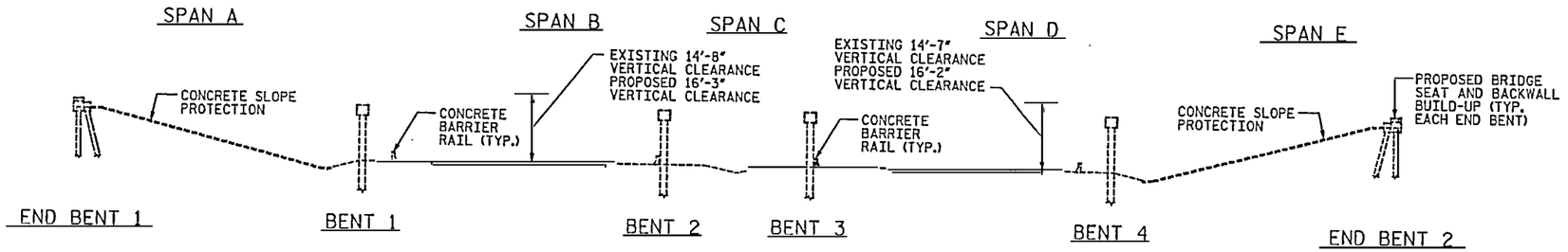
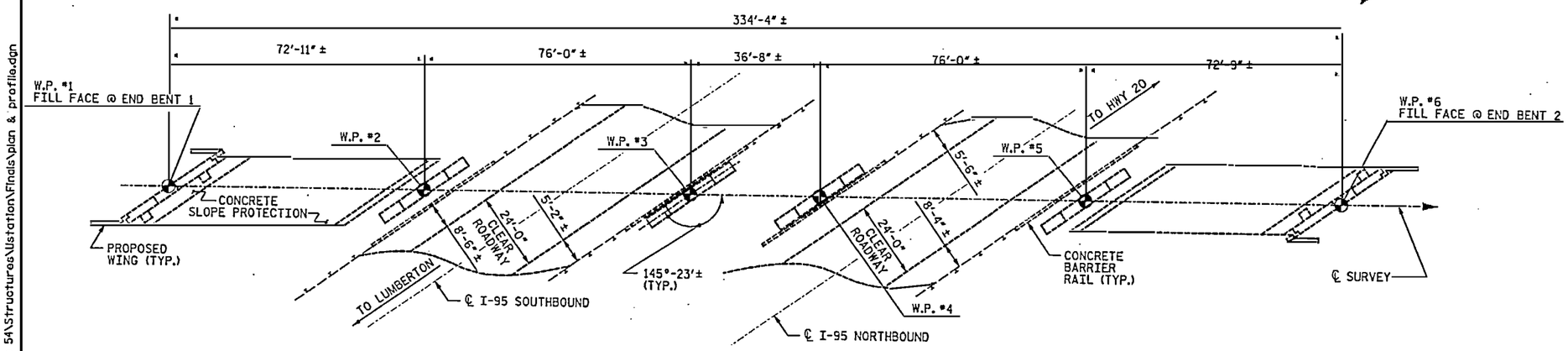


ELEVATION

(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	8,965	5.0	LUMP SUM		9940	1036	82	35.1	1,010	20.0		LUMP SUM	LUMP SUM
END BENT 1	LUMP SUM		15.3		2391	67						2.0		
BENT 1											10.0	5.5		
BENT 2														
BENT 3												1.0		
BENT 4											20.0	1.0		
END BENT 2	LUMP SUM		15.3		2391	67					10.0			
TOTAL	LUMP SUM	8,965	35.6	LUMP SUM	4782	10,074	1036	82	35.1	1,010	60.0	9.5	LUMP SUM	LUMP SUM

* INCLUDES WEIGHT OF ANCHOR BOLTS

NOTES

FOR LATEX MODIFIED CONCRETE, SEE SPECIAL PROVISIONS.

FOR REPAIR OF BRIDGE 54 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.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

ALL DIMENSIONS IN THESE PLANS ARE BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY DIMENSION IN FIELD PRIOR TO CONSTRUCTION AND ANY FABRICATION. CONTRACTOR SHALL NOTIFY THE ENGINEER OF DISCREPANCIES SUCH THAT ANY NECESSARY ADJUSTMENTS BE MADE BY THE CONTRACTOR.

ALL STRUCTURAL STEEL SHALL BE ASTM A36 MIN.

ALL WELDING SHALL BE IN ACCORDANCE WITH CURRENT AWS SPECIFICATIONS.

770054

41927.3.1

PROJECT NO. B-5021

ROBESON COUNTY

BRIDGE: 54

MODIFICATION OF BRIDGE NO. 54

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
BRIDGE OVER I-95 ON US 301 BETWEEN HWY 20 AND SR 1529

NORTH CAROLINA PROFESSIONAL SEAL 28479 ENGINEER KEVIN G. BAILEY 5.5.08

NORTH CAROLINA PROFESSIONAL SEAL 18163 ENGINEER MARK F. ROBBINS 5/5/08

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1	STV	5-08	3			TOTAL SHEETS
2			4			62

⚠ REVISION #1: REVISED PER REVIEW COMMENTS
BY: TJT DATE: 5-08
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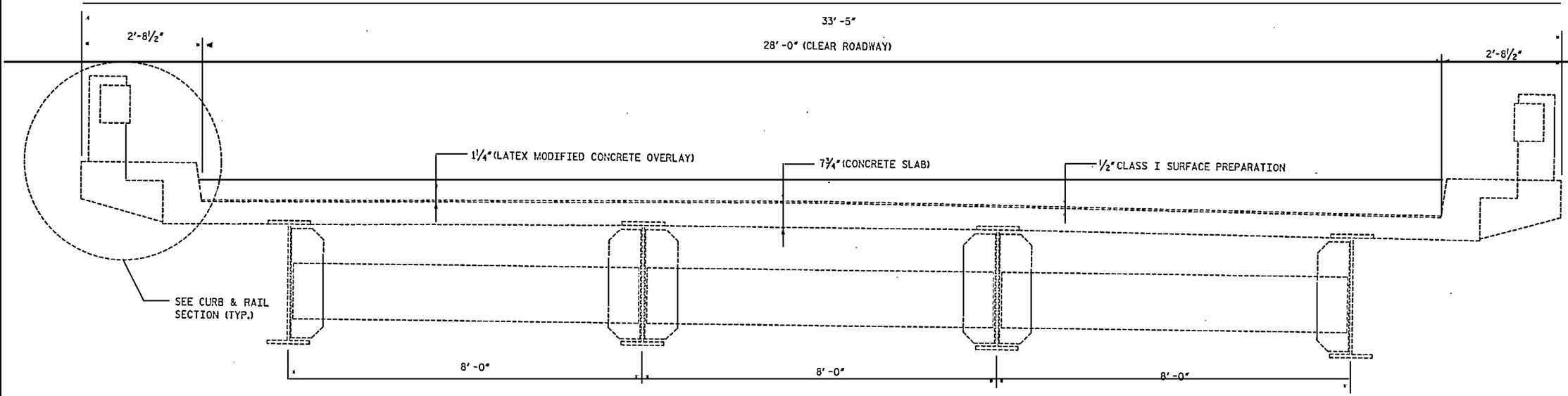
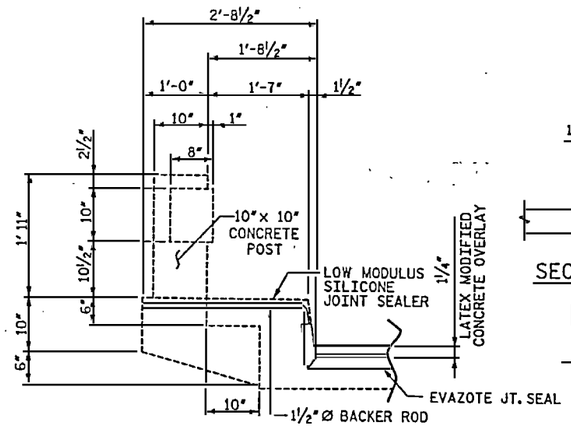
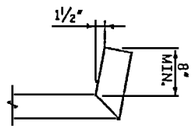


TYPICAL SECTION

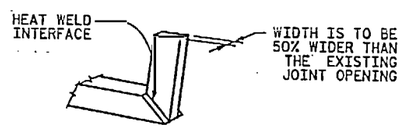


CURB AND RAIL SECTION *

* PER SIDE, THERE ARE 12 POSTS IN SPANS A, B, D & E AND 6 POSTS IN SPAN C. TOTAL RAIL LENGTH = 338'7" ± PER SIDE.



