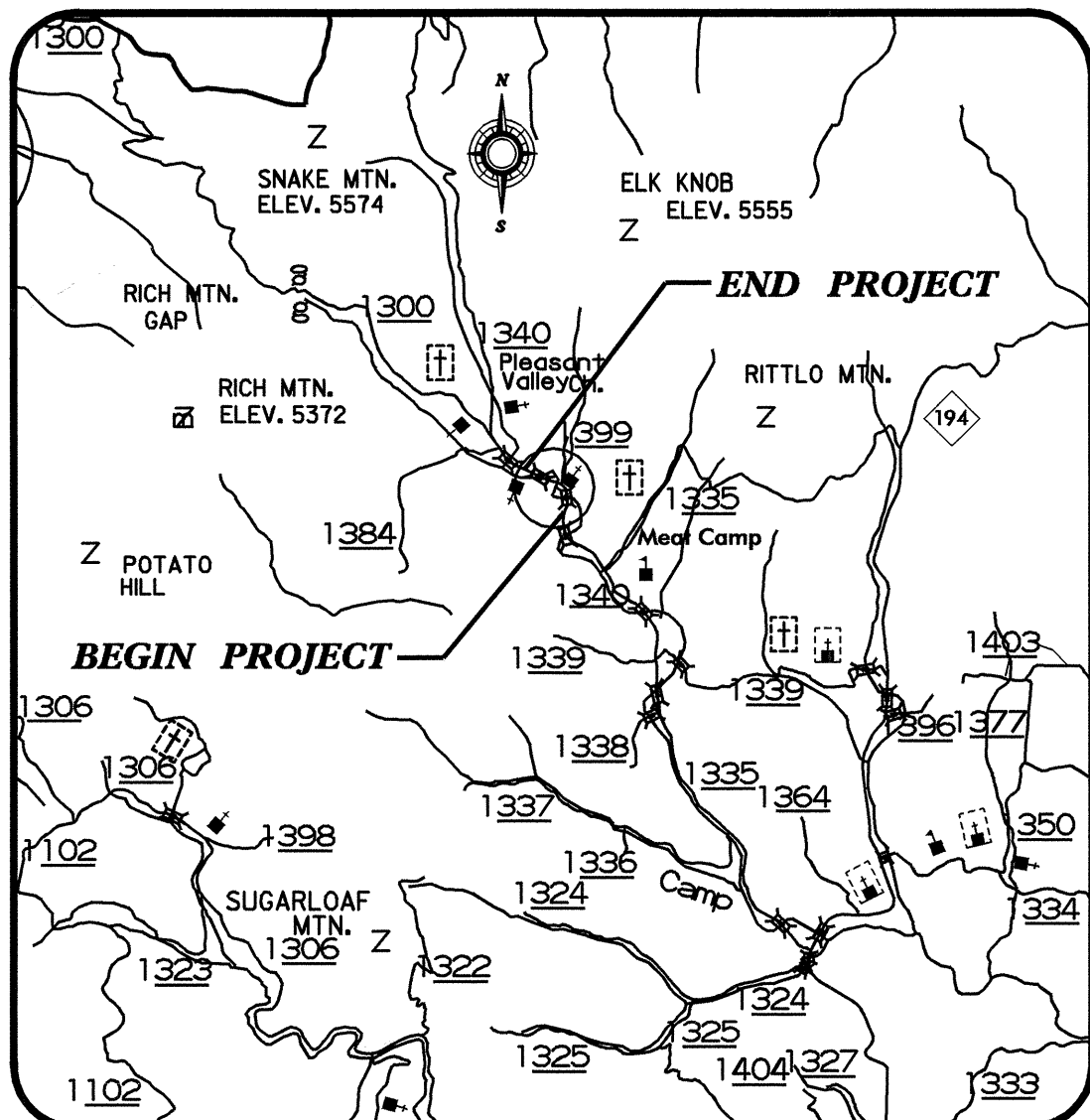


TIP PROJECT: B-3926

CONTRACT: C201509

STRUCTURES



VICINITY MAP

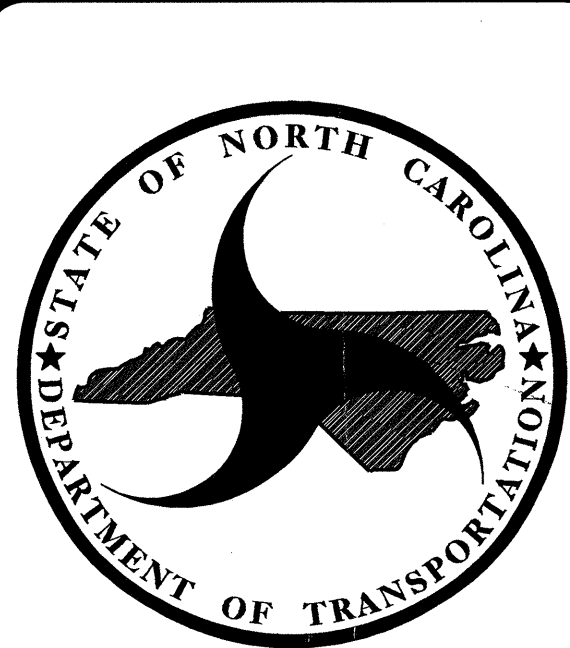
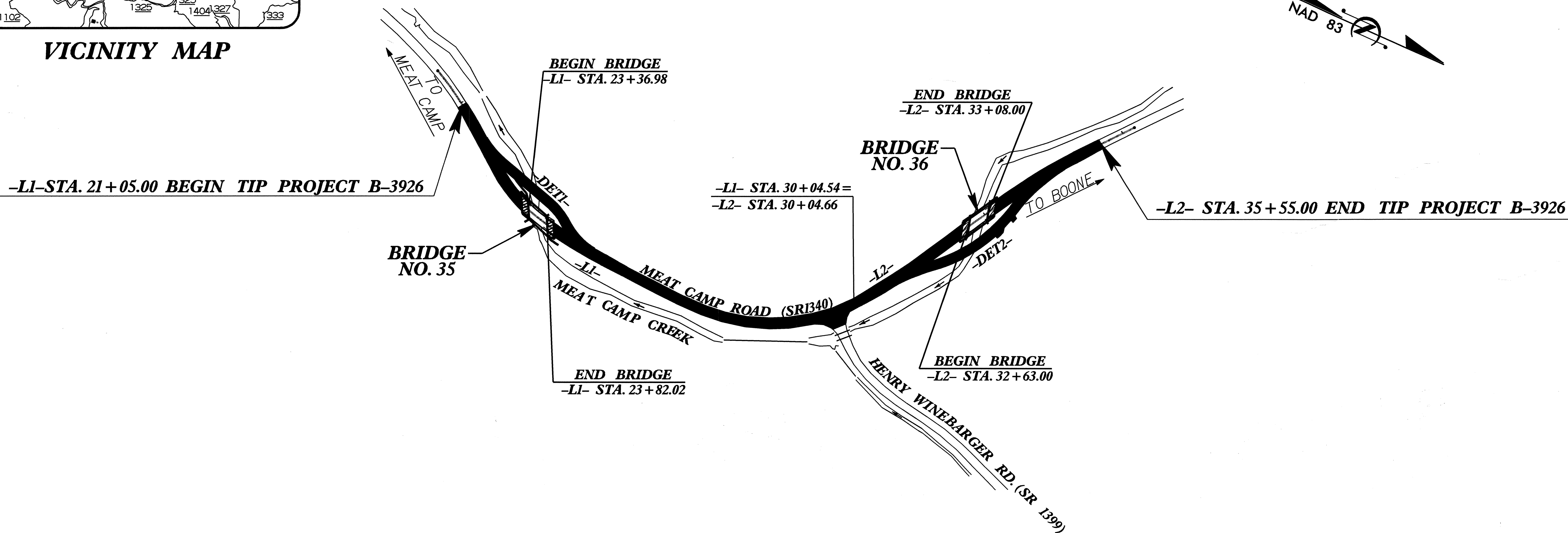
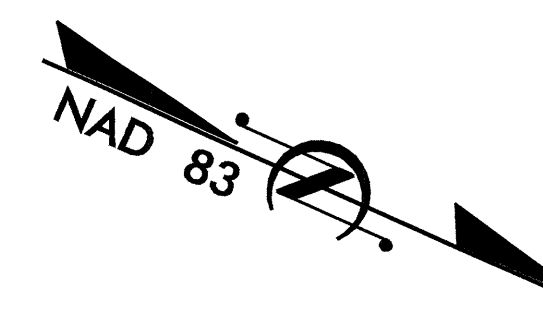
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**WATAUGA COUNTY**

**LOCATION: REPLACES BRIDGES No. 35 & No. 36 & APPROACHES ON SR 1340, MEAT CAMP ROAD, OVER MEAT CAMP CREEK**

**TYPE OF WORK: GRADING, DRAINAGE, STRUCTURES & PAVING**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3926		
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33360.1.1	BRZ-1340(4)	PE	
33360.2.1	BRZ-1340(7)	R/W, UTILITIES	
33360.3.1	BRZ-1340(8)	CONSTRUCTION	



**DESIGN DATA**

ADT 2004 =	960
ADT 2025 =	1,400
DHV =	15 %
D =	60 %
* T =	3 %
** V =	30 MPH

\* (1 % TTST & 2% DUAL)  
\*\* (DESIGN EXCEPTION REQUIRED)

**PROJECT LENGTH**

Length Roadway TIP Project B-3926.....	0.258 mi.
Length Structure TIP Project B-3926.....	0.017 mi.
<b>Total Length of TIP Project B-3926 .....</b>	<b>0.275 mi.</b>

Prepared In the Office of:  
**DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**  
1000 Birch Ridge Drive, Raleigh, N. C. 27610

2002 STANDARD SPECIFICATIONS

LETTING DATE:  
MAY 16, 2006

B.S. COX, P.E.  
PROJECT ENGINEER

D.E. PETREY, P.E.  
PROJECT DESIGN ENGINEER

STRUCTURE DESIGN

*Gregory R. Perfecti*  
1-6-05

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

P.E.  
STATE HIGHWAY ENGINEER - DESIGN

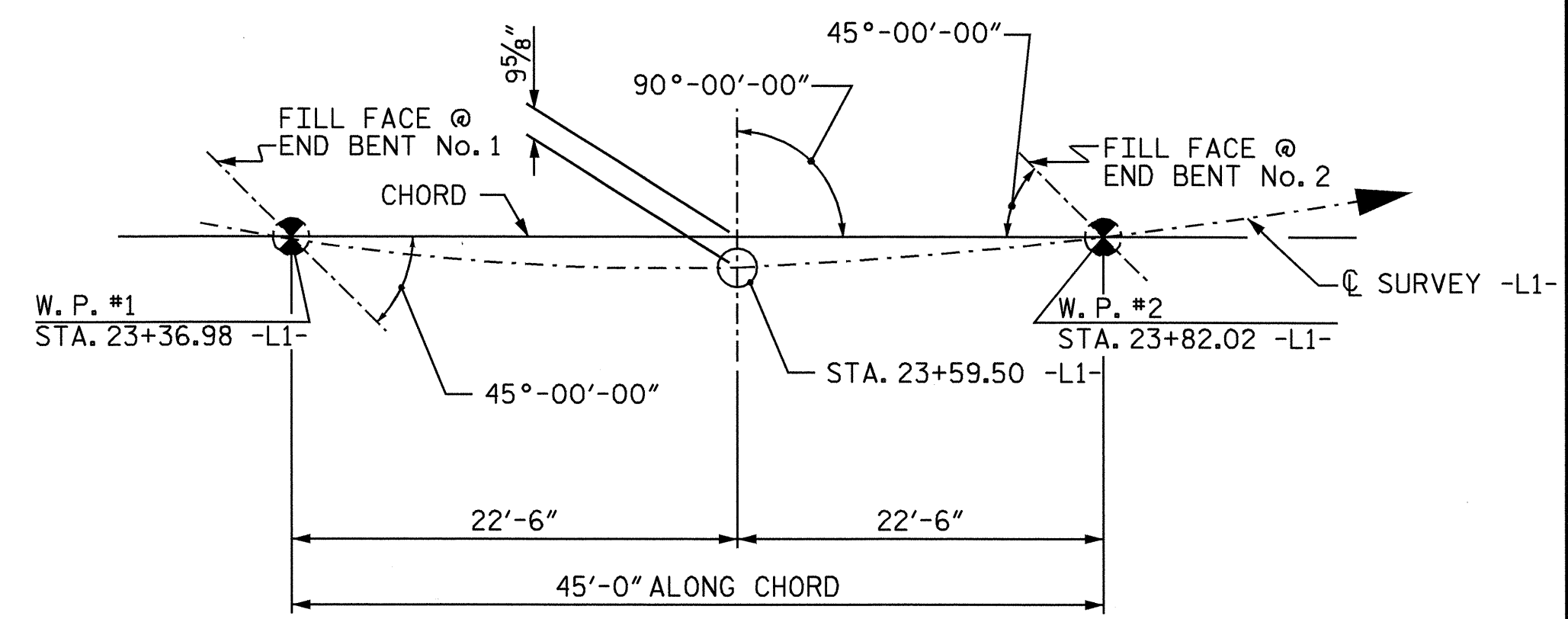
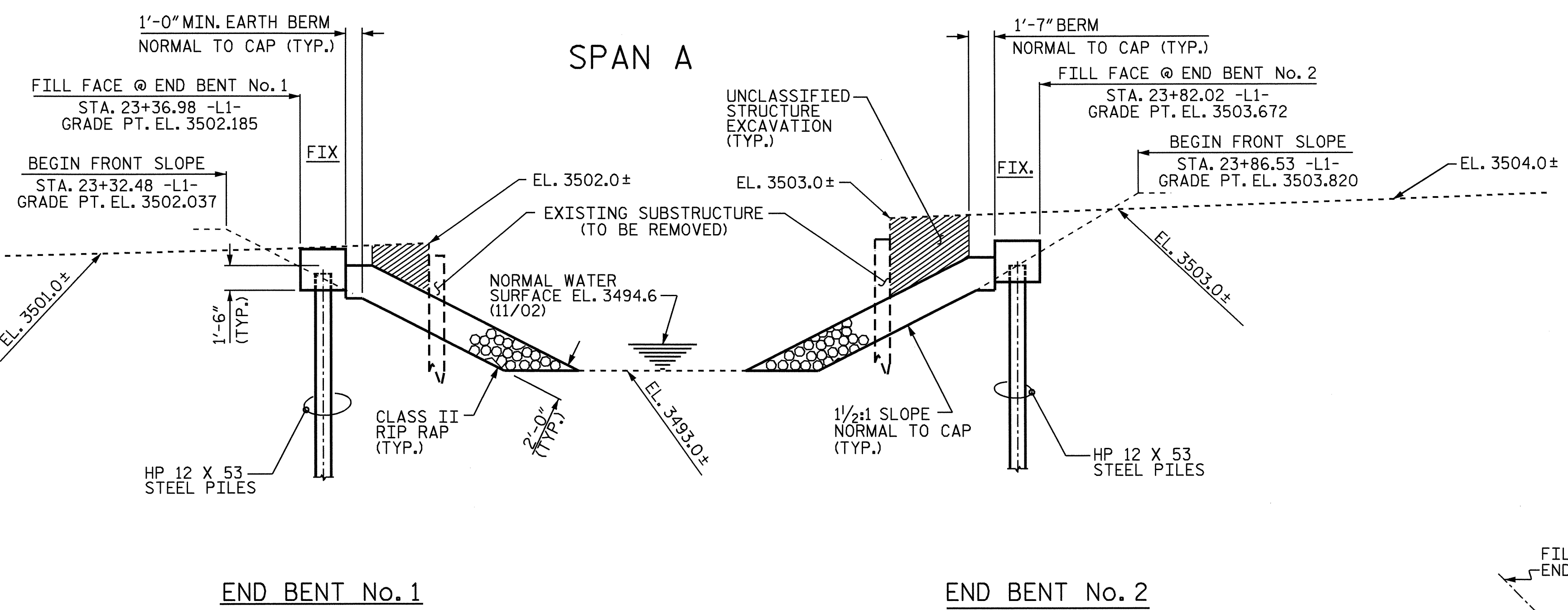
DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED FOR  
DIVISION ADMINISTRATOR

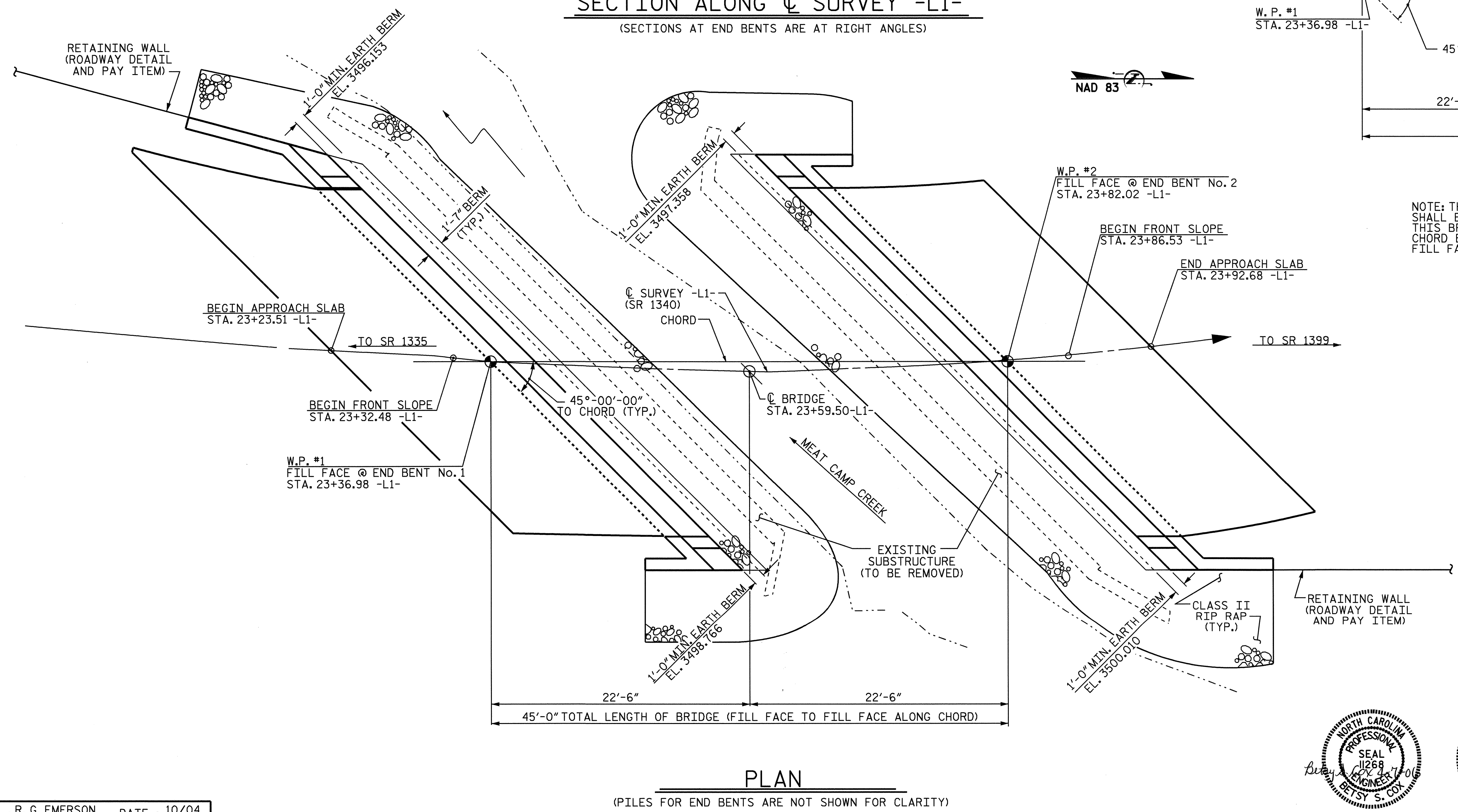
DATE

3510  
3500  
3490

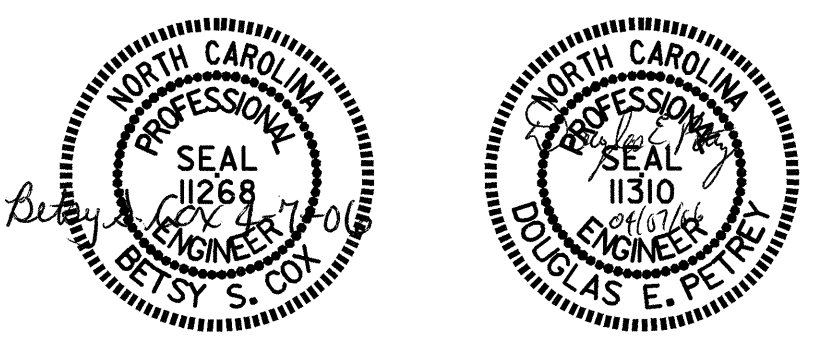
**GRADE DATA -L1-**  
+5.000% +3.3000%  
PI = 21+75.00 -L1-  
EL = 3496.840  
VC = 140



**CHORD LAYOUT**  
NOTE: THE EFFECTS OF THE HORIZONTAL CURVE SHALL BE NEGLECTED IN THE CONSTRUCTION OF THIS BRIDGE. BRIDGE TO BE BUILT ALONG THE CHORD BETWEEN THE WORK POINTS AT THE FILL FACES.



DRAWN BY : R. G. EMERSON DATE : 10/04  
CHECKED BY : D. E. PETREY DATE : 10/04

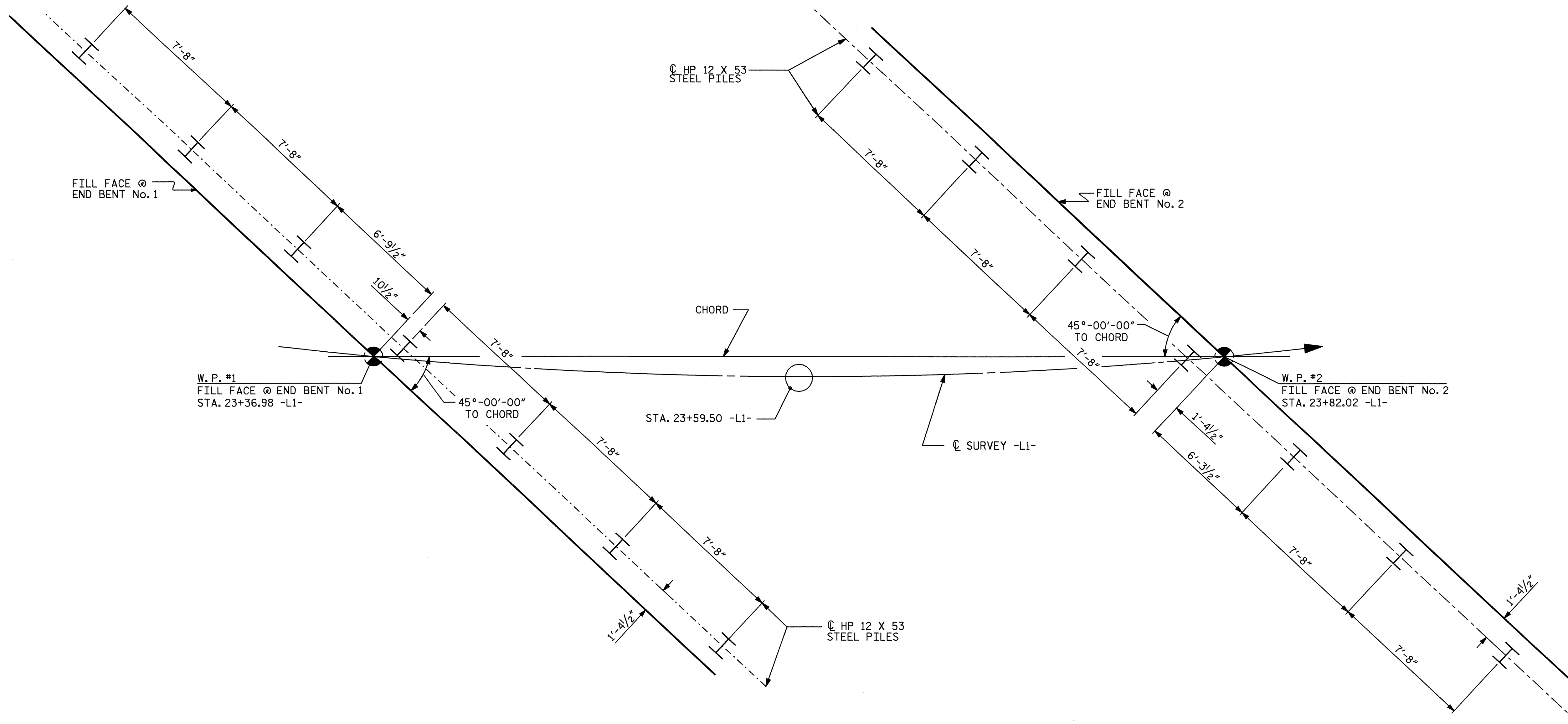


PROJECT NO. B-3926  
WATAUGA COUNTY  
STATION: 23+59.50 -L1-

SHEET 1 OF 3 REPLACES BRIDGE NO. 35

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
**GENERAL DRAWING**  
FOR BRIDGE ON SR 1340  
(MEAT CAMP ROAD)  
OVER MEAT CAMP CREEK  
BETWEEN SR 1335 AND SR 1399

REVISIONS				SHEET NO.
NO.	BY:	DATE:		
1			3	S-1
2			4	TOTAL SHEETS 36



END BENT No. 1

END BENT No. 2

FOUNDATION LAYOUT

DIMENSIONS LOCATING PILES ARE SHOWN TO THE PILE CENTERLINE AT BOTTOM OF CAP

PROJECT NO. B-3926  
WATAUGA COUNTY  
 STATION: 23+59.50 -L1-

SHEET 2 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 GENERAL DRAWING  
 FOR BRIDGE ON SR 1340  
 (MEAT CAMP ROAD)  
 OVER MEAT CAMP CREEK  
 BETWEEN SR 1335 AND SR 1399



DRAWN BY : R. G. EMERSON DATE : 10/04  
 CHECKED BY : D. E. PETREY DATE : 10/04

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			36

02-DEC-2004 09:12  
 W:\squadw\b3926\remerson\Microstation\STR 1\B3926.ed\_01.dgn  
 bngrady



B.M. #1: RR SPIKE SET IN 22" LOCUS, 52' LEFT OF STA. 34+36.00-BL-, EL. 3541.980 NGVD 29

NOTES:

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

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

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 ONE SPAN @ 25'-9" OF STEEL I-BEAMS AND HAVING A TIMBER FLOOR WITH ASPHALT WEARING SURFACE, WITH A 19'-2" CLEAR ROADWAY WIDTH; ON TIMBER CAPS ON TIMBER POSTS AND SILLS @ VARIOUS CENTERS AND LOCATED AT THE PROPOSED BRIDGE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMITATION MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

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

THE 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.

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

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES", NOVEMBER, 1995.

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.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 20 FT. EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION, FOR UNCLASSIFIED STRUCTURE EXCAVATION, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPliced WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.

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 23+59.50 -L1-.'

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

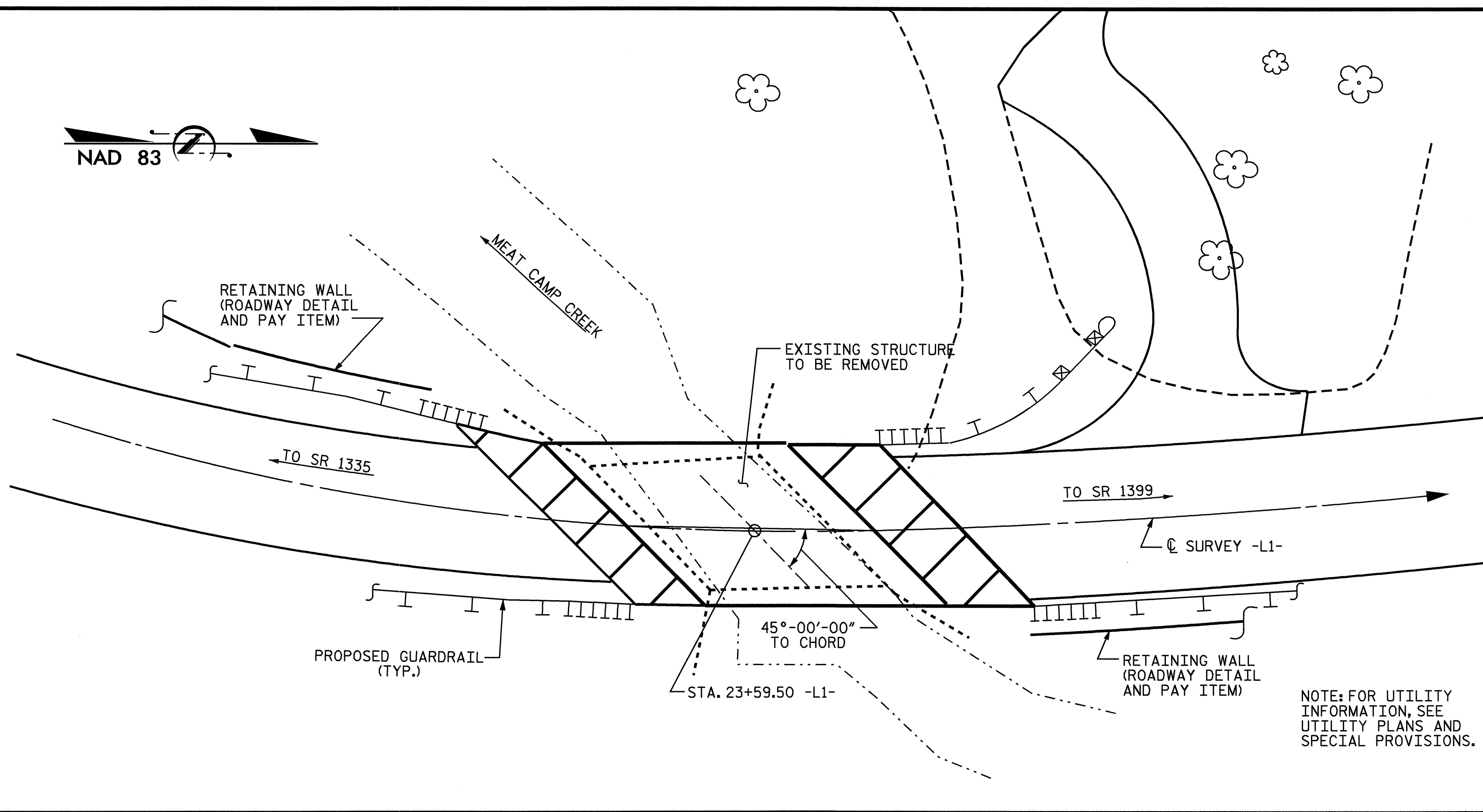
DRIVE PILES AT END BENT No. 1 AND No. 2 TO A MINIMUM BEARING CAPACITY OF 50 TONS EACH.

WHEN DRIVING PILES, DO NOT EXCEED THE MAXIMUM BLOW COUNT.

PILE EXCAVATION IS REQUIRED TO INSTALL THE PILES AT END BENTS No. 1 AND No. 2. EXCAVATE HOLES TO ELEVATION 3485 FT. (LEFT) AND 3488 FT. (CENTER AND RIGHT). SEE PILE EXCAVATION SPECIAL PROVISION.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR STEEL H PILES, SEE SPECIAL PROVISIONS.



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

LOCATION SKETCH

HYDRAULIC DATA

DESIGN DISCHARGE----- 1100 CFS  
 FREQUENCY OF DESIGN FLOOD----- 25 YR  
 DESIGN HIGH WATER ELEVATION----- 3502.8 FT  
 DRAINAGE AREA----- 3.9 SQ. MI.  
 BASIC DISCHARGE (Q100)----- 1700 CFS  
 BASIC HIGH WATER ELEVATION----- 3503.5 FT

(ELEVATIONS AT APPROACH SECTION)

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE----- 1700 CFS  
 FREQUENCY OF OVERTOPPING FLOOD----- 100 YR  
 \* OVERTOPPING ELEVATION----- 3503.1 FT

\* ELEVATION AT BRIDGE SECTION.  
 ALL OTHER ELEVATIONS AT APPROACH SECTION.

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	PILE EXCAVATION IN SOIL	PILE EXCAVATION NOT IN SOIL	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12 X 53 STEEL PILES	CONCRETE BARRIER RAIL	PLAIN RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 1'-6" PRESTRESSED CONCRETE CORED SLABS
	LUMP SUM	LIN. FT.	LIN. FT.	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	NO. LIN.FT.	LIN.FT.	TONS	SQ. YDS.	LUMP SUM	NO. LIN.FT.
SUPERSTRUCTURE						LUMP SUM			83.63			LUMP SUM	10 418.13
END BENT NO. 1		15	60	LUMP SUM	16.3		2448	7 79.0		80	90		
END BENT NO. 2		25	55	LUMP SUM	15.4		2379	7 86.0		85	94		
TOTAL	LUMP SUM	40	115	LUMP SUM	31.7	LUMP SUM	4827	14 165.0	83.63	165	184	LUMP SUM	10 418.13

DRAWN BY : R. G. EMERSON DATE : 10/04  
 CHECKED BY : D. E. PETREY DATE : 10/04



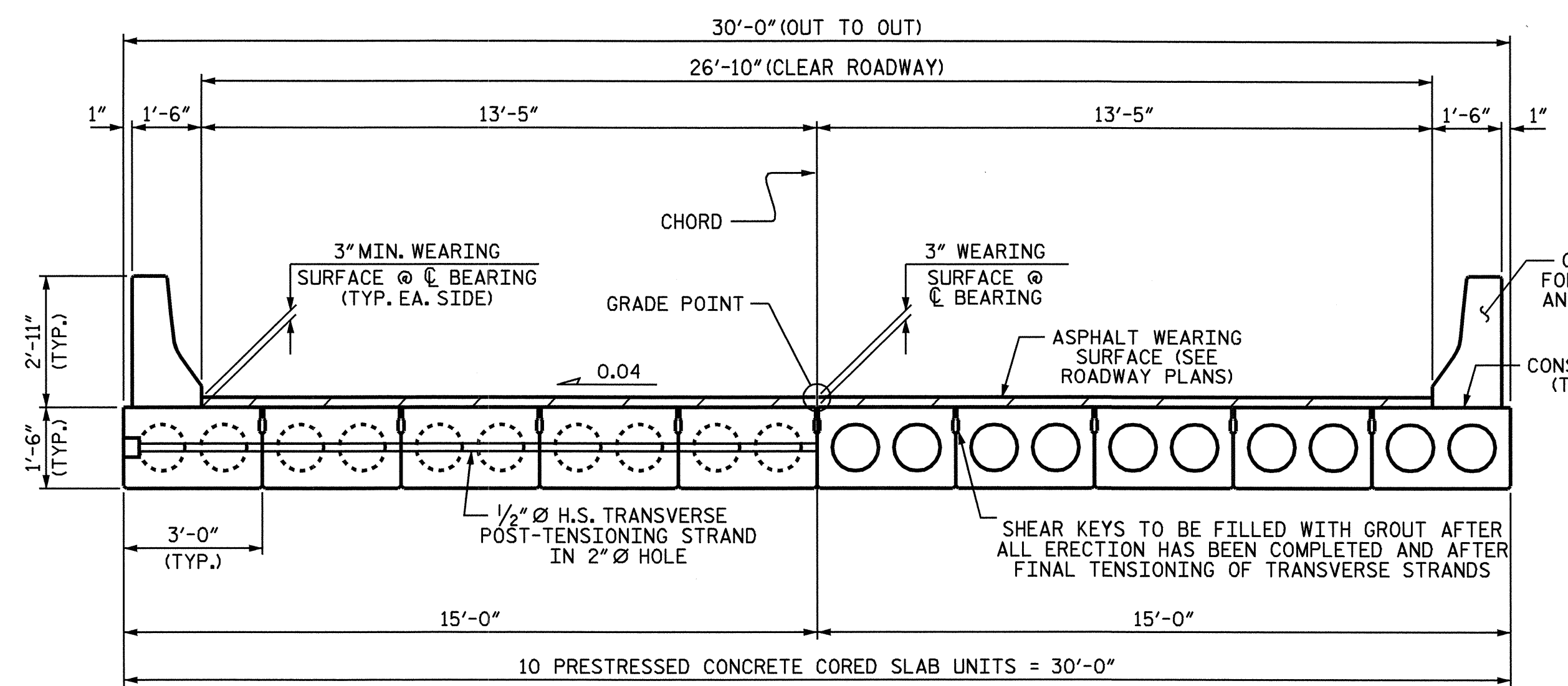
PROJECT NO. B-3926  
 WATAUGA COUNTY  
 STATION: 23+59.50 -L1-

SHEET 3 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 GENERAL DRAWING  
 FOR BRIDGE ON SR 1340  
 OVER (MEAT CAMP ROAD)  
 MEAT CAMP CREEK BETWEEN  
 SR 1335 AND SR 1399

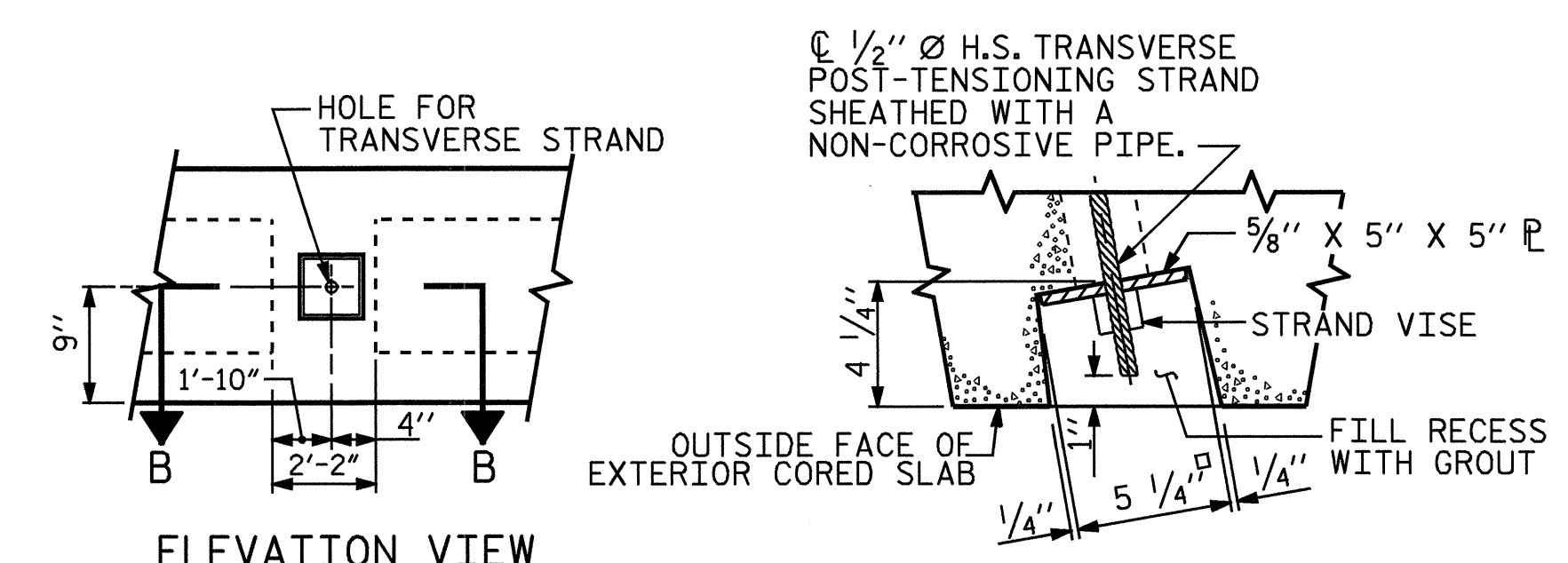
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			36



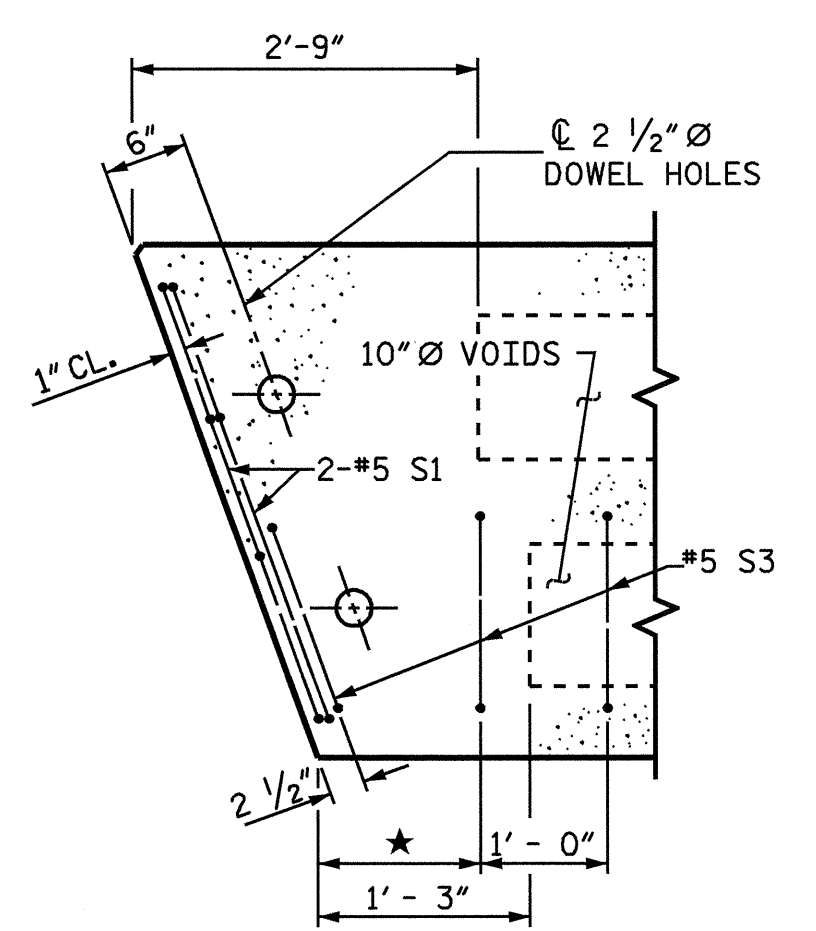


HALF SECTION AT INTERMEDIATE DIAPHRAGMS      HALF SECTION AT VOIDS

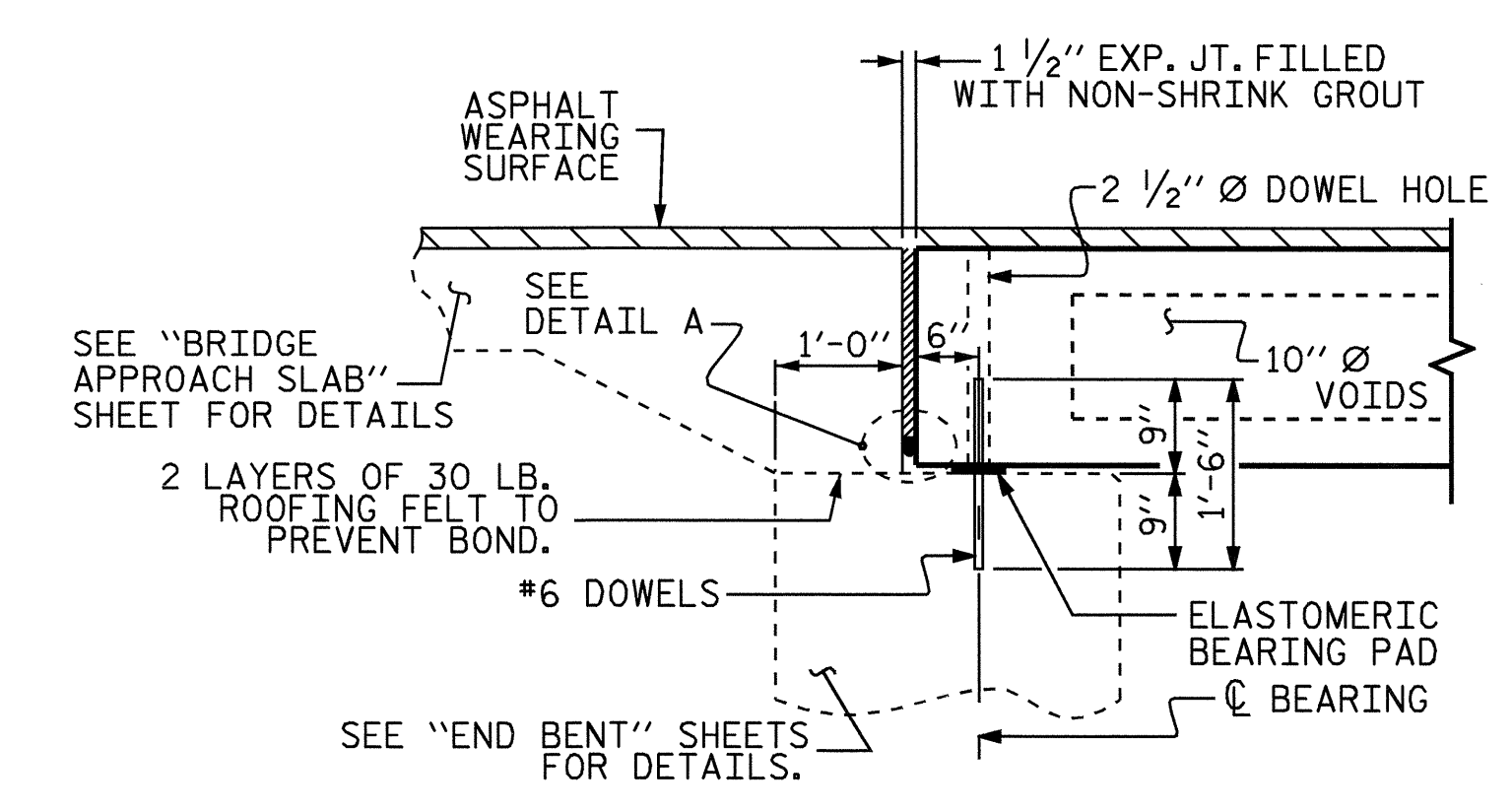
**TYPICAL SECTION**



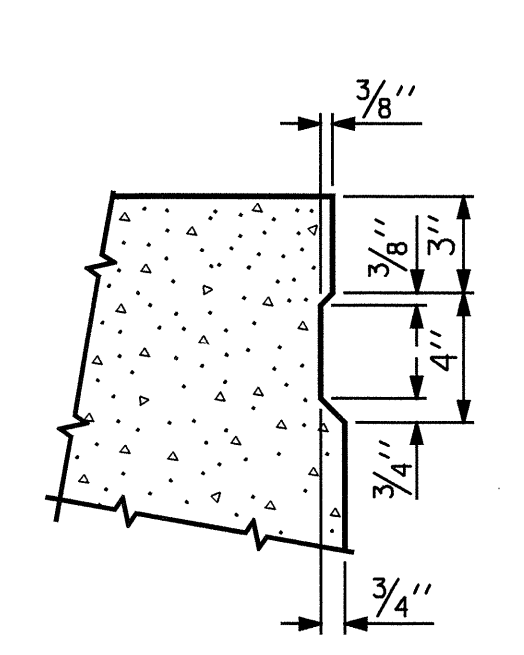
ELEVATION VIEW      SECTION B-B  
**GROUTED RECESS AT END OF POST-TENSIONED STRAND CORED SLABS**



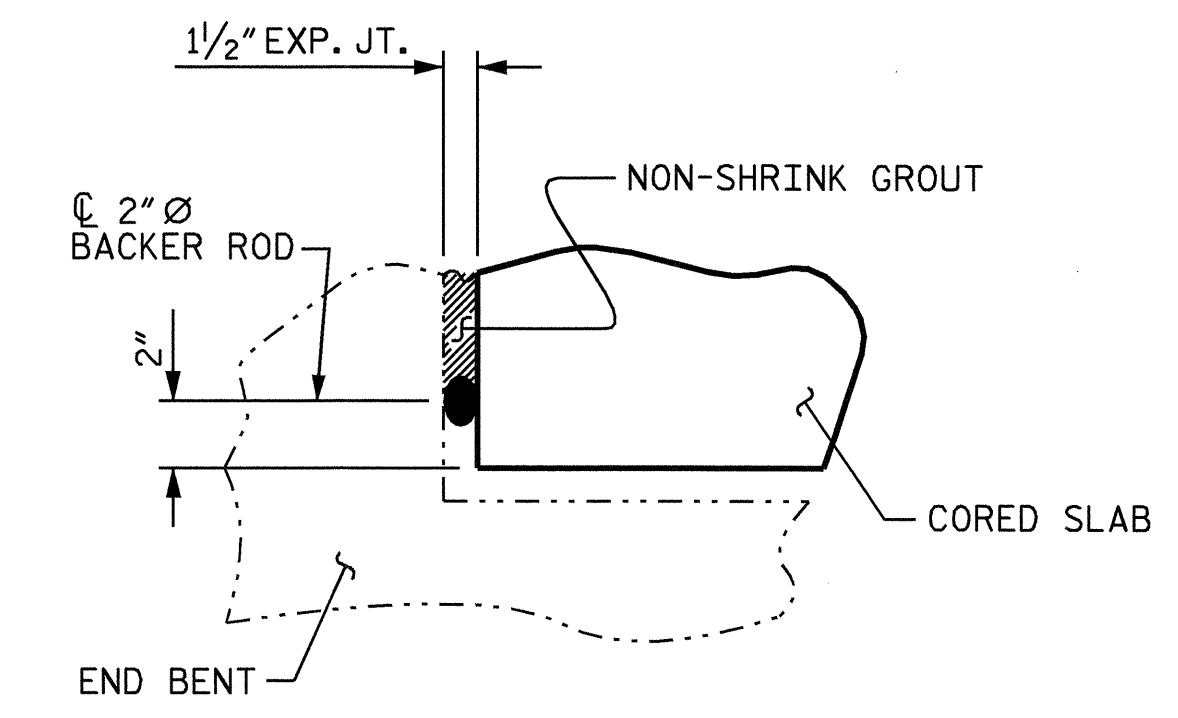
**PART PLAN-EXTERIOR SECTION**  
NOTE: EXTERIOR SECTION SHOWN-INTERIOR SECTION SIMILAR EXCEPT OMIT S3 BARS.  
★ SEE PLAN OF SPAN A FOR THIS DIMENSION



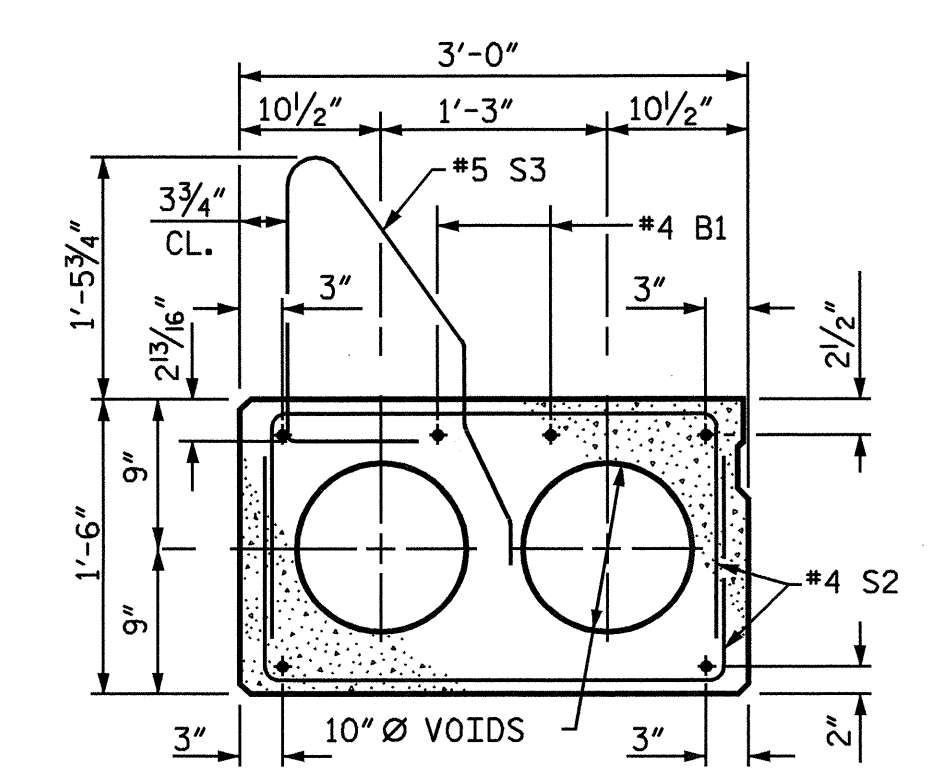
**SECTION AT END BENT**  
FIXED



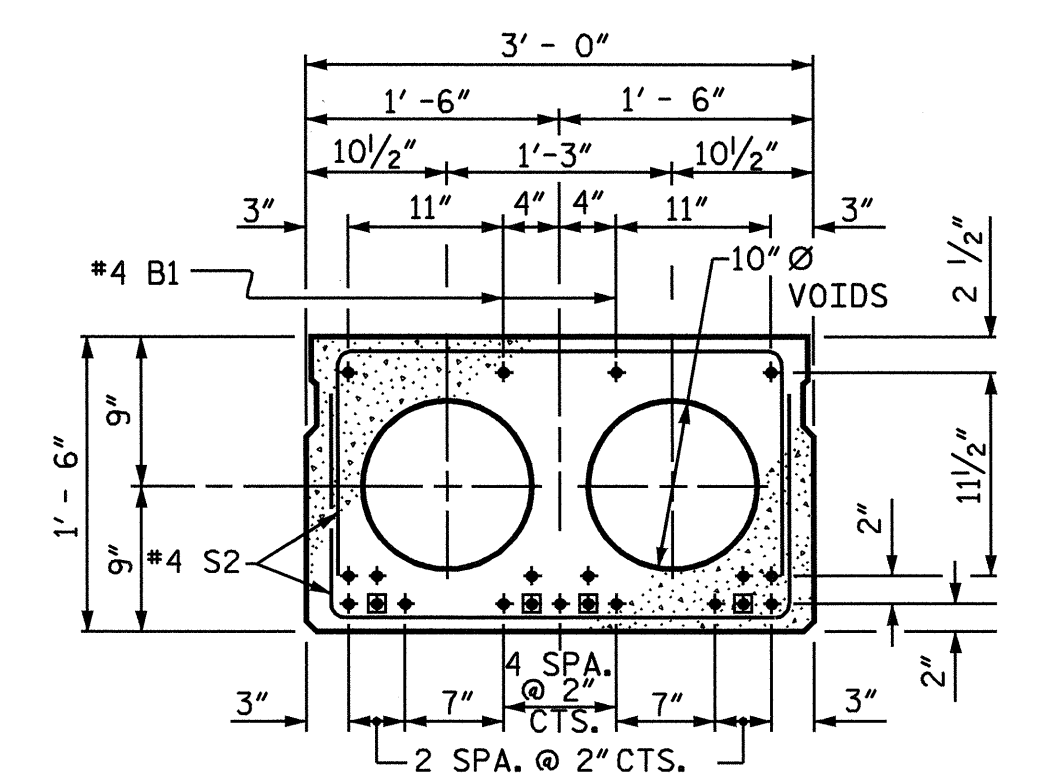
**SHEAR KEY DETAIL**  
NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF EXTERIOR CORED SLABS.



