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**NOTES**



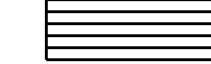
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES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

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

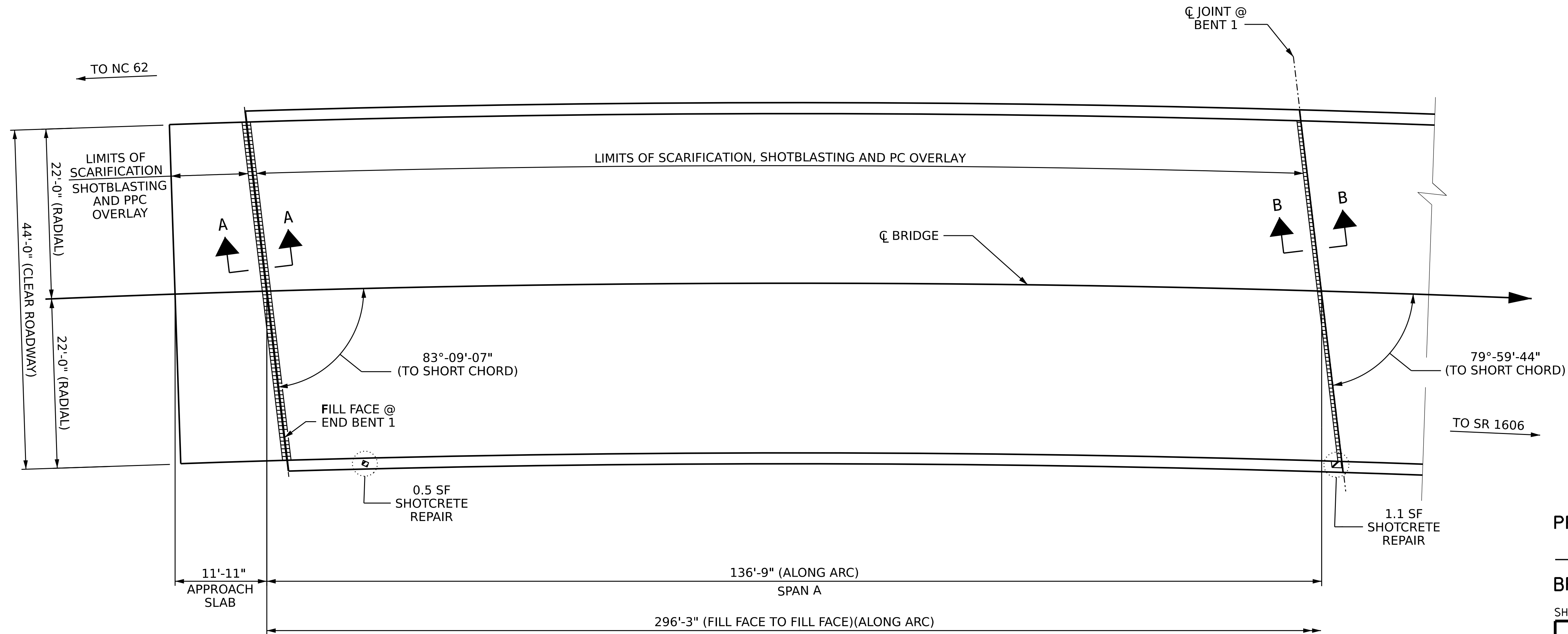
FOR SECTIONS A-A AND B-B, SEE "JOINT DETAILS" SHEET.