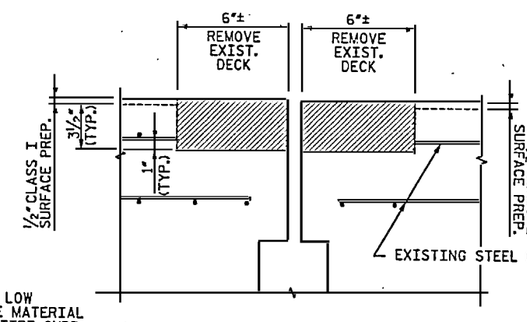
SECTION



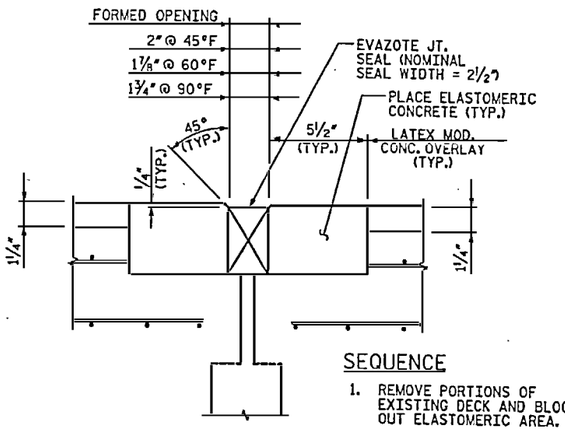
ISOMETRIC

EVAZOTE JOINT DIRECTIONAL CHANGE DETAIL

HEAT WELD EVAZOTE MATERIAL PER MANUFACTURER'S RECOMMENDATIONS



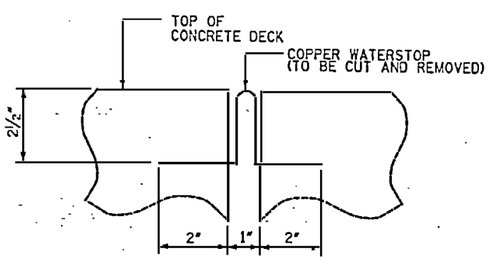
REMOVAL SECTION



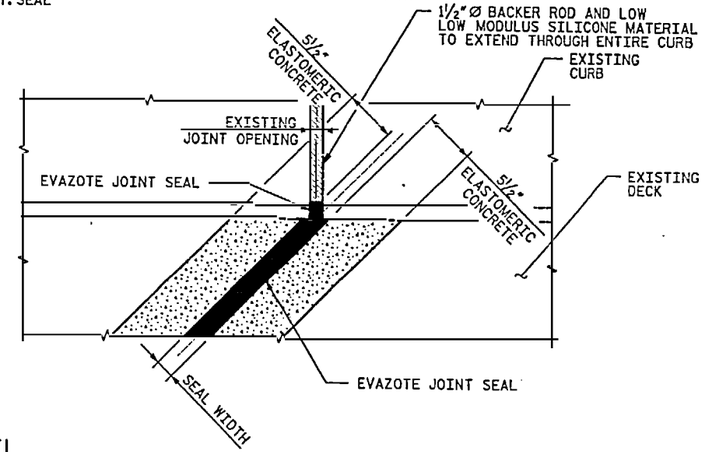
PROPOSED SECTION

SEQUENCE

1. REMOVE PORTIONS 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.



EXISTING EXPANSION JOINT DETAIL



PLAN VIEW OF EVAZOTE JOINT @ GUTTERLINE

JOINT REPAIR DETAIL

NOTES

1. FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.
2. FOR EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.
3. PAYMENT FOR INSTALLATION OF THE 1½"Ø BACKER ROD AND LOW MODULUS SILICONE JOINT SEALER SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION OF THE BRIDGE.

BILL OF MATERIAL

BENT NO.	ELASTOMERIC CONCRETE (CU. FT.) *
1	17.9
2	17.9
3	17.9
4	17.9

* BASED ON MINIMUM BLOCKOUT SHOWN

NOTE: SEE APPROACH SLAB FOR ELASTOMERIC CONCRETE AT END BENTS

NORTH CAROLINA PROFESSIONAL SEAL 28479 ENGINEER KEVIN G. BAILEY 4-10-08

NORTH CAROLINA PROFESSIONAL SEAL 18165 ENGINEER MARK F. ROBBINS 4-10-08

PROJECT NO. B-5021

ROBESON COUNTY

BRIDGE: 54

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EXISTING SUPERSTRUCTURE
TYPICAL SECTION

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			62

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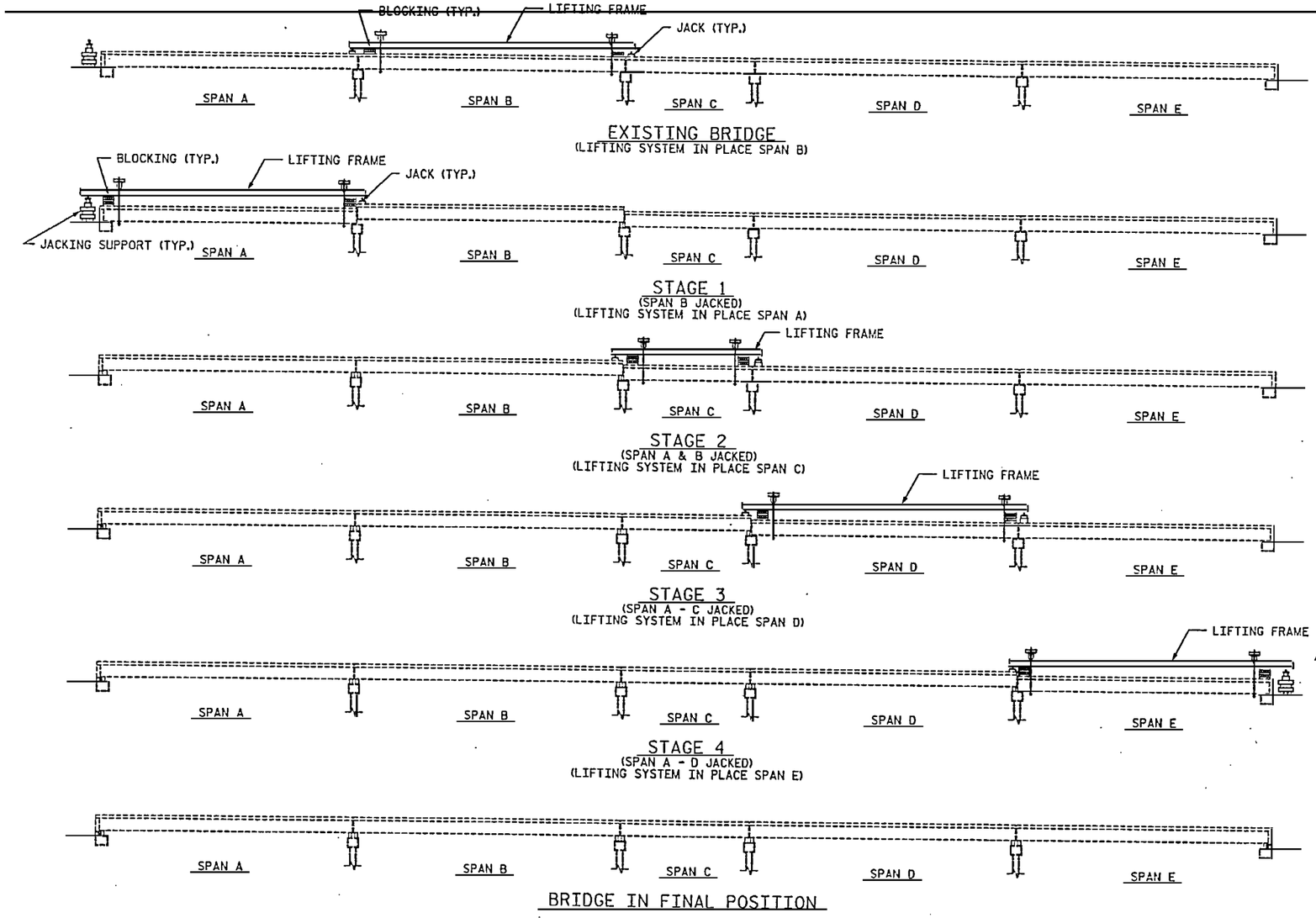

JACKING SEQUENCE FOR BRIDGE 54

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 B) MAKING SURE SYSTEM IS LEVEL. INSTALL BLOCKING AS NECESSARY.
3. LIFT SPAN B 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 A AND REPEAT STEPS 2 THROUGH 4.
6. SHIFT LIFT SYSTEM TO SPAN C AND REPEAT STEPS 2 THROUGH 4.
7. SHIFT LIFT SYSTEM TO SPAN D AND REPEAT STEPS 2 THROUGH 4.
8. SHIFT LIFT SYSTEM TO SPAN E AND REPEAT STEPS 1 THROUGH 4.
9. PREPARE DECK AND PLACE LATEX MODIFIED CONCRETE OVERLAY. ⚠
10. 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
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CHECKED BY : MFR DATE : 3-08

