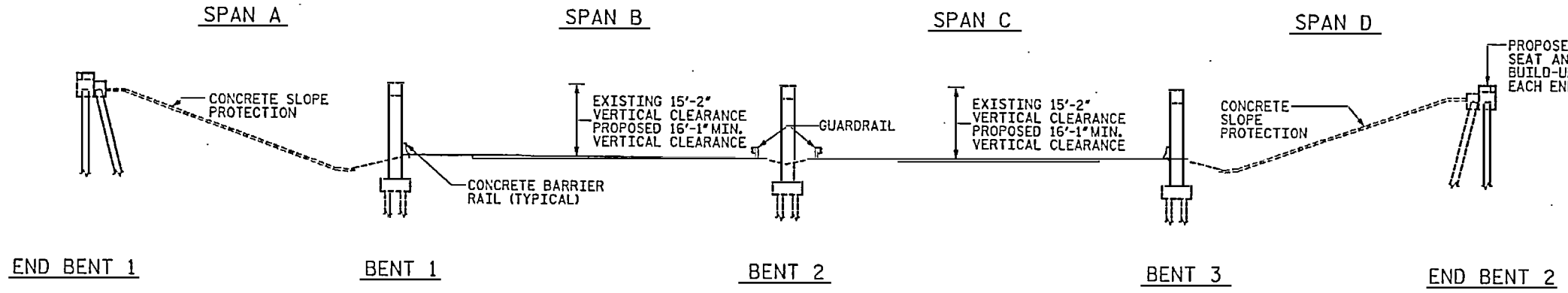


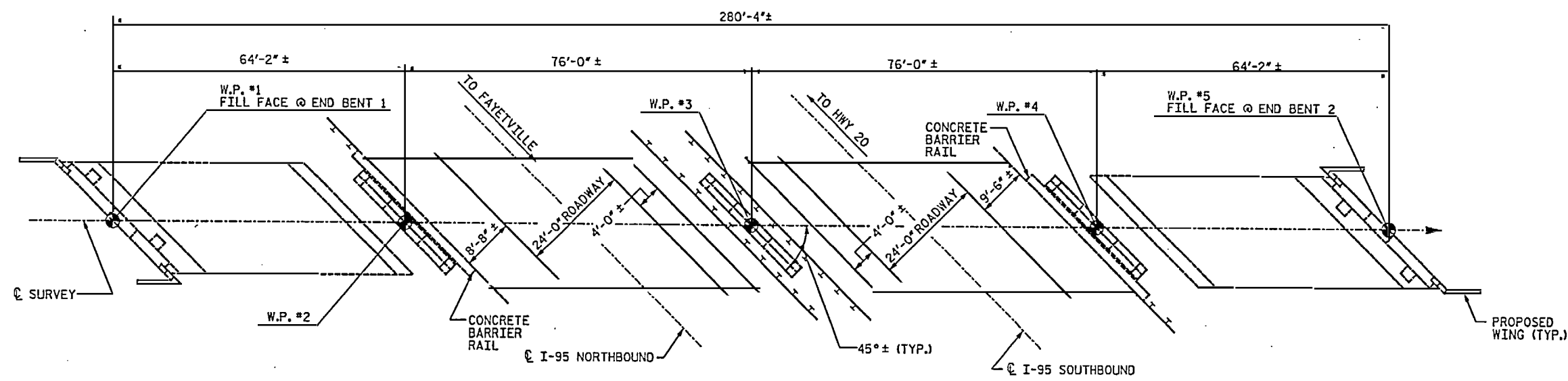
**NOTES**

- FOR LATEX MODIFIED CONCRETE, SEE SPECIAL PROVISIONS.
- FOR REPAIR OF BRIDGE 100 DECK WITH LATEX MODIFIED CONCRETE, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR MAINTENANCE AND PROTECTION OF TRAFFIC BENEATH BRIDGE, SEE SPECIAL PROVISIONS.
- ALL DIMENSIONS IN THESE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY DIMENSIONS IN FIELD PRIOR TO CONSTRUCTION AND ANY FABRICATION. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES SUCH THAT NECESSARY ADJUSTMENTS BE MADE BY THE CONTRACTOR.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- ALL STRUCTURAL STEEL SHALL BE ASTM A36 MIN.
- ALL WELDING SHALL BE IN ACCORDANCE WITH CURRENT AWS SPECIFICATIONS.



**ELEVATION**

SECTIONS AT BENTS AND END BENTS ARE AT RIGHT ANGLES.



**PLAN**

**△ TOTAL BILL OF MATERIAL**

	PARTIAL REMOVAL OF EXISTING STRUCTURE	BRIDGE FLOOR GROOVING	CLASS AA CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	STRUCTURAL STEEL*	CLASS I, SURFACE PREPARATION	CLASS II, SURFACE PREPARATION	LATEX MODIFIED CONCRETE OVERLAY	PLACING AND FINISHING OF LATEX MODIFIED CONCRETE OVERLAY	EPOXY RESIN INJECTION	EPOXY MORTAR REPAIRS	EVAZOTE JOINT SEALS	BRIDGE JACKING
	LUMP SUM	SQ. FT.	CU. YDS.	LUMP SUM	LBS.	APPROX. LBS.	SQ. YDS.	SQ. YDS.	CU. YDS.	SQ. YDS.	LINEAR FT.	SQ. FT.	LUMP SUM	LUMP SUM
SUPERSTRUCTURE	LUMP SUM	7,606	4.2	LUMP SUM		4584	870	60	29.7	853	20.0	16.0	LUMP SUM	LUMP SUM
END BENT 1	LUMP SUM		11.6		1890	68					2.0	3.5		
BENT 1												3.0		
BENT 2											21.0	4.0		
BENT 3												4.5		
END BENT 2	LUMP SUM		11.6		1890	68					2.0	3.5		
<b>TOTAL</b>	<b>LUMP SUM</b>	<b>7,606</b>	<b>27.4</b>	<b>LUMP SUM</b>	<b>3780</b>	<b>4,720</b>	<b>870</b>	<b>60</b>	<b>29.7</b>	<b>853</b>	<b>45.0</b>	<b>34.5</b>	<b>LUMP SUM</b>	<b>LUMP SUM</b>

\* INCLUDES WEIGHT OF ANCHOR BOLTS

770100

# 41927.3.1

PROJECT NO. B-5021

ROBESON COUNTY

BRIDGE: 100

MODIFICATION OF BRIDGE NO. 100



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
**BRIDGE OVER I-95 ON**  
**US 301**  
**BETWEEN SR 1726 AND**  
**HWY 20**

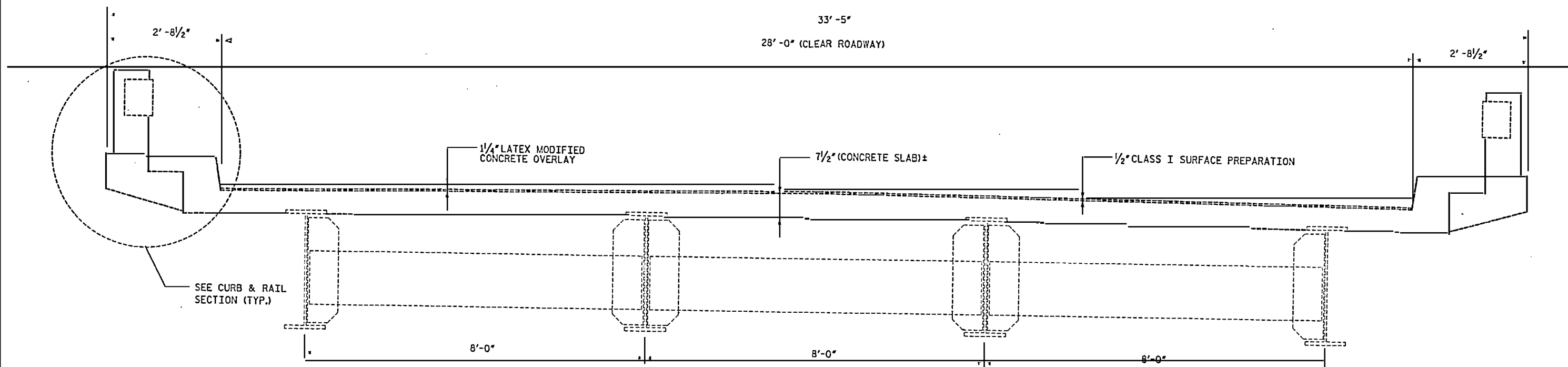
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	5-20
1	STV	5-08	3			TOTAL SHEETS 62
2			4			

△ REVISION #1: REVISED PER REVIEW COMMENTS  
 BY: TJT DATE: 5-08  
 CHKD BY: KGB DATE: 5-08

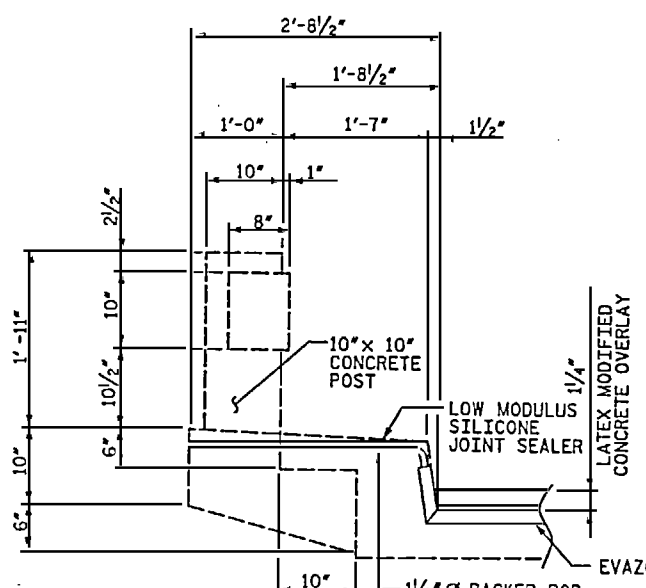
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 CHECKED BY: PEK DATE: 2-08