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

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

-  CONCRETE REPAIR AREA
-  SHOTCRETE REPAIR AREA
-  CLASS II SURFACE PREPARATION

AS-BUILT REPAIR QUANTITY TABLE				
TOP OF DECK REPAIRS	APPROACH SLAB 1		SPAN A	
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	58.0 SQ. YDS.		662.0 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	58.0 SQ. YDS.		662.0 SQ. YDS.	
CLASS II SURFACE PREPARATION	2.4 SQ. YDS.		4.9 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	2.4 SQ. YDS.		4.9 SQ. YDS.	
POLYMER CONCRETE MATERIALS	2.8 CU. YDS.		32.4 CU. YDS.	
PLACING & FINISHING PC OVERLAY	58.0 SQ. YDS.		662.0 SQ. YDS.	
GROOVING BRIDGE FLOOR	440.0 SQ. FT.		5549.0 SQ. FT.	
SHOTCRETE REPAIRS			ESTIMATE	ACTUAL
CONCRETE BARRIER RAIL			AREA SQ. FT.	VOLUME CU. FT.
			1.6	0.8



**PLAN**

PROJECT NO. **HI-0002**  
**RANDOLPH** COUNTY  
 BRIDGE NO. **750114**

SHEET 1 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**DECK SURFACE REPAIR SPAN A**

DRAWN BY : A. SORSENGINH DATE : 5/2021  
 CHECKED BY : H. A. LOCKLEAR DATE : 10/2021

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REVISIONS						SHEET NO. S3-04	TOTAL SHEETS 17
NO.	BY:	DATE:	NO.	BY:	DATE:		
1			3				
2			4				

**NOTES**



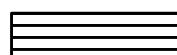
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES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

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

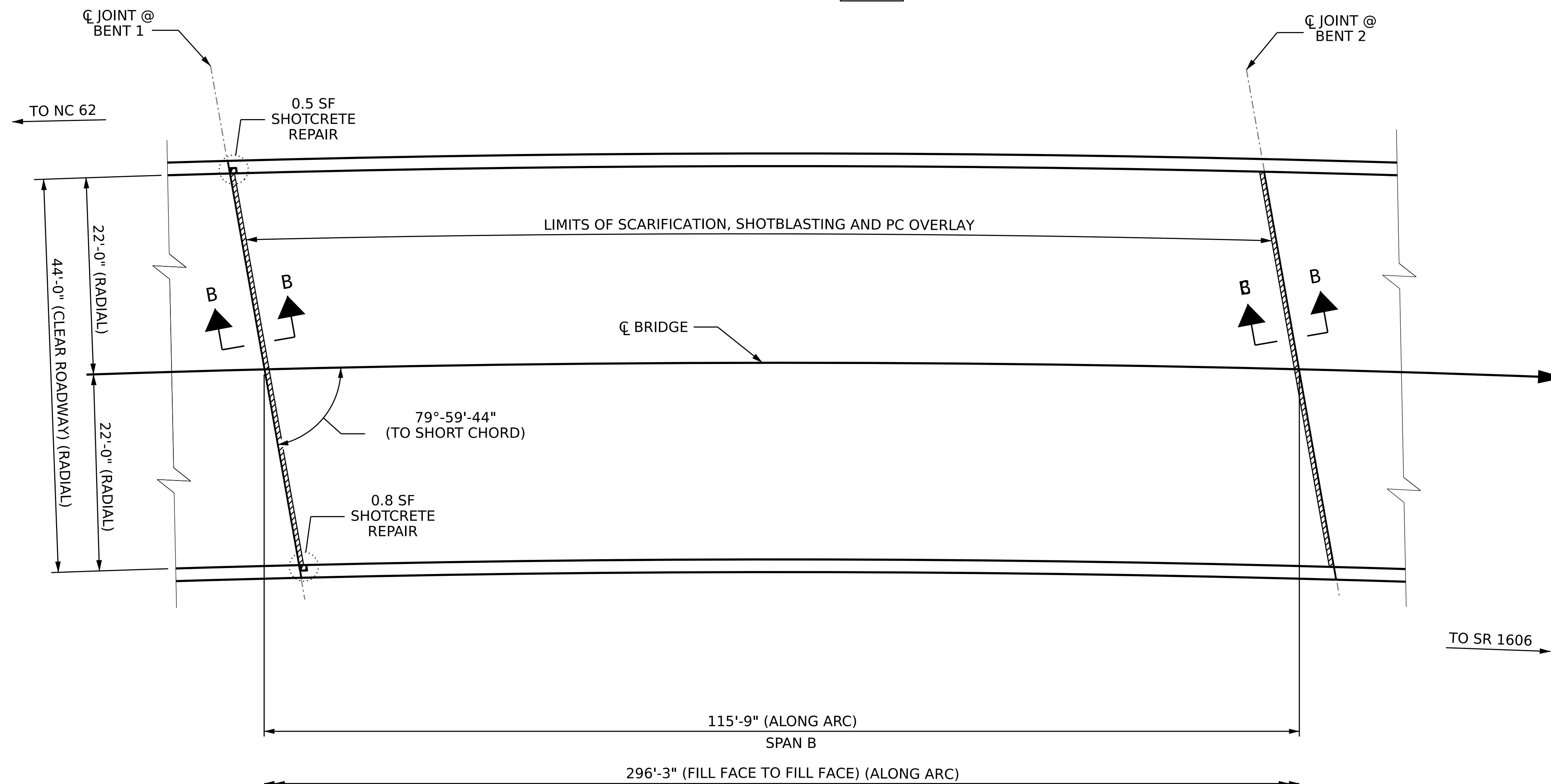
FOR SECTION B-B, SEE "JOINT DETAILS" SHEET.