PROJECT NO. B-5021
ROBESON COUNTY
BRIDGE: 54

NORTH CAROLINA PROFESSIONAL SEAL 28479 ENGINEER KEVIN G. BAILEY 5-5-08

NORTH CAROLINA PROFESSIONAL SEAL 19165 ENGINEER MARK F. ROBBINS 5/5/08

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BRIDGE JACKING SEQUENCE

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1	STV	5-08	3			TOTAL SHEETS
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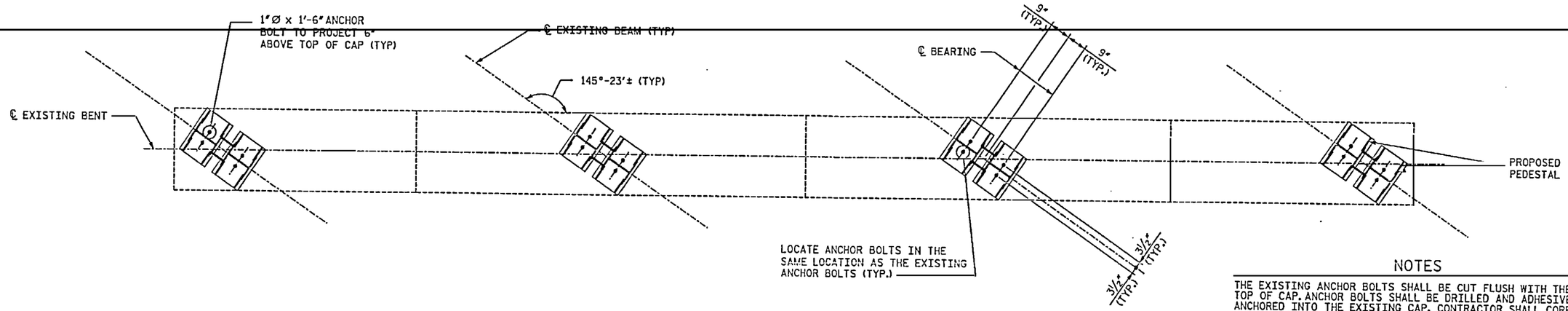
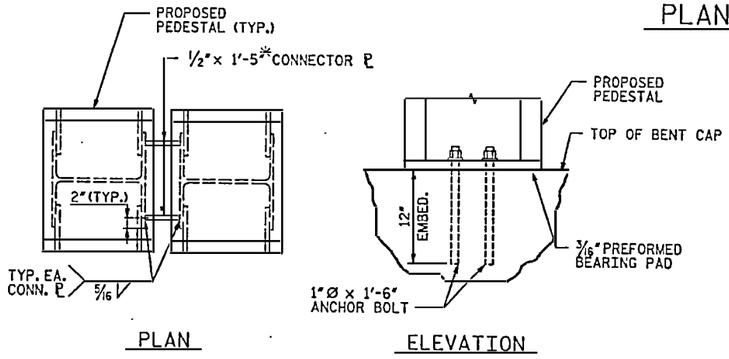
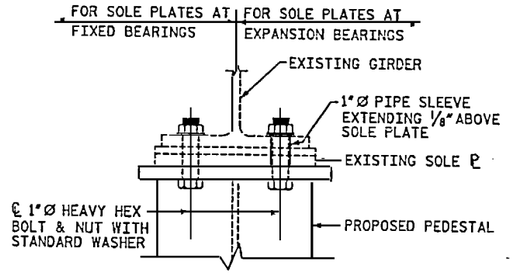


PLAN OF EXISTING BENT



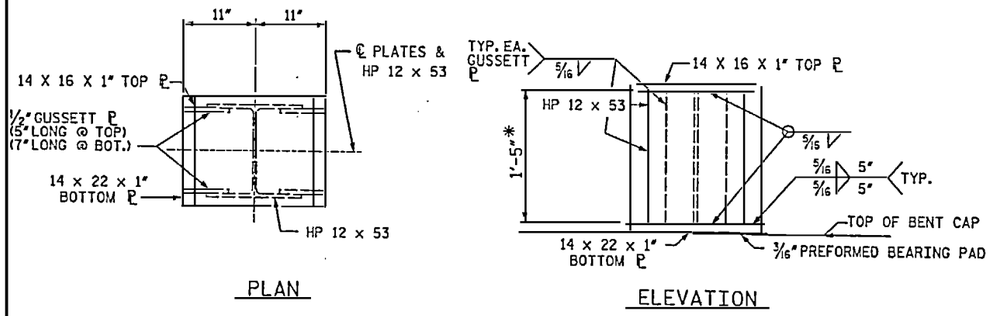
PEDESTAL ATTACHMENT DETAIL

(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

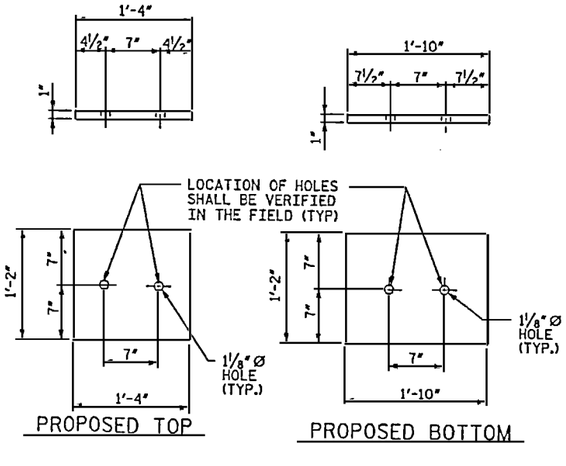


PLATE DETAIL

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 2½". 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.

CONTRCTOR SHALL CLIP PLATES AS NECESSARY TO PREVENT PROJECTION BEYOND BENT CAP.

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

1"Ø ANHOR 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.)
9940

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BY: TJT DATE: 5-08
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NORTH CAROLINA PROFESSIONAL SEAL 28479 ENGINEER KEVIN G. BAILEY 5-5-08

NORTH CAROLINA PROFESSIONAL SEAL 18165 ENGINEER MARK F. ROBBINS 5/5/08

PROJECT NO. B-5021
ROBESON COUNTY
BRIDGE: 54

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
INTERIOR BENT

BEARING MODIFICATIONS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-13
1	STV	5-08	3			TOTAL SHEETS
2			4			62

DRAWN BY : TJT DATE : 1-08
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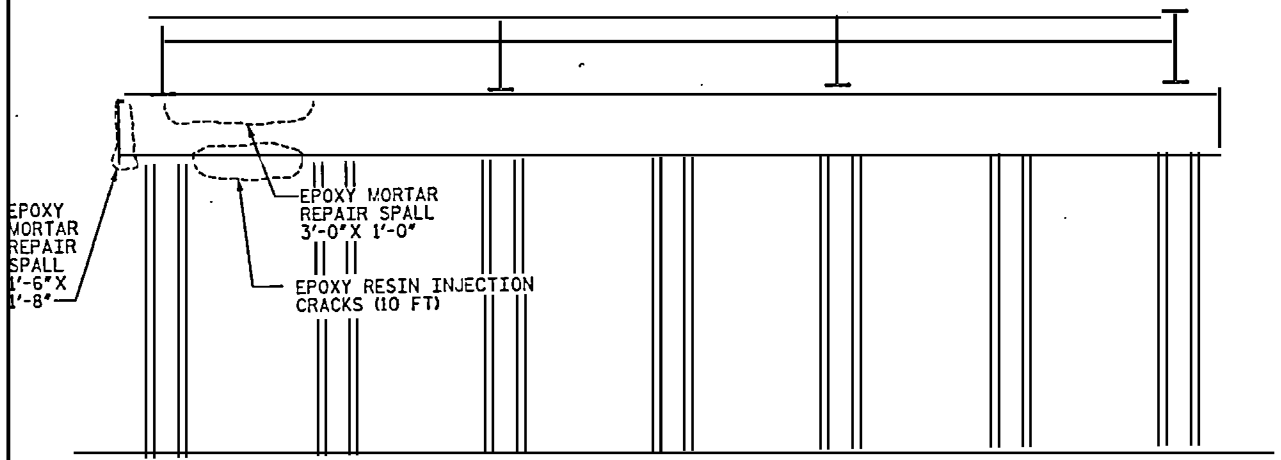
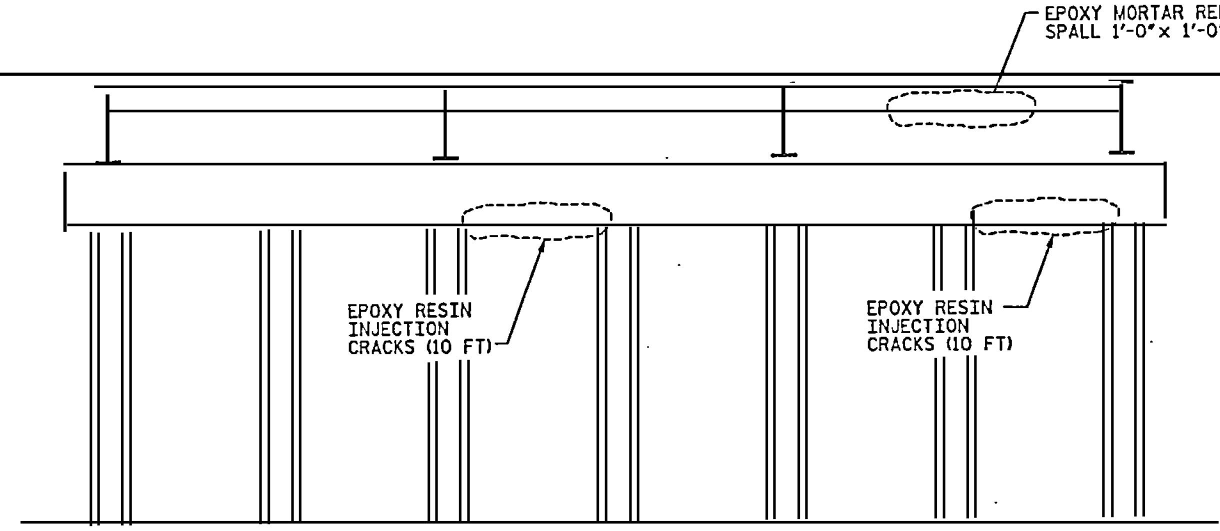
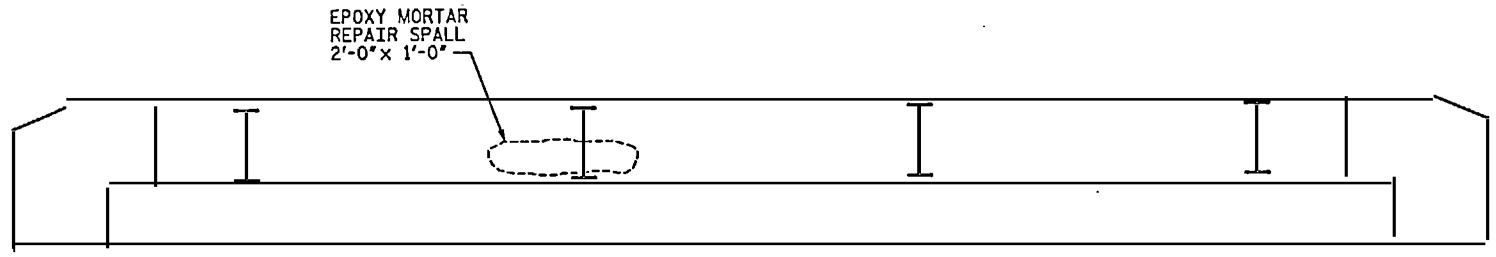


