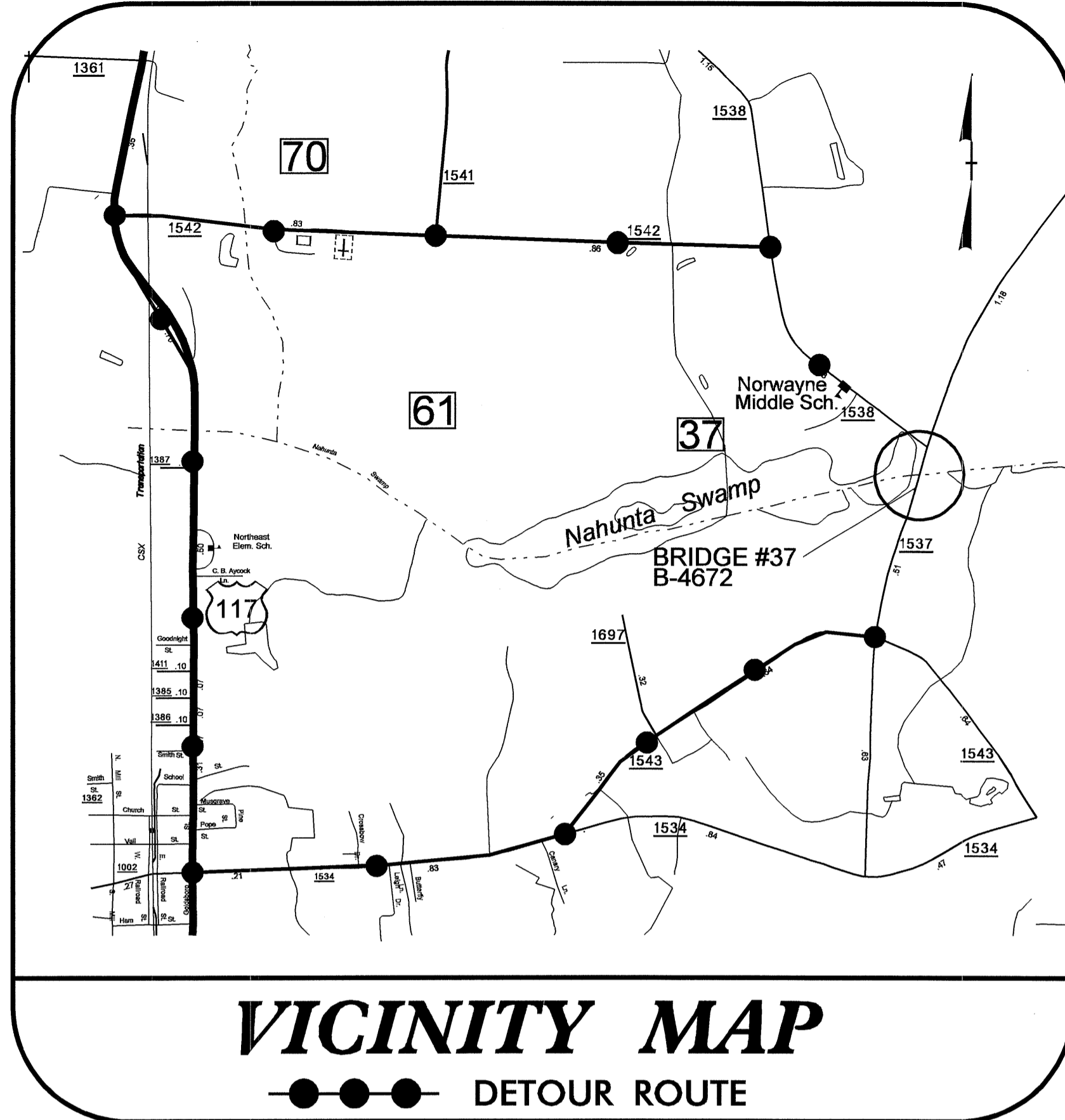


CONTRACT: C202272 TIP PROJECT: B-4672



VICINITY MAP

●●●● DETOUR ROUTE

NEAREST SHIPPING POINT: GOLDSBORO ON CSX RR APPROX. 12.3 MILES FROM PROJECT

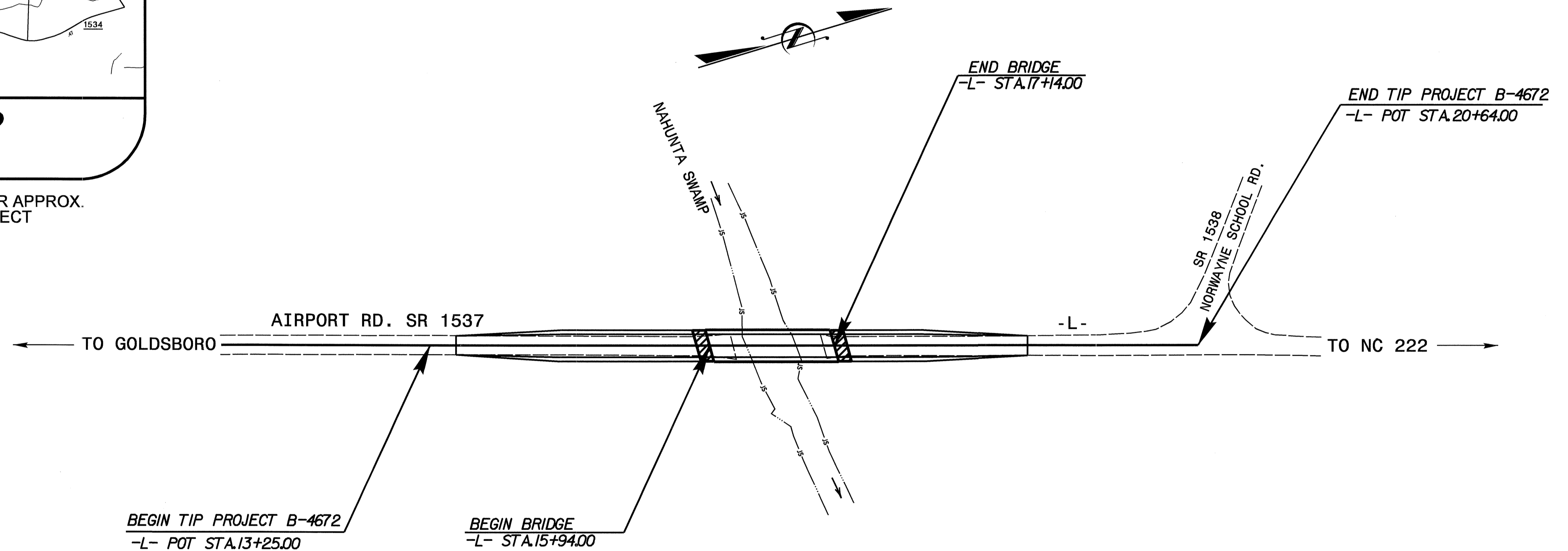
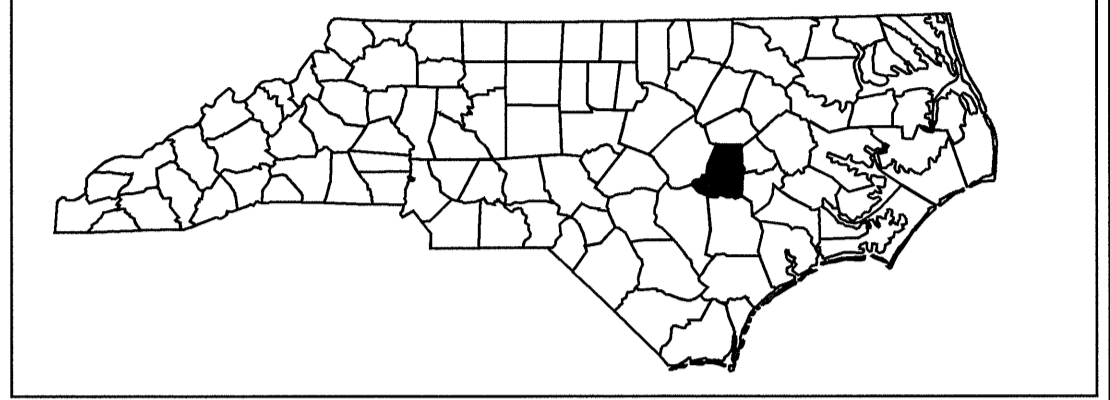
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAYNE COUNTY

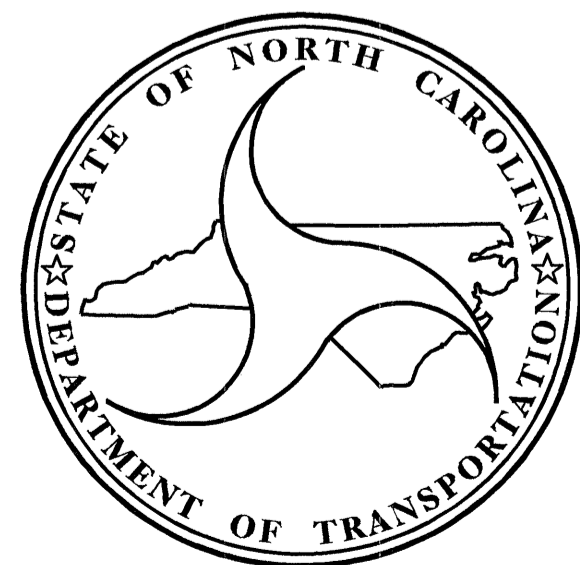
**LOCATION : BRIDGE NO. 37 ON SR 1537 (AIRPORT RD.)
OVER NAHUNTA SWAMP**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4672		
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33827.1.1	BRZ-1537 (4)	PE	
33827.2.1	BRZ-1537 (4)	R/W & UTIL.	
33827.3.1	BRZ-1537 (4)	CONST.	



STRUCTURE



DESIGN DATA

ADT 2010 = 4,134
 ADT 2030 = 6,800
 DHV = 10 %
 D = 60 %
 T = 4 % *
 V = 60 MPH
 * TTST 1% DUAL 3%
 FUNC CLASS = RURAL LOCAL

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4672 = 0.117 MI.
 LENGTH OF STRUCTURE TIP PROJECT B-4672 = 0.023 MI.
 TOTAL LENGTH OF TIP PROJECT B-4672 = 0.140 MI.

Prepared in the Office of:
DIVISION OF HIGHWAYS
 1000 BIRCH RIDGE DR. RALEIGH, NC 27610

2006 STANDARD SPECIFICATIONS

LETTING DATE:
 FEBRUARY 16, 2010

N. N. BULLOCK, PE
 PROJECT ENGINEER

A. K. PASCHAL, PE
 PROJECT DESIGN ENGINEER

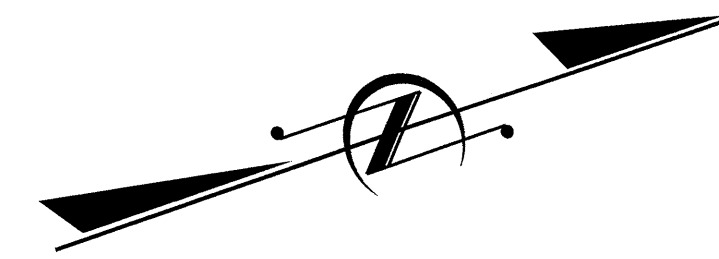
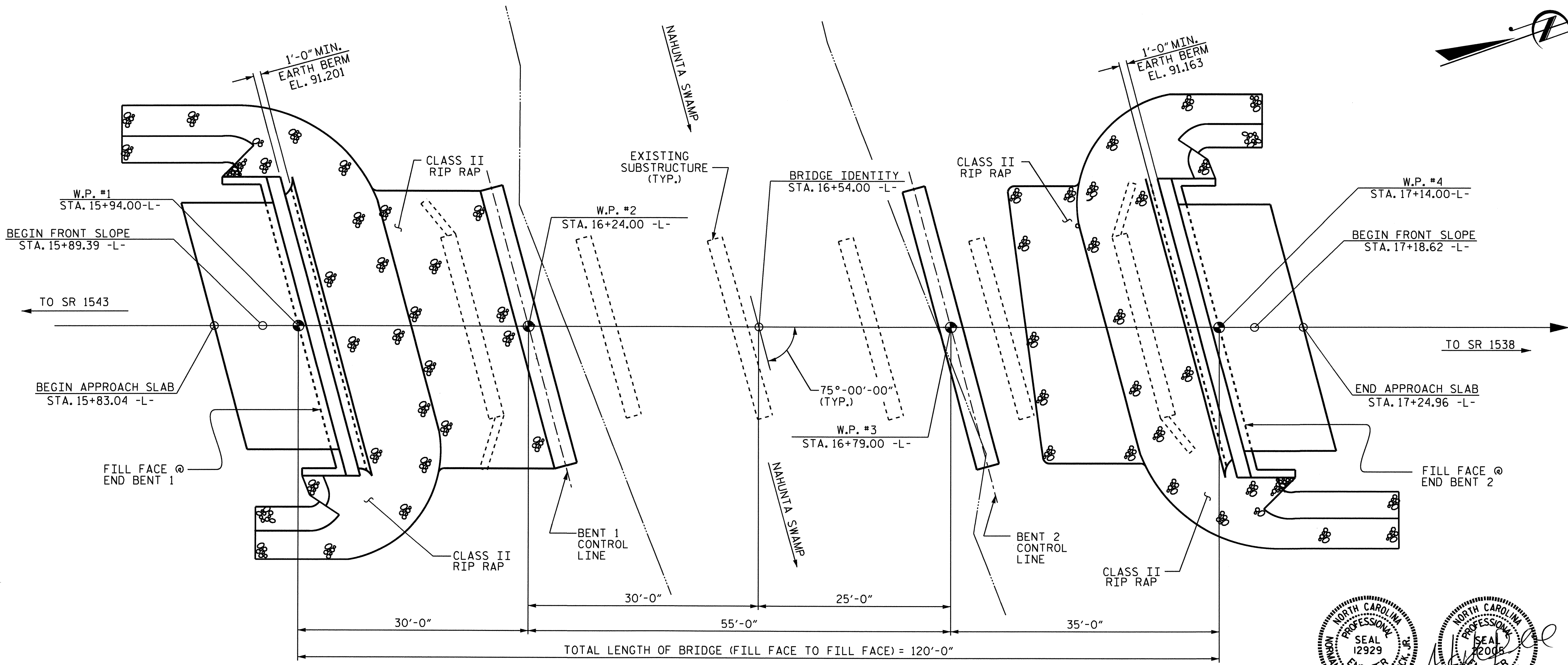
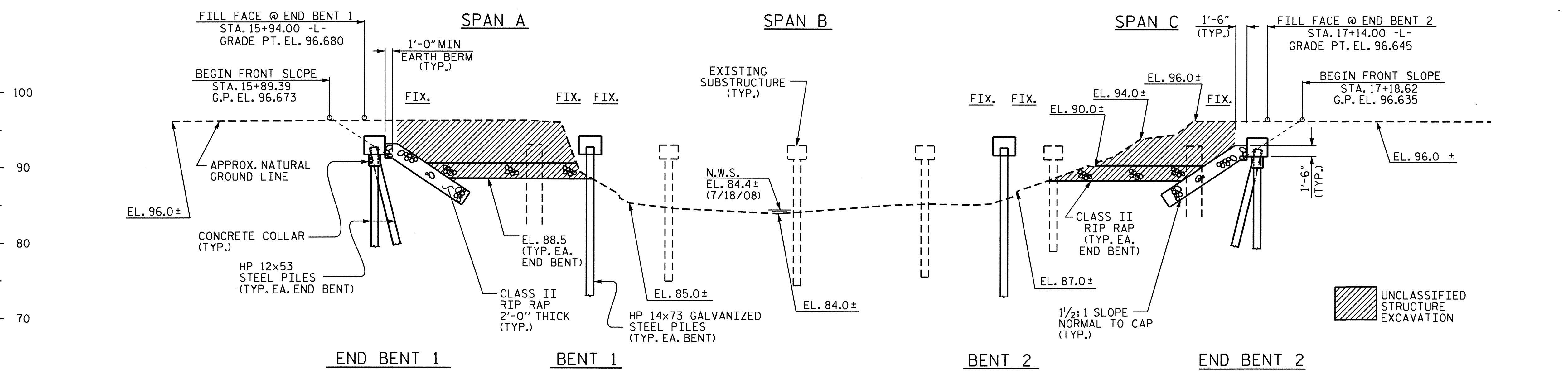
STRUCTURE DESIGN UNIT

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

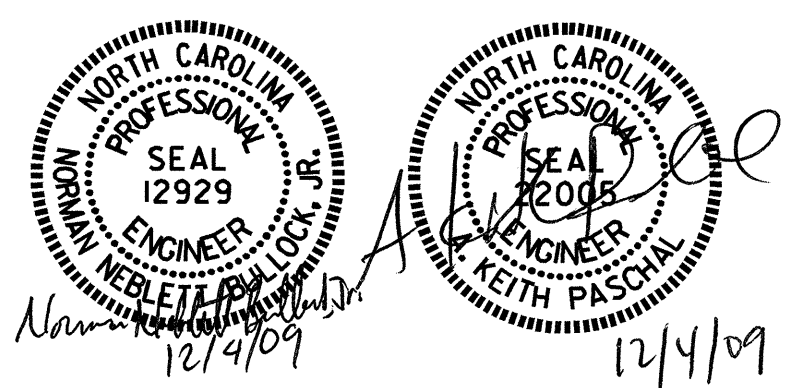
APPROVED
 DIVISION ADMINISTRATOR DATE

GRADE DATA
 +0.3029% -0.3620%
 PI STA. = 16+54.00 -L-
 EL. = 96.90
 VC = 220'



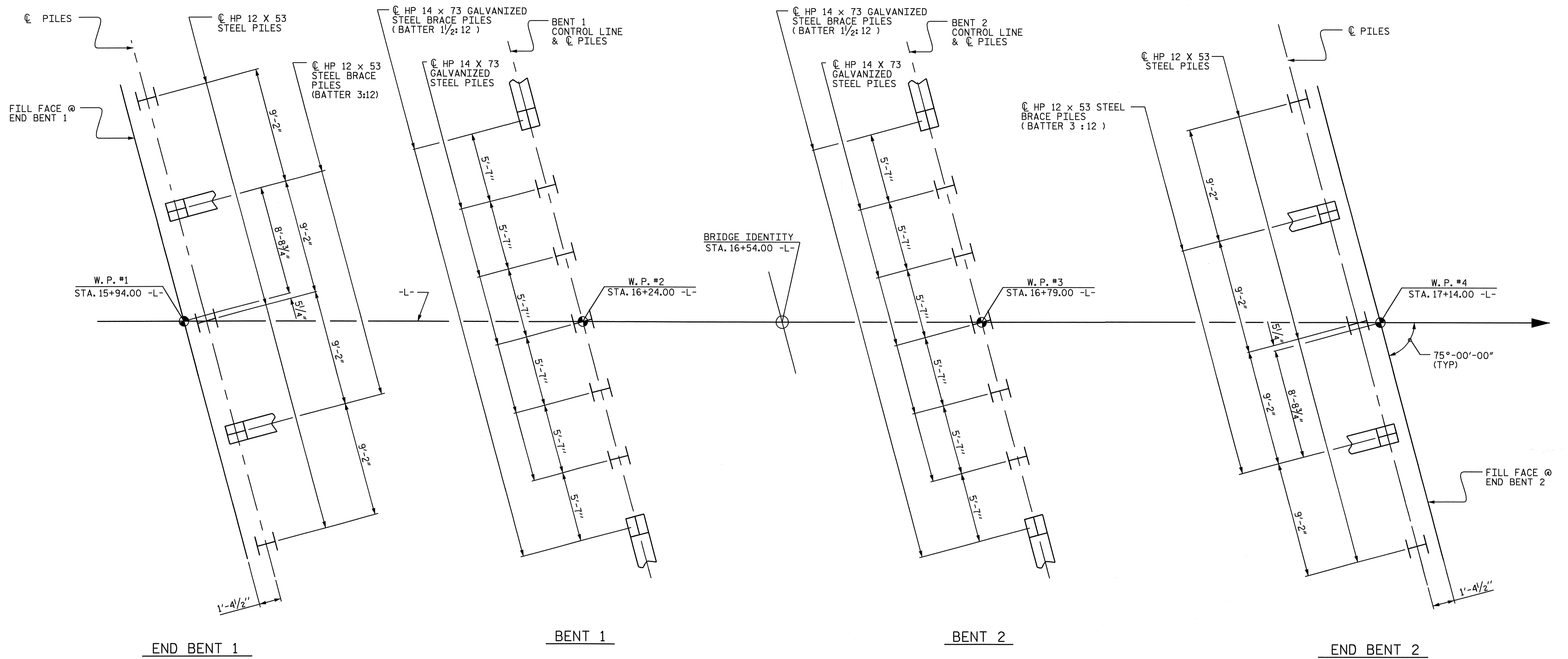
PROJECT NO. B-4672
 WAYNE COUNTY
 STATION: 16+54.00 -L-
 SHEET 1 OF 3 REPLACES BRIDGE NO. 37

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE OVER NAHUNTA SWAMP ON SR 1537 BETWEEN SR 1543 AND SR 1538



DRAWN BY : J. G. KHARVA DATE : 06/11/09
 CHECKED BY : J. D. HAWK DATE : 08/18/09

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



FOUNDATION LAYOUT

(DIMENSIONS LOCATING END BENT & BENT PILES ARE SHOWN TO CENTERLINE OF PILES)

FOUNDATION NOTES :

FOR PILES, SEE SPECIAL PROVISIONS.

PILES AT END BENT 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 70 TONS PER PILE. DRIVE PILES TO A REQUIRED DRIVING RESISTANCE OF 115 TONS PER PILE.

PILES AT BENT 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 100 TONS PER PILE. DRIVE PILES TO A REQUIRED DRIVING RESISTANCE OF 170 TONS PER PILE. THIS REQUIRED DRIVING RESISTANCE INCLUDES ADDITIONAL RESISTANCE FOR DOWNDRAG OR SCOUR.

PILES AT BENT 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 105 TONS PER PILE. DRIVE PILES TO A REQUIRED DRIVING RESISTANCE OF 185 TONS PER PILE. THIS REQUIRED DRIVING RESISTANCE INCLUDES ADDITIONAL RESISTANCE FOR DOWNDRAG OR SCOUR.

PILES AT END BENT 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 75 TONS PER PILE. DRIVE PILES TO A REQUIRED DRIVING RESISTANCE OF 125 TONS PER PILE.

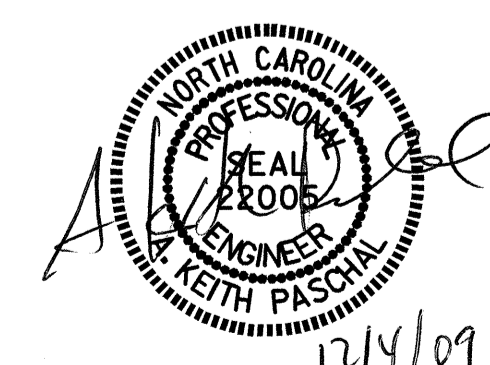
THE SCOUR CRITICAL ELEVATION FOR BENT 1 IS 75 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

THE SCOUR CRITICAL ELEVATION FOR BENT 2 IS 74 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

PROJECT NO. B-4672
WAYNE COUNTY
 STATION: 16+54.00 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE OVER NAHUNTA
 SWAMP ON SR 1537 BETWEEN
 SR 1543 AND SR 1538



DRAWN BY : J. G. KHARVA DATE : 6-15-09
 CHECKED BY : J. D. HAWK DATE : 8-20-09

09-NOV-2009 15:09
 G:\Structures\Final Plans\b4672.sd.gd.dgn
 kpaschal

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

NOTES

ASSUMED LIVE LOAD = HL 93 OR ALTERNATE LOADING.
 THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
 FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.
 FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.
 THE EXISTING STRUCTURE CONSISTING OF FIVE (1 @ 17'-9", 1 @ 17'-2", 1 @ 16'-10", 1 @ 17'-2", 1 @ 17'-8") REINFORCED CONCRETE FLOOR ON TIMBER JOISTS, WITH A CLEAR ROADWAY WIDTH OF 23'-8" ON TIMBER CAPS WITH TIMBER PILE END BENTS AND BENTS AND LOCATED AT THE PROPOSED STRUCTURE 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 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.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR SEISMIC DESIGN FOR SEISMIC PERFORMANCE ZONE 1.

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.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 30 FT. 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. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

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

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

FOR CURING CONCRETE, SEE SPECIAL PROVISIONS.

FOR INTERIOR BENTS 1 & 2, ONLY PARTIAL GALVANIZING OF THE PILES IS REQUIRED. SEE INTERIOR BENT SHEETS FOR DETAILS.

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

PROJECT NO. B-4672

WAYNE COUNTY

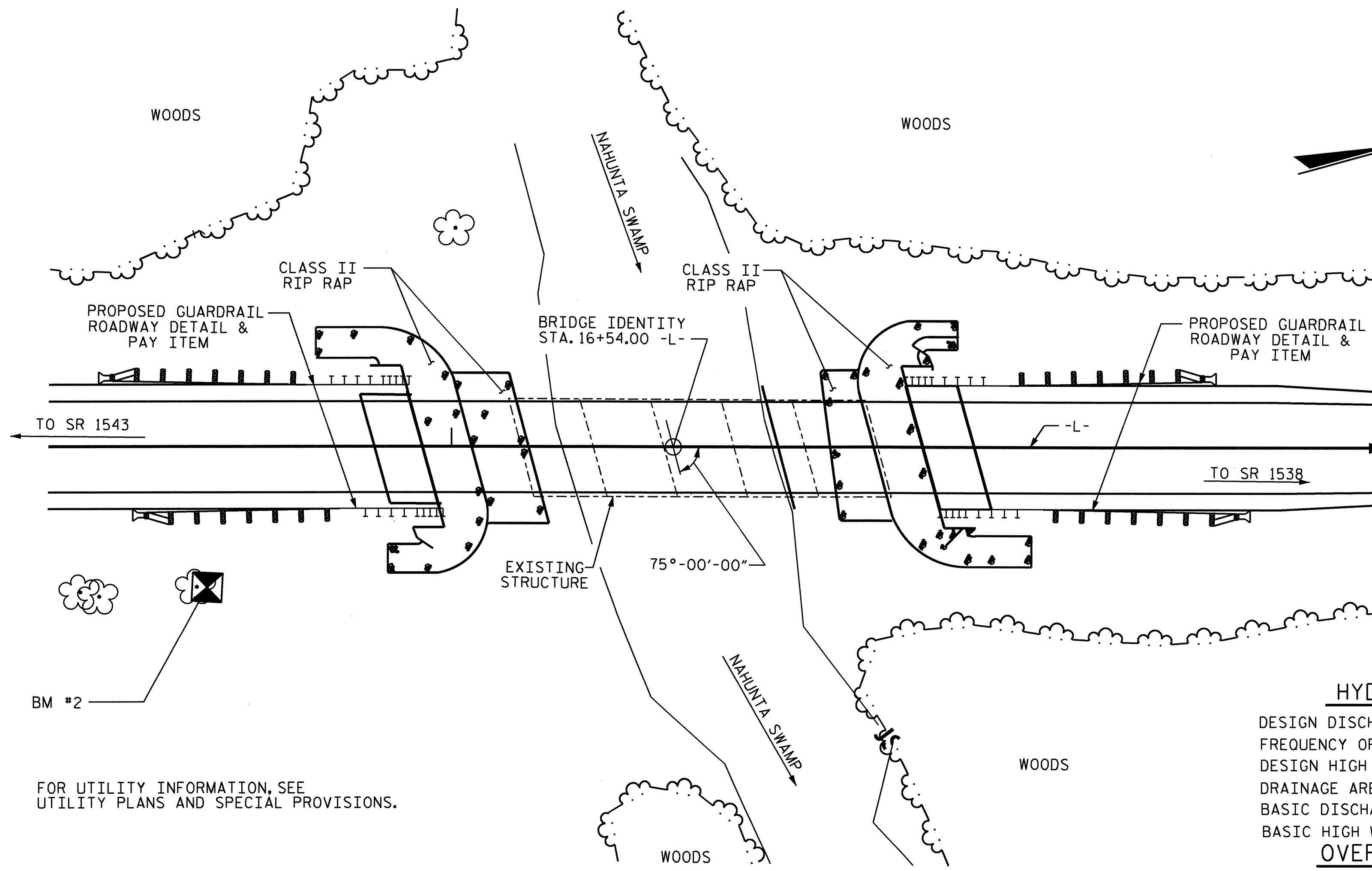
STATION: 16+54.00 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 BRIDGE OVER NAHUNTA SWAMP
 ON SR 1537 BETWEEN
 SR 1543 AND SR 1538



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



HYDRAULIC DATA

DESIGN DISCHARGE = 2209 C.F.S.
 FREQUENCY OF DESIGN FLOOD = 25 YEARS
 DESIGN HIGH WATER ELEVATION = 95.700
 DRAINAGE AREA = 24.4 SQ. MI.
 BASIC DISCHARGE (Q100) = 3350 C.F.S.
 BASIC HIGH WATER ELEVATION = 97.500

OVERTOPPING DATA

OVERTOPPING DISCHARGE = 3200 C.F.S.
 FREQUENCY OF OVERTOPPING FLOOD = 100 YEARS
 OVERTOPPING FLOOD ELEVATION = 97.100

LOCATION SKETCH

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12 X 53 STEEL PILES		HP 14 X 73 GALVANIZED STEEL PILES		PILE REDRIVES	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLABS	
						LUMP SUM	LUMP SUM	CU. YDS.	LUMP SUM						LBS.	NO.
SUPERSTRUCTURE				LUMP SUM							235.34			LUMP SUM	33	1291.53
END BENT 1		LUMP SUM	13.6		1989	5	275			5		158	175			
BENT 1			12.6		2035			7	385	7						
BENT 2			12.6		2035			7	385	7						
END BENT 2		LUMP SUM	13.6		1989	5	250			5		139	154			
TOTAL	LUMP SUM	LUMP SUM	52.4	LUMP SUM	8048	10	525	14	770	24	235.34	297	329	LUMP SUM	33	1291.53

DRAWN BY : J. G. KHARVA DATE : 06/11/09
 CHECKED BY : J. D. HAWK DATE : 08/20/09

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS

LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING #	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE					COMMENT NUMBER			
						MOMENT					SHEAR					MOMENT								
						LIVE-LOAD FACTORS (γ _{LL})	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	LIVE-LOAD FACTORS (γ _{LL})	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.10	--	1.75	0.273	1.49	B	ER	26.918	0.523	1.18	B	ER	2.692	0.80	0.273	1.10	B	ER	26.918		
	HL-93 (OPERATING)	N/A		1.53	--	1.35	0.273	1.93	B	ER	26.918	0.523	1.53	B	ER	2.692	N/A	----	----	--	--	----		
	HS-20 (INVENTORY)	36.000	②	1.10	39.600	1.75	0.273	1.82	B	ER	26.918	0.523	1.39	B	ER	2.692	0.80	0.273	1.10	B	ER	26.918		
	HS-20 (OPERATING)	36.000		1.86	66.960	1.35	0.273	2.42	B	ER	26.918	0.523	1.86	B	ER	2.692	N/A	----	----	--	--	----		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500		2.89	39.015	1.40	0.273	3.81	B	ER	26.918	0.523	3.20	B	ER	2.692	0.80	0.273	2.89	B	ER	26.918	
		SNGARBS2	20.000		2.25	45.000	1.40	0.273	2.96	B	ER	26.918	0.523	2.31	B	ER	2.692	0.80	0.273	2.25	B	ER	26.918	
		SNAGRIS2	22.000		2.16	47.520	1.40	0.273	2.86	B	ER	26.918	0.523	2.16	B	ER	2.692	0.80	0.273	2.16	B	ER	26.918	
		SNCOTTS3	27.250		1.44	39.240	1.40	0.273	1.90	B	ER	26.918	0.523	1.60	B	ER	2.692	0.80	0.273	1.44	B	ER	26.918	
		SNAGGRS4	34.925		1.24	43.307	1.40	0.273	1.63	B	ER	26.918	0.523	1.35	B	ER	2.692	0.80	0.273	1.24	B	ER	26.918	
		SNS5A	35.550		1.21	43.016	1.40	0.273	1.59	B	ER	26.918	0.523	1.38	B	ER	2.692	0.80	0.273	1.21	B	ER	26.918	
		SNS6A	39.950		1.13	45.144	1.40	0.273	1.48	B	ER	26.918	0.523	1.27	B	ER	2.692	0.80	0.273	1.13	B	ER	26.918	
		SNS7B	42.000		1.08	45.360	1.40	0.273	1.41	B	ER	26.918	0.523	1.27	B	ER	2.692	0.80	0.273	1.08	B	ER	26.918	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.38	45.540	1.40	0.273	1.81	B	ER	26.918	0.523	1.51	B	ER	2.692	0.80	0.273	1.38	B	ER	26.918	
		TNT4A	33.075		1.39	45.974	1.40	0.273	1.83	B	ER	26.918	0.523	1.46	B	ER	2.692	0.80	0.273	1.39	B	ER	26.918	
		TNT6A	41.600		1.15	47.840	1.40	0.273	1.51	B	ER	26.918	0.523	1.38	B	ER	2.692	0.80	0.273	1.15	B	ER	26.918	
		TNT7A	42.000		1.16	48.720	1.40	0.273	1.53	B	ER	26.918	0.523	1.30	B	ER	2.692	0.80	0.273	1.16	B	ER	26.918	
		TNT7B	42.000		1.21	50.820	1.40	0.273	1.60	B	ER	26.918	0.523	1.23	B	ER	2.692	0.80	0.273	1.21	B	ER	26.918	
		TNAGRIT4	43.000		1.15	49.450	1.40	0.273	1.51	B	ER	26.918	0.523	1.18	B	ER	2.692	0.80	0.273	1.15	B	ER	26.918	
TNAGT5A	45.000		1.08	48.600	1.40	0.273	1.42	B	ER	26.918	0.523	1.19	B	ER	2.692	0.80	0.273	1.08	B	ER	26.918			
TNAGT5B	45.000		③	1.05	47.250	1.40	0.273	1.39	B	ER	26.918	0.523	1.12	B	ER	2.692	0.80	0.273	1.05	B	ER	26.918		

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ _{DC}	γ _{DW}
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

	YEAR	ADTT
CURRENT	2010	99
FUTURE	2030	163

NOTES:

MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

- 1.
- 2.
- 3.
- 4.

CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93)

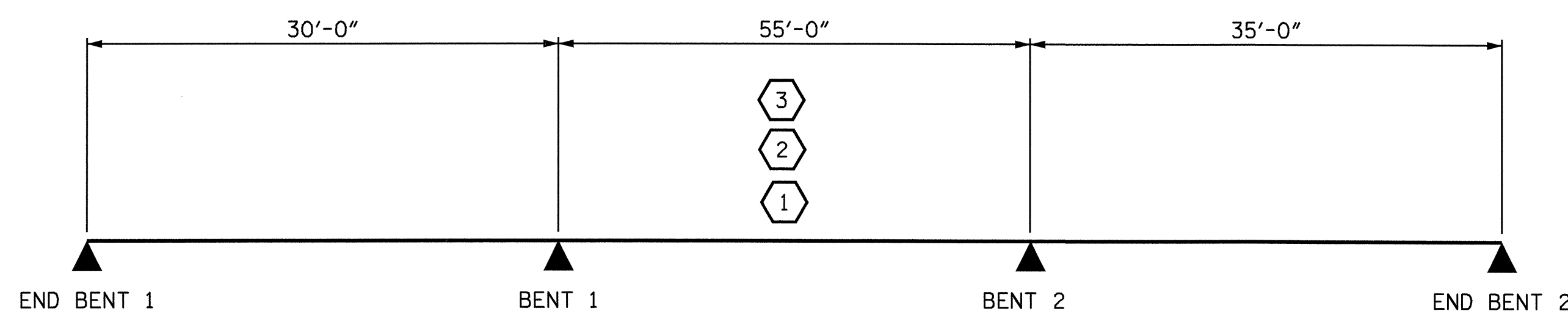
② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

I - INTERIOR GIRDER
EL - EXTERIOR LEFT GIRDER
ER - EXTERIOR RIGHT GIRDER



LRFR SUMMARY

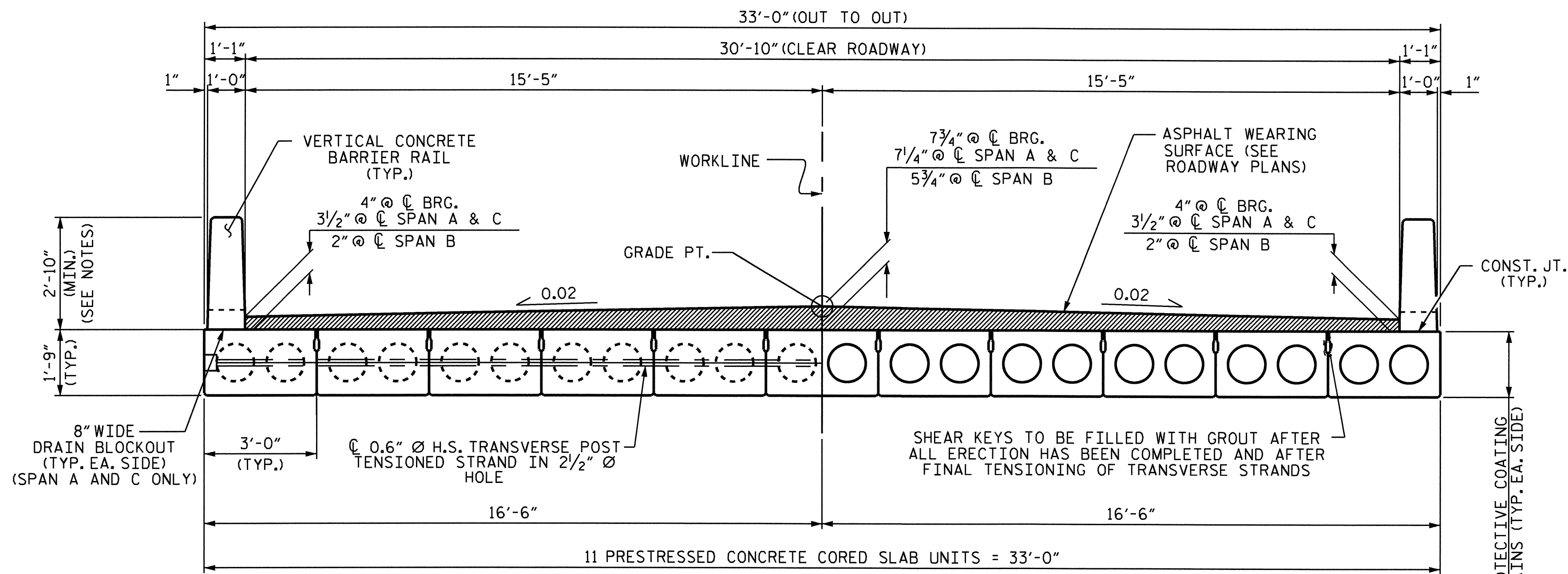
PROJECT NO. B-4672
WAYNE COUNTY
 STATION: 16+54.00 -L-



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 LRFR SUMMARY FOR
 PRESTRESSED
 CONCRETE GIRDERS
 (NON-INTERSTATE TRAFFIC)

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

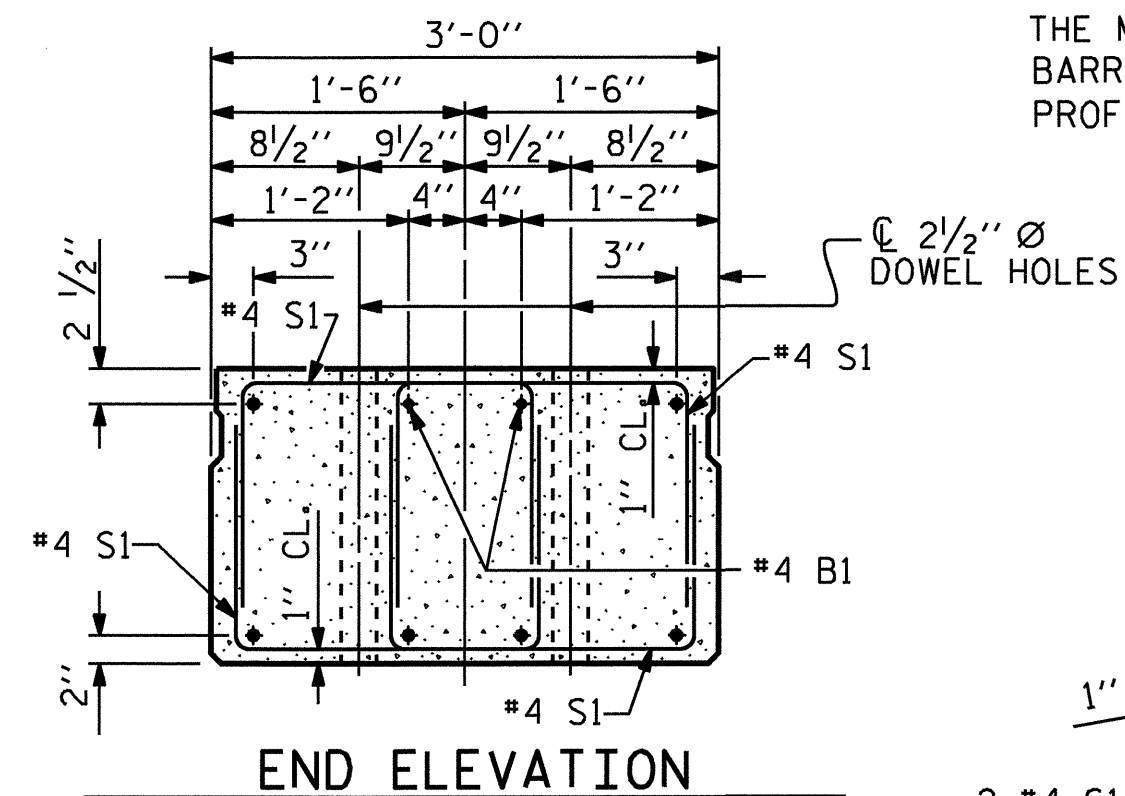
ASSEMBLED BY : J.D. HAWK DATE : 8-8-09
 CHECKED BY : O. PUIGSERVER DATE : 10-8-09
 DRAWN BY : MAA 1/08 REV. 11/12/08RR MAA/GM
 CHECKED BY : GM/DI 2/08



HALF SECTION @ DIAPHRAGMS

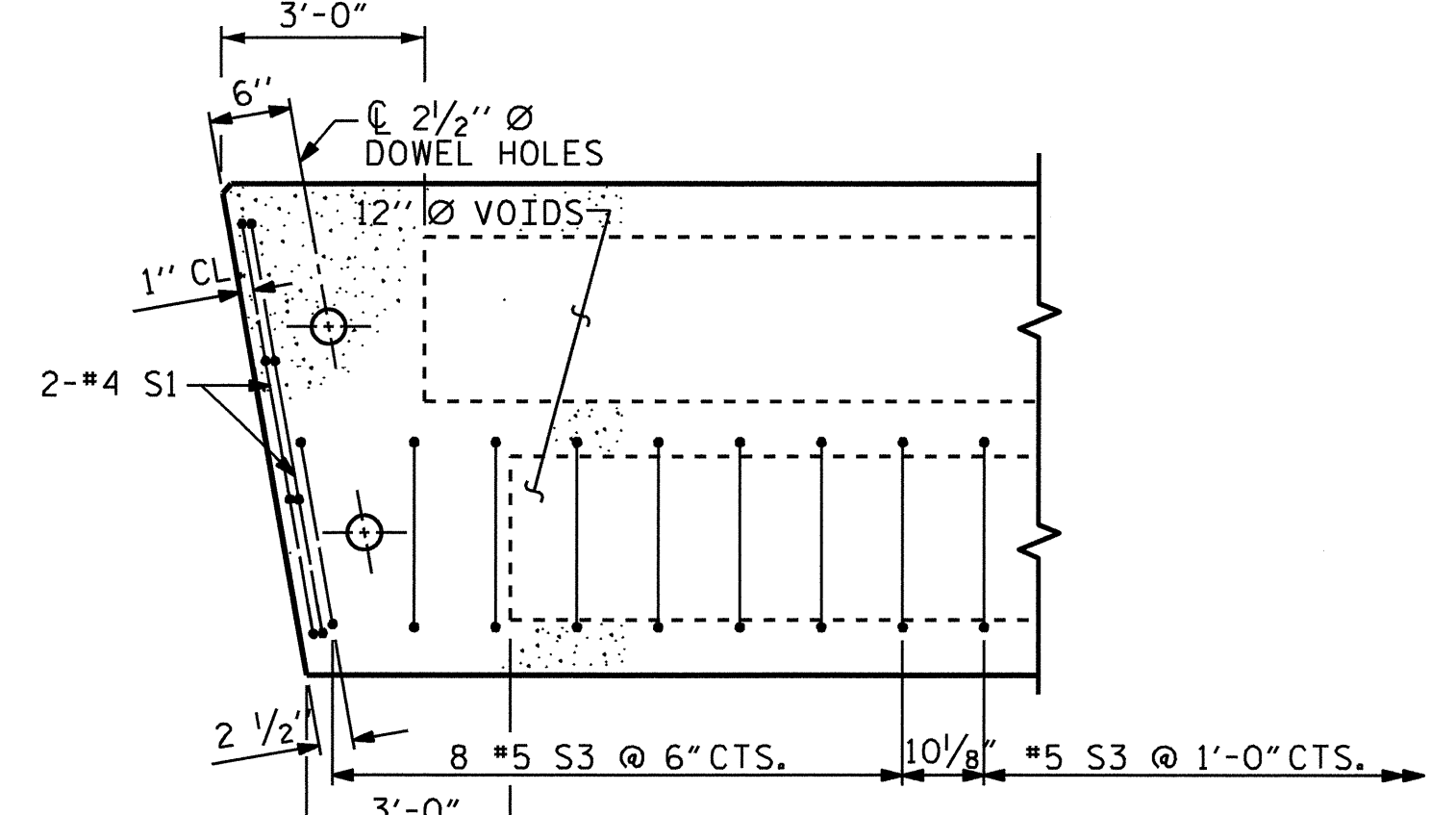
HALF SECTION @ VOIDS

TYPICAL SECTION



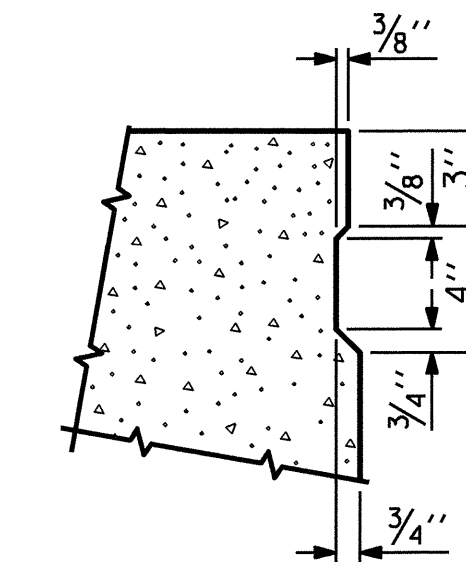
END ELEVATION

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.



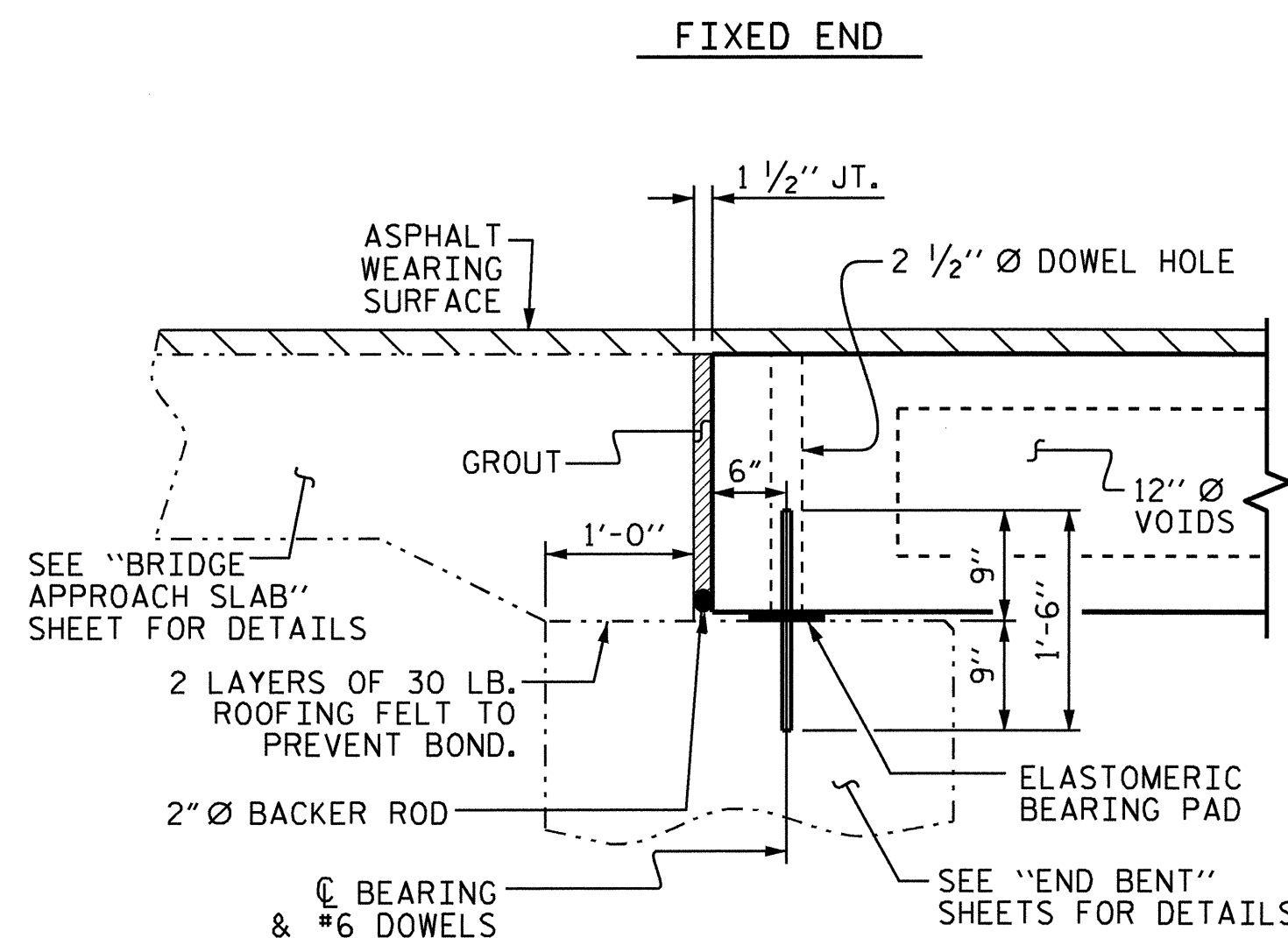
PART PLAN-EXTERIOR SECTION

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

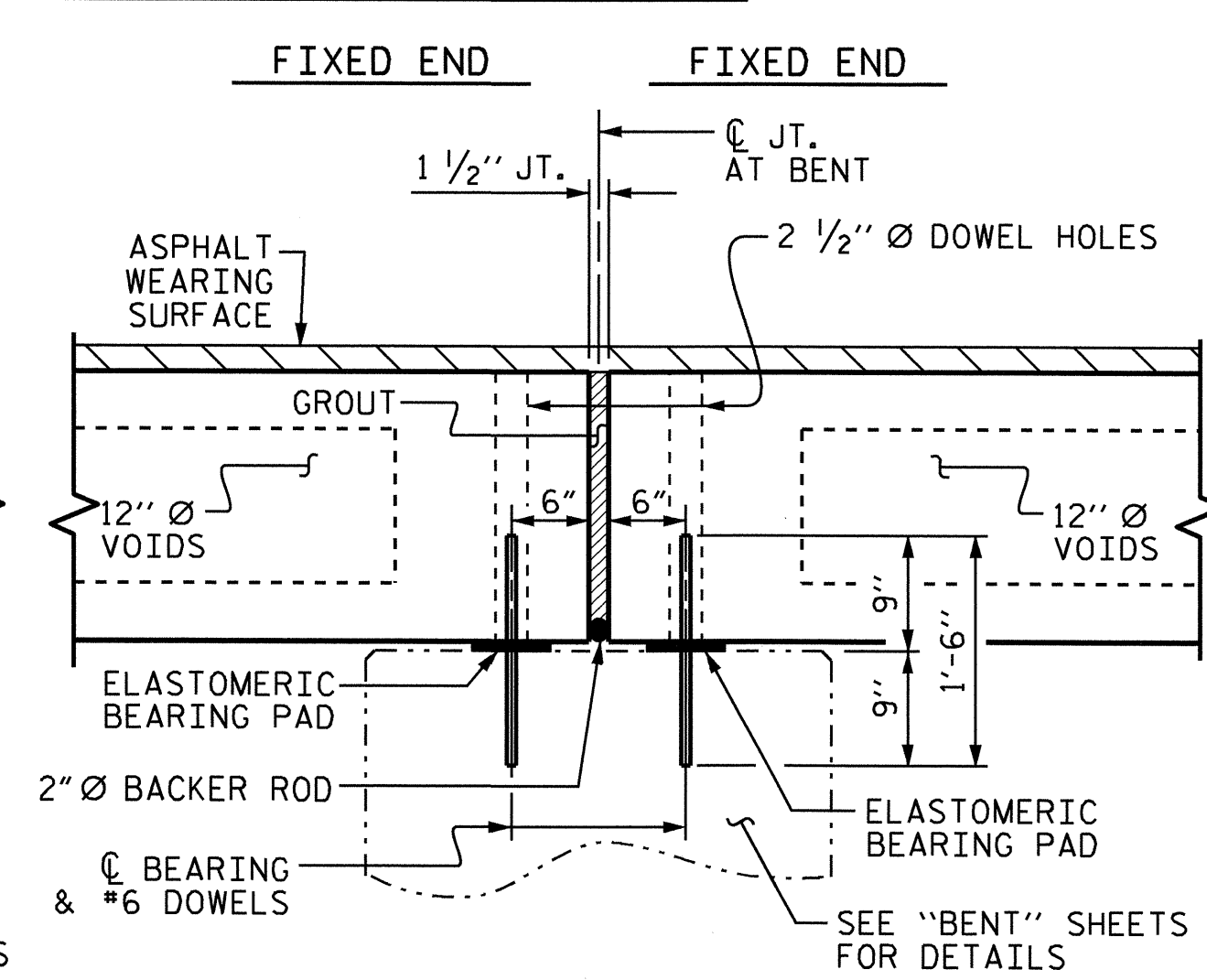


SHEAR KEY DETAIL

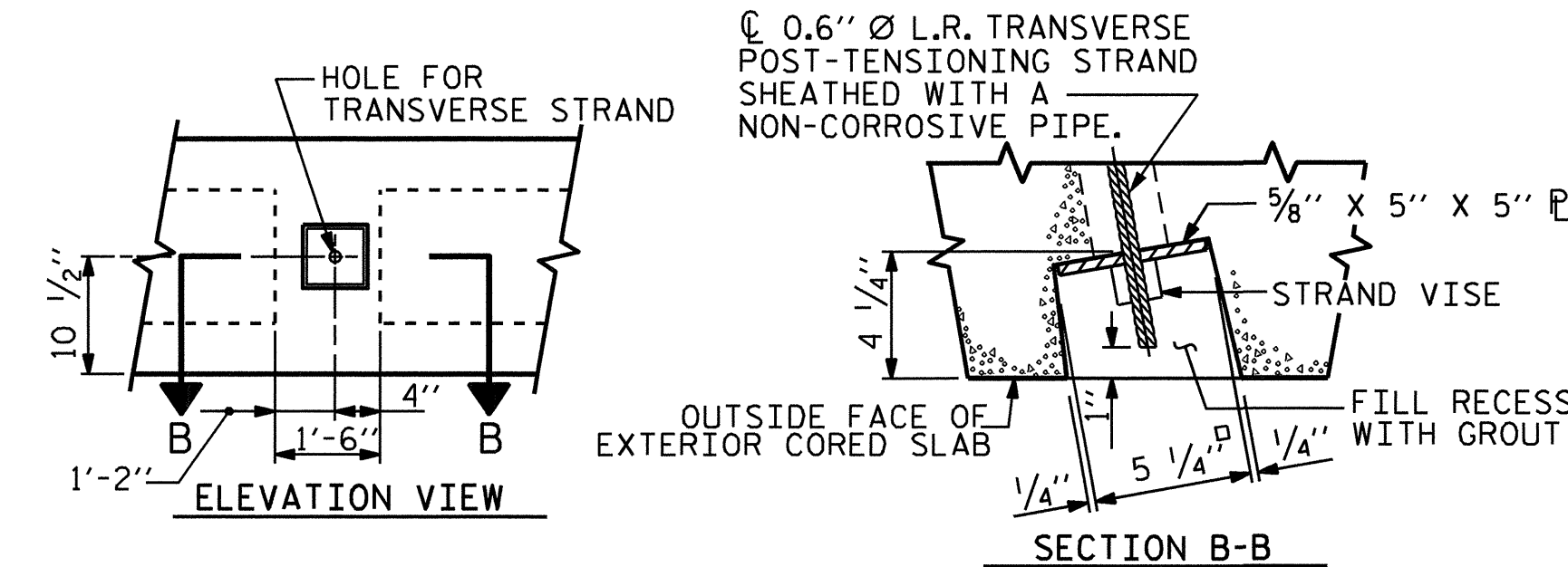
NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF EXTERIOR CORED SLABS.



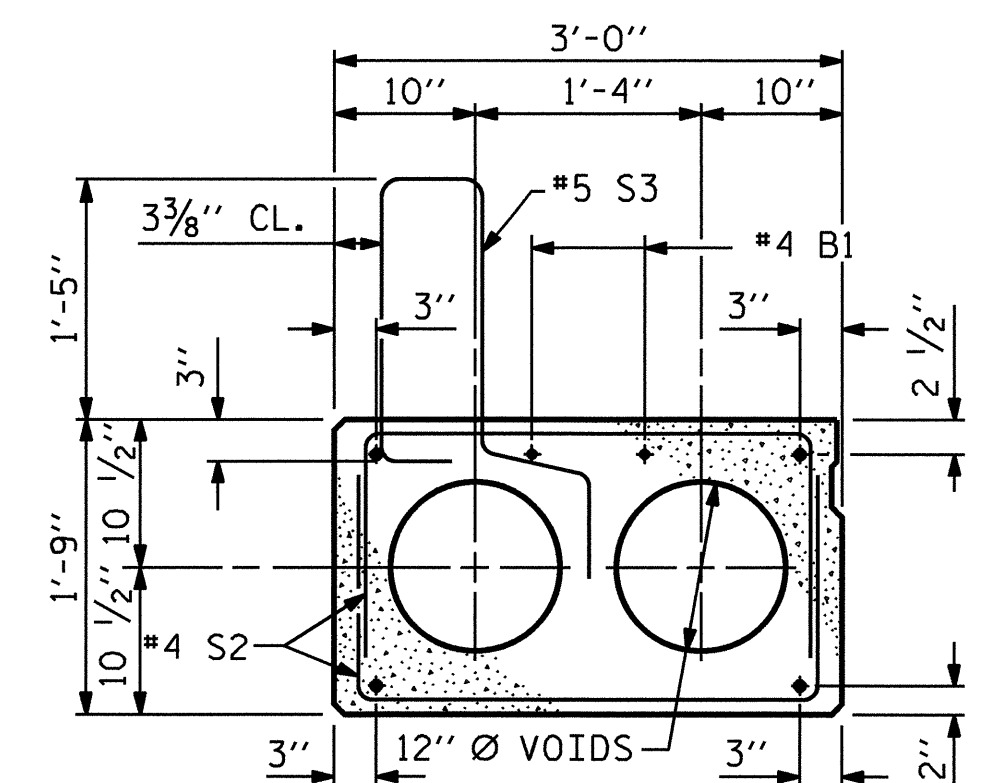
SECTION AT END BENT



SECTION AT BENT

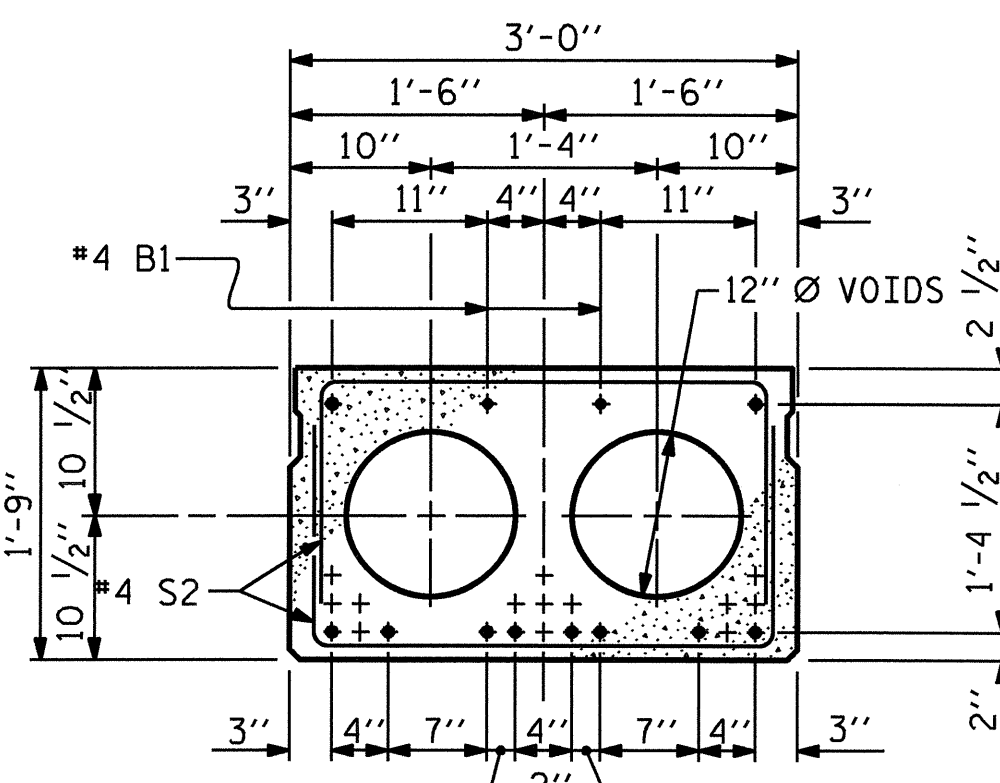


GROUTED RECESS AT END OF POST-TENSIONED STRAND-CORED SLABS

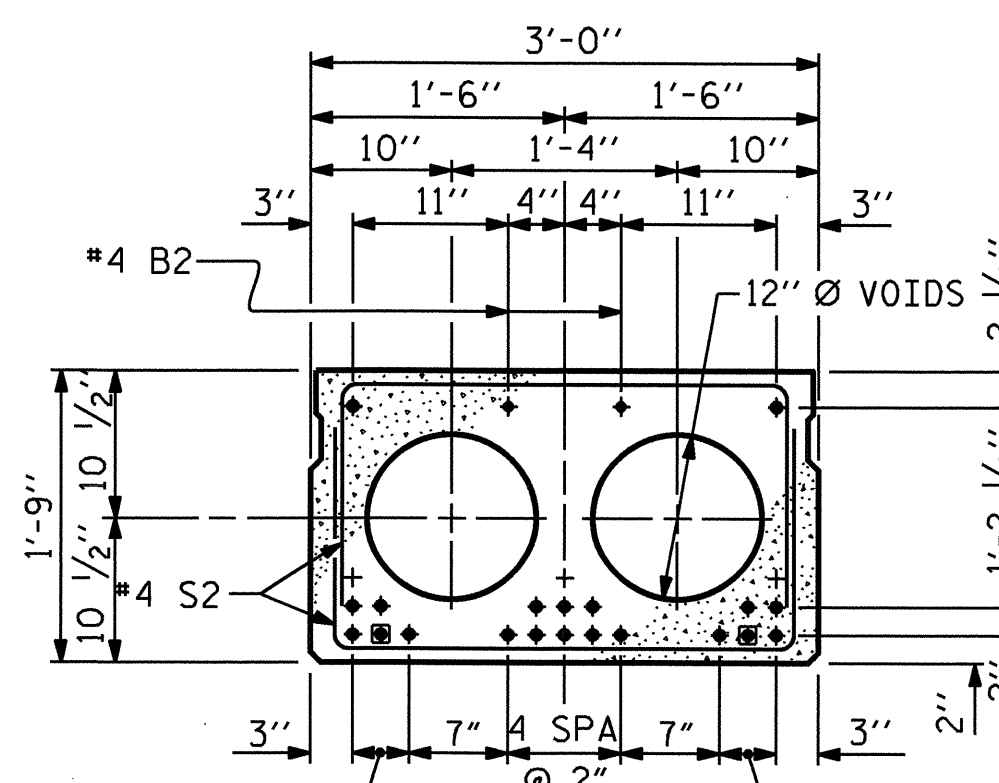


EXTERIOR SLAB SECTION

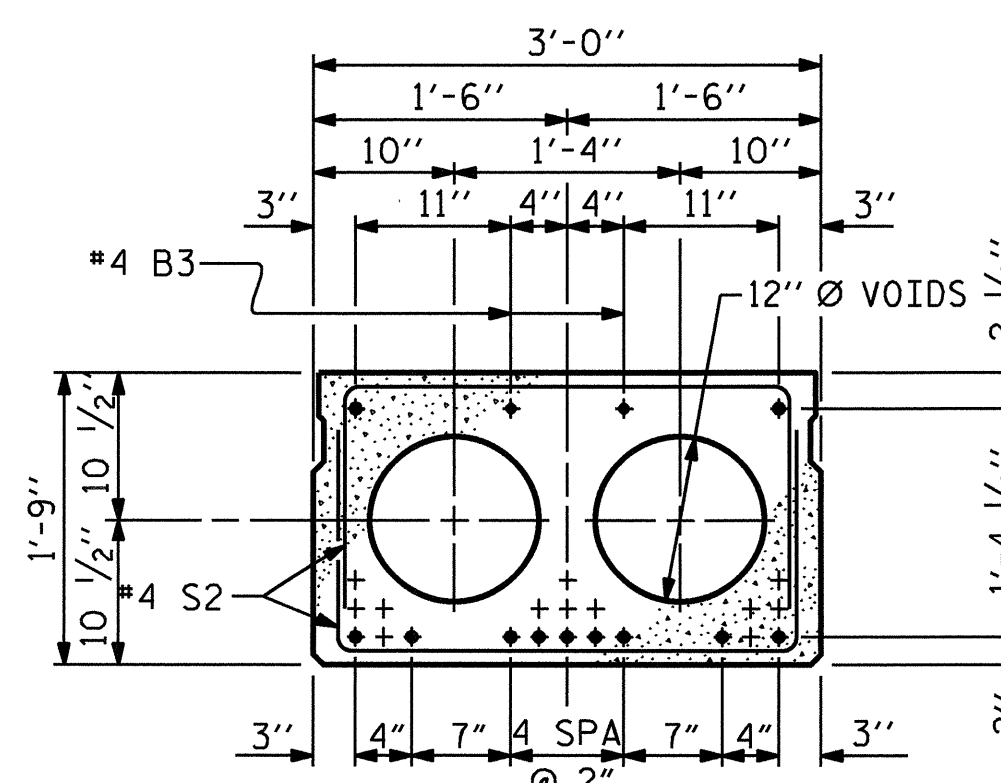
(FOR PRESTRESSED STRAND LAYOUT, SEE INTERIOR SLAB SECTION.)



SPAN A INTERIOR SLAB SECTION (10 STRANDS)



SPAN B INTERIOR SLAB SECTION (20 STRANDS)



SPAN C INTERIOR SLAB SECTION (11 STRANDS)

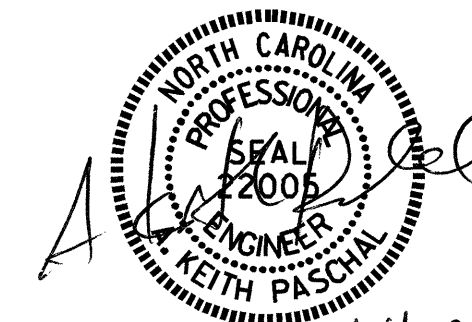
0.6" Ø LOW RELAXATION STRAND LAYOUT

BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 2'-0" FROM THE END OF THE CORED SLAB UNIT. SEE STANDARD SPECIFICATION ARTICLE 1078-7.

