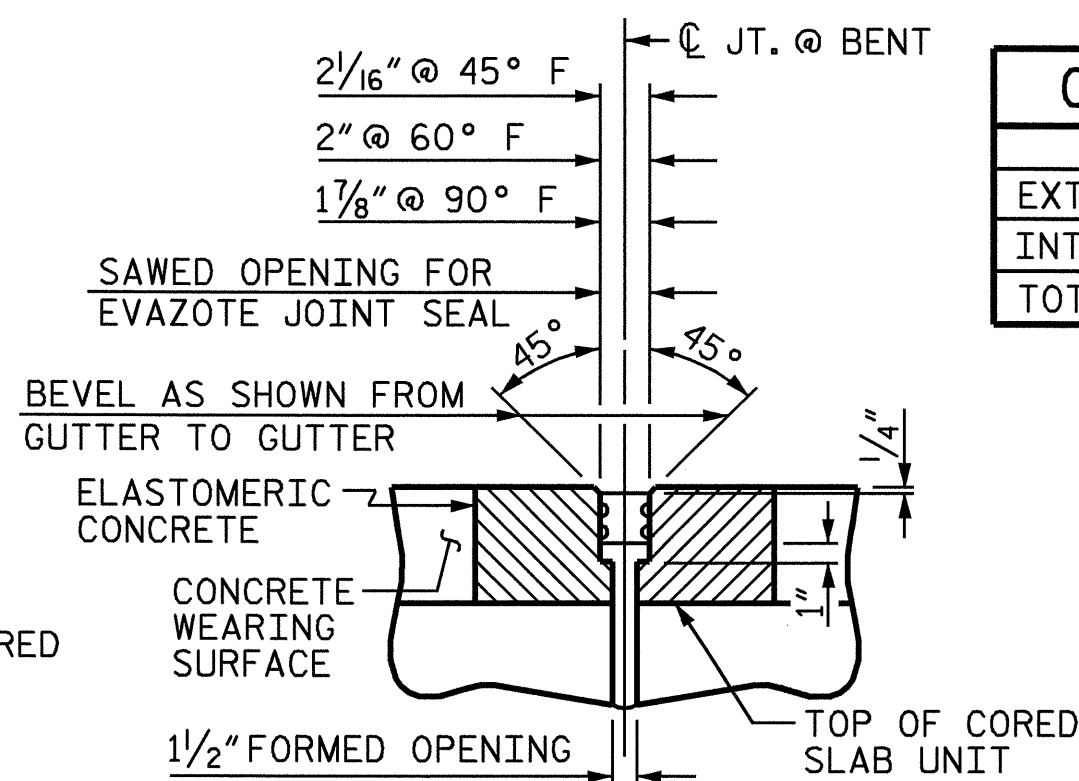
PLAN



SECTION A-A



SECTION C-C
EVAZOTE JOINT SEAL
(PRE-SAWED ELASTOMERIC
CONCRETE DIMENSIONS)

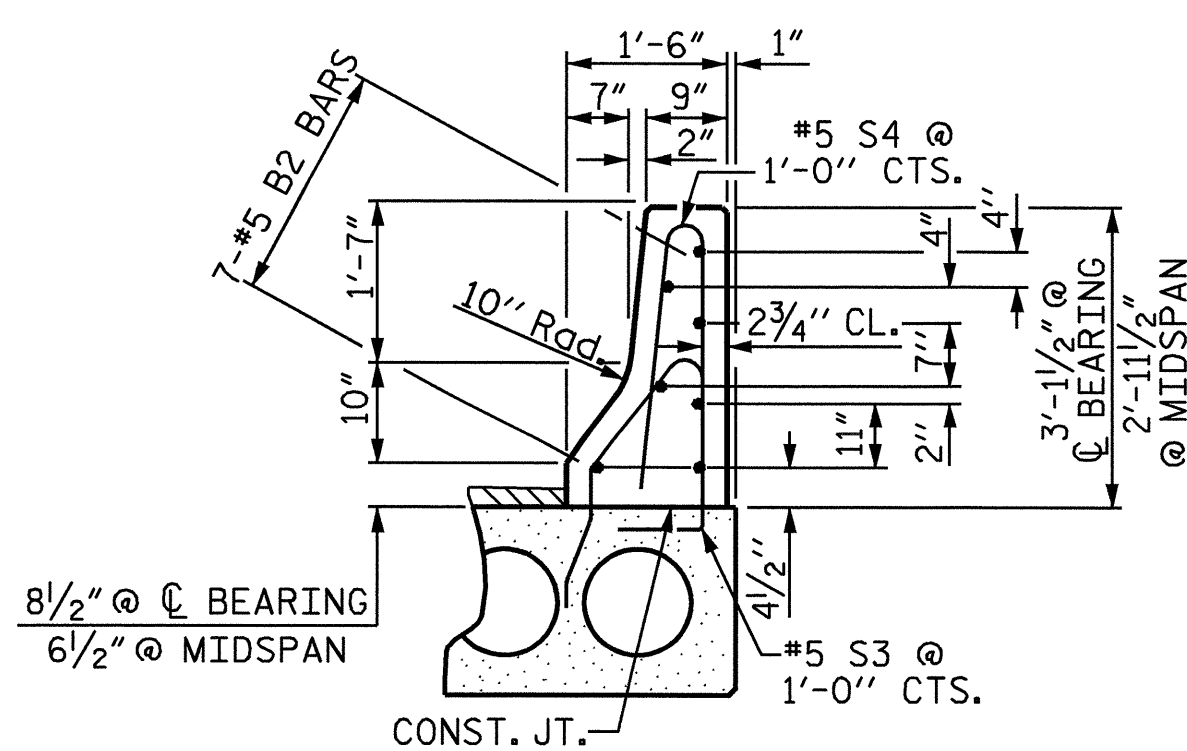


SECTION C-C
EVAZOTE JOINT SEAL

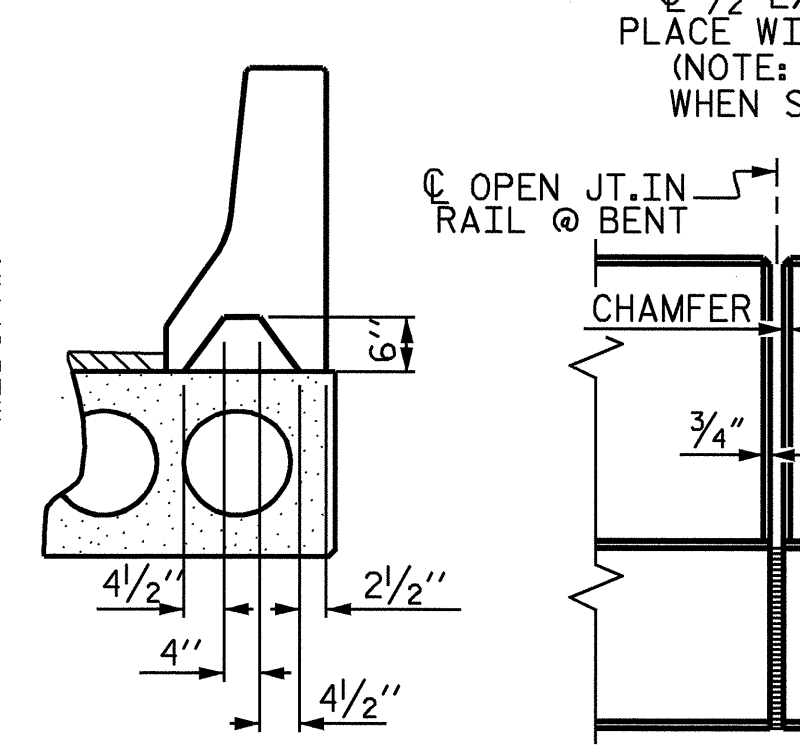
EVAZOTE JOINT SEAL TO BE CUT, HEAT WELDED AND TURNED UP PARALLEL TO THE SLOPED FACE OF THE BARRIER RAIL.

JOINT SEAL DETAILS AT BENT #2

(SHOWING PARTIAL DEPTH BLOCKOUT)

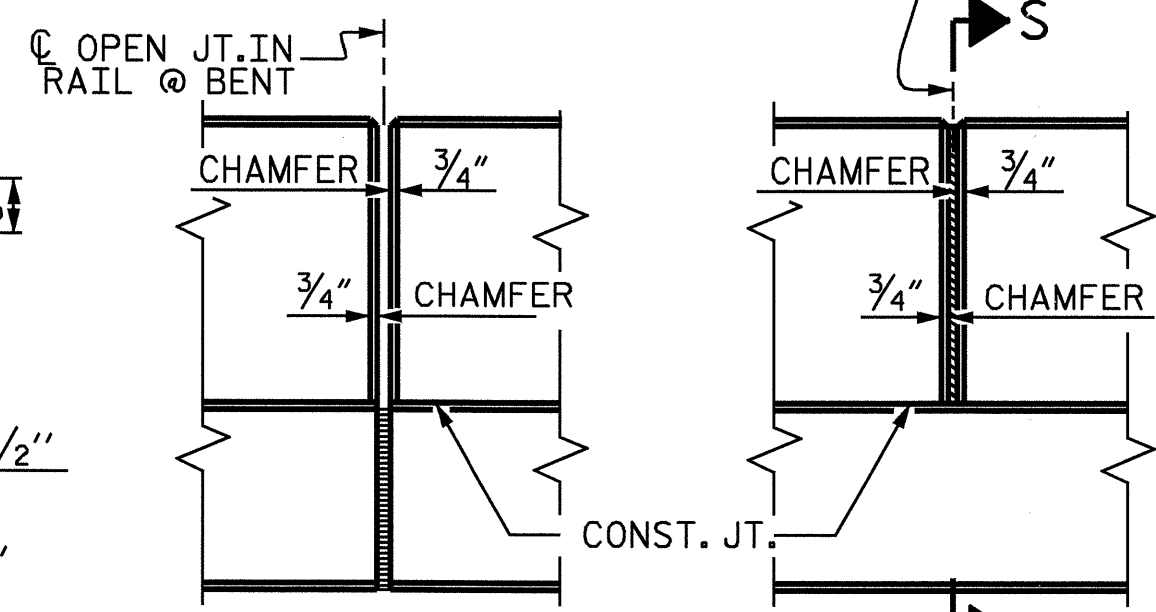


SECTION THRU RAIL



SECTION S-S
AT DAM IN OPEN JOINT
(THIS IS TO BE USED ONLY
WHEN SLIP FORM IS USED)

1/2" EXP. JT. MAT'L HELD IN PLACE WITH GALVANIZED NAILS. (NOTE: OMIT EXP. JT. MAT'L WHEN SLIP FORM IS USED.)

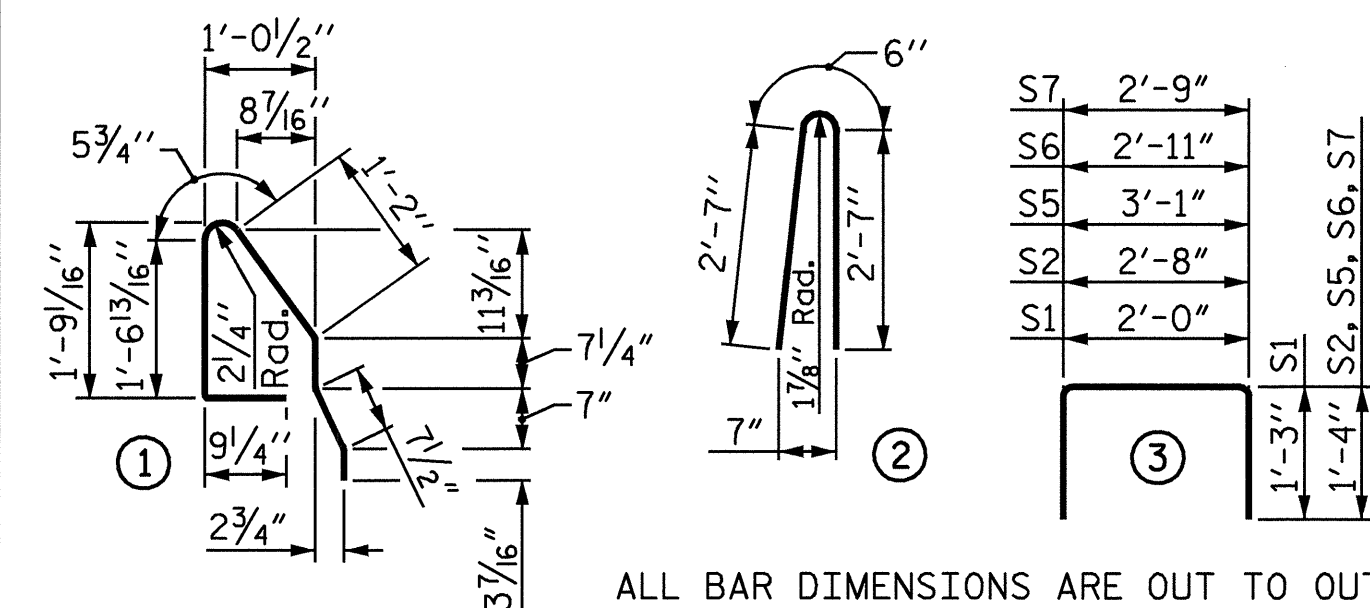


ELEVATION AT EXPANSION JOINTS

BARRIER RAIL DETAILS

ASSEMBLED BY : M.K. BEARD DATE : 11/2/05
CHECKED BY : K.D. LAYNE DATE : 12/05
DRAWN BY : WJH 4/89 REV. 10/17/00 RWW/LES
CHECKED BY : FCJ 5/89 REV. 7/10/01 RWW/LES
REV. 5/7/03RRR RWW/JTE

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR ONE CORED SLAB UNIT

BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B1	4	# 4	STR	25'-8"	69	25'-8"	69
S1	8	# 4	3	4'-6"	24	4'-6"	24
S2	92	# 4	3	5'-4"	328	5'-4"	328
* S3	51	# 5	1	5'-6"	293		
S5	4	# 4	3	5'-9"	15	5'-9"	15
S6	4	# 4	3	5'-7"	15	5'-7"	15
S7	4	# 4	3	5'-5"	14	5'-5"	14
REINFORCING STEEL				465 LBS.		465 LBS.	
* EPOXY COATED REINFORCING STEEL				293 LBS.			
6,000 P.S.I. CONCRETE				7.2 CU. YDS.		7.2 CU. YDS.	
1/2" Ø L.R. STRANDS				No. 24		No. 24	

CORED SLABS REQUIRED			
	No.	LENGTH	TOT. LENGTH
EXTERIOR C.S.	8	49'-10 5/16"	398'-10 1/2"
INTERIOR C.S.	48	49'-10 5/16"	2393'-3"
TOTAL	56		2792'-1 1/2"

GRADE 270 STRANDS	
	1/2" Ø L.R.
AREA (SQUARE INCHES)	0.153
ULTIMATE STRENGTH (LBS. PER STRAND)	41,300
APPLIED PRESTRESS (LBS. PER STRAND)	30,980

DEAD LOAD DEFLECTION AND CAMBER	
	3'-0" x 1'-9"
	1/2" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	2 3/8" ↑
DEFLECTION DUE TO ** SUPERIMPOSED DEAD LOAD	3 1/8" ↓
FINAL CAMBER	2 3/8" ↑

** DOES NOT INCLUDE DEFLECTION DUE TO RAIL & FUTURE WEARING SURFACE

BILL OF MATERIAL FOR CONCRETE BARRIER RAIL									
BAR	BARS PER SPAN				TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	SPAN A	SPAN B	SPAN C	SPAN D					
* B2	56	56	56	56	224	#5	STR	14'-0"	3271
* S4	102	102	102	102	408	#5	2	5'-8"	2412
* EPOXY COATED REINFORCING STEEL								5683 LBS.	
CLASS AA CONCRETE								50.2 CU. YDS.	
TOTAL LIN. FT. OF CONCRETE BARRIER RAIL								399.72 LIN. FT.	

GROOVING BRIDGE FLOORS	
APPROACH SLABS	968 SQ. FT.
BRIDGE DECK	7054 SQ. FT.
TOTAL	8022 SQ. FT.

ELASTOMERIC CONCRETE	
BENT NO.	ELASTOMERIC CONCRETE (CU. FT.)
2	20.0
TOTAL	20.0

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 GROUT. THE 2 1/2" Ø DOWEL HOLES AT EXPANSION ENDS OF SLAB SECTIONS SHALL BE FILLED WITH JOINT SEALER MATERIAL TO 1/2" ABOVE THE TOP OF DOWELS AND THEN FILLED WITH GROUT.

THE JOINT SEALER MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TYPE SL LOW MODULUS SILICONE SEALANT. 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 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.

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.

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 GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

FOR EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE EVAZOTE JOINT SEALS SHALL BE 2 1/2" AT BENT 2.

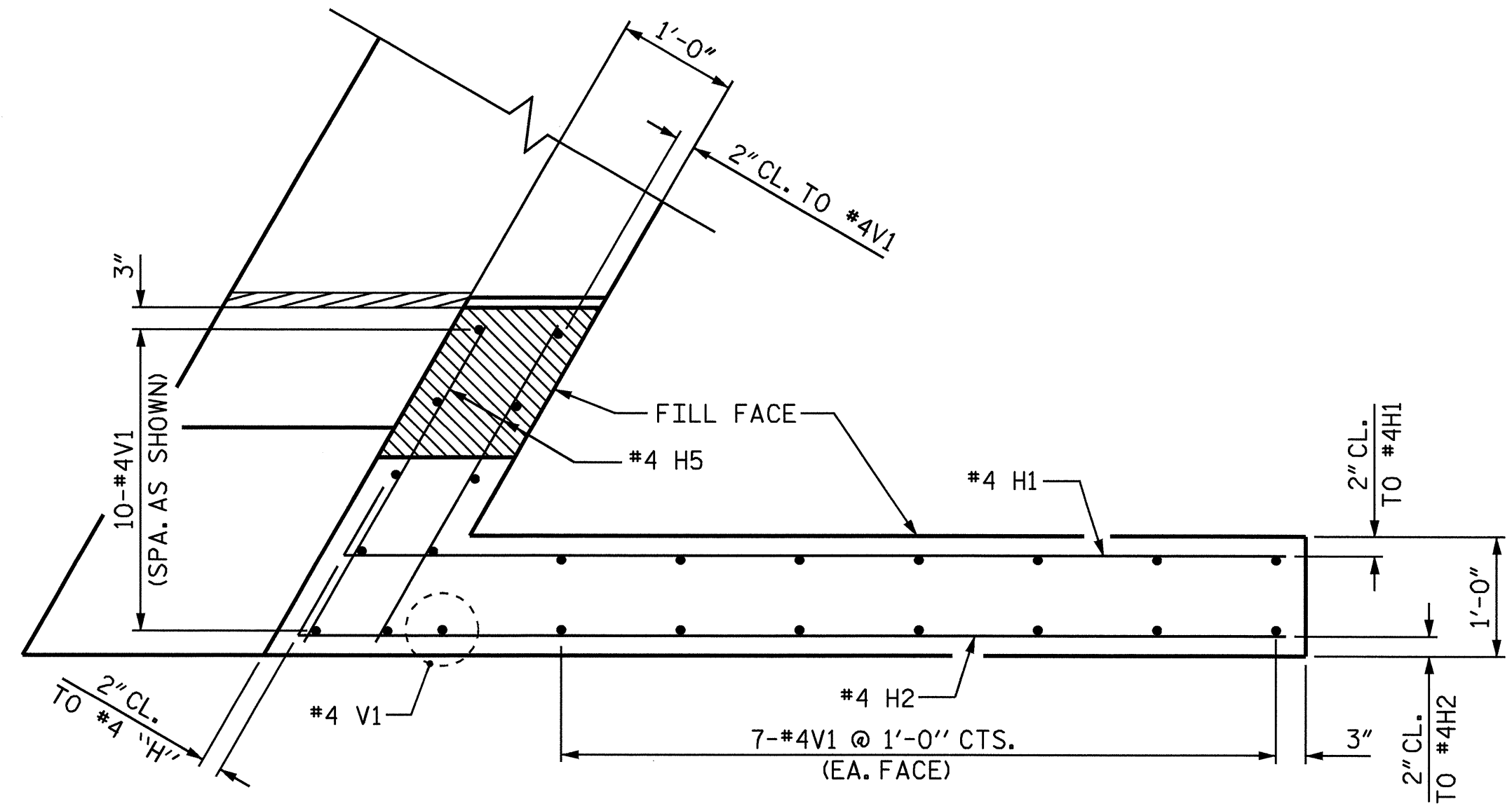
FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

PROJECT NO. B-1382
SAMPSON COUNTY
STATION: 38+37.00 -L-

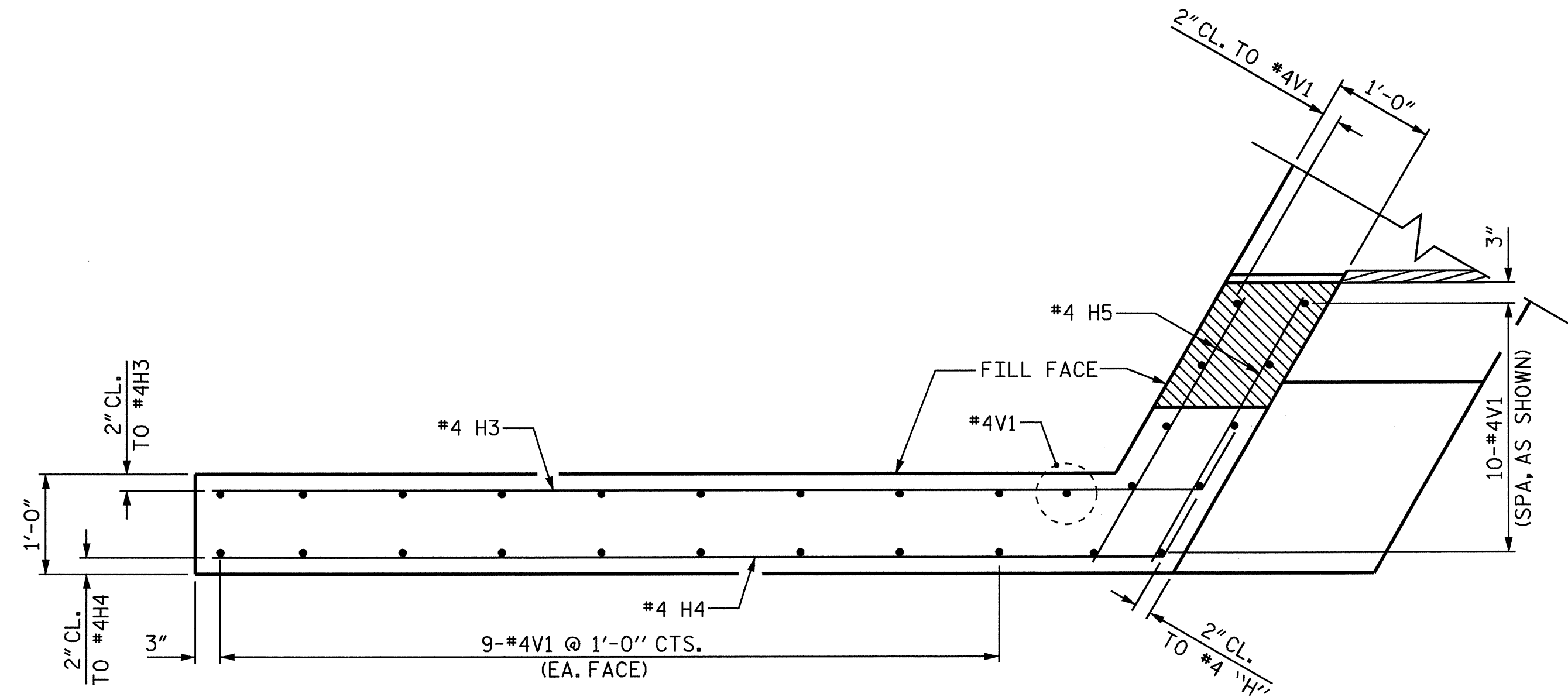


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**STANDARD
3'-0" X 1'-9"
PRESTRESSED
CONCRETE CORED
SLAB UNIT**

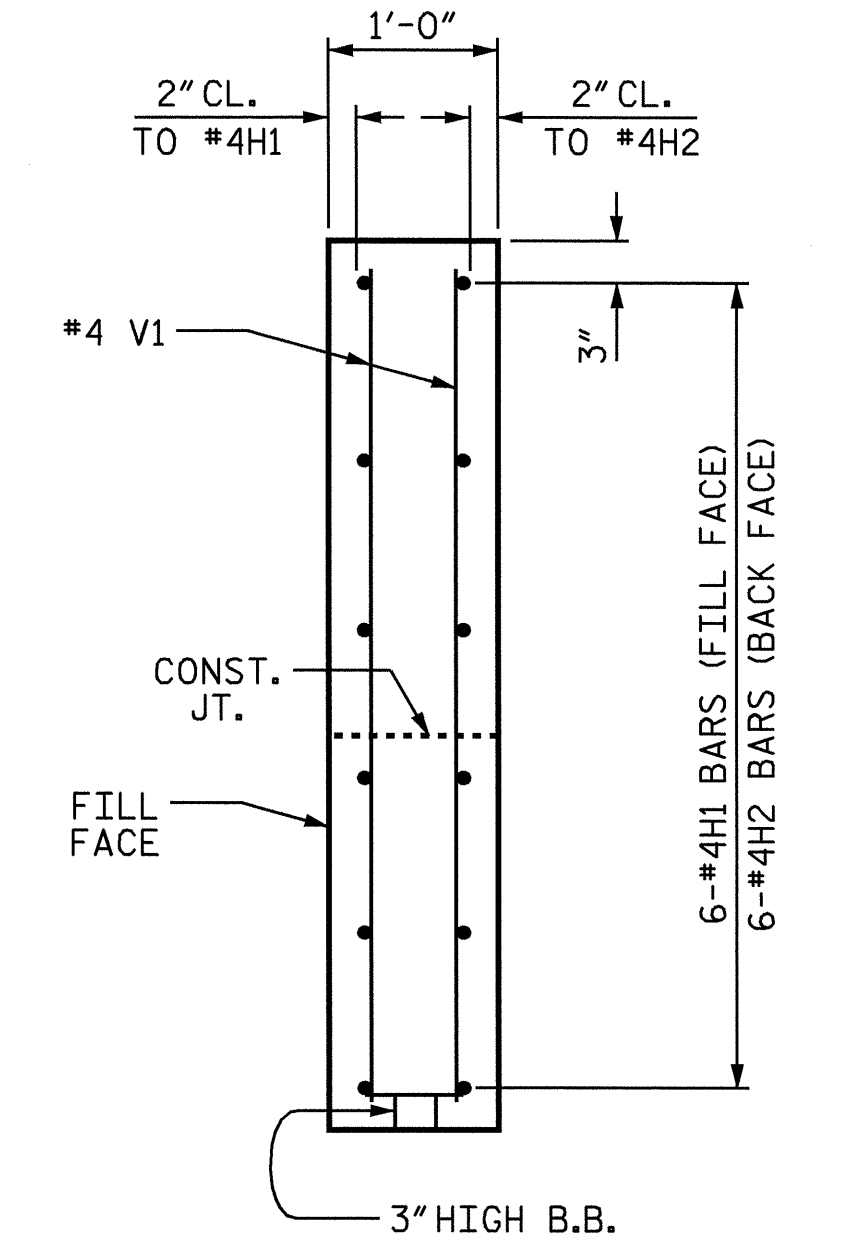
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-37
1			3			TOTAL SHEETS
2			4			52