BENT 1 ELEVATION
(LOOKING SOUTH)
(@ NORTH FACE)

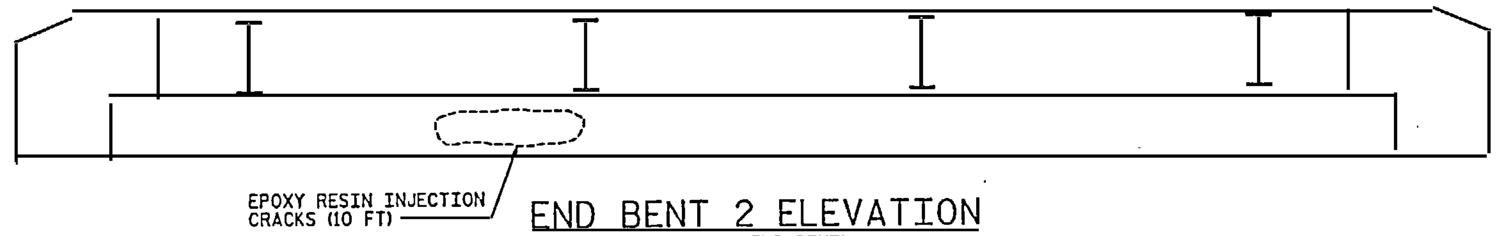


▲ ADDITIONALLY, EPOXY MORTAR REPAIR SPALL 1'-0"x 1'-0" FOR BENT 3

BENT 4 ELEVATION
(LOOKING NORTH)
(@ SOUTH FACE)

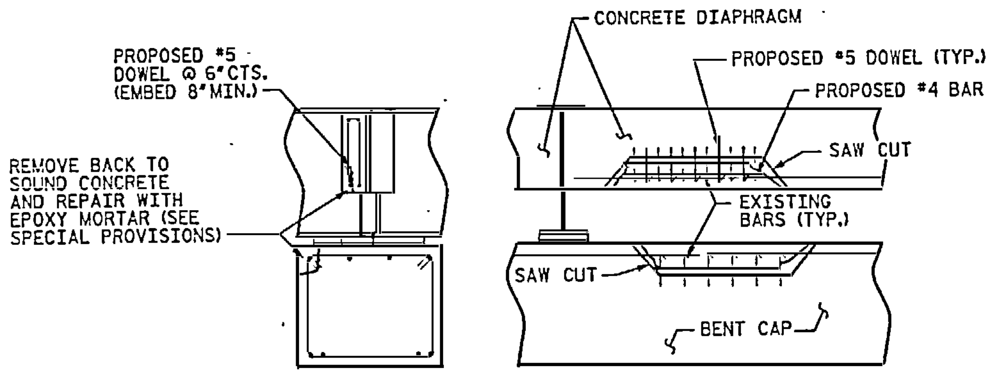


END BENT 1 ELEVATION
(FACING END BENT)



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.



TYPTCAL BENT AND DIAPHRAGM REPAIR DETAIL

PROJECT NO. B-5021
ROBESON COUNTY
BRIDGE: 54

NORTH CAROLINA PROFESSIONAL SEAL 28479 ENGINEER KEVIN G. BAILEY 4-10-08

NORTH CAROLINA PROFESSIONAL SEAL 18153 ENGINEER MARK F. ROBBINS 4/10/08

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE REPAIRS

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1			3					TOTAL SHEETS
2			4					62

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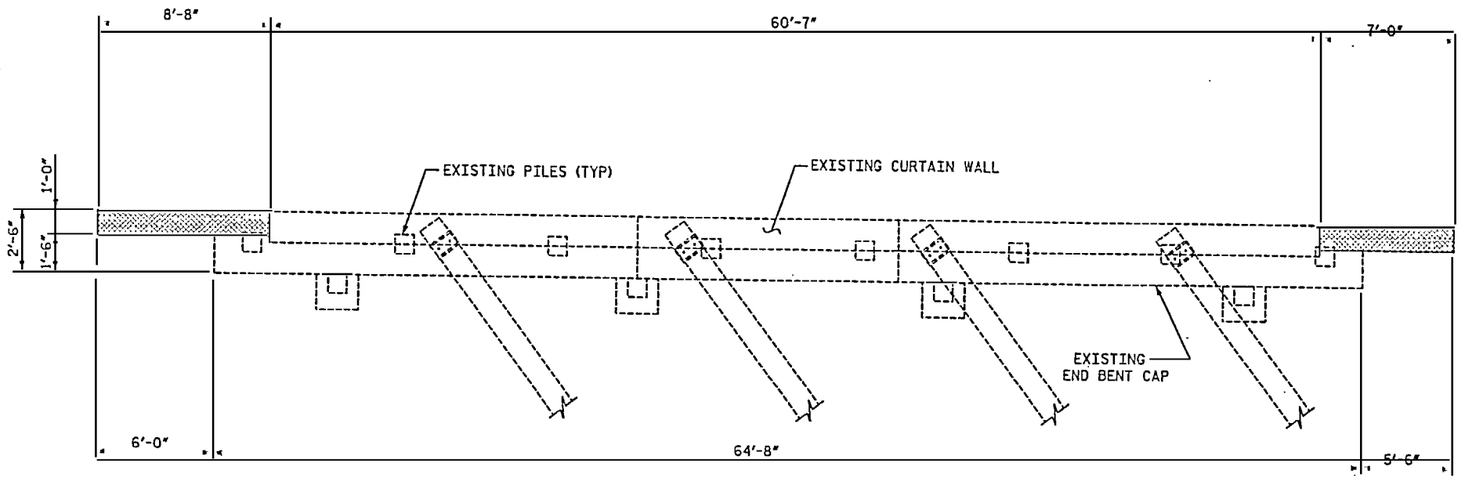
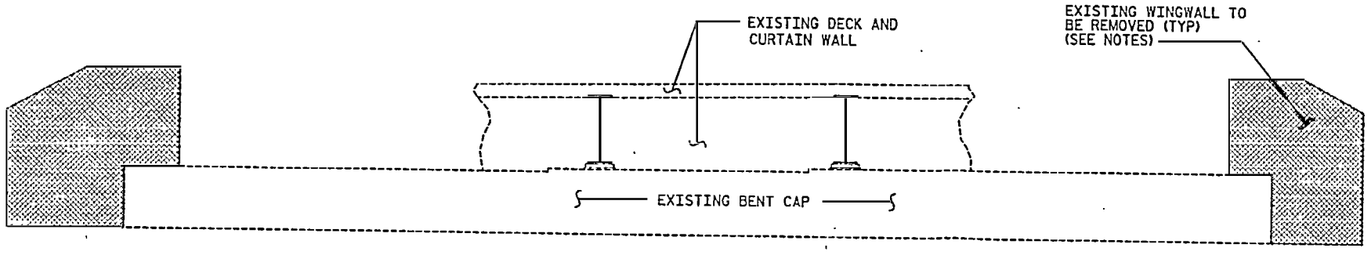


PLAN OF EXISTING CAP

END BENT 2 SHOWN, END BENT 1 SIMILAR



ELEVATION OF EXISTING CAP

END BENT 2 SHOWN, END BENT 1 SIMILAR

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 ACCOMODATE 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.