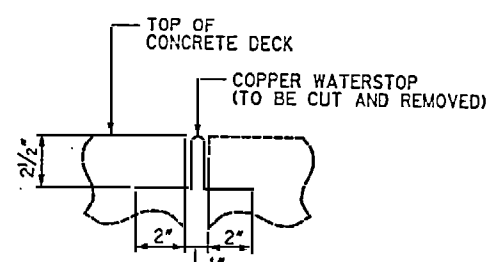


TYPICAL SECTION

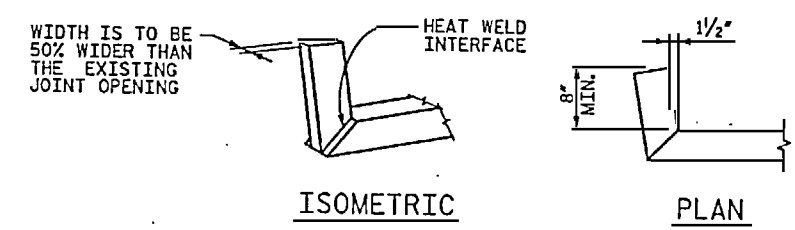


CURB AND RAIL SECTION \*

\* PER SIDE, THERE ARE 9 POSTS PER SPAN  
TOTAL RAIL LENGTH = 285'-5" PER SIDE

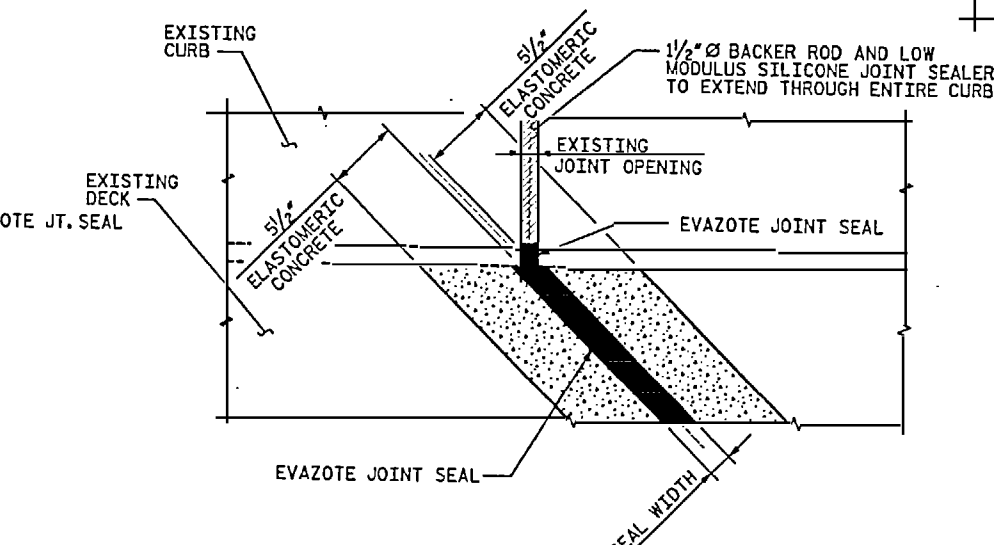


EXISTING EXPANSION JOINT DETAIL

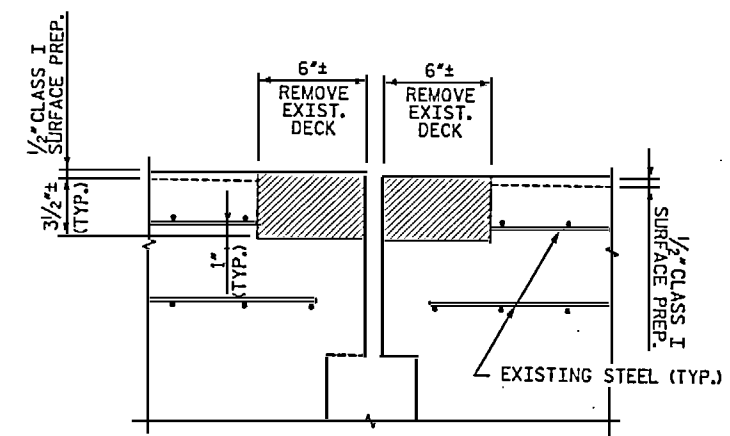


EVAZOTE JOINT DIRECTIONAL CHANGE DETAIL

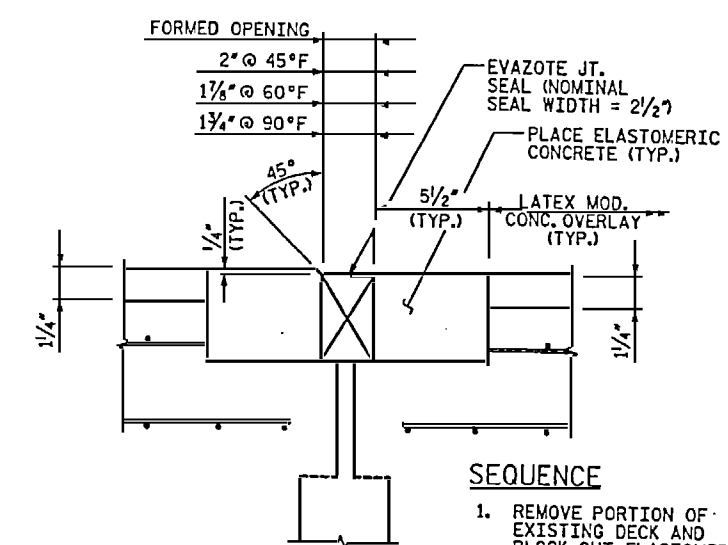
HEAT WELD EVAZOTE MATERIAL PER MANUFACTURER'S RECOMMENDATIONS



PLAN VIEW OF EVAZOTE JOINT @ GUTTERLINE



REMOVAL SECTION



PROPOSED SECTION  
(ESTIMATED ELASTOMERIC CONCRETE = 1.2 C.Y.)

SEQUENCE

1. REMOVE PORTION OF EXISTING DECK AND BLOCK OUT ELASTOMERIC AREA.
2. PLACE LATEX MODIFIED CONCRETE.
3. FORM JOINT AND POUR ELASTOMERIC CONCRETE.
4. REMOVE JOINT FORM.
5. INSTALL EVAZOTE JOINT.

NOTES

1. FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.
2. FOR EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.
3. PAYMENT FOR INSTALLATION OF THE 1/2" BAKER ROD AND LOW MODULUS SILICONE JOINT SEALER SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF THE BRIDGE.

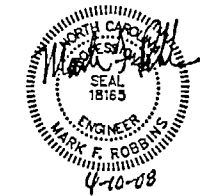
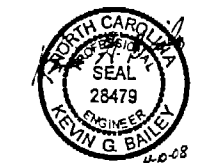
JOINT REPAIR DETAIL

SECTIONS NORMAL TO JOINT AT BENT

BILL OF MATERIAL	
BENT NO.	ELASTOMERIC CONCRETE (CU. FT.) *
1	14.4
2	14.4
3	14.4

\*BASED ON MINIMUM BLOCKOUT SHOWN  
NOTE: SEE APPROACH SLAB FOR ELASTOMERIC CONCRETE AT END BENTS

PROJECT NO. B-5021  
ROBESON COUNTY  
BRIDGE: 100



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
EXISTING SUPERSTRUCTURE  
TYPICAL SECTION

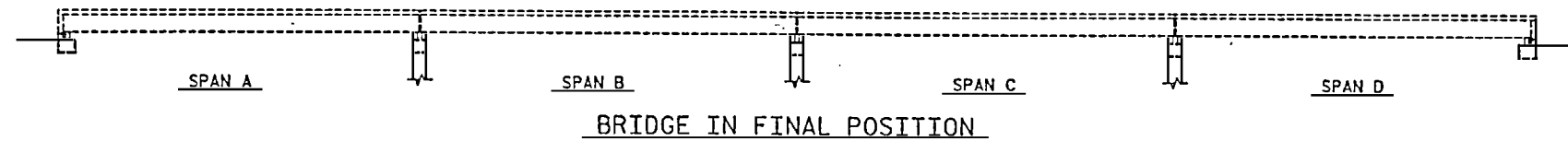
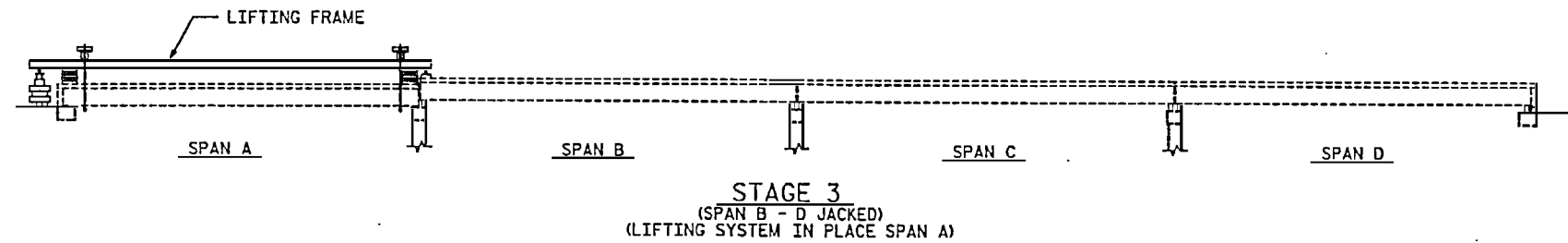
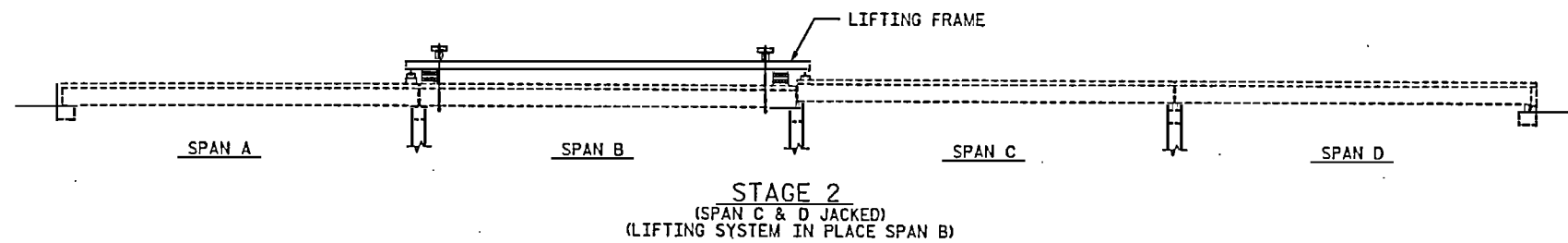
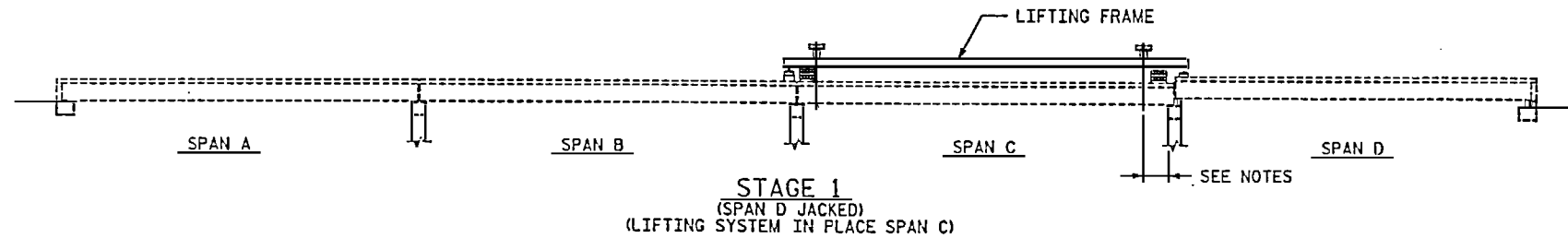
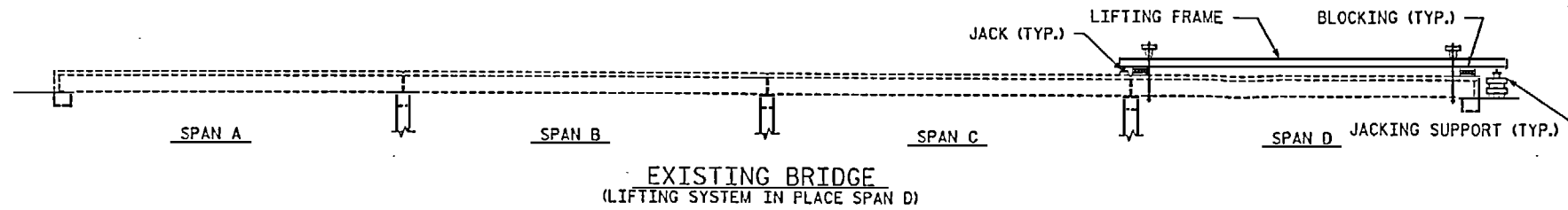
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	5-21
1			3			TOTAL SHEETS 62
2			4			

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DRAWN BY: KGB DATE: 1-08  
CHECKED BY: PEK DATE: 2-08



**JACKING SEQUENCE FOR BRIDGE 100**

**NOTES:**

1. THE CONTRACTOR SHALL JACK ALL BEAMS IN ANY ONE SPAN SIMULTANEOUSLY.
2. TRAFFIC SHALL NOT BE ALLOWED ON THE STRUCTURE UNTIL THE WORK REQUIRED BY THE CONTRACT DOCUMENTS IS COMPLETE.
3. PRIOR TO INSTALLING BEARING PEDESTALS AND NEW BEARINGS, CONTRACTOR SHALL MAKE ANY REPAIRS TO BENTS AS REQUIRED IN THE CONTRACT DOCUMENTS.
4. CONTRACTOR SHALL SUBMIT JACKING PLANS AND CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA FOR REVIEW AND APPROVAL PRIOR TO MATERIAL PURCHASE OR FABRICATION OF JACKING SYSTEM.
5. FOR ADDITIONAL INFORMATION ON JACKING SEE SPECIAL PROVISION "BRIDGE JACKING".
6. LIFTING FRAME SHALL EXTEND BEYOND THE LENGTH OF THE LIFTED SPAN AND PROVIDE BEARINGS AT THE SAME LOCATION AS THE ADJACENT GIRDER BEARINGS.
7. CONTRACTOR SHALL SHIM BRIDGE SPAN DURING JACKING SUCH THAT THE MAXIMUM UNSHIMMED LIFT IS 1".
8. CONTRACTOR SHALL PROVIDE SPAN LIFT POINTS AS CLOSE AS POSSIBLE TO THE FACE OF BENT CAP.
9. HYDRAULIC SYSTEM SHALL BE CONNECTED SUCH THAT ALL JACKS LIFT SIMULTANEOUSLY.
10. CONTRACTOR SHALL DESIGN LIFTING SYSTEM SUCH THAT HORIZONTAL POSITION OF THE LIFTED SPAN CAN BE MAINTAINED.