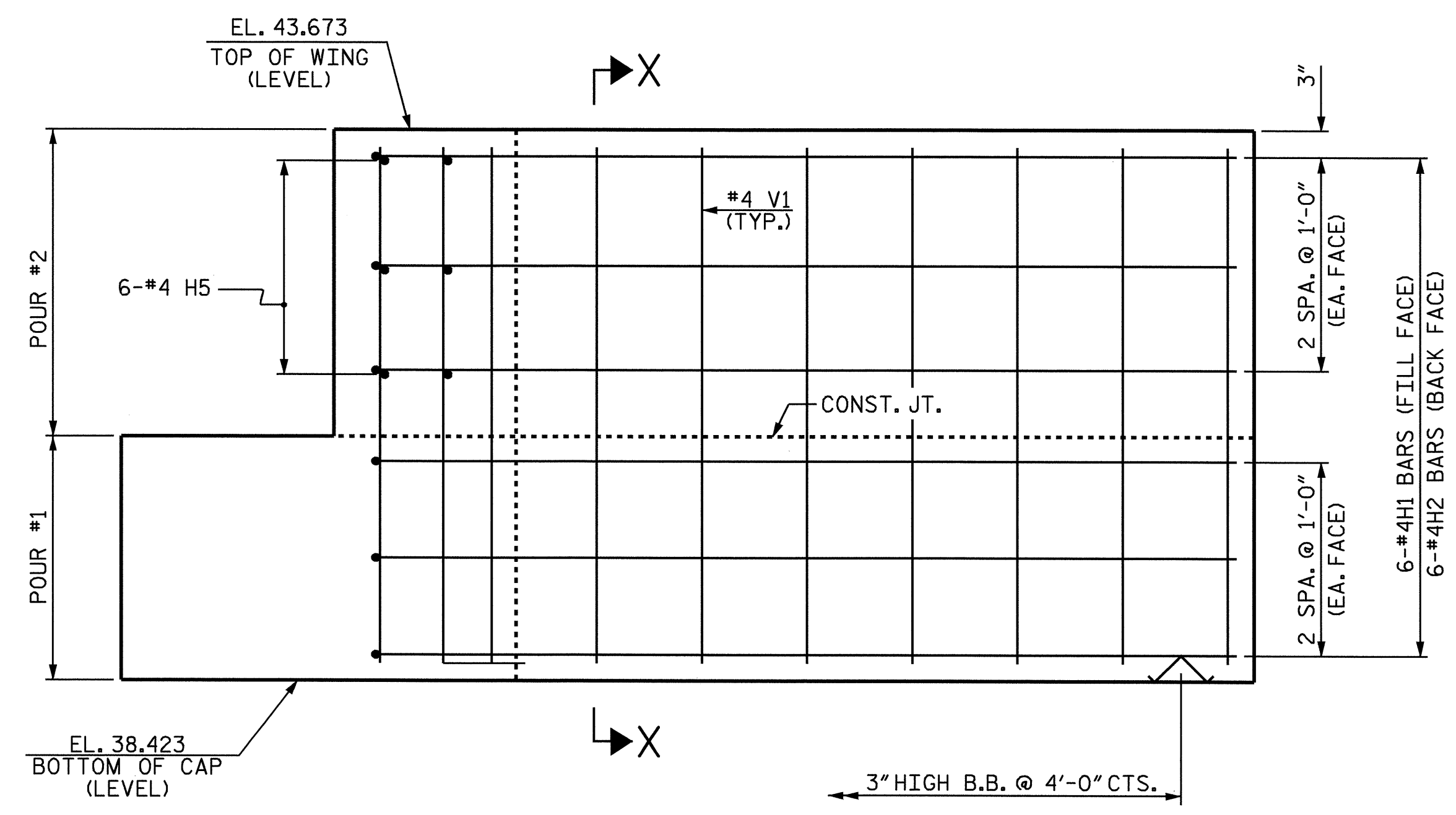
PLAN OF WING - W1



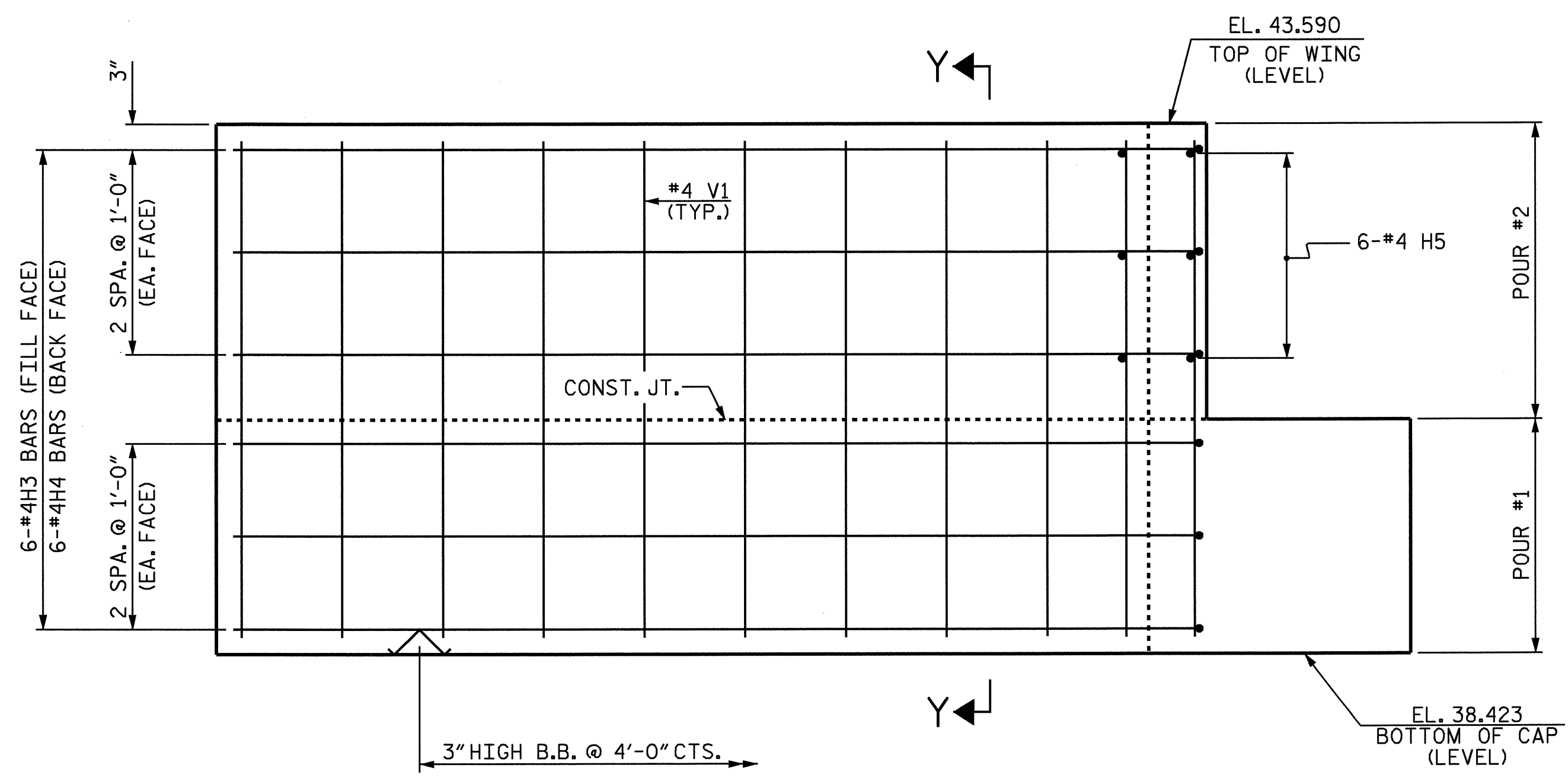
PLAN OF WING - W2



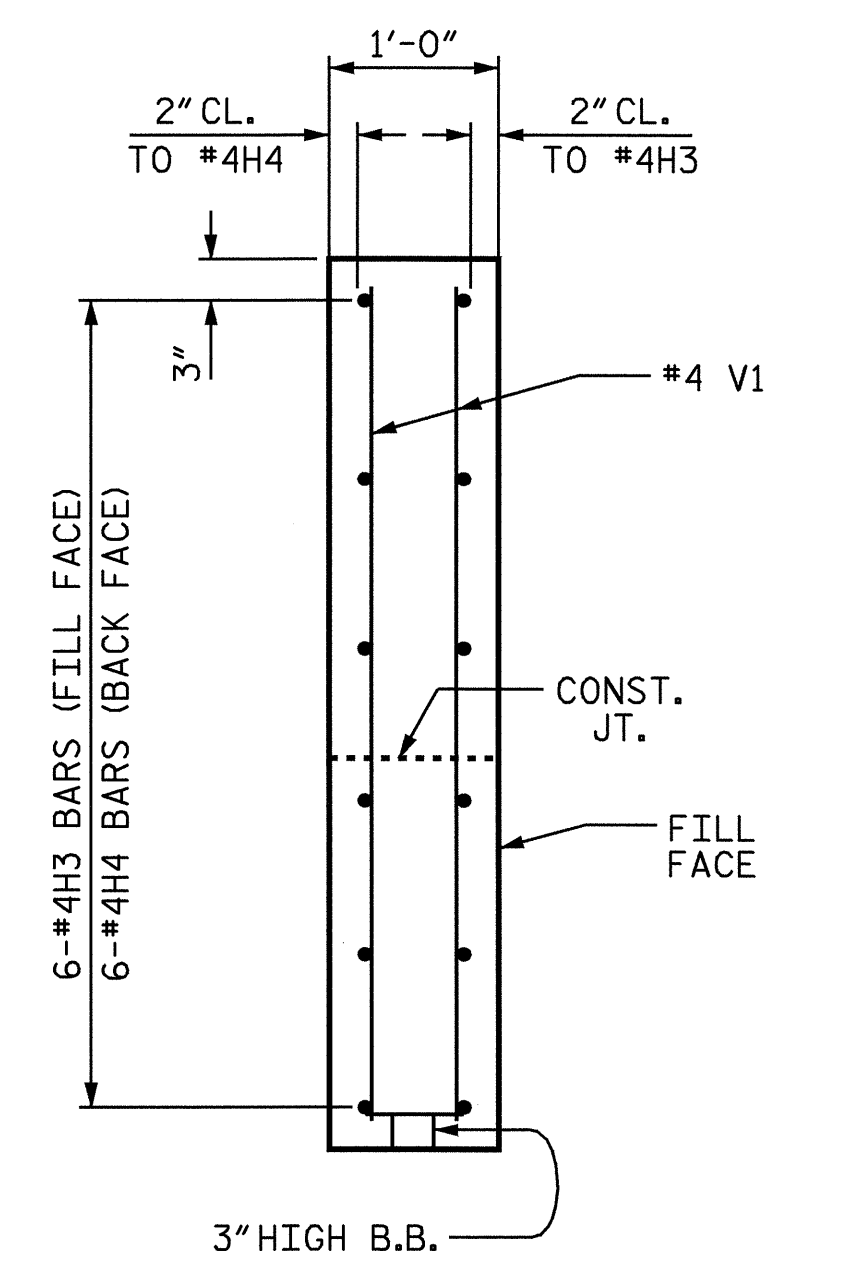
SECTION X-X



ELEVATION OF WING - W1



ELEVATION OF WING - W2



SECTION Y-Y

PROJECT NO. B-1382
 SAMPSON COUNTY
 STATION: 38+37.00 -L-

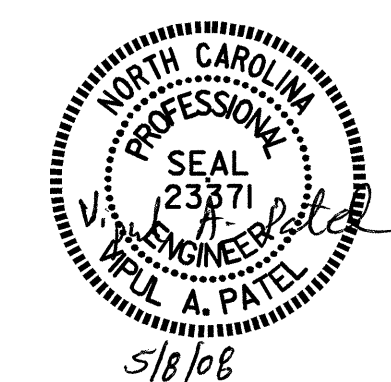
SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT #1

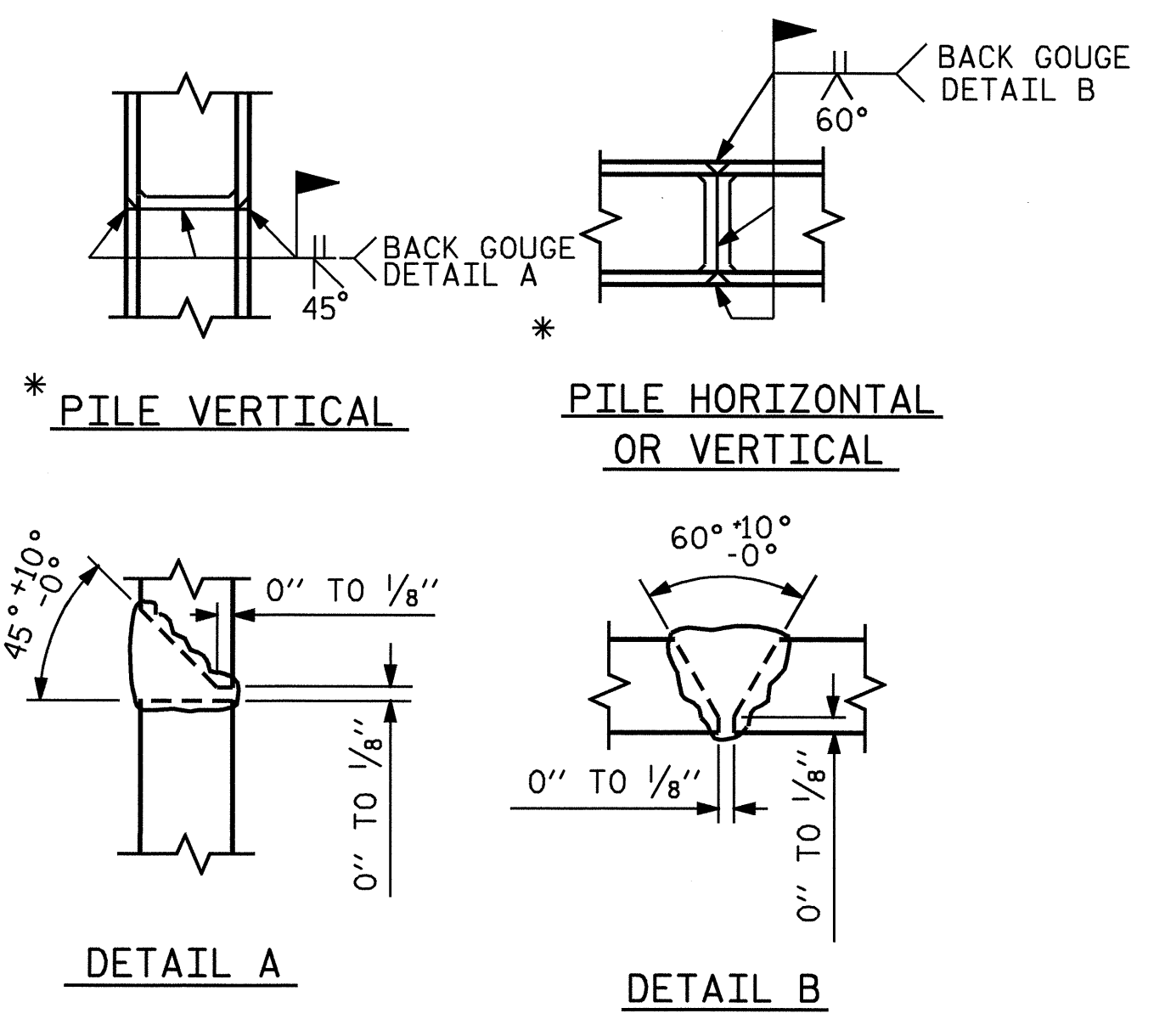
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-39
1			3			TOTAL SHEETS 52
2			4			

DRAWN BY: D.V. JOYNER DATE: 2-06
 CHECKED BY: K.D. LAYNE DATE: 3-06



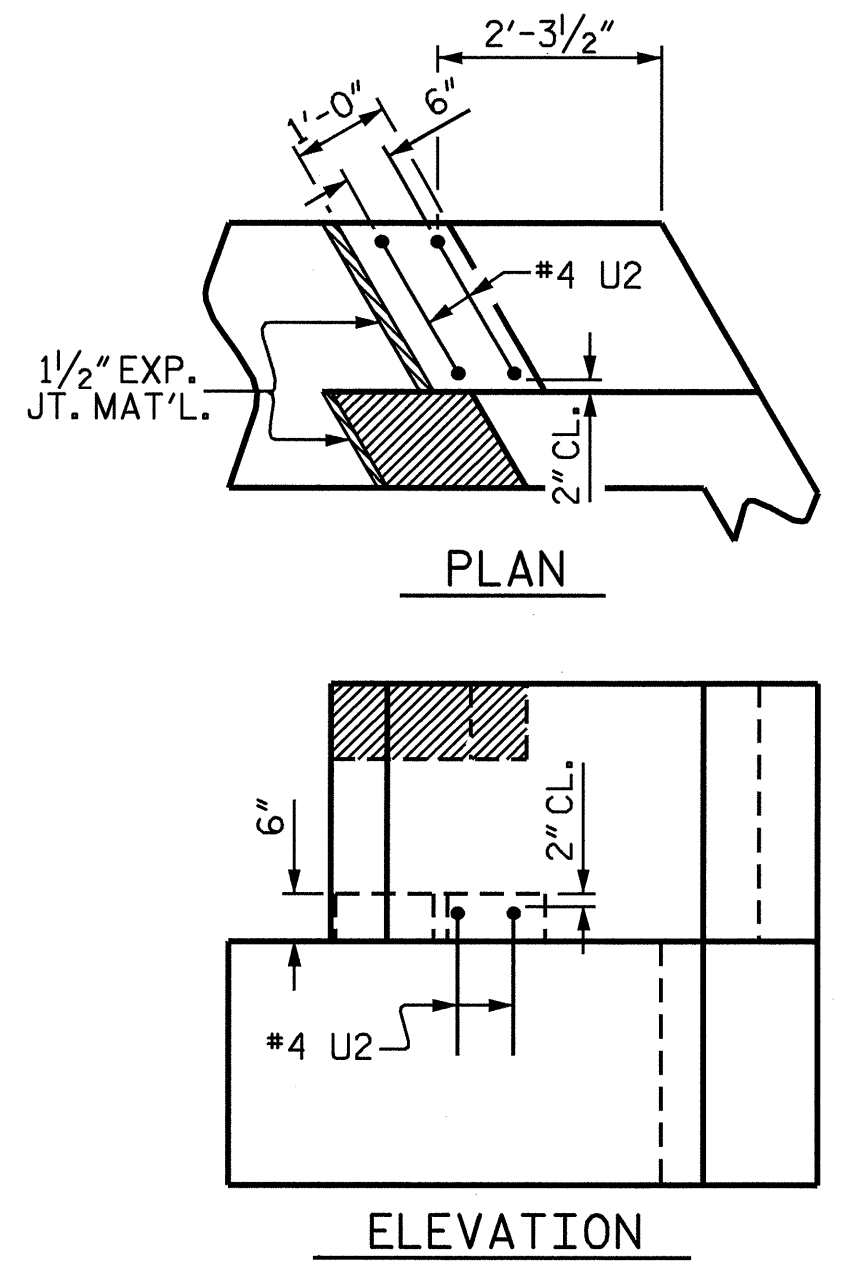
07-MAY-2008 14:09
 R:\Structures\B1382\str*2\Plans\B1382_sd.02.E*.dgn
 sdombrowski

STR.#2

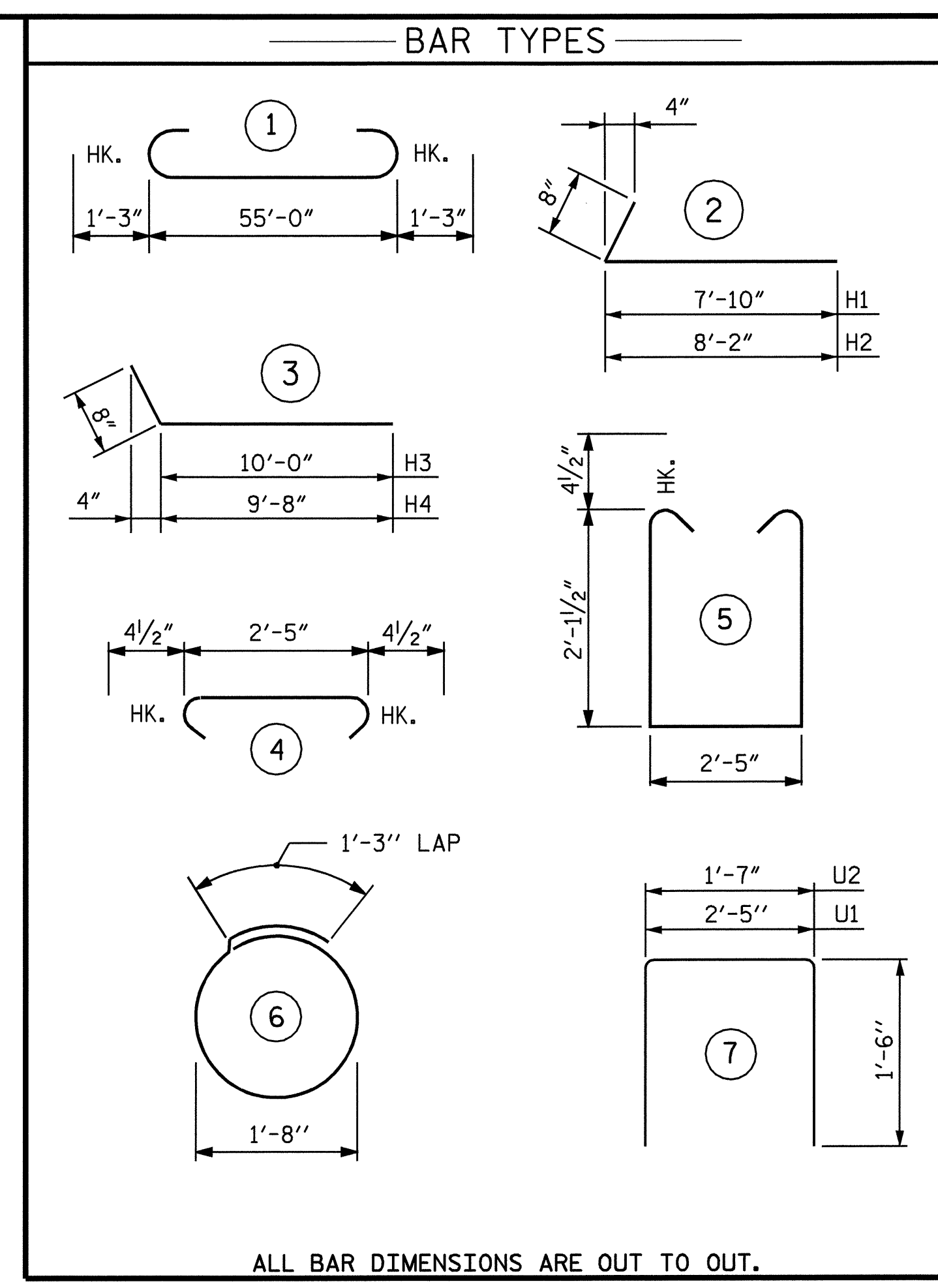


* POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS



LATERAL GUIDE DETAIL

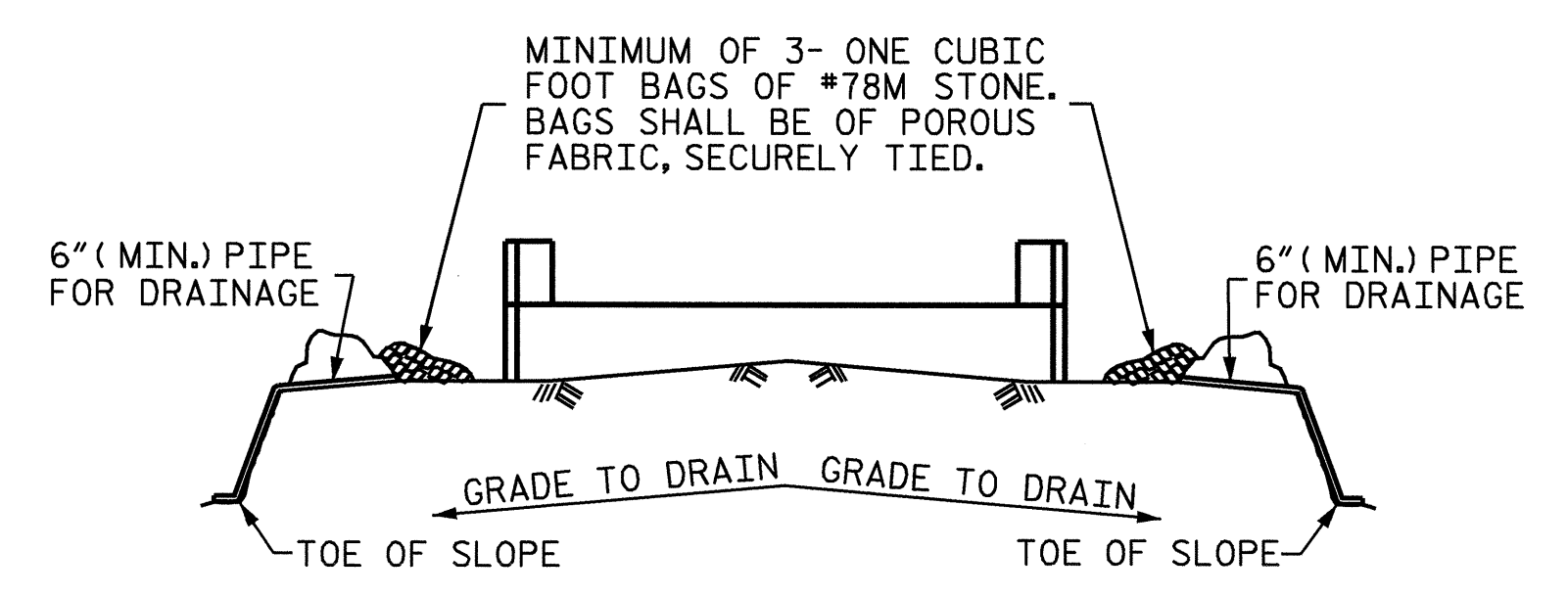


ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

END BENT #1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9		57'-6"	1564
B2	16	#4	STR	28'-10"	308
B3	14	#4	STR	2'-5"	23
B4	4	#4	STR	29'-0"	77
D1	28	#6	STR	1'-6"	63
H1	6	#4	2	8'-6"	34
H2	6	#4	2	8'-10"	35
H3	6	#4	3	10'-8"	43
H4	6	#4	3	10'-4"	41
H5	12	#4	STR	4'-0"	32
S1	56	#4	5	7'-5"	277
S2	56	#4	4	3'-2"	118
S3	20	#4	6	6'-6"	87
U1	20	#4	7	5'-5"	72
U2	4	#4	7	4'-7"	12
V1	54	#4	STR	4'-10"	174
REINFORCING STEEL					2960 LBS
CLASS A CONCRETE BREAKDOWN :					
POUR #1 (CAP & LOWER WINGS)				17.3 C.Y.	
POUR #2 (UPPER WINGS)				2.5 C.Y.	
POUR #3 (LATERAL GUIDE)				0.1 C.Y.	
TOTAL				19.9 C.Y.	
HP 12X53 STEEL PILES				10 EA.	300 LIN. FT.