**DETAIL A**

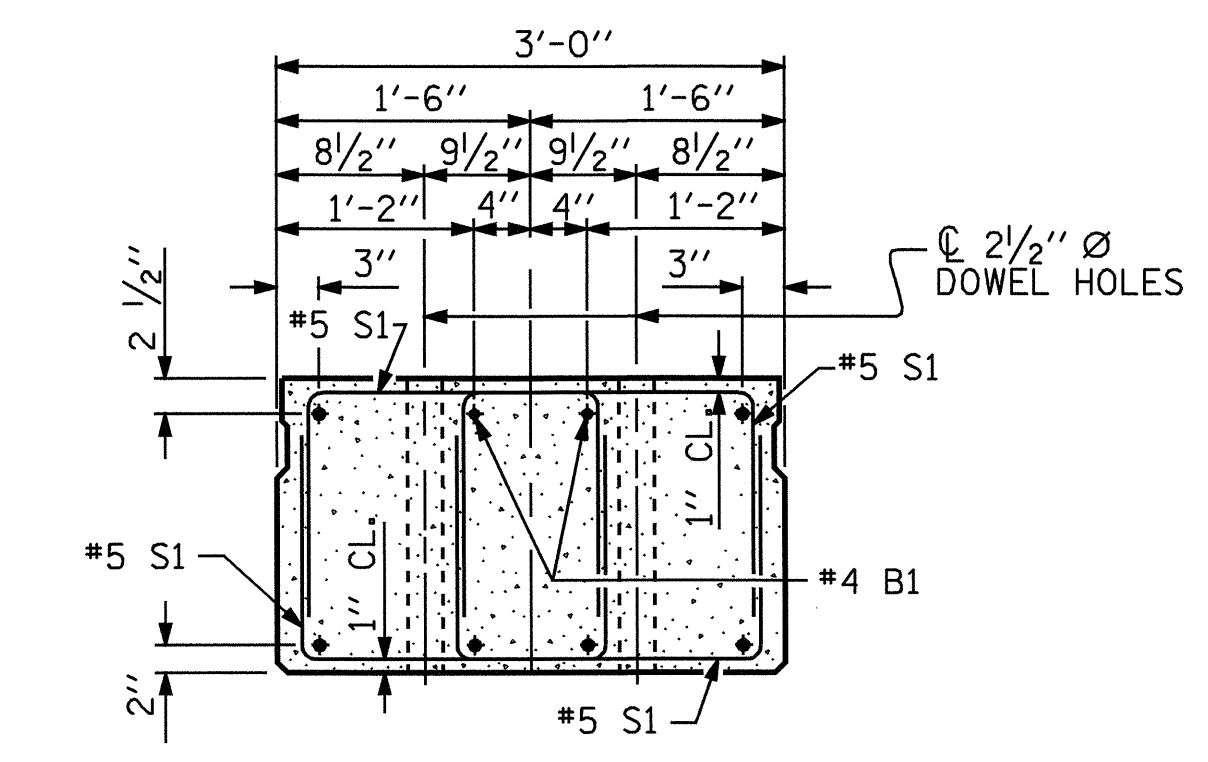


**EXTERIOR SLAB SECTION**  
(FOR PRESTRESSED STRAND LAYOUT, SEE INTERIOR SLAB SECTION.)



**INTERIOR SLAB SECTION**  
**1/2" Ø LOW RELAXATION STRAND LAYOUT**  
SPAN A (19 STRANDS)

■ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 4'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7



**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-3926  
WATAUGA COUNTY  
STATION: 23+59.50 -L1-

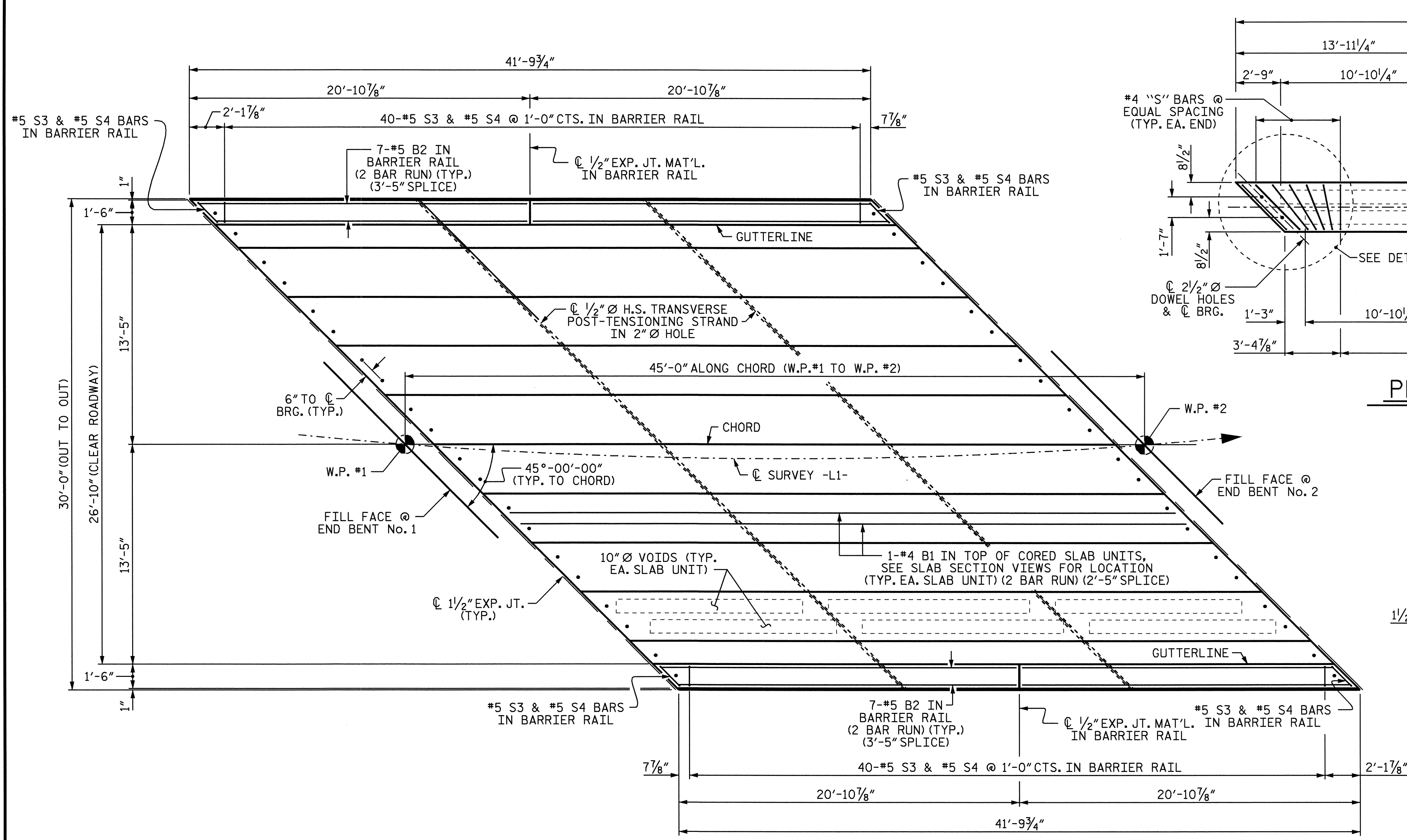
SHEET 1 OF 3

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
**STANDARD**  
**3'-0" X 1'-6"**  
**PRESTRESSED CONCRETE**  
**CORED SLAB UNIT**

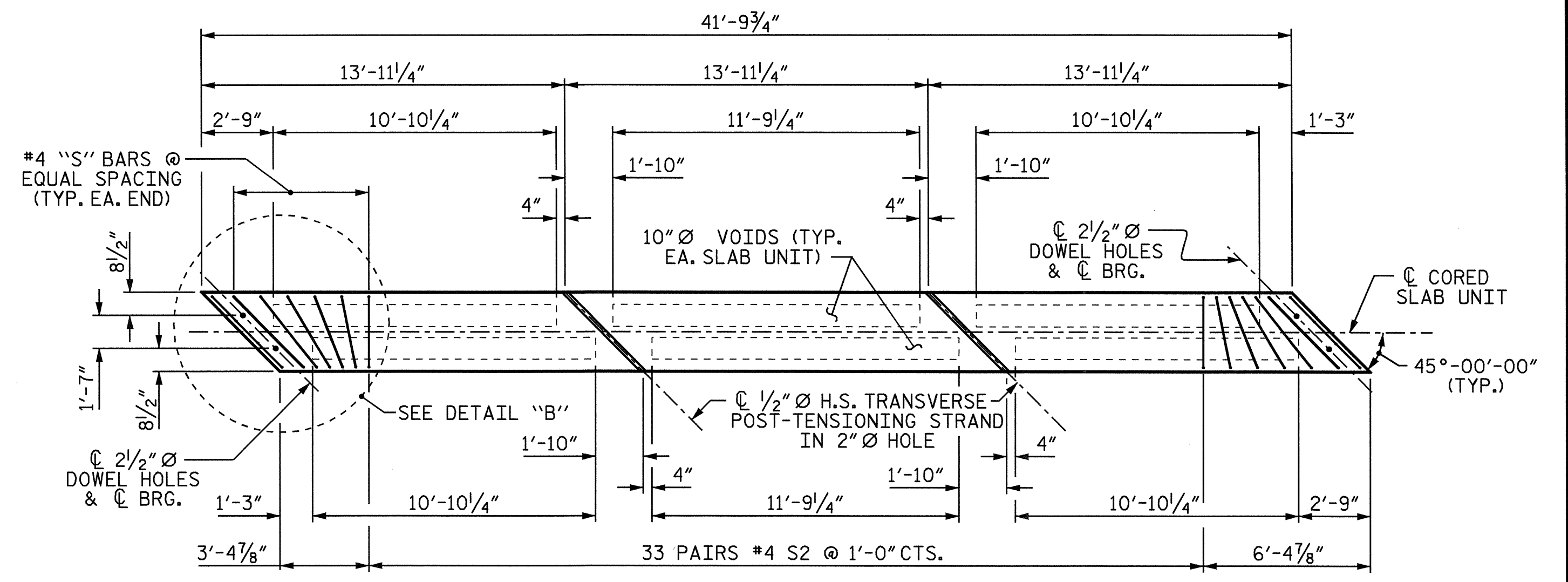
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NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

TOTAL SHEETS: 36

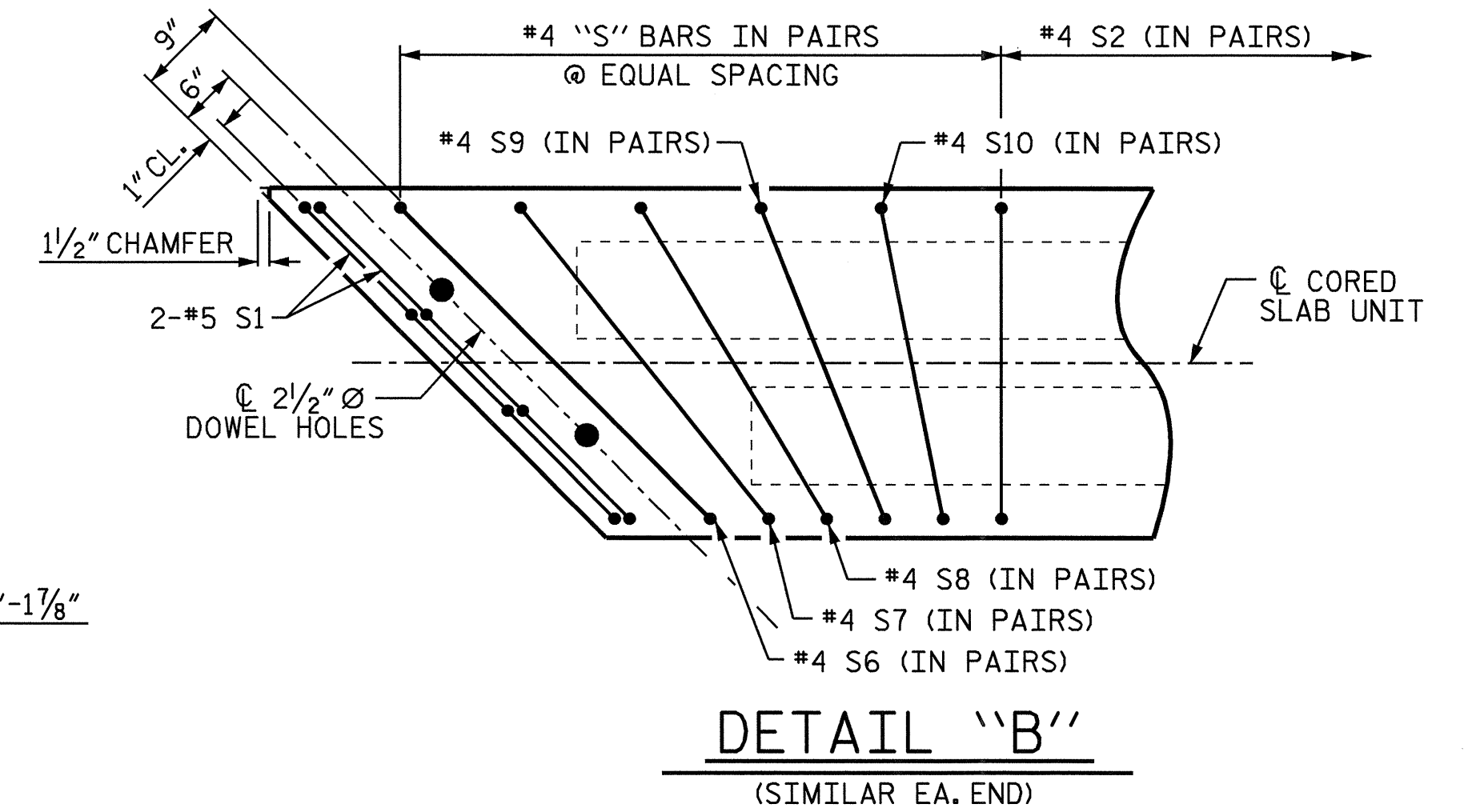
ASSEMBLED BY : B.N. GRADY	DATE : 7/03
CHECKED BY : P.C. BREWER	DATE : 7/03
DRAWN BY : WJH 4/89	REV. 8/16/99 RWW/LES
CHECKED BY : FCJ 5/89	REV. 10/17/00 RWW/LES
	REV. 7/10/01 RWW/LES



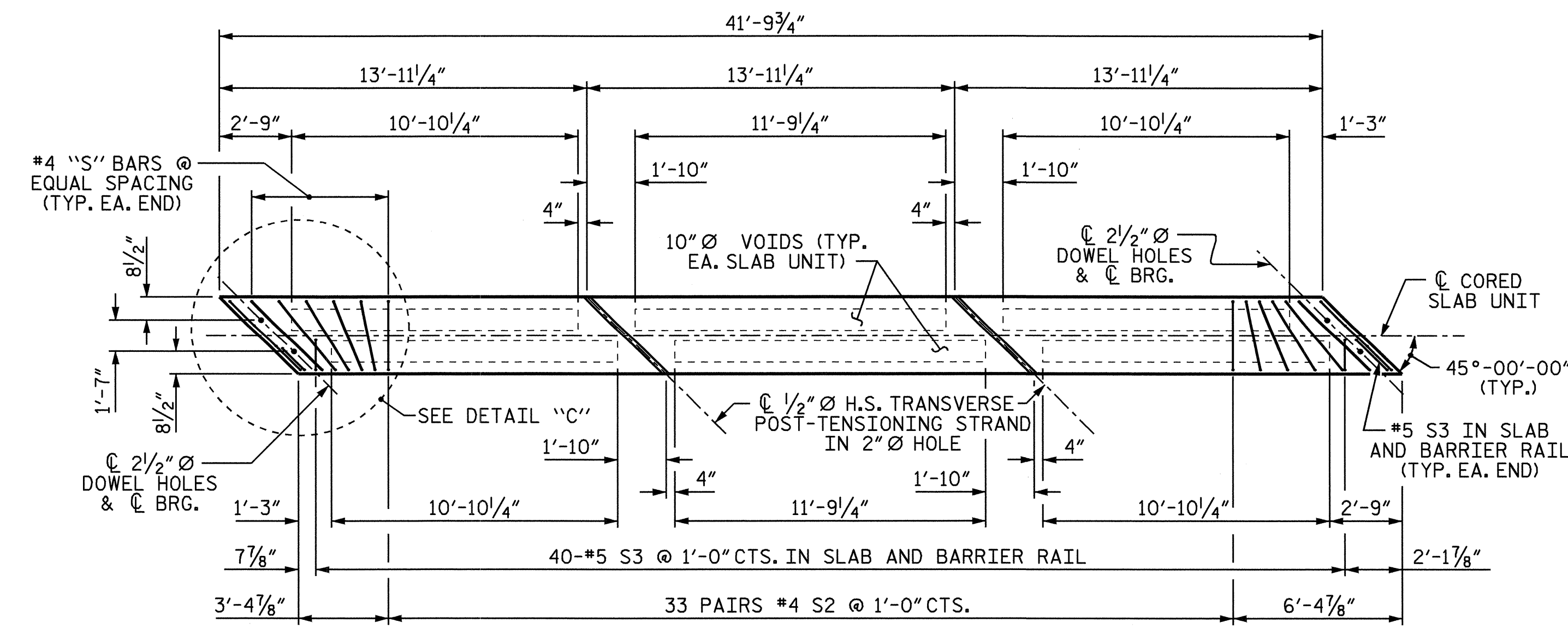
**PLAN OF SPAN A**



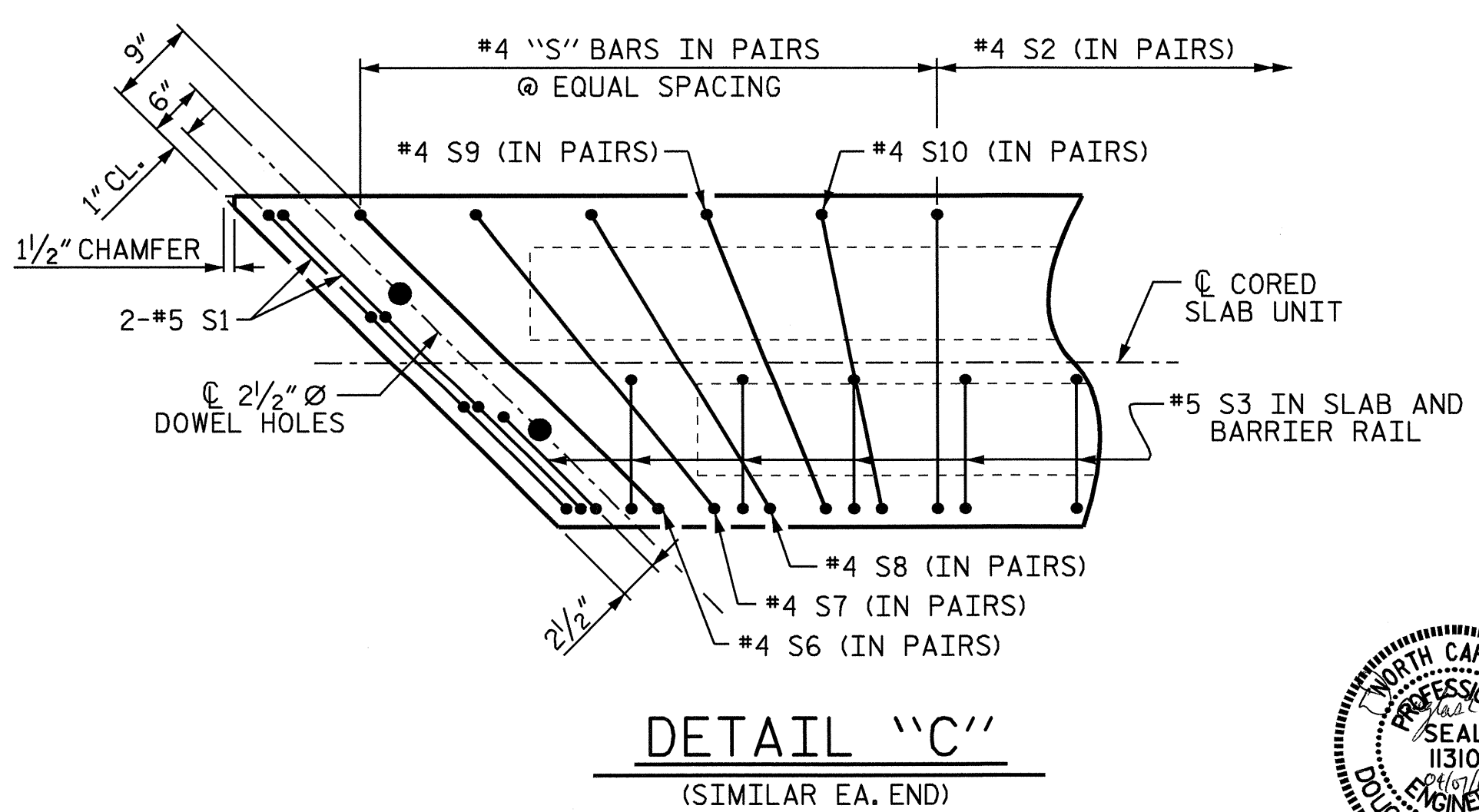
**PLAN OF INTERIOR CORED SLAB UNIT**



**DETAIL "B"**  
(SIMILAR EA. END)



**PLAN OF EXTERIOR CORED SLAB UNIT**



**DETAIL "C"**  
(SIMILAR EA. END)

PROJECT NO. B-3926  
WATAUGA COUNTY  
 STATION: 23+59.50 -L1-  
 SHEET 2 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**SUPERSTRUCTURE  
 PLAN OF SPAN A**



DRAWN BY : B.N. GRADY DATE : 7/03  
 CHECKED BY : P.C. BREWER DATE : 7/03

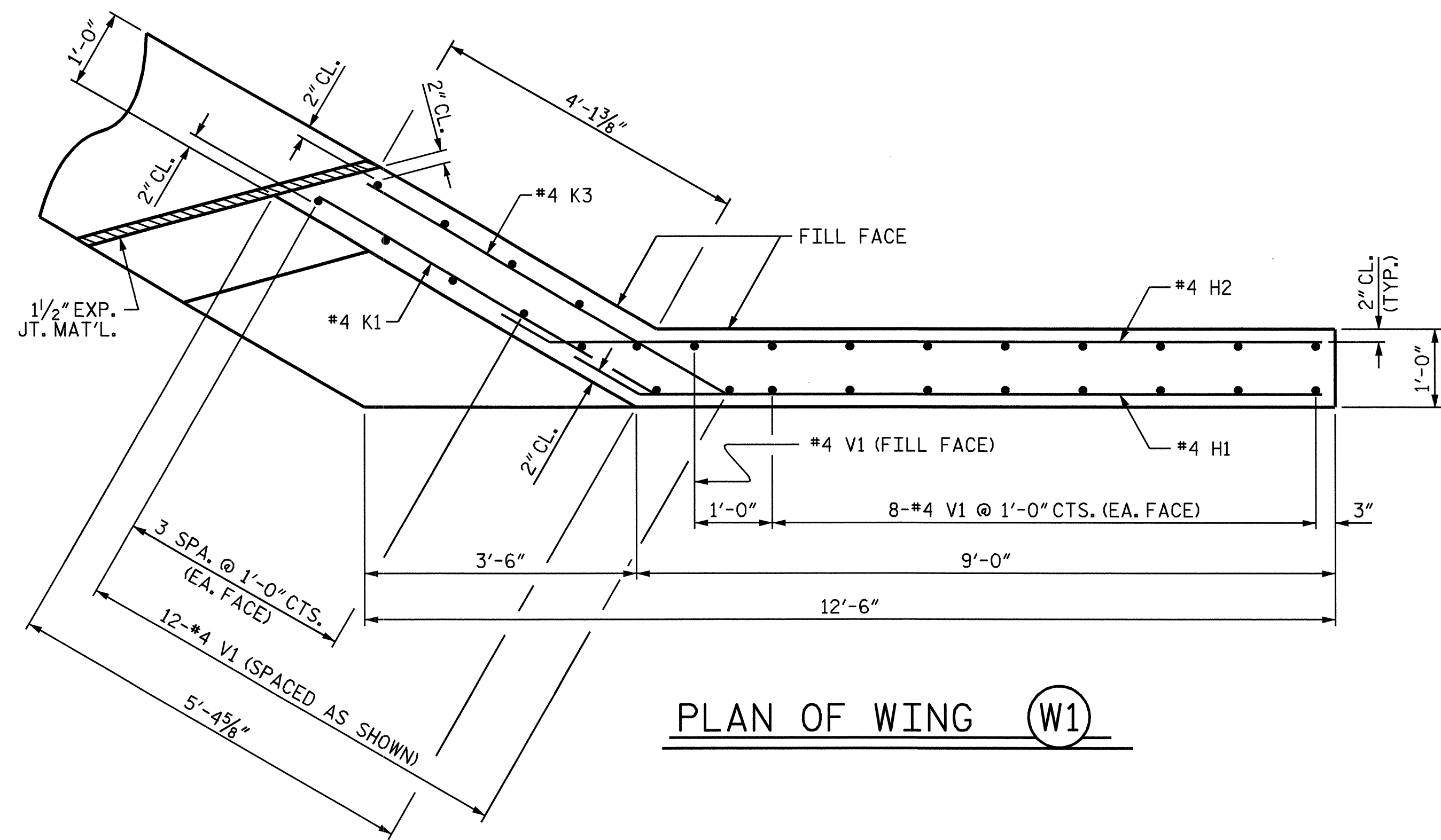
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-5	
1			3			TOTAL SHEETS	
2			4			36	



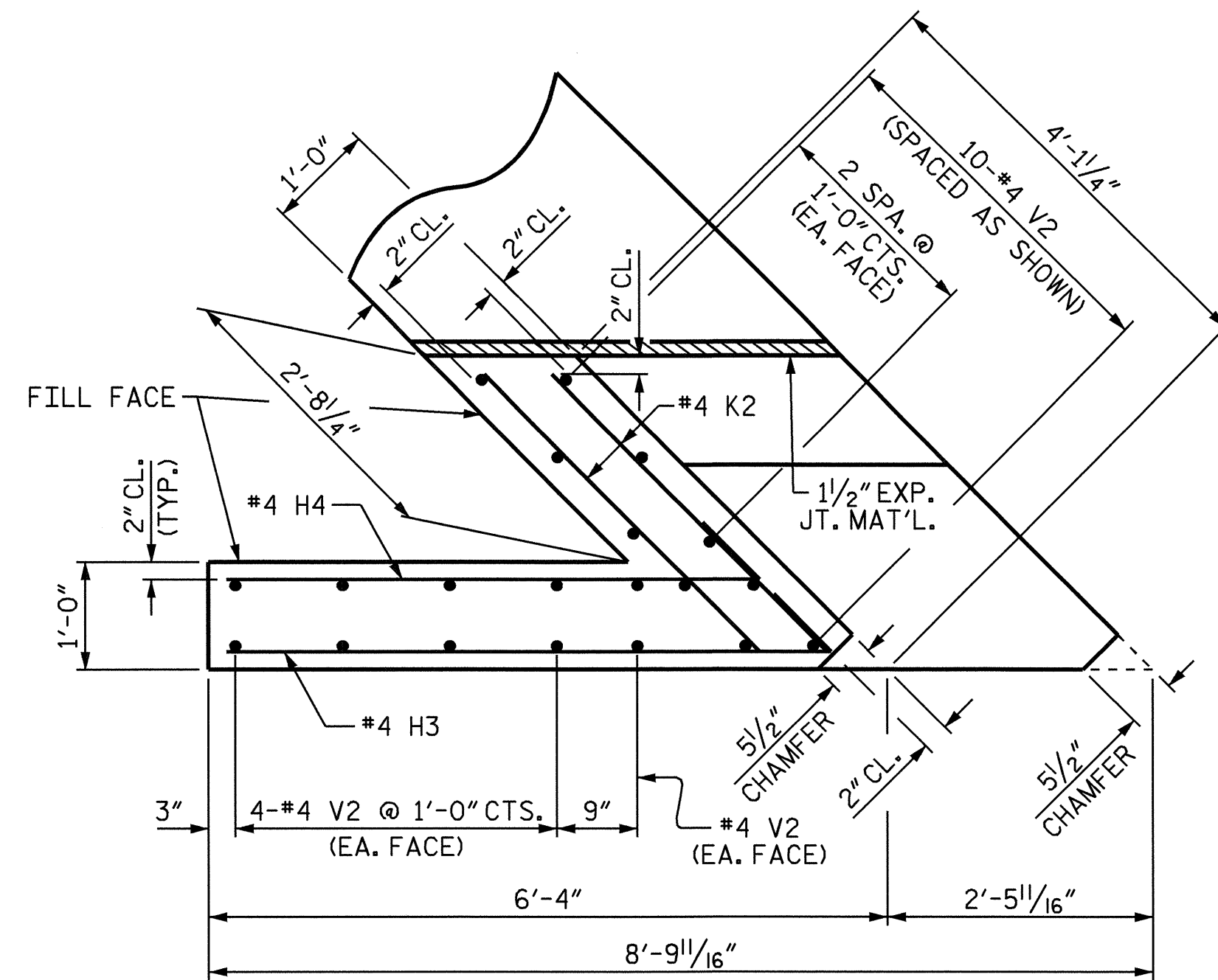




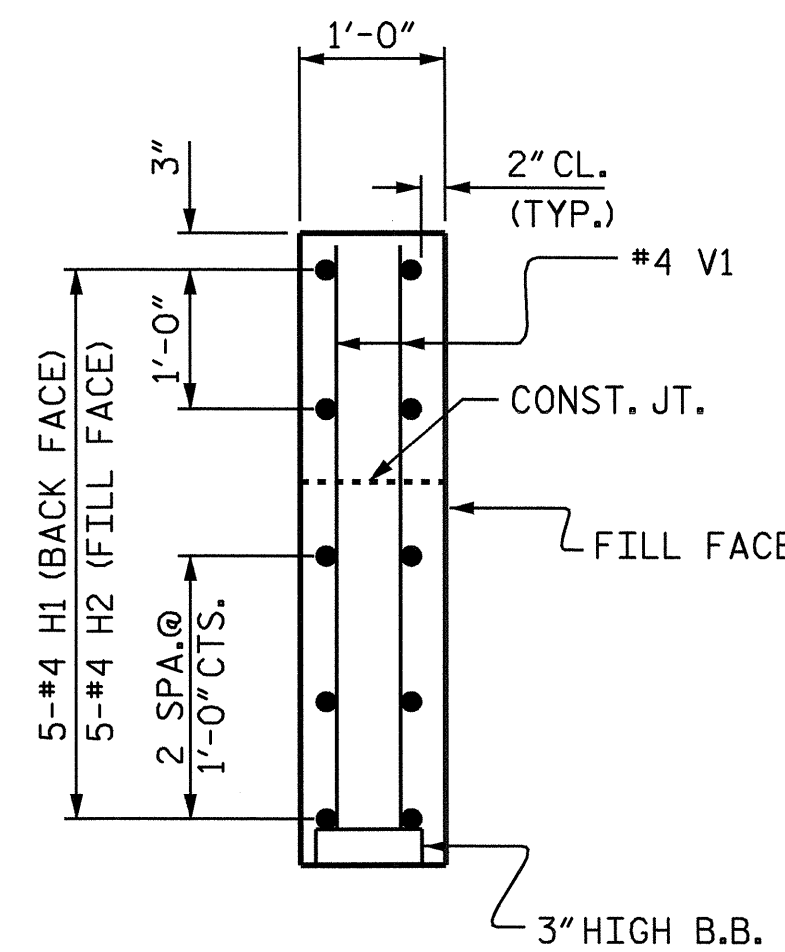




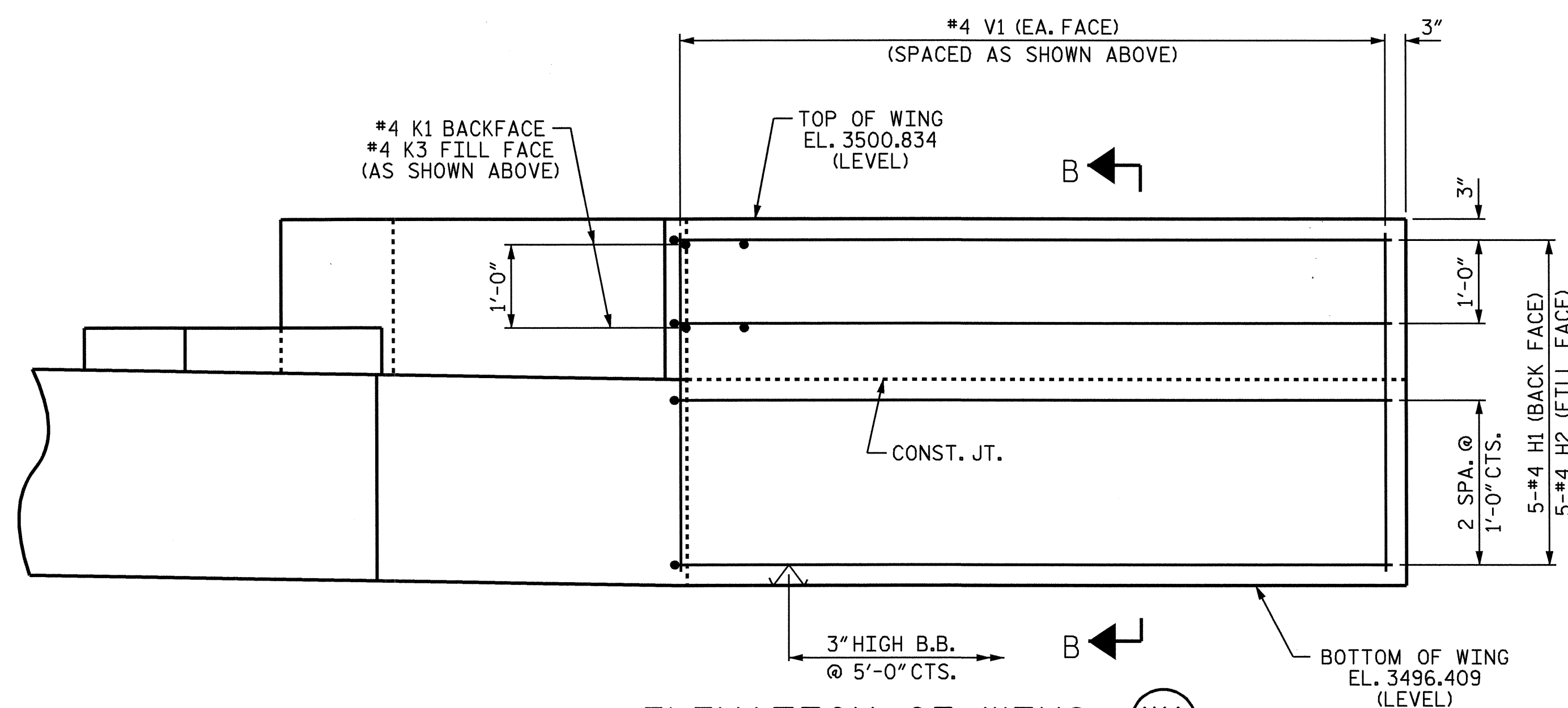
PLAN OF WING (W1)



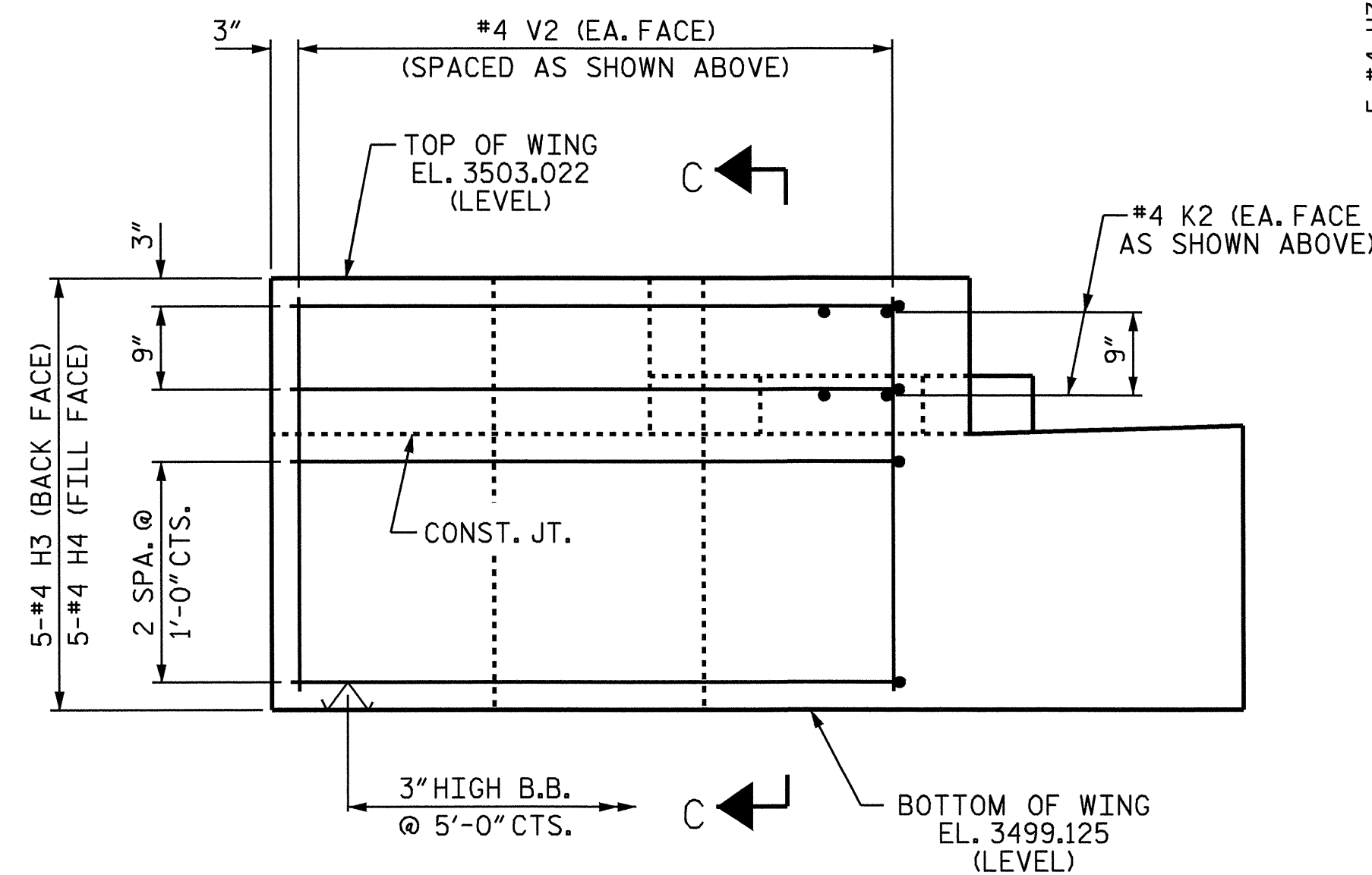
PLAN OF WING (W2)



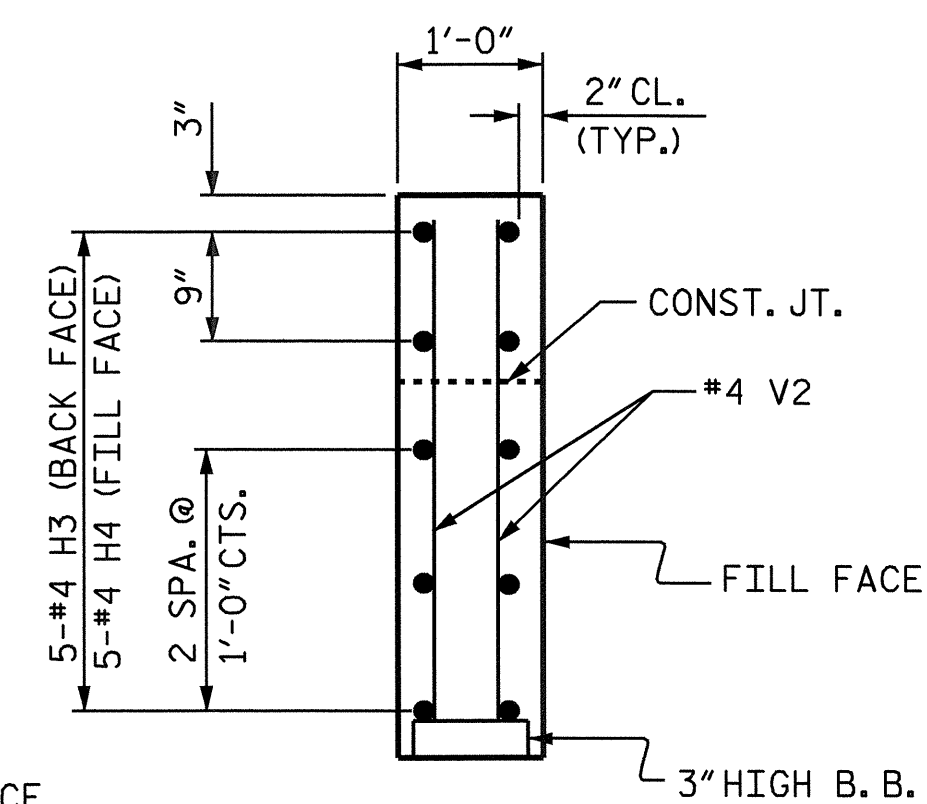
SECTION B-B



ELEVATION OF WING (W1)



ELEVATION OF WING (W2)



SECTION C-C

PROJECT NO. B-3926  
 WATAUGA COUNTY  
 STATION: 23+59.50 -L1-

SHEET 2 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

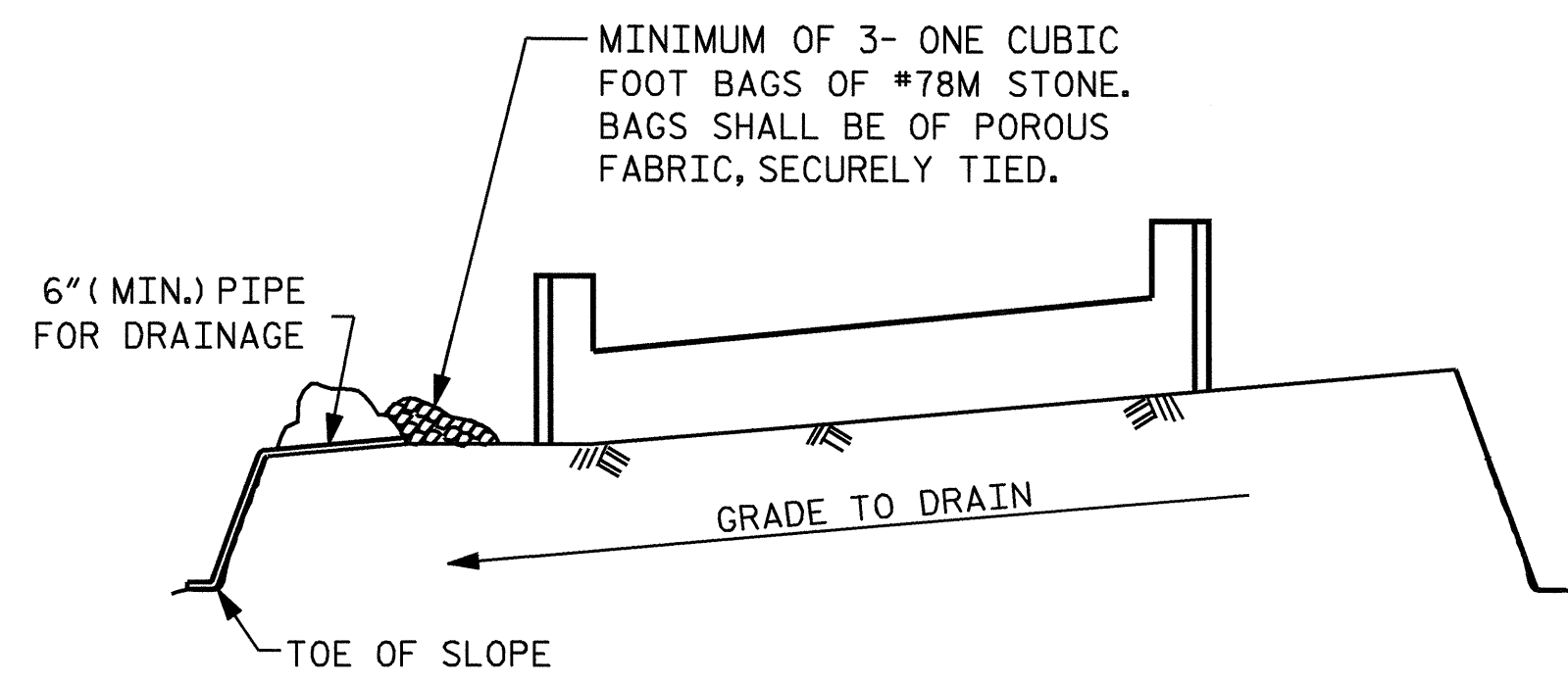
SUBSTRUCTURE  
 END BENT No. 1



DRAWN BY: B.N. GRADY DATE: 11/04  
 CHECKED BY: P.C. BREWER DATE: 11/04

06-APR-2006 13:57  
 RA:\structures\B3926\bngardy\Microstation\B3926.ed.eb.01.dgn  
 bngardy

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS
2			4			36



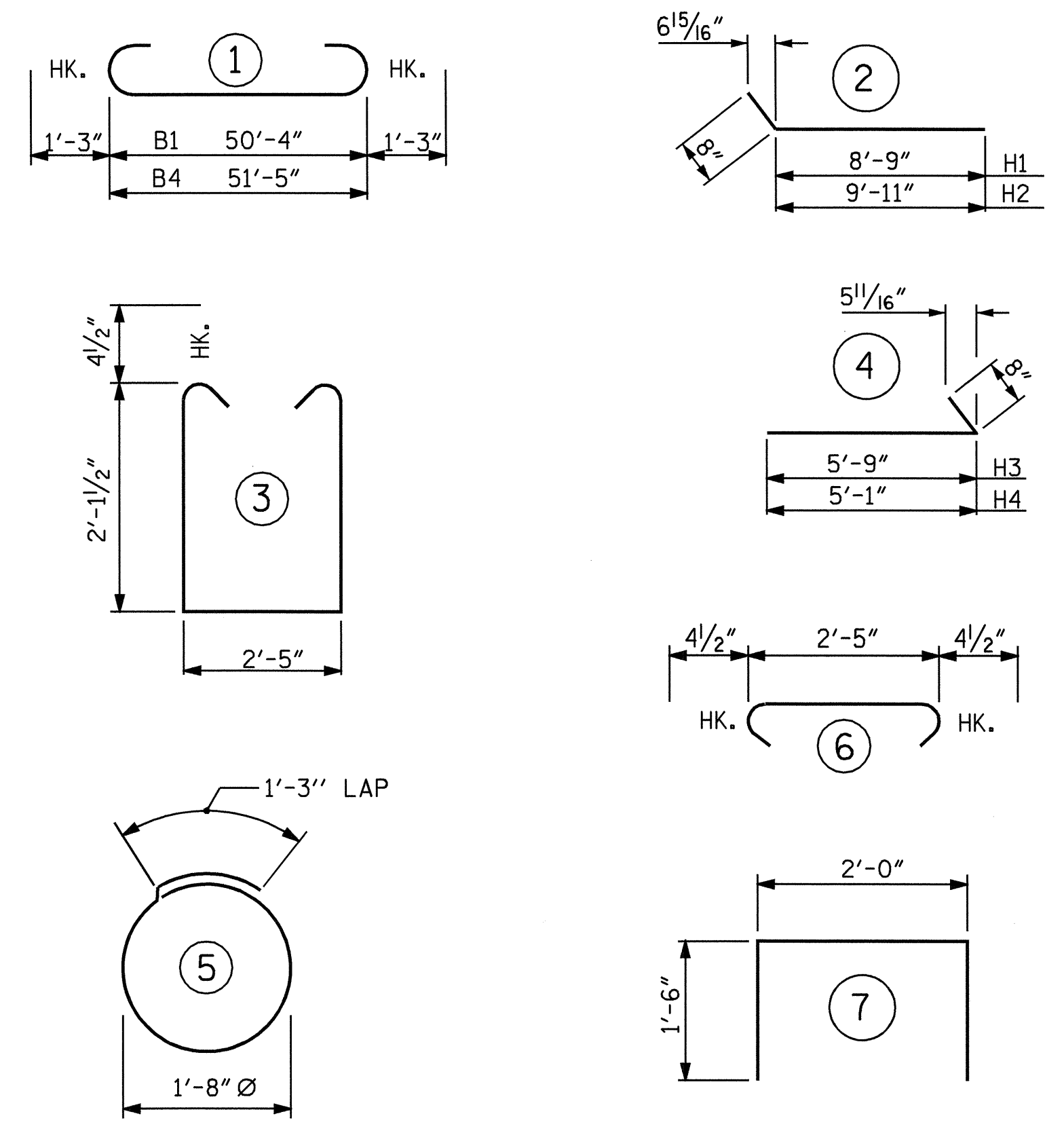
BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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 No. 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	4	#9	1	52'-10"	719
B2	16	#4	STR	27'-5"	293
B3	12	#4	STR	2'-5"	19
B4	4	#9	1	53'-11"	733
D1	20	#6	STR	1'-6"	45
H1	5	#4	2	9'-5"	31
H2	5	#4	2	10'-7"	35
H3	5	#4	4	6'-5"	21
H4	5	#4	4	5'-9"	19
K1	2	#4	STR	5'-0"	7
K2	4	#4	STR	3'-7"	10
K3	2	#4	STR	5'-4"	7
S1	44	#4	3	7'-5"	218
S2	44	#4	6	3'-2"	93
S3	14	#4	5	6'-6"	61
S4	4	#4	7	5'-0"	13
V1	29	#4	STR	4'-0"	77
V2	20	#4	STR	3'-6"	47