**CONSTRUCTION SEQUENCE:**

1. CONSTRUCT JACKING SUPPORT AT END BENT. CONTRACTOR SHALL MAKE SURE CURTAIN WALL IS FULLY DETACHED FROM END BENT CAP, WINGS, AND FILL.
2. CONSTRUCT THE LIFTING FRAME (FOR SPAN D) MAKING SURE SYSTEM IS LEVEL. INSTALL BLOCKING AS NECESSARY.
3. LIFT SPAN D TO REQUIRED ELEVATION AND INSTALL BEARING PEDESTALS AND NEW BEARINGS. PRIOR TO INSTALLING BEARING PEDESTALS AND NEW BEARINGS, CONTRACTOR SHALL MAKE ANY REPAIRS TO BENTS AS REQUIRED IN THE CONTRACT DOCUMENTS.
4. CONSTRUCT END BENT AND BENT MODIFICATIONS AS SHOWN IN THE CONTRACT DOCUMENTS. END BENT MODIFICATIONS NECESSARY TO ANCHOR THE SPAN SHALL BE COMPLETED PRIOR TO PROCEEDING.
5. SHIFT LIFT SYSTEM TO SPAN C AND REPEAT STEPS 2 THROUGH 4.
6. SHIFT LIFT SYSTEM TO SPAN B AND REPEAT STEPS 2 THROUGH 4.
7. SHIFT LIFT SYSTEM TO SPAN A AND REPEAT STEPS 1 THROUGH 4.
8. PREPARE DECK AND PLACE LATEX MODIFIED CONCRETE OVERLAY.
9. FINISH REMAINING REPAIRS AND MODIFICATIONS AS INDICATED IN CONTRACT DOCUMENTS. REMOVE TRAFFIC CONTROL MEASURES AND OPEN BRIDGE TO TRAFFIC.

REVISION #1: REVISED PER REVIEW COMMENTS  
 BY: TJT DATE: 5-08  
 CH'KD BY: KGB DATE: 5-08



PROJECT NO. B-5021  
 ROBESON \_\_\_\_\_ COUNTY  
 BRIDGE: 100

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BRIDGE JACKING SEQUENCE**

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	5-22
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2			4			

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DRAWN BY: TJT DATE: 3-08  
 CHECKED BY: MFR DATE: 3-08

**NOTES**

THE EXISTING ANCHOR BOLTS SHALL BE CUT FLUSH WITH THE EXISTING TOP OF CAP. ANCHOR BOLTS SHALL BE DRILLED AND ADHESIVELY ANCHORED INTO THE EXISTING CAP. CONTRACTOR SHALL CORE DRILL THE EXISTING ANCHOR BOLTS USING A CORE BIT WITH INSIDE DIAMETER MATCHING THAT OF THE EXISTING ANCHOR BOLT DIAMETER. THE ANCHOR BOLT HOLES IN THE PROPOSED TOP AND BOTTOM PLATE DETAIL SHALL MATCH THE ANCHOR BOLT HOLES IN THE EXISTING BEAMS. THIS MATCH SHALL FACILITATE THE PROPER ALIGNMENT OF THE PEDESTAL. THE ANCHOR BOLT LENGTH IS BASED ON AN 12" EMBEDMENT INTO THE EXISTING CAP AND MAY BE ADJUSTED BASED ON THE MINIMUM EMBEDMENT SPECIFIED BY THE MANUFACTURER OF THE EPOXY ADHESIVE BONDING SYSTEM. FOR ADHESIVELY ANCHORED ANCHOR BOLTS, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL FIELD VERIFY PROPOSED ANCHOR BOLT LOCATIONS PRIOR TO FABRICATION OF THE TOP AND BOTTOM PLATES FOR THE PROPOSED PEDESTALS.

FOR CLEANING AND PAINTING EXISTING BEARING PLATES, SEE SPECIAL PROVISION.

\* THE PROPOSED PEDESTAL HEIGHT ASSUMES THAT THE TOTAL HEIGHT OF THE EXISTING BEARING ASSEMBLIES IS 2 1/2". THE CONTRACTOR SHALL MEASURE THE HEIGHT OF ALL BEARING ASSEMBLIES AND ADJUST THE HEIGHT OF THE PROPOSED PEDESTALS ACCORDINGLY.

ALL THREADS OF BOLTS/ANCHOR BOLTS SHALL BE BURRED AFTER TIGHTENING NUTS.

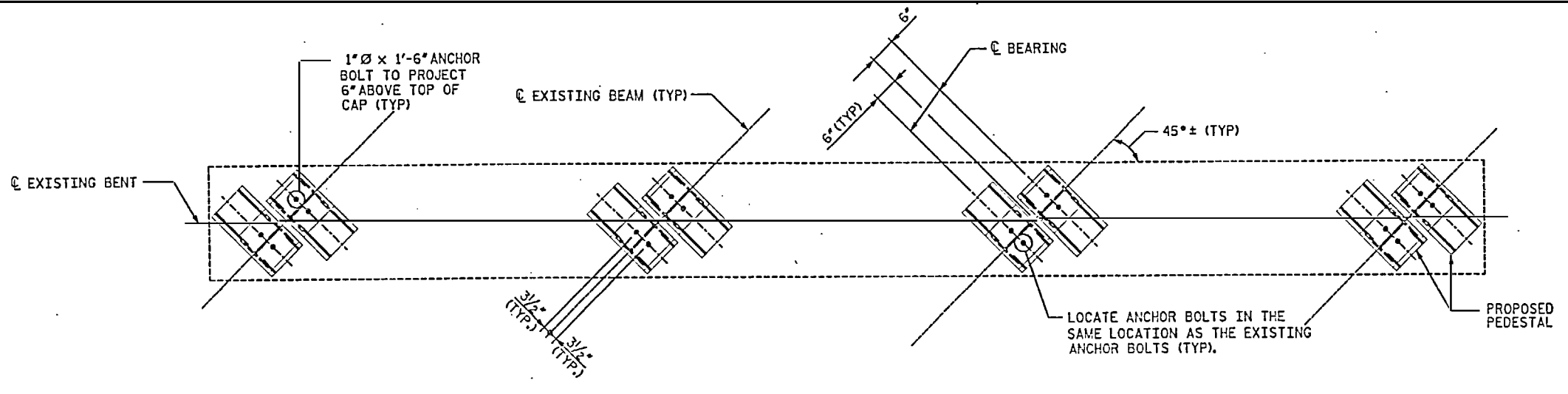
1" Ø BOLTS IN TOP PLATE SHALL CONFORM TO ASTM A325.

1" Ø ANCHOR BOLTS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. CONTRACTOR SHALL VERIFY ANCHOR BOLT DIAMETER AND ADJUST AS NECESSARY TO MATCH EXISTING ANCHOR BOLT DIAMETER.

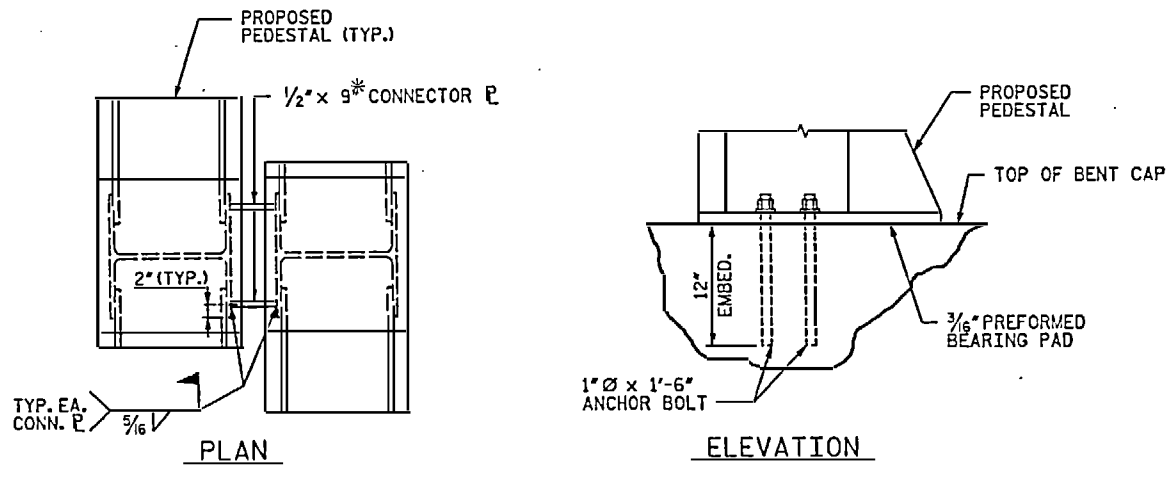
PROPOSED PEDESTALS SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS. AREAS TO BE WELDED SHALL BE REPAIRED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

STRUCTURAL STEEL  
(APPROX. LBS. 4584)

REVISION \*1: REVISED PER REVIEW COMMENTS  
BY: TJT DATE: 5-08  
CHK'D BY: KGB DATE: 5-08

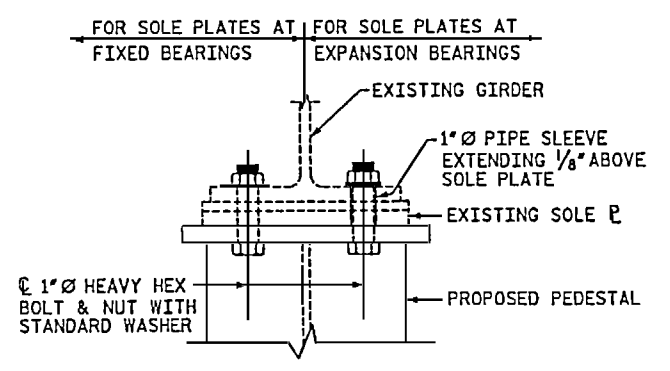


**PLAN OF EXISTING BENT**



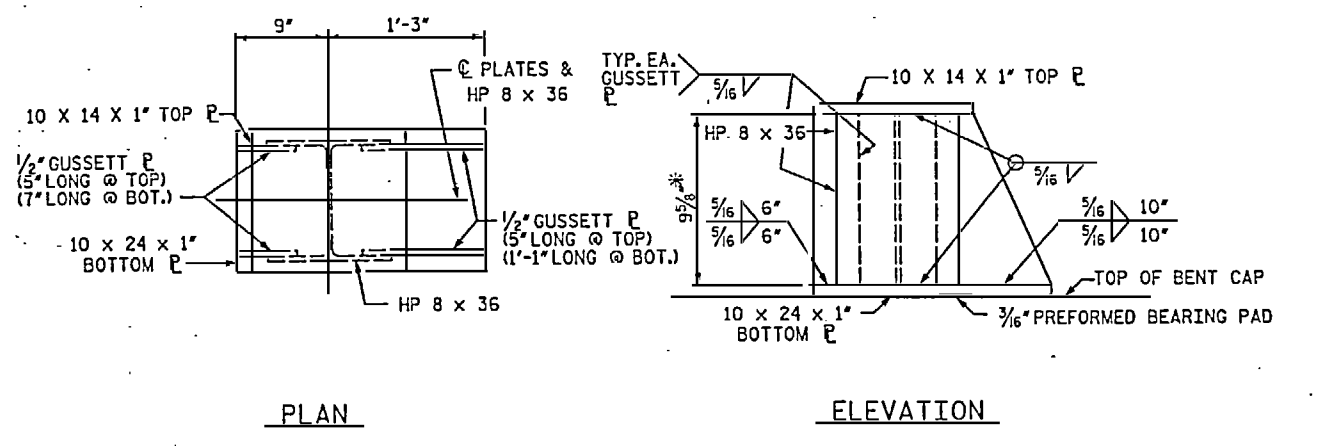
**PEDESTAL ATTACHMENT DETAIL**

(CONNECTOR PLATES SHALL BE INSTALLED AFTER BEARING ASSEMBLIES HAVE BEEN INSTALLED)