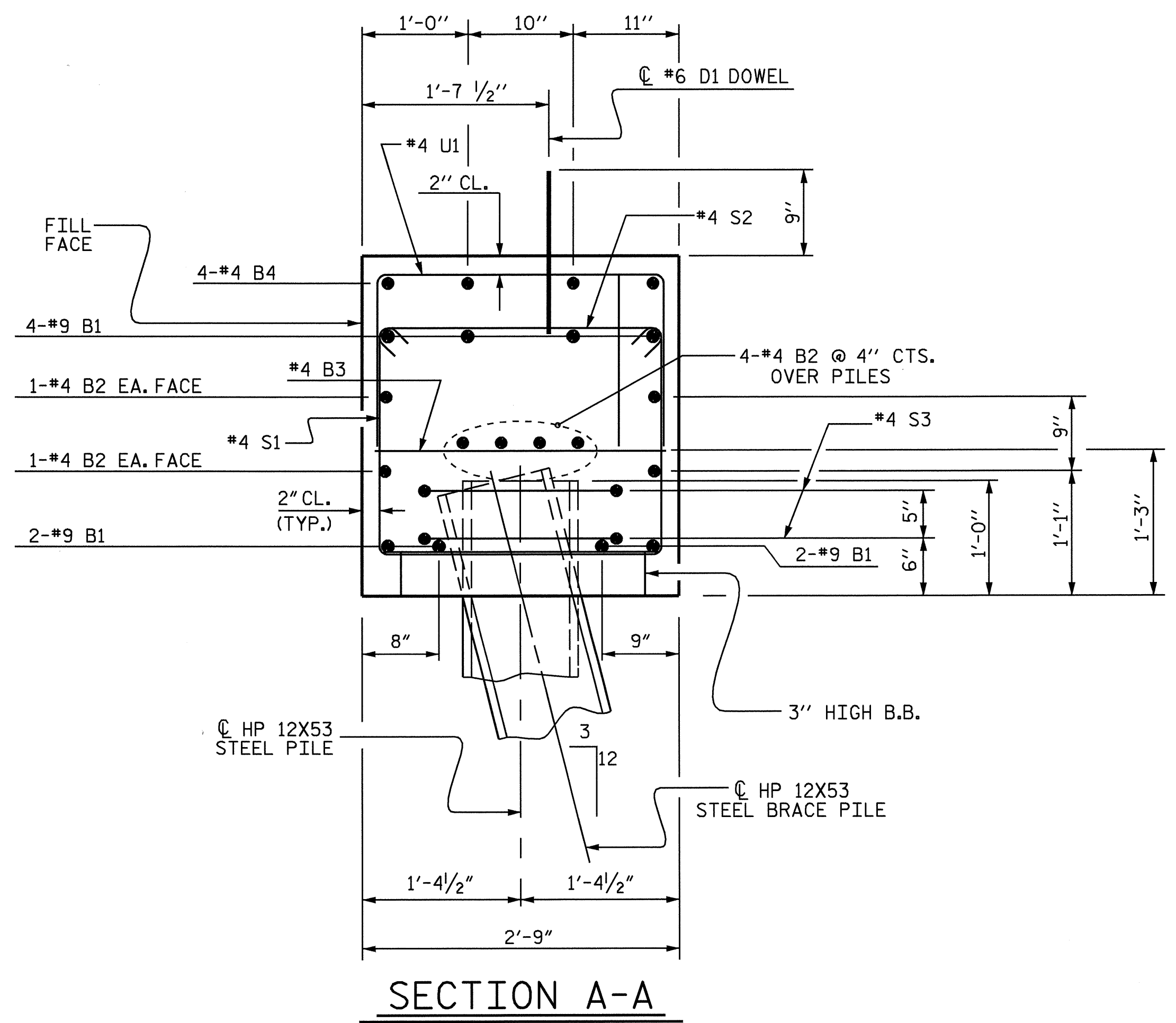


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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.

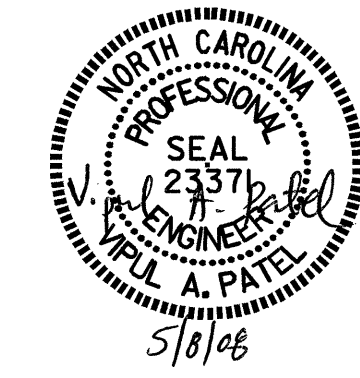
TEMPORARY DRAINAGE AT END BENT



PROJECT NO. B-1382
SAMPSON COUNTY
STATION: 38+37.00-L-
SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
END BENT #1**



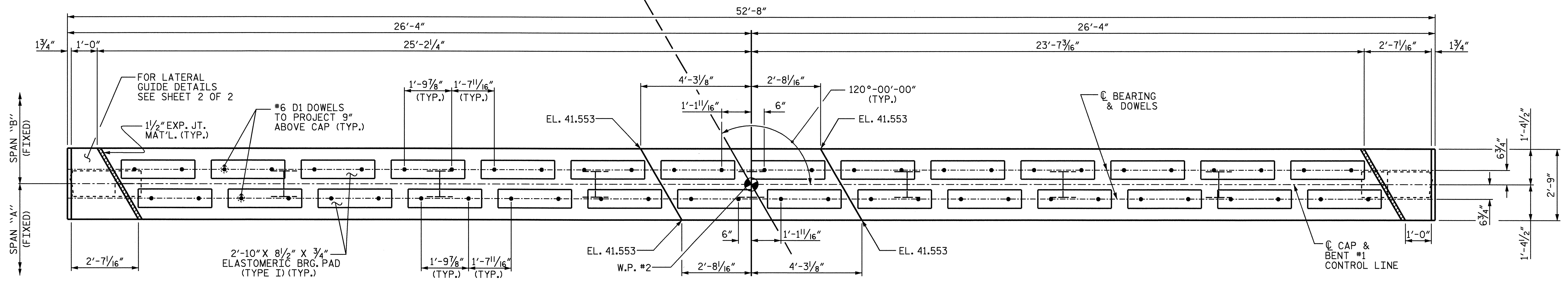
DRAWN BY: D.V. JOYNER DATE: 2-06
CHECKED BY: K.D. LAYNE DATE: 3-06

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-40
1			3			TOTAL SHEETS
2			4			52

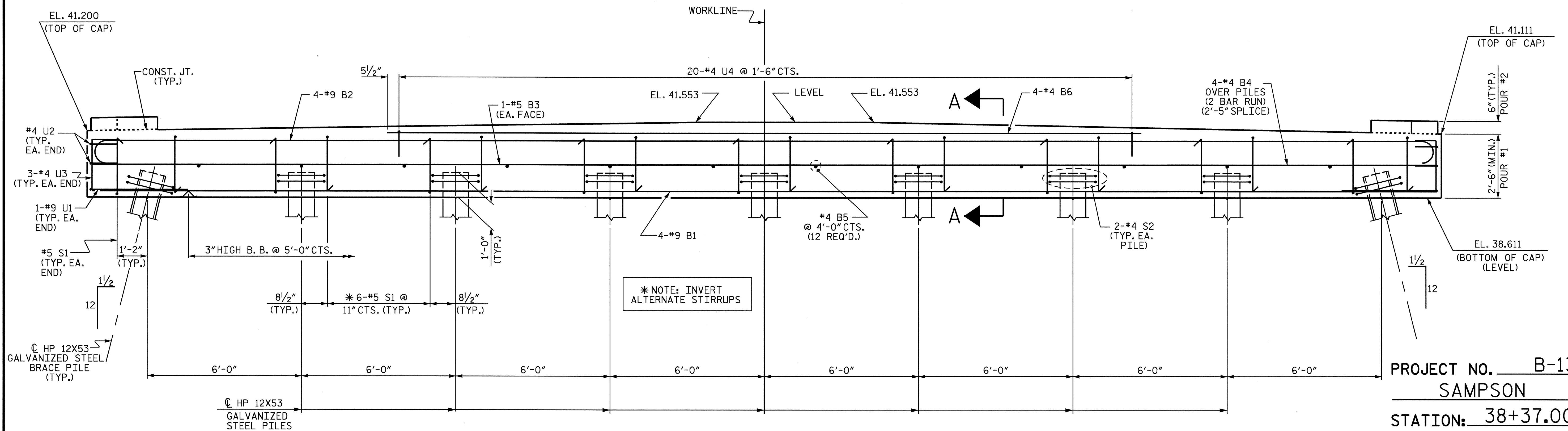
NOTES

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

THE LATERAL GUIDES ARE NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.



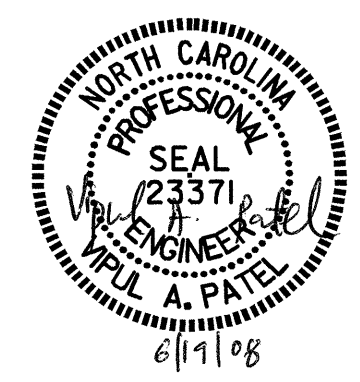
PLAN



ELEVATION

DRAWN BY: R. G. EMERSON DATE: 08/06
 CHECKED BY: J. P. ADAMS DATE: 08/06

19-JUN-2008 10:16
 F:\STRUCTURES\B1382\str*2\Plans\B1382_sd.02.B*.dgn
 chunt

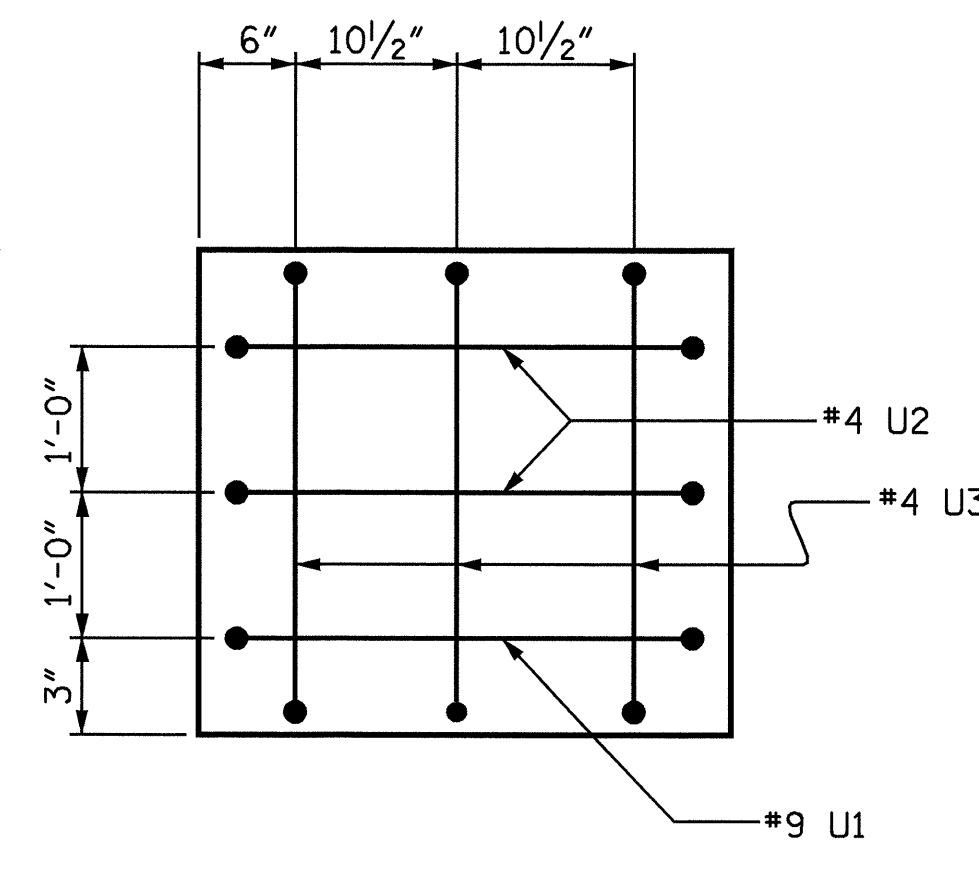


PROJECT NO. B-1382
 SAMPSON COUNTY
 STATION: 38+37.00 -L-

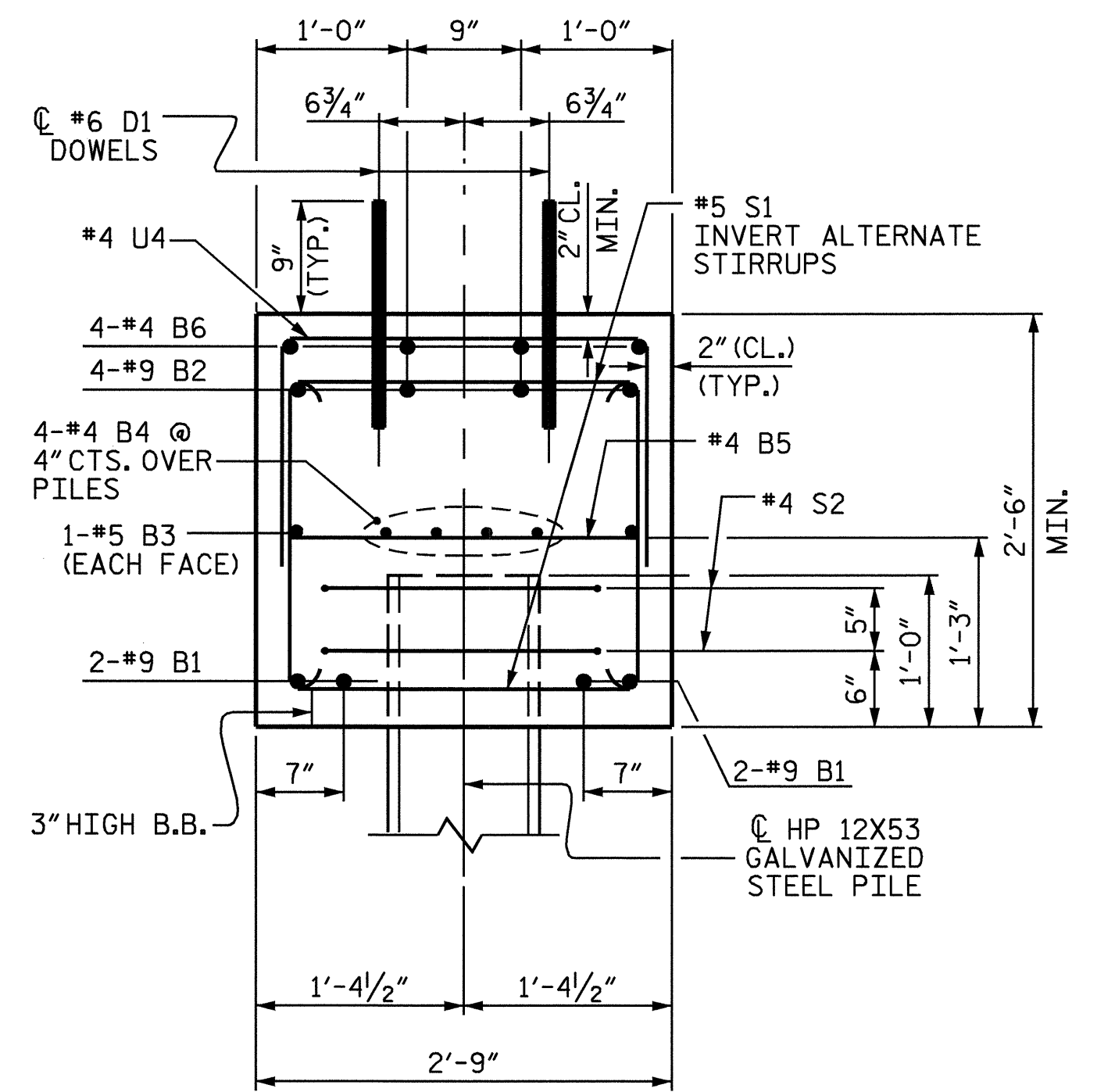
SHEET 1 OF 2

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-41
1			3			TOTAL SHEETS
2			4			52

STR. #2

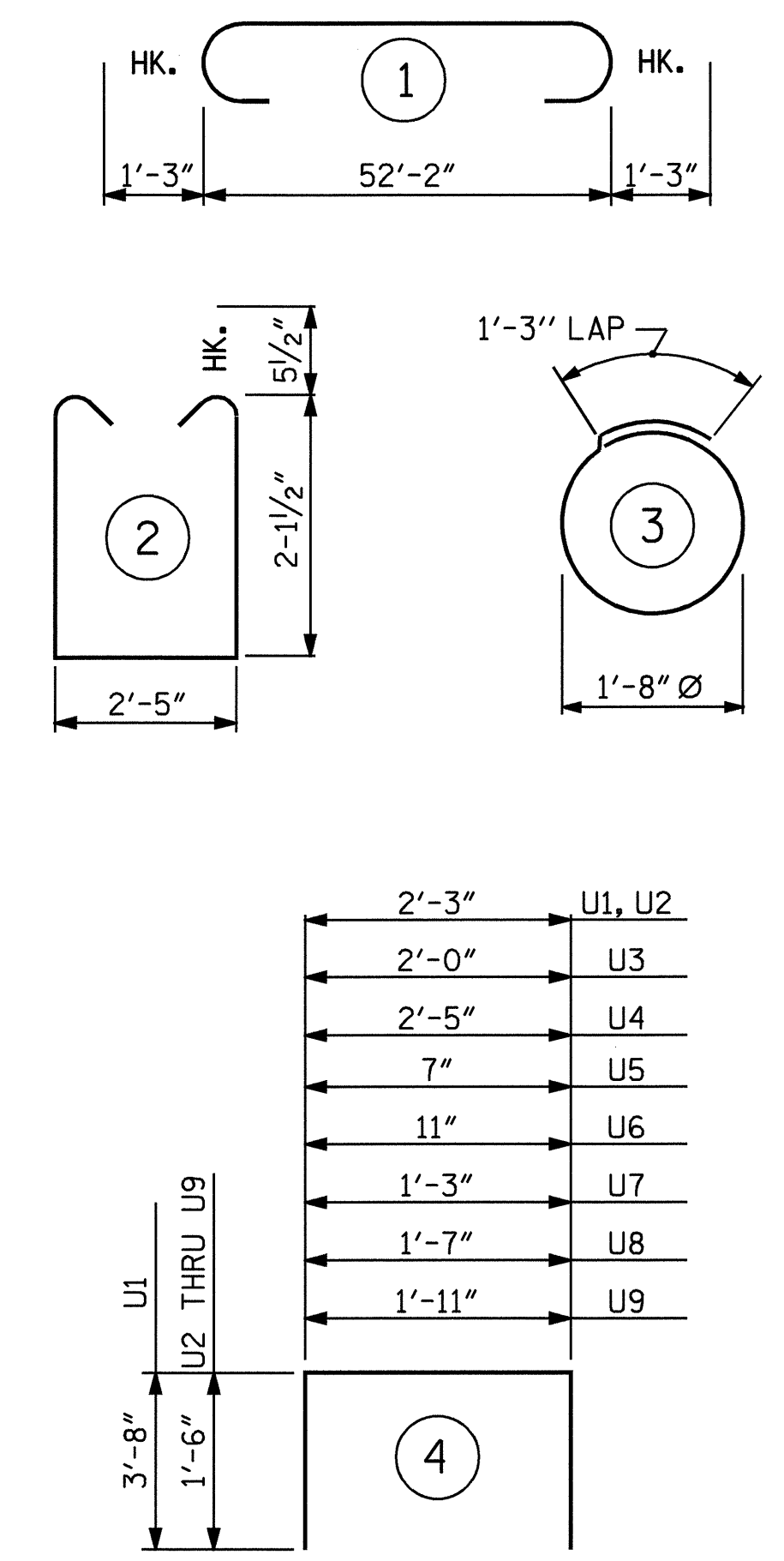


END VIEW



SECTION A-A

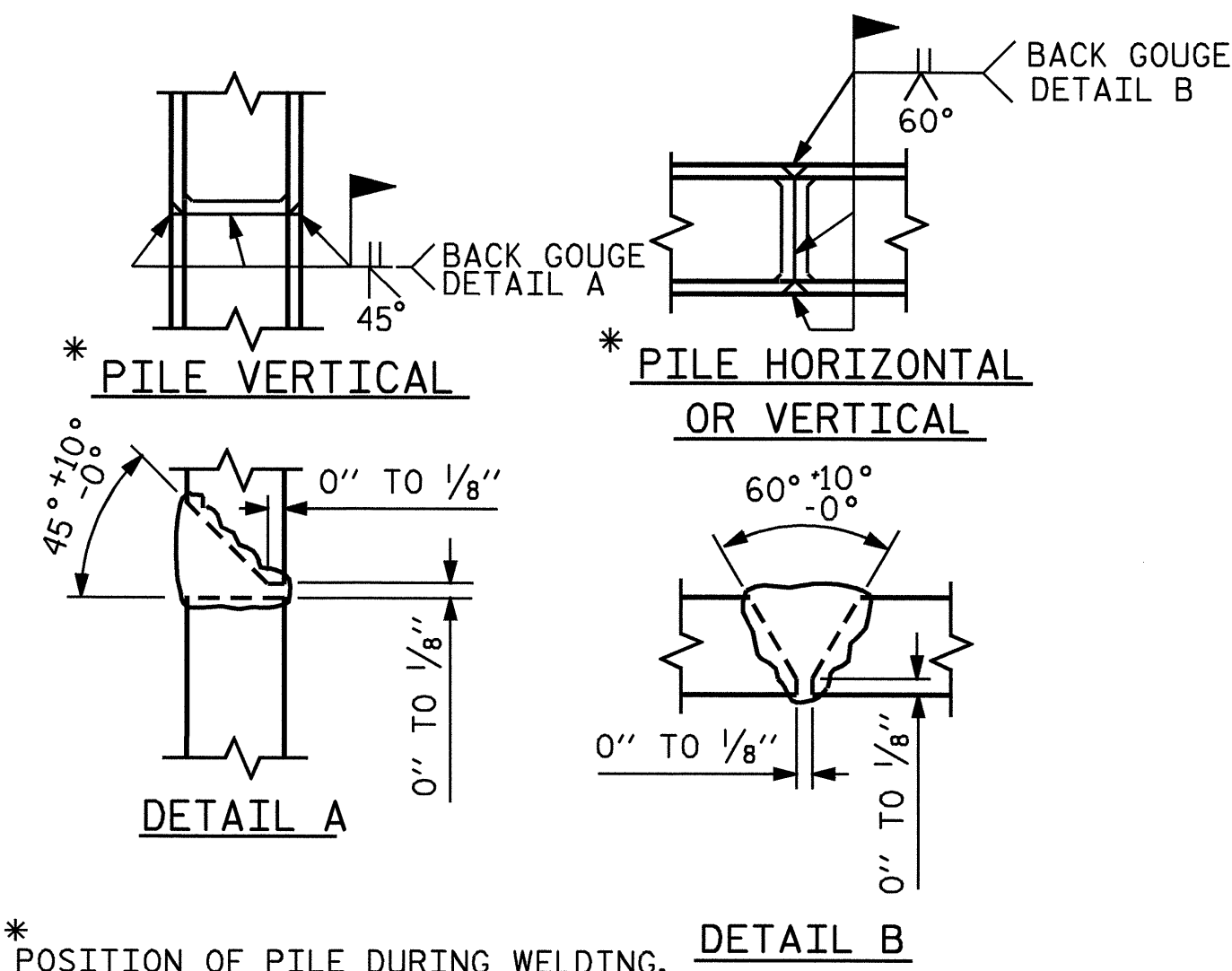
BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

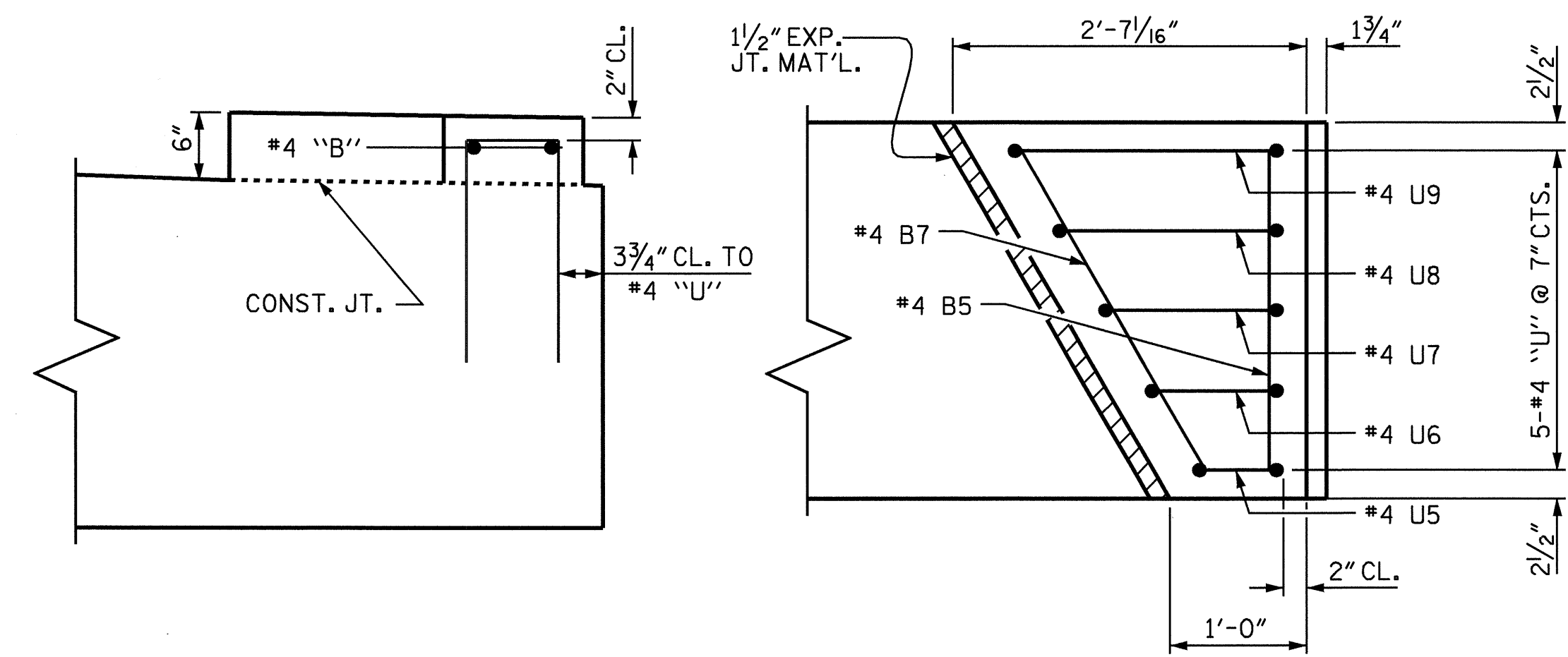
BILL OF MATERIAL

BENT #1						
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
B1	4	#9	STR	52'-4"	712	
B2	4	#9	1	54'-8"	743	
B3	2	#5	STR	52'-4"	109	
B4	8	#4	STR	27'-5"	147	
B5	14	#4	STR	2'-5"	23	
B6	4	#4	STR	29'-5"	79	
B7	2	#4	STR	2'-9"	4	
D1	56	#6	STR	1'-6"	126	
S1	50	#5	2	7'-7"	395	
S2	18	#4	3	6'-6"	78	
U1	2	#9	4	9'-7"	65	
U2	4	#4	4	5'-3"	14	
U3	6	#4	4	5'-0"	20	
U4	20	#4	4	5'-5"	72	
U5	2	#4	4	3'-7"	5	
U6	2	#4	4	3'-11"	5	
U7	2	#4	4	4'-3"	6	
U8	2	#4	4	4'-7"	6	
U9	2	#4	4	4'-11"	7	
REINFORCING STEEL				LBS.	2616	
CLASS A CONCRETE BREAKDOWN:						
POUR #1 (CAP)					14.9 C. Y.	
POUR #2 (LATERAL GUIDES)					0.2 C. Y.	
TOTAL					15.1 C. Y.	
HP 12X53 GALVANIZED STEEL PILES						
No. 9					360	LIN. FT.



PILE SPLICE DETAILS

* POSITION OF PILE DURING WELDING.