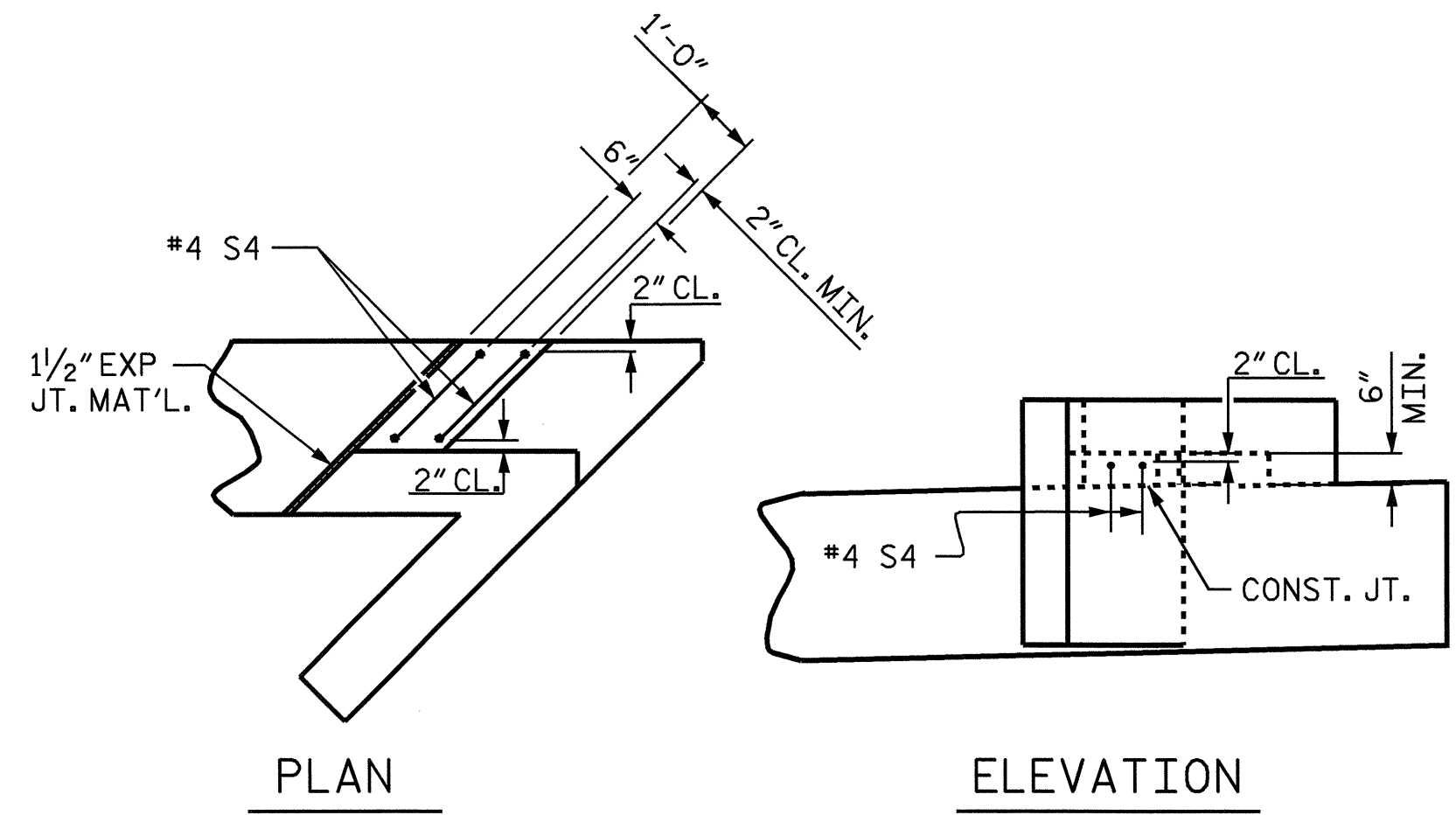
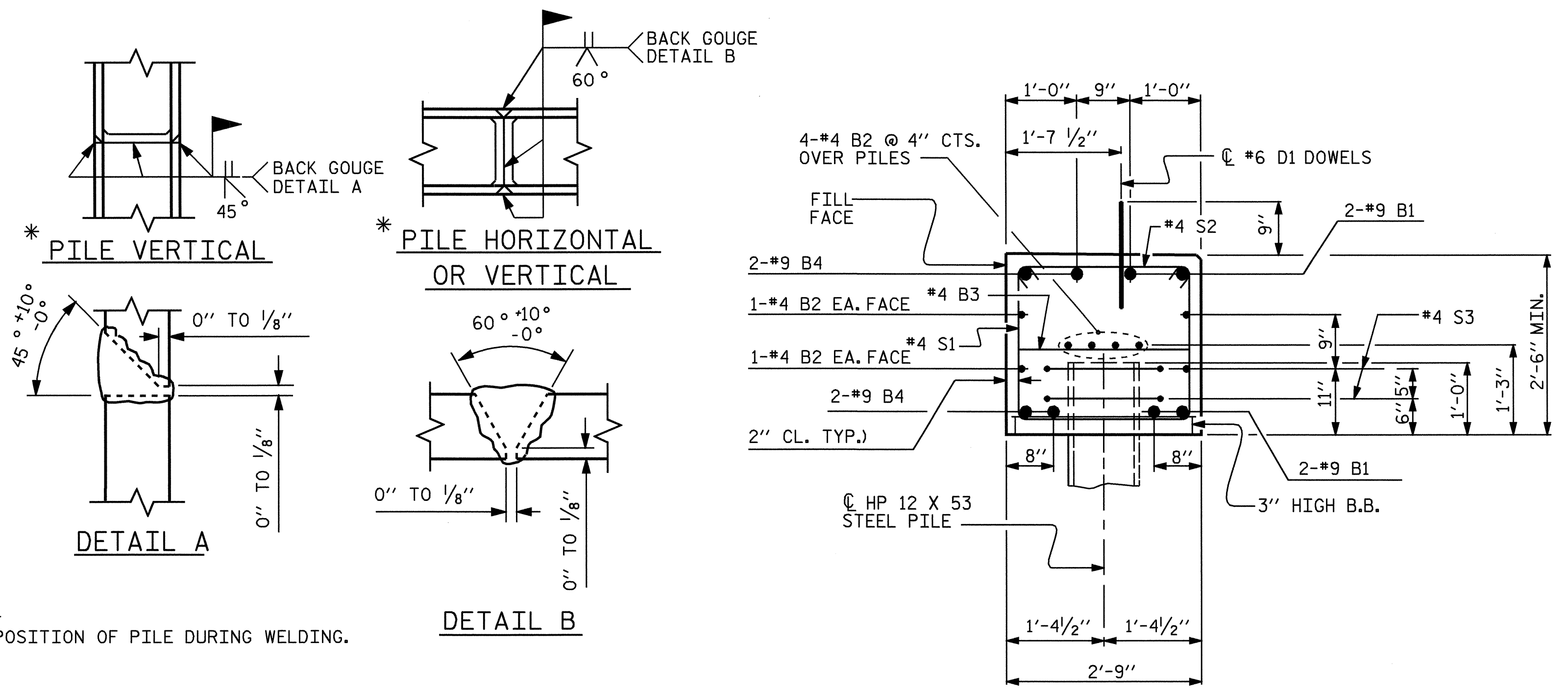
REINFORCING STEEL = 2448 LBS

CLASS A CONCRETE BREAKDOWN:

POUR #1 - (CAP&LOWER WINGS)	14.8 C.Y.
POUR #2 - (UPPER WINGS)	1.4 C.Y.
POUR #3 - (LATERAL GUIDES)	0.1 C.Y.
<b>TOTAL</b>	<b>16.3 C.Y.</b>

HP 12 X 53 STEEL PILES  
NO.= 7 LIN. FT.= 79.0

PILE EXCAVATION IN SOIL	15 LIN. FT.
PILE EXCAVATION NOT IN SOIL	60 LIN. FT.



PILE SPLICE DETAILS

SECTION A-A

PROJECT NO. B-3926  
WATAUGA COUNTY  
STATION: 23+59.50 -L1-

SHEET 3 OF 3

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

SUBSTRUCTURE  
END BENT No. 1



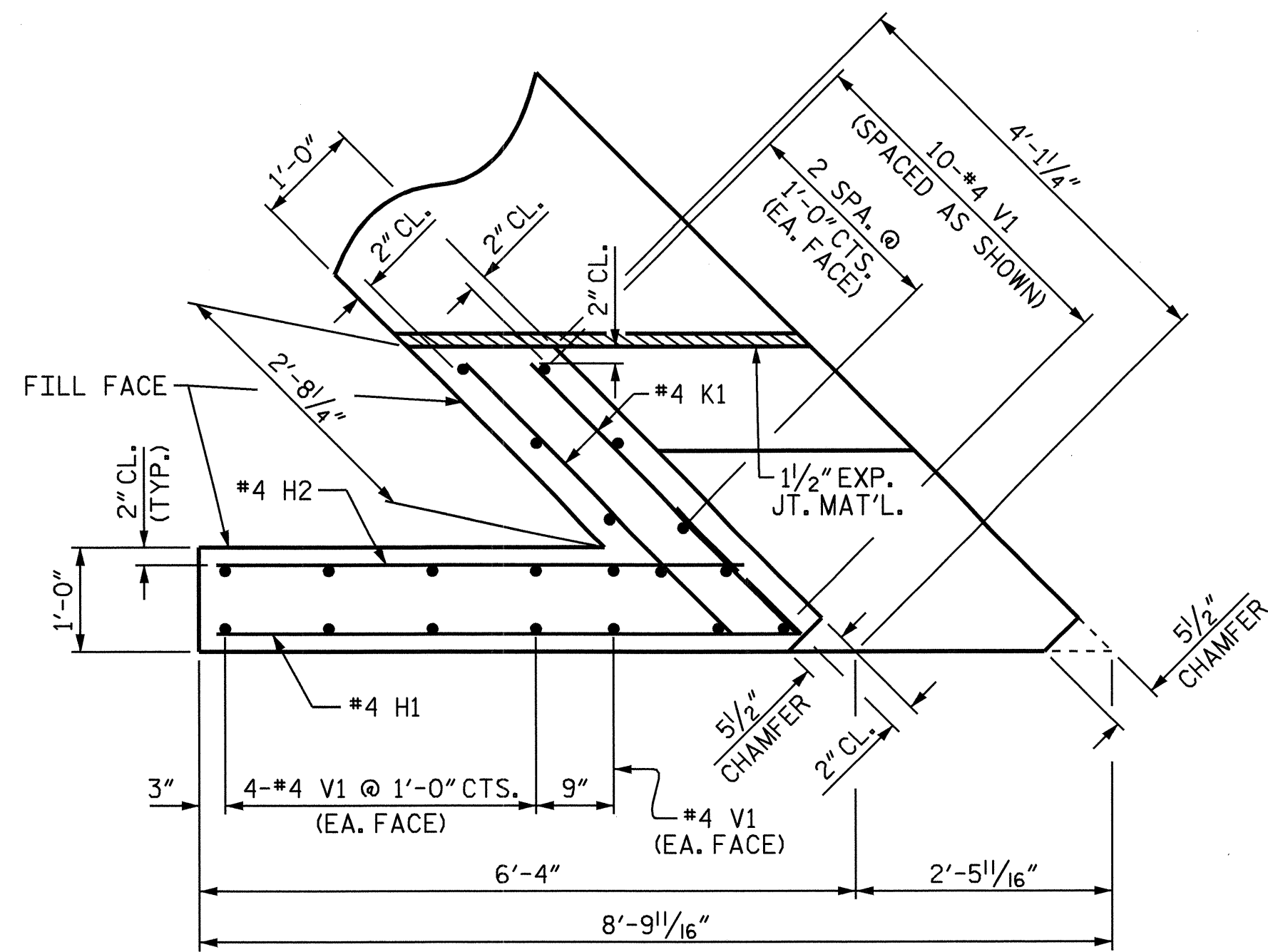
DRAWN BY : B.N. GRADY DATE : 11/04  
CHECKED BY : P.C. BREWER DATE : 11/04

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

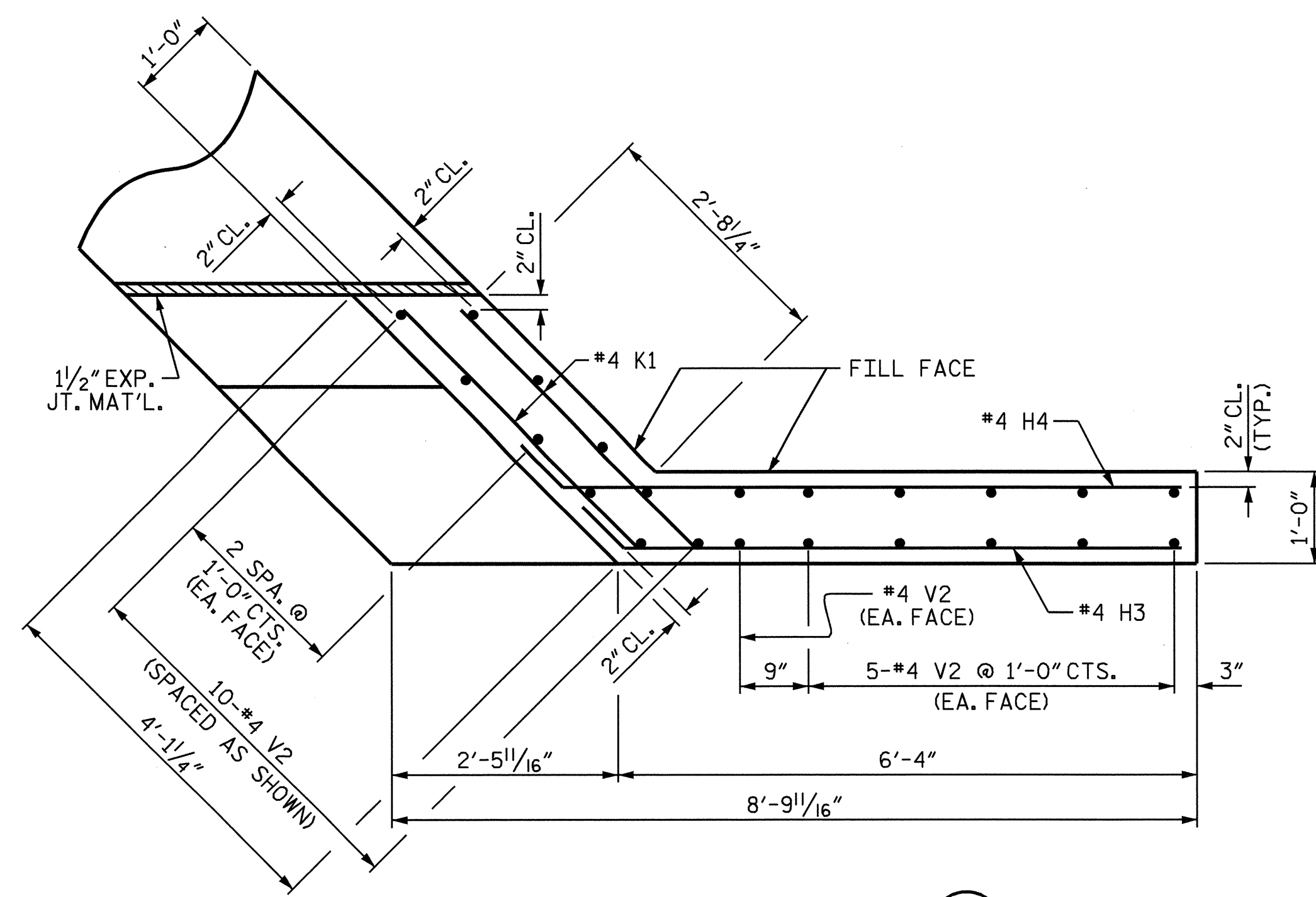
TOTAL SHEETS 36



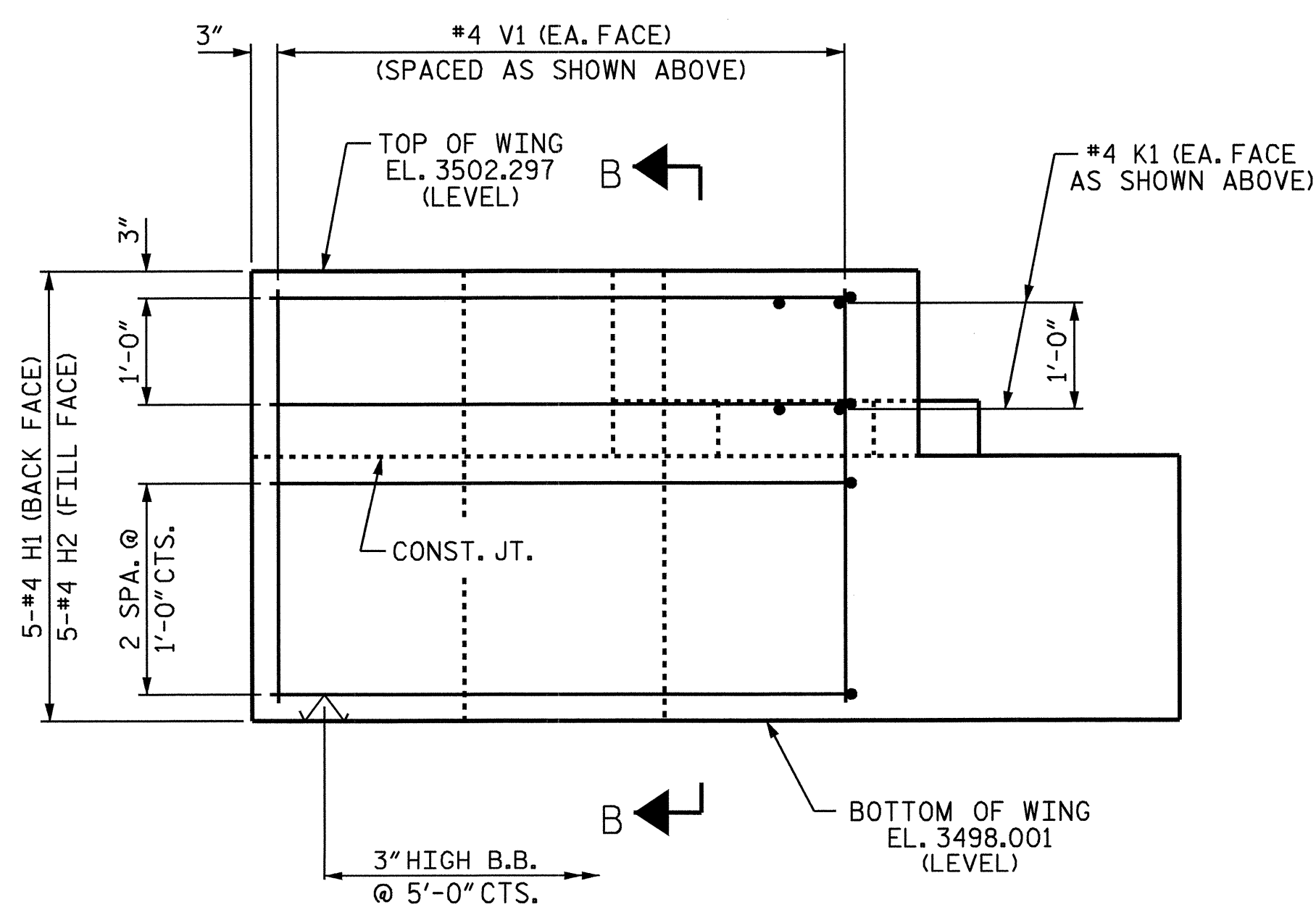




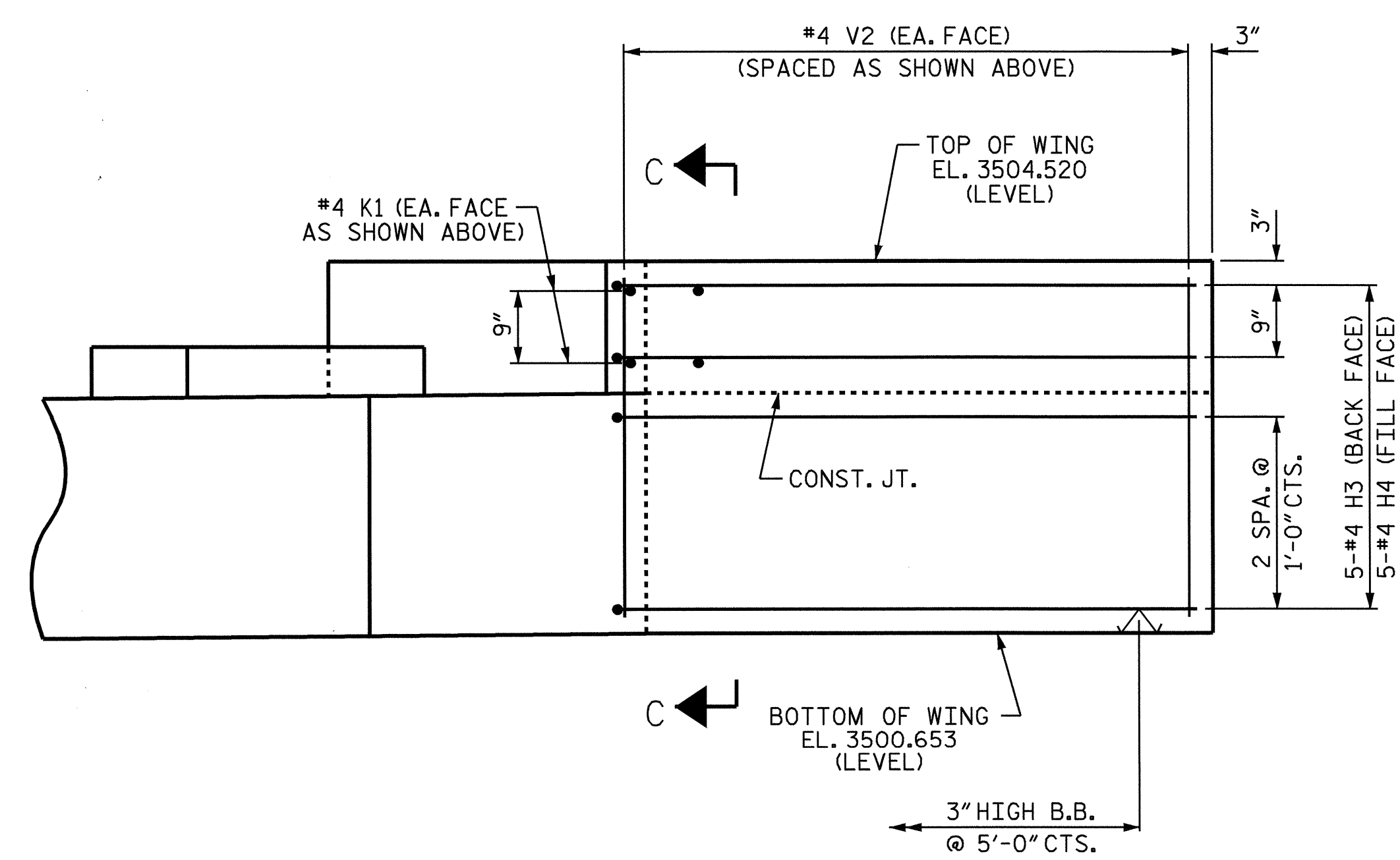
PLAN OF WING (W1)



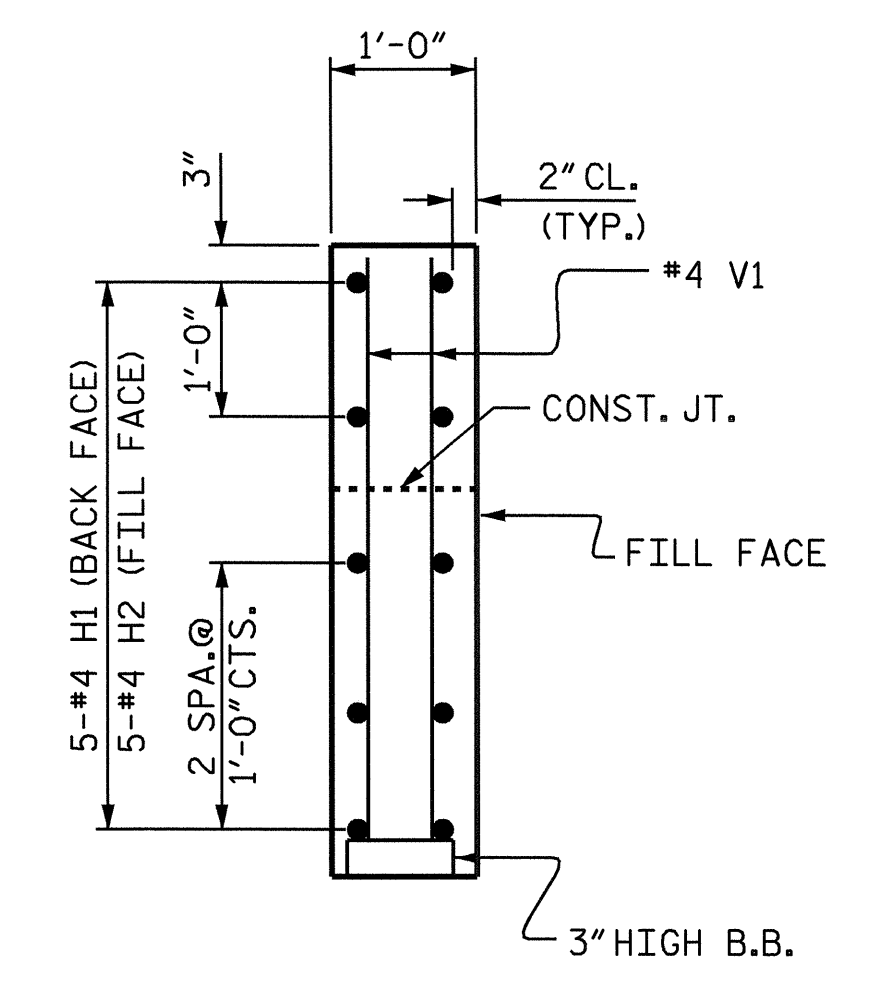
PLAN OF WING (W2)



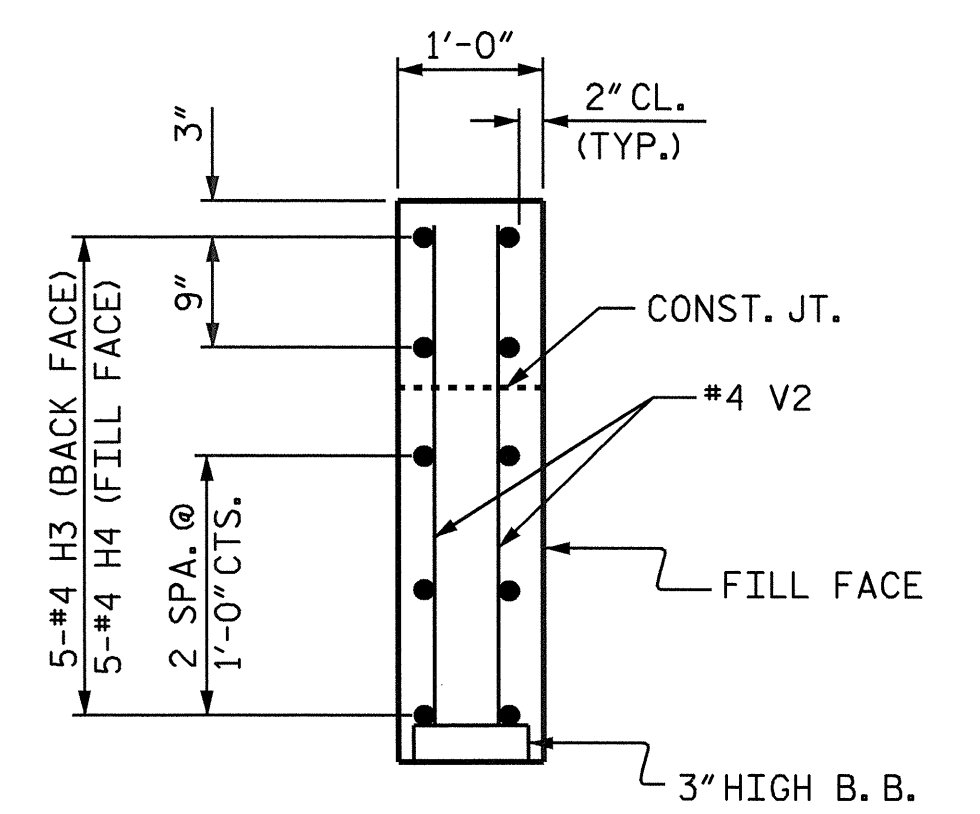
ELEVATION OF WING (W1)



ELEVATION OF WING (W2)



SECTION B-B

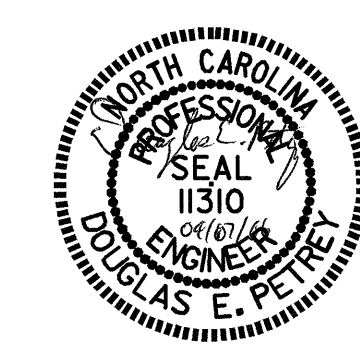


SECTION C-C

PROJECT NO. B-3926  
 WATAUGA COUNTY  
 STATION: 23+59.50 -L1-

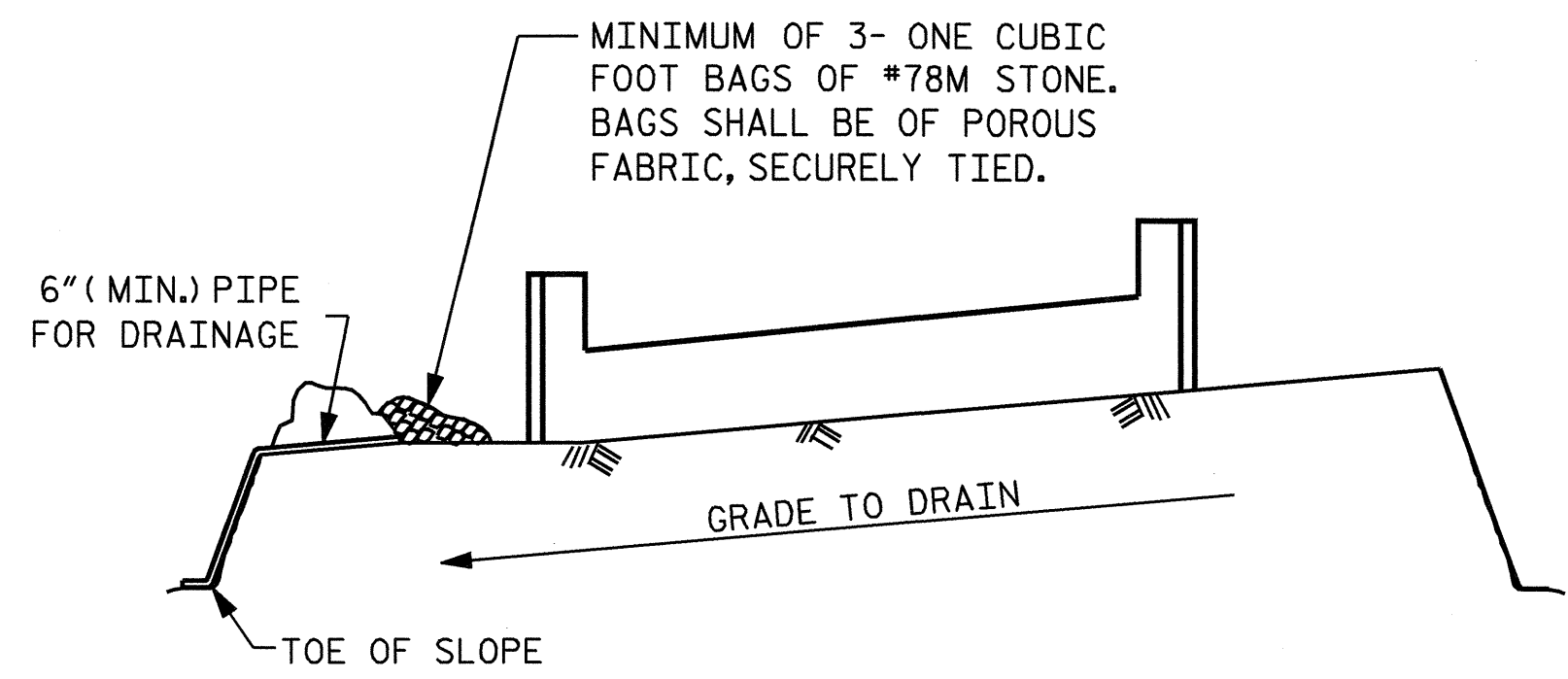
SHEET 2 OF 3

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



DRAWN BY: B.N. GRADY DATE: 11/04  
 CHECKED BY: P.C. BREWER DATE: 11/04

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11	
1			3			TOTAL SHEETS	
2			4			36	



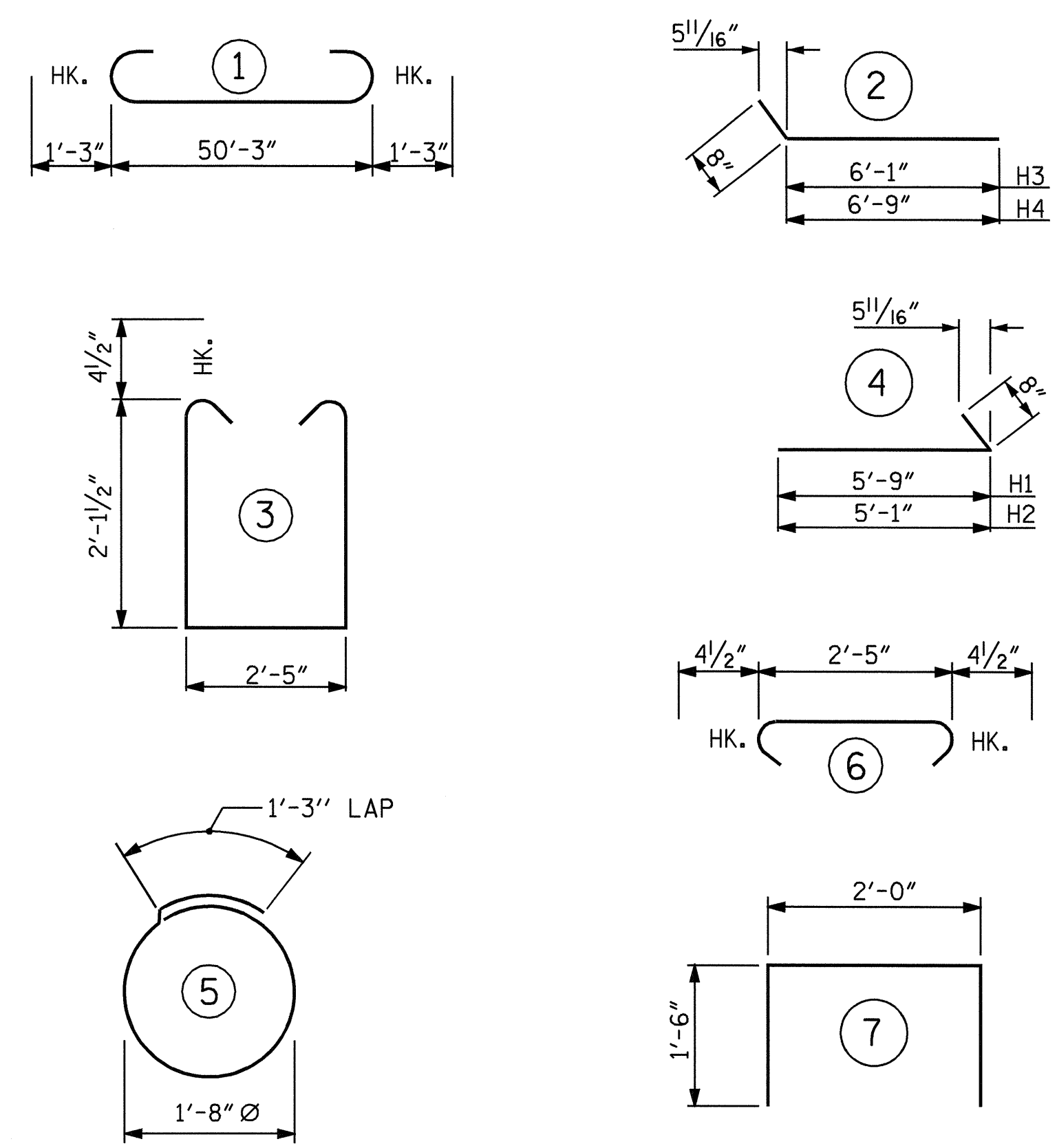
BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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**

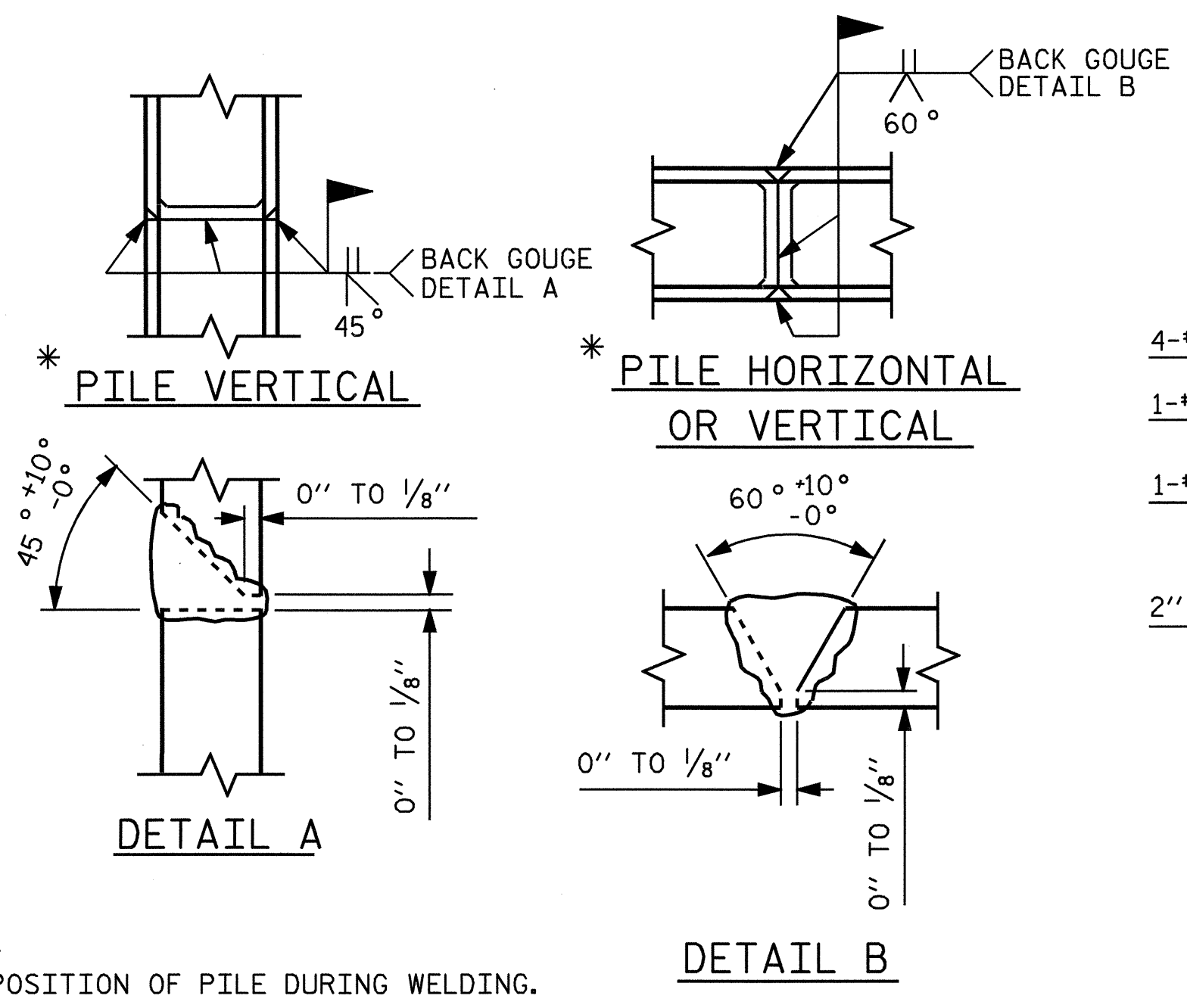
**BAR TYPES**



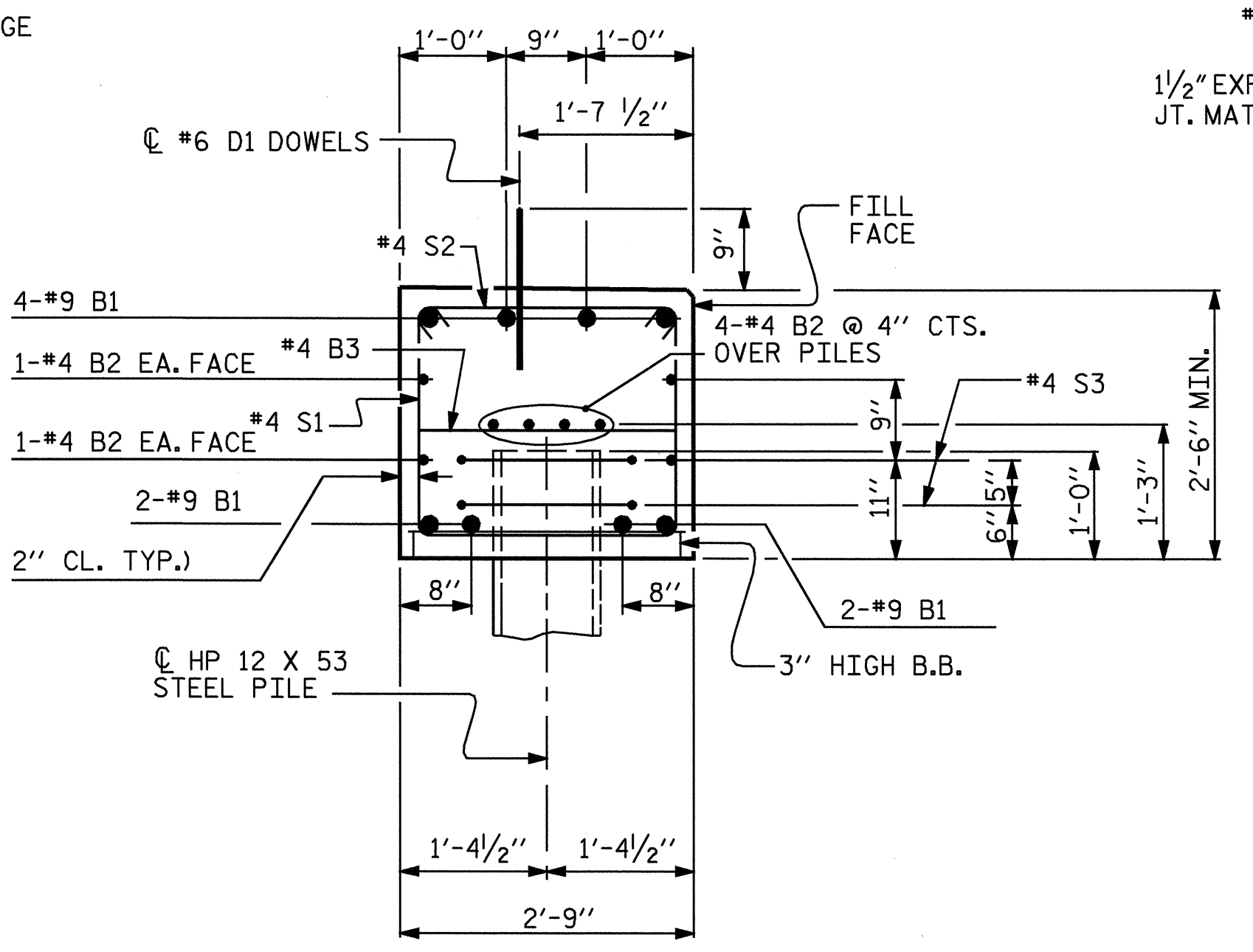
ALL BAR DIMENSIONS ARE OUT TO OUT.

**BILL OF MATERIAL**

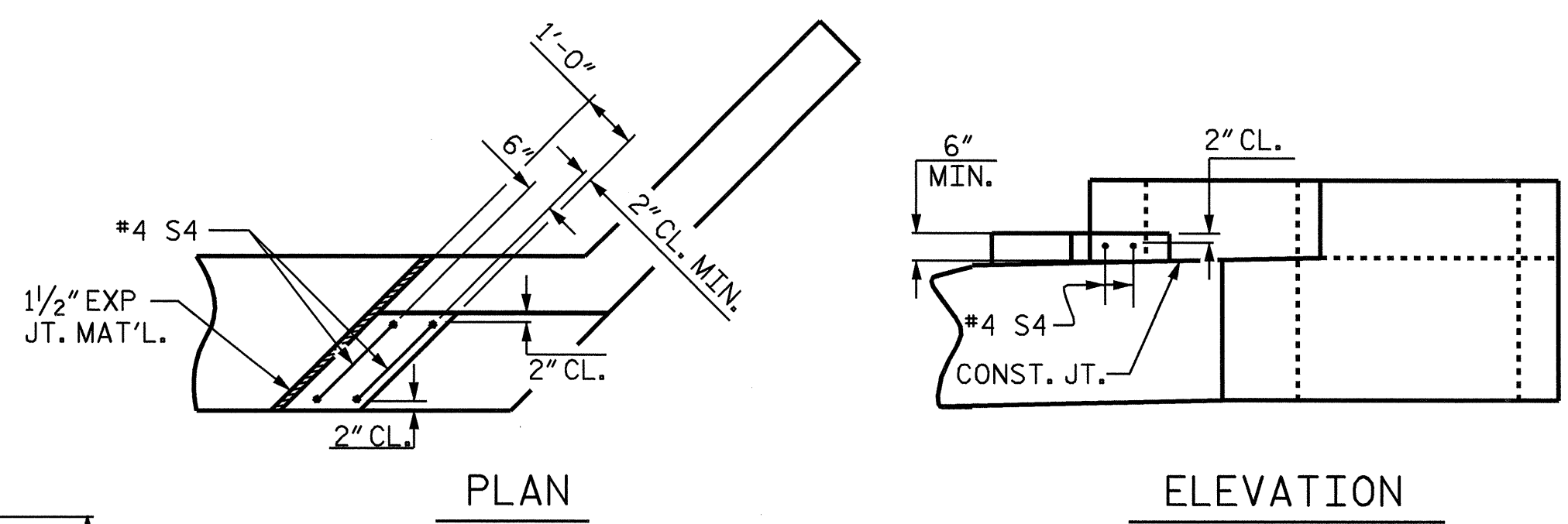
END BENT No. 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9		52'-9"	1435
B2	16	#4	STR	26'-7"	284
B3	12	#4	STR	2'-5"	19
D1	20	#6	STR	1'-6"	45
H1	5	#4		6'-5"	21
H2	5	#4		5'-9"	19
H3	5	#4		6'-9"	23
H4	5	#4		7'-5"	25
K1	8	#4	STR	3'-7"	19
S1	44	#4		7'-5"	218
S2	44	#4		3'-2"	93
S3	14	#4		6'-6"	61
S4	4	#4		5'-10"	16
V1	20	#4	STR	3'-10"	51
V2	22	#4	STR	3'-5"	50
REINFORCING STEEL				=	2379 LBS
CLASS A CONCRETE BREAKDOWN:					
POUR #1	- (CAP&LOWER WINGS)			14.2	C.Y.
POUR #2	- (UPPER WINGS)			1.1	C.Y.
POUR #3	- (LATERAL GUIDES)			0.1	C.Y.
				TOTAL	15.4 C.Y.
HP 12 X 53 STEEL PILES					
NO. = 7 LIN. FT. = 86.0					
PILE EXCAVATION IN SOIL				25	LIN. FT.
PILE EXCAVATION NOT IN SOIL				55	LIN. FT.



**PILE SPLICE DETAILS**



**SECTION A-A**



**LATERAL GUIDE DETAILS**  
(RIGHT LATERAL GUIDE SHOWN, LEFT SIMILAR)

PROJECT NO. B-3926  
WATAUGA COUNTY  
 STATION: 23+59.50 -L1-

SHEET 3 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**SUBSTRUCTURE  
 END BENT No. 2**



DRAWN BY : B.N. GRADY DATE : 11/04  
 CHECKED BY : P.C. BREWER DATE : 11/04

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

TOTAL SHEETS: 36





**NOTES:**

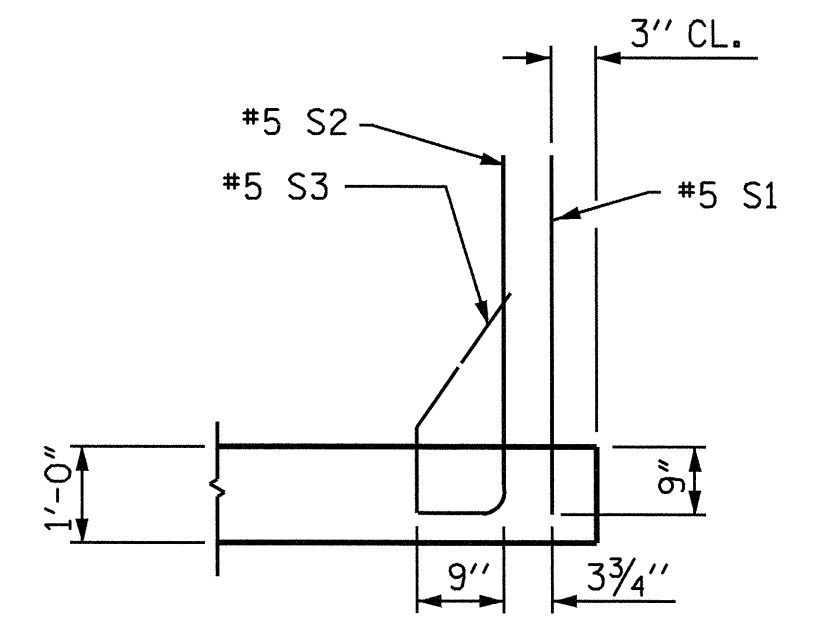
▲ "B" BARS SHALL BE PLACED PARALLEL TO THE APPROACH SLAB CHORD EXTENDING FROM THE BEGIN APPROACH SLAB TO THE END BENT WORK POINT.