NOTES:

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

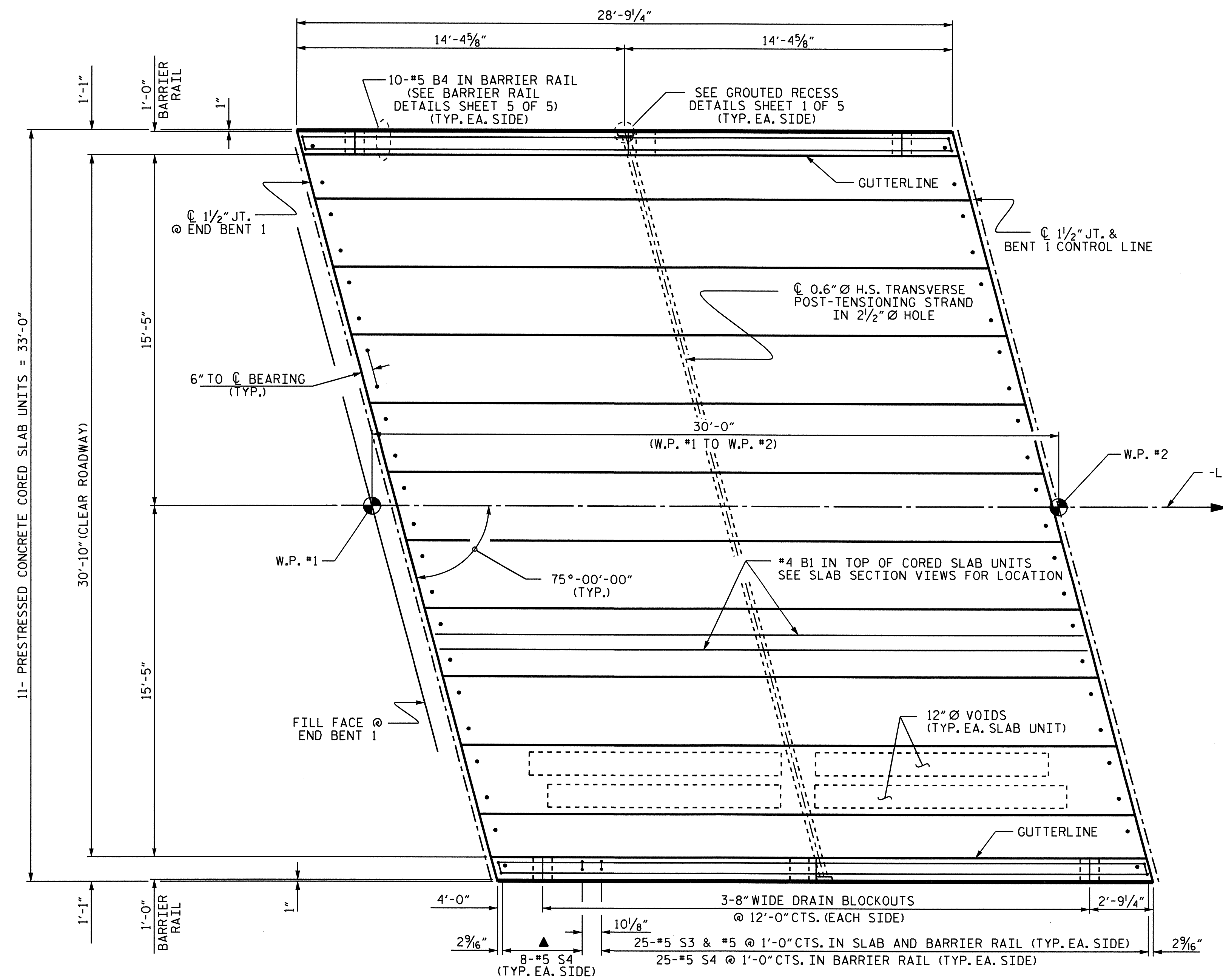
ASSEMBLED BY : M. FOWLER	DATE : 7/8/09
CHECKED BY : J. D. HAWK	DATE : 8/3/09
DRAWN BY : WJH 4/89	REV. 10/17/00 RHW/LES
CHECKED BY : FCJ 5/89	REV. 7/10/DIRR RHW/LES
	REV. 5/1/06R TLA/GM



PROJECT NO. B-4672
WAYNE COUNTY
 STATION: 16+54.00 -L-
 SHEET 1 OF 5

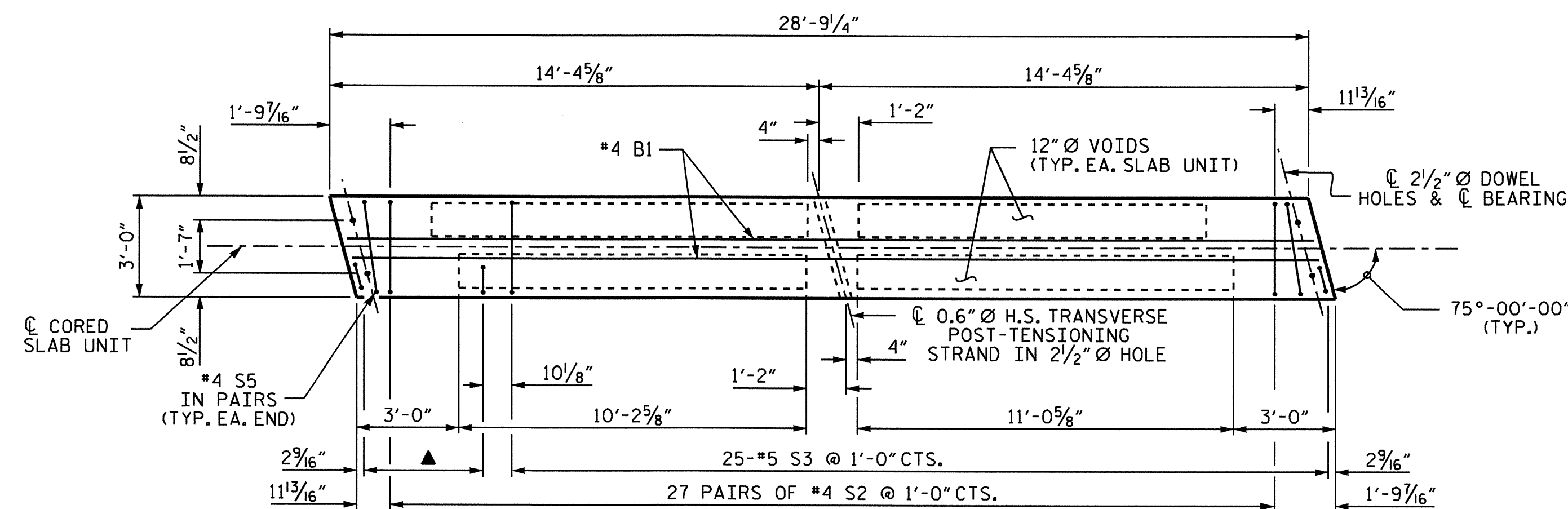
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH STANDARD					
3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLAB UNIT					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS 21

(SHT 4A) STD. NO. PCS2



▲ SEE PART PLAN-EXTERIOR SECTION ON SHEET 1 OF 5 FOR ADDITIONAL #5 S3 BARS

PLAN OF SPAN A



PLAN OF CORED SLAB UNIT

EXTERIOR UNIT SHOWN, INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S3 BARS. FOR LOCATION OF ADDITIONAL REINFORCING STEEL AT END OF SLAB UNIT, SEE "PART-PLAN EXTERIOR SECTION" SHEET 1 OF 5.

PROJECT NO. B-4672

WAYNE COUNTY

STATION: 16+54.00 -L-

SHEET 2 OF 5

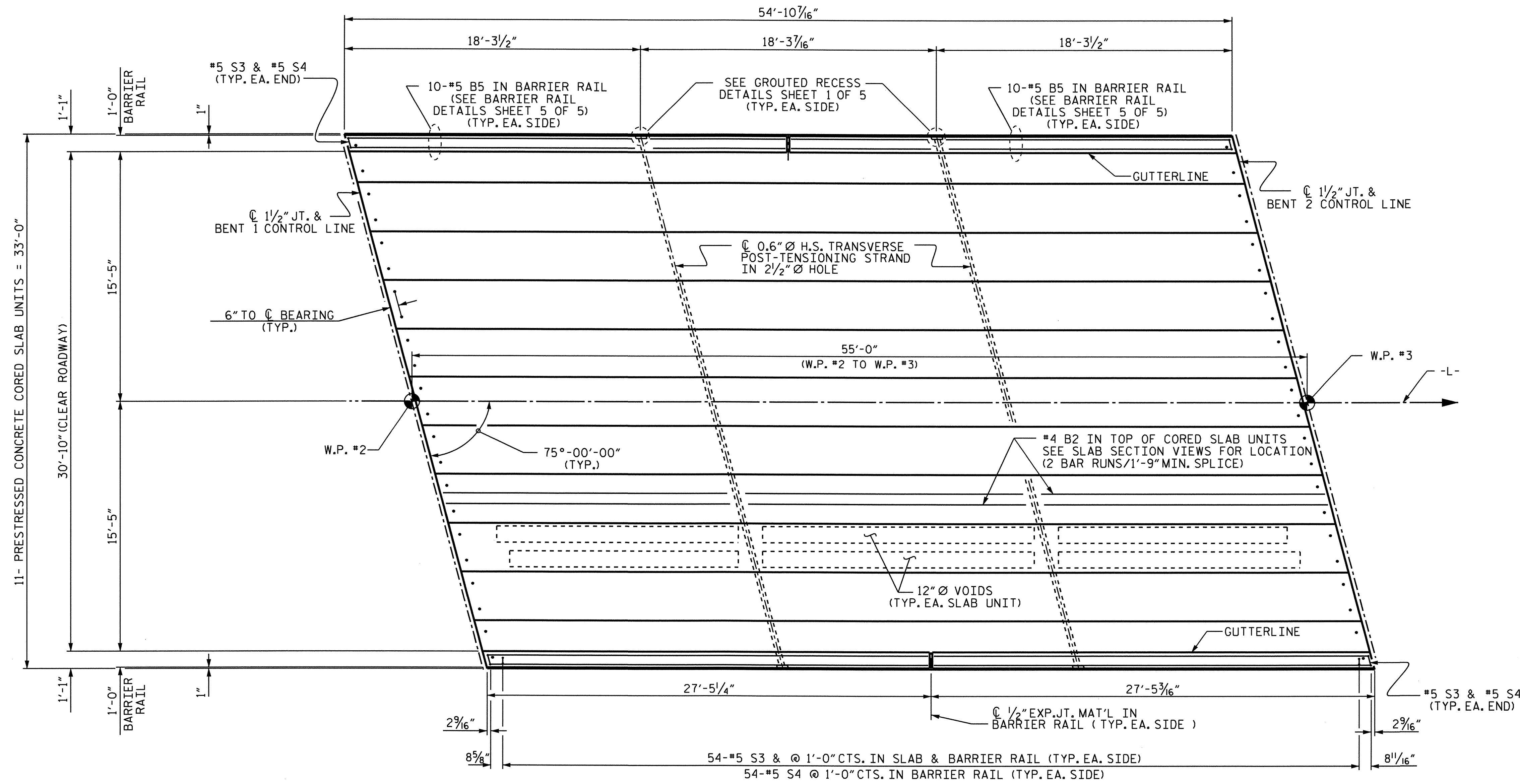
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUPERSTRUCTURE
PLAN OF SPAN A**

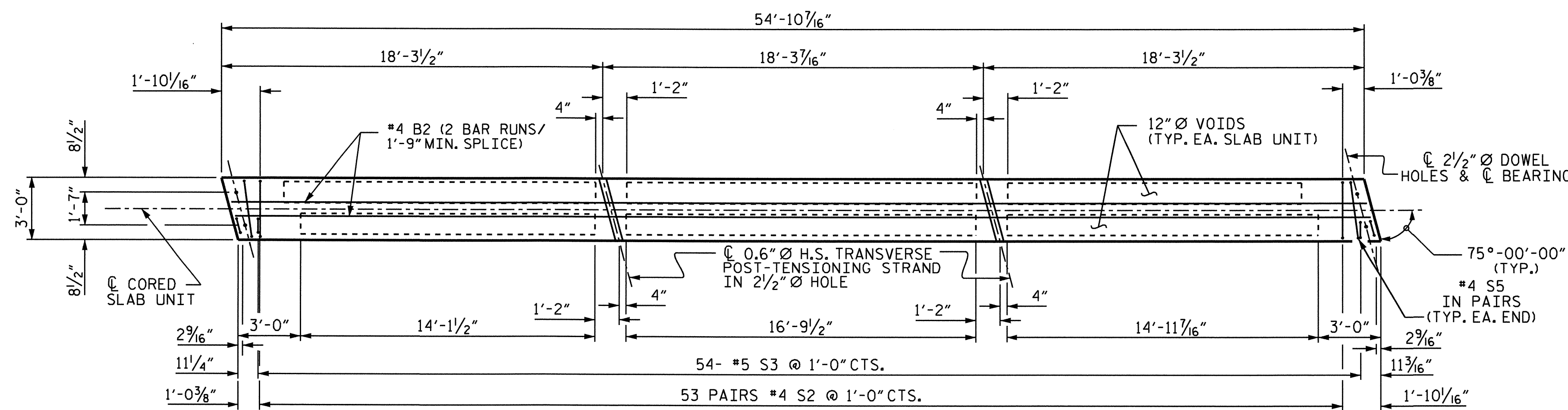


REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS
2			4			21

DRAWN BY : M.FOWLER DATE : 7/8/09
CHECKED BY : J.D.HAWK DATE : 8/3/09



PLAN OF SPAN B



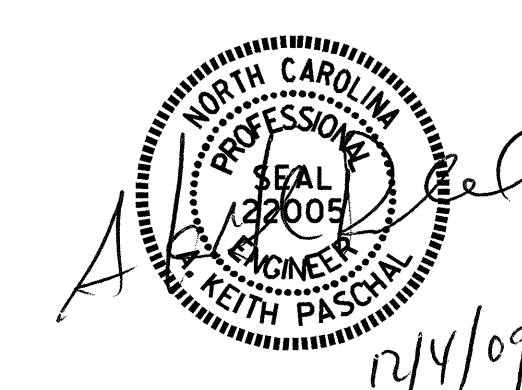
PLAN OF CORED SLAB UNIT

EXTERIOR UNIT SHOWN, INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S3 BARS.
 FOR LOCATION OF ADDITIONAL REINFORCING STEEL AT END OF SLAB UNIT,
 SEE "PART-PLAN EXTERIOR SECTION" SHEET 1 OF 5.

PROJECT NO. B-4672
WAYNE COUNTY
 STATION: 16+54.00 -L-
 SHEET 3 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

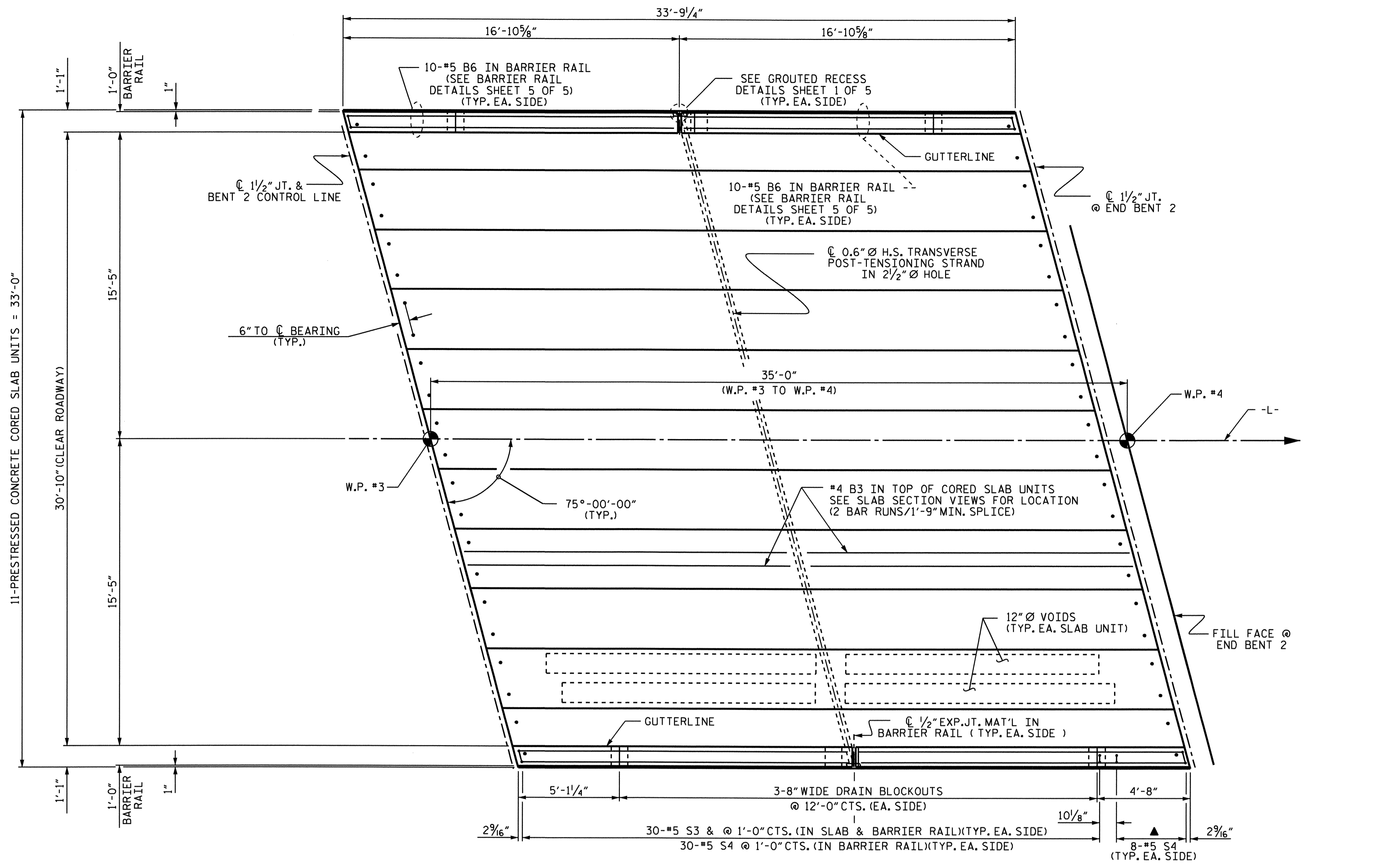
**SUPERSTRUCTURE
 PLAN OF SPAN B**



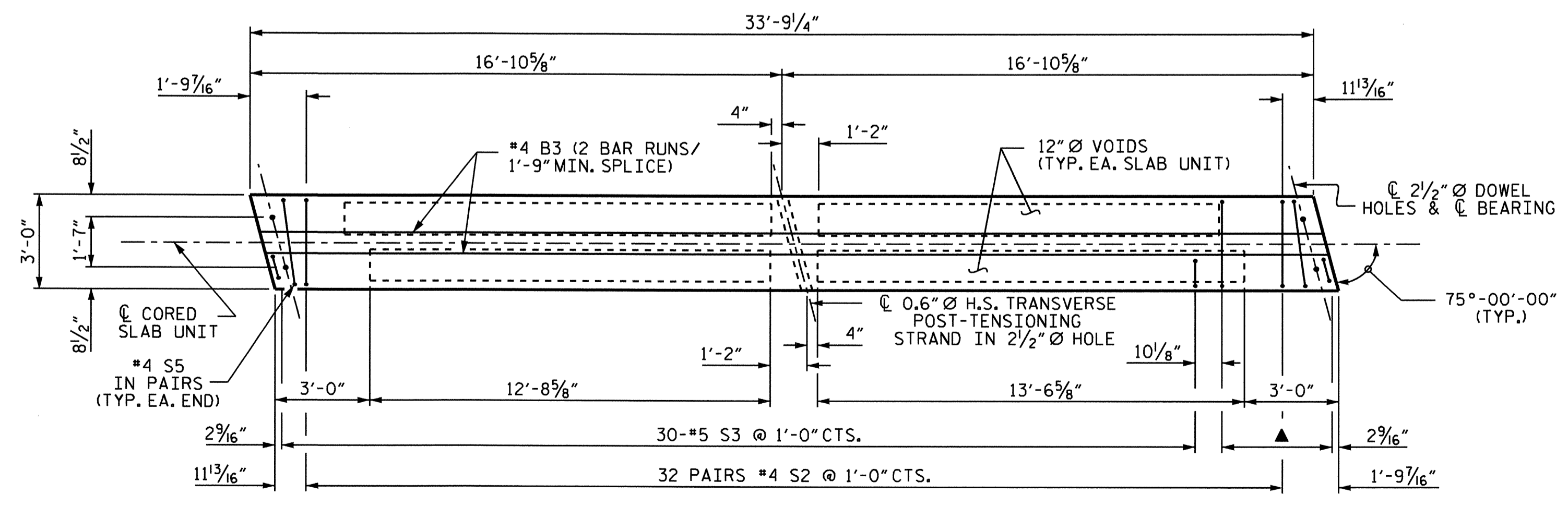
DRAWN BY : M.FOWLER DATE : 7/8/09
 CHECKED BY : J.D.HAWK DATE : 8/3/09

04-DEC-2009 14:41
 R:\Structures\Final Plans\B4672 CS.dgn
 jshawk

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-7
1			3			TOTAL SHEETS
2			4			21



PLAN OF SPAN C

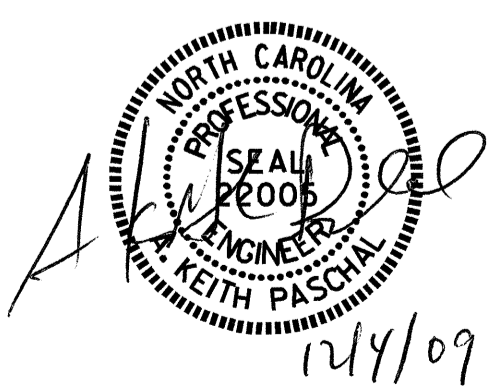


PLAN OF CORED SLAB UNIT

EXTERIOR UNIT SHOWN, INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S3 BARS. FOR LOCATION OF ADDITIONAL REINFORCING STEEL AT END OF SLAB UNIT, SEE "PART-PLAN EXTERIOR SECTION" SHEET 1 OF 5.

PROJECT NO. B-4672
WAYNE COUNTY
 STATION: 16+54.00 -L-
 SHEET 4 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE PLAN OF SPAN C					
SHEET NO. S-8					
TOTAL SHEETS 21					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		



DRAWN BY : M.FOWLER DATE : 7/8/09
 CHECKED BY : J.D.HAWK DATE : 8/3/09

SPAN A							
BILL OF MATERIAL FOR ONE CORED SLAB SECTION							
BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
B1	2	#4	STR	LENGTH	WEIGHT	LENGTH	WEIGHT
S1	8	#4	3	4'-4"	23	4'-4"	23
S2	54	#4	3	5'-4"	192	5'-4"	192
*S3	33	#5	1	5'-8"	195		
S5	4	#4	3	5'-5"	15	5'-5"	15
REINFORCING STEEL				LBS.	268		268
*EPOXY COATED REINFORCING STEEL				LBS.	195		
5000 P.S.I. CONCRETE				CU. YDS.	3.0		3.0
0.6" Ø L.R. STRANDS				No.	10		10
DEAD LOAD DEFLECTION AND CAMBER							
SPAN A				3'-0" x 1'-9"			
CAMBER (SLAB ALONE IN PLACE)				0.6" Ø L.R. STRAND			
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **				1/2" ↑			
FINAL CAMBER				7/16" ↑			

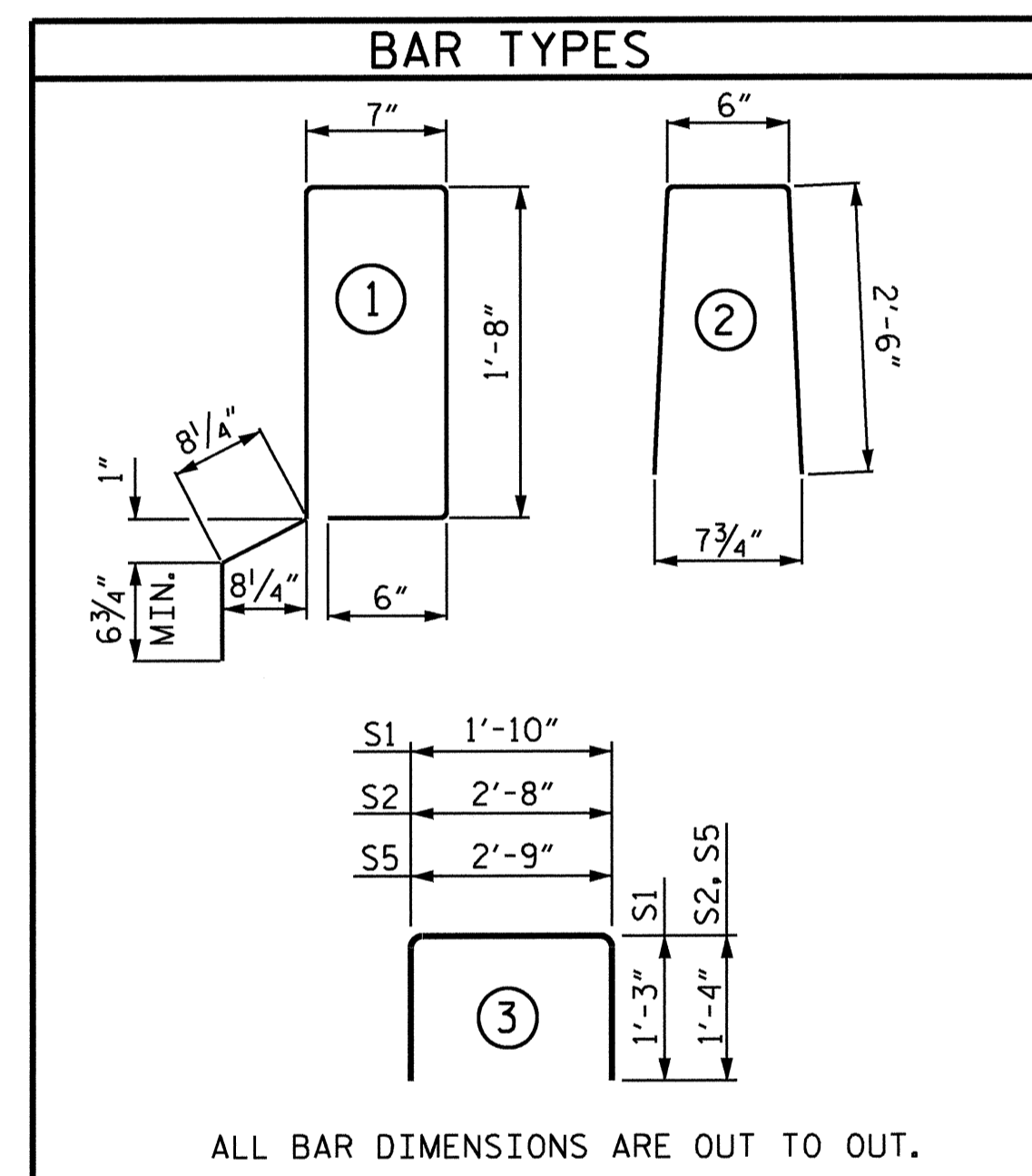
SPAN B							
BILL OF MATERIAL FOR ONE CORED SLAB SECTION							
BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
B2	4	#4	STR	LENGTH	WEIGHT	LENGTH	WEIGHT
S1	8	#4	3	4'-4"	23	4'-4"	23
S2	106	#4	3	5'-4"	378	5'-4"	378
*S3	56	#5	1	5'-8"	331		
S5	4	#4	3	5'-5"	15	5'-5"	15
REINFORCING STEEL				LBS.	491		491
*EPOXY COATED REINFORCING STEEL				LBS.	331		
7500 P.S.I. CONCRETE				CU. YDS.	5.3		5.2
0.6" Ø L.R. STRANDS				No.	20		20
DEAD LOAD DEFLECTION AND CAMBER							
SPAN B				3'-0" x 1'-9"			
CAMBER (SLAB ALONE IN PLACE)				0.6" Ø L.R. STRAND			
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **				1/2" ↑			
FINAL CAMBER				2/8" ↑			

SPAN C							
BILL OF MATERIAL FOR ONE CORED SLAB SECTION							
BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
B3	4	#4	STR	LENGTH	WEIGHT	LENGTH	WEIGHT
S1	8	#4	3	4'-4"	23	4'-4"	23
S2	64	#4	3	5'-4"	228	5'-4"	228
*S3	38	#5	1	5'-8"	225		
S5	4	#4	3	5'-5"	15	5'-5"	15
REINFORCING STEEL				LBS.	313		313
*EPOXY COATED REINFORCING STEEL				LBS.	225		
6000 P.S.I. CONCRETE				CU. YDS.	3.5		3.4
0.6" Ø L.R. STRANDS				No.	11		11
DEAD LOAD DEFLECTION AND CAMBER							
SPAN C				3'-0" x 1'-9"			
CAMBER (SLAB ALONE IN PLACE)				0.6" Ø L.R. STRAND			
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **				1/16" ↑			
FINAL CAMBER				9/16" ↑			

** INCLUDES FUTURE WEARING SURFACE

** INCLUDES FUTURE WEARING SURFACE

** INCLUDES FUTURE WEARING SURFACE



BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL										
BAR	BARS PER SPAN			TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT		
	SPAN A	SPAN B	SPAN C							
*B4	20			20	#5	STR	28'-5"	593		
*B5		40		40	#5	STR	27'-1"	1130		
*B6			40	40	#5	STR	16'-6"	688		
*S4	33	112	76	221	#5	2	5'-6"	1268		
*EPOXY COATED REINFORCING STEEL								LBS.	3679	
CLASS AA CONCRETE								CU. YDS.	23.3	
TOTAL LIN. FT. OF VERTICAL CONCRETE BARRIER RAIL								LIN. FT.	235.34	

CORED SLABS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR C.S.-SPAN A	2	28'-9 1/4"	57'-6 1/2"
INTERIOR C.S.-SPAN A	9	28'-9 1/4"	258'-11 1/4"
EXTERIOR C.S.-SPAN B	2	54'-10 7/16"	109'-8 7/8"
INTERIOR C.S.-SPAN B	9	54'-10 7/16"	493'-9 5/16"
EXTERIOR C.S.-SPAN C	2	33'-9 1/4"	67'-6 1/2"
INTERIOR C.S.-SPAN C	9	33'-9 1/4"	303'-11 1/4"
TOTAL	33		1291'-6 5/16"

NOTES

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

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

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

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

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

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

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE CORED SLAB UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 4000 PSI FOR SPAN A, 6000 PSI FOR SPAN B AND 4500 PSI FOR SPAN C.

ALL REINFORCING STEEL IN BARRIER RAIL SHALL BE EPOXY COATED.