LATERAL GUIDE DETAILS

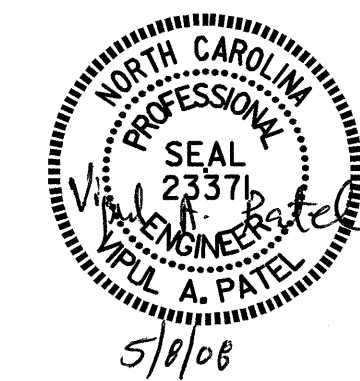
RIGHT SIDE SHOWN, LEFT SIDE SIMILAR

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 38+37.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 BENT #1



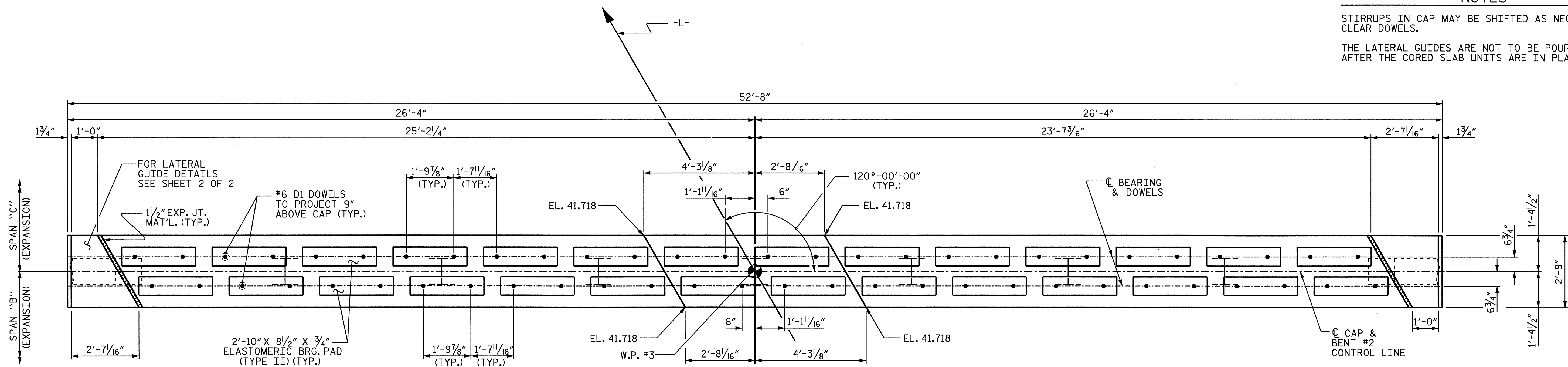
DRAWN BY: R. G. EMERSON DATE: 08/06
 CHECKED BY: J. P. ADAMS DATE: 08/06

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-42
1			3			TOTAL SHEETS
2			4			52

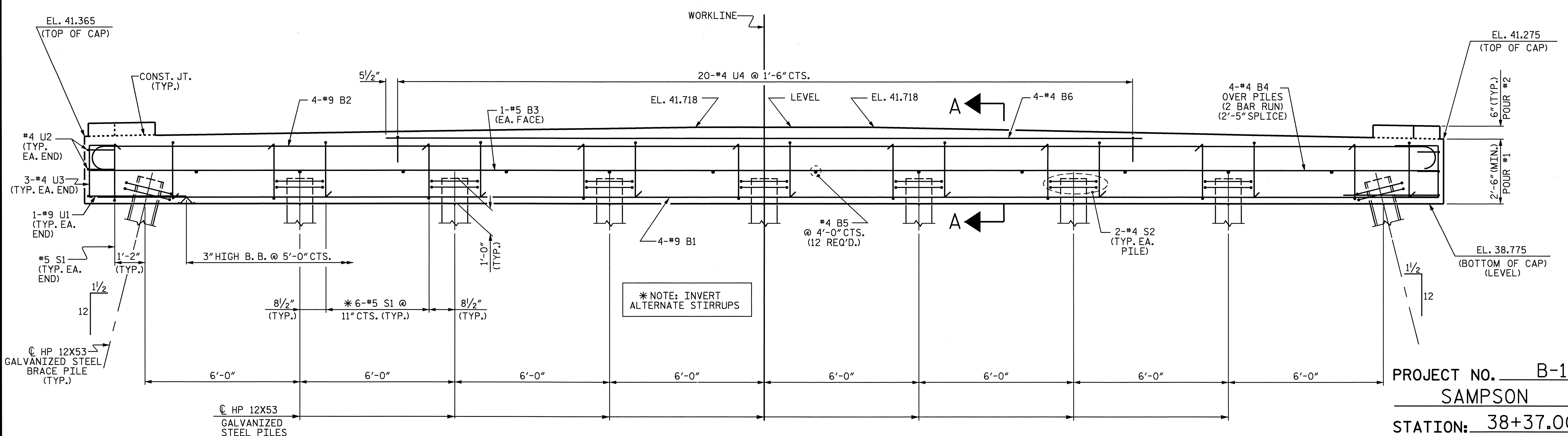
NOTES

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

THE LATERAL GUIDES ARE NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.



PLAN

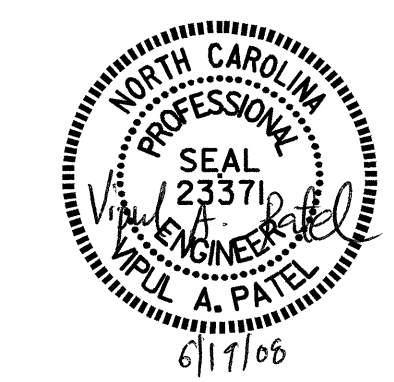


ELEVATION

PROJECT NO. B-1382
 SAMPSON COUNTY
 STATION: 38+37.00 -L-

SHEET 1 OF 2

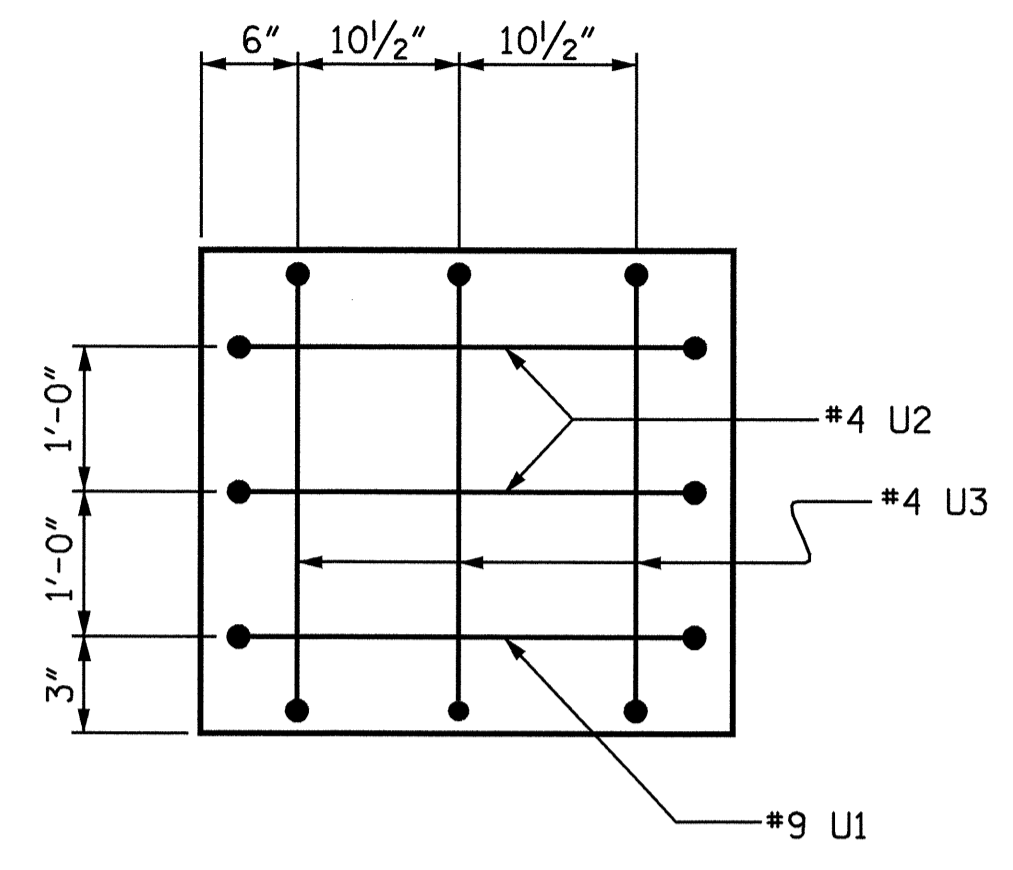
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE BENT #2					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					S-43
TOTAL SHEETS					52



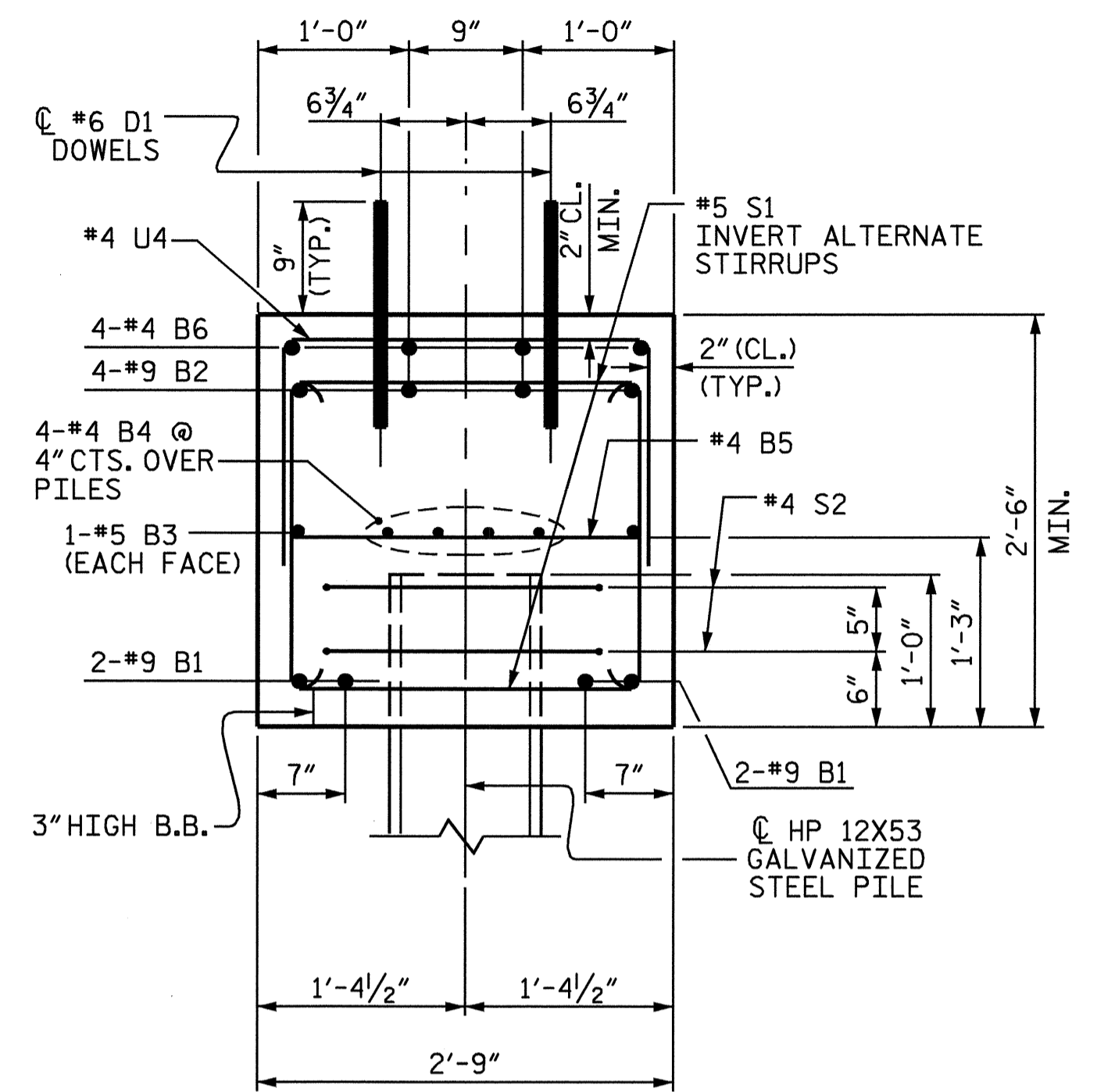
DRAWN BY: R. G. EMERSON DATE: 08/06
 CHECKED BY: J. P. ADAMS DATE: 08/06

19-JUN-2008 10:16
 r:\structures\B1382\str#2\Plans\B1382.ed.02.B*.dgn
 ahunt

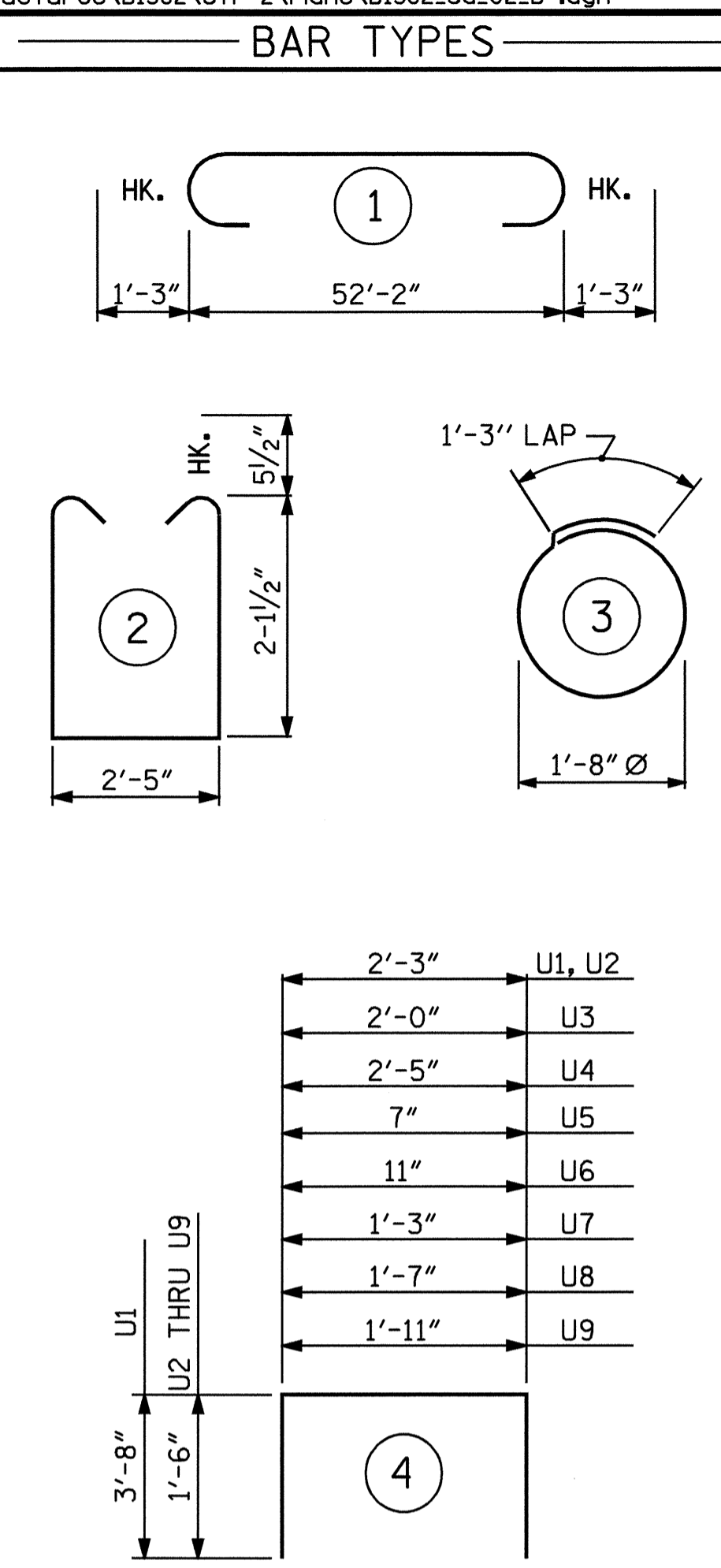
STR. #2



END VIEW

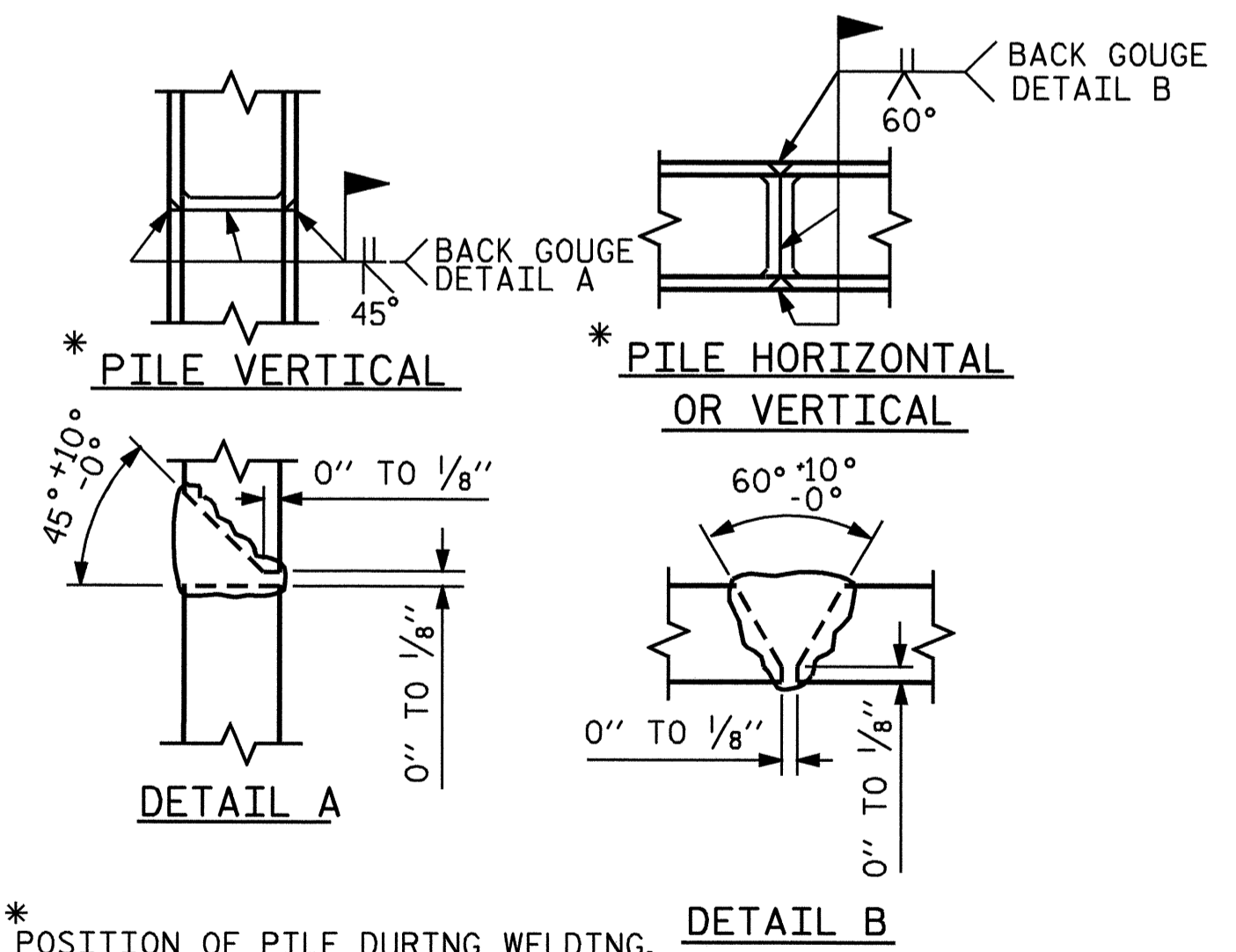


SECTION A-A

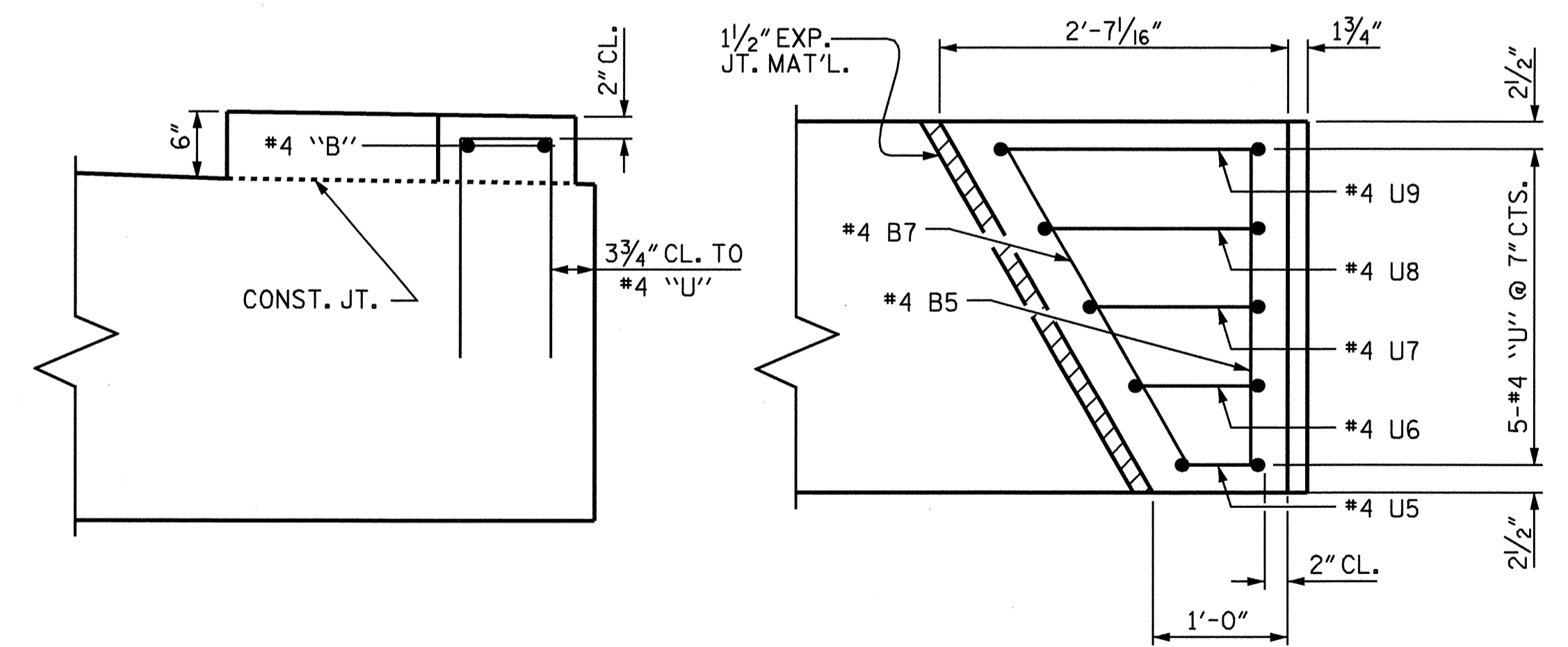


ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
BENT #2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	4	#9	STR	52'-4"	712
B2	4	#9	1	54'-8"	743
B3	2	#5	STR	52'-4"	109
B4	8	#4	STR	27'-5"	147
B5	14	#4	STR	2'-5"	23
B6	4	#4	STR	29'-5"	79
B7	2	#4	STR	2'-9"	4
D1	56	#6	STR	1'-6"	126
S1	50	#5	2	7'-7"	395
S2	18	#4	3	6'-6"	78
U1	2	#9	4	9'-7"	65
U2	4	#4	4	5'-3"	14
U3	6	#4	4	5'-0"	20
U4	20	#4	4	5'-5"	72
U5	2	#4	4	3'-7"	5
U6	2	#4	4	3'-11"	5
U7	2	#4	4	4'-3"	6
U8	2	#4	4	4'-7"	6
U9	2	#4	4	4'-11"	7
REINFORCING STEEL				LBS.	2616
CLASS A CONCRETE BREAKDOWN:					
POUR #1 (CAP)					14.9 C. Y.
POUR #2 (LATERAL GUIDES)					0.2 C. Y.
TOTAL					15.1 C. Y.
HP 12X53 GALVANIZED STEEL PILES					
No. 9					LIN. FT. 405



PILE SPLICE DETAILS



LATERAL GUIDE DETAILS
RIGHT SIDE SHOWN, LEFT SIDE SIMILAR

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 38+37.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 BENT #2



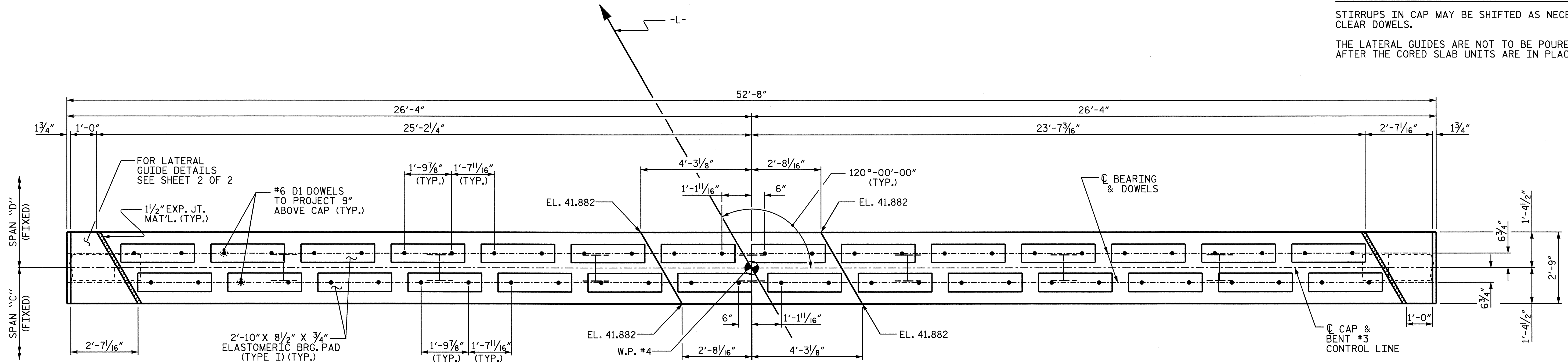
DRAWN BY : R. G. EMERSON DATE : 08/06
 CHECKED BY : J. P. ADAMS DATE : 08/06

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-44
1			3			TOTAL SHEETS
2			4			52

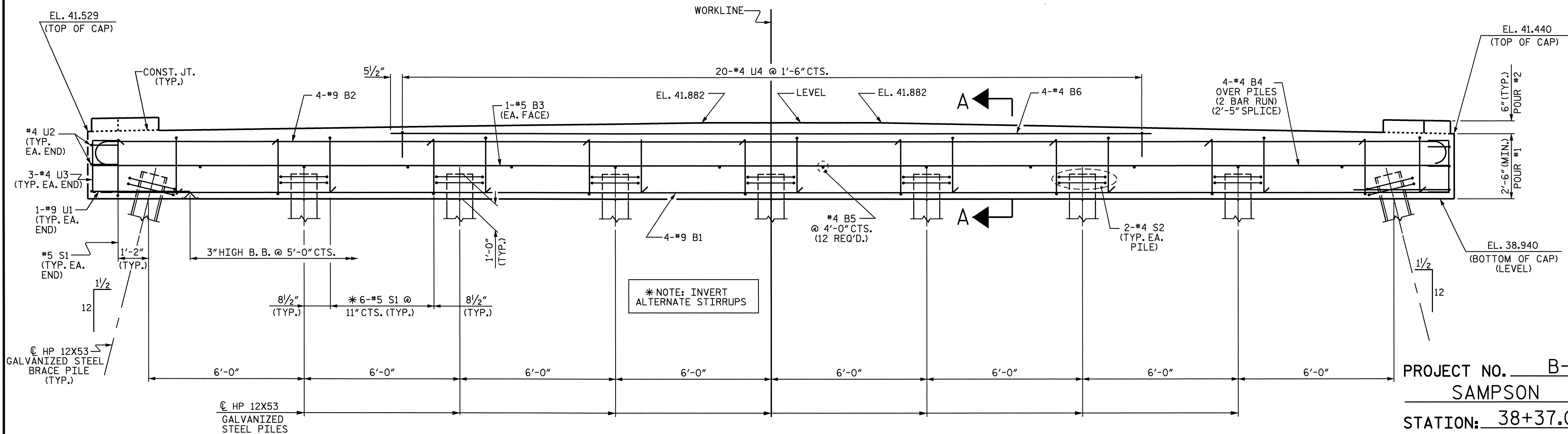
NOTES

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

THE LATERAL GUIDES ARE NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.