NORTH CAROLINA PROFESSIONAL SEAL 28479 ENGINEER KEVIN G. BAILEY 4-10-08

NORTH CAROLINA PROFESSIONAL SEAL 18165 ENGINEER MARK F. ROBBINS 4/10/08

PROJECT NO. B-5021

ROBESON COUNTY

BRIDGE: 54

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:	5-15
1			3			TOTAL SHEETS
2			4			62

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

NOT TO SCALE

D-1809.15

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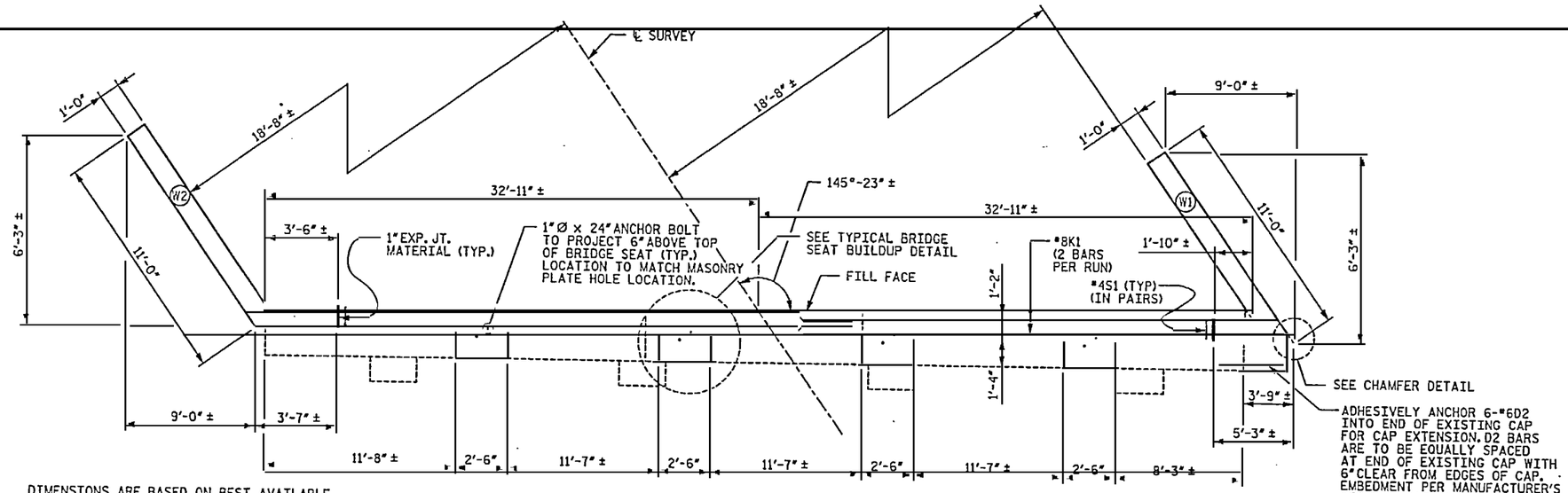
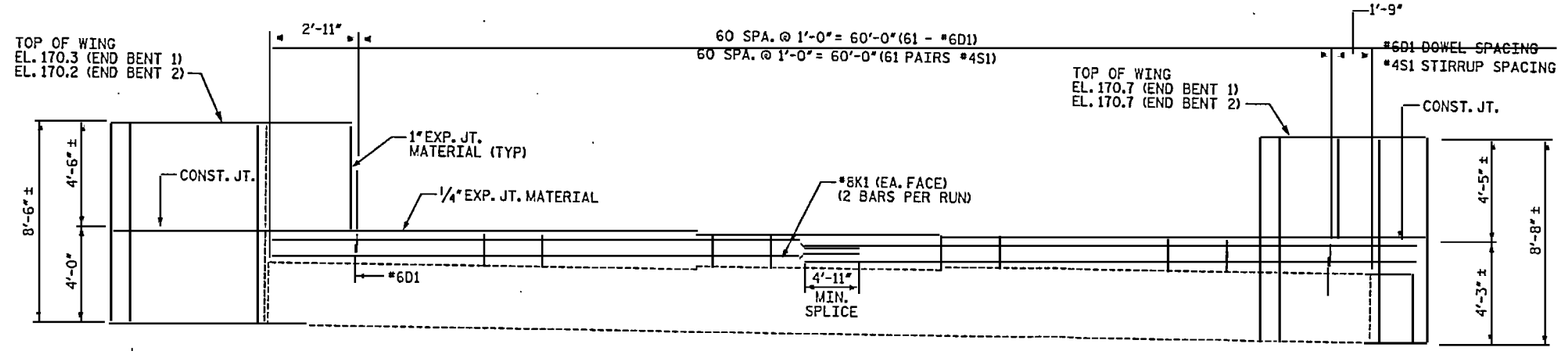


NOTE: DIMENSIONS ARE BASED ON BEST AVAILABLE INFORMATION. VERIFY DIMENSIONS IN FIELD AND ADJUST AS NECESSARY SUCH THAT THE 2'-6" BRIDGE SEAT BUILDUP IS CENTERED ABOUT ANCHOR BOLTS.

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

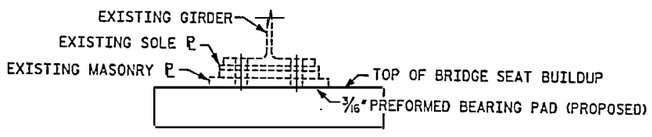
PLAN OF CAP MODIFICATION

END BENT 2 SHOWN, END BENT 1 SIMILAR



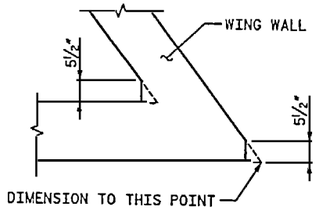
ELEVATION OF CAP MODIFICATION

END BENT 2 SHOWN, END BENT 1 SIMILAR



TYPICAL BEARING ASSEMBLY

END BENTS 1 & 2



CHAMFER DETAIL

NOT TO SCALE

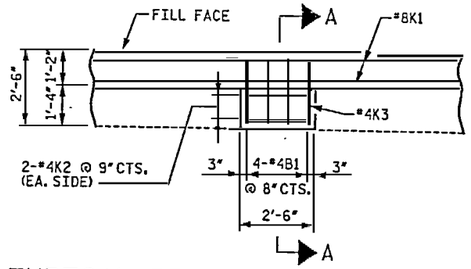
NOTES

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

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.

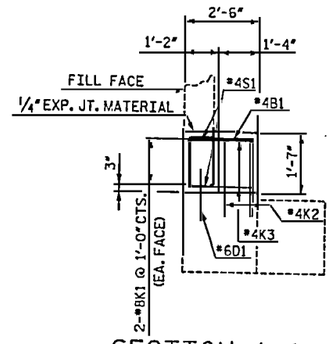
THE AREAS OF THE CURTAIN WALL AROUND ANCHOR BOLTS AND BEARING ASSEMBLIES PREVIOUSLY REMOVED SHALL BE RECAST TO PRODUCE SMOOTH, STRAIGHT FINISHED SURFACES USING CLASS AA CONCRETE.