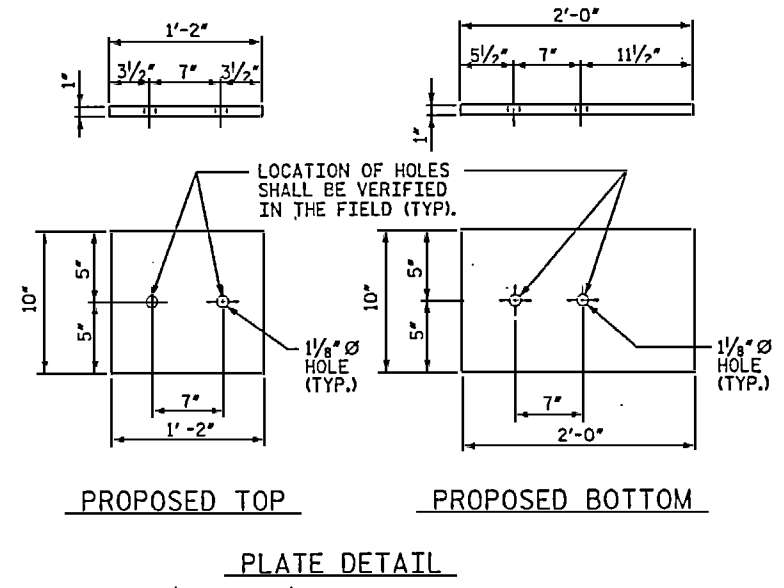


**BEARING ATTACHMENT DETAIL**

(CONTRACTOR SHALL VERIFY BOLT DIMENSION AND ADJUST HOLE DIAMETER AS NECESSARY PRIOR TO PEDESTAL FABRICATION)

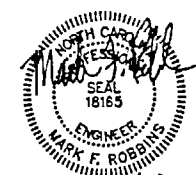


**PEDESTAL DETAILS**



**PLATE DETAIL**

PROJECT NO. **B-5021**  
ROBESON COUNTY  
BRIDGE: **100**



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
**SUBSTRUCTURE INTERIOR BENT BEARING MODIFICATIONS**

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	5-23
1	STV	5-08	3			TOTAL SHEETS 62
2			4			

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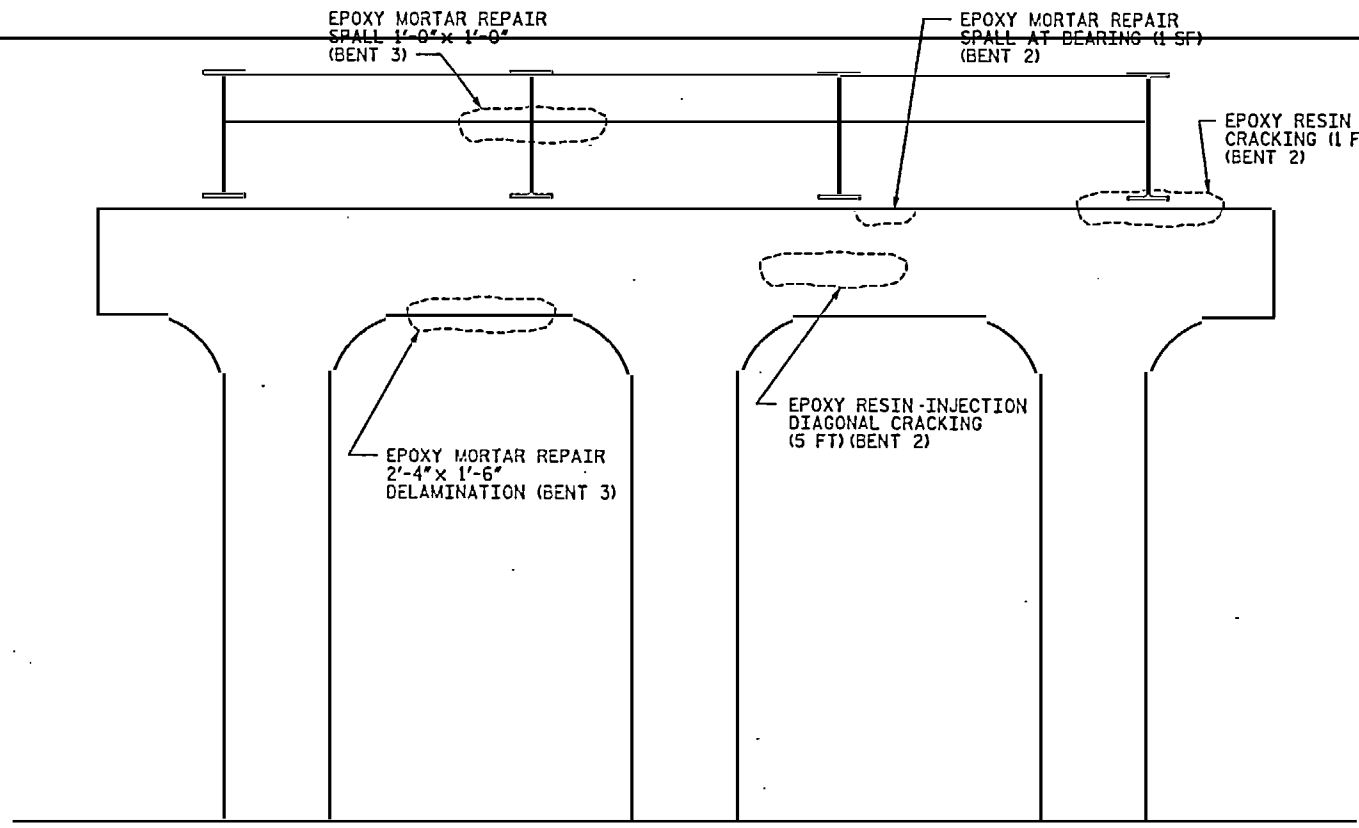
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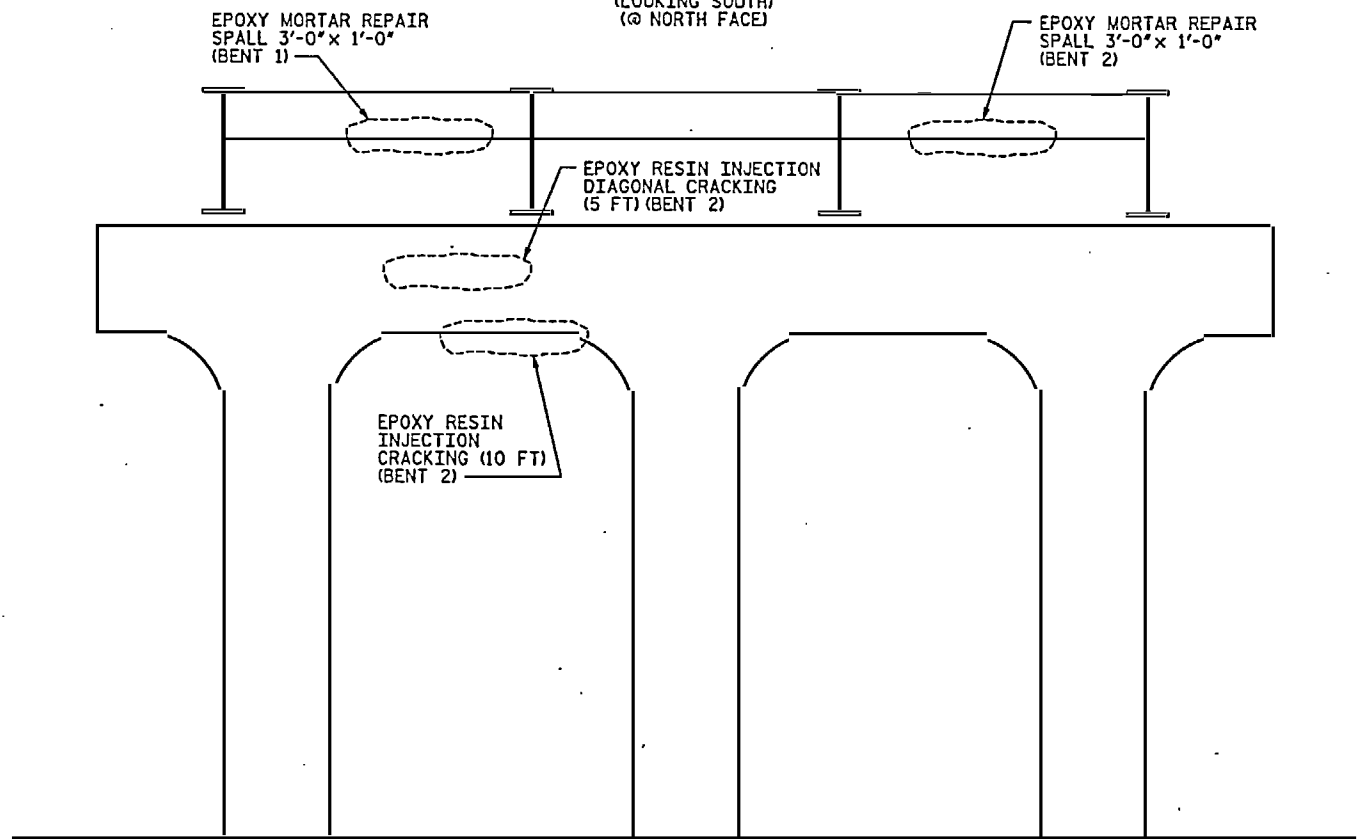
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CHECKED BY: **PEK** DATE: **2-08**

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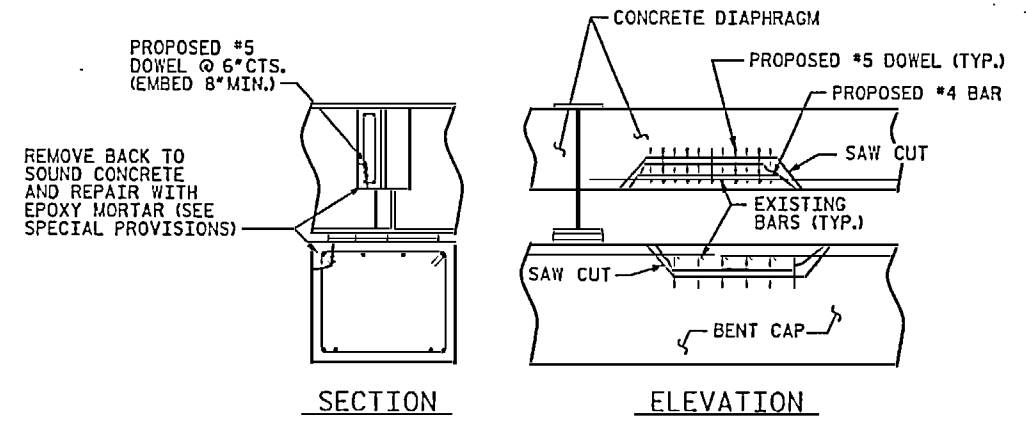
**BENT ELEVATION**

(LOOKING SOUTH)  
(@ NORTH FACE)

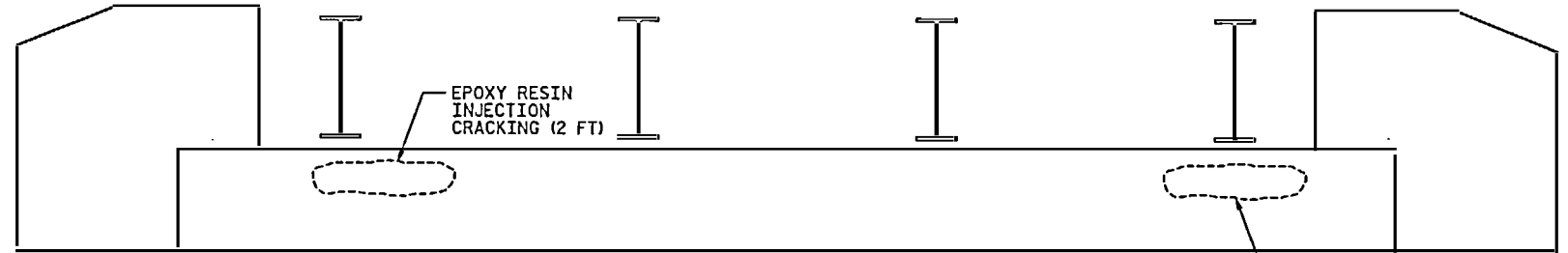


**BENT ELEVATION**

(LOOKING NORTH)  
(@ SOUTH FACE)

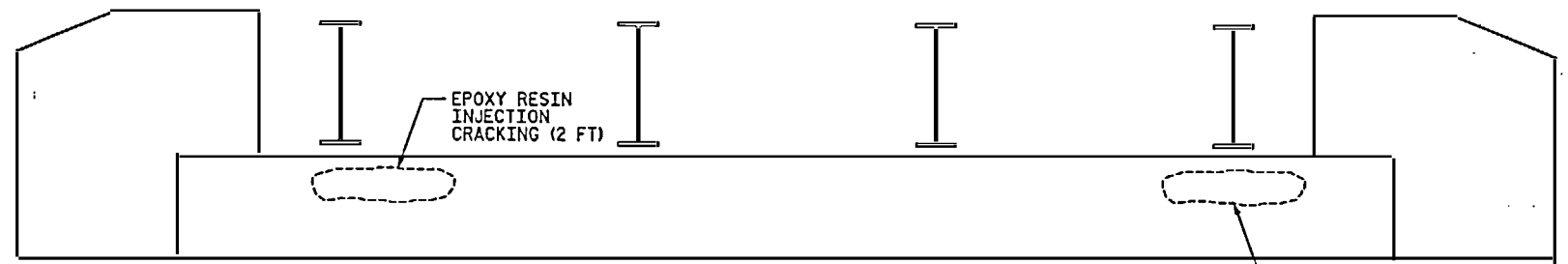


**TYPICAL BENT AND DIAPHRAGM REPAIR DETAIL**



**END BENT 1 ELEVATION**

(FACING END BENT)



**END BENT 2 ELEVATION**

(FACING END BENT)

**NOTES:**

1. REPAIRS SHALL BE IMPLEMENTED WHEN BRIDGE IS RAISED ABOVE REPAIR.
2. BLOCKING SHALL NOT BE POSITIONED OVER REPAIR UNTIL REPAIR HAS CURED.
3. SAWCUT 1/4" - 1/2" DEEP AROUND ALL SPALLS.
4. FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
5. FOR EPOXY MORTAR REPAIR, SEE SPECIAL PROVISIONS.
6. CONTRACTOR SHALL EPOXY MORTAR REPAIR 1 S.F. SPALL IN SPAN A UNDER THE DECK.
7. CONTRACTOR SHALL EPOXY MORTAR REPAIR DELAMINATION IN SPAN D RIGHT SIDE OVERHANG AT 2 LOCATIONS. REPAIRS ARE APPROXIMATELY 6 S.F. AND 2 S.F.