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

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

-  CONCRETE REPAIR AREA
-  SHOTCRETE REPAIR AREA
-  CLASS II SURFACE PREPARATION

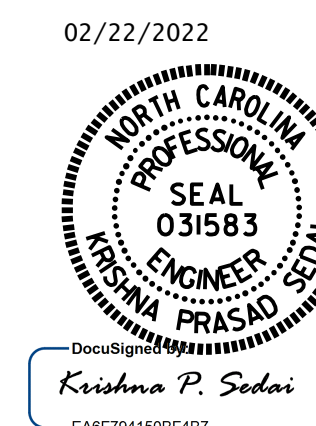
AS-BUILT REPAIR QUANTITY TABLE				
TOP OF DECK REPAIRS	SPAN B			
	ESTIMATE		ACTUAL	
SCARIFYING BRIDGE DECK	561.0 SQ. YDS.			
SHOTBLASTING BRIDGE DECK	561.0 SQ. YDS.			
CLASS II SURFACE PREPARATION	5.0 SQ. YDS.			
CONCRETE DECK REPAIR FOR PC OVERLAY	5.0 SQ. YDS.			
POLYMER CONCRETE MATERIALS	27.3 CU. YDS.			
PLACING & FINISHING PC OVERLAY	561.0 SQ. YDS.			
GROOVING BRIDGE FLOOR	4712.0 SQ. FT.			
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CONCRETE BARRIER RAIL	1.3	0.7		



**PLAN**

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750114

SHEET 2 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**DECK SURFACE REPAIR SPAN B**

DRAWN BY : A. SORSENGINH DATE : 5/2021  
 CHECKED BY : H. A. LOCKLEAR DATE : 5/2021

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1			3			TOTAL SHEETS
2			4			17

**NOTES**



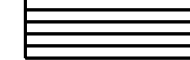
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES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