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

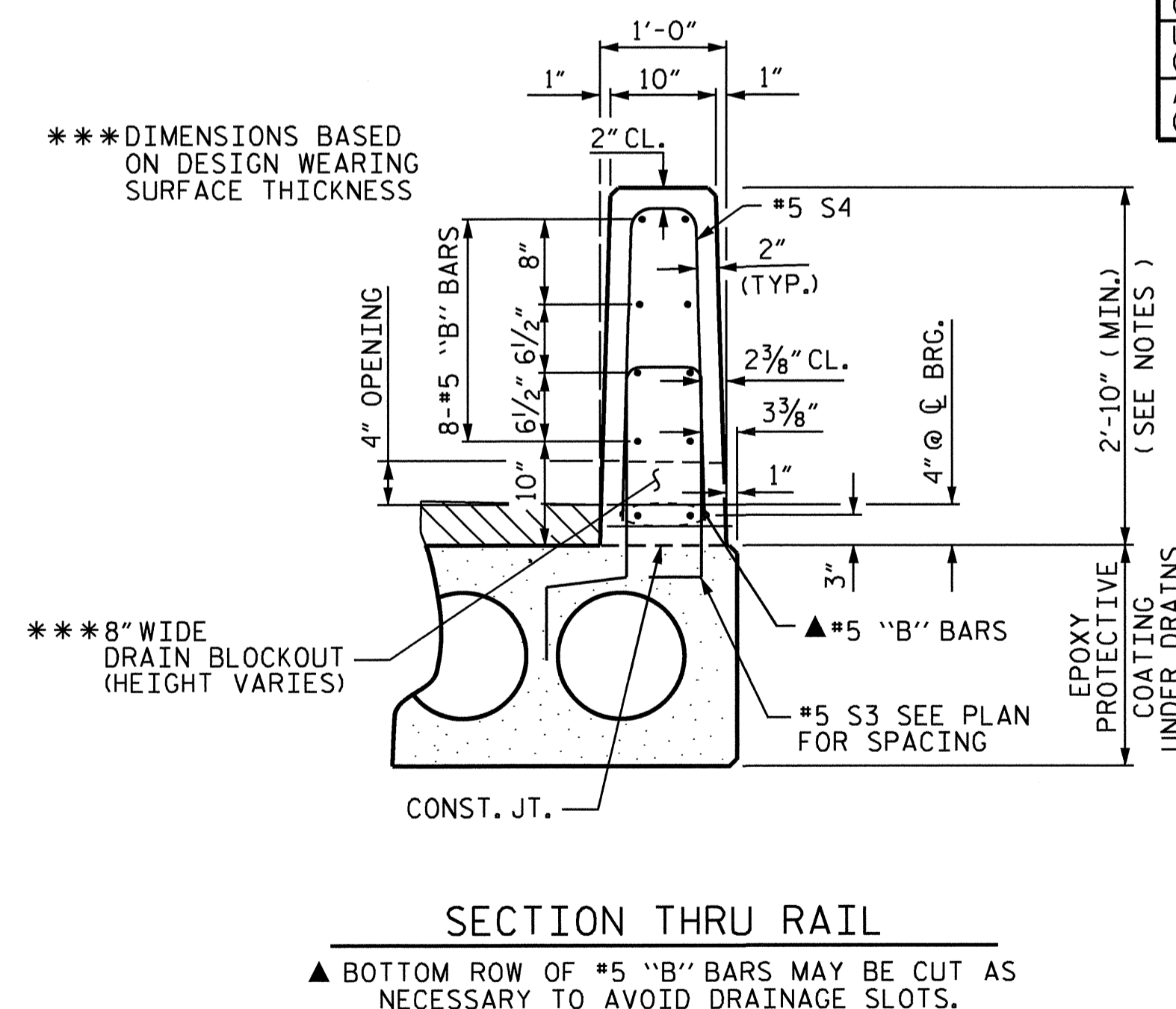
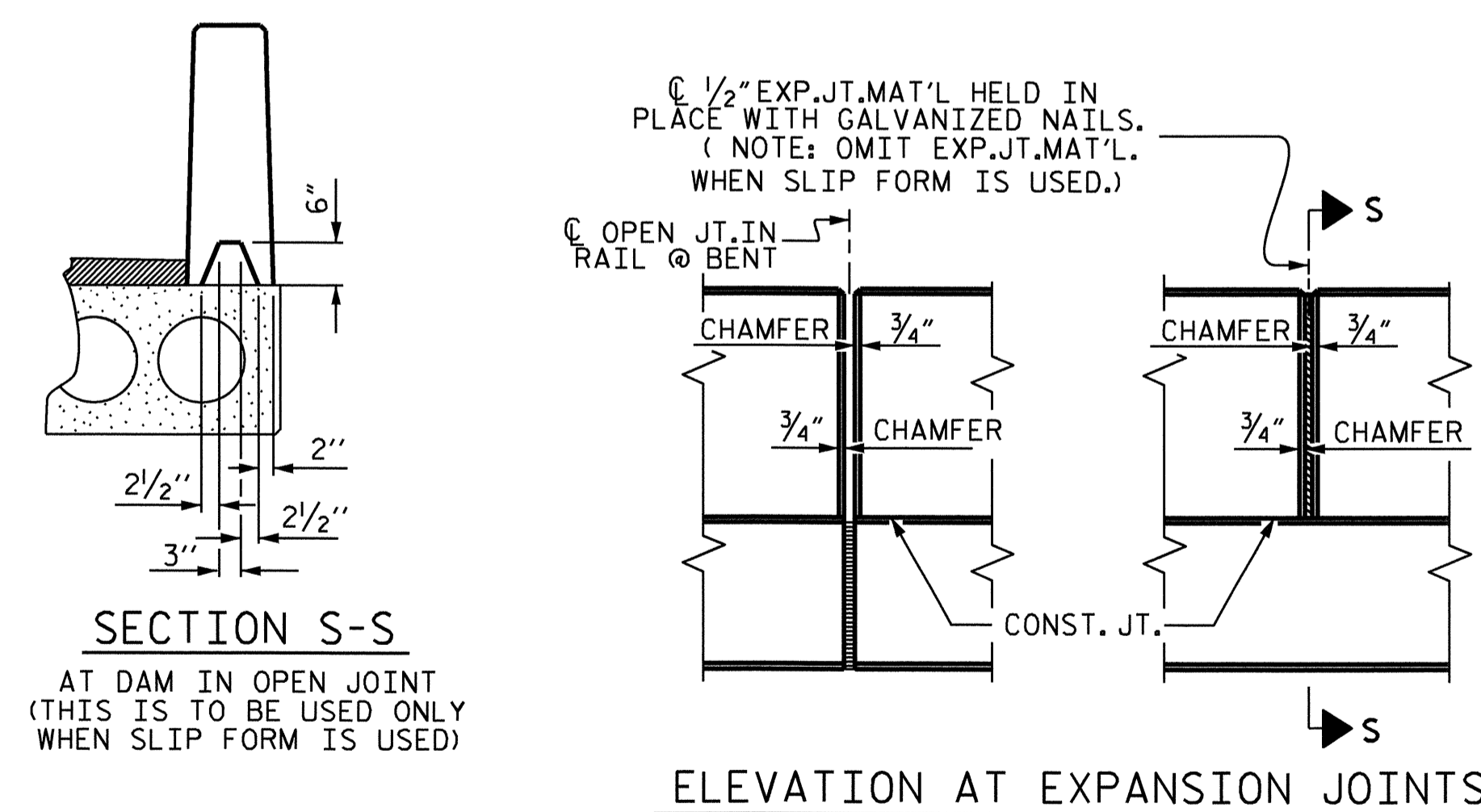
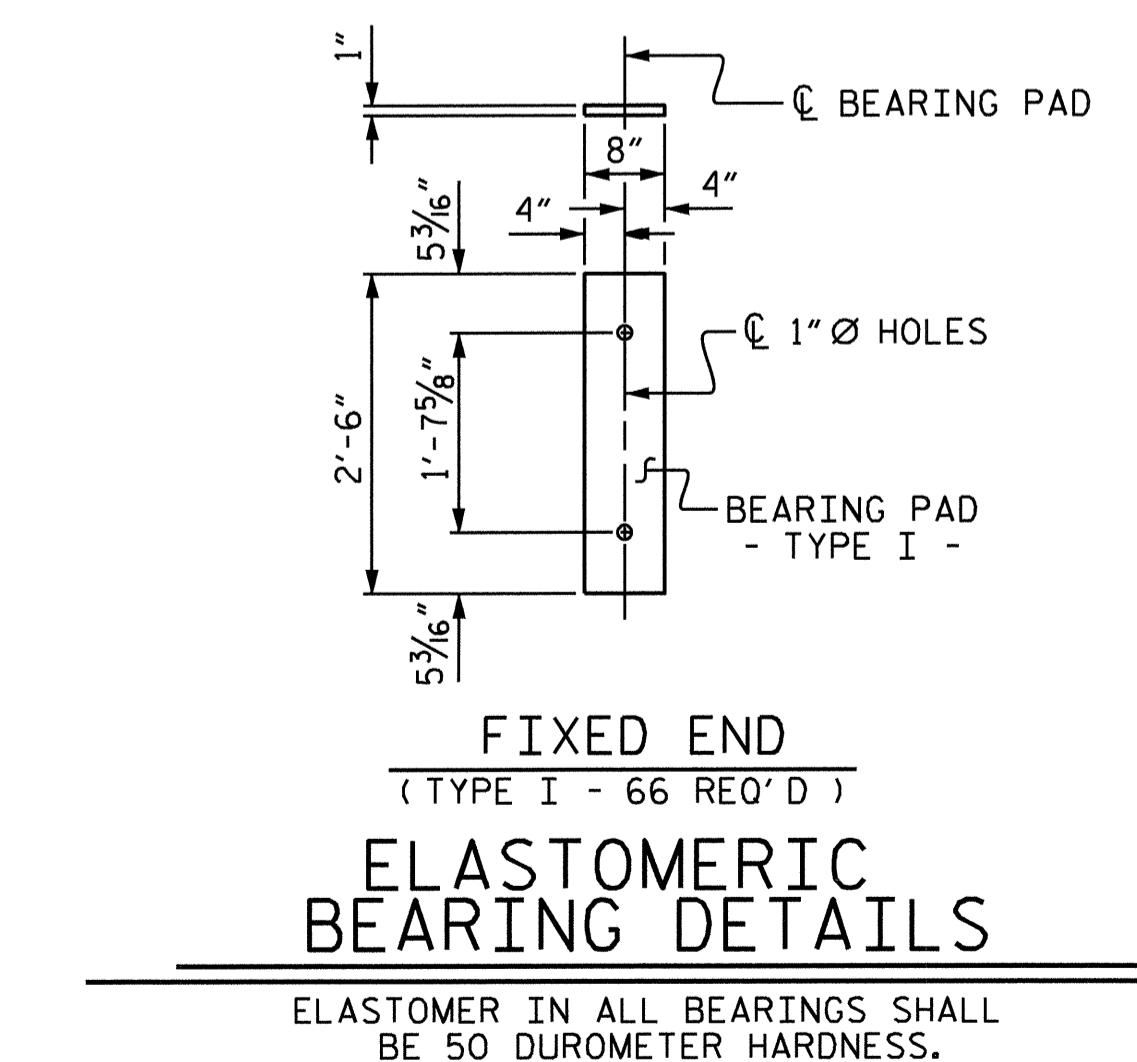
APPLY EPOXY PROTECTIVE COATING TO CORED SLAB UNIT ENDS.

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

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

FOR VERTICAL CONCRETE BARRIER RAIL, SEE SPECIAL PROVISIONS.

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



PROJECT NO. B-4672
WAYNE COUNTY
 STATION: 16+54.00 -L-
 SHEET 5 OF 5

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

ASSEMBLED BY : M.FOWLER	DATE : 7/8/09
CHECKED BY : J.D. HAWK	DATE : 8/3/09
DRAWN BY : WJH 4/89	REV. 7/10/01 RWW/LJS
CHECKED BY : FCJ 5/89	REV. 5/7/03RRR RWW/JTE
	REV. 5/1/06R TLA/GM

REVISIONS						SHEET NO. S-9
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 21
2			4			

NOTES

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

THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 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.

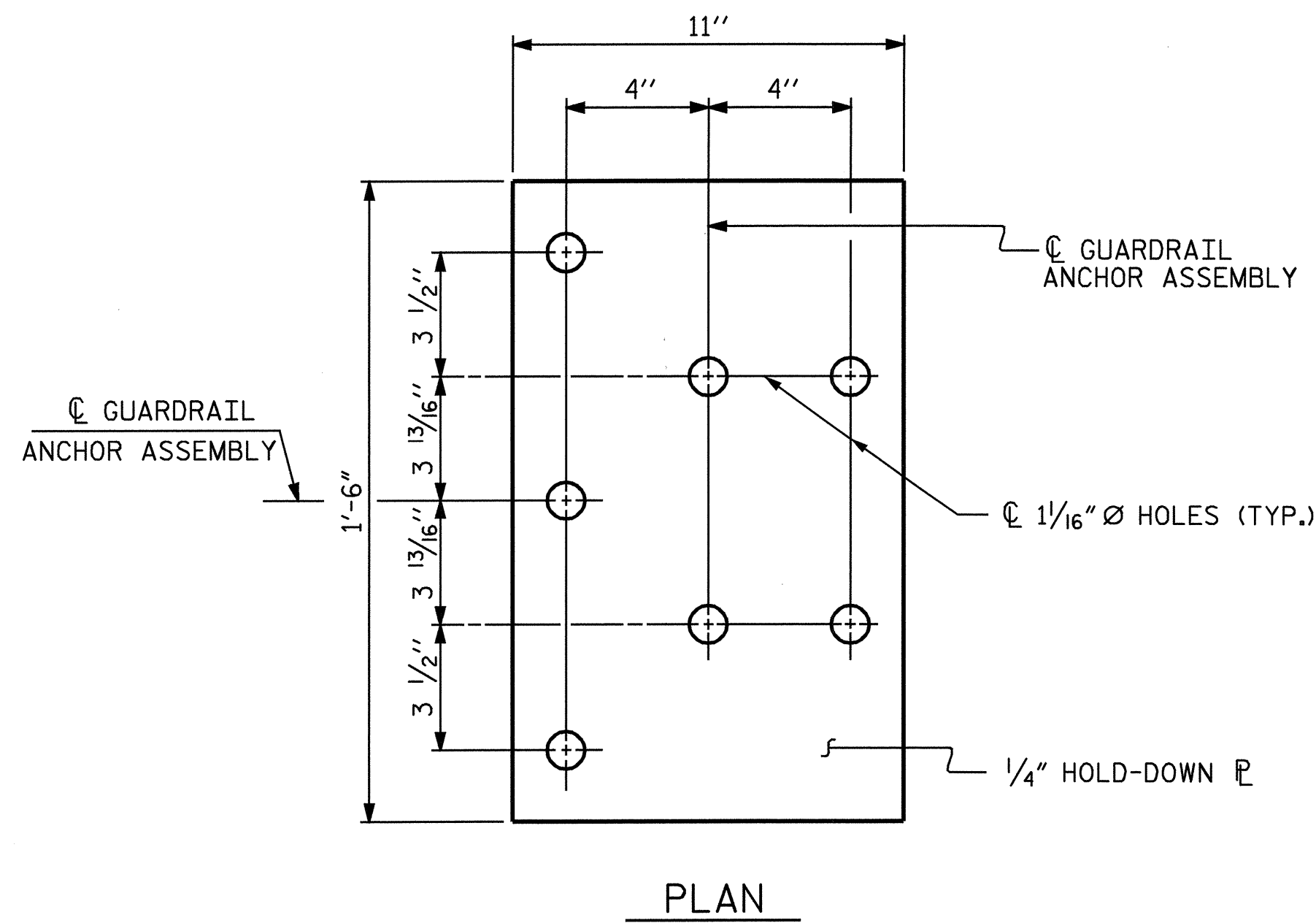
AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLIES WITH BOLTS, NUTS AND WASHERS COMPLETE IN PLACE, SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.

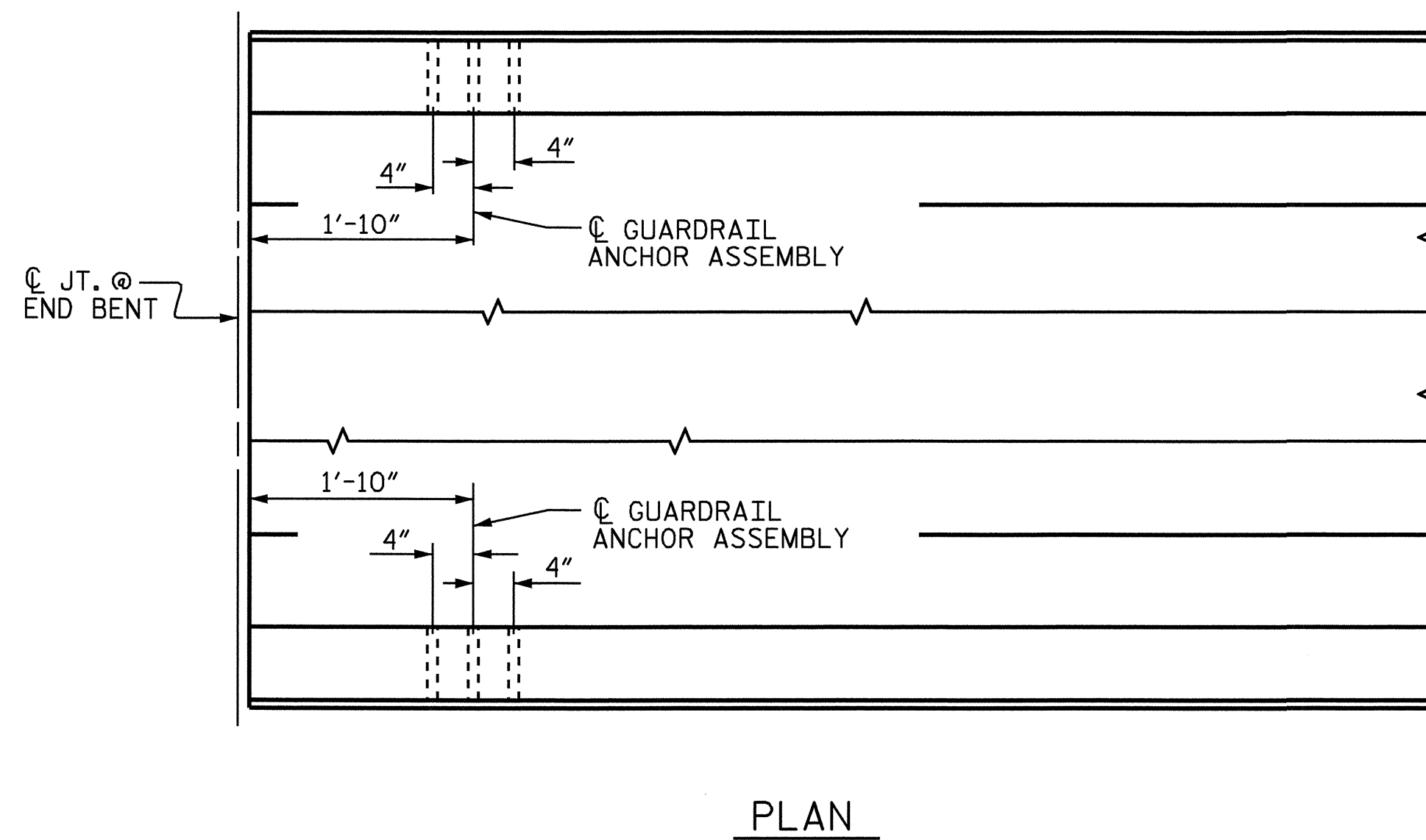
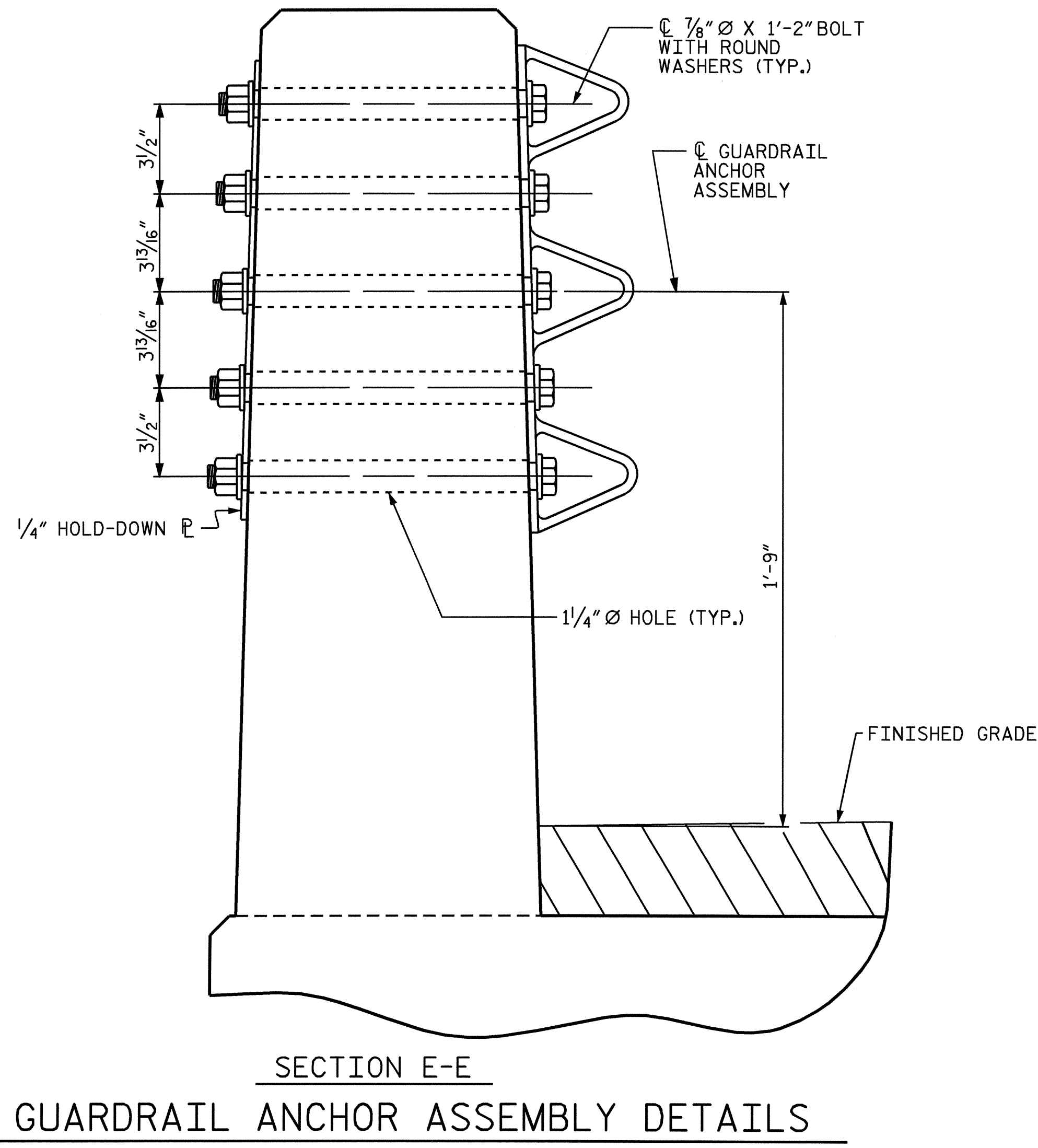
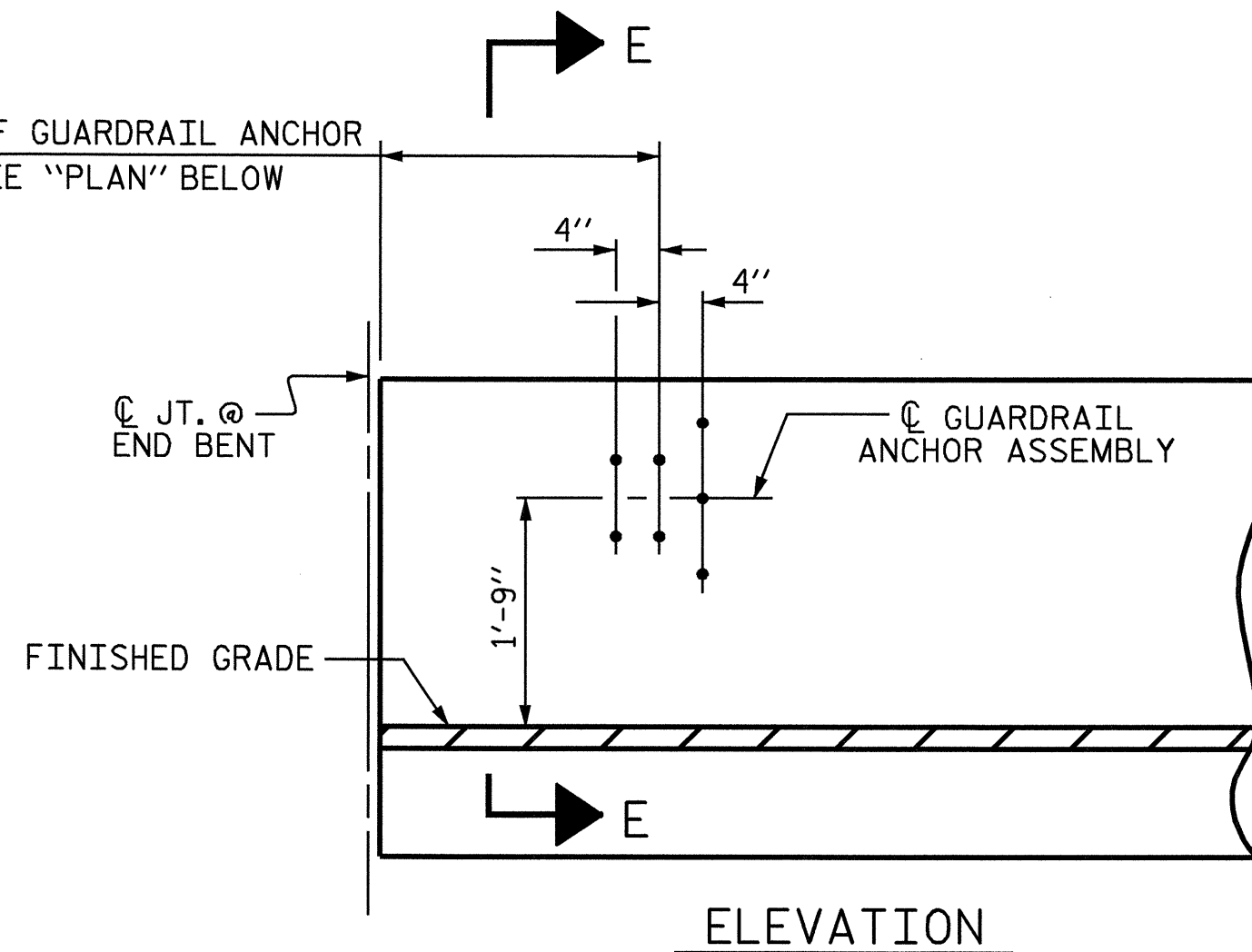
THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE VERTICAL CONCRETE BARRIER RAIL TO CLEAR ASSEMBLY BOLTS.

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

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.

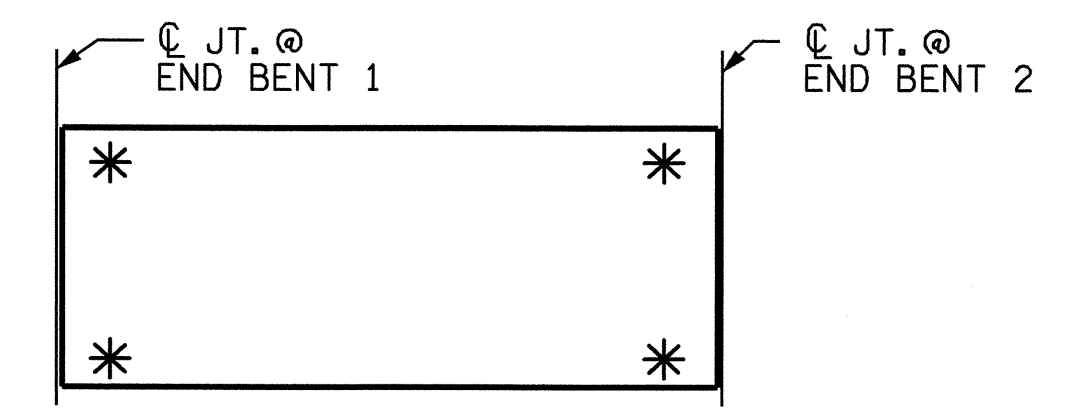


FOR LOCATION OF GUARDRAIL ANCHOR ASSEMBLY, SEE "PLAN" BELOW



LOCATION OF ANCHORS FOR GUARDRAIL

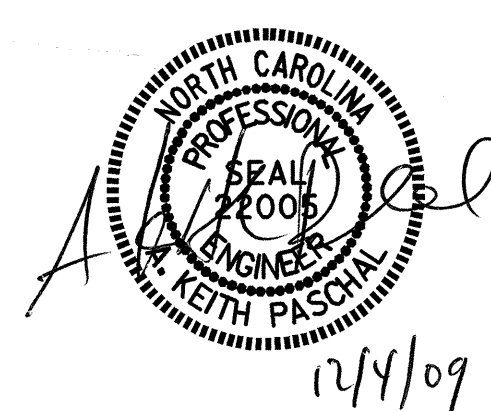
END BENT 1 SHOWN, END BENT 2 SIMILAR.



SKETCH SHOWING POINTS OF ATTACHMENTS

PROJECT NO. B-4672
 WAYNE COUNTY
 STATION: 16+54.00 -L-

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



ASSEMBLED BY : M.FOWLER	DATE : 7/8/09
CHECKED BY : J.D HAWK	DATE : 8/3/09
DRAWN BY : EEM 6/94	REV. 10/17/00 RWW/LES
CHECKED BY : RGW 6/94	REV. 5/7/03 RWW/JTE
	REV. 5/1/06 TLA/GM

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			TOTAL SHEETS
2			4			21

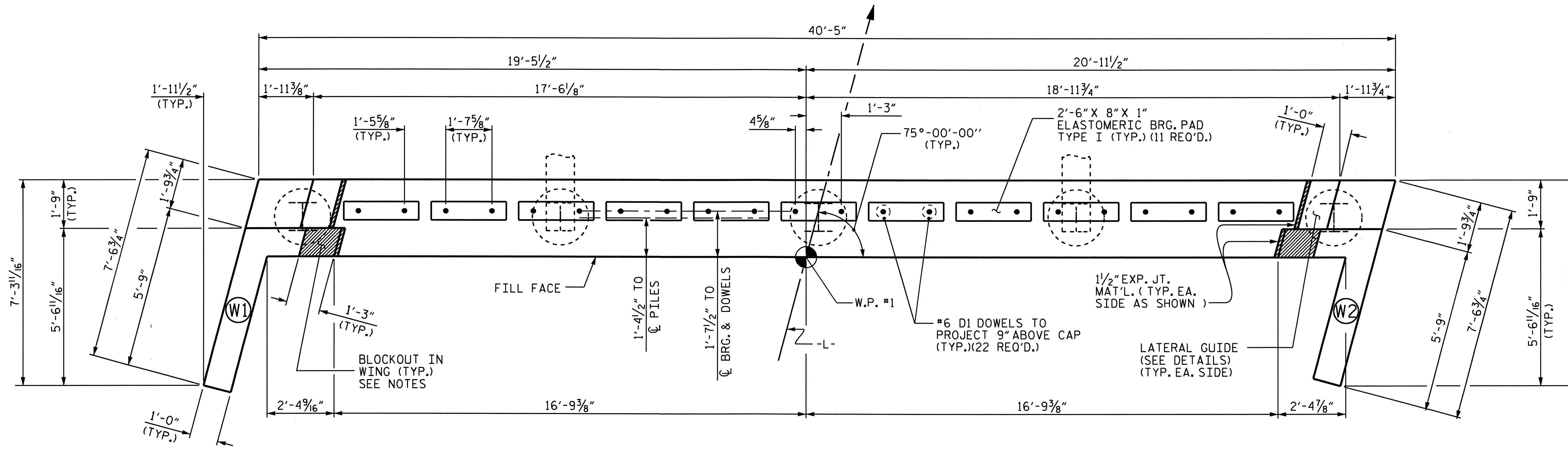
NOTES

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

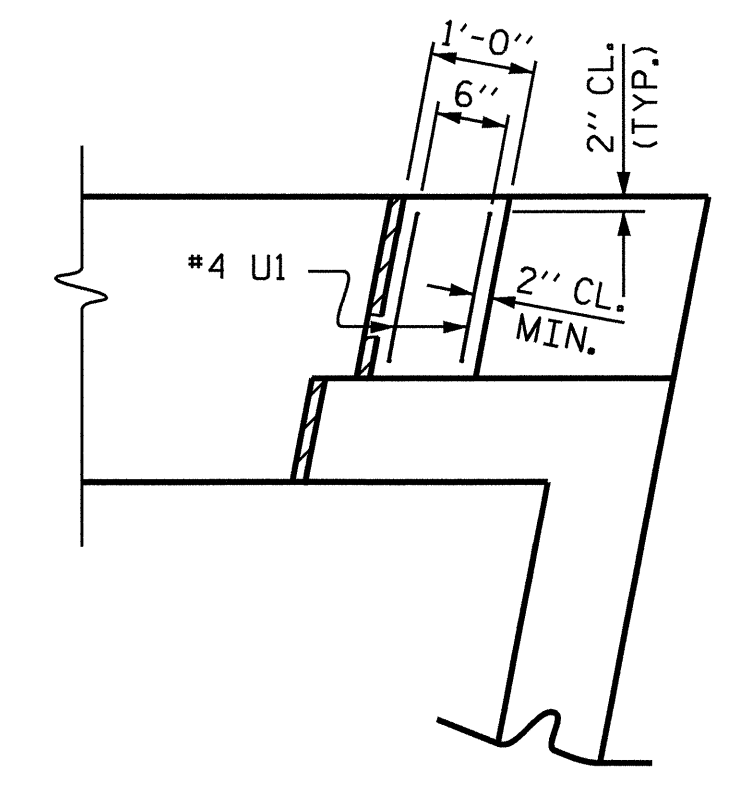
THE LATERAL GUIDE AT EACH END OF THE CAP IS NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.

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

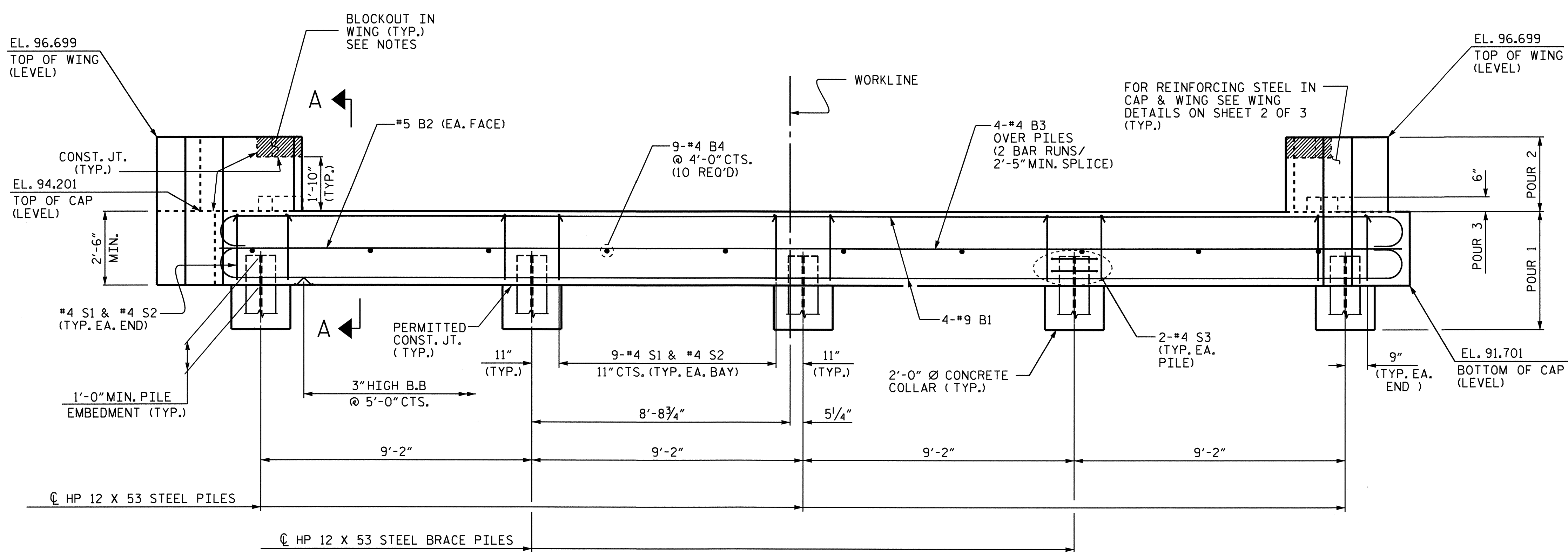
THE CONTRACTOR SHALL PROVIDE FOR INSTALLATION OF THE 4" DIAMETER DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS, SEE THE ROADWAY PLANS. REINFORCING STEEL IN THE WING WALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.