"A" BARS SHALL BE PLACED PARALLEL TO THE FILL FACE.

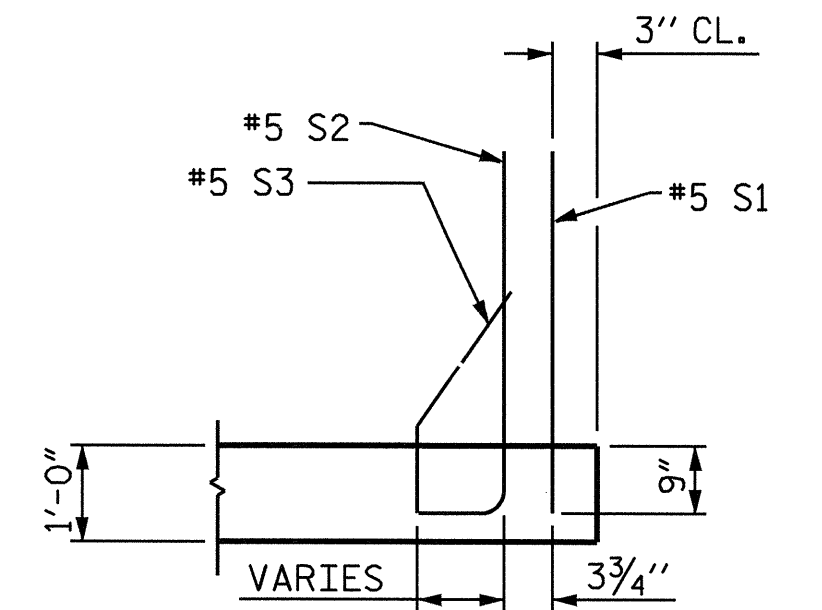
★ MEASURED RADIALLY.

FOR BARRIER RAIL REINFORCING STEEL AND DETAILS, SEE SHEET 4 OF 6.

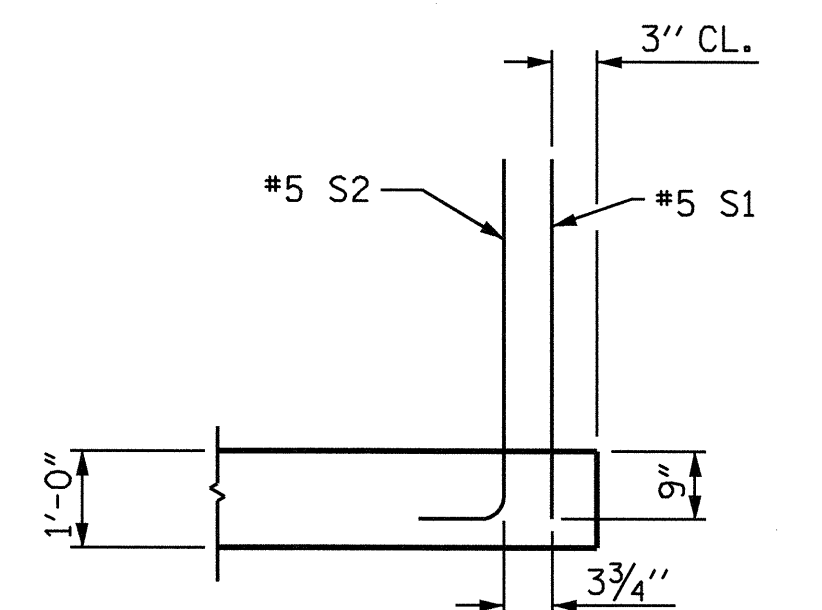
FOR ARC OFFSETS, SEE SHEET 5 OF 6.



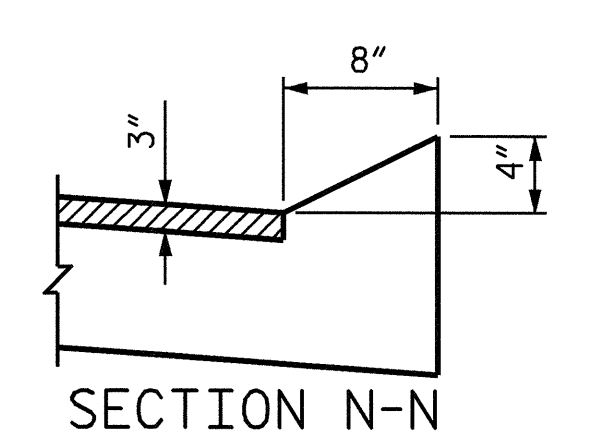
SECTION K-K



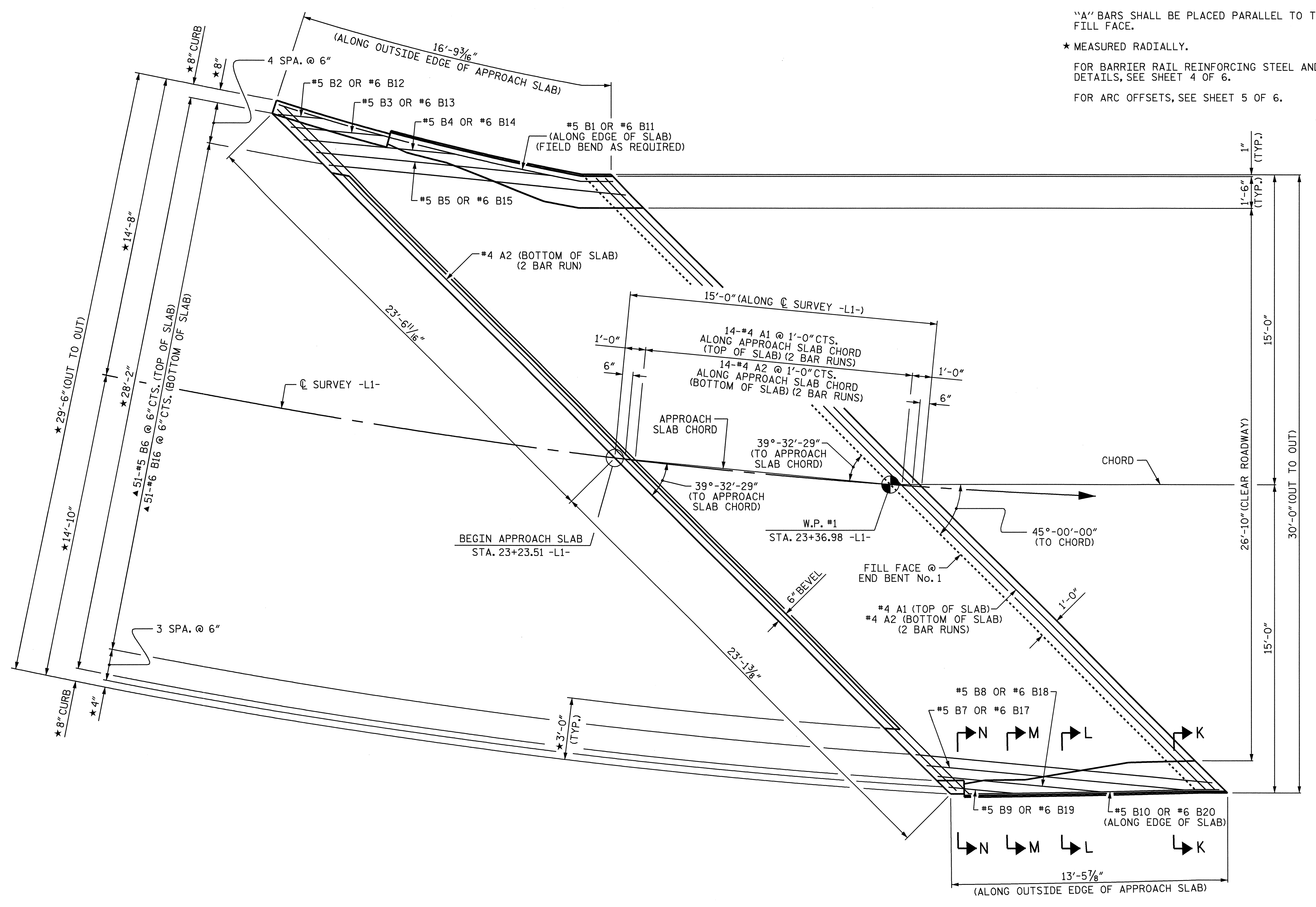
SECTION L-L



SECTION M-M



SECTION N-N



**PLAN OF APPROACH SLAB AT END BENT No. 1**

PROJECT NO. B-3926  
WATAUGA COUNTY  
 STATION: 23+59.50 -L1-

SHEET 1 OF 6

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BRIDGE APPROACH SLAB  
 FOR PRESTRESSED CONCRETE  
 CORED SLAB WITH  
 BARRIER RAIL



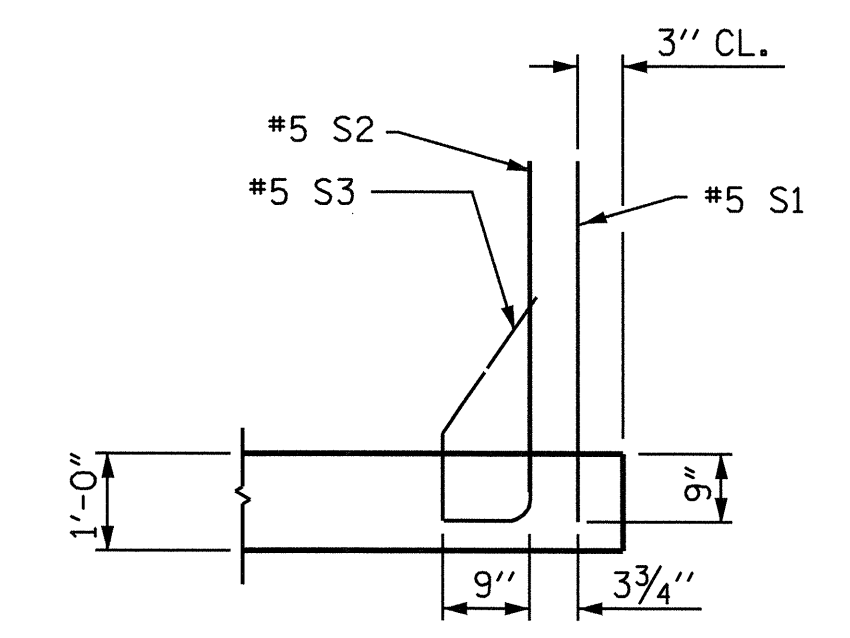
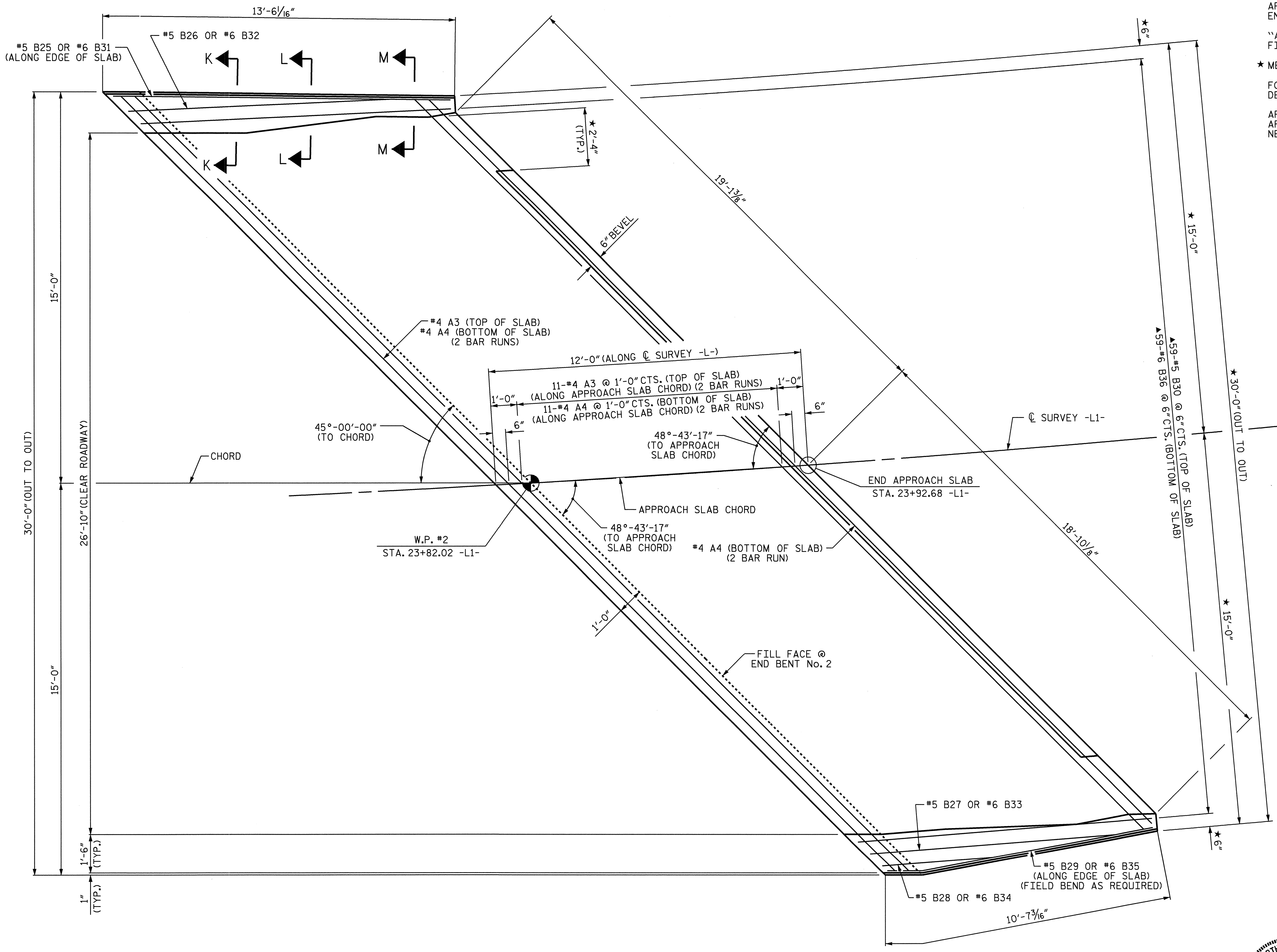
DRAWN BY: B.N. GRADY DATE: 6/04  
 CHECKED BY: D.E. PETREY/RGE DATE: 11/05

17-JAN-2006 07:00  
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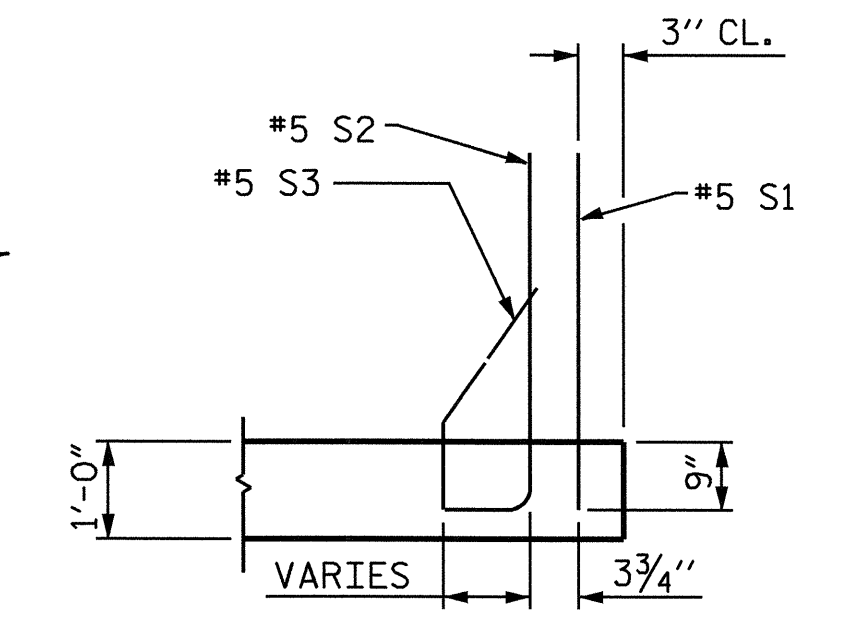
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-14	
1			3			TOTAL SHEETS	
2			4			36	

**NOTES:**

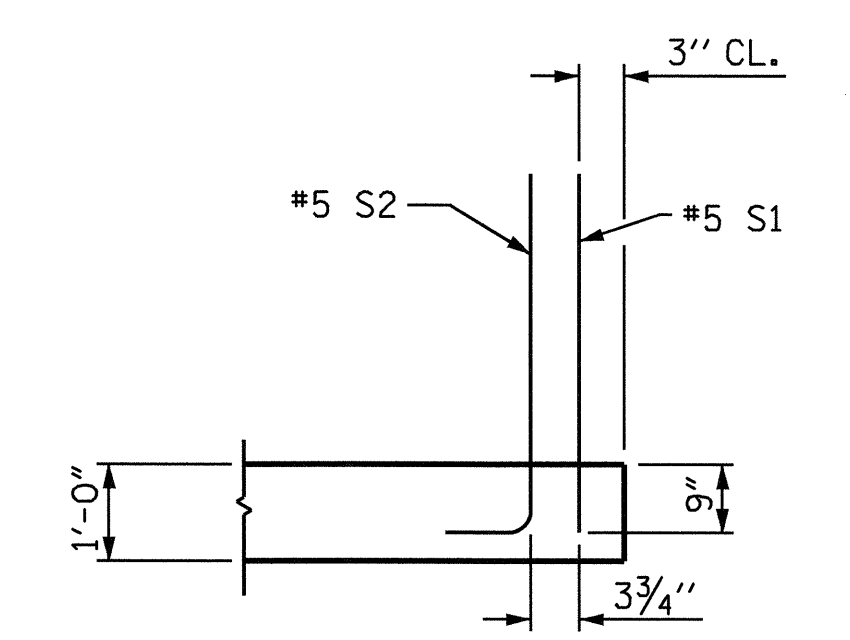
- ▲ "B" BARS SHALL BE PLACED PARALLEL TO THE APPROACH SLAB CHORD EXTENDING FROM THE END BENT WORK POINT TO THE END APPROACH SLAB.
- "A" BARS SHALL BE PLACED PARALLEL TO THE FILL FACE.
- ★ MEASURED RADIALLY.
- FOR BARRIER RAIL REINFORCING STEEL AND DETAILS, SEE SHEET 4 OF 6.
- ARC OFFSETS ALONG OUTSIDE EDGES OF APPROACH SLAB @ END BENT No. 2 ARE NEGLIGIBLE AND ARE NOT PROVIDED.



SECTION K-K



SECTION L-L



SECTION M-M

PROJECT NO. B-3926  
WATAUGA COUNTY  
 STATION: 23+59.50 -L1-

SHEET 2 OF 6

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BRIDGE APPROACH SLAB  
 FOR PRESTRESSED CONCRETE  
 CORED SLAB WITH  
 BARRIER RAIL



**PLAN OF APPROACH SLAB AT END BENT No. 2**

DRAWN BY : B.N. GRADY DATE : 6/04  
 CHECKED BY : D.E. PETREY/RGE DATE : 11/05

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-15	
1			3			TOTAL SHEETS 36	
2			4				



**NOTES**

THE COST OF THE BARRIER RAIL ON THE APPROACH SLAB SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE BID FOR BRIDGE APPROACH SLABS.

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

TEMPORARY DRAINAGE AND TEMPORARY BERM AND SLOPE DRAINS WILL BE PAID FOR UNDER THE LUMP SUM PRICE FOR BRIDGE APPROACH SLAB.

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 EXTEND 10'-0" BEYOND THE END OF THE APPROACH SLAB AND 1'-0" OUTSIDE OF EACH EDGE OF SLAB.

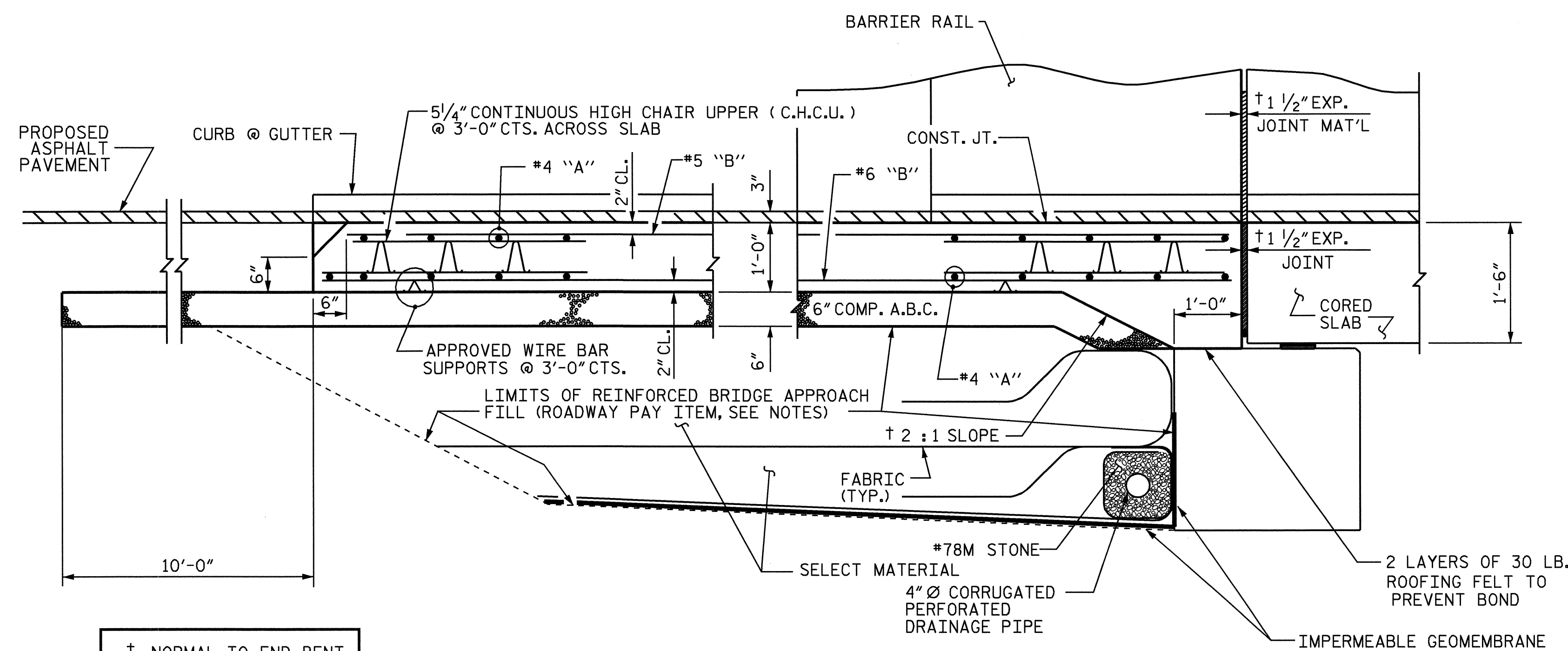
THE CONTRACTOR MAY USE 4" TYPE B-25.0B ASPHALT CONCRETE BASE COURSE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE BASE COURSE SHALL EXTEND 1'-0" BEYOND THE END OF THE APPROACH SLAB AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB.

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 EXTEND 1'-0" BEYOND THE 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.

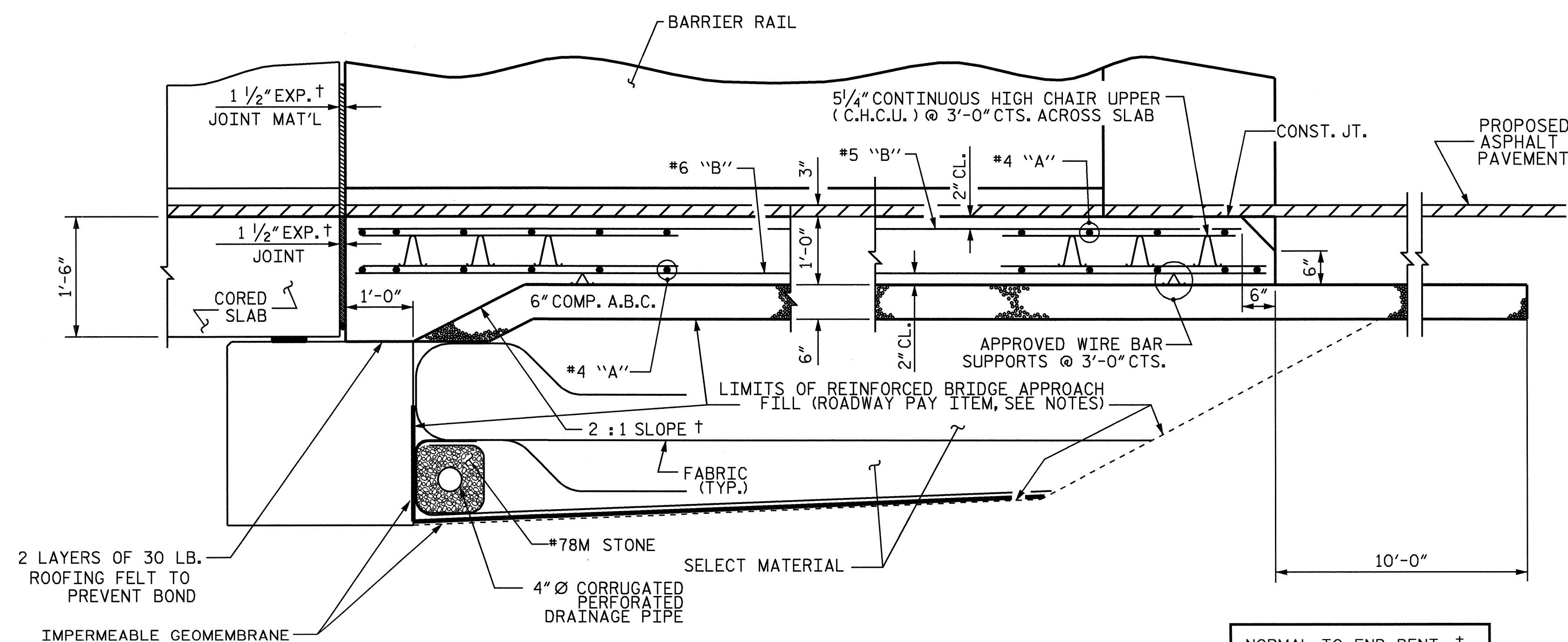
THE JOINT AT THE END BENT SHALL BE SEALED AS SOON AS PRACTICAL AFTER THE CONSTRUCTION OF THE APPROACH SLABS.

APPROACH SLAB GROOVING IS NOT REQUIRED.



† NORMAL TO END BENT

**SECTION THRU SLAB AT END BENT No. 1**



NORMAL TO END BENT †

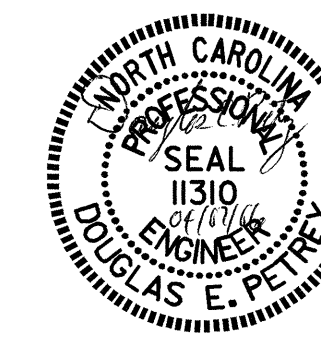
**SECTION THRU SLAB AT END BENT No. 2**

PROJECT NO. B-3926  
WATAUGA COUNTY  
 STATION: 23+59.50 -L1-

SHEET 3 OF 6

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BRIDGE APPROACH SLAB  
 FOR PRESTRESSED CONCRETE  
 CORED SLAB WITH  
 BARRIER RAIL

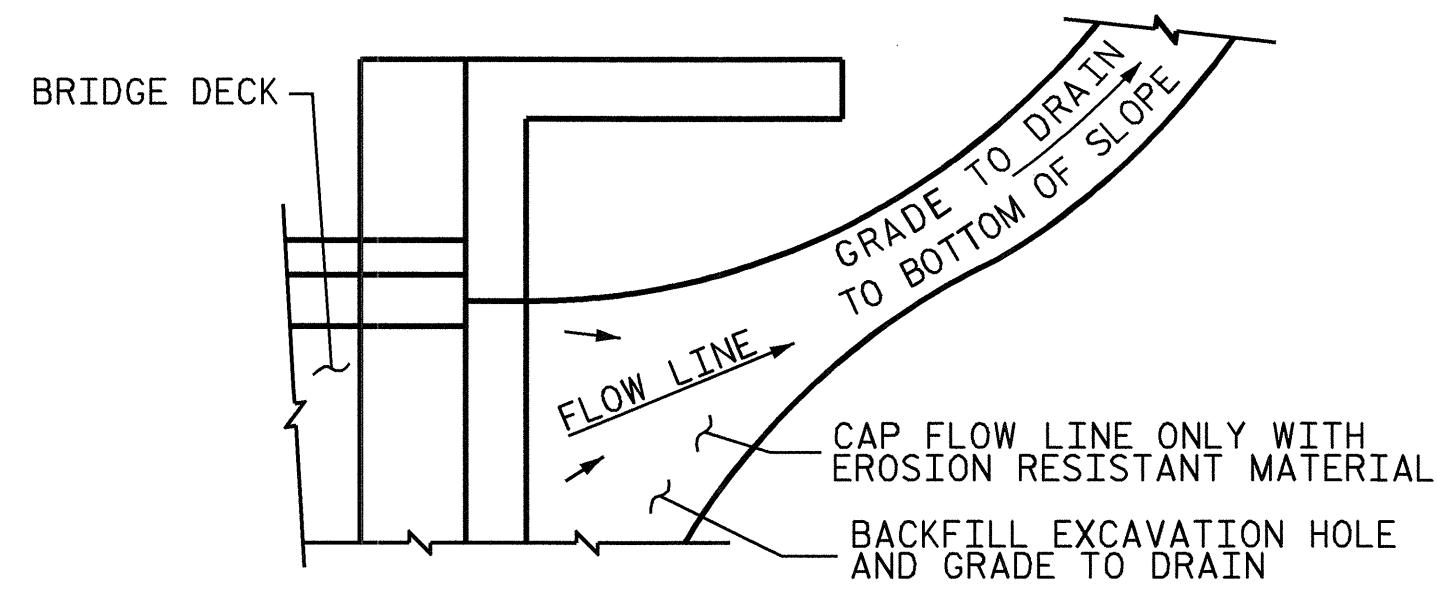


ASSEMBLED BY : B.N. GRADY	DATE : 6/04
CHECKED BY : D.E. PETREY/RGE	DATE : 11/05
DRAWN BY : LES 8/01	REV. 10/17/00 RWW/LES
CHECKED BY : RDR 8/01	REV. 7/10/01 LES/RDR
	REV. 5/7/03R RWW/JTE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-16
1			3			TOTAL SHEETS
2			4			36

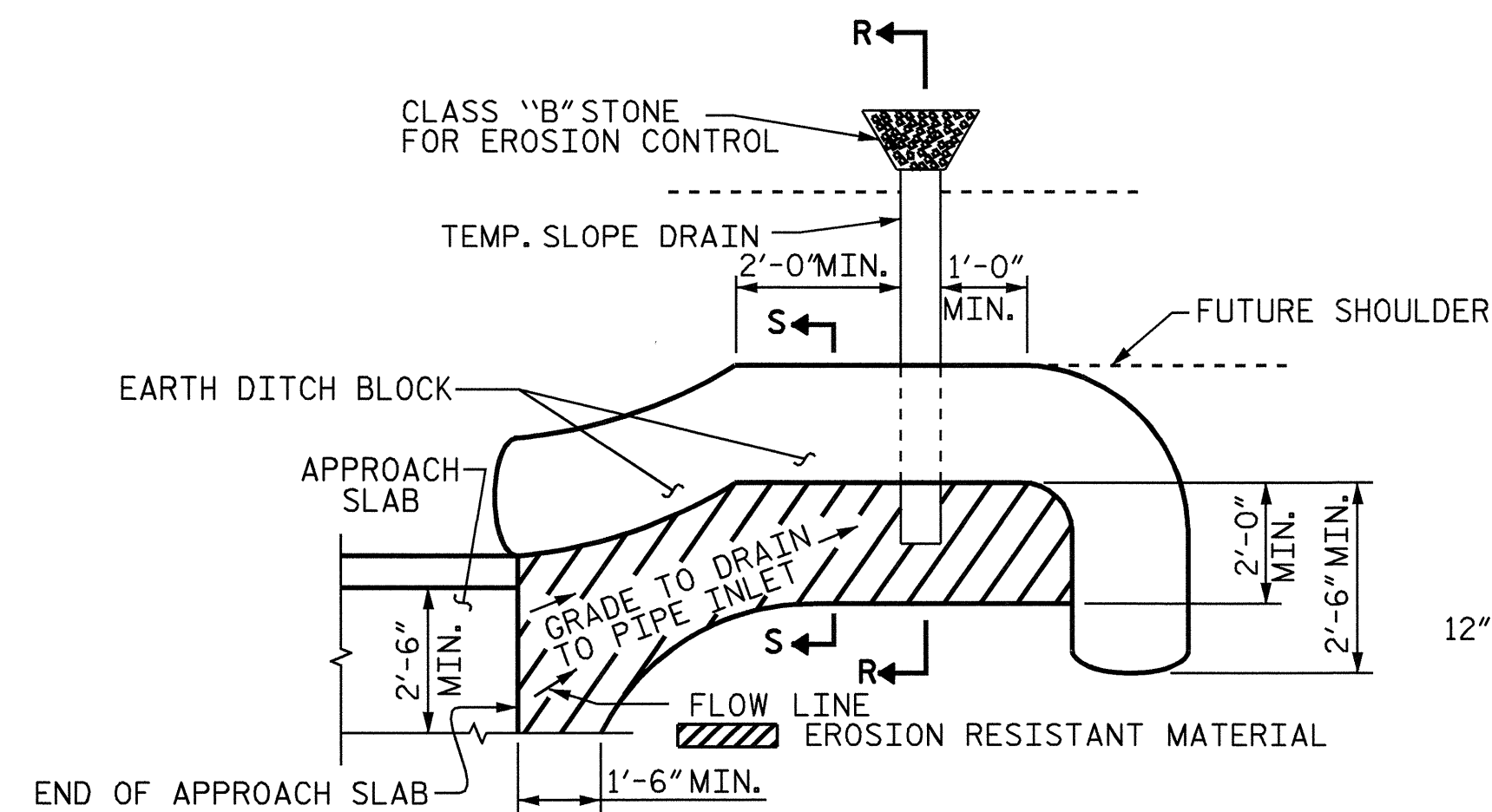






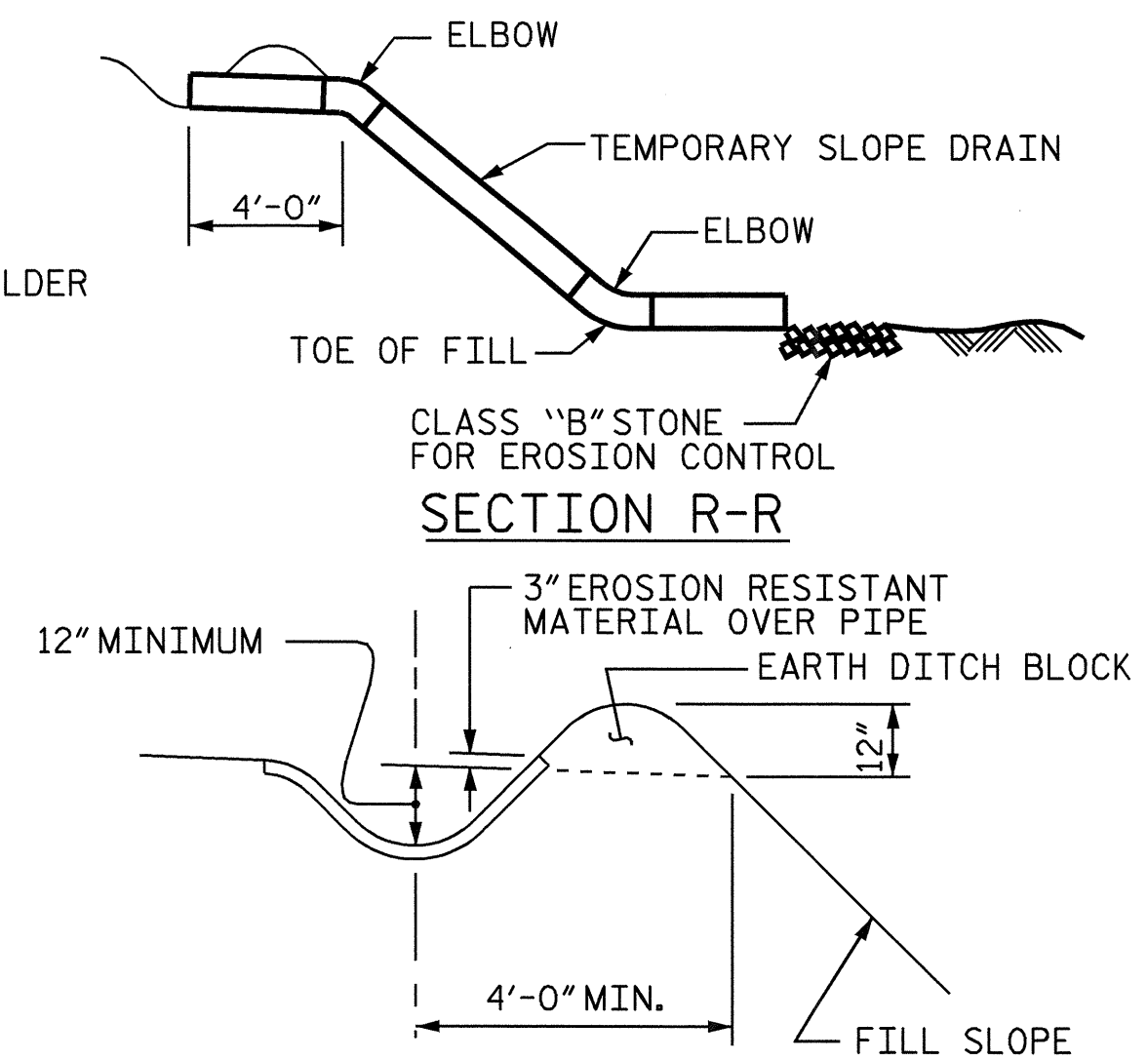
NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT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

**TEMPORARY DRAINAGE DETAIL**



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

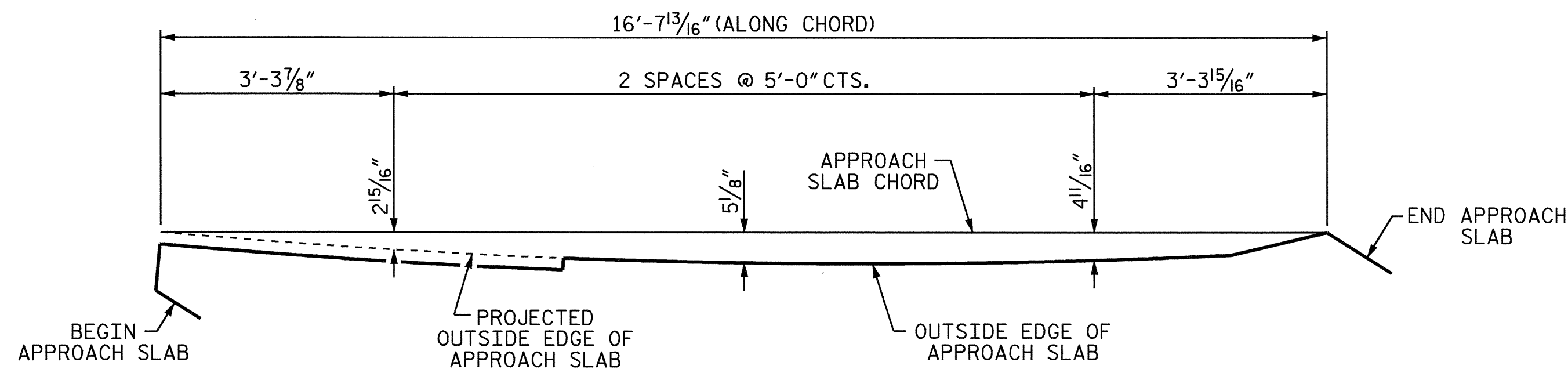
**PLAN VIEW**



**SECTION S-S**

**TEMPORARY BERM AND SLOPE DRAIN DETAILS**

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



**LEFT SIDE**

**ARC OFFSETS FOR APPROACH SLAB @ END BENT No. 1**

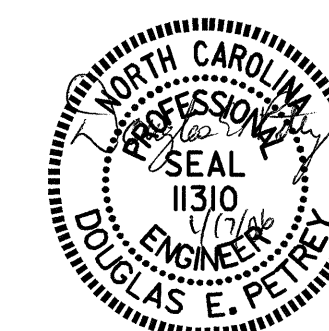
(ARC OFFSETS ALONG RIGHT SIDE EDGE ARE NEGLIGIBLE AND ARE NOT PROVIDED)

PROJECT NO. B-3926  
WATAUGA COUNTY  
 STATION: 23+59.50 -L1-

SHEET 5 OF 6

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

STANDARD  
 BRIDGE APPROACH  
 SLAB DETAILS



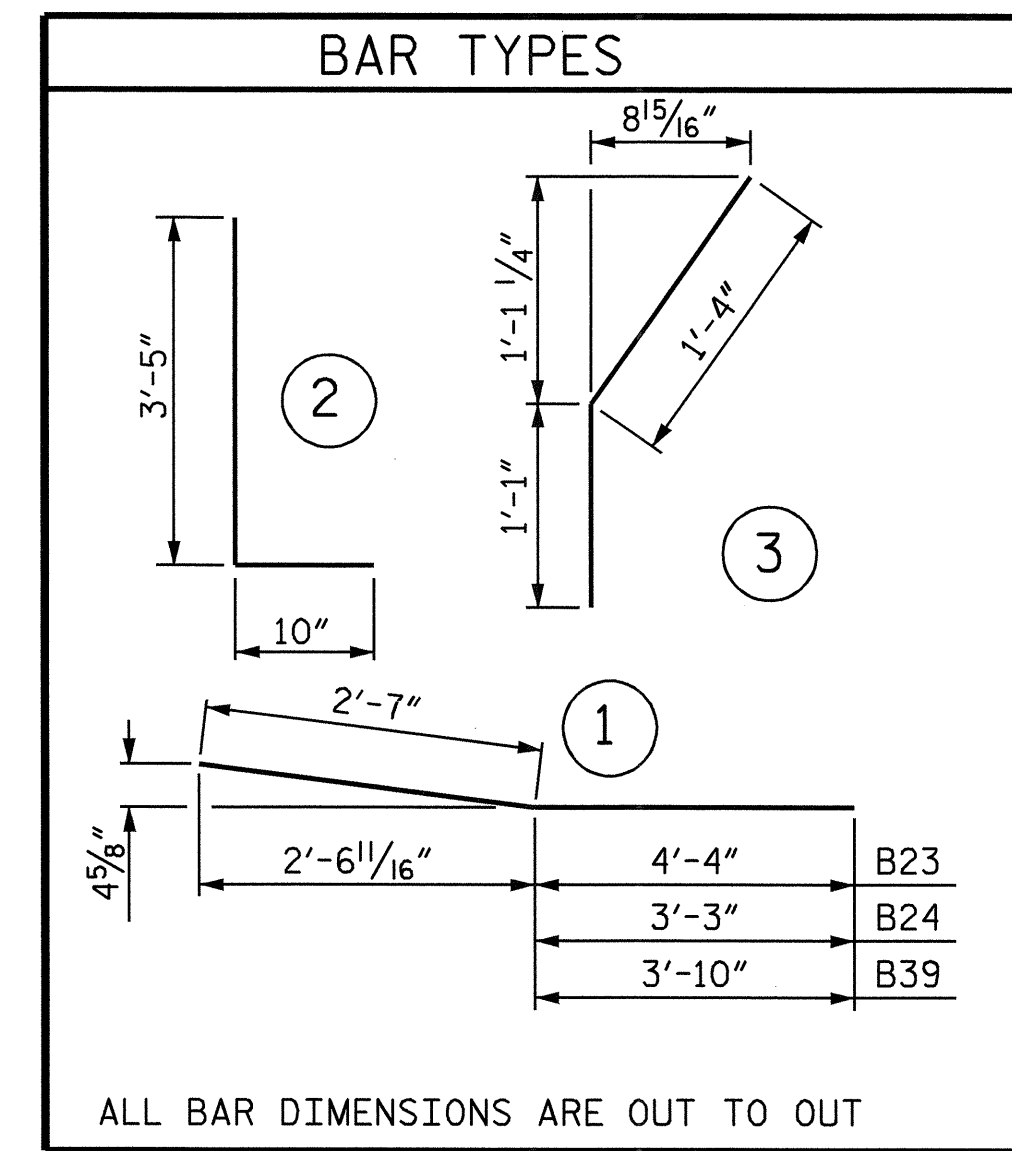
ASSEMBLED BY : B.N. GRADY	DATE : 6/04
CHECKED BY : D.E. PETREY/RGE	DATE : 11/05
DRAWN BY : FCJ 11/88	REV. 8/16/99 MAB/LES
CHECKED BY : ARB 11/88	REV. 10/17/00 RWW/LES
	REV. 5/7/03 RWW/JTE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-18
1			3			TOTAL SHEETS
2			4			36



BILL OF MATERIAL					
AT END BENT No. 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	30	#4	STR	24'-7"	493
A2	32	#4	STR	24'-6"	524
* B1	1	#5	STR	16'-8"	17
* B2	1	#5	STR	2'-2"	2
* B3	1	#5	STR	4'-6"	5
* B4	1	#5	STR	7'-5"	8
* B5	1	#5	STR	11'-5"	12
* B6	51	#5	STR	13'-10"	736
* B7	1	#5	STR	12'-7"	13
* B8	1	#5	STR	8'-0"	8
* B9	1	#5	STR	3'-2"	3
* B10	1	#5	STR	12'-3"	13
B11	1	#6	STR	16'-8"	25
B12	1	#6	STR	2'-2"	3
B13	1	#6	STR	4'-6"	7
B14	1	#6	STR	7'-5"	11
B15	1	#6	STR	11'-5"	17
B16	51	#6	STR	14'-6"	1111
B17	1	#6	STR	12'-7"	19
B18	1	#6	STR	8'-0"	12
B19	1	#6	STR	3'-2"	5
B20	1	#6	STR	12'-3"	18
* B21	7	#5	STR	10'-11"	80
* B22	7	#5	STR	11'-9"	86
* B23	1	#5	1	6'-11"	7
* B24	1	#5	1	5'-10"	6
* S1	48	#5	STR	3'-5"	171
* S2	48	#5	2	4'-3"	213
* S3	20	#5	3	2'-5"	50
REINFORCING STEEL				=	1752 LBS
* EPOXY COATED REINF. STEEL				=	1923 LBS
CLASS AA CONCRETE BREAKDOWN					
POUR 1 SLAB & CURB				C. Y.	17.2
POUR 2 RAIL				C. Y.	2.1
CLASS AA CONCRETE				C. Y.	19.3

BILL OF MATERIAL					
AT END BENT No. 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A3	24	#4	STR	22'-0"	353
A4	26	#4	STR	21'-10"	379
* B25	1	#5	STR	12'-11"	13
* B26	1	#5	STR	10'-0"	10
* B27	1	#5	STR	9'-4"	10
* B28	1	#5	STR	7'-2"	4
* B29	1	#5	STR	10'-4"	11
* B30	59	#5	STR	11'-0"	677
B31	1	#6	STR	12'-11"	19
B32	1	#6	STR	10'-0"	15
B33	1	#6	STR	9'-4"	14
B34	1	#6	STR	4'-2"	6
B35	1	#6	STR	10'-4"	16
B36	59	#6	STR	11'-6"	1019
* B37	7	#5	STR	11'-11"	87
* B38	7	#5	STR	10'-6"	77
* B39	2	#5	1	6'-5"	13
* S1	48	#5	STR	3'-5"	171
* S2	48	#5	2	4'-3"	213
* S3	20	#5	3	2'-5"	50
REINFORCING STEEL				=	1468 LBS
* EPOXY COATED REINF. STEEL				=	1689 LBS
CLASS AA CONCRETE BREAKDOWN					
POUR 1 SLAB				C. Y.	15.8
POUR 2 RAIL				C. Y.	2.1
CLASS AA CONCRETE				C. Y.	17.9