PLAN



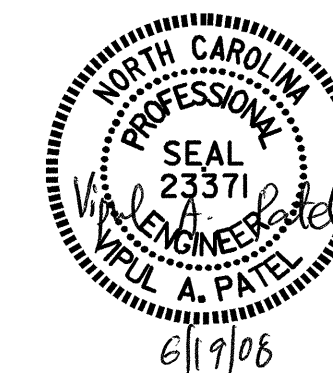
ELEVATION

PROJECT NO. B-1382
 SAMPSON COUNTY
 STATION: 38+37.00 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 BENT #3

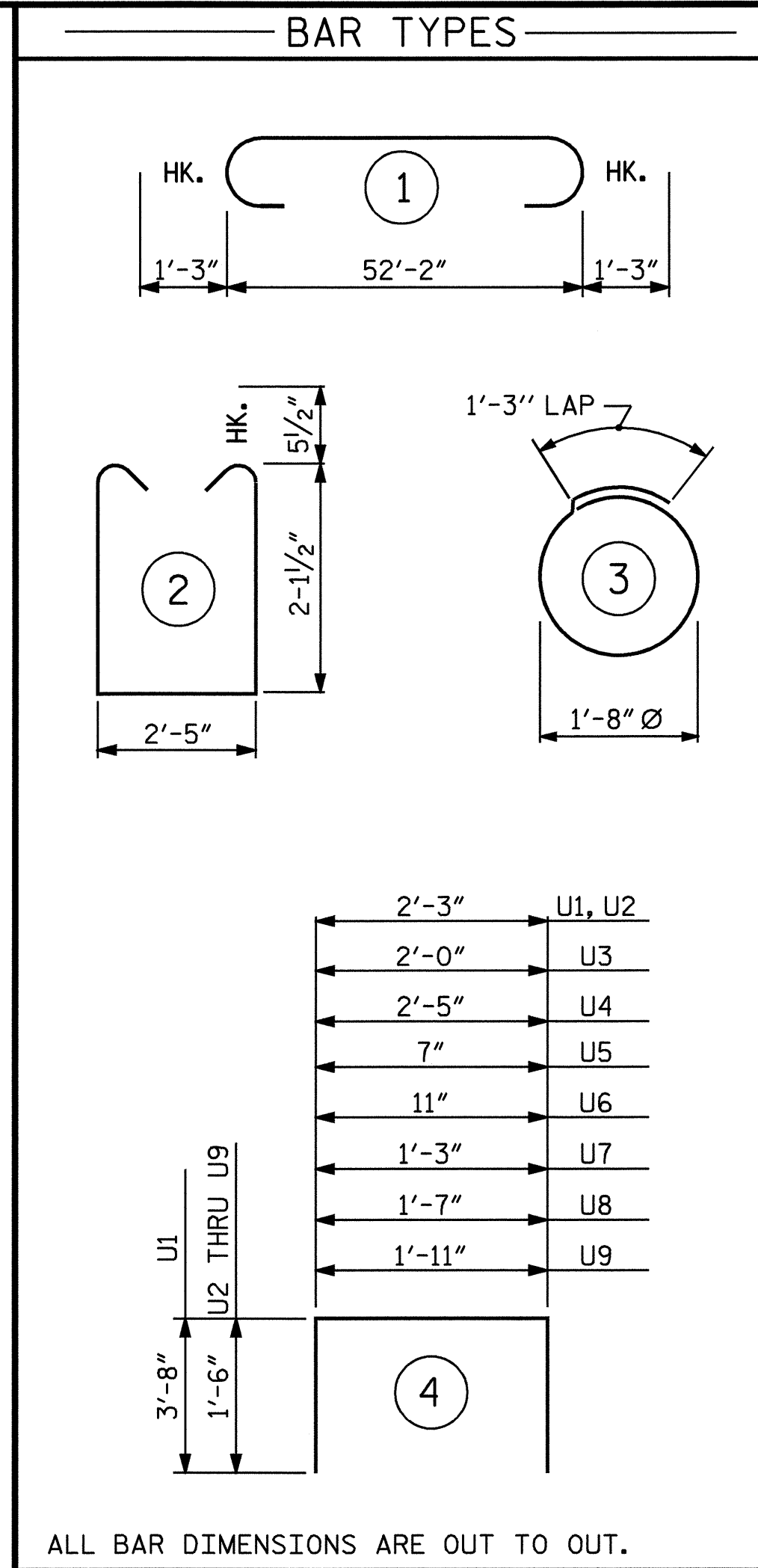
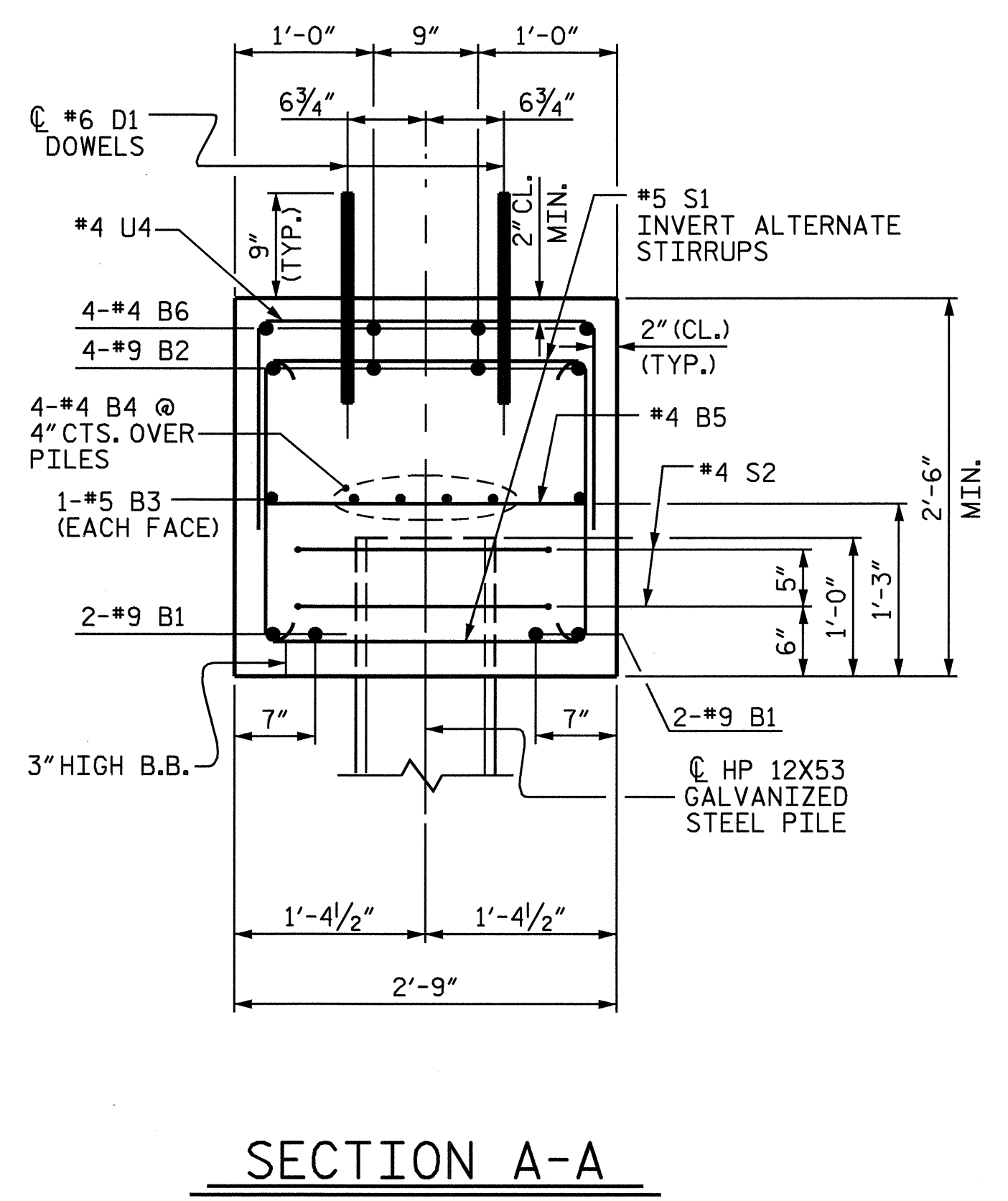
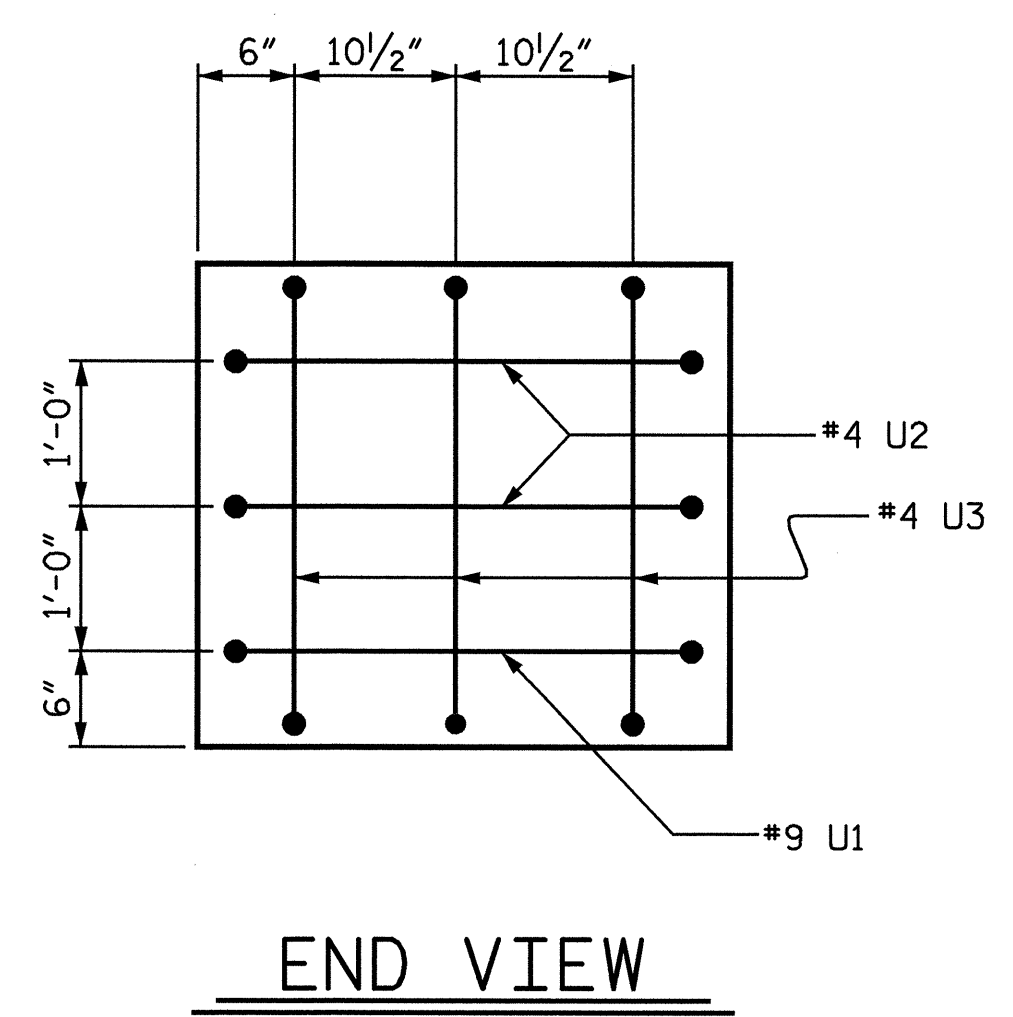


DRAWN BY: R. G. EMERSON DATE: 08/06
 CHECKED BY: J. P. ADAMS DATE: 08/06

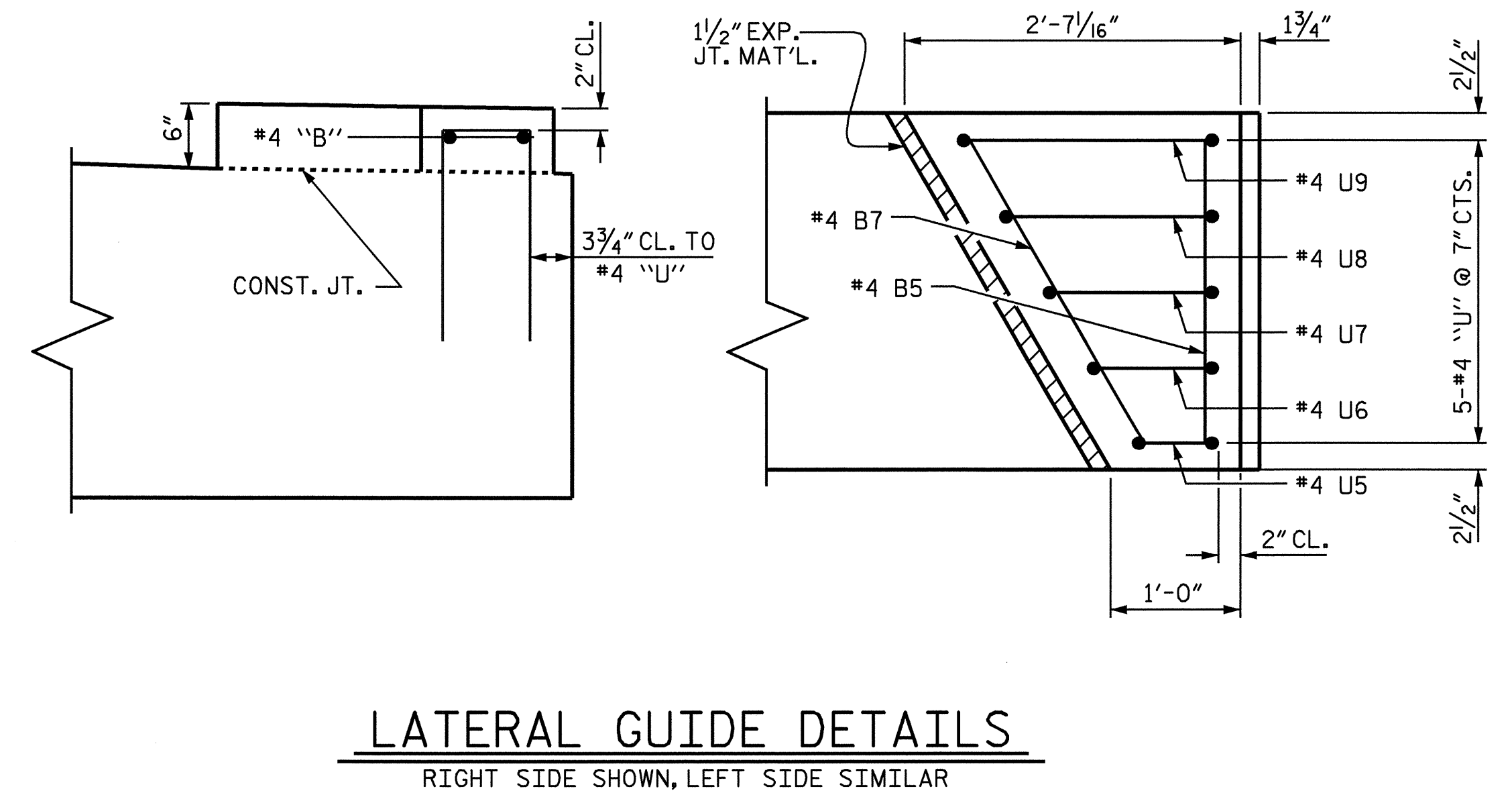
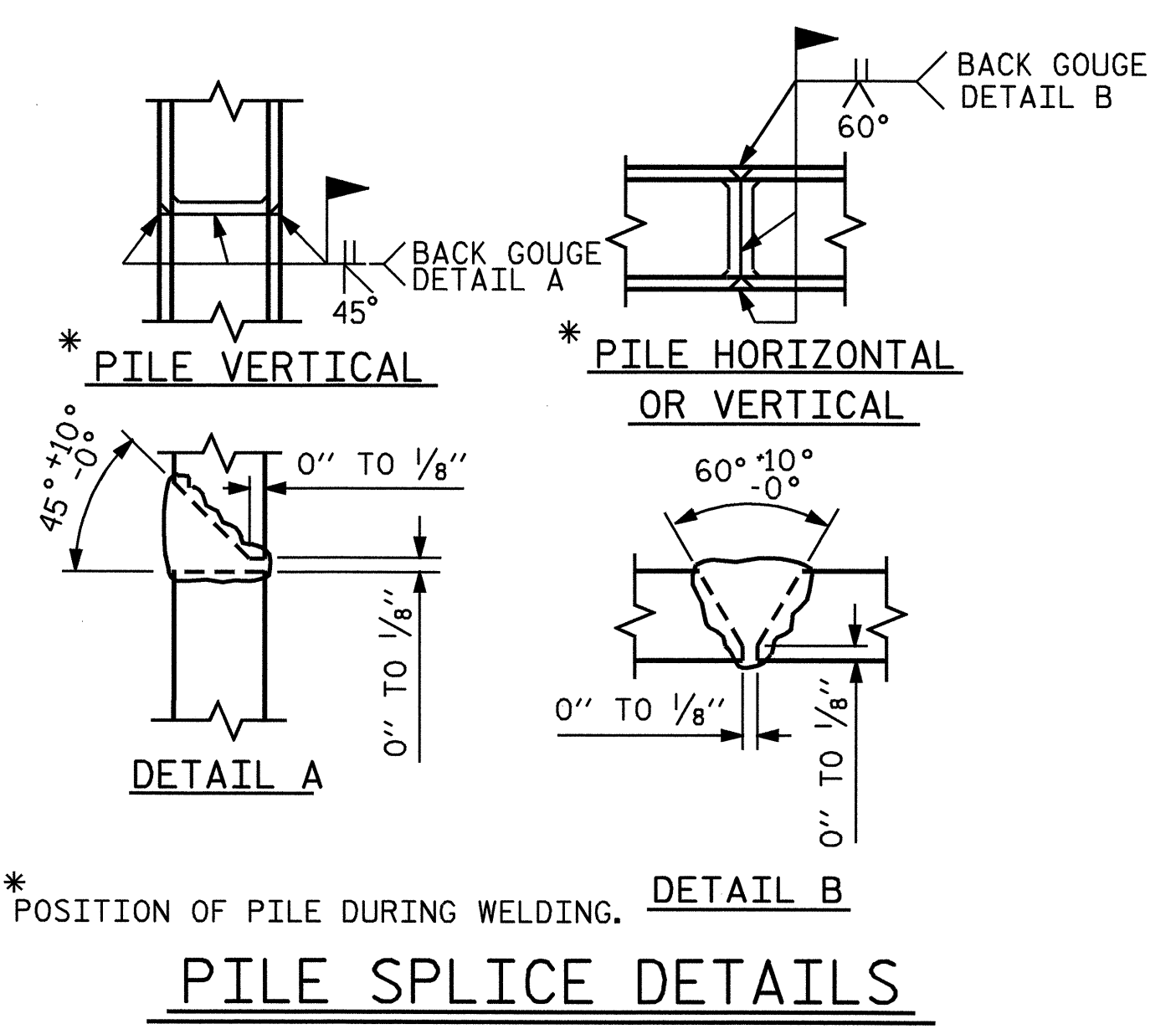
19-JUN-2008 10:16
 r:\structures\B1382\str#2\Plans\B1382.sd.02.B*.dgn
 chunt

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-45
1			3			TOTAL SHEETS
2			4			52

STR. #2



BILL OF MATERIAL					
BENT #3					
BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	
B1	4	#9	STR	52'-4"	712
B2	4	#9	1	54'-8"	743
B3	2	#5	STR	52'-4"	109
B4	8	#4	STR	27'-5"	147
B5	14	#4	STR	2'-5"	23
B6	4	#4	STR	29'-5"	79
B7	2	#4	STR	2'-9"	4
D1	56	#6	STR	1'-6"	126
S1	50	#5	2	7'-7"	395
S2	18	#4	3	6'-6"	78
U1	2	#9	4	9'-7"	65
U2	4	#4	4	5'-3"	14
U3	6	#4	4	5'-0"	20
U4	20	#4	4	5'-5"	72
U5	2	#4	4	3'-7"	5
U6	2	#4	4	3'-11"	5
U7	2	#4	4	4'-3"	6
U8	2	#4	4	4'-7"	6
U9	2	#4	4	4'-11"	7
REINFORCING STEEL				LBS.	2616
CLASS A CONCRETE BREAKDOWN:					
POUR #1 (CAP)					14.9 C. Y.
POUR #2 (LATERAL GUIDES)					0.2 C. Y.
TOTAL					15.1 C. Y.
HP 12X53 GALVANIZED STEEL PILES					
No. 9					LIN. FT. 360



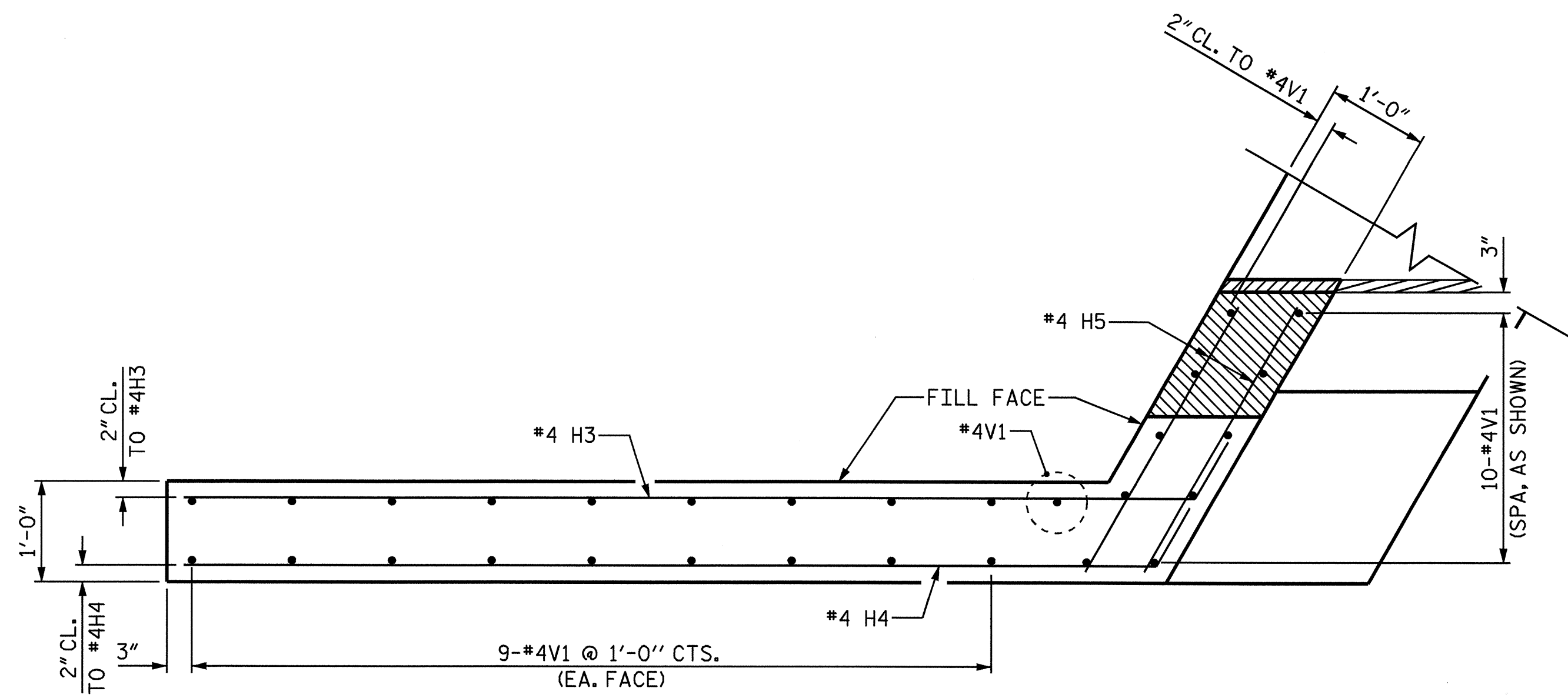
PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 38+37.00 -L-

SHEET 2 OF 2

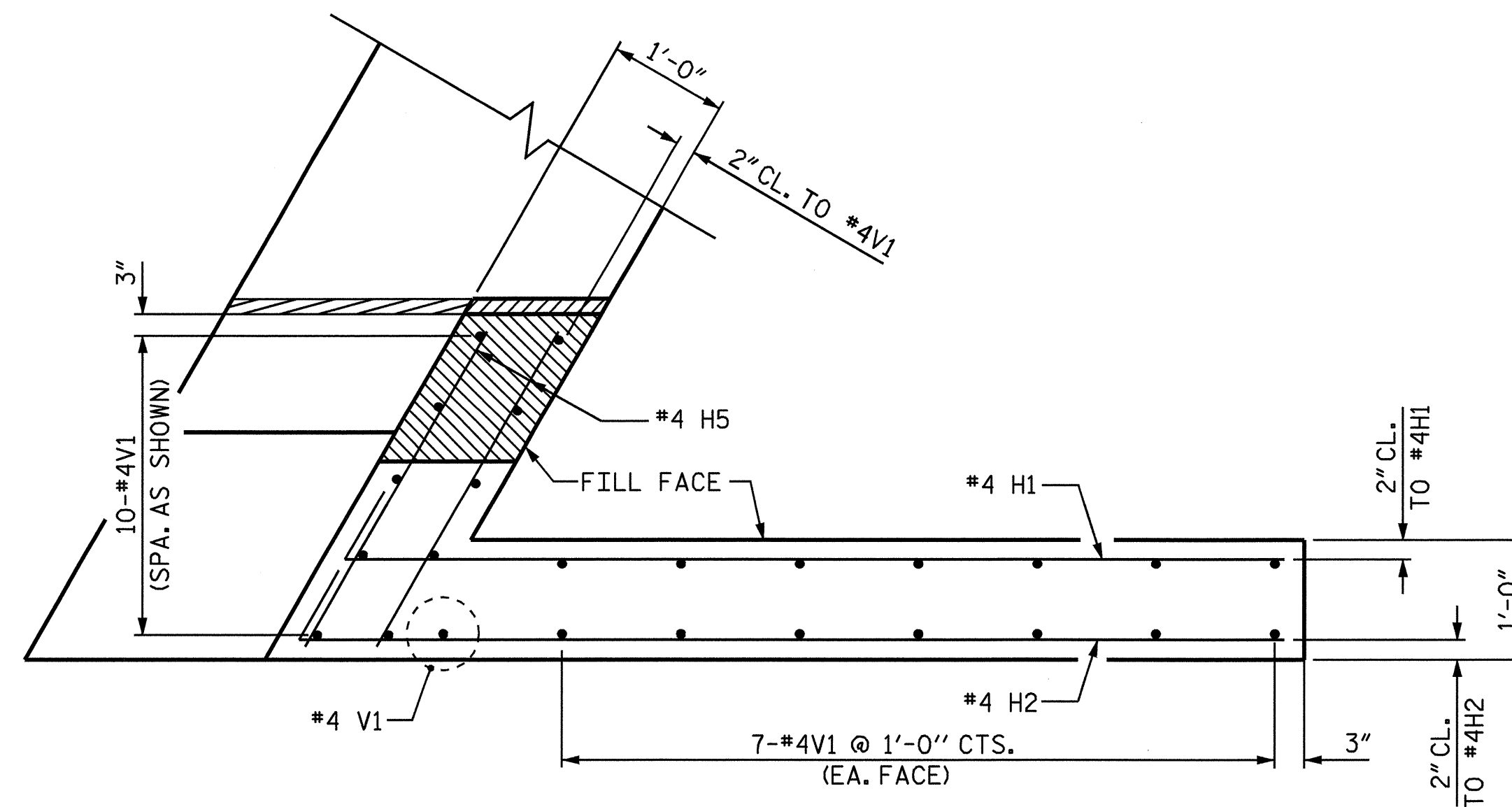
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE					
BENT #3					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					S-46
TOTAL SHEETS					52