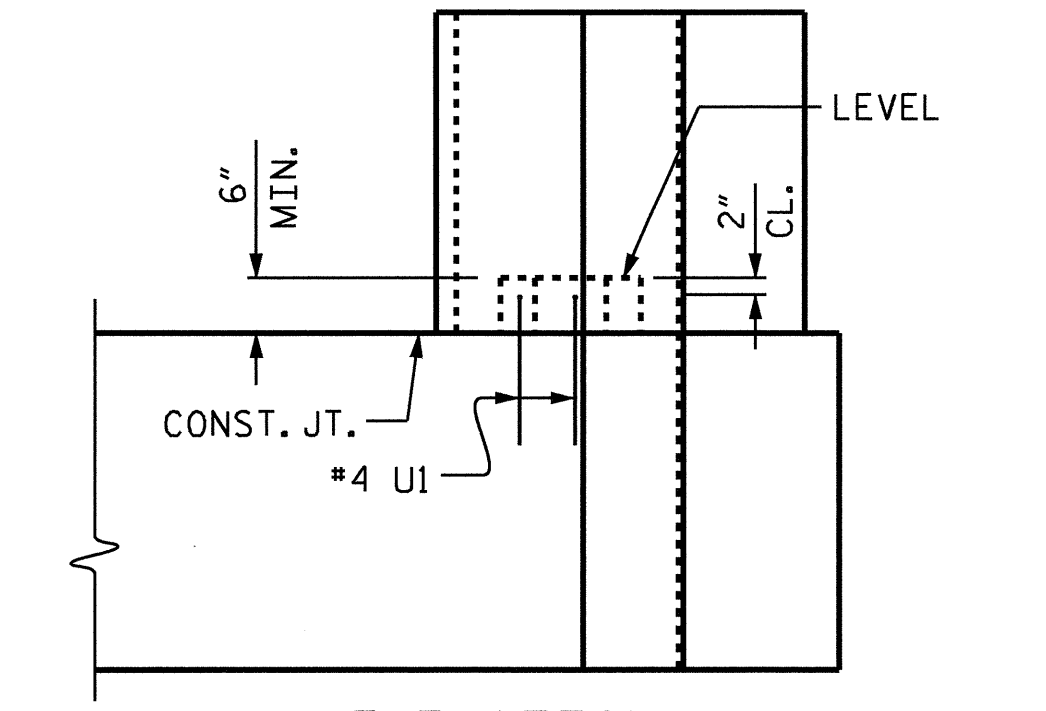
PLAN



PLAN



ELEVATION



ELEVATION
LATERAL GUIDE DETAILS

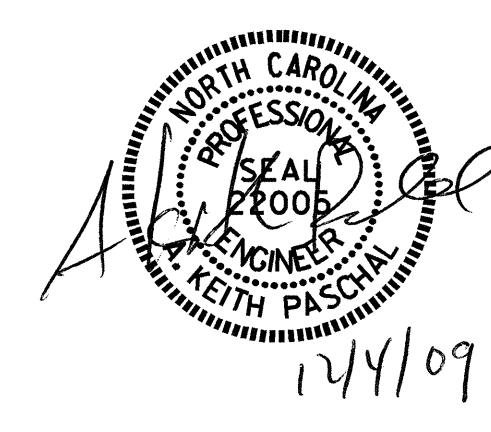
(RIGHT LATERAL GUIDE SHOWN, LEFT LATERAL GUIDE SIMILAR)

PROJECT NO. B-4672
WAYNE COUNTY
 STATION: 16+54.00 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

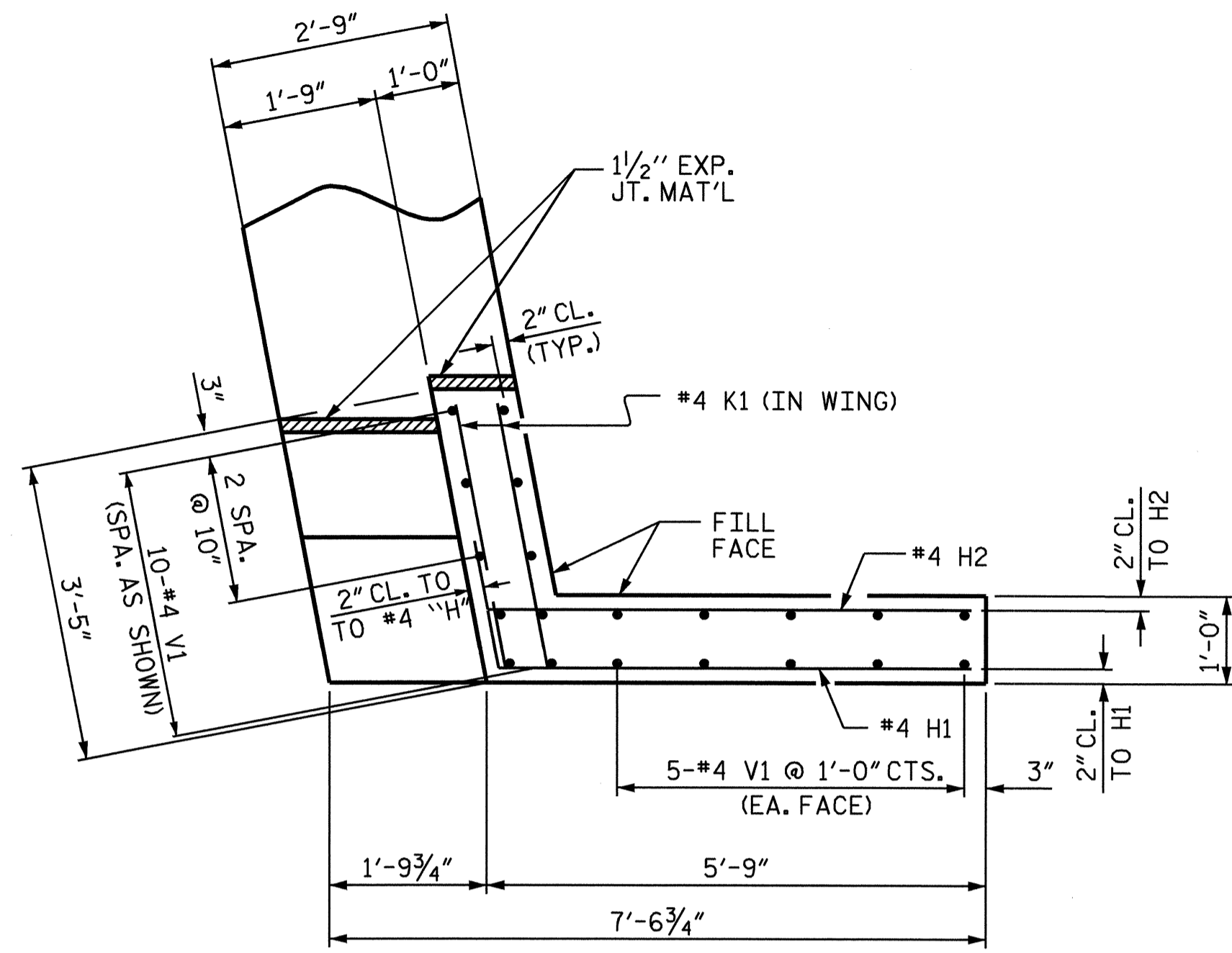
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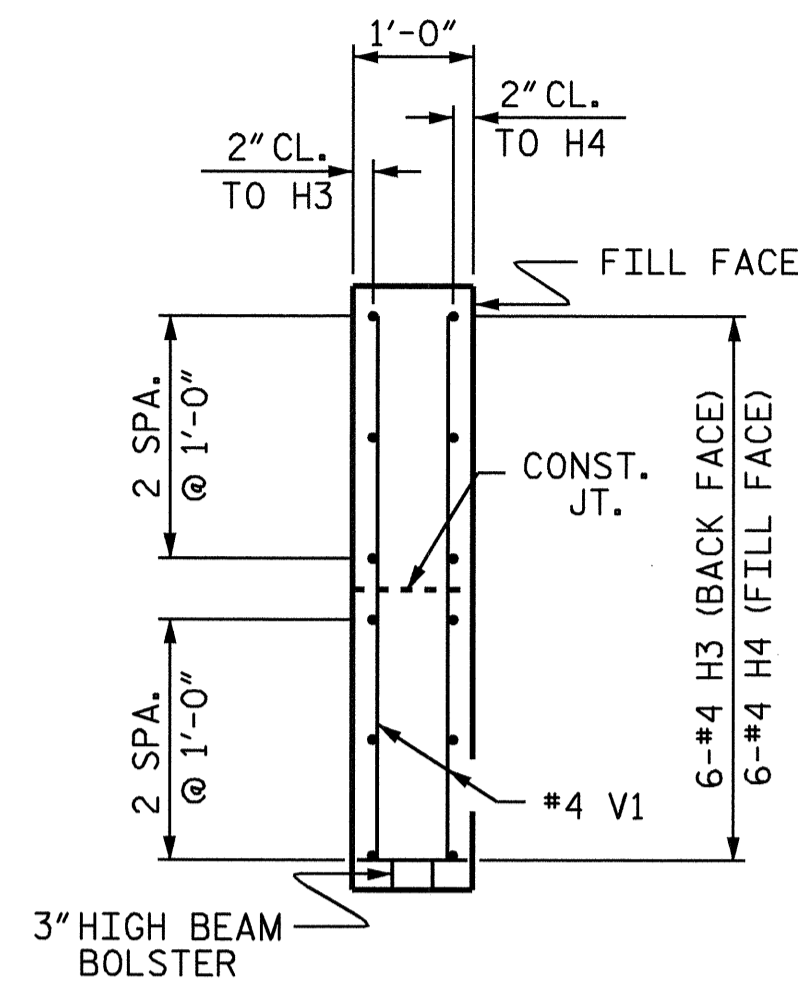
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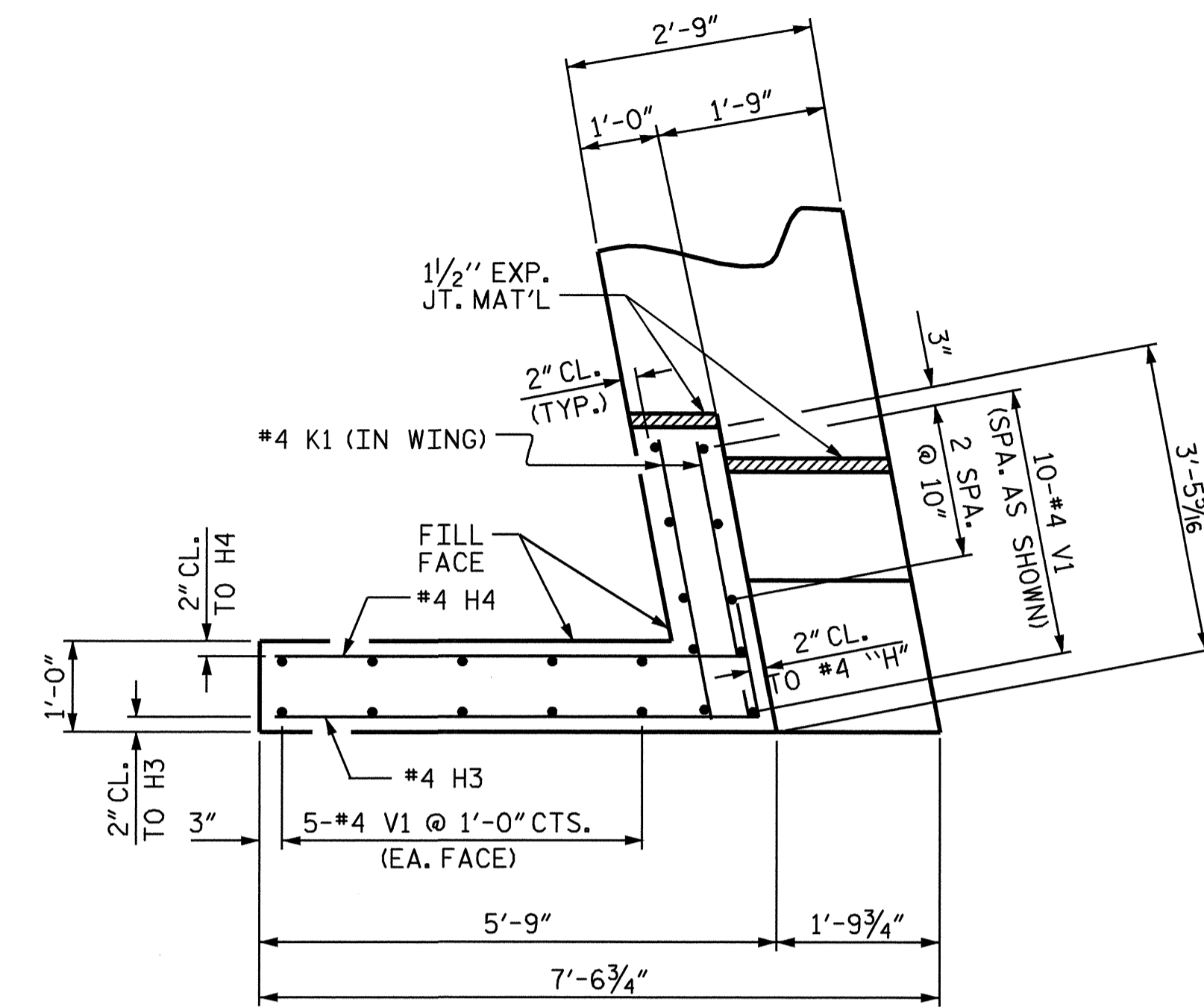
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1			3			TOTAL SHEETS	21
2			4				



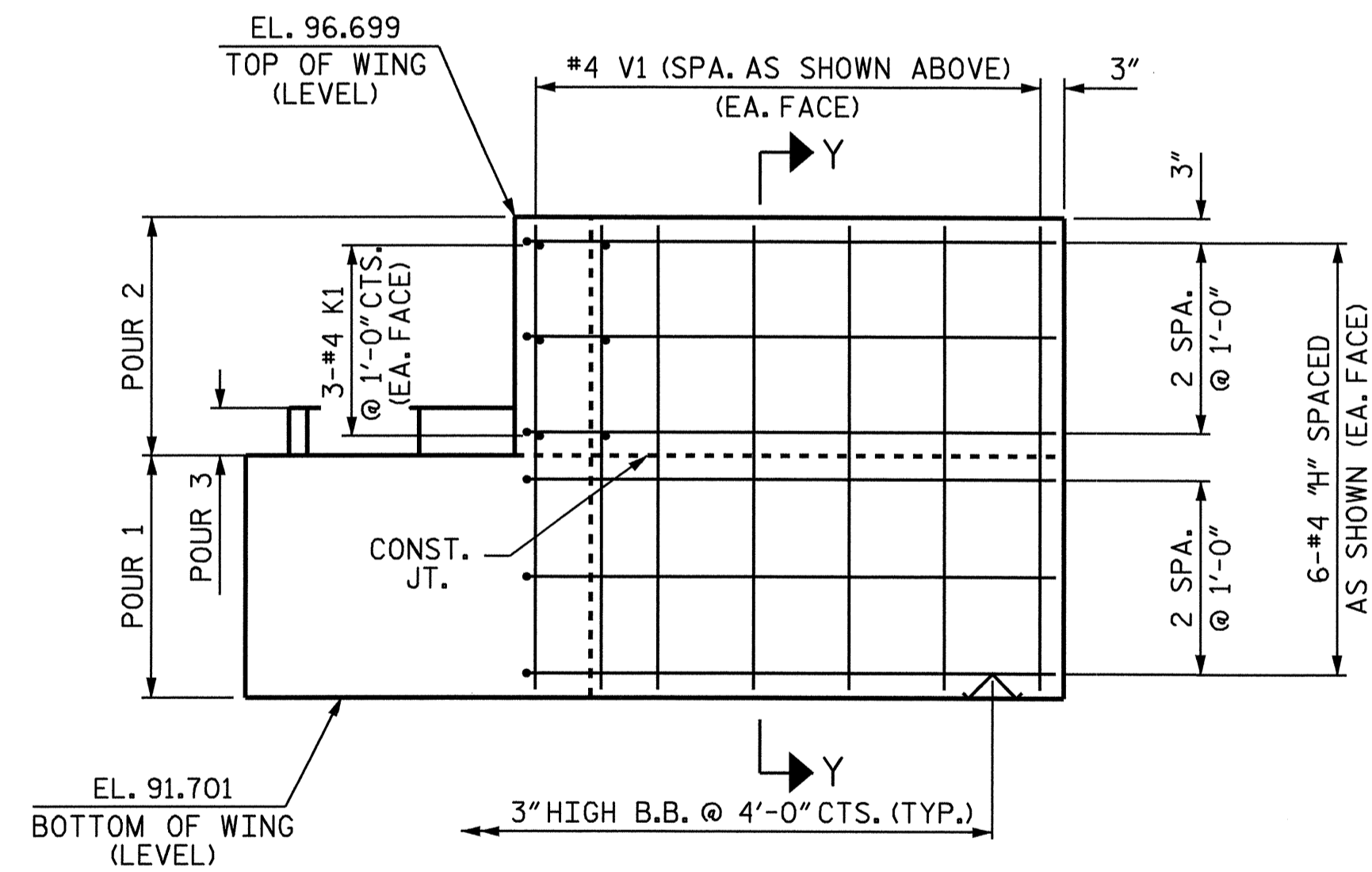
PLAN OF WING (W1)



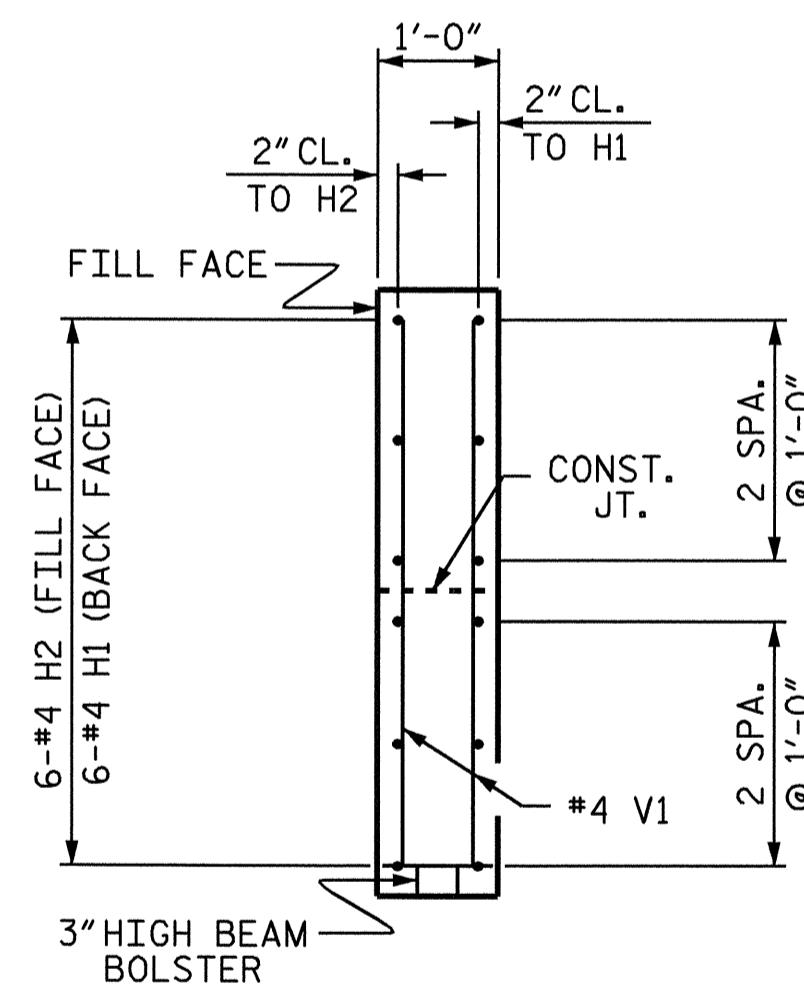
SECTION X-X



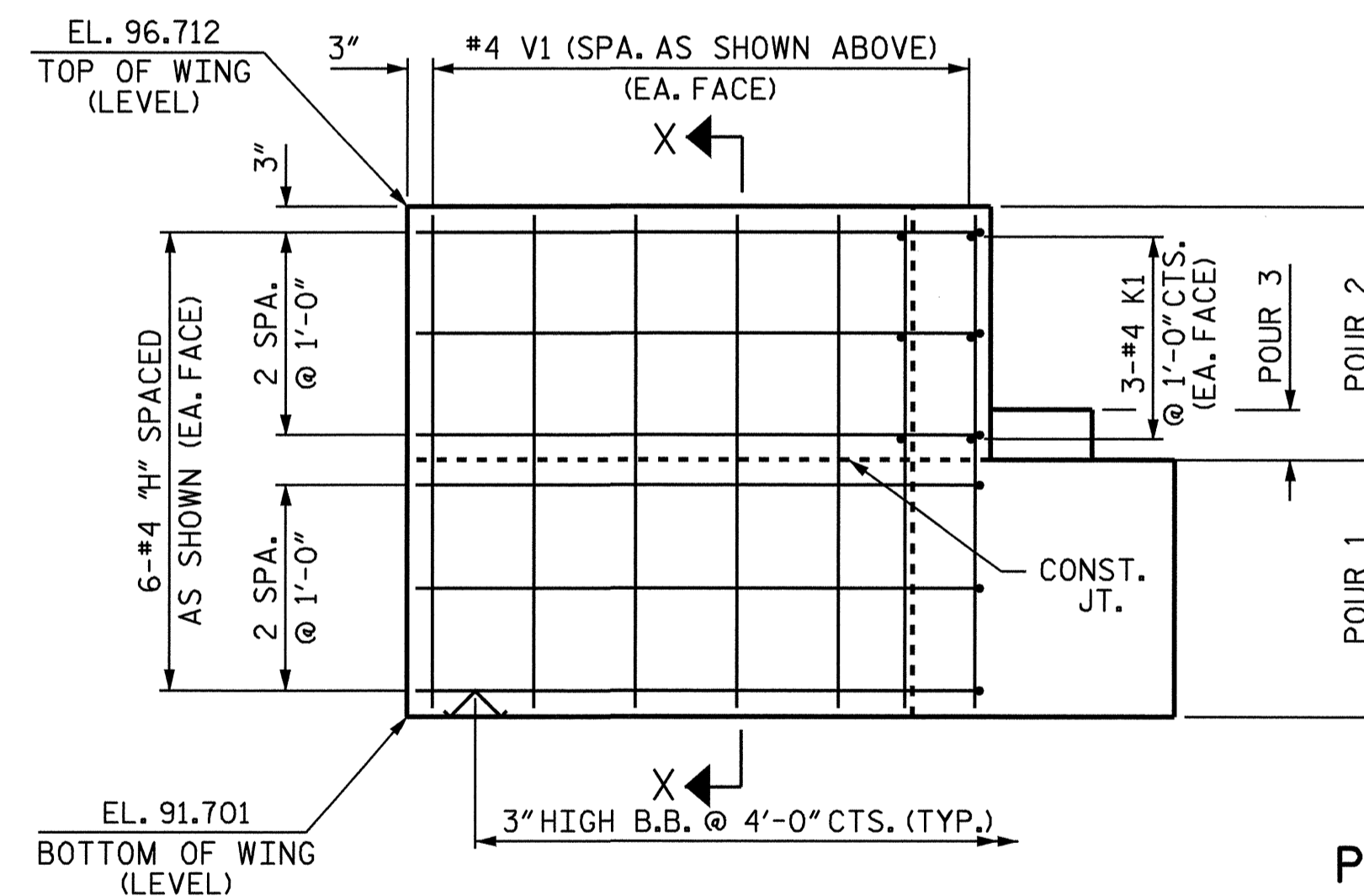
PLAN OF WING (W2)



ELEVATION OF WING (W1)



SECTION Y-Y



ELEVATION OF WING (W2)

PROJECT NO. B-4672
WAYNE COUNTY
 STATION: 16+54.00 -L-

SHEET 2 OF 3

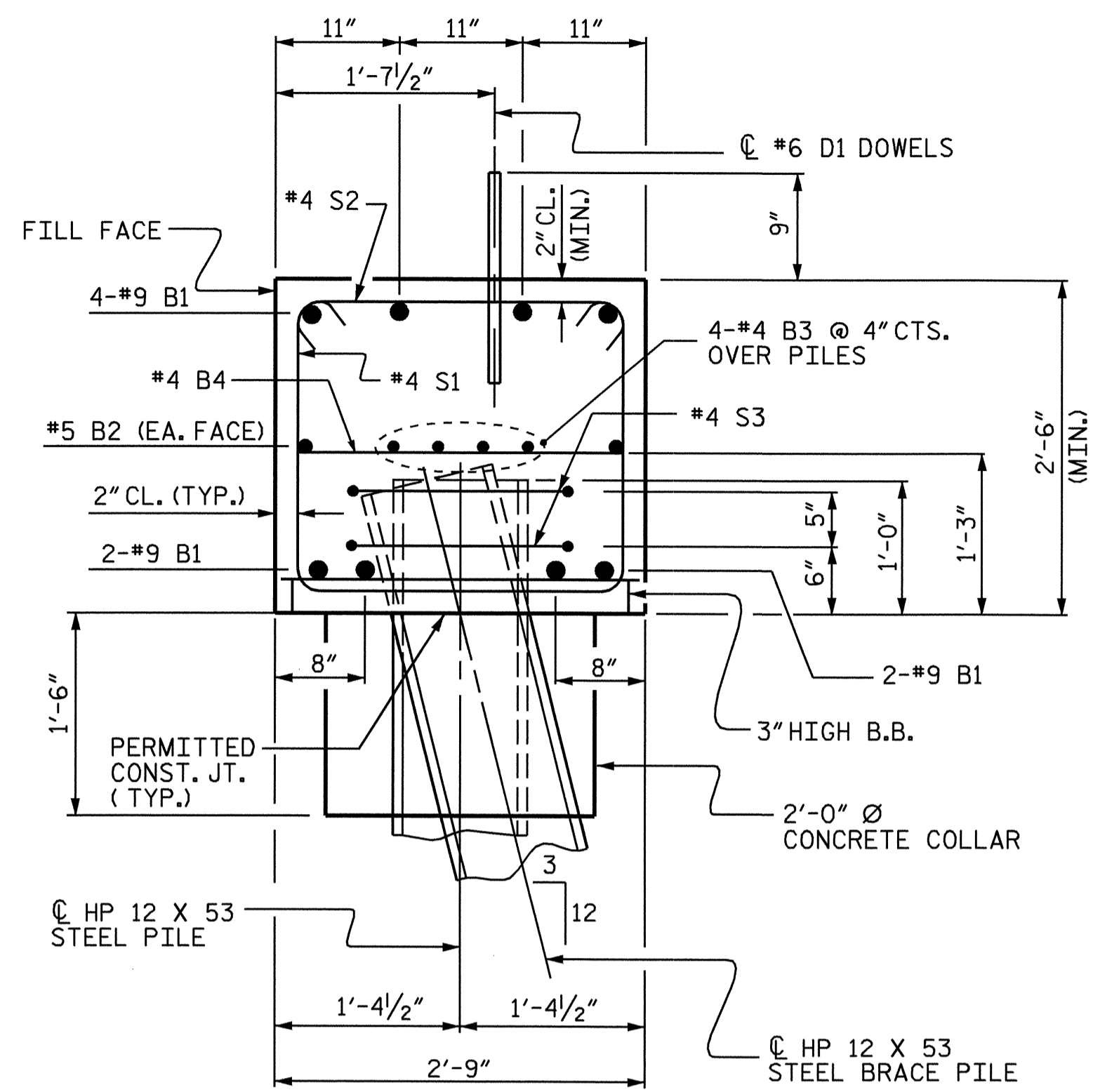
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT 1



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

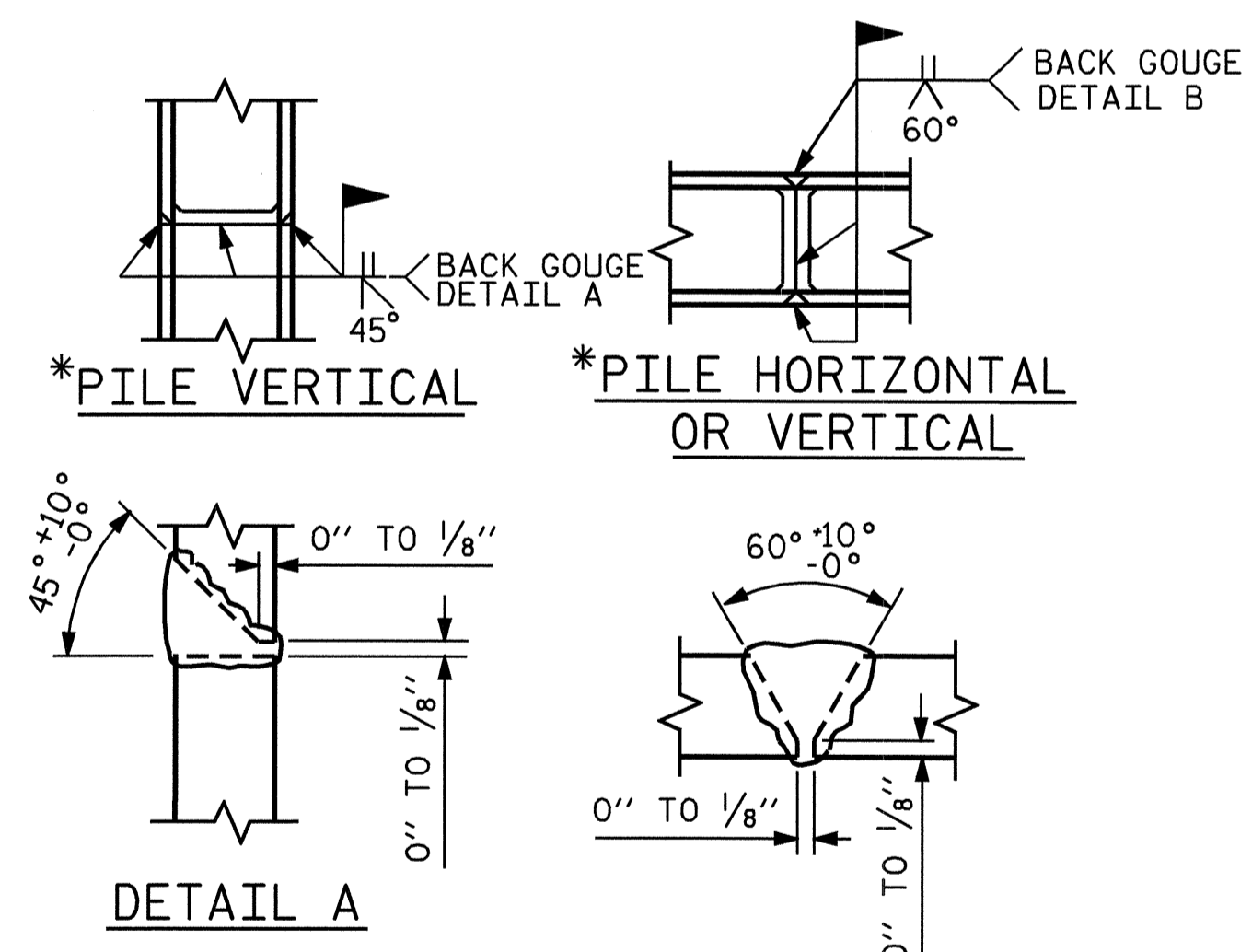
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 CHECKED BY : J.G. KHARVA DATE : 8/17/09



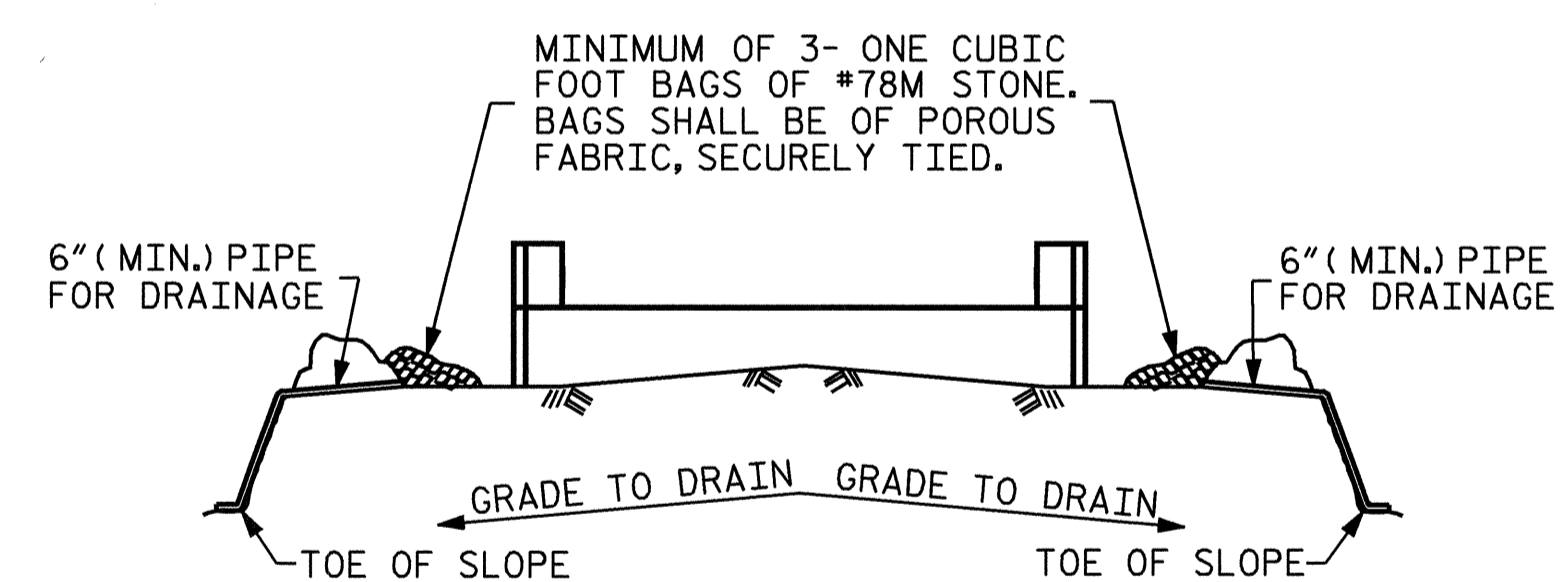
SECTION A-A

BAR TYPES						BILL OF MATERIAL					
						END BENT 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	42'-6"	1156	B1	8	#9	1	42'-6"	1156
B2	2	#5	STR	40'-1"	84	B2	2	#5	STR	40'-1"	84
B3	8	#4	STR	21'-3"	114	B3	8	#4	STR	21'-3"	114
B4	10	#4	STR	2'-5"	16	B4	10	#4	STR	2'-5"	16
D1	22	#6	STR	1'-6"	50	D1	22	#6	STR	1'-6"	50
H1	6	#4	3	6'-1"	24	H1	6	#4	3	6'-1"	24
H2	6	#4	3	6'-3"	25	H2	6	#4	3	6'-3"	25
H3	6	#4	2	6'-0"	24	H3	6	#4	2	6'-0"	24
H4	6	#4	2	5'-10"	23	H4	6	#4	2	5'-10"	23
K1	12	#4	STR	3'-1"	25	K1	12	#4	STR	3'-1"	25
S1	38	#4	5	7'-5"	188	S1	38	#4	5	7'-5"	188
S2	38	#4	4	3'-2"	80	S2	38	#4	4	3'-2"	80
S3	10	#4	7	6'-6"	43	S3	10	#4	7	6'-6"	43
U1	4	#4	6	4'-5"	12	U1	4	#4	6	4'-5"	12
V1	40	#4	STR	4'-8"	125	V1	40	#4	STR	4'-8"	125
TOTAL REINFORCING STEEL = 1989 LBS											
CLASS A CONCRETE BREAKDOWN											
POUR 1 (CAP, COLLARS & LOWER PART OF WINGS) 12.0 C.Y.											
POUR 2 (UPPER PART OF WINGS) 1.5 C.Y.											
POUR 3 (LATERAL GUIDE) 0.1 C.Y.											
TOTAL CLASS A CONCRETE 13.6 C.Y.											
HP 12 X 53 STEEL PILES NO.: 5 275 LIN. FT.											
PILE REDRIVES NO.: 5											

ALL BAR DIMENSIONS ARE OUT TO OUT.



PILE SPLICE DETAILS



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.