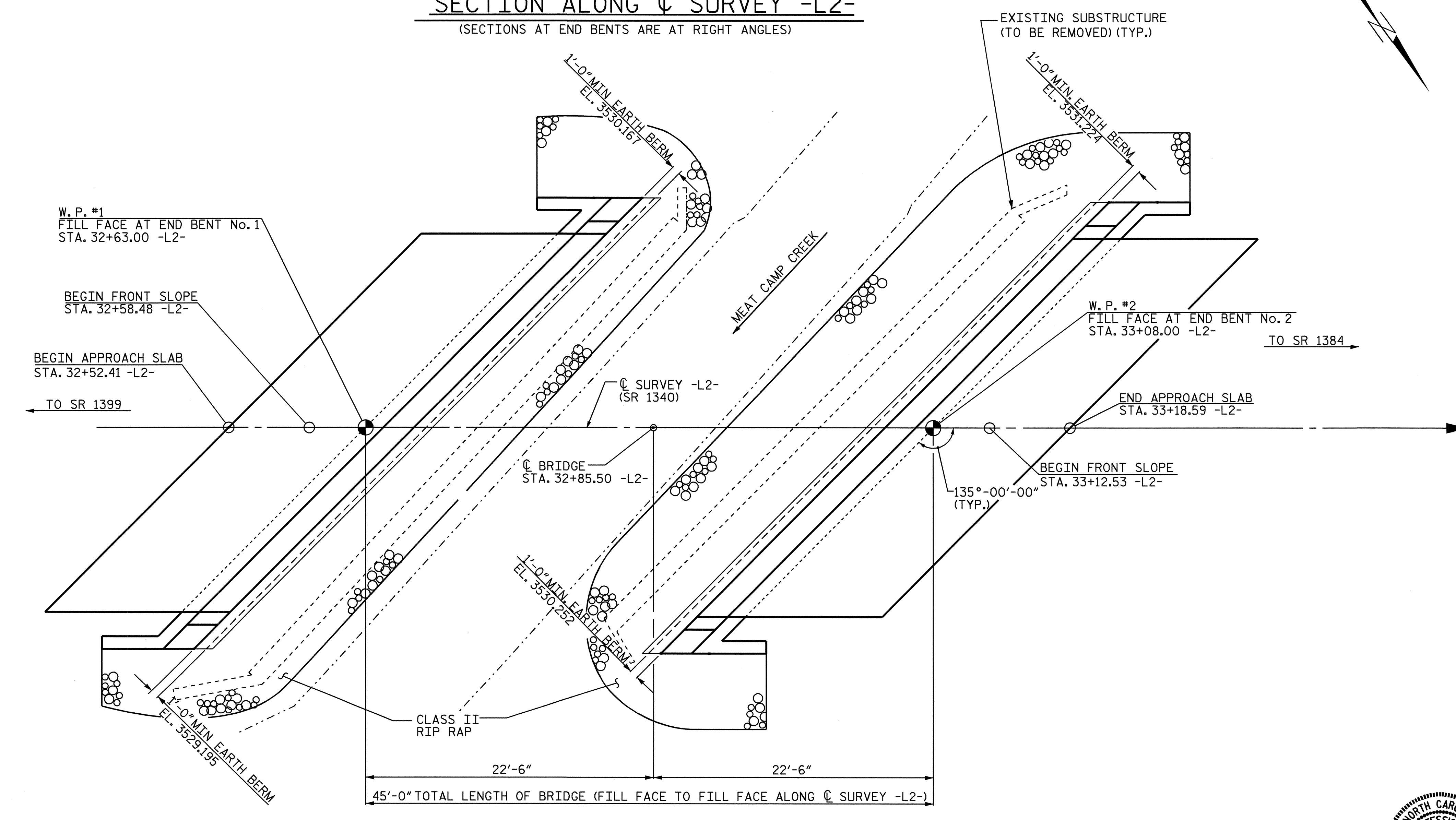
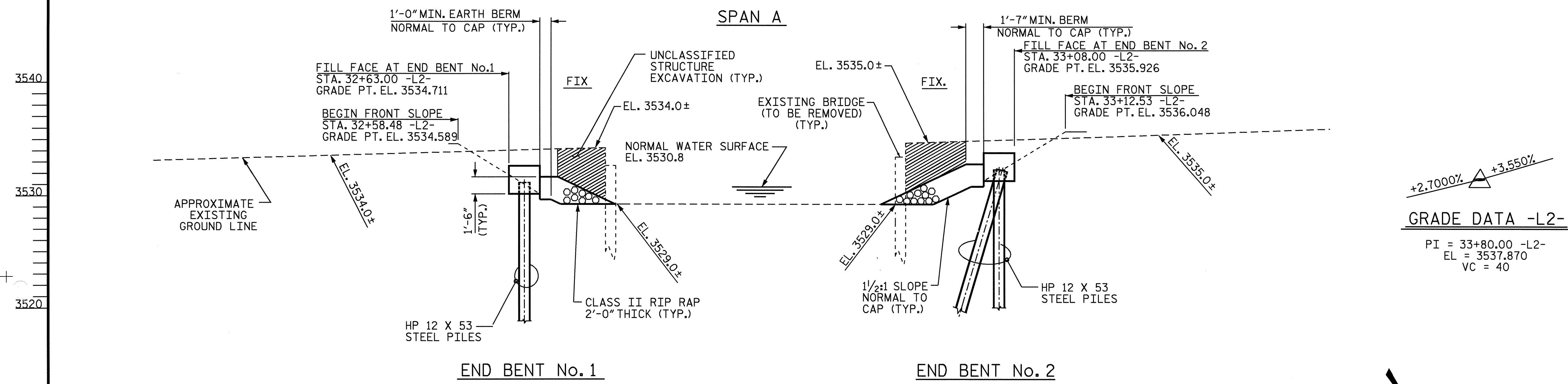
PROJECT NO. B-3926  
WATAUGA COUNTY  
 STATION: 23+59.50 -L1-

SHEET 6 OF 6



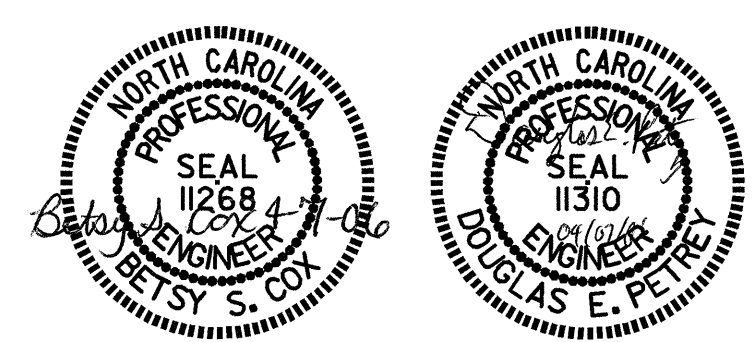
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BRIDGE APPROACH SLAB FOR PRESTRESSED CONCRETE CORED SLAB WITH BARRIER RAIL					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					36

DRAWN BY : B.N. GRADY DATE : 6/04  
 CHECKED BY : D.E. PETREY/RGE DATE : 11/05



DRAWN BY : R. G. EMERSON DATE : 10/04  
CHECKED BY : A. R. CHESSON DATE : 10/04

06-APR-2006 14:00  
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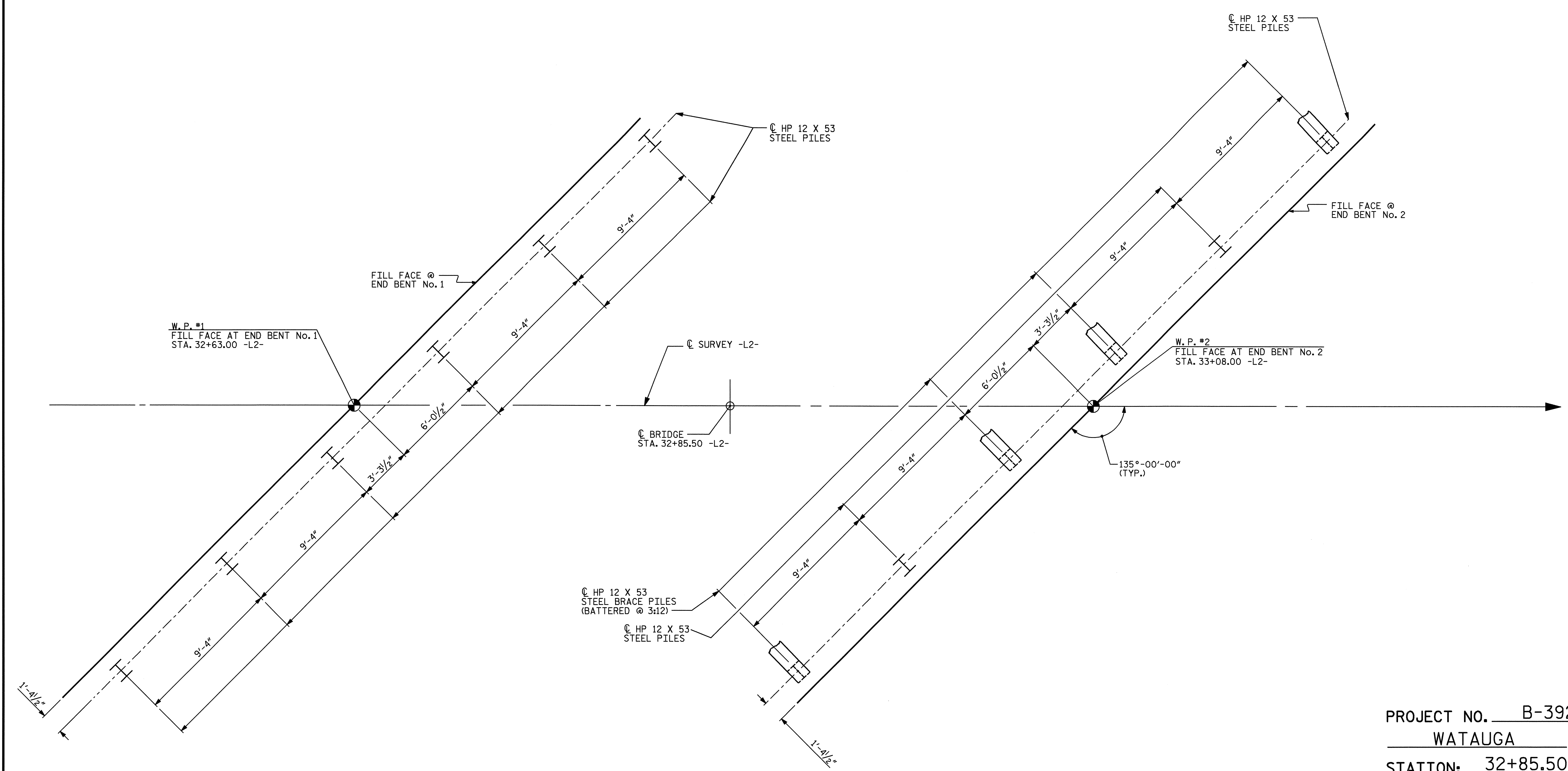
PROJECT NO. B-3926  
WATAUGA COUNTY  
STATION: 32+85.50 -L2-

SHEET 1 OF 3 REPLACES BRIDGE NO. 36

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
**GENERAL DRAWING**  
FOR BRIDGE ON SR 1340  
(MEAT CAMP ROAD) OVER  
MEAT CAMP CREEK BETWEEN  
SR 1399 AND SR 1384

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-20
1			3			TOTAL SHEETS
2			4			36

STR. #2



**FOUNDATION LAYOUT PLAN**

DIMENSIONS LOCATING PILES ARE SHOWN TO THE PILE CENTERLINE AT BOTTOM OF CAP

PROJECT NO. B-3926  
WATAUGA COUNTY  
 STATION: 32+85.50 -L2-

SHEET 2 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 GENERAL DRAWING  
 FOR BRIDGE ON SR 1340  
 (MEAT CAMP ROAD) OVER  
 MEAT CAMP CREEK BETWEEN  
 SR 1399 AND SR 1384

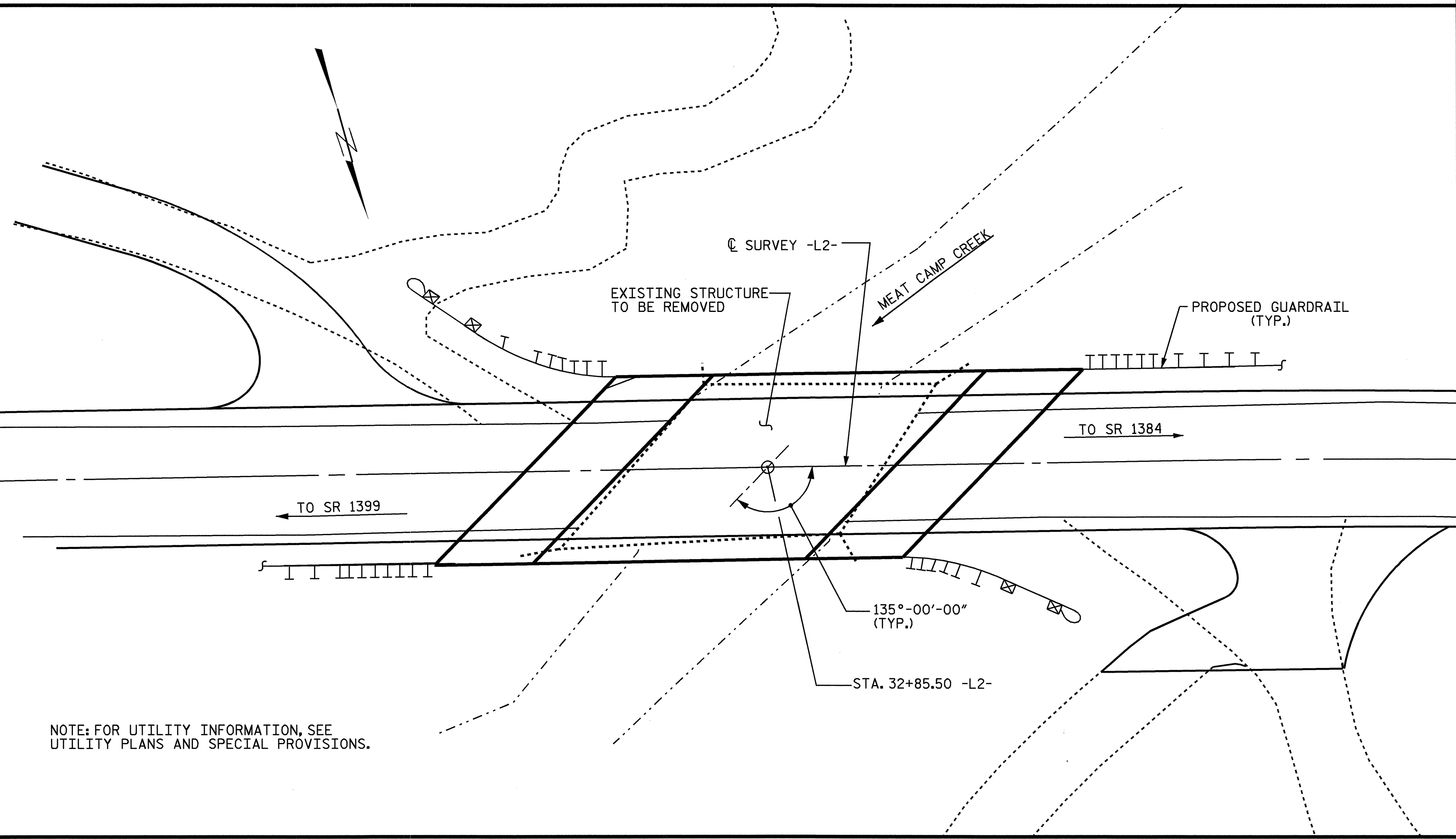


DRAWN BY : R. G. EMERSON DATE : 10/04  
 CHECKED BY : A. R. CHESSON DATE : 10/04

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-21
1			3			TOTAL SHEETS
2			4			36



B.M. #1: RR SPIKE SET IN 22" LOCUS, 52' LEFT OF STA. 34+36.00 -BL-, EL. 3541.980



NOTES:

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

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

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

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

THE EXISTING STRUCTURE CONSISTING OF ONE SPAN @ 25'-6" OF STEEL I- BEAMS, HAVING A TIMBER FLOOR WITH ASPHALT WEARING SURFACE; WITH 19'-2" CLEAR ROADWAY WIDTH; ON TIMBER CAPS WITH TIMBER POSTS AND CONCRETE SILLS LOCATED AT PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMIT MAY BE REDUCED AS FOUND AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

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

THE 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.

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

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, 'EVALUATING SCOUR AT BRIDGES', NOVEMBER, 1995.

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.

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 20 FT. EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. FOR UNCLASSIFIED STRUCTURE EXCAVATION, SEE SPECIAL PROVISIONS.

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 BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE" AT STATION 32+85.50 -L2-."

DRIVE PILES AT END BENTS No. 1 AND No. 2 TO A MINIMUM BEARING CAPACITY OF 50 TONS EACH.

WHEN DRIVING PILES, DO NOT EXCEED THE MAXIMUM BLOW COUNT.

PILE EXCAVATION IS REQUIRED TO INSTALL THE PILES AT END BENT No. 1. EXCAVATE HOLES TO ELEVATION 3520 FT. SEE PILE EXCAVATION SPECIAL PROVISION.

STEEL PILE POINTS ARE REQUIRED FOR STEEL PILES AT END BENTS No. 1 AND No. 2. SEE STEEL PILE POINTS SPECIAL PROVISION.

FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

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

LOCATION SKETCH

HYDRAULIC DATA

DESIGN DISCHARGE----- 1000 CFS  
 FREQUENCY OF DESIGN FLOOD----- 25 YR  
 DESIGN HIGH WATER ELEVATION----- 3537.83  
 DRAINAGE AREA----- 3.2 SQ. MI.  
 BASIC DISCHARGE (Q100)----- 1500 CFS  
 BASIC HIGH WATER ELEVATION----- 3538.5  
 ELEVATIONS @ APPROACH SECTION.

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE----- 1300 CFS  
 FREQUENCY OF OVERTOPPING FLOOD----- 100-YR  
 OVERTOPPING ELEVATION----- 3535.9 \*  
 \* ELEVATION @ BRIDGE SECTION.  
 ALL OTHER ELEVATIONS @ APPROACH SECTION.

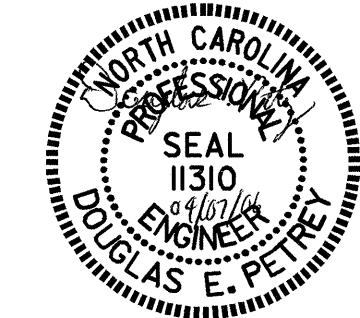
TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	PILE EXCAVATION IN SOIL	PILE EXCAVATION NOT IN SOIL	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12 X 53 STEEL PILES	STEEL PILE POINTS	CONCRETE BARRIER RAIL	PLAIN RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 1'-6" PRESTRESSED CONCRETE CORED SLABS		
	LUMP SUM	LIN. FT.	LIN. FT.	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	NO.	LIN. FT.	EACH	LIN. FT.	SQ. YDS.	LUMP SUM	NO.	LIN. FT.	
SUPERSTRUCTURE						LUMP SUM							LUMP SUM	10	418.13	
END BENT NO. 1		27	9	LUMP SUM	15.2		2386	6	60	6		75	83			
END BENT NO. 2				LUMP SUM	15.1		2383	6	110	6		95	106			
TOTAL	LUMP SUM	27	9	LUMP SUM	30.3	LUMP SUM	4769	12	170	12	83.63	170	189	LUMP SUM	10	418.13

PROJECT NO. B-3926  
WATAUGA COUNTY  
 STATION: 32+85.50 -L2-

SHEET 3 OF 3

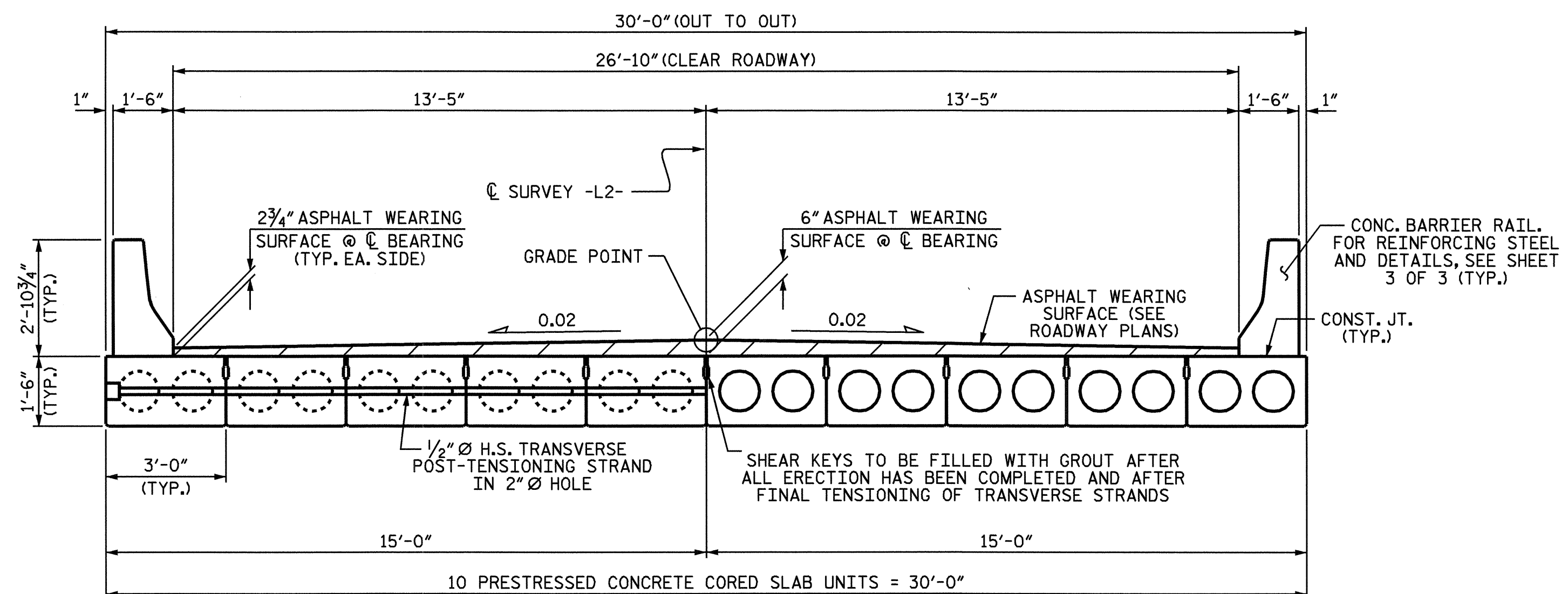
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 FOR BRIDGE ON SR 1340  
 (MEAT CAMP ROAD) OVER  
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DRAWN BY : R. G. EMERSON DATE : 10/04  
 CHECKED BY : A. R. CHESSON DATE : 10/04

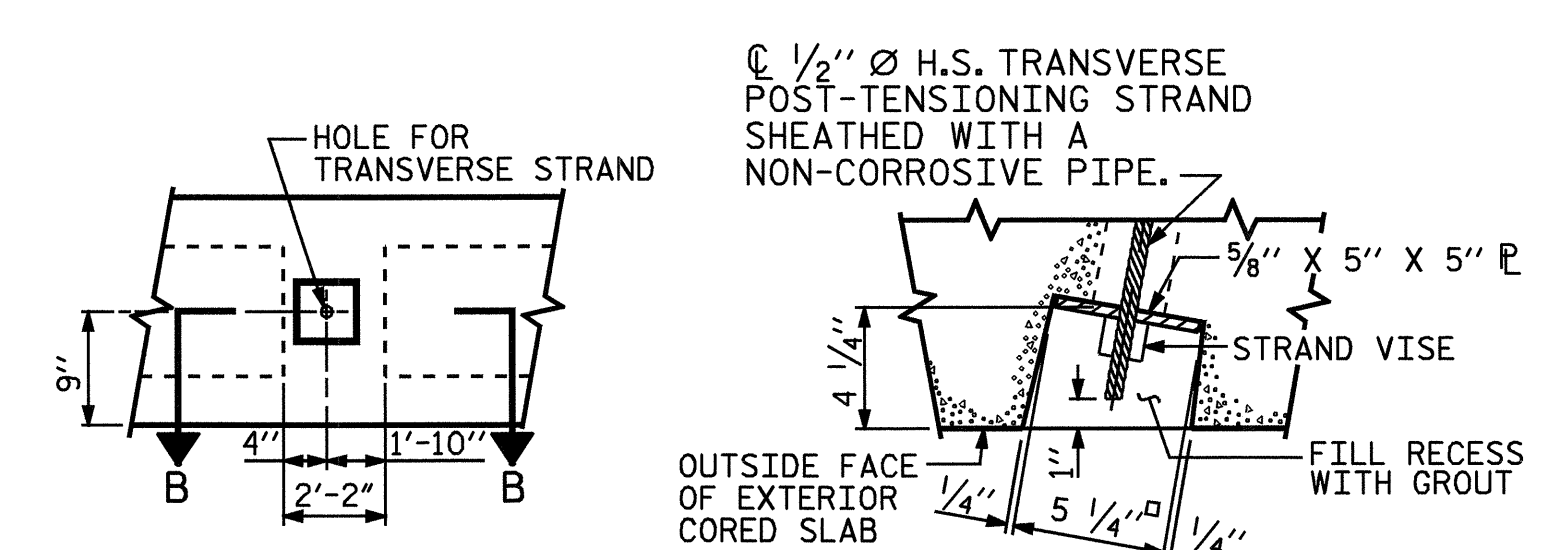
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NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

TOTAL SHEETS: 36



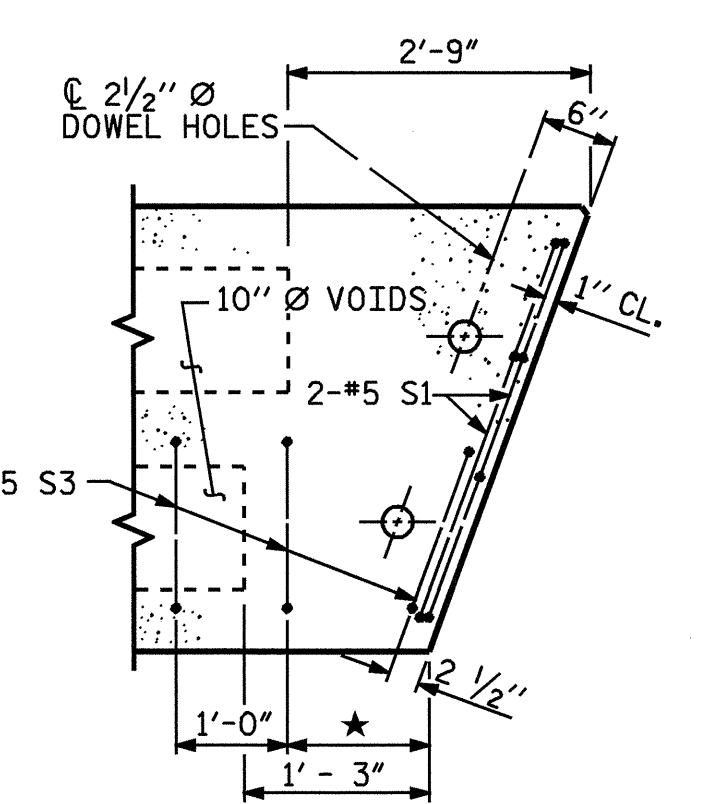
HALF SECTION AT INTERMEDIATE DIAPHRAGMS      HALF SECTION AT VOIDS

**TYPICAL SECTION**



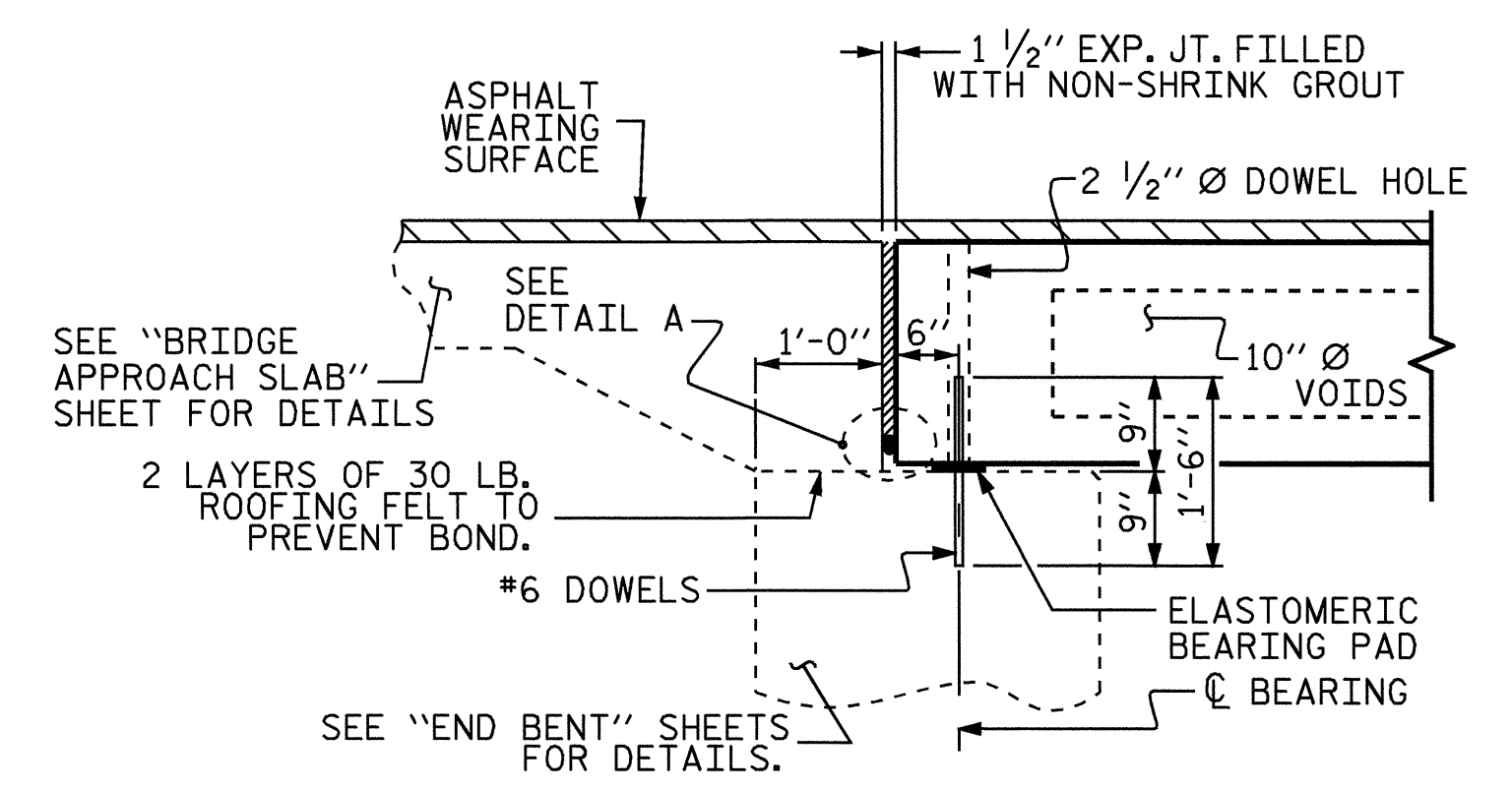
ELEVATION VIEW      SECTION B-B

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



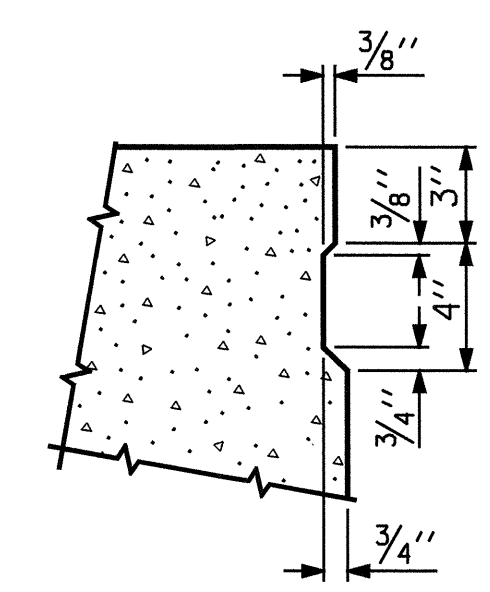
**PART PLAN-EXTERIOR SECTION**

NOTE: EXTERIOR SECTION SHOWN-INTERIOR SECTION SIMILAR EXCEPT OMIT S3 BARS.  
★ SEE PLAN OF SPAN A FOR THIS DIMENSION



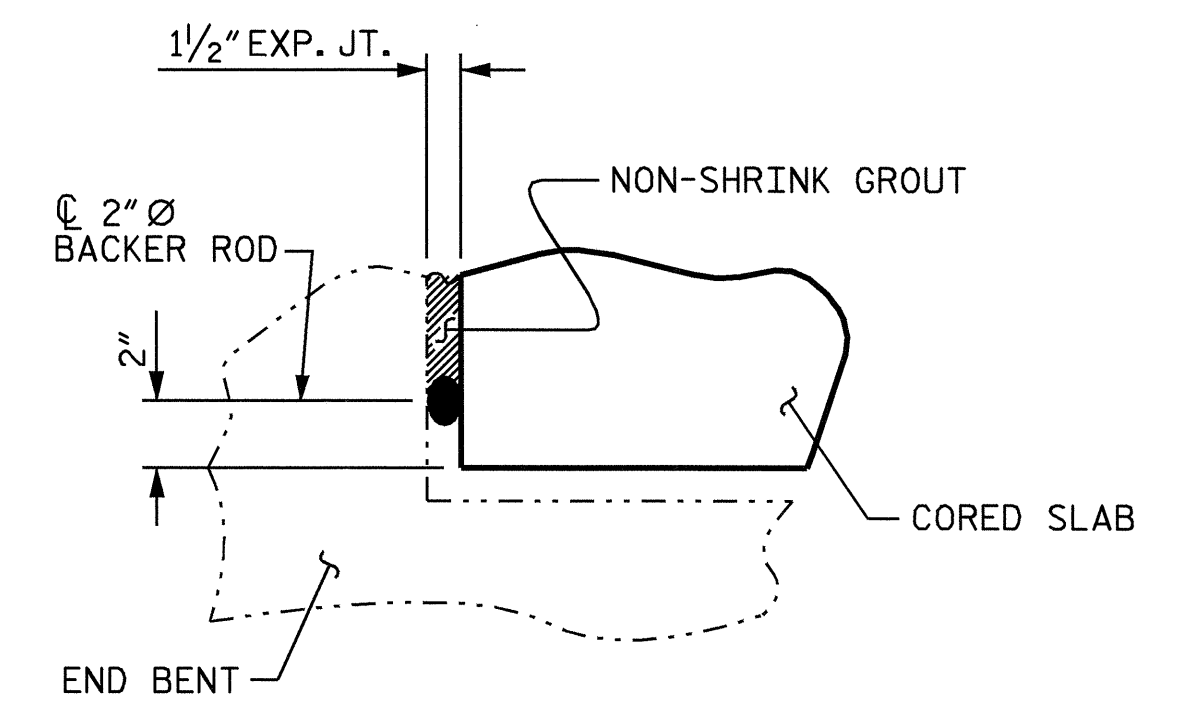
**SECTION AT END BENT**

FIXED

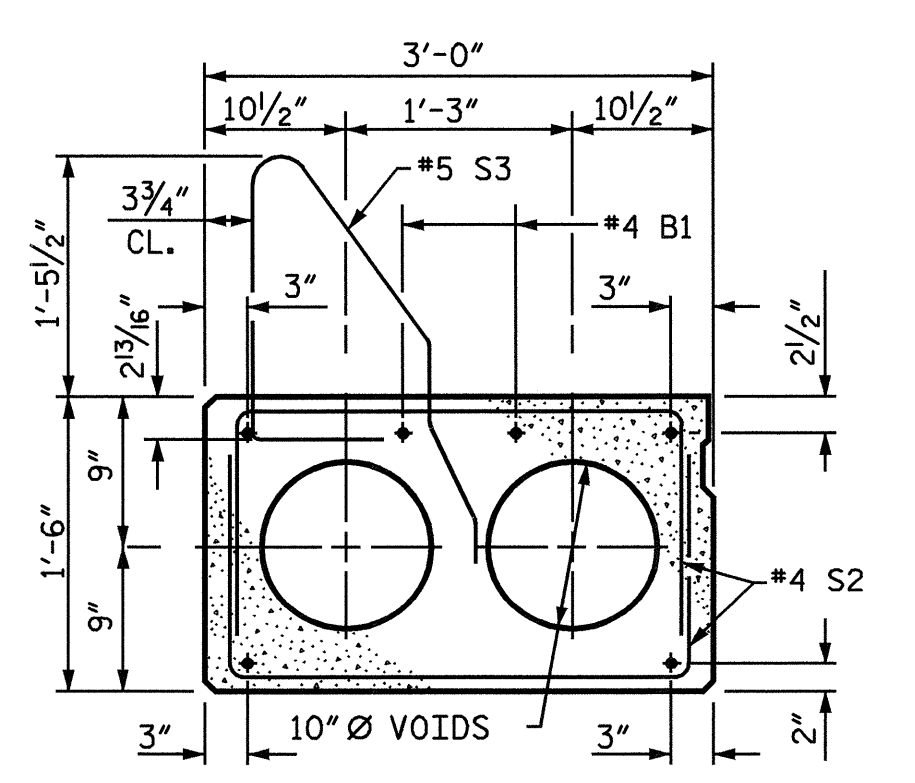


**SHEAR KEY DETAIL**

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

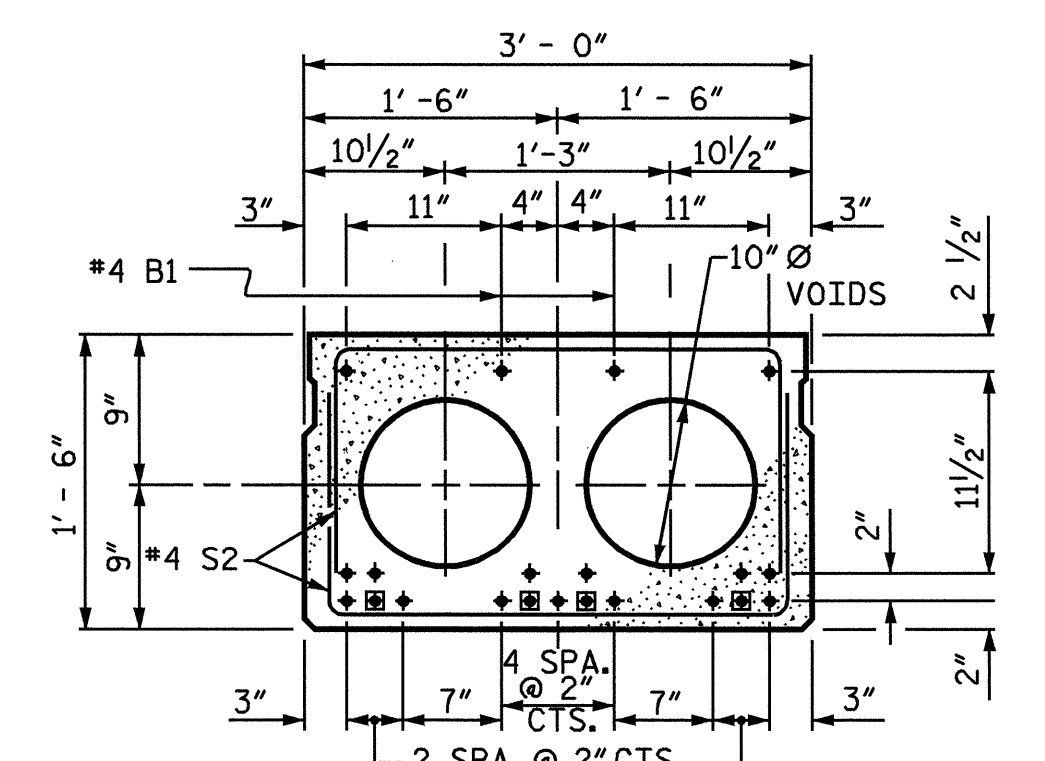


**DETAIL A**



**EXTERIOR SLAB SECTION**

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

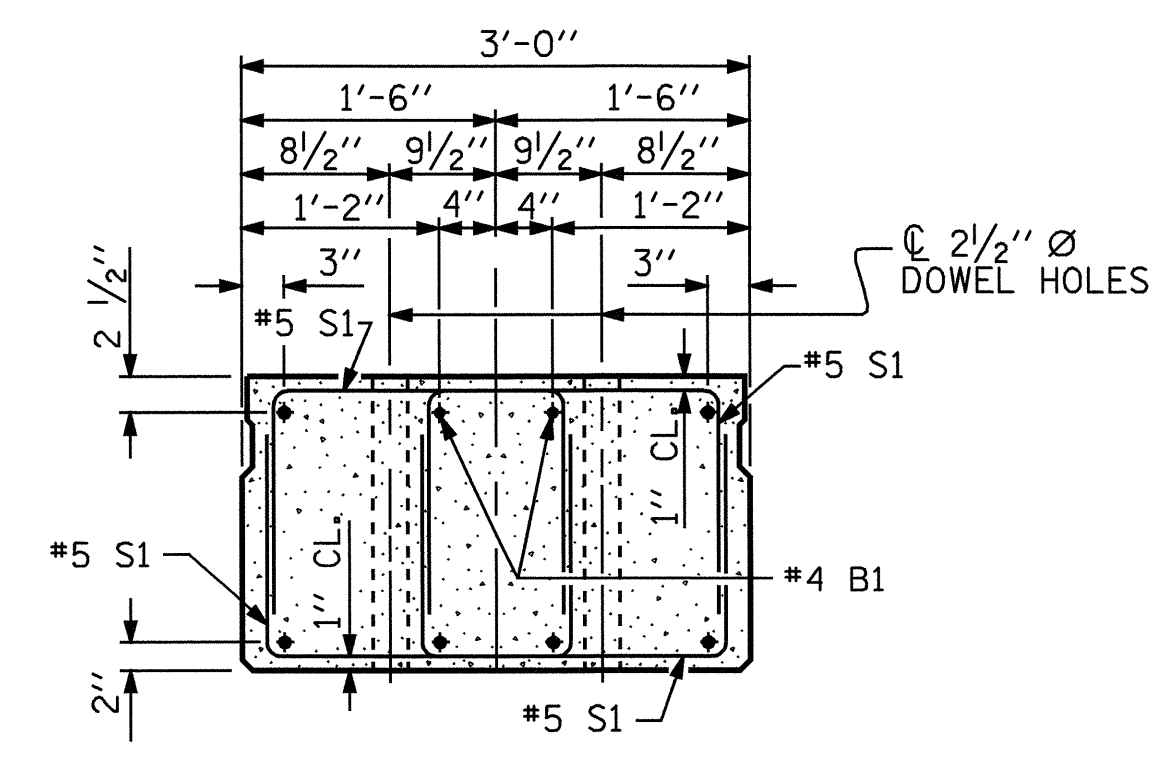


**INTERIOR SLAB SECTION**

**1/2" Ø LOW RELAXATION STRAND LAYOUT**

SPAN A (19 STRANDS)

■ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 4'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7



**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-3926  
WATAUGA COUNTY  
STATION: 32+85.50 -L2-

SHEET 1 OF 3

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
**STANDARD  
3'-0" X 1'-6"  
PRESTRESSED CONCRETE  
CORED SLAB UNIT**

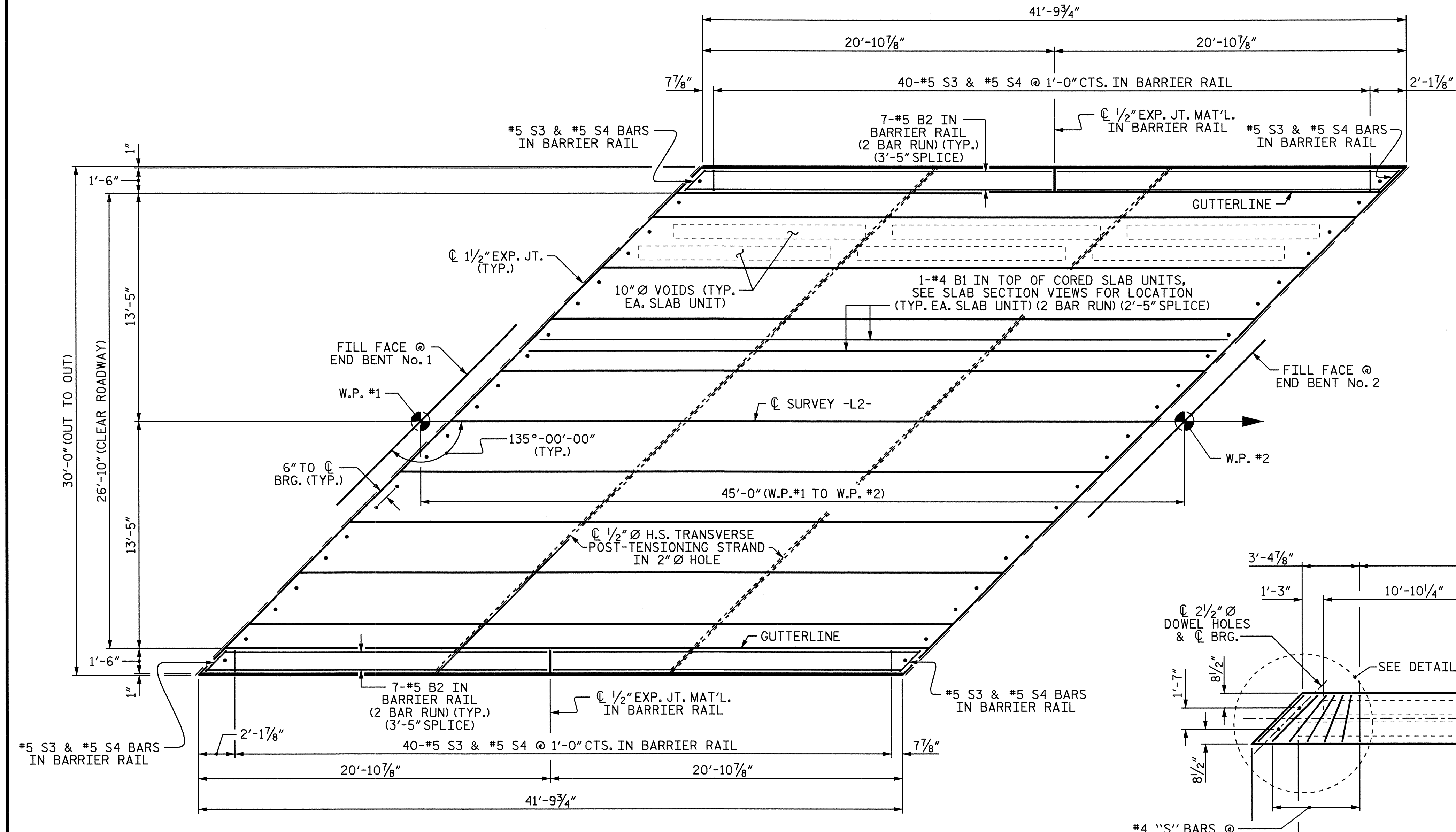
ASSEMBLED BY : B.N. GRADY	DATE : 7/03
CHECKED BY : P.C. BREWER	DATE : 7/03
DRAWN BY : WJH 4/89	REV. 8/16/99 RWW/LES
CHECKED BY : FCJ 5/89	REV. 10/17/00 RWW/LES
	REV. 7/10/01 RWW/LES



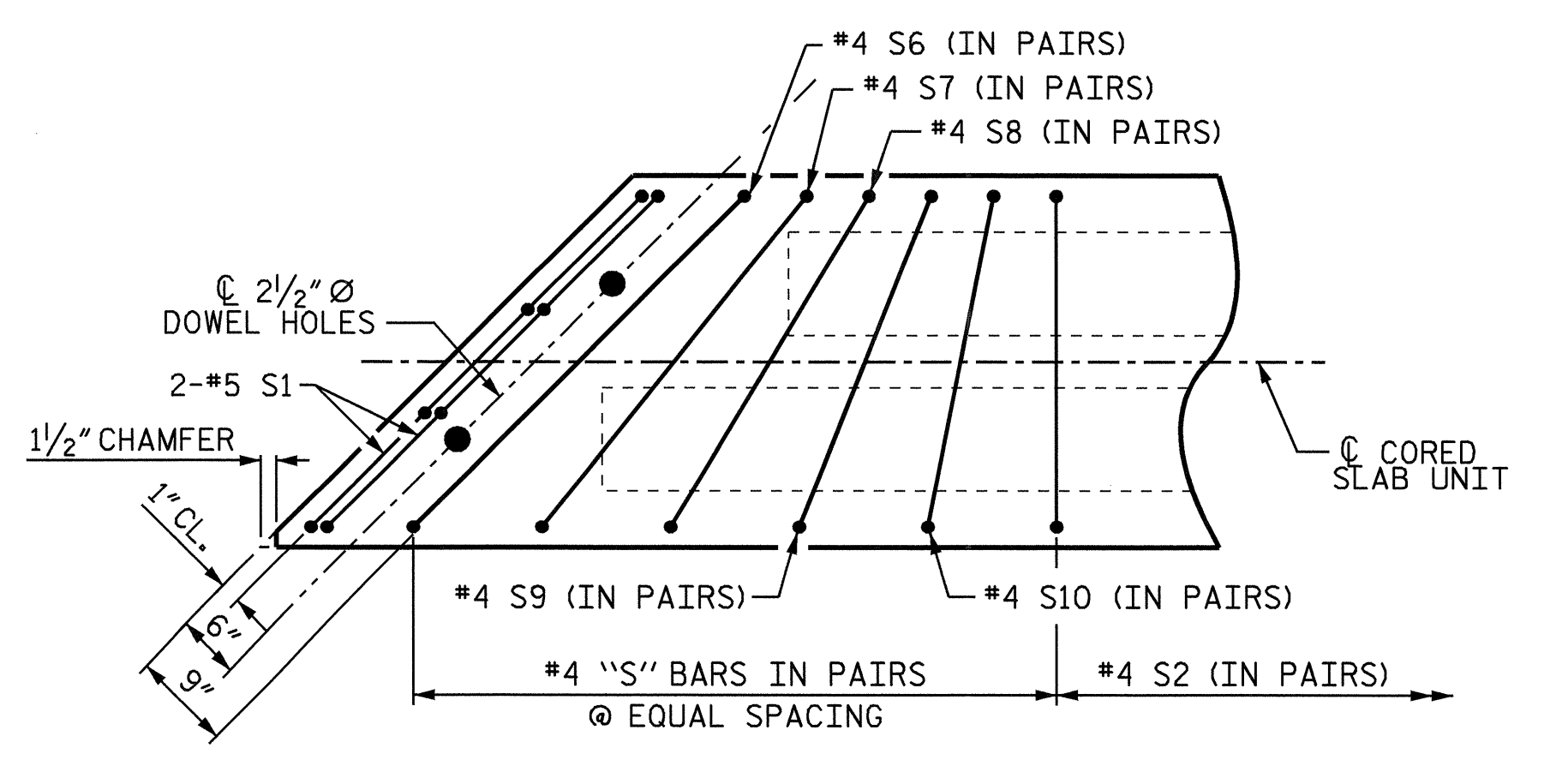
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2			4		