PROJECT NO. B-5021  
 ROBESON COUNTY  
 BRIDGE: 100



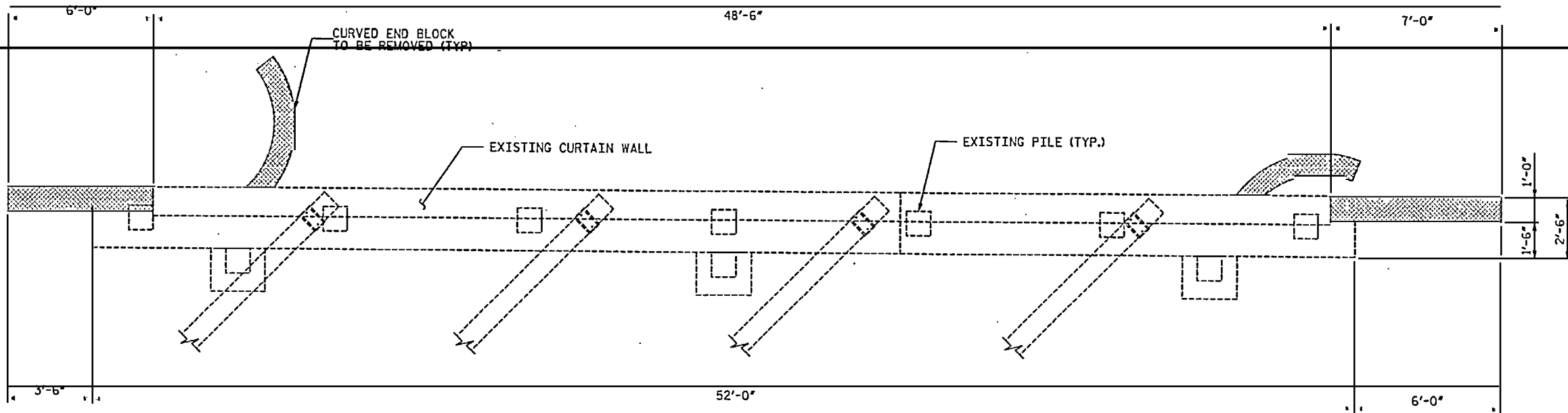
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DEPARTMENT OF TRANSPORTATION  
RALEIGH

**SUBSTRUCTURE REPAIRS**

DRAWN BY : KGB DATE : 3-08  
 CHECKED BY : MFR DATE : 3-08

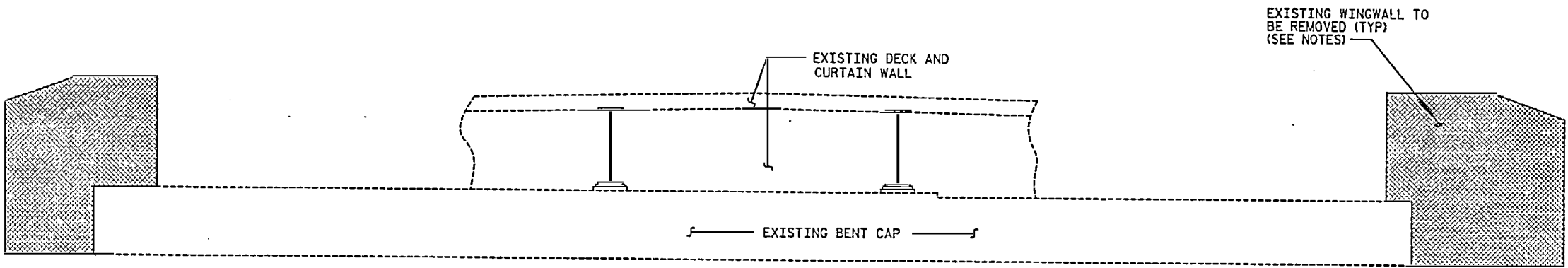
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1			3			S-24
2			4			TOTAL SHEETS 62



**PLAN OF EXISTING CAP**

END BENT 2 SHOWN, END BENT 1 SIMILAR



**ELEVATION OF EXISTING CAP**

END BENT 2 SHOWN, END BENT 1 SIMILAR  
CURVED END BLOCK NOT SHOWN

**NOTES**

DIMENSIONS ARE BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS PRIOR TO CONSTRUCTION.

PORTIONS OF EXISTING END BENT SHOWN IN CROSS-HATCHED AREAS SHALL BE REMOVED.

VERTICAL AND HORIZONTAL REINFORCING STEEL EXTENDING FROM THE END BENT CAP INTO THE EXISTING WINGWALLS SHALL BE CLEANED AND STRAIGHTENED. CUT EXISTING REINFORCING STEEL TO MAINTAIN REQUIRED CONCRETE COVER. MINIMUM 14" EXTENSION INTO THE PROPOSED WINGWALL.

BARS DAMAGED DURING THE CONCRETE REMOVAL SHALL BE REPLACED BY #6 DOWELS SECURED IN THE EXISTING END BENT CAP WITH EPOXY ADHESIVE AT NO ADDITIONAL PAYMENT.

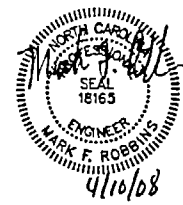
THE #6 DOWEL LENGTH SHALL BE BASED ON A 9" EMBEDMENT INTO EXISTING CONCRETE AND MAY BE ADJUSTED BASED ON THE MINIMUM EMBEDMENT SPECIFIED BY THE MANUFACTURER OF THE EPOXY ADHESIVE BONDING SYSTEM. SEE SPECIAL PROVISION FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS.

EXISTING ANCHOR BOLTS ARE TO BE CUT FLUSH WITH THE EXISTING TOP OF CAP.

THE EXISTING CURTAIN WALL CONCRETE AROUND ANCHOR BOLTS AND BEARING ASSEMBLIES SHALL BE REMOVED, USING HAND TOOLS, AS NECESSARY TO FREE ANCHOR BOLTS AND BEARING ASSEMBLIES. THE CONTRACTOR SHALL EXERCISE CARE DURING THE REMOVAL OF EXISTING CONCRETE TO INSURE THAT EXISTING GIRDERS, BEARING ASSEMBLIES AND CURTAIN WALL STEEL REMAIN UNDAMAGED.

CONTRACTOR SHALL REMOVE EXISTING APPROACH SLAB BRACKET AS NECESSARY TO ACCOMMODATE PROPOSED APPROACH SLAB BRACKET. EXISTING APPROACH SLAB BRACKET NOT SHOWN FOR CLARITY.

ALL WORK ON THIS SHEET WILL BE PAID FOR UNDER THE LUMP SUM BID PRICE FOR PARTIAL REMOVAL OF EXISTING STRUCTURE.



PROJECT NO. B-5021  
ROBESON COUNTY

BRIDGE: 100

SHEET 1 OF 4

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
  
SUBSTRUCTURE  
END BENT  
CONCRETE REMOVAL

REVISIONS						SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE	TOTAL SHEETS	
1			3			5	25
2			4			62	

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Charlotte, NC 28208

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CHECKED BY: PEK DATE: 2-08

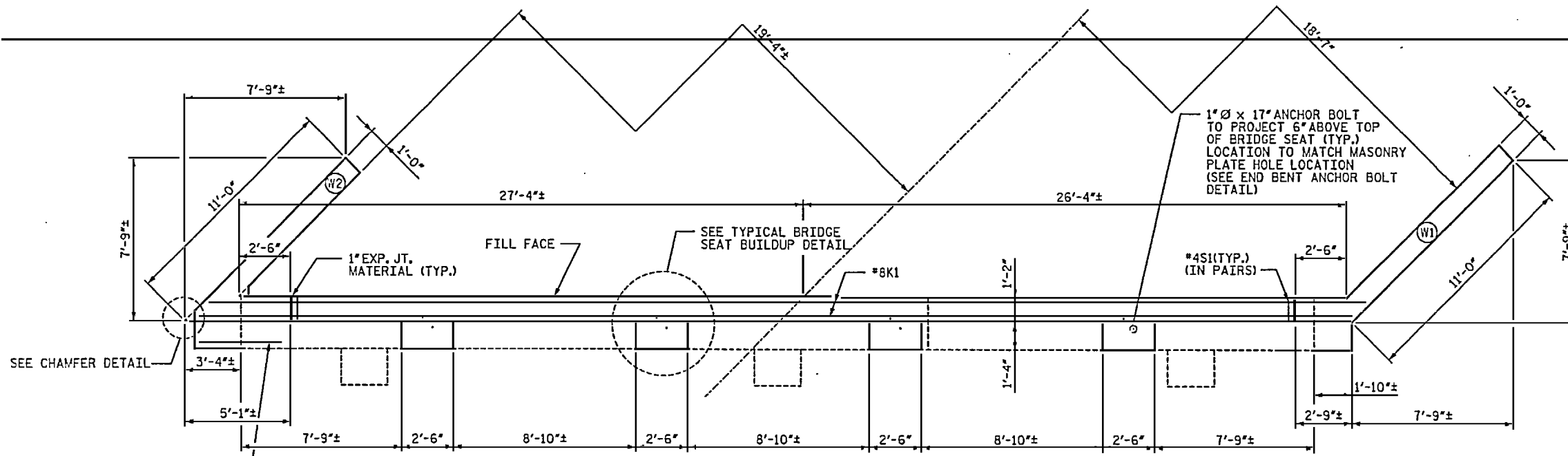
NOTES

THE #6D1 & #4K2 BARS SHALL BE SECURED IN EXISTING CONCRETE WITH EPOXY ADHESIVE. FOR ADHESIVELY ANCHORED ANCHOR BOLTS AND DOWELS SEE SPECIAL PROVISION.

THE VERTICAL LEG LENGTH OF THE #6D1 & #4K2 BARS AND #4V2 BARS IS BASED ON A 9" EMBEDMENT INTO EXISTING CONCRETE AND MAY BE ADJUSTED BASED ON THE MINIMUM EMBEDMENT SPECIFIED BY THE MANUFACTURER OF THE EPOXY ADHESIVE BONDING SYSTEM.

THE AREAS OF THE CURTAIN WALL AROUND ANCHOR BOLTS AND BEARING ASSEMBLIES PREVIOUSLY REMOVED SHALL BE RECAST TO PRODUCE SMOOTH, STRAIGHT FINISHED SURFACES USING CLASS AA CONCRETE.

FOR CLEANING AND PAINTING EXISTING BEARING PLATES' SEE SPECIAL PROVISION.