DRAWN BY: R. G. EMERSON DATE: 08/06
 CHECKED BY: J. P. ADAMS DATE: 08/06

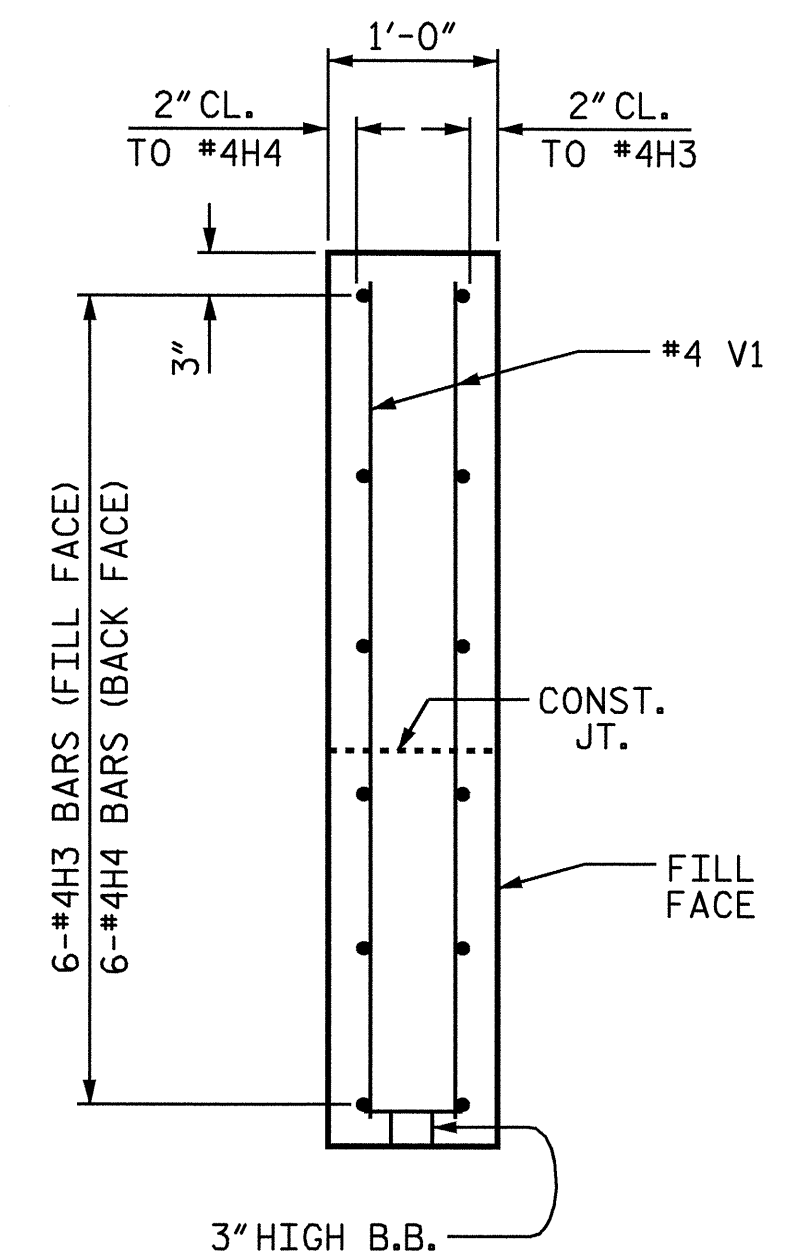




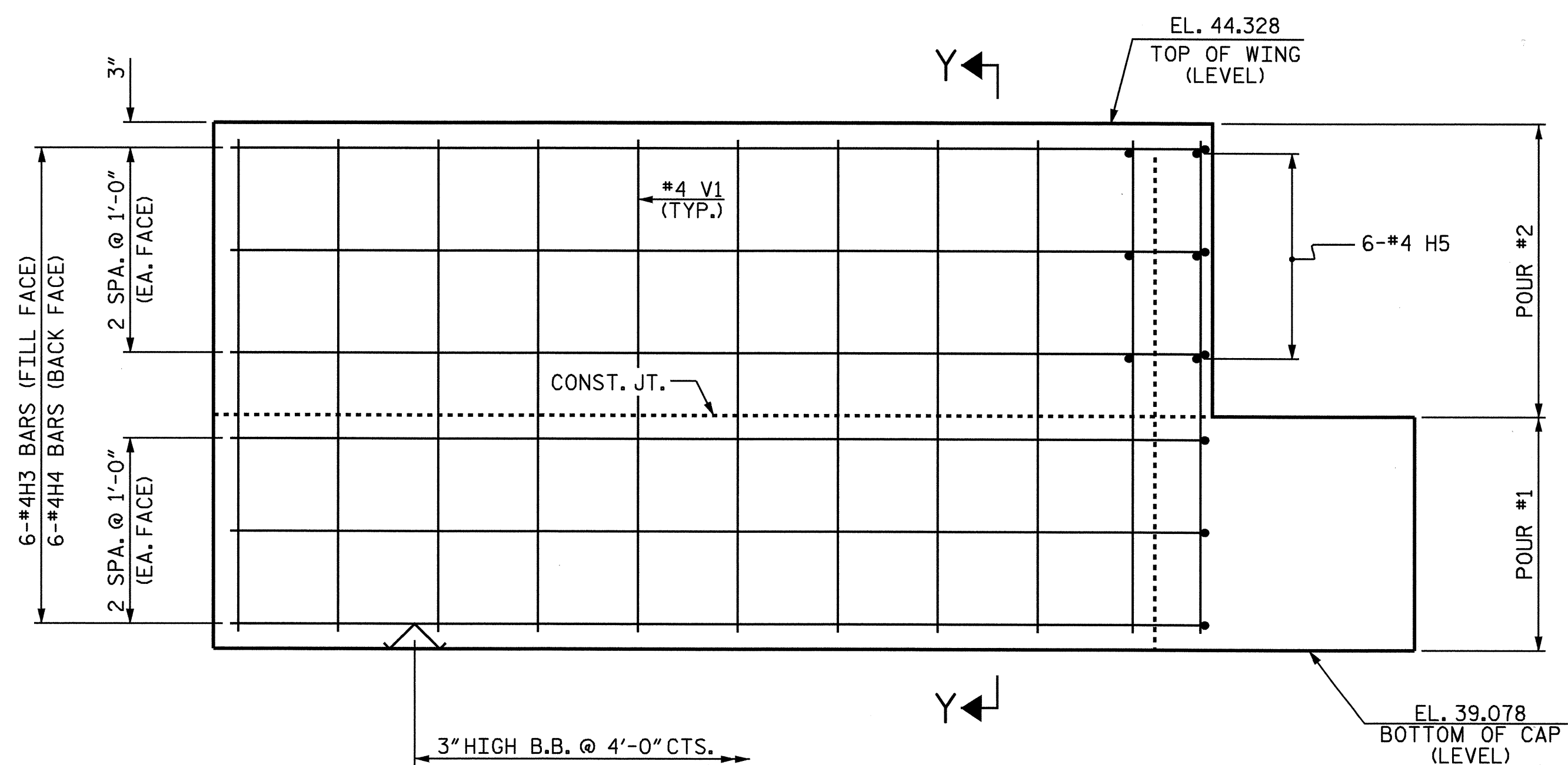
PLAN OF WING - W1



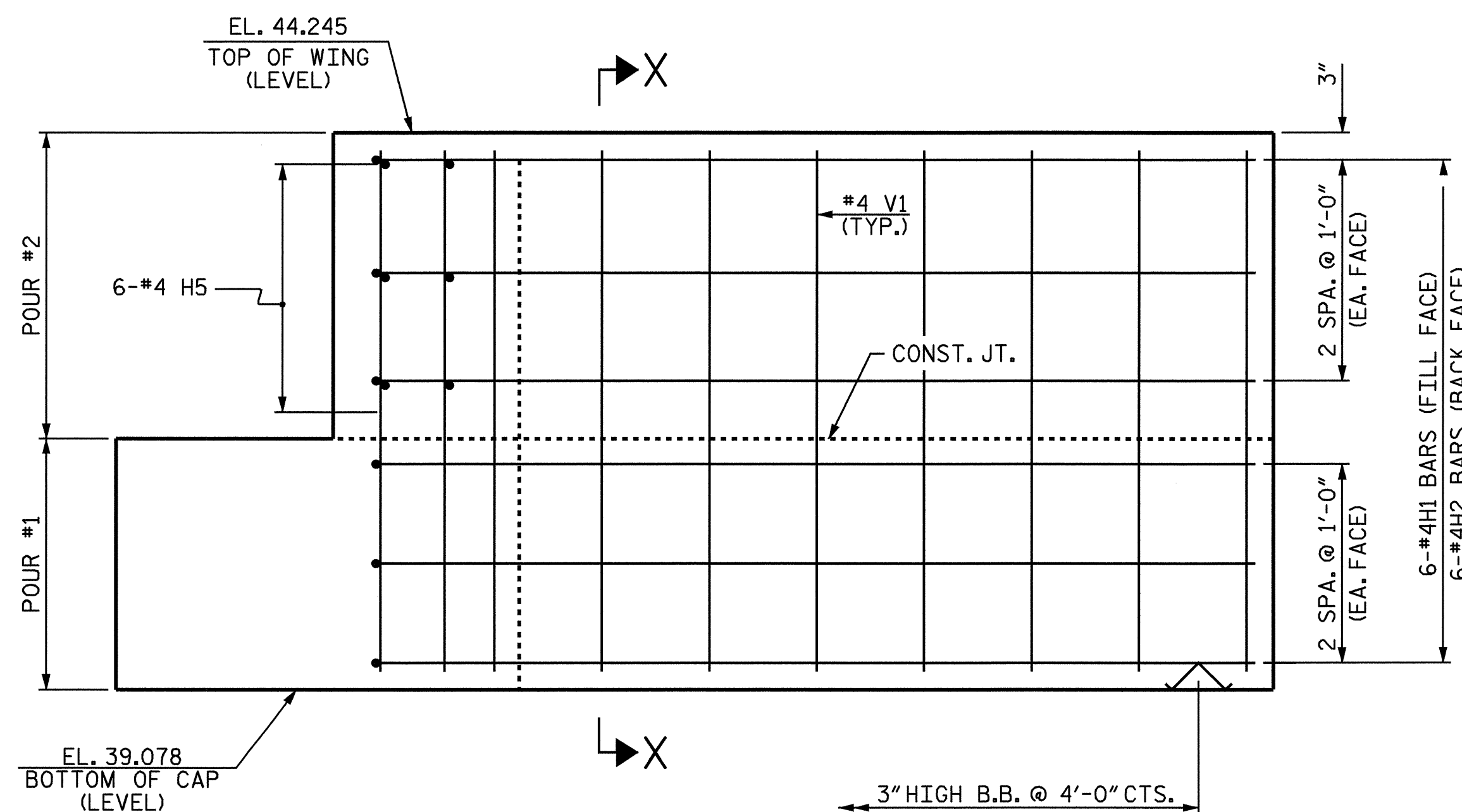
PLAN OF WING - W2



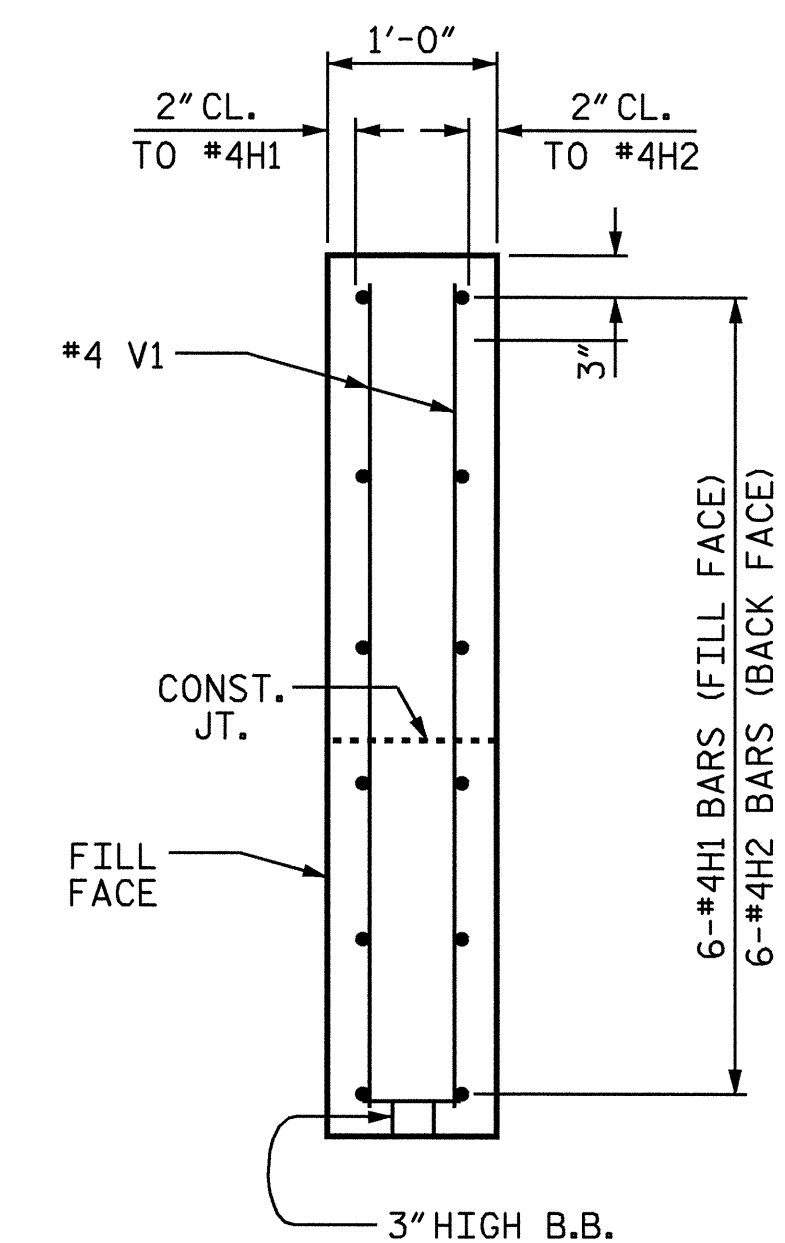
SECTION Y-Y



ELEVATION OF WING - W1



ELEVATION OF WING - W2



SECTION X-X

PROJECT NO. B-1382
 SAMPSON COUNTY
 STATION: 38+37.00 -L-

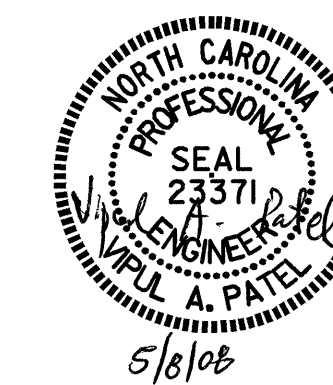
SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT #2

DRAWN BY: D.V. JOYNER DATE: 2-06
 CHECKED BY: K.D. LAYNE DATE: 3-06

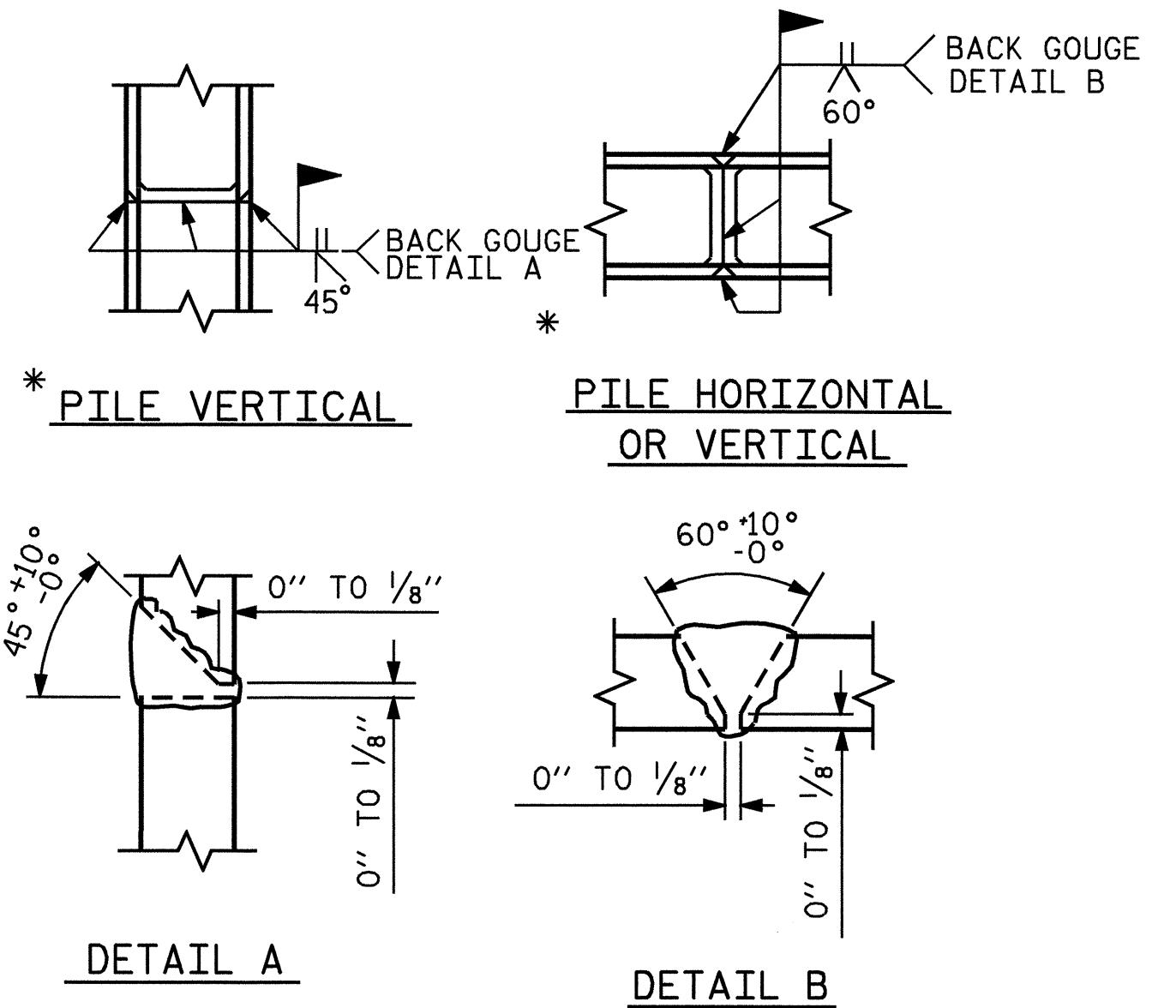
07-MAY-2008 14:08
 R:\Structures\B1382\str*2\Plans\B1382.sd.02.E*.dgn
 adombrowski



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

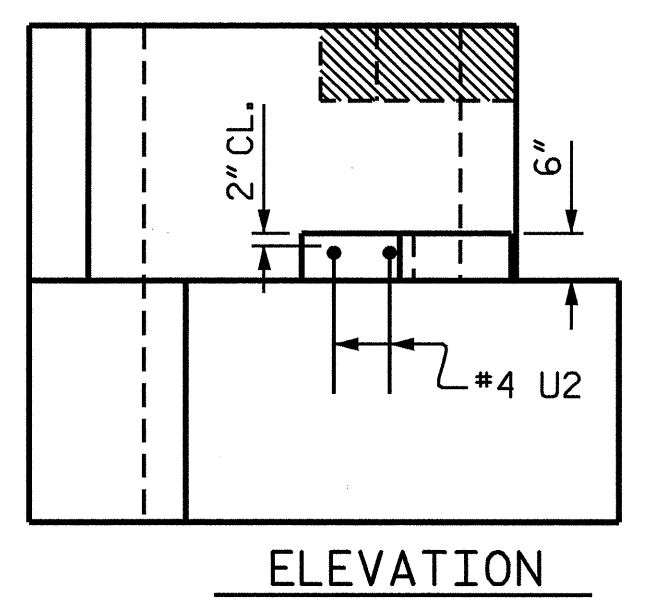
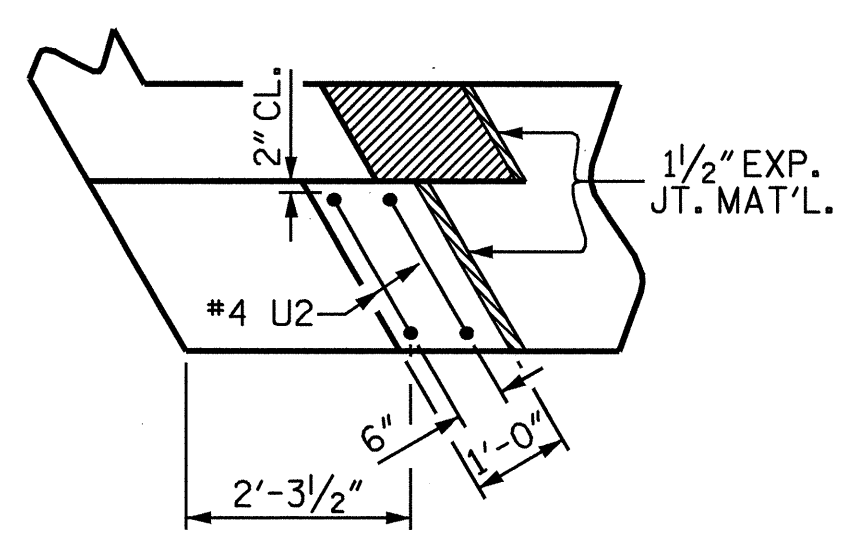
STR.#2

S-48
 TOTAL SHEETS
 52

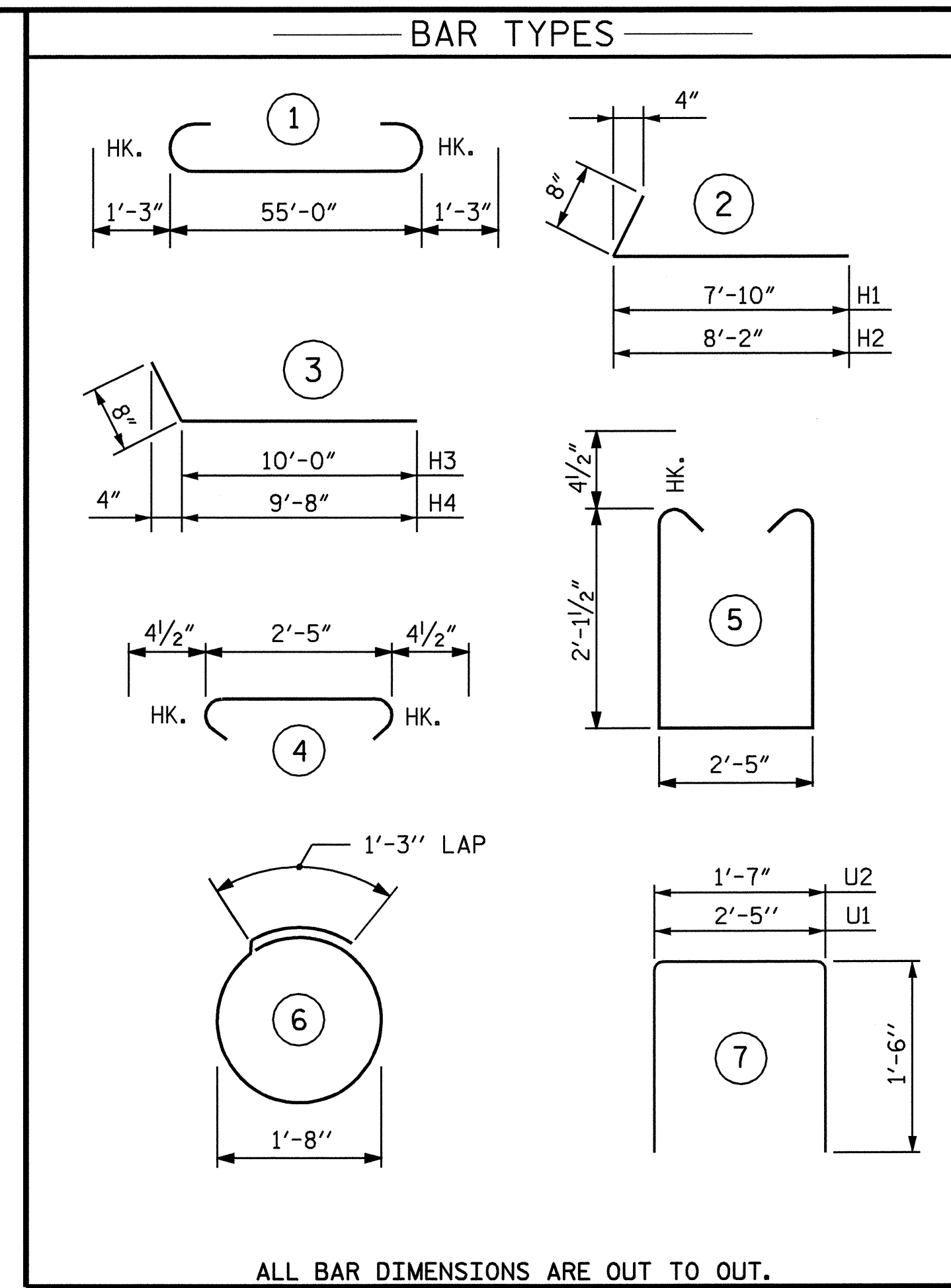


* POSITION OF PILE DURING WELDING.

PILE SPlice DETAILS



LATERAL GUIDE DETAIL



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

END BENT #2

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9		57'-6"	1564
B2	16	#4	STR	28'-10"	308
B3	14	#4	STR	2'-5"	23
B4	4	#4	STR	29'-0"	77
D1	28	#6	STR	1'-6"	63
H1	6	#4	2	8'-6"	34
H2	6	#4	2	8'-10"	35
H3	6	#4	3	10'-8"	43
H4	6	#4	3	10'-4"	41
H5	12	#4	STR	4'-0"	32
S1	56	#4	5	7'-5"	277
S2	56	#4	4	3'-2"	118
S3	20	#4	6	6'-6"	87
U1	20	#4	7	5'-5"	72
U2	4	#4	7	4'-7"	12
V1	54	#4	STR	4'-10"	174

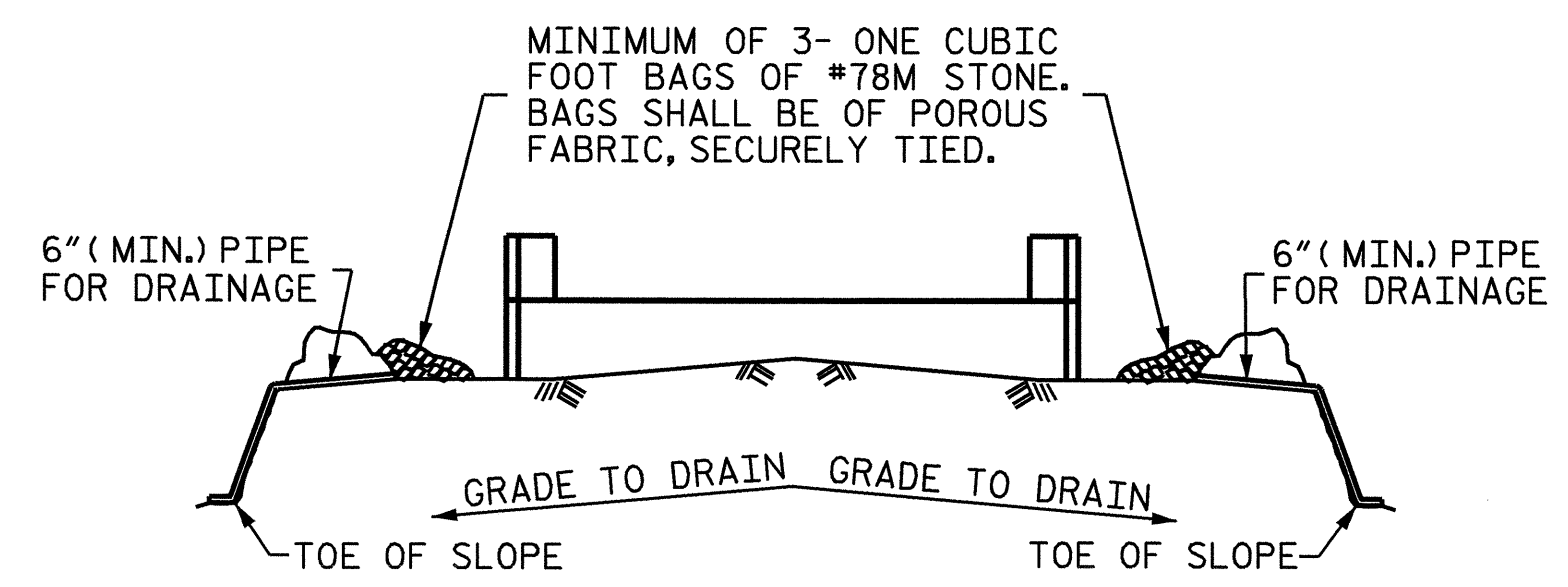
REINFORCING STEEL 2960 LBS

CLASS A CONCRETE BREAKDOWN :

POUR #1 (CAP & LOWER WINGS) 17.3 C.Y.
POUR #2 (UPPER WINGS) 2.5 C.Y.
POUR #3 (LATERAL GUIDE) 0.1 C.Y.