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

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

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

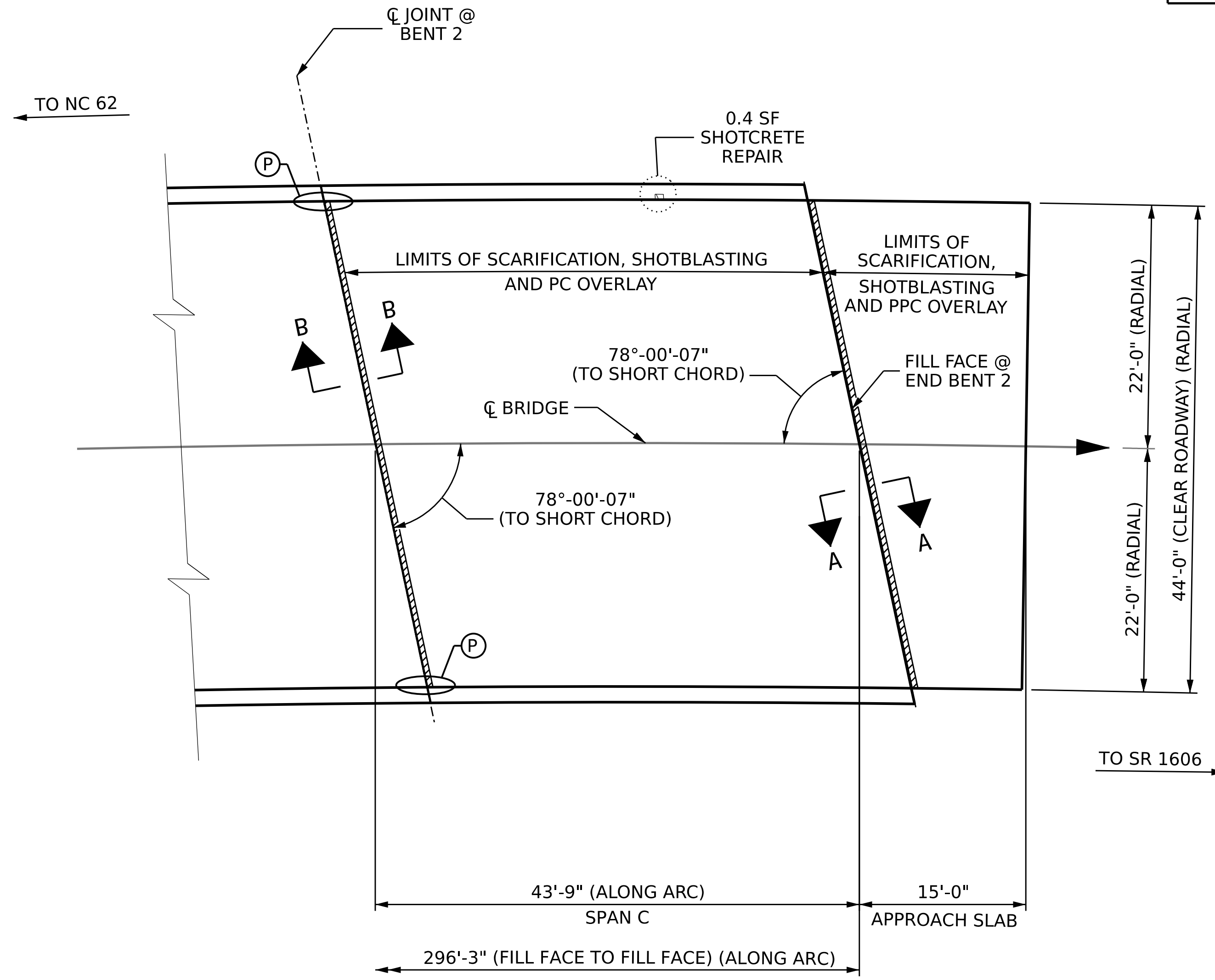
FOR SCARIFYING BRIDGE DECK, SHOTBLASTING BRIDGE DECK AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

-  CONCRETE REPAIR AREA
-  SHOTCRETE REPAIR AREA
-  CLASS II SURFACE PREPARATION

AS-BUILT REPAIR QUANTITY TABLE				
TOP OF DECK REPAIRS	SPAN C		APPROACH SLAB 2	
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	214.0 SQ. YDS.		74.0 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	214.0 SQ. YDS.		74.0 SQ. YDS.	
CLASS II SURFACE PREPARATION	5.0 SQ. YDS.		2.5 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	5.0 SQ. YDS.		2.5 SQ. YDS.	
POLYMER CONCRETE MATERIALS	10.3 CU. YDS.		3.6 CU. YDS.	
PLACING & FINISHING PC OVERLAY	214.0 SQ. YDS.		74.0 SQ. YDS.	
GROOVING BRIDGE FLOOR	1735.0 SQ. FT.		586.0 SQ. FT.	
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CONCRETE BARRIER RAIL	0.4	0.2		

(P) MISSING COVER PLATE IN BARRIER RAIL - FOR PROPOSED COVER PLATE REPLACEMENT, SEE "BARRIER RAIL COVER PLATE DETAILS".