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



TYPICAL BRIDGE SEAT BUILDUP

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



SECTION A-A

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 28479 KEVIN G. BAILEY 4-10-08

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18165 MARK F. ROBBINS 4/10/08

PROJECT NO. B-5021

ROBESON COUNTY

BRIDGE: 54

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-16
1			3			TOTAL SHEETS
2			4			62

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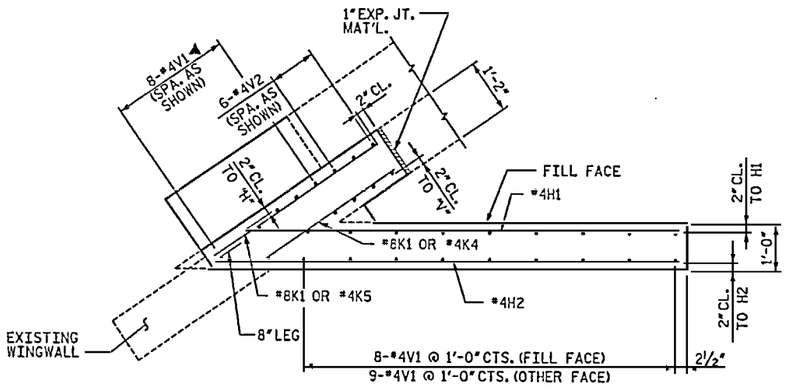
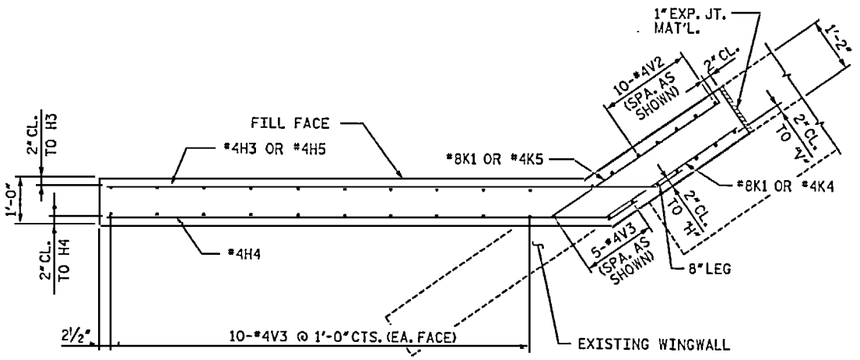
NOTES

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.



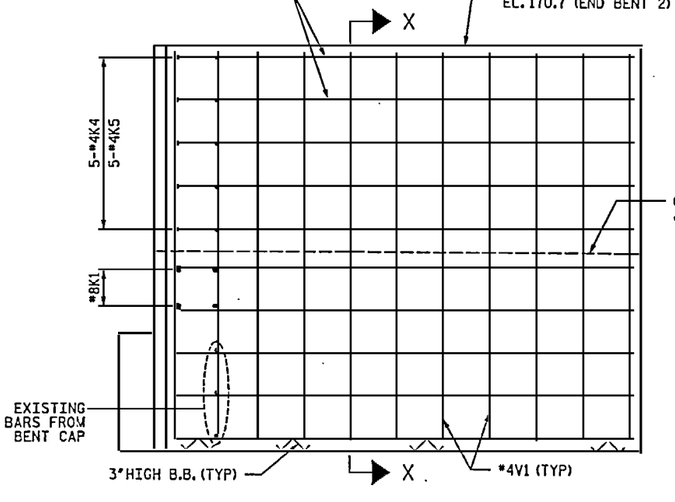
▲*4V1 BARS SHALL BE CAST WITH PROPOSED END BENT CAP EXTENSION, POUR 1

PLAN OF RIGHT WING - W1

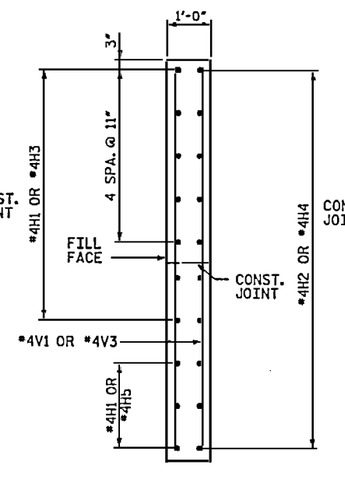


NOTE: *4V2 BARS SHALL BE EPOXIED INTO EXISTING BENT CAP.

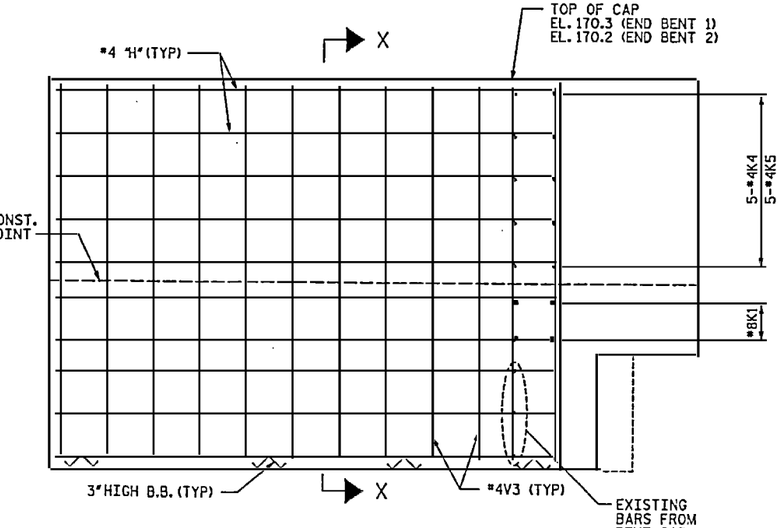
PLAN OF LEFT WING - W2



ELEVATION OF RIGHT WING



SECTION X-X



ELEVATION OF LEFT WING

REINFORCING FOR TURNED BACK WING

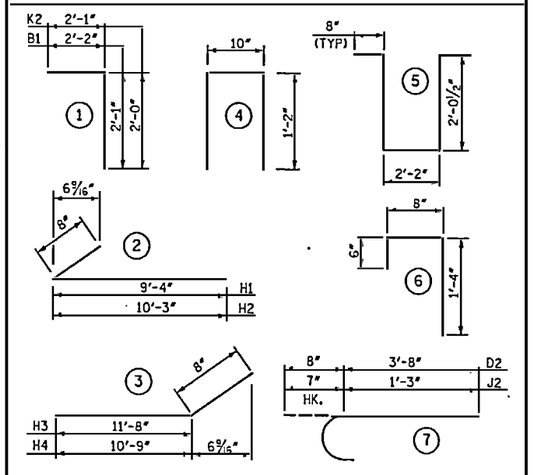
(END BENT 2 SHOWN, END BENT 1 SIMILAR)

BILL OF MATERIAL

FOR ONE END BENT (2 REQ'D)

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	16	#4	1	4'-3"	45
D1	61	#6	STR	1'-6"	137
D2	6	#6	7	4'-3"	39
H1	10	#4	2	10'-0"	67
H2	10	#4	2	10'-11"	73
H3	7	#4	3	12'-4"	58
H4	10	#4	3	11'-5"	76
H5	3	#4	STR	11'-3"	23
J1	53	#5	6	2'-6"	138
J2	53	#5	7	1'-10"	101
K1	8	#8	STR	37'-0"	790
K2	16	#4	1	4'-1"	44
K3	8	#4	5	7'-7"	41
K4	10	#4	STR	3'-4"	22
K5	10	#4	STR	4'-5"	30
K6	2	#5	STR	52'-2"	109
S1	122	#4	4	3'-2"	258
V1	25	#4	STR	8'-2"	136
V2	16	#4	STR	6'-6"	70
V3	25	#4	STR	8'-0"	134
REINFORCING STEEL				LBS.	2,391

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

CLASS AA CONCRETE BREAKDOWN FOR ONE END BENT (2 REQ'D)

POUR 1 CAP AND LOWER WINGWALLS	C.Y.	8.4
POUR 2 BRIDGE SEATS AND UPPER WINGWALLS	C.Y.	5.4
POUR 3 APPROACH SLAB BRACKETS	C.Y.	1.5
CLASS AA CONCRETE	C.Y.	15.3

NORTH CAROLINA PROFESSIONAL SEAL 28479 ENGINEER KEVIN G. BAILEY 4-10-08

NORTH CAROLINA PROFESSIONAL SEAL 18165 ENGINEER MARK F. ROBBINS 4/10/08

PROJECT NO. B-5021

ROBESON COUNTY

BRIDGE: 54

SHEET 3 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT

WINGWALL MODIFICATIONS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-17
1			3			TOTAL SHEETS
2			4			62