TOTAL SHEETS 36

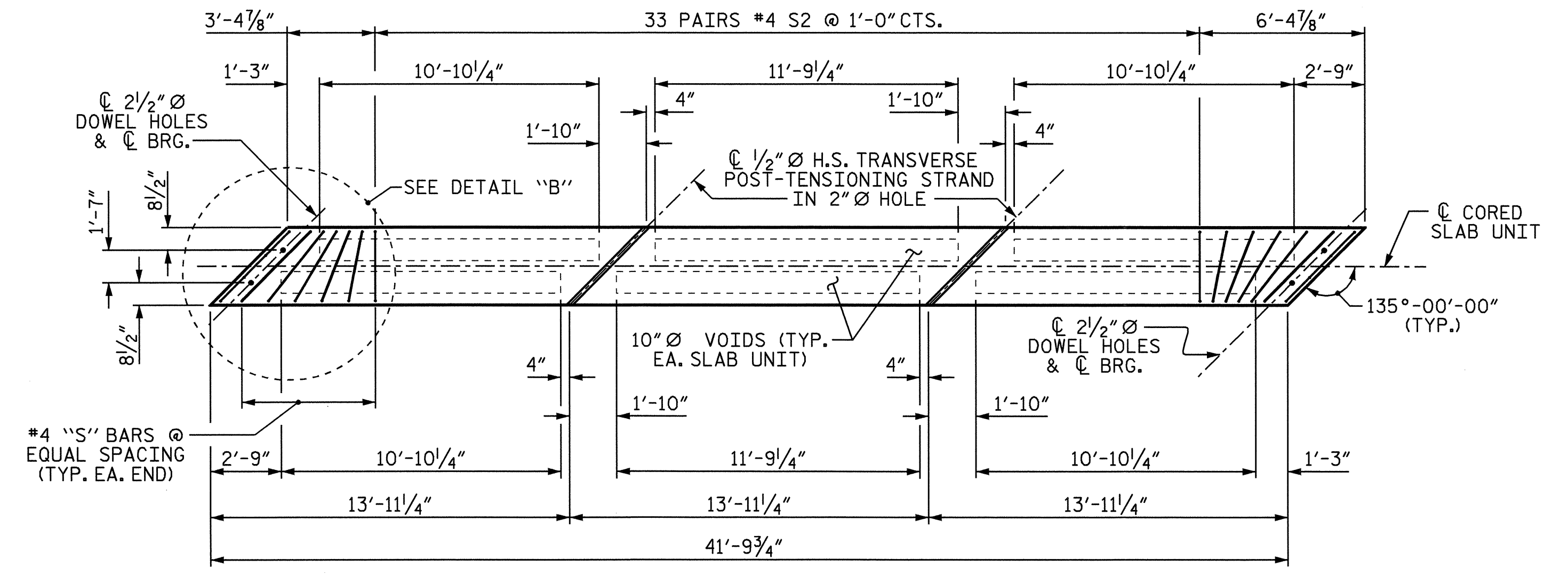




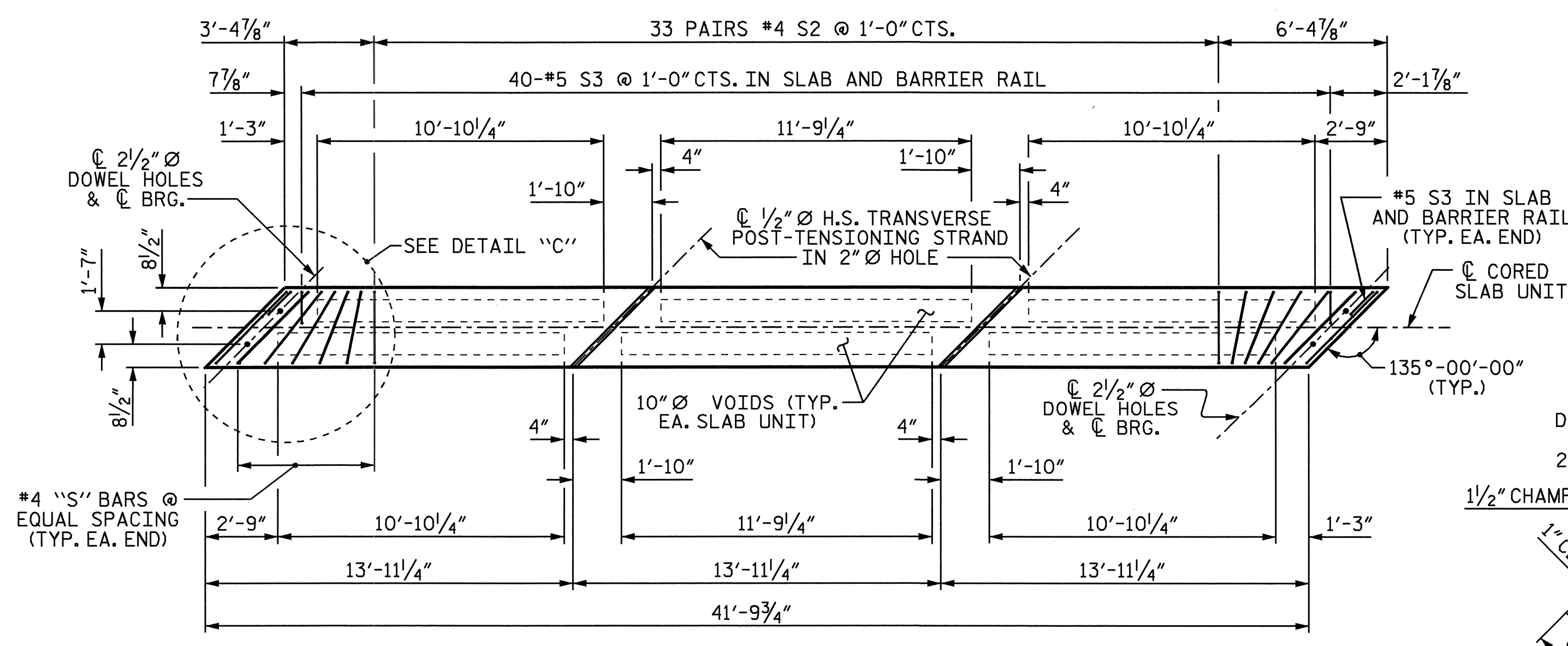
PLAN OF SPAN A



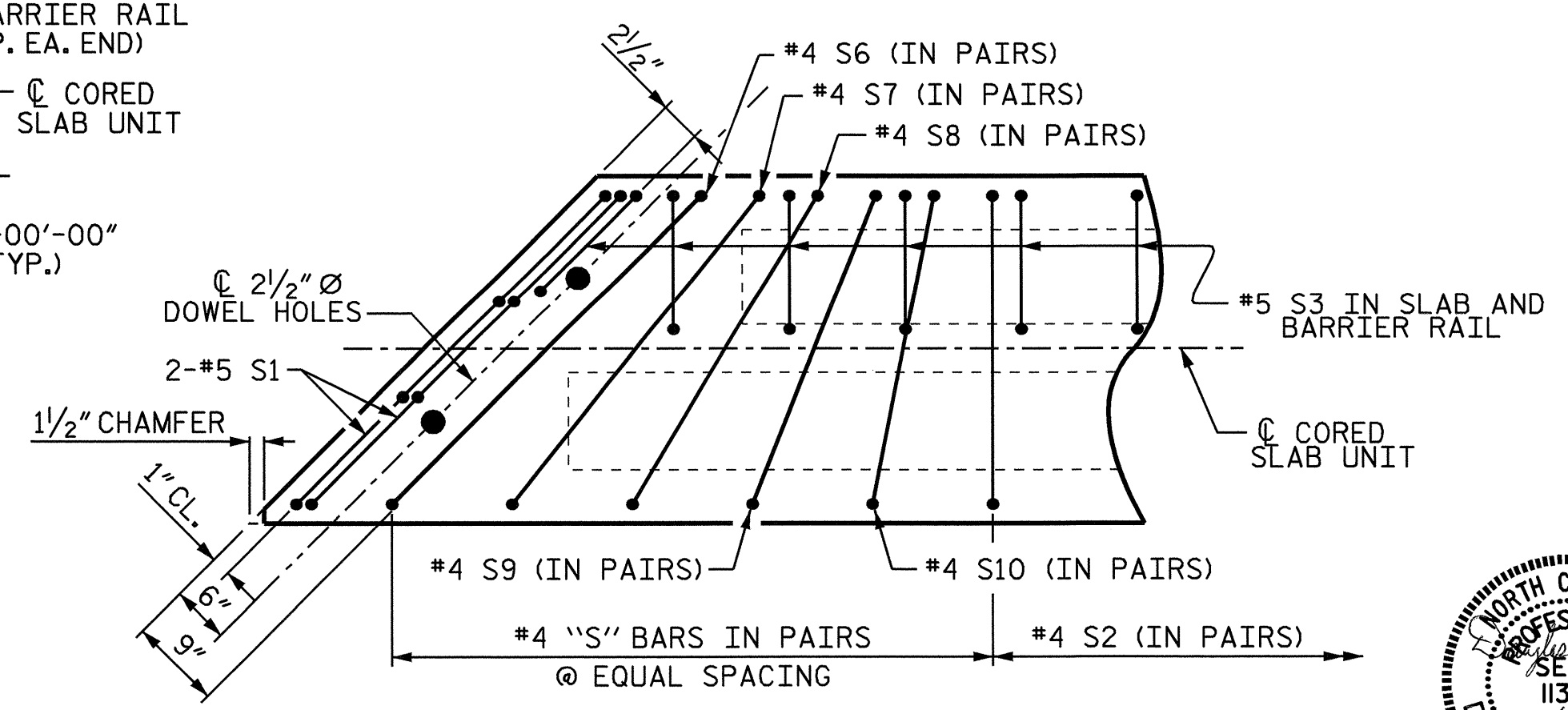
DETAIL "B"  
(SIMILAR EA. END)



PLAN OF INTERIOR CORED SLAB UNIT



PLAN OF EXTERIOR CORED SLAB UNIT



DETAIL "C"  
(SIMILAR EA. END)

PROJECT NO. B-3926  
WATAUGA COUNTY  
 STATION: 32+85.50 -L2-

SHEET 2 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

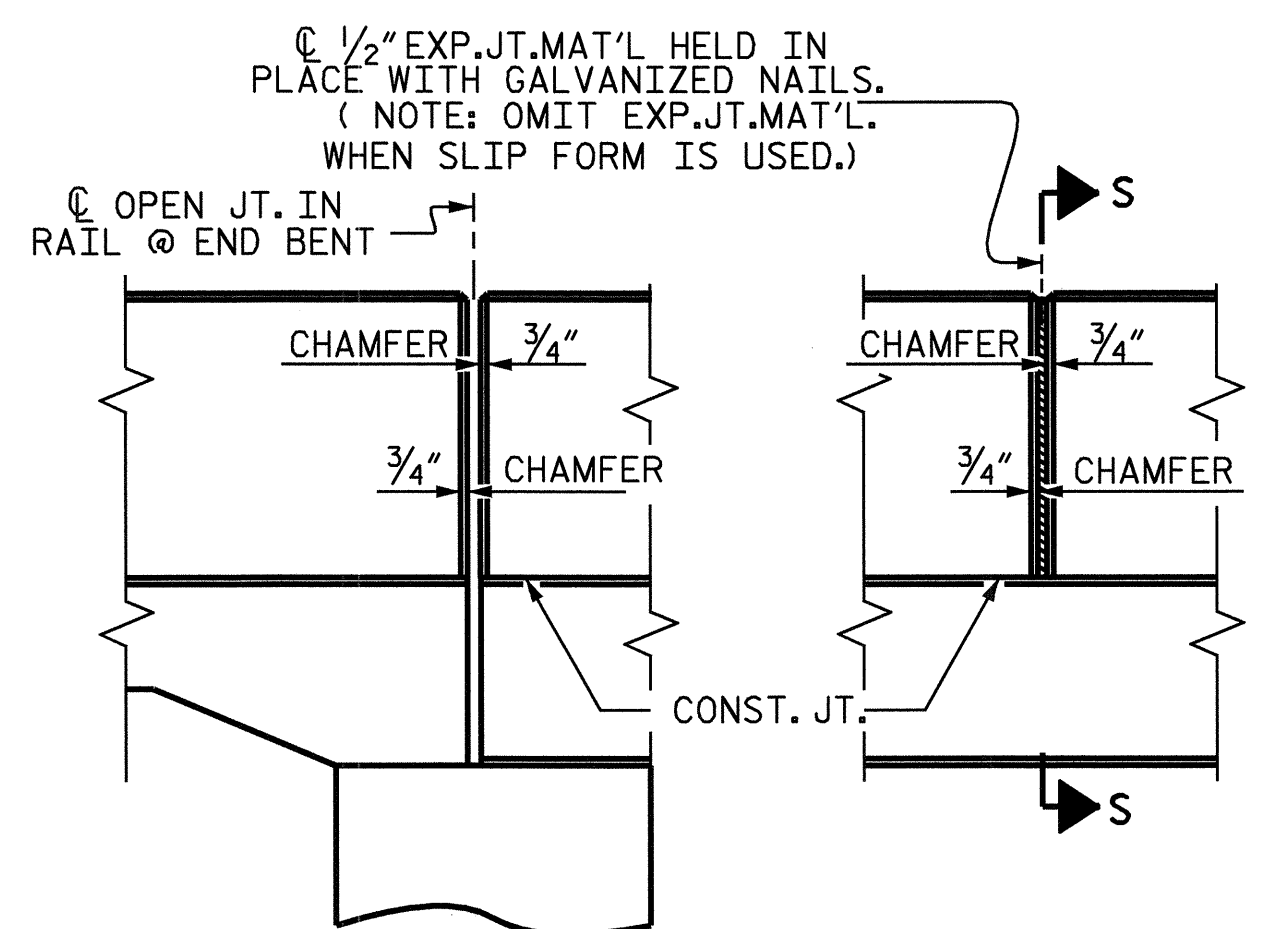
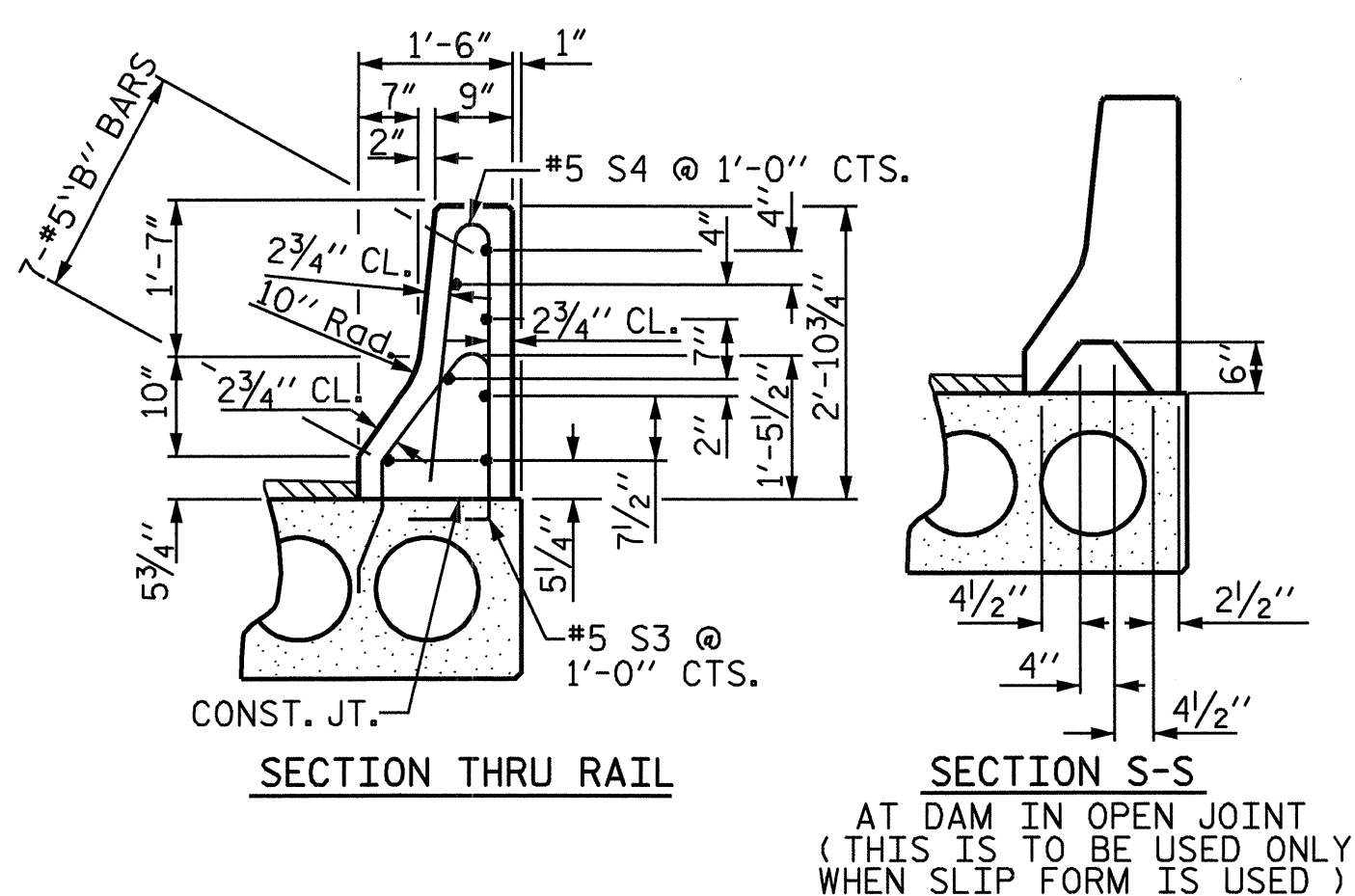
SUPERSTRUCTURE  
 PLAN OF SPAN A



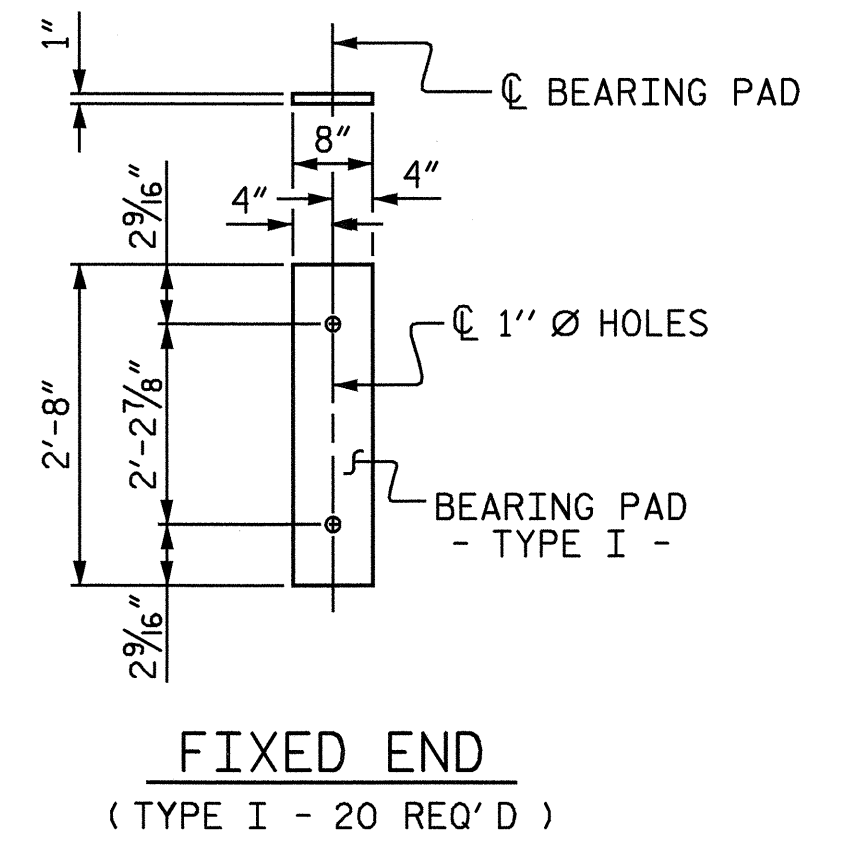
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1			3			TOTAL SHEETS	
2			4			36	





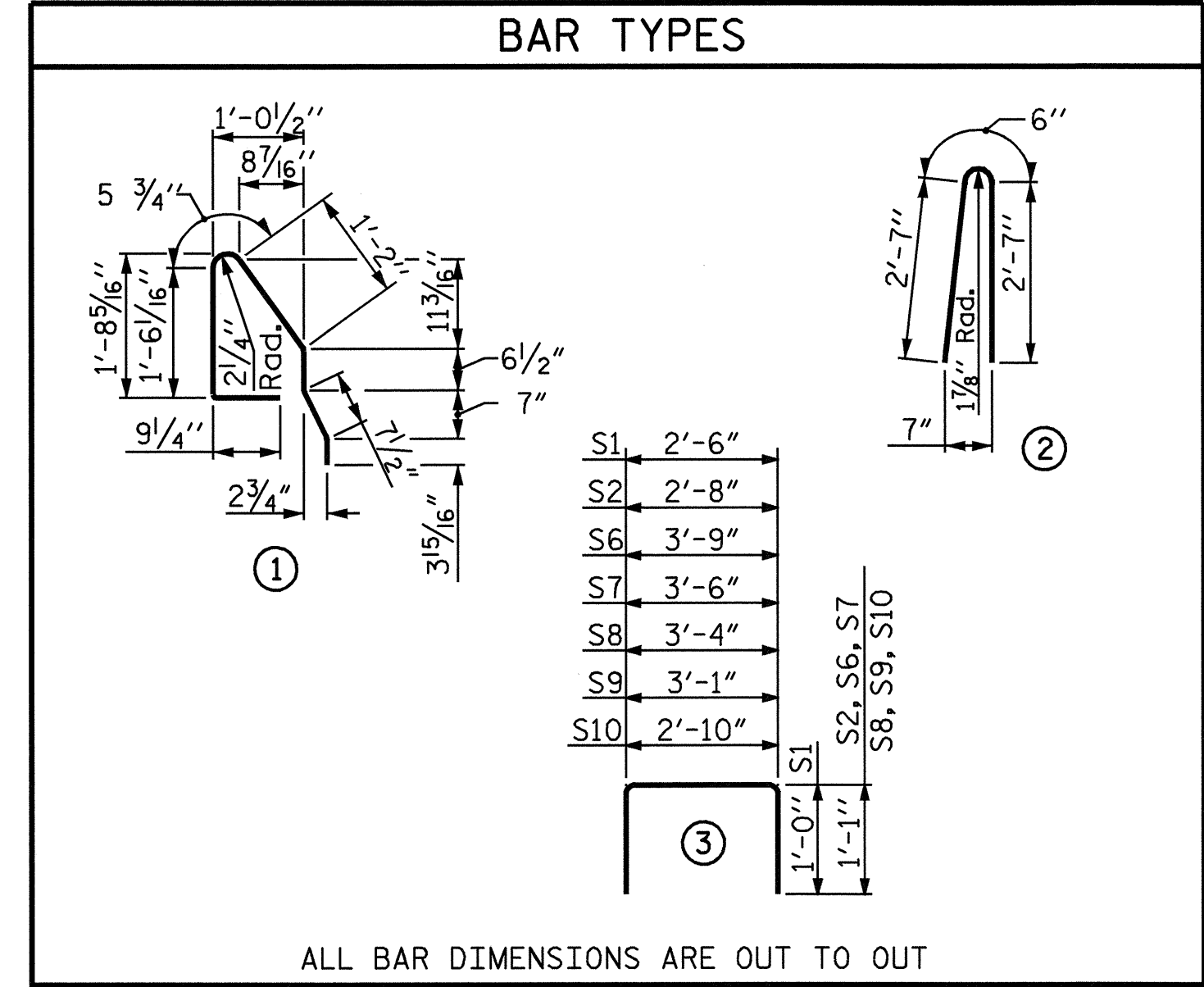
ELEVATION AT EXPANSION JOINTS  
BARRIER RAIL DETAILS



ELASTOMERIC BEARING DETAILS

ASSEMBLED BY : B.N. GRADY	DATE : 7/03
CHECKED BY : P.C. BREWER	DATE : 7/03
DRAWN BY : WJH 4/89	REV. 10/17/00 RWW/LES
CHECKED BY : FCJ 5/89	REV. 7/10/01 RWW/LES
	REV. 5/1/03 RWW/JTE

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



BILL OF MATERIAL FOR ONE CORED SLAB SECTION							
BAR NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT		
			LENGTH	WEIGHT	LENGTH	WEIGHT	
B1	# 4	STR	22'-0"	59	22'-0"	59	
S1	# 5	3	4'-6"	38	4'-6"	38	
S2	# 4	3	4'-10"	213			
S2	# 4	3			4'-10"	213	
* S3	# 5	1	5'-5"	237			
S6	# 4	3	5'-11"	16	5'-11"	16	
S7	# 4	3	5'-8"	15	5'-8"	15	
S8	# 4	3	5'-6"	15	5'-6"	15	
S9	# 4	3	5'-3"	14	5'-3"	14	
S10	# 4	3	4'-11"	13	4'-11"	13	
REINFORCING STEEL				LBS. 383		383	
* EPOXY COATED REINFORCING STEEL				LBS. 237			
5,000 P.S.I. CONCRETE				CU. YDS. 5.5		5.5	
1/2" Ø L.R. STRANDS				No. 19		19	

DEAD LOAD DEFLECTION AND CAMBER	
	SPAN A
	1/2" Ø L.R. STRAND
CAMBER ( SLAB ALONE IN PLACE )	1 5/8" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **	1/4" ↓
FINAL CAMBER	1 3/8" ↑

BILL OF MATERIAL FOR CONCRETE BARRIER RAIL							
BAR	BARS PER SPAN		TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	SPAN A						
* B2	56		56	# 5	STR	12'-7"	735
* S4	84		84	# 5	2	5'-8"	496
* EPOXY COATED REINFORCING STEEL							LBS. 1231
CLASS AA CONCRETE							CU. YDS. 9.4
TOTAL LIN. FT. OF CONCRETE BARRIER RAIL							83.63

CORED SLABS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR C.S.	2	41'-9 3/4"	83'-7 1/2"
INTERIOR C.S.	8	41'-9 3/4"	334'-6"
TOTAL	10		418.13

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

THE JOINT OPENING BETWEEN THE BACKWALL AND CORED SLAB UNITS SHALL BE FILLED WITH NON-SHRINK GROUT.

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.

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. FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

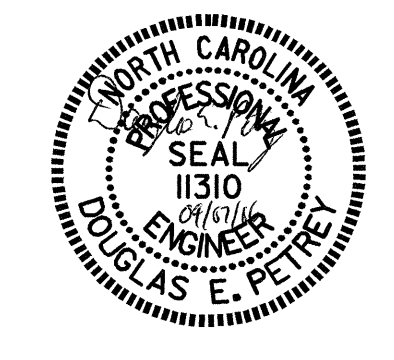
VERTICAL GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A VERTICAL CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION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

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

PROJECT NO. B-3926  
WATAUGA COUNTY  
STATION: 32+85.50 -L2-

SHEET 3 OF 3

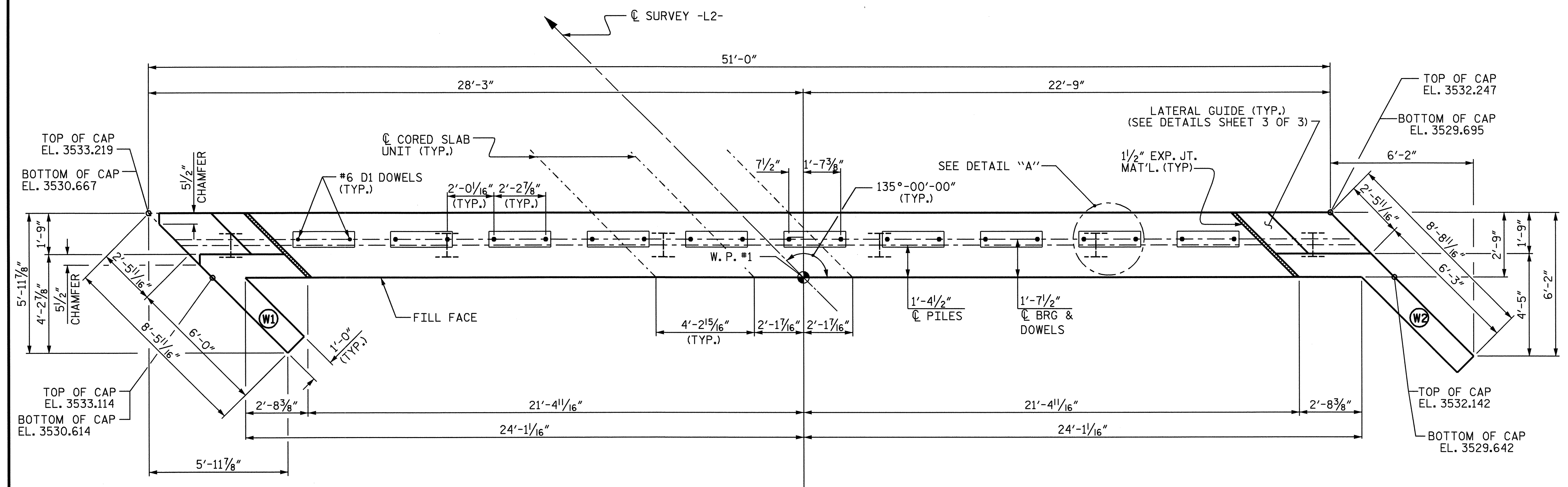


STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
STANDARD  
3'-0" X 1'-6"  
PRESTRESSED  
CONCRETE CORED  
SLAB UNIT

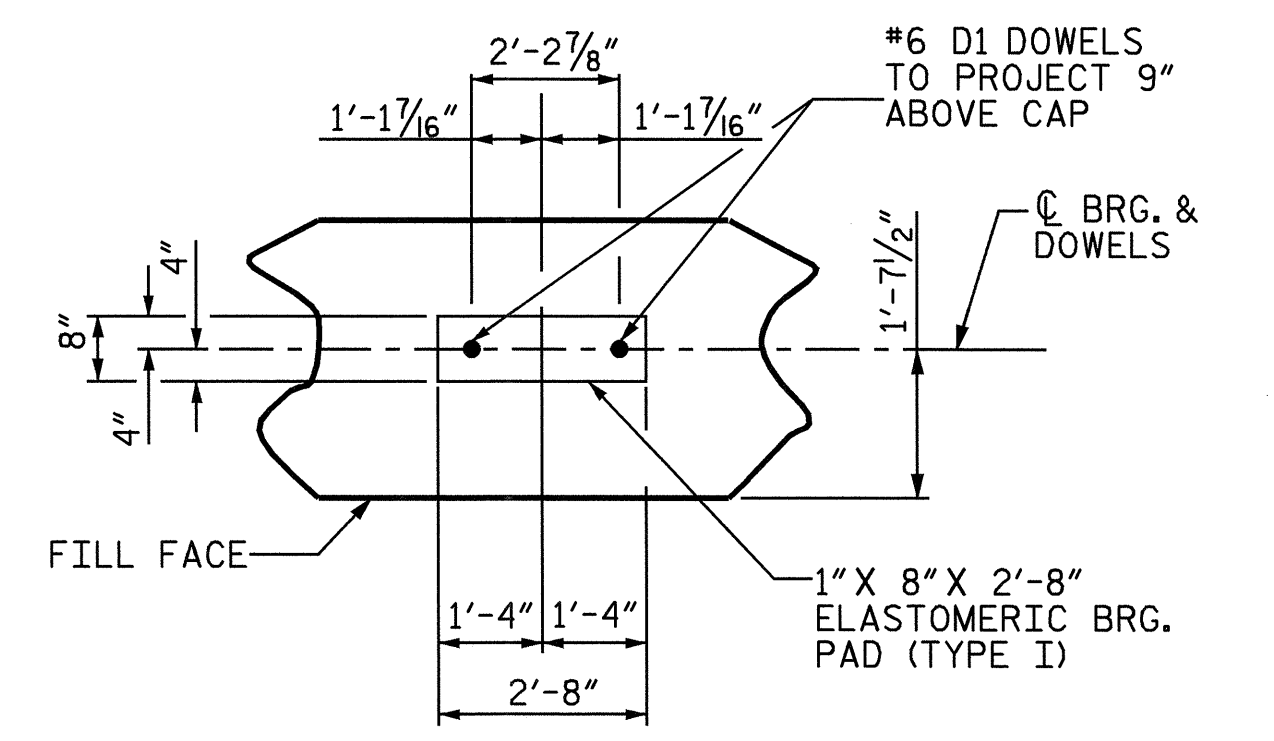
OCTOBER				1981			
REVISIONS							
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.	
1			3			S-25	
2			4			TOTAL SHEETS 36	

NOTES:

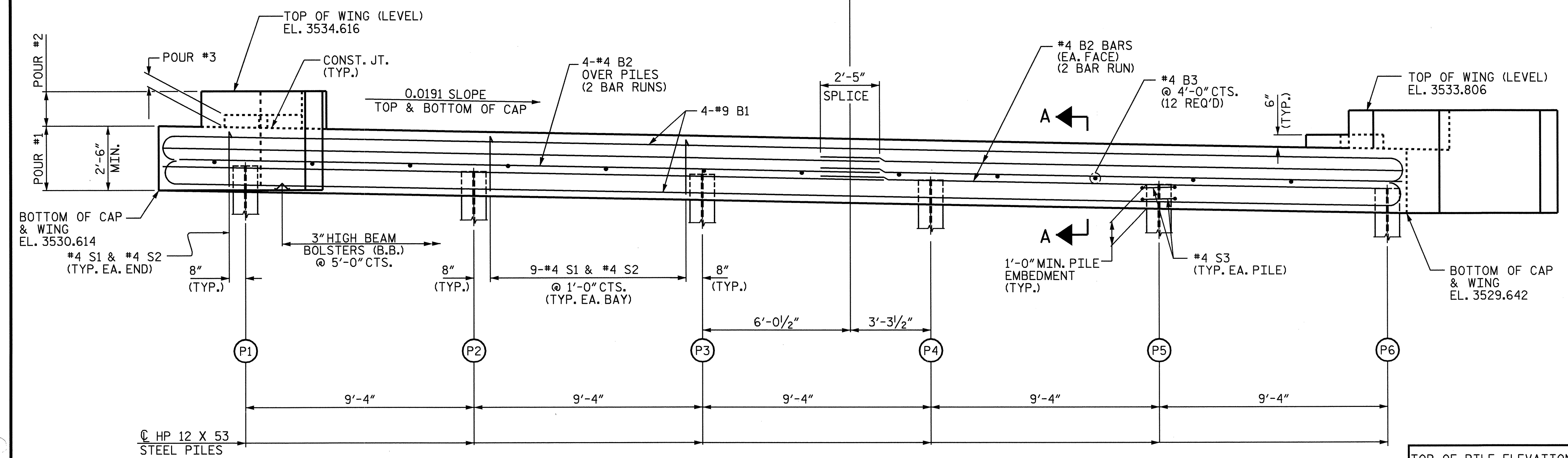
- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.
- THE CONTRACTOR SHALL PROVIDE FOR INSTALLATION OF THE 4" DIAMETER DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS, SEE THE ROADWAY PLANS. REINFORCING STEEL IN THE WING WALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.
- THE LATERAL GUIDES ARE NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.
- THE TOP SURFACE OF THE END BENT CAP IS SLOPED LONGITUDINALLY ALONG C CORED SLAB UNIT TO MATCH GRADE.
- FOR SECTION A-A, SEE SHEET 3 OF 3.



PLAN



DETAIL "A"  
(TYP. EA. BEARING)



ELEVATION

TOP OF PILE ELEVATION	
PILE	ELEVATION
P1	3531.608
P2	3531.431
P3	3531.252
P4	3531.074
P5	3530.896
P6	3530.717

PROJECT NO. B-3926  
WATAUGA COUNTY  
 STATION: 32+85.50 -L2-

SHEET 1 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SUBSTRUCTURE  
 END BENT No. 1

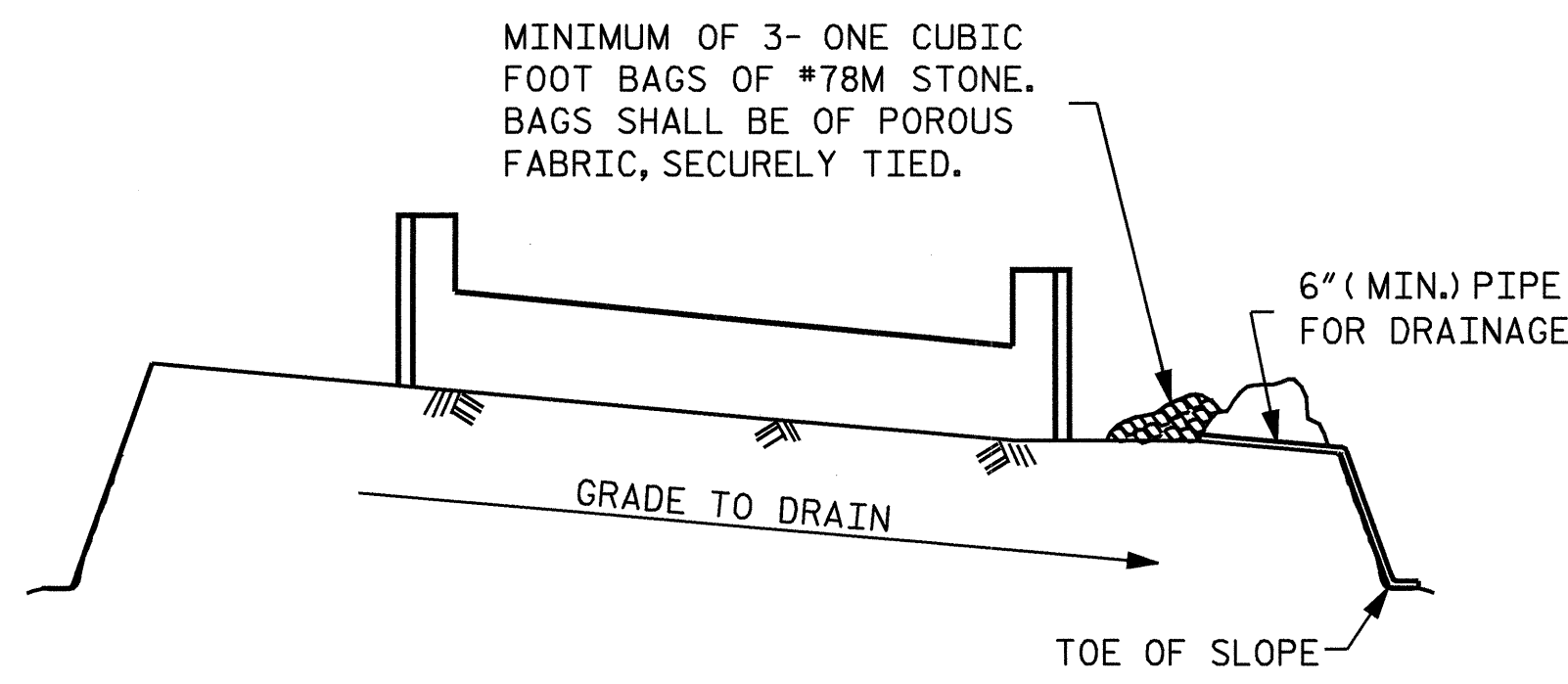
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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS	
1			3			S-26	
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DRAWN BY: R. G. EMERSON DATE: 7/03  
 CHECKED BY: B. N. GRADY DATE: 8/03





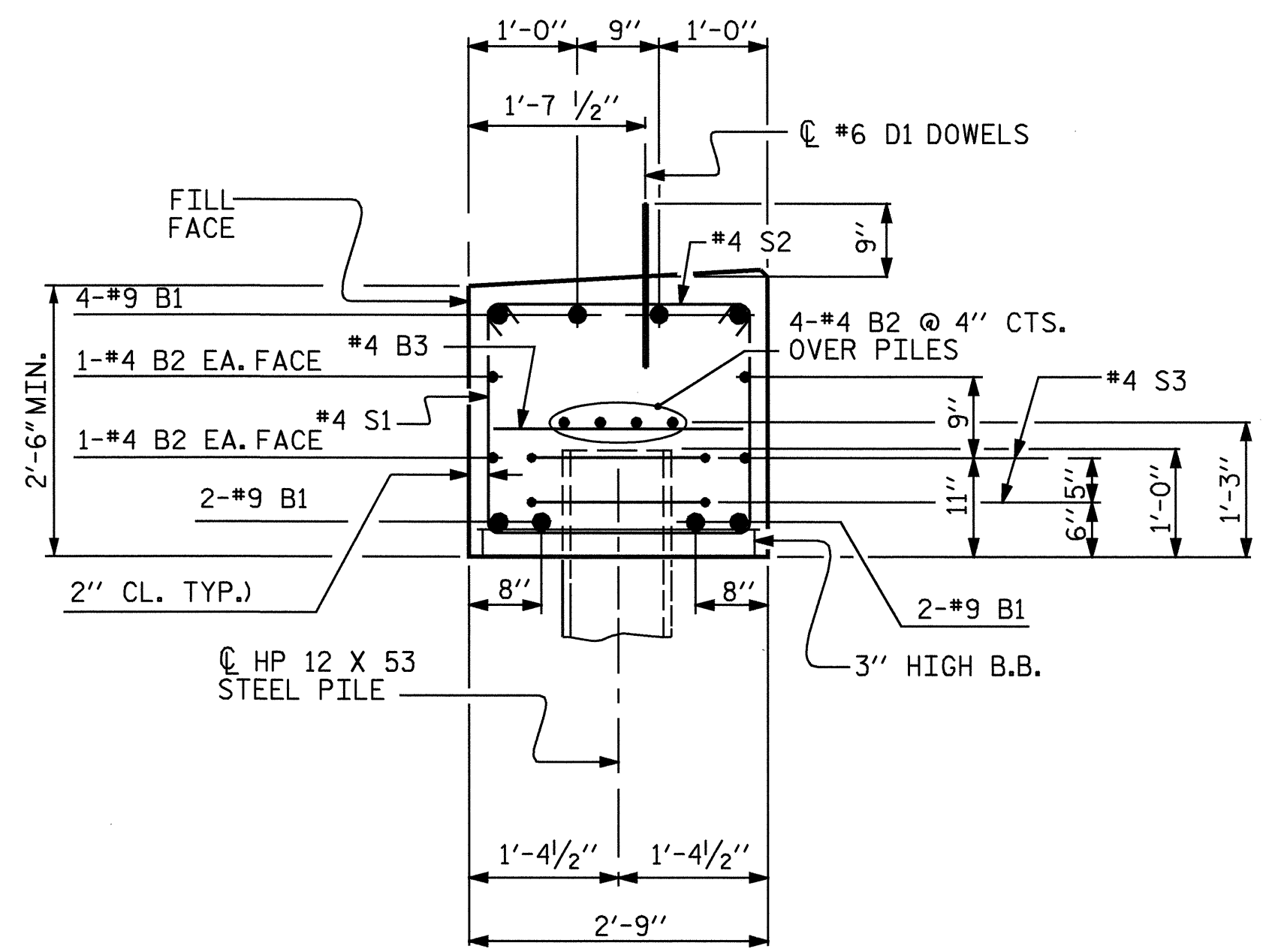


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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.

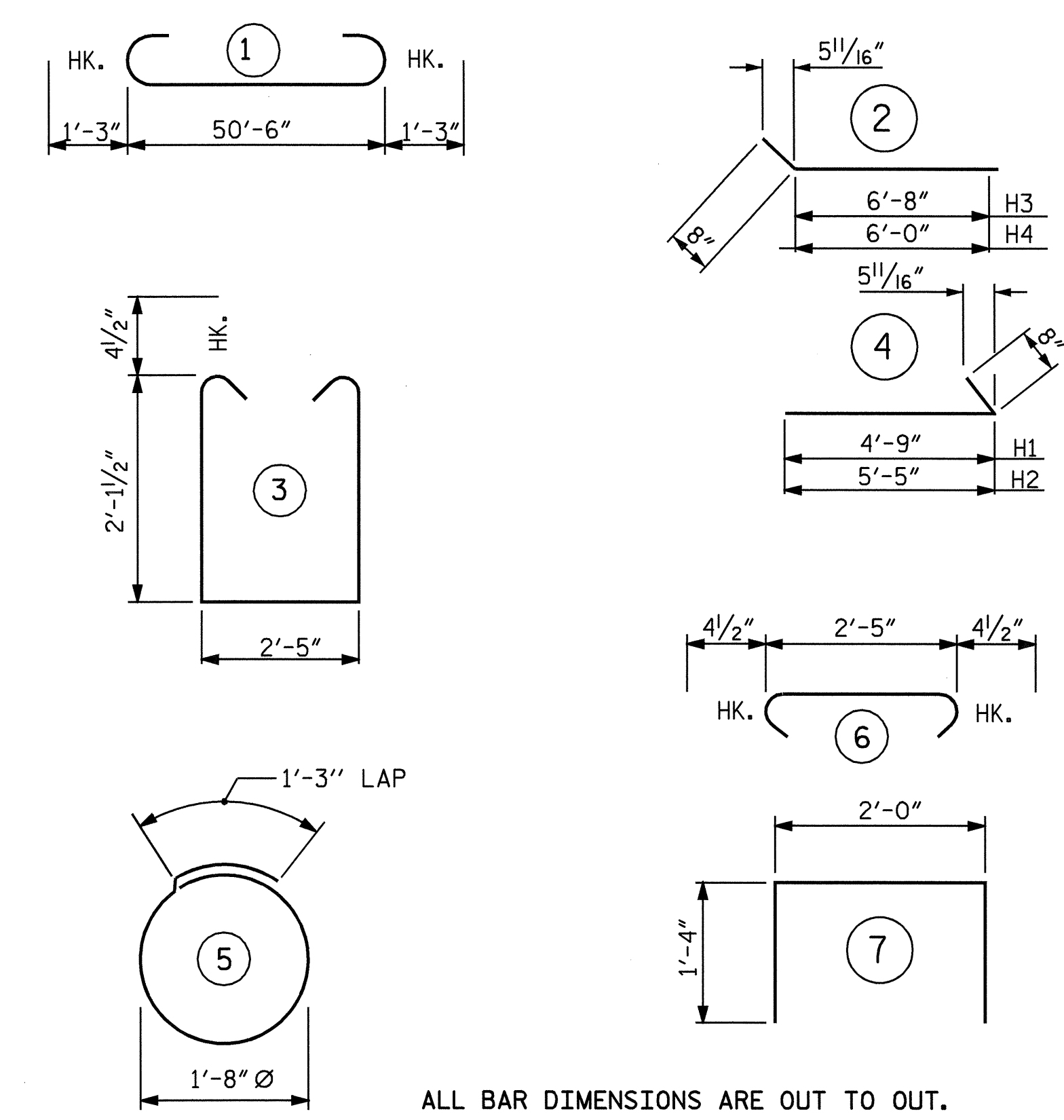
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT



SECTION A-A

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

END BENT No. 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	9	1	53'-0"	1442
B2	16	4	STR	26'-6"	283
B3	12	4	STR	2'-5"	19
D1	20	6	STR	1'-6"	45
H1	5	4	4	5'-5"	18
H2	5	4	4	6'-1"	20
H3	5	4	2	7'-4"	24
H4	5	4	2	6'-8"	22
K1	8	4	STR	3'-7"	19
S1	47	4	3	7'-5"	233
S2	47	4	6	3'-2"	99
S3	12	4	5	6'-6"	52
S4	4	4	7	4'-8"	12
V1	19	4	STR	3'-7"	45
V2	21	4	STR	3'-9"	53
REINFORCING STEEL				LBS.	2386

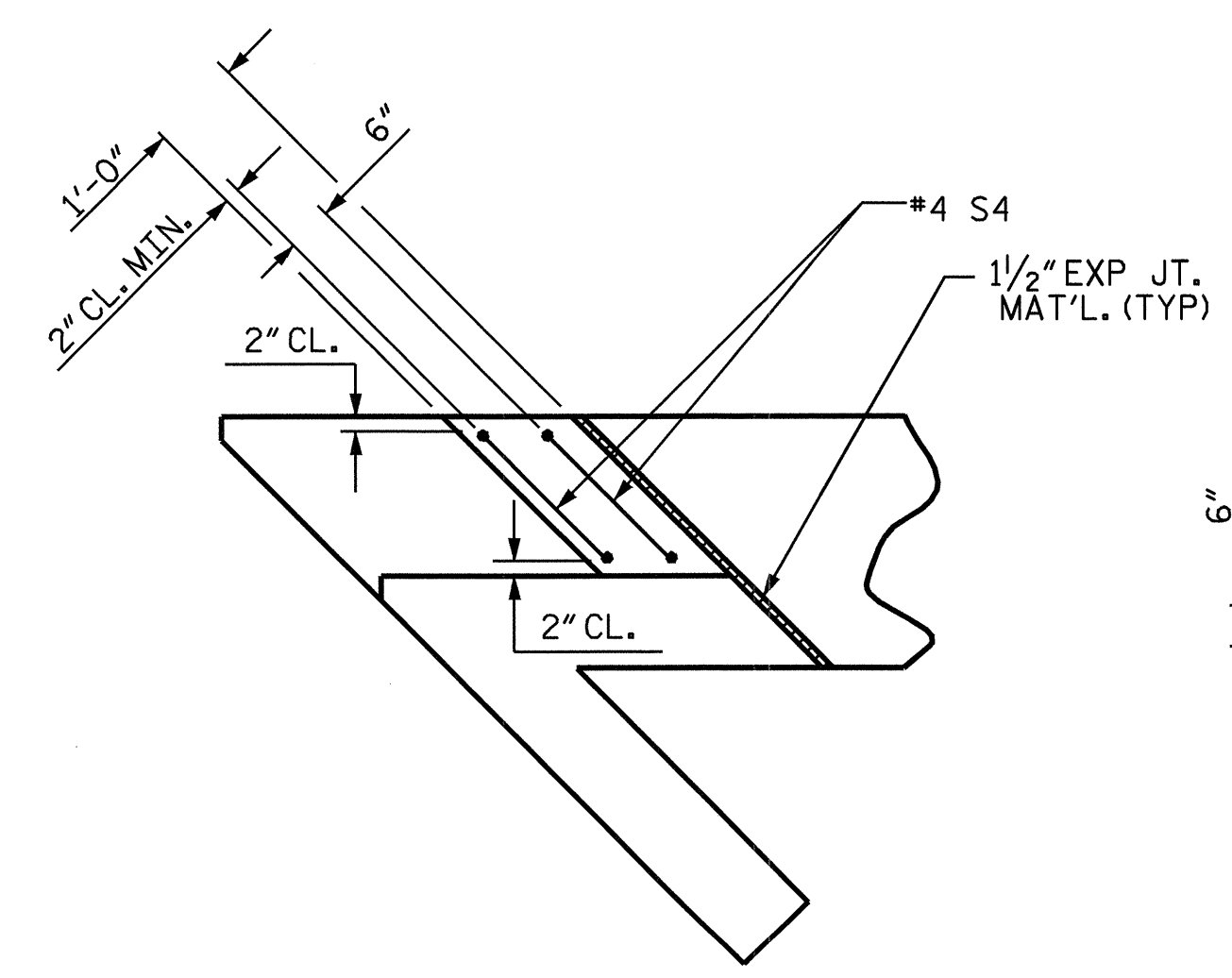
CLASS A CONCRETE BREAKDOWN:		
POUR #1	- (CAP & LOWER WINGS)	14.1 C.Y.
POUR #2	- (UPPER WINGS)	1.0 C.Y.
POUR #3	- (LATERAL GUIDES)	0.1 C.Y.
TOTAL		15.2 C.Y.

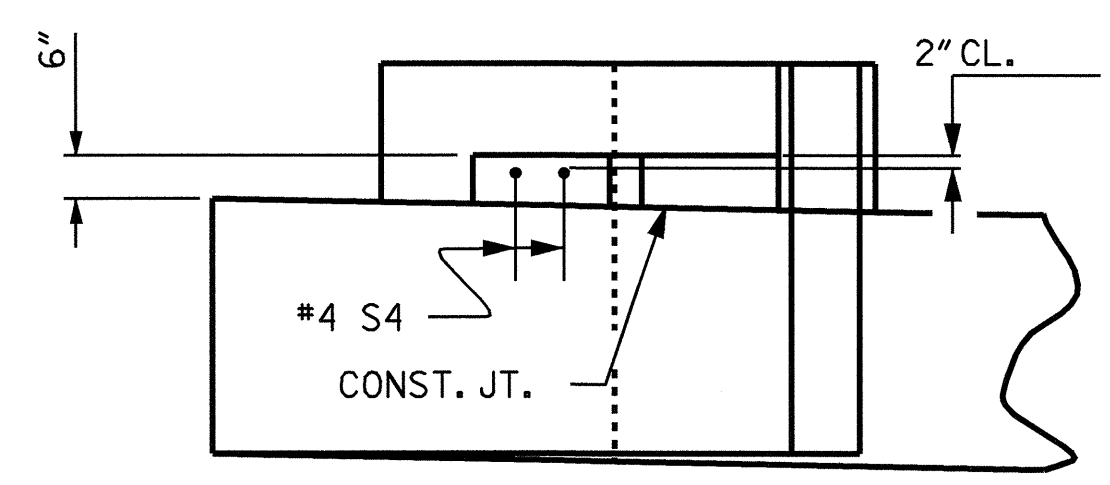
HP 12 X 53 STEEL PILES	
NO. = 6	LIN. FT. = 60

STEEL PILE POINTS	NO. = 6
PILE EXCAVATION IN SOIL	27 LIN. FT.
PILE EXCAVATION NOT IN SOIL	9 LIN. FT.