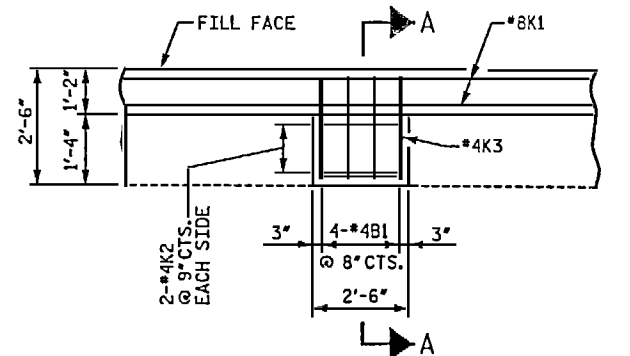
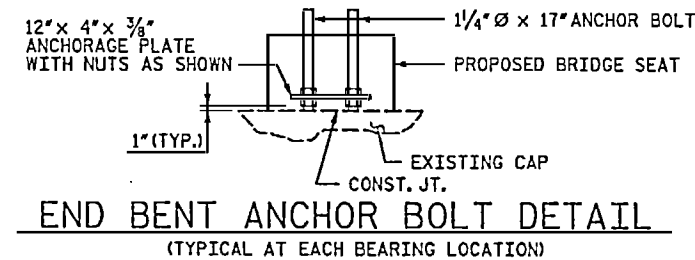
ADHESIVELY ANCHOR 6-#6D2 INTO END OF EXISTING CAP FOR CAP EXTENSION. D2 BARS ARE TO BE EQUALLY SPACED AT END OF EXISTING CAP WITH 6" CLEAR FROM EDGES OF CAP. TYPICAL EACH END OF CAP. EMBEDMENT PER MANUFACTURER'S RECOMMENDATIONS

NOTE: DIMENSIONS ARE BASED ON BEST AVAILABLE INFORMATION. VERIFY DIMENSIONS IN FIELD AND ADJUST AS NECESSARY SUCH THAT THE 2'-6" BRIDGE SEAT BUILDUP IS CENTERED ABOUT ANCHOR BOLTS.

CONTRACTOR SHALL VERIFY ANCOR BOLT DIAMETER AND ADJUST AS NECESSARY TO MATCH EXISTING ANCHOR BOLT DIAMETER.

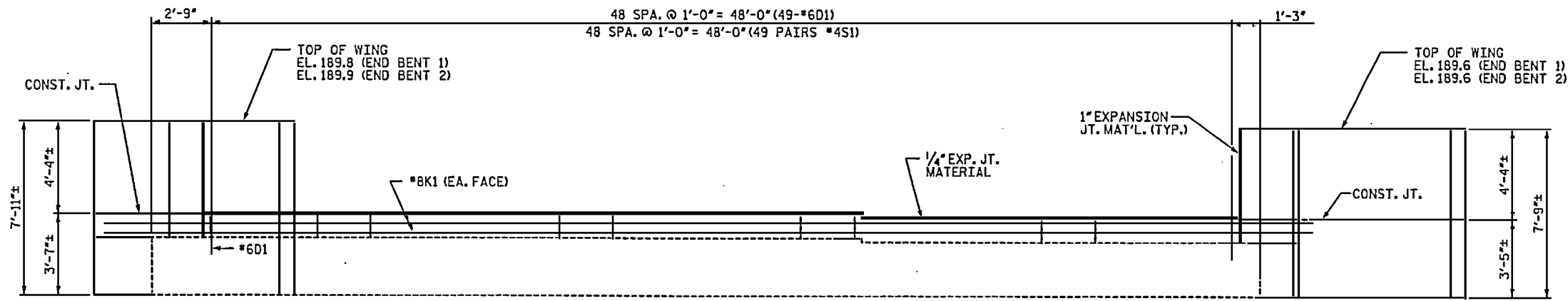
PLAN OF CAP MODIFICATION

END BENT 2 SHOWN, END BENT 1 SIMILAR



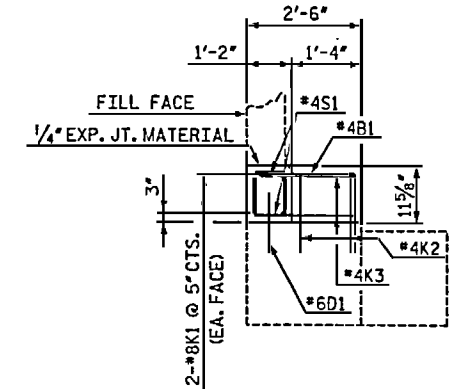
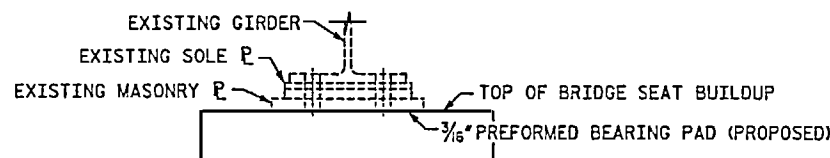
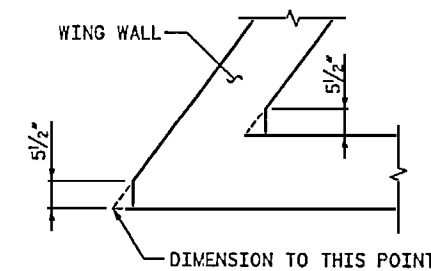
#4S1 STIRRUPS & #6D1 DOWELS NOT SHOWN FOR CLARITY

TYPICAL BRIDGE SEAT BUILDUP



ELEVATION OF CAP MODIFICATION

END BENT 2 SHOWN, END BENT 1 SIMILAR

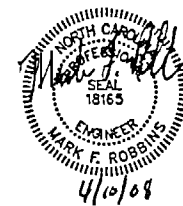


PROJECT NO. B-5021

ROBESON COUNTY

BRIDGE: 100

SHEET 2 OF 4



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

SUBSTRUCTURE  
END BENT  
CAP MODIFICATIONS

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-26
1			3			TOTAL SHEETS 22
2			4			

D-1809.26

STV/Ralph Whitehead Associates, Inc.  
1000 West Morehead St., Ste. 200  
Charlotte, NC 28208

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CHECKED BY: PEK DATE: 3-08

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 4/10/08

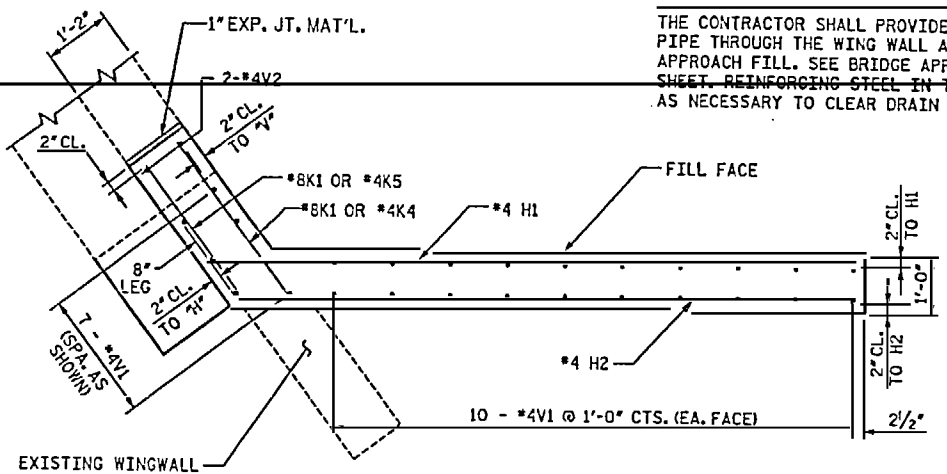
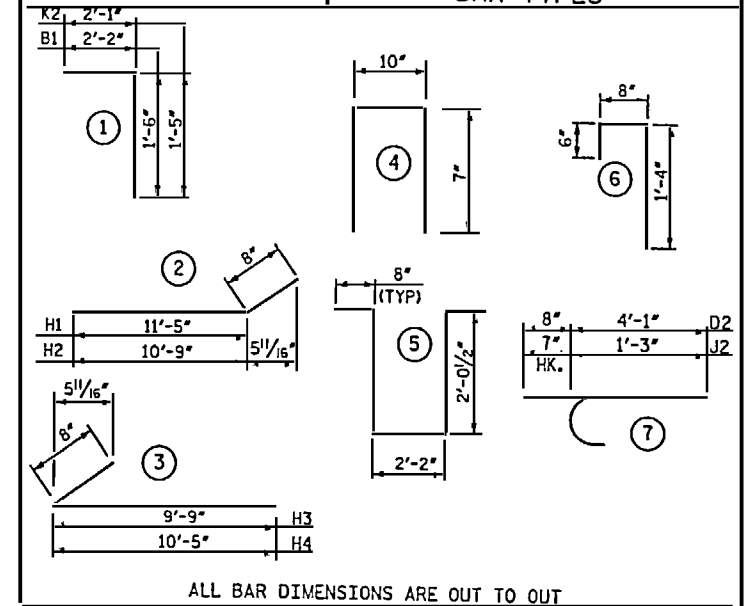
NOTES

THE CONTRACTOR SHALL PROVIDE FOR INSTALLATION OF THE 4" DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILL. SEE BRIDGE APPROACH SLAB FOR FLEXIBLE PAVEMENT SHEET. REINFORCING STEEL IN THE WING WALL MAY BE SHIFTED SLIGHTLY AS NECESSARY TO CLEAR DRAIN PIPE.

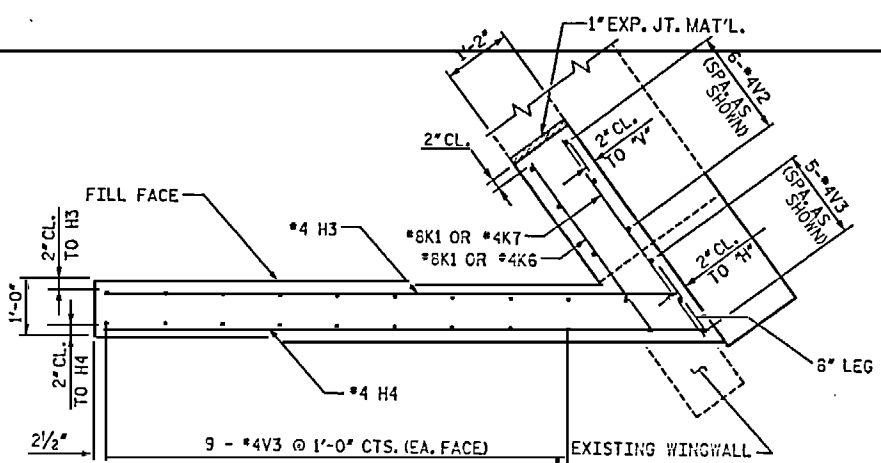
BILL OF MATERIAL FOR ONE END BENT (2 REQ'D)					
BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	16	#4	1	3'-8"	39
D1	49	#6	STR	1'-6"	110
D2	12	#6	7	4'-9"	74
H1	9	#4	2	12'-1"	73
H2	9	#4	2	11'-5"	69
H3	9	#4	3	10'-5"	63
H4	9	#4	3	11'-1"	67
J1	43	#5	6	2'-6"	112
J2	43	#5	7	1'-10"	82
K1	4	#8	STR	55'-9"	595
K2	16	#4	1	3'-6"	37
K3	8	#4	5	7'-7"	41
K4	4	#4	STR	3'-3"	9
K5	4	#4	STR	2'-7"	7
K6	4	#4	STR	3'-9"	10
K7	4	#4	STR	4'-5"	12
K8	2	#5	STR	42'-2"	88
S1	98	#4	4	2'-0"	131
V1	26	#4	STR	7'-3"	126
V2	8	#4	STR	5'-9"	31
V3	23	#4	STR	7'-5"	114
REINFORCING STEEL					LBS. 1,890

CLASS AA CONCRETE BREAKDOWN FOR 1 END BENT		
POUR 1	CAP AND LOWER WINGWALLS	C. Y. 5.8
POUR 2	BRIDGE SEATS AND UPPER WINGWALLS	C. Y. 4.6
POUR 3	APPROACH SLAB BRACKETS	C. Y. 1.2
CLASS AA CONCRETE		C. Y. 11.6