DRAWN BY : TJT DATE : 1-08
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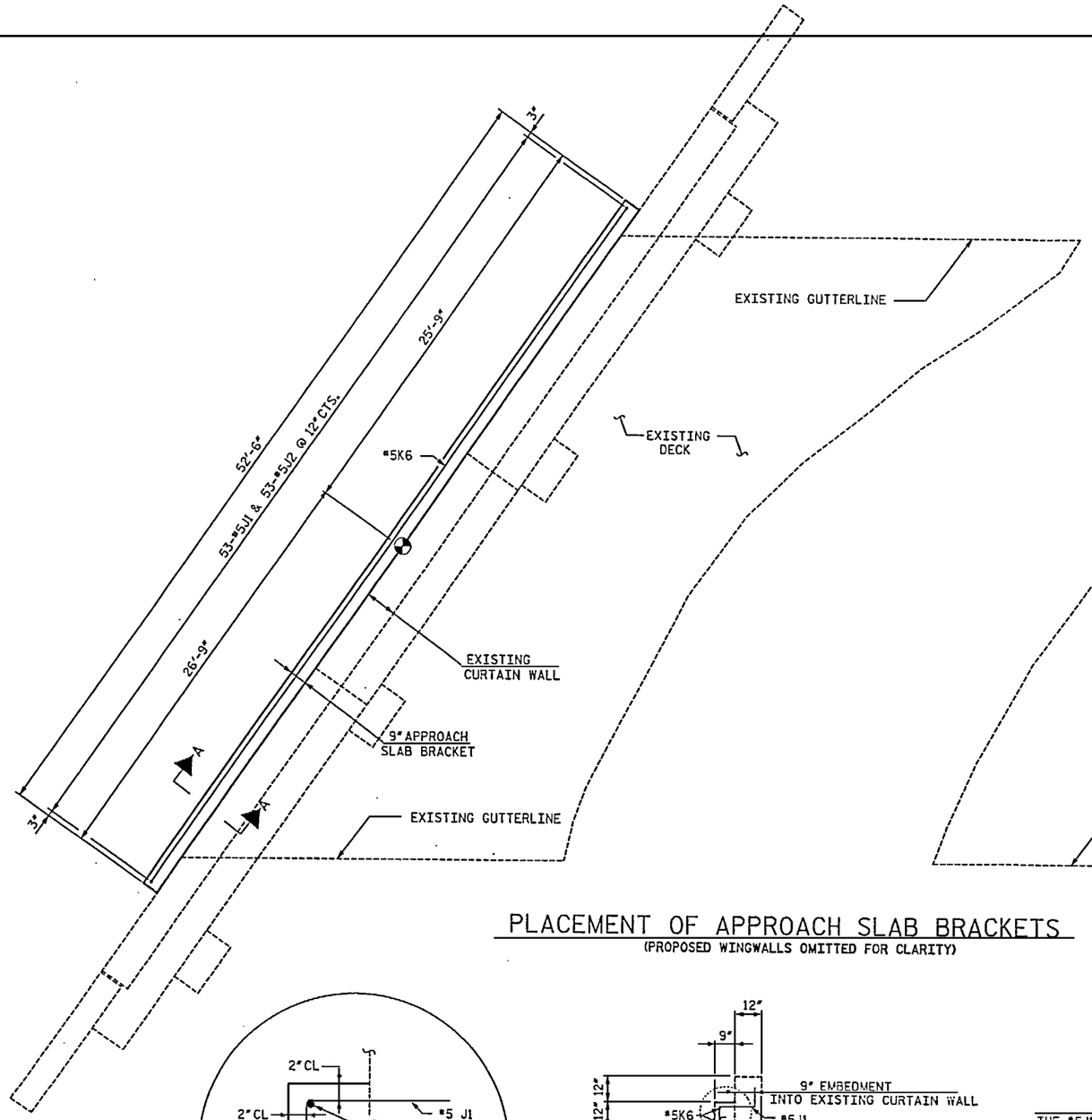
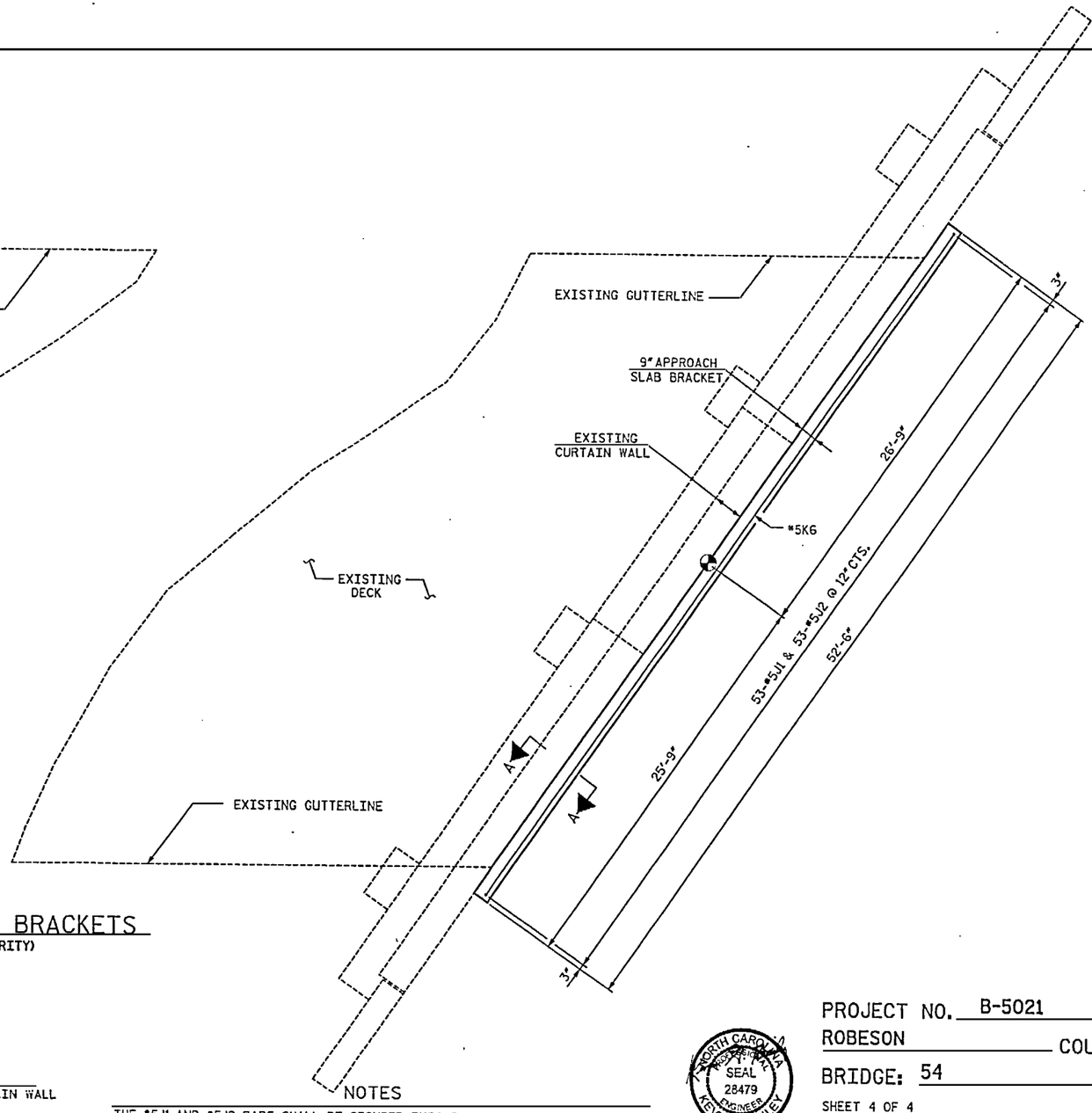
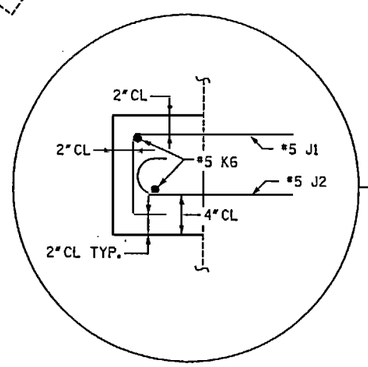
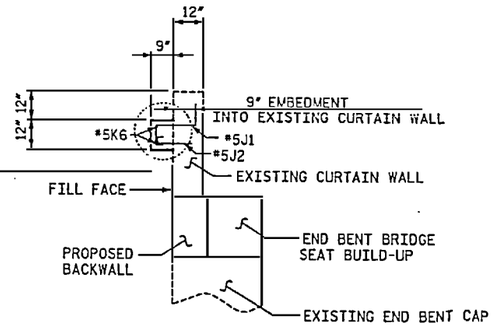




PLACEMENT OF APPROACH SLAB BRACKETS

(PROPOSED WINGWALLS OMITTED FOR CLARITY)





SECTION A-A

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 INTO 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.

NOT TO SCALE

NORTH CAROLINA PROFESSIONAL SEAL 28479 ENGINEER KEVIN G BAILEY 4-10-08

NORTH CAROLINA PROFESSIONAL SEAL 18165 ENGINEER MARK F. ROBBINS 4/10/08

D-1809.18

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PROJECT NO. B-5021
ROBESON COUNTY
BRIDGE: 54
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:	S-18
1			3			TOTAL SHEETS
2			4			62