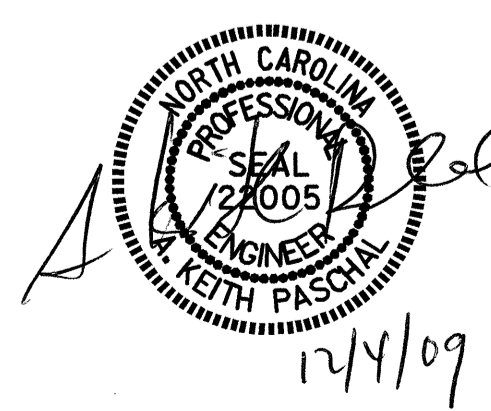
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR 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-4672
WAYNE COUNTY
 STATION: 16+54.00 -L-

SHEET 3 OF 3
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT 1



REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-13	
1			3			TOTAL SHEETS 21	
2			4				

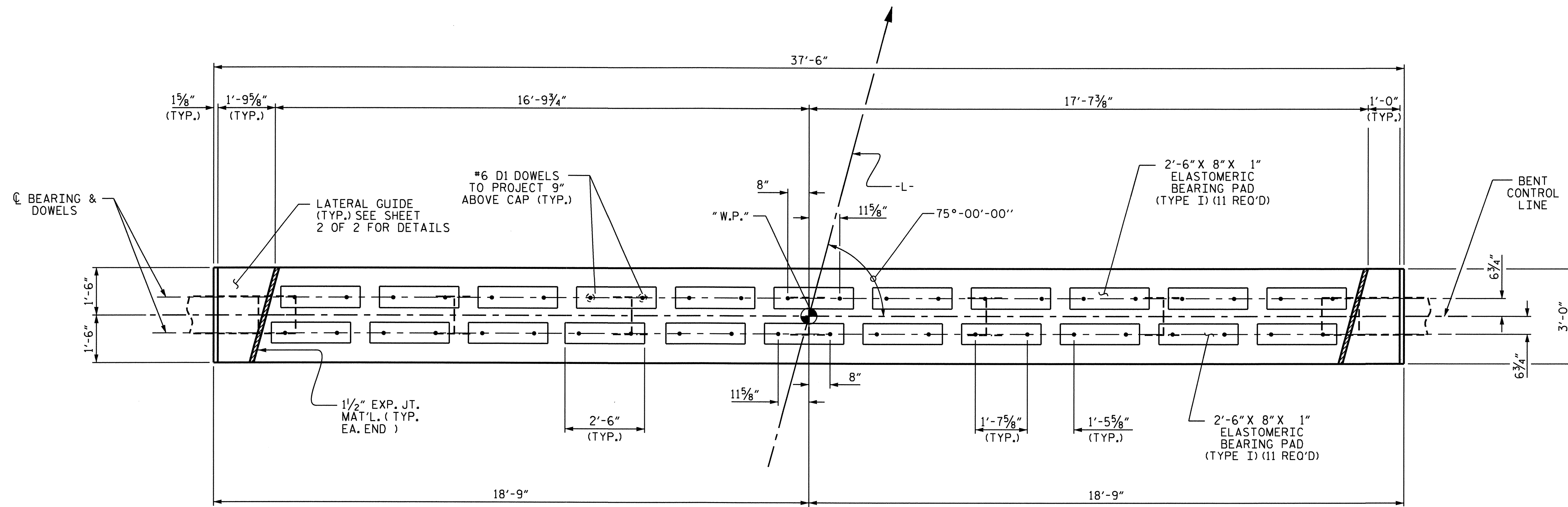
DRAWN BY: M.FOWLER DATE: 6/19/09
 CHECKED BY: J.G. KHARVA DATE: 8/17/09

NOTES

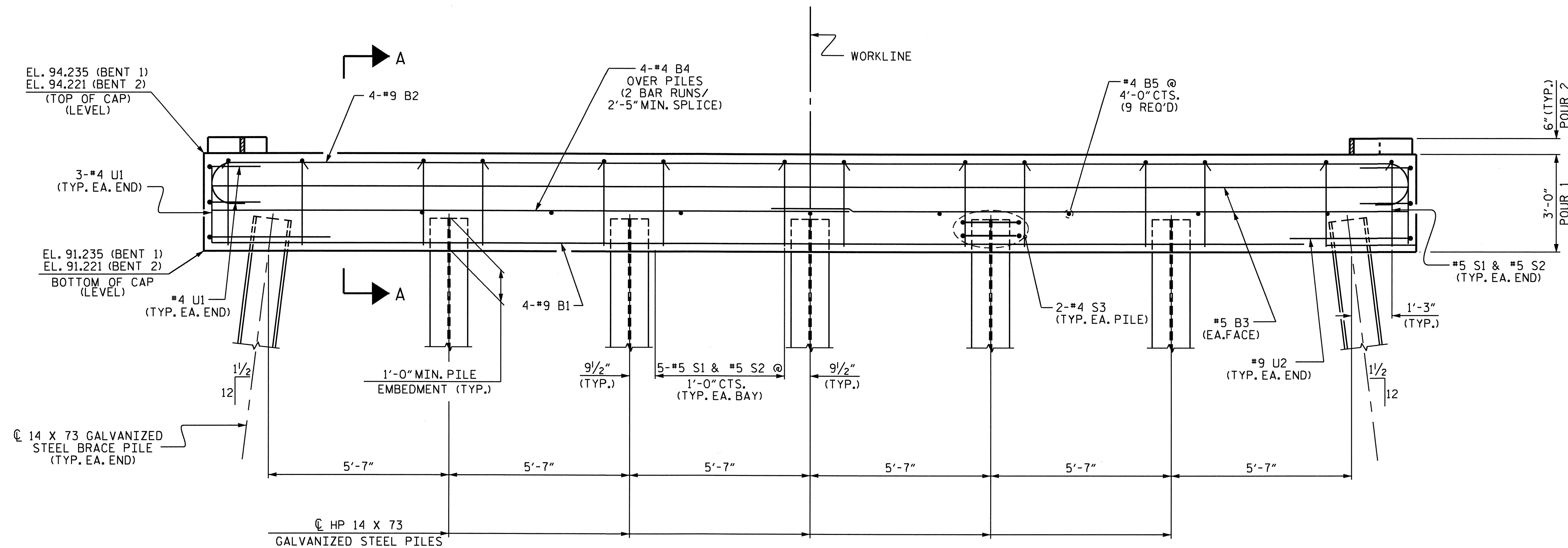
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.

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

GALVANIZE THE TOP 25'-0" OF EACH INTERIOR BENT PILE IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS.



PLAN



ELEVATION

PROJECT NO. B-4672
 WAYNE COUNTY
 STATION: 16+54.00 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

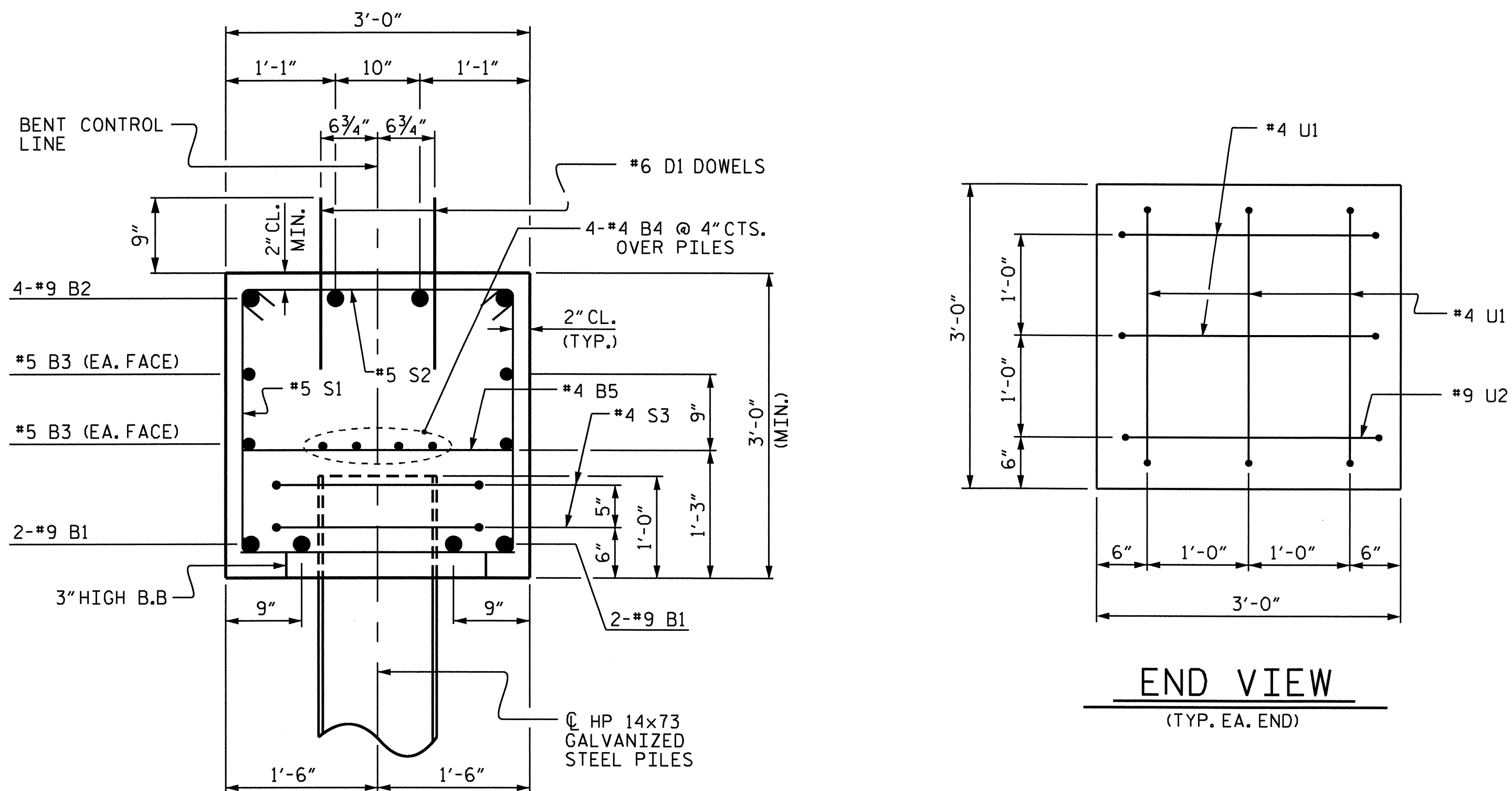
SUBSTRUCTURE
 BENTS 1 & 2



DRAWN BY : M.FOWLER DATE : 6/5/09
 CHECKED BY : J.G. KHARVA DATE : 7/9/09

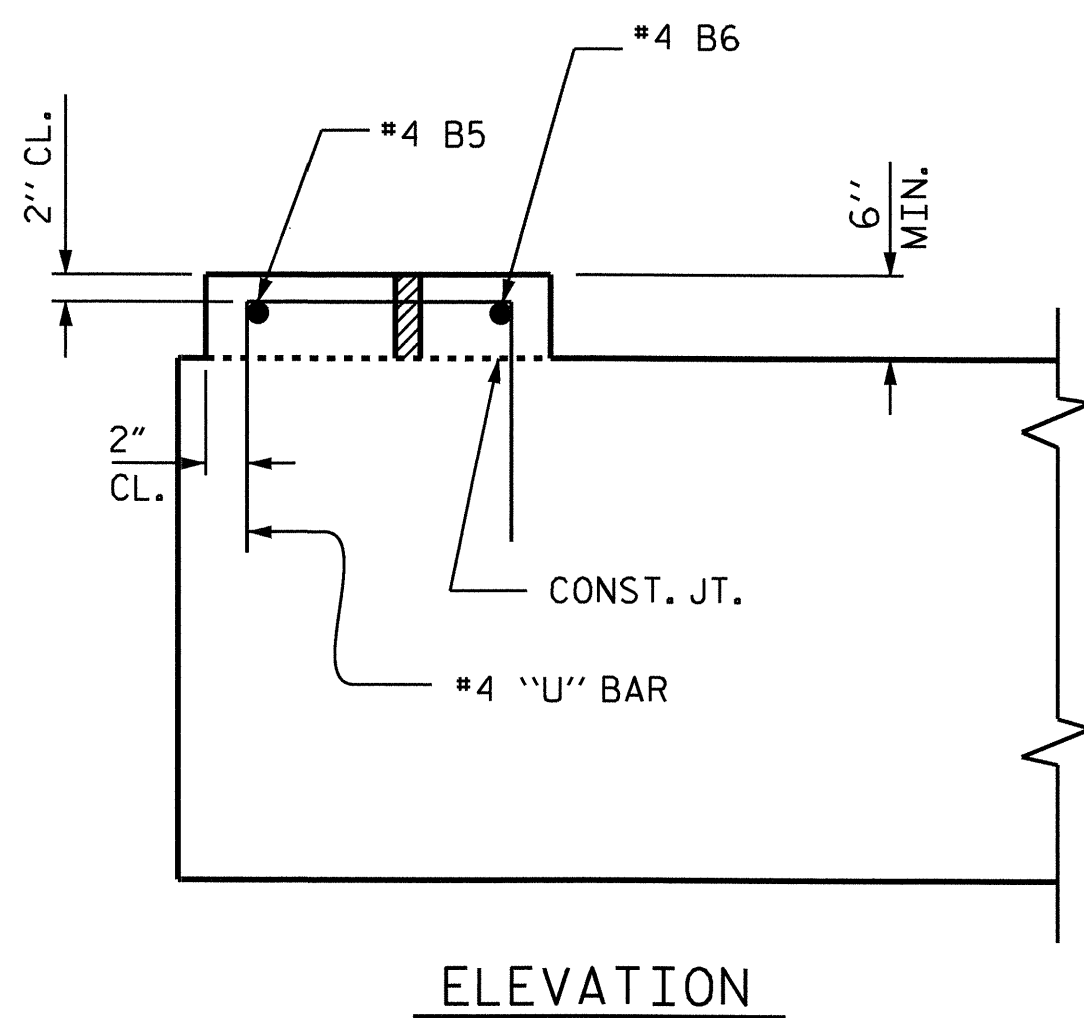
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REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-14	
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2			4				

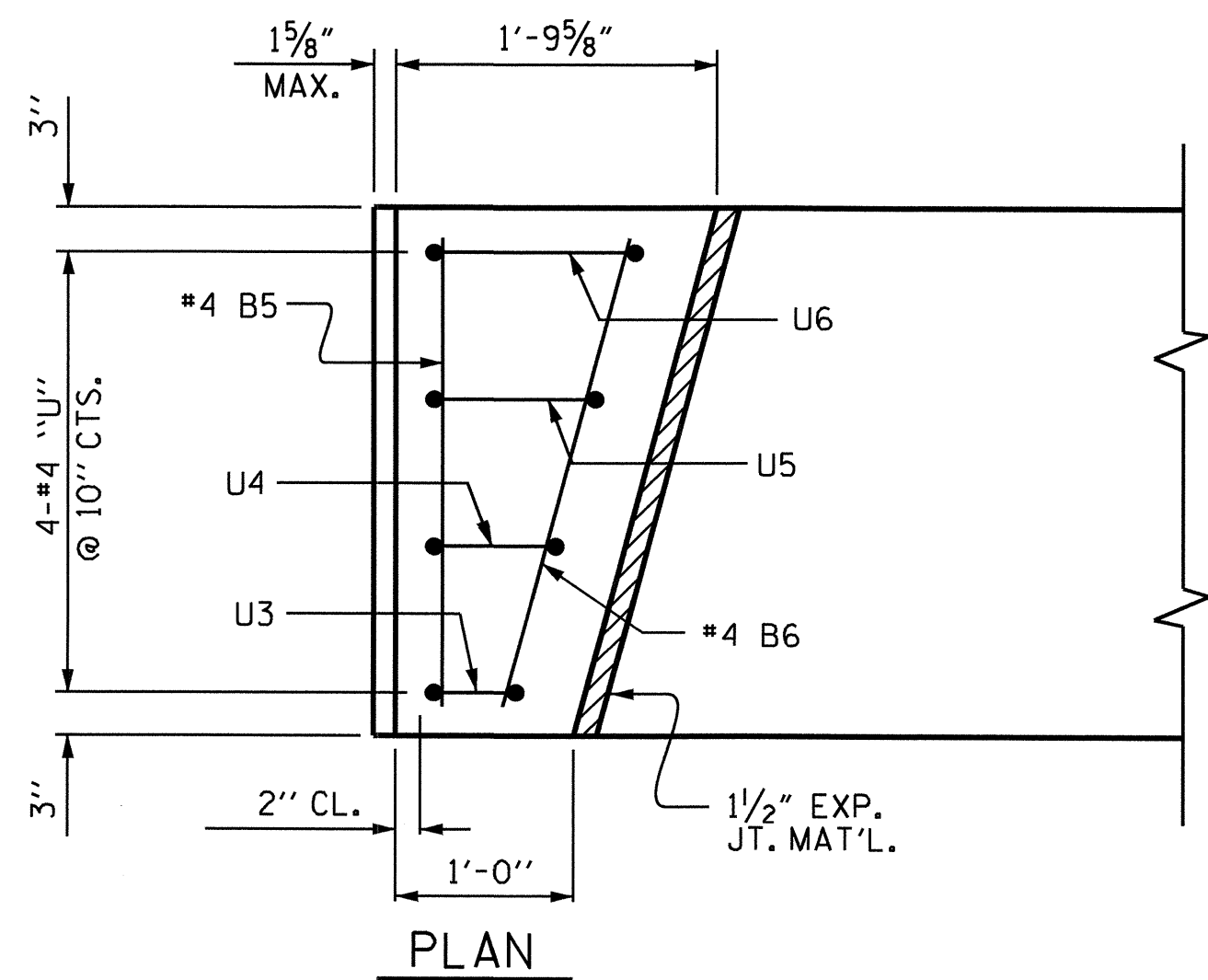


SECTION A-A

END VIEW
(TYP. EA. END)

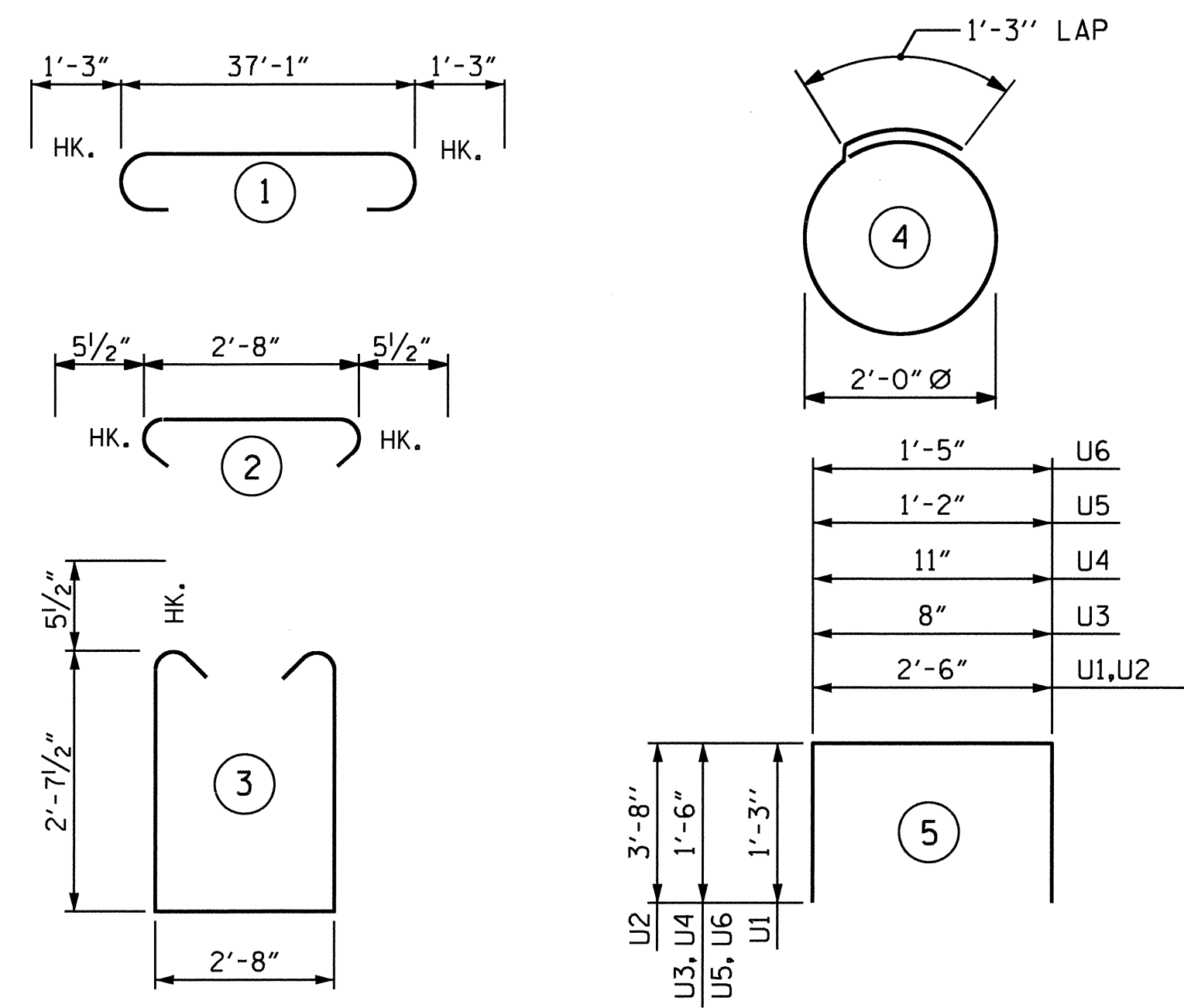


ELEVATION



LATERAL GUIDE DETAIL
(EACH END SIMILAR)

BAR TYPES

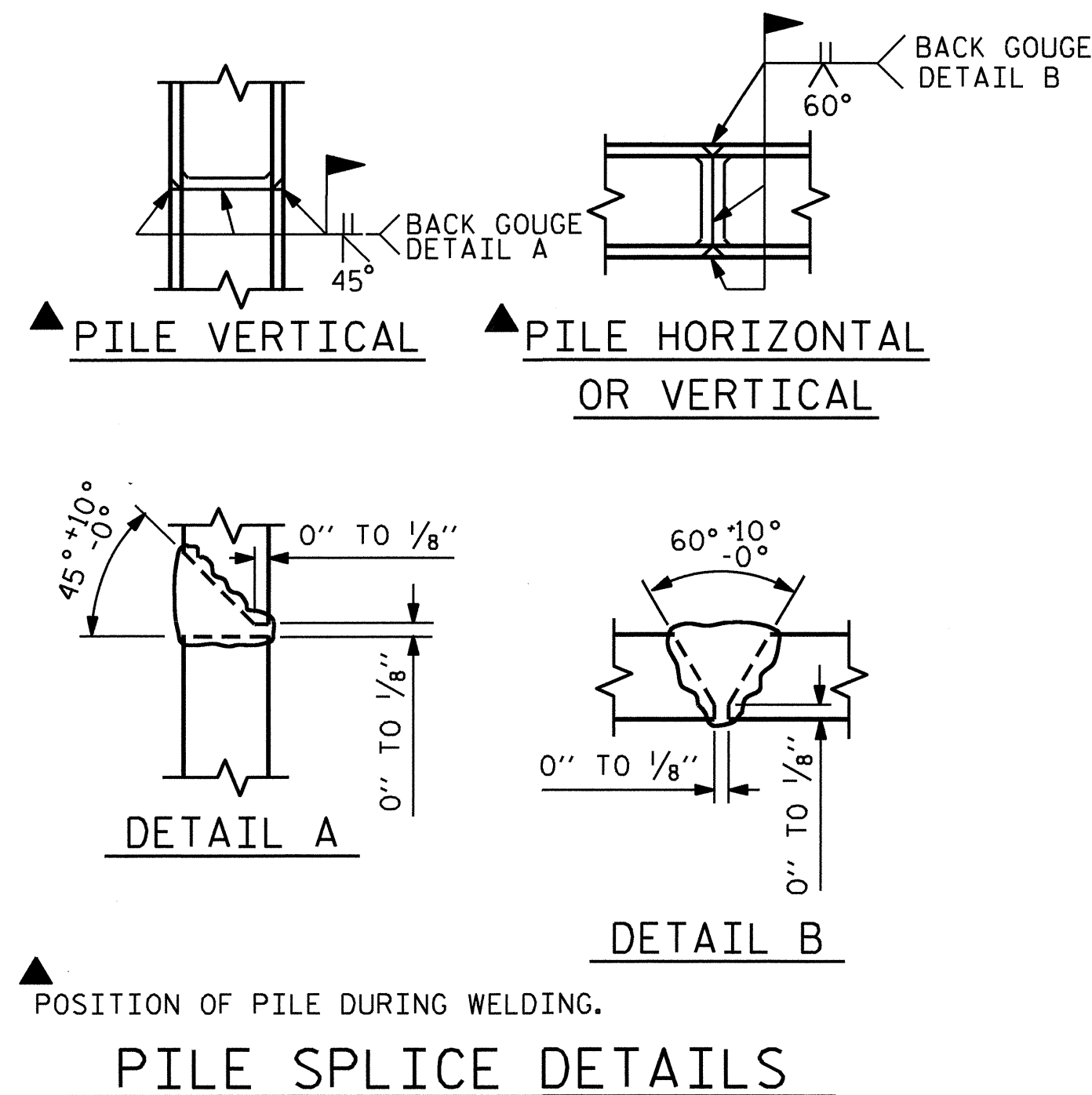


ALL BAR DIMENSIONS ARE OUT TO OUT.

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

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	4	#9	STR	37'-2"	505
B2	4	#9	1	39'-7"	538
B3	4	#5	STR	37'-2"	155
B4	8	#4	STR	19'-10"	106
B5	11	#4	STR	2'-8"	20
B6	2	#4	STR	2'-9"	4
D1	44	#6	STR	1'-6"	99
S1	32	#5	3	8'-10"	295
S2	32	#5	2	3'-7"	120
S3	14	#4	4	7'-7"	71
U1	10	#4	5	5'-0"	33
U2	2	#9	5	9'-10"	67
U3	2	#4	5	3'-8"	5
U4	2	#4	5	3'-11"	5
U5	2	#4	5	4'-2"	6
U6	2	#4	5	4'-5"	6

REINFORCING STEEL	2035 LBS.
CLASS A CONCRETE	
POUR 1 (CAP)	C.Y. 12.5
POUR 2 (LATERAL GUIDE)	C.Y. 0.1
TOTAL	C.Y. 12.6
HP 14 x 73 GALVANIZED STEEL PILES	
NO. : 7	LIN. FT. 385
PILE REDRIVES	NO. : 7



POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS

PROJECT NO. B-4672
WAYNE COUNTY
 STATION: 16+54.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 BENTS 1 & 2

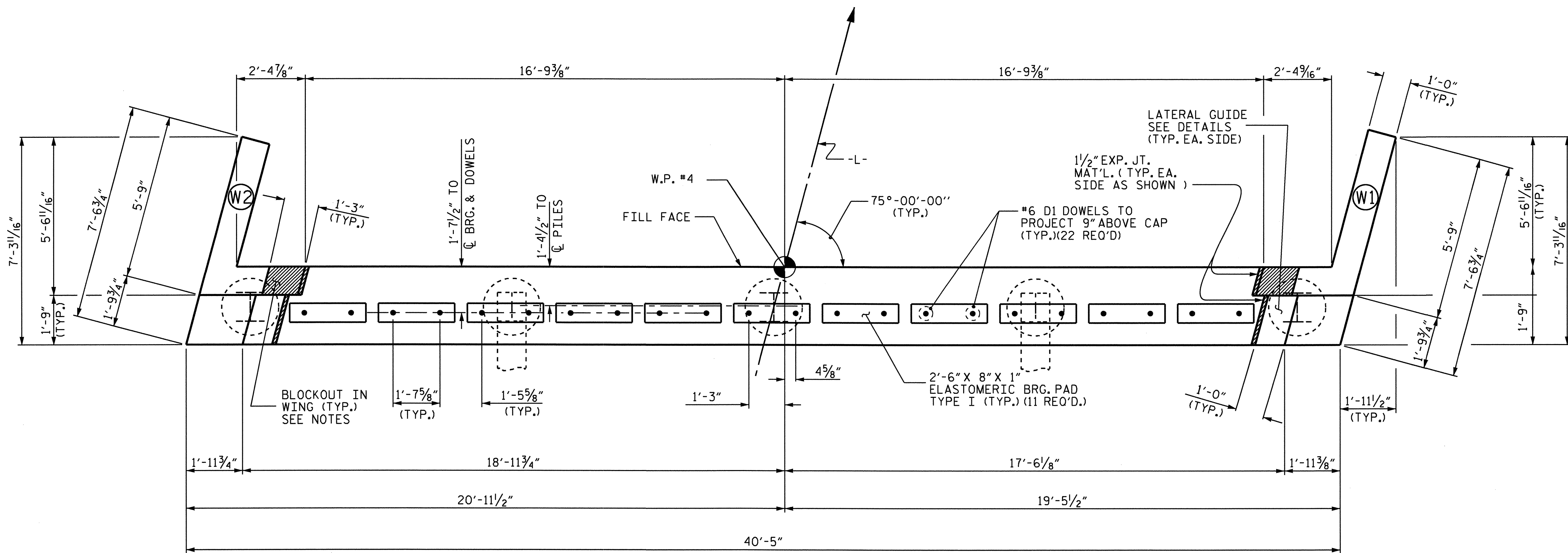


12/4/09

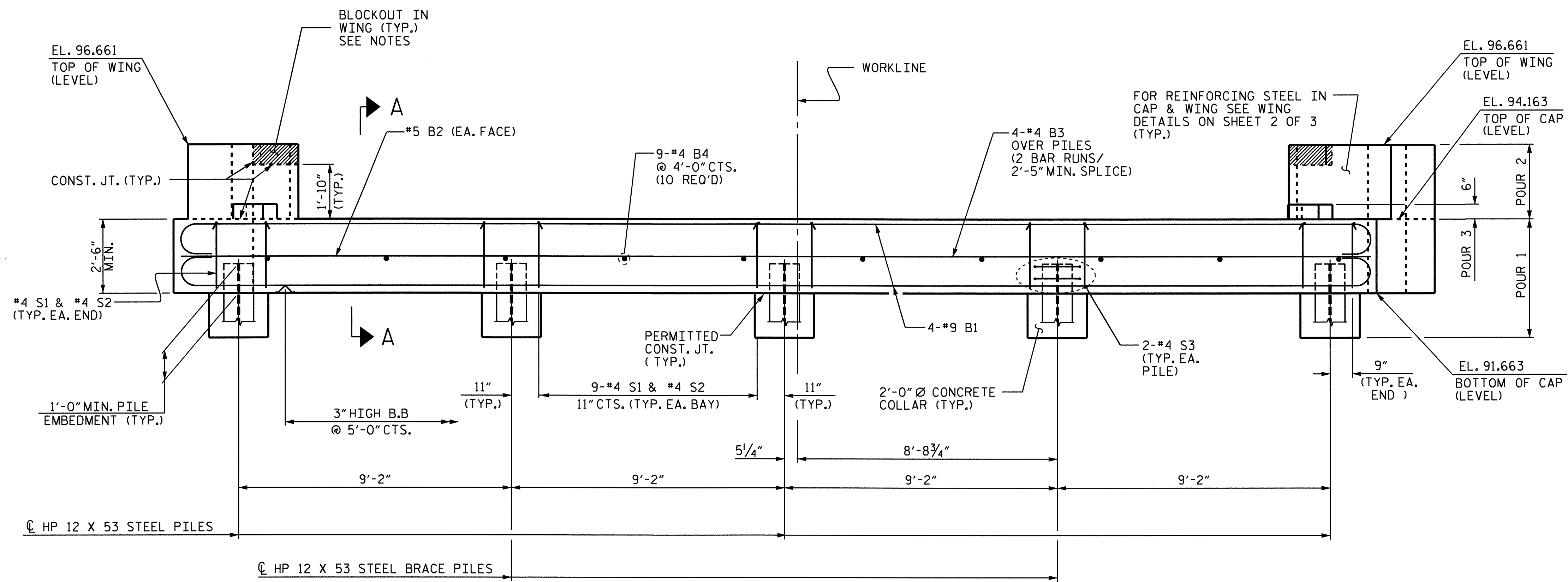
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 CHECKED BY : J.G. KHARVA DATE : 7/9/09

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 jghawk

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-15
1			3			TOTAL SHEETS 21
2			4			



PLAN



ELEVATION

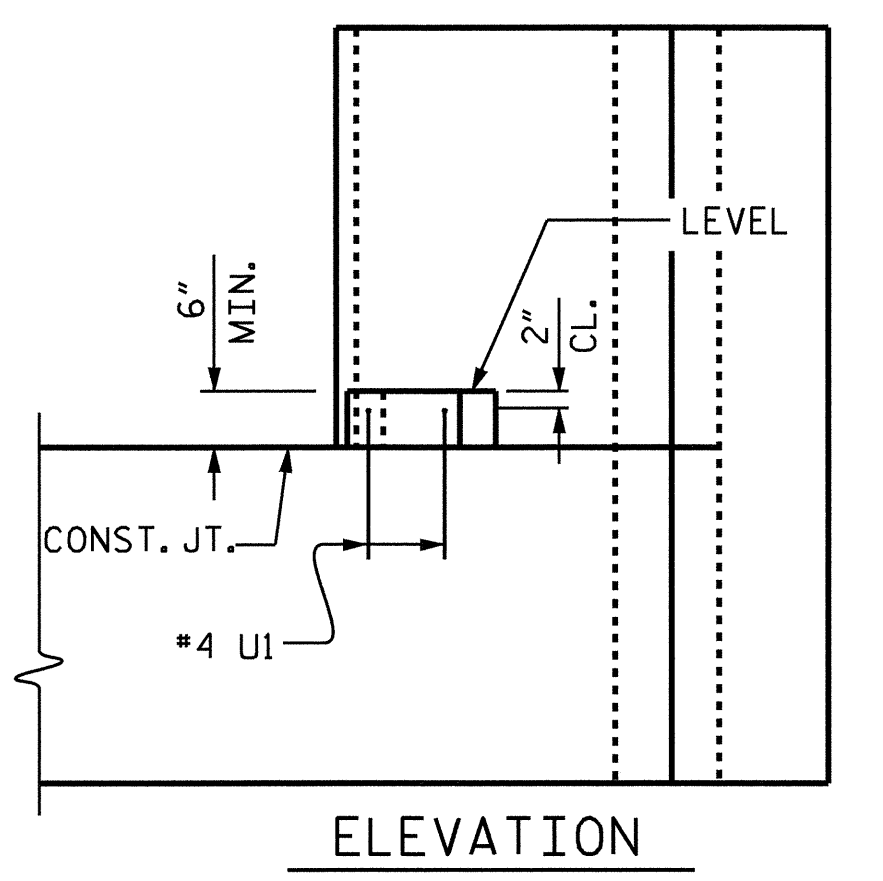
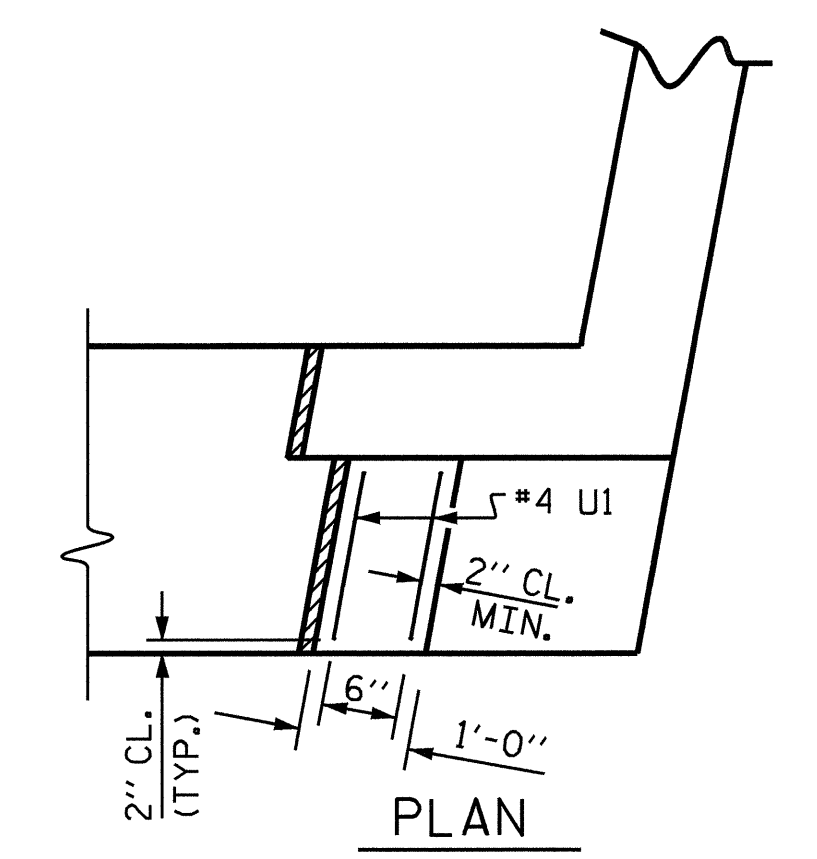
NOTES

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

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

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

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.



