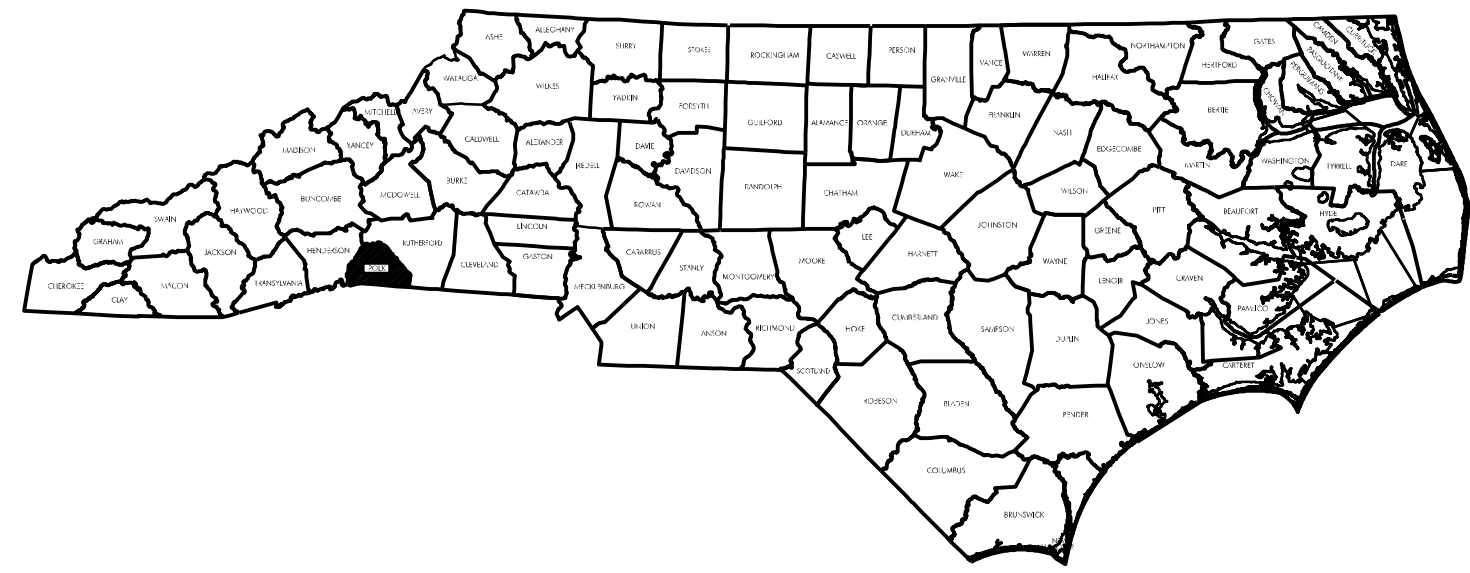


**CONTRACT: C204784 TIP PROJECT: I-5927**

**STRUCTURES**



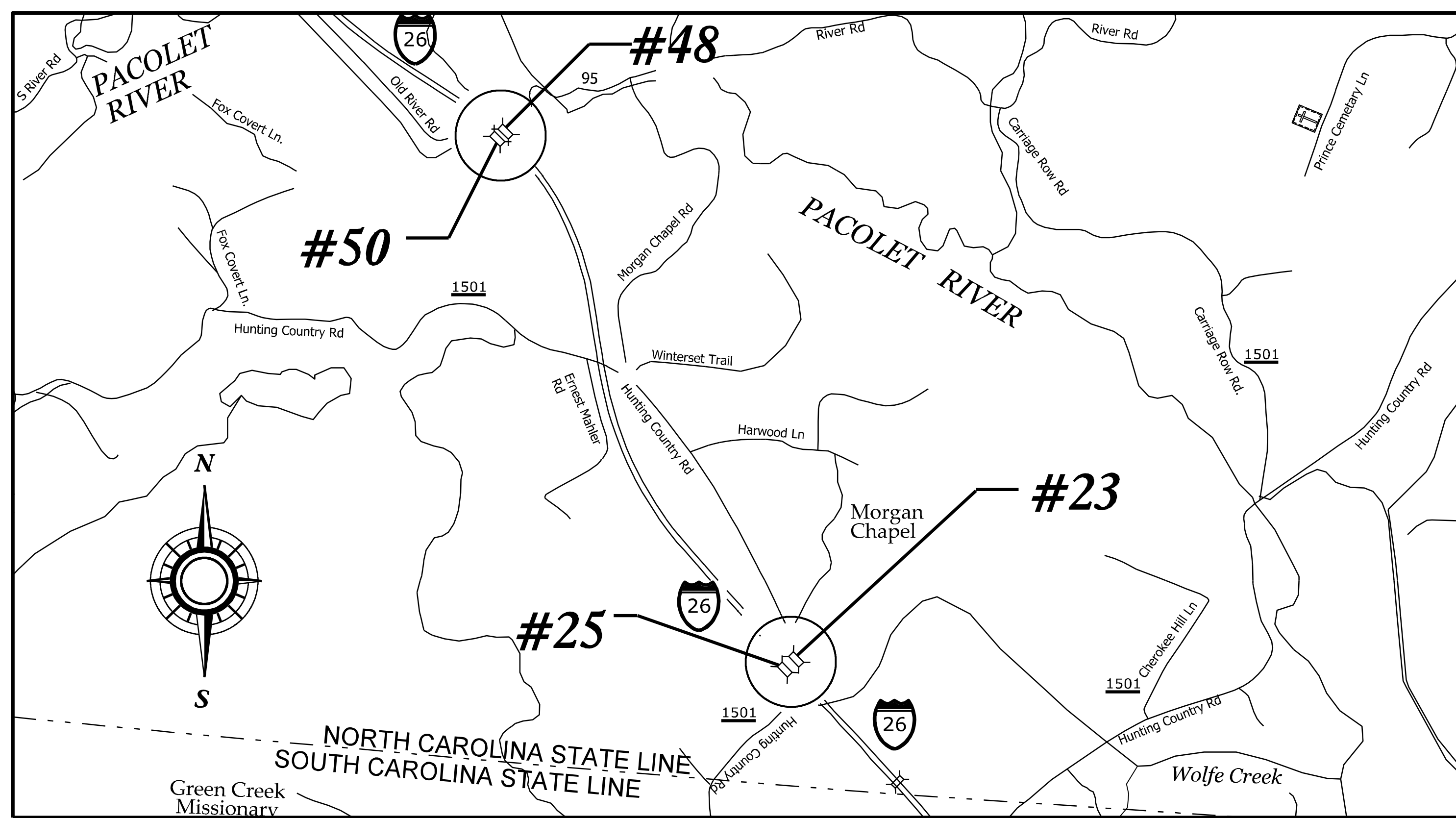
**STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS**

**POLK COUNTY**

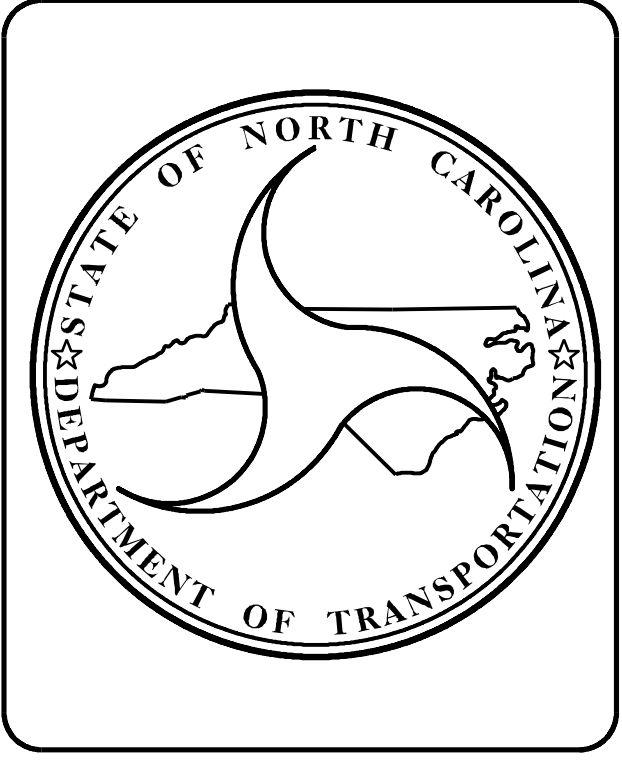
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N.C.	I-5927	1	
STATE PROJECT NO.	F.A.PROJ.NO.	DESCRIPTION	
45936.1.1	0026026	PE	
45936.1.1	0026026	CONSTR.	

LOCATION: BRIDGE #740023 ON I-26 WBL OVER SR1501 (HUNTING COUNTRY RD).  
 BRIDGE #740025 ON I-26 EBL OVER SR1501 (HUNTING COUNTRY RD).  
 BRIDGE #740048 ON I-26 WBL OVER N. PACOLET RIVER, SR1516 (RIVER RD).  
 BRIDGE #740050 ON I-26 EBL OVER N. PACOLET RIVER, SR1516 (RIVER RD).

TYPE OF WORK: BRIDGE PRESERVATION - POLYESTER POLYMER CONCRETE (PPC) OVERLAY, DECK REPAIRS, JOINT REPAIRS, STEEL GIRDER REPAIRS, SUBSTRUCTURE REPAIRS.



**VICINITY MAP**



**DESIGN DATA**

BRIDGE #23 ADT 2019	=15,500
BRIDGE #25 ADT 2019	=15,500
BRIDGE #48 ADT 2019	=15,500
BRIDGE #50 ADT 2019	=15,500

**PROJECT LENGTH**

PROJECT LENGTH #23	= 0.025 MI
PROJECT LENGTH #25	= 0.026 MI
PROJECT LENGTH #48	= 0.061 MI
PROJECT LENGTH #50	= 0.061 MI

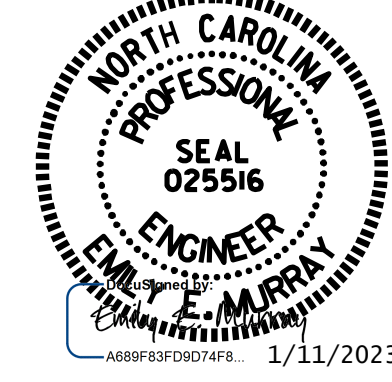
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**NCDOT CONTACT:** TIM SHERRILL, PE  
PROJECT MANAGER

Prepared for:  
**STRUCTURES MANAGEMENT UNIT**  
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2018 STANDARD SPECIFICATIONS

**LETTING DATE:**  
MARCH 21, 2023



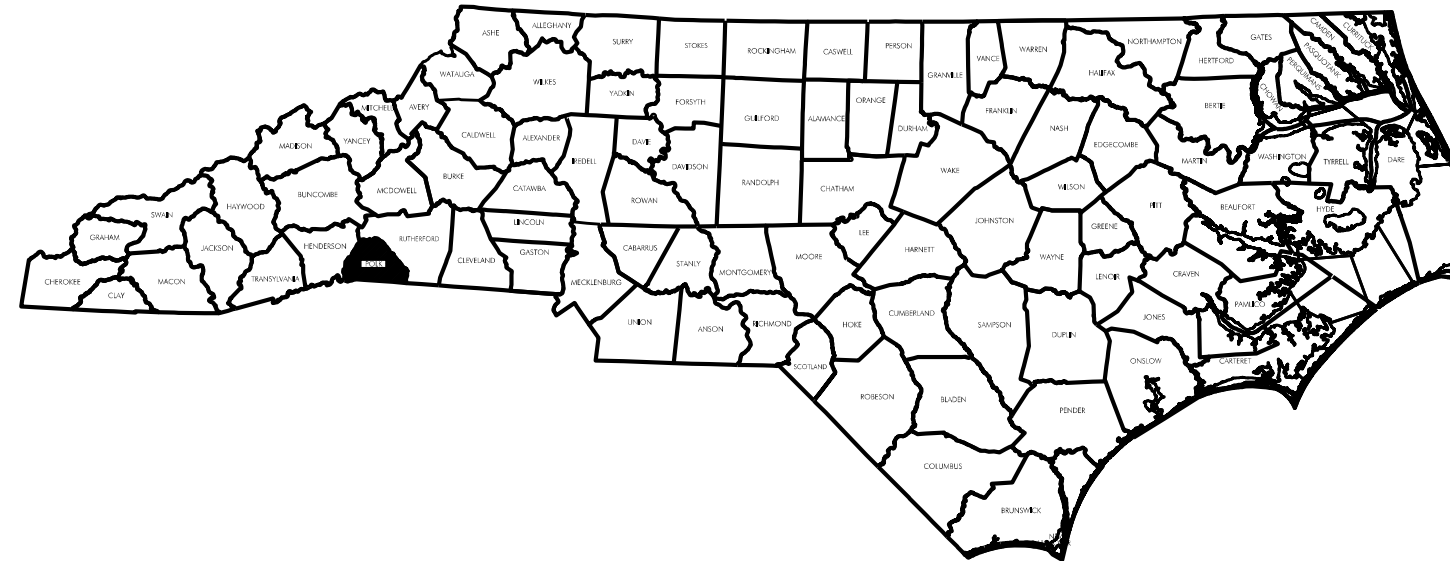
**EMILY MURRAY**  
PROJECT ENGINEER

**VOLKERT**

5430 Wade Park Boulevard, Suite 410  
Raleigh, NC 27607  
Tel. 919-854-0344 Fax. 919-854-0355  
NC License No. F-0765

**TIP PROJECT: I-5927**

**CONTRACT: C204784**



**STATE OF NORTH CAROLINA**  
**DIVISION OF HIGHWAYS**  


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**POLK COUNTY**

LOCATION:

BRIDGE #740023 ON I-26 WBL OVER SR1501 (HUNTING COUNTRY RD).  
 BRIDGE #740025 ON I-26 EBL OVER SR1501 (HUNTING COUNTRY RD).  
 BRIDGE #740048 ON I-26 WBL OVER N. PACOLET RIVER, SR1516 (RIVER RD).  
 BRIDGE #740050 ON I-26 EBL OVER N. PACOLET RIVER, SR1516 (RIVER RD).

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5927	1A	
STATE PROJECT NO.	F. A. PROJ. NO.	DESCRIPTION	
45936.1.1	0026026	PE	
45936.1.1	0026026	CONSTR.	

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**INDEX OF SHEETS**

STRUCTURE NO.	DESCRIPTION	SHEET NUMBER
	TITLE SHEET	1
	INDEX OF SHEETS & SUMMARY OF QUANTITIES	1A
740023	BRIDGE ON I-26 WBL OVER SR1501 (HUNTING COUNTRY RD).	S-1 TO S-14
740025	BRIDGE ON I-26 EBL OVER SR1501 (HUNTING COUNTRY RD).	S-15 TO S-28
740048	BRIDGE ON I-26 WBL OVER N. PACOLET RIVER, SR1516 (RIVER RD).	S-29 TO S-52
740050	BRIDGE ON I-26 EBL OVER N. PACOLET RIVER, SR1516 (RIVER RD).	S-53 TO S-75
	DETAILS	S-76 TO S-79
	STANDARD NOTES	SN

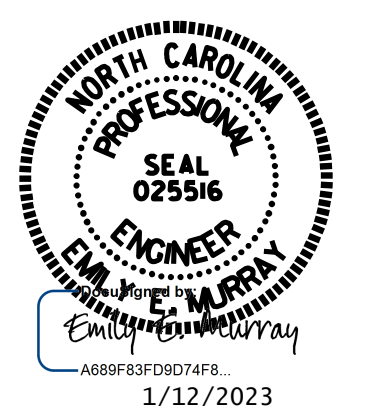
**TOTAL BILL OF MATERIAL**

BRIDGE NO.	POLLUTION CONTROL	GROOVING BRIDGE FLOORS	CLASS II SURFACE PREPARATION	CONCRETE REPAIRS	SHOTCRETE REPAIRS	EPOXY RESIN INJECTION	CLEANING & REPAINTING OF BRIDGE NO. ____	PAINTING CONTAINMENT FOR BRIDGE NO. ____	FOAM JOINT SEALS FOR PRESERVATION	POLYESTER POLYMER CONCRETE MATERIALS	EPOXY POLYMER CONCRETE MATERIALS (ALTERNATE)	BEAM REPAIR CUT-OUT
	LUMP SUM	SQ. FT.	SQ. YD.	CU. FT.	CU. FT.	LF	LUMP SUM	LUMP SUM	LF	CU. YD.	CU. YD.	LB
740023	LUMP SUM	4493.3	10.0	7.7	27.2	49.5	LUMP SUM	LUMP SUM	90.1	15.2	15.2	424.0
740025	LUMP SUM	4853.5	10.0	0.0	21.2	30.2	LUMP SUM	LUMP SUM	90.1	16.4	16.4	166.0
740048	LUMP SUM	13131.3	43.2	10.5	122.7	45.1	LUMP SUM	LUMP SUM	393.8	77.2	77.2	0.0
740050	LUMP SUM	13133.3	43.2	3.4	48.5	14.2	LUMP SUM	LUMP SUM	393.8	77.4	77.4	0.0
TOTAL	LUMP SUM	35611.4	106.4	21.6	219.6	139.0	LUMP SUM	LUMP SUM	967.8	186.2	186.2	590.0

**TOTAL BILL OF MATERIAL**

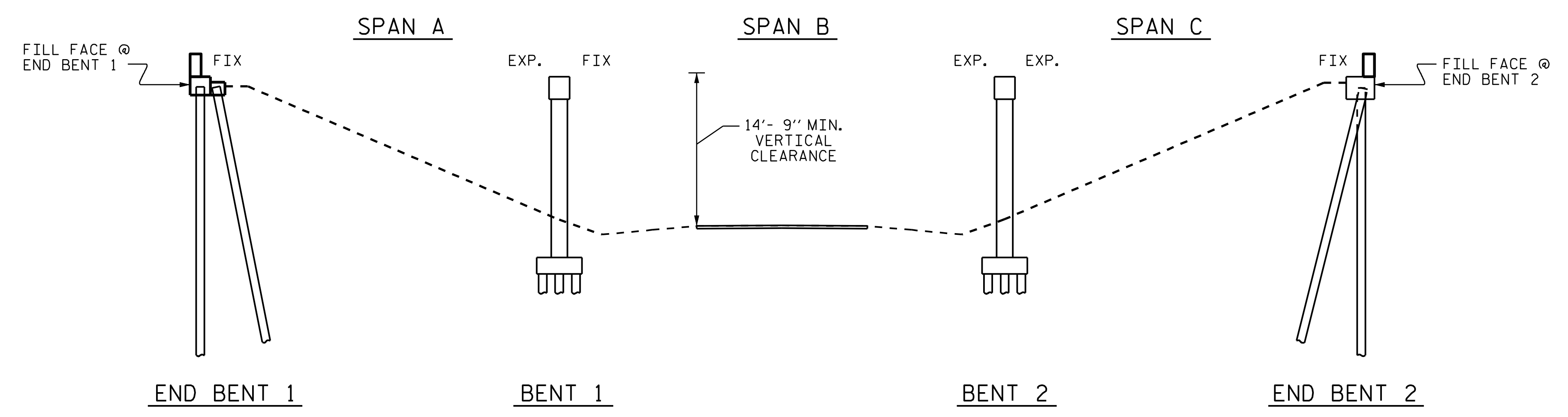
BRIDGE NO.	BEAM REPAIR PLATING	EPOXY COATING	SCARIFYING BRIDGE DECK	SHOTBLASTING BRIDGE DECK	PLACING AND FINISHING POLYMER CONCRETE OVERLAY	CONCRETE DECK REPAIR FOR POLYMER CONCRETE OVERLAY	TYPE I BRIDGE JACKING
	LB	SQ. FT.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	EA
740023	30.0	444.0	546.4	546.4	546.4	10.0	2.0
740025	314.0	444.0	589.8	589.8	589.8	10.0	1.0
740048	32.0	1149.0	1589.6	1589.6	1589.6	43.2	0.0
740050	0.0	1149.0	1589.8	1589.8	1589.8	43.2	0.0
TOTAL	376.0	3186.0	4315.6	4315.6	4315.6	106.4	3.0

DRAWN BY : D. A. GLADDEN DATE : 7/21  
 CHECKED BY : E. MURRAY DATE : 12/22

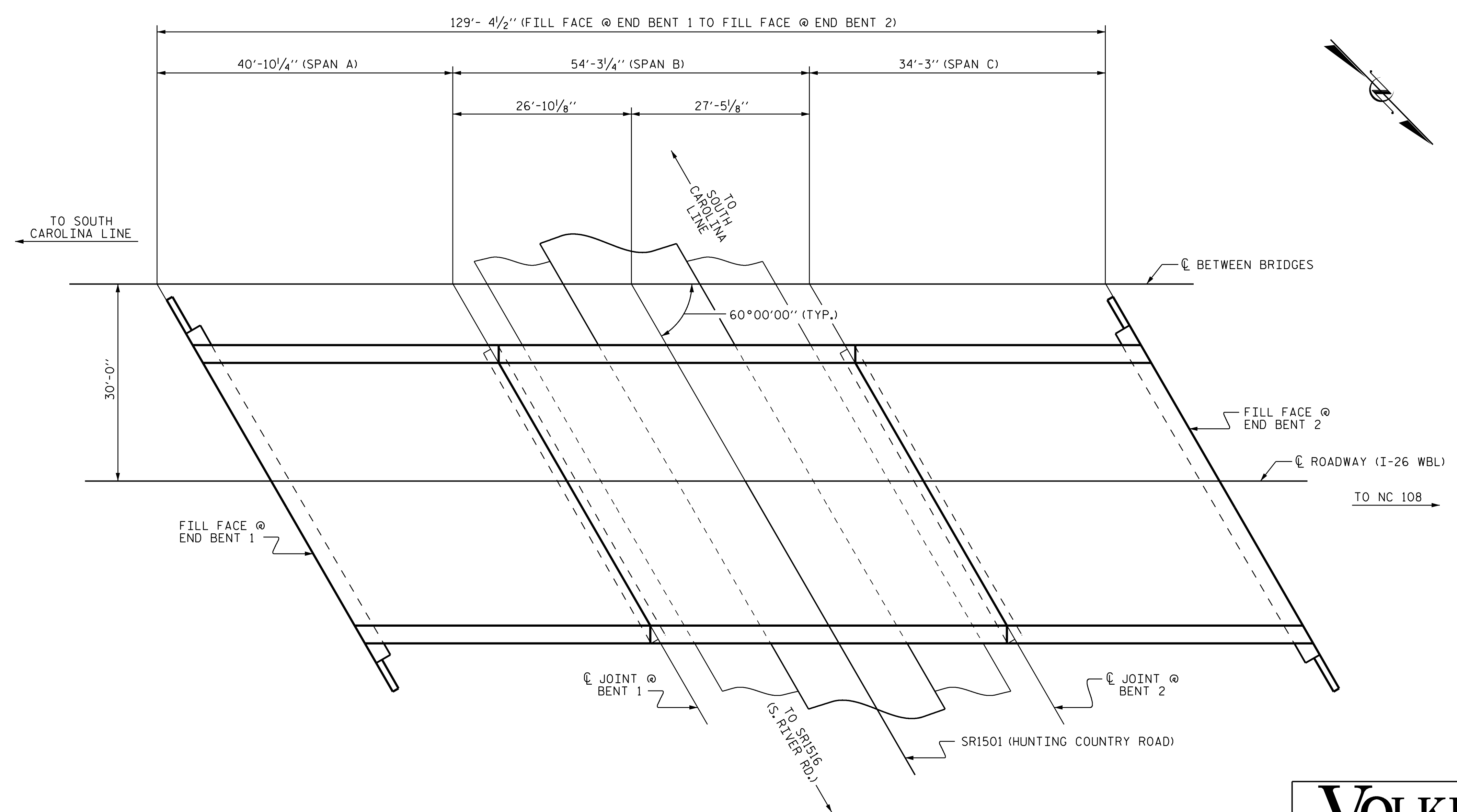


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**SECTION ALONG C WBL BRIDGE**  
 (SECTION @ END BENTS AND BENTS ARE TAKEN AT RIGHT ANGLES)



**PLAN OF WBL BRIDGE**

**NOTES**

PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND ROUTINE INSPECTION REPORT DATED 9/4/2019.  
 BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

**SCOPE OF WORK**

- PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING.
- OVERLAY PREPARED TOP OF BRIDGE DECK WITH POLYMER CONCRETE (PC).
- REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINTS SEALS FOR PRESERVATION
- GROOVE PC BRIDGE DECK.
- MILL AND REPAVE ASPHALT APPROACH ROADWAYS.
- CLEAN, REPAIR, AND PAINT EXISTING STRUCTURAL STEEL.
- REMOVE DEBRIS FROM TOP OF EXISTING END BENT AND BENT CAPS AND APPLY EPOXY COATING.
- EPOXY RESIN INJECTION OF CONCRETE CRACKS.
- REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AND BENT AREAS FOR SHOTCRETE AND CONCRETE REPAIRS.

I HEREBY CERTIFY THAT THIS STRUCTURE WAS REHABILITATED ACCORDING TO THESE PLANS OR AS NOTED HEREIN.

RESIDENT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

PROJECT NO. I-5927  
POLK COUNTY  
 STATION: 740023

SHEET 1 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING  
 FOR WBL BRIDGE  
 ON I-26 OVER SR 1501  
 (HUNTING COUNTRY ROAD)  
 BETWEEN NC 108 AND  
 SOUTH CAROLINA LINE**

**VOLKERT**  
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 NC License No. F-0765

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22





**NOTES**

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR SUMMARY OF QUANTITIES TABLE.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT CLASS III SURFACE PREPARATION WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED THAT CLASS III SURFACE PREPARATION, OR OTHER WORK WILL BE NECESSARY TO PROPERLY COMPLETE THE INTENDED BRIDGE PRESERVATION/REHABILITATION WORK. THE CONTRACTOR SHALL BE PREPARED TO PERFORM SUCH WORK IN A TIMELY MANNER, AS DETERMINED IN THE FIELD. SUCH WORK SHALL BE CONSIDERED EXTRA WORK AND SHALL BE ADDRESSED AS 104-7 OF THE STANDARD SPECIFICATIONS. PROJECT SPECIAL PROVISIONS THAT OUTLINE REQUIREMENTS FOR THESE POTENTIAL ADDITIONAL WORK ITEMS HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES, AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLANS.

EXISTING JOINTS SHALL BE SEALED PRIOR TO BEGINNING REPAIRS OF BRIDGE DECK.

LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANE.

FOR SCARIFYING BRIDGE DECK, SHOTBLASTING BRIDGE DECK, AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

THE EXISTING BRIDGE DECK SHALL BE REPAIRED AS SHOWN ON THE PLANS OR AS DETERMINED BY THE ENGINEER AFTER SCARIFICATION AND PRIOR TO BRIDGE DECK SHOTBLAST AND APPLICATION OF THE PC OVERLAY. UNLESS OTHERWISE APPROVED, SUCH LOCATIONS SHALL BE REPAIRED WITH PC.

FOR CONCRETE DECK REPAIR FOR PC OVERLAY, PC MATERIALS, AND PLACING & FINISHING PC OVERLAY, SEE CONCRETE BRIDGE DECK OVERLAY SPECIAL PROVISION.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING, SEE EPOXY COATING AND DEBRIS REMOVAL SPECIAL PROVISION.

FOR BEAM REPAIR CUT-OUT, SEE SPECIAL PROVISIONS.

FOR BEAM REPAIR PLATING, SEE SPECIAL PROVISIONS.

FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.

FOR PAINTING CONTAINMENT, POLLUTION CONTROL, AND CLEANING AND REPAINTING BRIDGE, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

**LOCATION SKETCH**

INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING BRIDGES, ROADWAYS, UTILITIES, THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

**LOCATION COORDINATES**

LATITUDE	35° 11' 58.46"
LONGITUDE	82° 10' 28.97"

PROJECT NO. I-5927

POLK COUNTY

BRIDGE NO. 740023

SHEET 2 OF 2



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

GENERAL DRAWING  
FOR WBL BRIDGE  
ON I-26 OVER SR 1501  
(HUNTING COUNTRY ROAD)  
BETWEEN NC 108 AND  
SOUTH CAROLINA LINE

**VOLKERT**

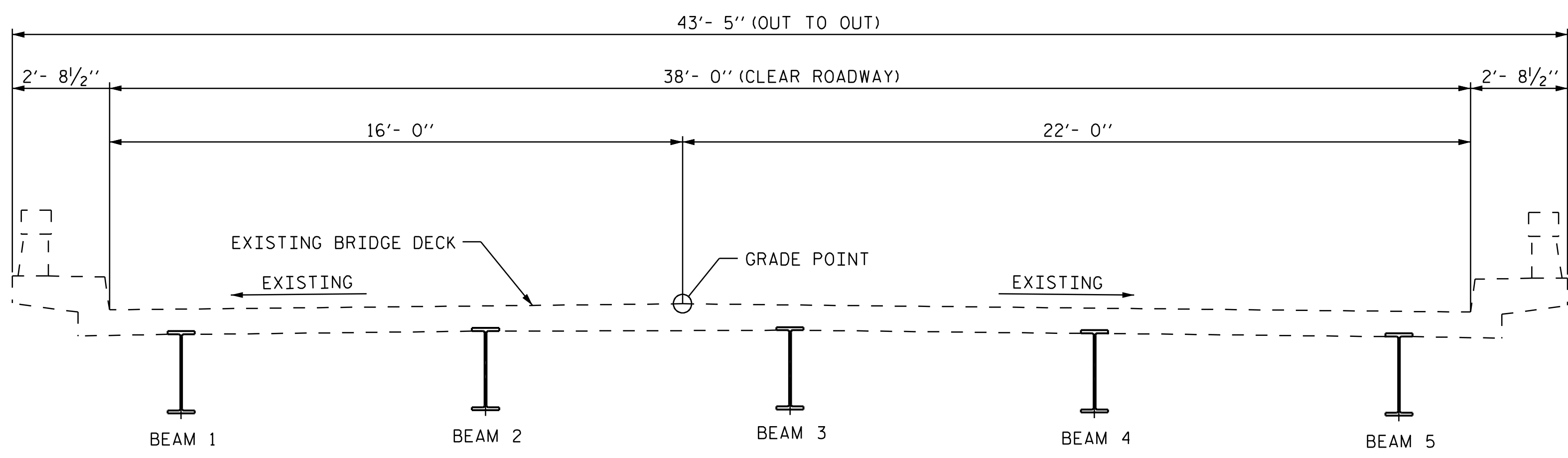
5430 Wade Park Blvd, Suite 410  
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Tel. 919-854-0344 Fax. 919-854-0355  
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SIGNATURES COMPLETED

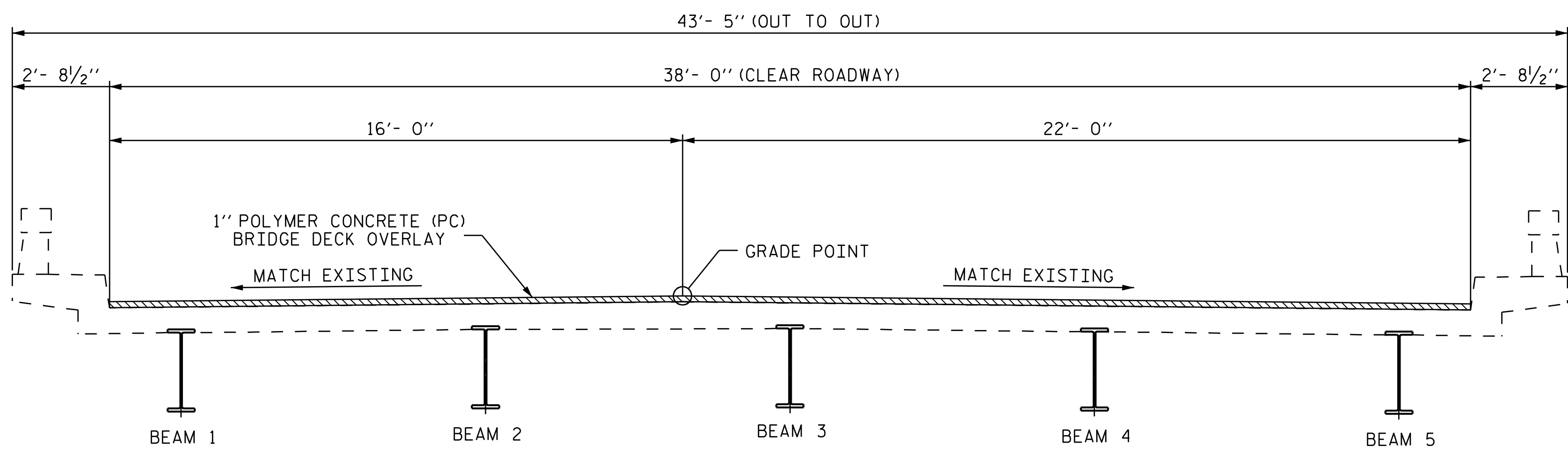
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2			4			

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CHECKED BY : E. MURRAY DATE : 12/22





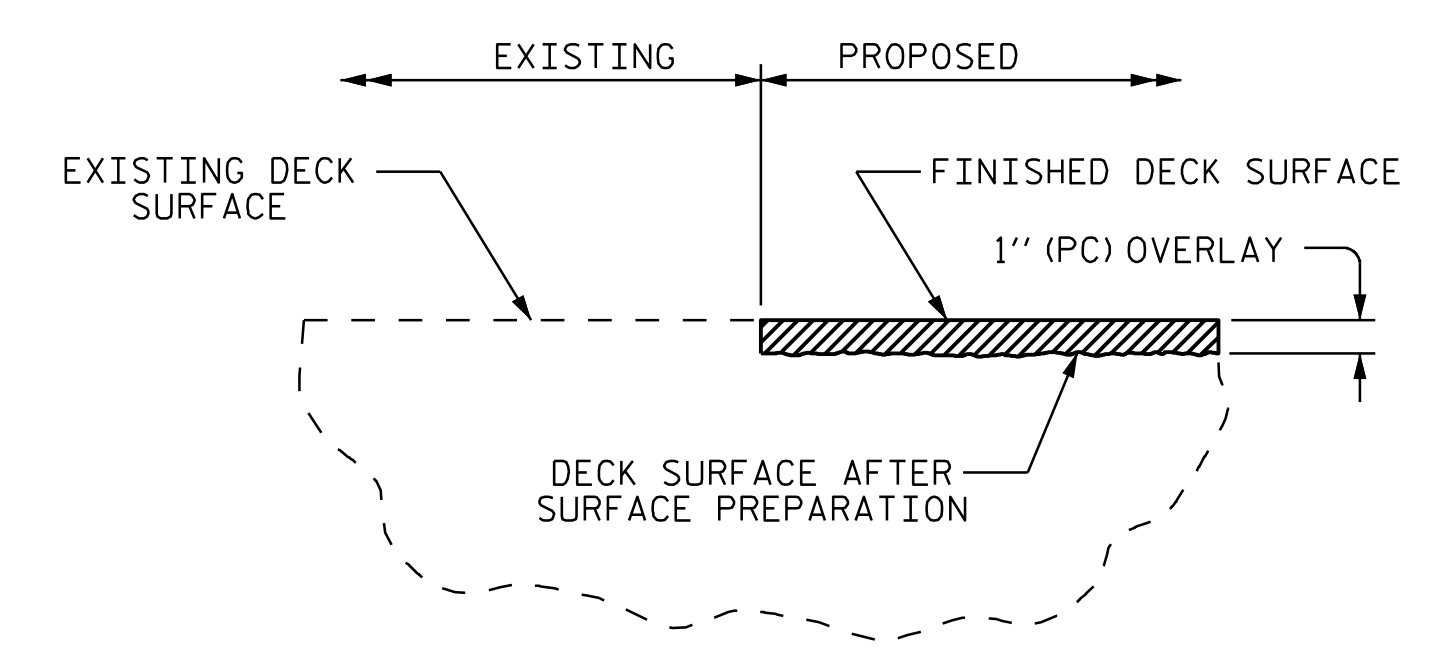
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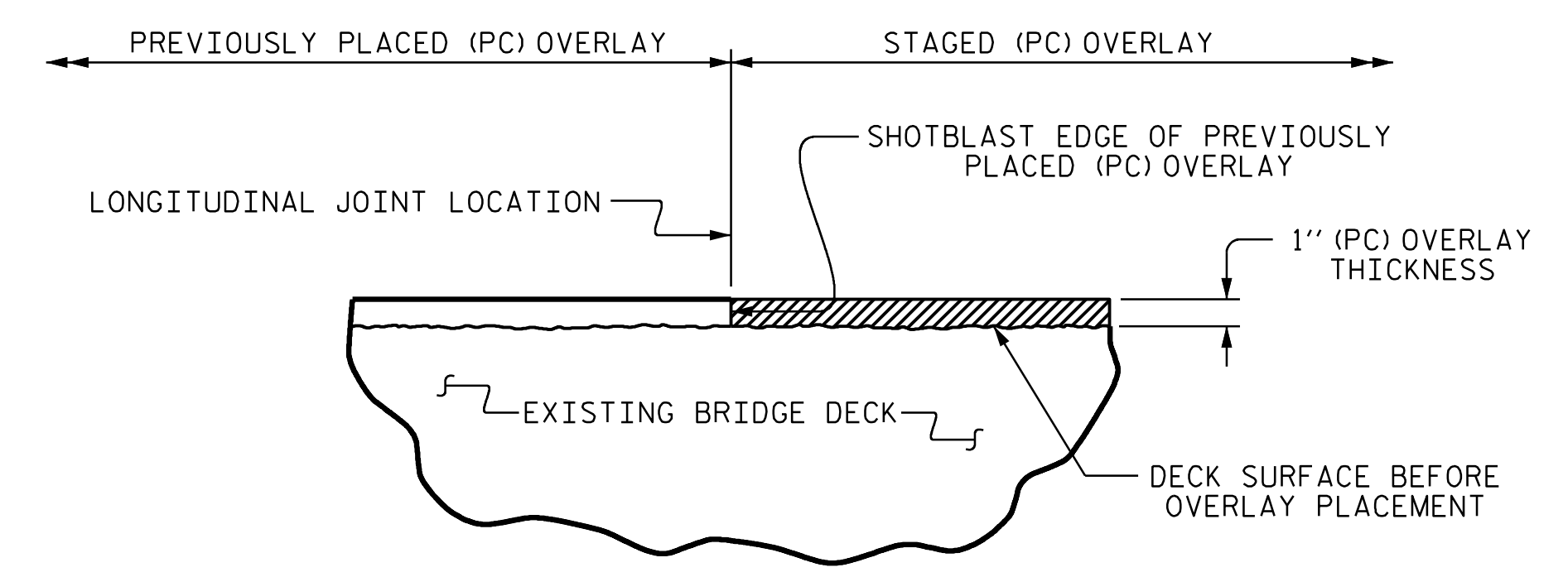
PROPOSED TYPICAL SECTION

**NOTES**

SEE TRANSPORTATION MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND LATEX MODIFIED CONCRETE PLACEMENT.

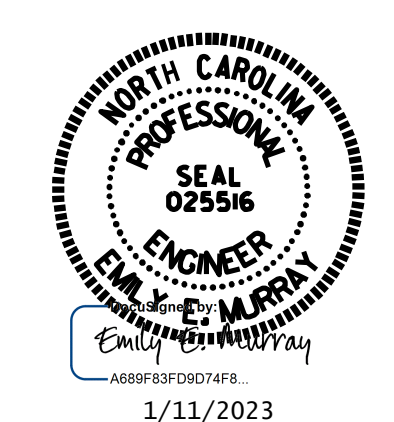


DETAIL OF POLYMER CONCRETE OVERLAY



STAGED POLYMER CONCRETE OVERLAY JOINT  
(AS NEEDED)

PROJECT NO. I-5927  
POLK COUNTY  
 STATION: 740023



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**TYPICAL SECTION  
 AND  
 PC OVERLAY DETAIL**

DRAWN BY : D. A. GLADDEN DATE : 6/21  
 CHECKED BY : E. MURRAY DATE : 12/22

10-JAN-2023 12:47  
 \*\*\*\*\*DCN\*\*\*\*\*  
 Jaden.bryant AT C-160005

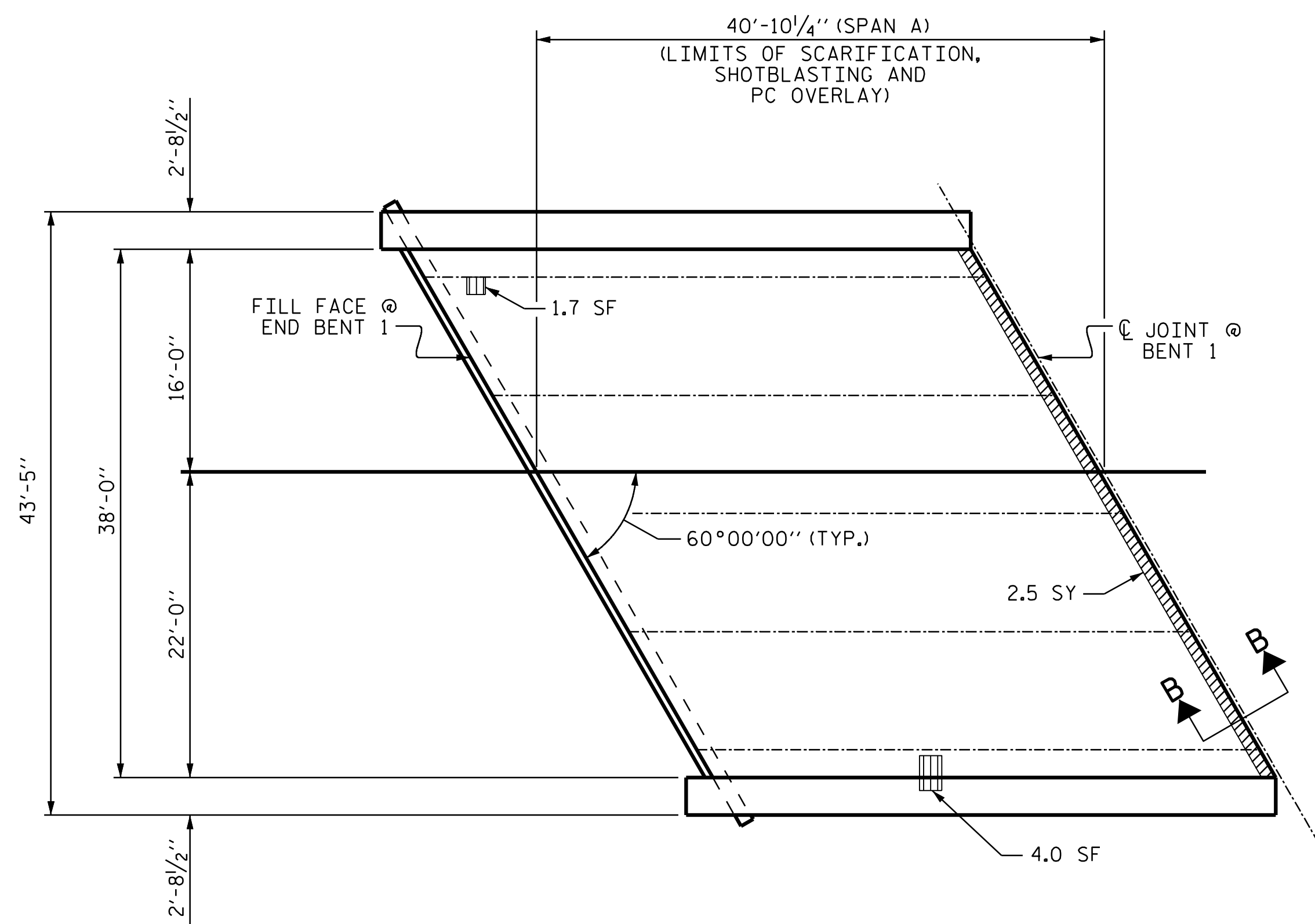
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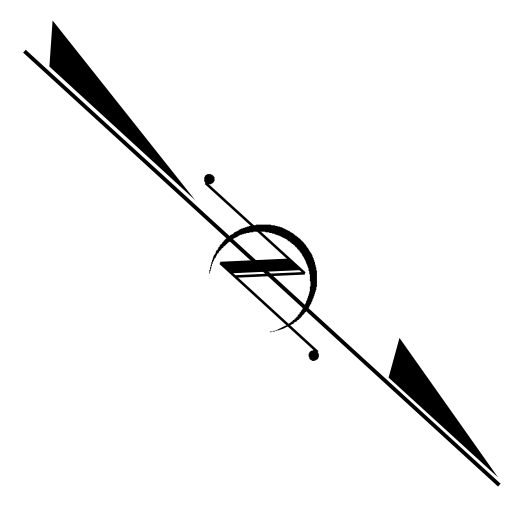
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NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO.  
**S-3**  
 TOTAL SHEETS  
**79**





PLAN OF SPAN A



NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUNTITES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR SECTION B-B, SEE "JOINT REPAIR DETAILS" SHEET.

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS			
SPAN A			
	ESTIMATE		ACTUAL
SCARIFYING BRIDGE DECK	172.5	SY	
SHOTBLASTING OF BRIDGE DECK	172.5	SY	
CLASS II SURFACE PREPARATION	2.5	SY	
EPOXY RESIN INJECTION	0.0	LF	
GROOVING BRIDGE FLOORS	1418.3	SF	
CONCRETE DECK REPAIR FOR PC OVERLAY	2.5	SY	
POLYMER CONCRETE MATERIALS	4.8	CY	
PLACING AND FINISHING POLYMER CONCRETE OVERLAY	172.5	SY	

UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	1.7	0.6		
CONCRETE DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	4.0	1.3		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0	LF		

QUANTITIES IN TABLE REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR POLYMER OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAW CUT). SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

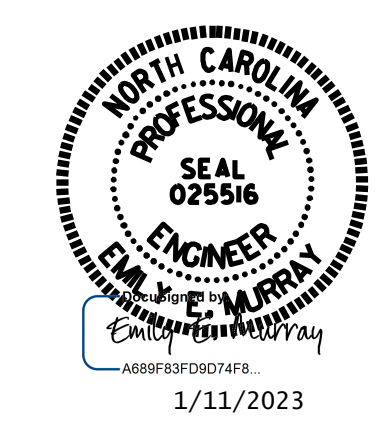
- APPROXIMATE CLASS II AREA
- UNDERSIDE REPAIR

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740023

SHEET 1 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

PLAN OF SPAN A



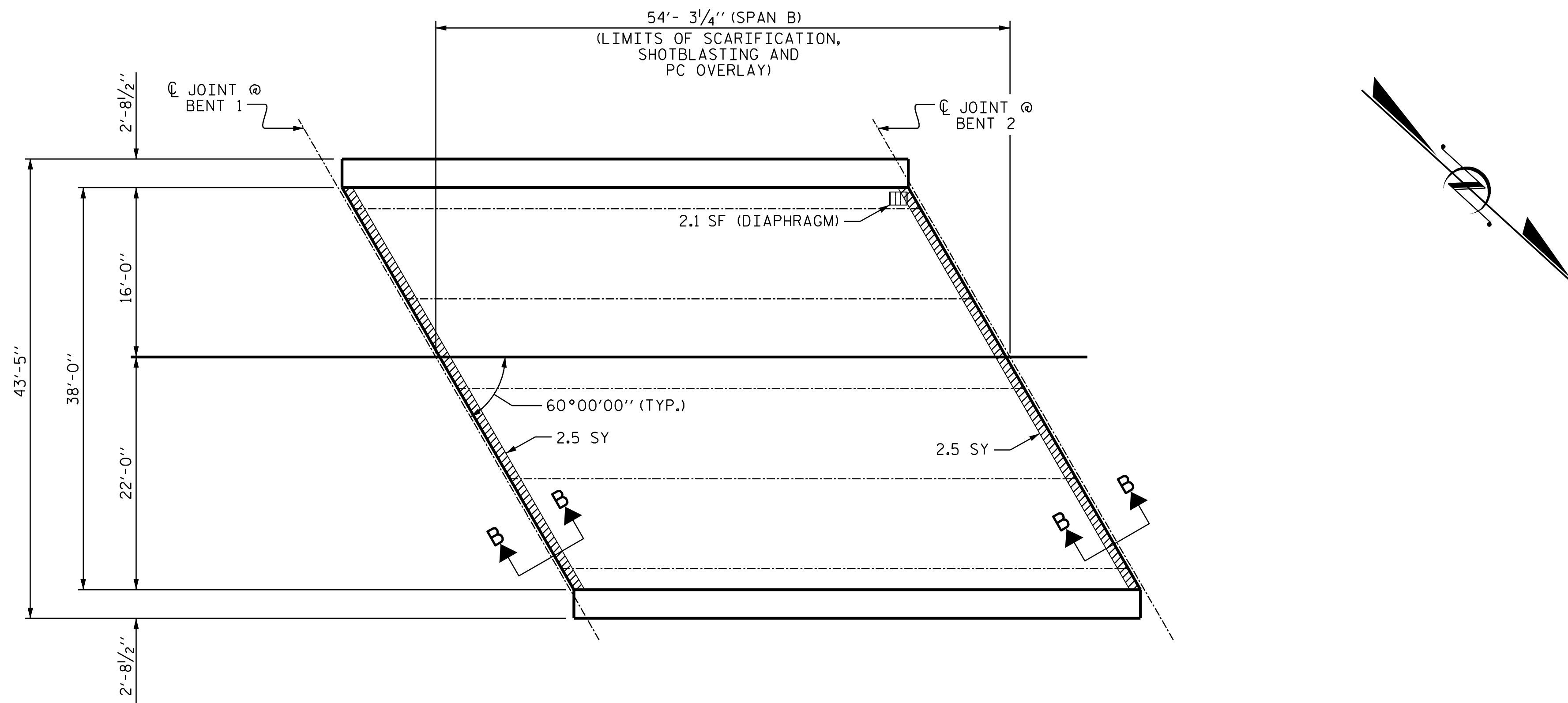
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1			3			TOTAL SHEETS
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22





**PLAN OF SPAN B**

AS-BUILT REPAIR QUANTITY TABLE				
TOP OF DECK REPAIRS				
SPAN B				
	ESTIMATE		ACTUAL	
SCARIFYING BRIDGE DECK	229.2	SY		
SHOTBLASTING OF BRIDGE DECK	229.2	SY		
CLASS II SURFACE PREPARATION	5.0	SY		
EPOXY RESIN INJECTION	0.0	LF		
GROOVING BRIDGE FLOORS	1887.9	SF		
CONCRETE DECK REPAIR FOR PC OVERLAY	5.0	SF		
POLYMER CONCRETE MATERIALS	6.4	CY		
PLACING AND FINISHING POLYMER CONCRETE OVERLAY	229.2	SY		
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	2.1	0.7		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0	LF		

QUANTITIES IN TABLE REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR POLYMER OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAW CUT). SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

- APPROXIMATE CLASS II AREA
- UNDERSIDE REPAIR

**NOTES**

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUNTITES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

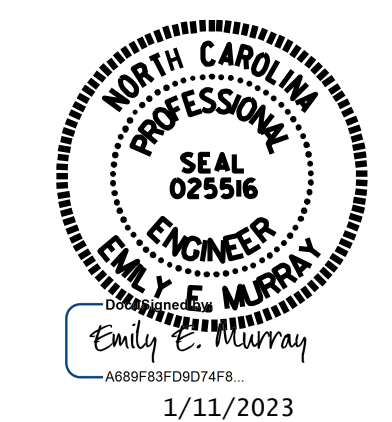
FOR SECTION B-B, SEE "JOINT REPAIR DETAILS" SHEET.

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740023

SHEET 2 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**PLAN OF SPAN B**



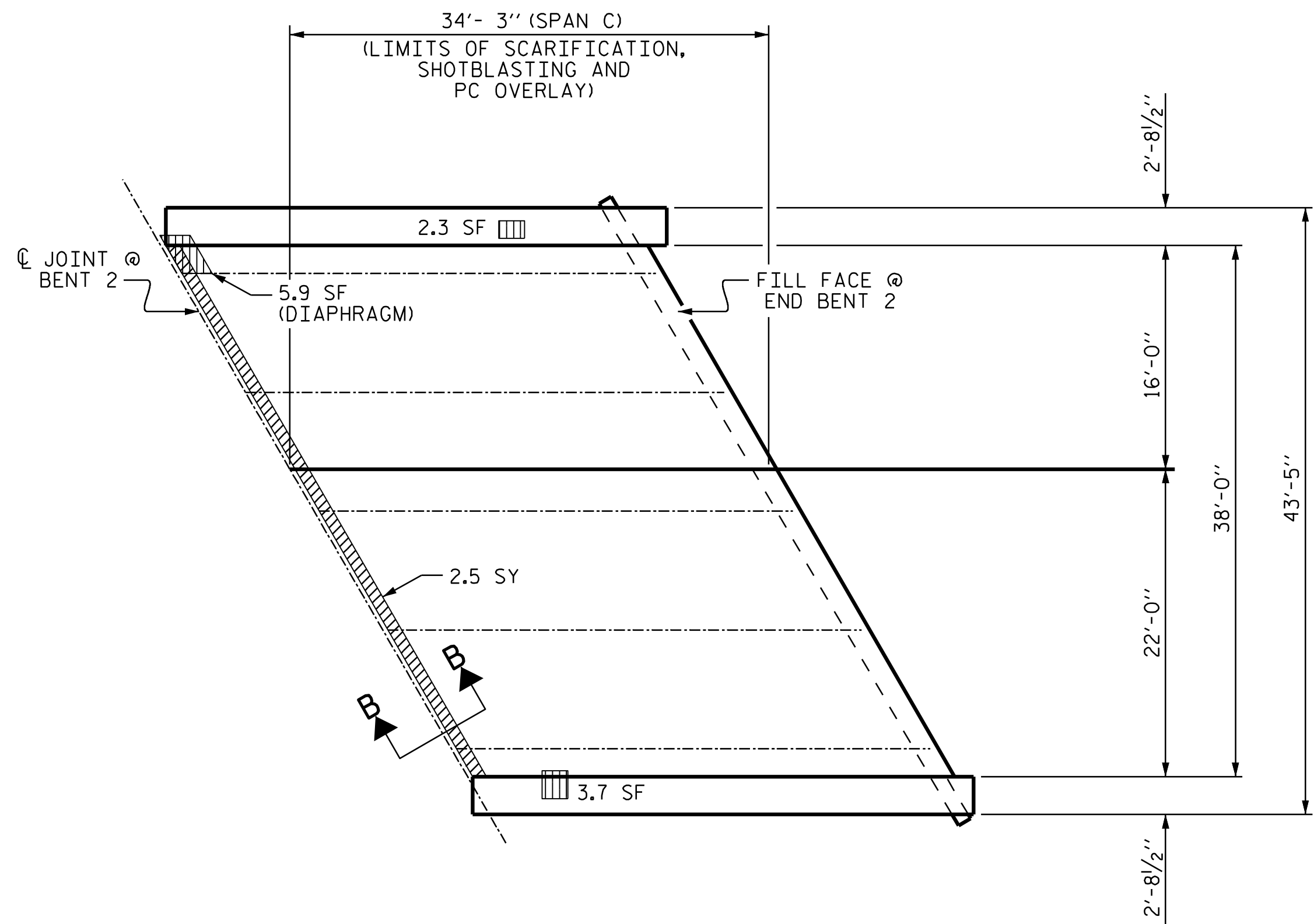
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1			3			TOTAL SHEETS
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22





PLAN OF SPAN C

NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUNTITES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR SECTION B-B, SEE "JOINT REPAIR DETAILS" SHEET.

**AS-BUILT REPAIR QUANTITY TABLE**

TOP OF DECK REPAIRS				
SPAN C				
	ESTIMATE		ACTUAL	
SCARIFYING BRIDGE DECK	144.7	SY		
SHOTBLASTING OF BRIDGE DECK	144.7	SY		
CLASS II SURFACE PREPARATION	2.5	SY		
EPOXY RESIN INJECTION	0.0	LF		
GROOVING BRIDGE FLOORS	1187.1	SF		
CONCRETE DECK REPAIR FOR PC OVERLAY	2.5	SF		
POLYMER CONCRETE MATERIALS	4.0	CY		
PLACING AND FINISHING POLYMER CONCRETE OVERLAY	144.7	SY		
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	5.9	2.0		
UNDERSIDE OF OVERHANG	6.0	2.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0	LF		

QUANTITIES IN TABLE REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR POLYMER OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAW CUT). SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

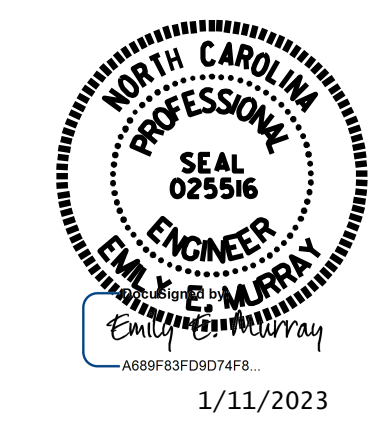
- APPROXIMATE CLASS II AREA
- UNDERSIDE REPAIR

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 BRIDGE NO. 740023

SHEET 3 OF 3

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PLAN OF SPAN C



**VOLKERT**

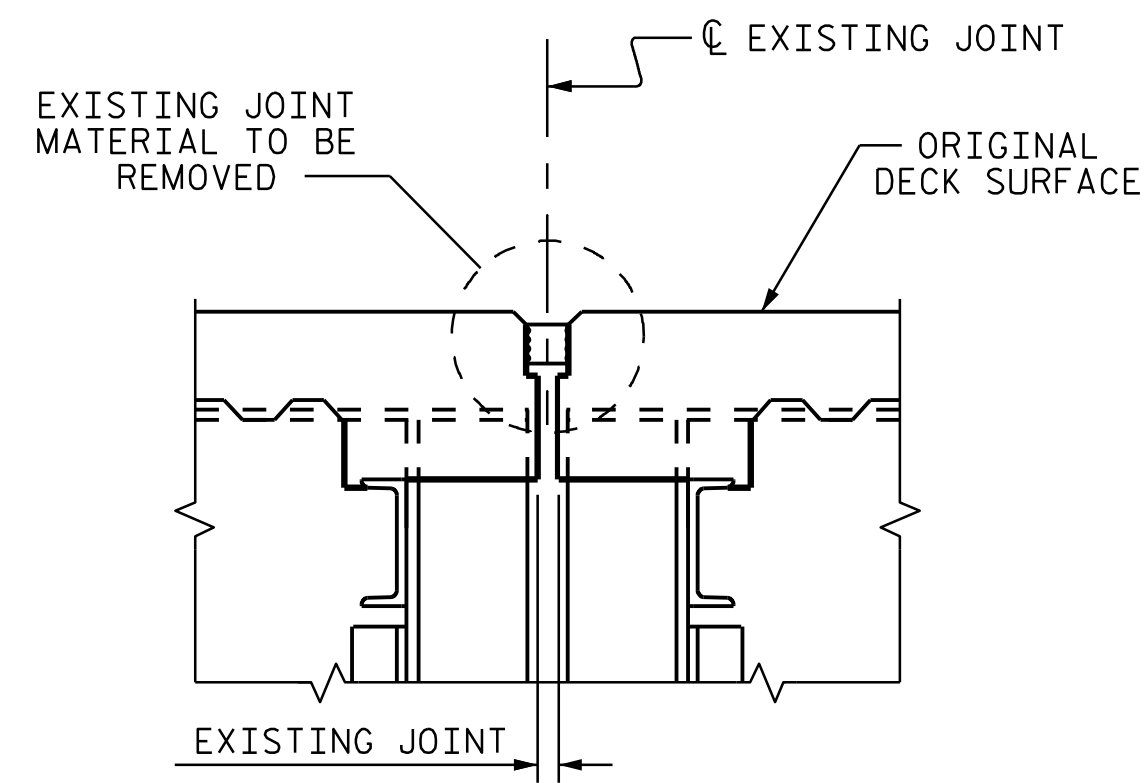
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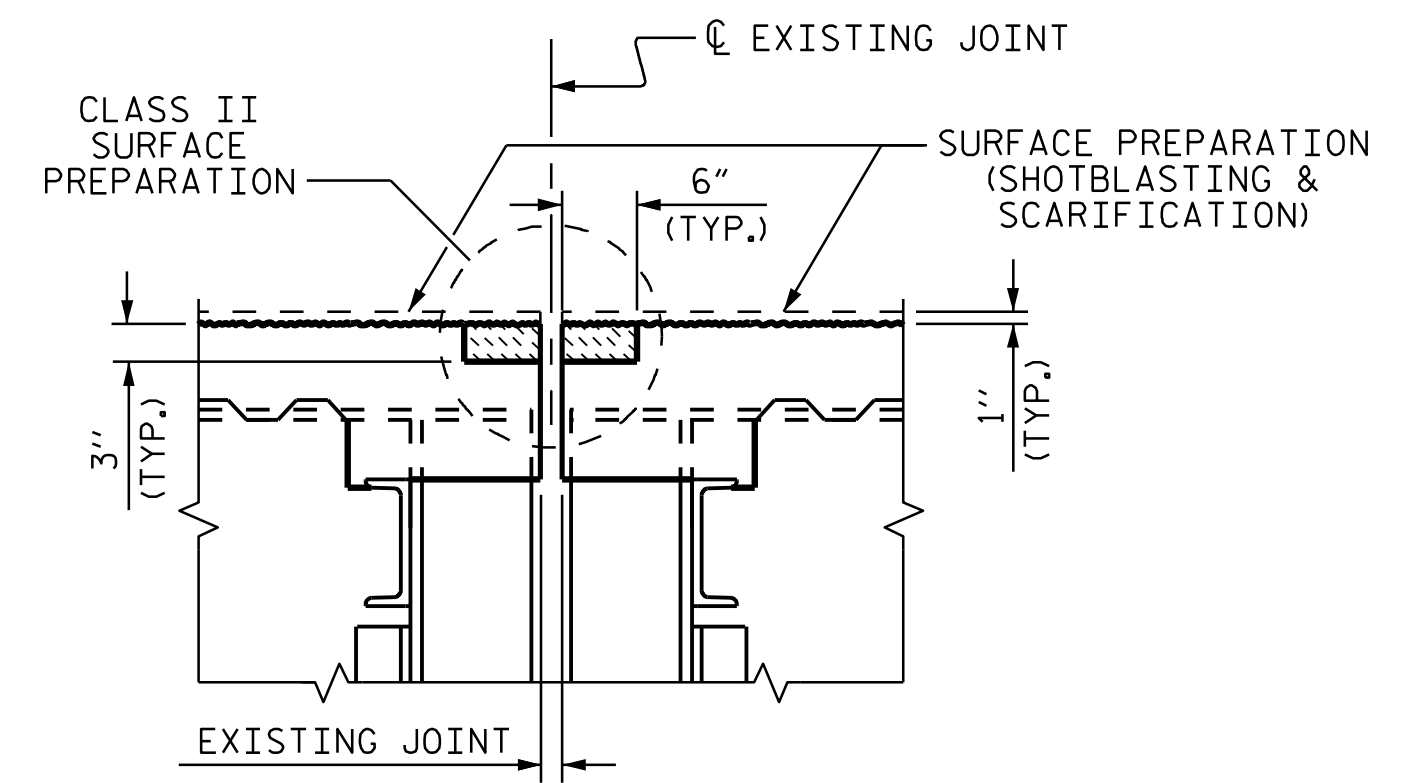
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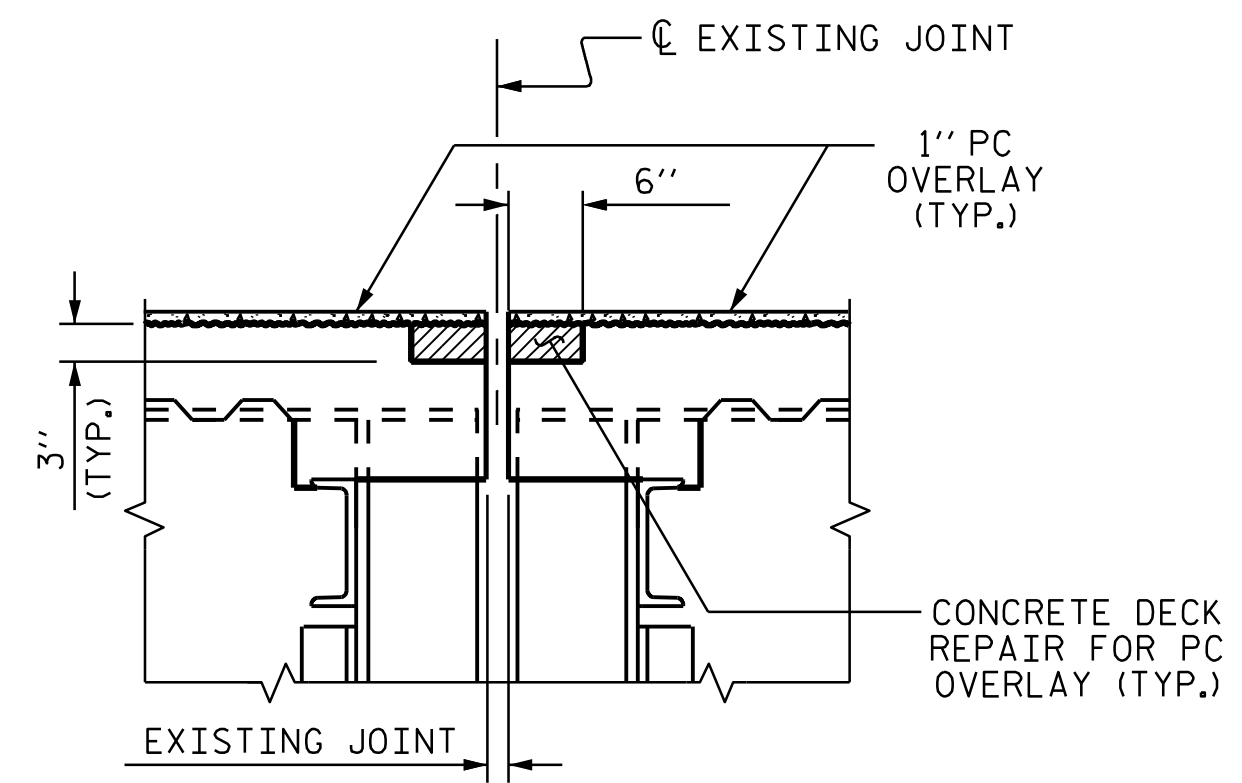




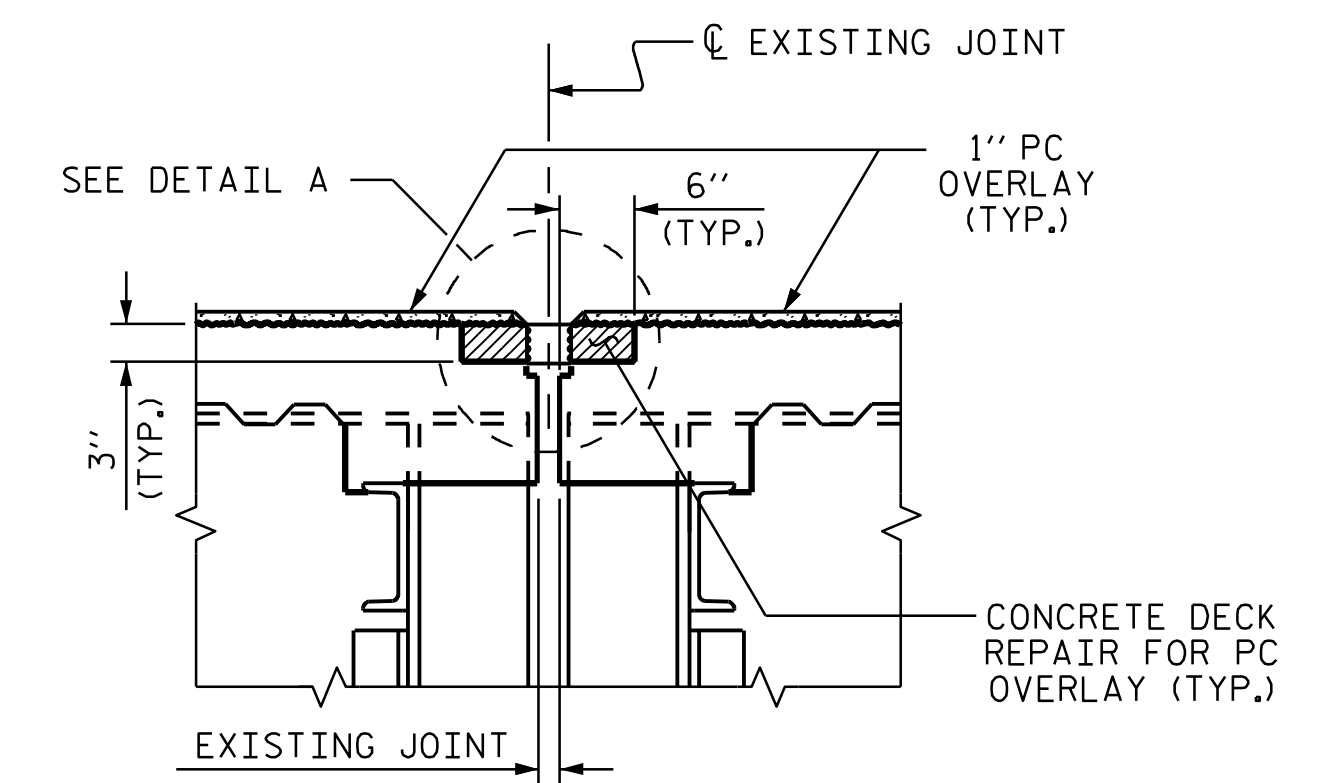
EXISTING JOINT



PROPOSED JOINT PREPARATION  
(MINIMUM EXISTING JOINT DEMOLITION)



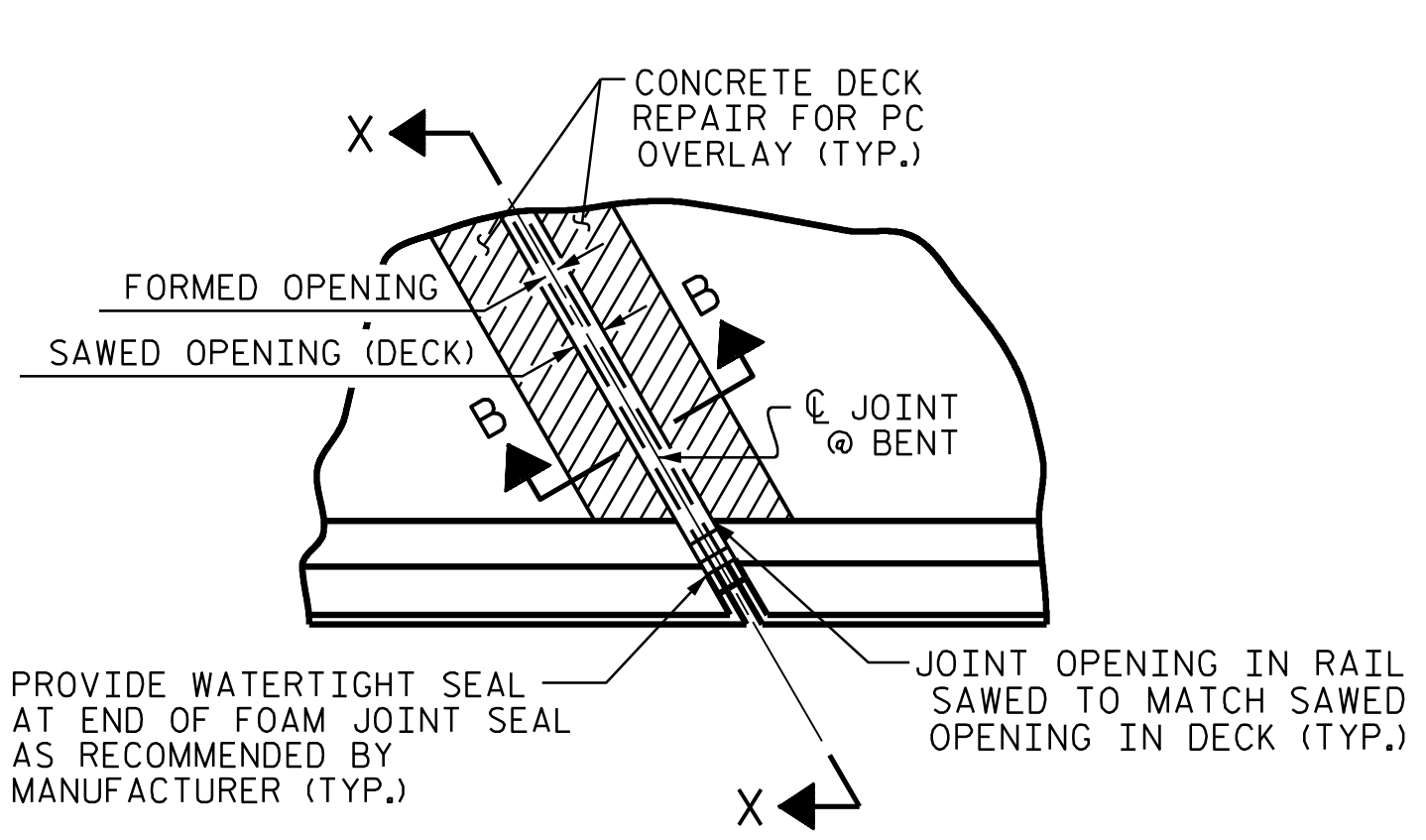
PROPOSED JOINT PRESAWED



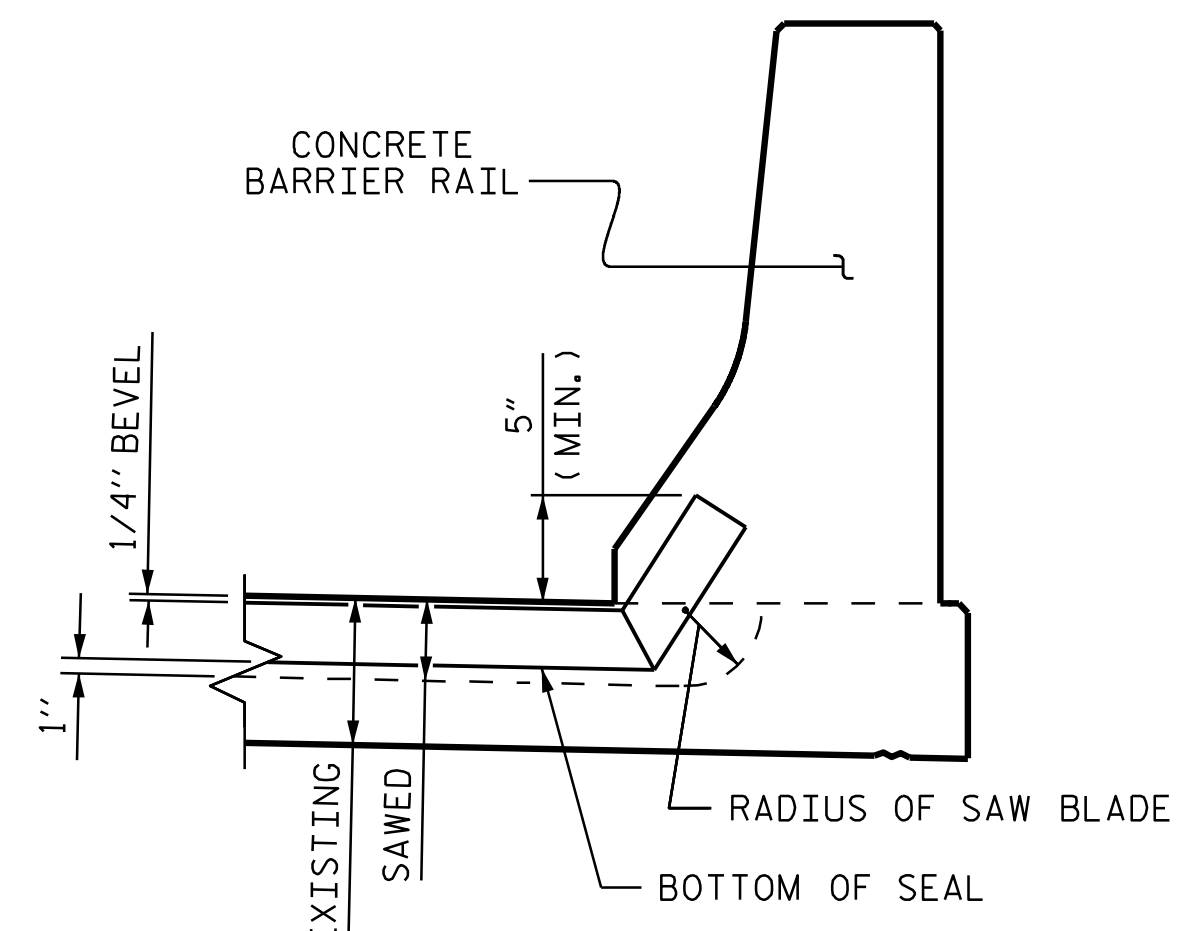
PROPOSED FOAM JOINT

JOINT INSTALLATION SEQUENCE AT BENTS (SECTION B-B)

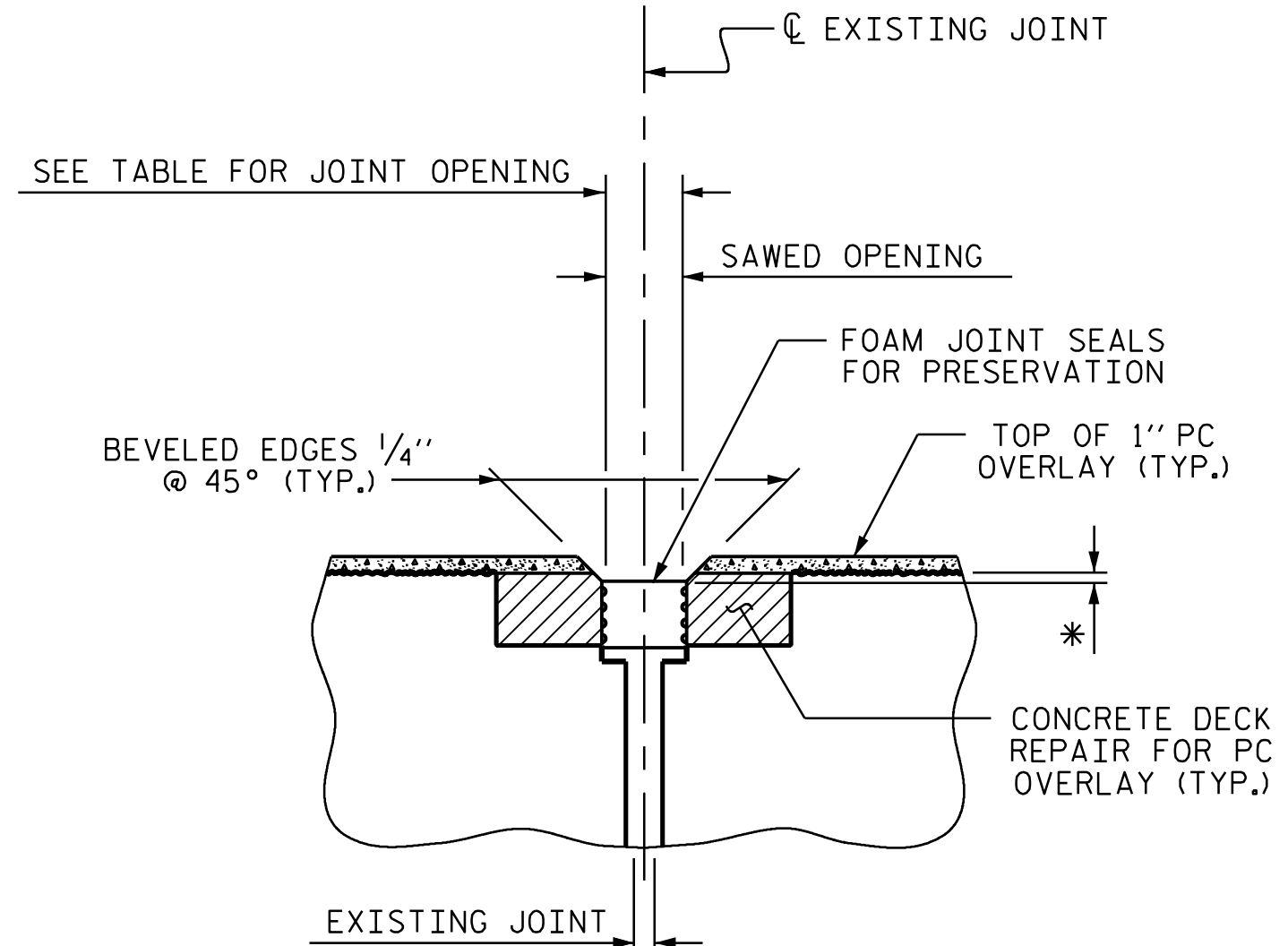
JOINT REPAIR QUANTITY		
	ESTIMATED (LIN. FT.)	ACTUAL (LIN. FT.)
FOAM JOINT SEALS FOR PRESERVATION	90.1	



PLAN



SECTION X-X



DETAIL A  
(PROPOSED)

\* FOAM JOINT SEALS FOR PRESERVATION SHALL BE RECESSED AS PER MANUFACTURER'S RECOMMENDATIONS.

SAWED JOINT OPENING TABLE				
LOCATION	SKIEW ANGLE	PERPENDICULAR JOINT OPENING AT 45°	PERPENDICULAR JOINT OPENING AT 60°	PERPENDICULAR JOINT OPENING AT 90°
BENT 1	60°00'00"	1 5/8"	1 9/16"	1 7/16"
BENT 2	60°00'00"	1 5/8"	1 9/16"	1 7/16"

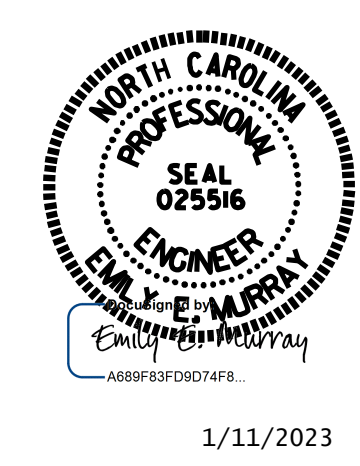
JOINT SEAL DETAILS @ BENT

FOAM JOINT SEAL TO BE CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF THE SIDEWALK.

NOTES

- THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDER JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING ALLOWED BY THE JOINT SEAL MATERIAL, NOTIFY THE ENGINEER. REVISION TO THE JOINT SEAL SIZE AND TYPE MIGHT BE NECESSARY.
- THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS FOR THE JOINT SEALS IN LIEU OF SAWING THE JOINT.
- THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL BASED ON JOINT OPENINGS.
- FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.
- FOAM JOINT SEALS FOR PRESERVATION SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.
- THE INSTALLED FOAM JOINT SEALS FOR PRESERVATION SHALL BE WATER TIGHT.
- FOR LOCATION OF SECTION B-B, SEE PLAN OF SPAN SHEETS.
- FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF REPAIR CONCRETE.

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO: 740023



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JOINT REPAIR DETAILS

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**NOTES**

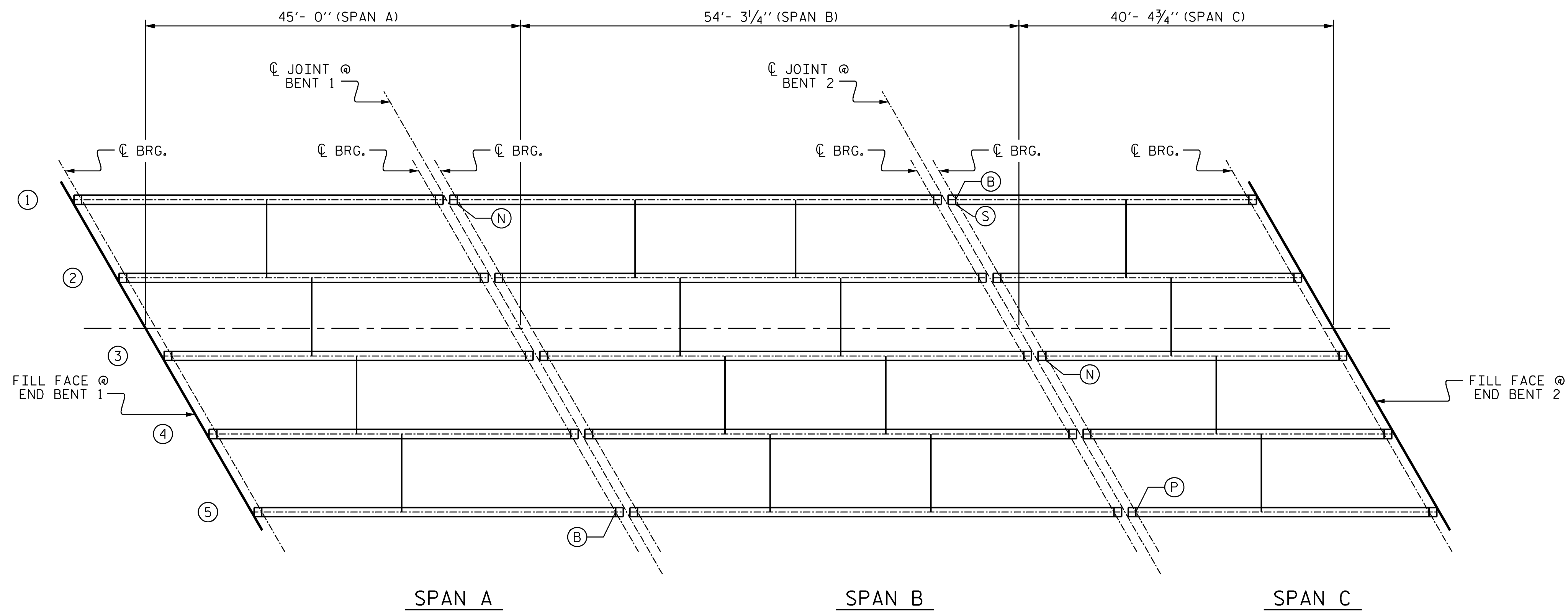
FOR BEAM PLATE REPAIRS, SEE "BEAM REPAIR PLATING DETAILS" SHEET.

FOR BEAM CUT-OUT REPAIRS, SEE "BEAM REPAIR CUT-OUT DETAILS" SHEET.