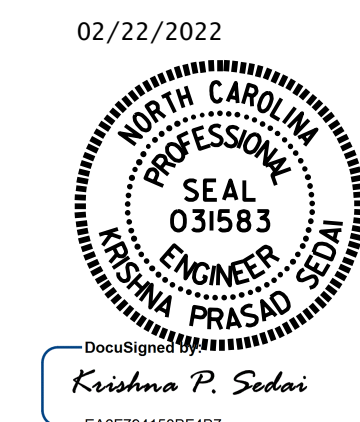
BARRIER RAIL COVER PLATE QUANTITIES	
EA.	
ESTIMATE	ACTUAL
2	



**PLAN**

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750114

SHEET 3 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**DECK SURFACE REPAIR SPAN C**

DRAWN BY : A. SORSENGINH DATE : 5/2021  
 CHECKED BY : H. A. LOCKLEAR DATE : 10/2021

NO.	BY:	DATE:	REVISIONS			SHEET NO.
			NO.	BY:	DATE:	
1			3			S3-06
2			4			TOTAL SHEETS 17

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**NOTES**

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN DETAIL BY MORE THAN 1/4", NOTIFY ENGINEER. REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.

FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY IS COMPLETE.

THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE WITHOUT PROTECTIVE DEVICES BELOW TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT THE PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

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

DURING THE JOINT INSTALLATION PROCEDURE, THE JOINT AND SURROUNDING AREA SHALL BE KEPT CLEAN AND FREE OF DEBRIS.

FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

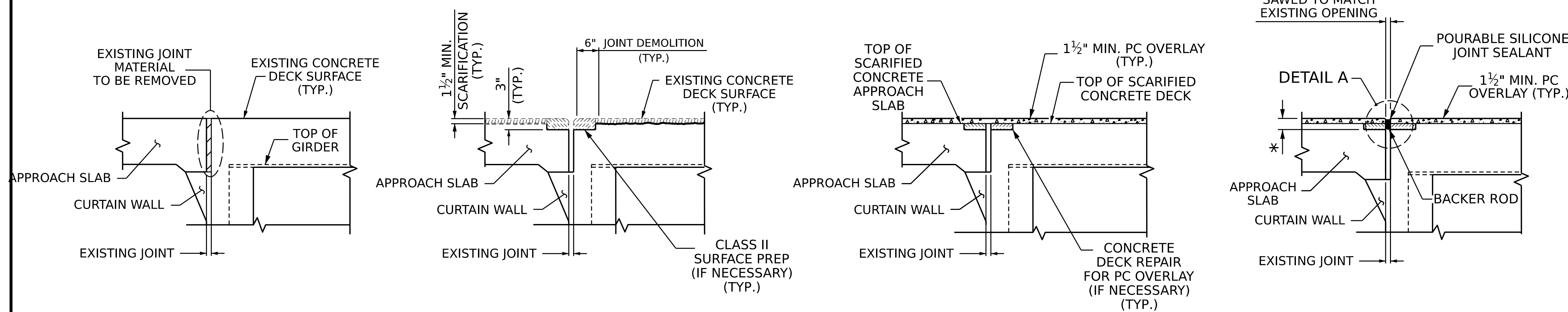
THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE BACKER ROD FOR THE EXISTING JOINT SIZE AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

A MANUFACTURER'S CERTIFIED TRAINED REPRESENTATIVE SHALL BE PRESENT DURING THE INSTALLATION OF THE FIRST JOINT OF THE PROJECT, OR UNTIL THE ENGINEER IS SATISFIED WITH THE INSTALLATION PROCESS.

THE INSTALLED POURABLE JOINT SEALANT SHALL BE WATERTIGHT.

POURABLE SILICONE JOINT SEALANT SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS.

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.