TOTAL 19.9 C.Y.

HP 12X53 STEEL PILES
10 EA. 450 LIN. FT.

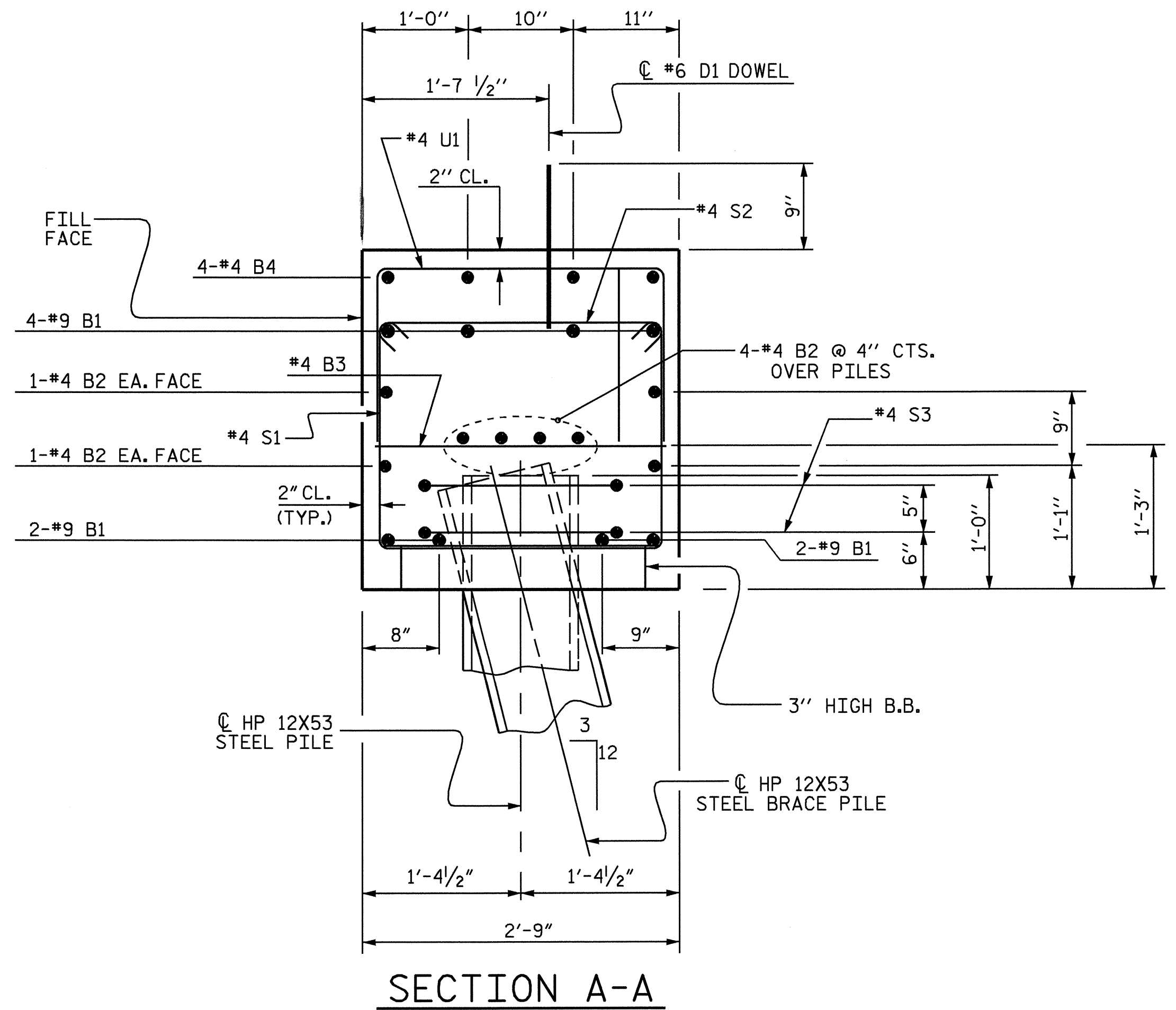


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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



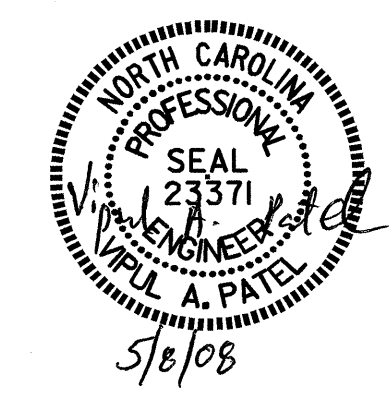
PROJECT NO. B-1382
SAMPSON COUNTY
STATION: 38+37.00-L-
SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

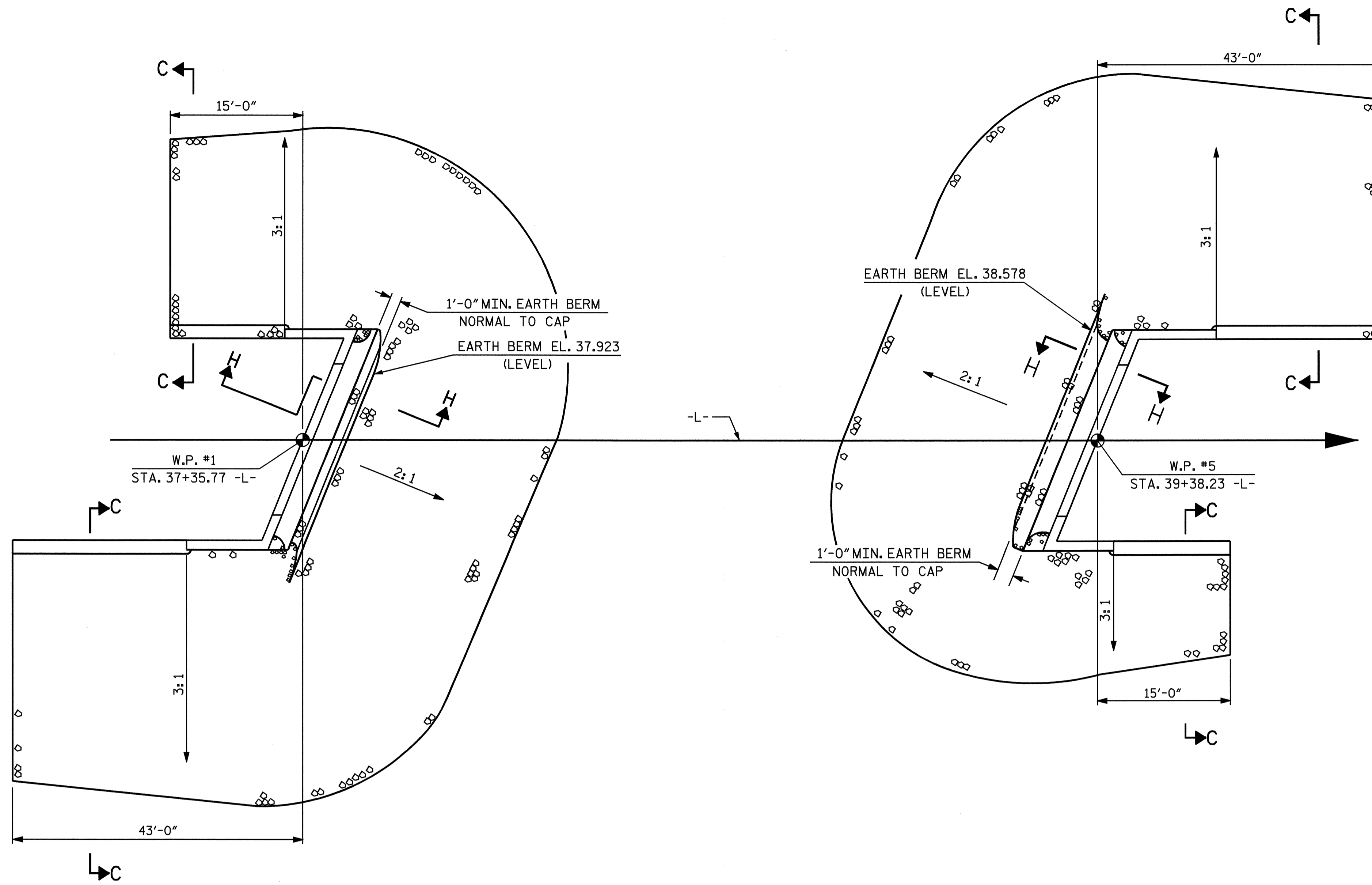
**SUBSTRUCTURE
END BENT #2**

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

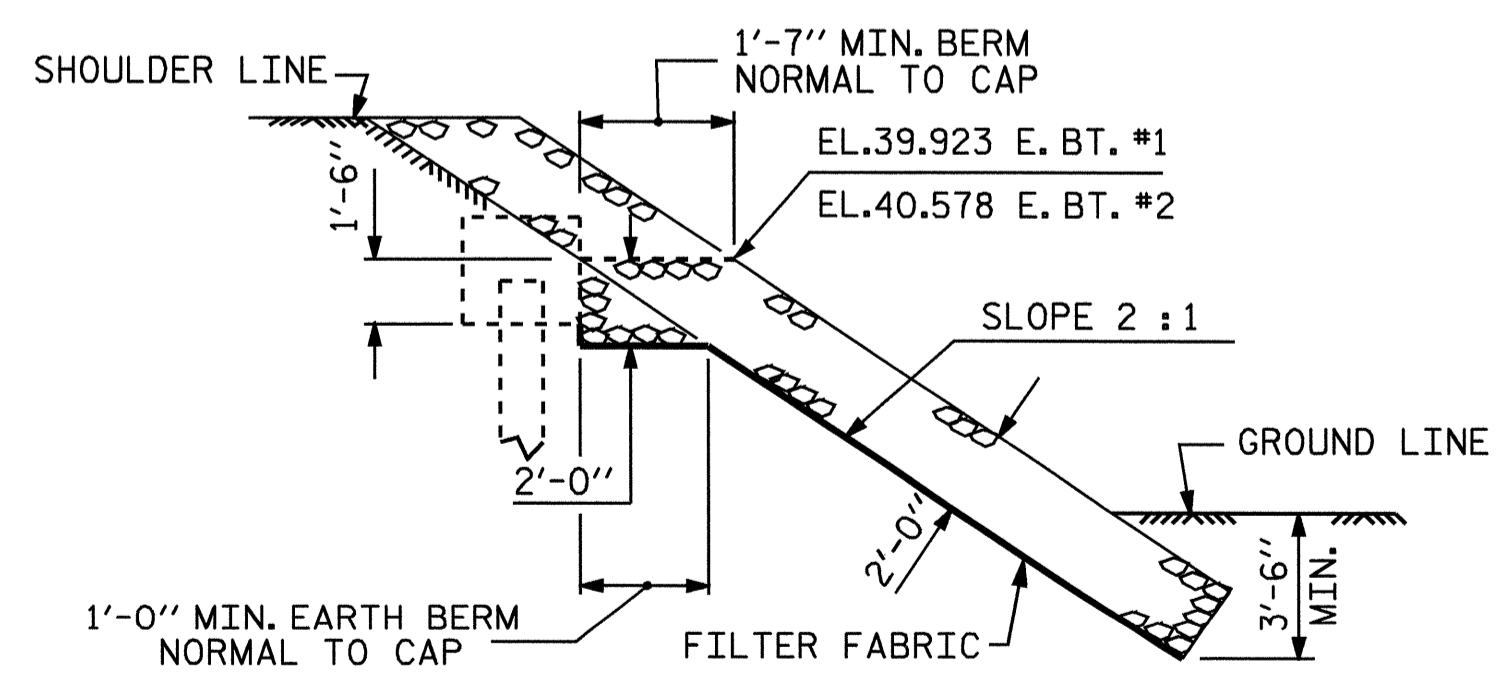
TOTAL SHEETS 52



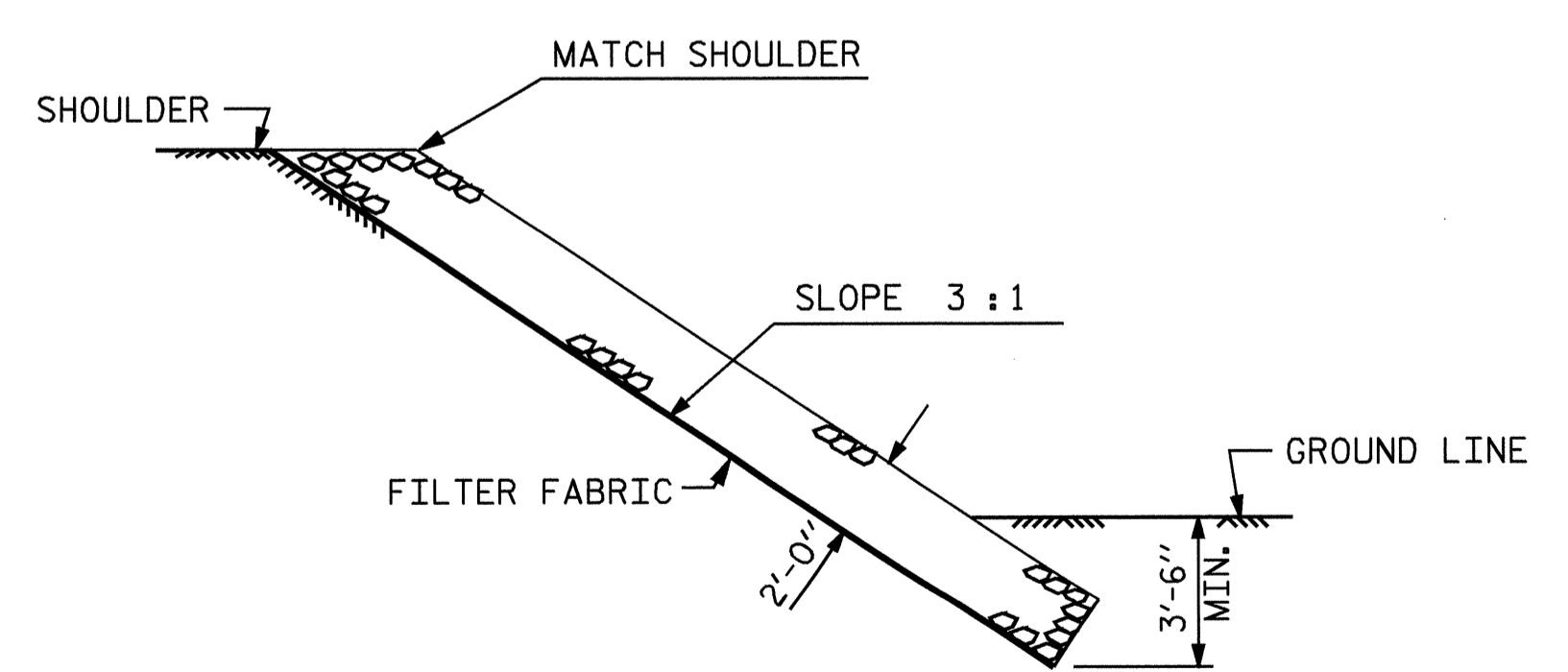
DRAWN BY: D.V. JOYNER DATE: 2-06
CHECKED BY: K.D. LAYNE DATE: 3-06



ESTIMATED QUANTITIES		
BRIDGE @ STA. 38+37.00 -L-	RIP RAP CLASS II	FILTER FABRIC FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT #1	467	520
END BENT #2	336	370



SECTION H-H



SECTION C-C

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 38+37.00 -L-



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

ASSEMBLED BY : G.A. THOMPSON	DATE : 12/05
CHECKED BY : J. P. Adams	DATE : 2/8/06
DRAWN BY : REK 1/84	REV. 7/17/98 REK/RWW
CHECKED BY : RDU 1/84	REV. 8/16/99 RWW/LES
	REV. 10/17/00 RWW/LES

REVISIONS						SHEET NO. S-50
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 52
2			4			

NOTES

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 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.

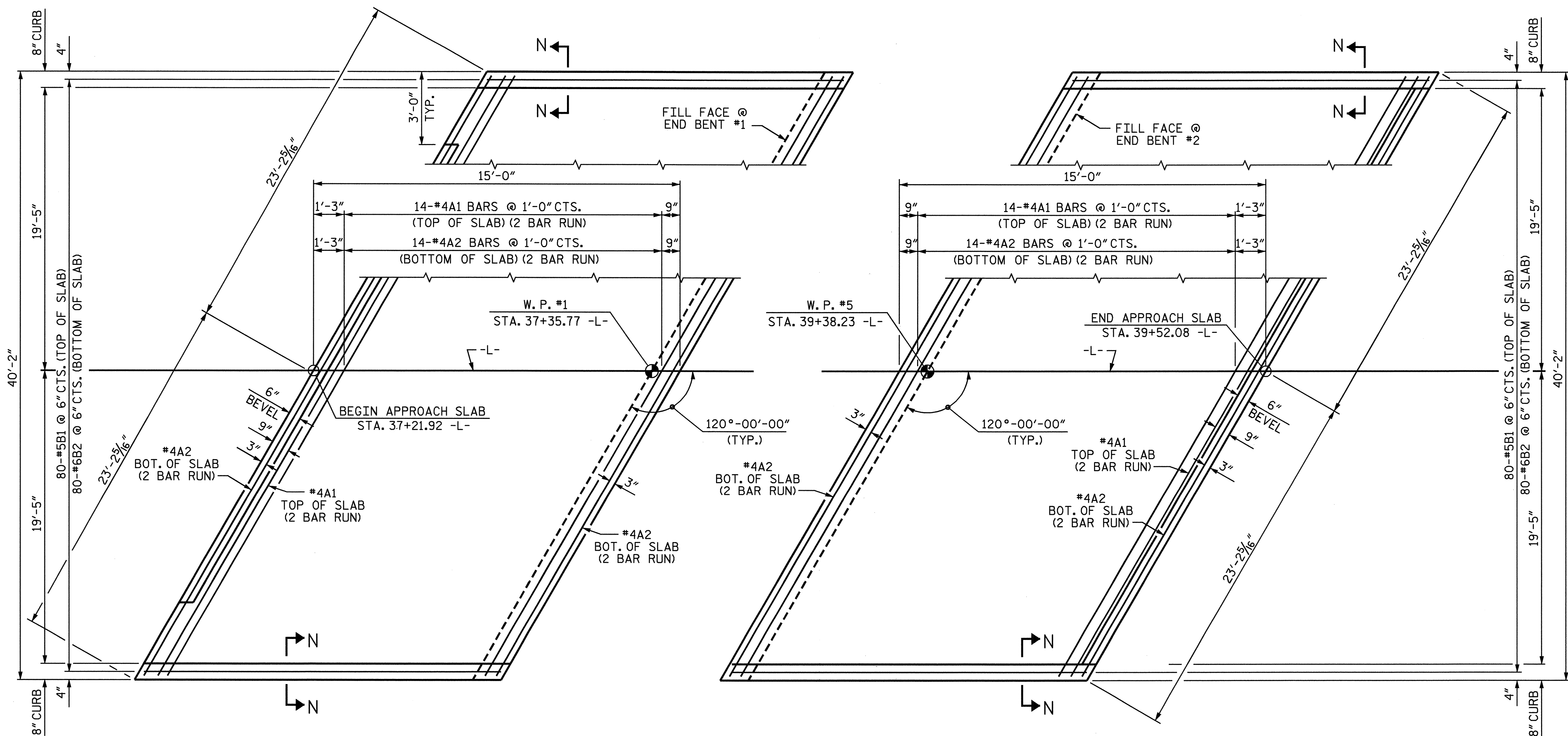
THE CONTRACTOR MAY USE 5" CLASS "A" CONCRETE BASE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE CONCRETE BASE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB, AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB. THE CONCRETE SHALL BE FINISHED TO A SMOOTH SURFACE AND A LAYER 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 EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE EVAZOTE JOINT SEAL SHALL BE 2 1/2".

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

APPROACH SLAB GROOVING IS REQUIRED. PAYMENT FOR APPROACH SLAB GROOVING IS INCLUDED IN THE "GROOVING BRIDGE PAY ITEM".



PLAN OF APPROACH SLAB @ END BENT #1

PLAN OF APPROACH SLAB @ END BENT #2

BILL OF MATERIAL FOR ONE APPROACH SLAB (2 REQ'D)

BAR NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	30	*4	STR 24'-0"	481
A2	32	*4	STR 23'-11"	511
*B1	80	*5	STR 13'-9"	1,147
B2	80	*6	STR 14'-8"	1,762
REINFORCING STEEL				LBS. 2,273
*EPOXY COATED REINFORCING STEEL				LBS. 1,628
CLASS AA CONCRETE				C. Y. 27.0

ELASTOMERIC CONCRETE

AT END BENT #1	Cu. ft.	20.0
AT END BENT #2	Cu. ft.	20.0
*TOTAL	Cu. ft.	40.0

*BASED ON THE MINIMUM BLOCKOUT SHOWN IN "JOINT SEAL DETAILS @ END BENT" SHEET 2 OF 2.

SPLICE CHART

BAR	SIZE	SPLICE LENGTH
A1	*4	2'-0"
A2	*4	1'-9"

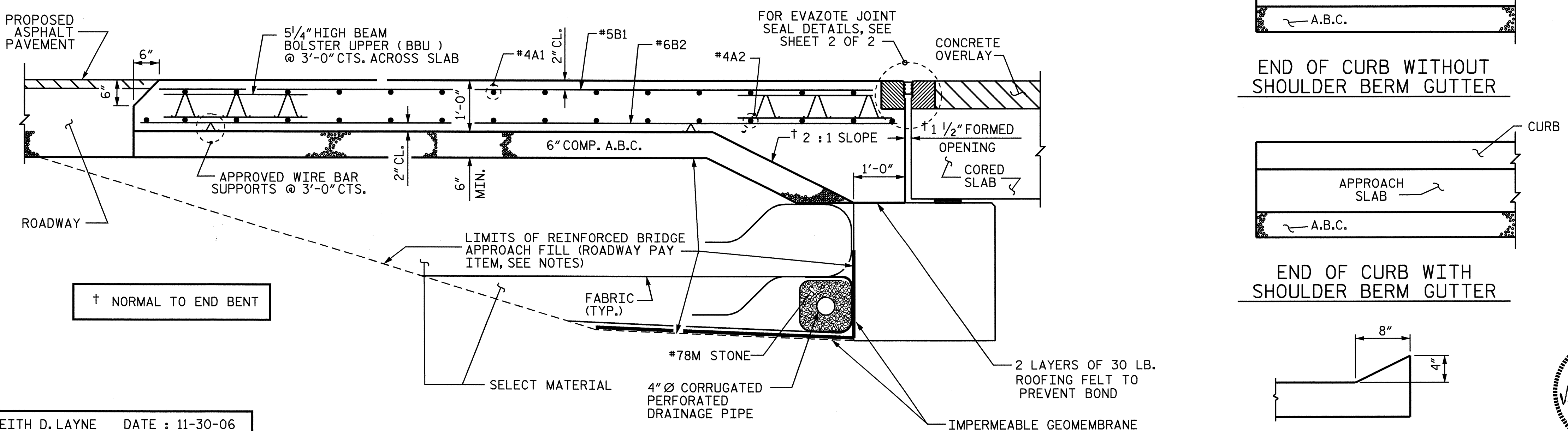
PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 38+37.00 -L-

SHEET 1 OF 2

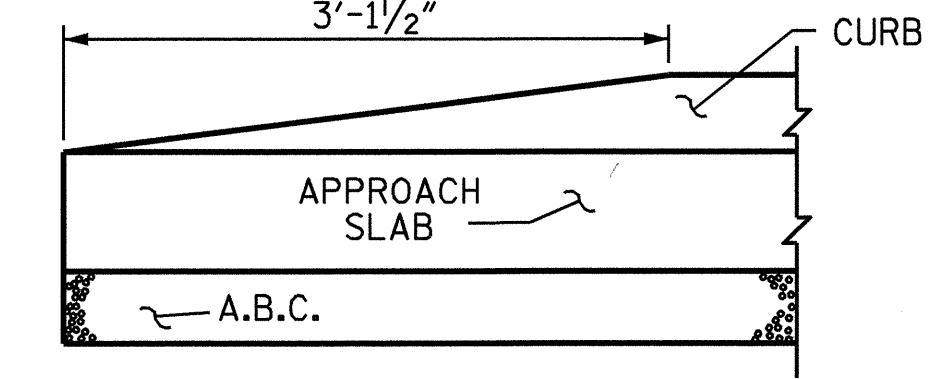
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
BRIDGE APPROACH SLAB FOR PRESTRESSED CONCRETE CORED SLAB