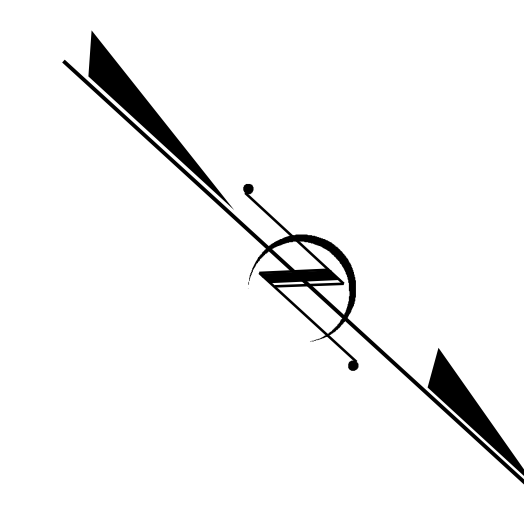
THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENTS OF REPAIR AREAS PRIOR TO STEEL FABRICATION. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE QUANTITIES ON INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL ENSURE THAT EXISTING UTILITIES ADJACENT TO THE BRIDGE ARE NOT DAMAGED DURING REPAIR OPERATIONS.

REPLACEMENT OF MISSING OR DETERIORATED NUTS IS INCIDENTAL TO THE COST FOR VARIOUS BEAM REPAIR PAY ITEMS.



- (1) BEAM NUMBER
- (B) BEAM REPAIR CUT-OUT
- (P) BEAM REPAIR PLATING
- (S) STIFFENER REPAIR
- (N) REPLACE ANCHOR BOLT NUT



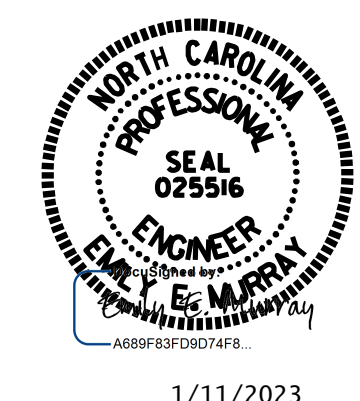
**BEAM REPAIR LOCATIONS**  
(OTHER LOCATIONS MAY EXIST. SEE NOTES)

ANTICIPATED BEAM REPAIR LOCATIONS							
SPAN	BEAM	TYPE	LOCATION	DIM 'A'	DIM 'B'	DIM 'C'	DIM 'D'
A	5	B	BENT 1	22"	24"	10"	17"
C	1	B	BENT 2	7"	50"		
C	1	S	BENT 2	7"			
C	5	P	BENT 2	4"	16"		

\* PLATE REPAIR IS AT TOP OF WEB

BEAM REPAIR							
BEAM REPAIR CUT-OUT		BEAM REPAIR PLATING		STIFFENER REPAIR		DIAPHRAGM REPAIR	
LBS.		LBS.		LBS.		LBS.	
ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
424		22		8		—	

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740023



STATE OF NORTH CAROLINA  
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**BEAM REPAIR LOCATIONS**

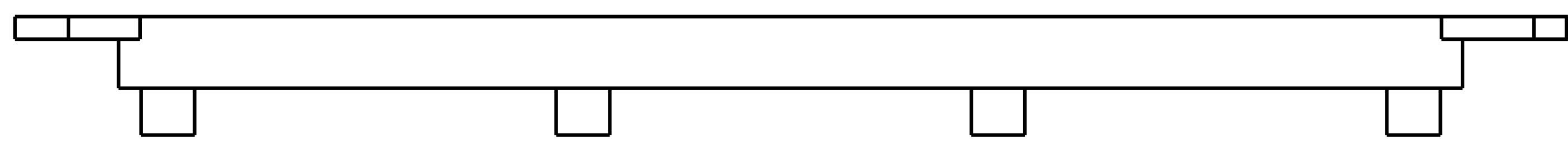
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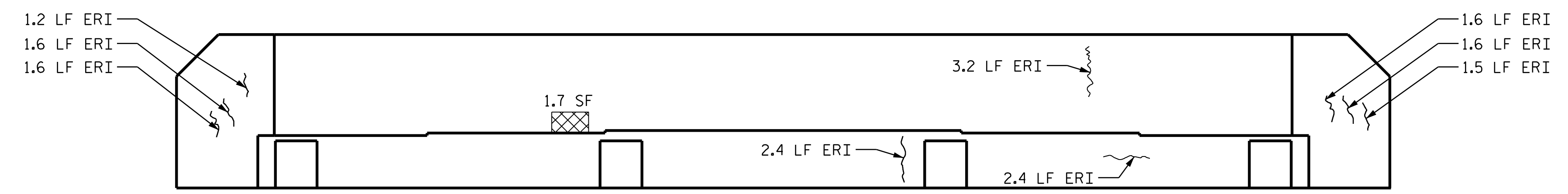
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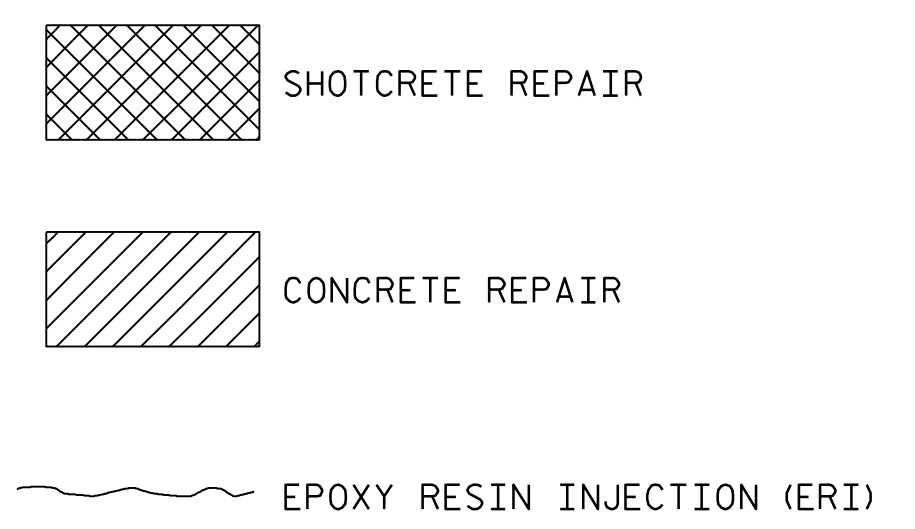
TOP OF CAP @ END BENT 1



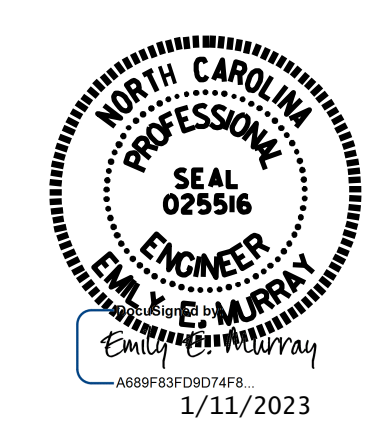
ELEVATION @ END BENT 1 (SPAN A)

AS-BUILT REPAIR QUANTITY TABLE				
REPAIRS	QUANTITIES			
	ESTIMATE		ACTUAL	
END BENT 1				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	1.7	0.9		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT.		LN. FT.
CAP		17.1		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		93.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.



PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740023



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 DEPARTMENT OF TRANSPORTATION  
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**END BENT 1**

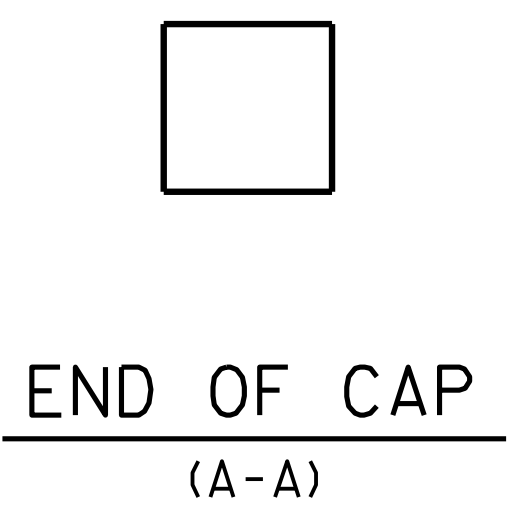
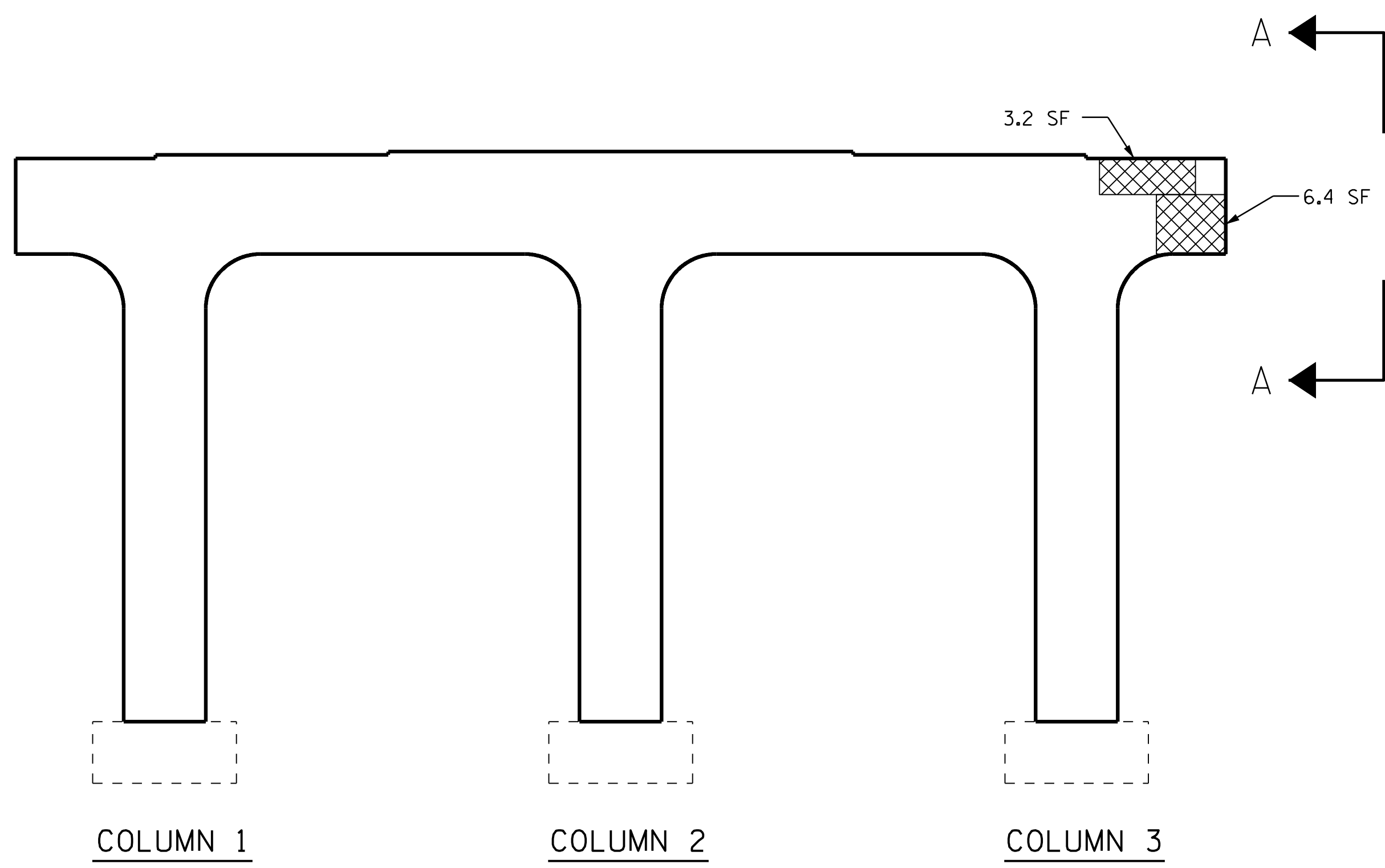
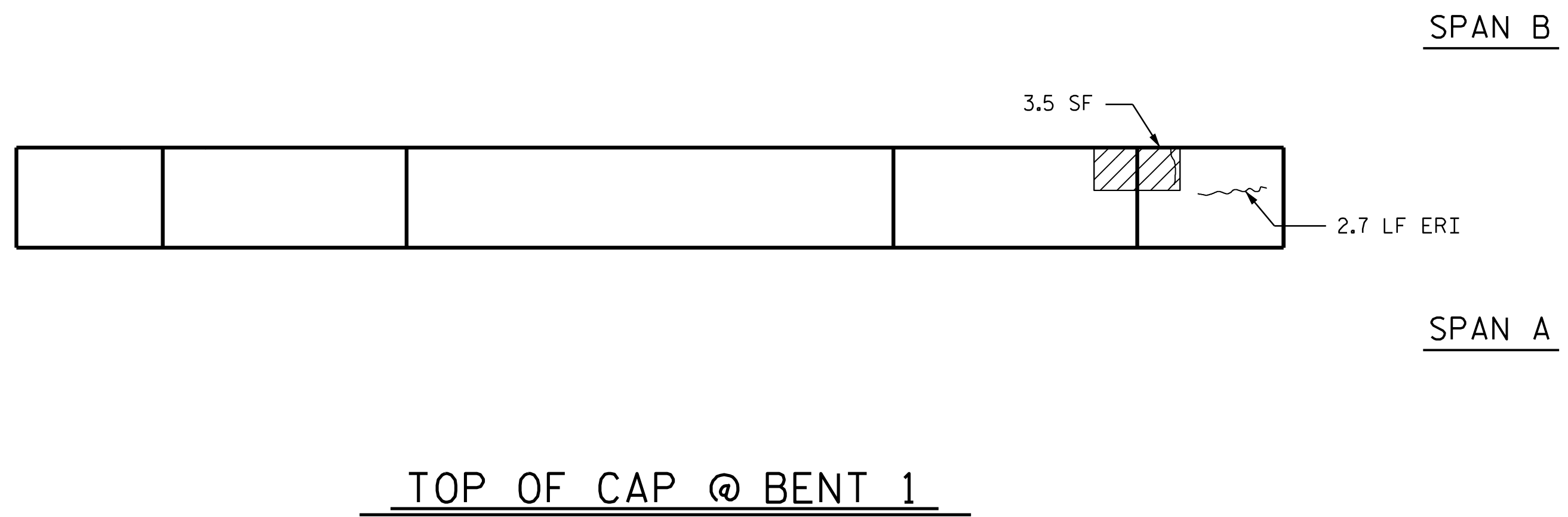
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SHOTCRETE REPAIR  
 CONCRETE REPAIR  
 EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740023

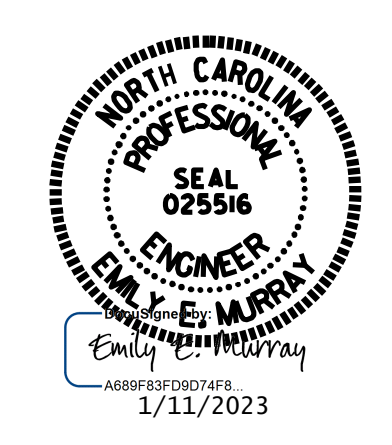
ELEVATION @ BENT 1 (SPAN A)

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RALEIGH

**BENT 1  
(SPAN A)**

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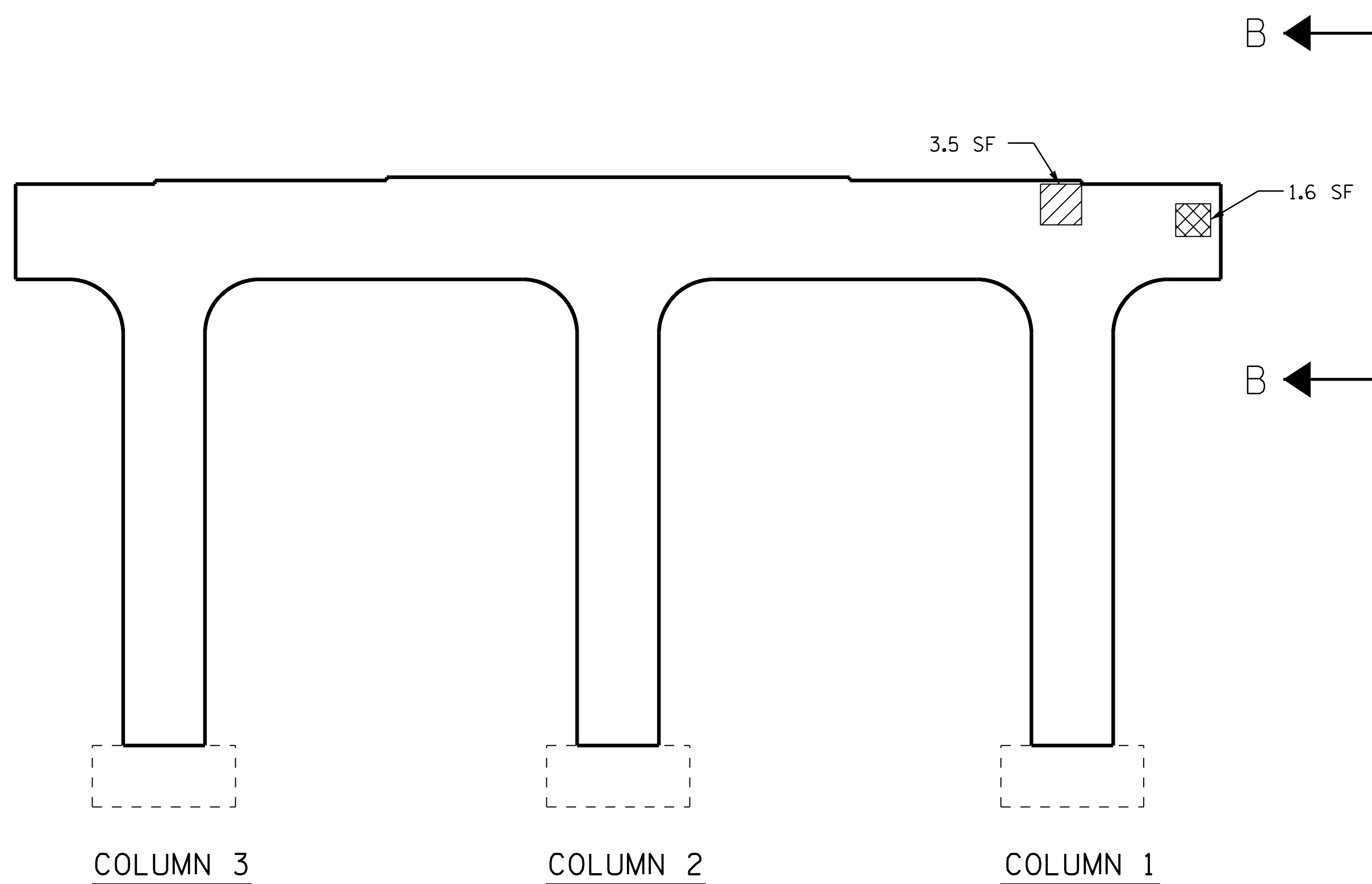
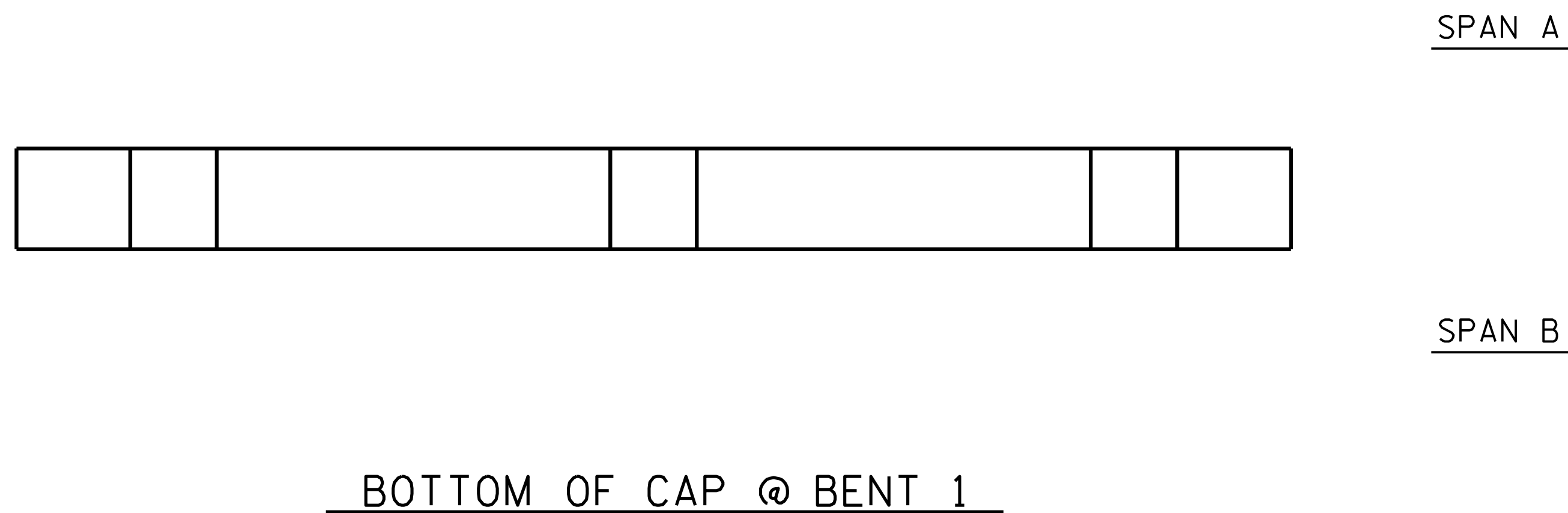


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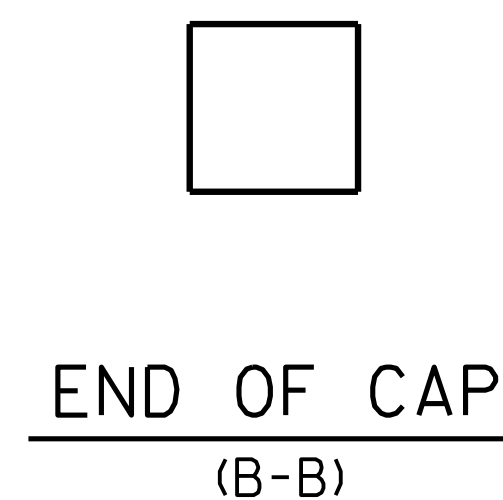
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ELEVATION @ BENT 1 (SPAN B)

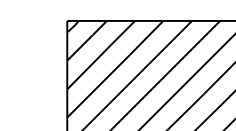


AS-BUILT REPAIR QUANTITY TABLE				
REPAIR BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	11.2	5.6		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	7.0	3.5		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT.		LN. FT.
CAP		2.7		
COLUMN		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		129.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.



SHOTCRETE REPAIR



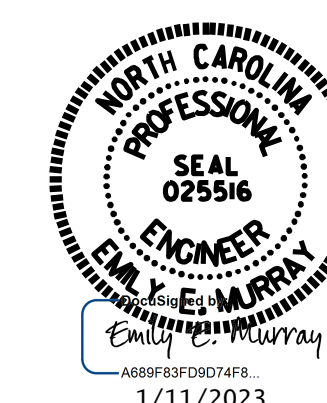
CONCRETE REPAIR



EPOXY RESIN INJECTION (ERI)

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 BRIDGE NO. 740023

SHEET 2 OF 2



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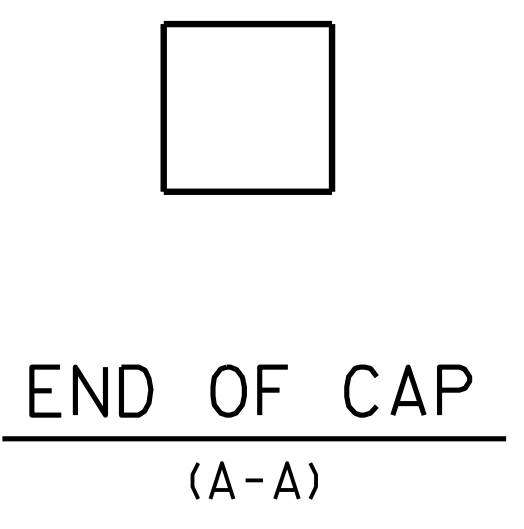
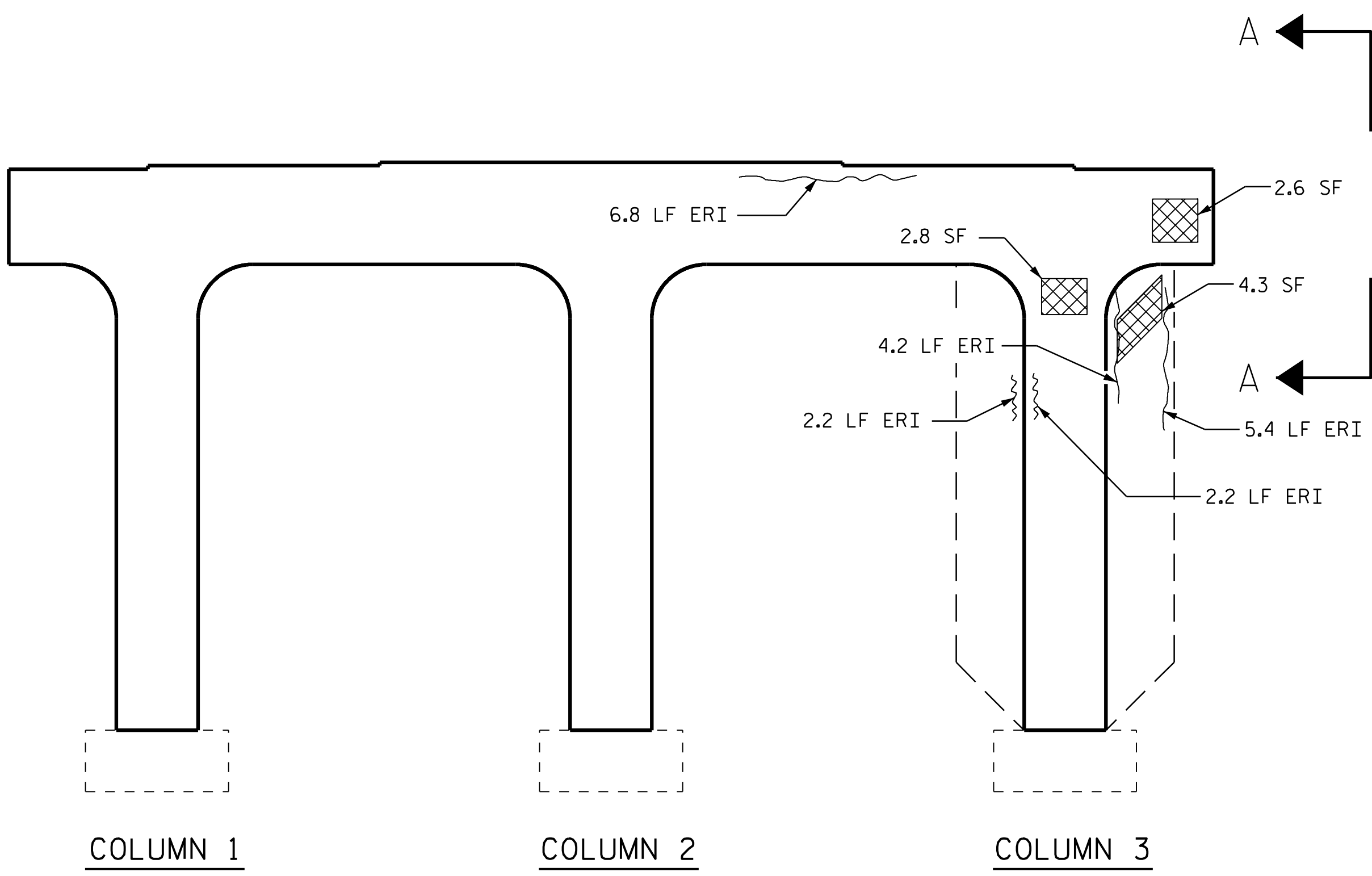
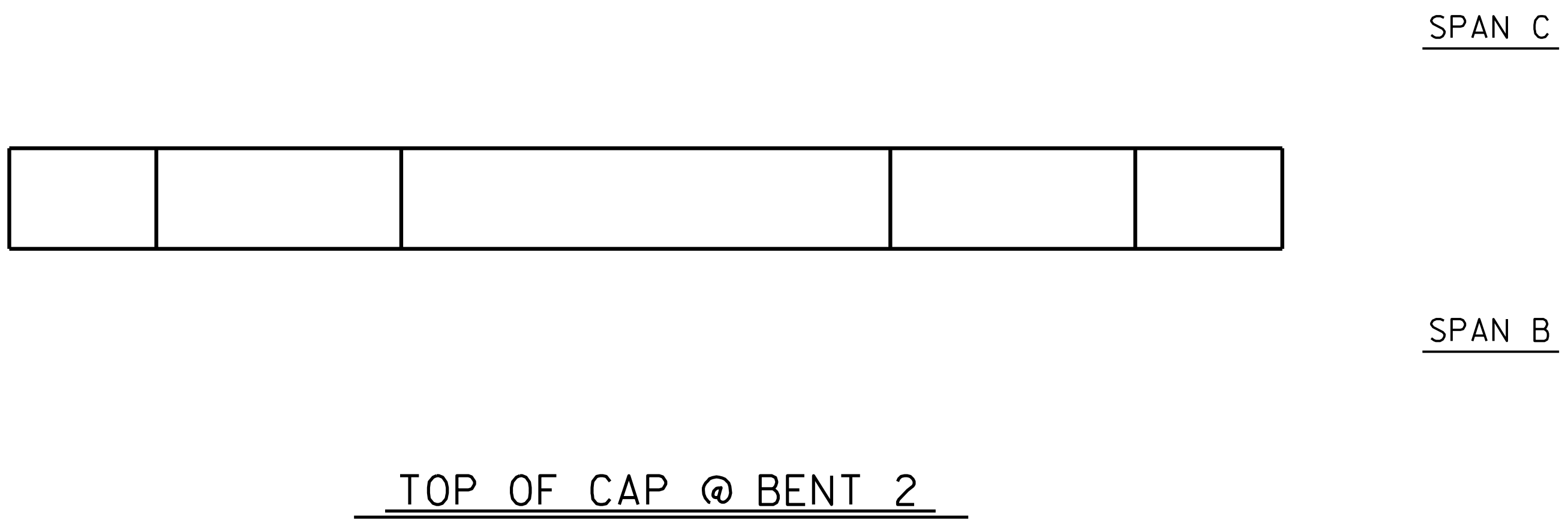
**BENT 1  
 (SPAN B)**

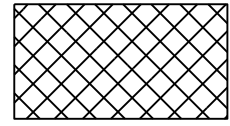
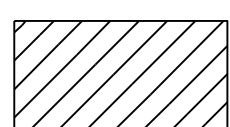

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 SHOTCRETE REPAIR  
 CONCRETE REPAIR  
 EPOXY RESIN INJECTION (ERI)

COLUMN 1      COLUMN 2      COLUMN 3  
ELEVATION @ BENT 2 (SPAN B)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740023

SHEET 1 OF 2



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**BENT 2**  
**(SPAN B)**

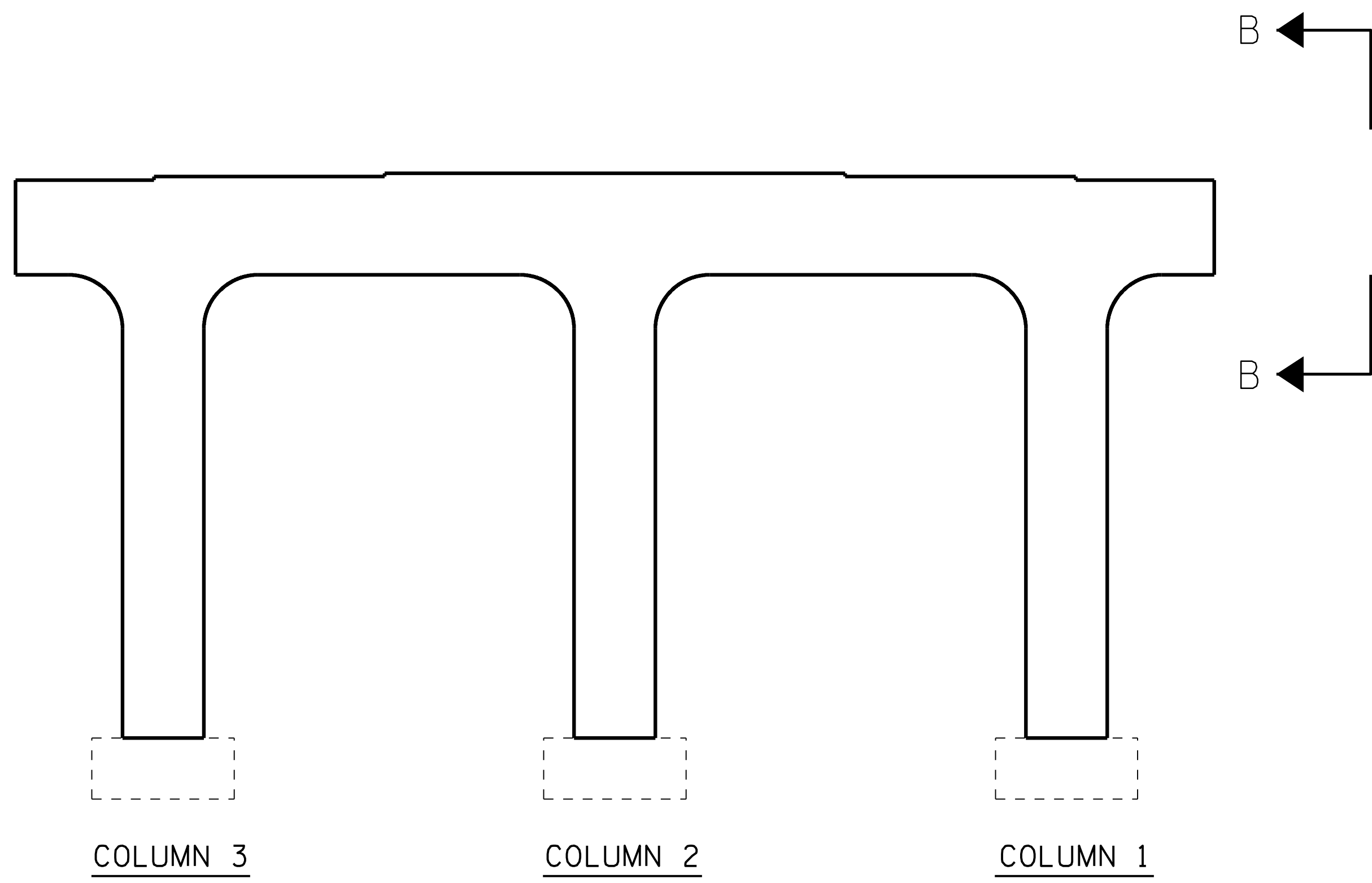
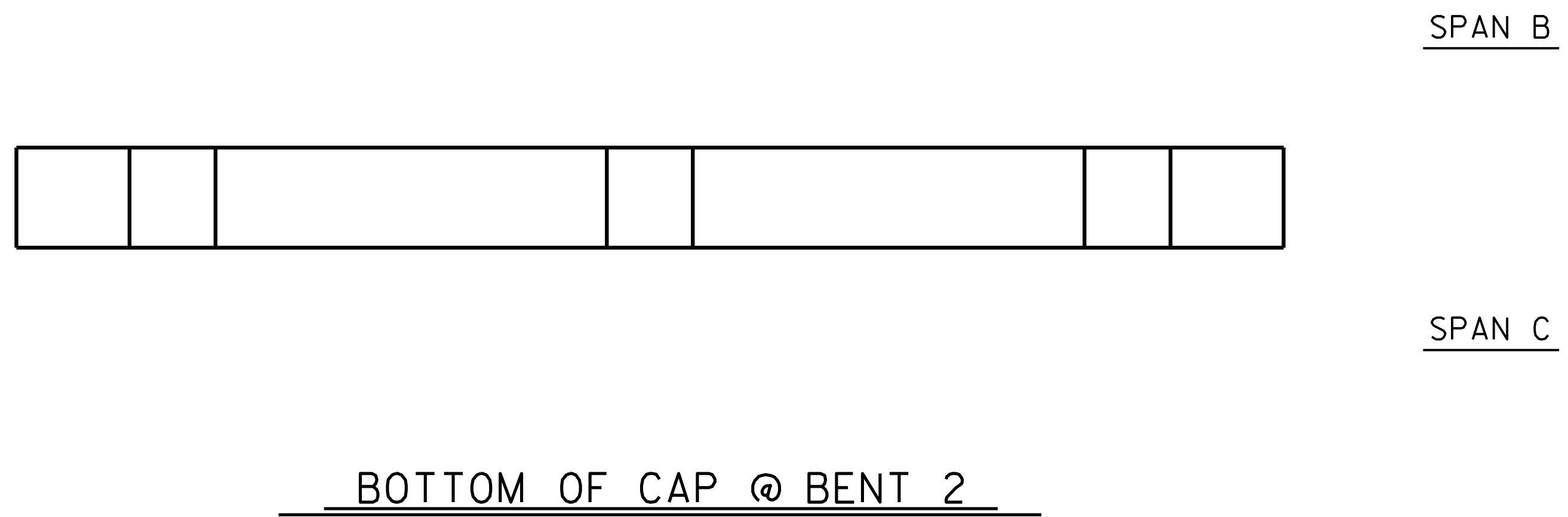
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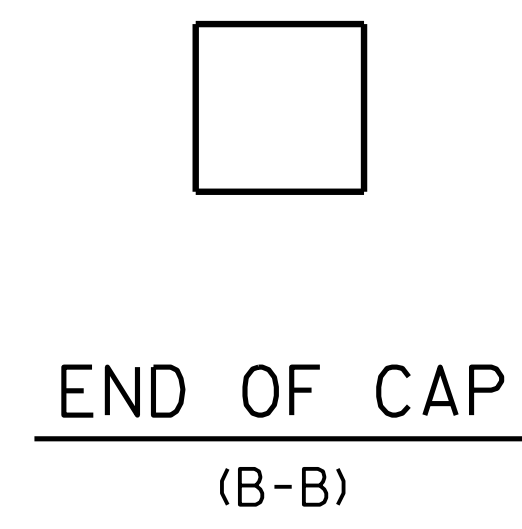
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ELEVATION @ BENT 2 (SPAN C)



AS-BUILT REPAIR QUANTITY TABLE				
REPAIRS BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	2.6	1.3		
COLUMN	7.1	3.6		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT.	LN. FT.		
CAP		6.8		
COLUMN		14.0		
EPOXY COATING	SQ. FT.	SQ. FT.		
TOP OF BENT CAP		129.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.

- SHOTCRETE REPAIR
- CONCRETE REPAIR
- EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
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 BRIDGE NO. 740023

SHEET 2 OF 2

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**BENT 2  
 (SPAN C)**

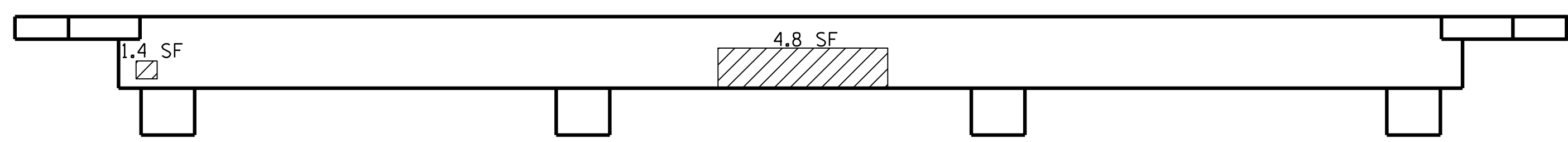


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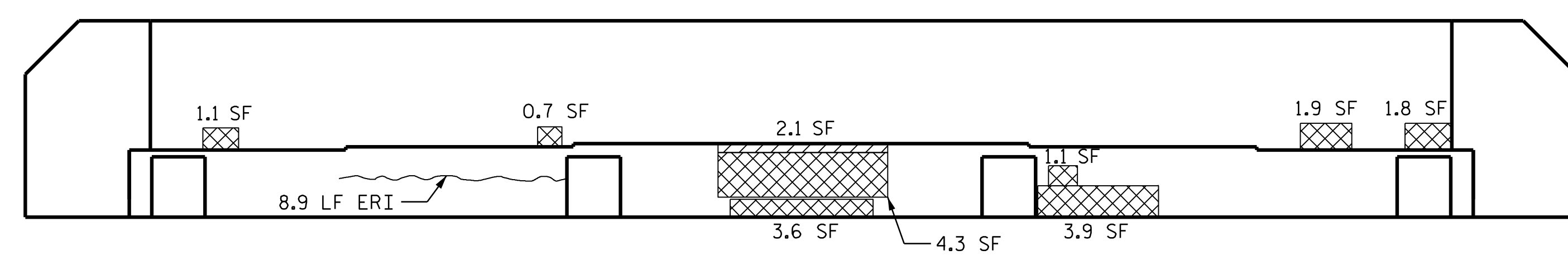
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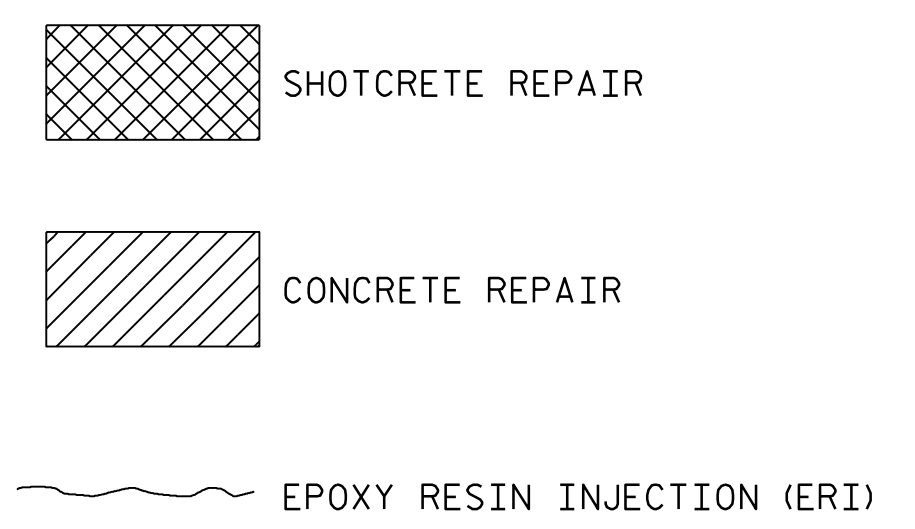
TOP OF CAP @ END BENT 2



ELEVATION @ END BENT 2 (SPAN C)

AS-BUILT REPAIR QUANTITY TABLE				
REPAIRS	QUANTITIES			
	ESTIMATE		ACTUAL	
END BENT 2				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	18.4	9.2		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	8.3	4.2		
EPOXY RESIN INJECTION		LN. FT.		LN. FT.
CAP		8.9		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		93.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.



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**END BENT 2**

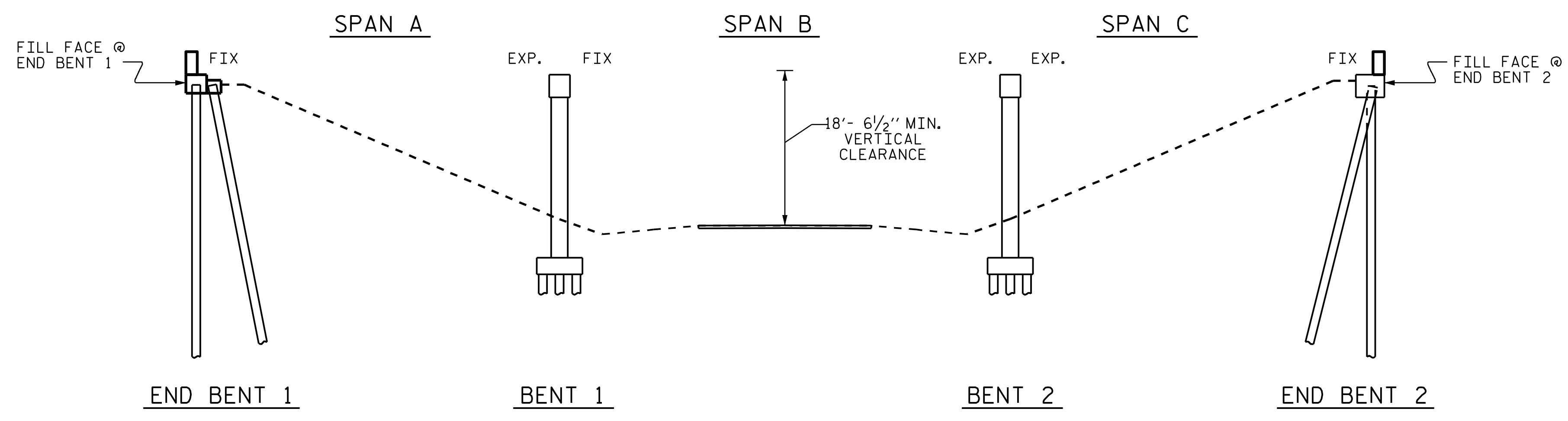
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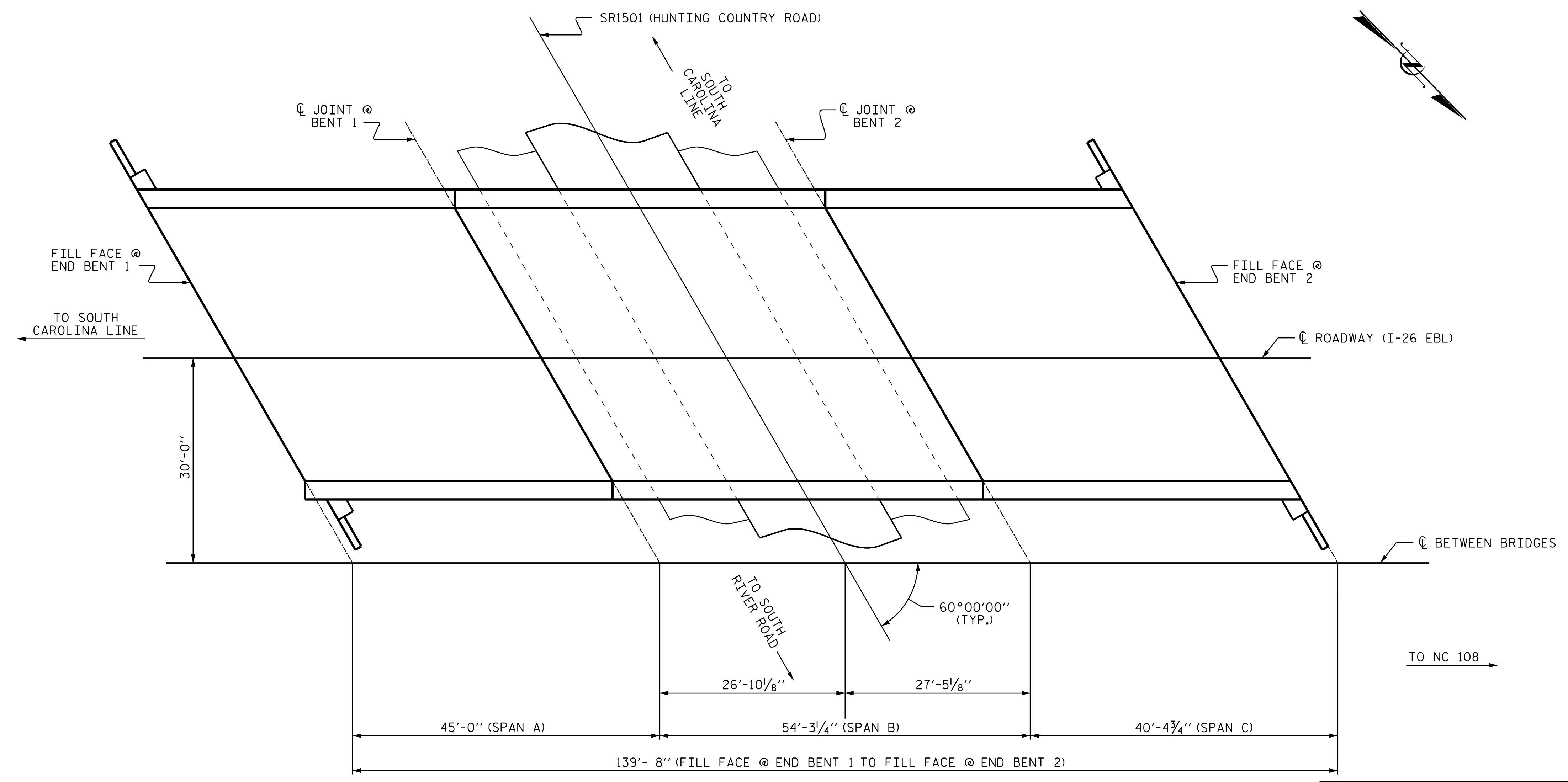
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1			3			TOTAL SHEETS
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5-21  
 CHECKED BY : E. MURRAY DATE : 12/22





**SECTION ALONG C EBL BRIDGE**  
(SECTION @ END BENTS AND BENTS ARE TAKEN AT RIGHT ANGLES)



**PLAN OF EBL BRIDGE**

**NOTES**

PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND ROUTINE INSPECTION REPORT DATED 9/4/2019.  
BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

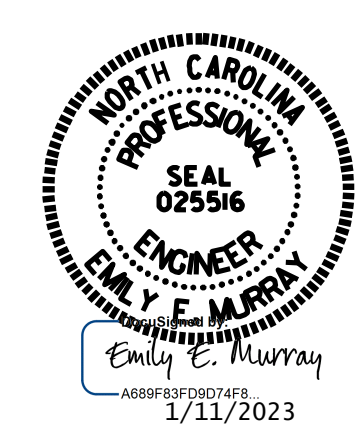
**SCOPE OF WORK**

- PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING.
- OVERLAY PREPARED TOP OF BRIDGE DECK WITH POLYMER CONCRETE (PC).
- REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINTS SEALS FOR PRESERVATION
- GROOVE PC BRIDGE DECK.
- MILL AND REPAVE ASPHALT APPROACH ROADWAYS.
- CLEAN, REPAIR, AND PAINT EXISTING STRUCTURAL STEEL.
- REMOVE DEBRIS FROM TOP OF EXISTING END BENT AND BENT CAPS AND APPLY EPOXY COATING.
- EPOXY RESIN INJECTION OF CONCRETE CRACKS.
- REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AND BENT AREAS FOR SHOTCRETE AND CONCRETE REPAIRS.

I HEREBY CERTIFY THAT THIS STRUCTURE WAS REHABILITATED ACCORDING TO THESE PLANS OR AS NOTED HEREIN.

RESIDENT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

PROJECT NO. I-5927  
POLK COUNTY  
STATION: 740025  
SHEET 1 OF 2



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
**GENERAL DRAWING FOR EBL BRIDGE ON I-26 OVER SR 1501 (HUNTING COUNTRY ROAD) BETWEEN NC 108 AND SOUTH CAROLINA LINE**

DRAWN BY : D. A. GLADDEN DATE : 5/21  
CHECKED BY : E. MURRAY DATE : 12/22

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NC License No. F-0765

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2			4			79





**NOTES**

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR SUMMARY OF QUANTITIES TABLE.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT CLASS III SURFACE PREPARATION WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED THAT CLASS III SURFACE PREPARATION, OR OTHER WORK WILL BE NECESSARY TO PROPERLY COMPLETE THE INTENDED BRIDGE PRESERVATION/REHABILITATION WORK. THE CONTRACTOR SHALL BE PREPARED TO PERFORM SUCH WORK IN A TIMELY MANNER, AS DETERMINED IN THE FIELD. SUCH WORK SHALL BE CONSIDERED EXTRA WORK AND SHALL BE ADDRESSED AS 104-7 OF THE STANDARD SPECIFICATIONS. PROJECT SPECIAL PROVISIONS THAT OUTLINE REQUIREMENTS FOR THESE POTENTIAL ADDITIONAL WORK ITEMS HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES, AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLANS.

EXISTING JOINTS SHALL BE SEALED PRIOR TO BEGINNING REPAIRS OF BRIDGE DECK.

LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANE.

FOR SCARIFYING BRIDGE DECK, SHOTBLASTING BRIDGE DECK, AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

THE EXISTING BRIDGE DECK SHALL BE REPAIRED AS SHOWN ON THE PLANS OR AS DETERMINED BY THE ENGINEER AFTER SCARIFICATION AND PRIOR TO BRIDGE DECK SHOTBLAST AND APPLICATION OF THE PC OVERLAY. UNLESS OTHERWISE APPROVED, SUCH LOCATIONS SHALL BE REPAIRED WITH PC.

FOR CONCRETE DECK REPAIR FOR PC OVERLAY, PC MATERIALS, AND PLACING & FINISHING PC OVERLAY, SEE CONCRETE BRIDGE DECK OVERLAY SPECIAL PROVISION.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING, SEE EPOXY COATING AND DEBRIS REMOVAL SPECIAL PROVISION.

FOR BEAM REPAIR CUT-OUT, SEE SPECIAL PROVISIONS.

FOR BEAM REPAIR PLATING, SEE SPECIAL PROVISIONS.

FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.

FOR PAINTING CONTAINMENT, POLLUTION CONTROL, AND CLEANING AND REPAINTING BRIDGE, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

BRIDGE #25

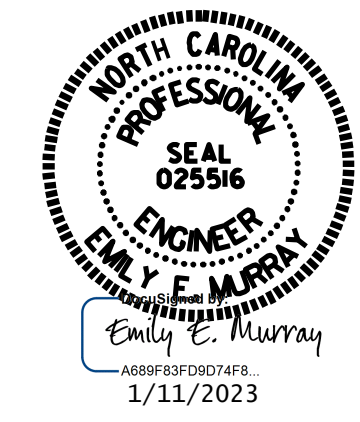
**LOCATION SKETCH**

INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING BRIDGES, ROADWAYS, UTILITIES, THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

LOCATION COORDINATES	
LATITUDE	35° 11' 59.08"
LONGITUDE	82° 10' 28.71"

PROJECT NO. I-5927  
 POLK COUNTY  
 BRIDGE NO. 740025

SHEET 2 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 FOR EBL BRIDGE  
 ON I-26 OVER SR 1501  
 (HUNTING COUNTRY ROAD)  
 BETWEEN NC 108 AND  
 SOUTH CAROLINA LINE

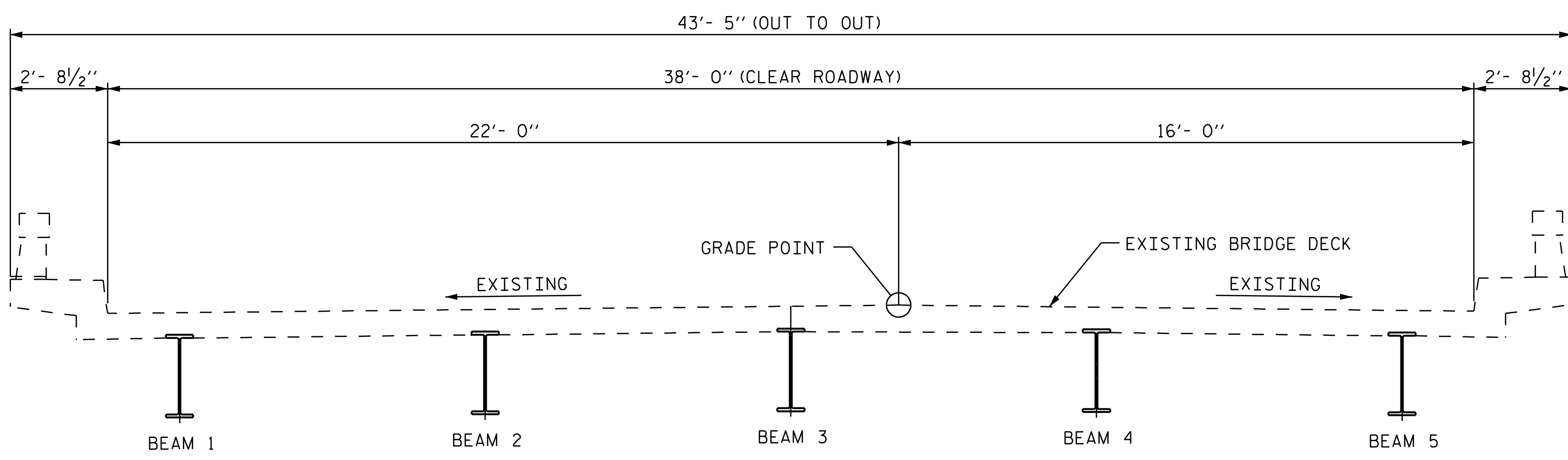
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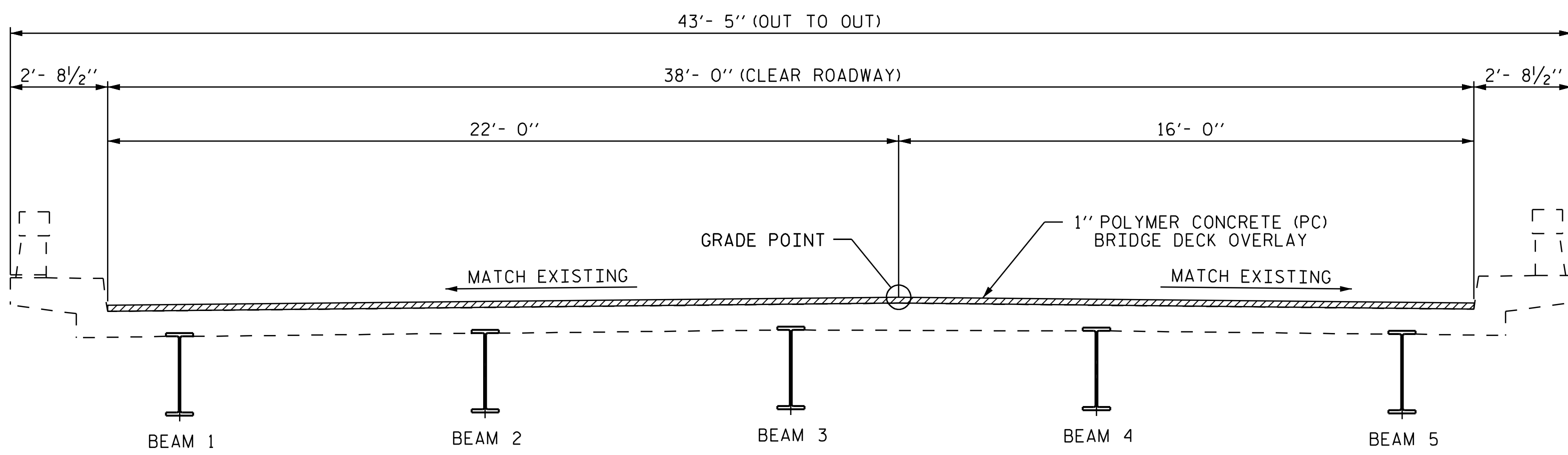
DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22

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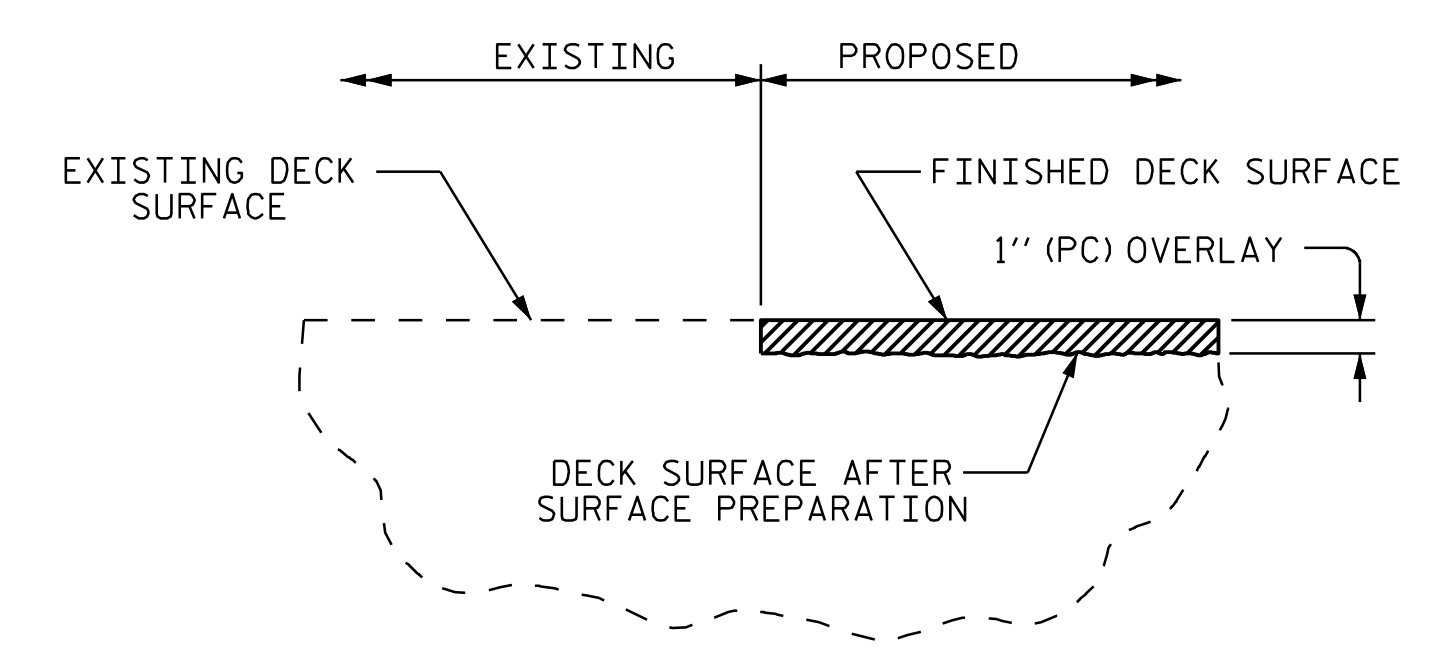
EXISTING TYPICAL SECTION



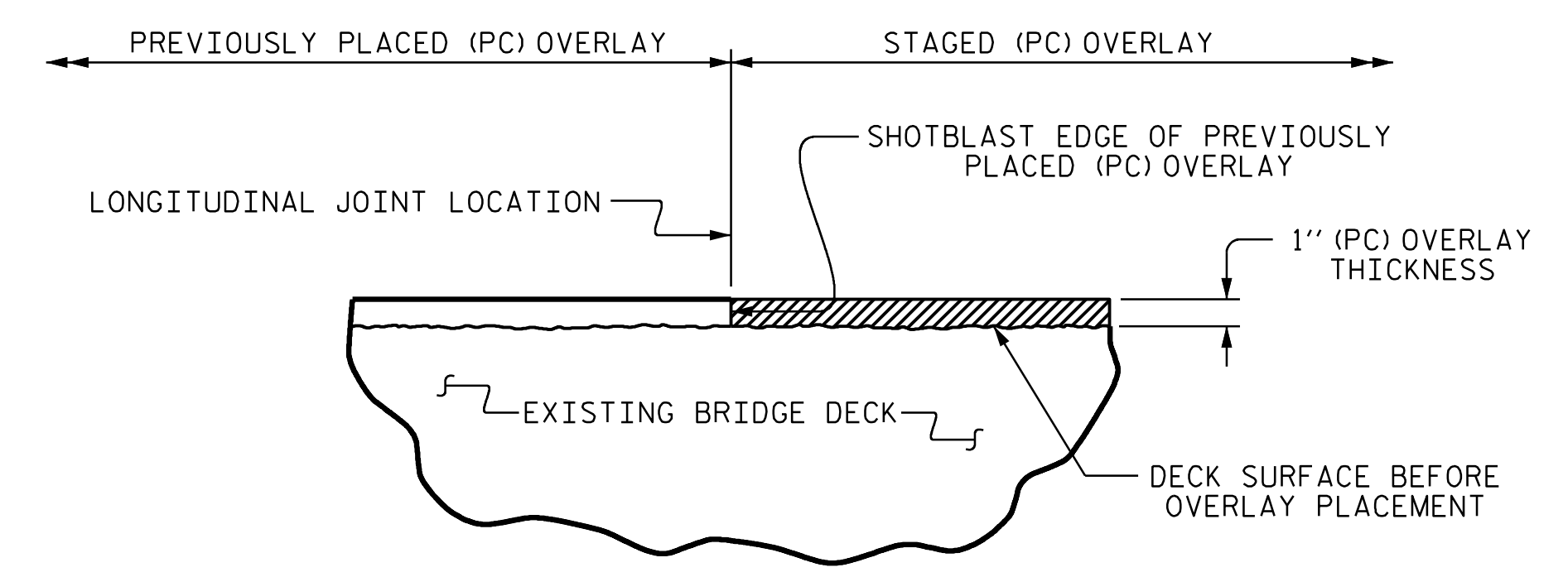
PROPOSED TYPICAL SECTION

**NOTES**

SEE TRANSPORTATION MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND LATEX MODIFIED CONCRETE PLACEMENT.



DETAIL OF POLYMER CONCRETE OVERLAY



STAGED POLYMER CONCRETE OVERLAY JOINT  
(AS NEEDED)

PROJECT NO. I-5927  
POLK COUNTY  
 STATION: 740025



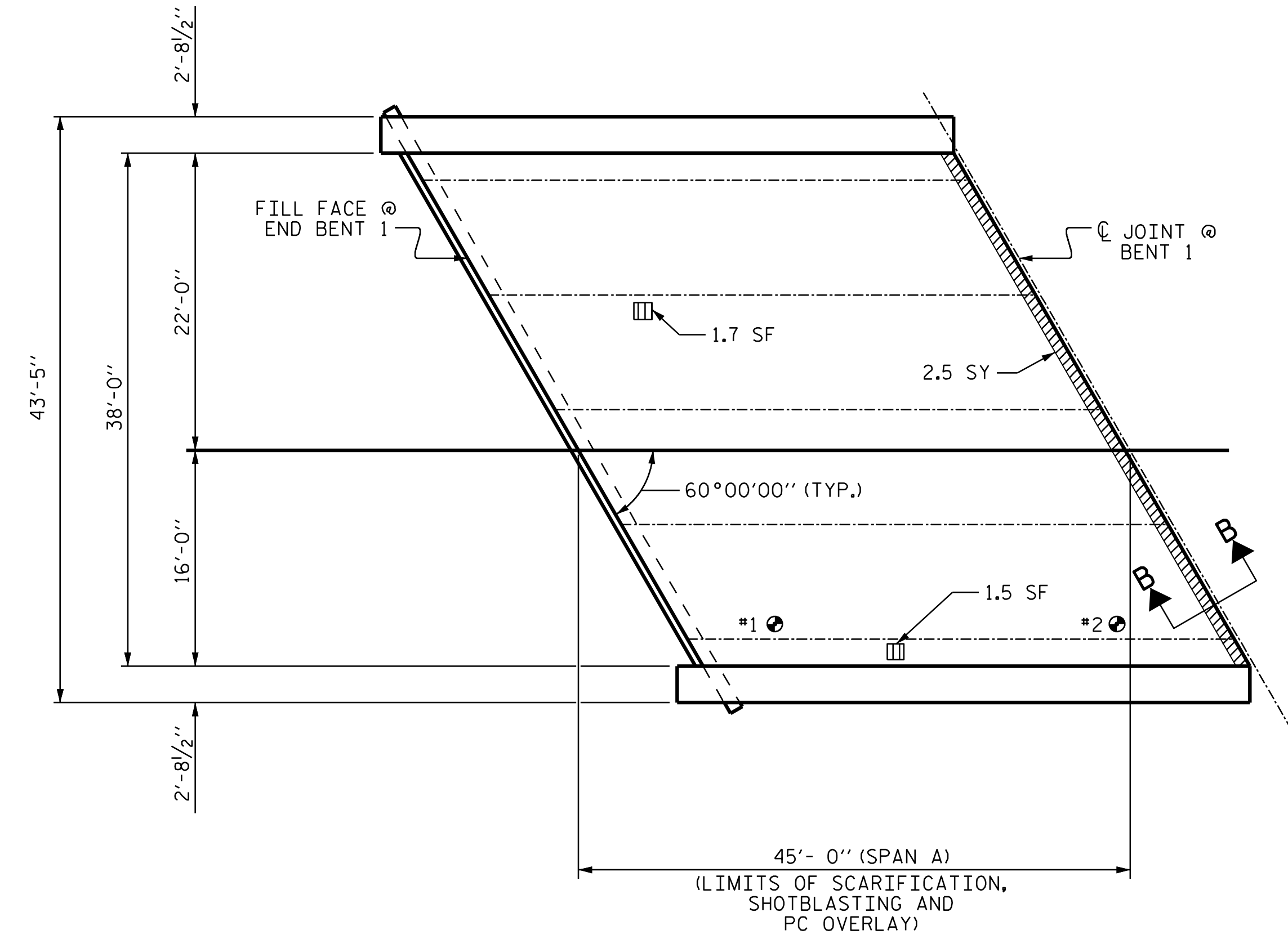
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**TYPICAL SECTION  
 AND  
 PC OVERLAY DETAIL**

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**PLAN OF SPAN A**

**NOTES**

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR SECTION B-B, SEE "JOINT REPAIR DETAILS" SHEET.

**AS-BUILT REPAIR QUANTITY TABLE**

TOP OF DECK REPAIRS			
SPAN A			
	ESTIMATE		ACTUAL
SCARIFYING BRIDGE DECK	190.0	SY	
SHOTBLASTING OF BRIDGE DECK	190.0	SY	
CLASS II SURFACE PREPARATION	2.5	SY	
EPOXY RESIN INJECTION	0.0	LF	
GROOVING BRIDGE FLOORS	1563.4	SF	
CONCRETE DECK REPAIR FOR PC OVERLAY	2.5	SY	
POLYMER CONCRETE MATERIALS	5.3	CY	
PLACING AND FINISHING POLYMER CONCRETE OVERLAY	190.0	SY	

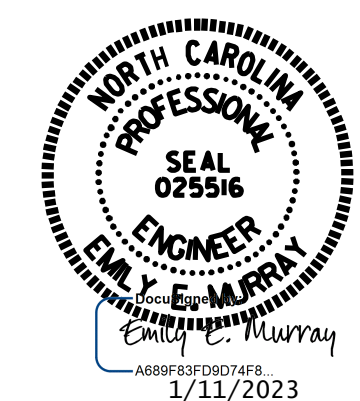
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	1.7	0.6		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	1.5	0.5		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0	LF		

QUANTITIES IN TABLE REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR POLYMER OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAW CUT). SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

- APPROXIMATE CLASS II AREA
- UNDERSIDE REPAIR
- TEST LOCATION

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740025

SHEET 1 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**PLAN OF SPAN A**

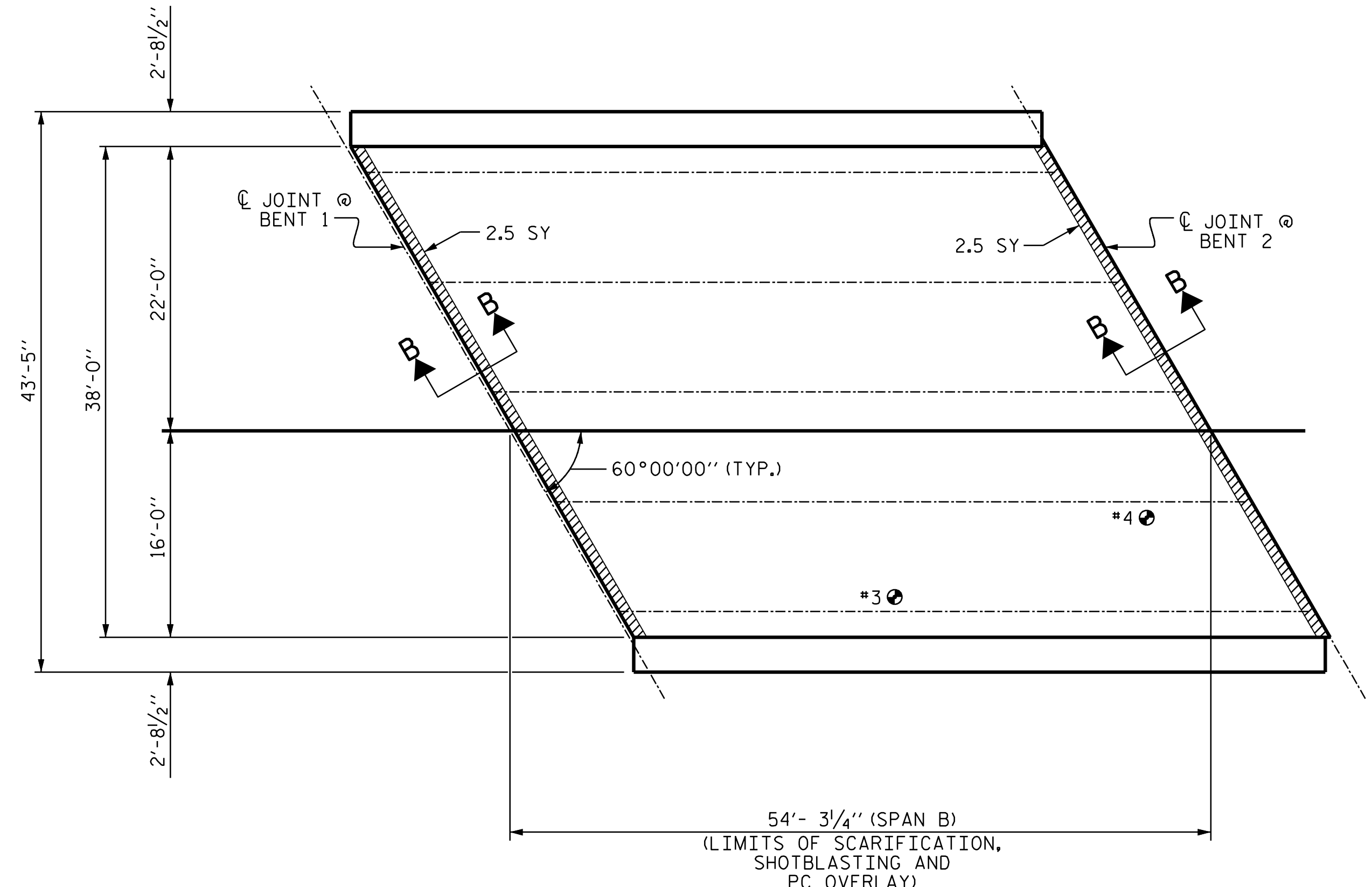
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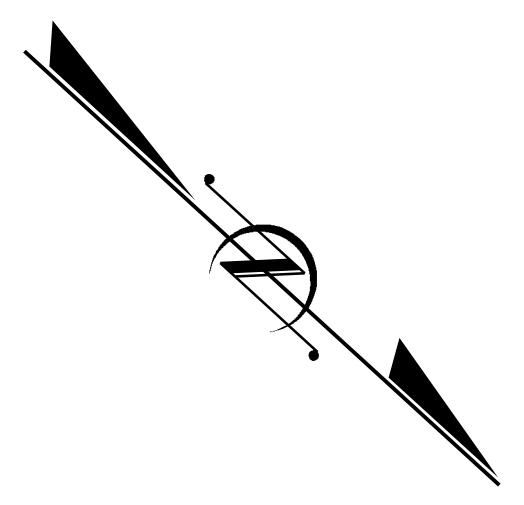


**PLAN OF SPAN B**

**NOTES**

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR SECTION B-B, SEE "JOINT REPAIR DETAILS" SHEET.



**AS-BUILT REPAIR QUANTITY TABLE**

TOP OF DECK REPAIRS				
SPAN B				
	ESTIMATE		ACTUAL	
SCARIFYING BRIDGE DECK	229.2	SY		
SHOTBLASTING OF BRIDGE DECK	229.2	SY		
CLASS II SURFACE PREPARATION	5.0	SY		
EPOXY RESIN INJECTION	0.0	LF		
GROOVING BRIDGE FLOORS	1887.9	SF		
CONCRETE DECK REPAIR FOR PC OVERLAY	5.0	SY		
POLYMER CONCRETE MATERIALS	6.4	CY		
PLACING AND FINISHING POLYMER CONCRETE OVERLAY	229.2	SY		
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0	LF		

QUANTITIES IN TABLE REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR POLYMER OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAW CUT). SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

- APPROXIMATE CLASS II AREA
- UNDERSIDE REPAIR
- TEST LOCATION

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740025

SHEET 2 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**PLAN OF SPAN B**

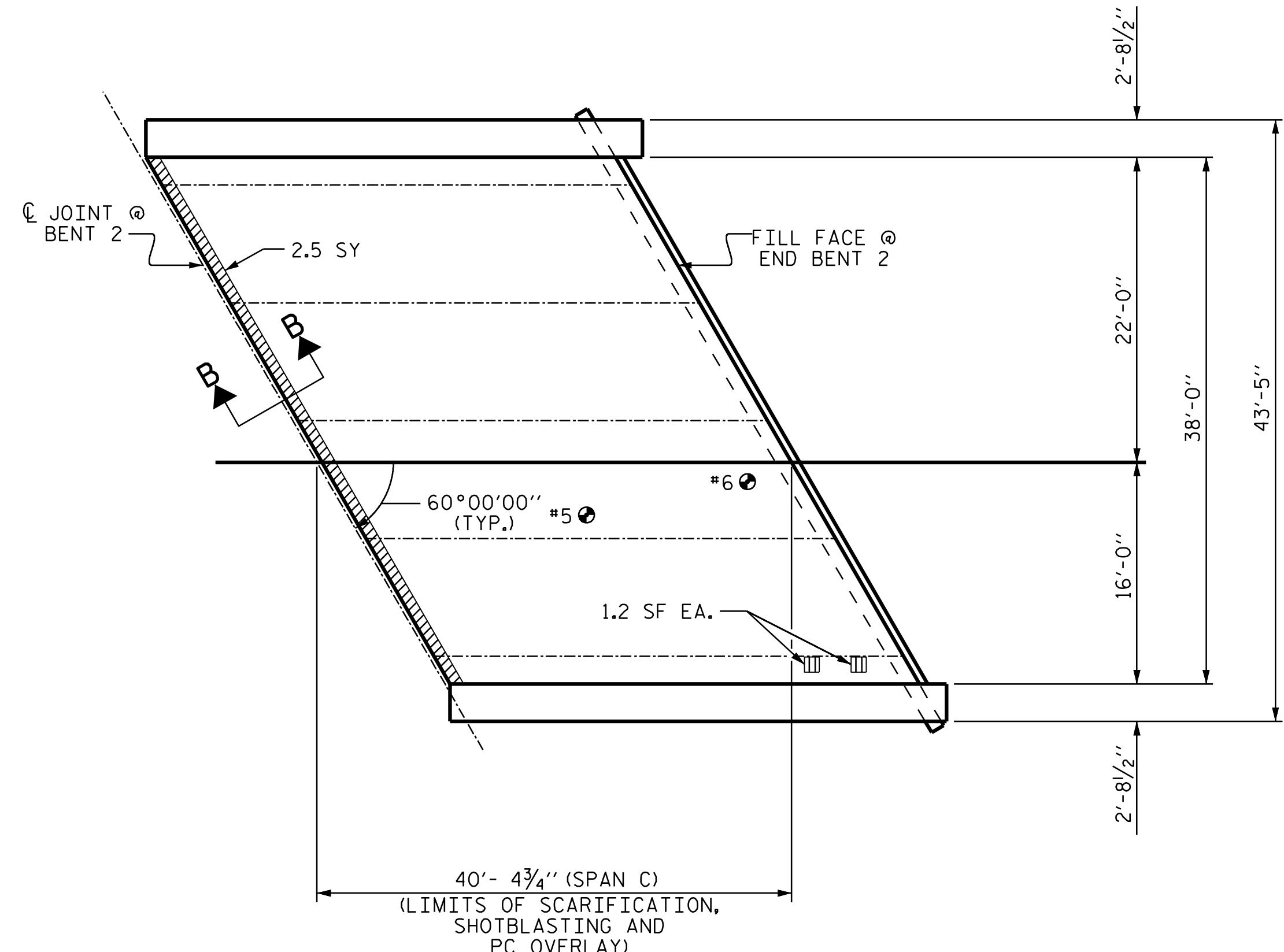


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PLAN OF SPAN C

NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR SECTION B-B, SEE "JOINT REPAIR DETAILS" SHEET.