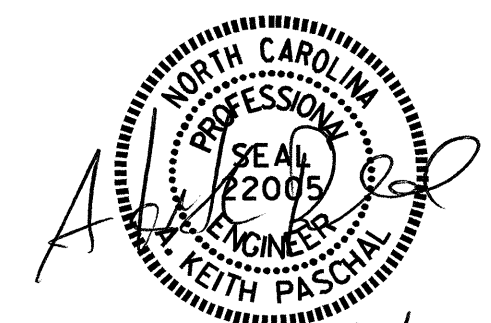
LATERAL GUIDE DETAILS

(RIGHT LATERAL GUIDE SHOWN, LEFT LATERAL GUIDE SIMILAR)

PROJECT NO. B-4672
WAYNE COUNTY
 STATION: 16+54.00 -L-
 SHEET 1 OF 3

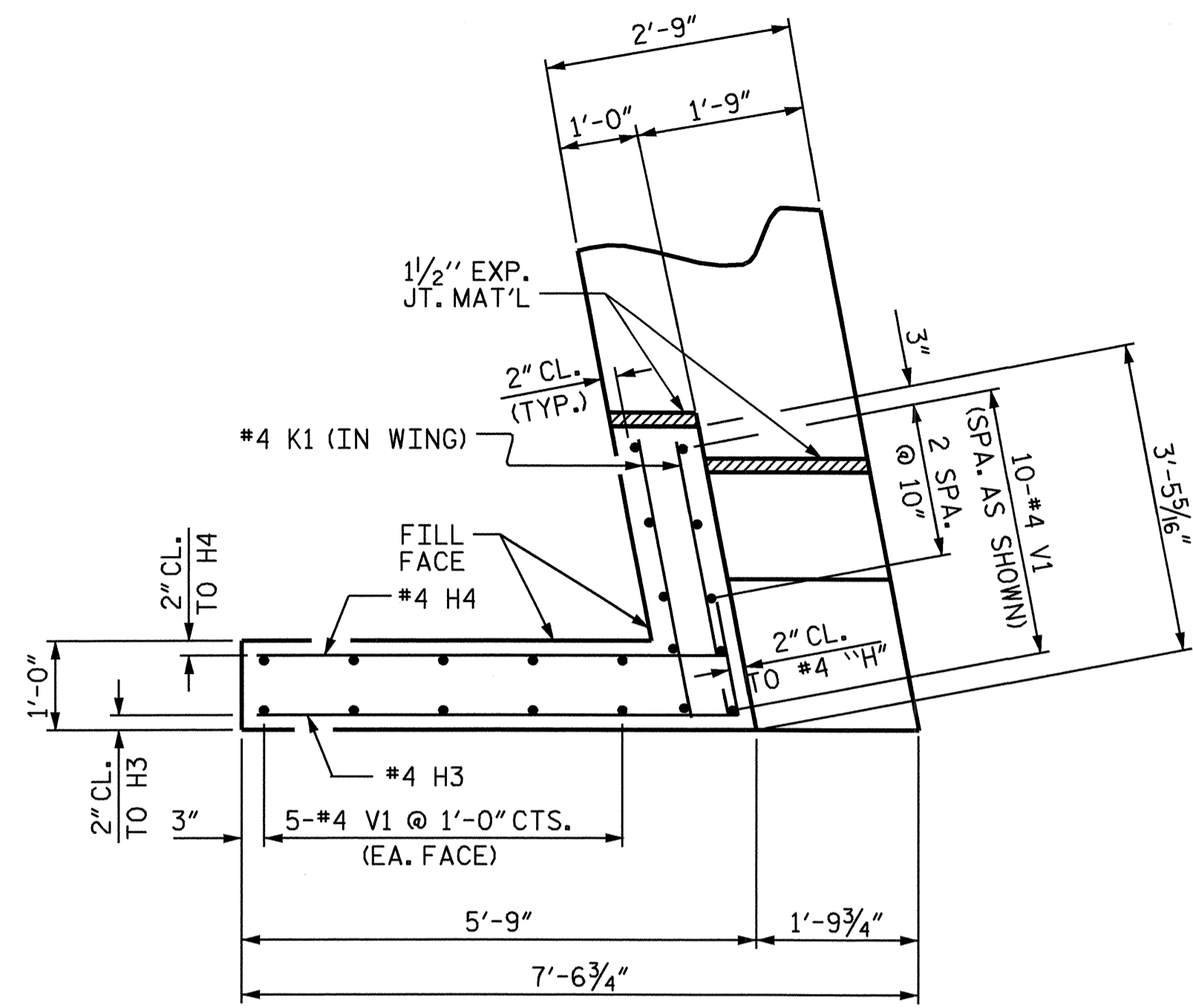
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 END BENT 2**

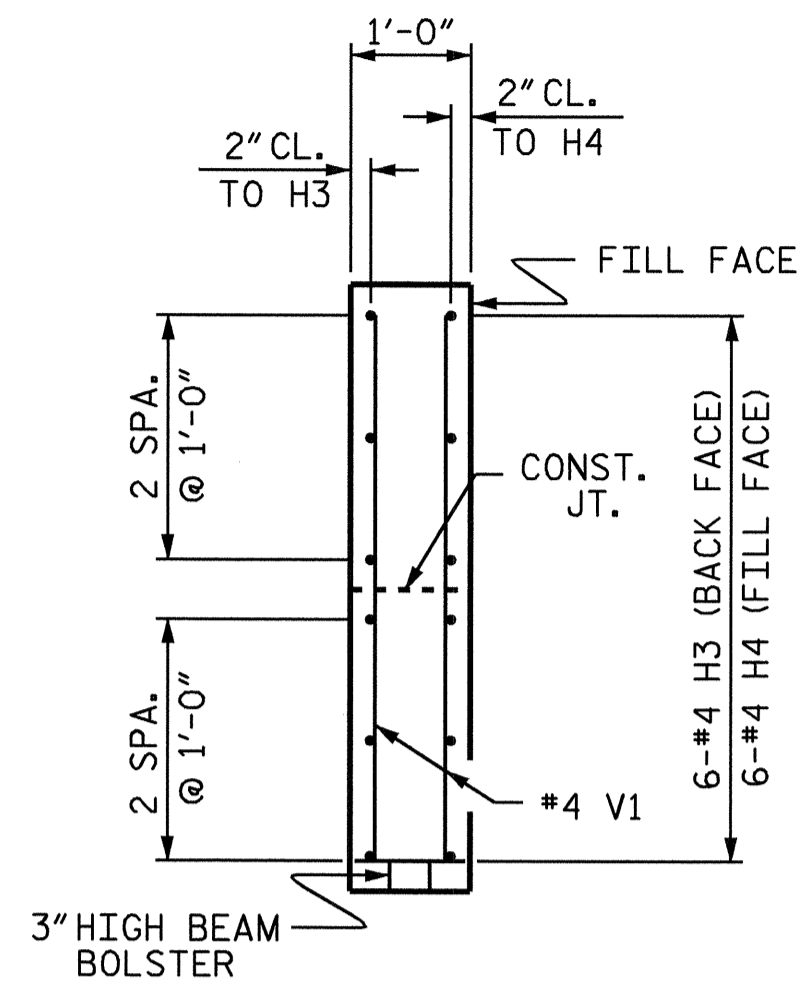


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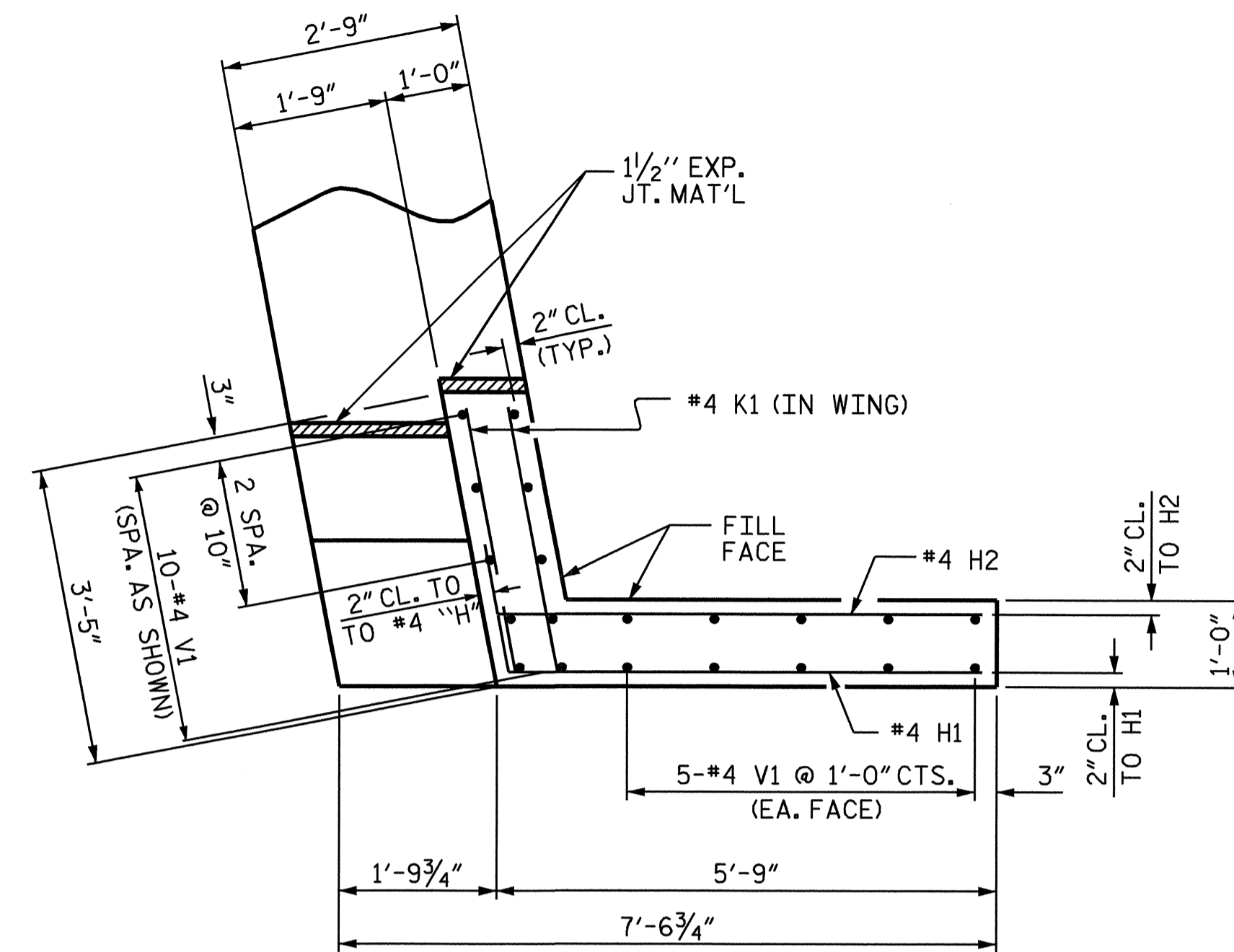
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NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			



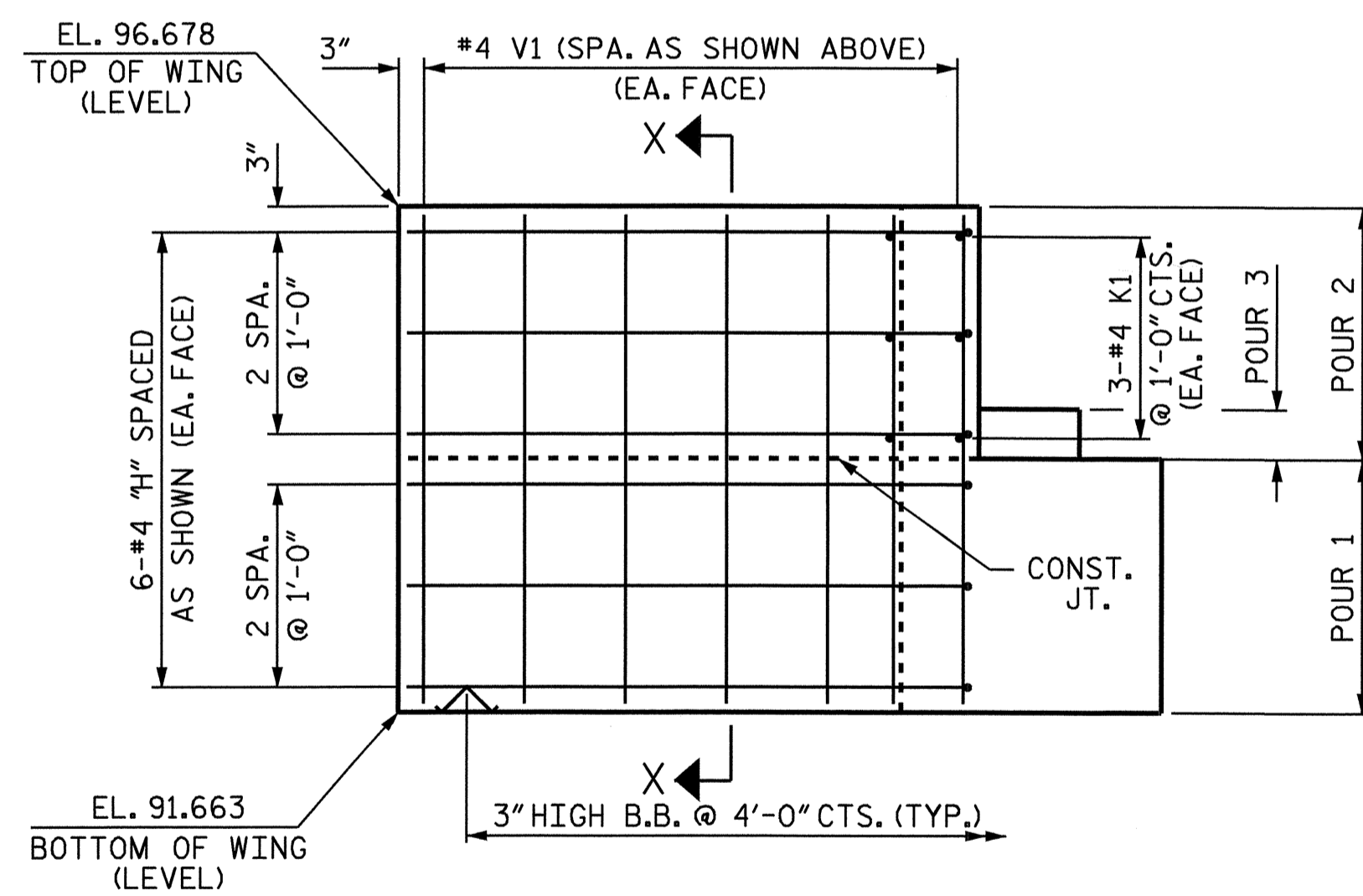
PLAN OF WING (W2)



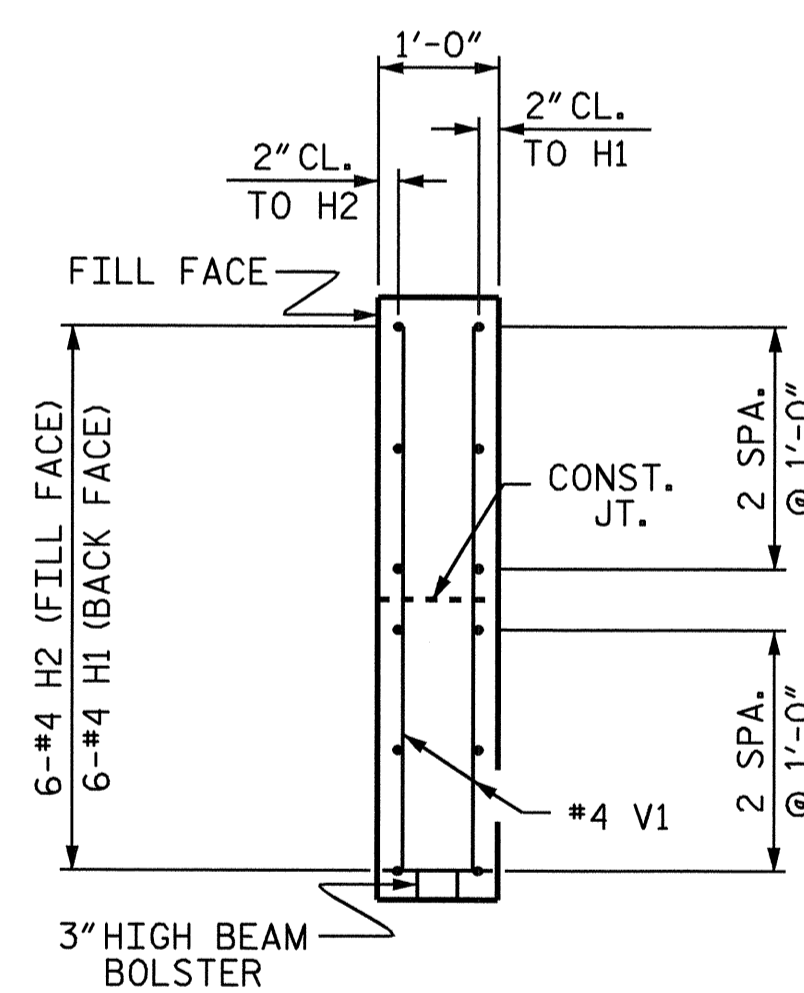
SECTION X-X



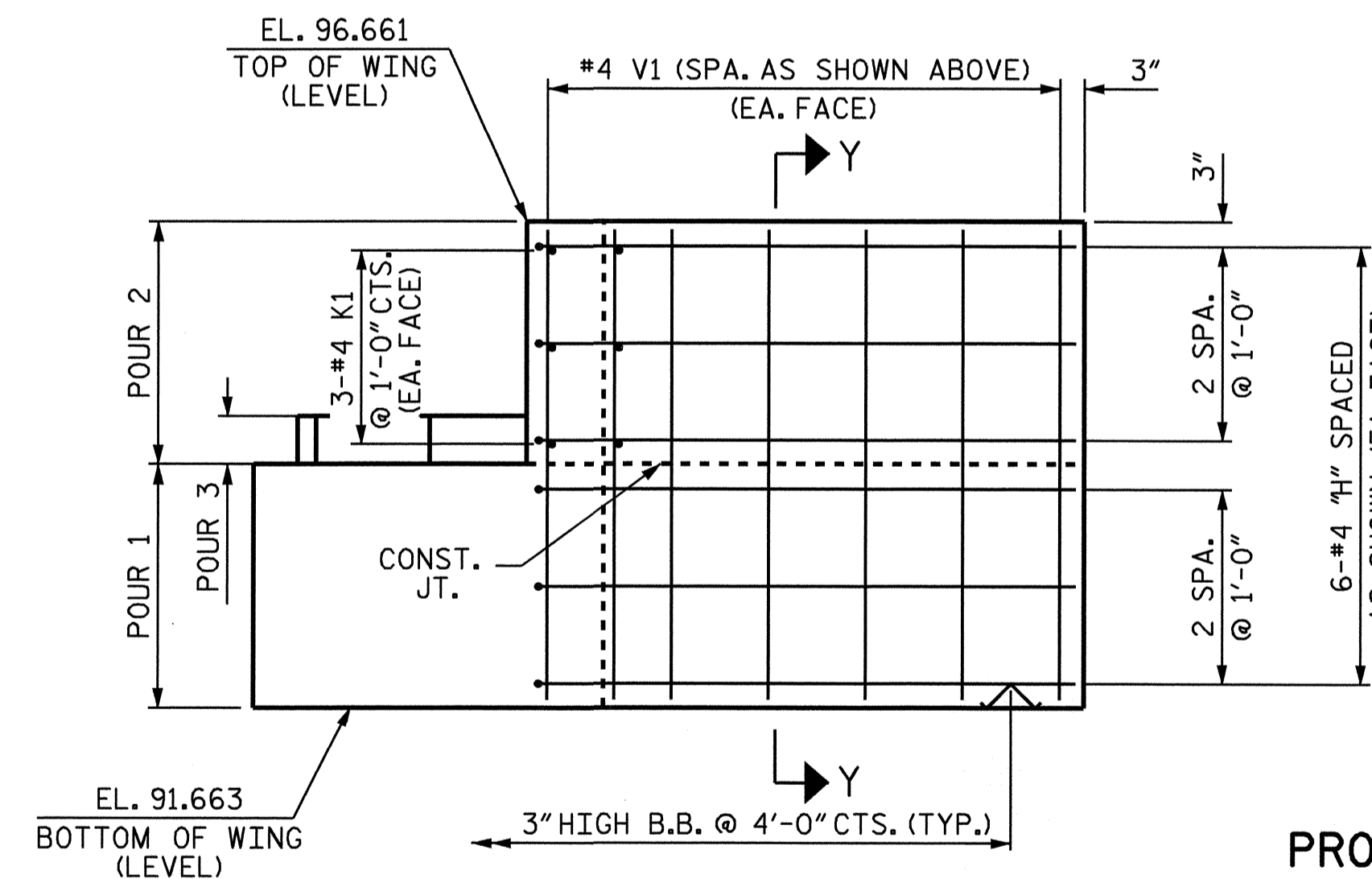
PLAN OF WING (W1)



ELEVATION OF WING (W2)



SECTION Y-Y



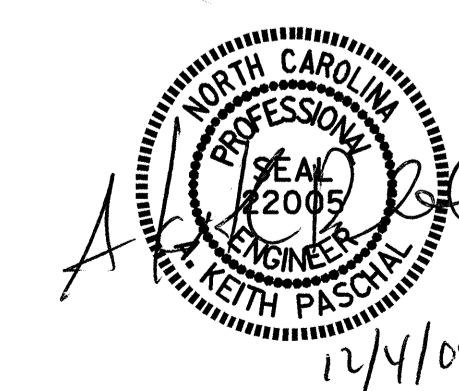
ELEVATION OF WING (W1)

PROJECT NO. B-4672
WAYNE COUNTY
STATION: 16+54.00 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT 2

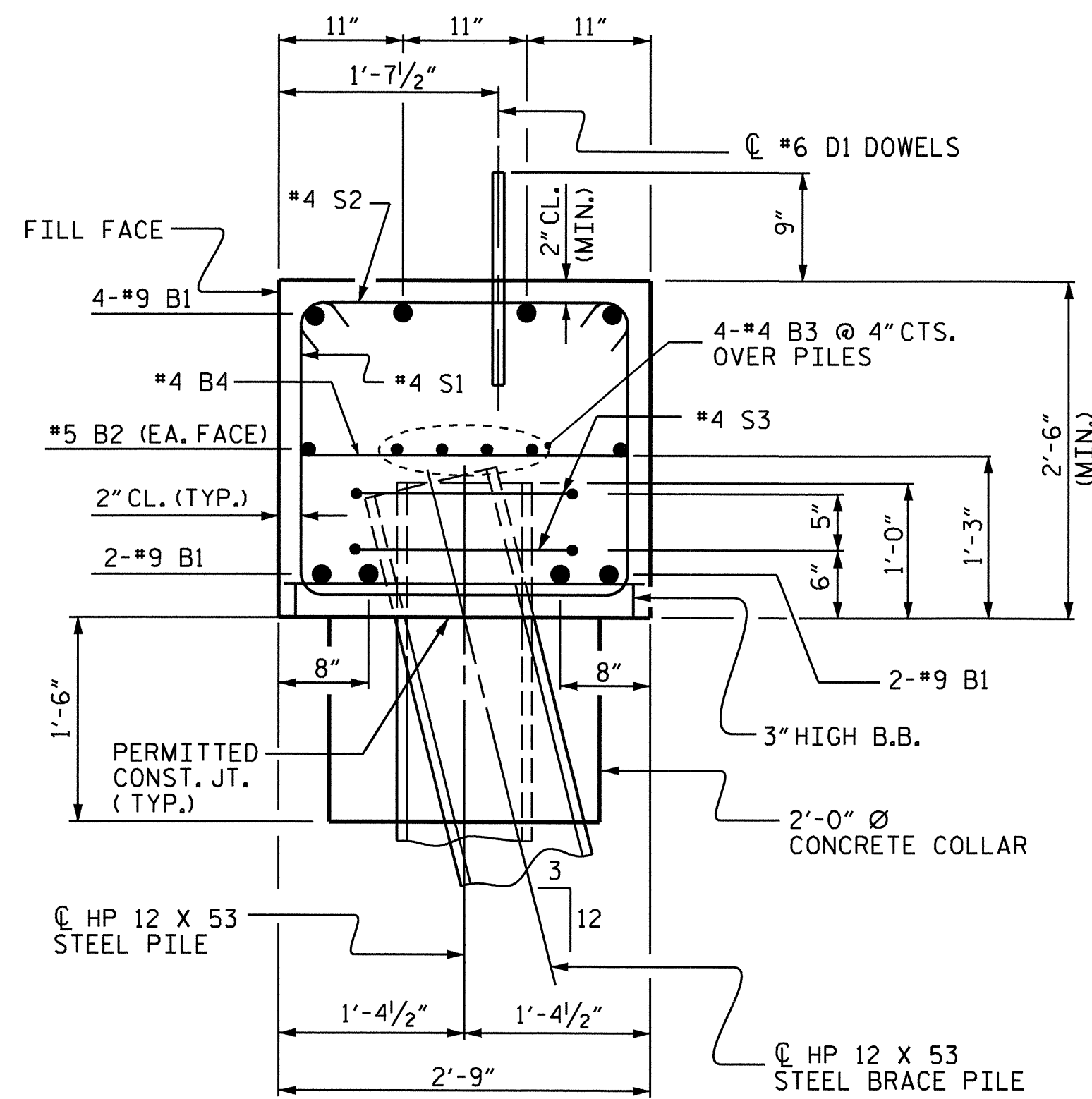


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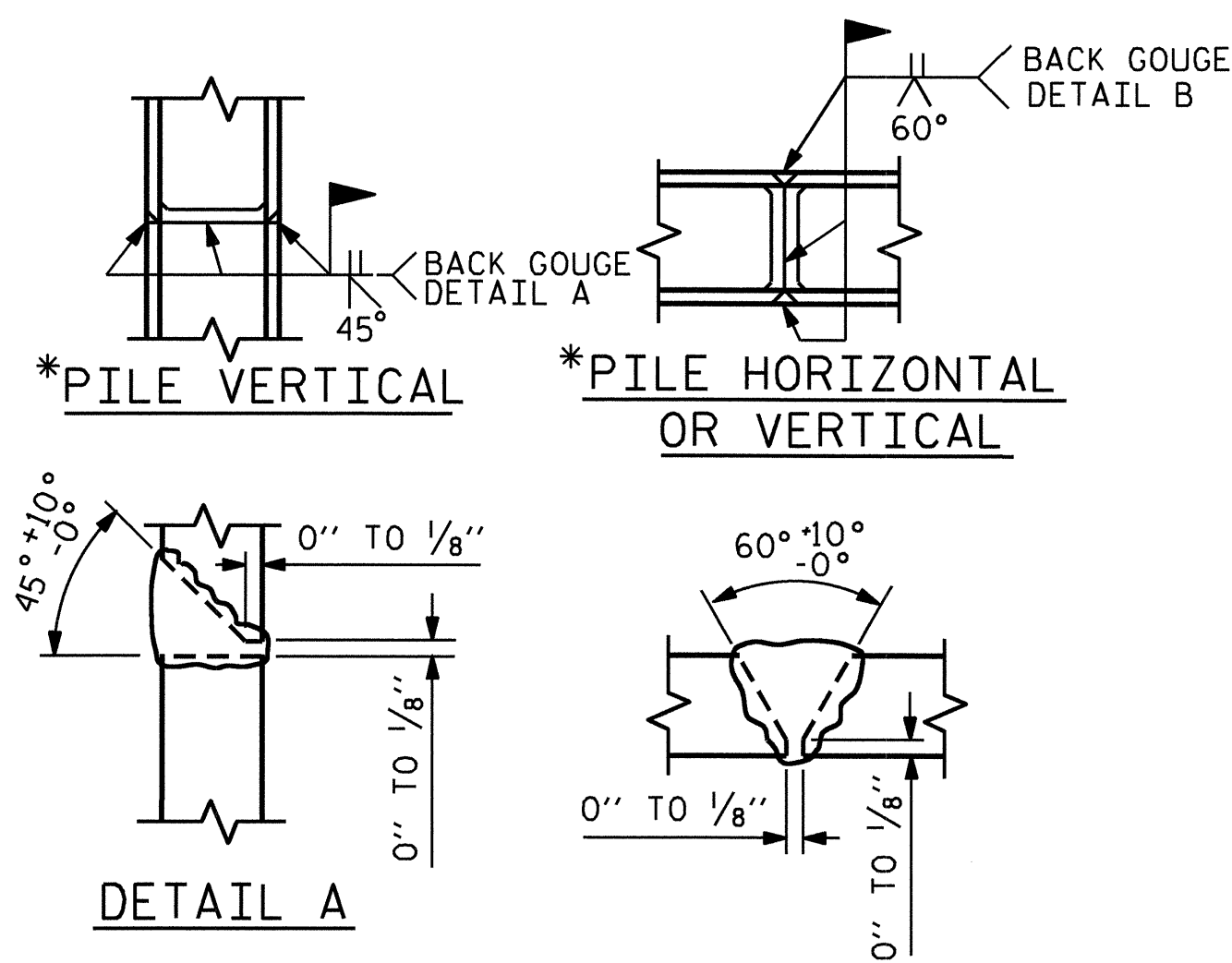
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Kpaschal

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

TOTAL SHEETS: 21

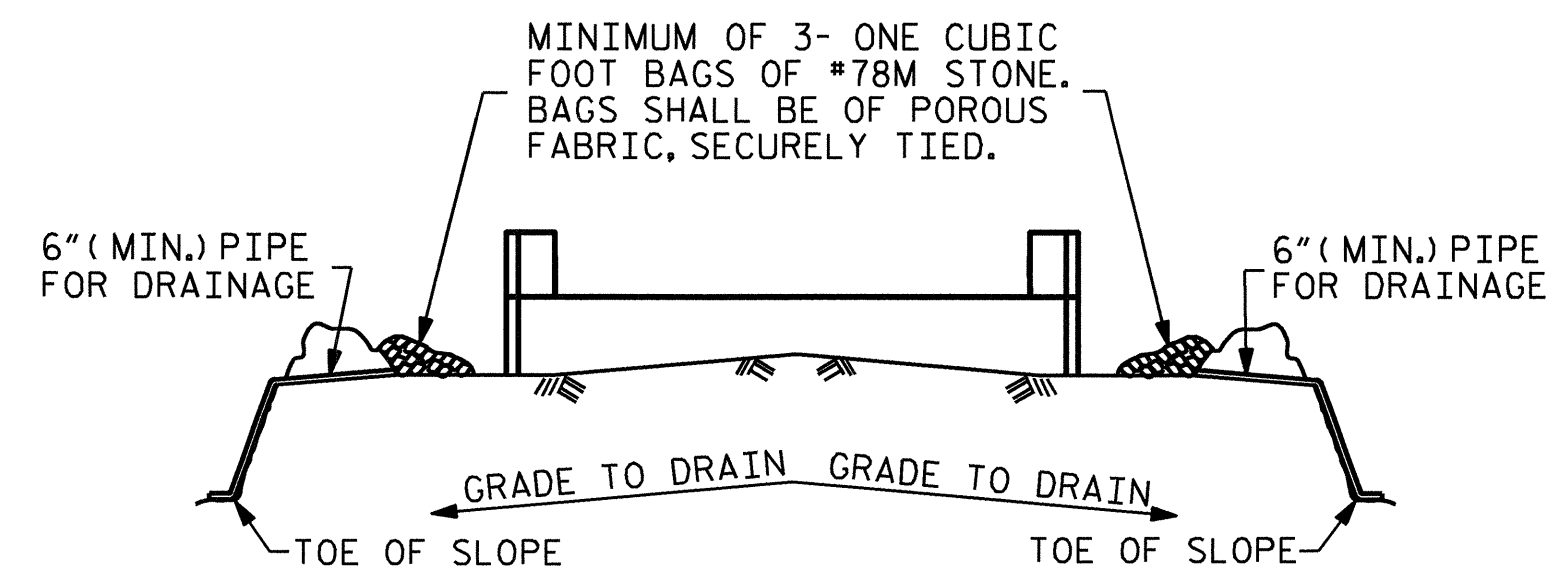


SECTION A-A



*POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS



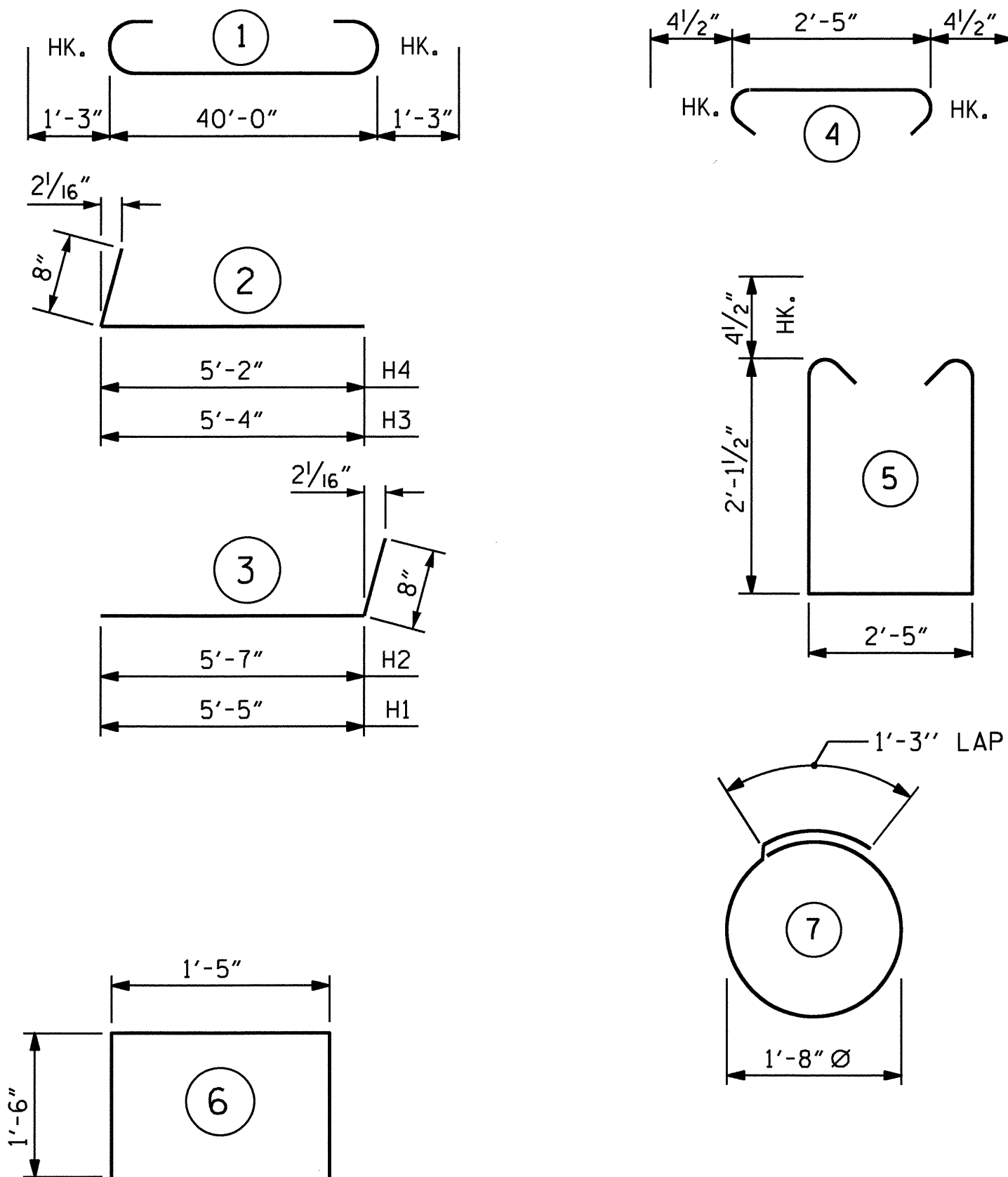
BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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	42'-6"	1156
B2	2	#5	STR	40'-1"	84
B3	8	#4	STR	21'-3"	114
B4	10	#4	STR	2'-5"	16
D1	22	#6	STR	1'-6"	50
H1	6	#4	3	6'-1"	24
H2	6	#4	3	6'-3"	25
H3	6	#4	2	6'-0"	24
H4	6	#4	2	5'-10"	23
K1	12	#4	STR	3'-1"	25
S1	38	#4	5	7'-5"	188
S2	38	#4	4	3'-2"	80
S3	10	#4	7	6'-6"	43
U1	4	#4	6	4'-5"	12
V1	40	#4	STR	4'-8"	125

TOTAL REINFORCING STEEL = 1989 LBS

CLASS A CONCRETE BREAKDOWN

POUR 1	(CAP, COLLARS & LOWER PART OF WINGS)	12.0 C.Y.
POUR 2	(UPPER PART OF WINGS)	1.5 C.Y.
POUR 3	(LATERAL GUIDE)	0.1 C.Y.
TOTAL CLASS A CONCRETE		13.6 C.Y.