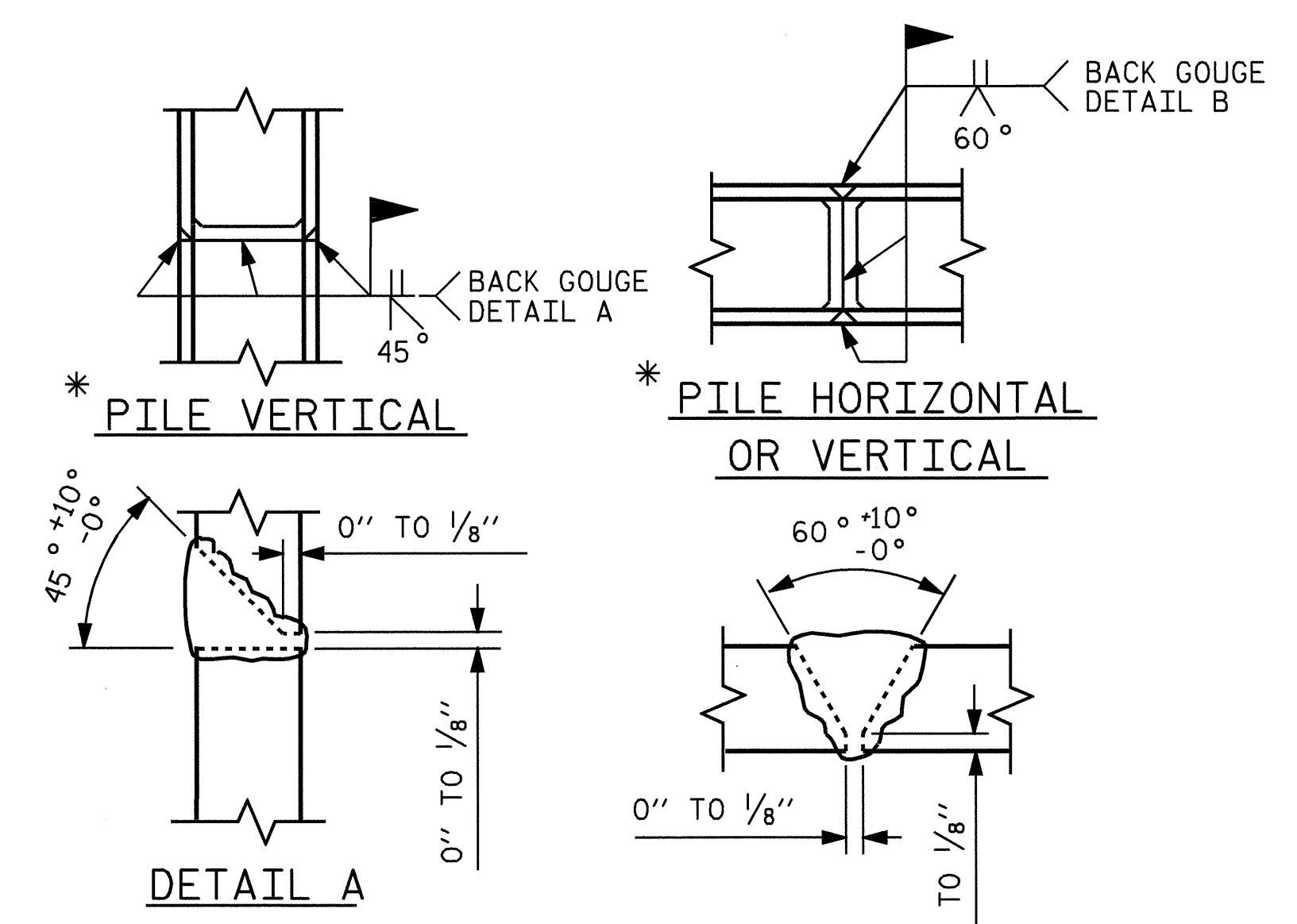
PLAN



ELEVATION

LATERAL GUIDE DETAILS

(EACH END SIMILAR)

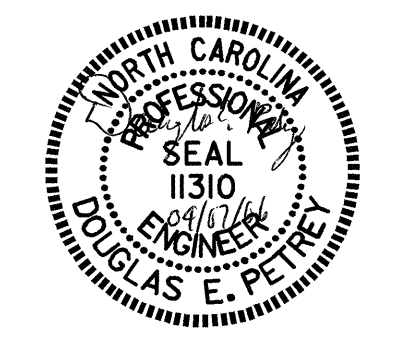


\* POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS

PROJECT NO. B-3926  
WATAUGA COUNTY  
 STATION: 32+85.50 -L2-  
 SHEET 3 OF 3

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



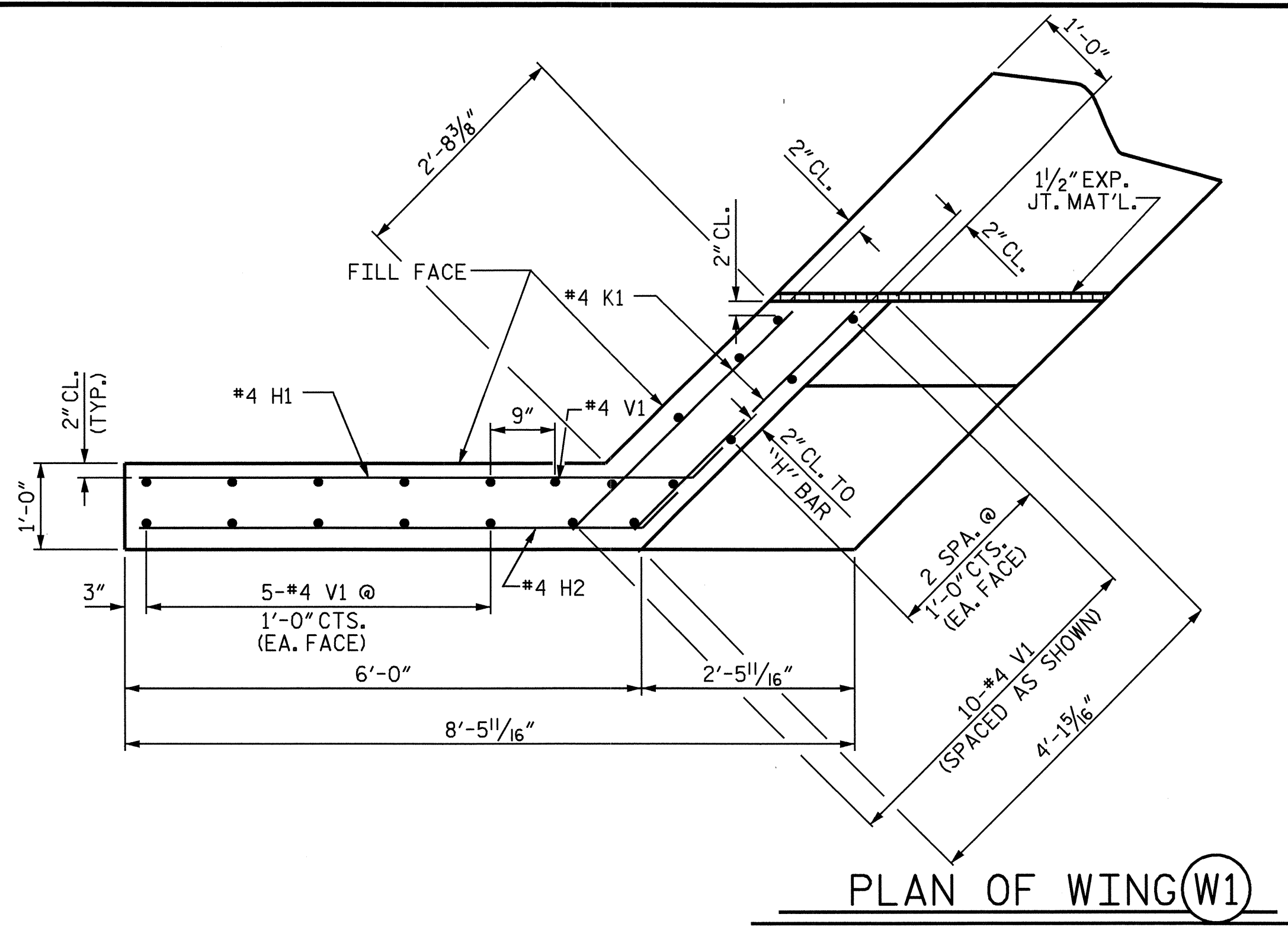
DRAWN BY: R. G. EMERSON DATE: 7/03  
 CHECKED BY: B. N. GRADY DATE: 8/03

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

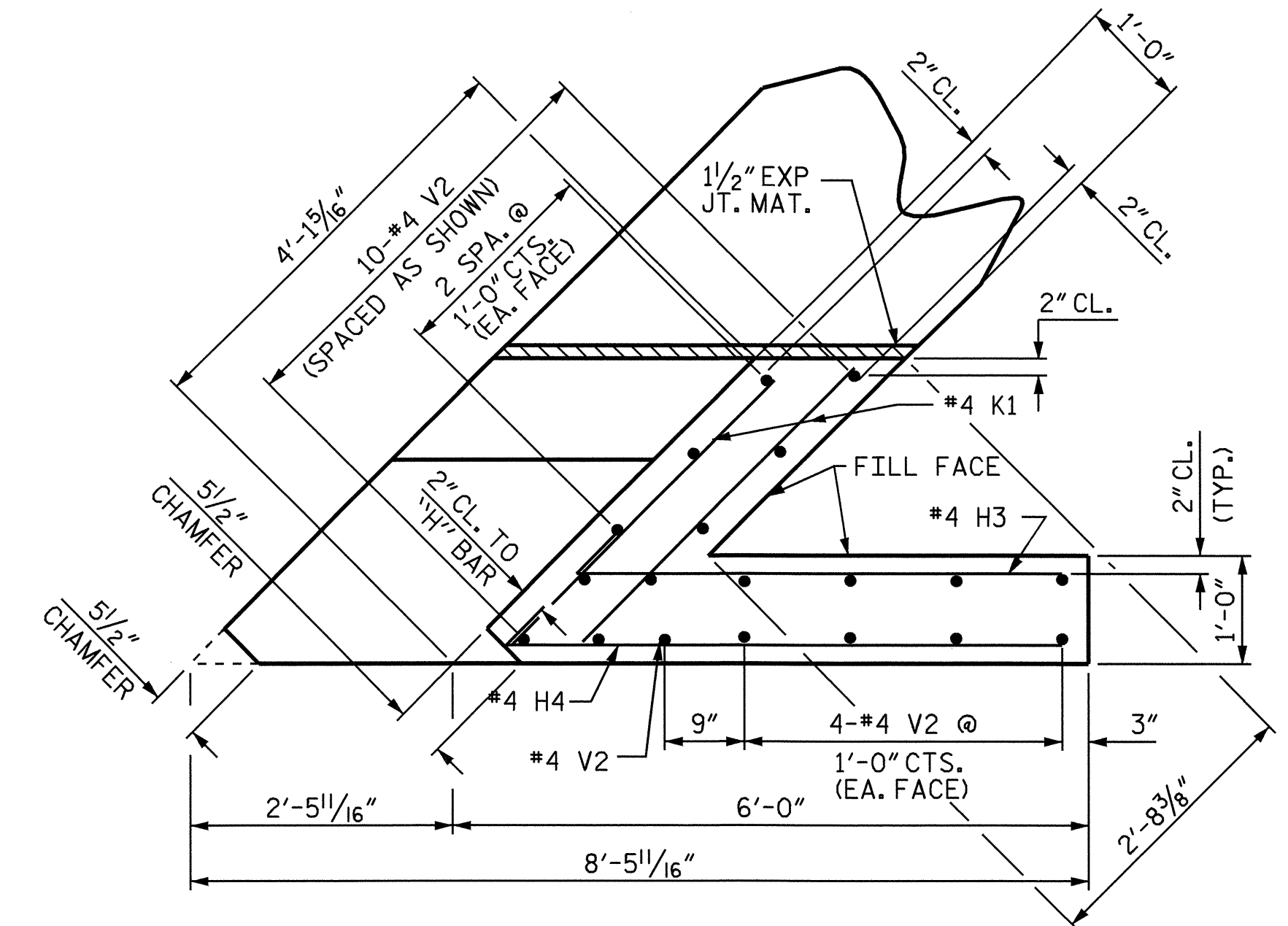
  

TOTAL SHEETS	S-28
	36

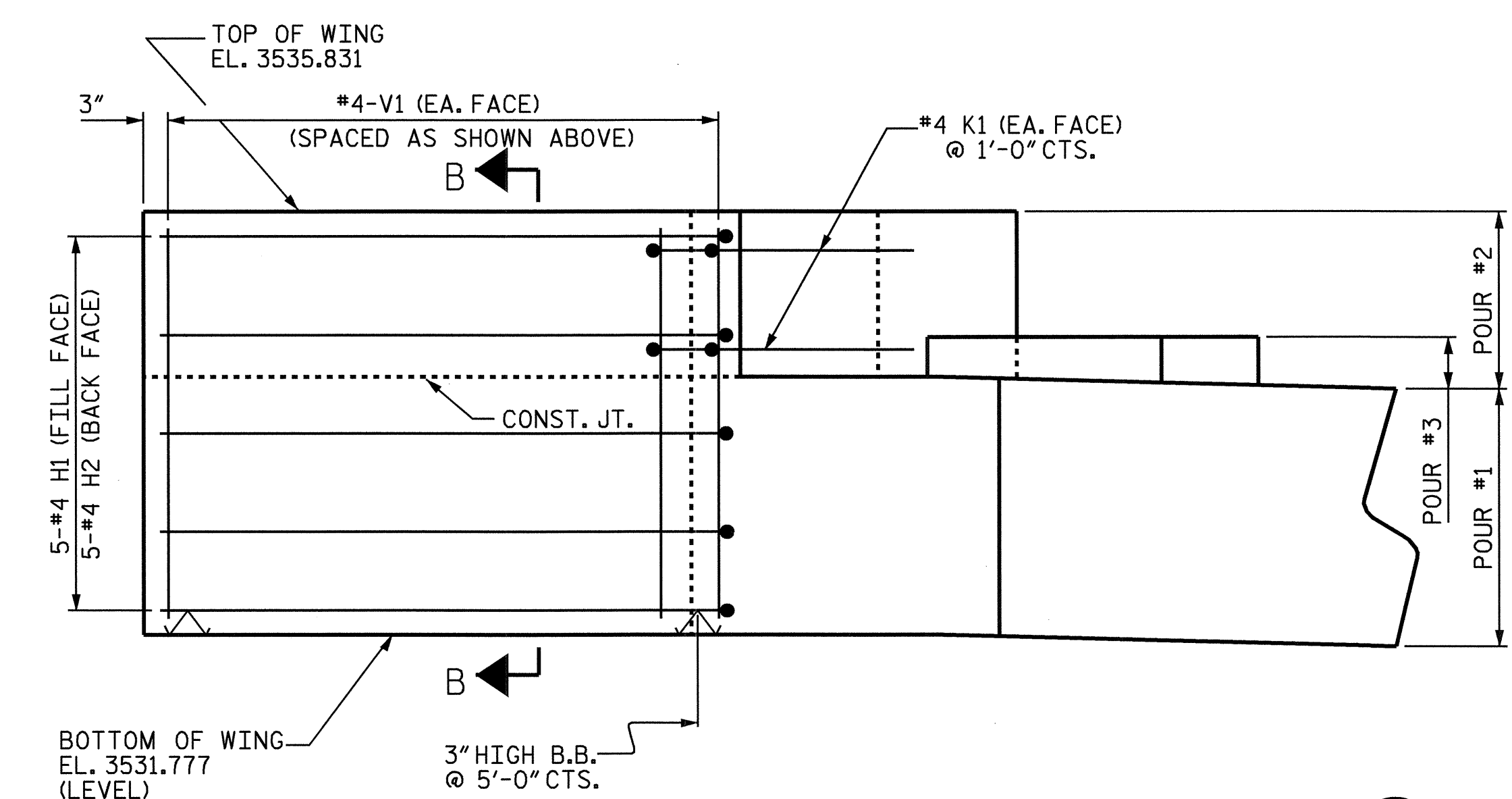




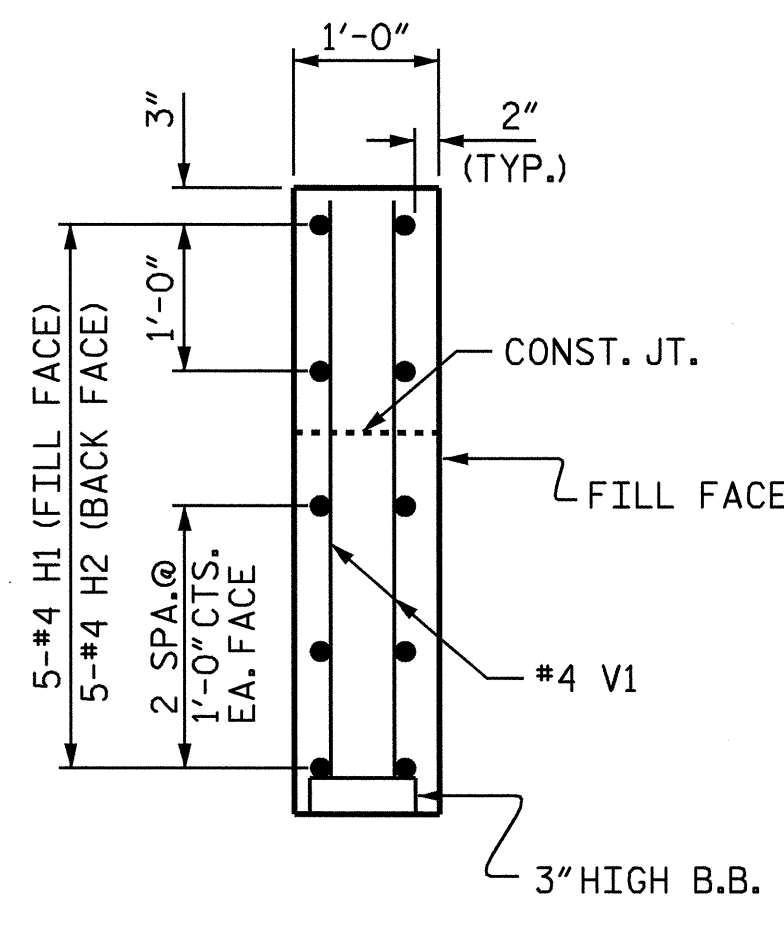
PLAN OF WING (W1)



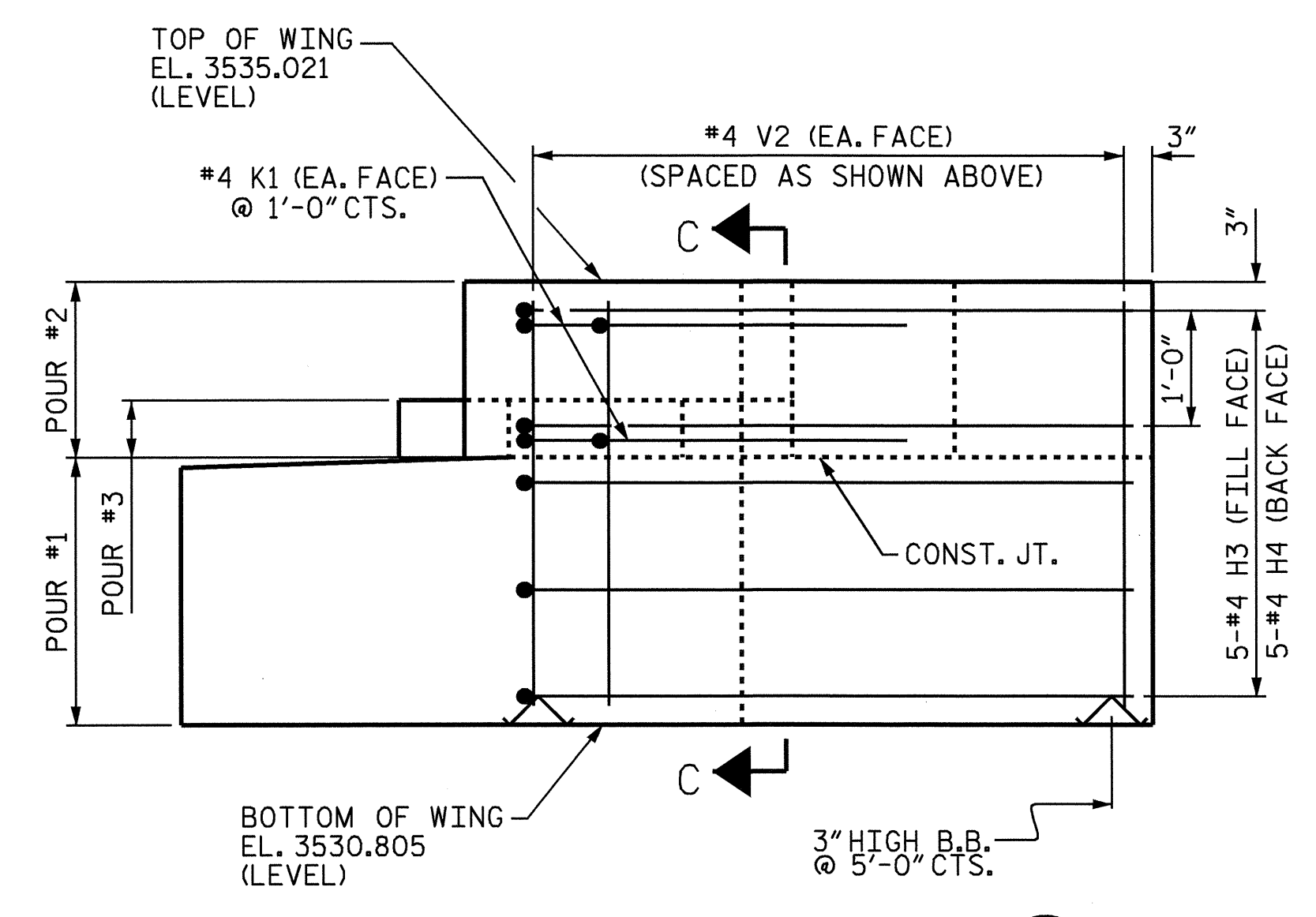
PLAN OF WING (W2)



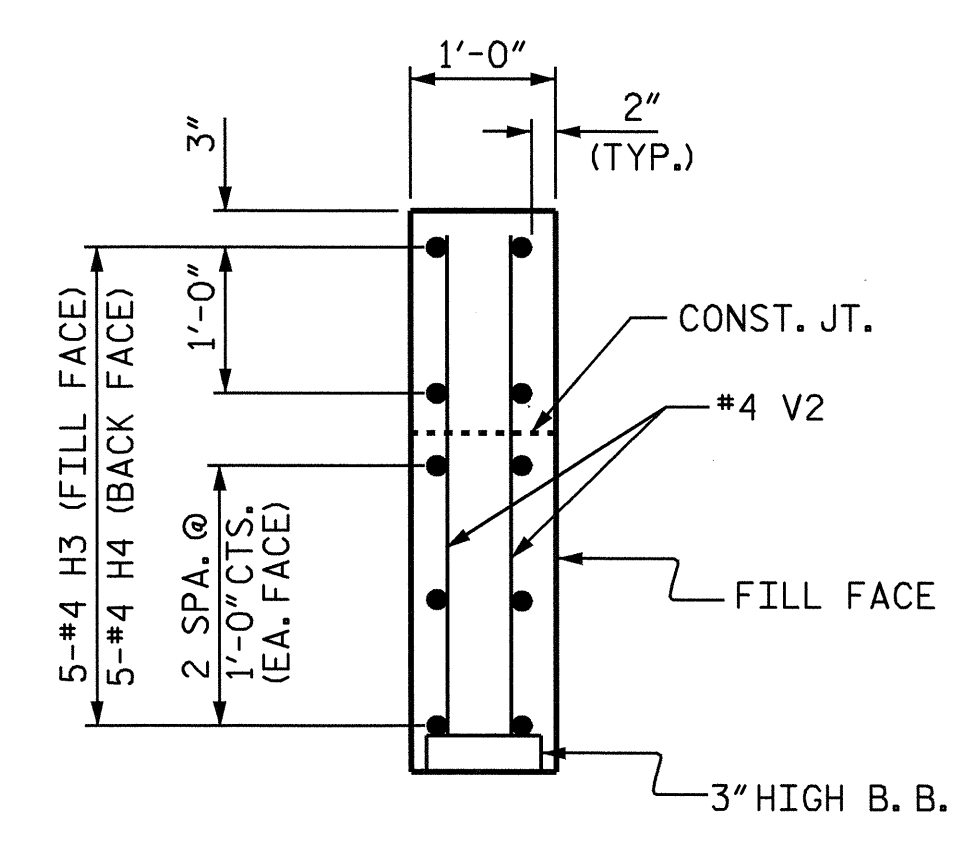
ELEVATION OF WING (W1)



SECTION B-B



ELEVATION OF WING (W2)



SECTION C-C

PROJECT NO. B-3926  
WATAUGA COUNTY  
STATION: 32+85.50 -L2-

SHEET 2 OF 3

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



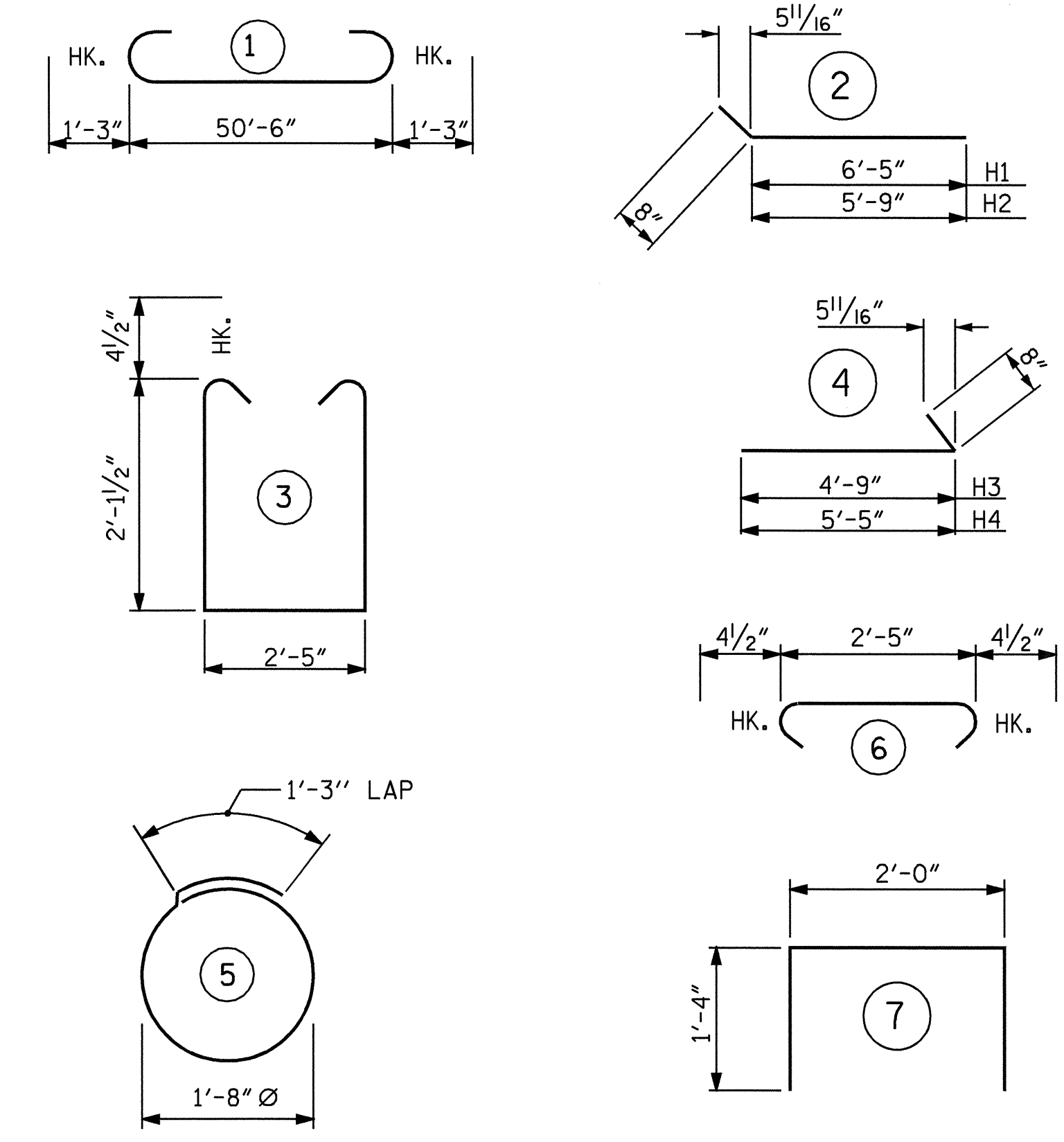
DRAWN BY: R. G. EMERSON DATE: 07/03  
CHECKED BY: B. N. GRADY DATE: 08/03

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

S-30	TOTAL SHEETS
36	



BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

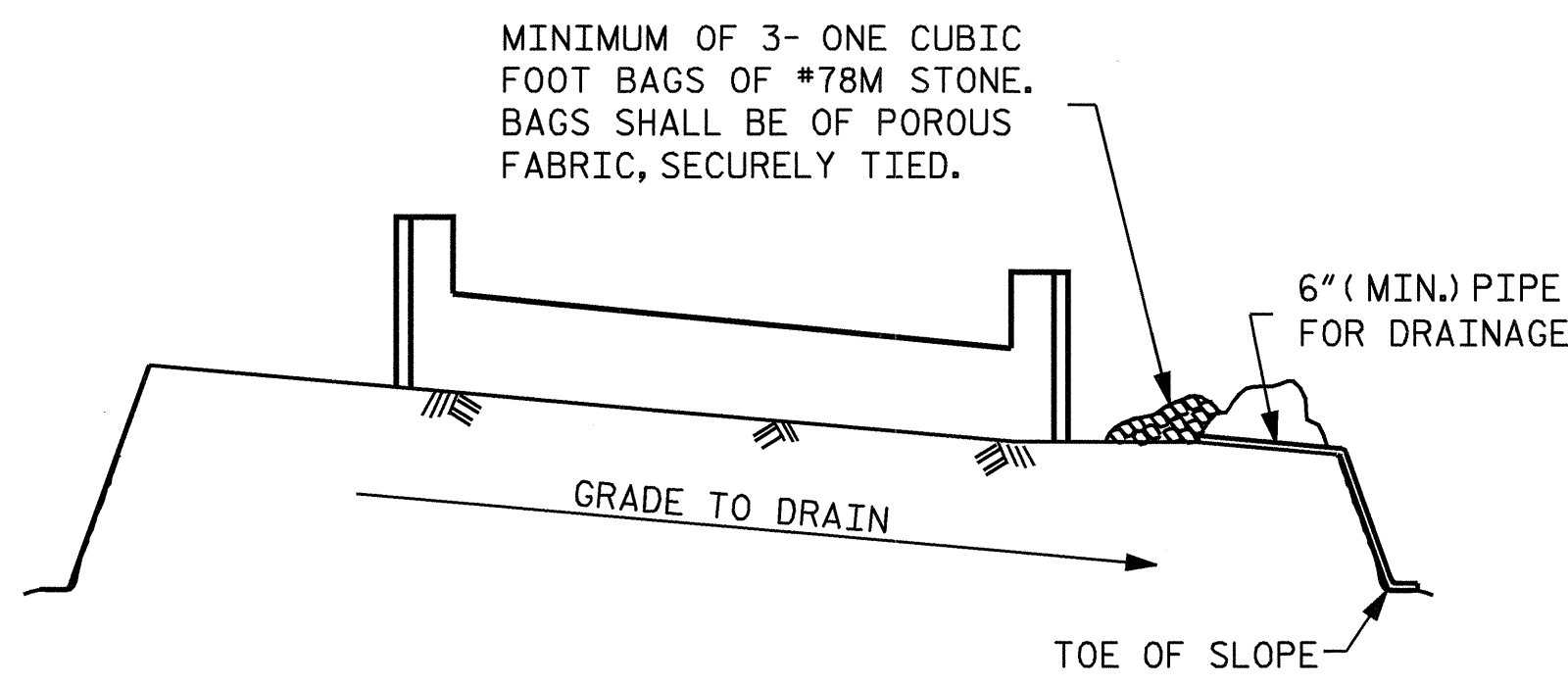
BILL OF MATERIAL

END BENT No. 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	9	1	53'-0"	1442
B2	16	4	STR	26'-6"	283
B3	12	4	STR	2'-5"	19
D1	20	6	STR	1'-6"	45
H1	5	4	2	7'-1"	24
H2	5	4	2	6'-5"	21
H3	5	4	4	5'-5"	18
H4	5	4	4	6'-1"	20
K1	8	4	STR	3'-7"	19
S1	47	4	3	7'-5"	233
S2	47	4	6	3'-2"	99
S3	12	4	5	6'-6"	52
S4	4	4	7	4'-8"	12
V1	19	4	STR	3'-8"	47
V2	19	4	STR	3'-10"	49
REINFORCING STEEL				LBS.	2383

CLASS A CONCRETE BREAKDOWN:		
POUR #1	- (CAP & LOWER WINGS)	13.9 C.Y.
POUR #2	- (UPPER WINGS)	1.1 C.Y.
POUR #3	- (LATERAL GUIDES)	0.1 C.Y.
TOTAL		15.1 C.Y.

HP 12 X 53 STEEL PILES  
NO. = 6 LIN. FT. = 110

STEEL PILE POINTS NO. = 6

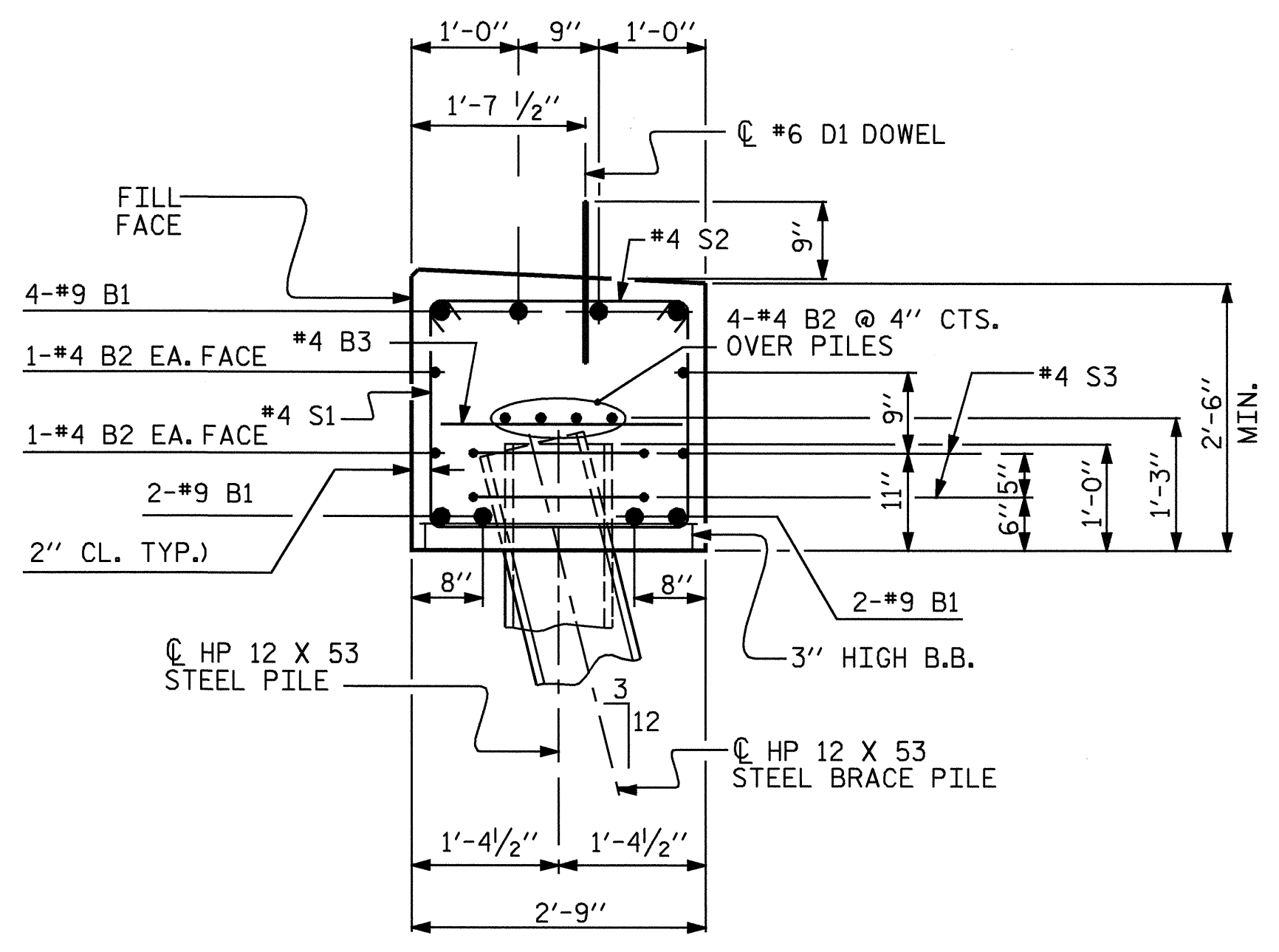


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

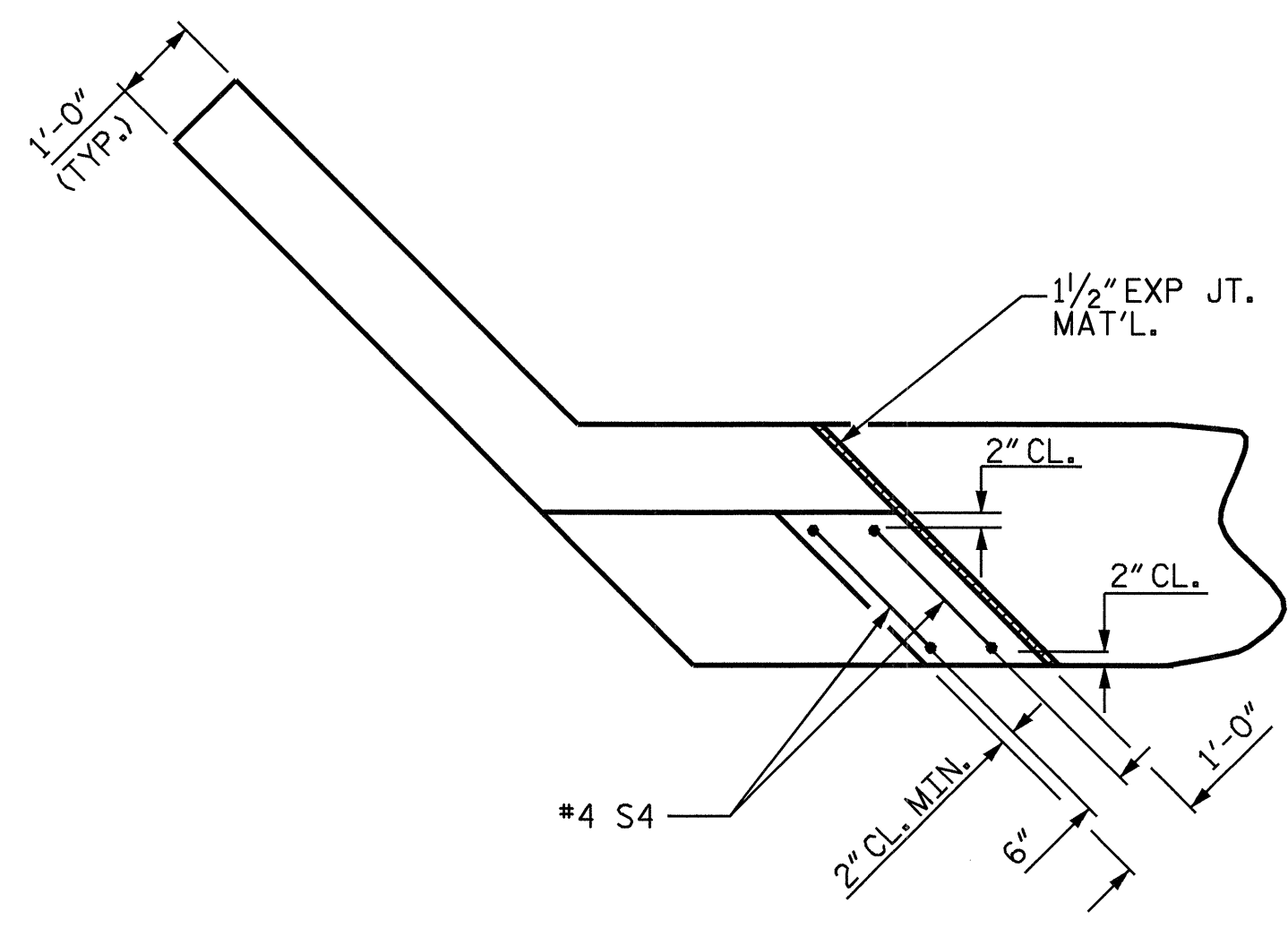
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

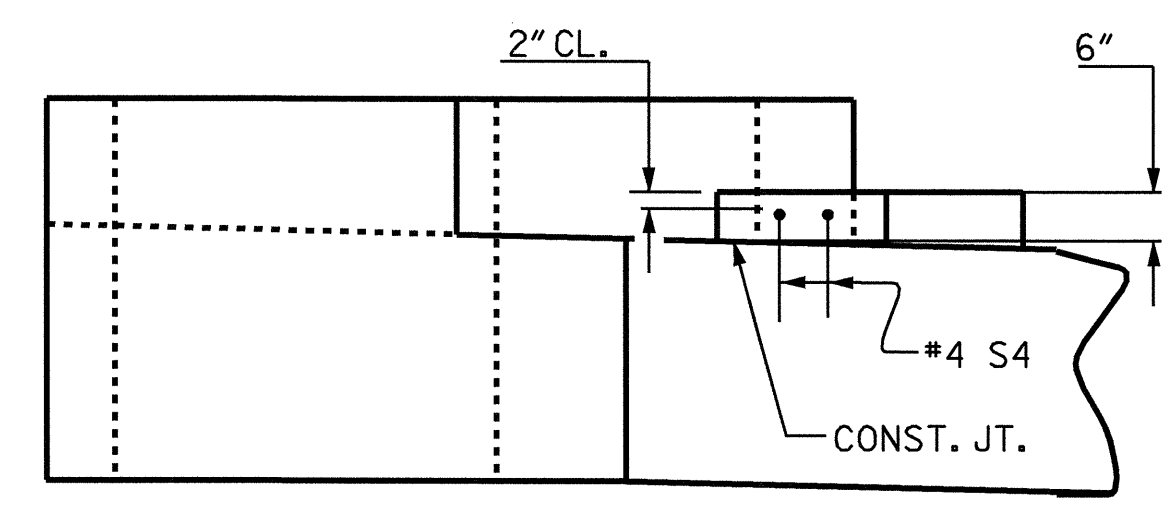
TEMPORARY DRAINAGE AT END BENT



SECTION A-A



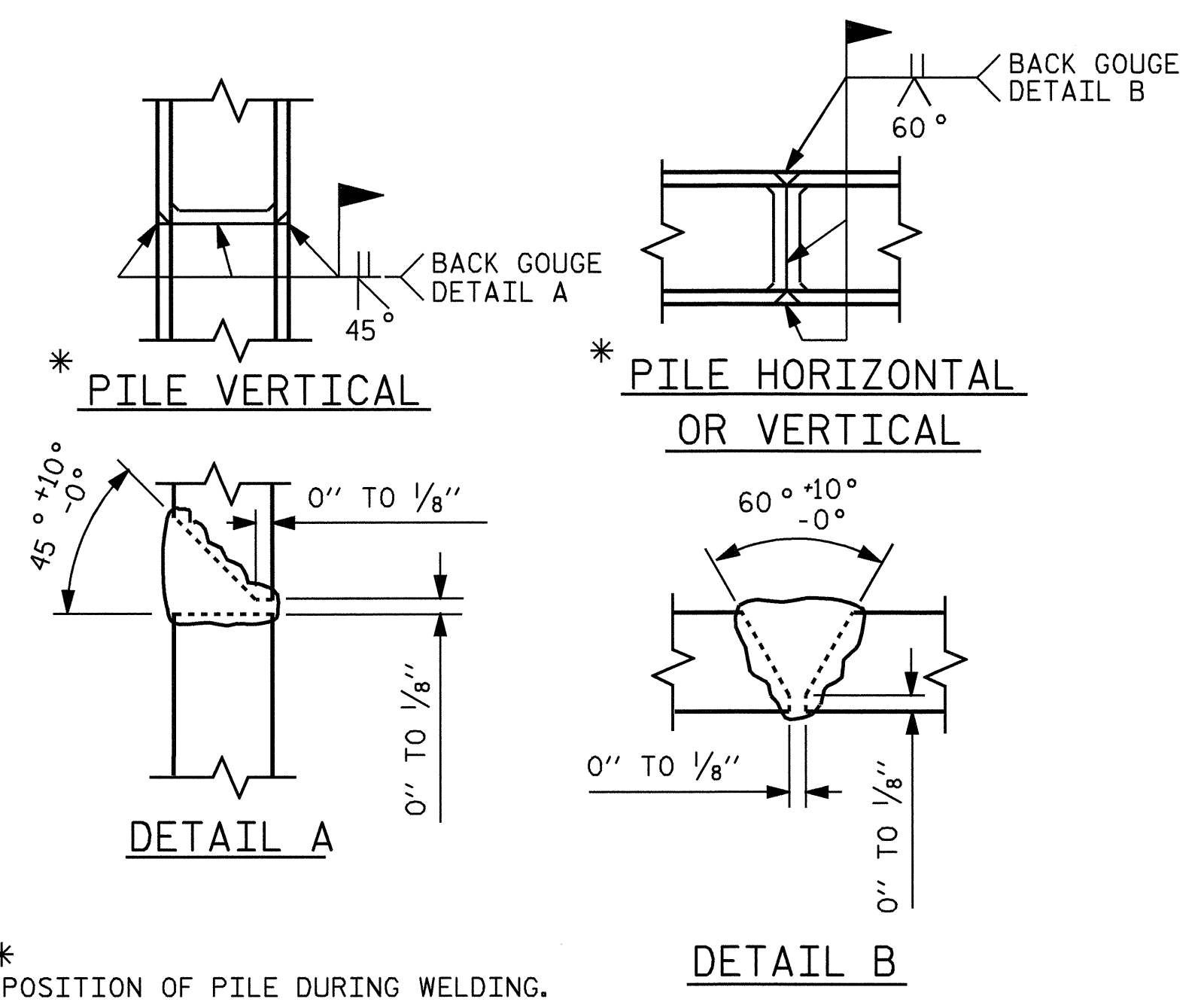
PLAN



ELEVATION

LATERAL GUIDE DETAILS

(EACH END SIMILAR)



\* POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS

PROJECT NO. B-3926  
WATAUGA COUNTY  
STATION: 32+85.50 -L2-

SHEET 3 OF 3

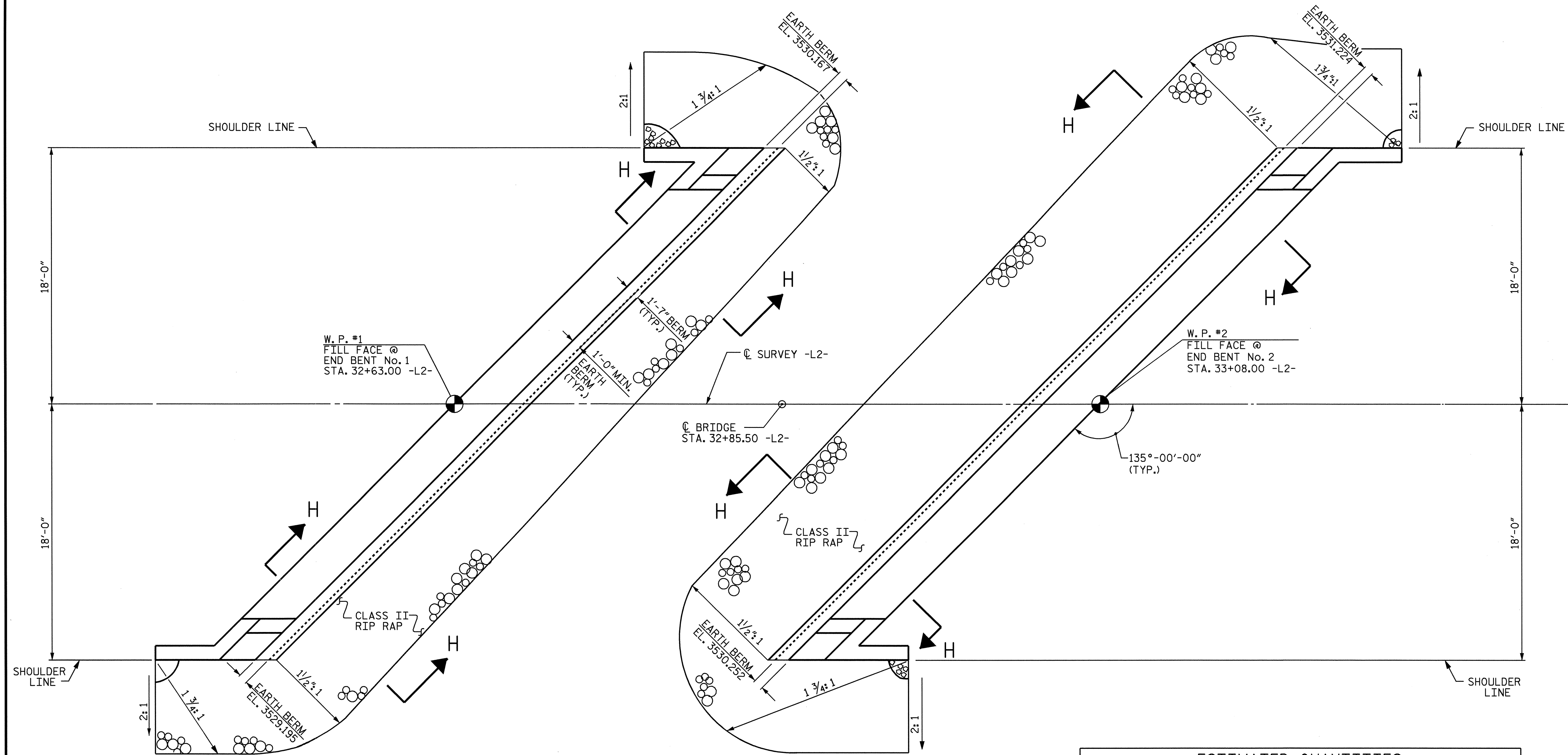
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

SUBSTRUCTURE  
END BENT No. 2



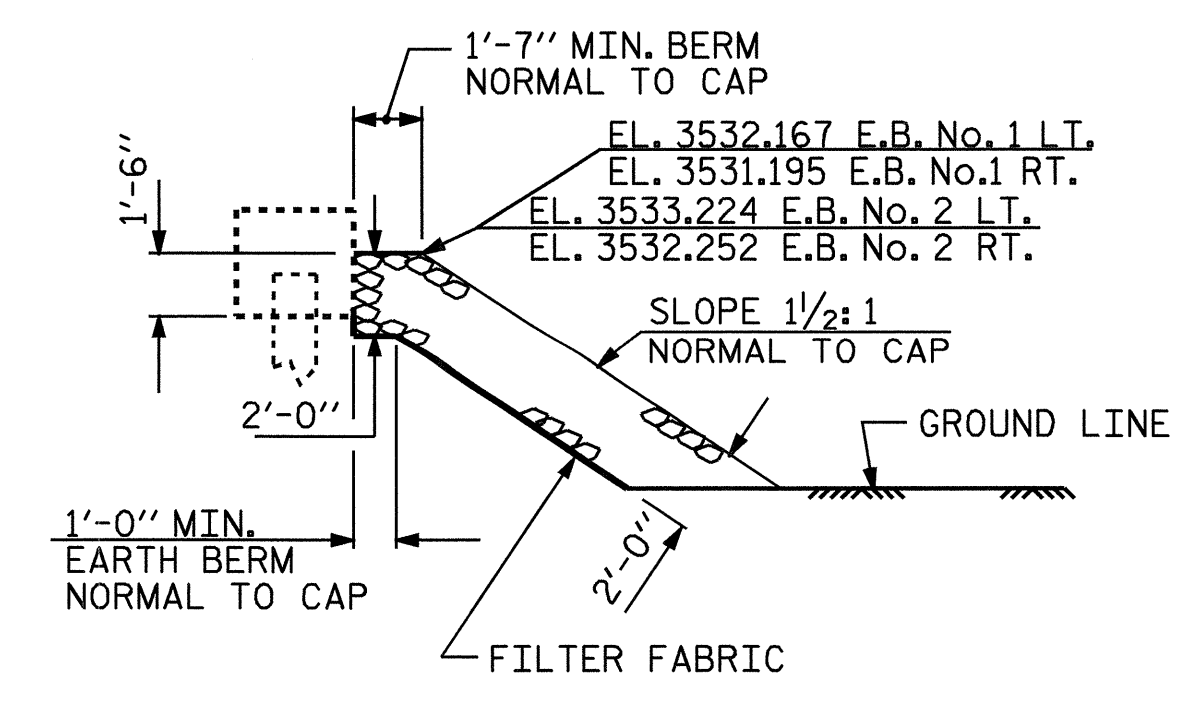
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-31
1			3			TOTAL SHEETS
2			4			36