AS-BUILT REPAIR QUANTITY TABLE				
TOP OF DECK REPAIRS				
SPAN C				
	ESTIMATE		ACTUAL	
SCARIFYING BRIDGE DECK	170.6	SY		
SHOTBLASTING OF BRIDGE DECK	170.6	SY		
CLASS II SURFACE PREPARATION	2.5	SY		
EPOXY RESIN INJECTION	0.0	LF		
GROOVING BRIDGE FLOORS	1402.2	SF		
CONCRETE DECK REPAIR FOR PC OVERLAY	2.5	SY		
POLYMER CONCRETE MATERIALS	4.7	CY		
PLACING AND FINISHING POLYMER CONCRETE OVERLAY	170.6	SY		
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	2.4	0.8		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0	LF		

QUANTITIES IN TABLE REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR POLYMER OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAW CUT). SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

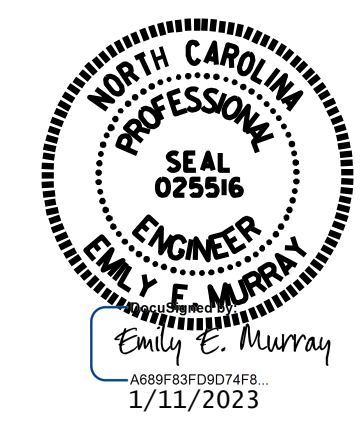
- APPROXIMATE CLASS II AREA
- UNDERSIDE REPAIR
- TEST LOCATION

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740025

SHEET 3 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

PLAN OF SPAN C



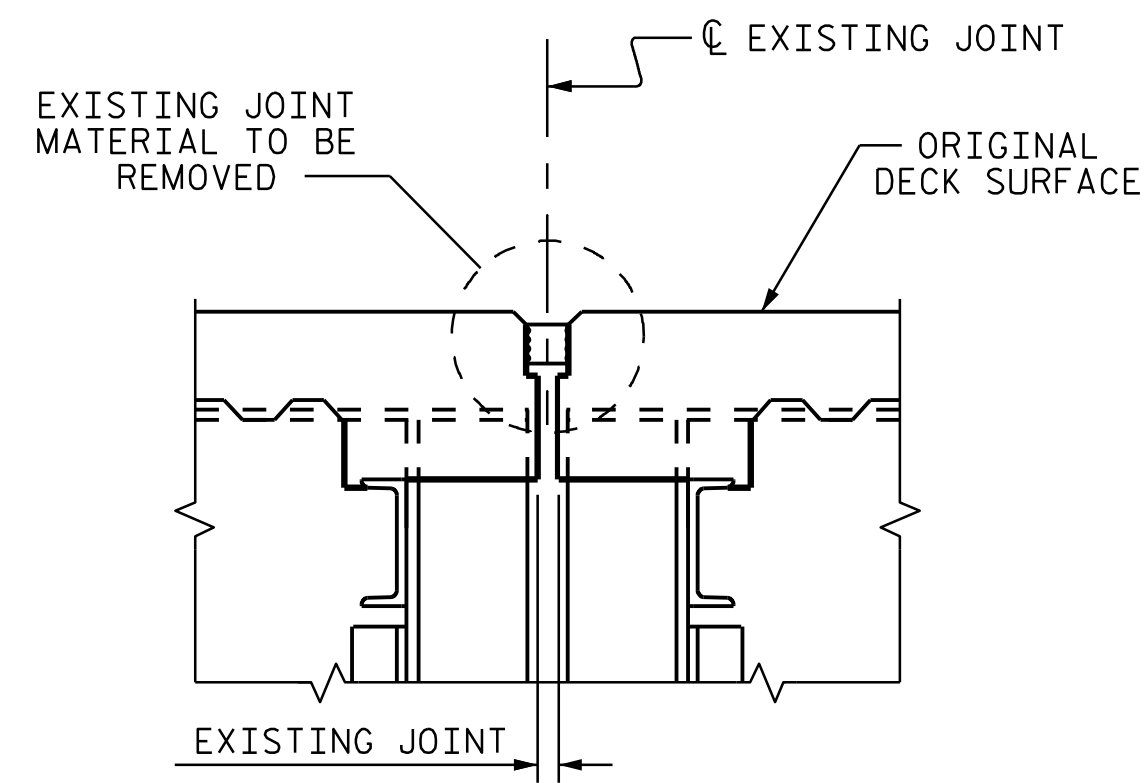
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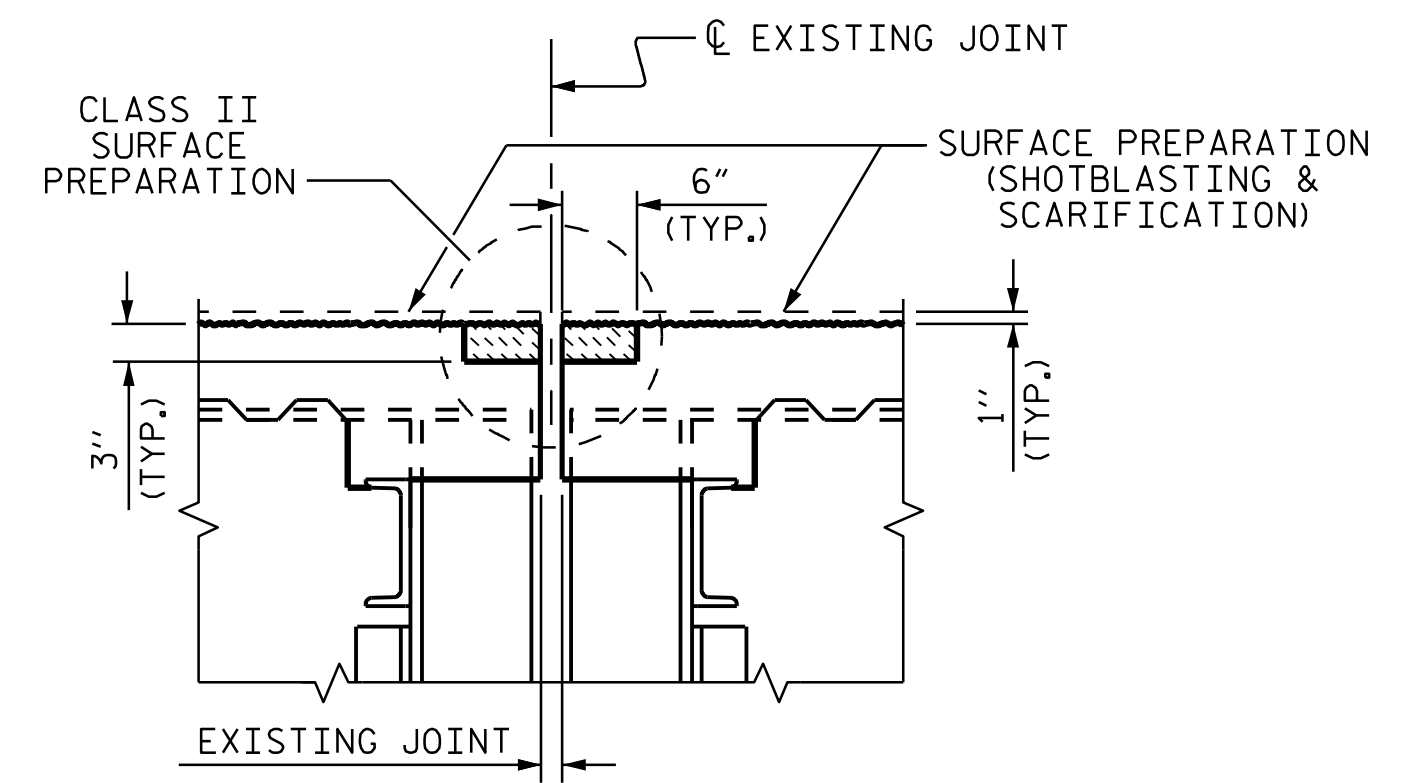
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 CHECKED BY : E. MURRAY DATE : 12/22

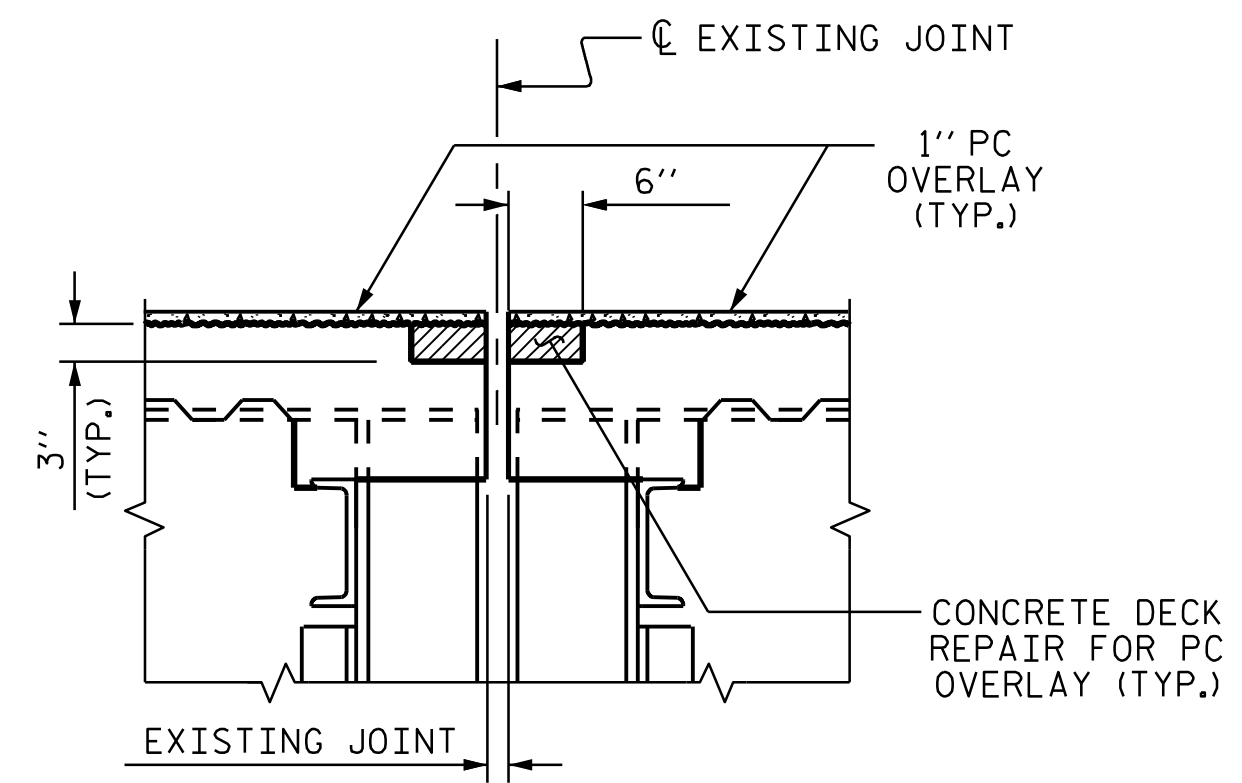




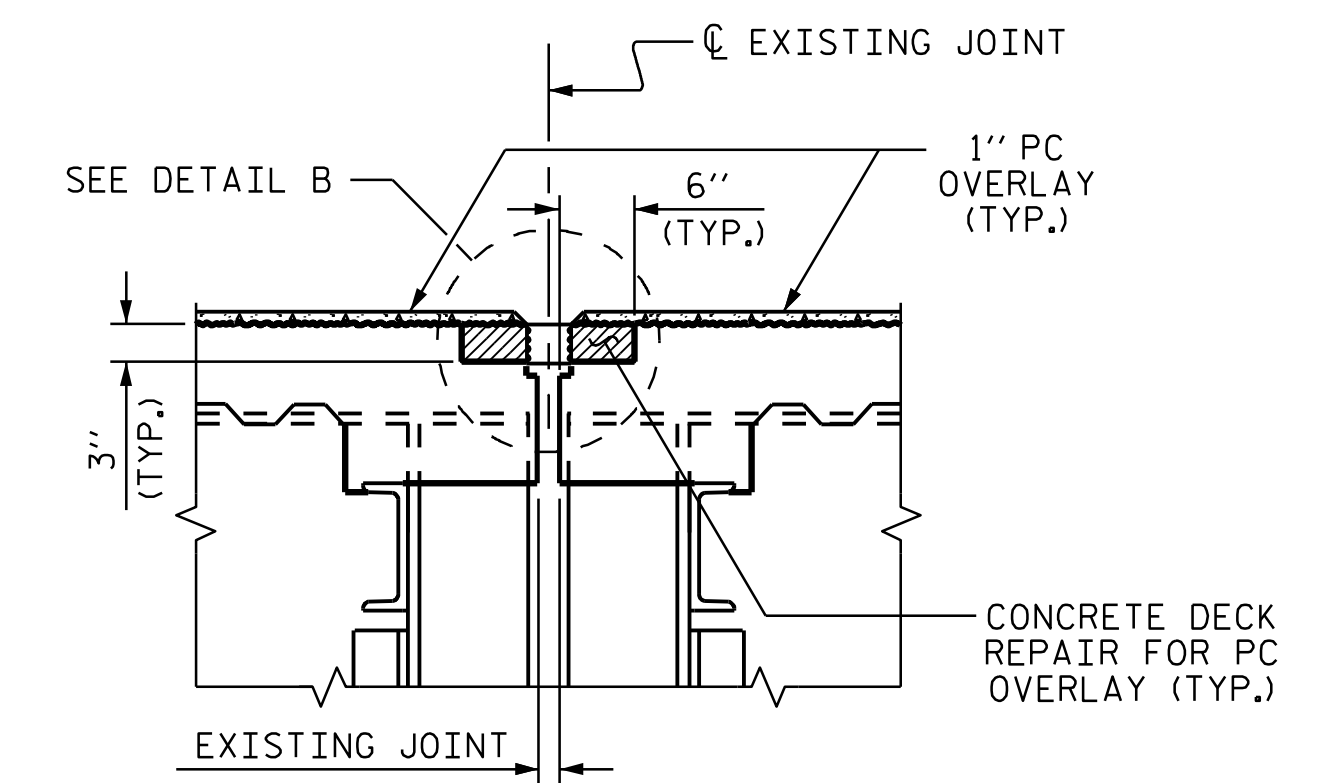
EXISTING JOINT



PROPOSED JOINT PREPARATION  
(MINIMUM EXISTING JOINT DEMOLITION)

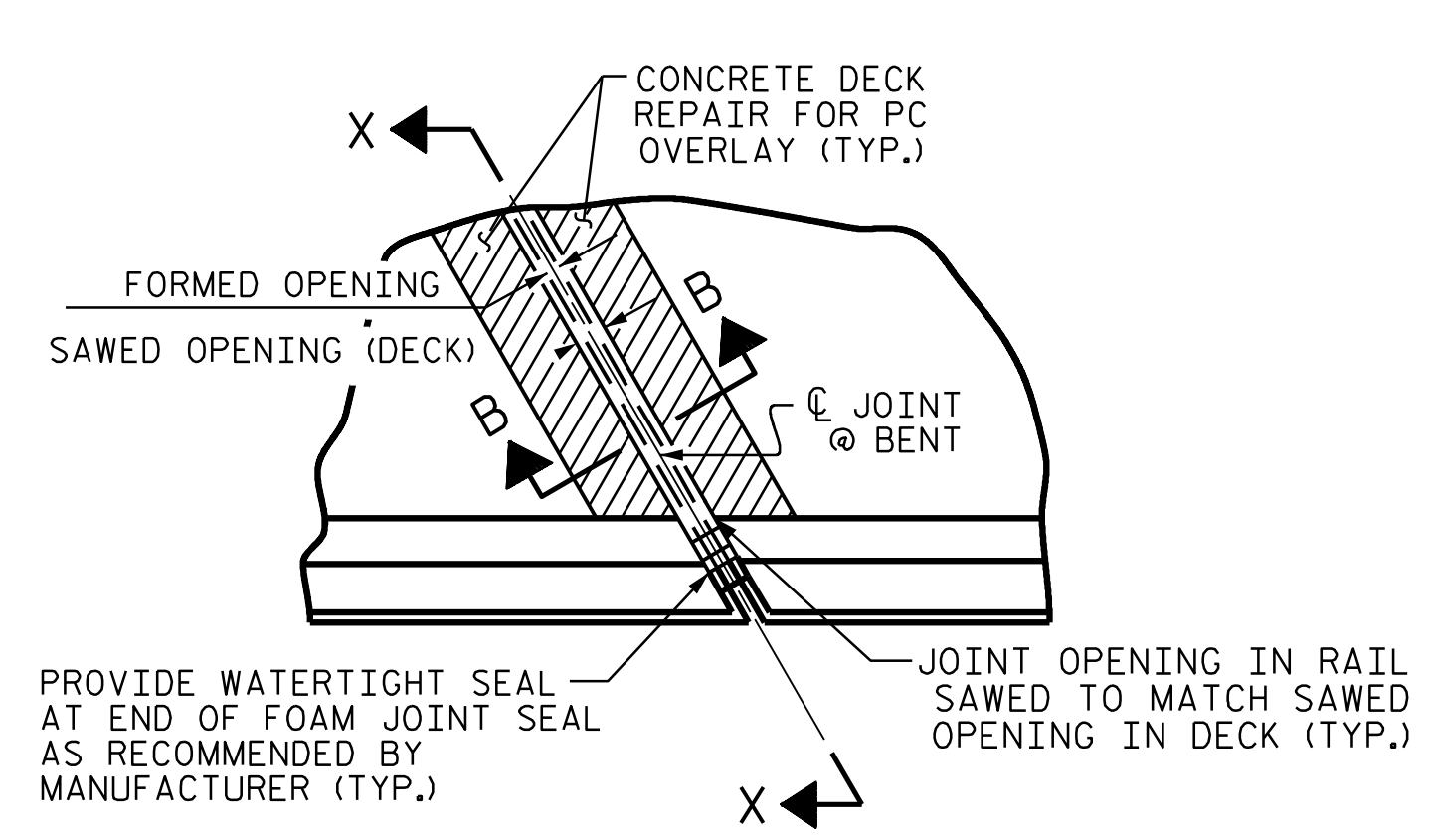


PROPOSED JOINT PRESAWED

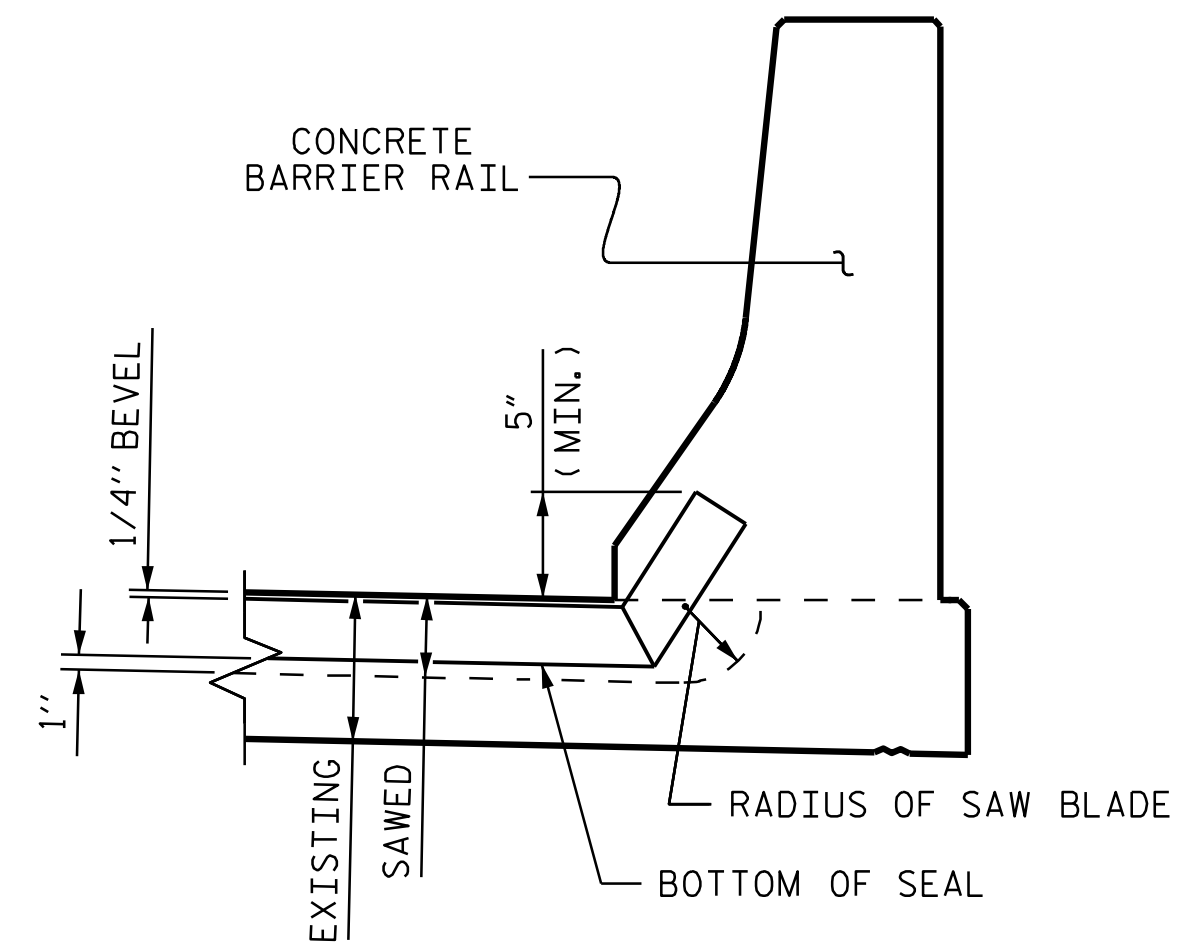


PROPOSED FOAM JOINT

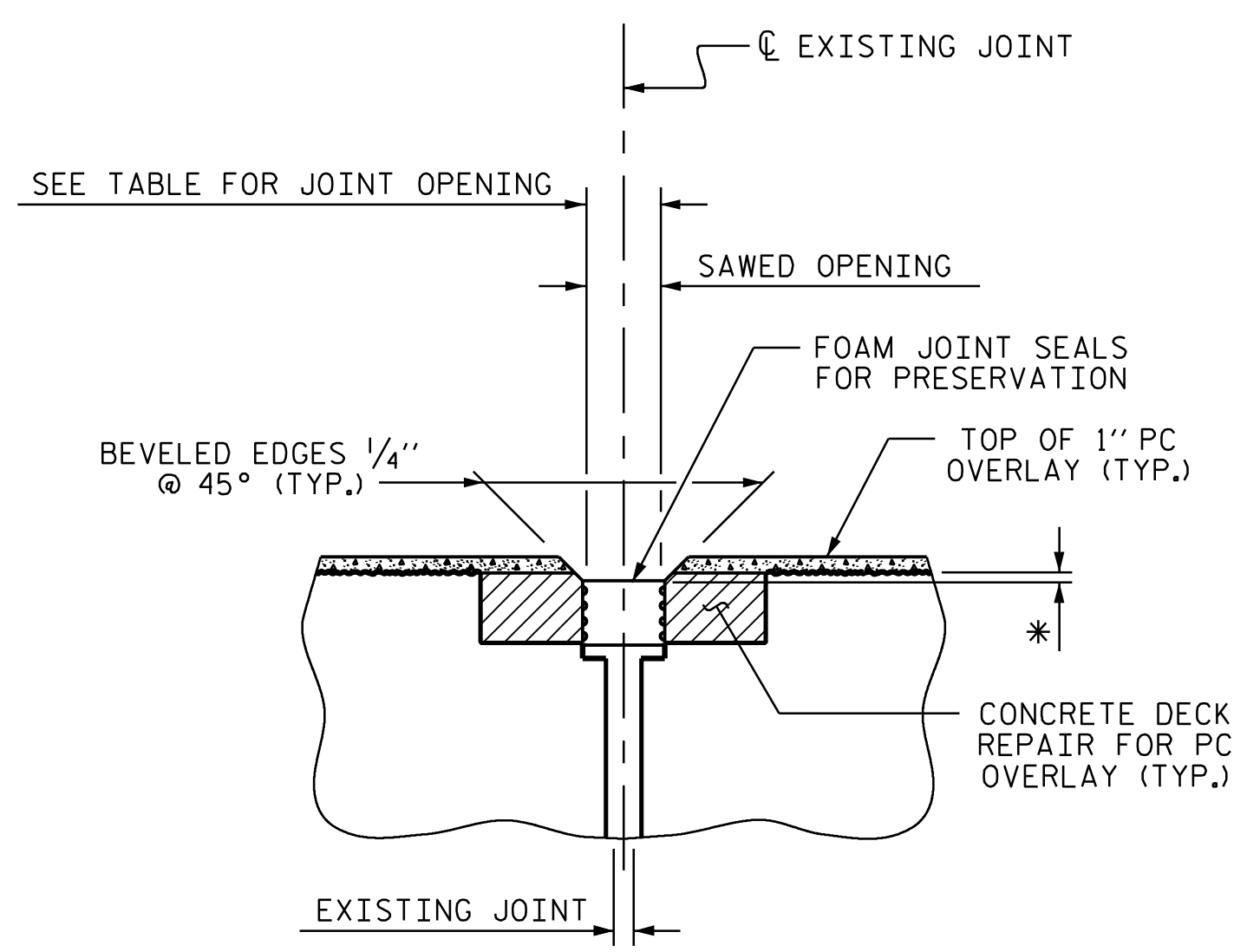
JOINT INSTALLATION SEQUENCE AT BENTS (SECTION B-B)



PLAN



SECTION X-X



DETAIL A  
(PROPOSED)

\* FOAM JOINT SEALS FOR PRESERVATION SHALL BE RECESSED AS PER MANUFACTURER'S RECOMMENDATIONS.

JOINT REPAIR QUANTITY		
	ESTIMATED (LIN. FT.)	ACTUAL (LIN. FT.)
FOAM JOINT SEALS FOR PRESERVATION	90.1	

SAWED JOINT OPENING TABLE				
LOCATION	SKREW ANGLE	PERPENDICULAR JOINT OPENING AT 45°	PERPENDICULAR JOINT OPENING AT 60°	PERPENDICULAR JOINT OPENING AT 90°
BENT 1	60°00'00"	1 5/8"	1 3/16"	1 7/16"
BENT 2	60°00'00"	1 5/8"	1 3/16"	1 7/16"

JOINT SEAL DETAILS @ BENT

FOAM JOINT SEAL TO BE CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF THE SIDEWALK.

NOTES

- THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDER JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING ALLOWED BY THE JOINT SEAL MATERIAL, NOTIFY THE ENGINEER. REVISION TO THE JOINT SEAL SIZE AND TYPE MIGHT BE NECESSARY.
- THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS FOR THE JOINT SEALS IN LIEU OF SAWING THE JOINT.
- THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL BASED ON JOINT OPENINGS.
- FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.
- FOAM JOINT SEALS FOR PRESERVATION SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.
- THE INSTALLED FOAM JOINT SEALS FOR PRESERVATION SHALL BE WATER TIGHT.
- FOR LOCATION OF SECTION B-B, SEE PLAN OF SPAN SHEETS.
- FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF REPAIR CONCRETE.

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO: 740025



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

JOINT REPAIR DETAILS

DRAWN BY : D. A. GLADDEN DATE : 7/21  
 CHECKED BY : E. MURRAY DATE : 12/22

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**NOTES**

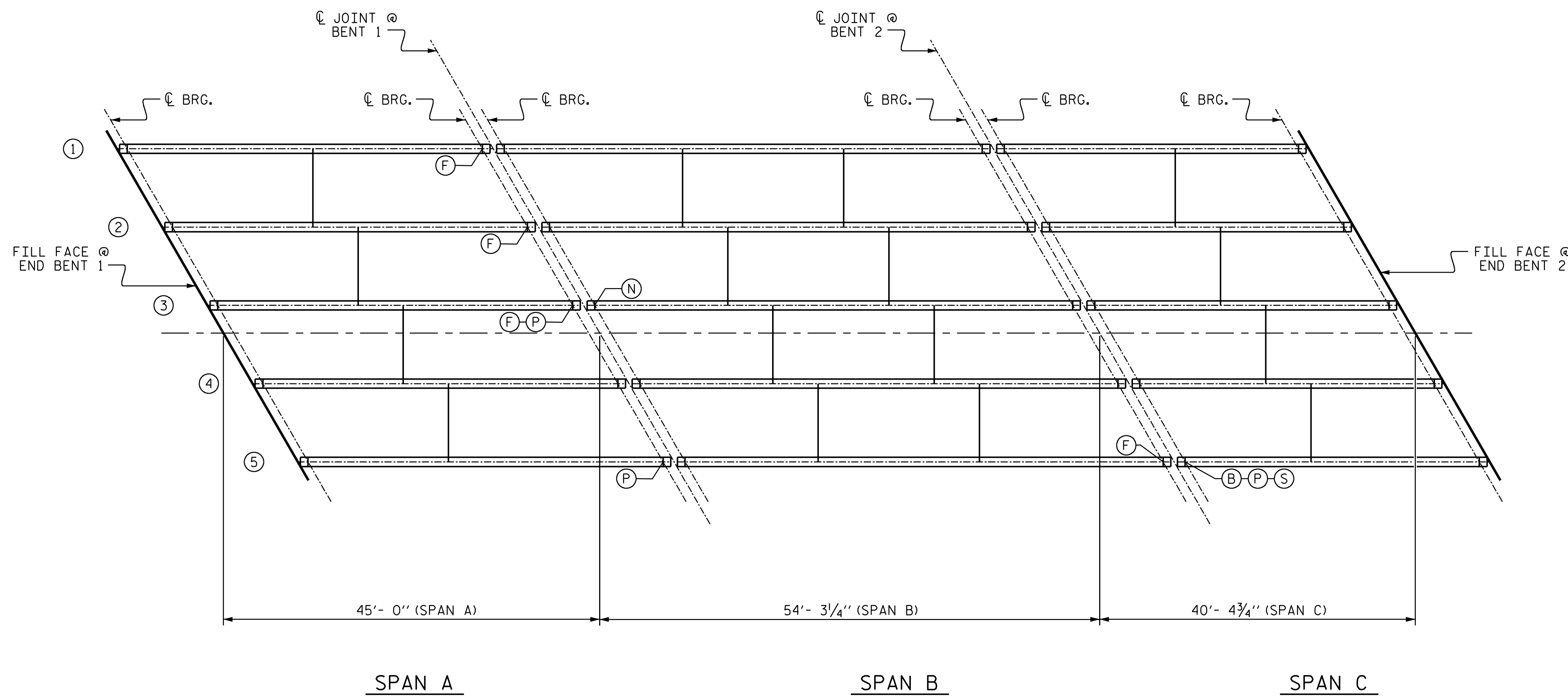
FOR BEAM PLATE REPAIRS, SEE "BEAM REPAIR PLATING DETAILS" SHEET.

FOR BEAM CUT-OUT REPAIRS, SEE "BEAM REPAIR CUT-OUT DETAILS" SHEET.

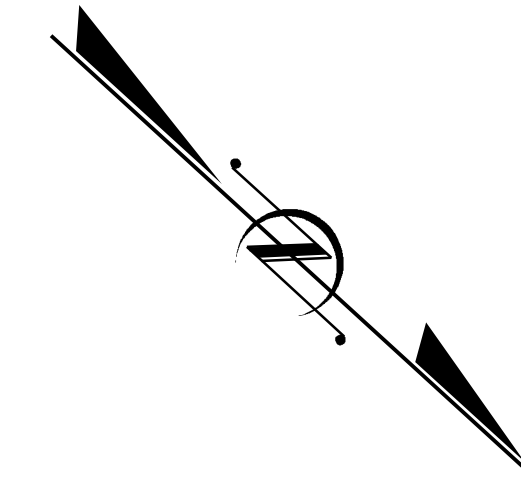
THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENTS OF REPAIR AREAS PRIOR TO STEEL FABRICATION. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE QUANTITIES ON INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL ENSURE THAT EXISTING UTILITIES ADJACENT TO THE BRIDGE ARE NOT DAMAGED DURING REPAIR OPERATIONS.

REPLACEMENT OF MISSING OR DETERIORATED NUTS IS INCIDENTAL TO THE COST FOR VARIOUS BEAM REPAIR PAY ITEMS.



- ① BEAM NUMBER
- ⓑ BEAM REPAIR CUT-OUT
- ⓑ BEAM REPAIR PLATING
- ⓕ FLANGE PLATE REPAIR
- Ⓢ STIFFENER REPAIR
- Ⓝ REPLACE ANCHOR BOLT NUT



**BEAM REPAIR LOCATIONS**

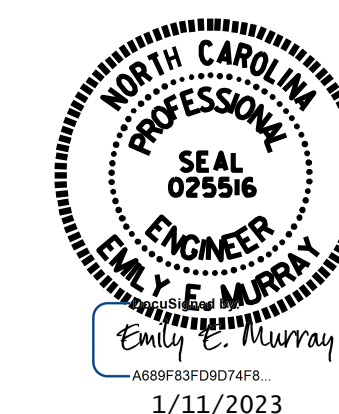
(OTHER LOCATIONS MAY EXIST. SEE NOTES)

ANTICIPATED BEAM REPAIR LOCATIONS							
SPAN	BEAM	TYPE	LOCATION	DIM 'A'	DIM 'B'	DIM 'C'	DIM 'D'
A	1	F	BENT 1	5"	22"		
A	2	F	BENT 1	5"	30"		
*A	3	P	BENT 1	4"	10"		
▲A	3	F	BENT 1	5"	27"		
A	5	P	BENT 1	8"	60"		
B	5	F	BENT 2	5"	72"		
C	5	B	BENT 2	5"	48"		
*C	5	P	BENT 2	3"	10"		
C	5	S	BENT 2	12"			

\* PLATE REPAIR IS AT TOP OF WEB  
 ▲ FLANGE REPAIR PLATE REQUIRED ON EACH SIDE OF WEB

BEAM REPAIR							
BEAM REPAIR CUT-OUT		BEAM REPAIR PLATING		STIFFENER REPAIR		DIAPHRAGM REPAIR	
LBS.		LBS.		LBS.		LBS.	
ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
166		292		22			

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740025



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BEAM REPAIR LOCATIONS**

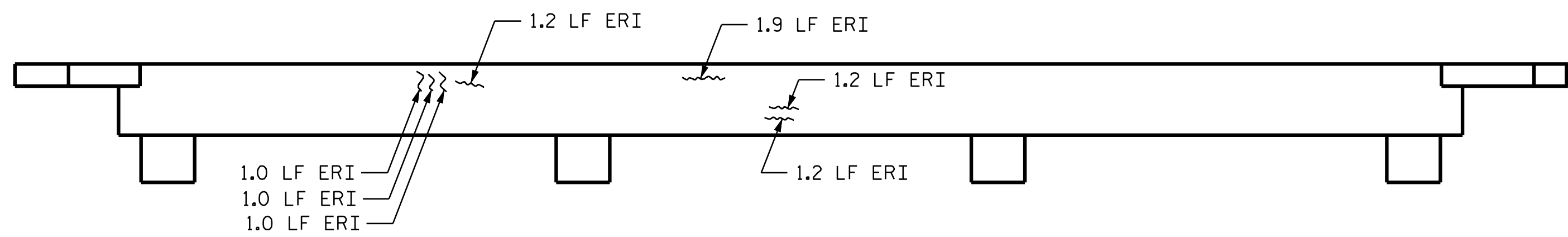
**VOLKERT**  
 5430 Wade Park Blvd, Suite 410  
 Raleigh, NC 27607  
 Tel. 919-854-0344 Fax. 919-854-0355  
 NC License No. F-0765

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

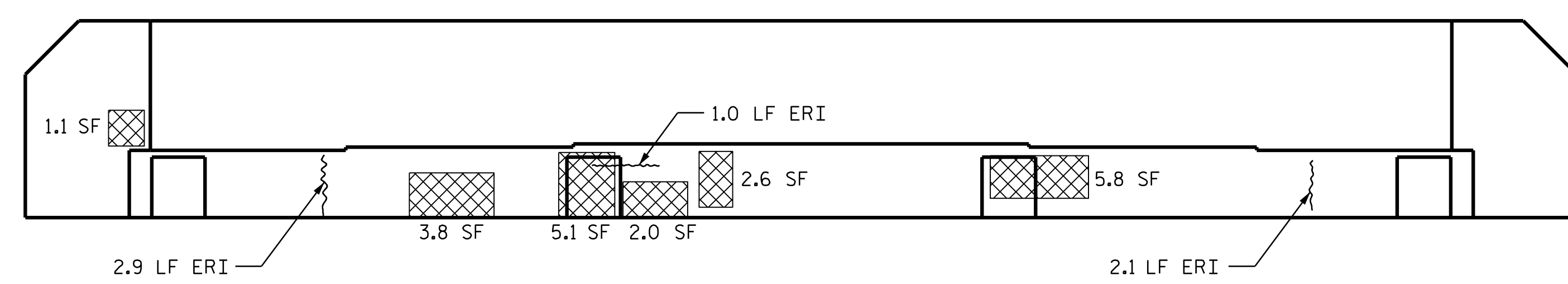
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-22
2			4			TOTAL SHEETS 79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22





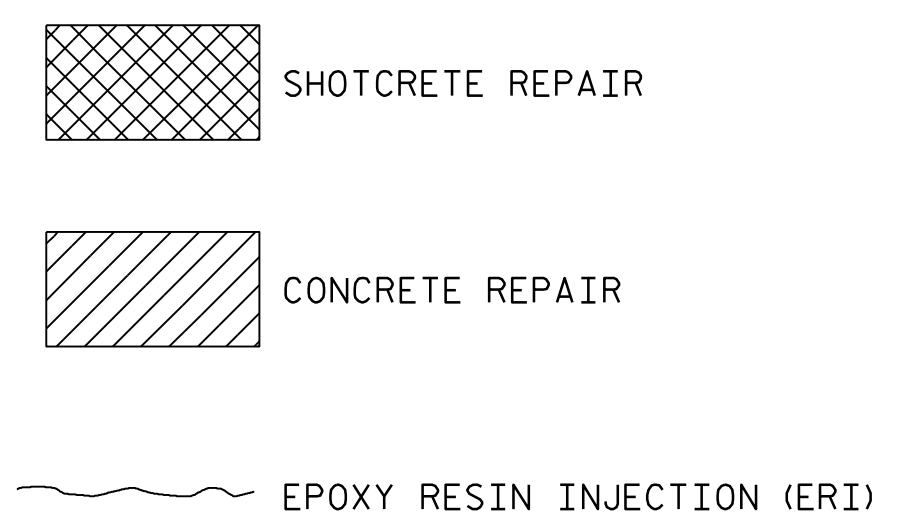
TOP OF CAP @ END BENT 1



ELEVATION @ END BENT 1 (SPAN A)

AS-BUILT REPAIR QUANTITY TABLE				
REPAIRS	QUANTITIES			
	ESTIMATE		ACTUAL	
END BENT 1				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	20.4	10.2		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT.		LN. FT.
CAP		14.5		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		93.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.



PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740025



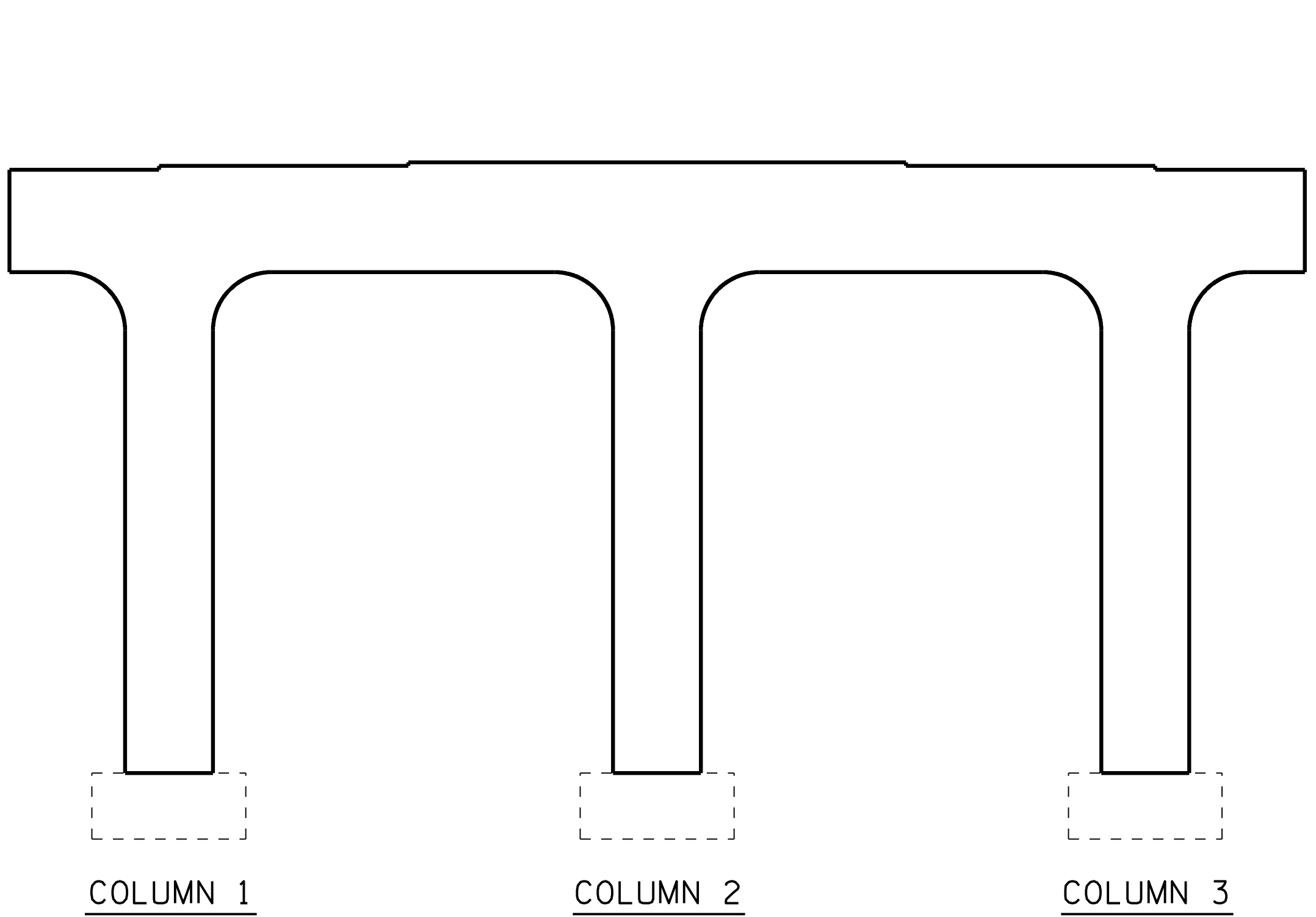
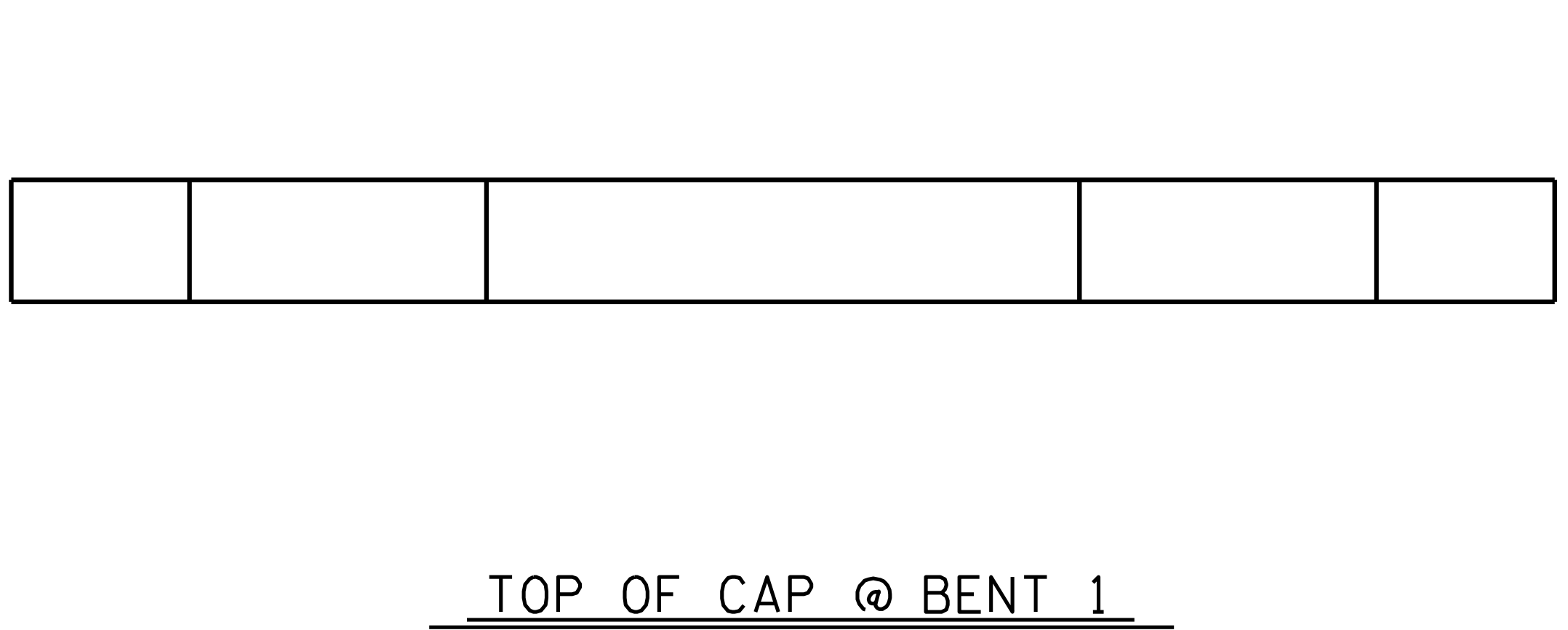
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
  
 END BENT 1

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 5540 Centerview Drive, Suite 305  
 Raleigh, NC 27606  
 Tel. 919-854-0344 Fax. 919-854-0355  
 NC License No. F-0765

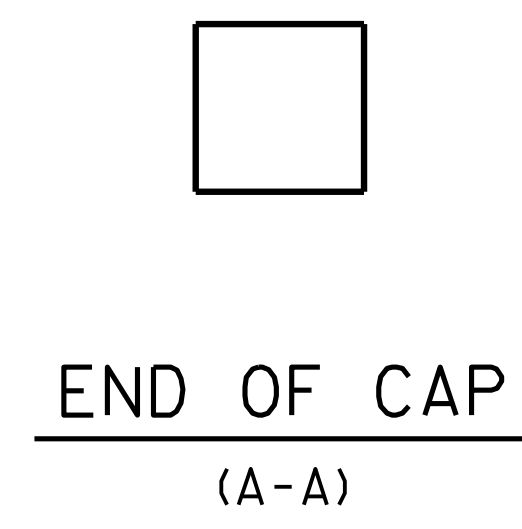
DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

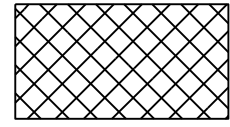
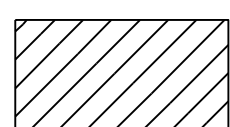

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-23
1			3			TOTAL SHEETS
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22



ELEVATION @ BENT 1 (SPAN A)



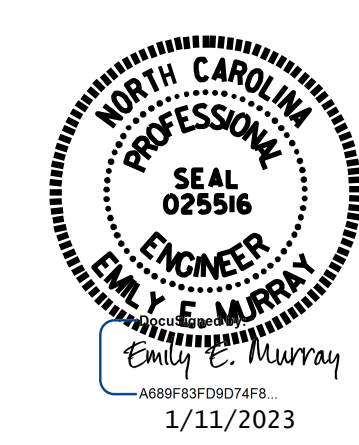
-  SHOTCRETE REPAIR
-  CONCRETE REPAIR
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740025

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1  
 (SPAN A)**



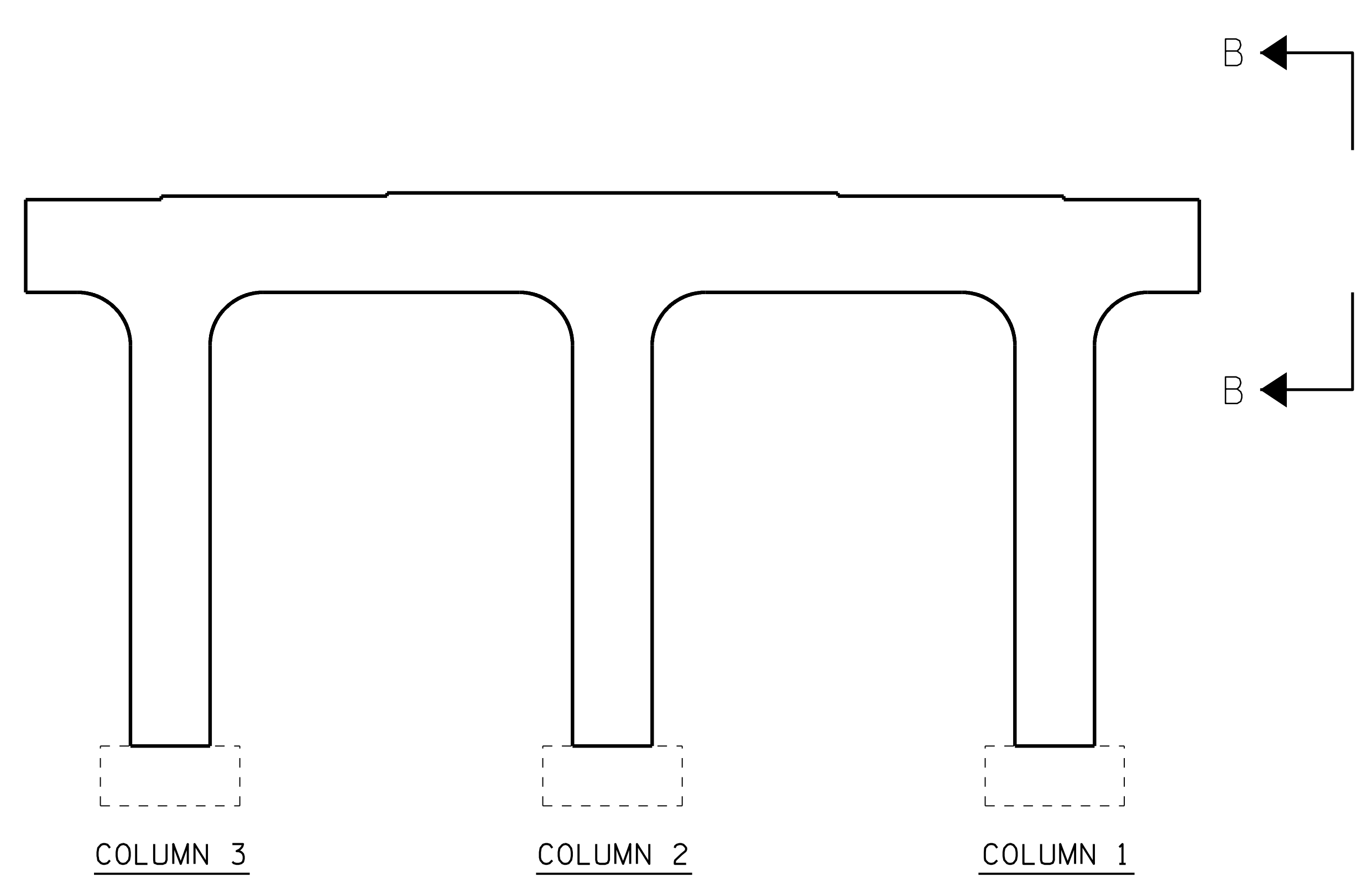
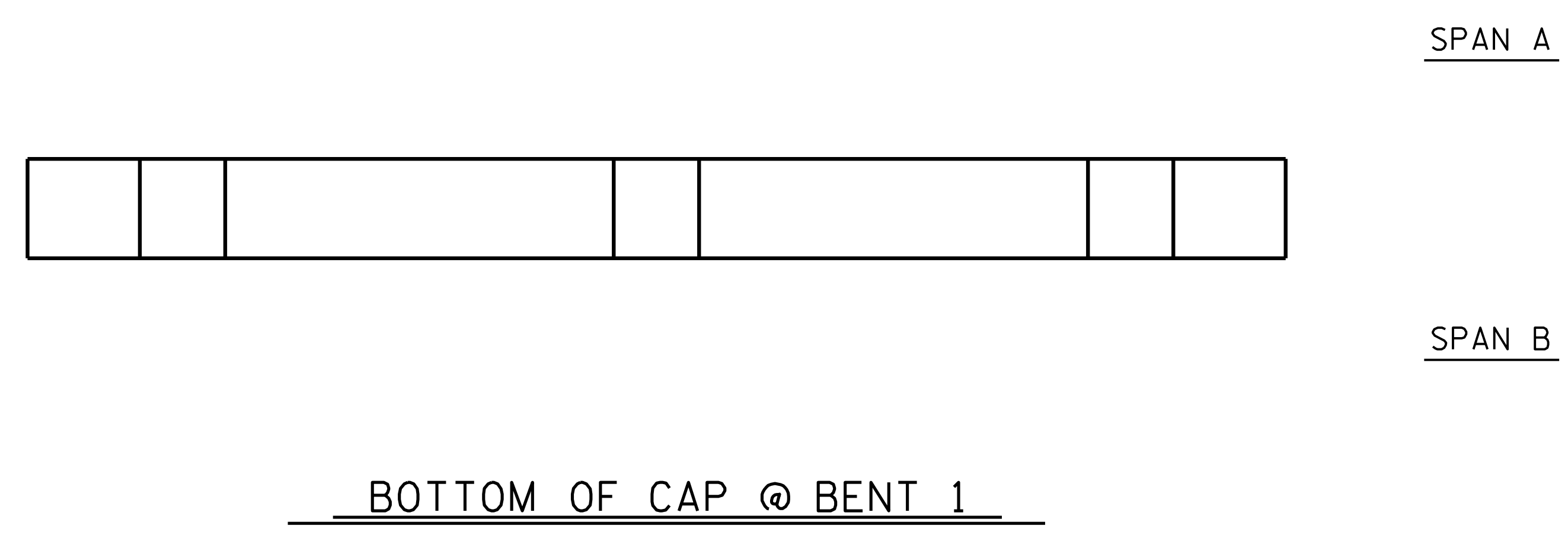
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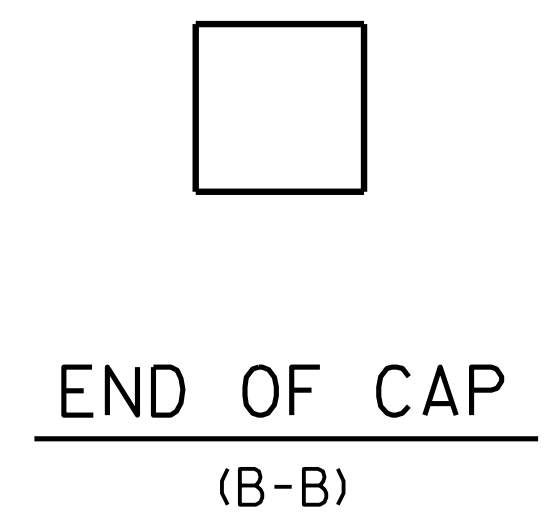
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-24
1			3			TOTAL SHEETS
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22





ELEVATION @ BENT 1 (SPAN B)



AS-BUILT REPAIR QUANTITY TABLE				
REPAIRS BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT.	LN. FT.		
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.	SQ. FT.		
TOP OF BENT CAP	129.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.

- SHOTCRETE REPAIR
- CONCRETE REPAIR
- EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740025

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1  
 (SPAN B)**



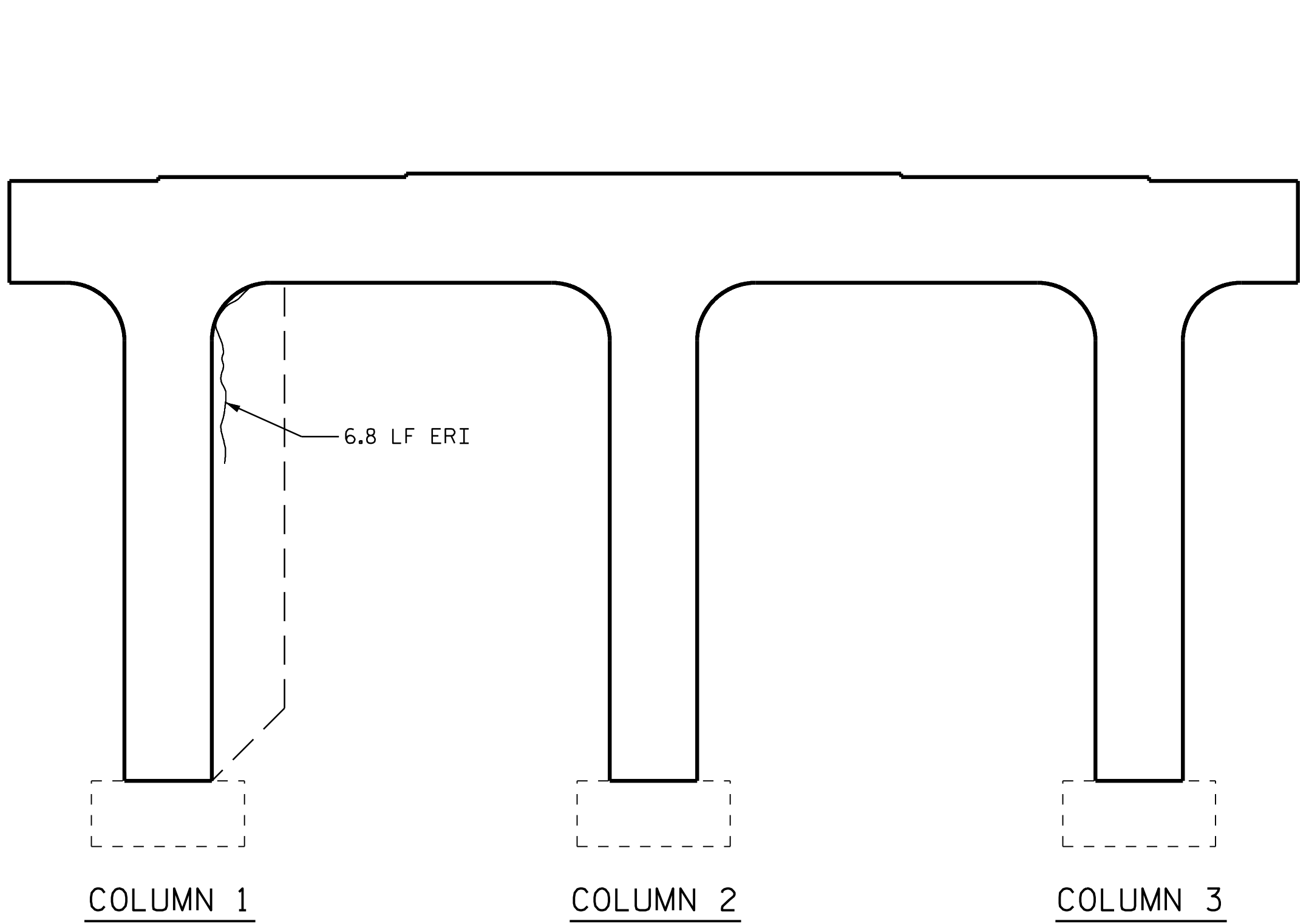
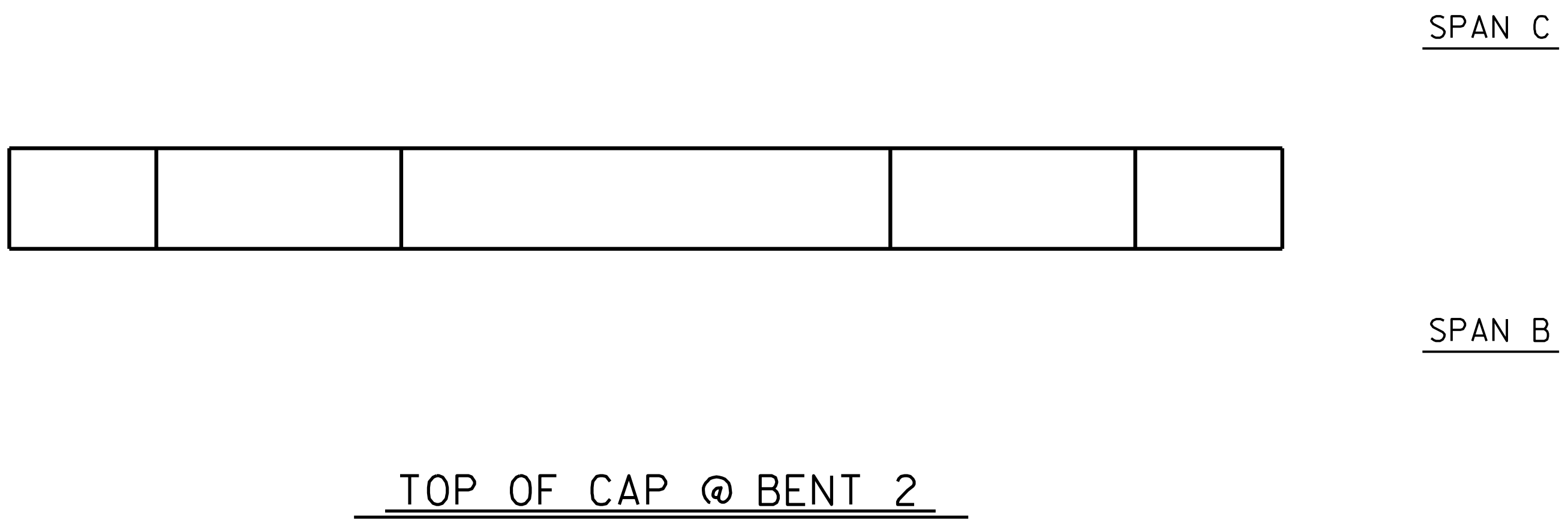
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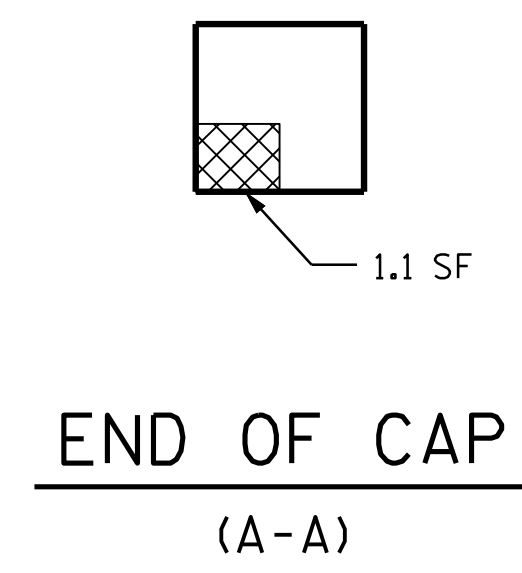
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

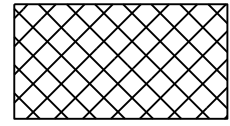
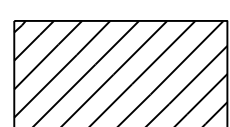

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-25
1			3			TOTAL SHEETS
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22



ELEVATION @ BENT 2 (SPAN B)



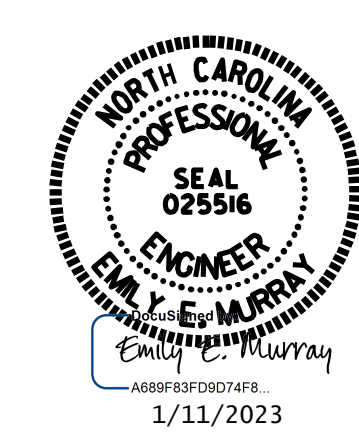
-  SHOTCRETE REPAIR
-  CONCRETE REPAIR
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740025

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 2  
 (SPAN B)**



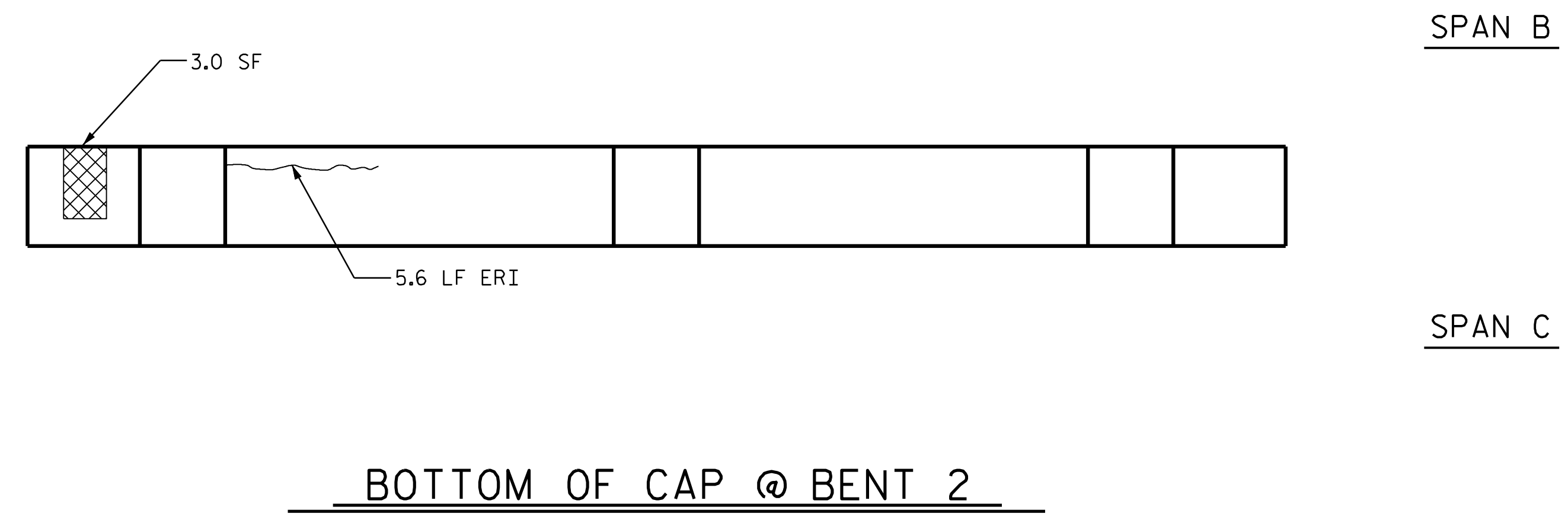
**VOLKERT**  
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 Raleigh, NC 27606  
 Tel. 919-854-0344 Fax. 919-854-0355  
 NC License No. F-0765

DOCUMENT NOT CONSIDERED  
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 SIGNATURES COMPLETED

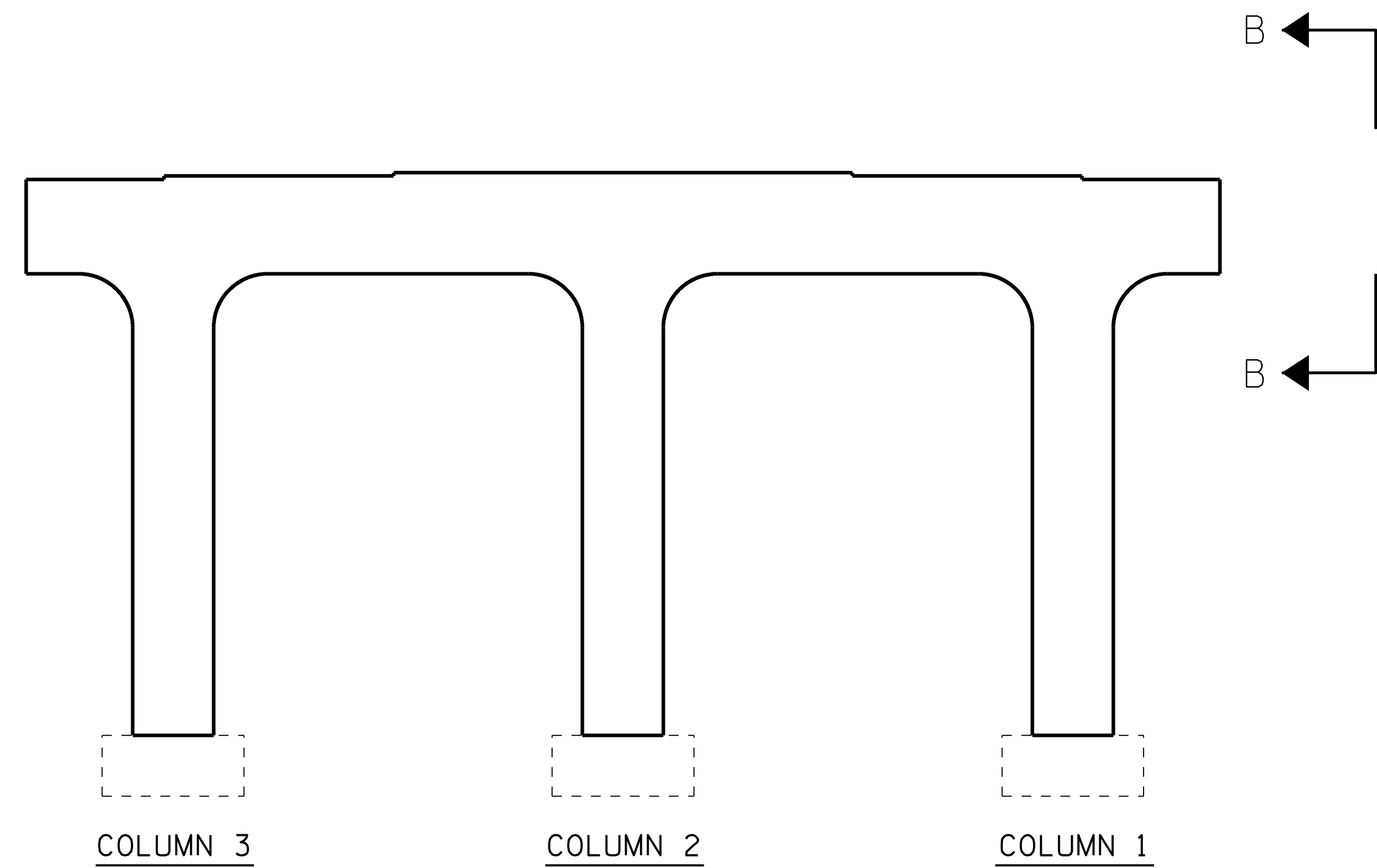
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-26
1			3			TOTAL SHEETS
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22

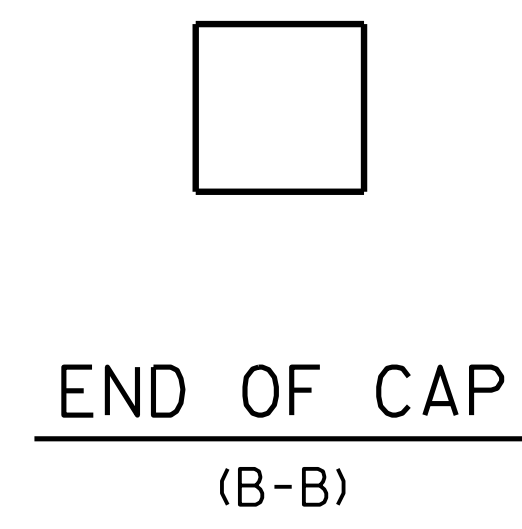




BOTTOM OF CAP @ BENT 2



ELEVATION @ BENT 2 (SPAN C)



AS-BUILT REPAIR QUANTITY TABLE				
REPAIRS BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	4.1	2.1		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT.	LN. FT.		
CAP	5.6			
COLUMN	6.8			
EPOXY COATING	SQ. FT.	SQ. FT.		
TOP OF BENT CAP	129.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.

- SHOTCRETE REPAIR
- CONCRETE REPAIR
- EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740025

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 2  
 (SPAN C)**



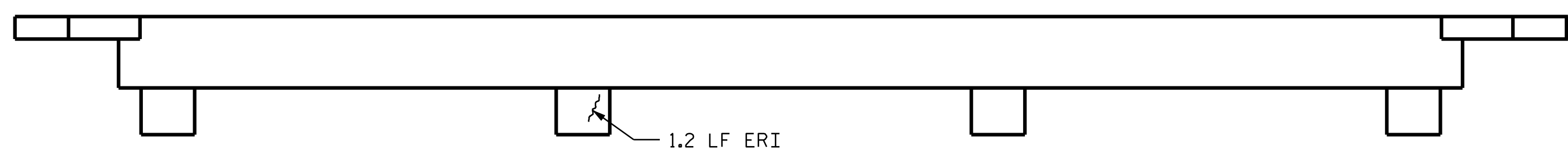
VOLKERT

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 Tel. 919-854-0344 Fax. 919-854-0355  
 NC License No. F-0765

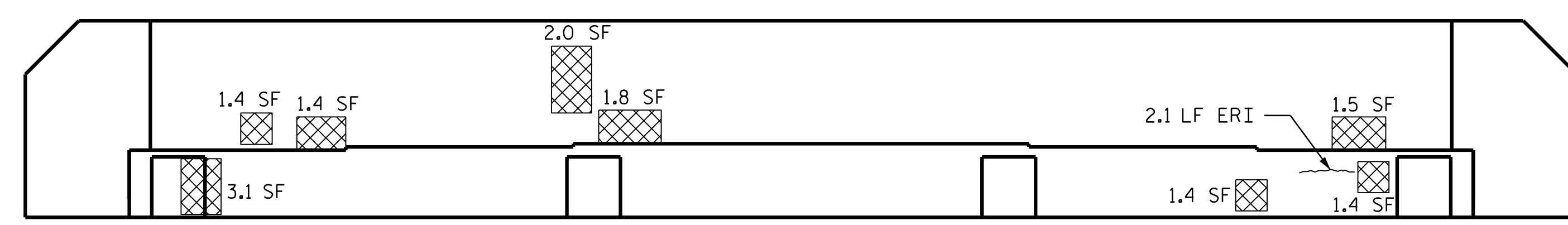
DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-27
2			4			TOTAL SHEETS 79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22



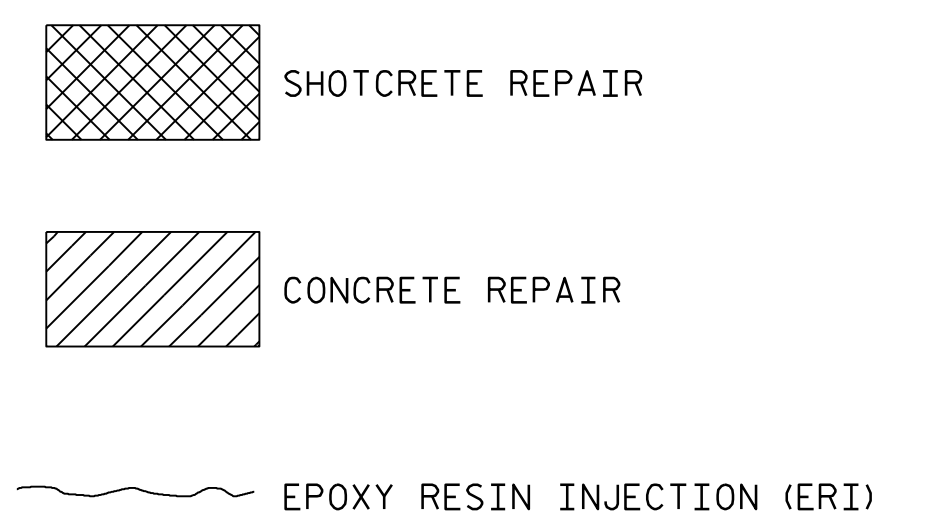
TOP OF CAP @ END BENT 2



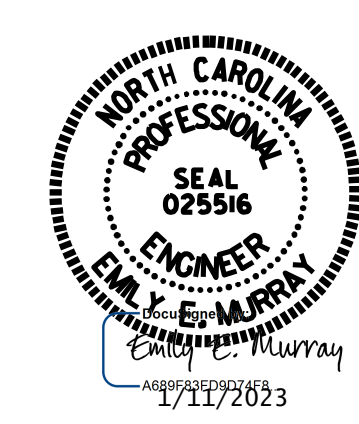
ELEVATION @ END BENT 2 (SPAN C)

AS-BUILT REPAIR QUANTITY TABLE				
REPAIRS	QUANTITIES			
	ESTIMATE		ACTUAL	
END BENT 2				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	14.0	7.0		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT.		LN. FT.
CAP		3.3		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		93.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.



PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740025



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
  
 END BENT 2

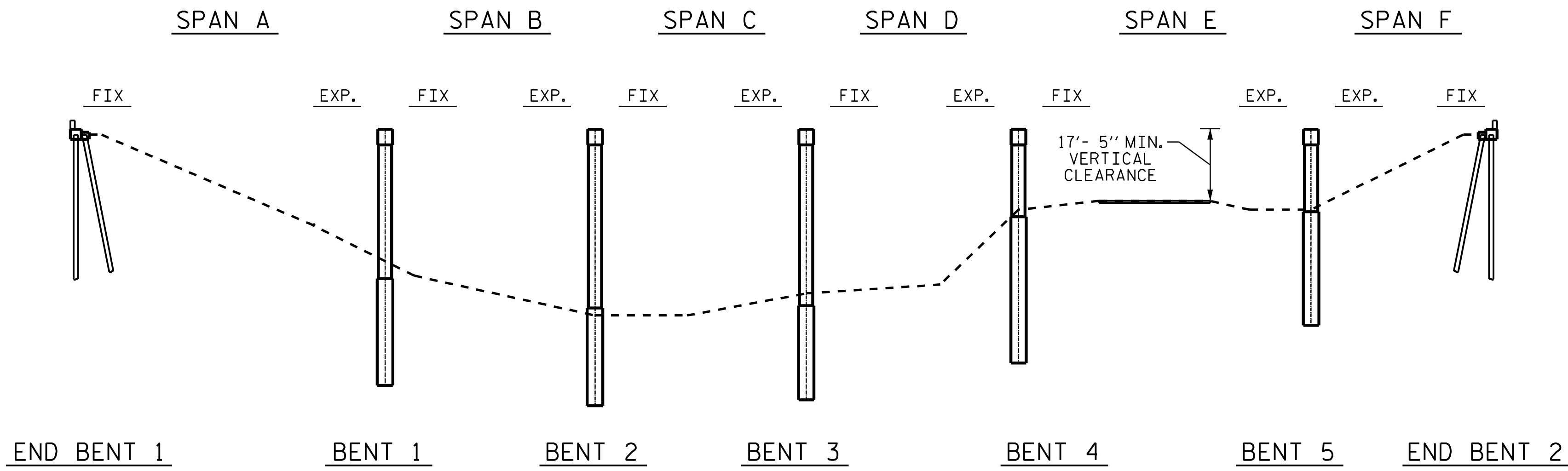
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-28
2			4			TOTAL SHEETS: 79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22





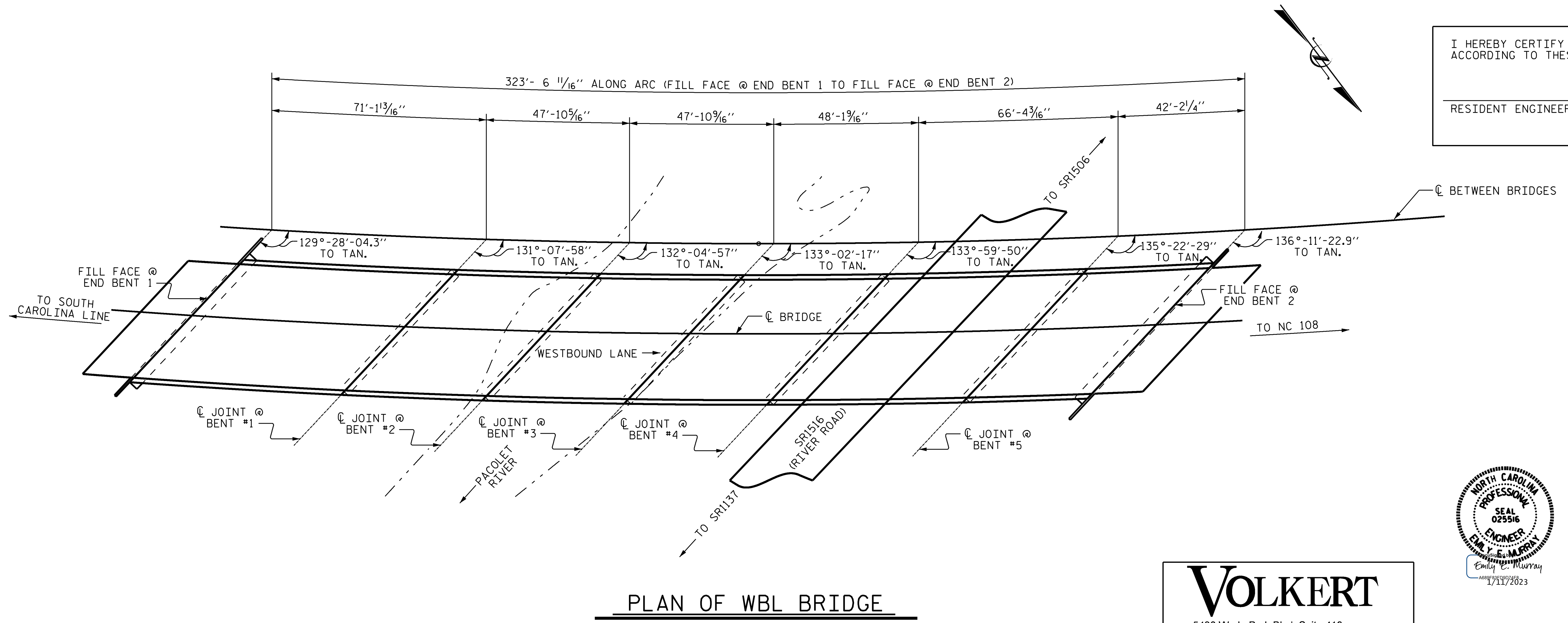
**SECTION ALONG Q WBL BRIDGE**  
(SECTION @ END BENTS AND BENTS ARE TAKEN AT RIGHT ANGLES)

**NOTES**

PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND ROUTINE INSPECTION REPORT DATED 9/24/2019.  
BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

**SCOPE OF WORK**

- PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING.
- OVERLAY PREPARED TOP OF BRIDGE DECK WITH POLYMER CONCRETE (PC).
- REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINTS SEALS FOR PRESERVATION.
- GROOVE PC BRIDGE DECK.
- MILL AND REPAVE ASPHALT APPROACH ROADWAYS.
- CLEAN, REPAIR, AND PAINT EXISTING STRUCTURAL STEEL.
- REMOVE DEBRIS FROM TOP OF EXISTING END BENT AND BENT CAPS AND APPLY APOXY COATING.
- EPOXY RESIN INJECTION OF CONCRETE CRACKS.
- REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AND BENT AREAS FOR SHOTCRETE AND CONCRETE REPAIRS.

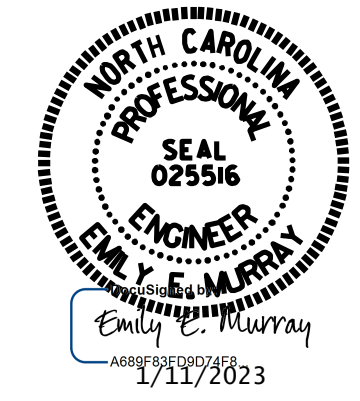


**PLAN OF WBL BRIDGE**

I HEREBY CERTIFY THAT THIS STRUCTURE WAS REHABILITATED ACCORDING TO THESE PLANS OR AS NOTED HEREIN.  
RESIDENT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

PROJECT NO. I-5927  
POLK COUNTY  
STATION: 740048

SHEET 1 OF 2



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
**GENERAL DRAWING**  
FOR WBL BRIDGE ON I-26  
OVER PACOLET RIVER AND  
SR1516 (RIVER ROAD)  
BETWEEN SR1501  
AND NC 108

**VOLKERT**  
5430 Wade Park Blvd, Suite 410  
Raleigh, NC 27607  
Tel. 919-854-0344 Fax. 919-854-0355  
NC License No. F-0765

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-29
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
CHECKED BY : E. MURRAY DATE : 12/22





**NOTES**

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR SUMMARY OF QUANTITIES TABLE.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT CLASS III SURFACE PREPARATION WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED THAT CLASS III SURFACE PREPARATION, OR OTHER WORK WILL BE NECESSARY TO PROPERLY COMPLETE THE INTENDED BRIDGE PRESERVATION/REHABILITATION WORK. THE CONTRACTOR SHALL BE PREPARED TO PERFORM SUCH WORK IN A TIMELY MANNER, AS DETERMINED IN THE FIELD. SUCH WORK SHALL BE CONSIDERED EXTRA WORK AND SHALL BE ADDRESSED AS 104-7 OF THE STANDARD SPECIFICATIONS, PROJECT SPECIAL PROVISIONS THAT OUTLINE REQUIREMENTS FOR THESE POTENTIAL ADDITIONAL WORK ITEMS HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES, AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLANS.

EXISTING JOINTS SHALL BE SEALED PRIOR TO BEGINNING REPAIRS OF BRIDGE DECK.

LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANE.

FOR SCARIFYING BRIDGE DECK, SHOTBLASTING BRIDGE DECK, AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

THE EXISTING BRIDGE DECK SHALL BE REPAIRED AS SHOWN ON THE PLANS OR AS DETERMINED BY THE ENGINEER AFTER SCARIFICATION AND PRIOR TO BRIDGE DECK SHOTBLAST AND APPLICATION OF THE PC OVERLAY. UNLESS OTHERWISE APPROVED, SUCH LOCATIONS SHALL BE REPAIRED WITH PC.

FOR CONCRETE DECK REPAIR FOR PC OVERLAY, PC MATERIALS, AND PLACING & FINISHING PC OVERLAY, SEE POLYMER CONCRETE BRIDGE DECK OVERLAY SPECIAL PROVISION.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING, SEE EPOXY COATING AND DEBRIS REMOVAL SPECIAL PROVISION.

FOR PAINTING CONTAINMENT, POLLUTION CONTROL, AND CLEANING AND REPAINTING BRIDGE, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR BEAM REPAIR PLATING, SEE SPECIAL PROVISIONS

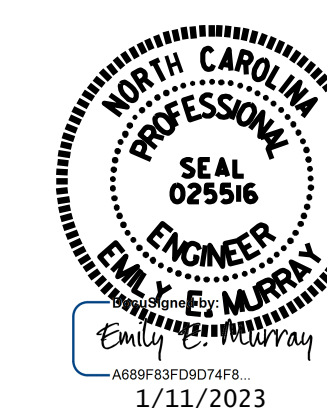
**LOCATION SKETCH**

INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING BRIDGES, ROADWAYS, UTILITIES, THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

LOCATION COORDINATES	
LATITUDE	35° 12' 53.17"
LONGITUDE	82° 11' 7.78"

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740048

SHEET 2 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**GENERAL DRAWING**  
 FOR WBL BRIDGE ON I-26  
 OVER PACOLET RIVER AND  
 SR1516 (RIVER ROAD)  
 BETWEEN SR1501  
 AND NC 108

**VOLKERT**

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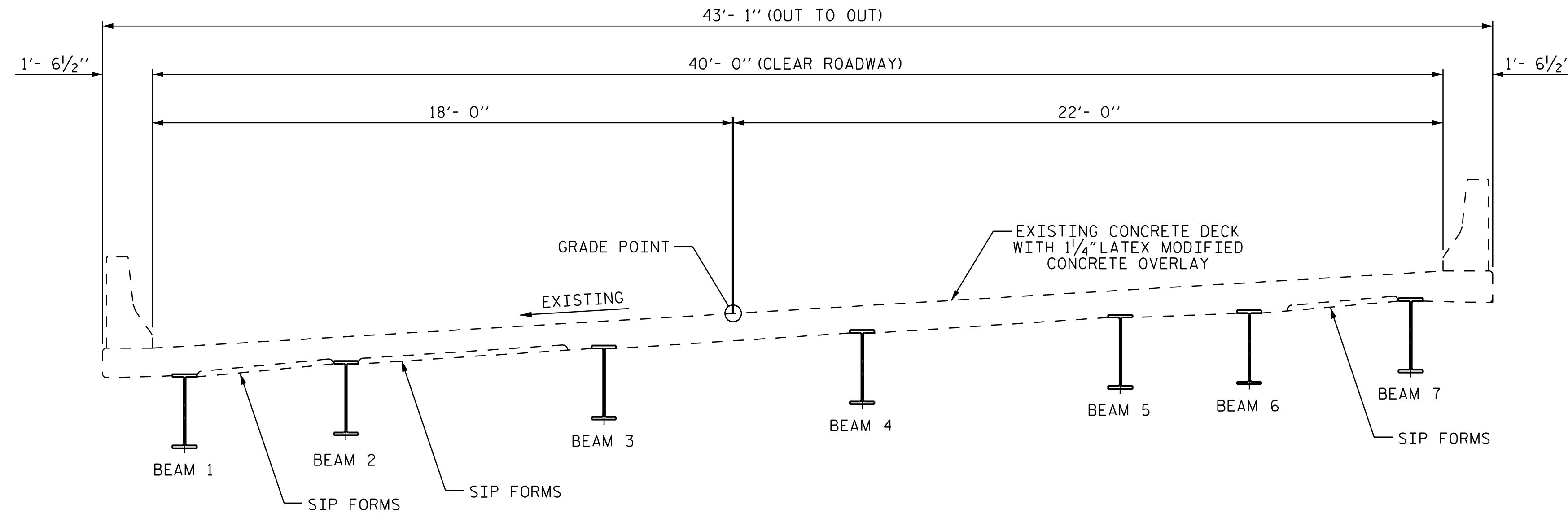
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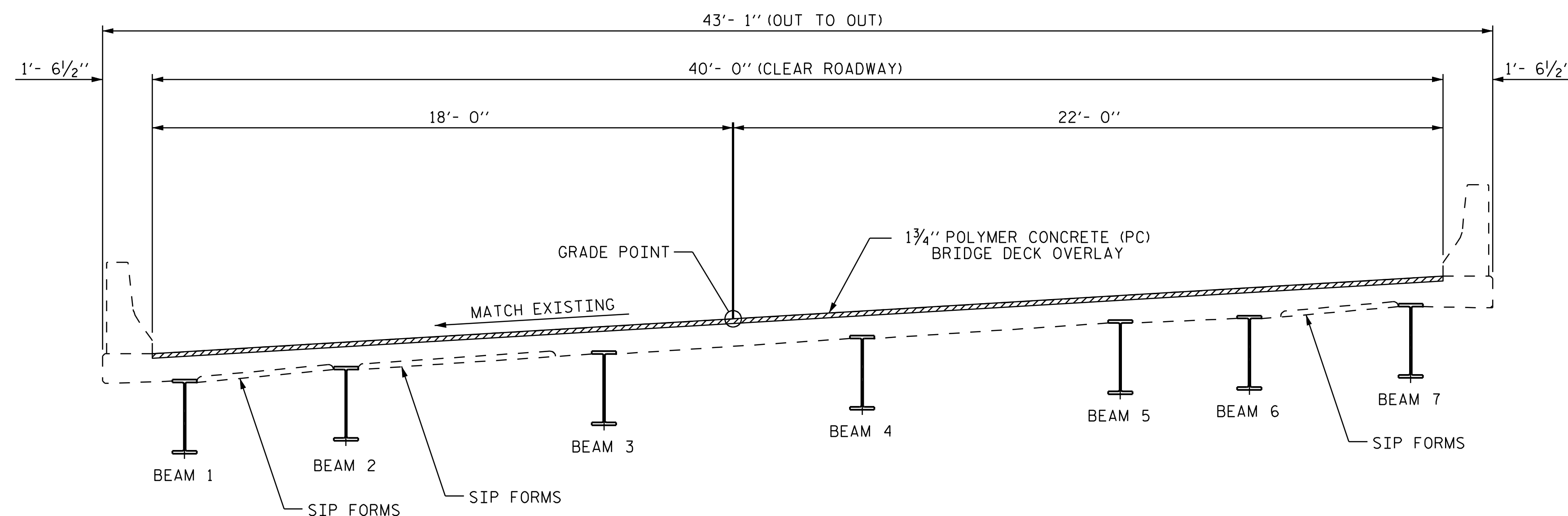


**NOTES**

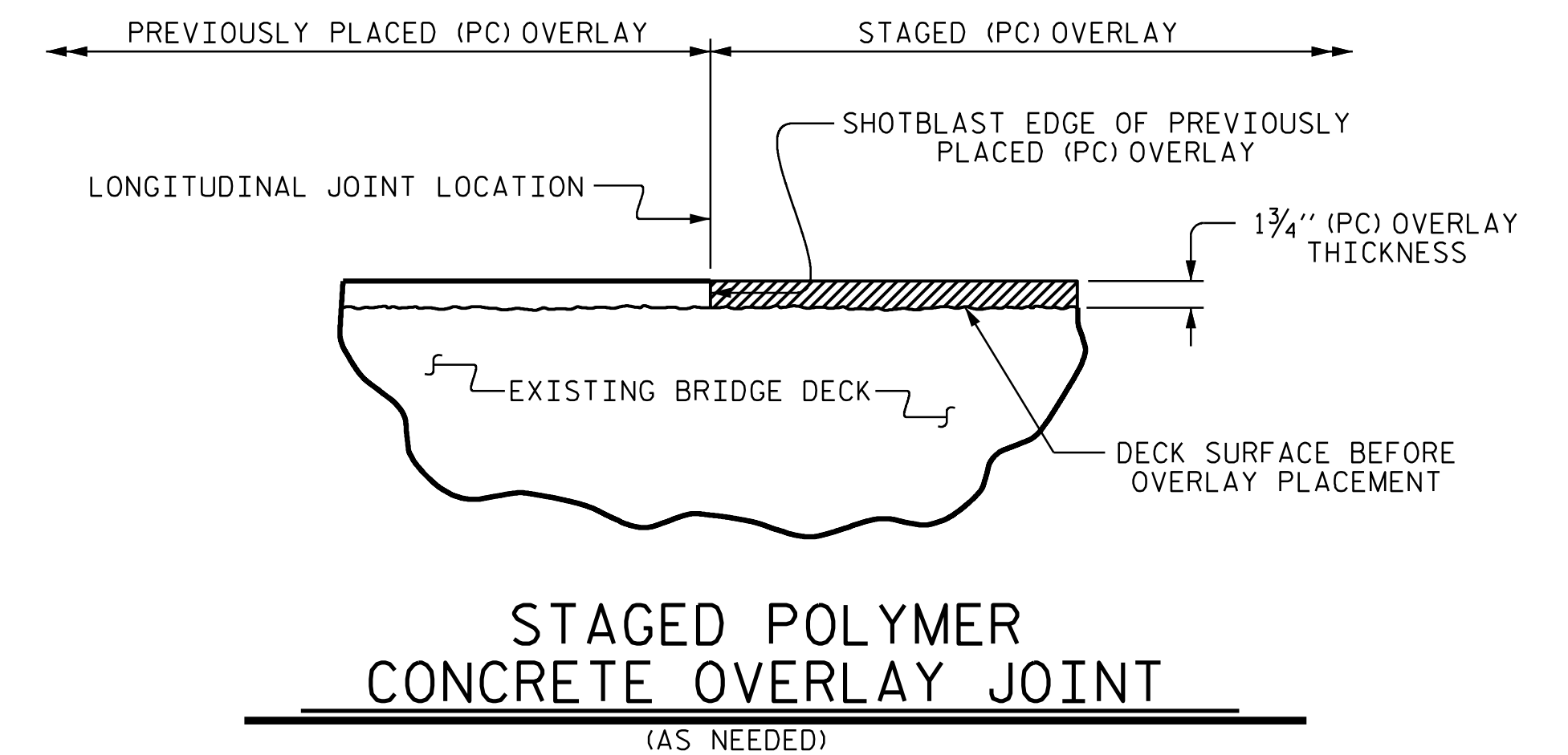
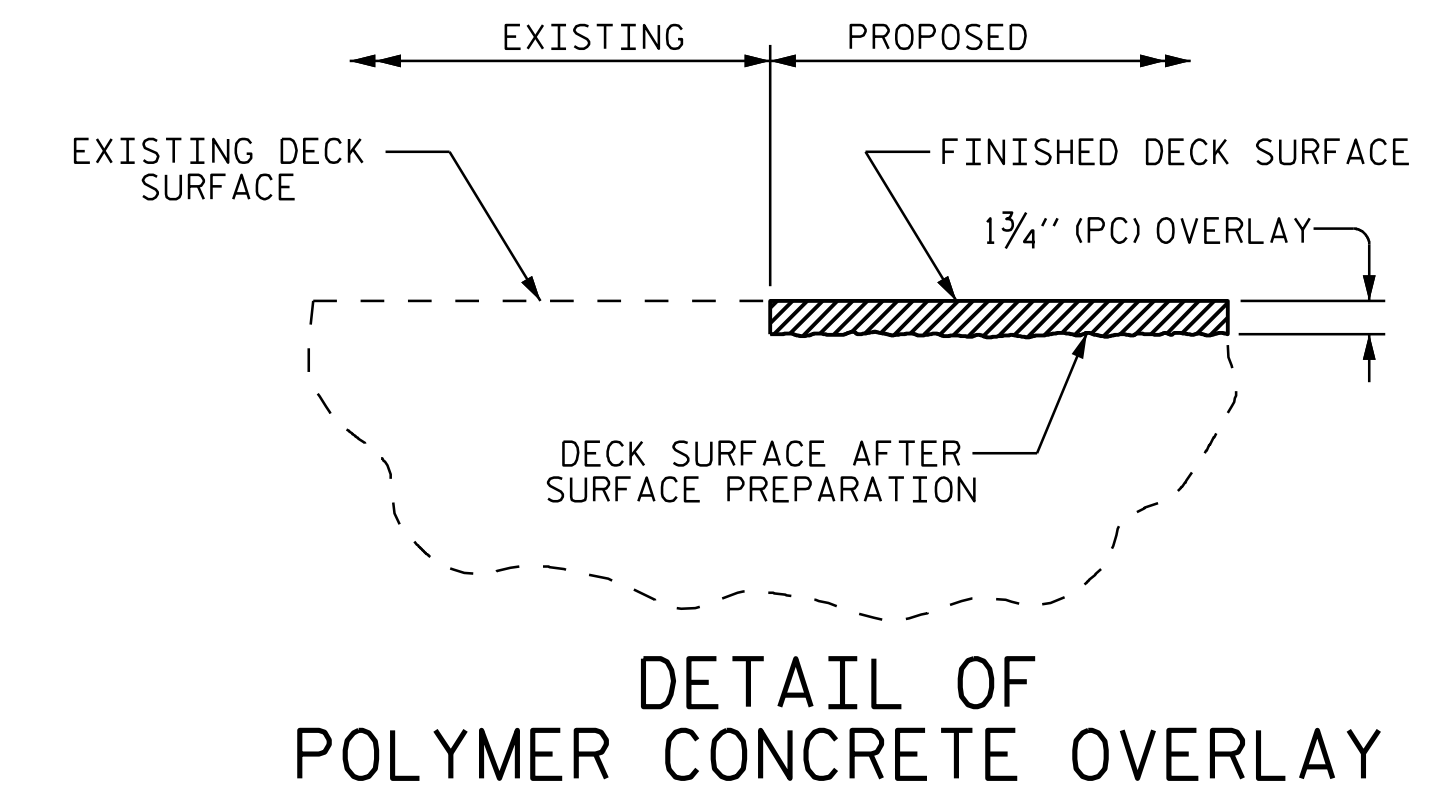
SEE TRANSPORTATION MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND LATEX MODIFIED CONCRETE PLACEMENT.