HP 12 X 53 STEEL PILES NO. : 5 250 LIN. FT.

PILE REDRIVES NO. : 5

DRAWN BY : M.FOWLER DATE : 6/19/09
 CHECKED BY : J.G. KHARVA DATE : 8/17/09

04-DEC-2009 10:58
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PROJECT NO. B-4672
 WAYNE COUNTY
 STATION: 16+54.00 -L-

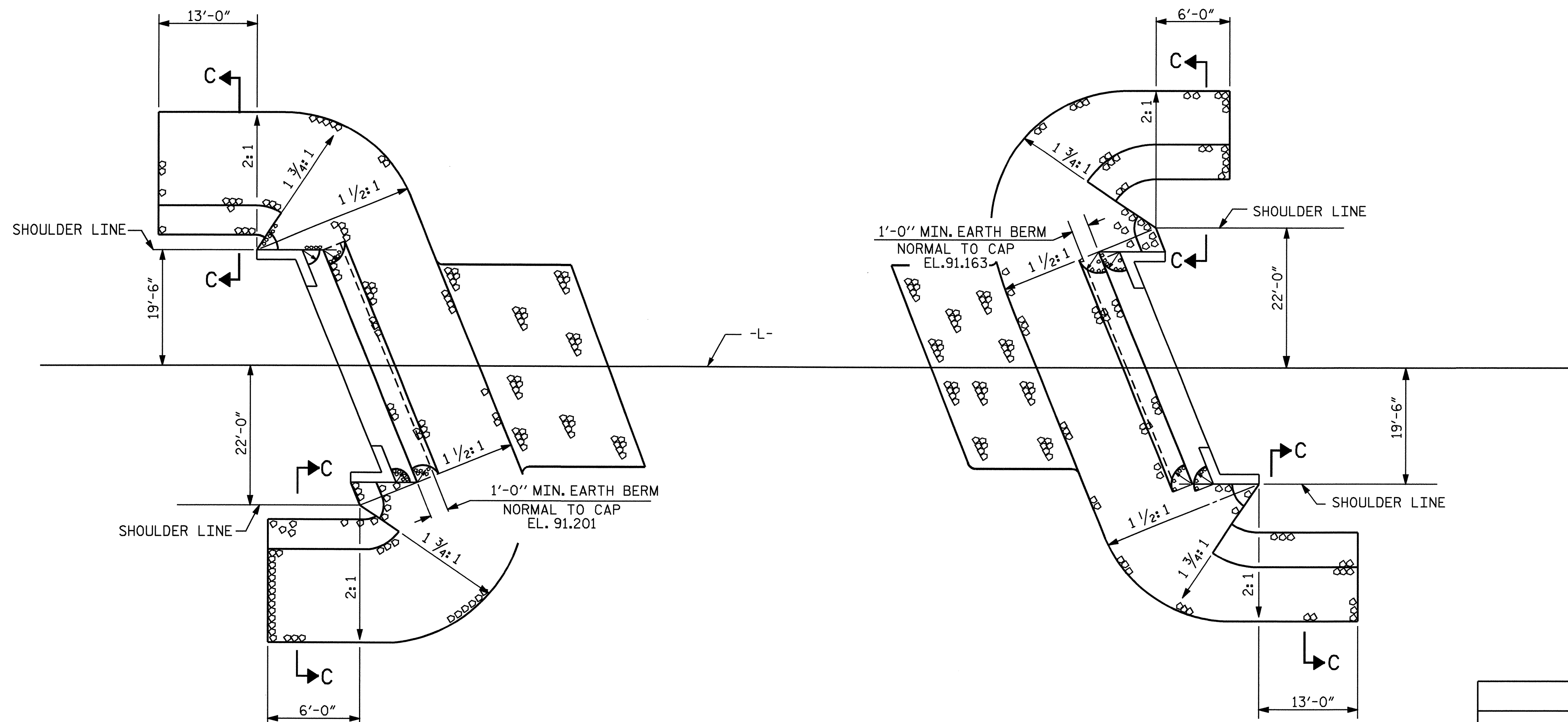
SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT 2



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

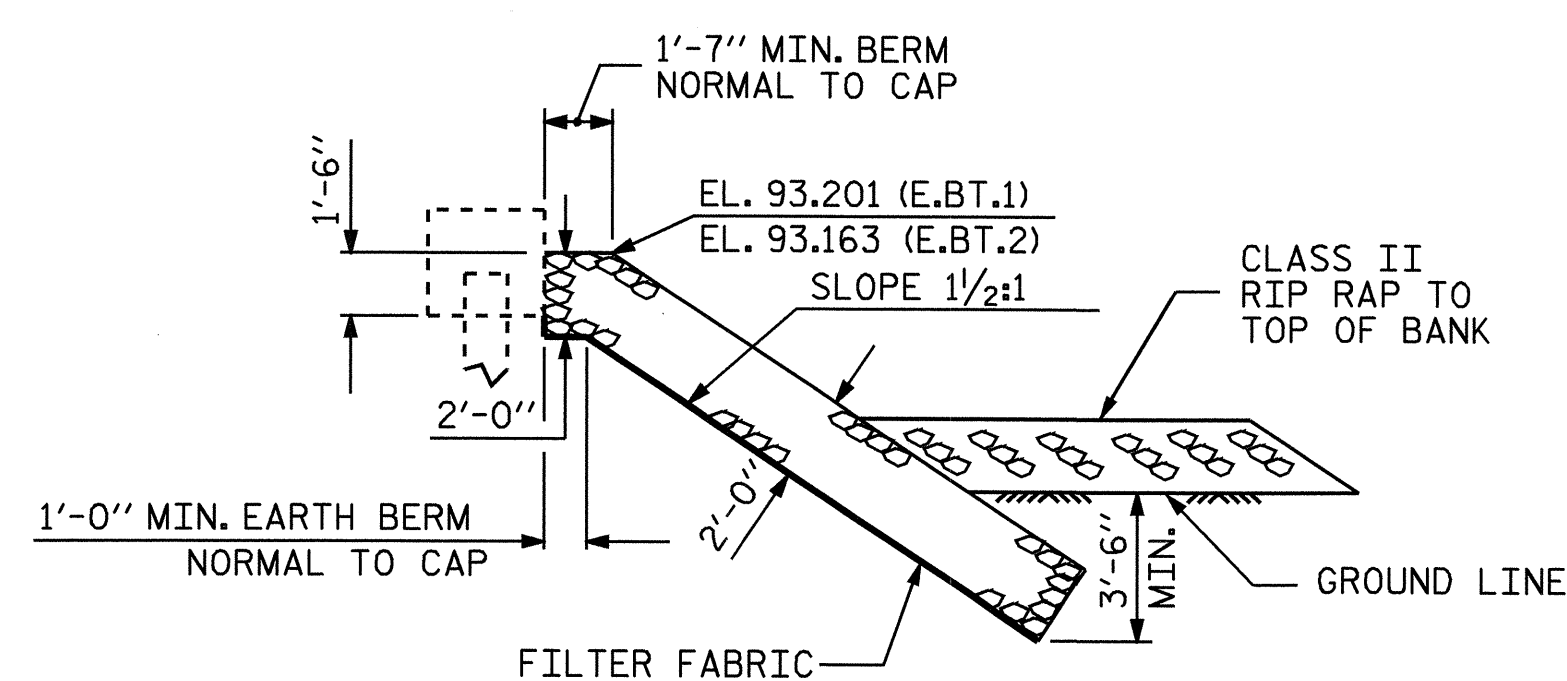


END BENT 1

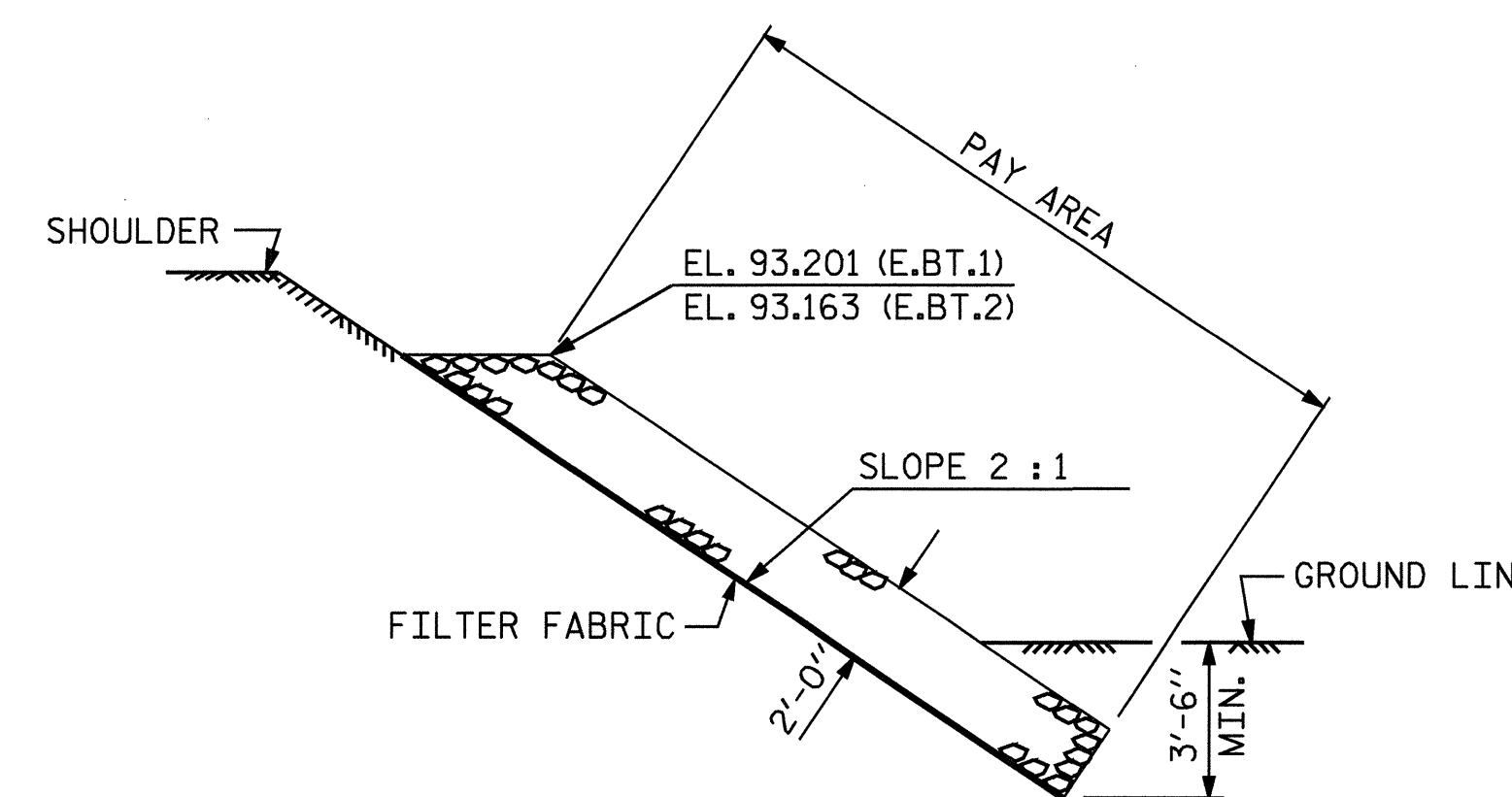
END BENT 2

PLAN

ESTIMATED QUANTITIES		
BRIDGE @ STA. 16+54.00 -L-	RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	158	175
END BENT 2	139	154
TOTAL	297	329



SECTION C-C
BERM RIP RAPPED

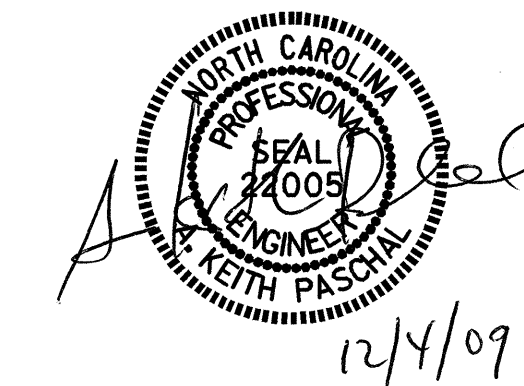


SECTION C-C

PROJECT NO. B-4672
WAYNE COUNTY
 STATION: 16+54.00 -L-

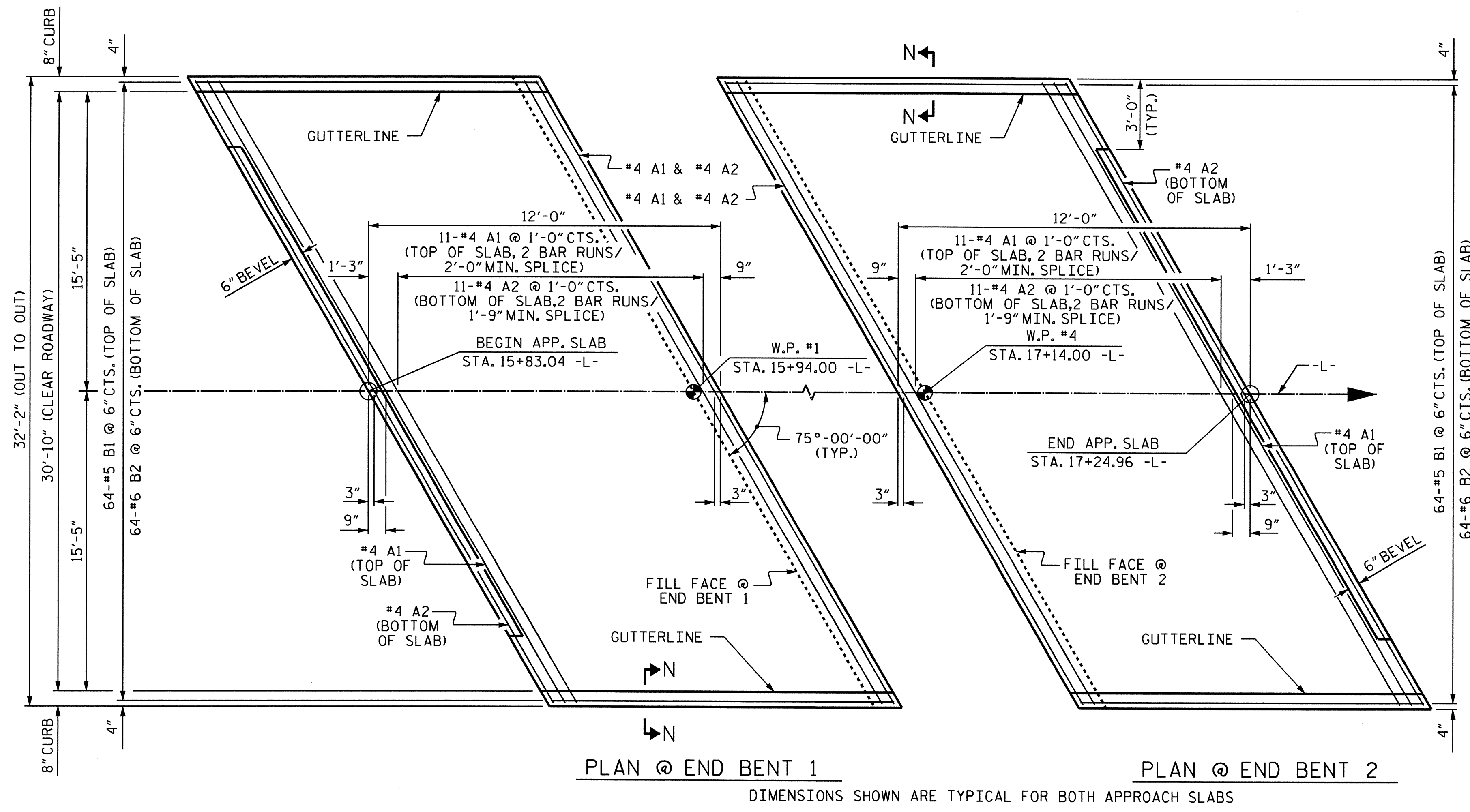
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 RIP RAP DETAILS

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



ASSEMBLED BY : M.FOWLER	DATE : 8/31/09
CHECKED BY : J.D. HAWK	DATE : 9/23/09
DRAWN BY : REK 1/84	REV. 8/16/99 RWW/LES
CHECKED BY : RDU 1/84	REV. 10/17/00 RWW/LES
	REV. 5/1/06 TLA/GM

09-NOV-2009 15:09
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 kpaschal



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.

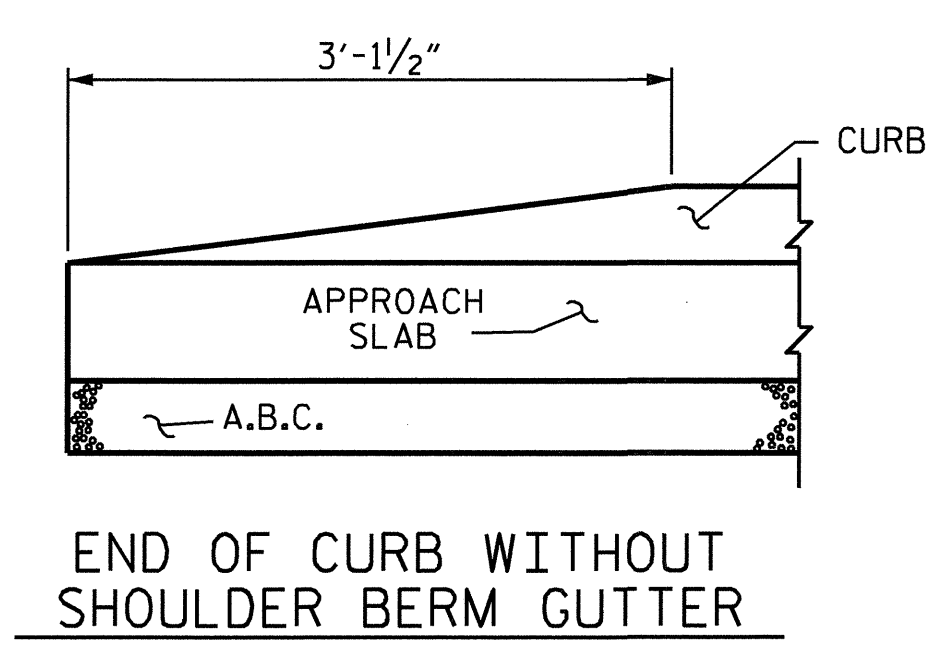
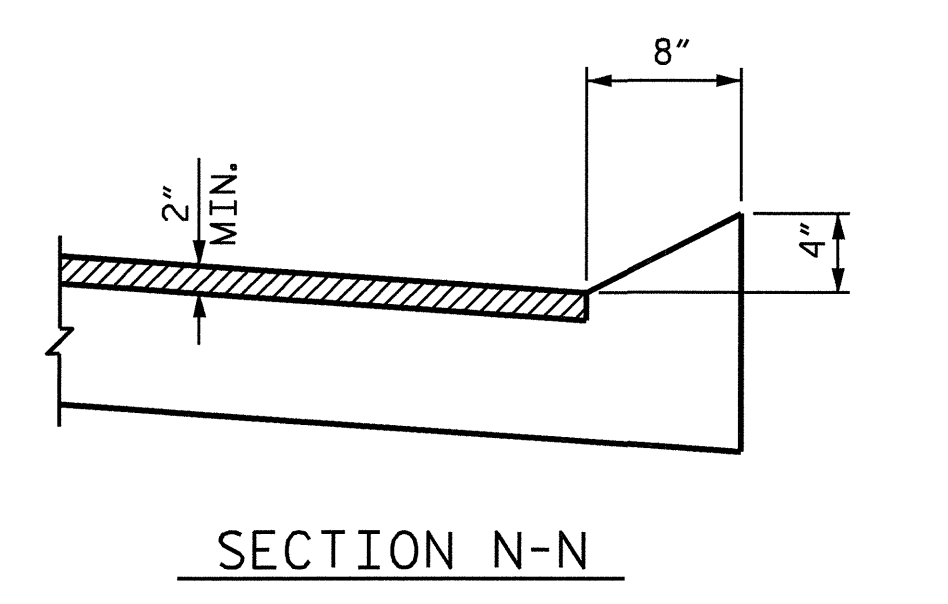
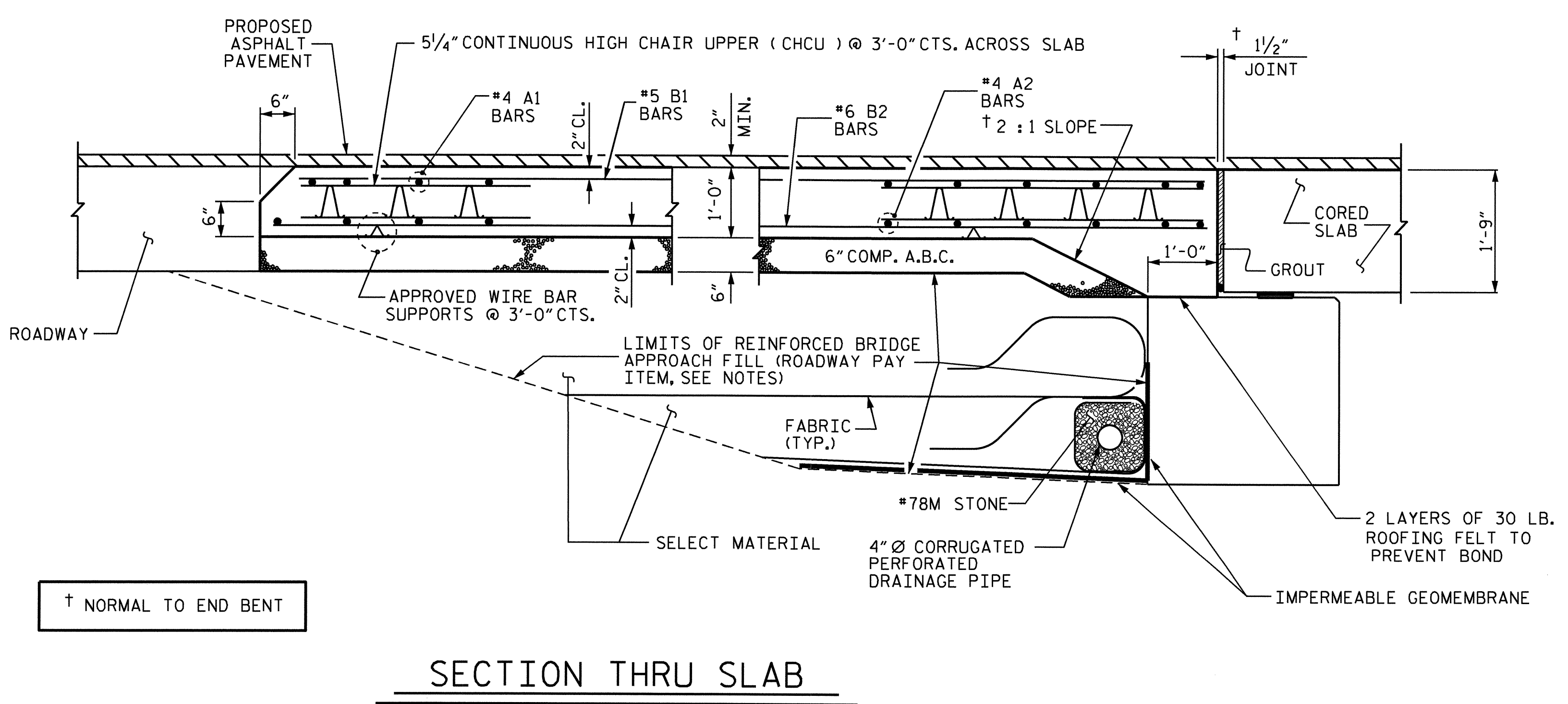
THE CONTRACTOR MAY USE 5" CLASS "A" CONCRETE BASE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE CONCRETE BASE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB, AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB. THE CONCRETE SHALL BE FINISHED TO A SMOOTH SURFACE AND A LAYER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

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

APPROACH SLAB GROOVING IS NOT REQUIRED.

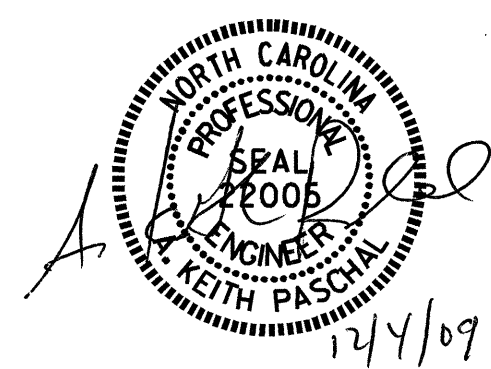
BILL OF MATERIAL					
FOR ONE APPROACH SLAB (2 REQ'D)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	26	#4	STR	17'-6"	304
A2	26	#4	STR	17'-5"	302
*B1	64	#5	STR	11'-2"	745
B2	64	#6	STR	11'-8"	1121
REINFORCING STEEL				LBS.	1423
*EPOXY COATED REINFORCING STEEL				LBS.	1049
CLASS AA CONCRETE				C. Y.	15.9



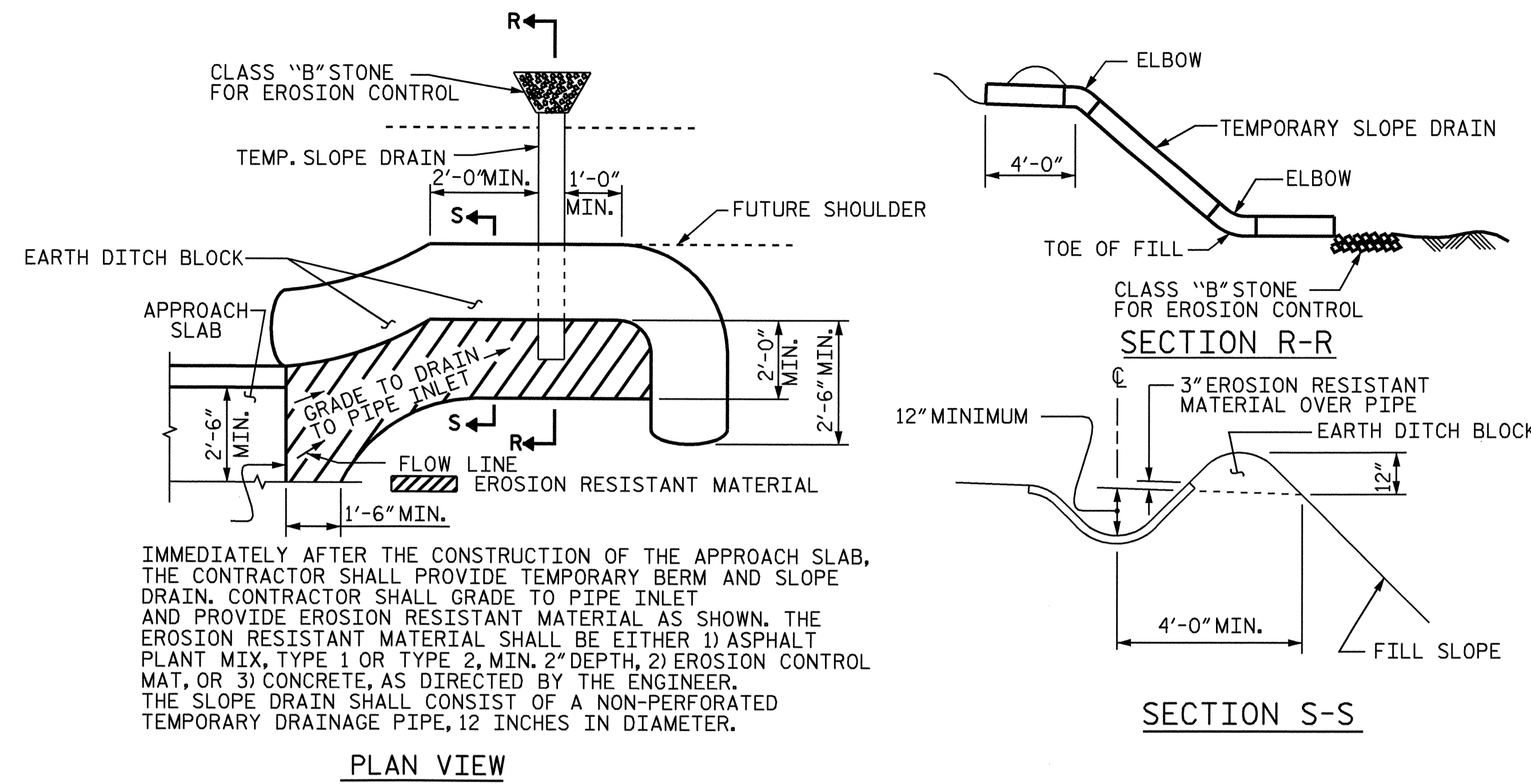
PROJECT NO. B-4672
WAYNE COUNTY
 STATION: 16+54.00 -L-
 SHEET 1 OF 2

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

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-20
1			3			TOTAL SHEETS 21
2			4			



ASSEMBLED BY : M.FOWLER DATE : 7/13/09
 CHECKED BY : J.KHARVA DATE : 7/28/09
 DRAWN BY : KMM 3-08
 CHECKED BY : GM 3-08

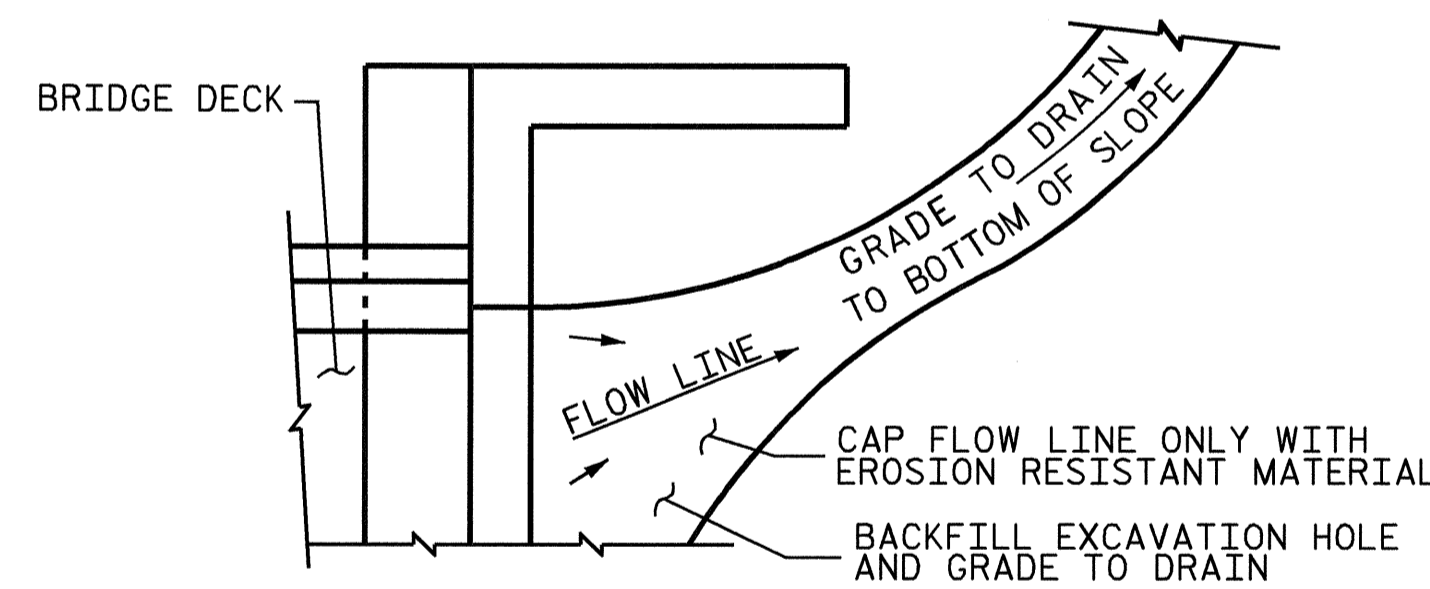


IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN. 2" DEPTH,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

PLAN VIEW

TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



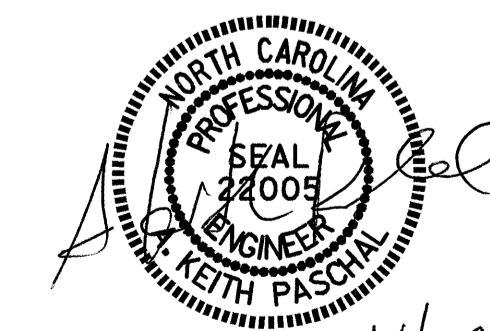
NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT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

TEMPORARY DRAINAGE DETAIL

PROJECT NO. B-4672
WAYNE COUNTY
 STATION: 16+54.00 -L-

SHEET 2 OF 2

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



ASSEMBLED BY : M.FOWLER	DATE : 7/13/09
CHECKED BY : J.G. KHARVA	DATE : 7/28/09
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-21
1			3			TOTAL SHEETS
2			4			21

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 2006 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N.C. DEPARTMENT OF TRANSPORTATION.

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

CONCRETE:

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

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 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. 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.

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. FINISH 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