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

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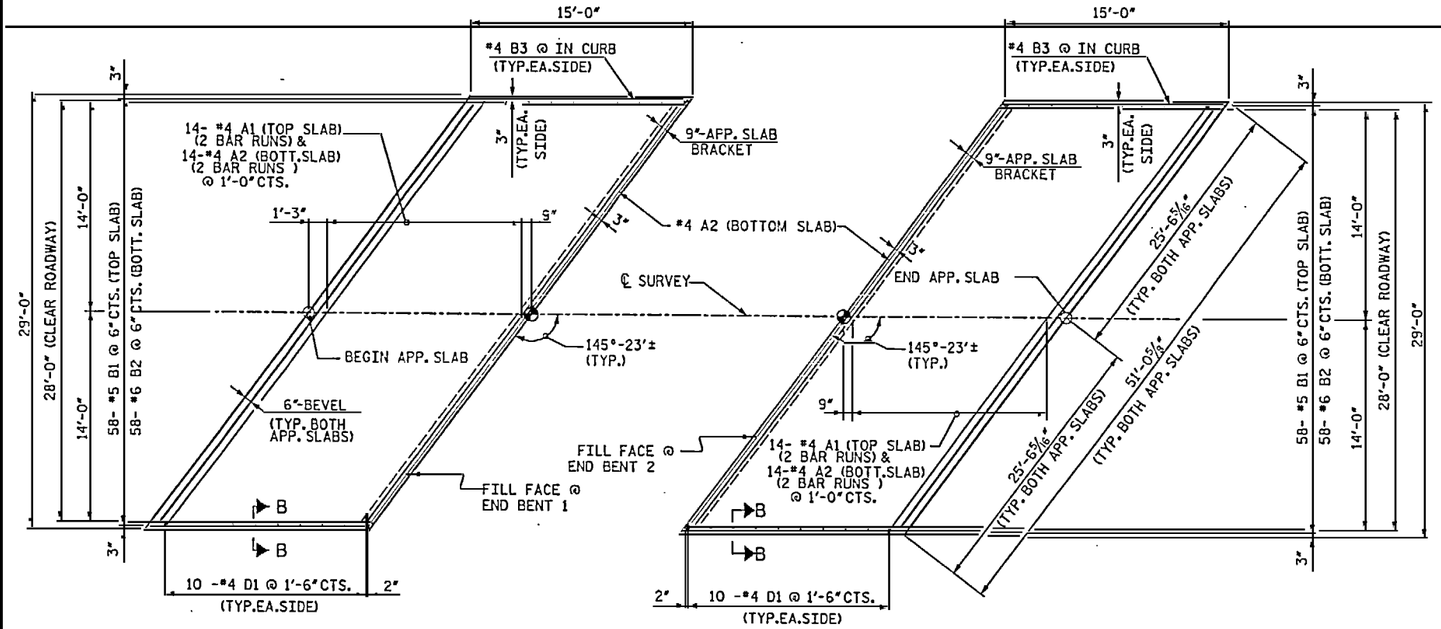
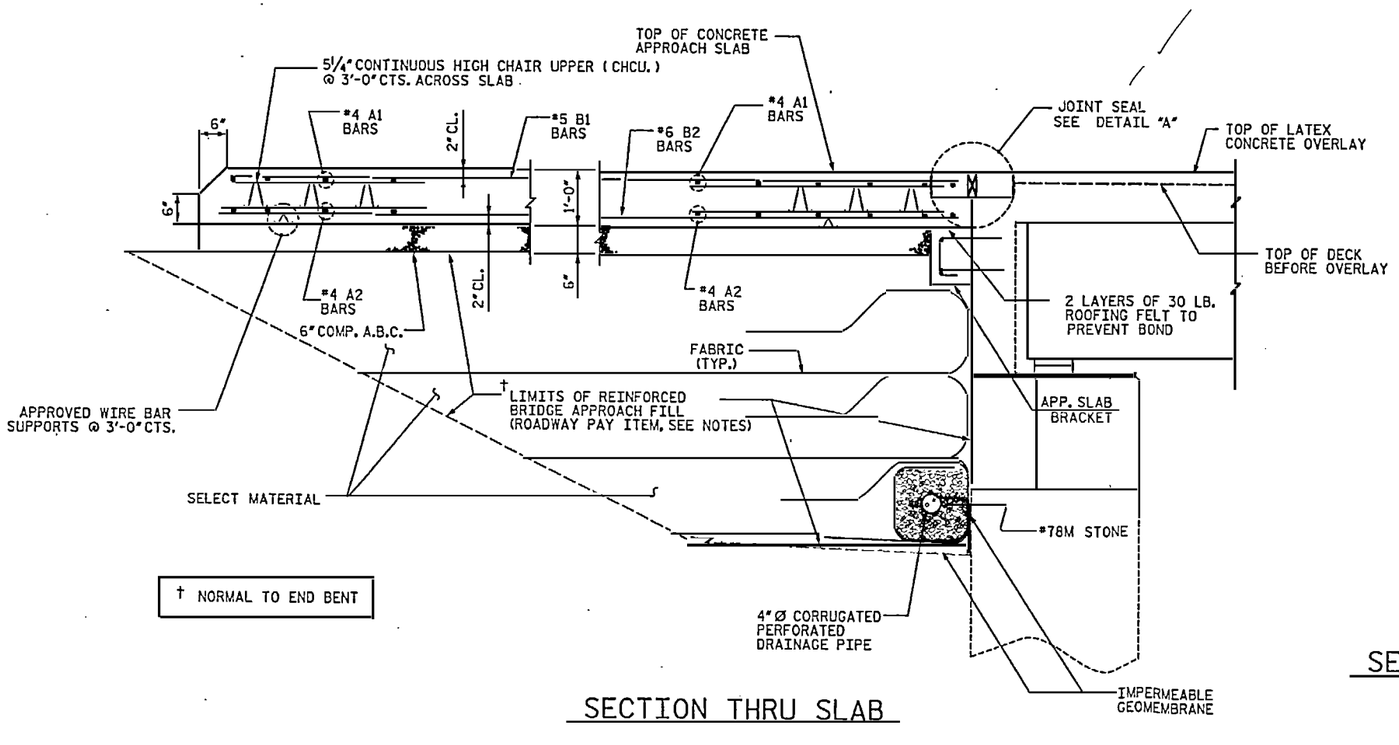


PLAN @ END BENT 1

PLAN @ END BENT 2



SECTION THRU SLAB

NOTES

~~FOR REINFORCED BRIDGE APPROACH FILL INCLUDING FABRIC, IMPERMEABLE~~ GEOMEMBRANE, 4" Ø DRAINAGE PIPE, #78M STONE, AND SELECT MATERIAL, SEE STD. DWG.422.10.

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 STD. DWG.422.10.

THE 6"COMP. A.B.C. SHALL BE FLUSH WITH 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.

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.

EVAZOTE JOINT SEAL AND ELASTOMERIC CONCRETE SHALL BE PLACED AS SHOWN BETWEEN FACE OF CURB ONLY.

BILL OF MATERIAL

ONE APP. SLAB (2 REQ'D)

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	28	#4	STR	26'-4"	403
A2	30	#4	STR	26'-3"	526
*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.	1804
*EPOXY COATED REINFORCING STEEL				lbs.	1356
CLASS AA CONCRETE					
POUR 1	SLAB			C.Y.	16.0
POUR 2	CURB			C.Y.	0.4
TOTAL CONCRETE				C.Y.	16.4

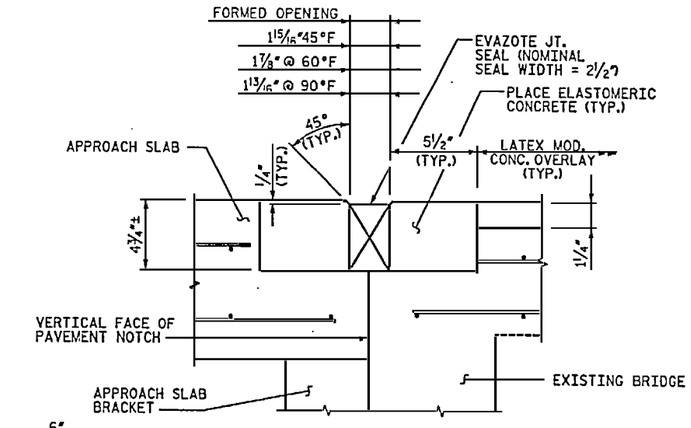
SPLICE CHART

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

ELASTOMERIC CONCRETE

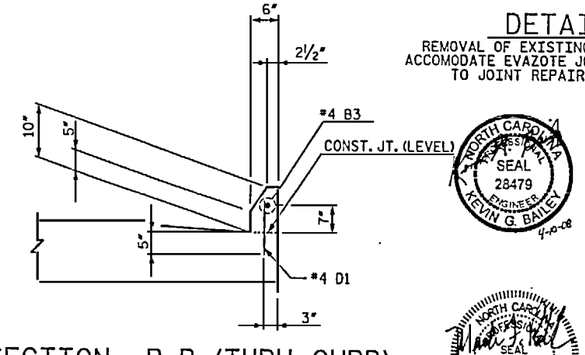
LOCATION	ELAST. CONCRETE (CU. FT.) *
END BENT	9.0
APP. SLAB	9.0

*BASED ON MINIMUM BLOCKOUT SHOWN



DETAIL "A"

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



SECTION B-B (THRU CURB)

NORTH CAROLINA PROFESSIONAL SEAL 28479 ENGINEER KEVIN G. BAILEY 4-10-08

NORTH CAROLINA PROFESSIONAL SEAL 18163 ENGINEER MARK F. ROBBINS 4/10/08

PROJECT NO. B-5021

ROBESON COUNTY

BRIDGE: 54

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

BRIDGE APPROACH SLAB FOR FLEXIBLE PAVEMENT

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-19
1			3			TOTAL SHEETS
2			4			62

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