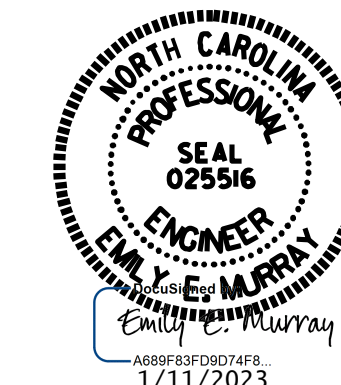
**EXISTING TYPICAL SECTION**



**EXISTING TYPICAL SECTION**



PROJECT NO. I-5927  
POLK COUNTY  
STATION: 740048



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
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TYPICAL SECTION  
AND  
PC OVERLAY DETAIL

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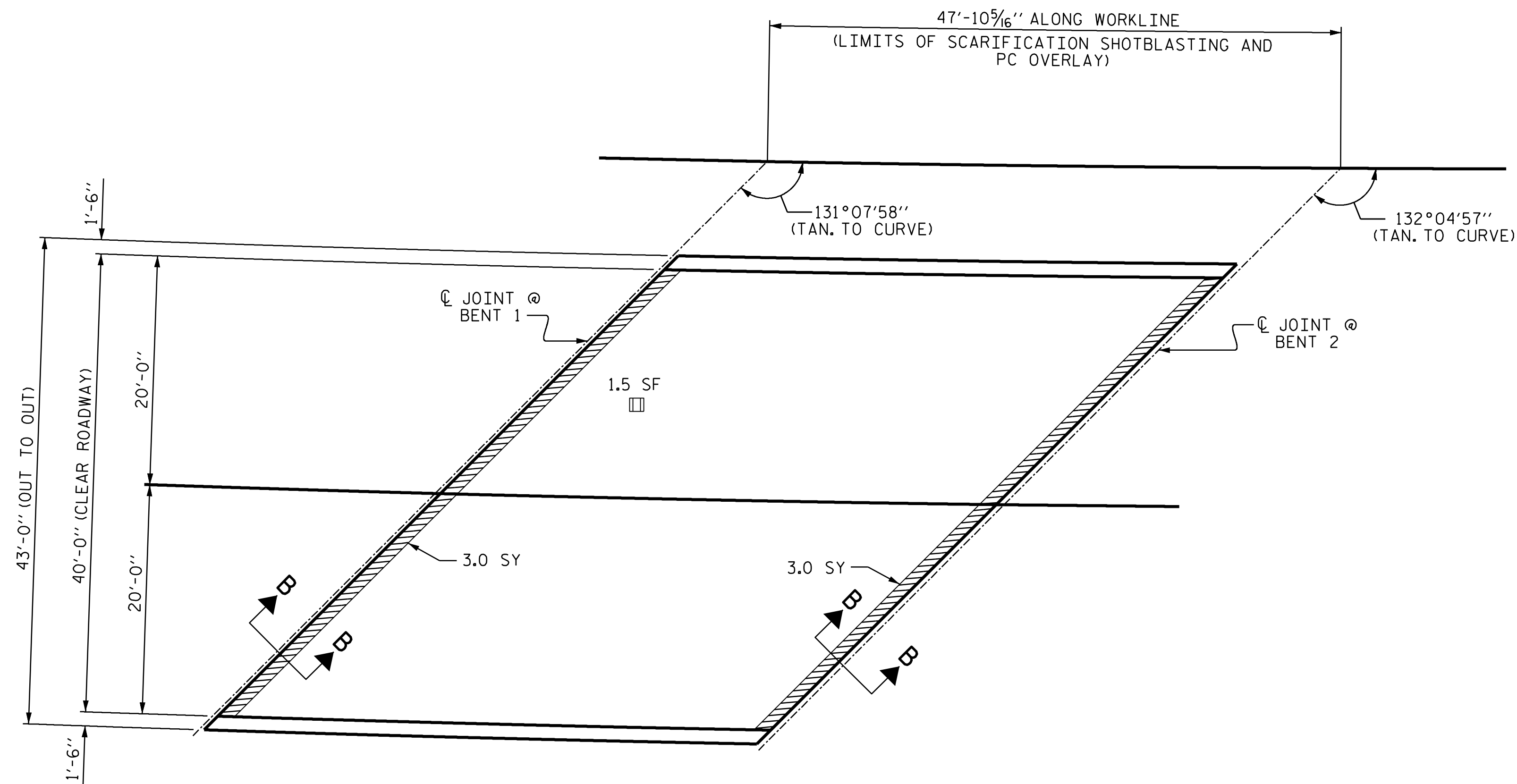
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PLAN OF SPAN B

NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR SECTION A-A AND B-B, SEE "JOINT REPAIR DETAILS" SHEET.

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS

SPAN B

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	212.8 SY	
SHOTBLASTING OF BRIDGE DECK	212.8 SY	
CLASS II SURFACE PREPARATION	6.0 SY	
GROOVING BRIDGE FLOORS	1758.5 SF	
CONCRETE DECK REPAIR FOR PC OVERLAY	6.0 SY	
POLYMER CONCRETE MATERIALS	10.3 CY	
PLACING AND FINISHING POLYMER CONCRETE OVERLAY	212.8 SY	

UNDERSIDE OF DECK REPAIRS

SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	1.5	0.5		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0	LF		

QUANTITIES IN TABLE REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR POLYMER OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAW CUT). SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

APPROXIMATE CLASS II AREA

UNDERSIDE REPAIR

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740048

SHEET 2 OF 6

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
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PLAN OF SPAN B



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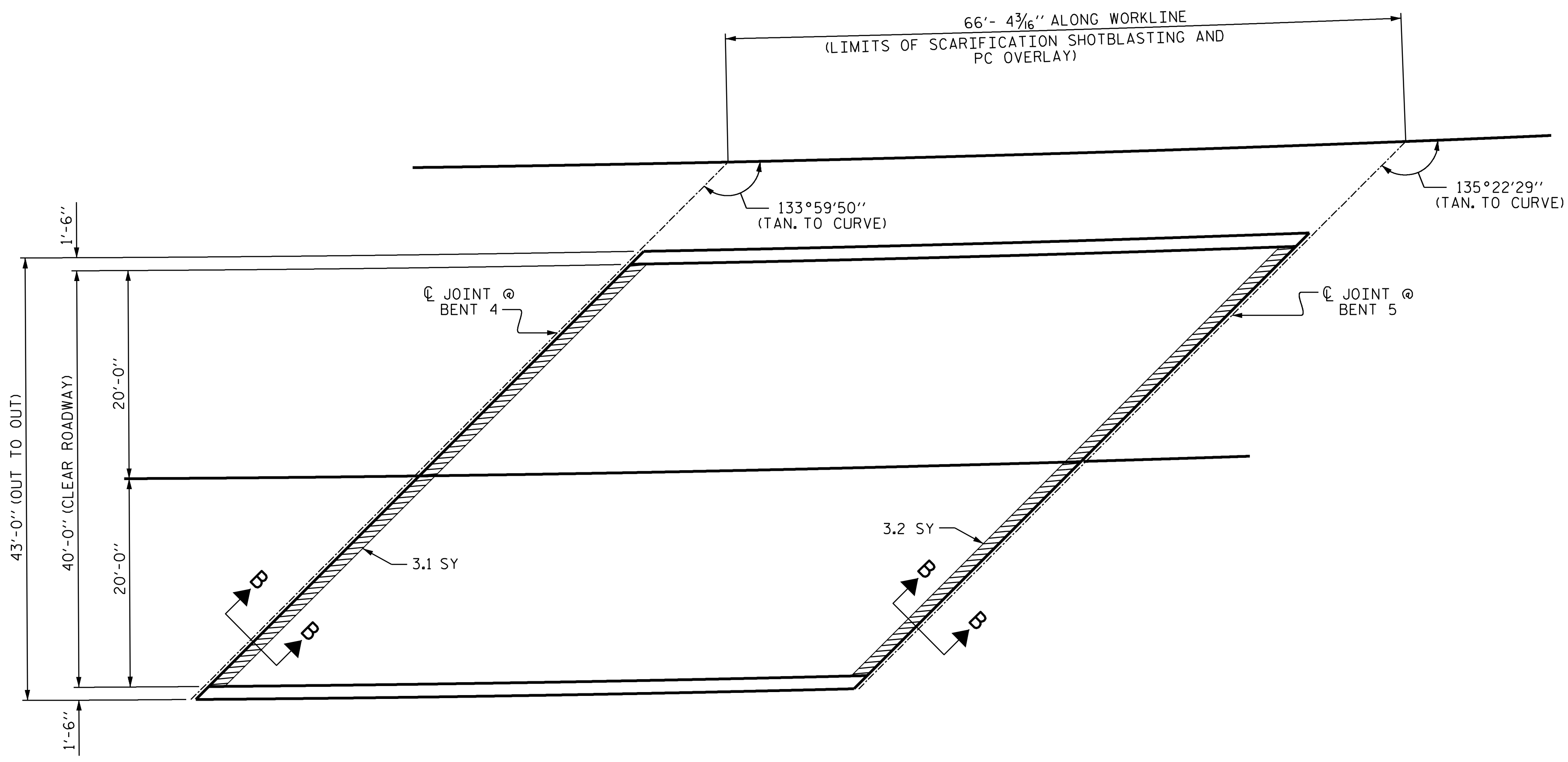
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PLAN OF SPAN E

NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR SECTION A-A AND B-B, SEE "JOINT REPAIR DETAILS" SHEET.

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
SPAN E				
	ESTIMATE		ACTUAL	
SCARIFYING BRIDGE DECK	294.9	SY		
SHOTBLASTING OF BRIDGE DECK	294.9	SY		
CLASS II SURFACE PREPARATION	6.3	SY		
GROOVING BRIDGE FLOORS	2442.6	SF		
CONCRETE DECK REPAIR FOR PC OVERLAY	6.3	SY		
POLYMER CONCRETE MATERIALS	14.3	CY		
PLACING AND FINISHING POLYMER CONCRETE OVERLAY	294.9	SY		
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0	LF		

QUANTITIES IN TABLE REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR POLYMER OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAW CUT). SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

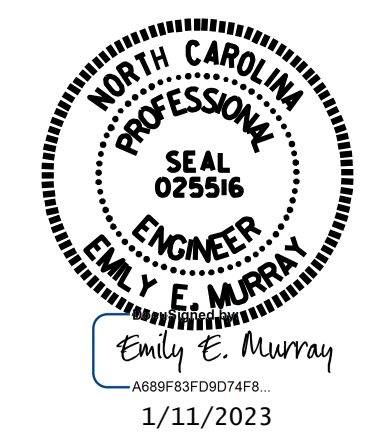
- APPROXIMATE CLASS II AREA
- UNDERSIDE REPAIR

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740048

SHEET 5 OF 6

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

PLAN OF SPAN E



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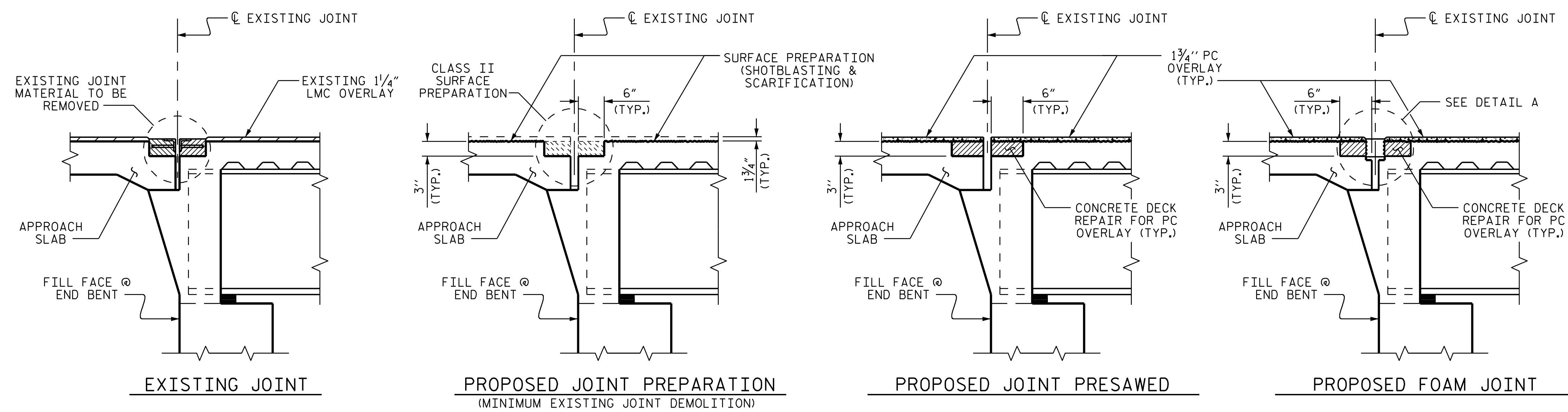
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**JOINT INSTALLATION SEQUENCE AT END BENTS (SECTION A-A)**

**NOTES**

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDER JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING ALLOWED BY THE JOINT SEAL MATERIAL, NOTIFY THE ENGINEER. REVISION TO THE JOINT SEAL SIZE AND TYPE MIGHT BE NECESSARY.

THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS FOR THE JOINT SEALS IN LIEU OF SAWING THE JOINT.

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL BASED ON JOINT OPENINGS.

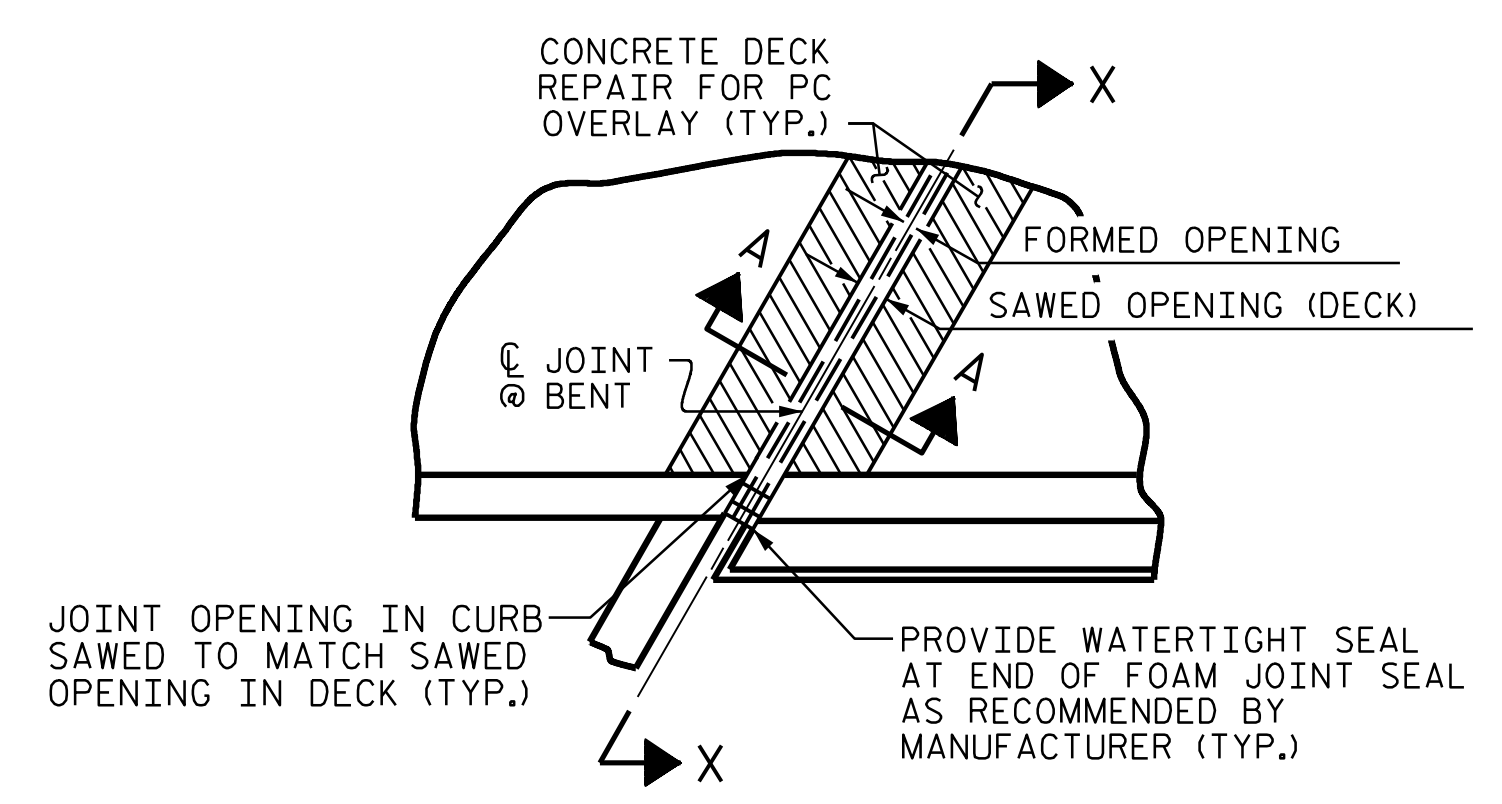
FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOAM JOINT SEALS FOR PRESERVATION SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.

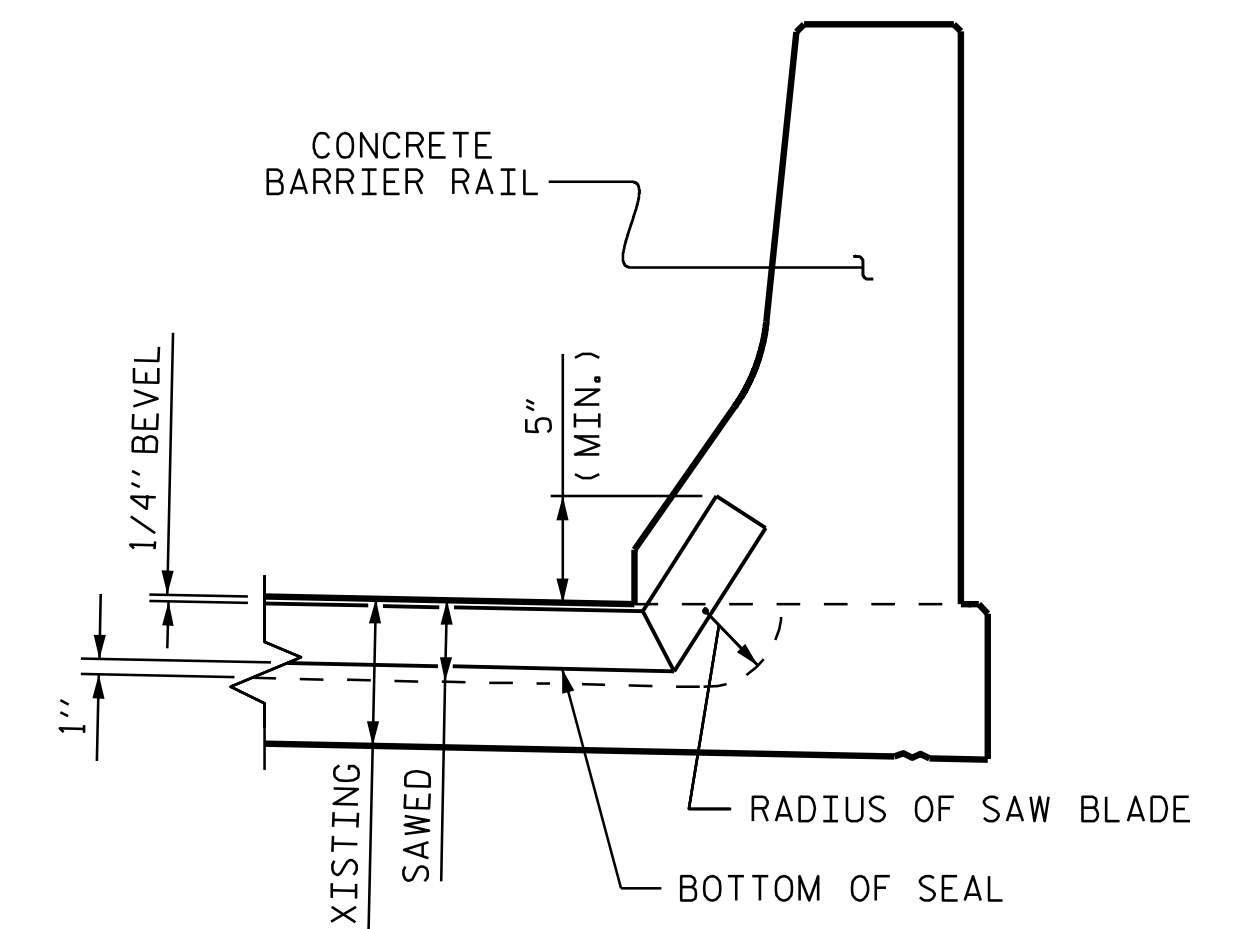
THE INSTALLED FOAM JOINT SEALS FOR PRESERVATION SHALL BE WATER TIGHT.

FOR LOCATION OF SECTION A-A AND SECTION B-B, SEE PLAN OF SPAN SHEETS.

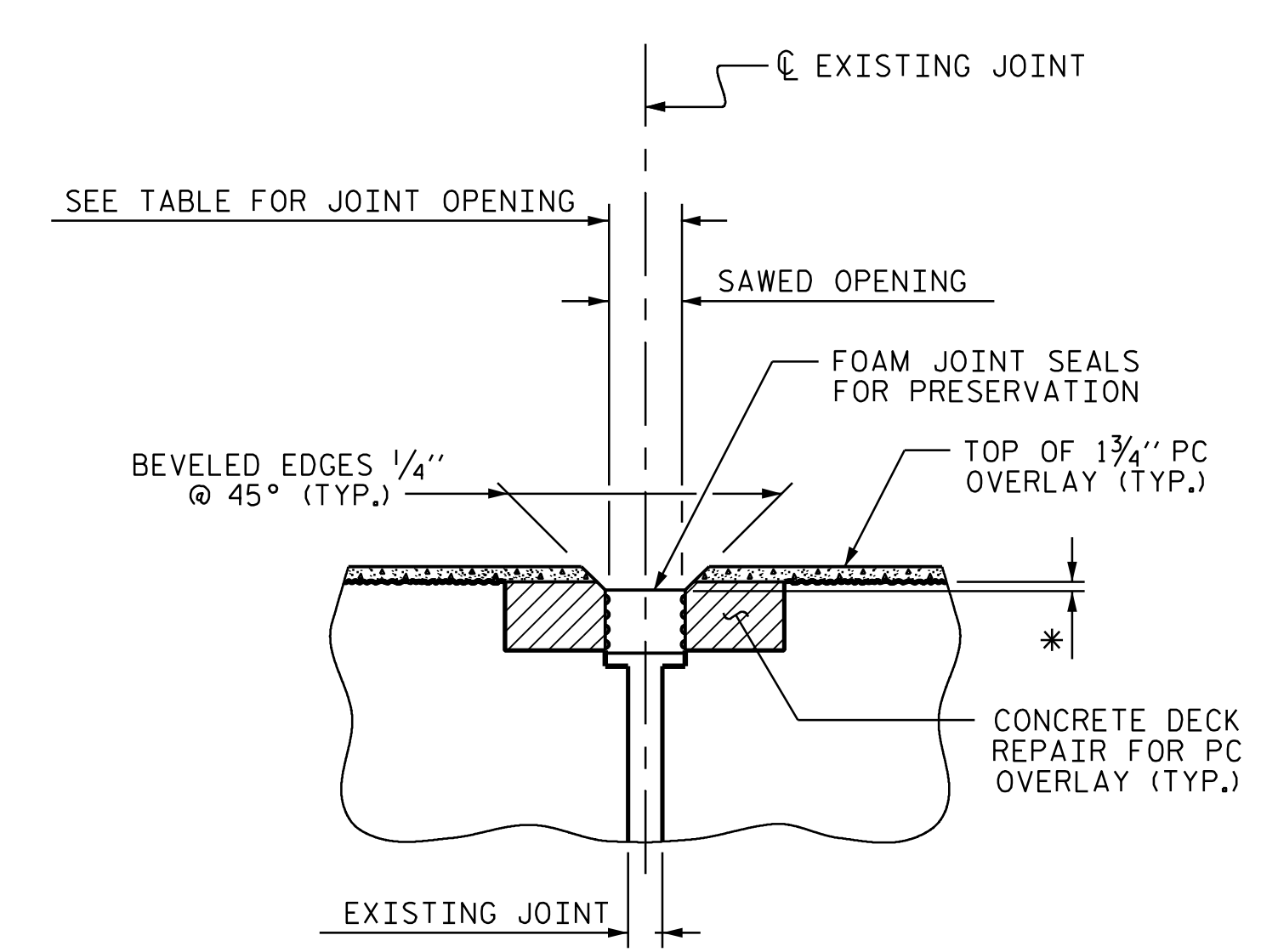
FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF REPAIR CONCRETE.



PLAN



SECTION X-X



DETAIL A  
(PROPOSED)

**JOINT SEAL DETAILS @ BENT**

FOAM JOINT SEAL TO BE CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF THE SIDEWALK.

\* FOAM JOINT SEAL SHALL BE RECESSED AS PER MANUFACTURER'S RECOMMENDATIONS.



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POLK COUNTY  
 BRIDGE NO: 740048

SHEET 1 OF 2

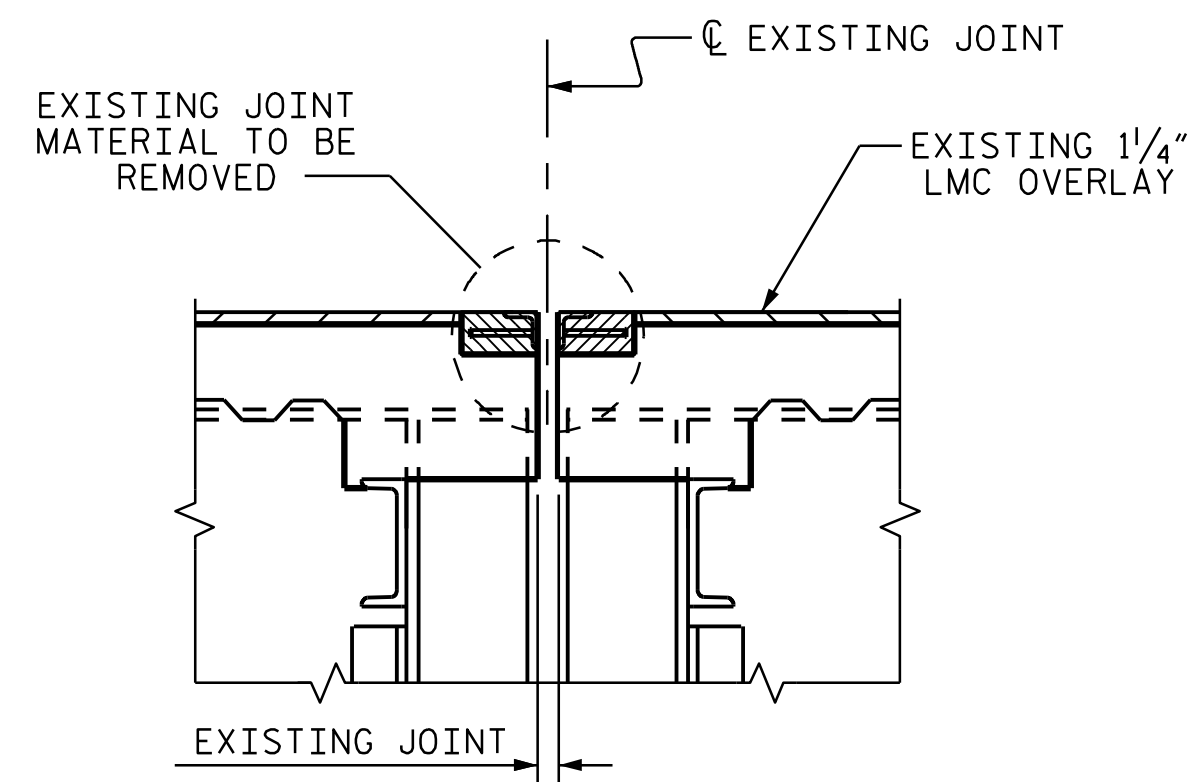
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 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**JOINT REPAIR  
 DETAILS**

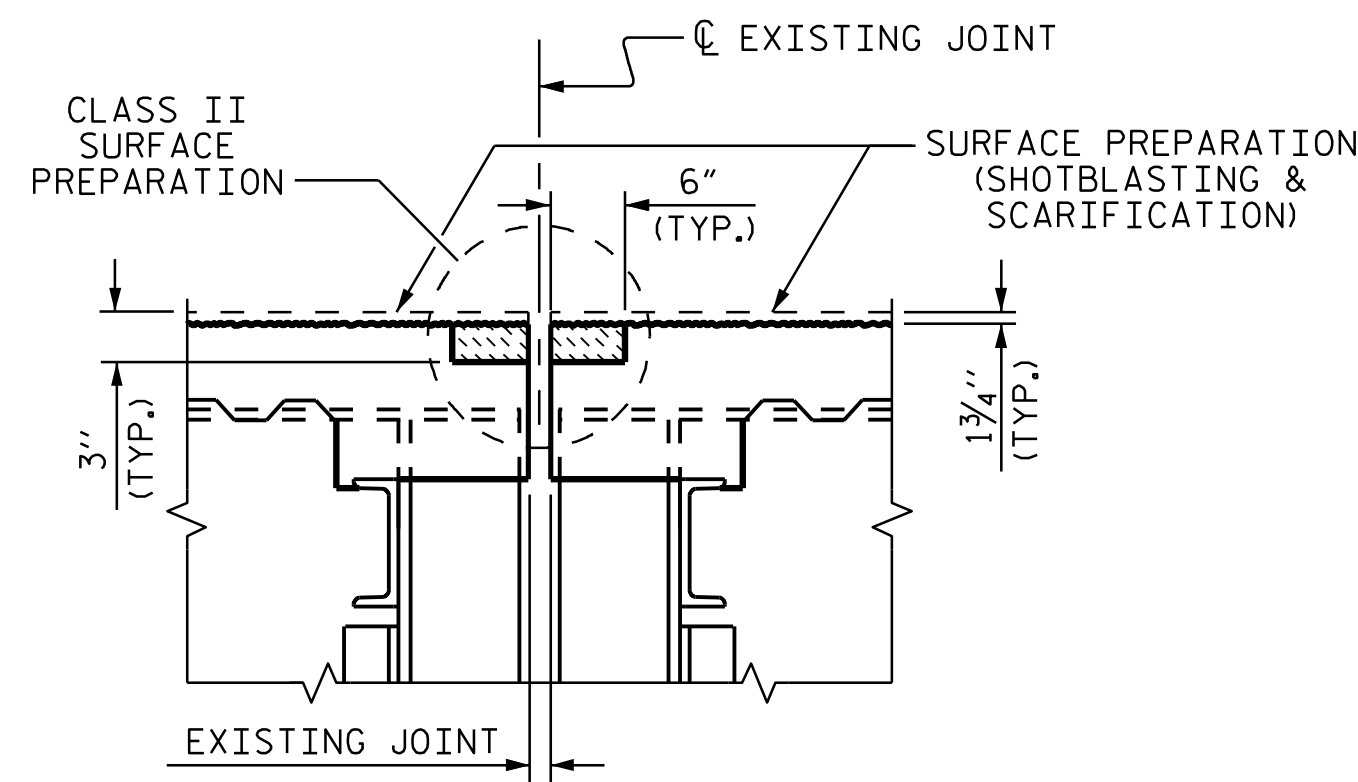
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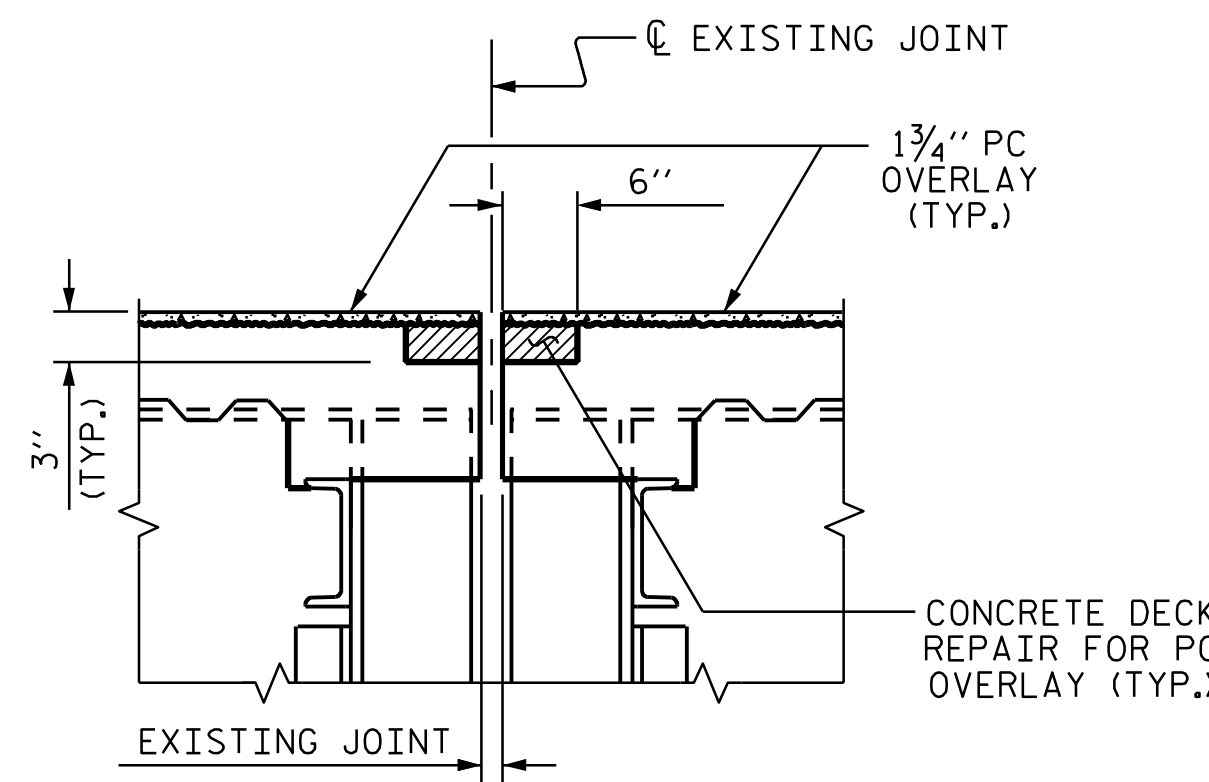




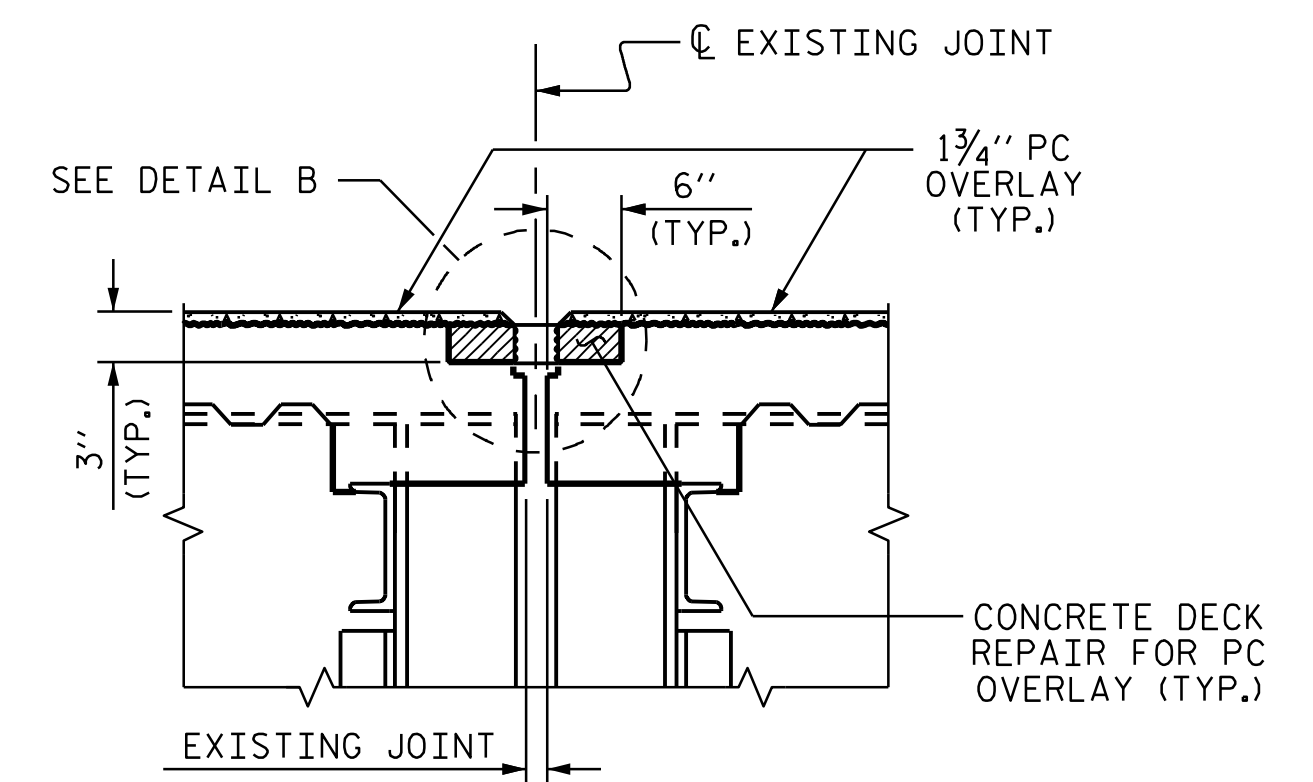
EXISTING JOINT



PROPOSED JOINT PREPARATION  
(MINIMUM EXISTING JOINT DEMOLITION)

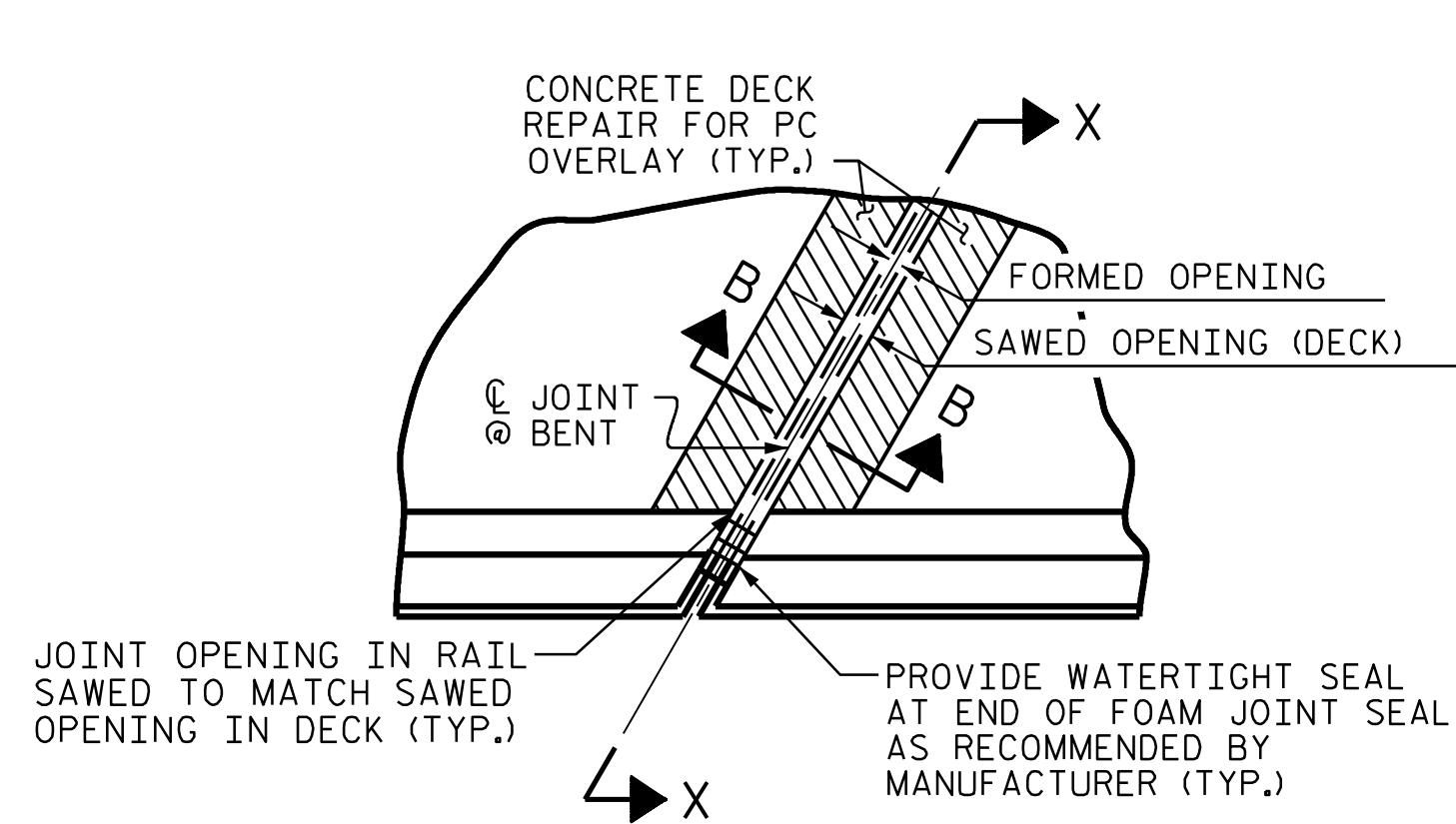


PROPOSED JOINT PRESAWED



PROPOSED FOAM JOINT

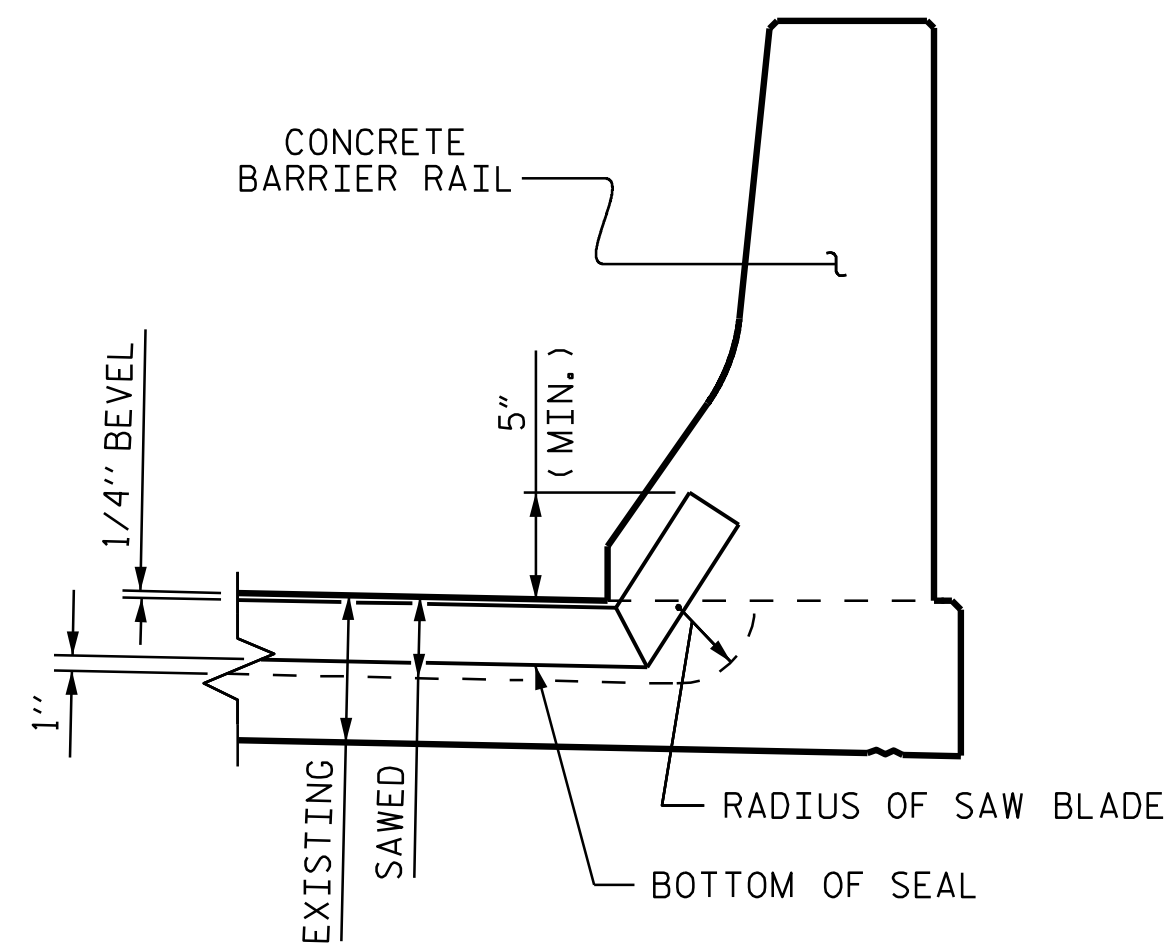
JOINT INSTALLATION SEQUENCE AT BENTS (SECTION B-B)



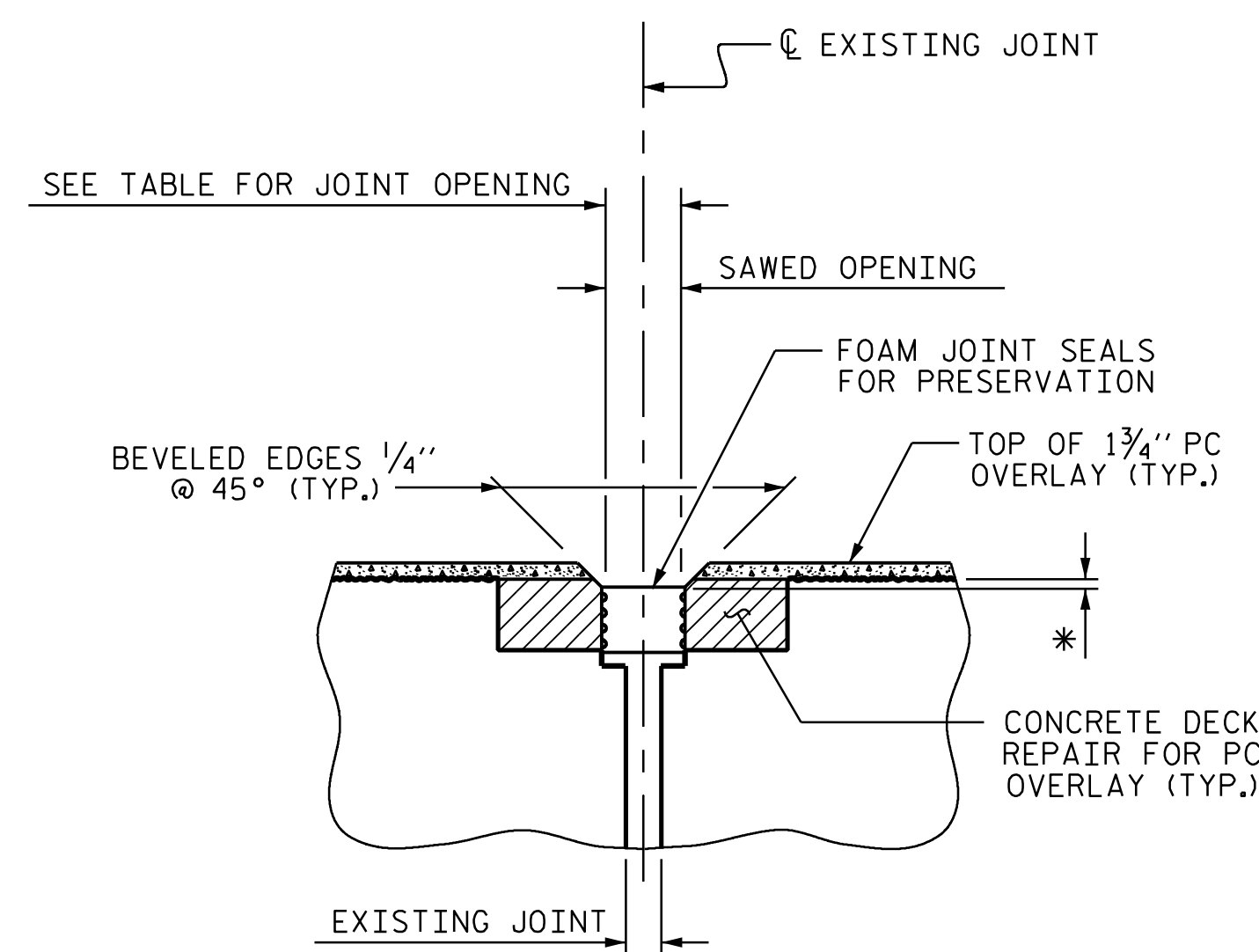
PLAN

JOINT SEAL DETAILS @ BENT

FOAM JOINT SEAL TO BE CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF THE SIDEWALK.



SECTION X-X



DETAIL B  
(PROPOSED)

\* FOAM JOINT SEALS FOR PRESERVATION SHALL BE RECESSED AS PER MANUFACTURER'S RECOMMENDATIONS.

JOINT REPAIR QUANTITY		
	ESTIMATED (LIN. FT.)	ACTUAL (LIN. FT.)
FOAM JOINT SEALS FOR PRESERVATION	393.8	

SAWED JOINT OPENING TABLE				
LOCATION	SKIEW ANGLE	PERPENDICULAR JOINT OPENING AT 45°	PERPENDICULAR JOINT OPENING AT 60°	PERPENDICULAR JOINT OPENING AT 90°
* END BENT 1	129°28'04.3"	2 11/16"	2 11/16"	2 11/16"
BENT 1	131°07'58"	1 5/8"	1 9/16"	1 7/16"
BENT 2	132°04'57"	1 5/8"	1 9/16"	1 1/2"
BENT 3	133°02'17"	1 5/8"	1 9/16"	1 1/2"
BENT 4	133°59'50"	1 5/8"	1 9/16"	1 1/2"
BENT 5	135°22'29"	1 5/8"	1 9/16"	1 3/8"
* END BENT 2	136°11'22.9"	2 11/16"	2 11/16"	2 11/16"

\* EXISTING FORMED JOINTS AT END BENTS ARE ANTICIPATED TO BE 1 3/4" AT 60 DEGREES. FIELD VERIFY AND PROVIDE NOMINAL UNCOMPRESSED SEAL WIDTH BASED ON JOINT OPENINGS.

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO: 740048

SHEET 2 OF 2



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JOINT REPAIR DETAILS

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### NOTES

FOR BEAM PLATE REPAIRS, SEE "BEAM REPAIR PLATING DETAILS" SHEET.

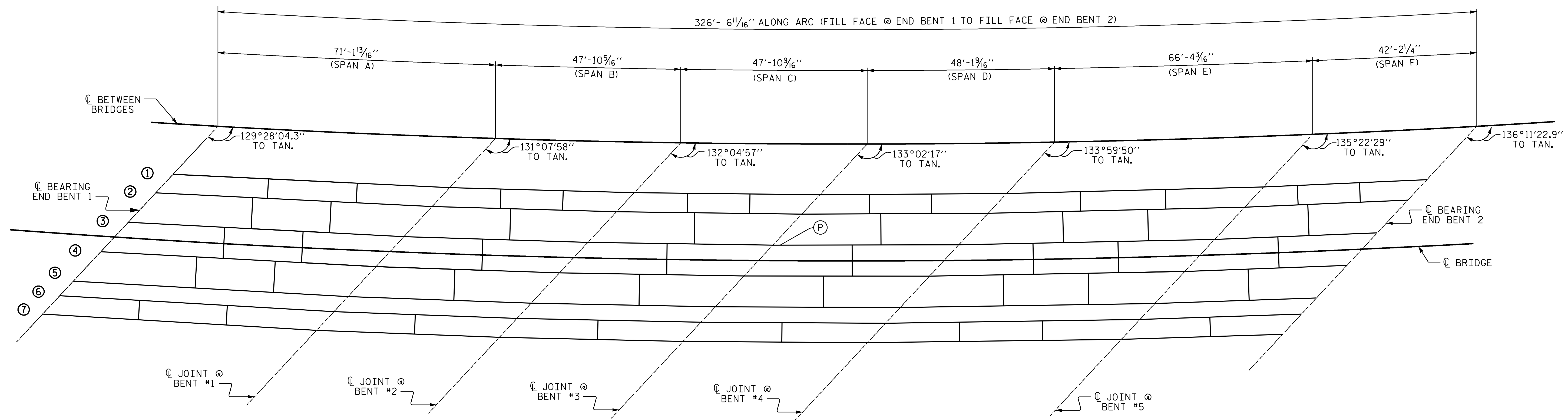
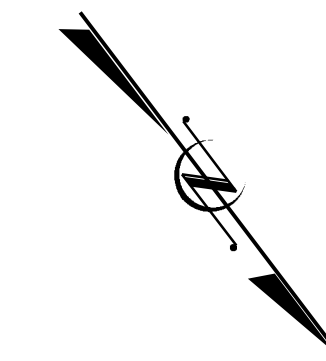
FOR BEAM CUT-OUT REPAIRS, SEE "BEAM REPAIR CUT-OUT DETAILS" SHEET.

THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENTS OF REPAIR AREAS PRIOR TO STEEL FABRICATION. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE QUANTITIES ON INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL ENSURE THAT EXISTING UTILITIES ADJACENT TO THE BRIDGE ARE NOT DAMAGED DURING REPAIR OPERATIONS.

REPLACEMENT OF MISSING OR DETERIORATED NUTS IS INCIDENTAL TO THE COST FOR VARIOUS BEAM REPAIR PAY ITEMS.

- ① BEAM NUMBER
- Ⓑ BEAM REPAIR CUT-OUT
- Ⓟ BEAM REPAIR PLATING
- ⓕ FLANGE PLATE REPAIR
- Ⓢ STIFFENER REPAIR
- Ⓝ REPLACE ANCHOR BOLT NUT



### GIRDER REPAIR LOCATIONS

(OTHER LOCATIONS MAY EXIST, SEE NOTES)

ANTICIPATED BEAM REPAIR LOCATIONS							
SPAN	BEAM	TYPE	LOCATION	DIM 'A'	DIM 'B'	DIM 'C'	DIM 'D'
* D	3	P	BENT 3	10"	8"		

\* BEAM PLATE REPAIR IS LOCATED AT TOP OF WEB 18" FROM END OF BEAM

BEAM REPAIR							
BEAM REPAIR CUT-OUT		BEAM REPAIR PLATING		STIFFENER REPAIR		DIAPHRAGM REPAIR	
LBS.		LBS.		LBS.		LBS.	
ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
		32					

PROJECT NO. I-5927  
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 BRIDGE NO. 740048



STATE OF NORTH CAROLINA  
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## BEAM REPAIR LOCATIONS

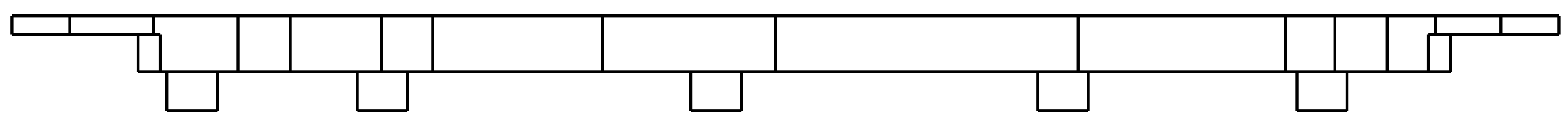
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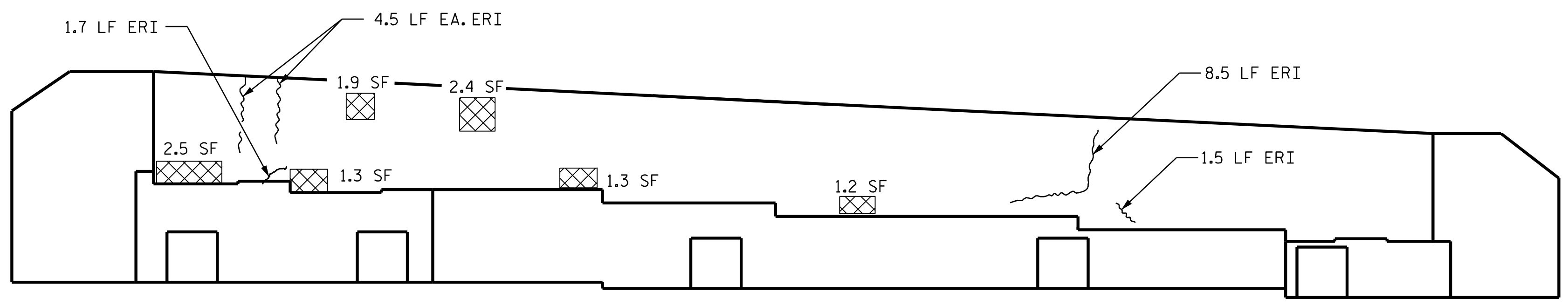
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TOP OF CAP @ END BENT 1

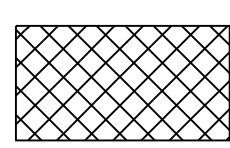
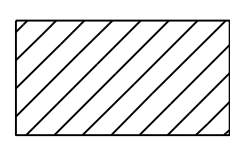



ELEVATION @ END BENT 1 (SPAN A)

**AS-BUILT REPAIR QUANTITY TABLE**

REPAIRS END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
<b>SHOTCRETE REPAIRS</b>	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	10.6	5.3		
<b>CONCRETE REPAIRS</b>	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
<b>EPOXY RESIN INJECTION</b>		LN. FT.		LN. FT.
CAP		20.7		
<b>EPOXY COATING</b>		SQ. FT.		SQ. FT.
TOP OF BENT CAP		100.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.

 SHOTCRETE REPAIR  
 CONCRETE REPAIR  
 EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740048



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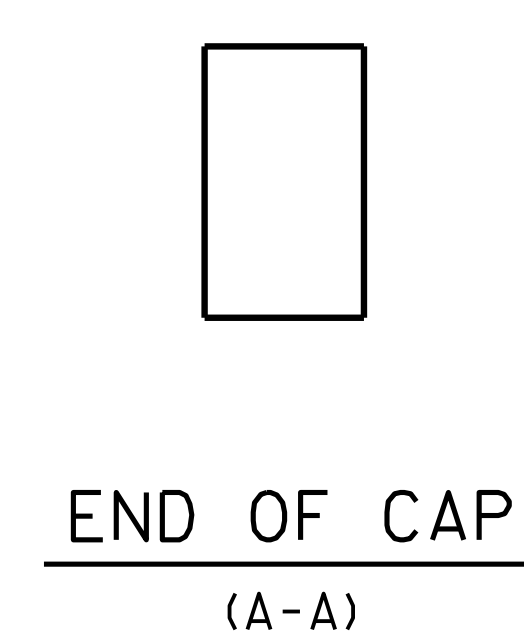
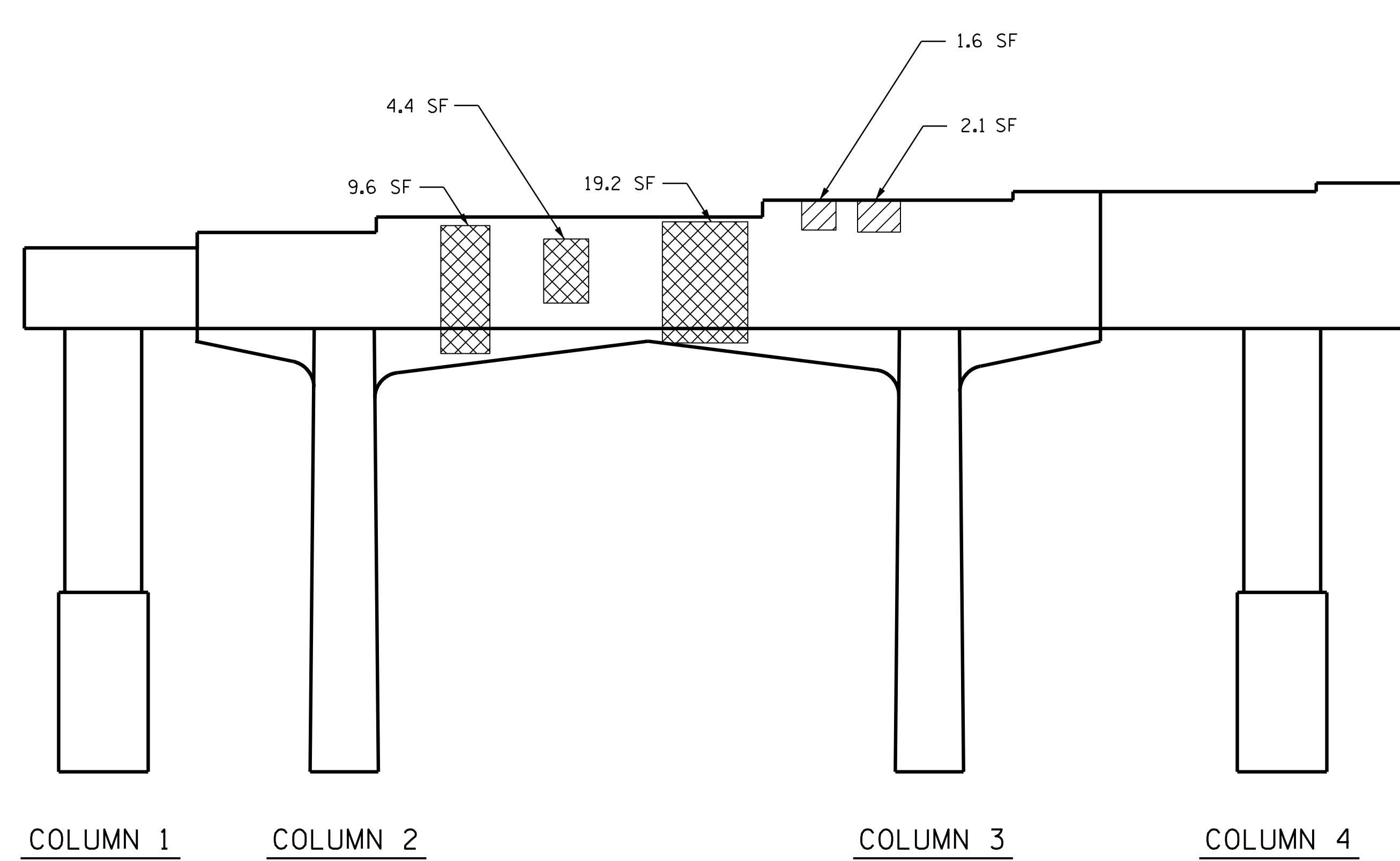
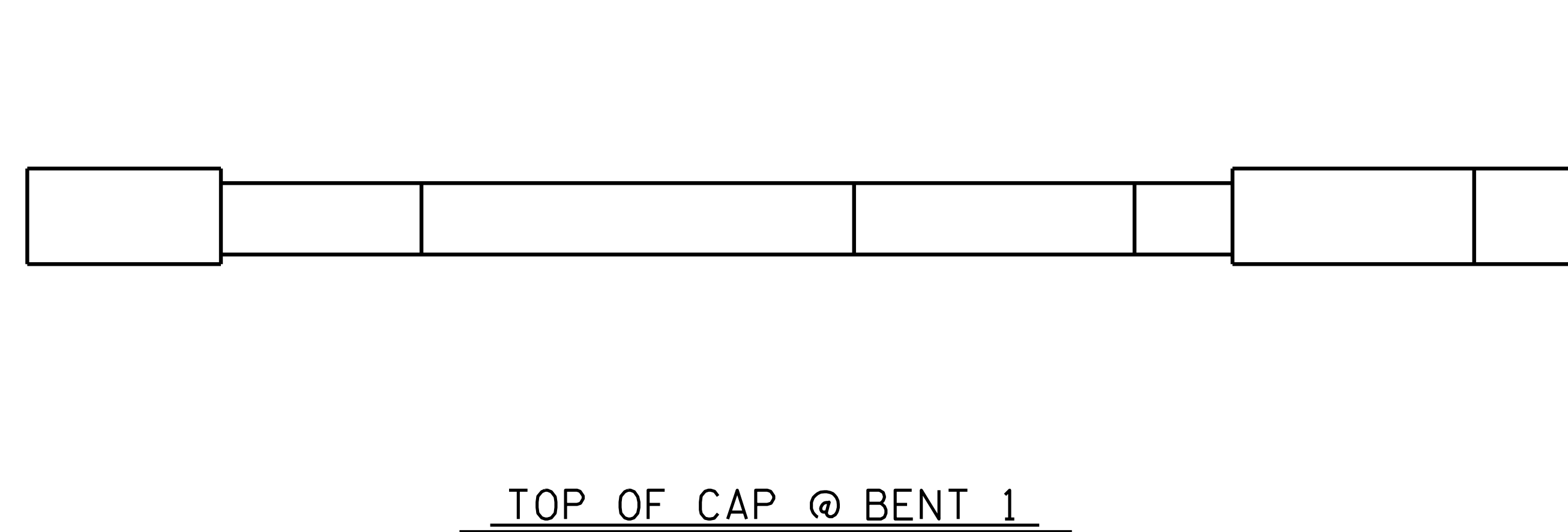
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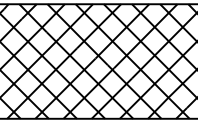
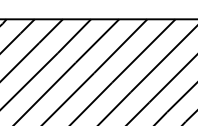
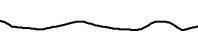
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-  SHOTCRETE REPAIR
-  CONCRETE REPAIR
-  EPOXY RESIN INJECTION (ERI)

ELEVATION @ BENT 1 (SPAN A)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740048

SHEET 1 OF 2

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**BENT 1  
 (SPAN A)**



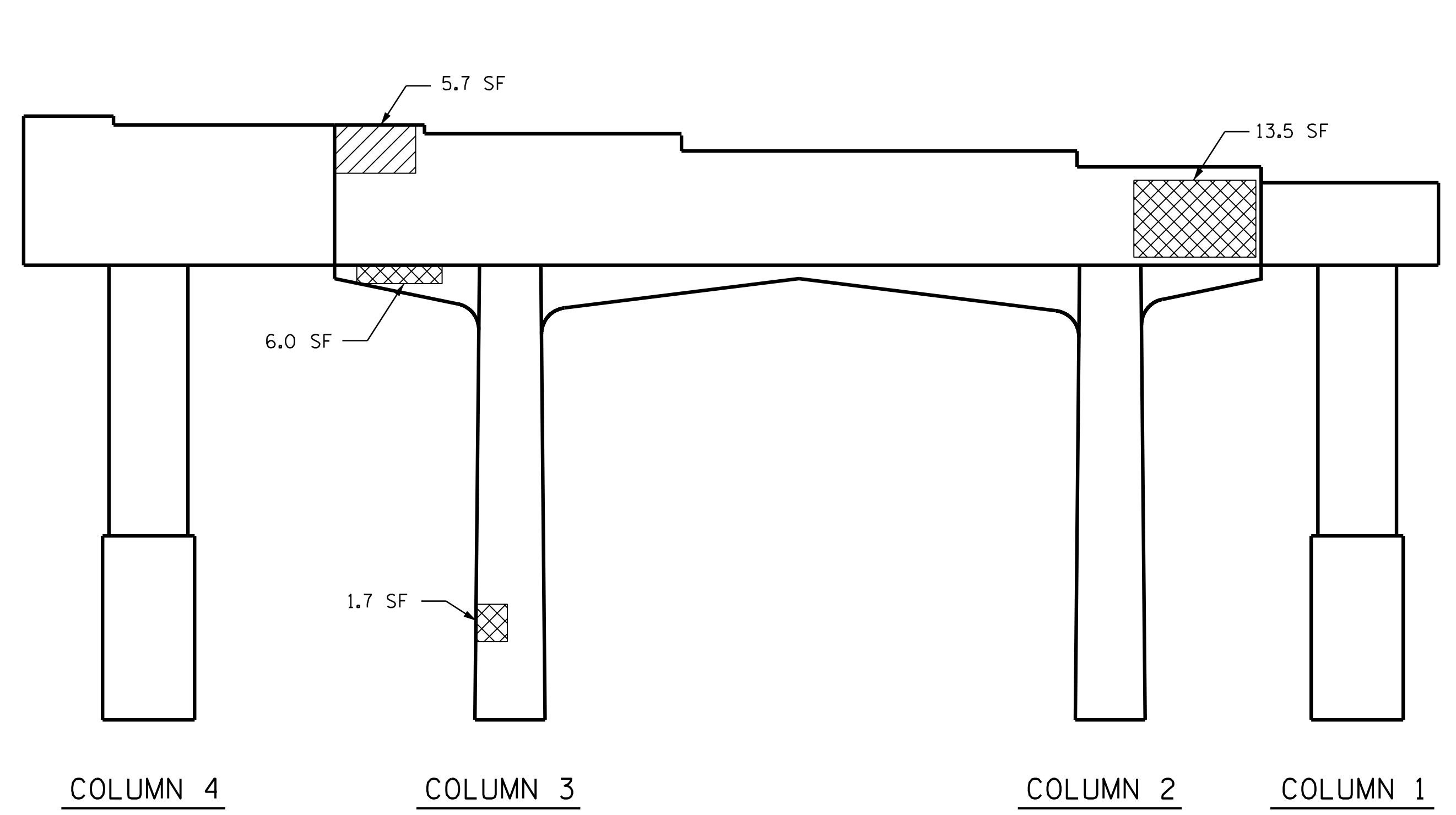
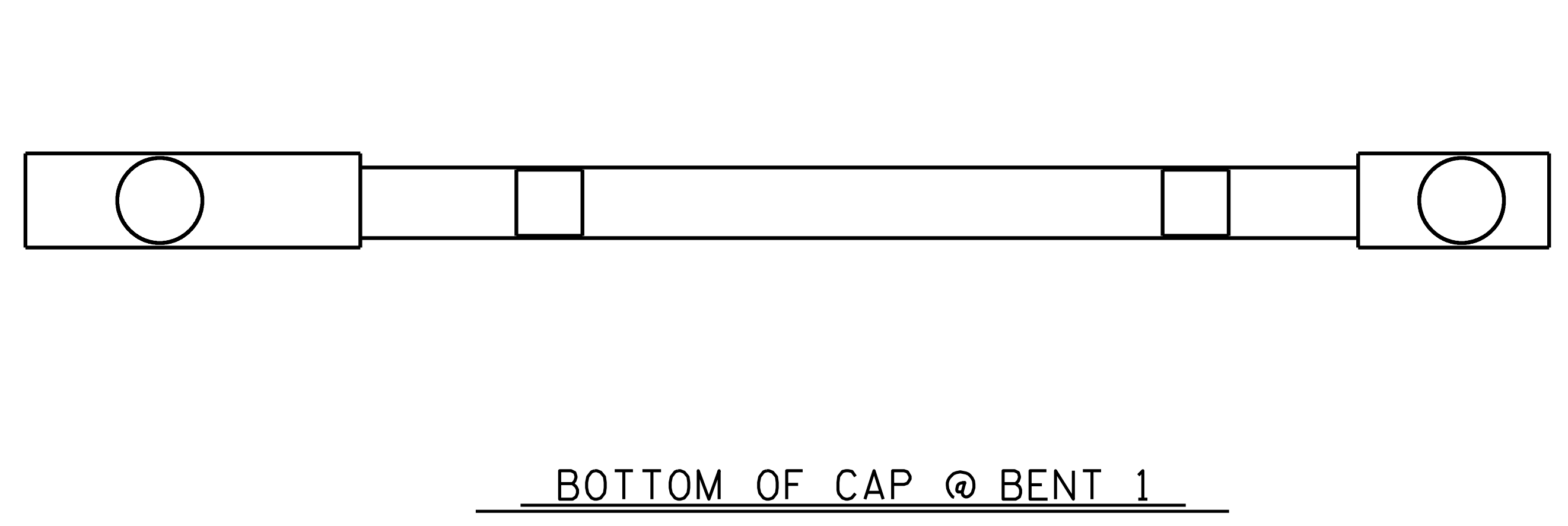
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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			79
2			4			

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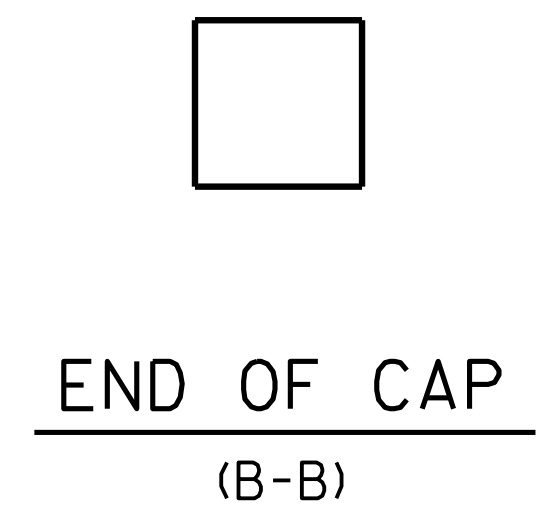


SPAN A

SPAN B

B ←

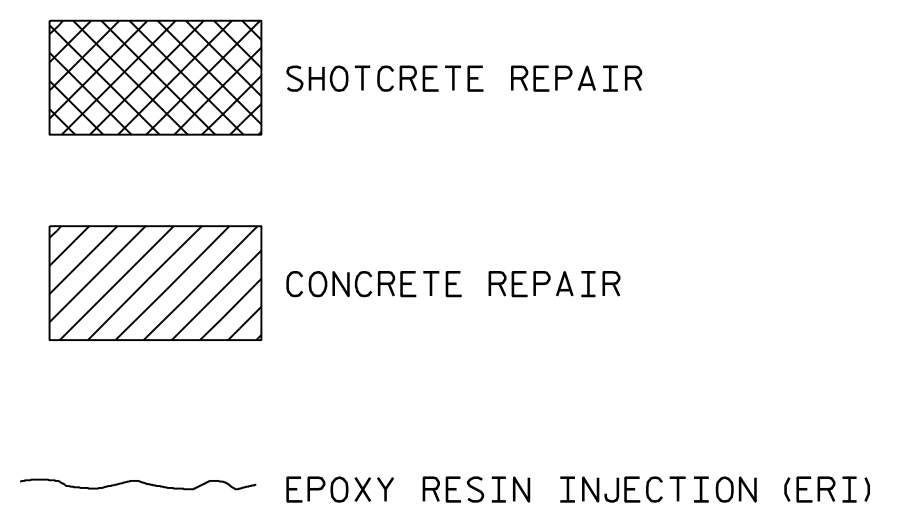
B ←



### AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	46.7	23.4		
COLUMN	7.7	3.9		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	9.4	4.7		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT.		LN. FT.	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP	182.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.



PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740048

SHEET 2 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

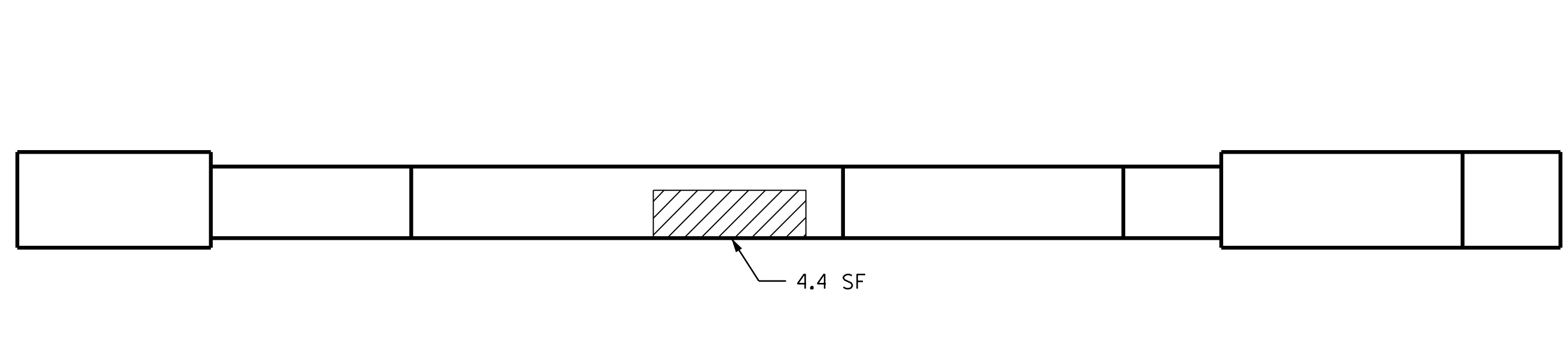
## BENT 1 (SPAN B)

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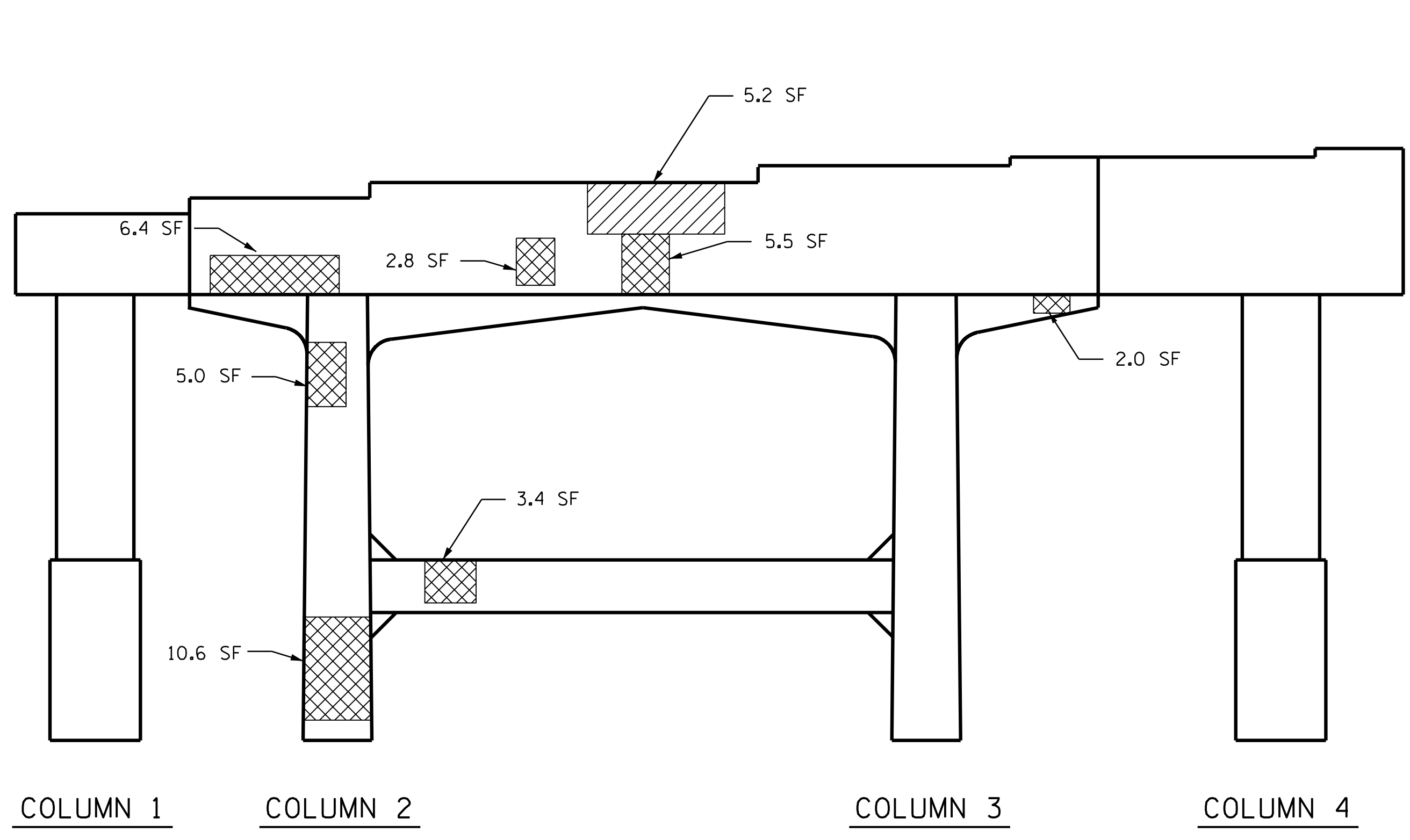
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-43
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2			4			79

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 CHECKED BY : E. MURRAY DATE : 12/22

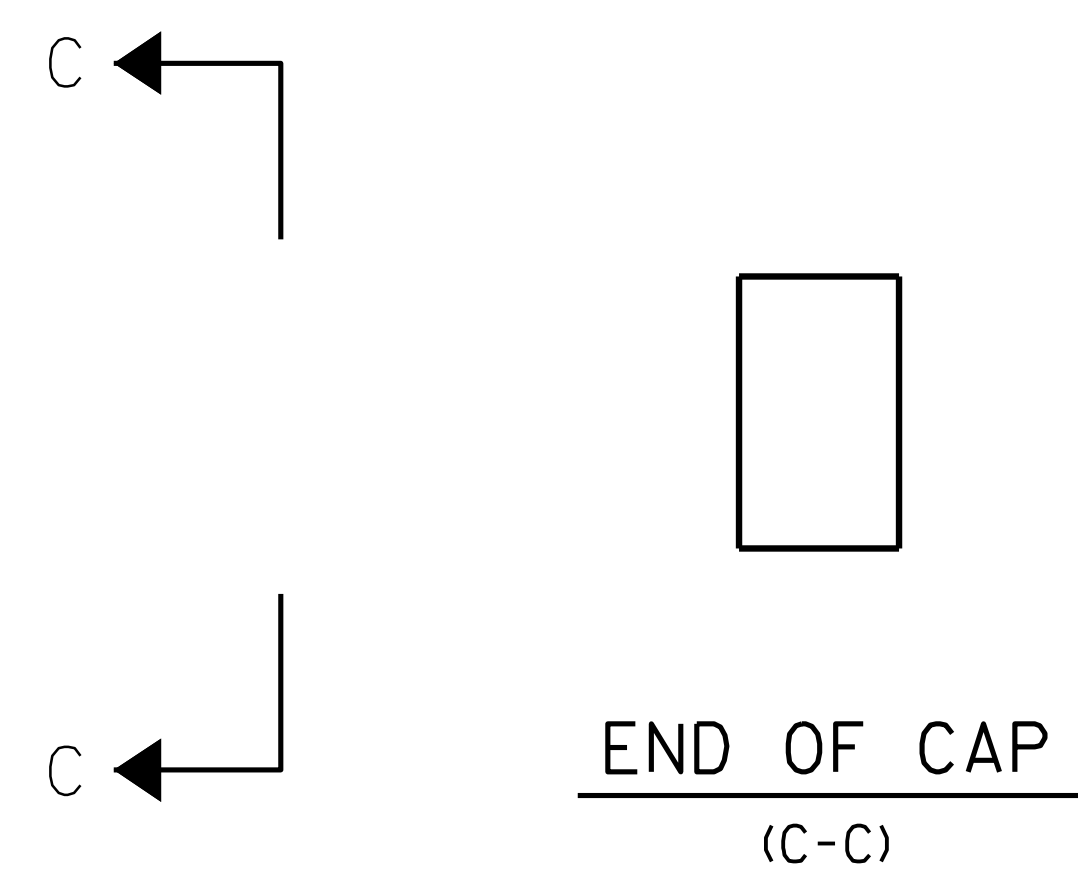


TOP OF CAP @ BENT 2



ELEVATION @ BENT 2 (SPAN B)

SPAN C  
SPAN B



- SHOTCRETE REPAIR
- CONCRETE REPAIR
- EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740048

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BENT 2  
 (SPAN B)



VOLKERT

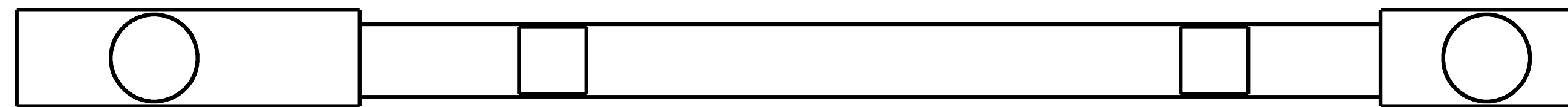
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-44
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2			4			79

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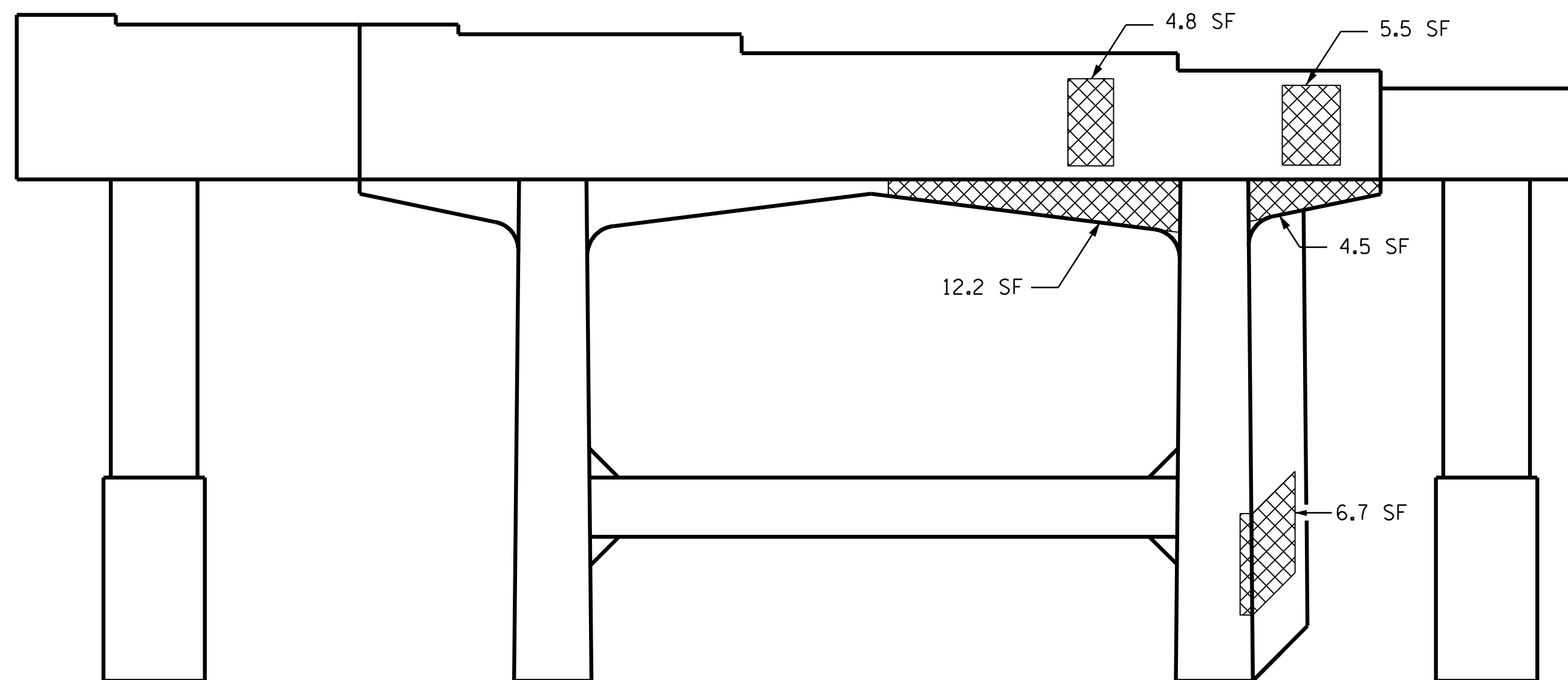




SPAN B

SPAN C

BOTTOM OF CAP @ BENT 2



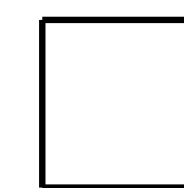
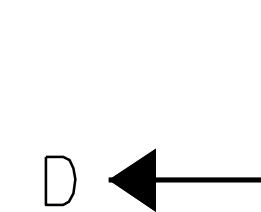
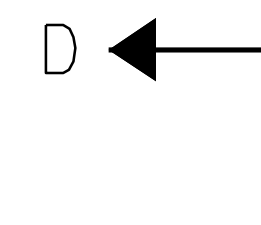
COLUMN 4

COLUMN 3

COLUMN 2

COLUMN 1

ELEVATION @ BENT 2 (SPAN C)

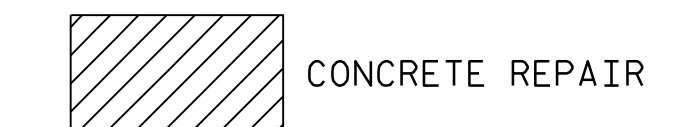


END OF CAP  
(D-D)

**AS-BUILT REPAIR QUANTITY TABLE**

REPAIRS BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	25.0	12.5		
COLUMN	44.4	22.2		
<b>CONCRETE REPAIRS</b>				
CAP	9.6	4.8		
COLUMN	0.0	0.0		
<b>EPOXY RESIN INJECTION</b>				
CAP		LN. FT.	LN. FT.	
COLUMN		0.0		
<b>EPOXY COATING</b>				
TOP OF BENT CAP		SO. FT.	SO. FT.	
		184.1		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.

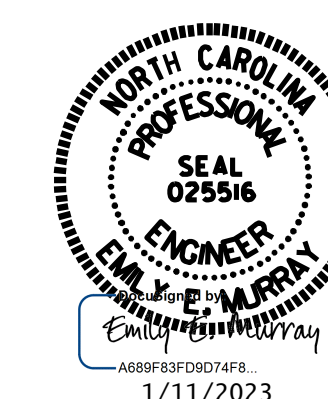


PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740048

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
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**BENT 2**  
**(SPAN C)**

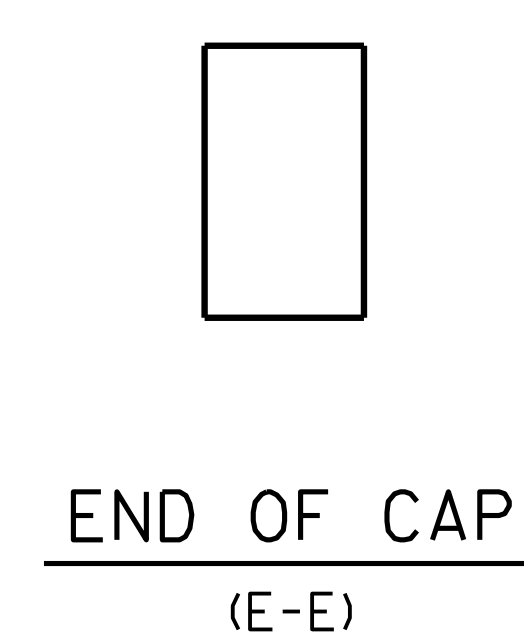
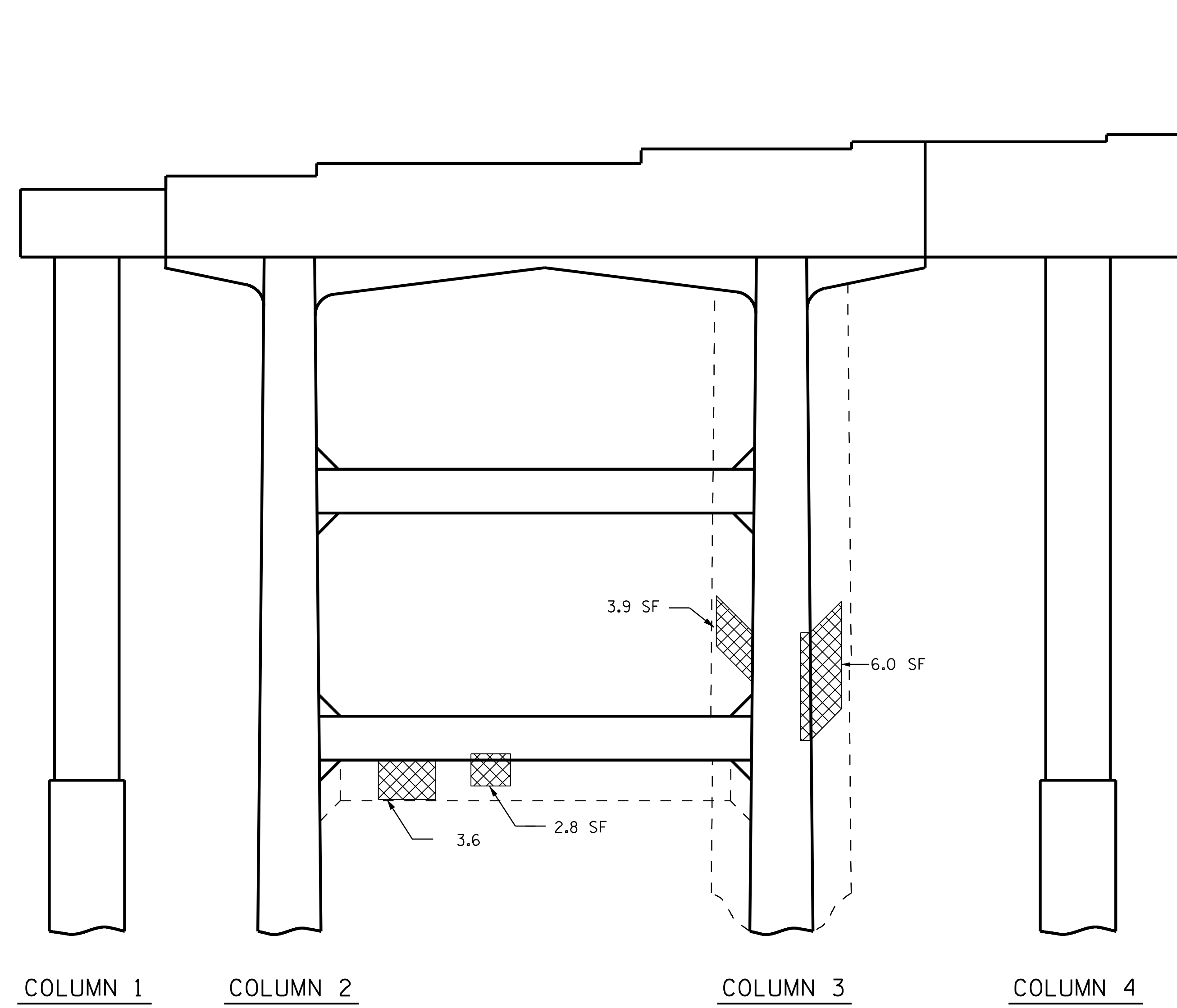
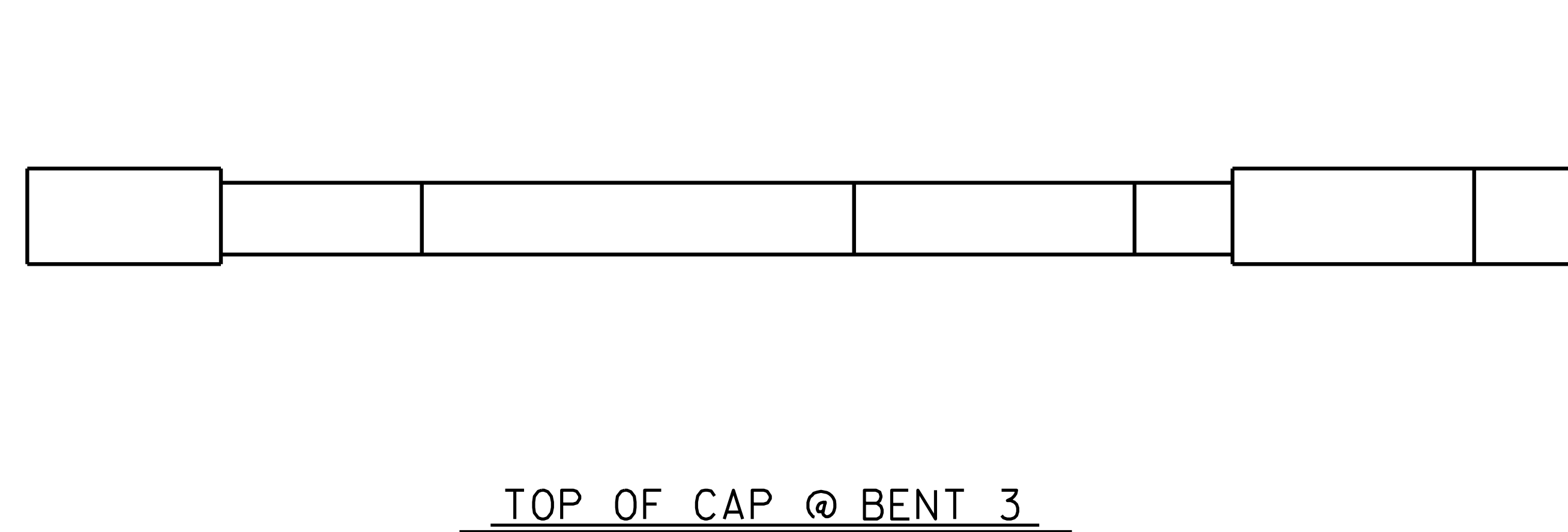


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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-45
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2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22



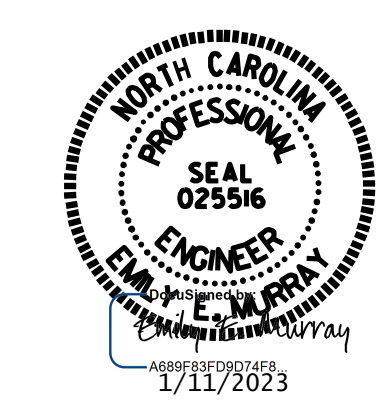
- SHOTCRETE REPAIR
- CONCRETE REPAIR
- EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740048

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
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BENT 3  
 (SPAN C)



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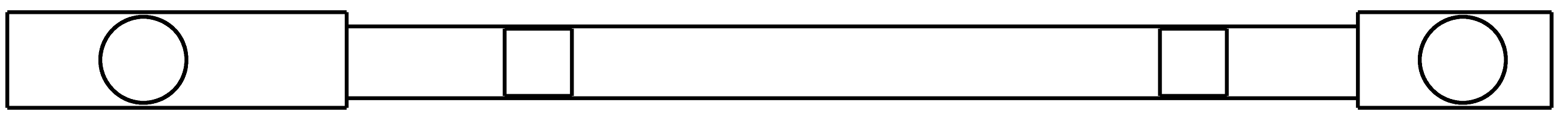
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-46
1			3			TOTAL SHEETS
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22

ELEVATION @ BENT 3 (SPAN C)

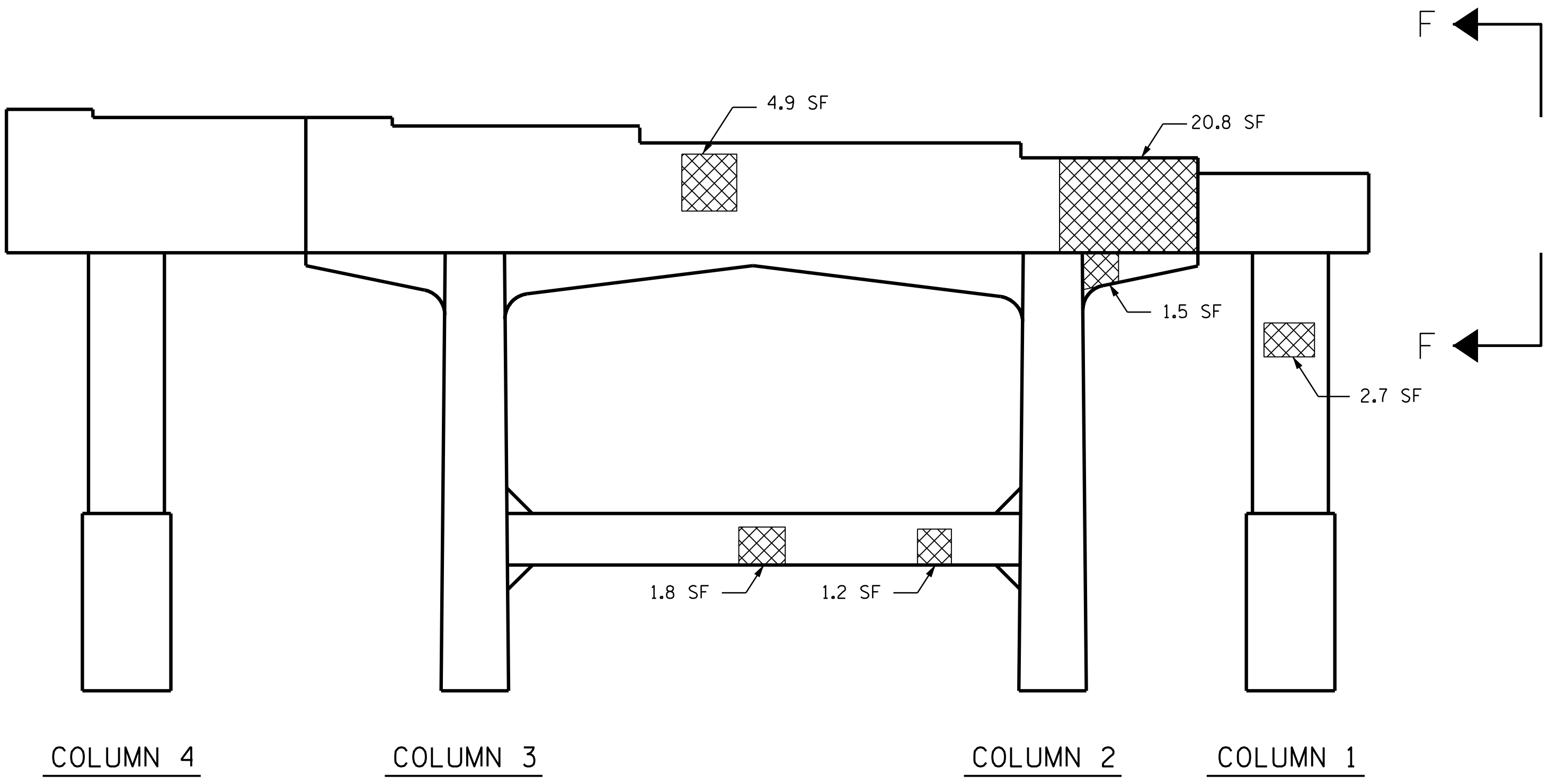




SPAN C

SPAN D

BOTTOM OF CAP @ BENT 3

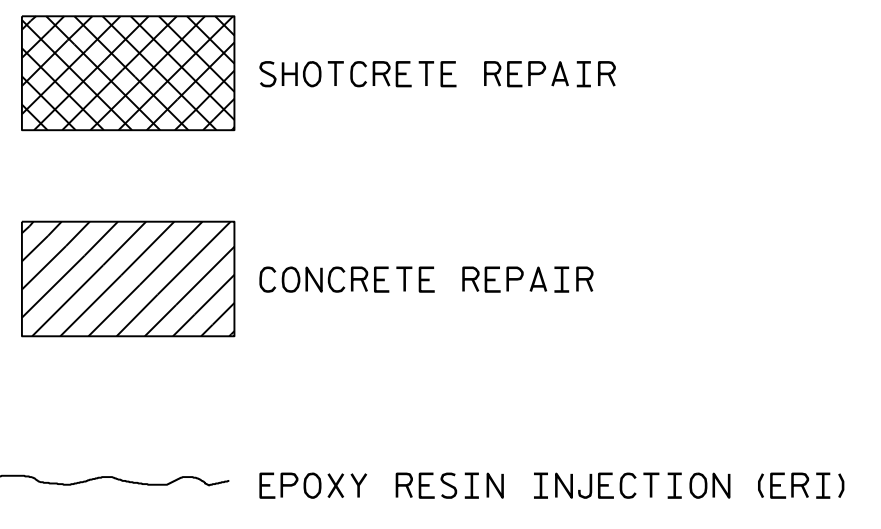


END OF CAP  
(F-F)

**AS-BUILT REPAIR QUANTITY TABLE**

REPAIRS BENT 3	QUANTITIES			
	ESTIMATE		ACTUAL	
<b>SHOTCRETE REPAIRS</b>	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	25.7	12.9		
COLUMN	23.5	11.8		
<b>CONCRETE REPAIRS</b>	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
<b>EPOXY RESIN INJECTION</b>		LN. FT.		LN. FT.
CAP		0.0		
COLUMN		0.0		
<b>EPOXY COATING</b>		SO. FT.		SO. FT.
TOP OF BENT CAP		186.9		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.



ELEVATION @ BENT 3 (SPAN D)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740048

SHEET 2 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

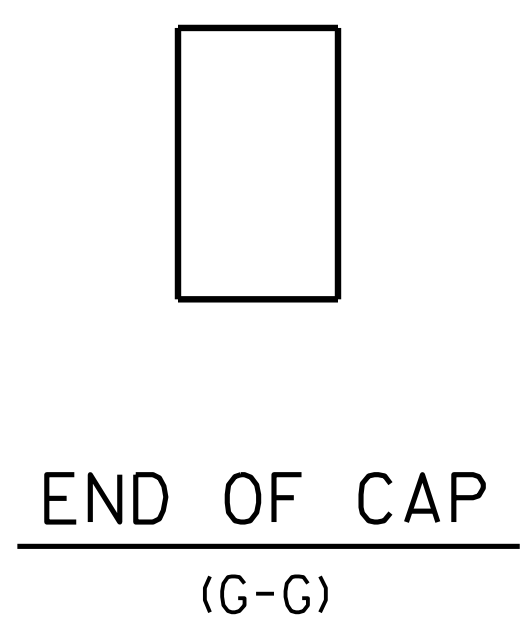
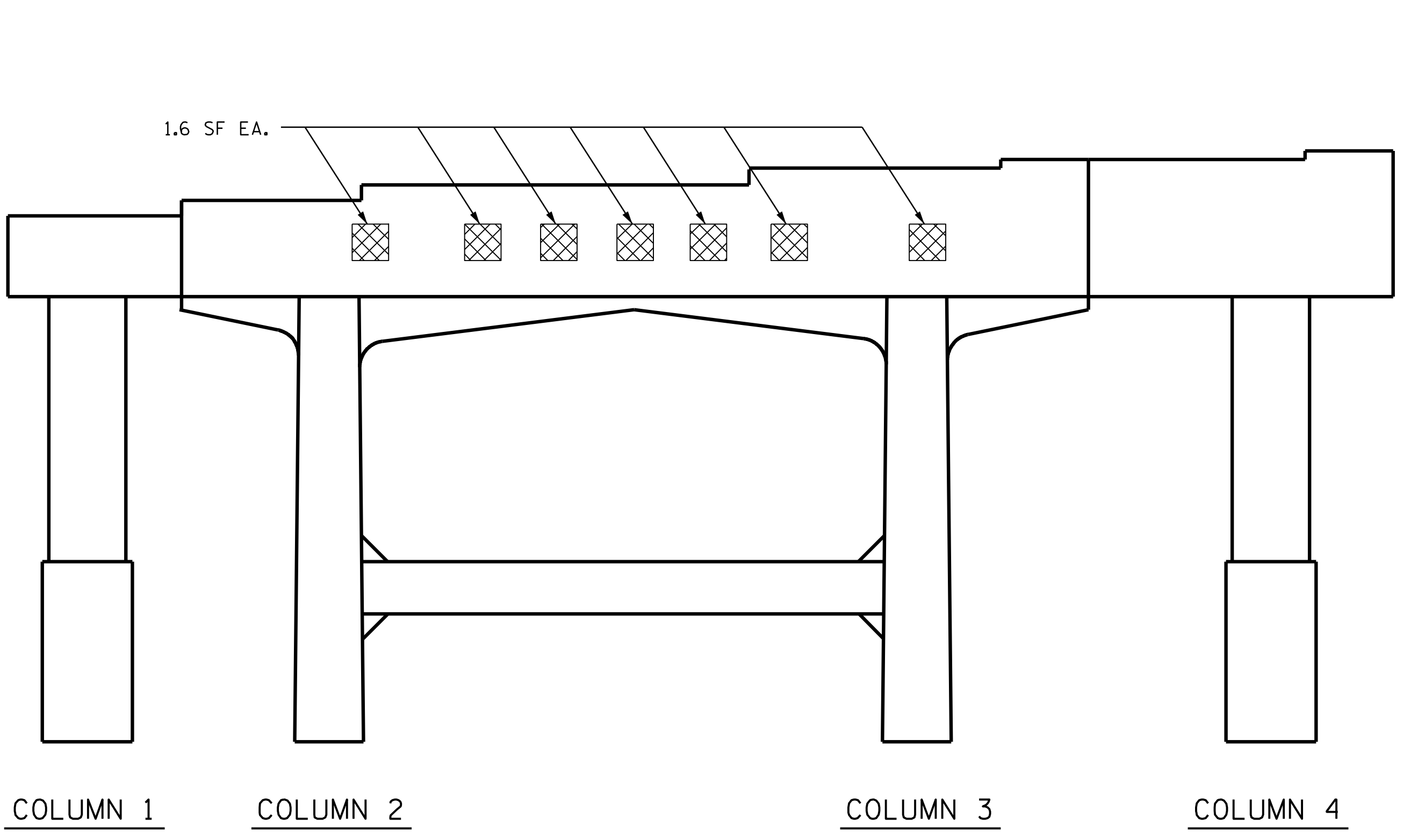
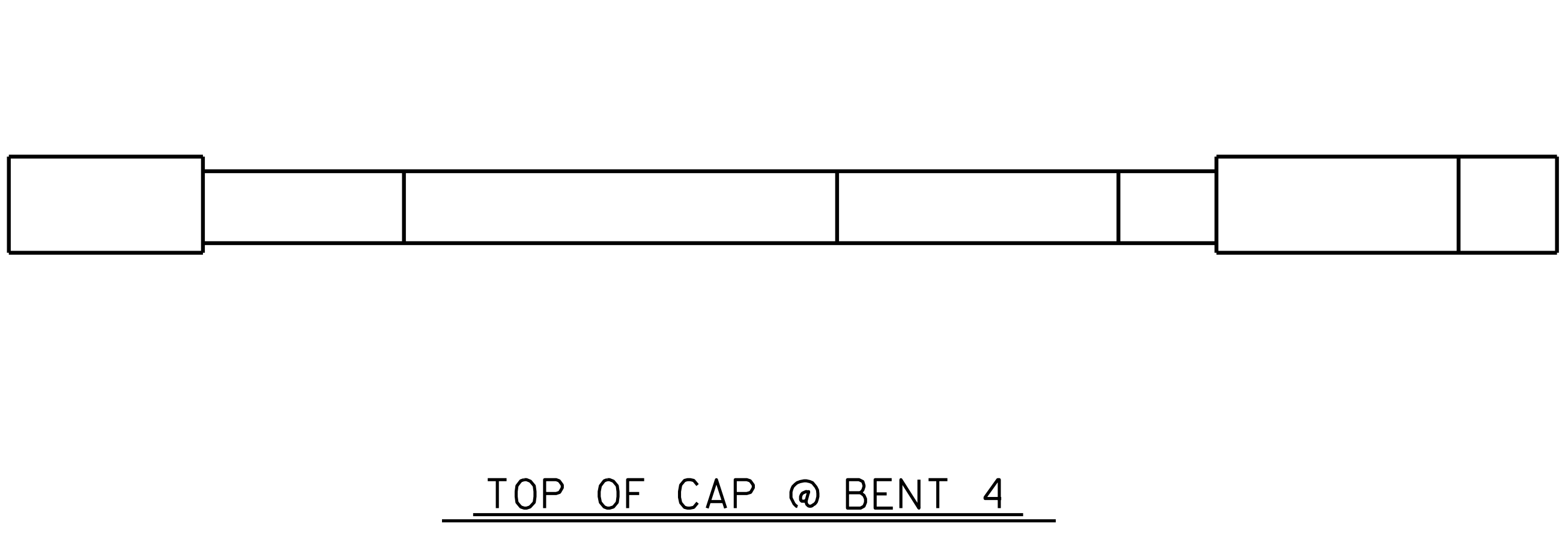
**BENT 3  
 (SPAN D)**

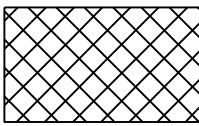
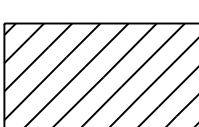
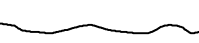
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-47
1			3			TOTAL SHEETS
2			4			79

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-  SHOTCRETE REPAIR
-  CONCRETE REPAIR
-  EPOXY RESIN INJECTION (ERI)

ELEVATION @ BENT 4 (SPAN D)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740048

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 4  
 (SPAN D)**



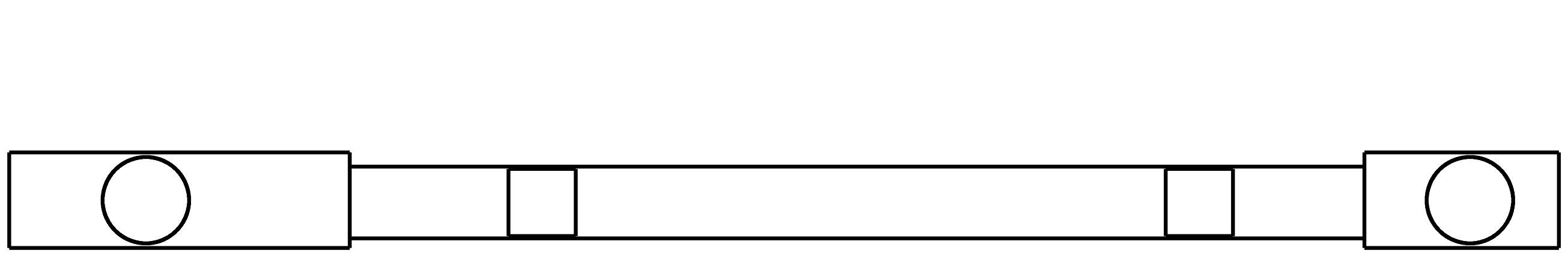
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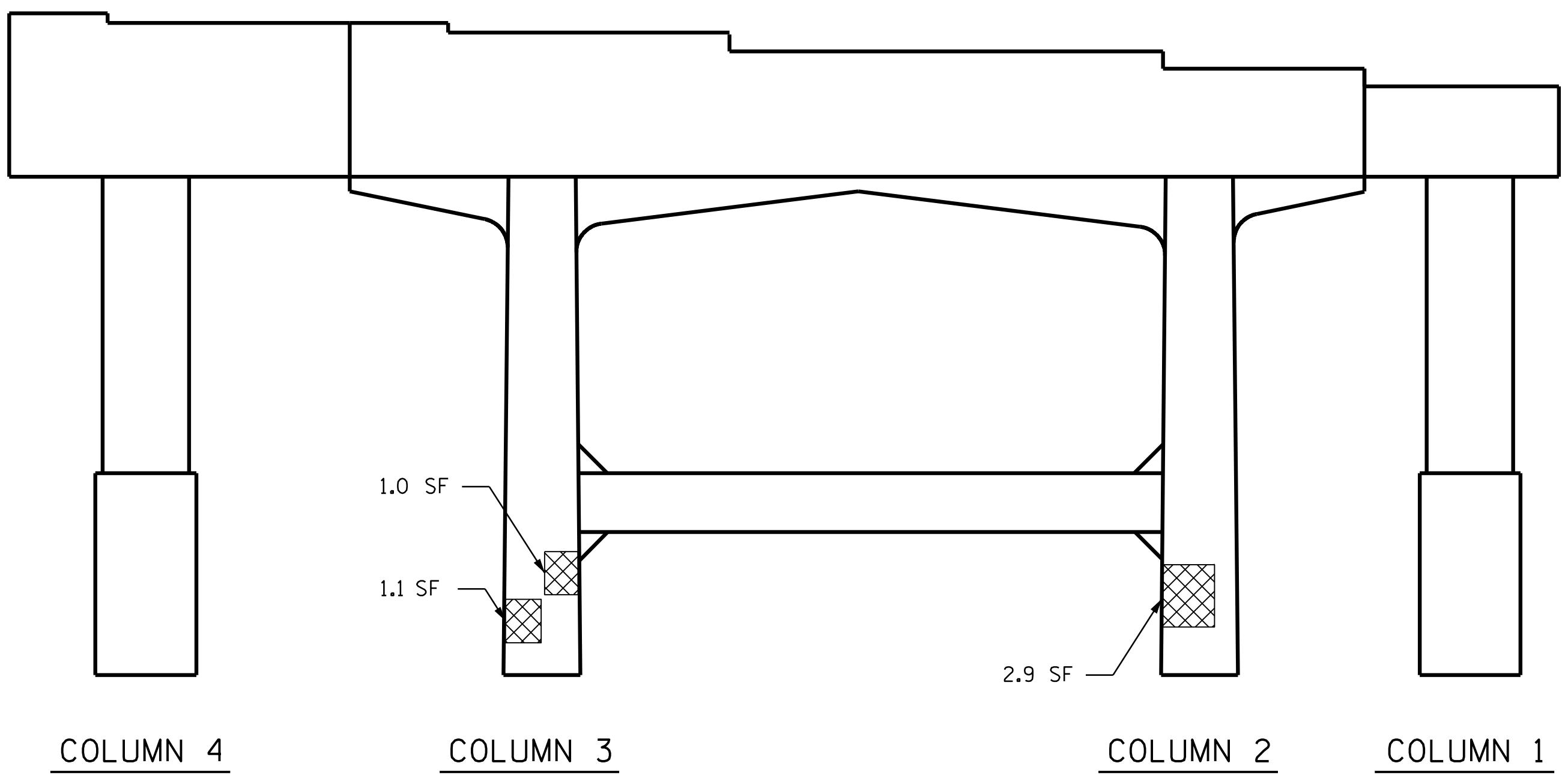
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-48
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2			4			79

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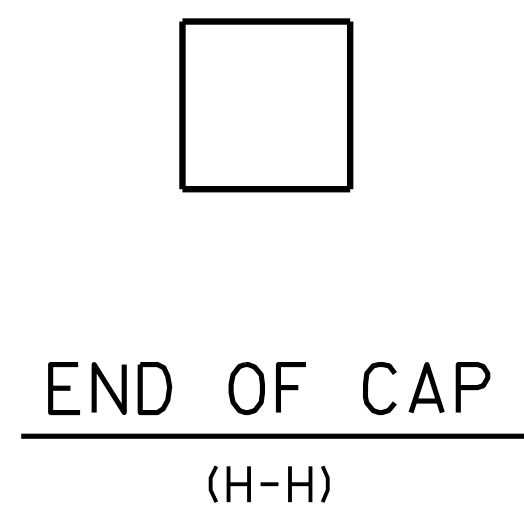




BOTTOM OF CAP @ BENT 4



ELEVATION @ BENT 4 (SPAN E)



AS-BUILT REPAIR QUANTITY TABLE				
REPAIRS BENT 4	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	11.2	5.6		
COLUMN	5.0	2.5		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT.	LN. FT.		
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.	SQ. FT.		
TOP OF BENT CAP	190.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.

- SHOTCRETE REPAIR
- CONCRETE REPAIR
- EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740048

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 4  
 (SPAN E)**

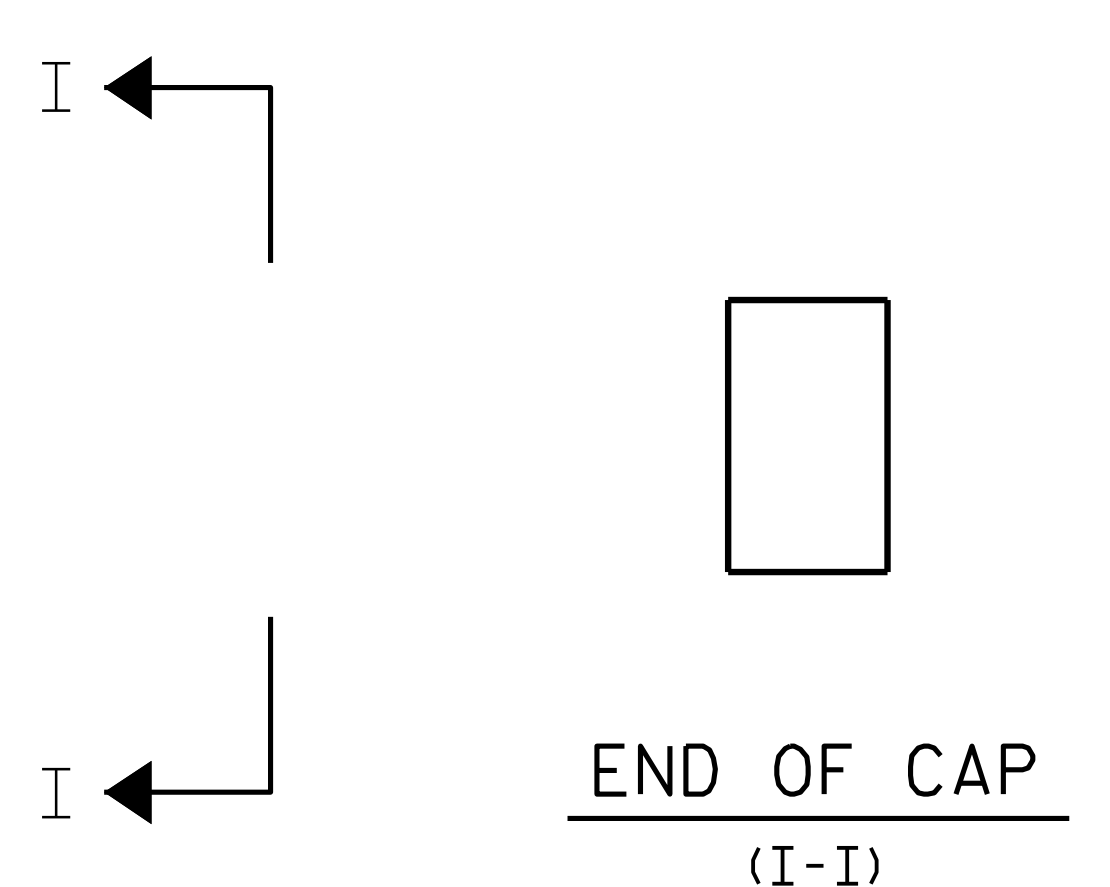
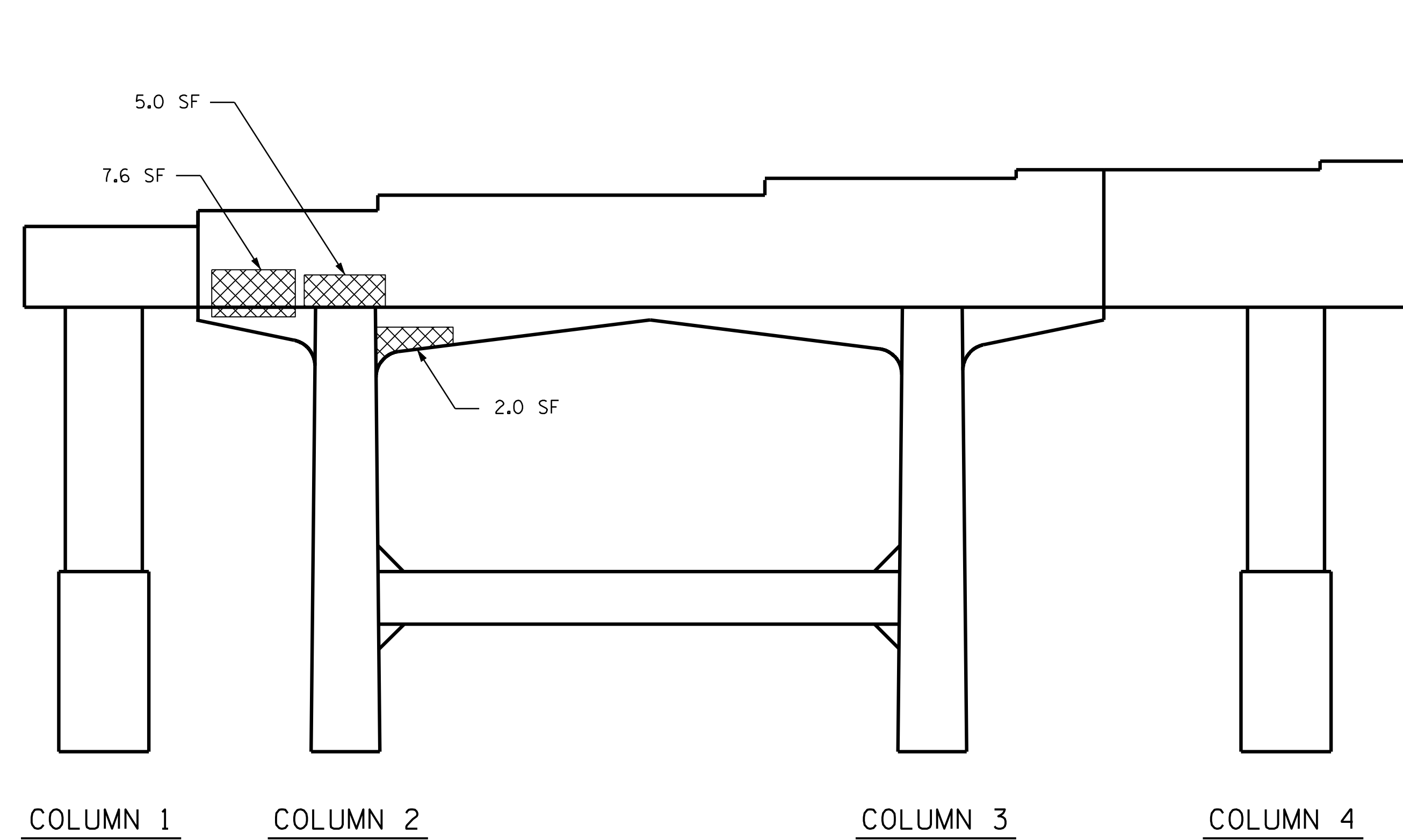
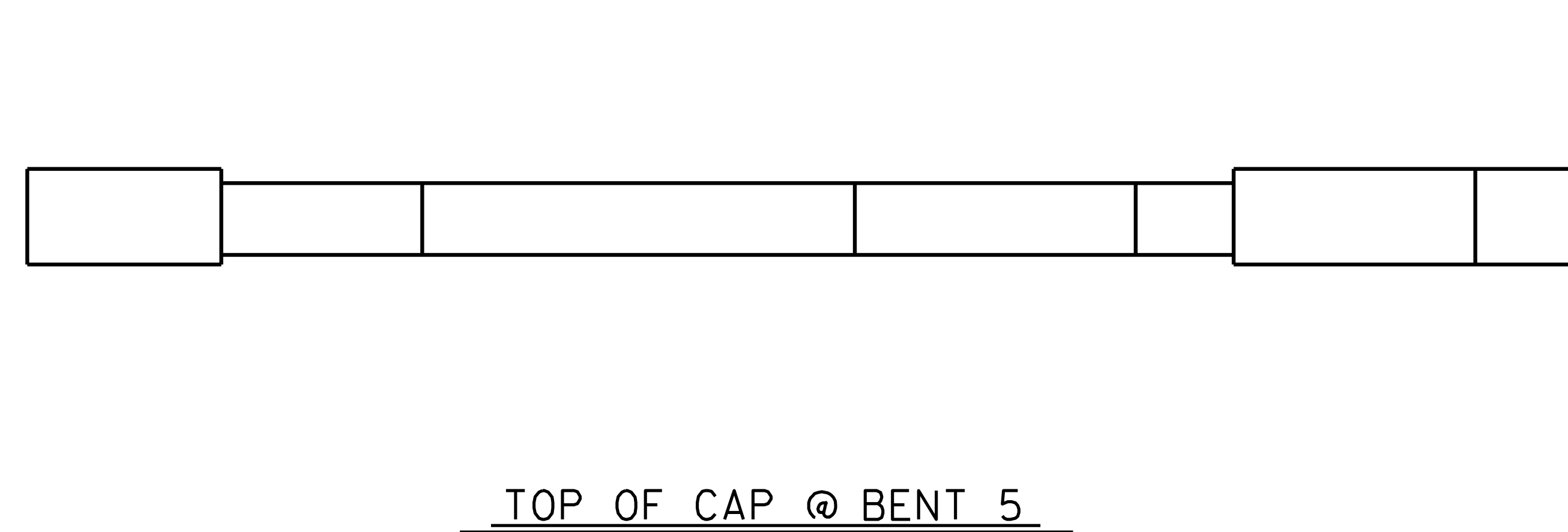


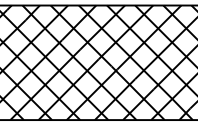
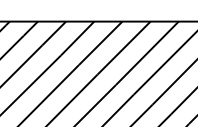

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-49
1			3			TOTAL SHEETS
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22



-  SHOTCRETE REPAIR
-  CONCRETE REPAIR
-  EPOXY RESIN INJECTION (ERI)

ELEVATION @ BENT 4 (SPAN D)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740048

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 5  
 (SPAN E)**



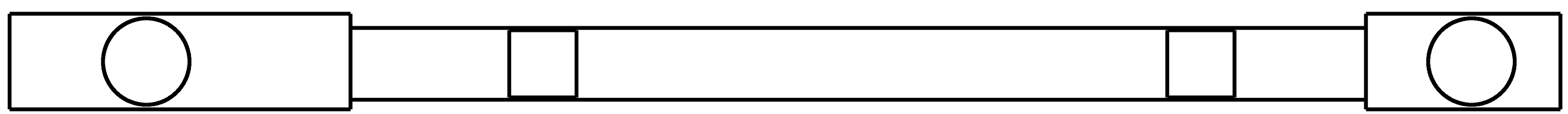
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-50
1			3			TOTAL SHEETS
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DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22

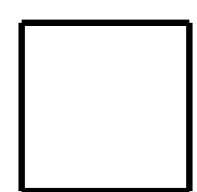
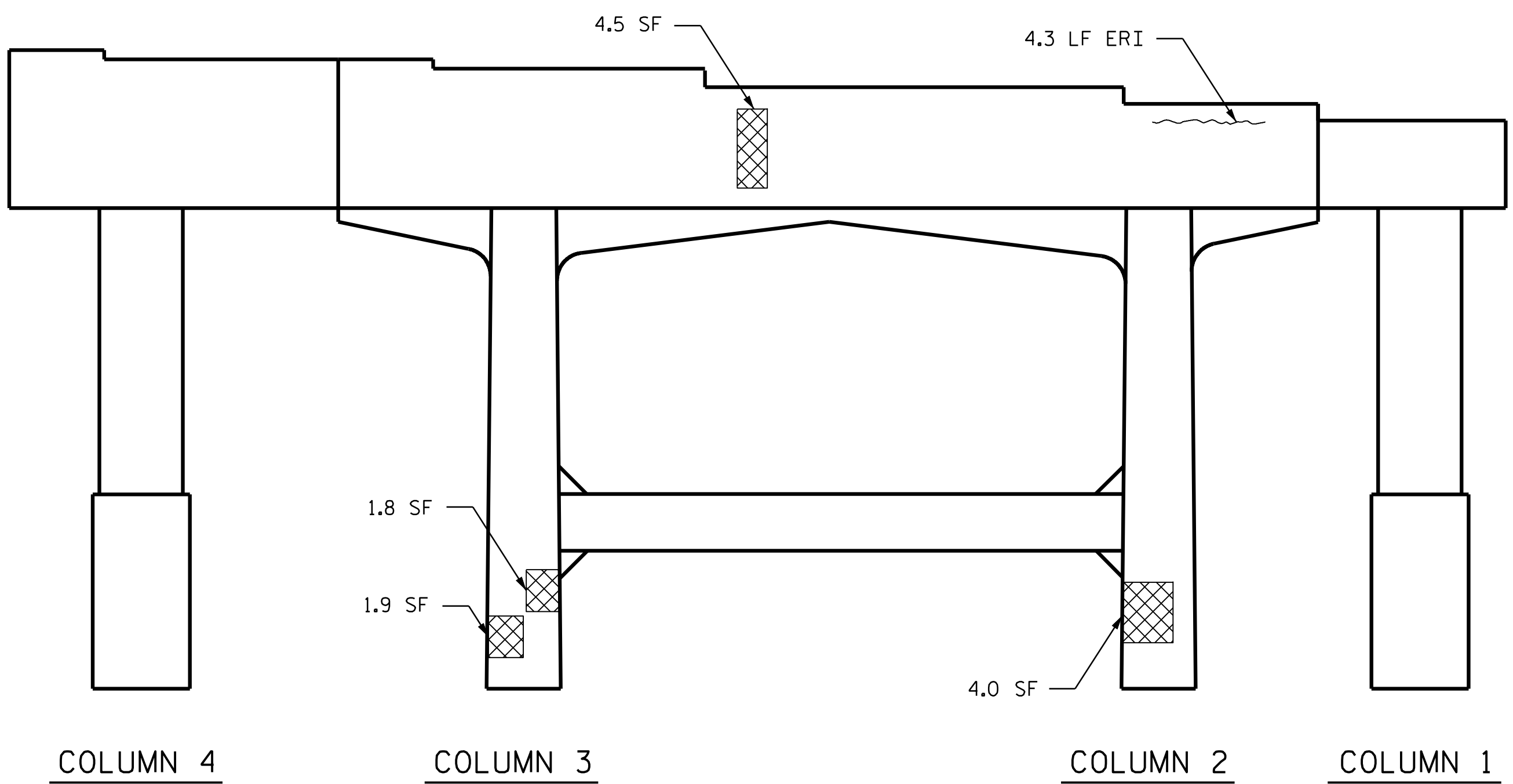




SPAN F

SPAN E

BOTTOM OF CAP @ BENT 4



END OF CAP  
(J-J)

**AS-BUILT REPAIR QUANTITY TABLE**

REPAIRS BENT 5	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	17.0	8.5		
COLUMN	9.7	4.9		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT.	LN. FT.		
CAP	4.3			
COLUMN	0.0			
EPOXY COATING	SQ. FT.	SQ. FT.		
TOP OF BENT CAP	195.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.

- SHOTCRETE REPAIR
- CONCRETE REPAIR
- EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740048

SHEET 2 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 5**  
(SPAN F)

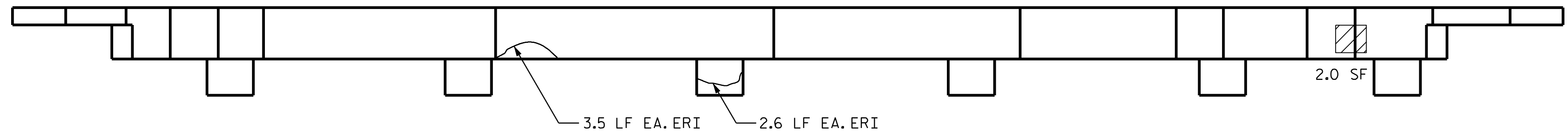
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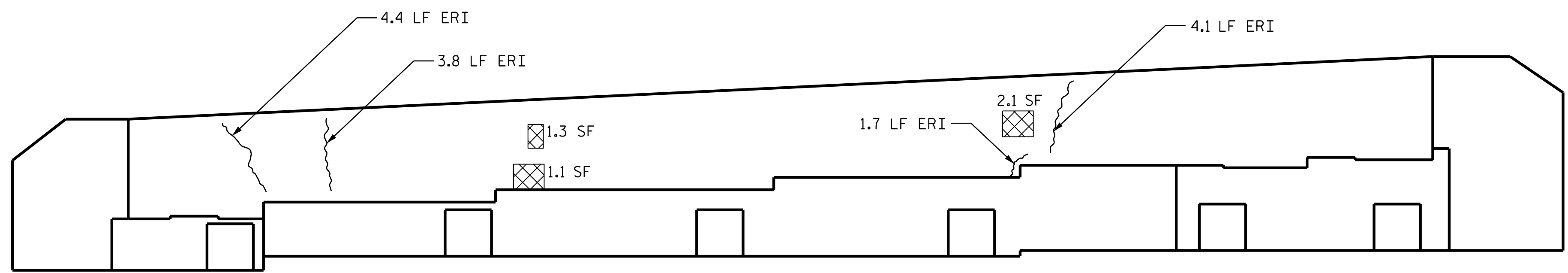
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-51
1			3			TOTAL SHEETS
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22



TOP OF CAP @ END BENT 2



ELEVATION @ END BENT 2 (SPAN C)

**AS-BUILT REPAIR QUANTITY TABLE**

REPAIRS	QUANTITIES			
	ESTIMATE		ACTUAL	
END BENT 2				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	4.5	2.3		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	2.0	1.0		
EPOXY RESIN INJECTION		LN. FT.		LN. FT.
CAP		20.1		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		111.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.

- SHOTCRETE REPAIR
- CONCRETE REPAIR
- EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740048



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
  
**END BENT 2**

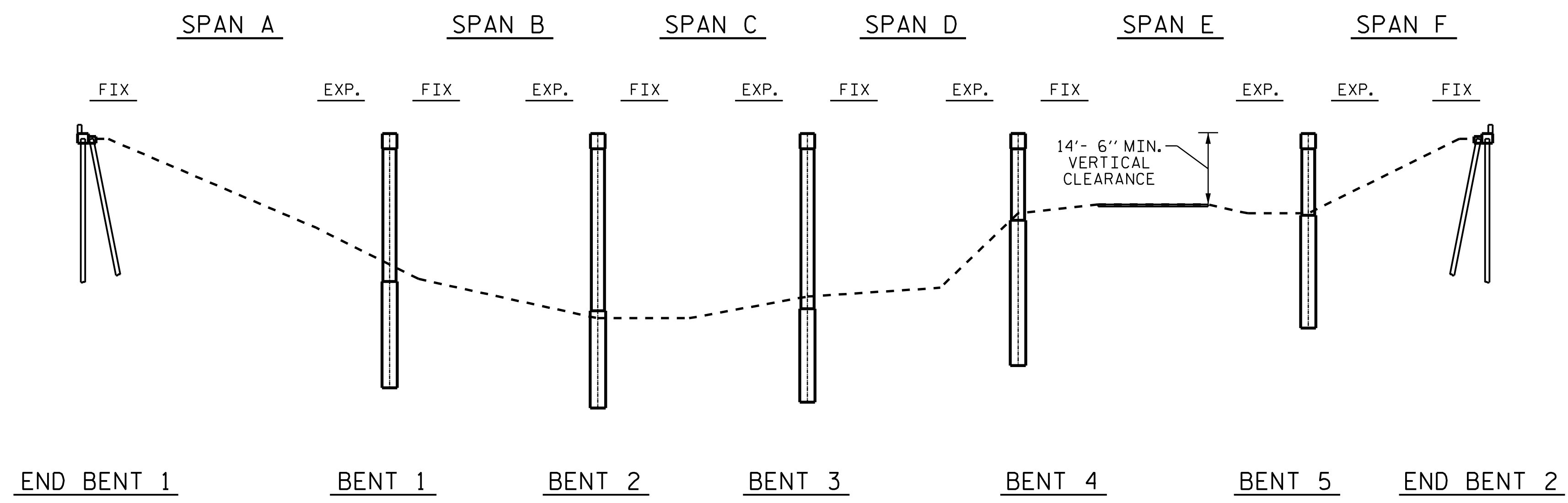
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			TOTAL SHEETS 79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22





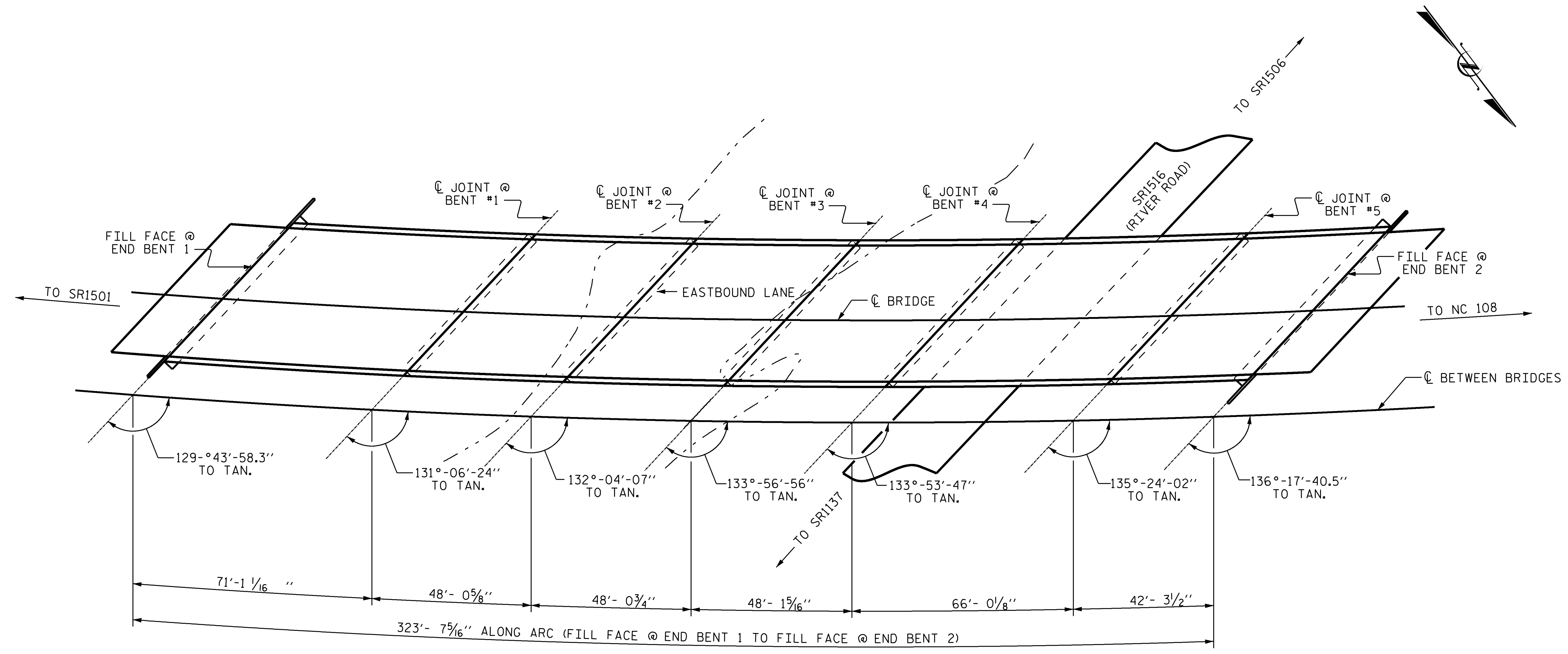
**SECTION ALONG C EBL BRIDGE**  
 (SECTION @ END BENTS AND BENTS ARE TAKEN AT RIGHT ANGLES)

**NOTES**

PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND ROUTINE INSPECTION REPORT DATED 9/3/2019.  
 BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

**SCOPE OF WORK**

- PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING.
- OVERLAY PREPARED TOP OF BRIDGE DECK WITH POLYMER CONCRETE (PC).
- REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINTS SEALS FOR PRESERVATION.
- GROOVE PC BRIDGE DECK.
- MILL AND REPAVE ASPHALT APPROACH ROADWAYS.
- CLEAN, REPAIR, AND PAINT EXISTING STRUCTURAL STEEL.
- REMOVE DEBRIS FROM TOP OF EXISTING END BENT AND BENT CAPS AND APPLY APOXY COATING.
- EPOXY RESIN INJECTION OF CONCRETE CRACKS.
- REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AND BENT AREAS FOR SHOTCRETE AND CONCRETE REPAIRS.



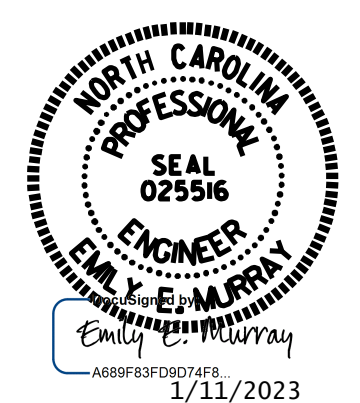
**PLAN OF EBL BRIDGE**

I HEREBY CERTIFY THAT THIS STRUCTURE WAS REHABILITATED ACCORDING TO THESE PLANS OR AS NOTED HEREIN.

RESIDENT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

PROJECT NO. I-5927  
POLK COUNTY  
 STATION: 740050

SHEET 1 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 FOR EBL BRIDGE ON I-26  
 OVER PACOLET RIVER AND  
 SR1516 (RIVER ROAD)  
 BETWEEN SR1501  
 AND NC 108

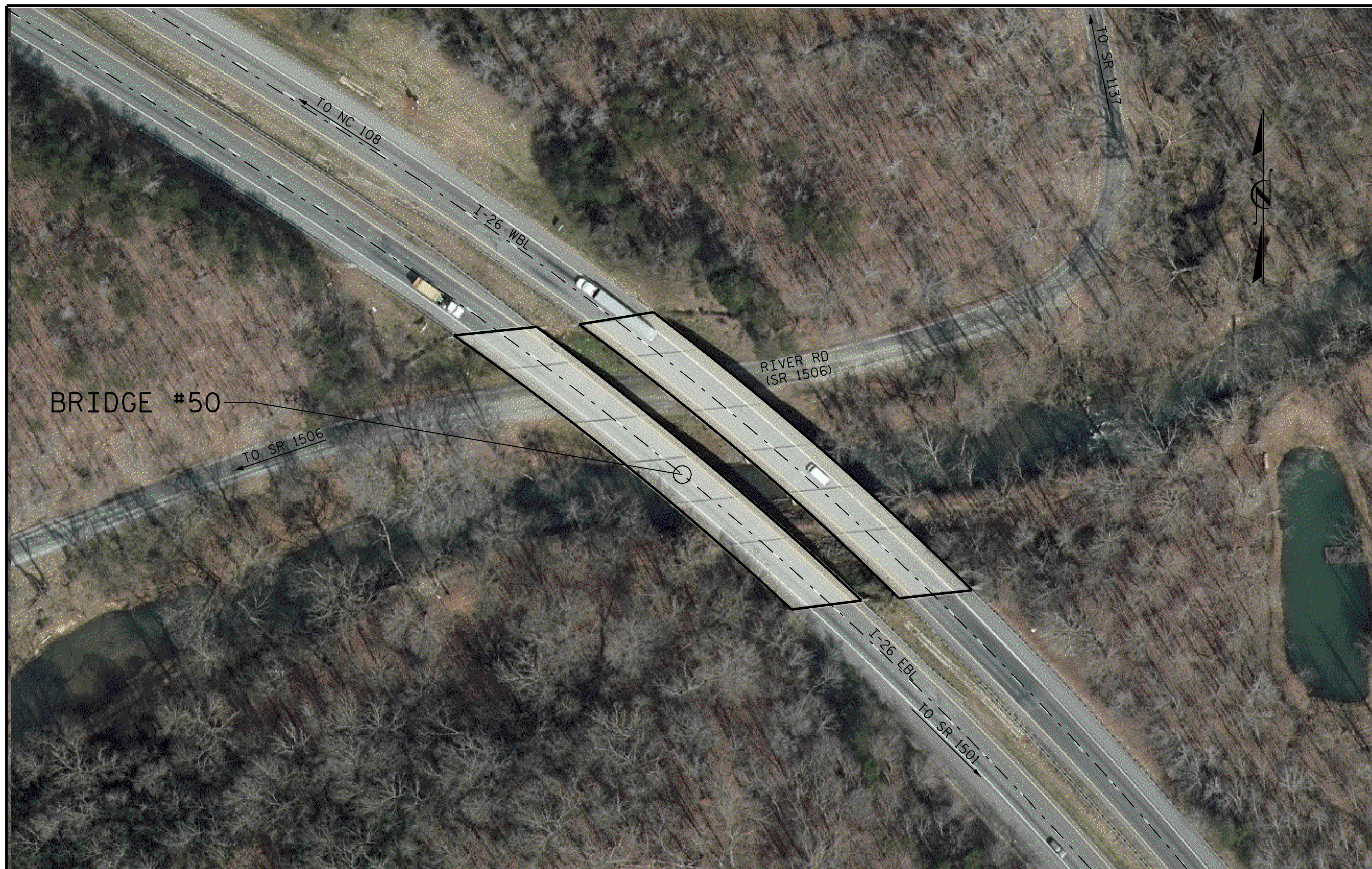
DRAWN BY: D. A. GLADDEN DATE: 5/21  
 CHECKED BY: E. MURRAY DATE: 12/22

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2			4			





**NOTES**

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR SUMMARY OF QUANTITIES TABLE.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT CLASS III SURFACE PREPARATION WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED THAT CLASS III SURFACE PREPARATION, OR OTHER WORK WILL BE NECESSARY TO PROPERLY COMPLETE THE INTENDED BRIDGE PRESERVATION/REHABILITATION WORK. THE CONTRACTOR SHALL BE PREPARED TO PERFORM SUCH WORK IN A TIMELY MANNER, AS DETERMINED IN THE FIELD. SUCH WORK SHALL BE CONSIDERED EXTRA WORK AND SHALL BE ADDRESSED AS 104-7 OF THE STANDARD SPECIFICATIONS. PROJECT SPECIAL PROVISIONS THAT OUTLINE REQUIREMENTS FOR THESE POTENTIAL ADDITIONAL WORK ITEMS HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES, AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLANS.

EXISTING JOINTS SHALL BE SEALED PRIOR TO BEGINNING REPAIRS OF BRIDGE DECK.

LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANE.

FOR SCARIFYING BRIDGE DECK, SHOTBLASTING BRIDGE DECK, AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

THE EXISTING BRIDGE DECK SHALL BE REPAIRED AS SHOWN ON THE PLANS OR AS DETERMINED BY THE ENGINEER AFTER SCARIFICATION AND PRIOR TO BRIDGE DECK SHOTBLAST AND APPLICATION OF THE PC OVERLAY. UNLESS OTHERWISE APPROVED, SUCH LOCATIONS SHALL BE REPAIRED WITH PC.

FOR CONCRETE DECK REPAIR FOR PC OVERLAY, PC MATERIALS, AND PLACING & FINISHING PC OVERLAY, SEE POLYMER CONCRETE BRIDGE DECK OVERLAY SPECIAL PROVISION.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING, SEE EPOXY COATING AND DEBRIS REMOVAL SPECIAL PROVISION.

FOR PAINTING CONTAINMENT, POLLUTION CONTROL, AND CLEANING AND REPAINTING BRIDGE, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

**LOCATION SKETCH**

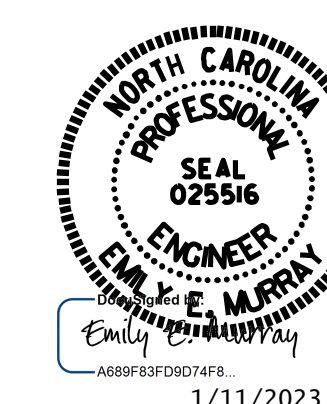
INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING BRIDGES, ROADWAYS, UTILITIES, THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

**LOCATION COORDINATES**

LATITUDE	35° 12' 53.02"
LONGITUDE	82° 11' 8.69"

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050

SHEET 2 OF 2



STATE OF NORTH CAROLINA  
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**GENERAL DRAWING**  
 FOR EBL BRIDGE ON I-26  
 OVER PACOLET RIVER AND  
 SR1516 (RIVER ROAD)  
 BETWEEN SR1501  
 AND NC 108



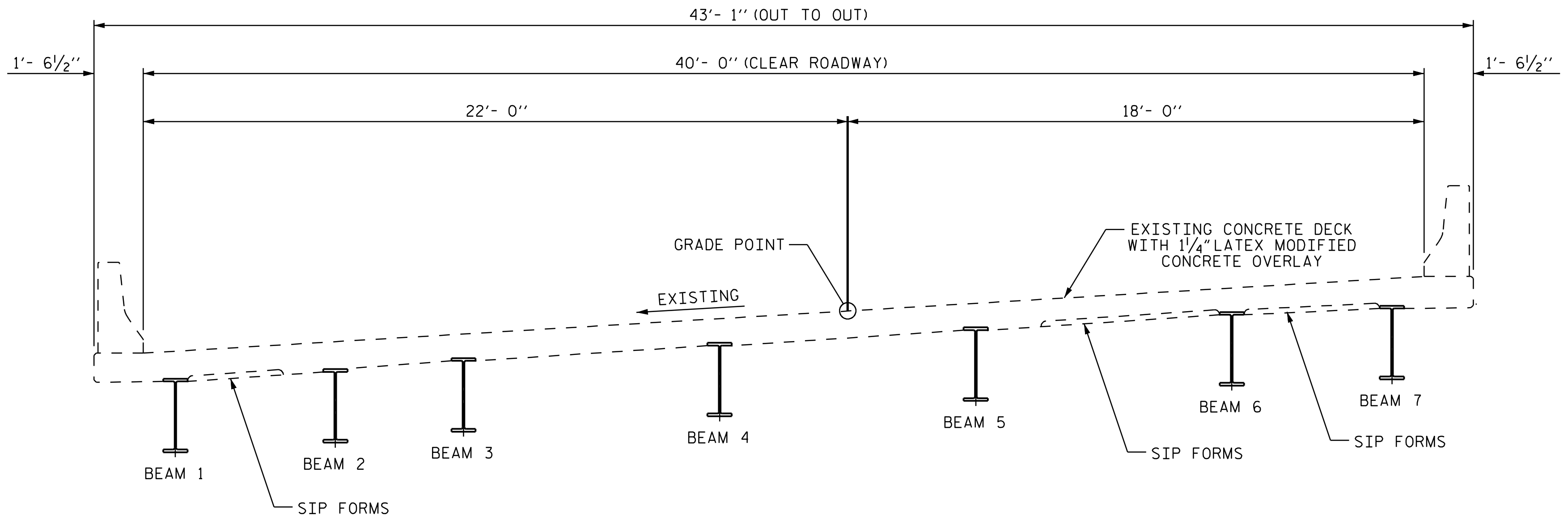
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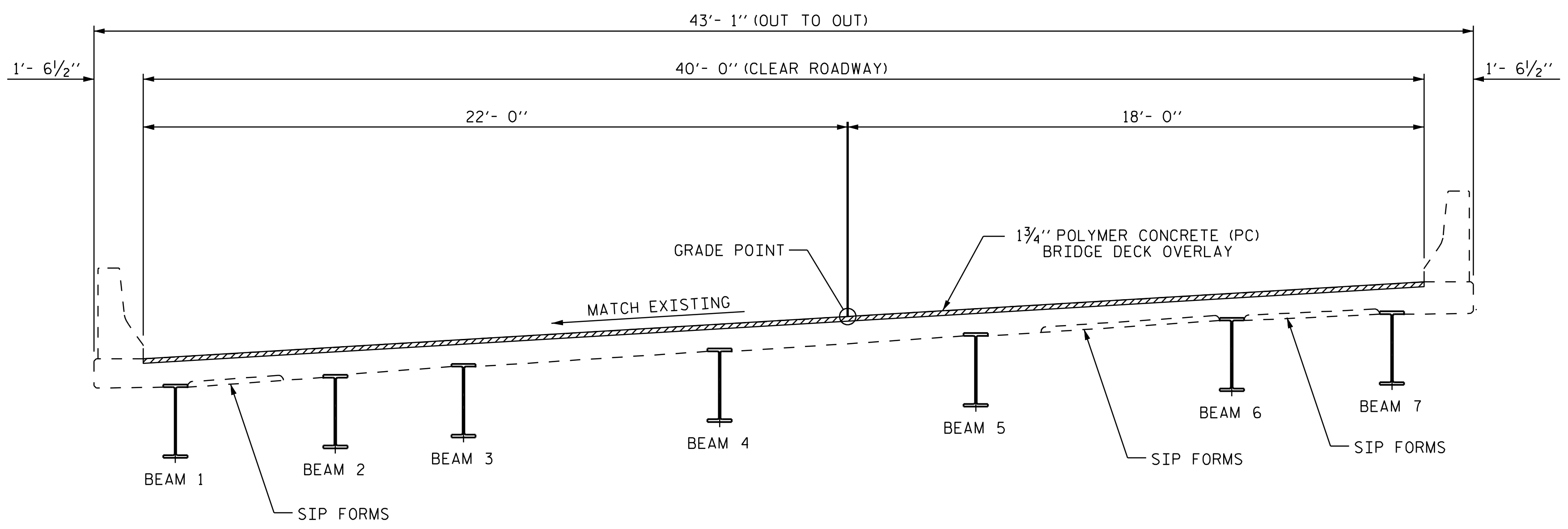
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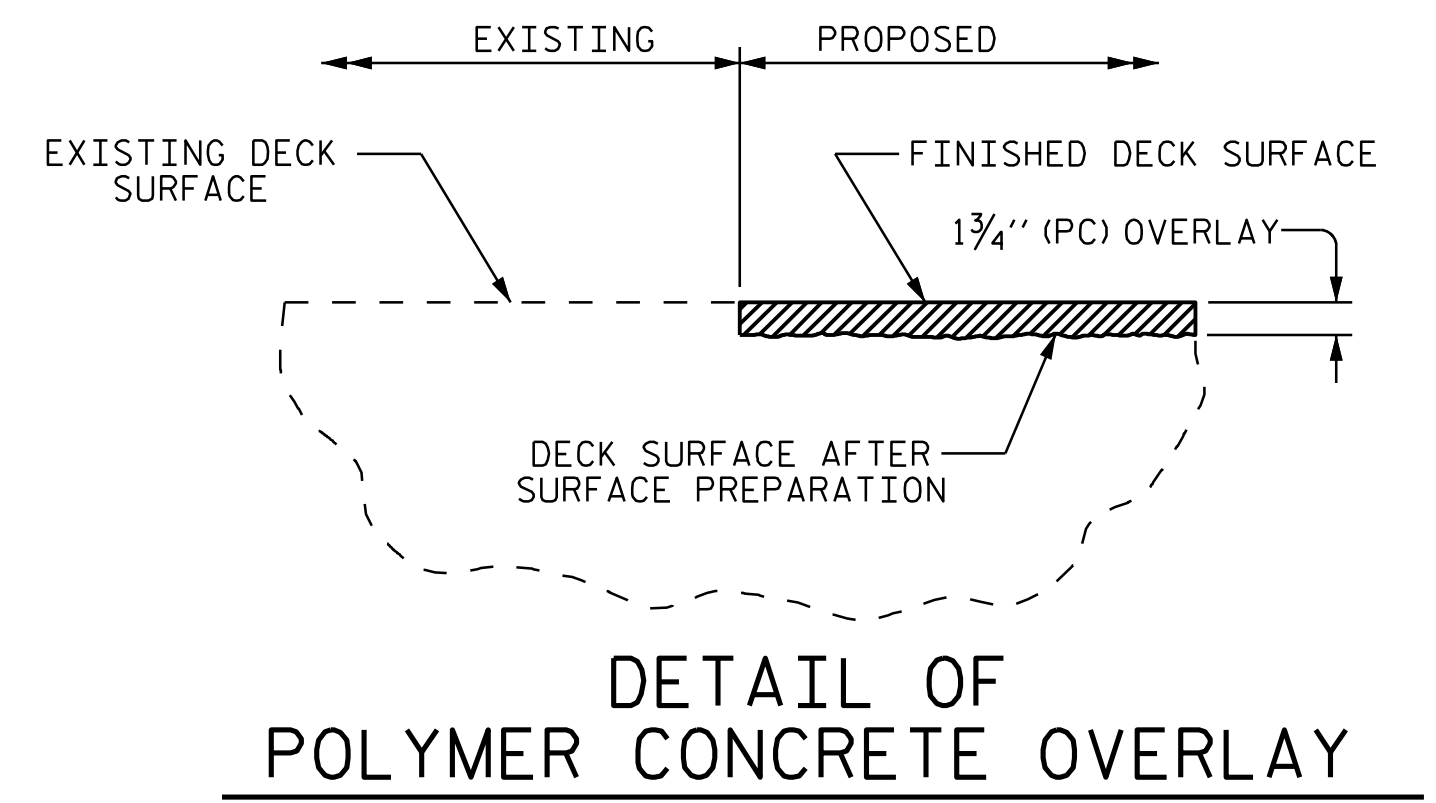
EXISTING TYPICAL SECTION



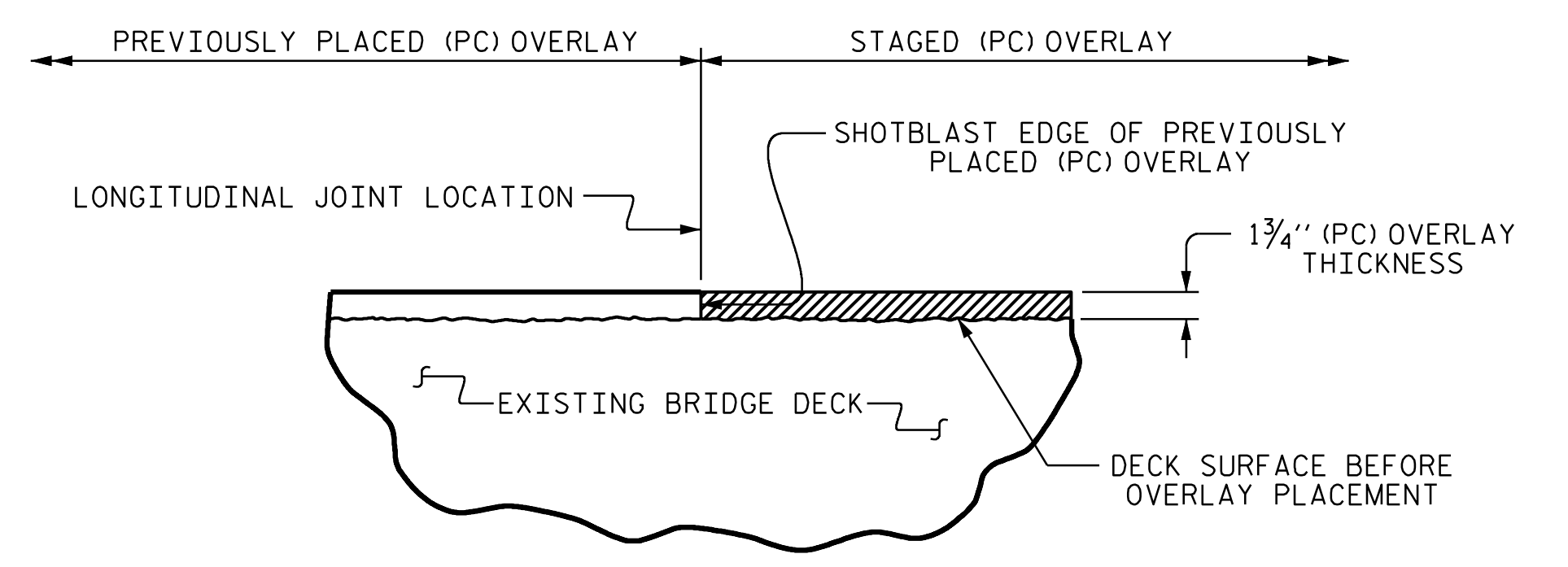
PROPOSED TYPICAL SECTION

**NOTES**

SEE TRANSPORTATION MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND LATEX MODIFIED CONCRETE PLACEMENT.



DETAIL OF POLYMER CONCRETE OVERLAY



STAGED POLYMER CONCRETE OVERLAY JOINT  
(AS NEEDED)

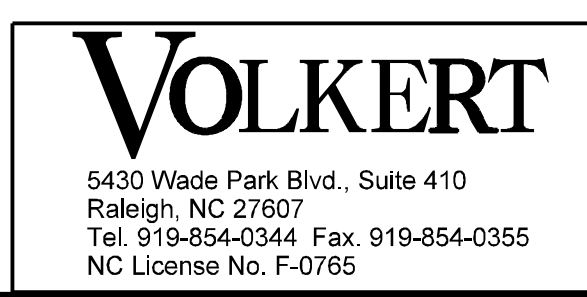
PROJECT NO. I-5927  
POLK COUNTY  
STATION: 740050



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
**TYPICAL SECTION AND PC OVERLAY DETAIL**

DRAWN BY : D. A. GLADDEN DATE : 5/21  
CHECKED BY : E. MURRAY DATE : 12/22

10-JAN-2023 11:26  
\*\*\*\*\*DGNS\*\*\*\*\*  
taffy.mazarura AT C-160013



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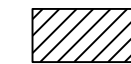




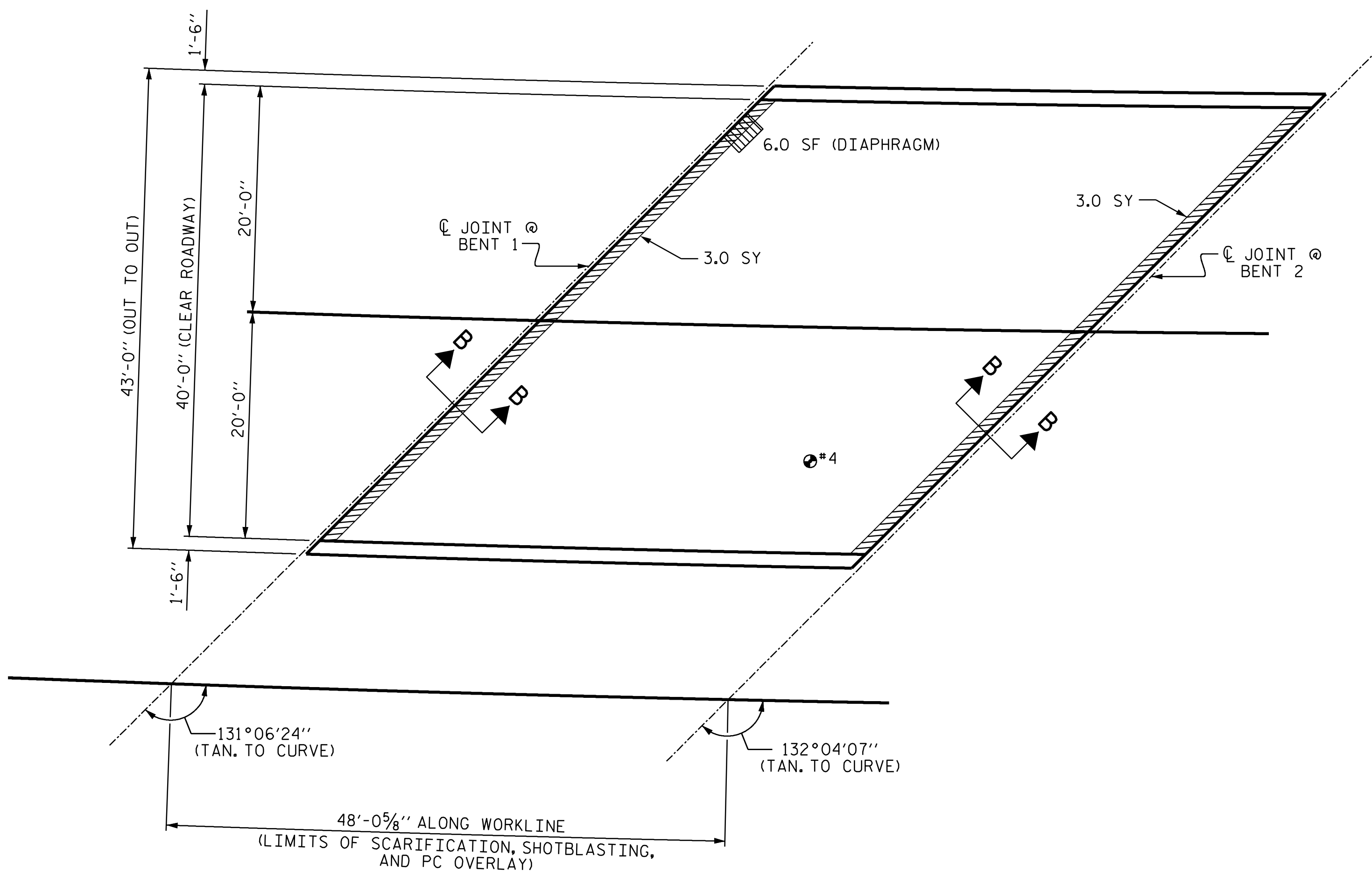
### AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS			
SPAN B			
	ESTIMATE	ACTUAL	
SCARIFYING BRIDGE DECK	213.6 SY		
SHOTBLASTING OF BRIDGE DECK	213.6 SY		
CLASS II SURFACE PREPARATION	6.0 SY		
GROOVING BRIDGE FLOORS	1765.6 SF		
CONCRETE DECK REPAIR FOR PC OVERLAY	6.0 SY		
POLYMER CONCRETE MATERIALS	10.4 CY		
PLACING AND FINISHING POLYMER CONCRETE OVERLAY	213.6 SY		

UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	6.0	3.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0	LF		

QUANTITIES IN TABLE REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR POLYMER OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAW CUT). SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

-  APPROXIMATE CLASS II AREA
-  UNDERSIDE REPAIR
-  TEST LOCATION



**PLAN OF SPAN B**

**NOTES**

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FOR SECTION A-A AND B-B, SEE "JOINT REPAIR DETAILS" SHEET.