DRAWN BY : R. G. EMERSON DATE : 7/03  
CHECKED BY : B. N. GRADY DATE : 8/03

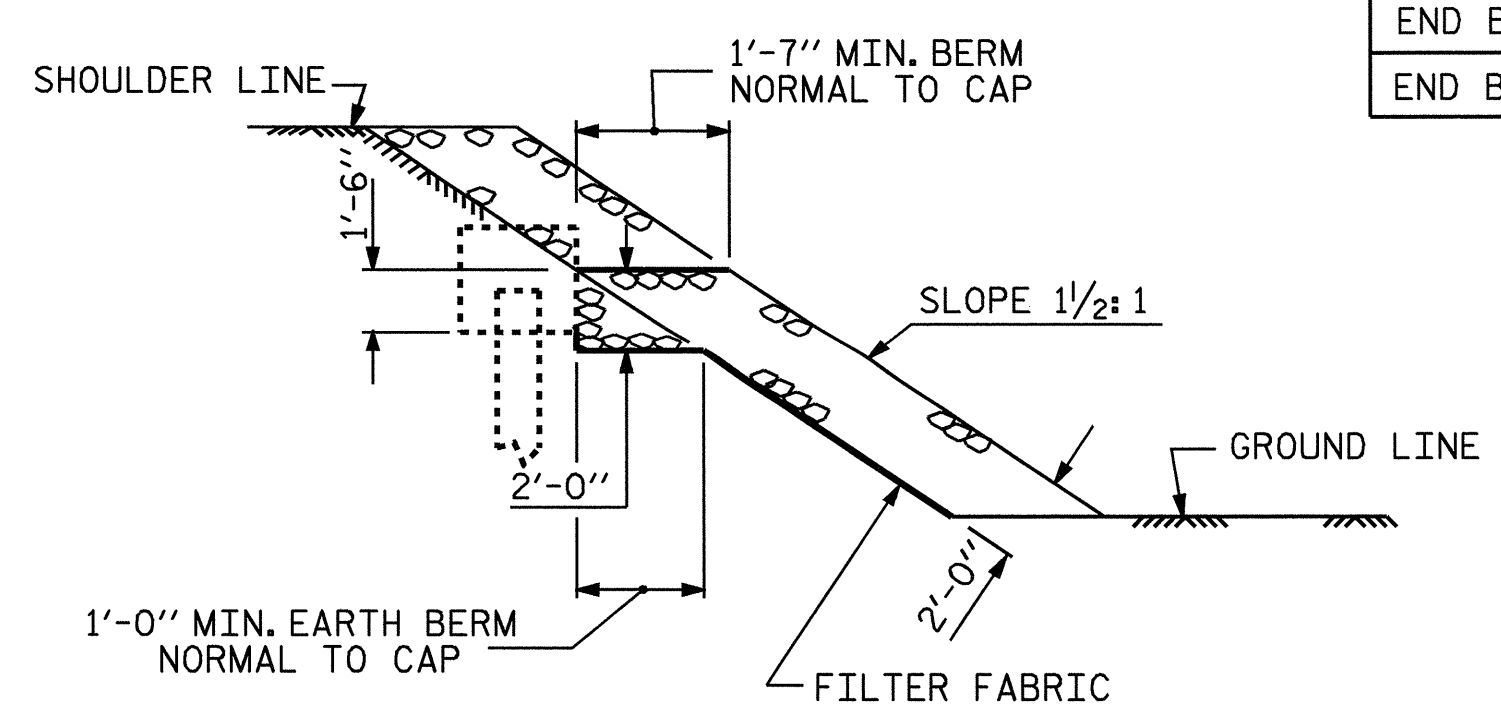


PLAN OF RIP RAP

ESTIMATED QUANTITIES		
BRIDGE @ STA. 32+85.50 -L2-	PLAIN RIP RAP CLASS II	FILTER FABRIC FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT No. 1	75	83
END BENT No. 2	95	106



SECTION  
BERM RIP RAPPED

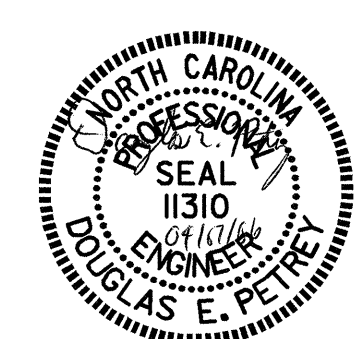


SECTION H-H

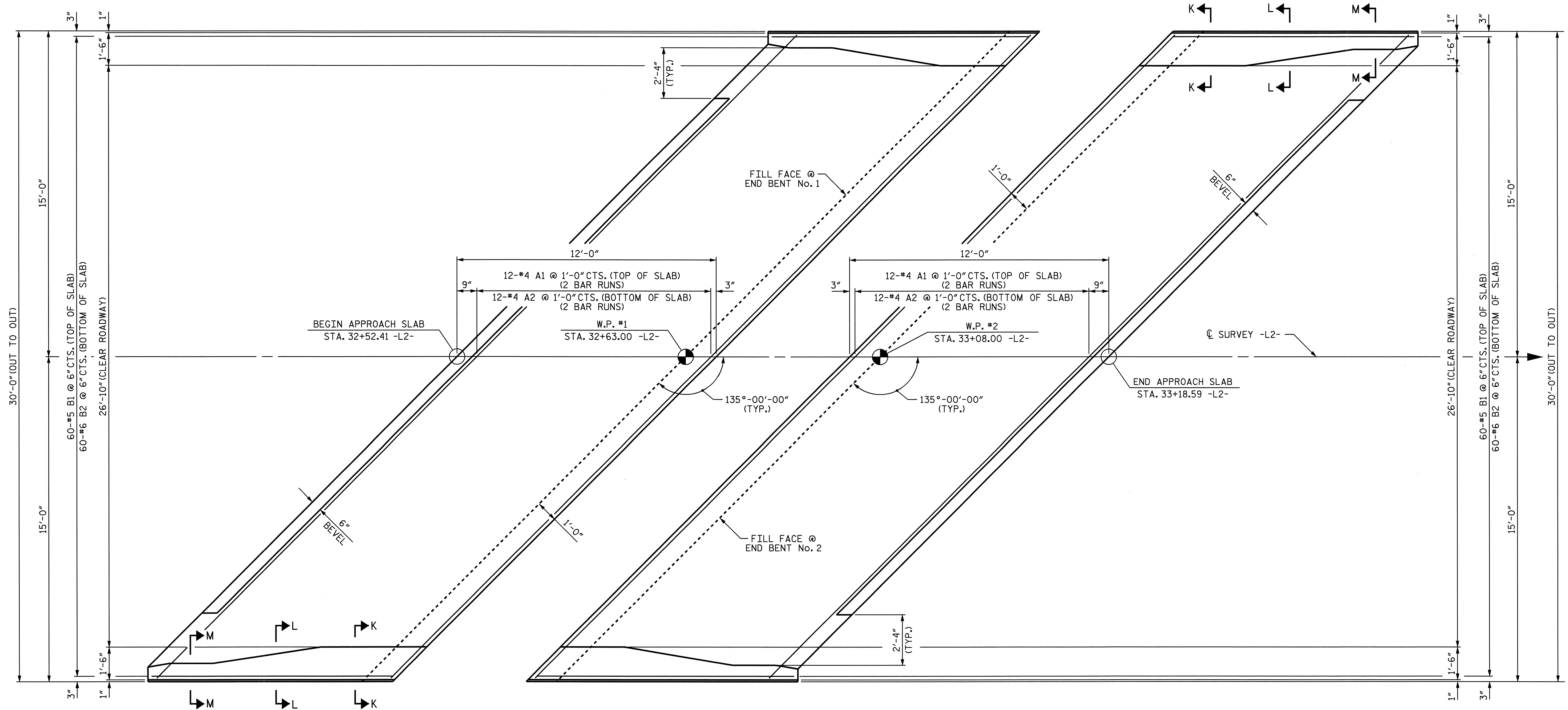
PROJECT NO. B-3926  
WATAUGA COUNTY  
STATION: 32+85.50 -L2-

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

DRAWN BY : R. G. EMERSON DATE : 05/04  
CHECKED BY : B. N. GRADY DATE : 06/04



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			36
2			4			

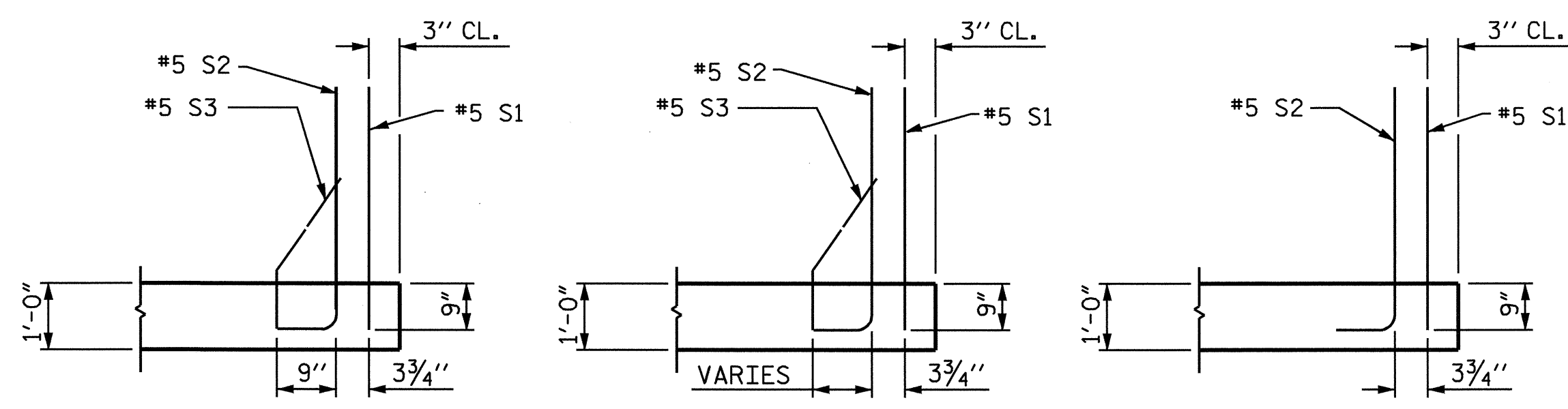


AT END BENT No. 1

AT END BENT No. 2

**PLAN OF APPROACH SLABS**

FOR REINFORCING STEEL IN BARRIER RAIL, SEE SHEET 3 OF 4.



SECTION K-K

SECTION L-L

SECTION M-M

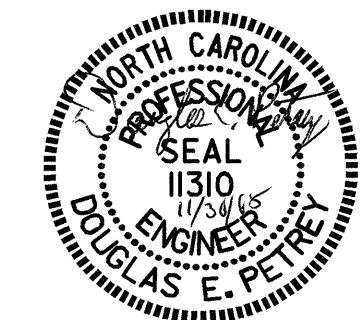
PROJECT NO. B-3926  
WATAUGA COUNTY  
 STATION: 32+85.50 -L2-

SHEET 1 OF 4

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BRIDGE APPROACH SLAB  
 FOR PRESTRESSED CONCRETE  
 CORED SLAB WITH  
 BARRIER RAIL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-33
1			3			TOTAL SHEETS 36
2			4			



DRAWN BY : B.N. GRADY DATE : 10/05  
 CHECKED BY : A.R. CHESSON/RGE DATE : 10/05



NOTES

THE COST OF THE BARRIER RAIL ON THE APPROACH SLAB SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE BID FOR BRIDGE APPROACH SLABS.

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

TEMPORARY DRAINAGE AND TEMPORARY BERM AND SLOPE DRAINS WILL BE PAID FOR UNDER THE LUMP SUM PRICE FOR BRIDGE APPROACH SLAB.

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 EXTEND 10'-0" BEYOND THE END OF THE APPROACH SLAB AND 1'-0" OUTSIDE OF EACH EDGE OF 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 EXTEND 1'-0" BEYOND THE END OF THE APPROACH SLAB AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB.

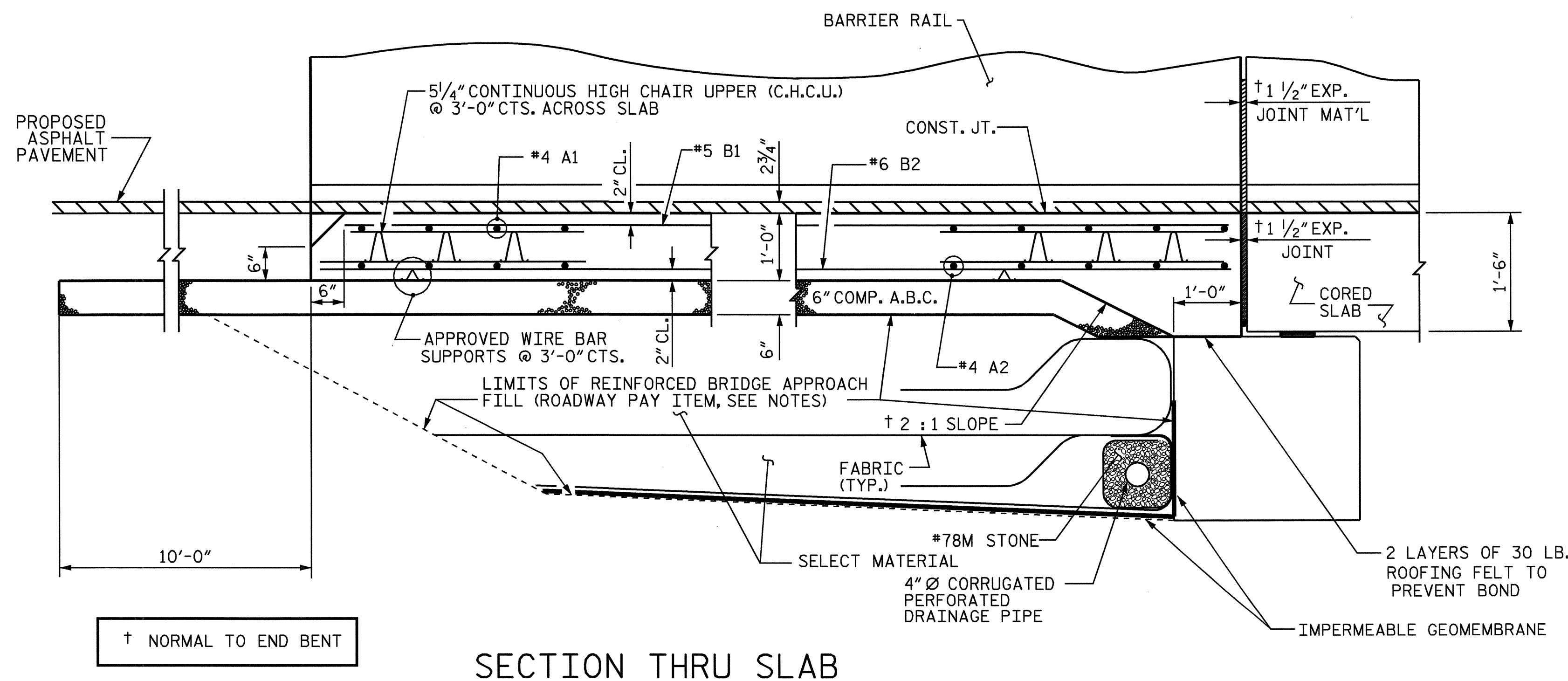
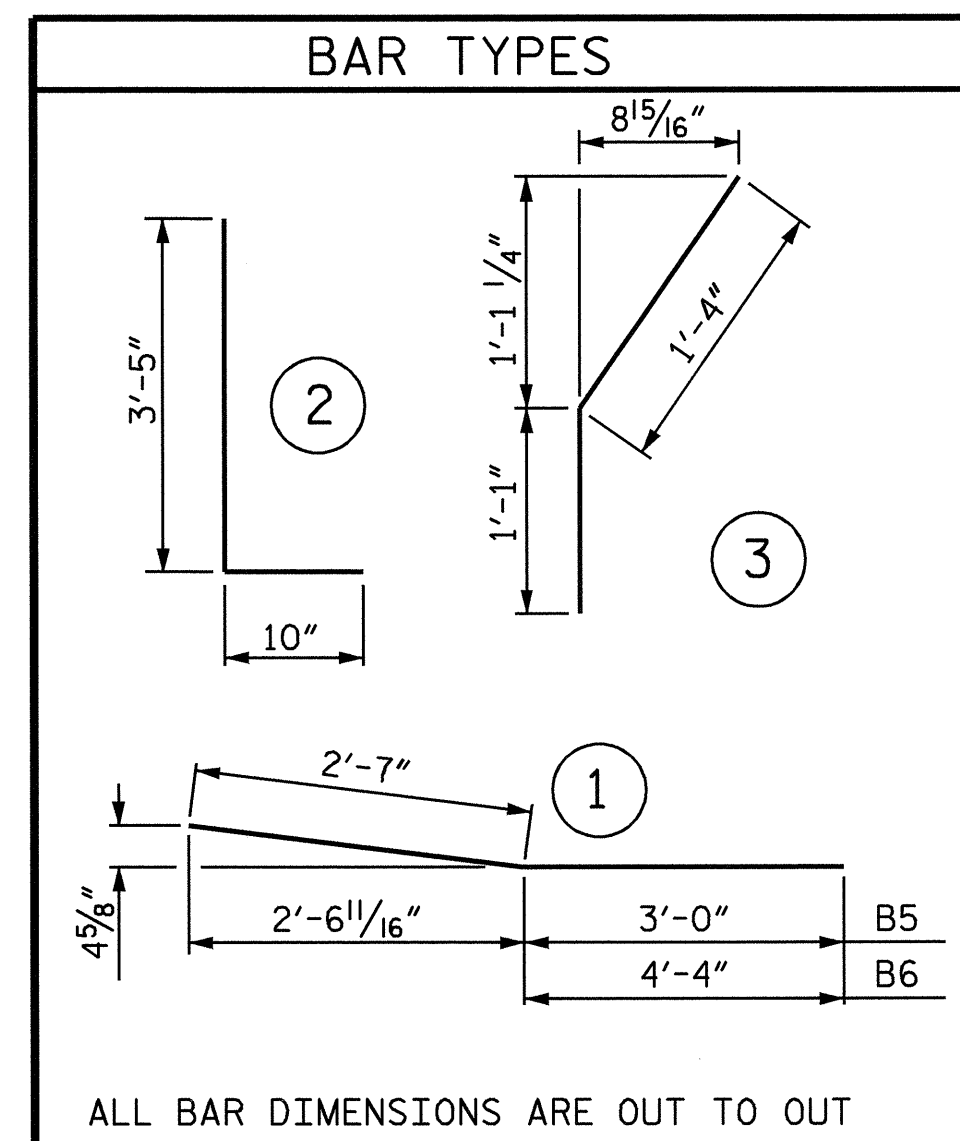
THE CONTRACTOR MAY USE 5" CLASS "A" CONCRETE BASE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE CONCRETE BASE SHALL EXTEND 1'-0" BEYOND THE END OF THE APPROACH SLAB AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB. THE CONCRETE SHALL BE FINISHED TO A SMOOTH SURFACE AND A LAYER OF 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 SEALED AS SOON AS PRACTICAL AFTER THE CONSTRUCTION OF THE APPROACH SLABS.

APPROACH SLAB GROOVING IS NOT REQUIRED.

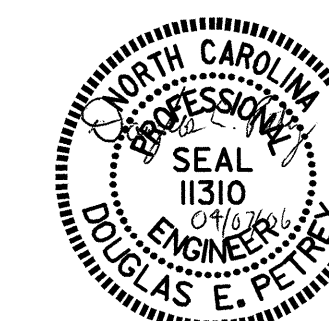
BILL OF MATERIAL					
FOR ONE APPROACH SLAB (2 REQ'D)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	24	#4	STR	22'-0"	353
A2	24	#4	STR	21'-11"	351
*B1	60	#5	STR	10'-11"	683
B2	60	#6	STR	11'-6"	1036
*B3	7	#5	STR	11'-7"	85
*B4	7	#5	STR	11'-3"	82
*B5	1	#5	1	5'-7"	6
*B6	1	#5	1	6'-11"	7
*S1	48	#5	STR	3'-5"	171
*S2	48	#5	2	4'-3"	213
*S3	20	#5	3	2'-5"	50
REINFORCING STEEL				LBS.	1387
*EPOXY COATED REINFORCING STEEL				LBS.	1650
CLASS AA CONCRETE BREAKDOWN					
POUR 1 SLAB				C. Y.	14.2
POUR 2 RAIL				C. Y.	2.2
CLASS AA CONCRETE				C. Y.	16.4



PROJECT NO. B-3926  
WATAUGA COUNTY  
 STATION: 32+85.50 -L2-

SHEET 2 OF 4

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



ASSEMBLED BY : B.N. GRADY	DATE : 10/05
CHECKED BY : A.R. CHESSON/RGE	DATE : 10/05
DRAWN BY : LES 8/01	REV. 10/17/00 RWW/LES
CHECKED BY : RDR 8/01	REV. 7/10/01 LES/RDR
	REV. 5/7/03R RWW/JTE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-34
1			3			TOTAL SHEETS
2			4			36

NOTES

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

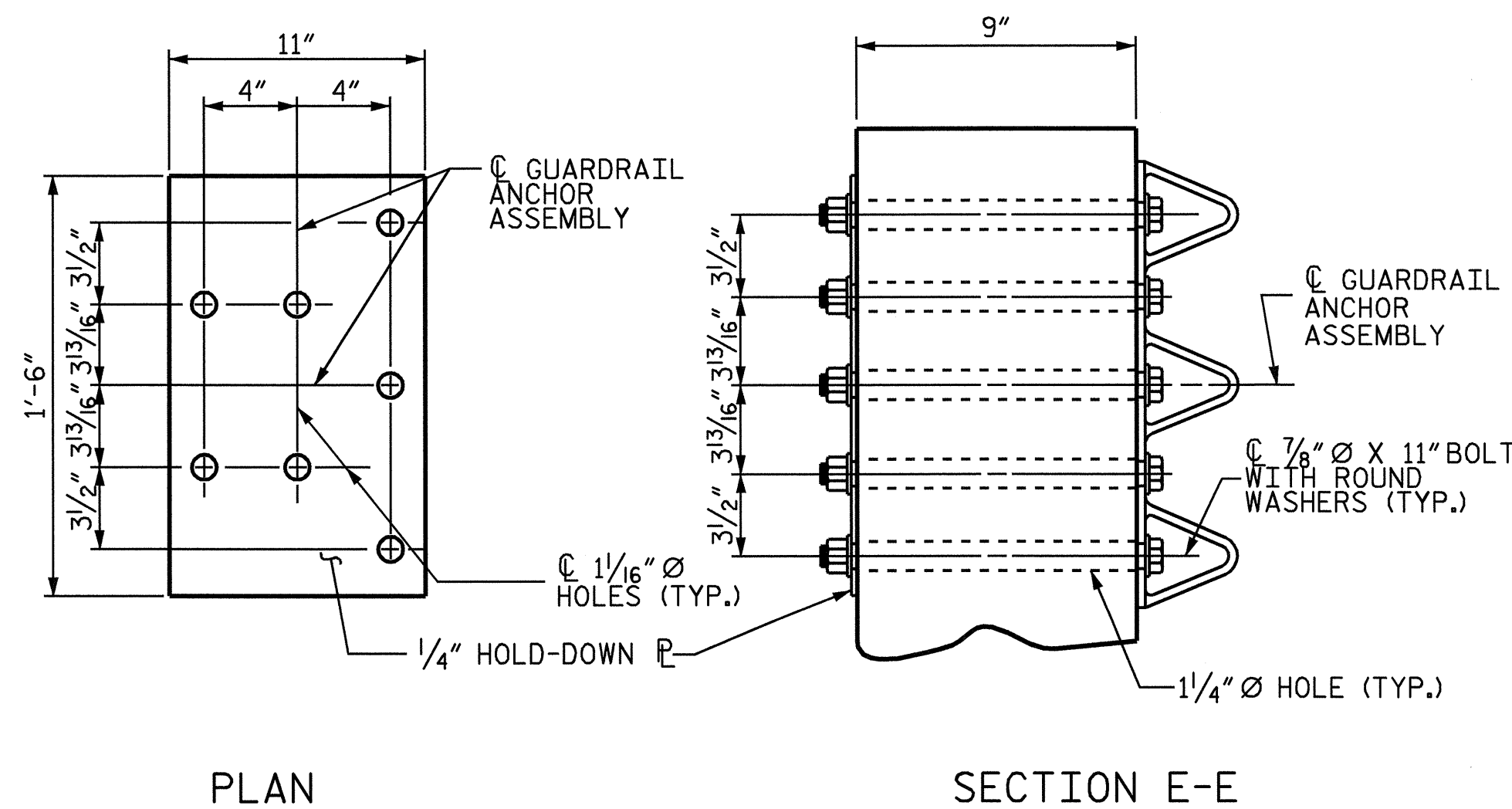
THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.

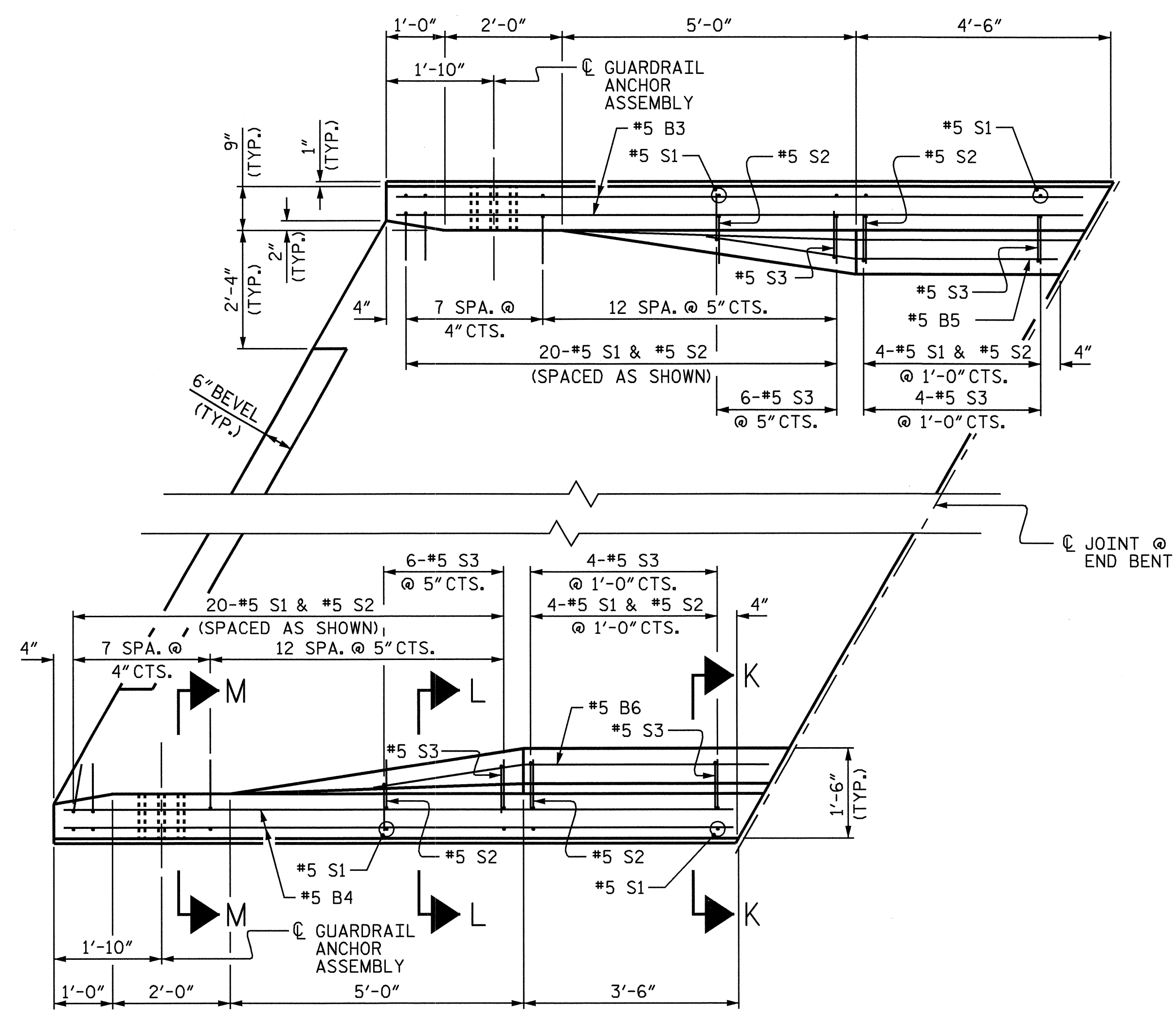
AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLIES WITH BOLTS, NUTS AND WASHERS COMPLETE IN PLACE, SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE BID FOR BRIDGE APPROACH SLABS.

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



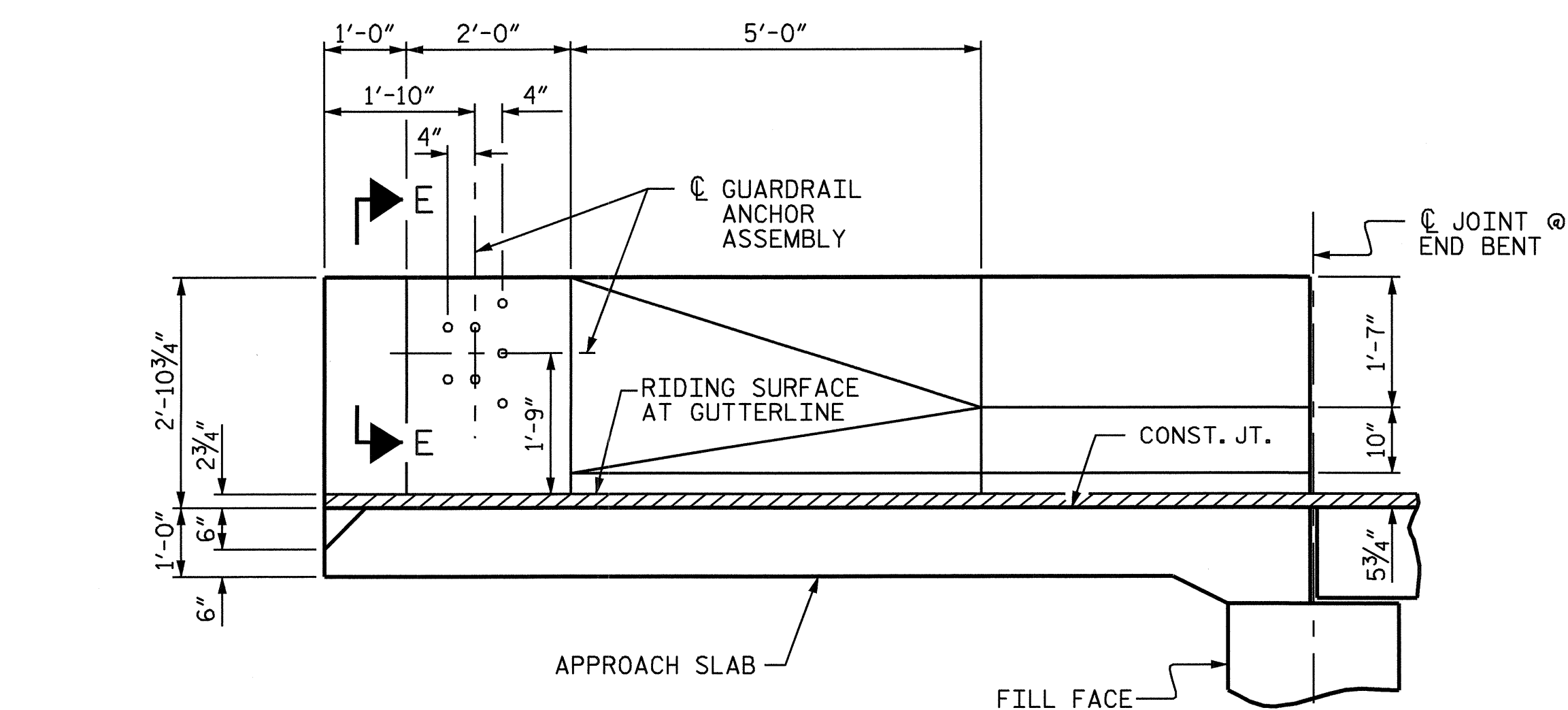
PLAN SECTION E-E  
GUARDRAIL ANCHOR ASSEMBLY DETAILS



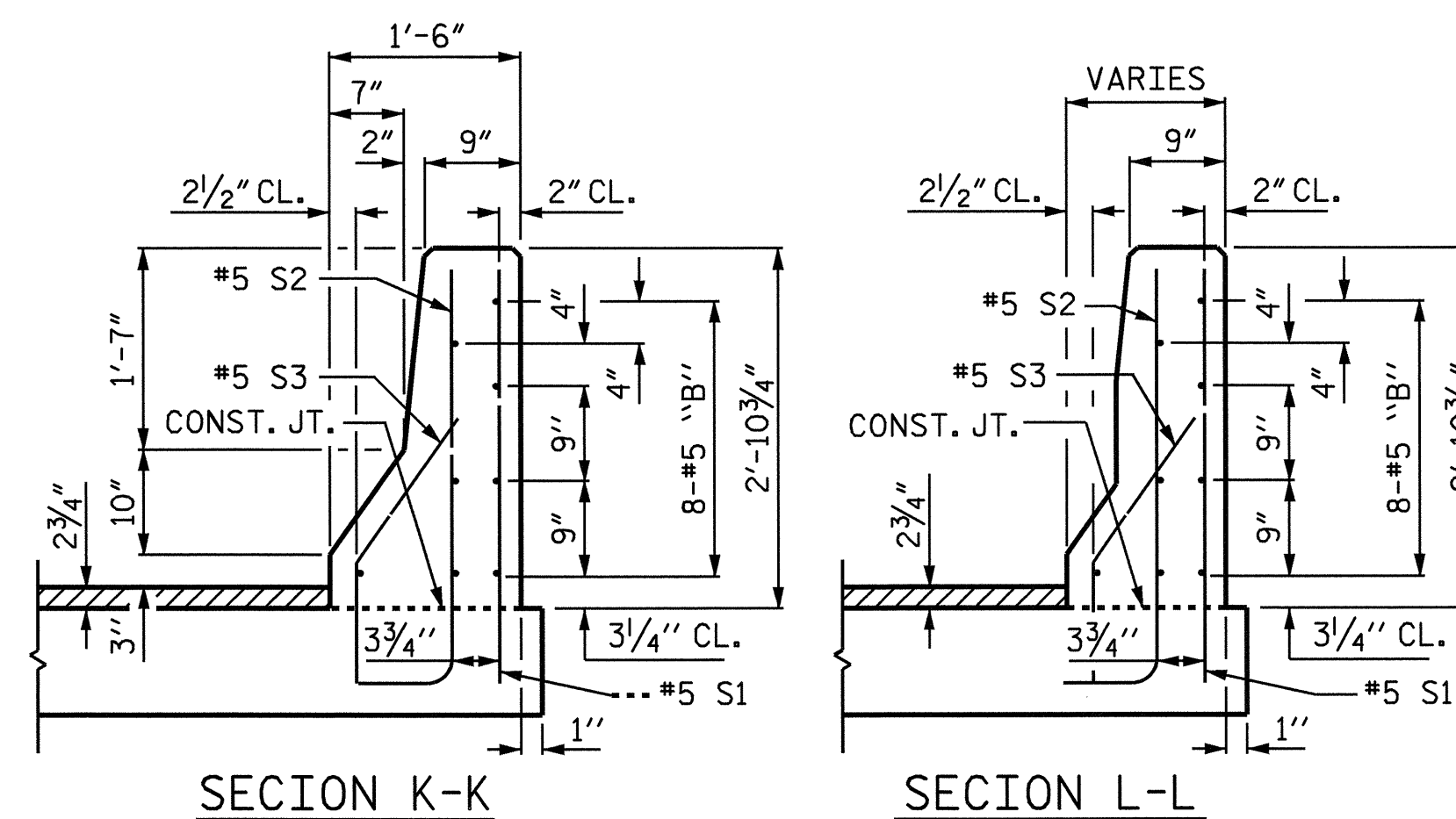
PLAN

BEGIN APPROACH SLAB SHOWN, END APPROACH SLAB SIMILAR

(DIMENSIONS ARE SHOWN AT BACKFACE OF BARRIER RAIL)

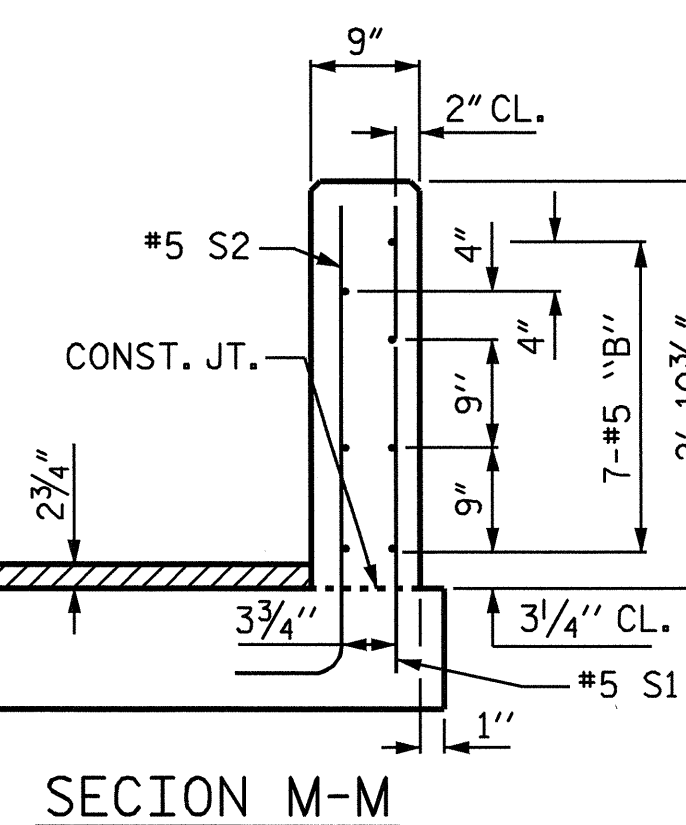


ELEVATION

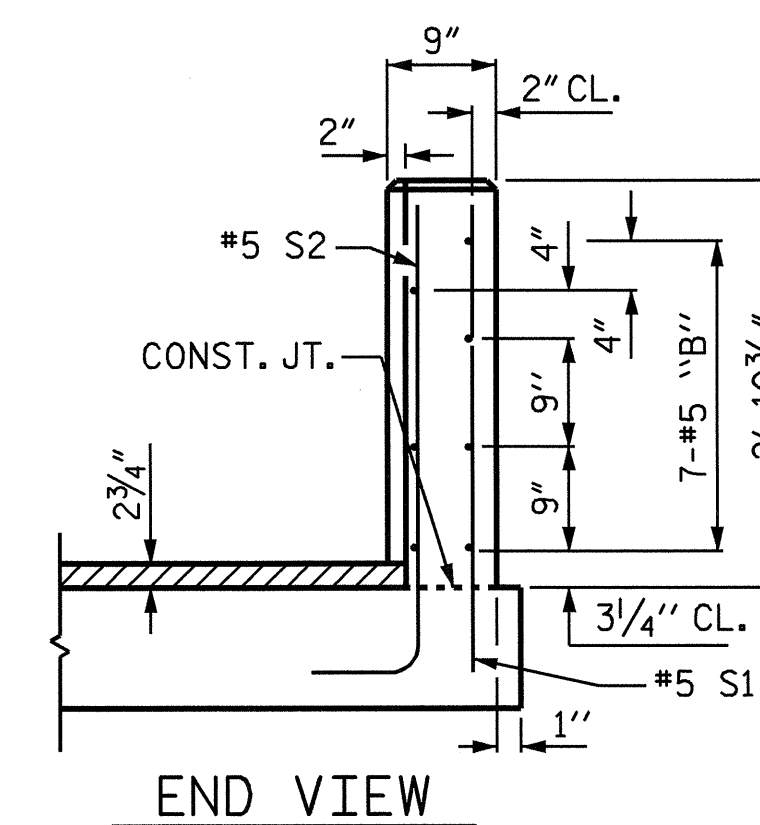


SECTION K-K

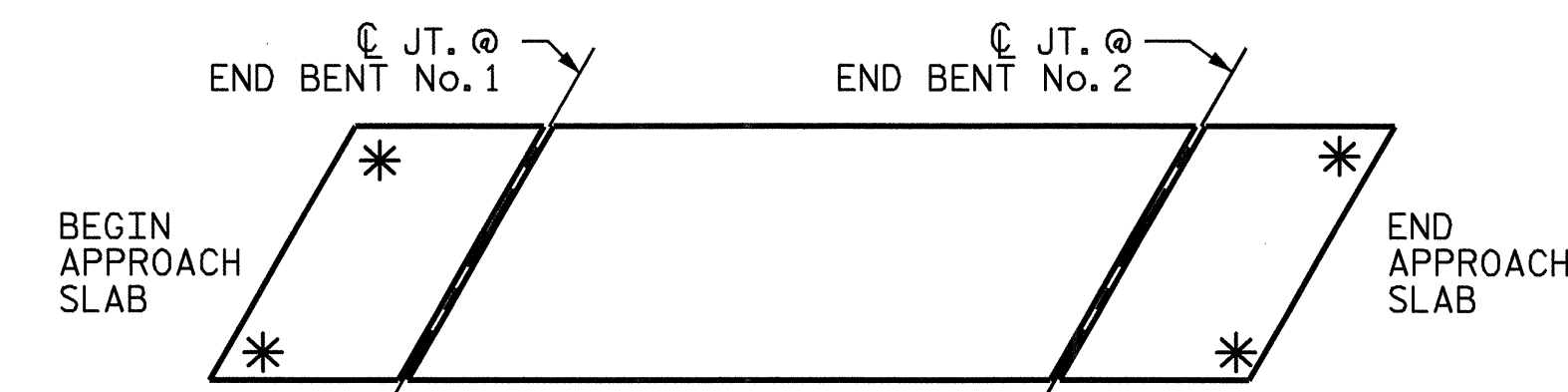
SECTION L-L



SECTION M-M



END VIEW



SKETCH SHOWING POINTS OF ATTACHMENT

\* INDICATES POINTS OF ATTACHMENT

ASSEMBLED BY : B.N. GRADY	DATE : 10/05
CHECKED BY : A.R. CHESSON/RGE	DATE : 10/05
DRAWN BY : LES 8/01	REV. 5/7/03 RWW/JTE
CHECKED BY : RDR 8/01	

30-NOV-2005 15:12  
R:\Structures\B3926\bngrady\Microstation\B3926.ed.as.02.dgn  
bngrady

PROJECT NO. B-3926  
WATAUGA COUNTY  
STATION: 32+85.50 -L2-

SHEET 3 OF 4

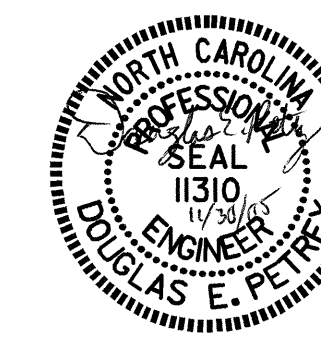
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

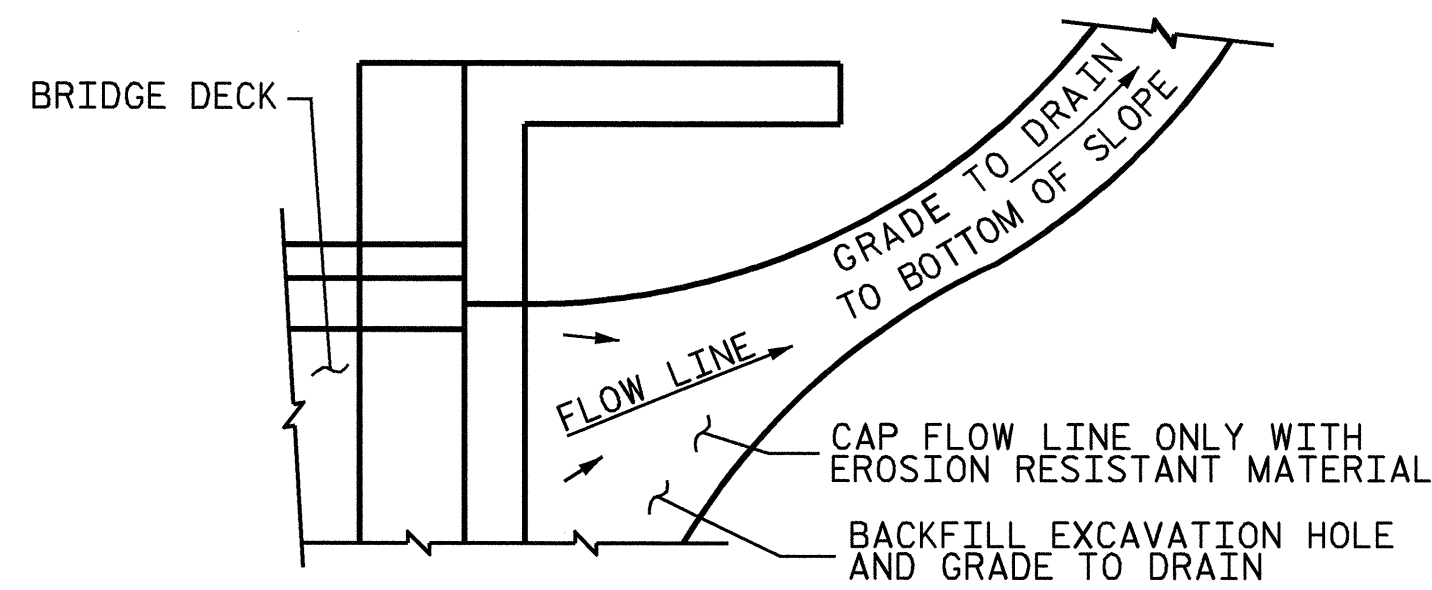
STANDARD  
BRIDGE APPROACH SLAB  
DETAILS FOR PRESTRESSED  
CONCRETE CORED SLAB  
WITH BARRIER RAIL

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-35	
1			3			TOTAL SHEETS 36	
2			4				

STD. NO. BAS9

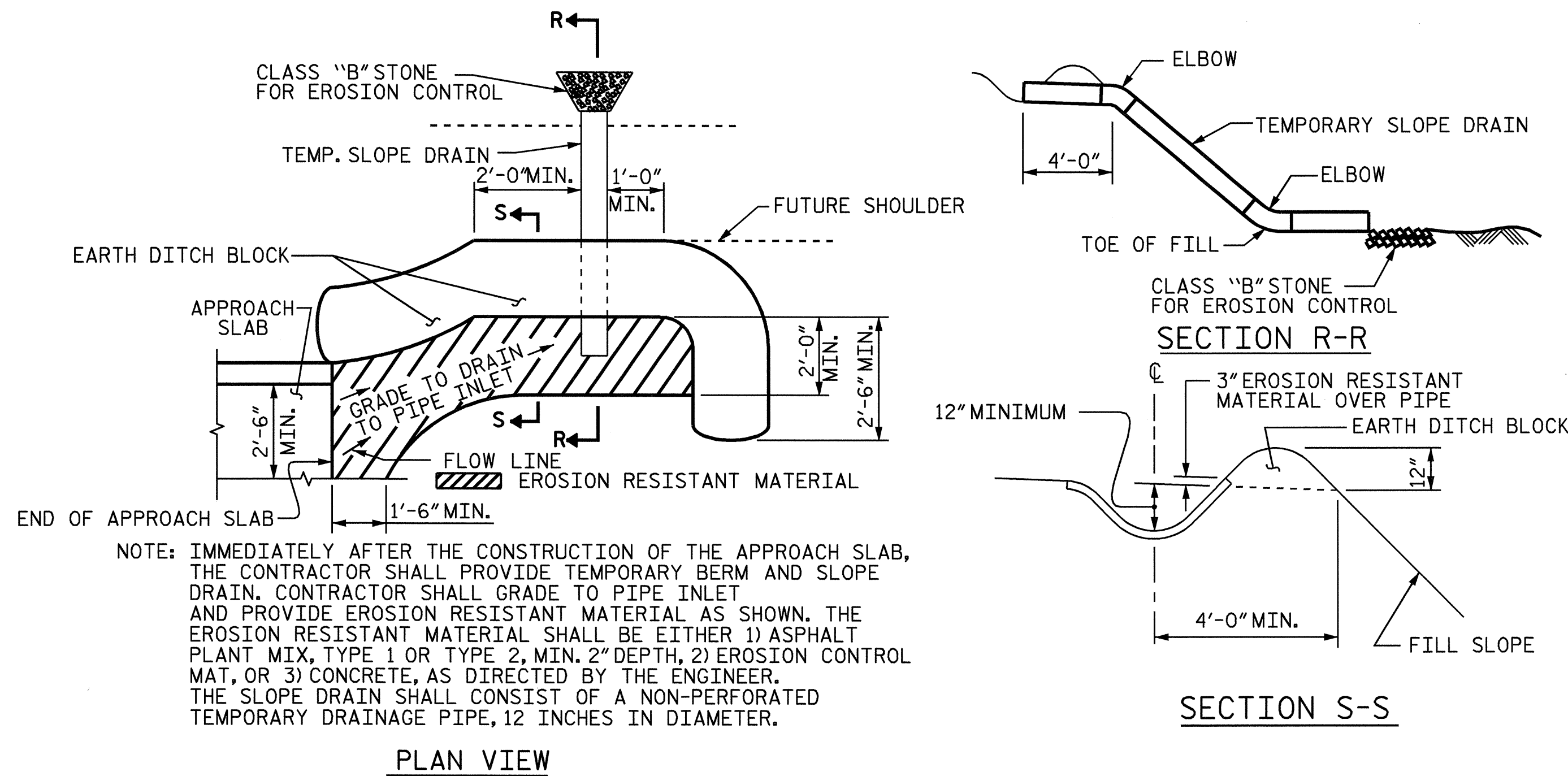
STR. #2





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**



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

**PLAN VIEW**

**SECTION S-S**

**TEMPORARY BERM AND SLOPE DRAIN DETAILS**

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)

PROJECT NO. B-3926  
WATAUGA COUNTY  
 STATION: 32+85.50 -L2-

SHEET 4 OF 4

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

STANDARD  
 BRIDGE APPROACH  
 SLAB DETAILS



ASSEMBLED BY : B.N. GRADY	DATE : 10/05
CHECKED BY : A.R. CHESSON/RGE	DATE : 10/05
DRAWN BY : FCJ 11/88	REV. 8/16/99 MAB/LES
CHECKED BY : ARB 11/88	REV. 10/17/00 RWW/LES
	REV. 5/7/03 RWW/JTE

REVISIONS						1988
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S-36
2			4			TOTAL SHEETS 36