BAR TYPES

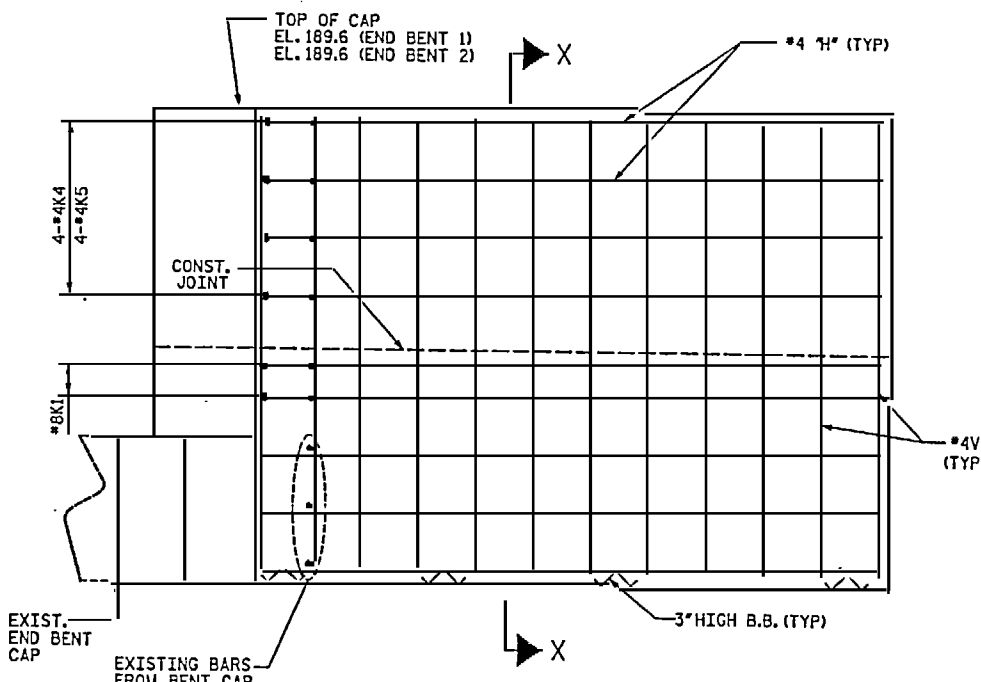


PLAN OF RIGHT WING - W1

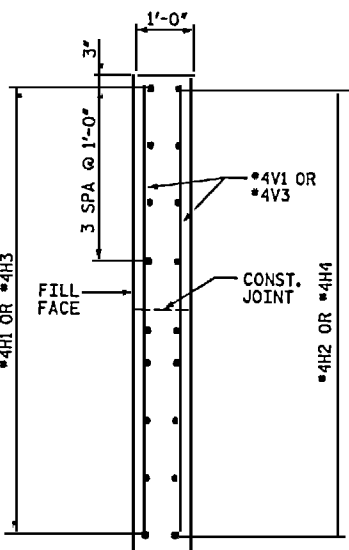


PLAN OF LEFT WING - W2

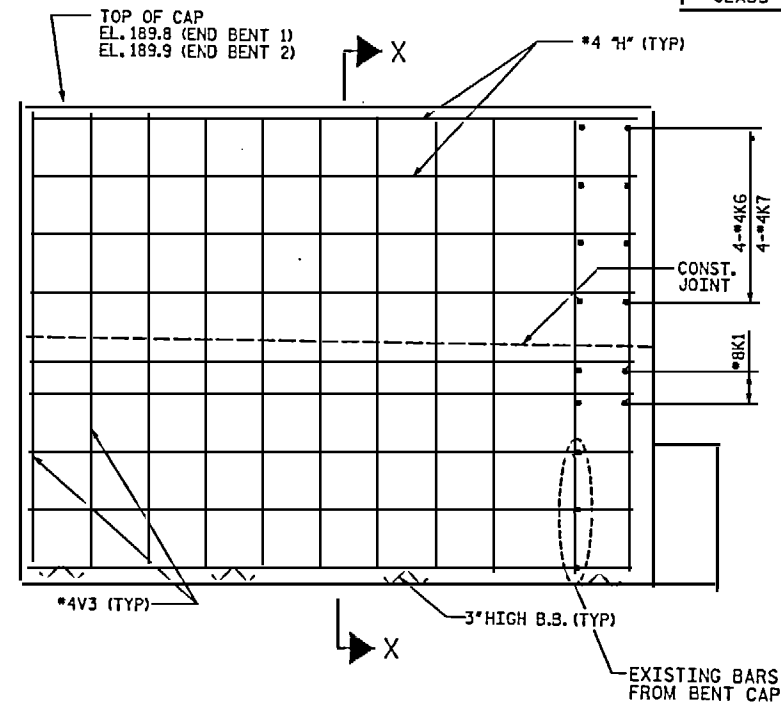
NOTE: #4V2 BARS SHALL BE EPOXIED INTO EXISTING BENT CAP.



ELEVATION OF RIGHT WING



SECTION X-X

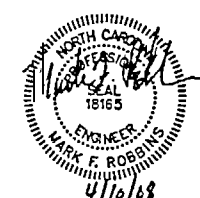


ELEVATION OF LEFT WING

REINFORCING FOR TURNED BACK WINGS

END BENT 2 SHOWN, END BENT 1 SIMILAR

PROJECT NO. B-5021  
ROBESON COUNTY  
BRIDGE: 100



SHEET 3 OF 4

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
BAILEY

SUBSTRUCTURE  
END BENT  
WINGWALL MODIFICATIONS

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

SHEET NO. S-27  
TOTAL SHEETS 42

D-1809.27  
STV/Ralph Whitehead Associates, Inc.  
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Charlotte, NC 28228

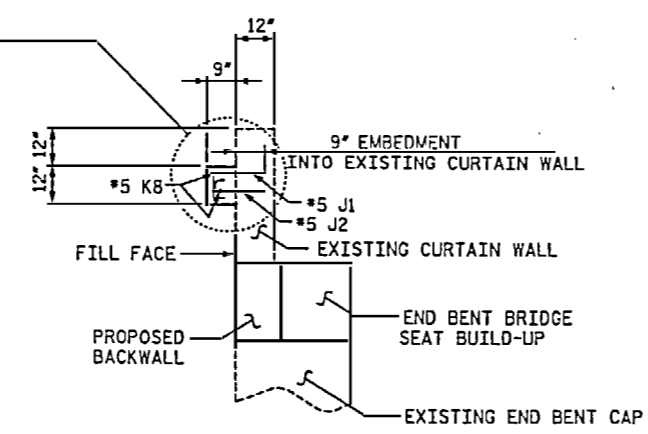
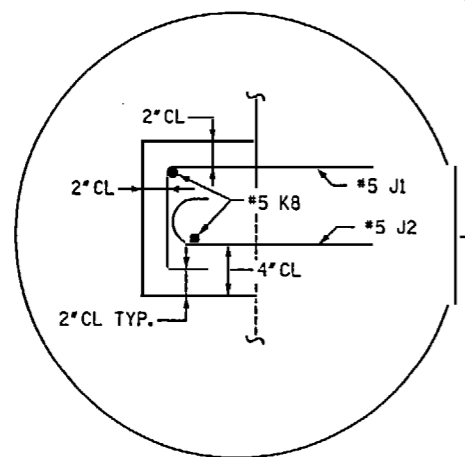
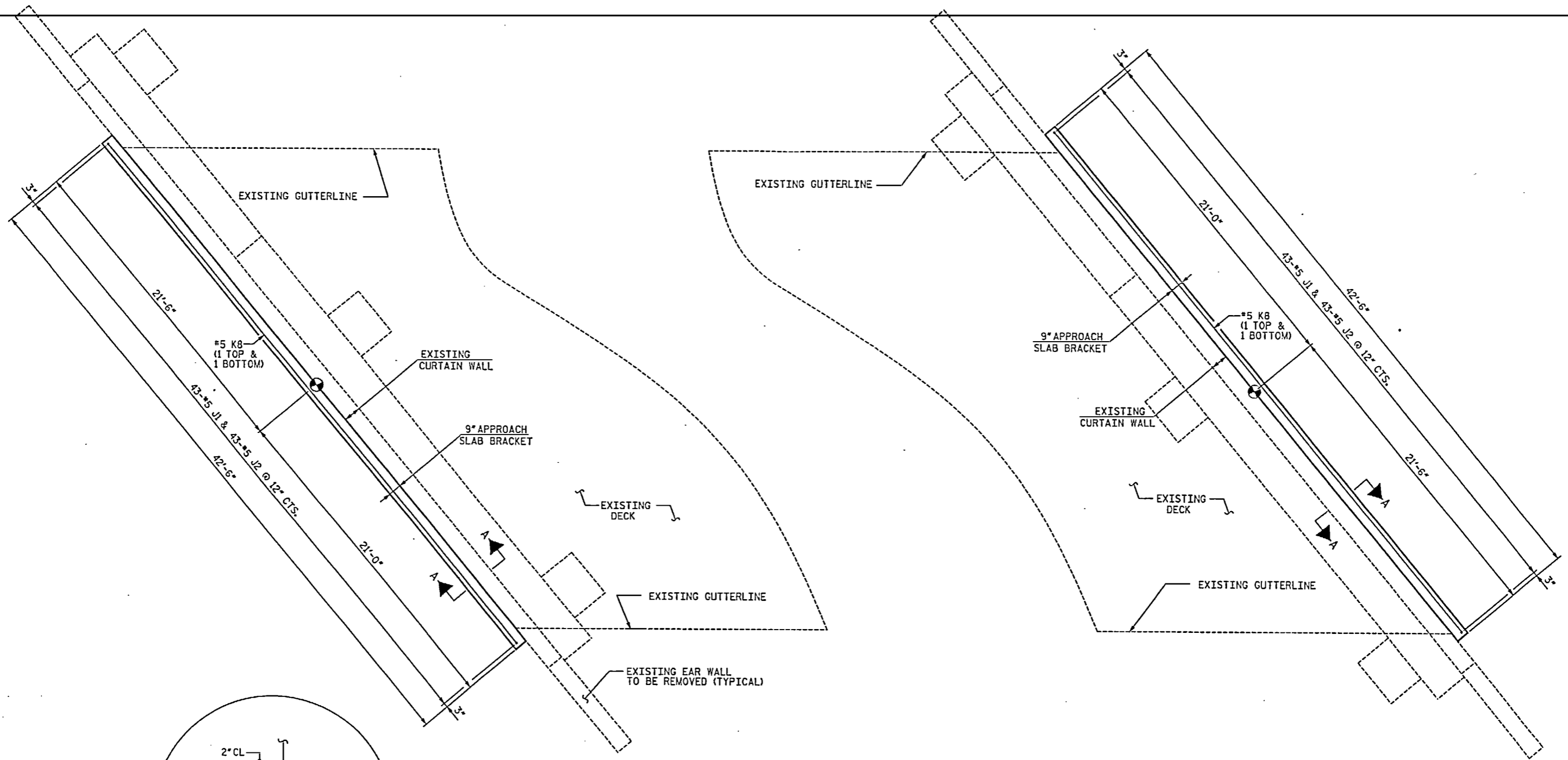
NOT TO SCALE

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4/10/2008 10:03:50AM timothy.townsend

DRAWN BY: KGB DATE: 1-08  
CHECKED BY: PEK DATE: 3-08



Timothy.Townsend 4/10/2008 11:03:50 AM N:\PROJ\2513448\B5021\Dr\ldge\_100\Station\Finals\Substructure End Bent-4.dgn



**PLACEMENT OF APPROACH SLAB BRACKETS**

(PROPOSED WING WALLS OMITTED FOR CLARITY)

**NOTES**

THE #5J1 AND #5J2 BARS SHALL BE SECURED INTO THE EXISTING CONCRETE WITH EPOXY ADHESIVE.

THE LEG LENGTH OF THE #5J1 AND #5J2 BAR IS BASED ON A 9" EMBEDMENT INTO THE EXISTING CONCRETE AND MAY BE ADJUSTED BASED ON THE MINIMUM EMBEDMENT SPECIFIED BY THE MANUFACTURER OF THE EPOXY ADHESIVE BONDING SYSTEM.

INSTALL #5J2 BARS AND THEN INSTALL #5J1 BARS TO ALLOW FOR BAR ROTATION DURING INSTALLATION.

#5J1 AND #5J2 BARS SHALL BE EPOXIED IN EXISTING CURTAIN WALL AS DETAILED. THE COST OF DRILLING IN AND EPOXYING THE #5J1 AND #5J2 BARS SHALL BE CONSIDERED INCIDENTAL AND INCLUDED IN THE COST OF THE REINFORCING STEEL.

FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE SPECIAL PROVISIONS.

D-1809.28

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 Charlotte, NC 28208



PROJECT NO. B-5021  
 ROBESON COUNTY  
 BRIDGE: 100

SHEET 4 OF 4

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SUBSTRUCTURE  
 END BENT  
 APPROACH SLAB BRACKETS

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	5-28
1			3			TOTAL SHEETS
2			4			67

DRAWN BY: KGB DATE: 1-08  
 CHECKED BY: MFR DATE: 3-08

**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 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.

THE 6" BEVEL AT THE END OF THE APPROACH SLAB SHALL EXTEND FROM FRONT FACE OF CURB TO FRONT FACE OF CURB.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.