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

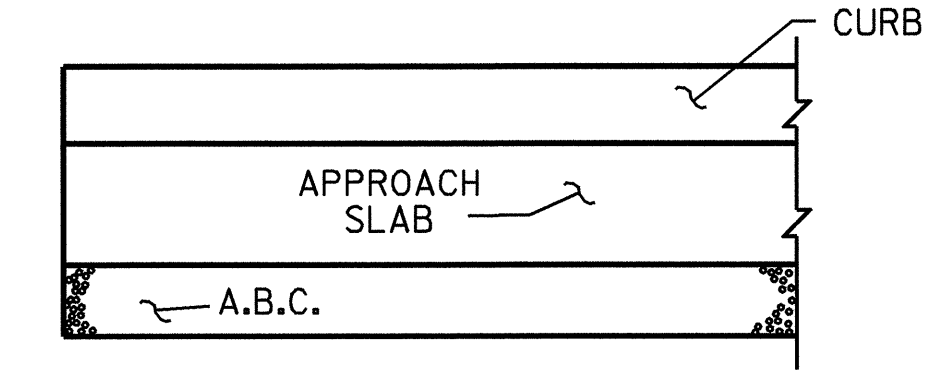
TOTAL SHEETS: 52



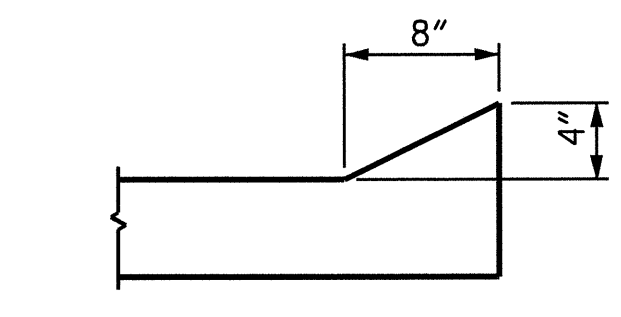
SECTION THRU SLAB



END OF CURB WITHOUT SHOULDER BERM GUTTER



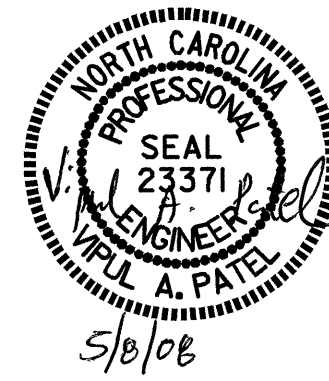
END OF CURB WITH SHOULDER BERM GUTTER

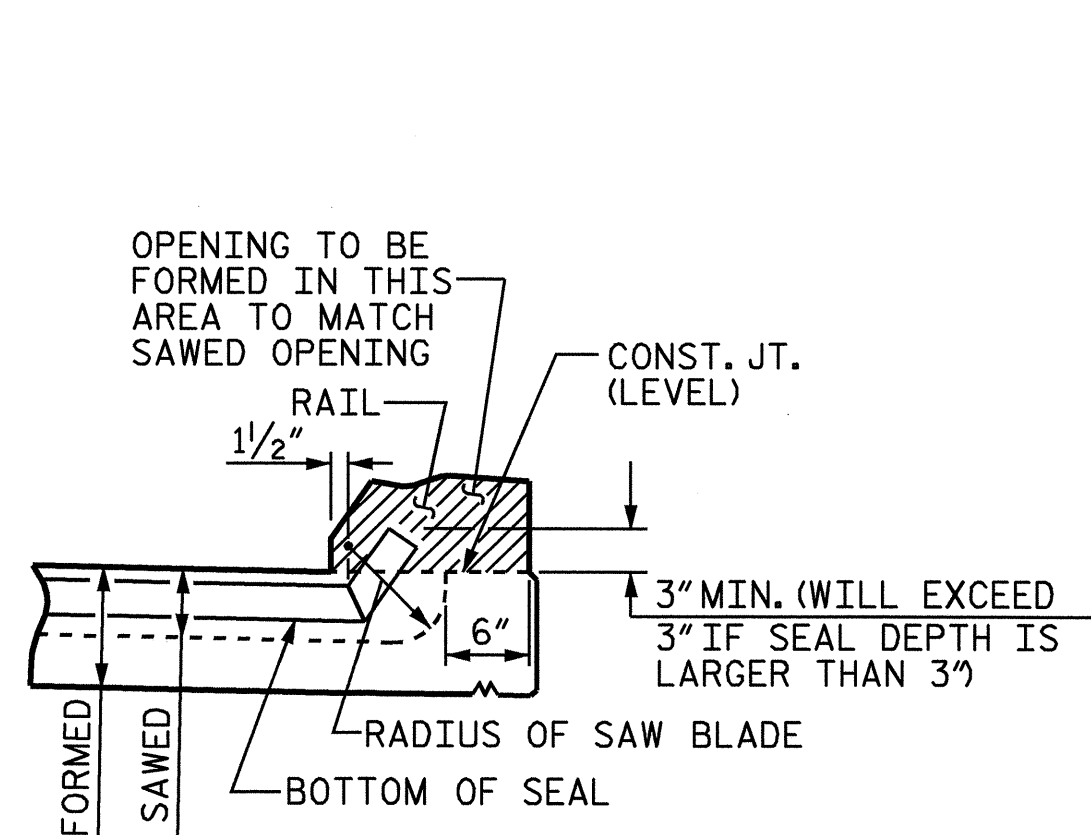
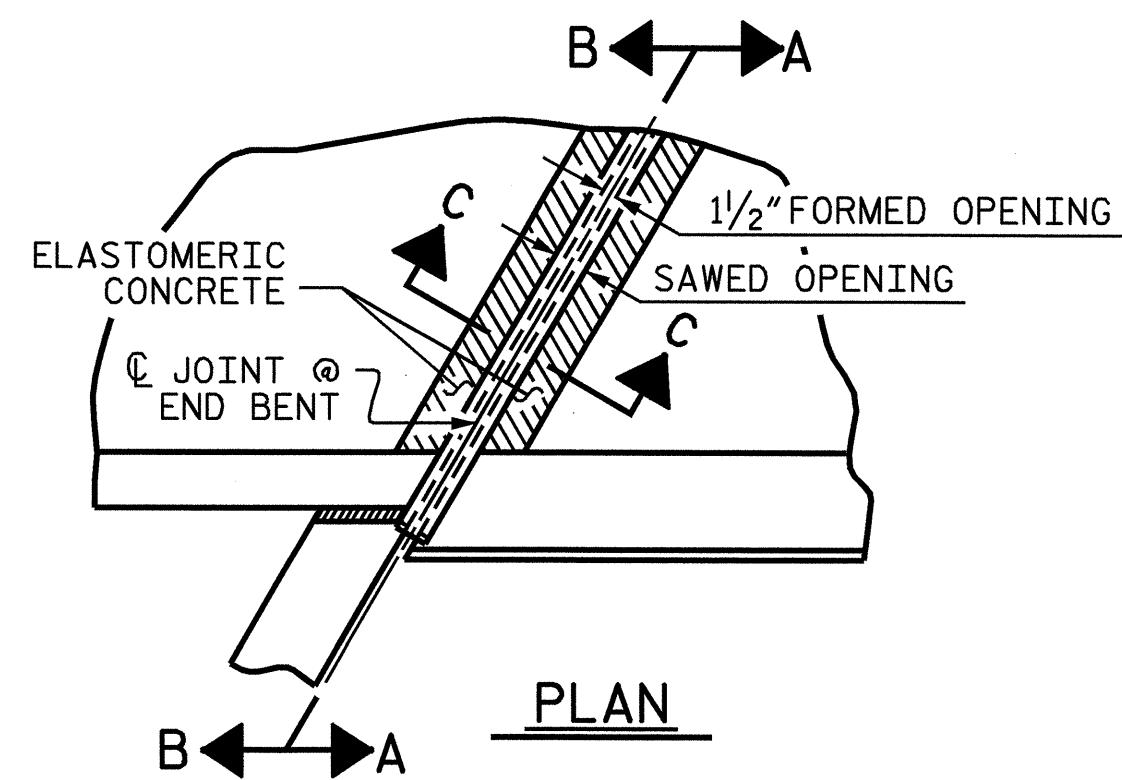


SECTION N-N

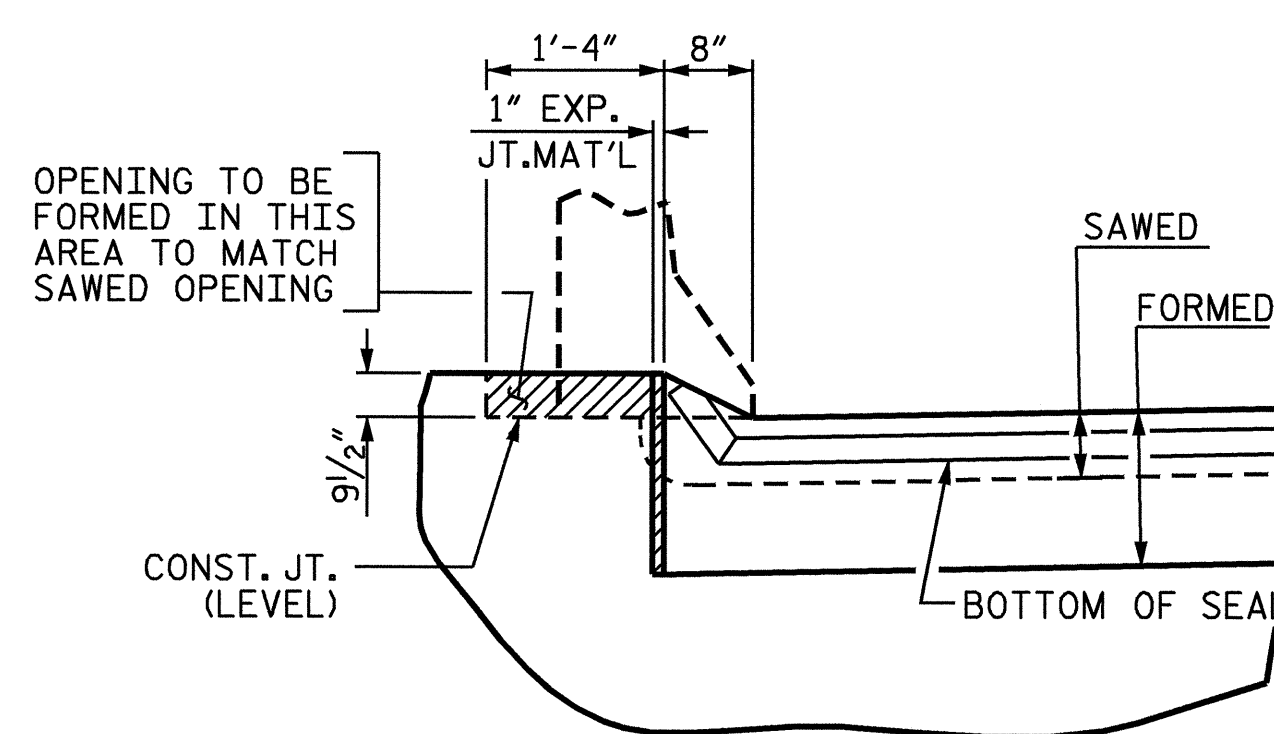
ASSEMBLED BY : KEITH D. LAYNE DATE : 11-30-06
 CHECKED BY : R. G. EMERSON DATE : 12-14-06
 DRAWN BY : FCJ 6/87 REV. 7/10/01 LES/RDR
 CHECKED BY : EGA 6/87 REV. 5/7/03R RWW/JTE
 REV. 5/1/06R KMM/GM

07-MAY-2008 14:08
 R:\Structure\B1382\tr\2\Plans\B1382.ed.02.AS.dgn
 sdombrowski





SECTION A-A

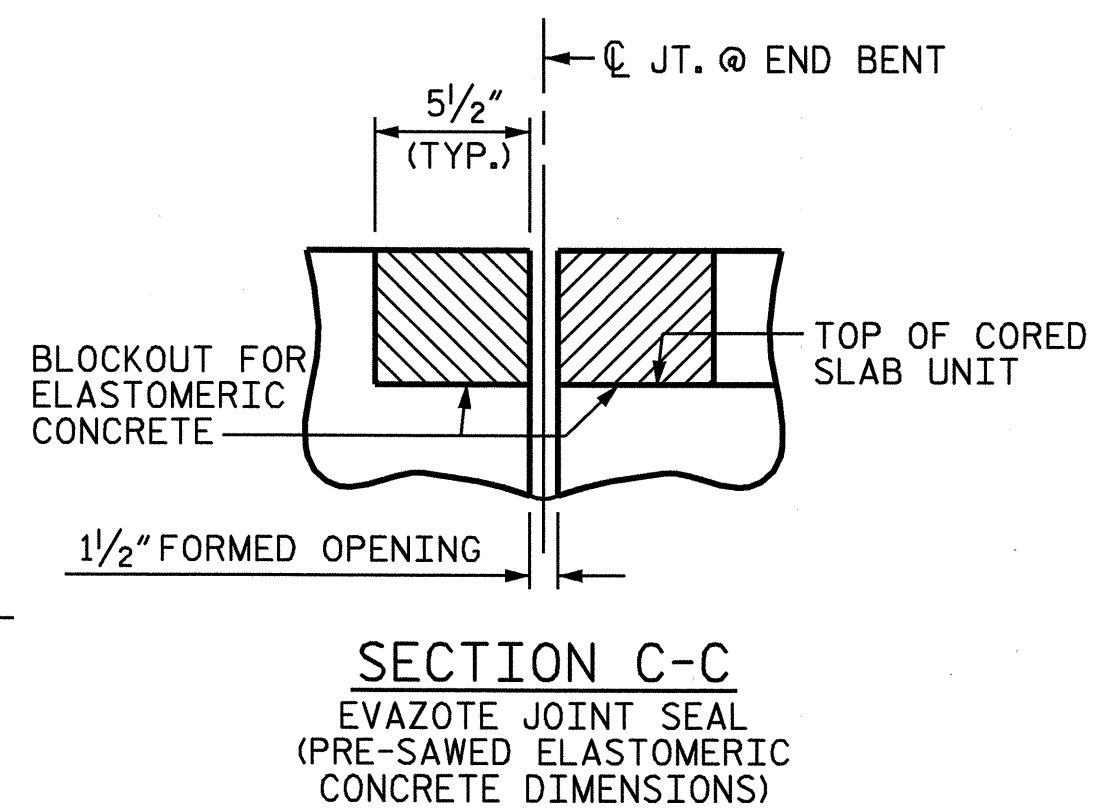


SECTION B-B

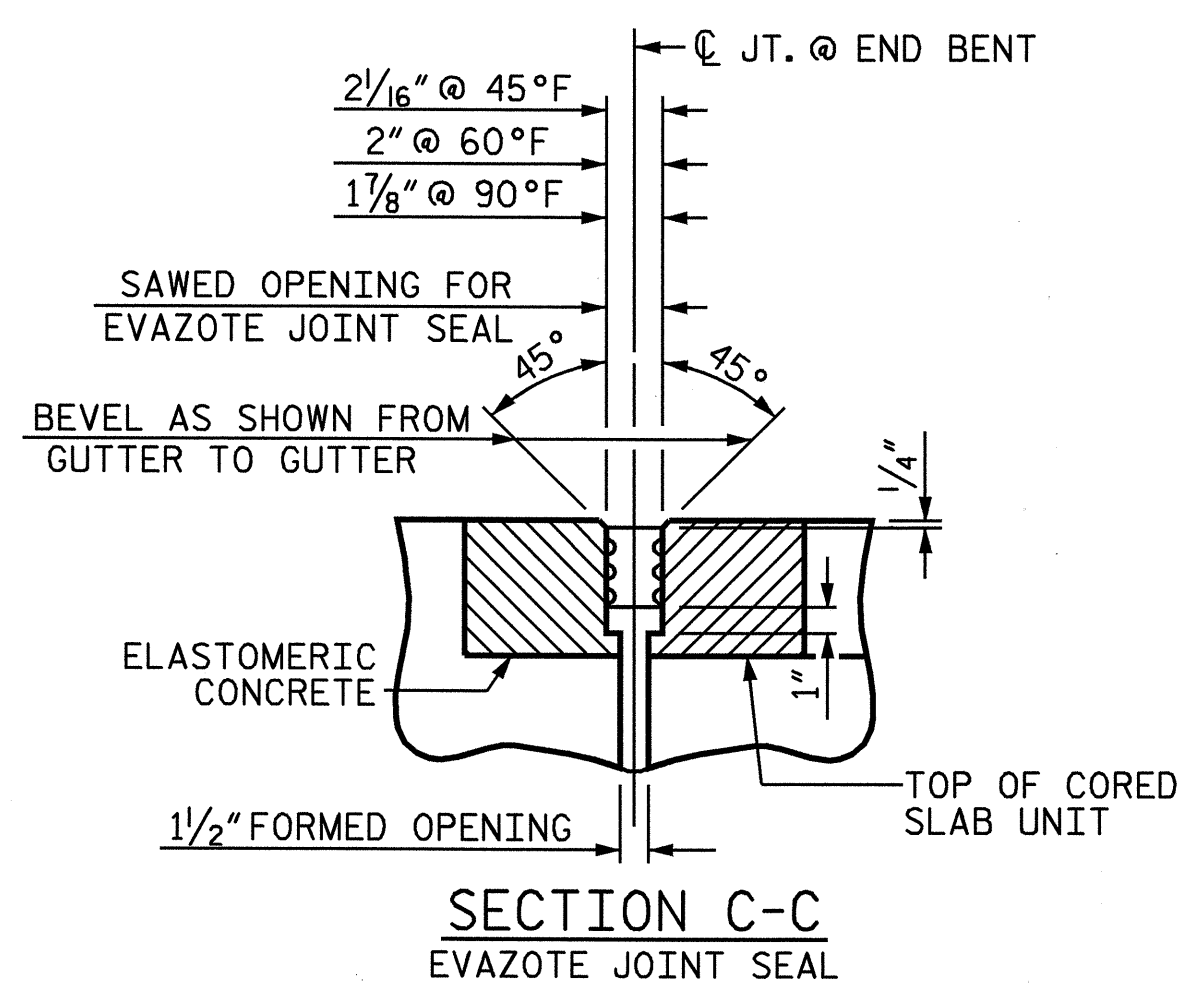
JOINT SEAL DETAILS @ END BENT

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

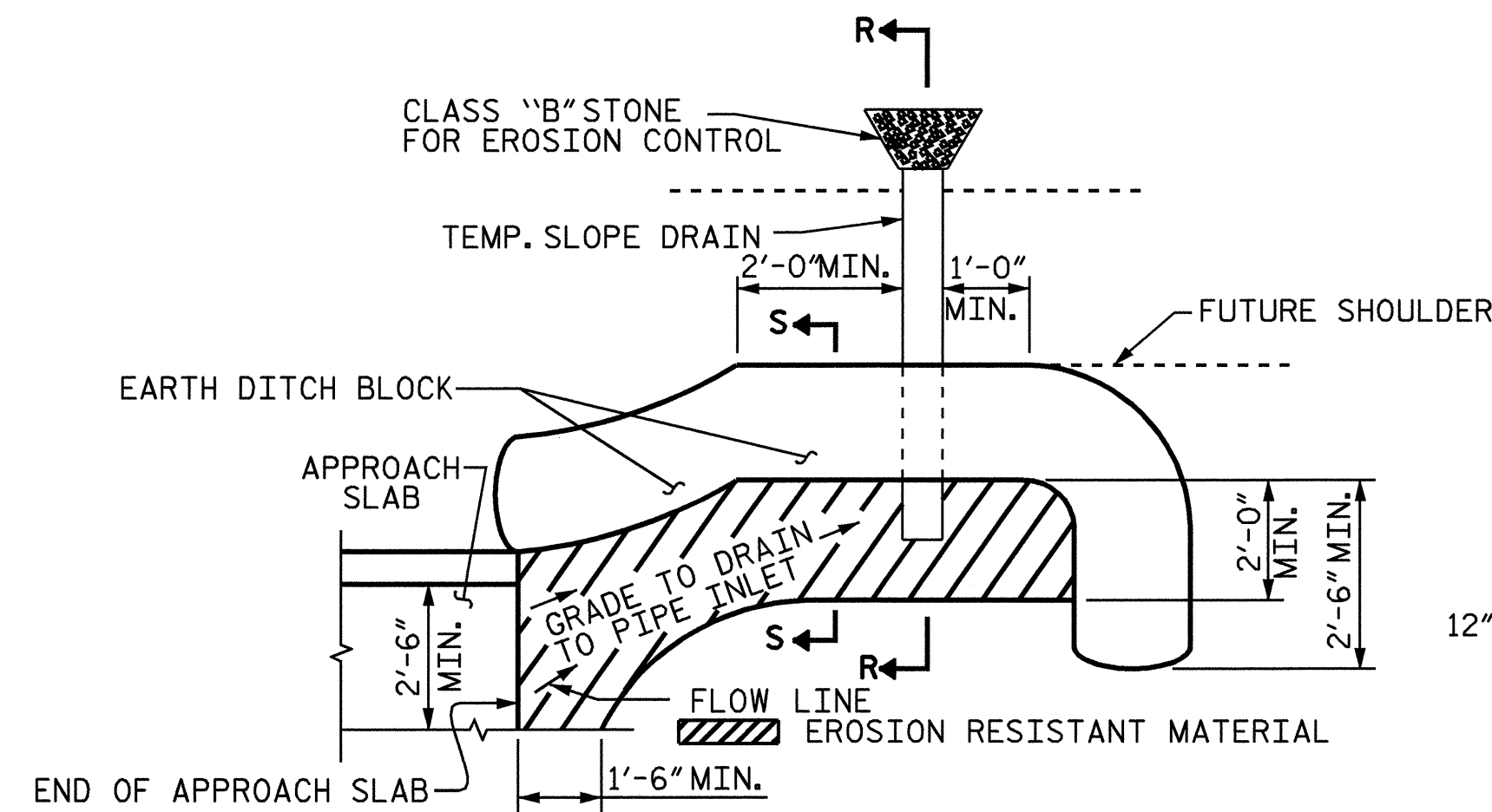
THE JOINT SHALL BE SAWED PRIOR TO THE CASTING OF THE BARRIER RAIL.



SECTION C-C
EVAZOTE JOINT SEAL
(PRE-SAWED ELASTOMERIC
CONCRETE DIMENSIONS)



SECTION C-C
EVAZOTE JOINT SEAL

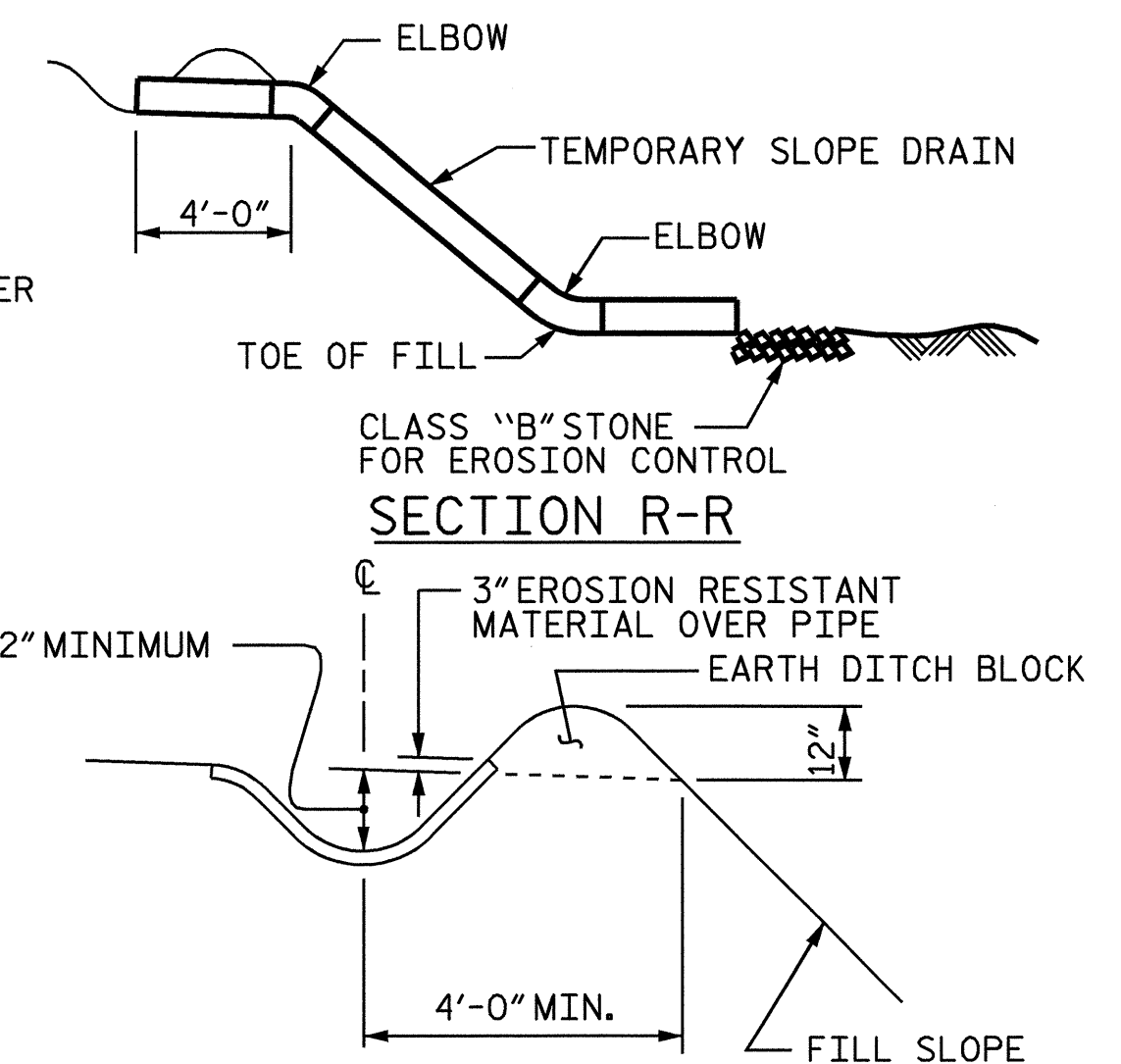


PLAN VIEW

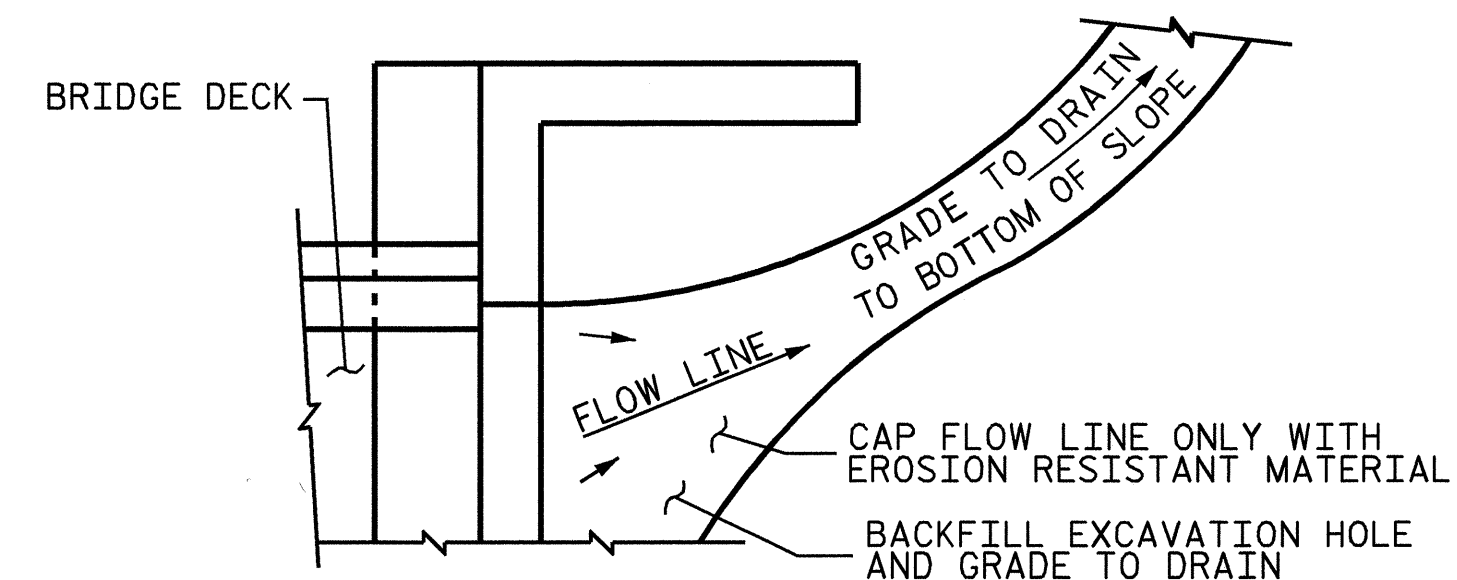
TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)

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.



SECTION S-S



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.

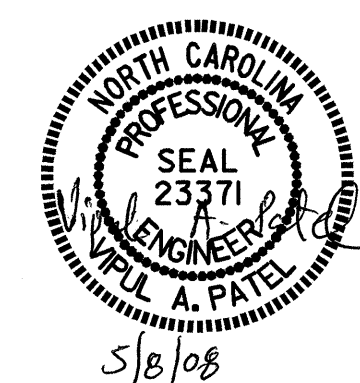
TEMPORARY DRAINAGE DETAIL

PROJECT NO. B-1382
SAMPSON COUNTY
 STATION: 38+37.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 BRIDGE APPROACH
 SLAB DETAILS

ASSEMBLED BY : KEITH D. LAYNE	DATE : 11-30-06
CHECKED BY : R. G. EMERSON	DATE : 12-14-06
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



REVISIONS						1988
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S-52
2			4			TOTAL SHEETS 52

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	-----	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	-----	SEE PLANS
IMPACT ALLOWANCE	-----	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF		
STRUCTURAL STEEL - AASHTO M270 GRADE 36	-	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	-	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	-	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION		
GRADE 60	--	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	-----	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	-----	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR		
UNTREATED - EXTREME FIBER STRESS	-----	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	-----	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	-----	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2002 STANDARD SPECIFICATIONS "FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

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

CONCRETE:

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

CONCRETE CHAMFERS:

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

DOWELS:

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

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

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

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

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

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

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED WITH THE EXCEPTION OF #2 BARS WHICH MAY BE FABRICATED FROM COLD DRAWN STEEL WIRE. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

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

STRUCTURAL STEEL:

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

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

PLACEMENT OF BEAM OR GIRDER MEMBERS ON TRUCKS FOR HAULING SHALL BE DONE IN COMPLIANCE WITH LIMITS SHOWN ON SKETCHES PROVIDED TO THE MATERIALS AND TEST UNIT APPROVED BY THE STRUCTURE DESIGN UNIT DATED MAY 8, 1991. THESE SKETCHES PRIMARILY LIMIT THE UNSUPPORTED CANTILEVER LENGTH OF MEMBERS. WHEN THE CONTRACTOR WISHES TO PLACE MEMBERS ON TRUCKS NOT IN ACCORDANCE WITH THESE LIMITS, TO SHIP BY RAIL, TO ATTACH SHIPPING RESTRAINTS TO THE MEMBERS OR TO INVERT MEMBERS, HE SHALL SUBMIT A SKETCH FOR APPROVAL PRIOR TO SHIPPING. SEE ALSO ARTICLE 1072-11.

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

HANDRAILS AND POSTS:

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

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

SPECIAL NOTES:

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

ENGLISH

JANUARY, 1990

STD. NO. SN