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050

SHEET 2 OF 6



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

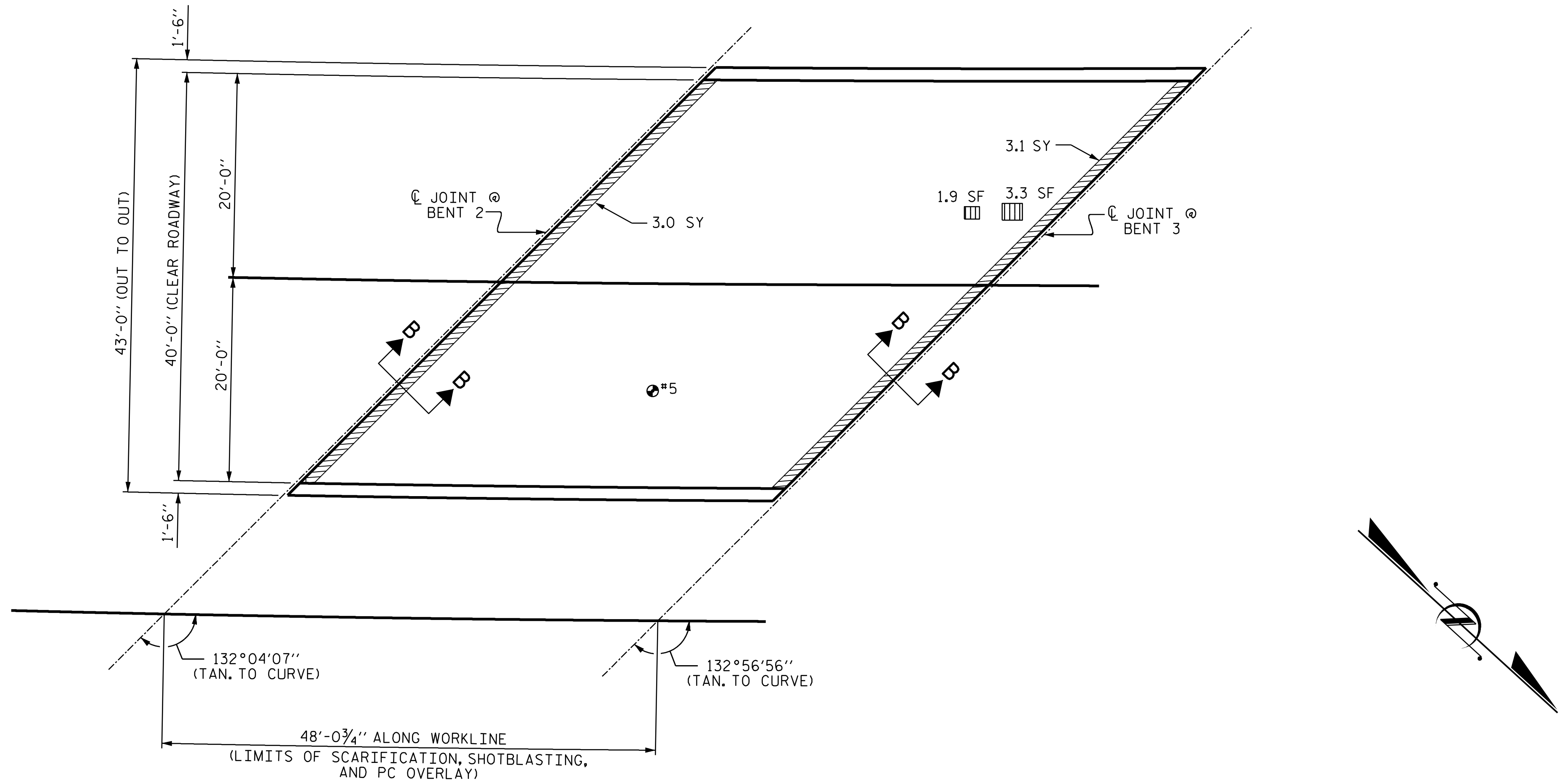
**PLAN OF SPAN B**

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PLAN OF SPAN C

NOTES

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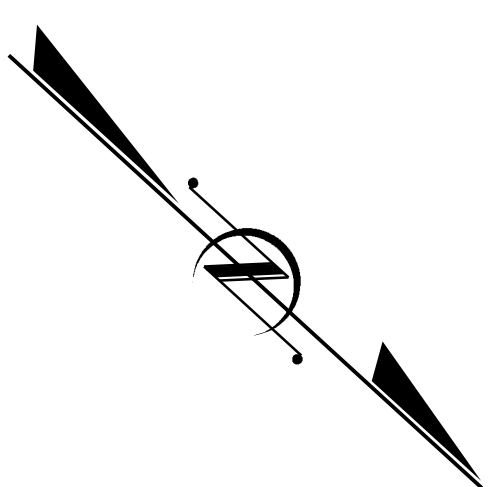
FOR SECTION A-A AND B-B, SEE "JOINT REPAIR DETAILS" SHEET.

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
SPAN C				
	ESTIMATE		ACTUAL	
SCARIFYING BRIDGE DECK	213.7	SY		
SHOTBLASTING OF BRIDGE DECK	213.7	SY		
CLASS II SURFACE PREPARATION	6.1	SY		
GROOVING BRIDGE FLOORS	1766.0	SF		
CONCRETE DECK REPAIR FOR PC OVERLAY	6.1	SY		
POLYMER CONCRETE MATERIALS	10.4	CY		
PLACING AND FINISHING POLYMER CONCRETE OVERLAY	213.7	SY		
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	5.2	1.7		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0	LF		

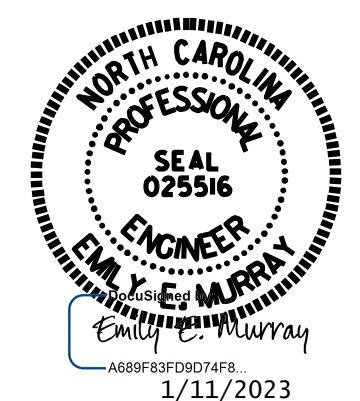
QUANTITIES IN TABLE REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR POLYMER OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAW CUT). SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

- APPROXIMATE CLASS II AREA
- UNDERSIDE REPAIR
- TEST LOCATION



PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050

SHEET 3 OF 6



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

PLAN OF SPAN C

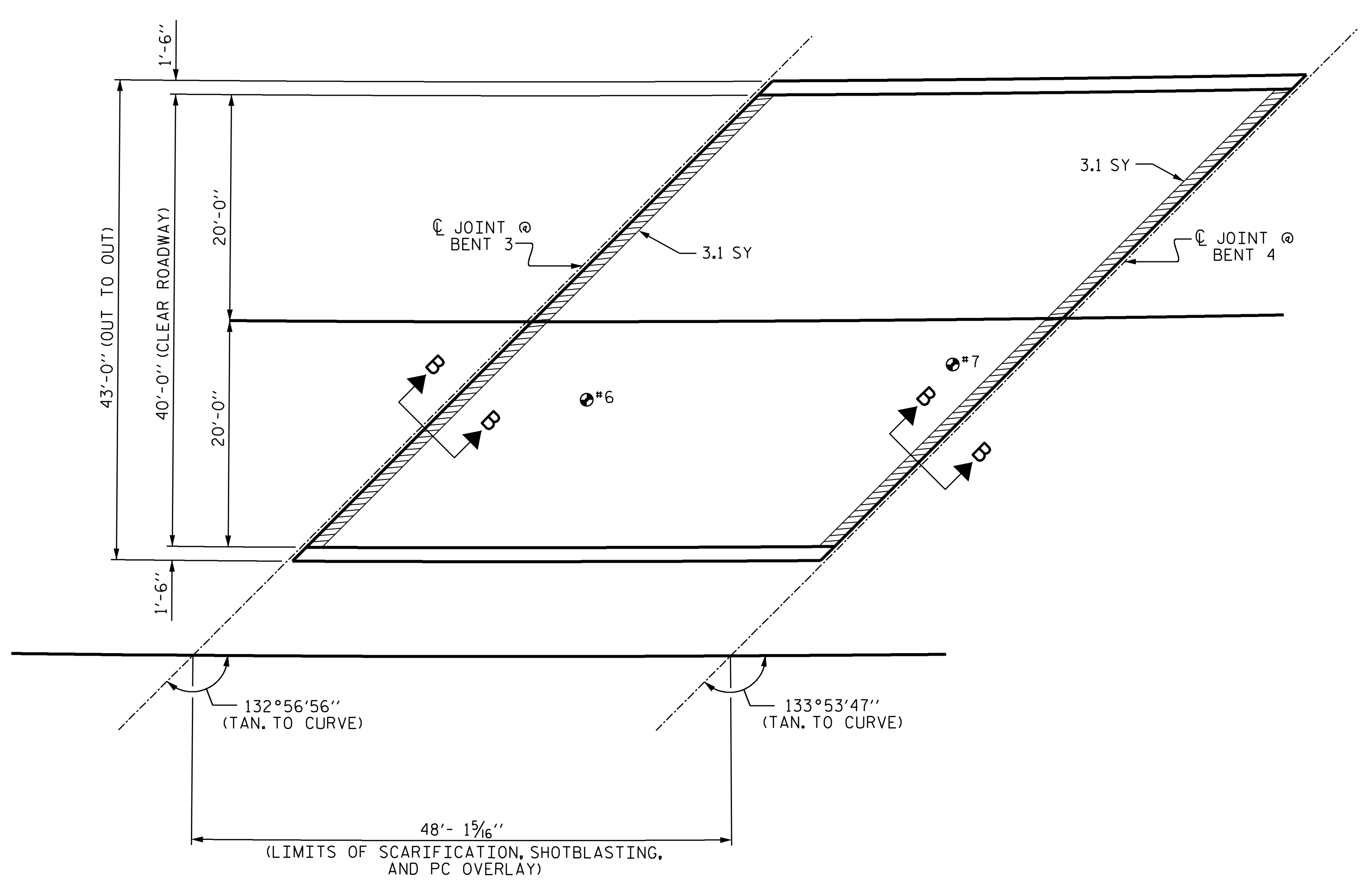
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PLAN OF SPAN D

NOTES

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FOR SECTION A-A AND B-B, SEE "JOINT REPAIR DETAILS" SHEET.

AS-BUILT REPAIR QUANTITY TABLE

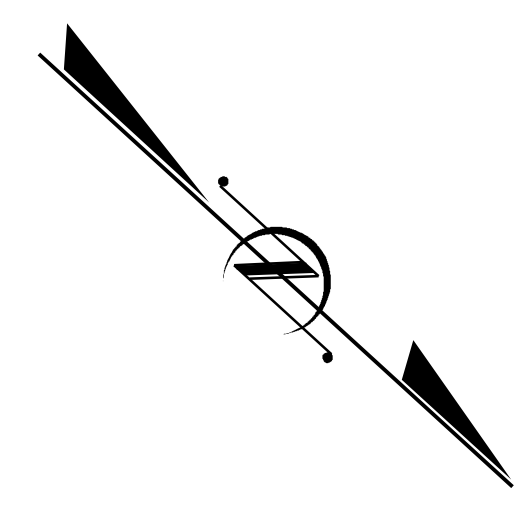
TOP OF DECK REPAIRS			
SPAN D			
	ESTIMATE		ACTUAL
SCARIFYING BRIDGE DECK	213.9	SY	
SHOTBLASTING OF BRIDGE DECK	213.9	SY	
CLASS II SURFACE PREPARATION	6.2	SY	
GROOVING BRIDGE FLOORS	1767.7	SF	
CONCRETE DECK REPAIR FOR PC OVERLAY	6.2	SY	
POLYMER CONCRETE MATERIALS	10.4	CY	
PLACING AND FINISHING POLYMER CONCRETE OVERLAY	213.9	SY	

UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		

	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0	LF		

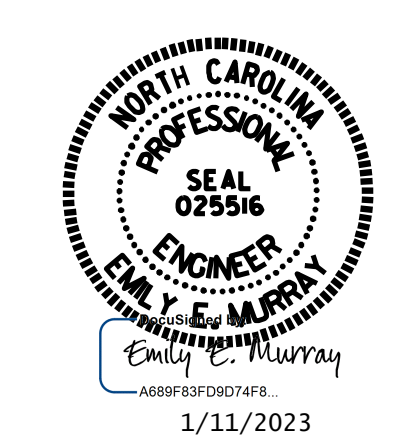
QUANTITIES IN TABLE REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR POLYMER OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAW CUT). SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

- APPROXIMATE CLASS II AREA
- UNDERSIDE REPAIR
- TEST LOCATION



PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050

SHEET 4 OF 6



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

PLAN OF SPAN D

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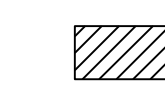


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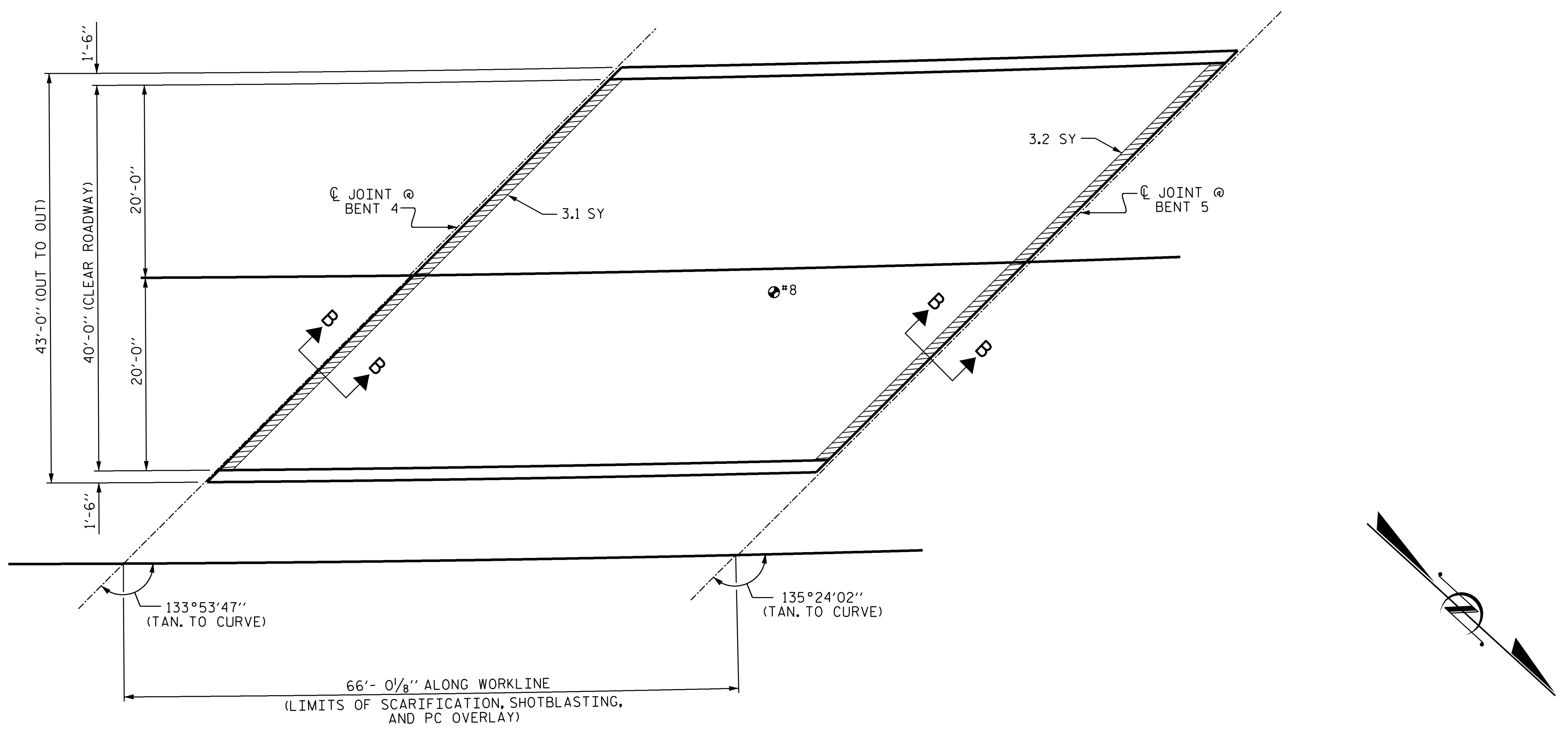
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AS-BUILT REPAIR QUANTITY TABLE				
TOP OF DECK REPAIRS				
SPAN E				
	ESTIMATE		ACTUAL	
SCARIFYING BRIDGE DECK	293.4	SY		
SHOTBLASTING OF BRIDGE DECK	293.4	SY		
CLASS II SURFACE PREPARATION	6.3	SY		
GROOVING BRIDGE FLOORS	2430.1	SF		
CONCRETE DECK REPAIR FOR PC OVERLAY	6.3	SY		
POLYMER CONCRETE MATERIALS	14.3	CY		
PLACING AND FINISHING POLYMER CONCRETE OVERLAY	293.4	SY		
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0	LF		

QUANTITIES IN TABLE REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR POLYMER OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAW CUT). SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

-  APPROXIMATE CLASS II AREA
-  UNDERSIDE REPAIR
-  TEST LOCATION



PLAN OF SPAN E

**NOTES**

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR SECTION A-A AND B-B, SEE "JOINT REPAIR DETAILS" SHEET.

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050

SHEET 5 OF 6



STATE OF NORTH CAROLINA  
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**PLAN OF SPAN E**

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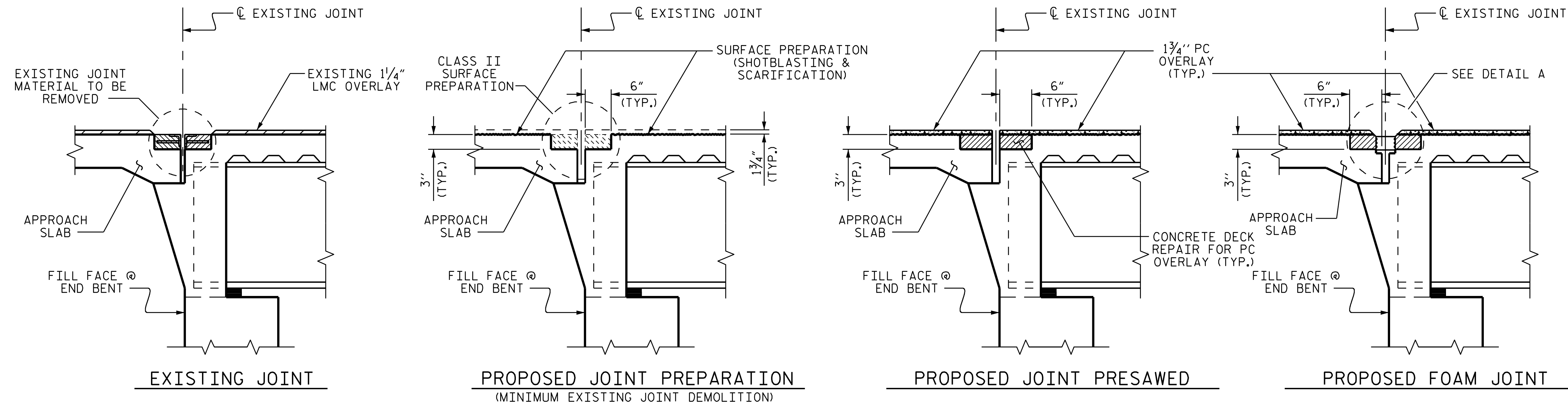
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 CHECKED BY : E. MURRAY DATE : 12/22







**JOINT INSTALLATION SEQUENCE AT END BENTS (SECTION A-A)**

**NOTES**

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDER JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING ALLOWED BY THE JOINT SEAL MATERIAL, NOTIFY THE ENGINEER. REVISION TO THE JOINT SEAL SIZE AND TYPE MIGHT BE NECESSARY.

THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS FOR THE JOINT SEALS IN LIEU OF SAWING THE JOINT.

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL BASED ON JOINT OPENINGS.

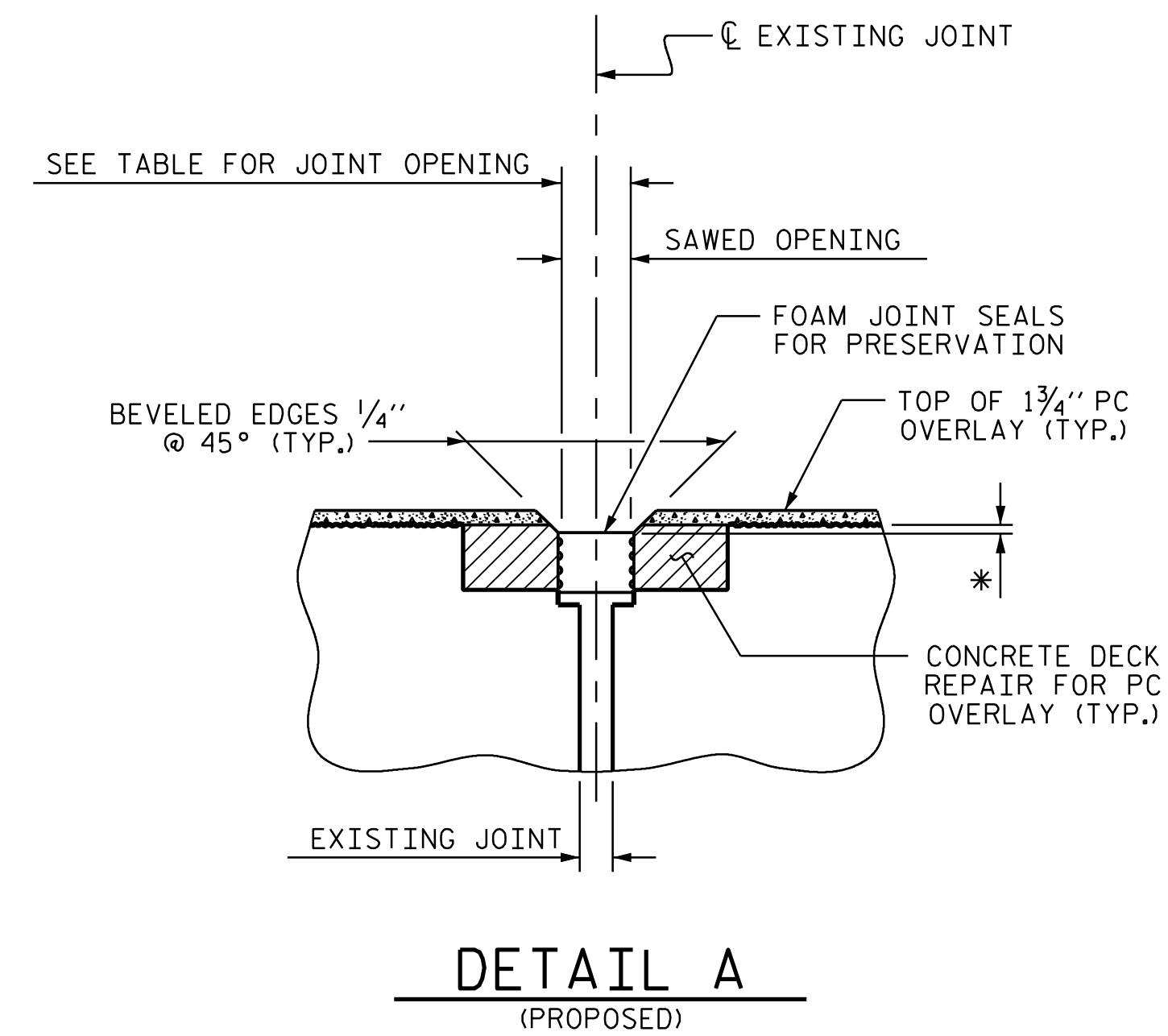
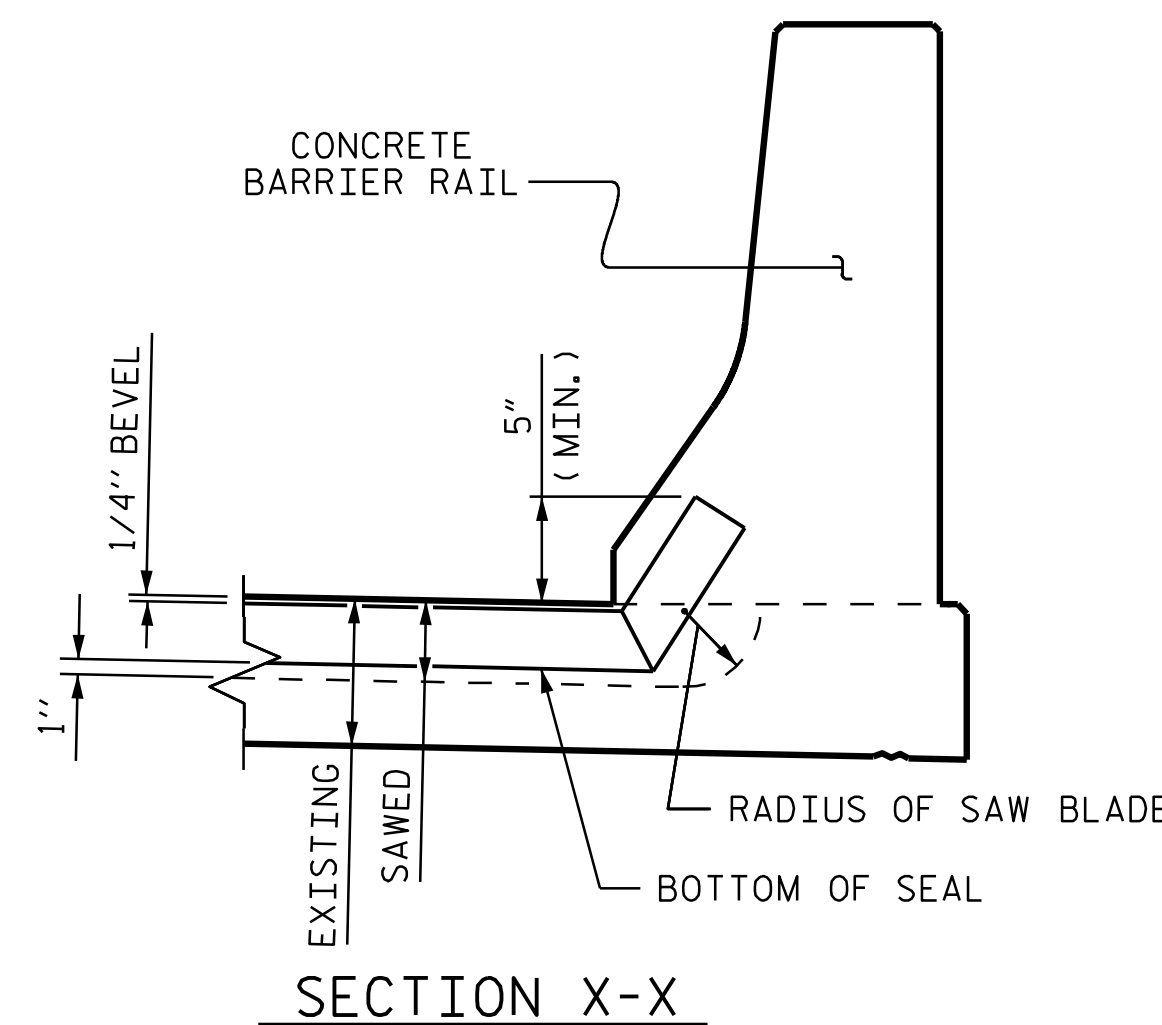
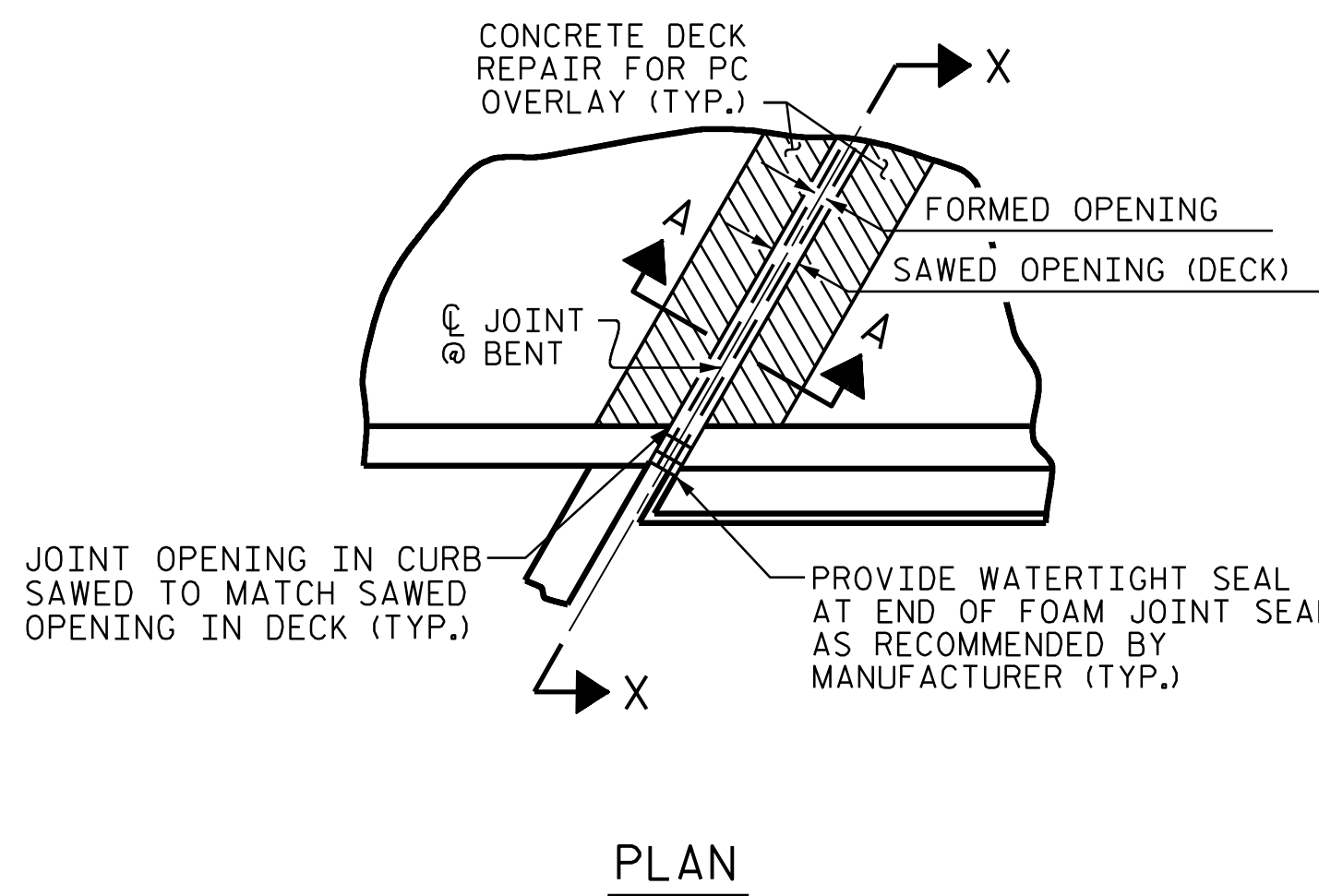
FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOAM JOINT SEALS FOR PRESERVATION SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.

THE INSTALLED FOAM JOINT SEALS FOR PRESERVATION SHALL BE WATER TIGHT.

FOR LOCATION OF SECTION A-A AND SECTION B-B, SEE PLAN OF SPAN SHEETS.

FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF REPAIR CONCRETE.



**JOINT SEAL DETAILS @ BENT**

FOAM JOINT SEAL TO BE CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF THE SIDEWALK.

\* FOAM JOINT SEAL SHALL BE RECESSED AS PER MANUFACTURER'S RECOMMENDATIONS.



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BRIDGE NO: 740050

SHEET 1 OF 2

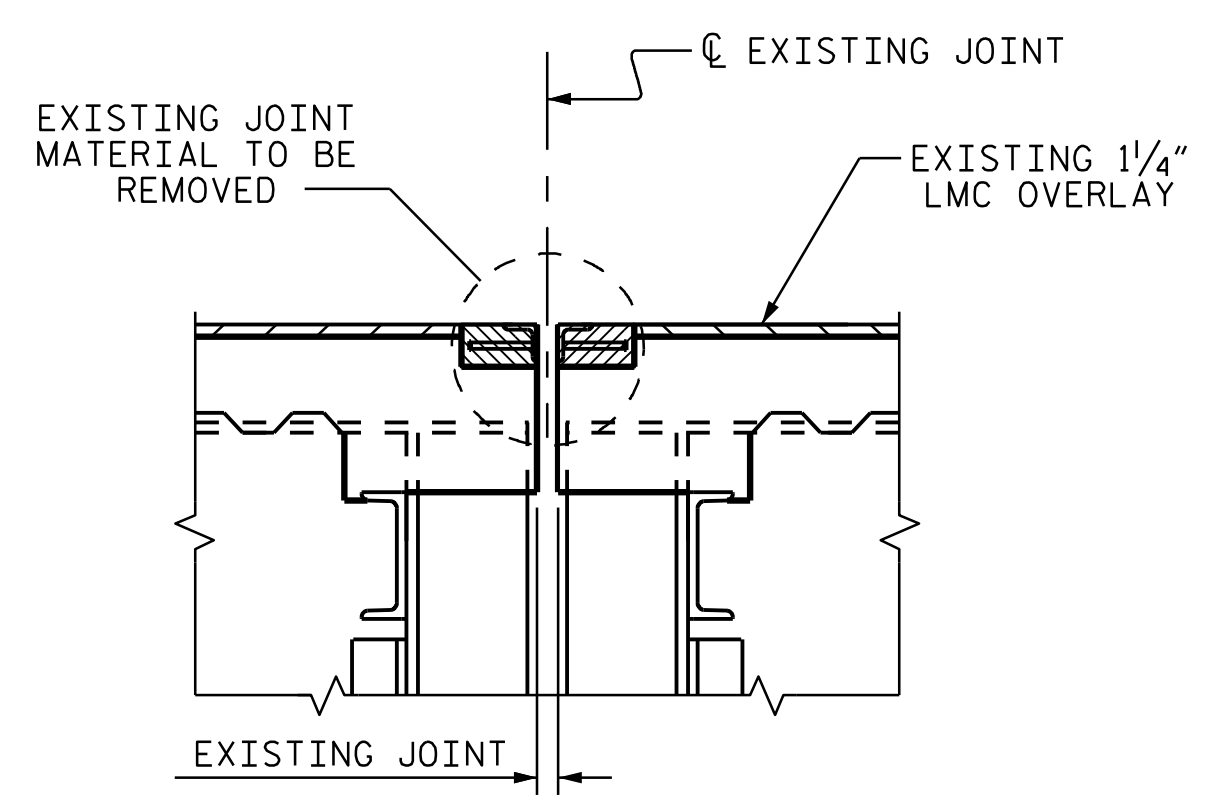
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**JOINT REPAIR DETAILS**

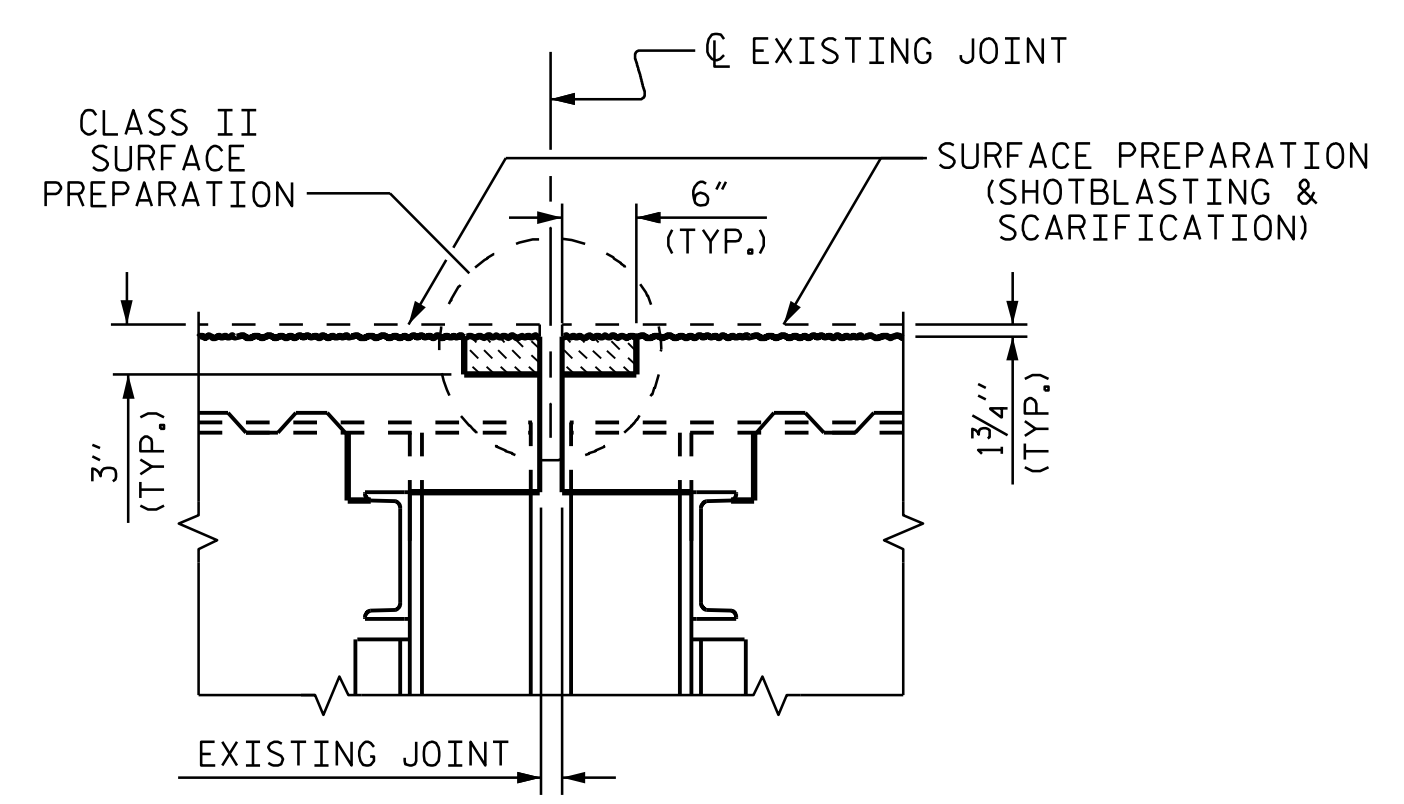
DRAWN BY : D. A. GLADDEN DATE : 7/21  
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1			3			TOTAL SHEETS
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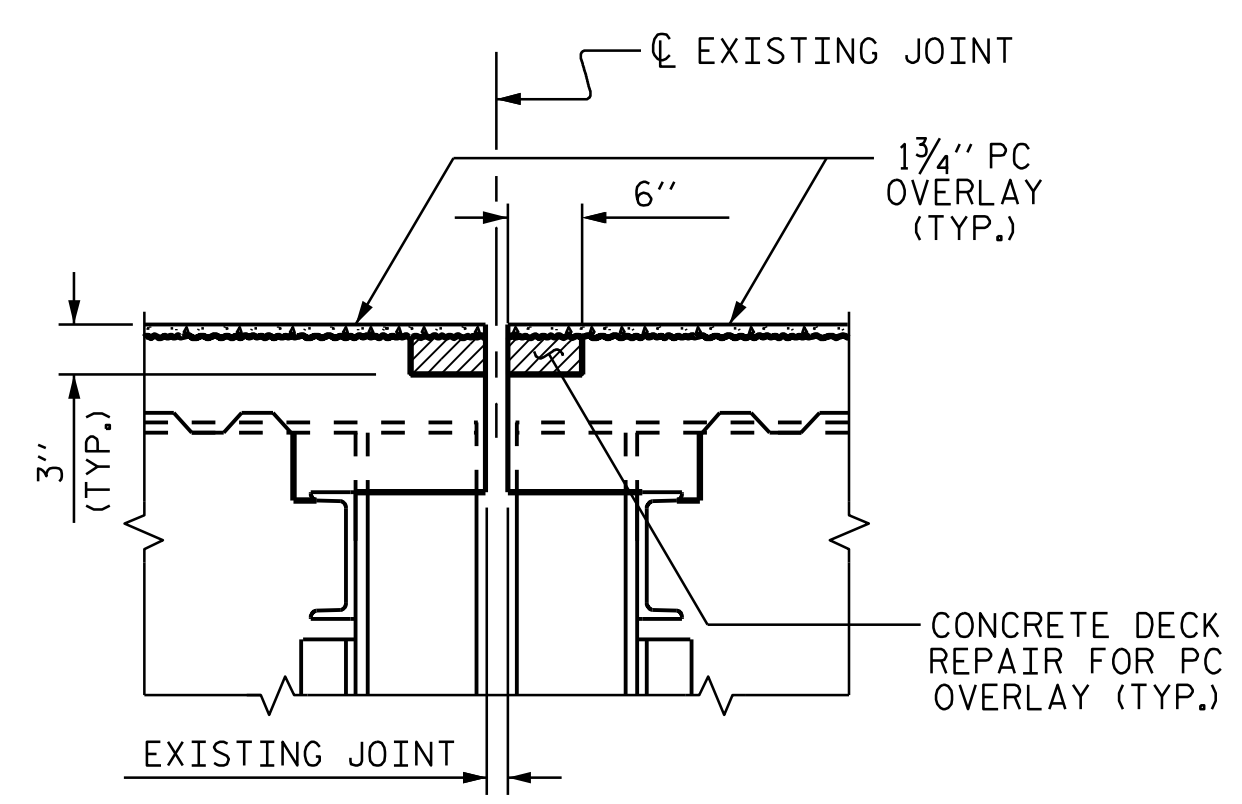




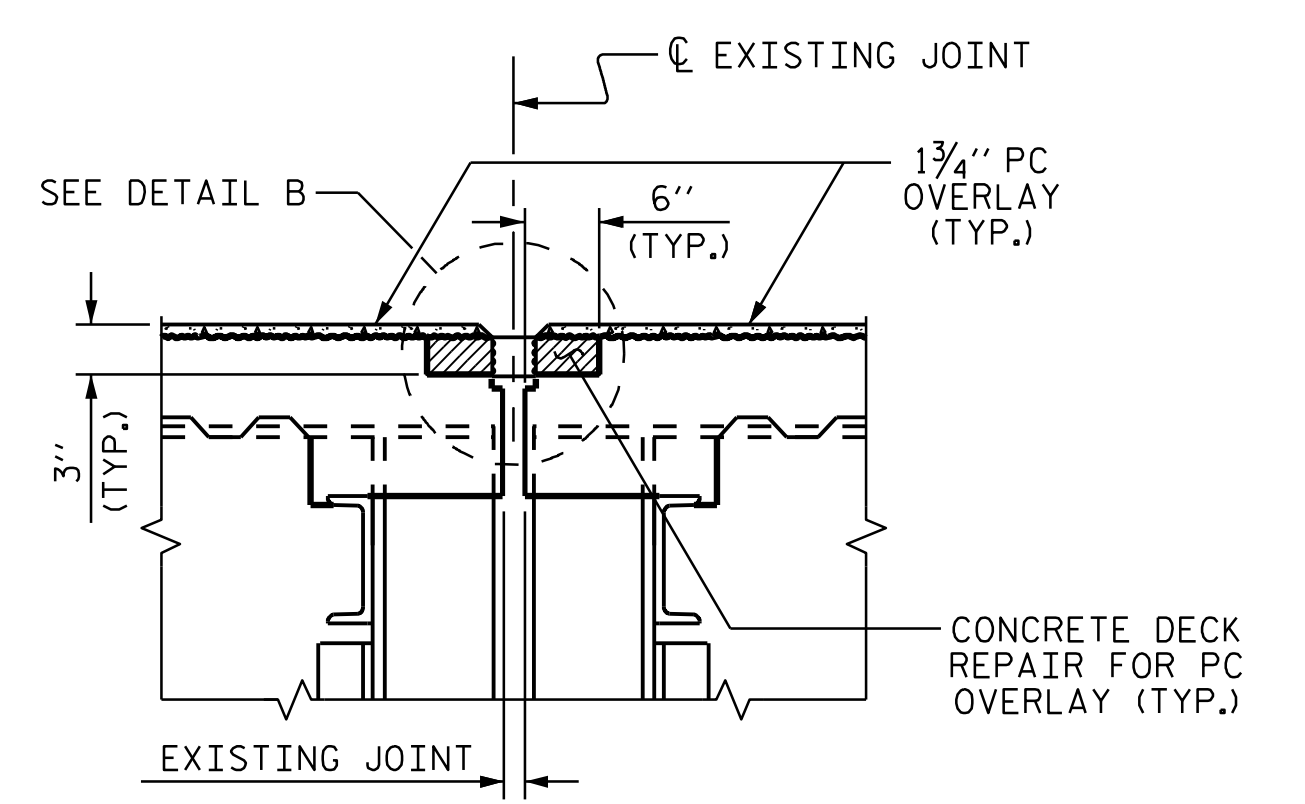
EXISTING JOINT



PROPOSED JOINT PREPARATION  
(MINIMUM EXISTING JOINT DEMOLITION)

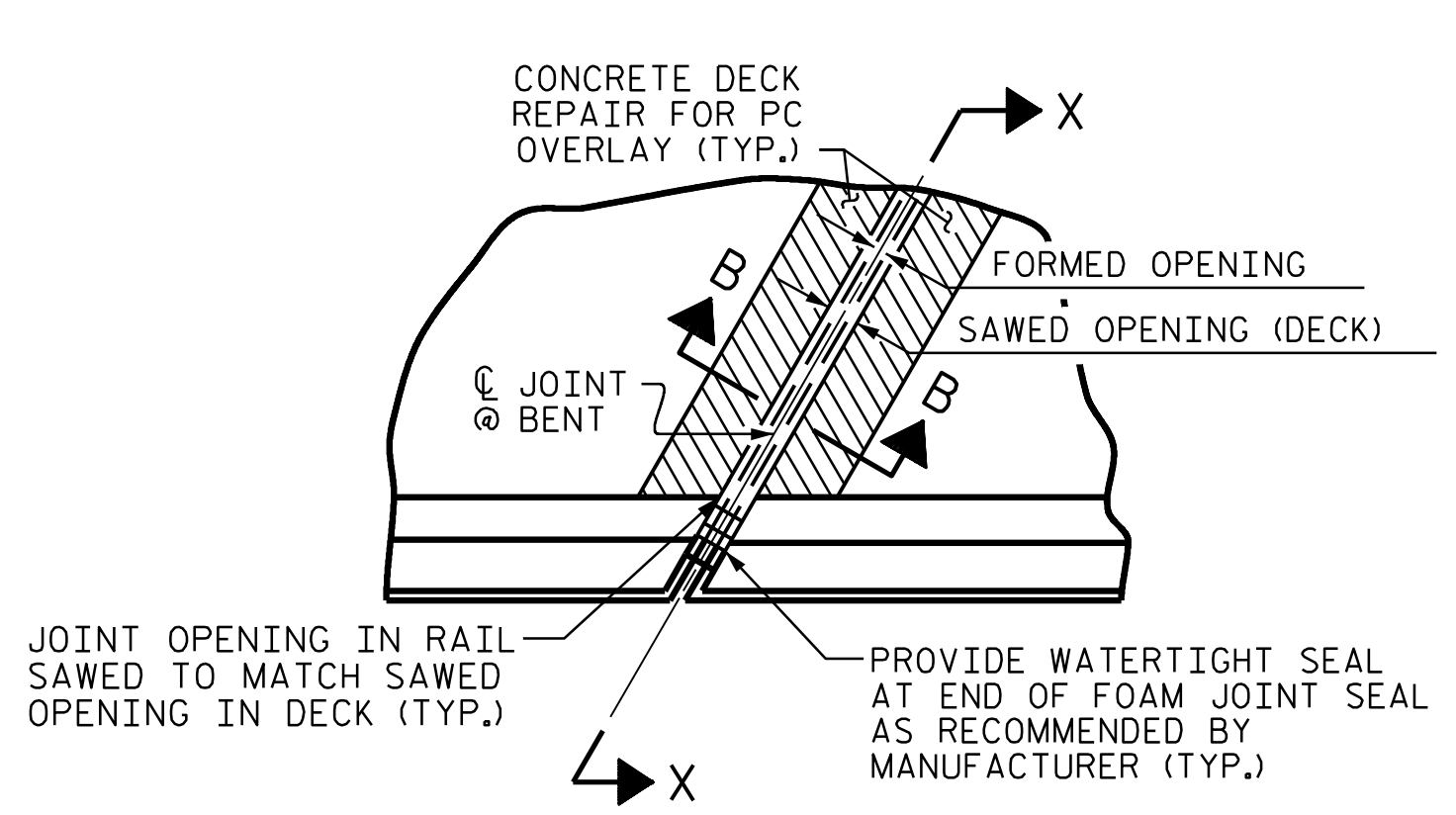


PROPOSED JOINT PRESAWED



PROPOSED FOAM JOINT

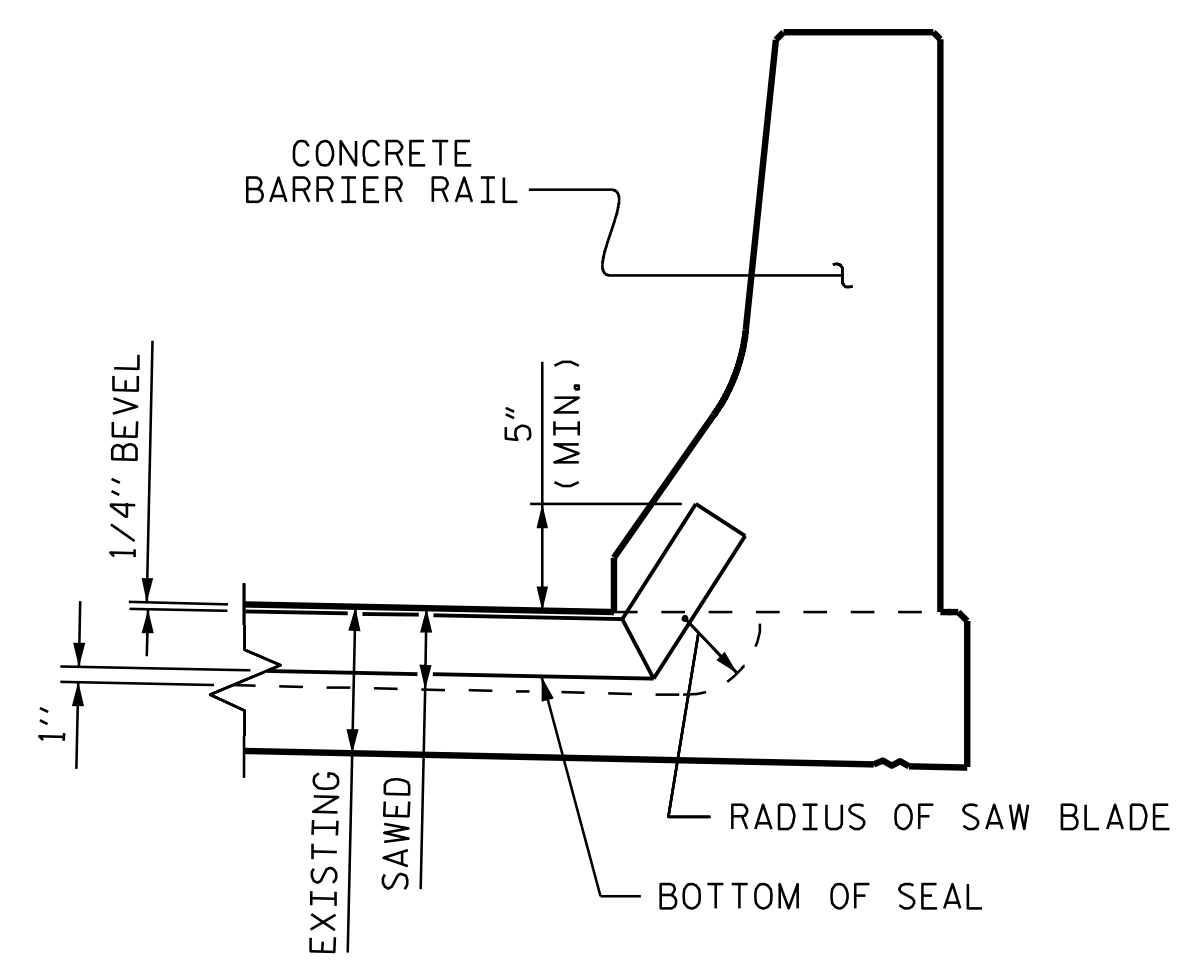
JOINT INSTALLATION SEQUENCE AT BENTS (SECTION B-B)



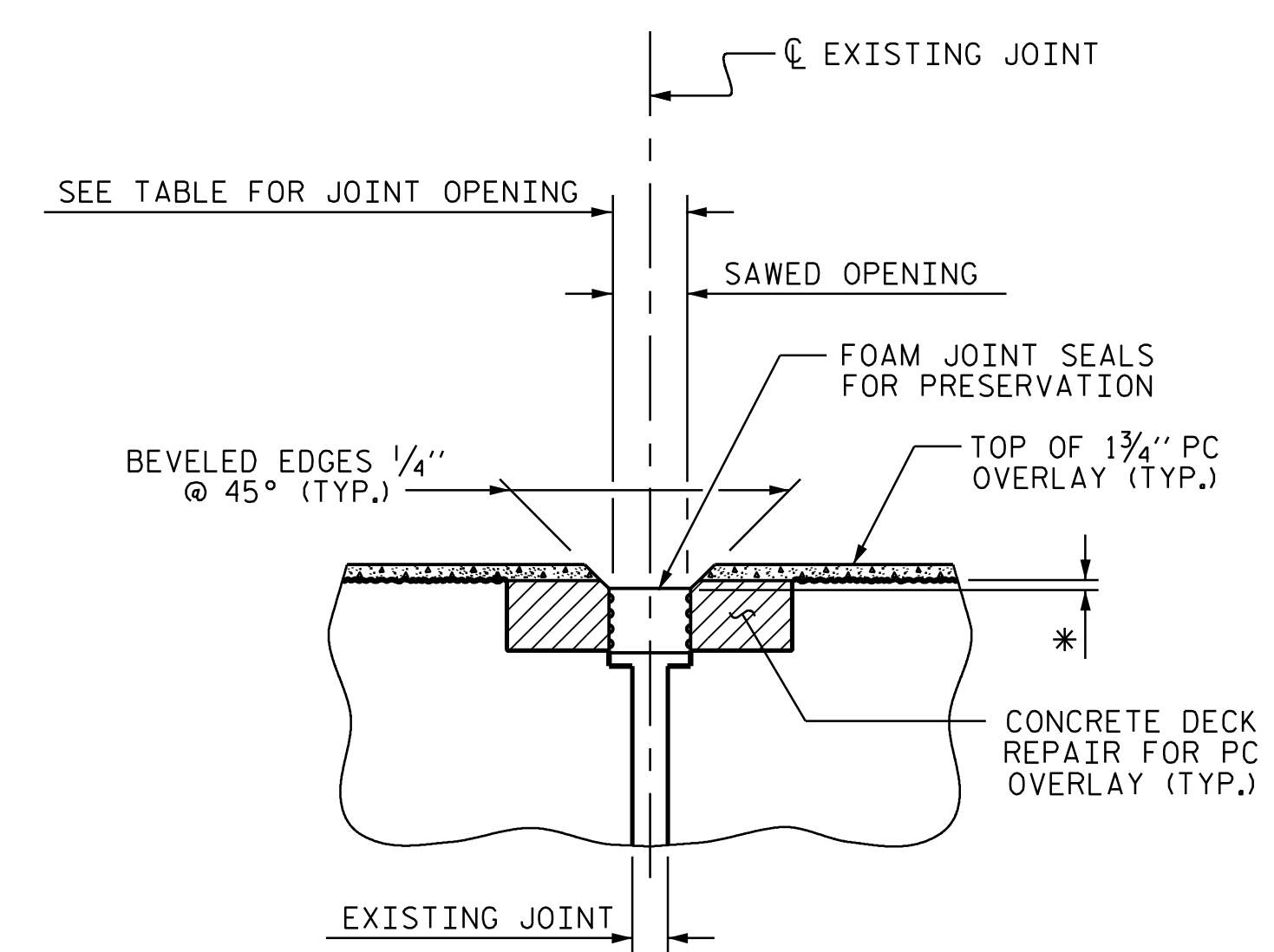
PLAN

JOINT SEAL DETAILS @ BENT

FOAM JOINT SEAL TO BE CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF THE SIDEWALK.



SECTION X-X



DETAIL B  
(PROPOSED)

\* FOAM JOINT SEALS FOR PRESERVATION SHALL BE RECESSED AS PER MANUFACTURER'S RECOMMENDATIONS.

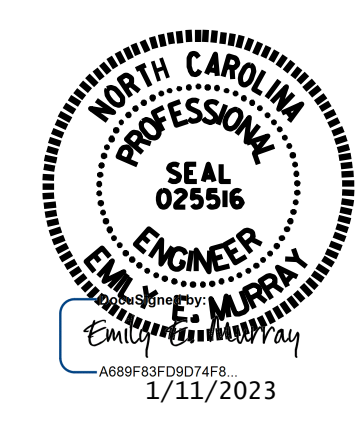
JOINT REPAIR QUANTITY		
	ESTIMATED (LIN. FT.)	ACTUAL (LIN. FT.)
FOAM JOINT SEALS FOR PRESERVATION	393.8	

SAWED JOINT OPENING TABLE				
LOCATION	SKREW ANGLE	PERPENDICULAR JOINT OPENING AT 45°	PERPENDICULAR JOINT OPENING AT 60°	PERPENDICULAR JOINT OPENING AT 90°
* END BENT 1	129°43'58.3"	2 11/16"	2 11/16"	2 11/16"
BENT 1	131°06'24"	1 5/8"	1 9/16"	1 7/16"
BENT 2	132°04'07"	1 5/8"	1 9/16"	1 1/2"
BENT 3	133°56'56"	1 5/8"	1 9/16"	1 1/2"
BENT 4	133°53'47"	1 5/8"	1 9/16"	1 1/2"
BENT 5	135°24'02"	1 5/8"	1 9/16"	1 3/8"
* END BENT 2	136°17'40.5"	2 11/16"	2 11/16"	2 11/16"

\* EXISTING FORMED JOINTS AT END BENTS ARE ANTICIPATED TO BE 1 3/4" AT 60 DEGREES. FIELD VERIFY AND PROVIDE NOMINAL UNCOMPRESSED SEAL WIDTH BASED ON JOINT OPENINGS.

PROJECT NO. I-5927  
POLK COUNTY  
BRIDGE NO: 740050

SHEET 2 OF 2



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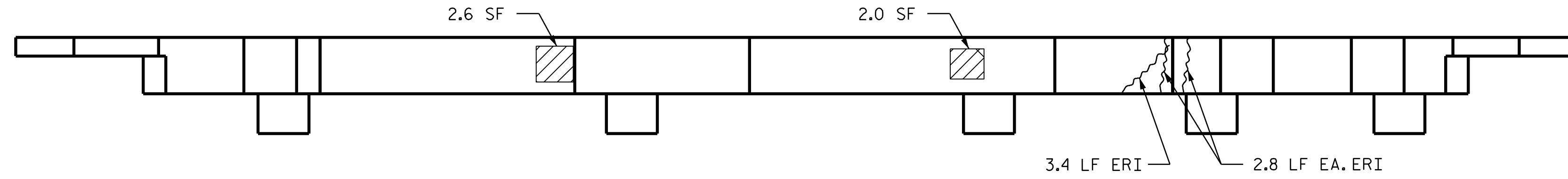
JOINT REPAIR DETAILS

**VOLKERT**  
5430 Wade Park BLVD, Suite 410  
Raleigh, NC 27607  
Tel. 919-854-0344 Fax. 919-854-0355  
NC License No. F-0765

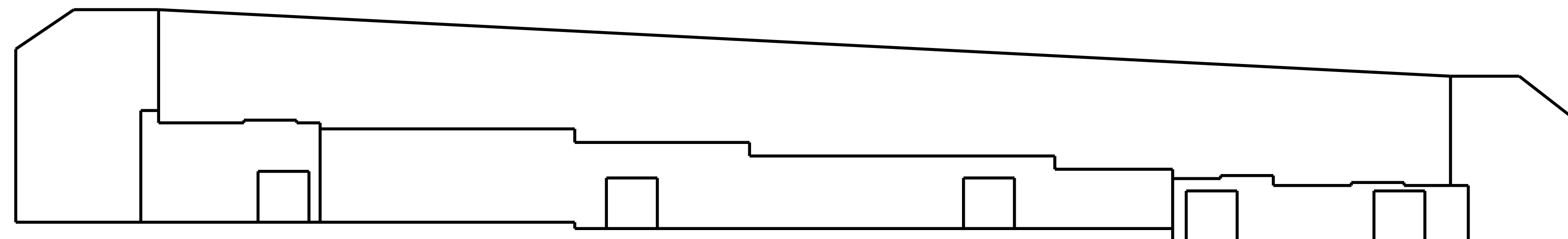
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TOP OF CAP @ END BENT 1

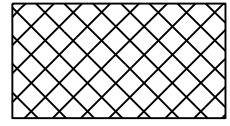
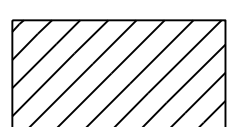
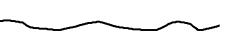


ELEVATION @ END BENT 1 (SPAN A)

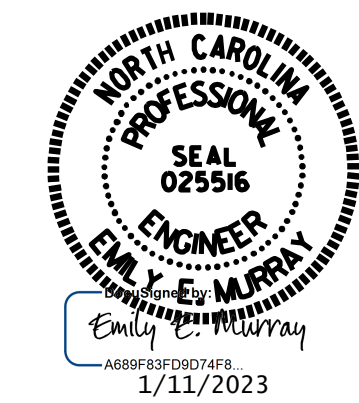
**AS-BUILT REPAIR QUANTITY TABLE**

REPAIRS	QUANTITIES			
	ESTIMATE		ACTUAL	
END BENT 1				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	4.6	2.3		
EPOXY RESIN INJECTION		LN. FT.		LN. FT.
CAP		9.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		142.2		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.

-  SHOTCRETE REPAIR
-  CONCRETE REPAIR
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050



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 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
  
**END BENT 1**

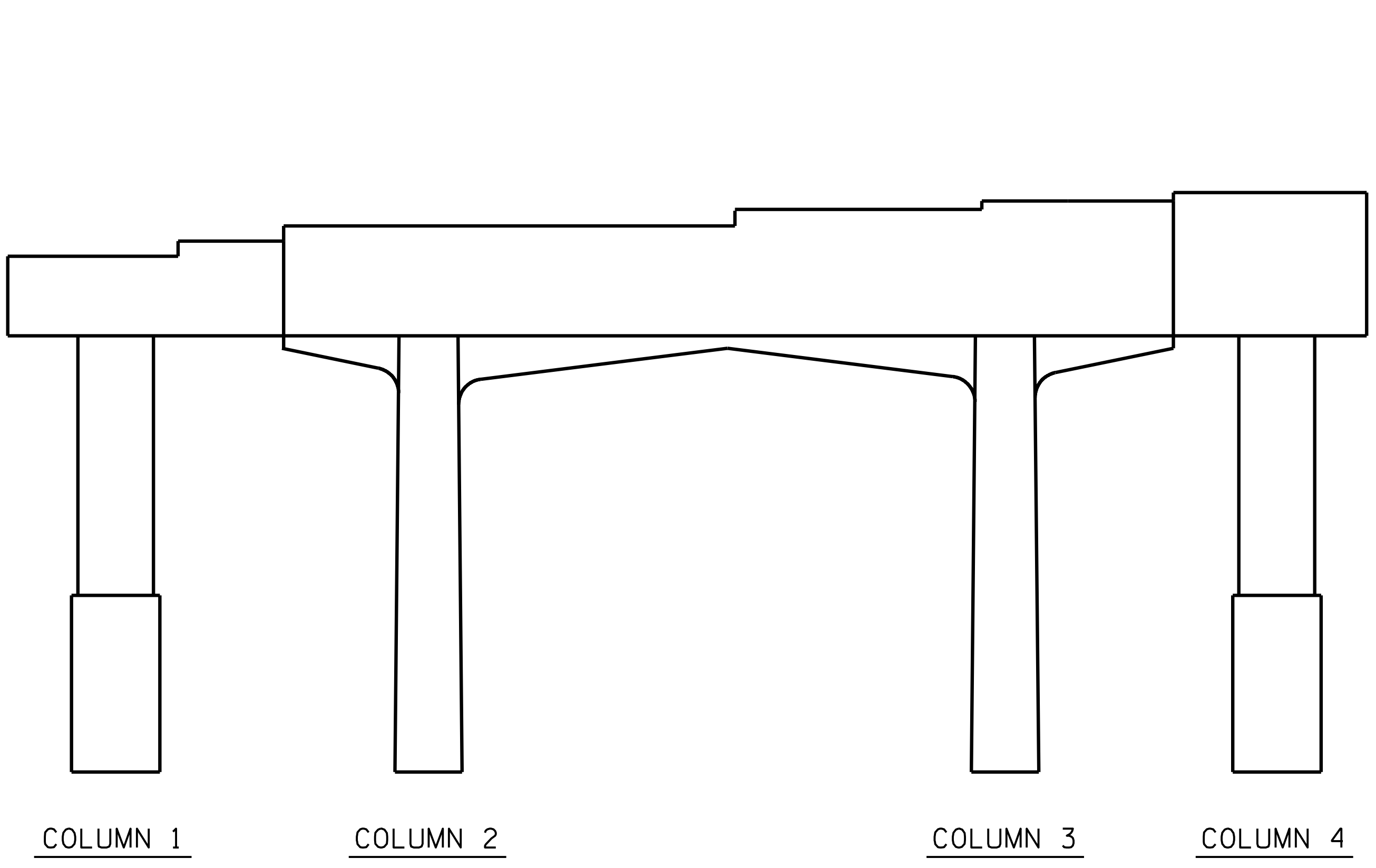
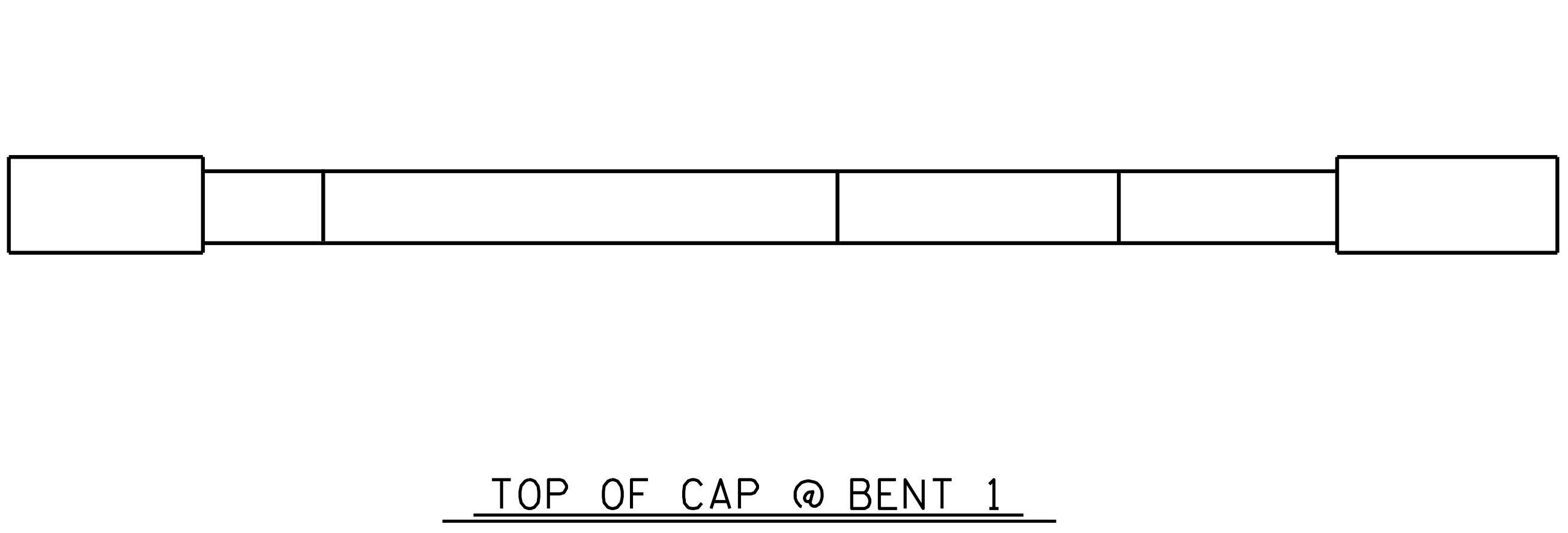
**VOLKERT**  
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 Raleigh, NC 27606  
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 NC License No. F-0765

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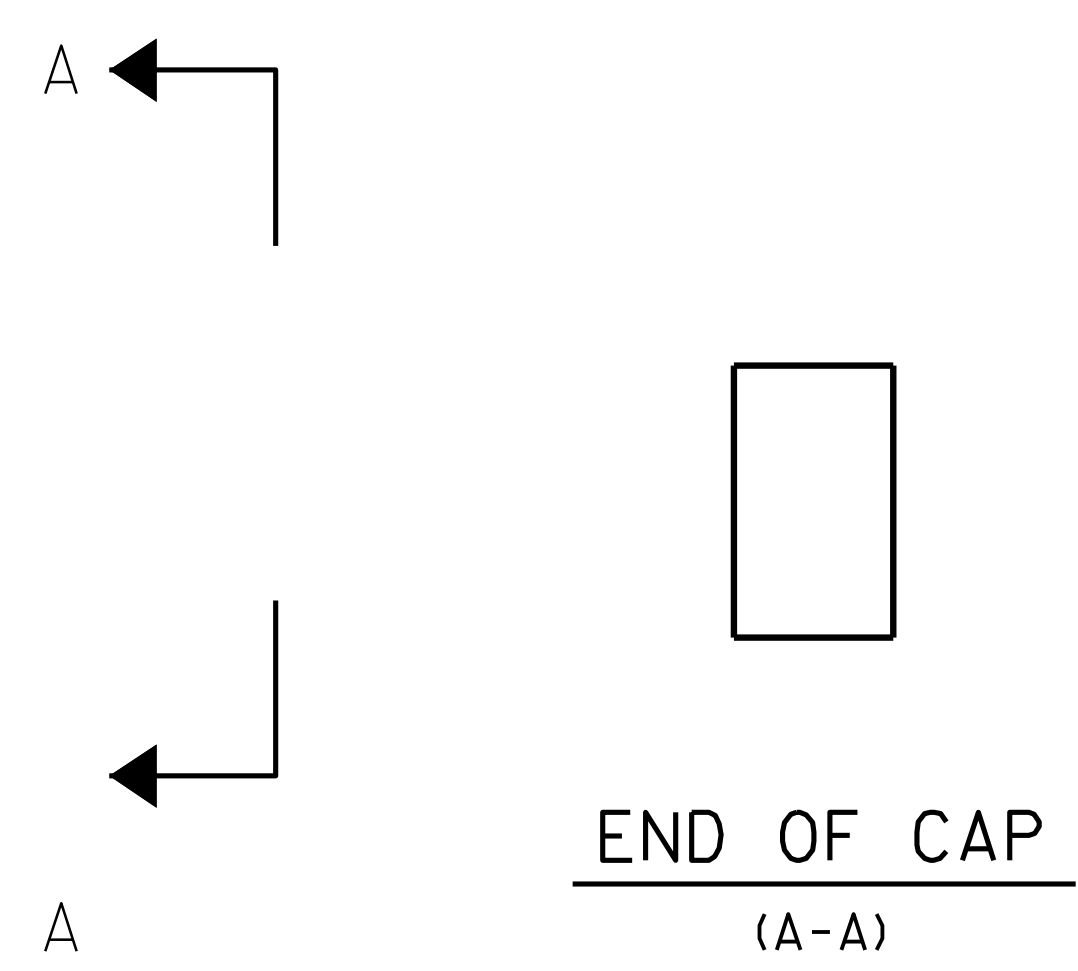
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2			4			TOTAL SHEETS 79

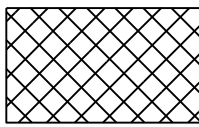
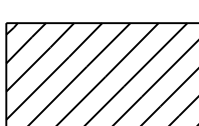
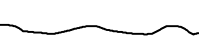
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ELEVATION @ BENT 1 (SPAN A)



-  SHOTCRETE REPAIR
-  CONCRETE REPAIR
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1  
 (SPAN A)**

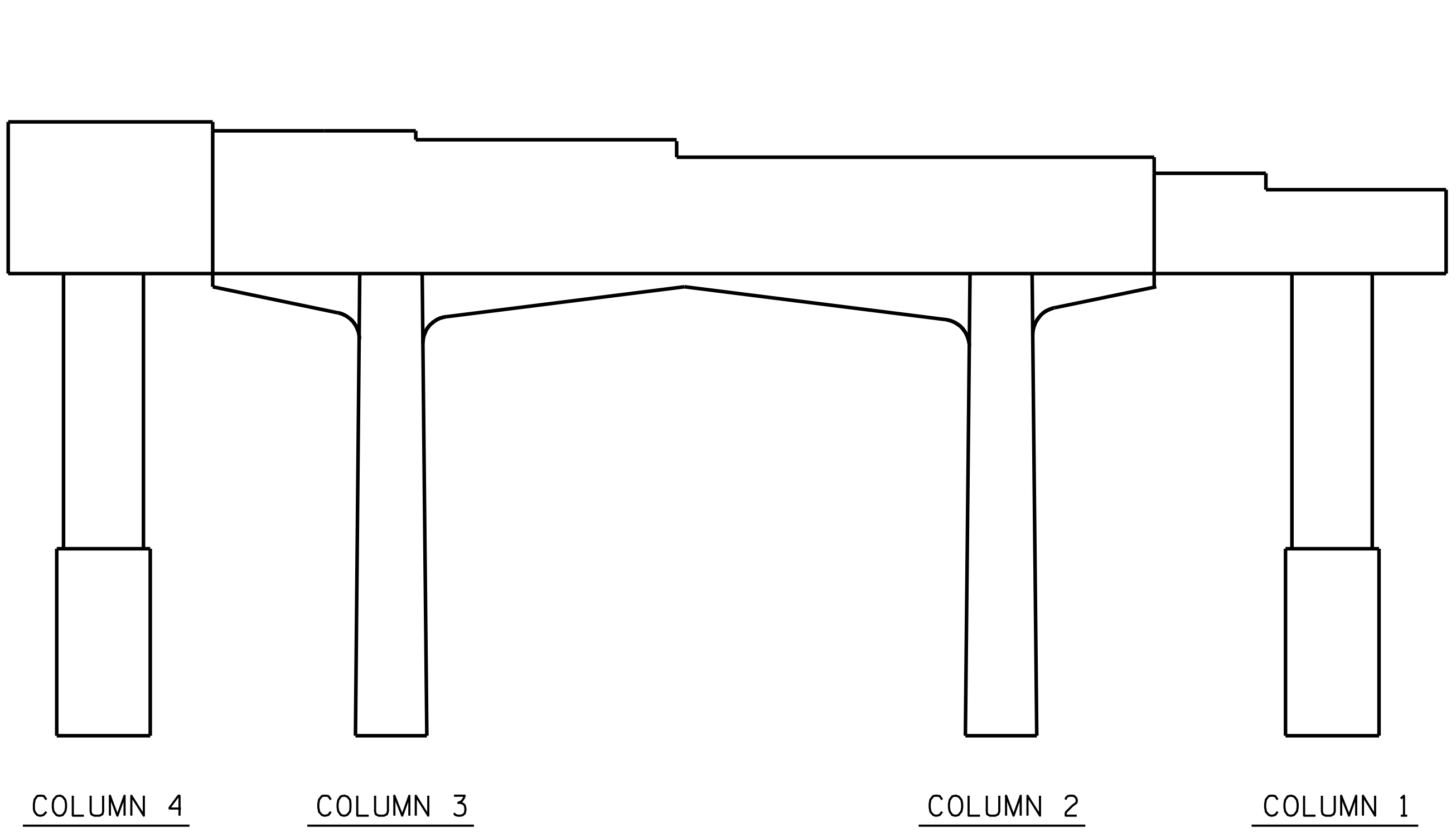
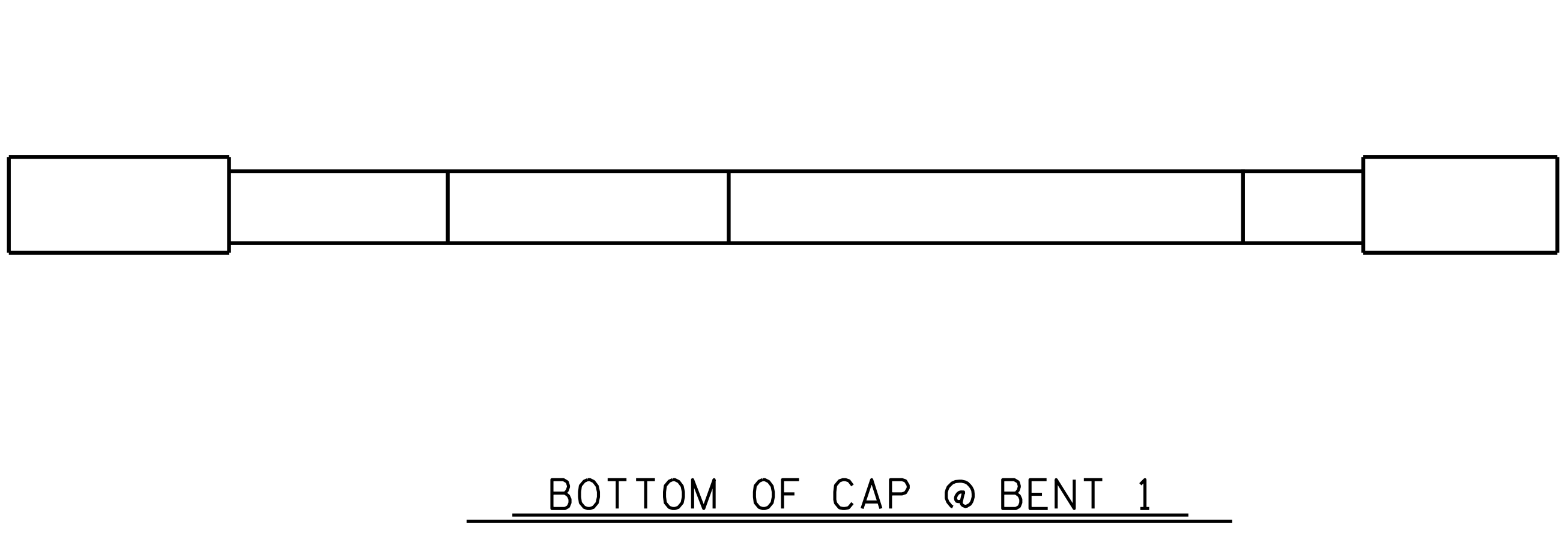


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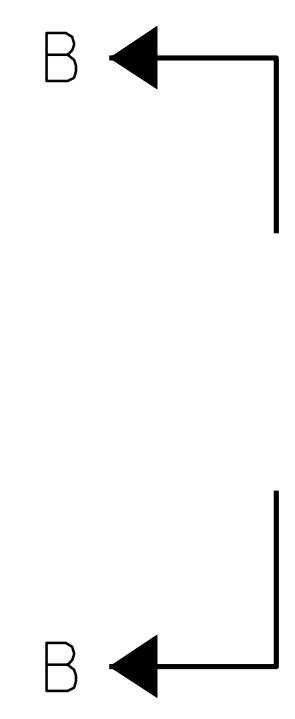
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1			3			TOTAL SHEETS
2			4			79

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SPAN A

SPAN B



**AS-BUILT REPAIR QUANTITY TABLE**

REPAIRS BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT.	LN. FT.	
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
TOP OF BENT CAP		182.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.