**BILL OF MATERIAL**

ONE APP. SLAB (2 REQ'D)					
BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	28	#4	STR	21'-3"	397
A2	30	#4	STR	21'-2"	424
*B1	58	#5	STR	13'-8"	827
B2	58	#6	STR	14'-8"	1278
*B3	2	#4	STR	14'-8"	20
*D1	20	#4	STR	1'-0"	13

REINFORCING STEEL	lbs.	1702
*EPOXY COATED REINFORCING STEEL	lbs.	1257

CLASS AA CONCRETE			
POUR 1	SLAB	C. Y.	16.0
POUR 2	CURB	C. Y.	0.4
TOTAL CONCRETE		C. Y.	16.4

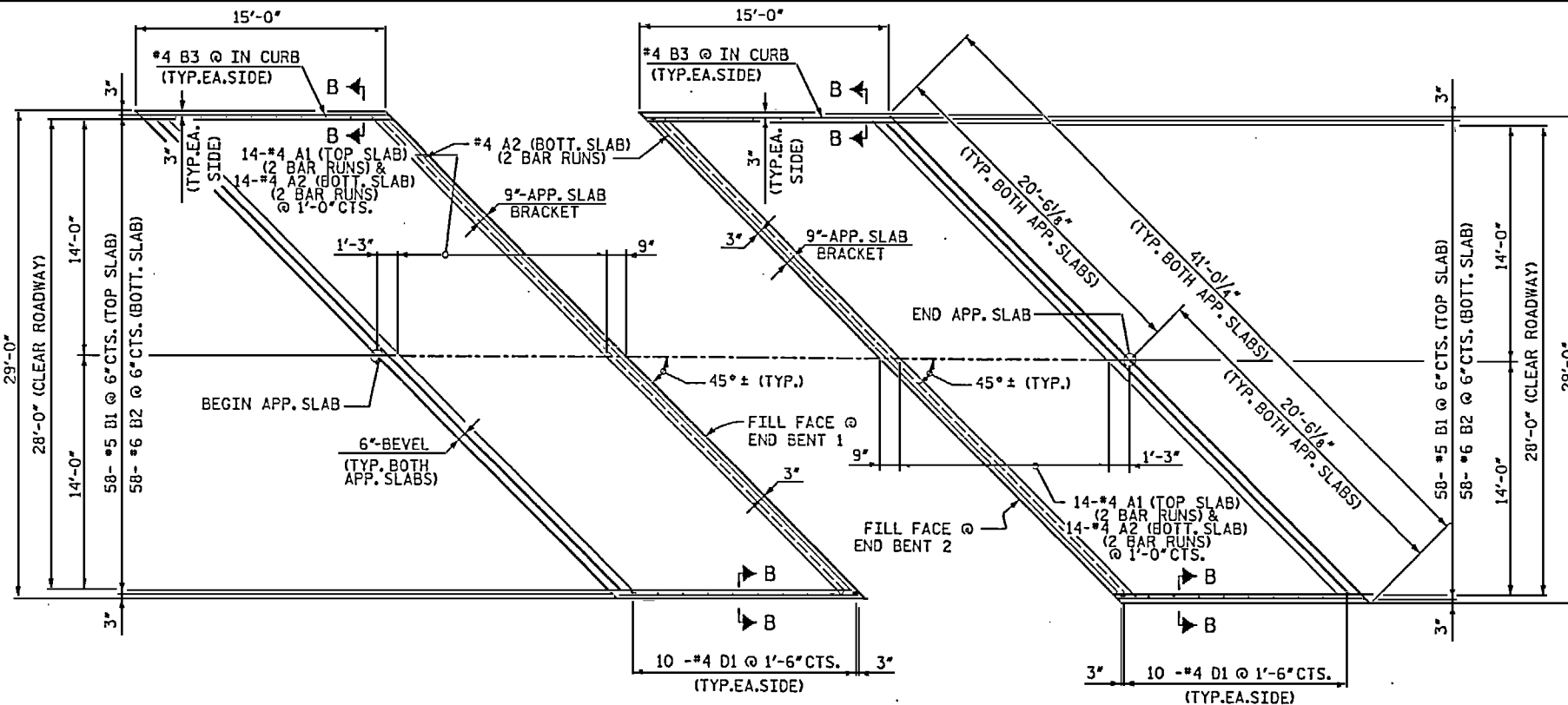
**SPLICE CHART**

BAR SIZE	EPOXY COATED	UNCOATED
#4	2'-0"	1'-9"
#5	2'-6"	2'-2"
#6	3'-10"	2'-7"

**ELASTOMERIC CONCRETE**

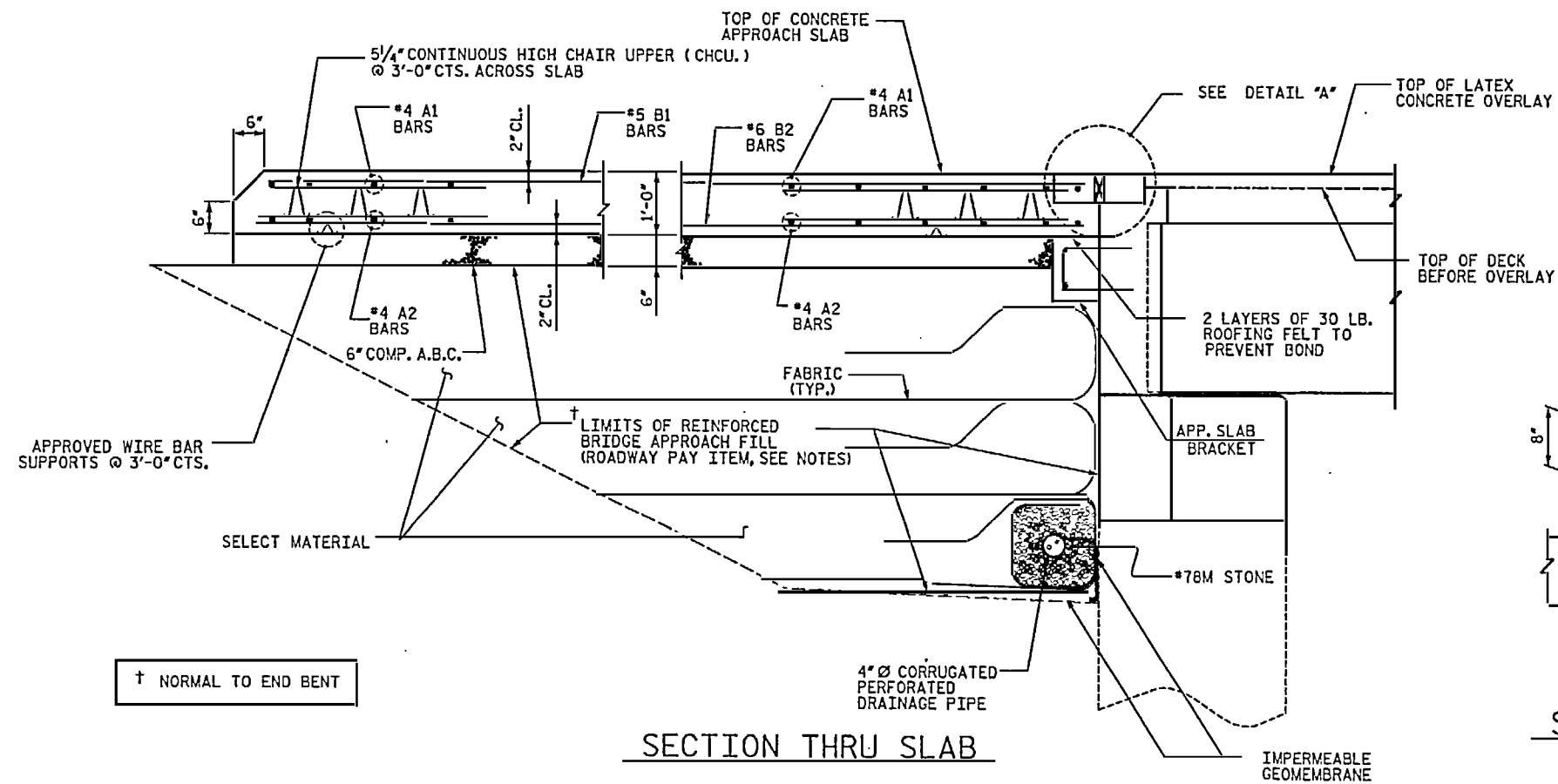
LOCATION	ELAST. CONCRETE (CU. FT.)*
END BENT	7.2
APP. SLAB	7.2

\*BASED ON MINIMUM BLOCKOUT SHOWN

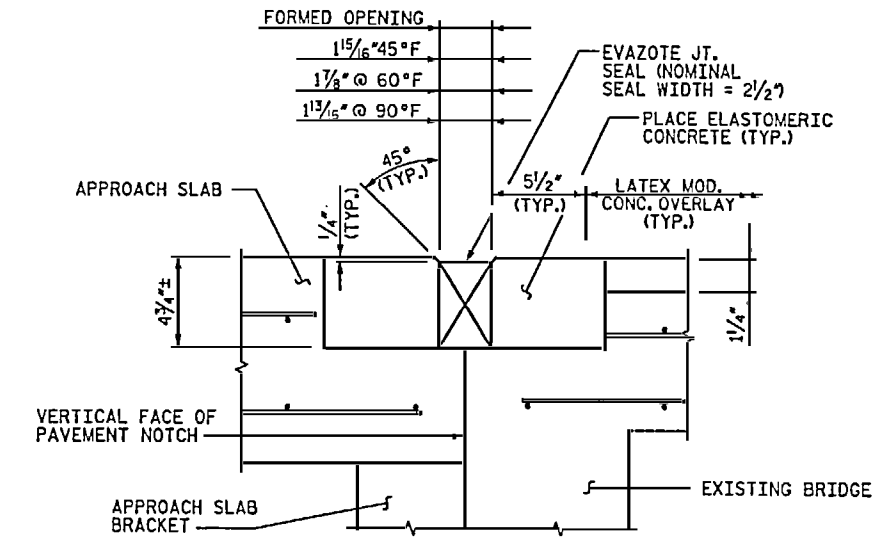


PLAN @ END BENT 1

PLAN @ END BENT 2

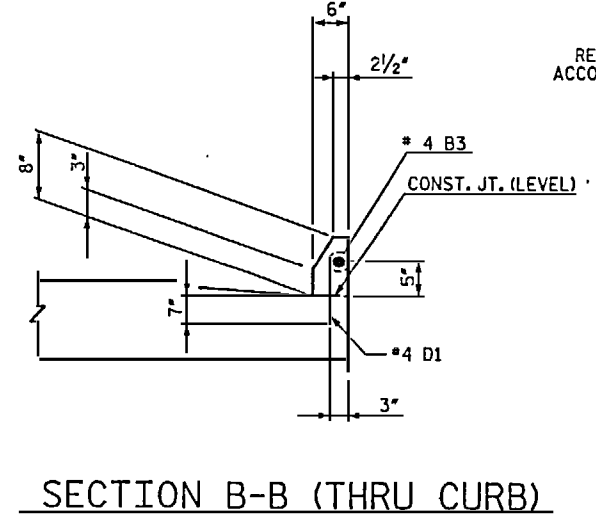


SECTION THRU SLAB



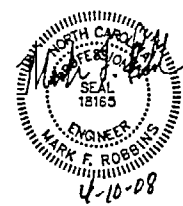
DETAIL "A"

REMOVAL OF EXISTING BRIDGE SECTION TO ACCOMMODATE EVAZOTE JOINT SHALL BE SIMILAR TO JOINT REPAIR DETAIL FOR BENTS



SECTION B-B (THRU CURB)

PROJECT NO. **B-5021**  
 ROBESON COUNTY  
 BRIDGE: **100**



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 BRIDGE APPROACH SLAB  
 FOR FLEXIBLE PAVEMENT

REVISIONS						SHEET NO. 5-29
NO.	BY	DATE	NO.	BY	DATE	
1			3			JOHN SHEETS 67
2			4			

D-1809.29

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 Charlotte, NC 28208

timothy.townsend 4/10/2008 11:03:48 AM N:\PROJ\2513448\B5021\Bridg 100\Station\Finals\Approach\_Slab.dgn

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 CHECKED BY: MFR DATE: 3-08