- SHOTCRETE REPAIR
- CONCRETE REPAIR
- EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1  
 (SPAN B)**



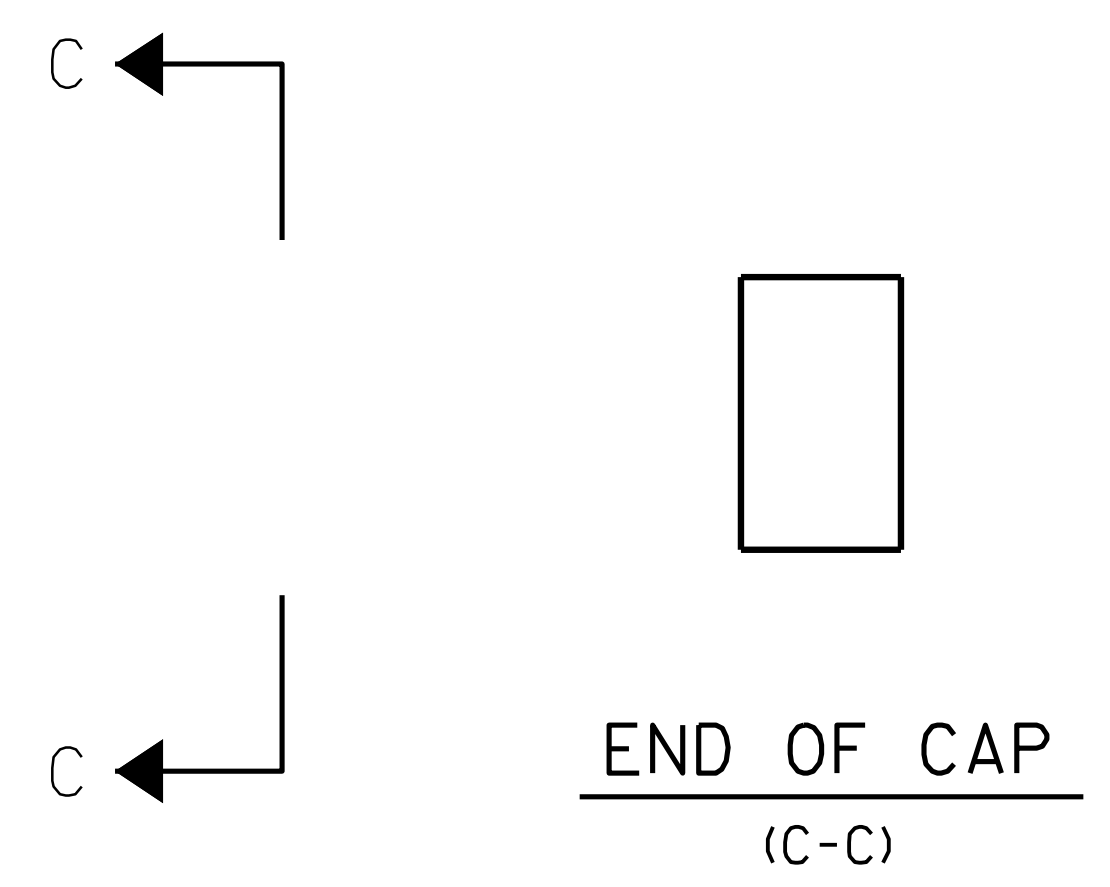
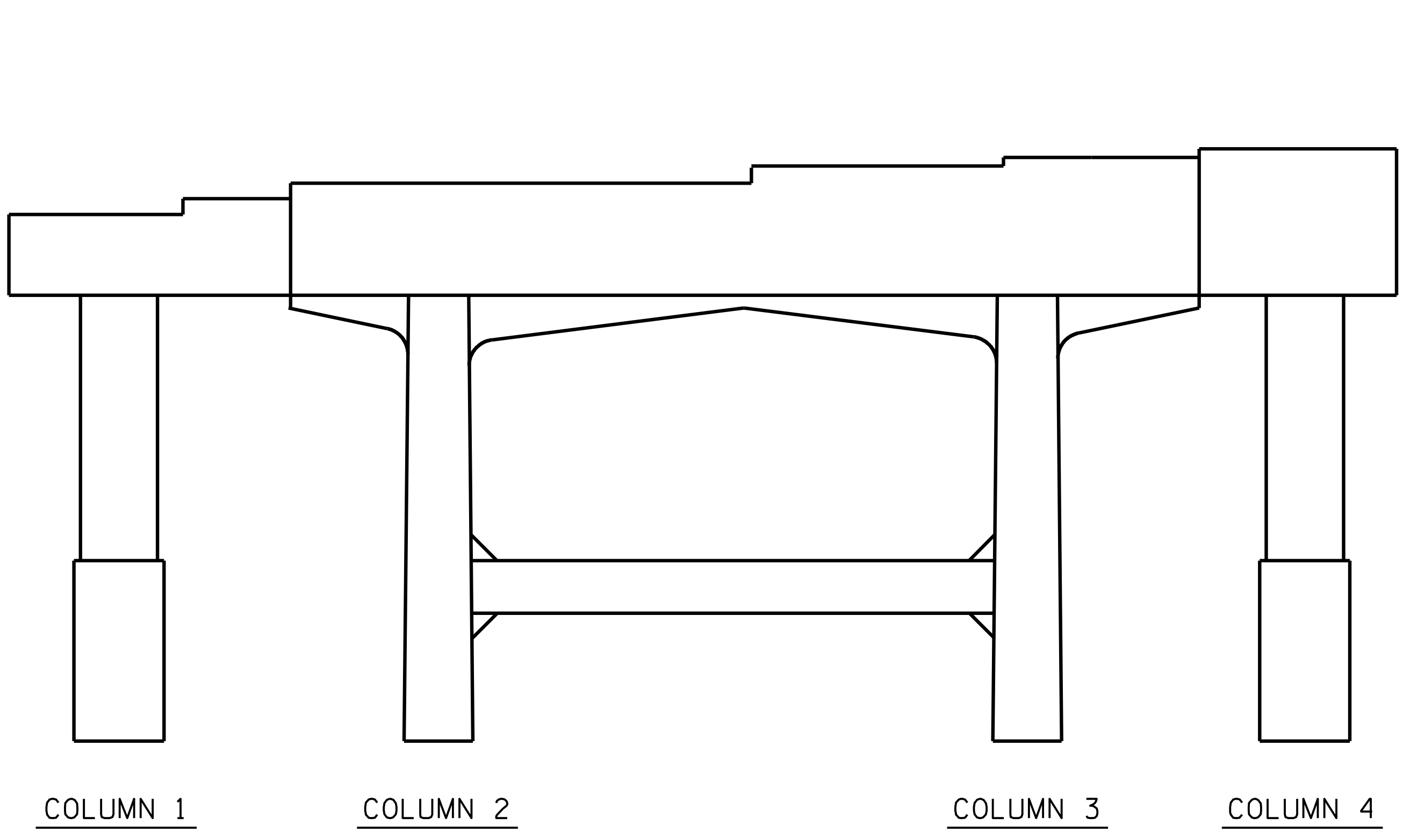
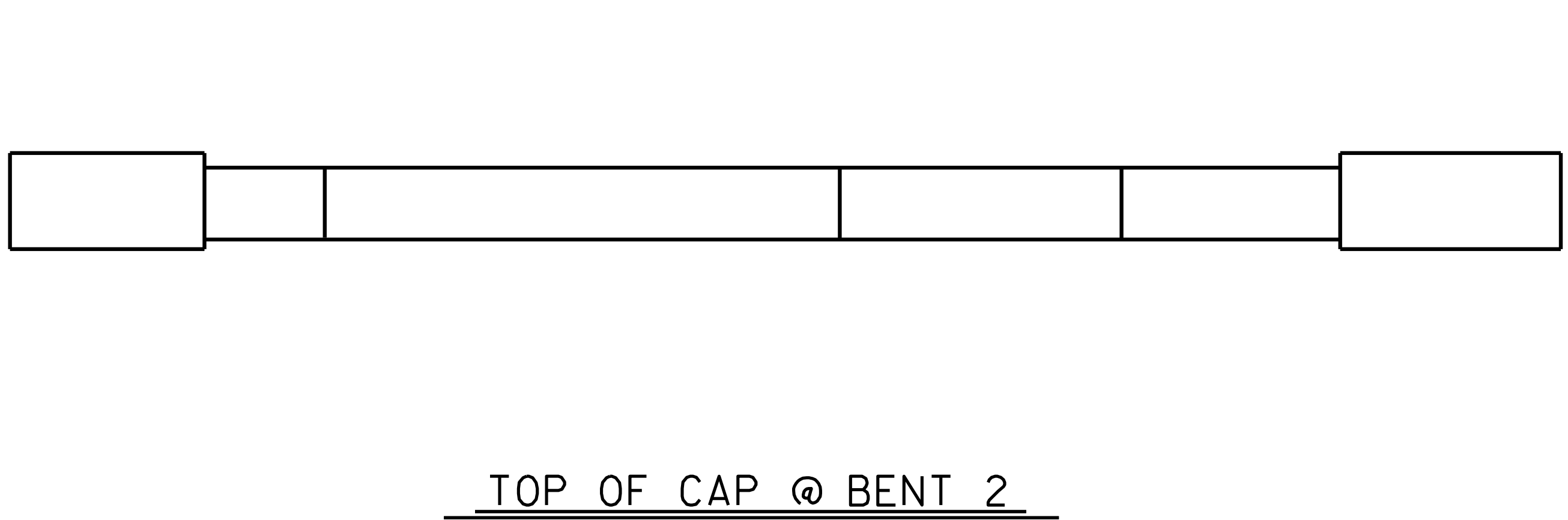
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 NC License No. F-0765


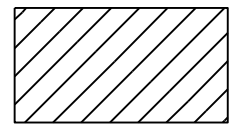

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2			4			

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-  SHOTCRETE REPAIR
-  CONCRETE REPAIR
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050

SHEET 1 OF 2  
 STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 BENT 2  
 (SPAN B)

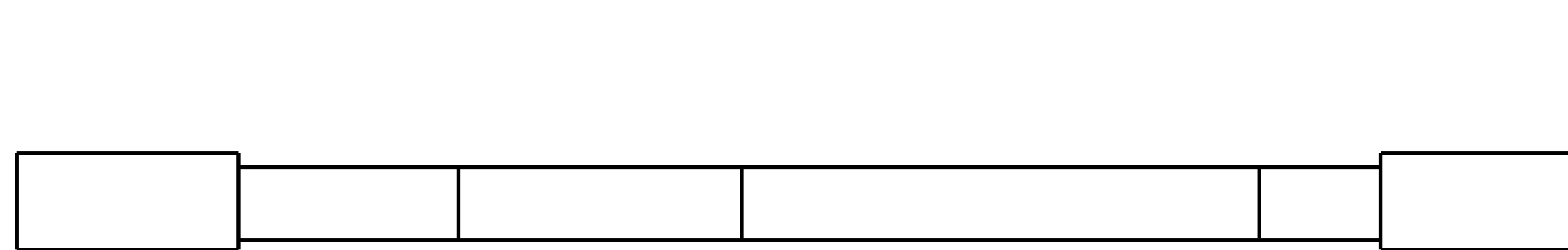


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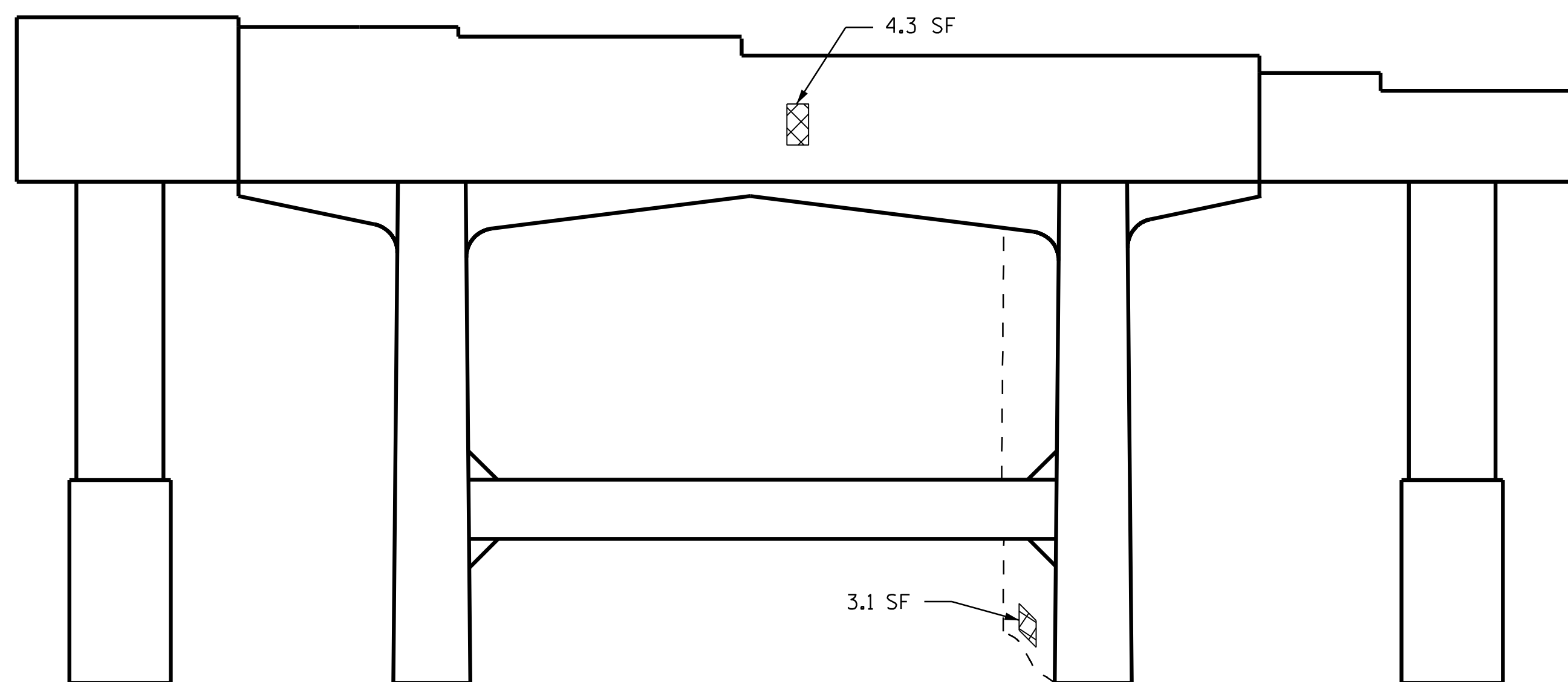
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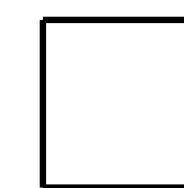
BOTTOM OF CAP @ BENT 2



ELEVATION @ BENT 2 (SPAN C)

SPAN B

SPAN C

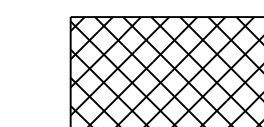


END OF CAP  
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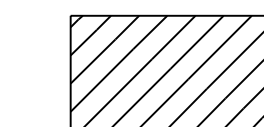
**AS-BUILT REPAIR QUANTITY TABLE**

REPAIRS BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	4.3	2.2		
COLUMN	3.1	1.6		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT.	LN. FT.	LN. FT.	LN. FT.
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.
TOP OF BENT CAP	184.1			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.



SHOTCRETE REPAIR



CONCRETE REPAIR



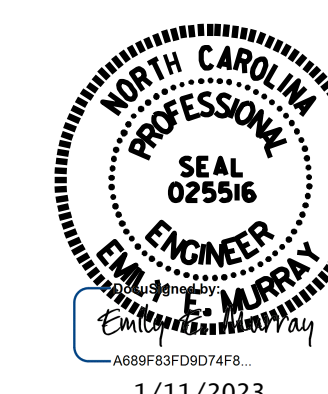
EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 2**  
**(SPAN C)**



**VOLKERT**

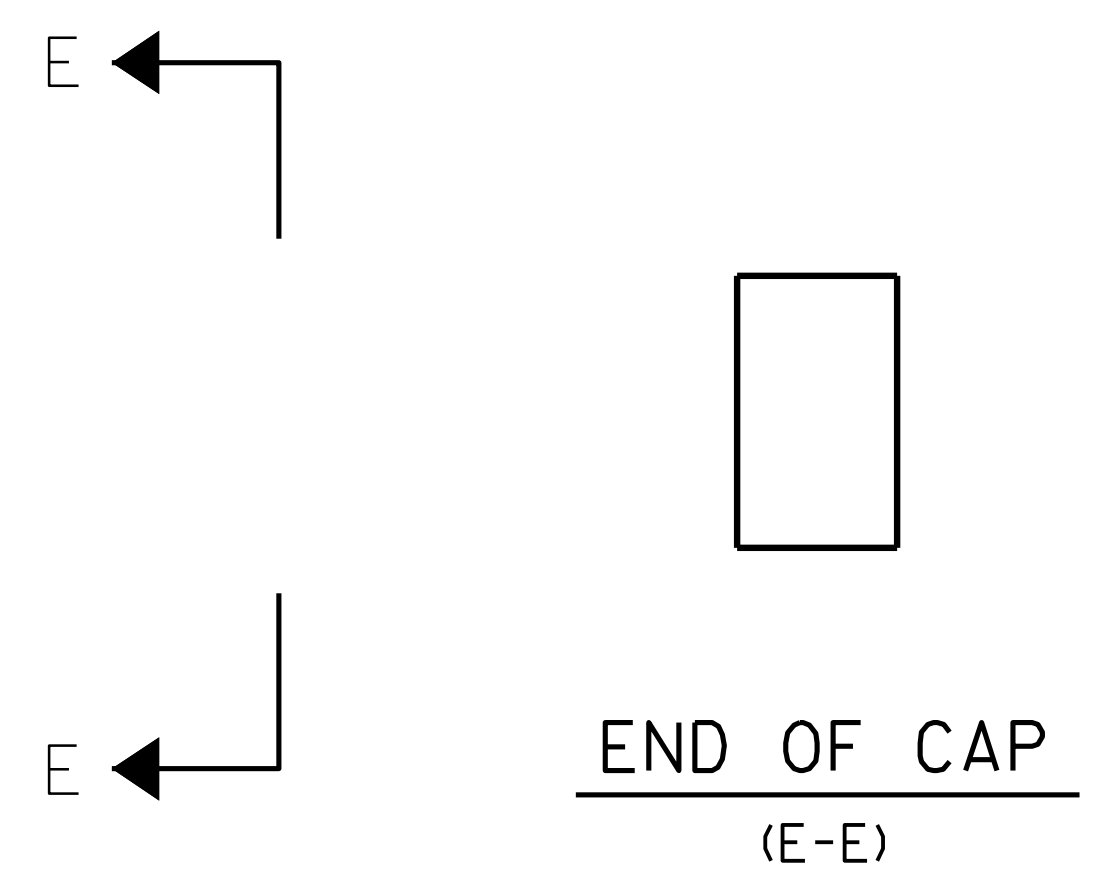
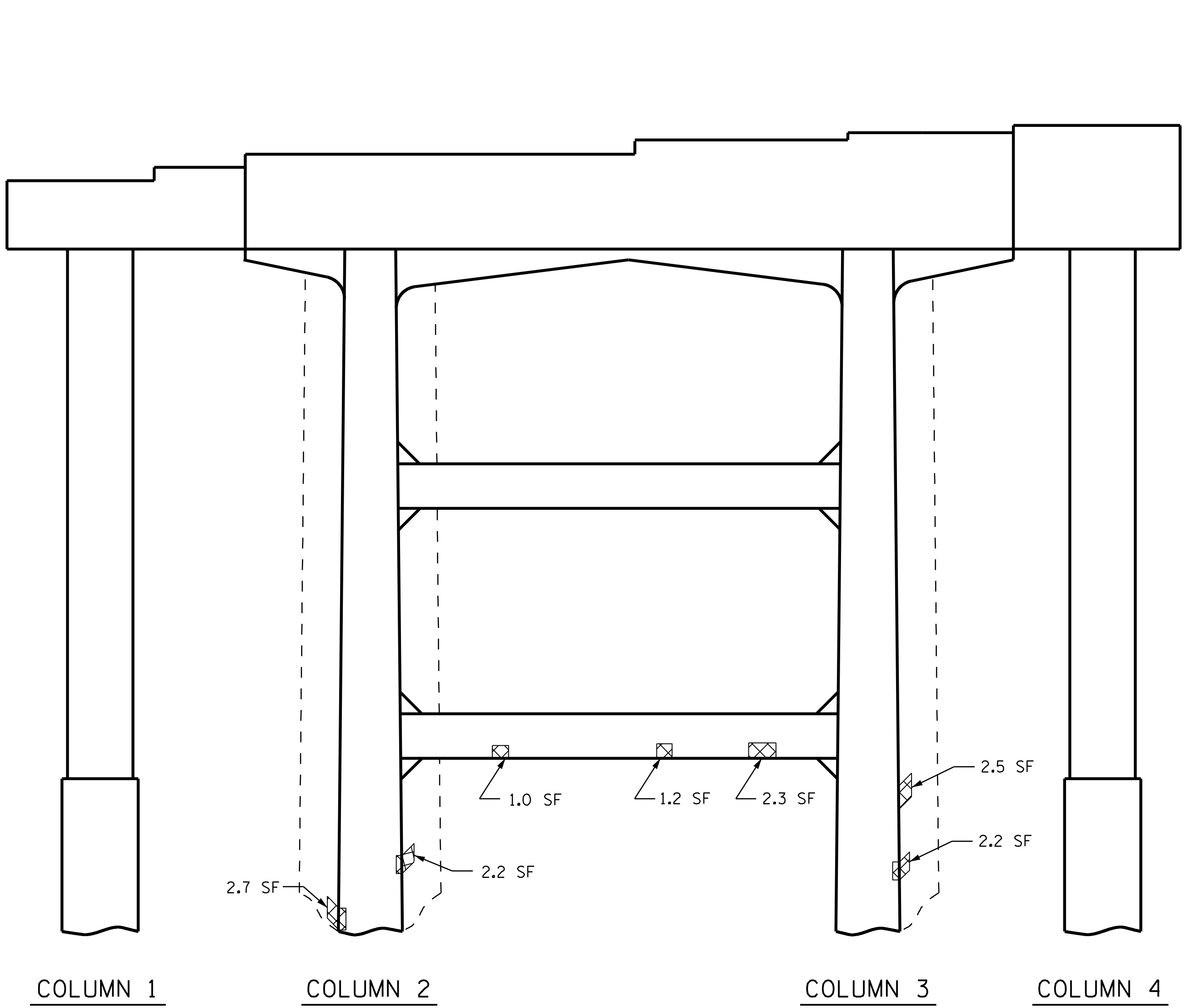
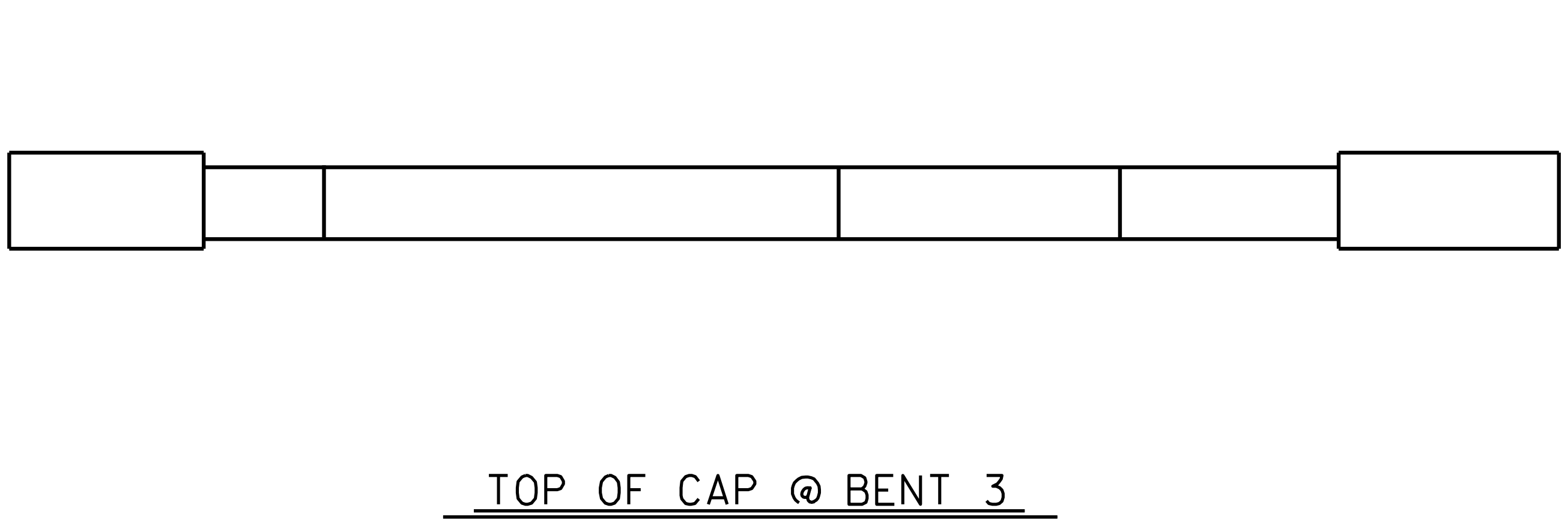
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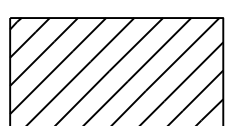
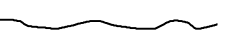
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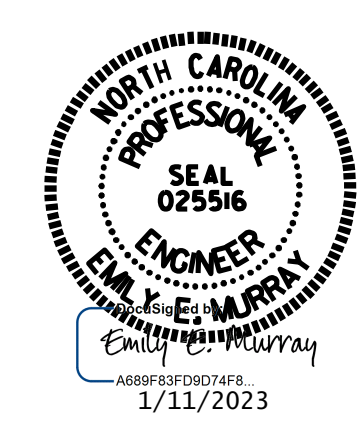
-  SHOTCRETE REPAIR
-  CONCRETE REPAIR
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 3  
 (SPAN C)**



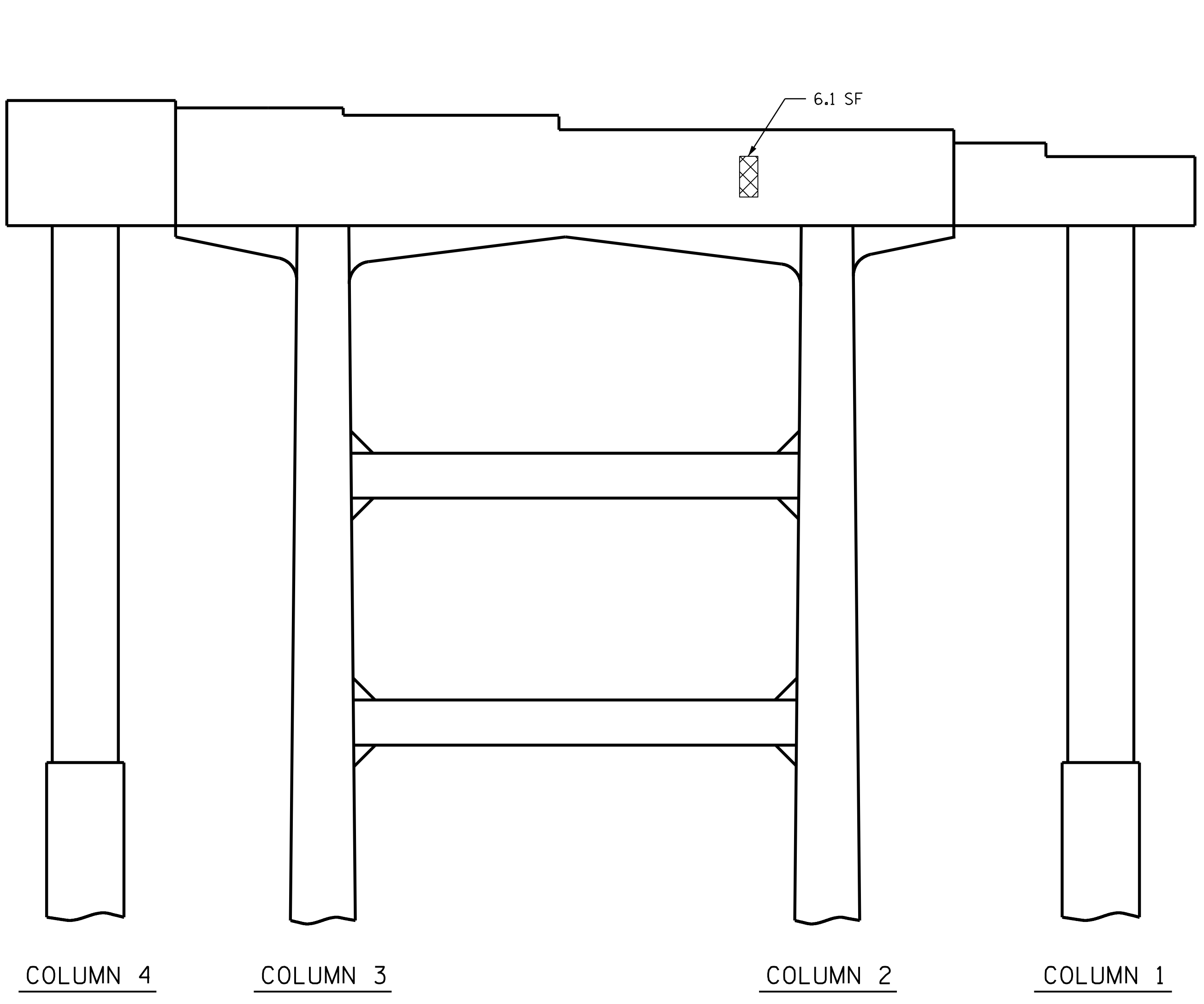
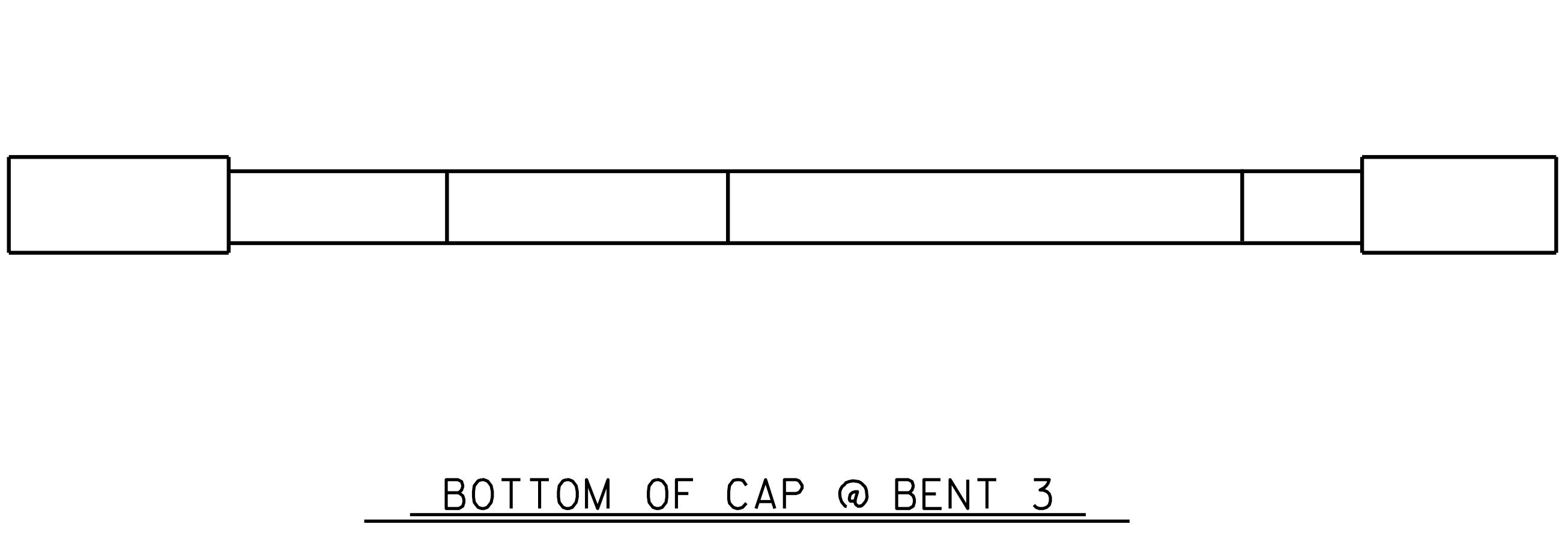
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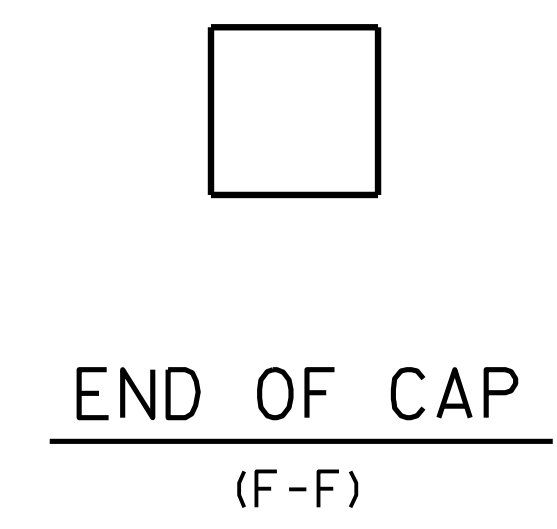
ELEVATION @ BENT 3 (SPAN C)



SPAN C

SPAN D

F ←  
F ←



**AS-BUILT REPAIR QUANTITY TABLE**

REPAIRS BENT 3	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	6.1	3.1		
COLUMN	14.1	7.1		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT.	LN. FT.		
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.	SQ. FT.		
TOP OF BENT CAP	186.9			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.

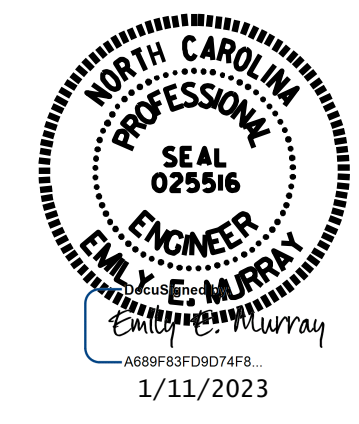
- SHOTCRETE REPAIR
- CONCRETE REPAIR
- EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 3**  
 (SPAN D)



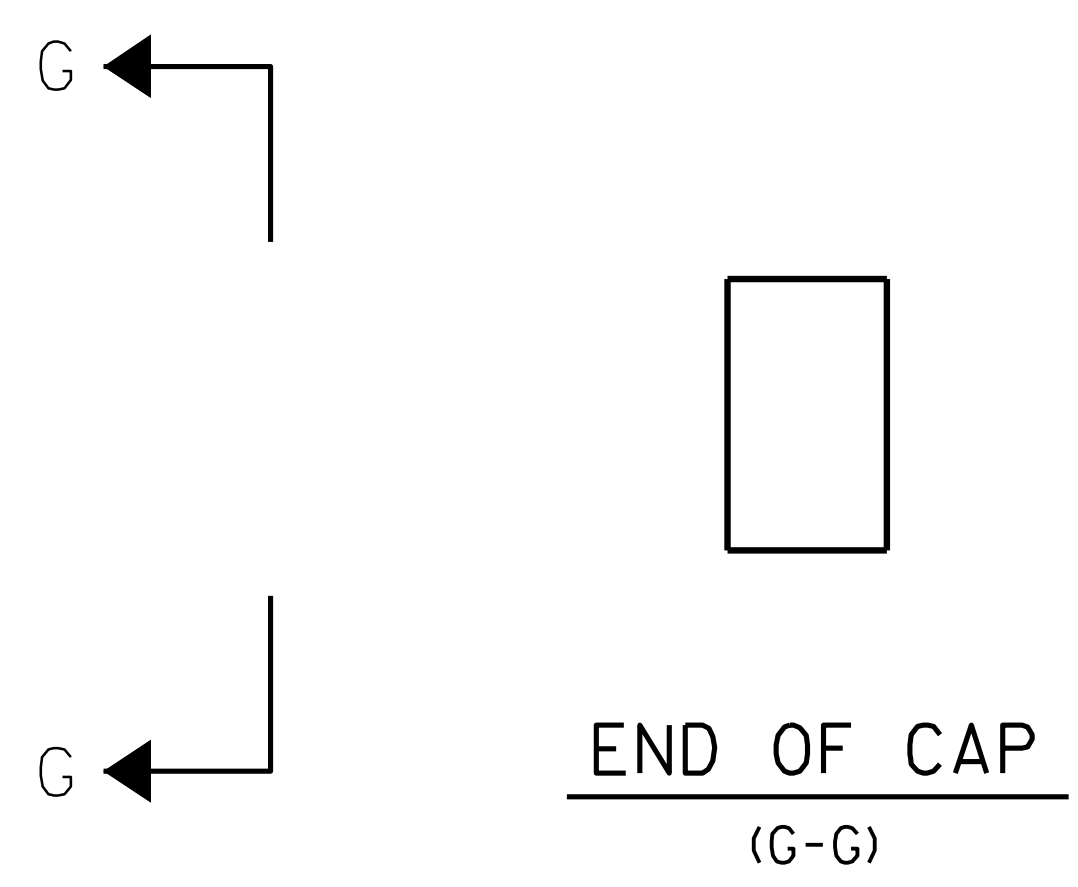
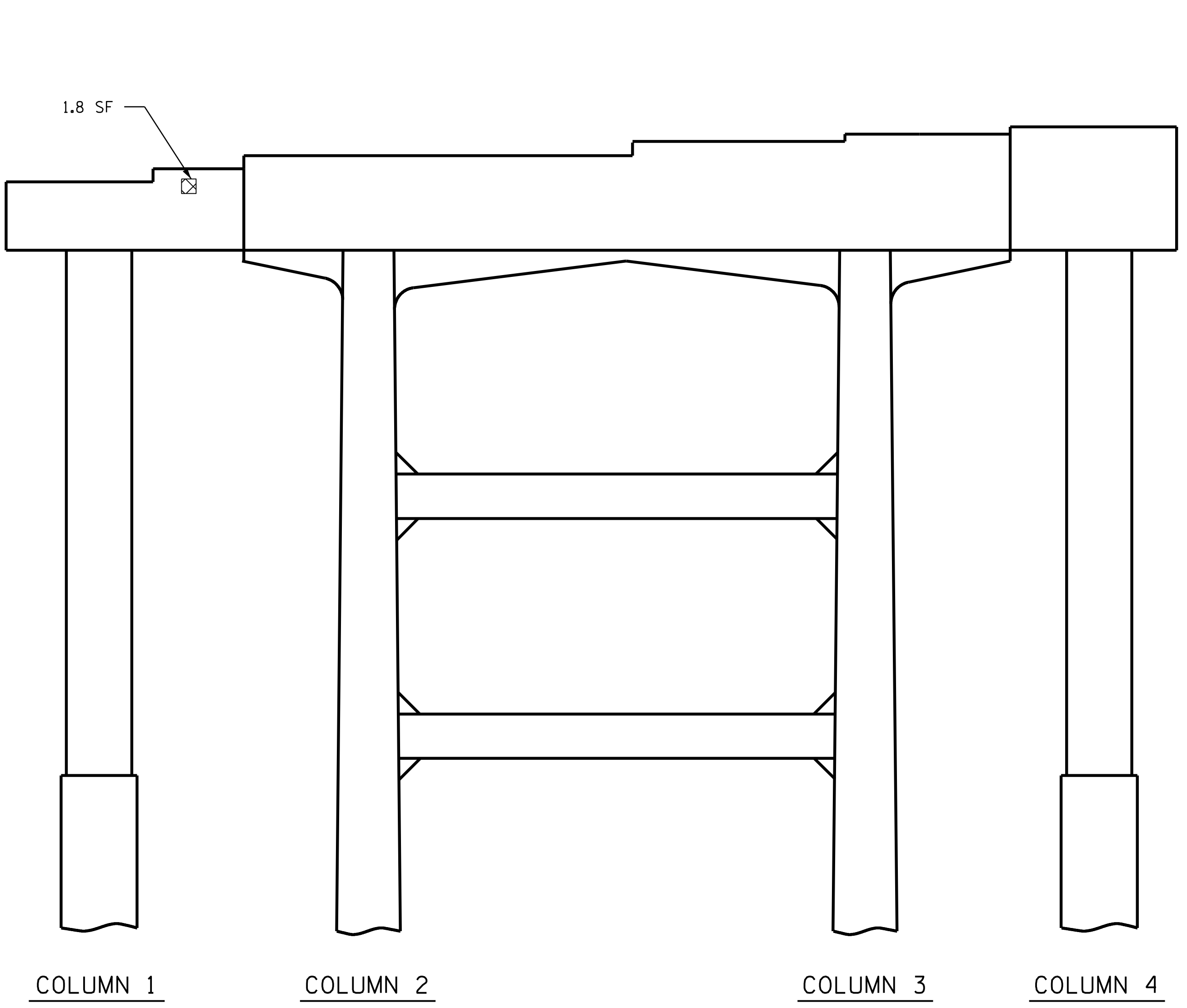
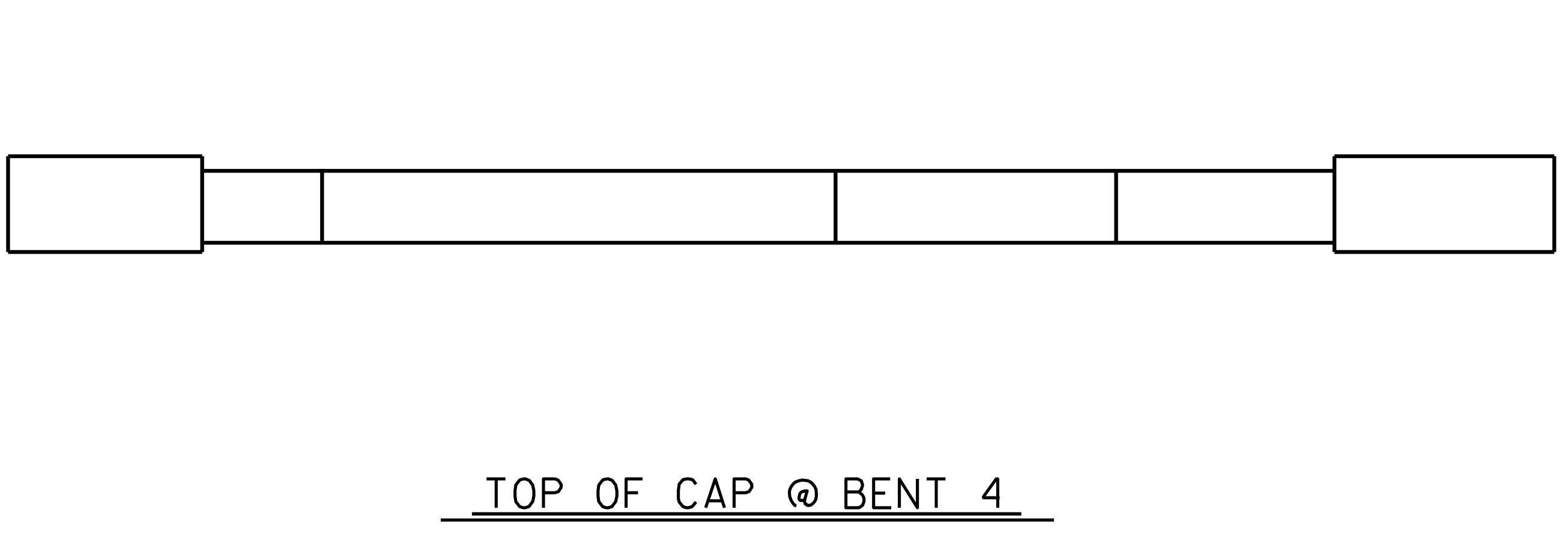
**VOLKERT**  
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 Raleigh, NC 27606  
 Tel. 919-854-0344 Fax. 919-854-0355  
 NC License No. F-0765

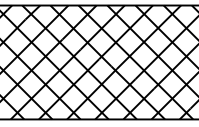
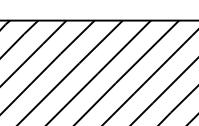

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-70
1			3			TOTAL SHEETS
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22





-  SHOTCRETE REPAIR
-  CONCRETE REPAIR
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 4  
 (SPAN D)**



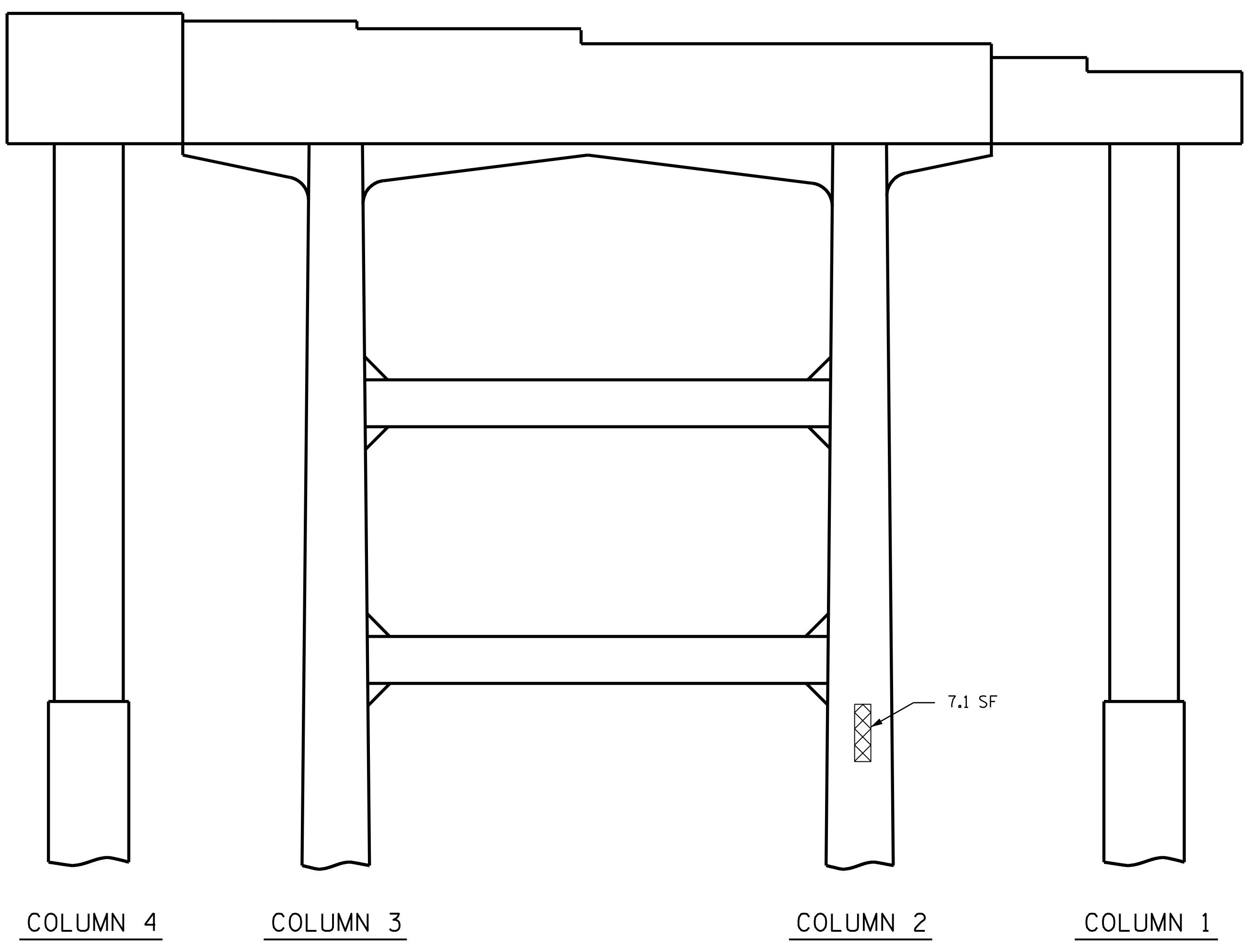
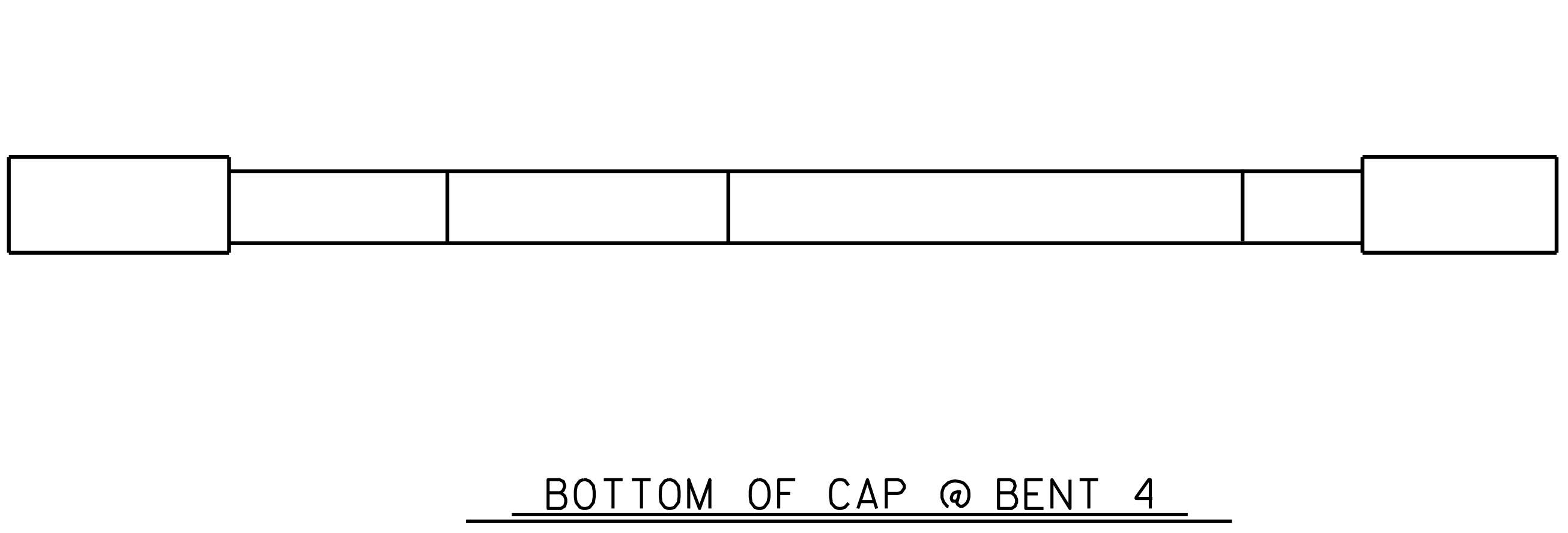
**VOLKERT**  
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 Raleigh, NC 27606  
 Tel. 919-854-0344 Fax. 919-854-0355  
 NC License No. F-0765

DOCUMENT NOT CONSIDERED  
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 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-71
1			3			TOTAL SHEETS
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22

ELEVATION @ BENT 4 (SPAN D)



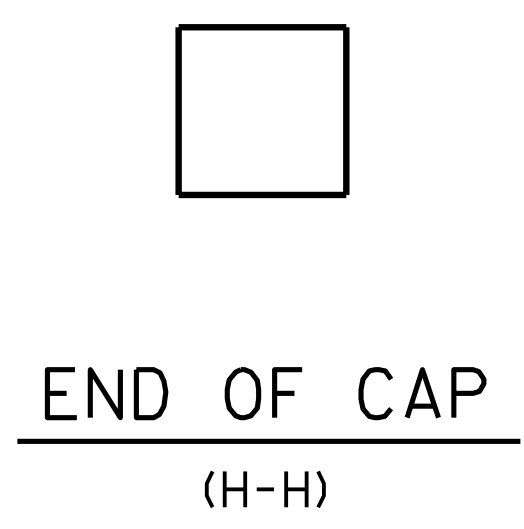
ELEVATION @ BENT 4 (SPAN E)

**AS-BUILT REPAIR QUANTITY TABLE**

REPAIRS BENT 4	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	1.8	0.9		
COLUMN	7.1	3.6		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT.	LN. FT.		
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.	SQ. FT.		
TOP OF BENT CAP	190.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.

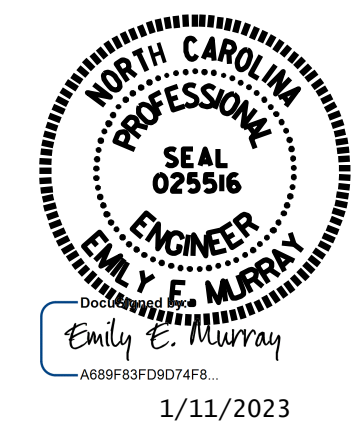
- SHOTCRETE REPAIR
- CONCRETE REPAIR
- EPOXY RESIN INJECTION (ERI)



PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 4**  
 (SPAN E)



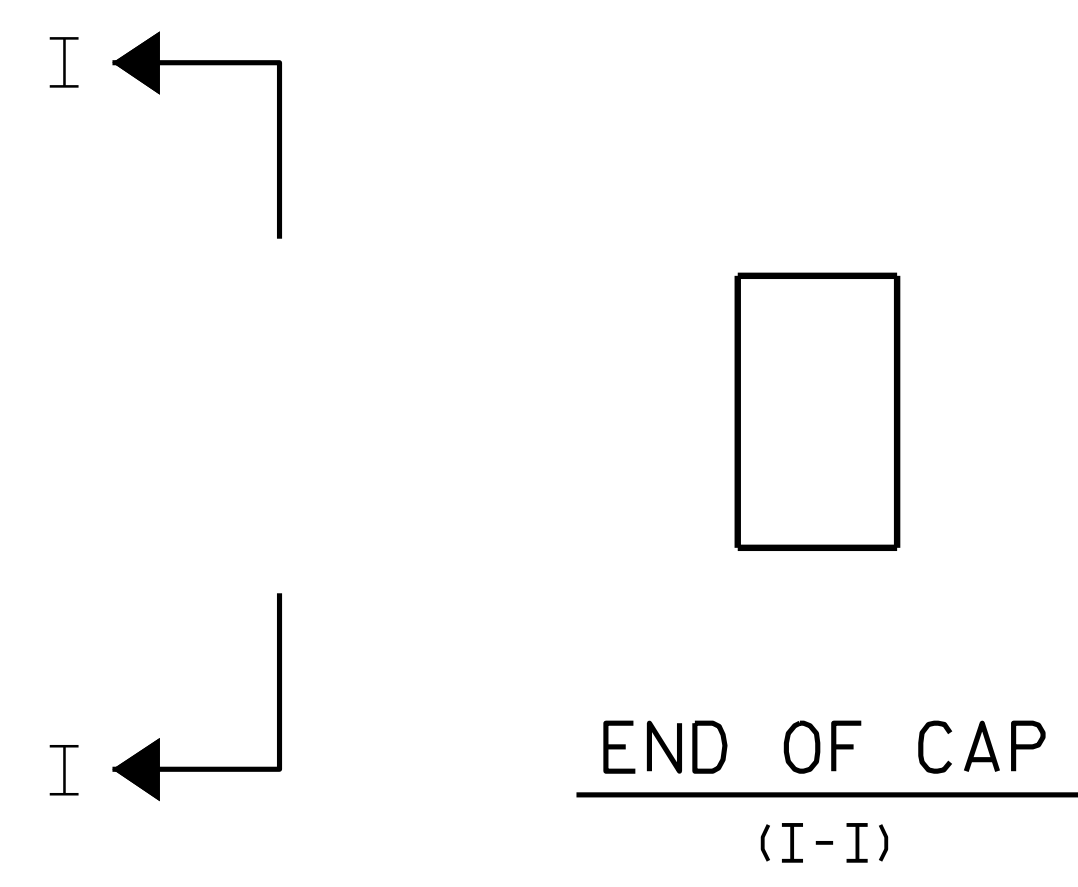
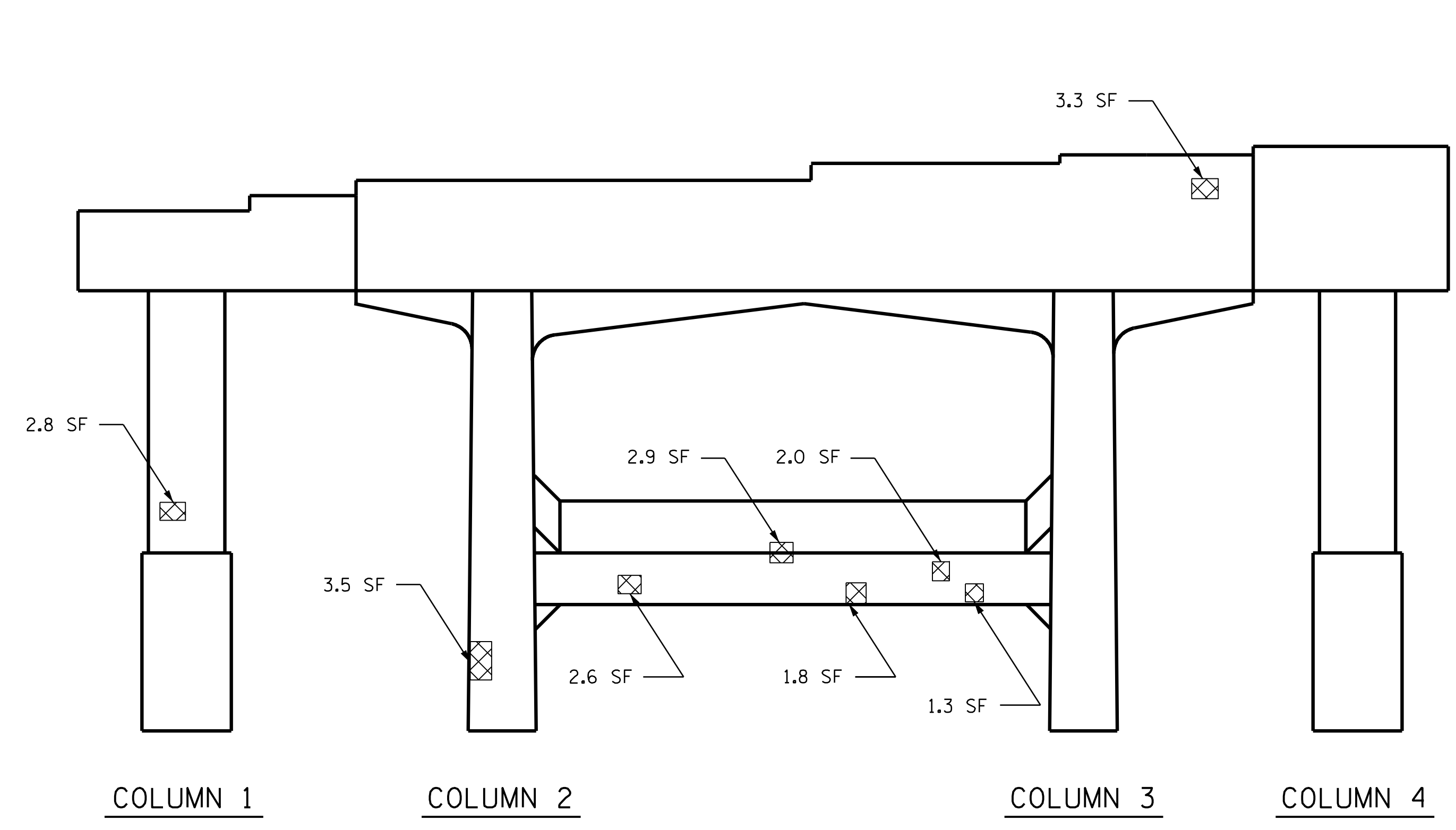
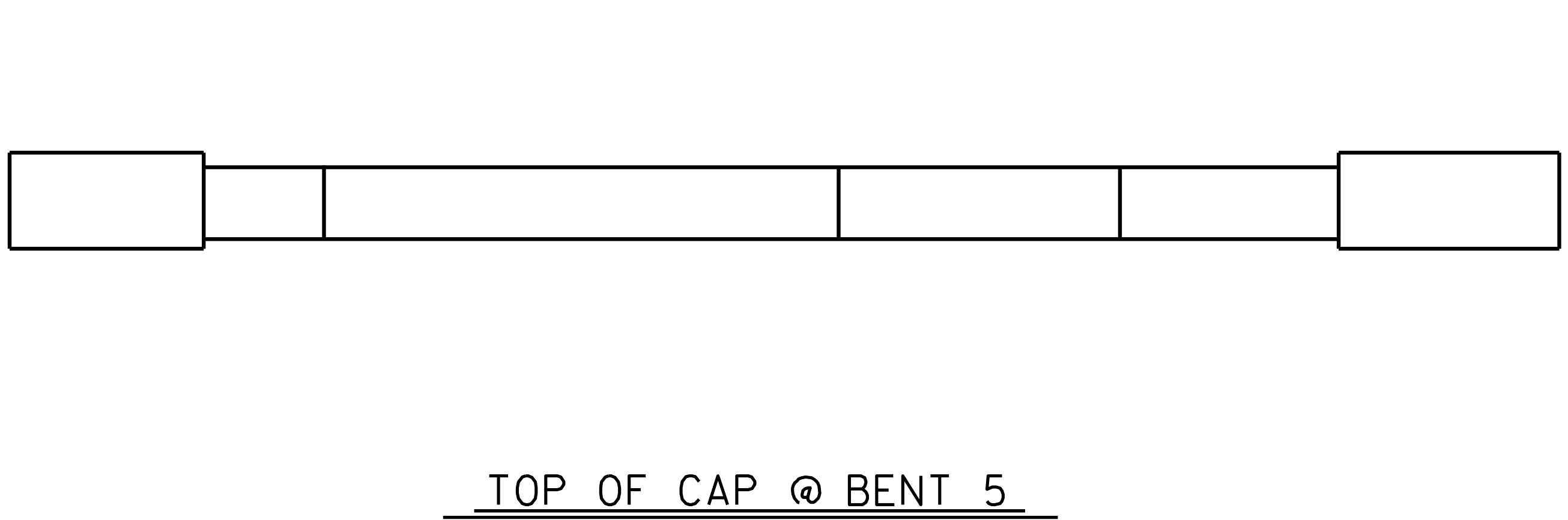
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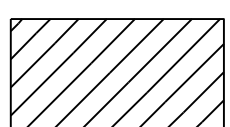
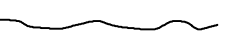
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-72
1			3			TOTAL SHEETS
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22





-  SHOTCRETE REPAIR
-  CONCRETE REPAIR
-  EPOXY RESIN INJECTION (ERI)

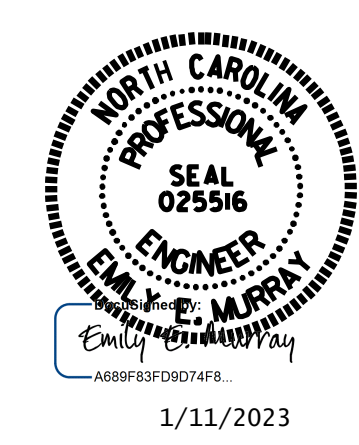
ELEVATION @ BENT 5 (SPAN D)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 5  
 (SPAN E)**

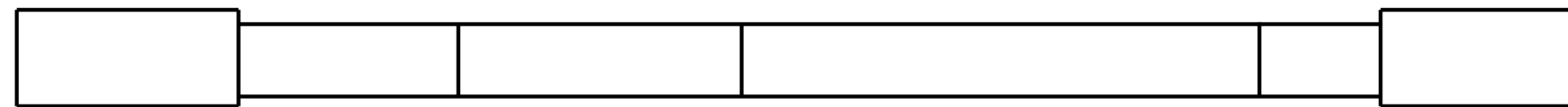


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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-73
1			3			TOTAL SHEETS
2			4			79

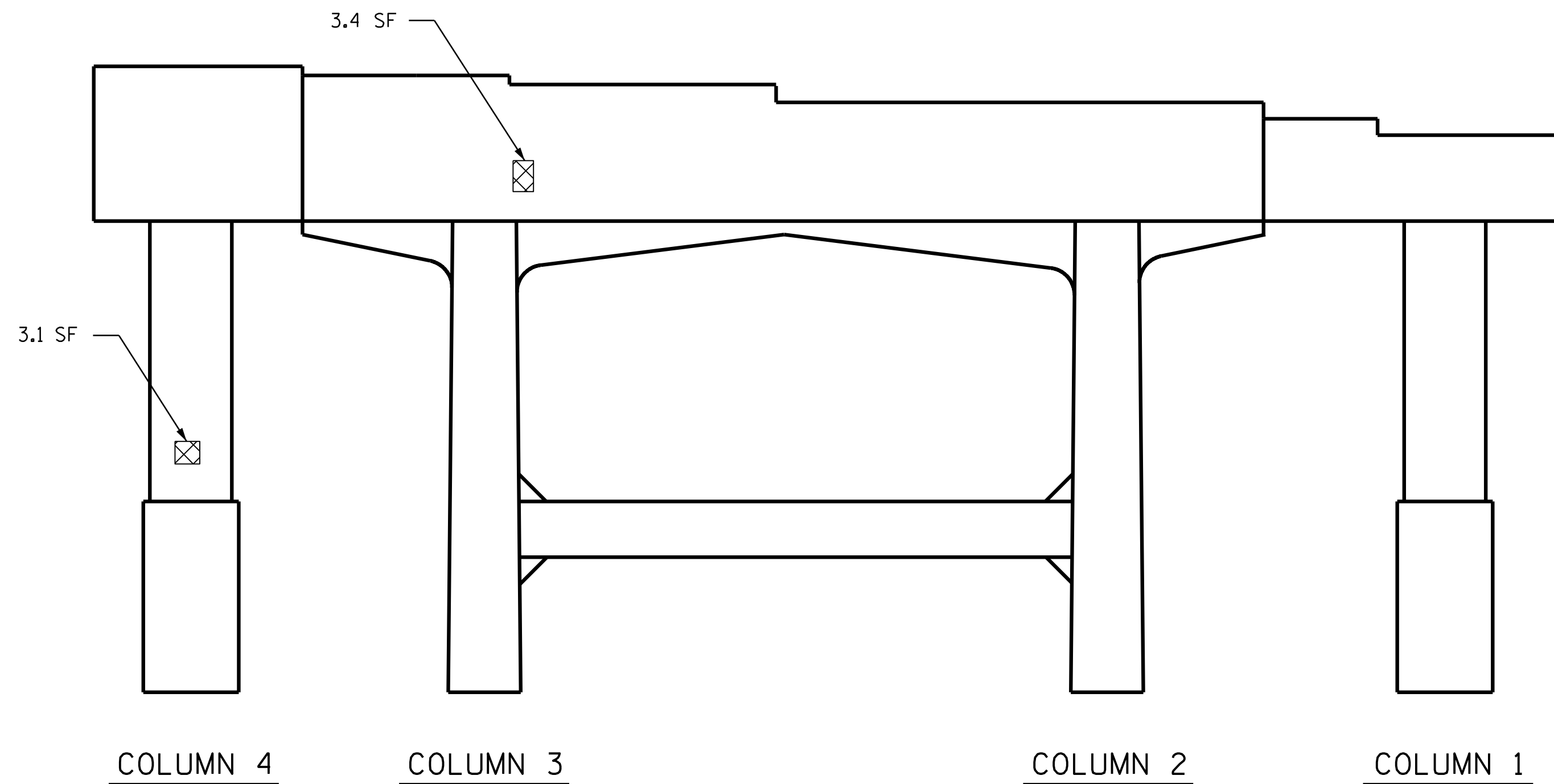
DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22



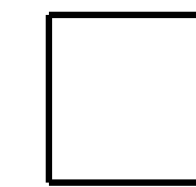
SPAN E

SPAN F

BOTTOM OF CAP @ BENT 5



ELEVATION @ BENT 5 (SPAN F)



END OF CAP  
(J-J)

AS-BUILT REPAIR QUANTITY TABLE				
REPAIRS BENT 5	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	6.7	3.4		
COLUMN	20.0	10.0		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT.	LN. FT.	LN. FT.	LN. FT.
CAP		0.0		
COLUMN		0.0		
EPOXY COATING	SO. FT.	SO. FT.	SO. FT.	SO. FT.
TOP OF BENT CAP		195.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.

- SHOTCRETE REPAIR
- CONCRETE REPAIR
- EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050

SHEET 2 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 5**  
(SPAN F)

**VOLKERT**

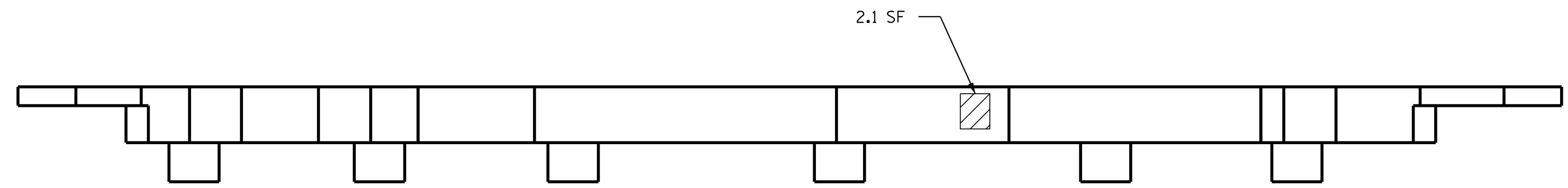
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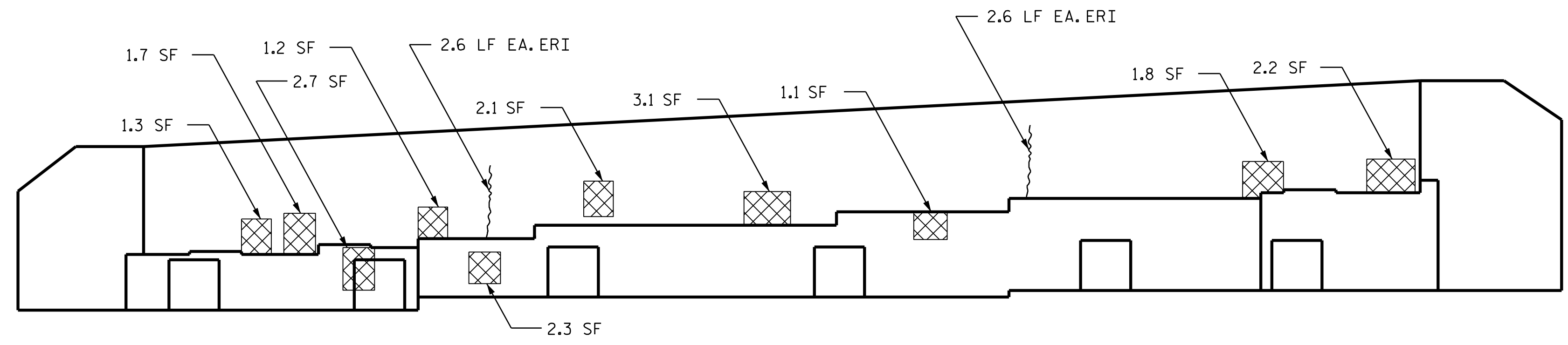
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-74
1			3			TOTAL SHEETS
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22





TOP OF CAP @ END BENT 2



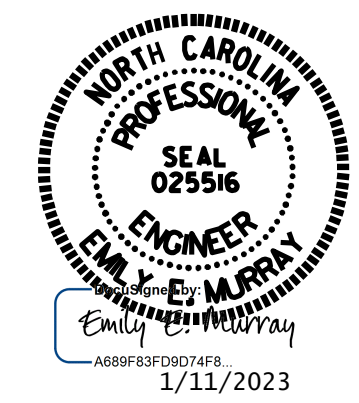
ELEVATION @ END BENT 2 (SPAN C)

AS-BUILT REPAIR QUANTITY TABLE				
REPAIRS END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	19.5	9.8		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	2.1	1.1		
EPOXY RESIN INJECTION	LN. FT.		LN. FT.	
CAP	5.2			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP	111.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT.

- SHOTCRETE REPAIR
- CONCRETE REPAIR
- EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740050



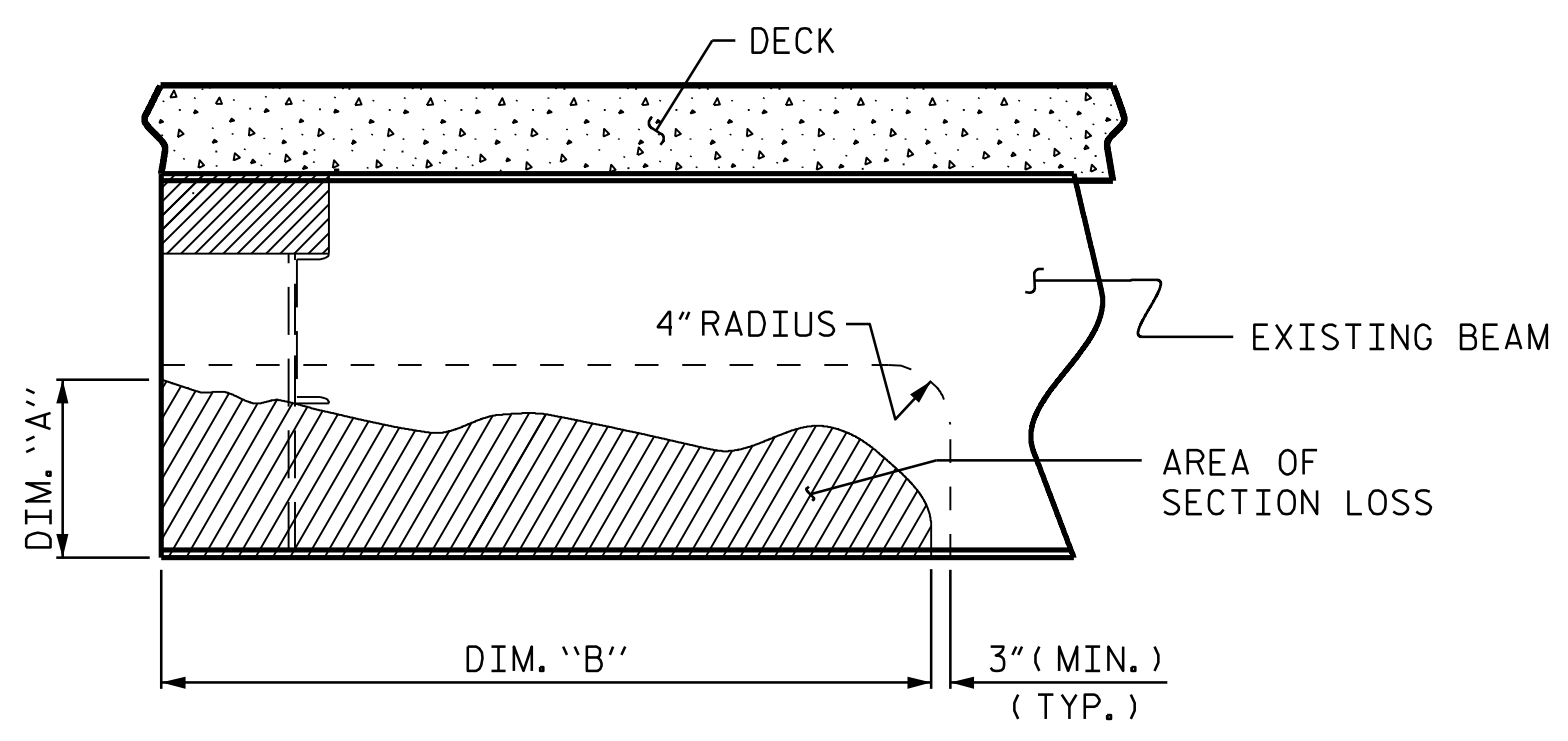
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
  
**END BENT 2**

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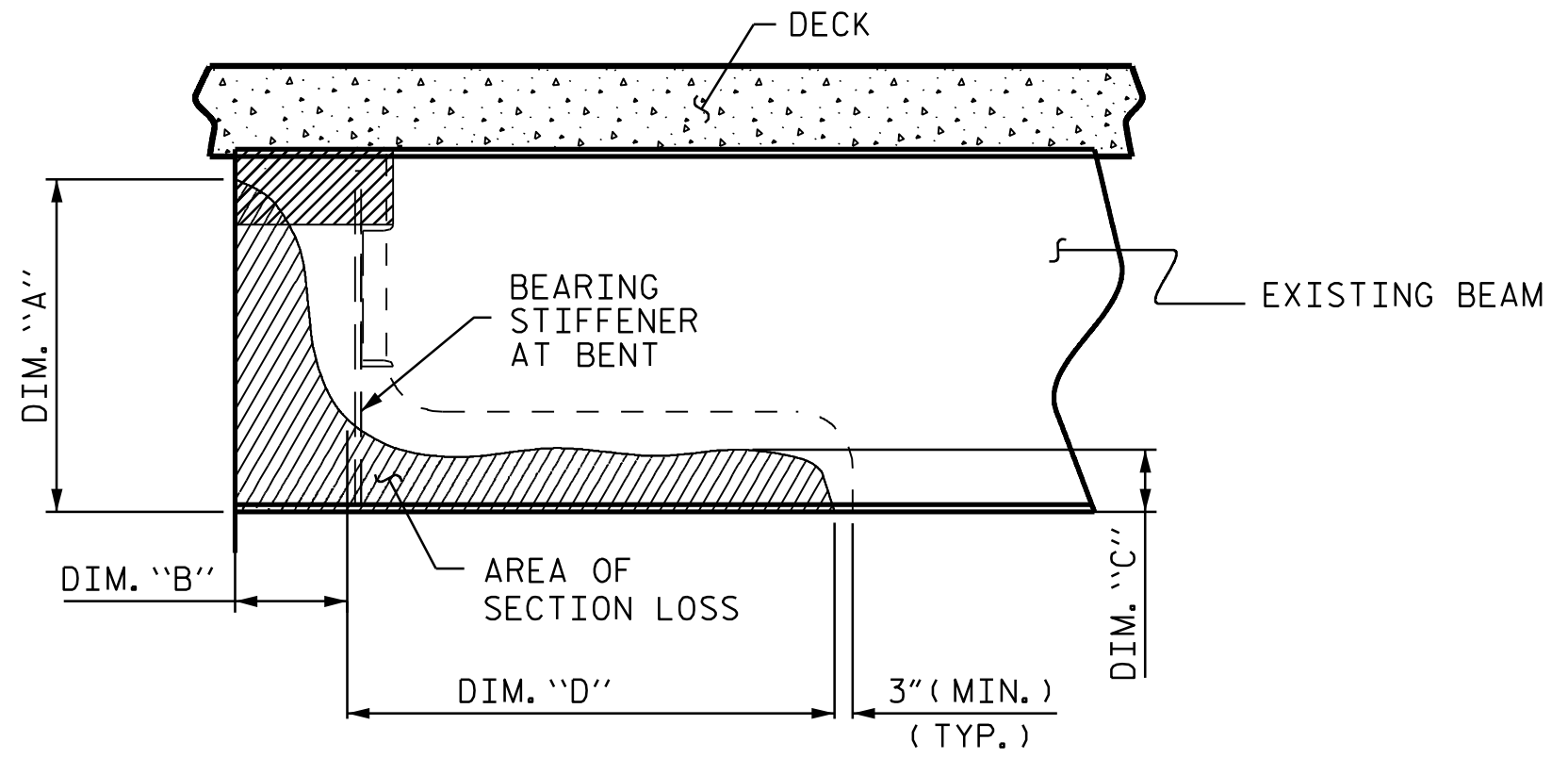
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-75
1			3			TOTAL SHEETS
2			4			79

DRAWN BY : D. A. GLADDEN DATE : 5/21  
 CHECKED BY : E. MURRAY DATE : 12/22



SECTION LOSS BEAM END REMOVAL



SECTION LOSS BEAM END REMOVAL

\* NOT NEEDED IF REPAIRED SECTION IS CUT FROM A ROLLED BEAM

NOTES

AFTER THE STRUCTURAL STEEL HAS BEEN BLASTED AND PRIMED, THE STRUCTURAL STEEL AND BEARING SHALL BE INSPECTED FOR EXCESSIVE SECTION LOSS. AREAS THAT EXHIBIT AN EXCESS OF 35% SECTION LOSS SHALL BE REVIEWED BY THE ENGINEER TO DETERMINE IF AREA OF SECTION LOSS SHOULD BE REPAIRED.

AS DETERMINED BY THE ENGINEER, AREAS WITH EXCESSIVE SECTION LOSS OR AREAS WITH TEMPORARY REPAIRS SHALL BE REMOVED AND THE BEAMS SHALL BE REPAIRED AS INDICATED ON THIS PLAN SHEET. CONTRACTOR AND ENGINEER TO DETERMINE ACTUAL DIMENSIONS OF AREA TO BE REMOVED AND REPLACED. REMOVE CONCRETE BENT DIAPHRAGMS AS NEEDED TO EVALUATE LIMITS OF REPAIR.

PAYMENT FOR THE SECTION REPAIR SHALL BE BASED ON THAT AMOUNT OF REPAIR ACTUALLY PERFORMED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

GOUGES AND INDENTIONS FROM IMPACT ON GIRDERS SHALL BE GROUND SMOOTH PRIOR TO BLASTING AND PAINTING OPERATION.

REPAIR SEQUENCE

REMOVE LIVE LOAD FROM REPAIR AREA BY EITHER CLOSING BRIDGE TO TRAFFIC OR SHIFTING TRAFFIC AWAY FROM REPAIR AREA.

REMOVE DEAD LOAD FROM BEAM BY JACKING AND BLOCKING. CONTRACTOR SHALL SUBMIT JACKING PLAN FOR APPROVAL, PRIOR TO BEGINNING WORK. FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.

STEEL DIAPHRAGM CHANNELS AND/OR STIFFENERS MAY BE TEMPORARILY REMOVED, IF NECESSARY, AND REPLACED AFTER BEAM REPAIR.

IF BEAM DETERIORATION EXTENDS INTO THE CONCRETE DIAPHRAGM THEN CHIP AWAY CONCRETE TO DETERMINE THE EXTENT OF THE DAMAGE. CUT OUT BY APPROPRIATE MEANS THE DAMAGED BEAM AREA AND/OR BEARING STIFFENER.

IF PAINTING THE STEEL, CLEAN AND BLAST STEEL AS REQUIRED PRIOR TO PERFORMING REPAIRS. OTHERWISE, MECHANICALLY CLEAN RUST, SCALE, AND EXISTING PAINT TO AT LEAST 3" BEYOND REPAIR AREA.

REPLACEMENT CUT-TO-FIT BEAM SECTION SHALL BE NEW AND FROM SIMILAR SIZE ROLLED BEAM OR APPROVED EQUIVALENT PLATES. THE GRADE OF STEEL SHALL BE AASHTO M270, GRADE 36 OR BETTER.

INSTALL THE CUT-TO-FIT SECTION, FULLY WELD ALONG TOP AND SIDES OF PLATE USING FULL PENETRATION WELDS.

ALL WELDING SHALL BE IN ACCORDANCE WITH CURRENT APPLICABLE AWS AND NCDOT STANDARD SPECIFICATIONS.

ALL WELDS WILL BE INSPECTED AND TESTED BY THE NCDOT MATERIALS AND TEST UNIT IN ACCORDANCE WITH THE CURRENT AWS BRIDGE WELDING CODE AND STANDARD SPECIFICATIONS.

IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, AFTER REPAIR, GRIND ALL WELDS FLUSH, THOROUGHLY CLEAN AREA TO REMOVE DEBRIS AND OILS FROM REPAIR PROCESS.

CLEANING AND PAINTING OF REPAIRED STRUCTURAL STEEL SHALL BE PERFORMED AS PART OF THE OVERALL CLEANING AND PAINTING CONTRACT.

FOR CLEANING AND PAINTING, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISIONS.

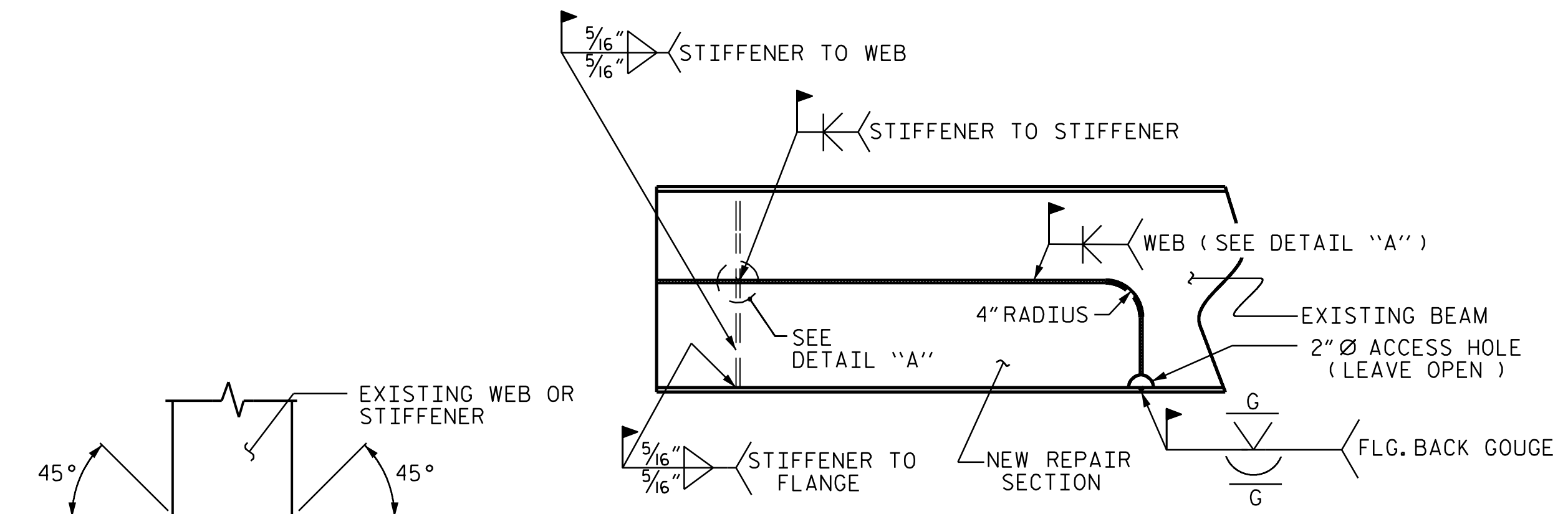
AFTER BEAMS ARE REPAIRED AND PAINTED, ANY CONCRETE REMOVED FROM THE BENT DIAPHRAGMS SHALL BE CAST BACK. ANY REINFORCING STEEL CUT DURING THE REMOVAL PROCESS SHALL BE SPLICED WITH A SIMILAR SIZE BAR WITH AT LEAST A ONE FOOT SPLICE TO THE EXISTING STEEL. NO SEPARATE PAYMENT SHALL BE MADE FOR CONCRETE AND REINFORCING STEEL AS THIS IS CONSIDERED INCIDENTAL TO THE PAY ITEM "BEAM REPAIR CUT-OUT". FOR BEAM REPAIR CUT-OUT, SEE SPECIAL PROVISIONS.

LOWER SPAN TO BEAR; CHECK FOR DISTRESS.

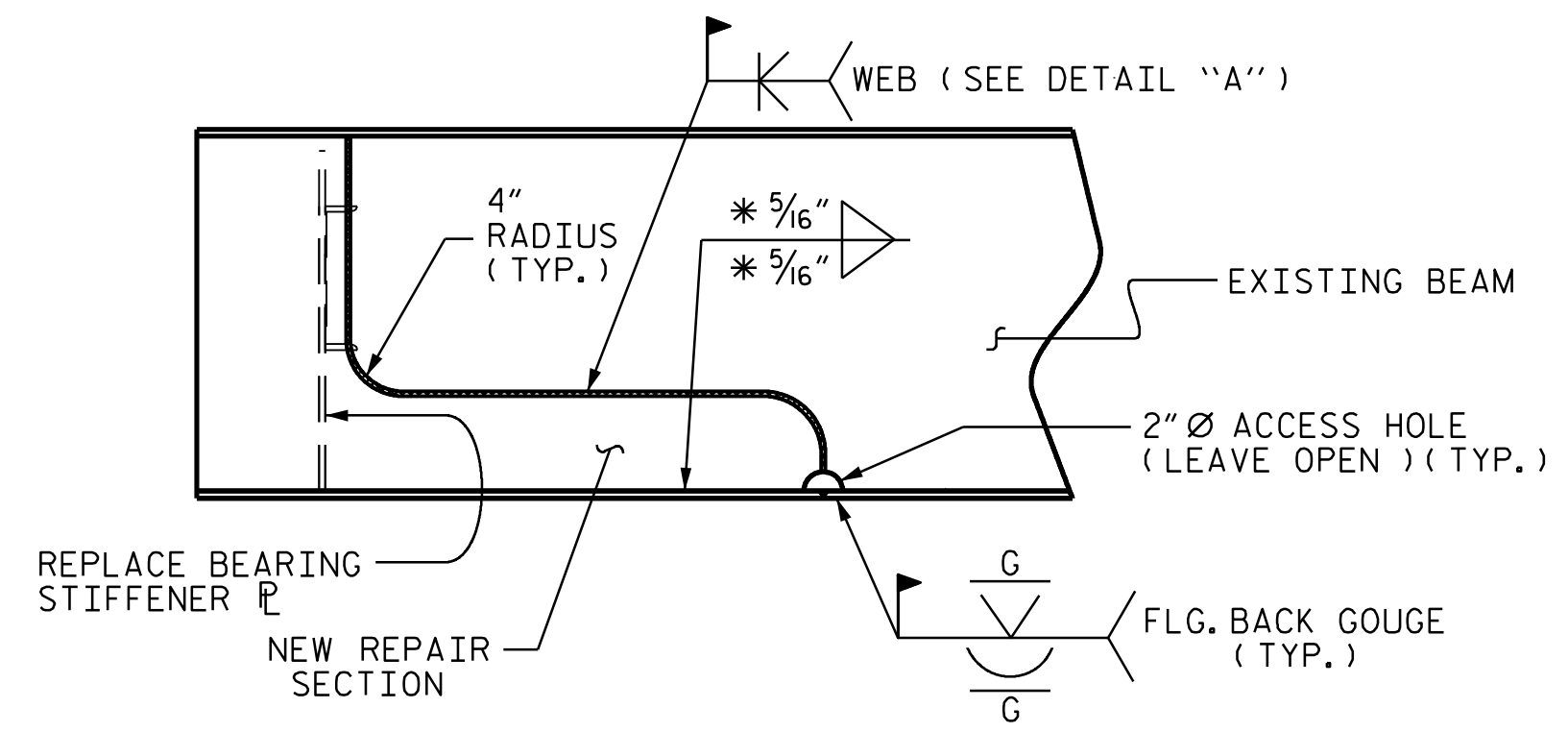
REMOVE JACKING EQUIPMENT AND TEMPORARY SUPPORTS.

REMOVE ALL TRAFFIC CONTROL DEVICES.

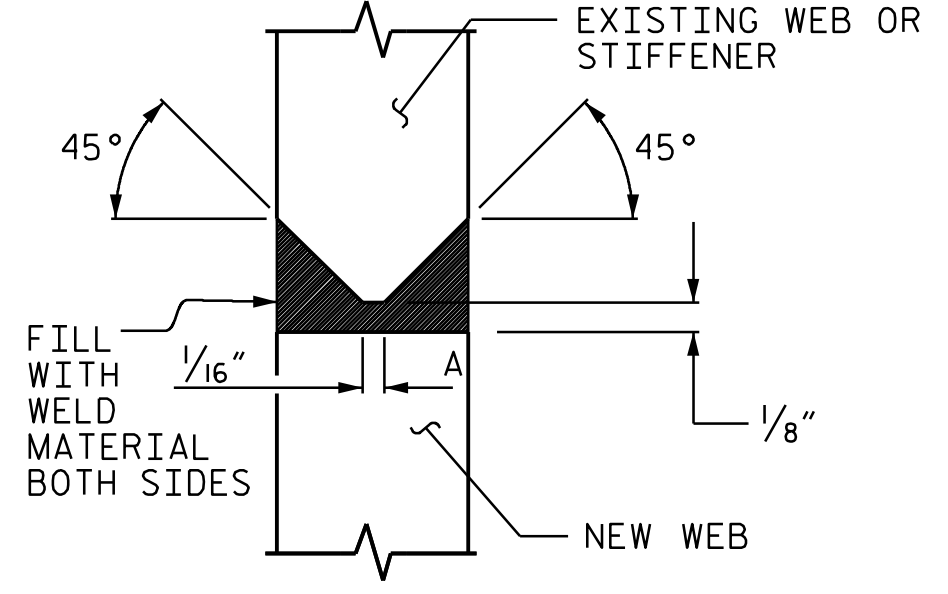
PROJECT NO. I-5927  
 POLK COUNTY  
 BRIDGE NO. 740023, 740025  
740048



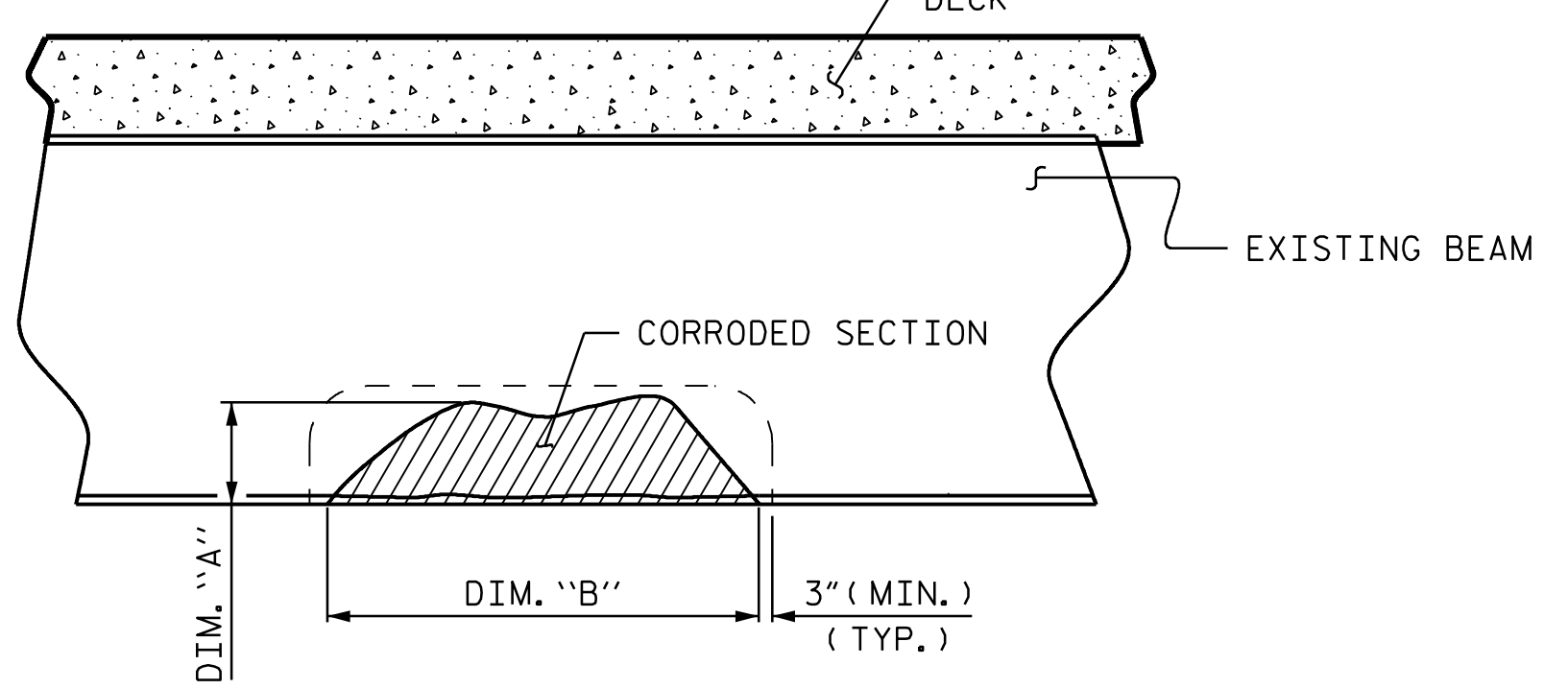
SECTION LOSS BEAM END REPAIR



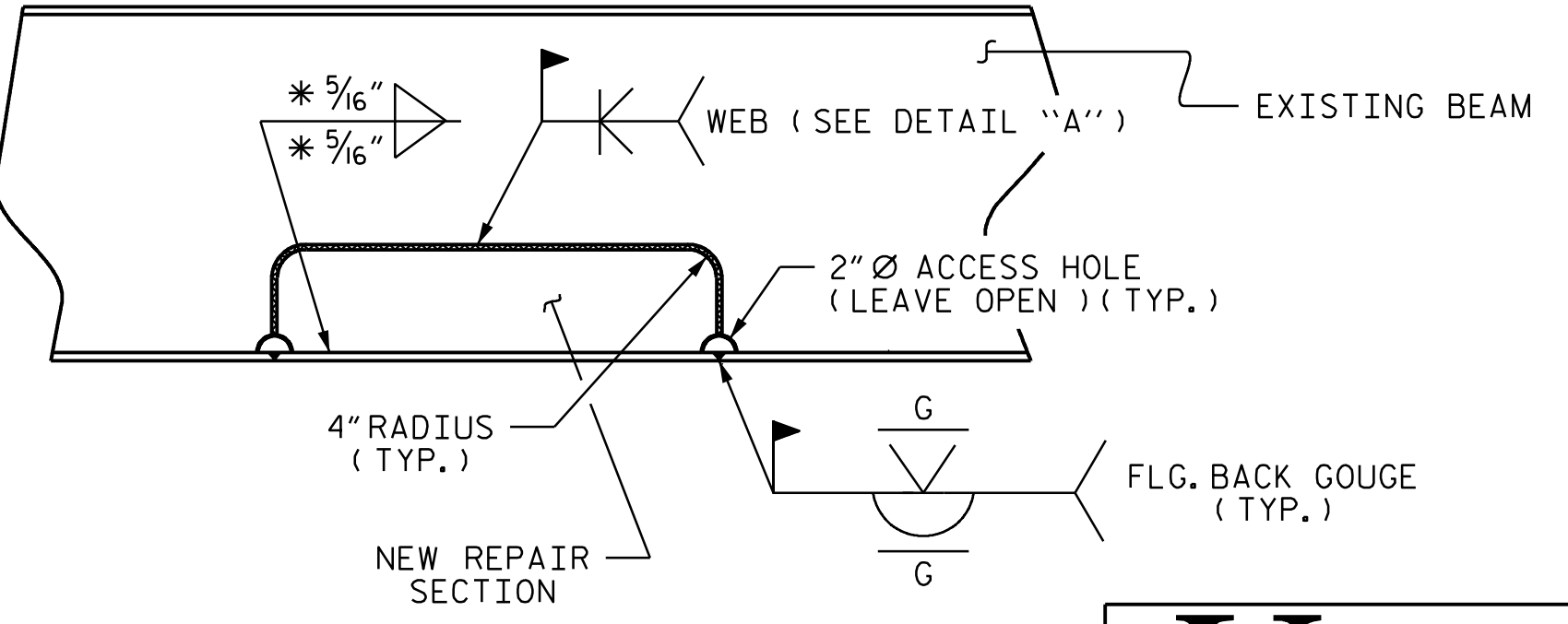
SECTION LOSS BEAM END REPAIR



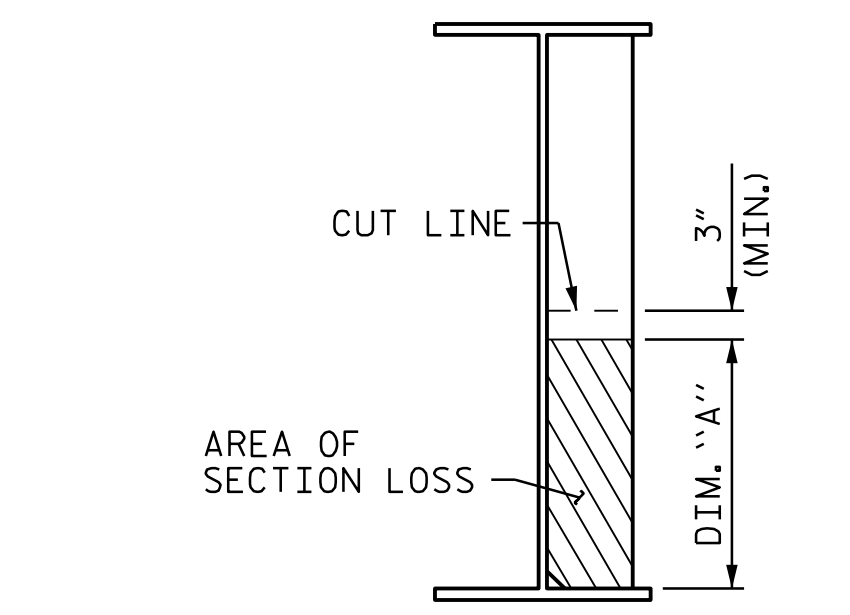
DETAIL "A"



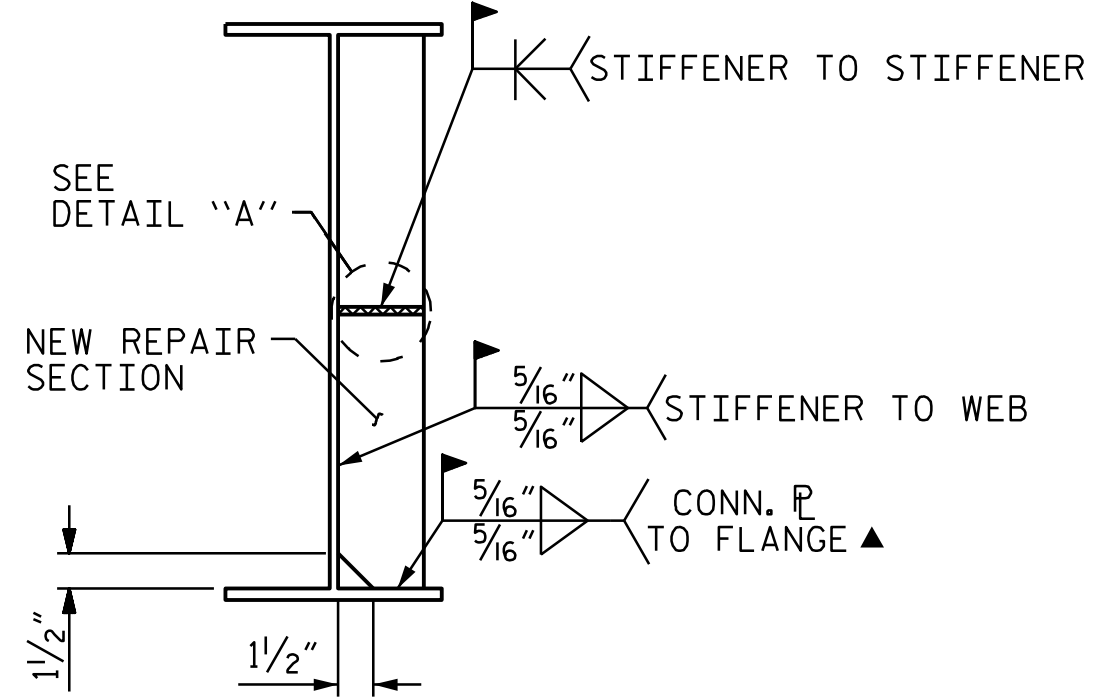
SECTION LOSS INTERMEDIATE BEAM REMOVAL



SECTION LOSS INTERMEDIATE BEAM REPAIR



SECTION LOSS STIFFENER/CONN. P. REMOVAL

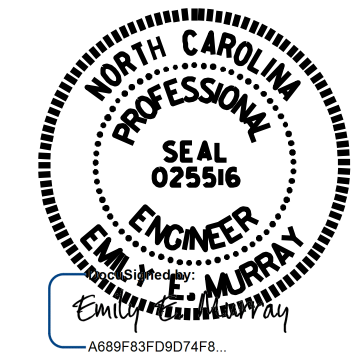


SECTION LOSS STIFFENER/CONN. P. REPAIR SECTION

▲ FOR STIFFENERS, MILL TO BEAR AND DO NOT WELD

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1/11/2023

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 RALEIGH

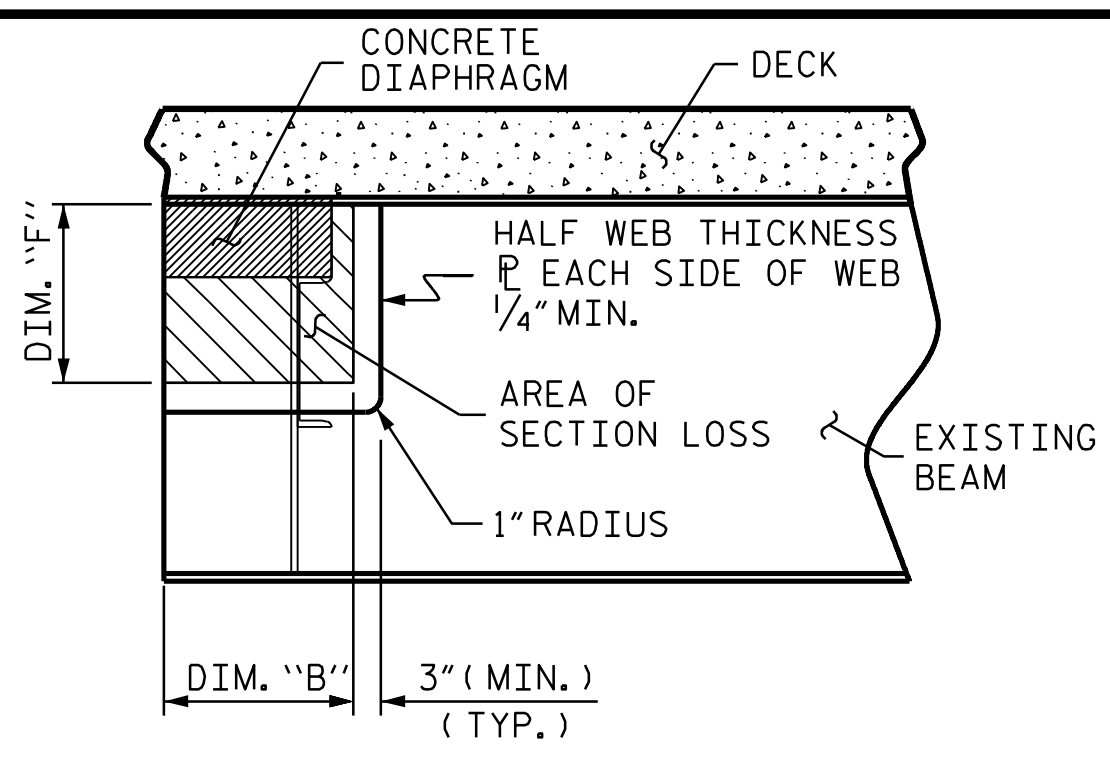
BEAM END AND INTERMEDIATE REPAIR DETAILS

DRAWN BY: R. BEAUCHAMP DATE: 7-21  
 CHECKED BY: E. MURRAY DATE: 12-22

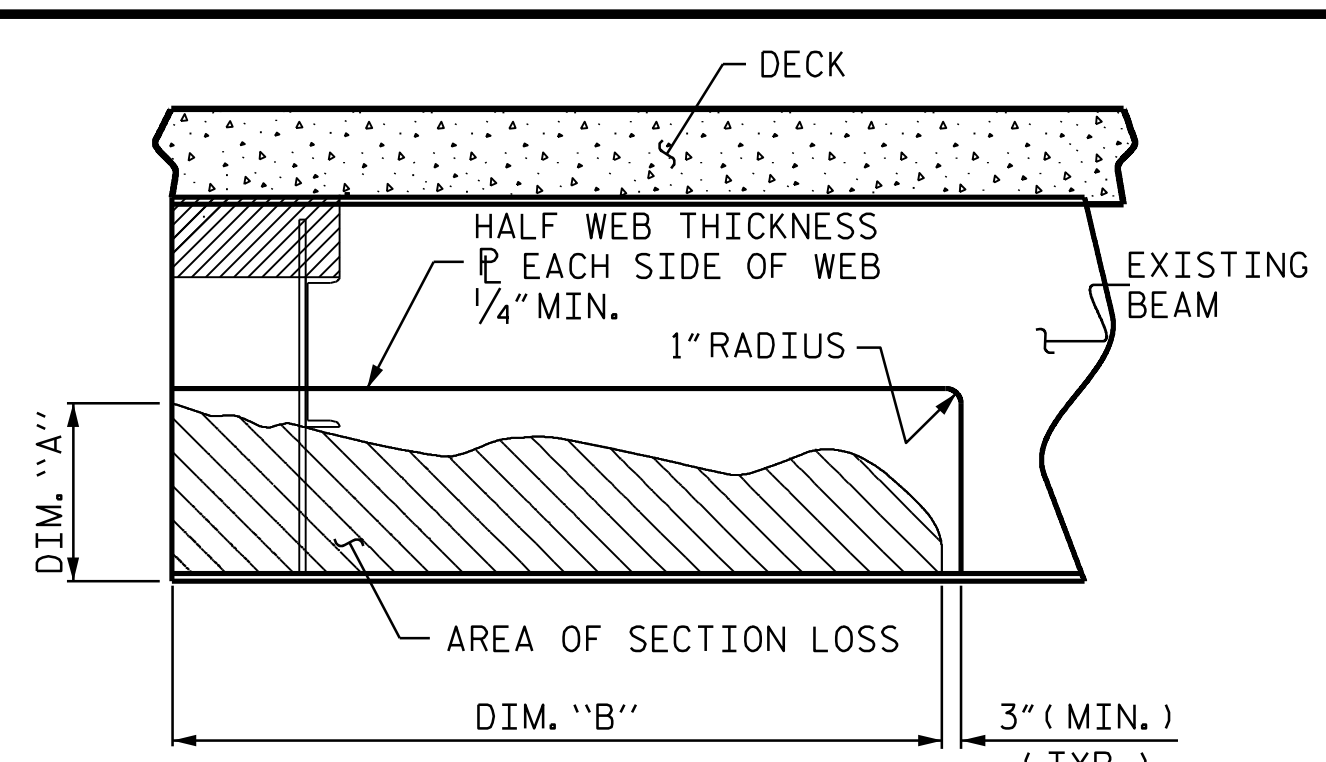
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-76
1			3			TOTAL SHEETS
2			4			79

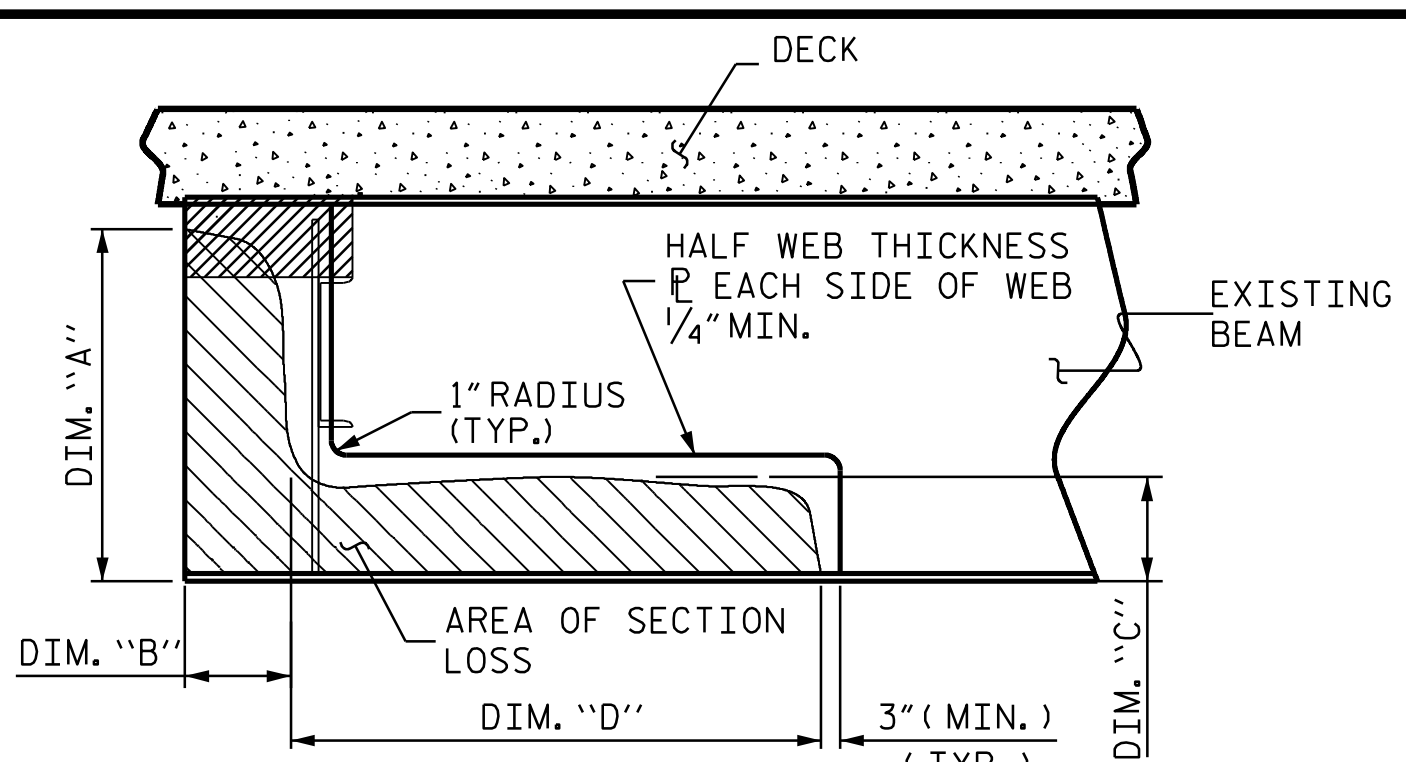




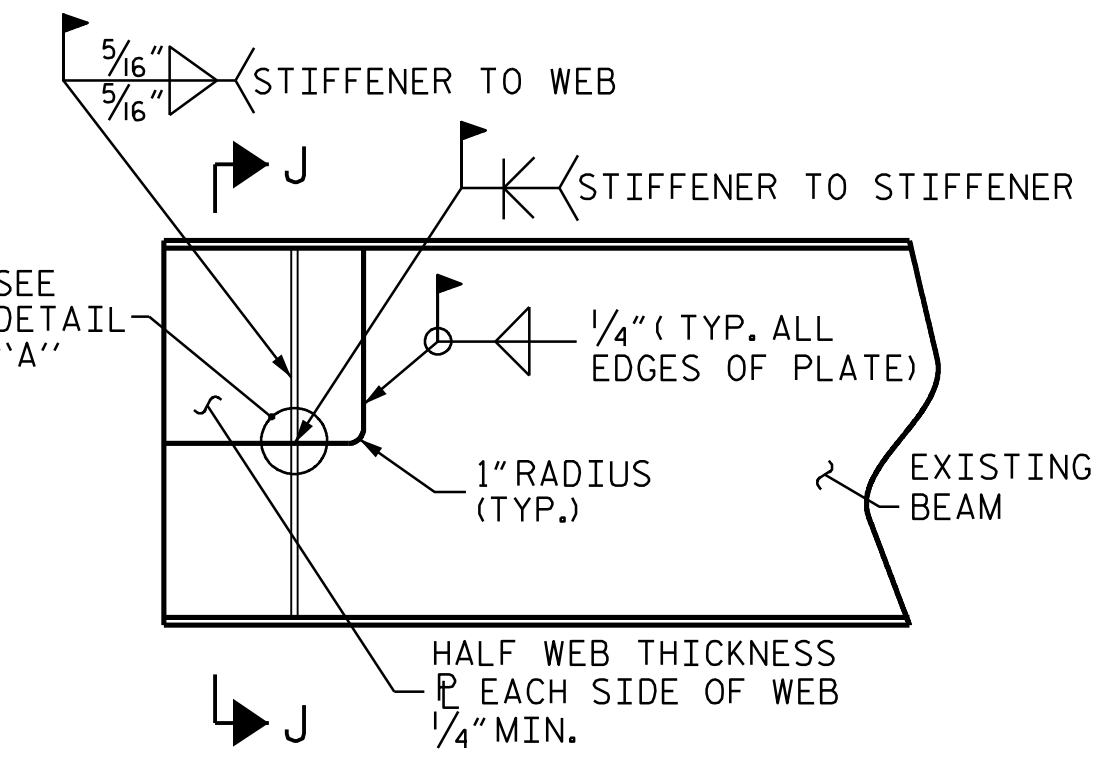
**BEAM END SECTION LOSS AND PLATING REPAIR**



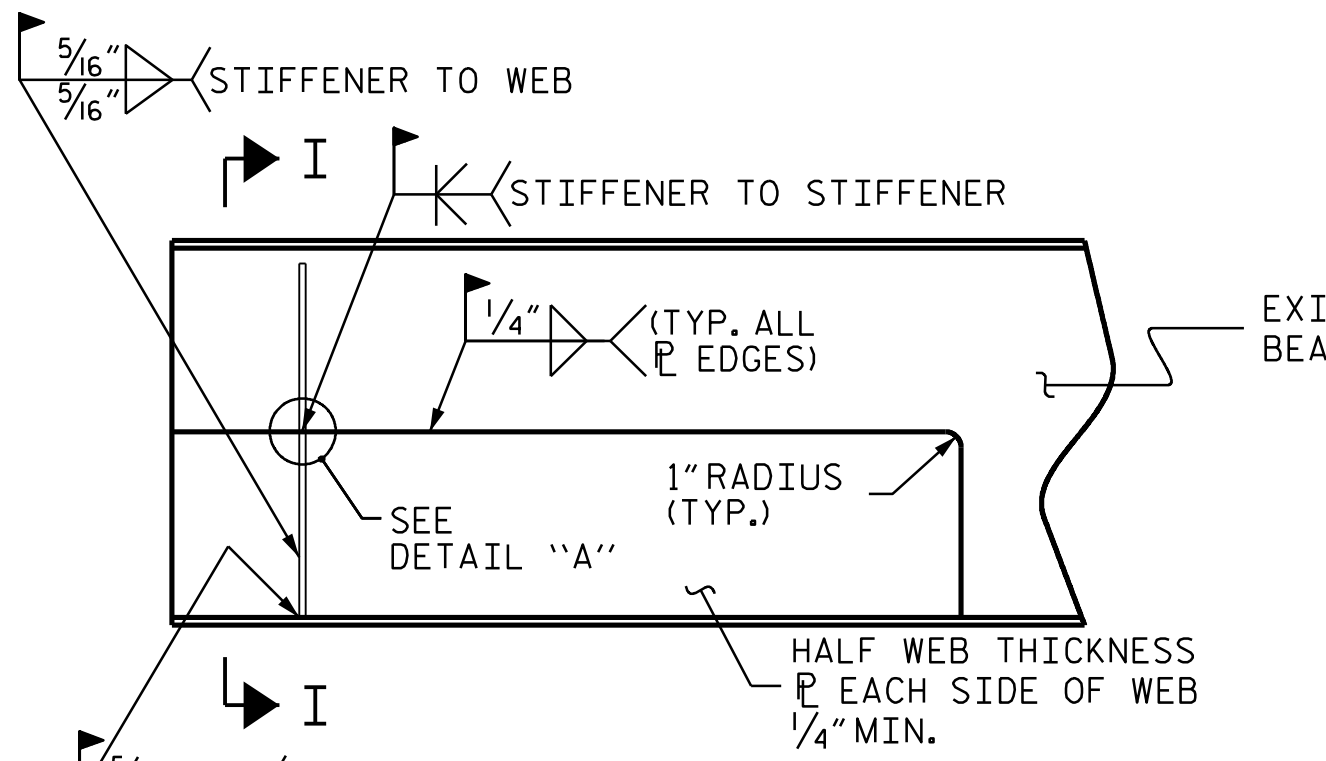
**SECTION LOSS BEAM PLATING REPAIR**



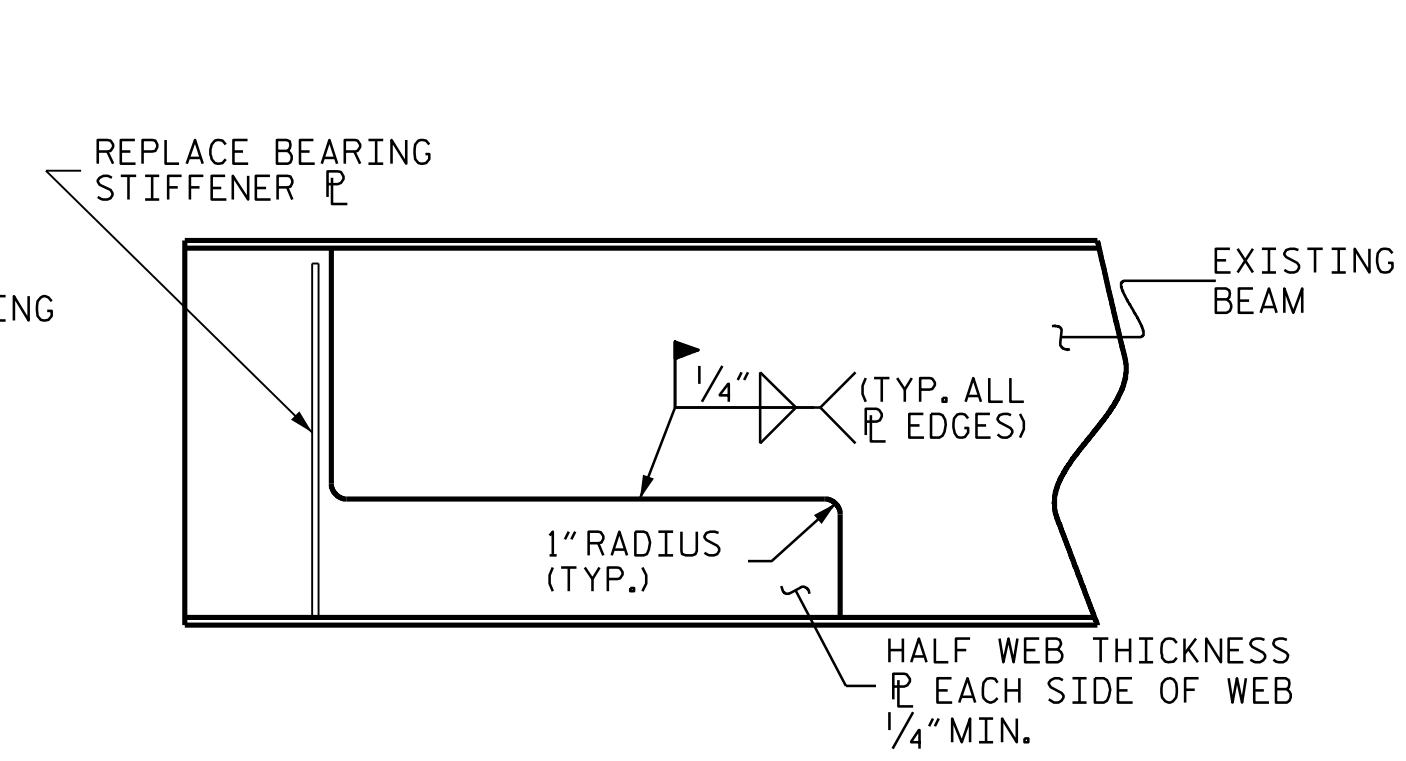
**SECTION LOSS BEAM PLATING REPAIR**



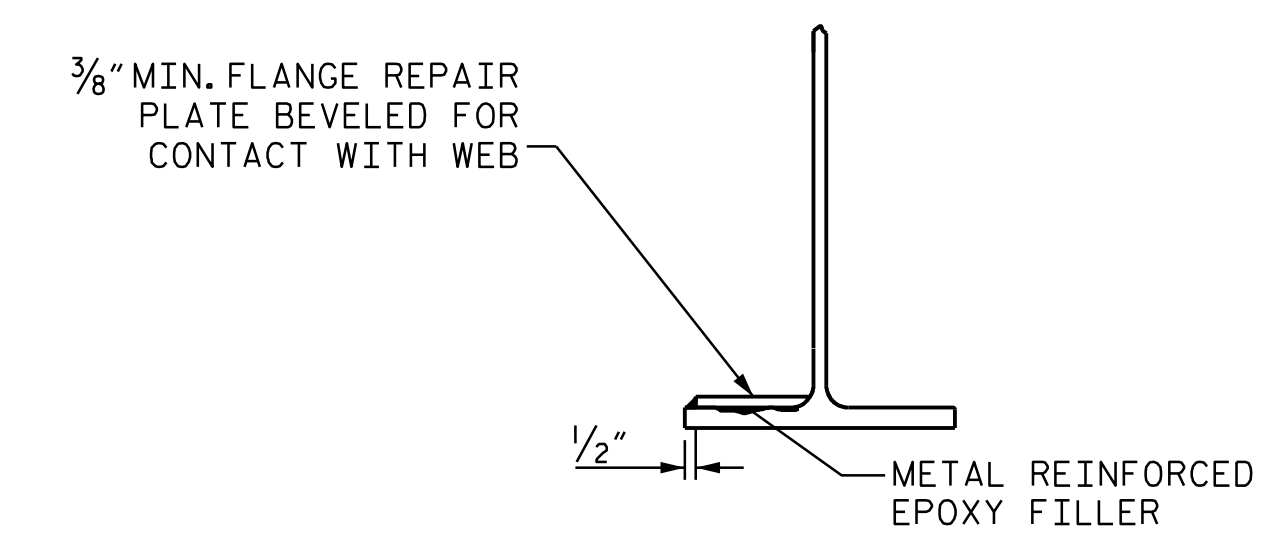
**BEAM END PLATING REPAIR**



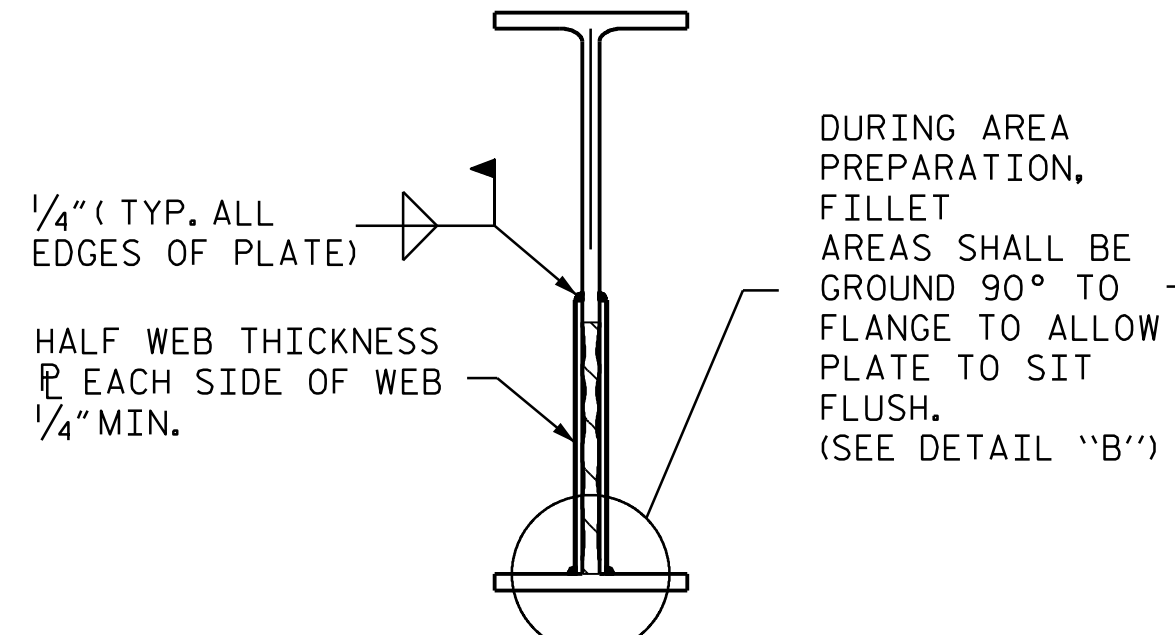
**SECTION LOSS BEAM PLATING REPAIR**



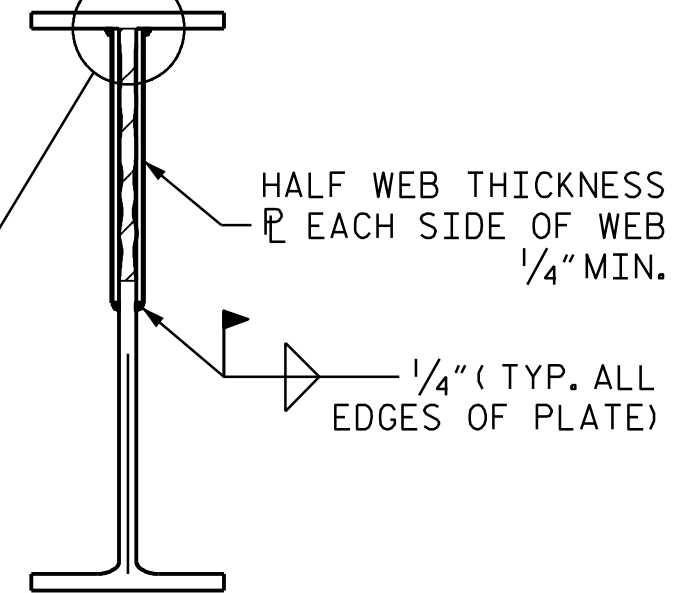
**SECTION LOSS BEAM PLATING REPAIR**



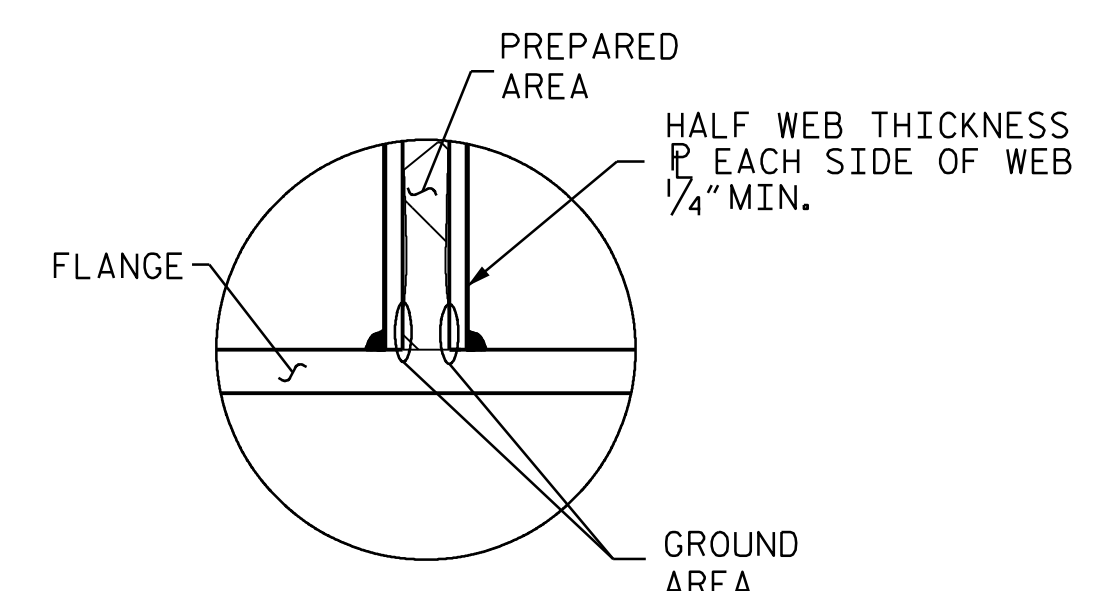
**SECTION P-P**



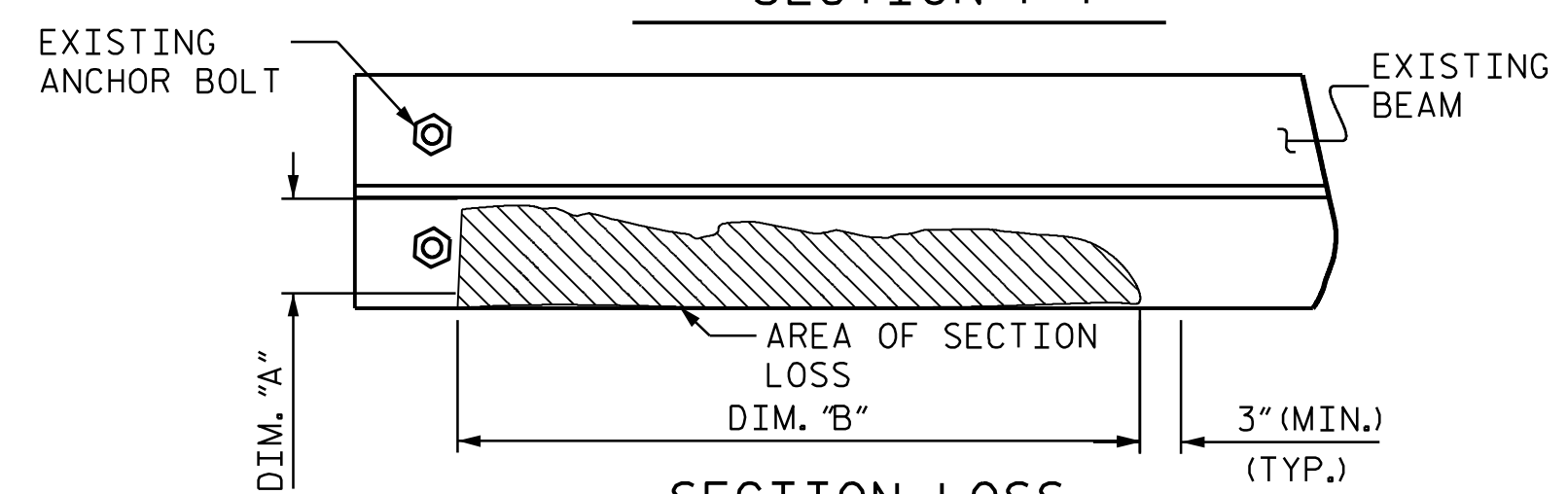
**SECTION I-I**



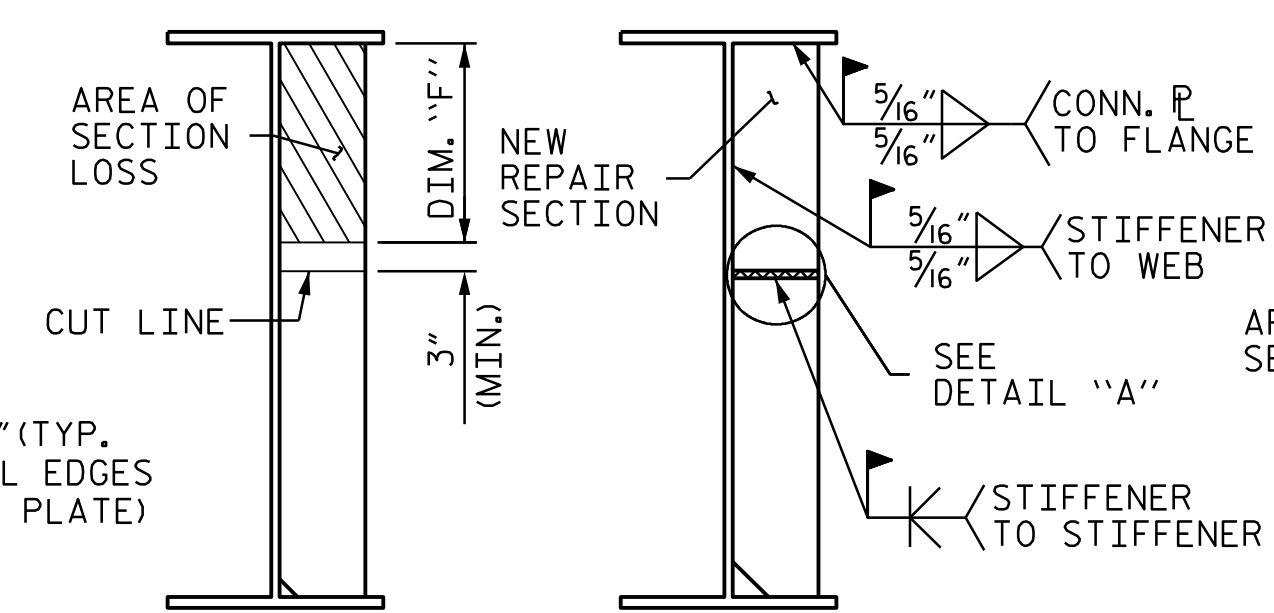
**SECTION J-J**



**DETAIL 'B'**

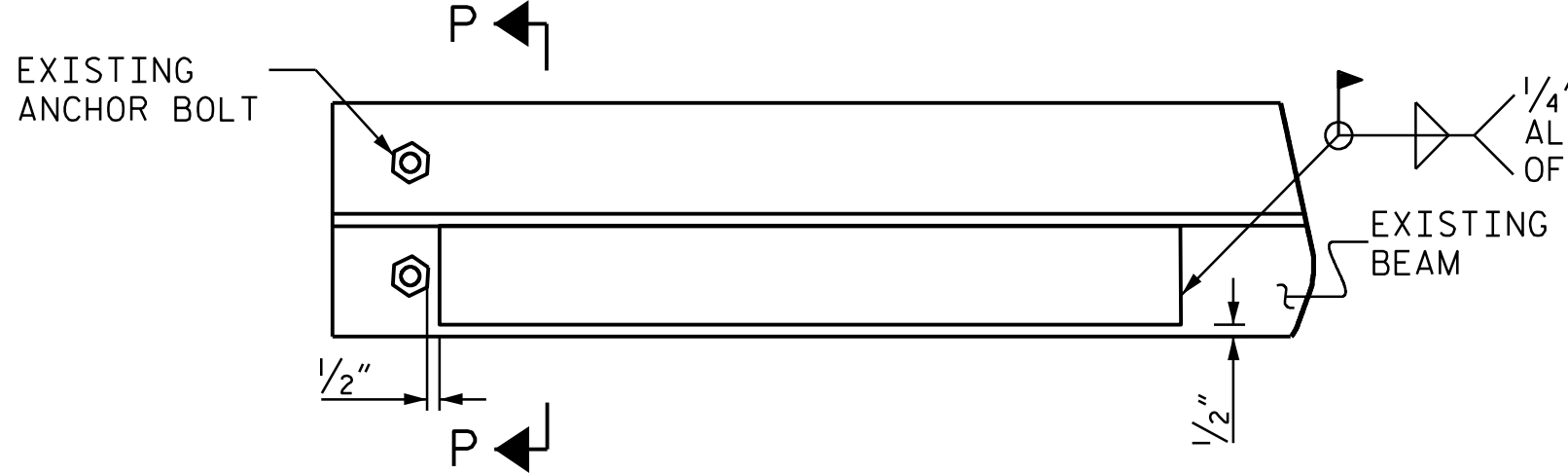


**SECTION LOSS FLANGE PLATING REPAIR**



**SECTION LOSS STIFFENER/CONN. PLATE REPAIR SECTION**

▲ FOR STIFFENERS, MILL TO BEAR AND DO NOT WELD



**SECTION LOSS FLANGE PLATING REPAIR**

**NOTES**

ALL CONDITIONS AND DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION OR INSTALLATION OF ANY COMPONENTS.

REPAIR PLATES SHALL BE NEW, AND SHALL BE THE SAME GRADE OF THE EXISTING STEEL MEMBER OR BETTER

**REPAIR SEQUENCE**

COORDINATE WITH MATERIALS AND TEST UNIT AT LEAST 4 DAYS PRIOR TO ANTICIPATED WORK.

REMOVE LIVE LOAD FROM REPAIR AREA BY EITHER CLOSING BRIDGE TO TRAFFIC OR SHIFTING TRAFFIC AWAY FROM REPAIR AREA.

IF NECESSARY, REMOVE EXISTING STIFFENER TO INSTALL WELDED PLATE REPAIR. REPLACE WITH A NEW STIFFENER PLATE OF SIMILAR SIZE.

IF BEAM DETERIORATION EXTENDS INTO THE CONCRETE DIAPHRAGM THEN CHIP AWAY CONCRETE TO DETERMINE THE EXTENT OF THE DAMAGE.

IF PAINTING THE STEEL, CLEAN AND BLAST STEEL AS REQUIRED PRIOR TO PERFORMING REPAIRS. OTHERWISE, MECHANICALLY CLEAN RUST, SCALE, AND EXISTING PAINT TO AT LEAST 3" BEYOND REPAIR AREA.

PRIME ENTIRE REPAIR AREA AND REPAIR PLATES WITH AN ORGANIC ZINC PRIMER PRIOR TO WELDING NEW PLATES. REMOVE PRIMER IN WELD AREA.

ONE PLATE SHALL BE PLACED, AS INDICATED ON EACH SIDE OF THE BEAM WEB.

EACH PLATE SHALL BE APPROXIMATELY ONE-HALF THE ORIGINAL THICKNESS OF THE BEAM WEB.

FULLY WELD ALONG TOP AND SIDES OF THE PLATES AS SHOWN.

ALL WELDING SHALL BE IN ACCORDANCE WITH CURRENT APPLICABLE AWS AND NCDOT STANDARD SPECIFICATIONS.

ALL WELDS SHALL BE INSPECTED AND TESTED BY THE NCDOT MATERIALS AND TEST UNIT IN ACCORDANCE WITH THE CURRENT AWS BRIDGE WELDING CODE AND STANDARD SPECIFICATIONS.

IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, AFTER REPAIR, GRIND ALL WELDS FLUSH, THOROUGHLY CLEAN AREA TO REMOVE DEBRIS AND OILS FROM THE REPAIR PROCESS.

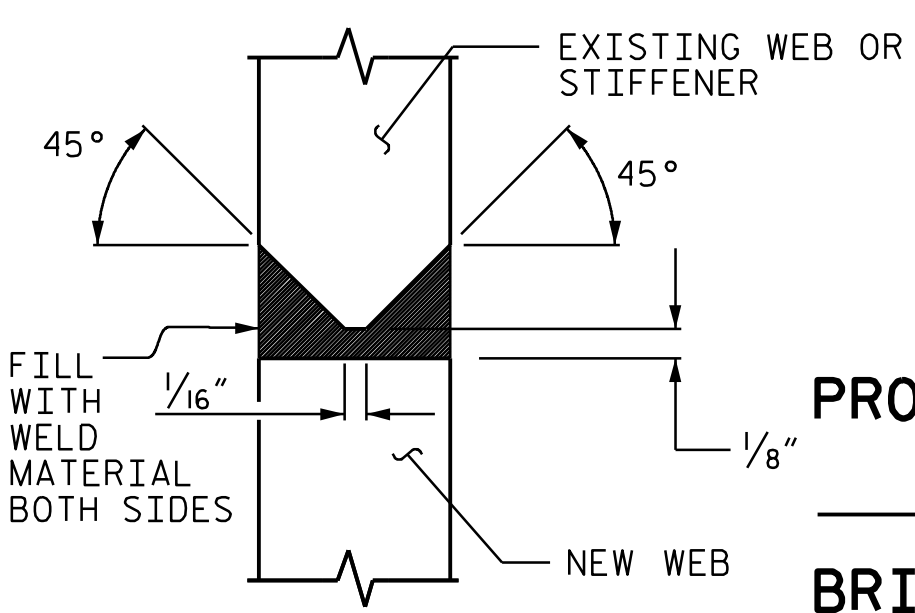
CLEANING AND PAINTING OF REPAIRED STRUCTURAL STEEL SHALL BE PERFORMED AS PART OF THE OVERALL CLEANING AND PAINTING CONTRACT.

FOR CLEANING AND PAINTING, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISIONS.

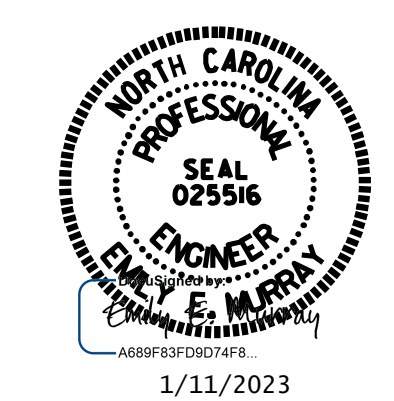
AFTER BEAMS ARE REPAIRED AND PAINTED, ANY CONCRETE REMOVED FROM THE BENT DIAPHRAGMS OR END CURTAIN WALLS SHALL BE CAST BACK. ANY REINFORCING STEEL CUT DURING THE REMOVAL PROCESS SHALL BE SPLICED WITH A SIMILAR SIZE BAR WITH AT LEAST A ONE FOOT SPLICE TO THE EXISTING STEEL. NO SEPARATE PAYMENT SHALL BE MADE FOR CONCRETE AND REINFORCING STEEL AS THIS IS CONSIDERED INCIDENTAL TO THE PAY ITEM "BEAM REPAIR PLATING". FOR BEAM REPAIR PLATING, SEE SPECIAL PROVISIONS.

REMOVE ALL TRAFFIC CONTROL DEVICES.

PROJECT NO. I-5927  
 POLK COUNTY  
 BRIDGE NO. 740023, 740025  
740048



**DETAIL 'A'**



**VOLKERT**  
 5540 Centerview Drive, Suite 305  
 Raleigh, NC 27606  
 Tel. 919-854-0344 Fax. 919-854-0355  
 NC License No. F-0765

DRAWN BY : R. BEAUCHAMP DATE : 7-21  
 CHECKED BY : E. MURRAY DATE : 12-22

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-77
1			3			TOTAL SHEETS
2			4			79



**BRIDGE JACKING NOTES:**

THIS DETAIL IS A GENERIC EXAMPLE OF A JACKING SCHEME AND DOES NOT NECESSARILY REPRESENT SPECIFIC CONDITIONS AT A PARTICULAR BRIDGE. ACTUAL BRIDGE GEOMETRIES, DIMENSIONS, AND CONDITIONS MAY DIFFER FROM THIS DETAIL. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL INVESTIGATE THE BRIDGES ON THE PROJECT AND DEVELOP A JACKING PLAN TO BE SUBMITTED FOR REVIEW AND APPROVAL. SEE BRIDGE JACKING SPECIAL PROVISION.

PRIOR TO BRIDGE JACKING OPERATIONS, THE ENGINEER AND CONTRACTOR SHALL INSPECT THE STRUCTURE FOR ANY NOTABLE DEFECTS TO THE PRIMARY AND SECONDARY STRUCTURAL MEMBERS. ALL NOTABLE DEFECTS SHALL BE DOCUMENTED AND REPORTED TO THE AREA BRIDGE MAINTENANCE ENGINEER PRIOR TO COMMENCEMENT OF ANY BRIDGE JACKING. THE CONTRACTOR SHALL PROVIDE SAFE AND SUFFICIENT ACCESS TO ALL STRUCTURAL MEMBERS FOR THE ENGINEER TO ESTABLISH PROPER DOCUMENTATION.

PRIOR TO JACKING, THE CONTRACTOR SHALL ENSURE THERE ARE NO OBSTACLES PREVENTING THE BEAM FROM BEING LIFTED.

THE BEAM SHALL BE LIFTED ENOUGH THAT THE BEAM CLEARS THE BEARINGS AND ALL LOAD IS SUPPORTED BY THE JACKS. AFTER JACKING IS COMPLETE, THE CONTRACTOR SHALL PROVIDE FOR A METHOD TO REMOVE THE JACKS AND SUPPORT THE BEAM FOR DEAD AND LIVE LOAD DURING THE REPAIR OPERATIONS. IF THE JACKS REMAIN IN PLACE DURING THE ENTIRE JACKING AND REPAIR OPERATION, THEY SHALL HAVE MECHANICAL LOCK OFF CAPABILITIES.

IF, DURING THE JACKING PROCESS, OR WHILE THE BEAM IS BEING SUPPORTED, THE BEAM SHIFTS FROM ITS ORIGINAL POSITION, ALL WORK SHALL CEASE AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

BEARINGS ADJACENT TO THE BEAM BEING JACKED MAY BE LOOSENED TO DECREASE THE RESISTANCE OF THE DECK SLAB DURING JACKING. ALL BEARINGS LOOSENED SHALL BE TIGHTENED BACK AFTER REPAIR OPERATIONS ARE COMPLETED AND THE JACKS AND BLOCKING HAVE BEEN REMOVED.

THE MAXIMUM DIFFERENTIAL BETWEEN ADJACENT BEAMS THAT ARE BEING JACKED IS  $1/8"$ .

LOADS PROVIDED IN THE "BRIDGE JACKING TABLE" ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY, THE CONTRACTOR'S ENGINEER SHALL DETERMINE THE EXPECTED LOADS TO BE LIFTED DURING THE BRIDGE JACKING OPERATIONS.

THE CONTRACTOR SHALL SUBMIT WORKING DRAWINGS AND CALCULATIONS OF THE JACKING PROCEDURE(S) SEALED BY A PROFESSIONAL ENGINEER IN THE STATE OF NORTH CAROLINA TO THE ENGINEER FOR APPROVAL PRIOR TO BRIDGE JACKING OPERATIONS.

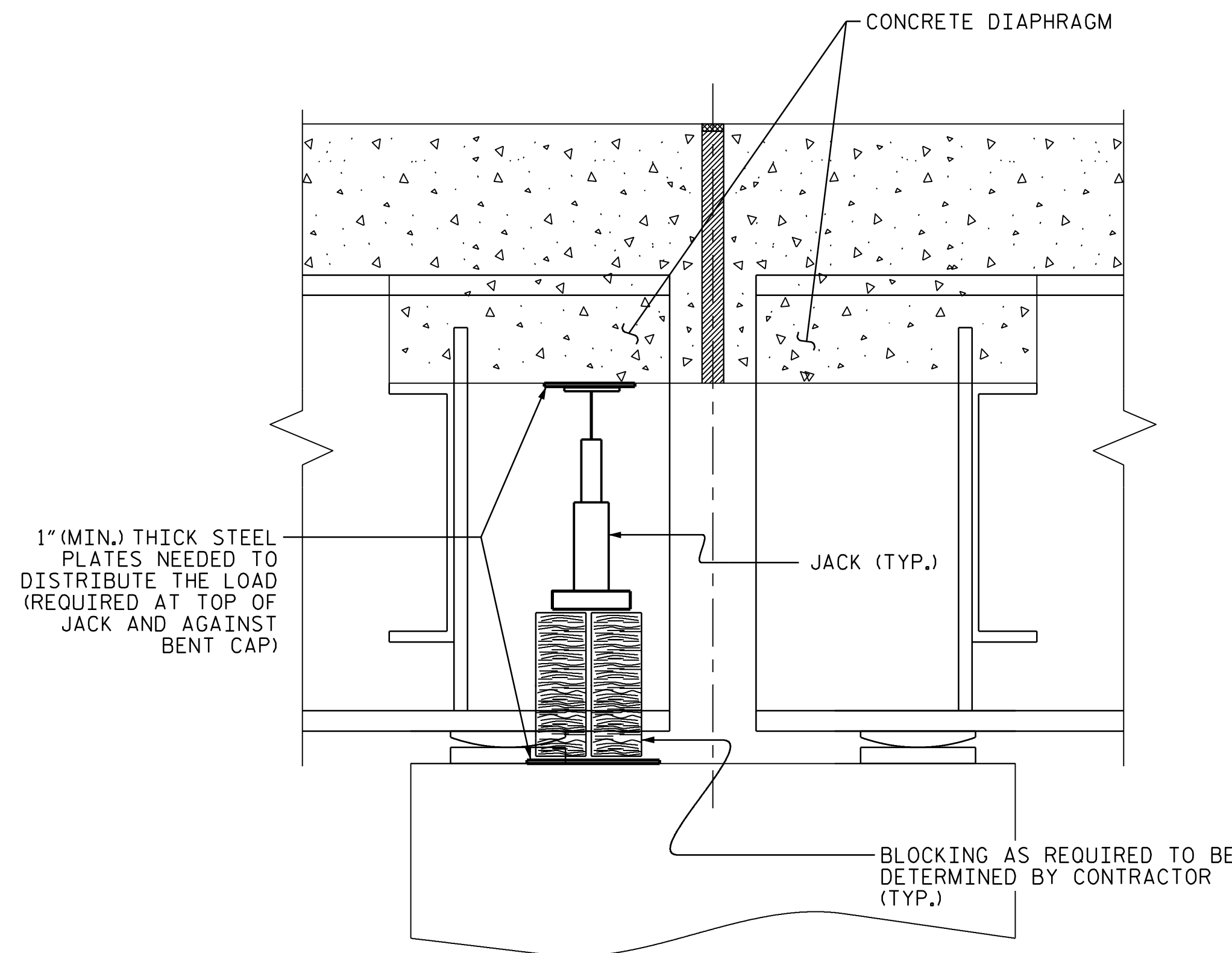
FOR TYPE I OR TYPE II BRIDGE JACKING, SEE SPECIAL PROVISIONS.

FOR WORKING DRAWING SUBMITTALS, SEE SPECIAL PROVISIONS.

ANY STEEL THAT HAS BEEN WELDED TO THE EXISTING STRUCTURE SHALL REMAIN IN PLACE.

TYPE II BRIDGE JACKING SHALL BE DONE WITH A HYDRAULIC JACKING SYSTEM THAT LIFTS EACH BEAM ALONG ENTIRE SPAN END WITH EQUAL FORCE AND AT AN EQUAL RATE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED TO THE EXISTING STRUCTURE BY BRIDGE JACKING OPERATIONS AT NO ADDITIONAL COST TO THE DEPARTMENT.



**SECTION THRU DIAPHRAGM**

<b>BRIDGE JACKING TABLE</b>				
STRUCTURE NUMBER	LOCATION	SPAN	BEAM(S)	BRIDGE JACKING TYPE
740023	BENT 1	C	5	TYPE I
740023	BENT 2	C	5	TYPE I
740025	BENT 2	C	5	TYPE I

PROJ. NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740023, 740025  
740048, 740050



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
**BRIDGE JACKING  
 DETAILS**

**VOLKERT**  
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1			3			S-78
2			4			79

ASSEMBLED BY : D. A. GLADDEN DATE : 8/21  
 CHECKED BY : E. E. MURRAY DATE : 12/22  
 DRAWN BY : NAP 08/18  
 CHECKED BY :



### NOTES

TYPICAL BENT CAP REPAIRS ARE SHOWN. REPAIR DETAILS SIMILAR FOR END BENT CAPS AND STRUTS.

THE METHOD USED TO DELINEATE THE AREAS OF UNSOUND CONCRETE TO BE REPAIRED SHALL NOT PERMANENTLY MARK THE CONCRETE, LEAVE ANY RESIDUE AFTER REMOVAL OR REQUIRE HARSH CHEMICALS TO REMOVE.

THE CONTRACTOR SHALL REMOVE THE DETERIORATED CONCRETE IN ACCORDANCE WITH THE GUIDELINES SET IN THESE NOTES, IN THE SPECIAL PROVISIONS AND THE STANDARD SPECIFICATIONS.

REMOVE UNSOUND CONCRETE TO THE EXTENT NECESSARY, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT.

NO MORE THAN ONE-THIRD OF THE CAP OR COLUMN CROSS SECTIONAL AREA SHALL BE REMOVED AT ONE TIME. SHOULD IT BECOME NECESSARY TO REMOVE MORE THAN 30% OF A CAP OR COLUMN CROSS SECTIONAL AREA, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

SIMULTANEOUS REMOVAL OF UNSOUND CONCRETE MAY BE PERMITTED ON MORE THAN ONE FACE OF A CAP AND/OR COLUMN, IF THE AREAS OF REMOVAL ARE NOT ADJACENT TO OR DIRECTLY OPPOSITE ONE ANOTHER. IF REMOVAL EXTENDS MORE THAN 1 1/2" BEHIND THE MAIN REINFORCING BARS, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

REINFORCING STEEL WHICH IS DETERMINED BY THE ENGINEER TO BE REPLACED, SHALL BE REMOVED TO A POINT WHERE IT IS SOUND. THE PATCH SHALL EXTEND A SUFFICIENT DISTANCE BEYOND THIS POINT TO DEVELOP A SPLICE LENGTH SPECIFIED IN THE TABLE ON THIS SHEET.

THE #4 "U" DOWELS ARE REQUIRED ONLY AROUND THE ANCHOR BOLTS. THE EXISTING REINFORCING STEEL IN THE PEDESTAL WALL SHALL BE CLEANED, STRAIGHTENED AND REMAIN IN PLACE.

FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.

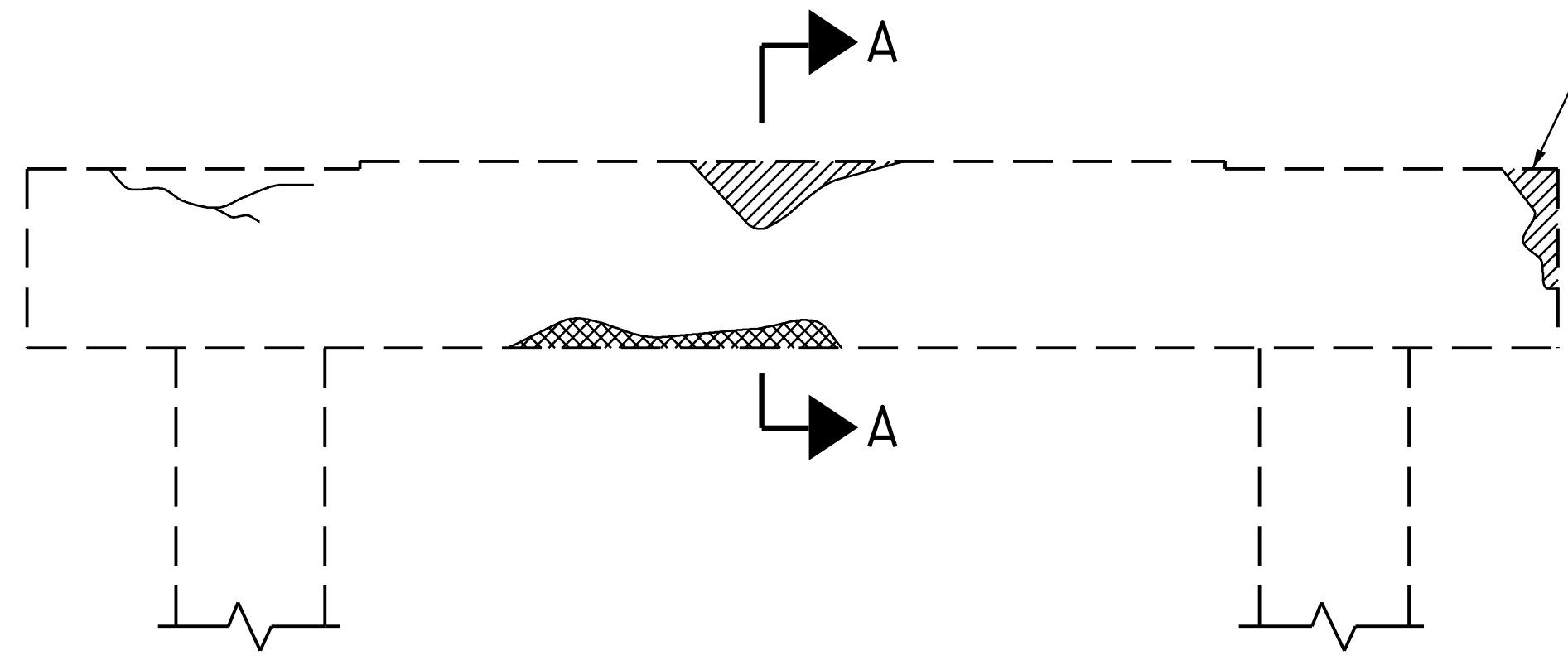
COAT ALL REPAIR SURFACE AREAS ON THE TOP OF CAPS, INCLUDING CHAMFERS, WITH EPOXY PROTECTIVE COATING, OVERLAPPING THE REPAIR AREA BY A MINIMUM OF 3" ON ALL POSSIBLE SIDES.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

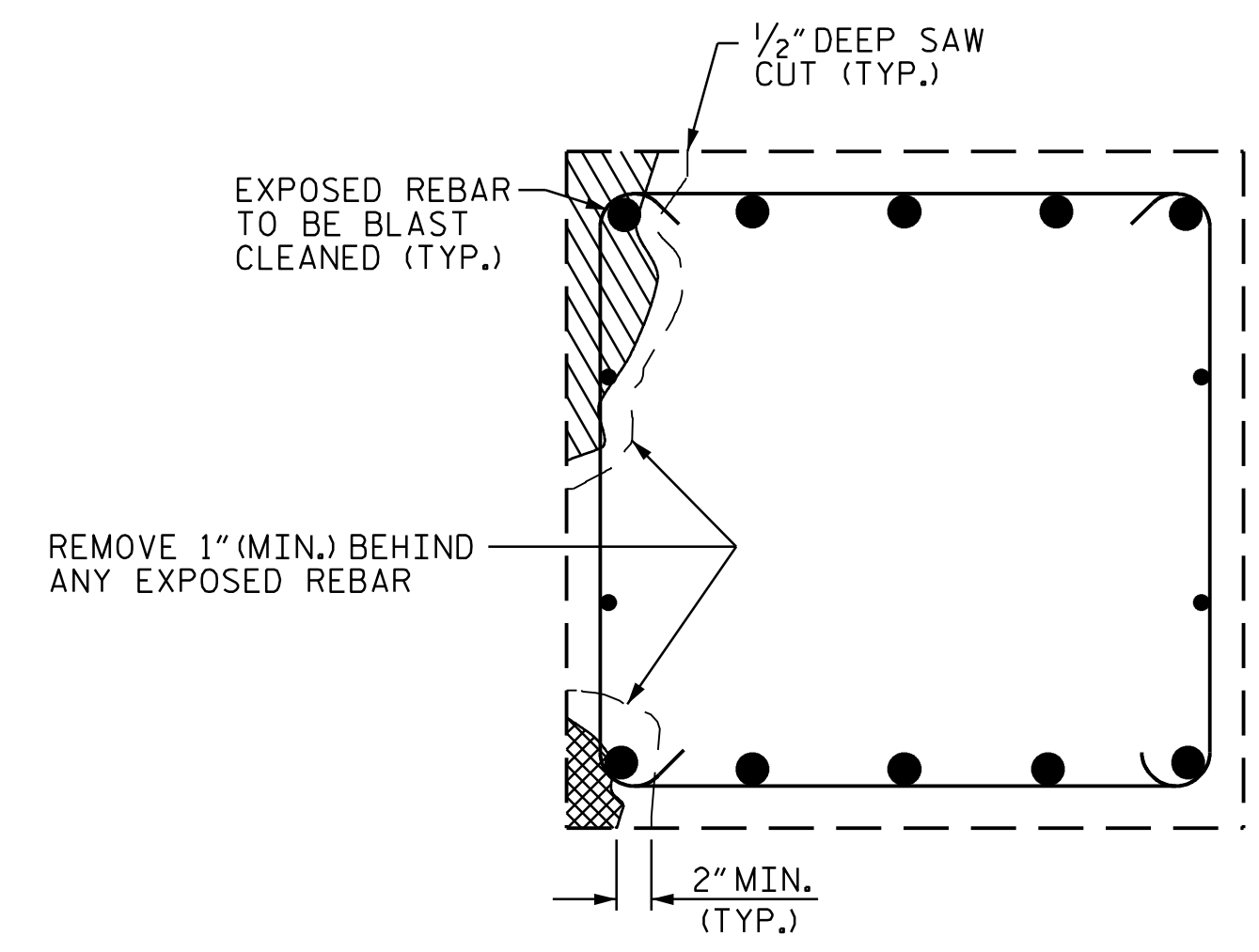
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION (ERI), SEE SPECIAL PROVISIONS.

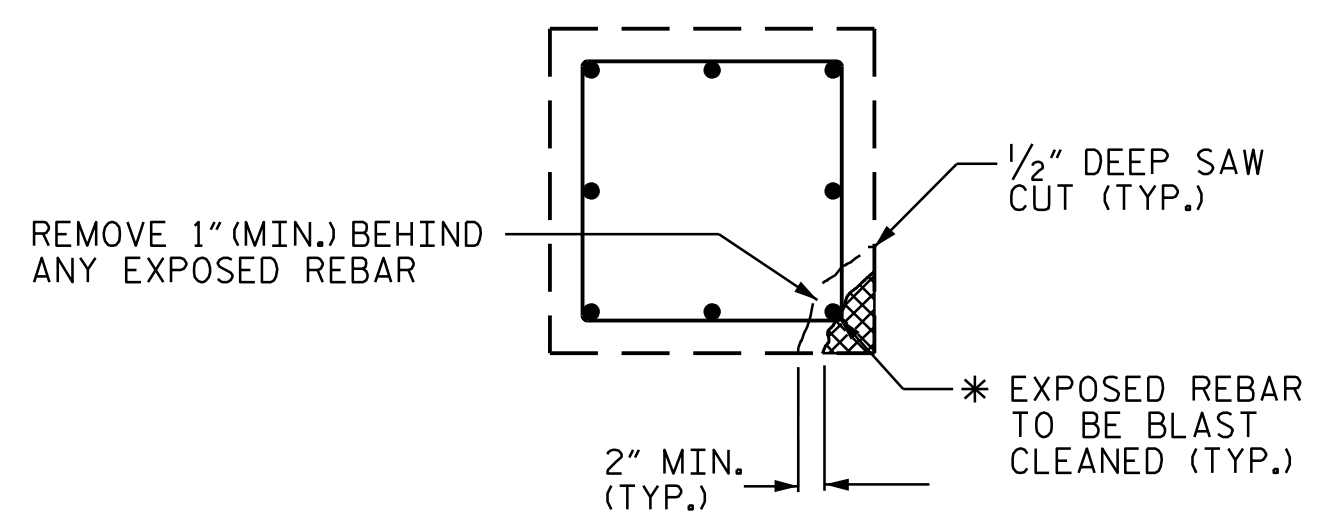


BENT CAP REPAIRS



SECTION A-A

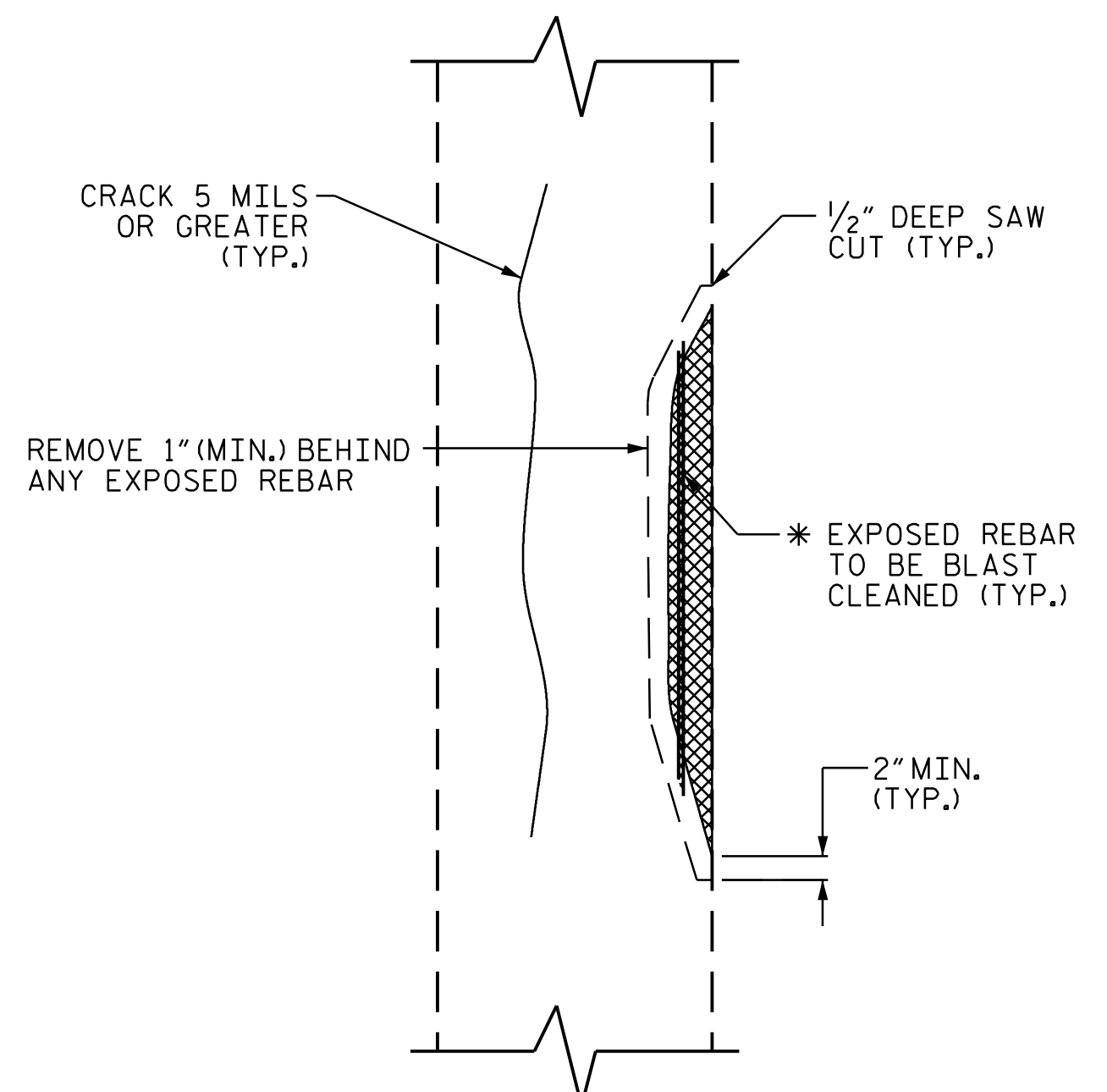
CAP REPAIR



PLAN OF COLUMN

### REPAIR KEY

- CONCRETE REPAIR AREA (FORM AND POUR)
- SHOTCRETE REPAIR AREA
- EPOXY RESIN INJECTION (ERI)

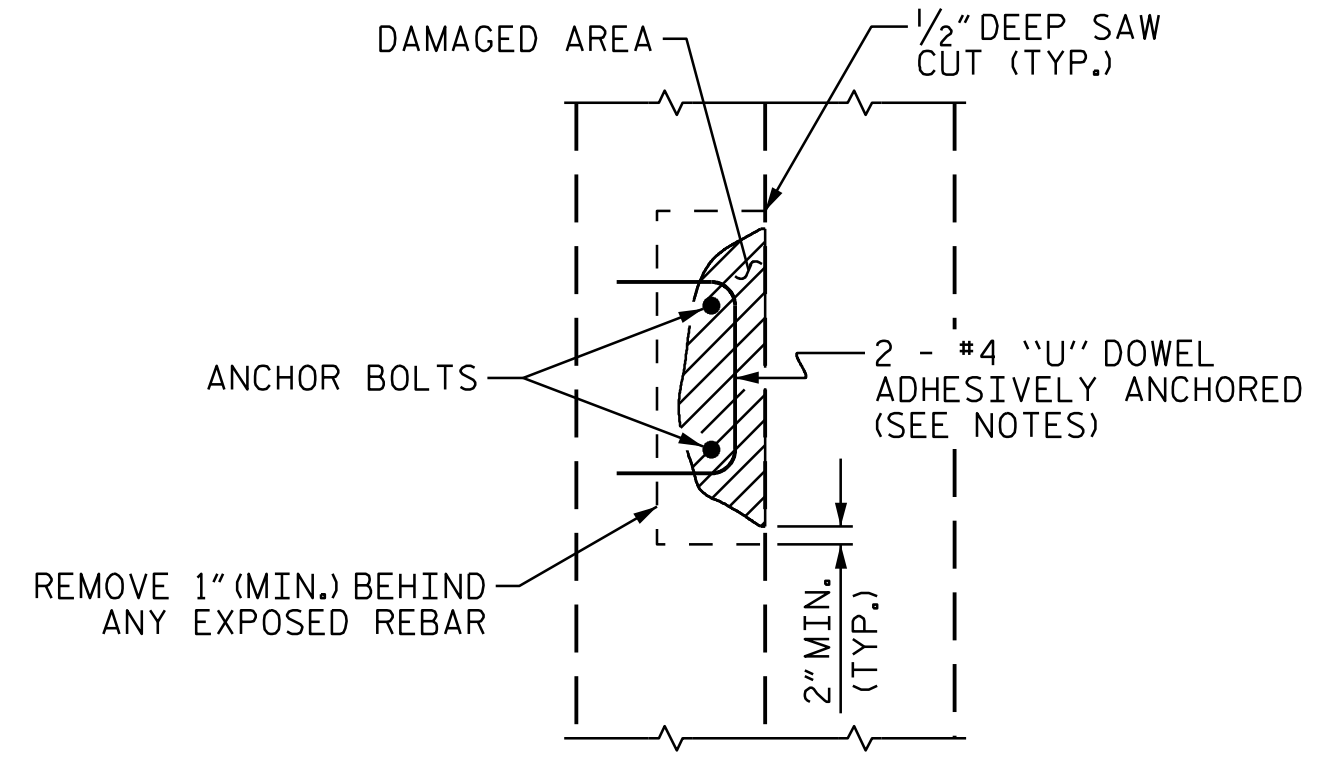


ELEVATION OF COLUMN

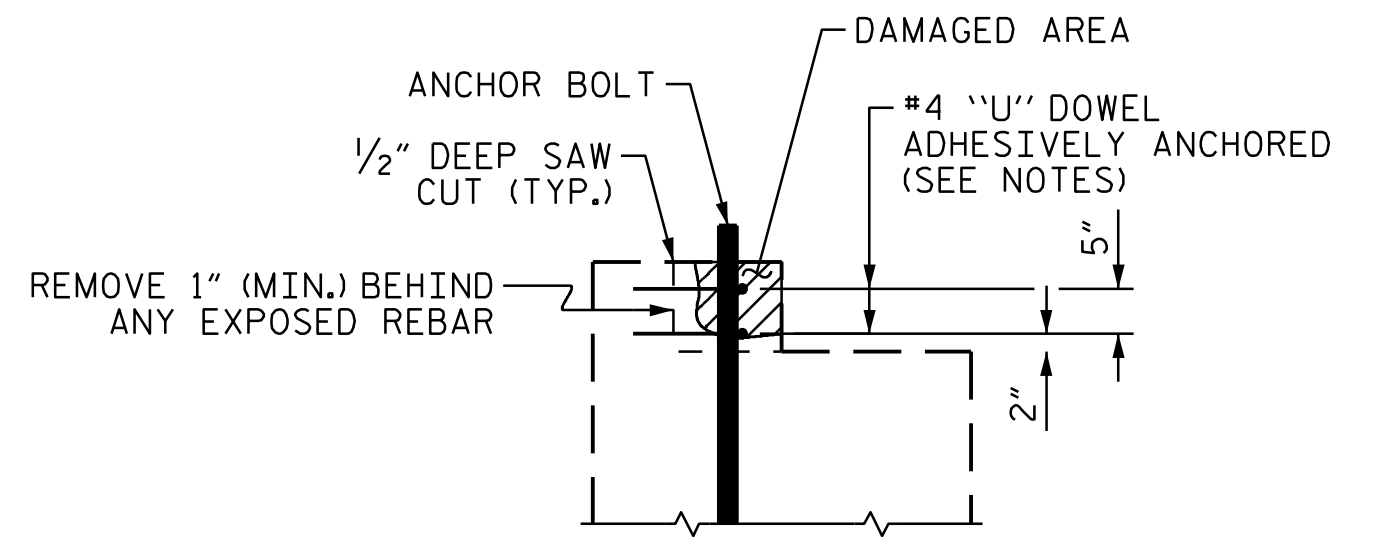
COLUMN REPAIR

\* REPAIR LENGTH SHALL NOT EXCEED 10 FEET.

SPLICE LENGTH TABLE	
BAR SIZE	MIN. SPLICE LENGTH
#4	2'-4"
#5	2'-9"
#6	4'-0"
#7	5'-3"
#8	6'-9"
#9	8'-6"
#10	10'-11"
#11	13'-4"



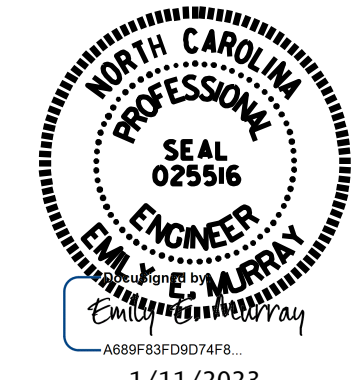
PLAN



ELEVATION

PEDESTAL WALL REPAIR

PROJ. NO. I-5927  
POLK COUNTY  
 BRIDGE NO. 740023, 740025  
740048, 740050



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 TYPICAL CAP  
 AND COLUMN  
 REPAIR DETAILS

ASSEMBLED BY : D. A. GLADDEN DATE : 8/21  
 CHECKED BY : E. M. MURRAY DATE : 12/22  
 DRAWN BY : NAP 8/18  
 CHECKED BY :

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1			3			S-79
2			4			TOTAL SHEETS 79

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## STANDARD NOTES

### DESIGN DATA:

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

### MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2018 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N.C. DEPARTMENT OF TRANSPORTATION.

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

### CONCRETE:

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

### CONCRETE CHAMFERS:

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

### DOWELS:

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

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

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

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

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

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

### REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

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

### STRUCTURAL STEEL:

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

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 3/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

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

### HANDRAILS AND POSTS:

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

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

### SPECIAL NOTES:

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

# ENGLISH

JANUARY, 1990

STD. NO. SN