EXISTING JOINT

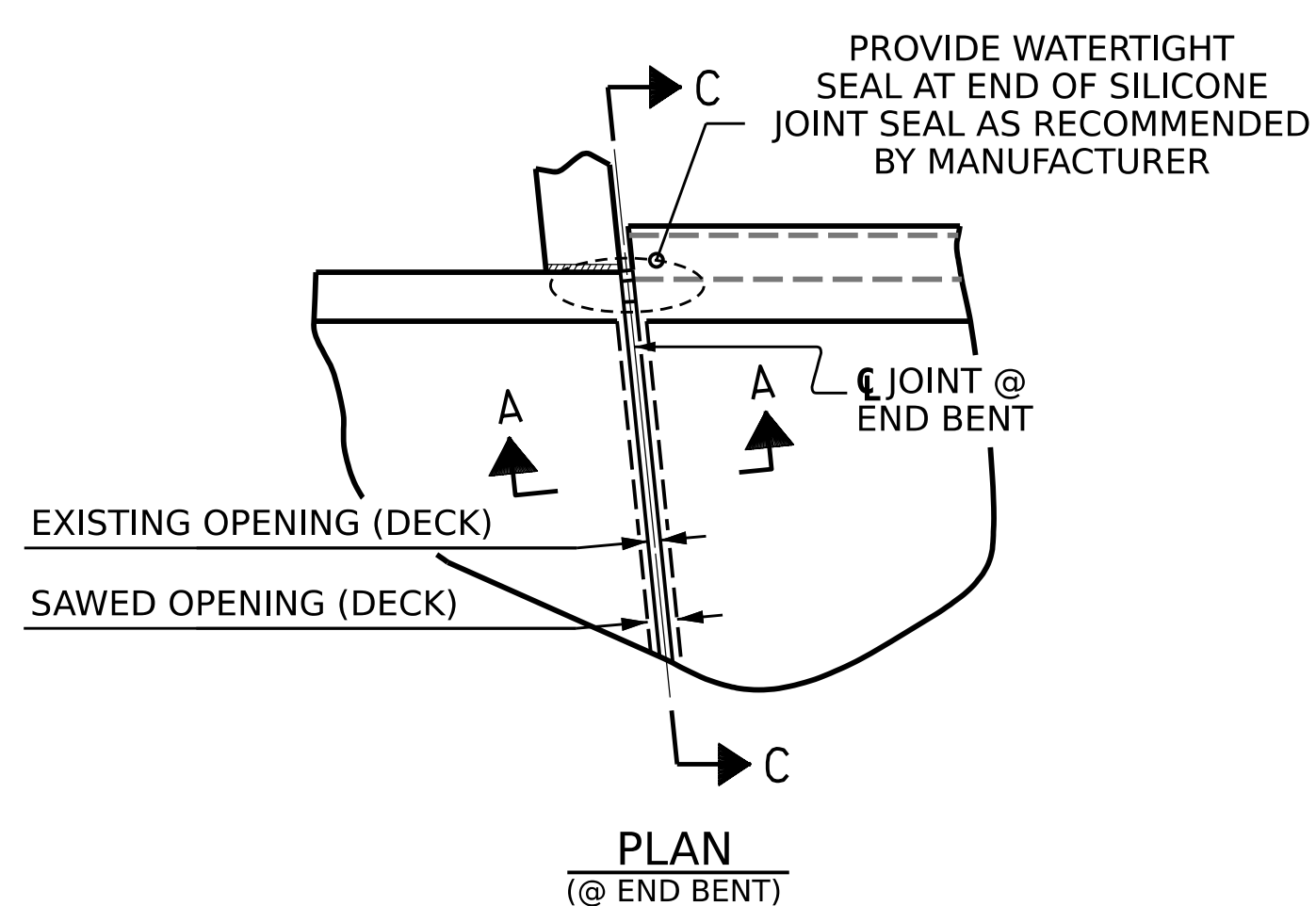
MINIMUM EXISTING JOINT DEMOLITION & SCARIFICATION

PROPOSED JOINT PRE-SAWED & PC OVERLAY

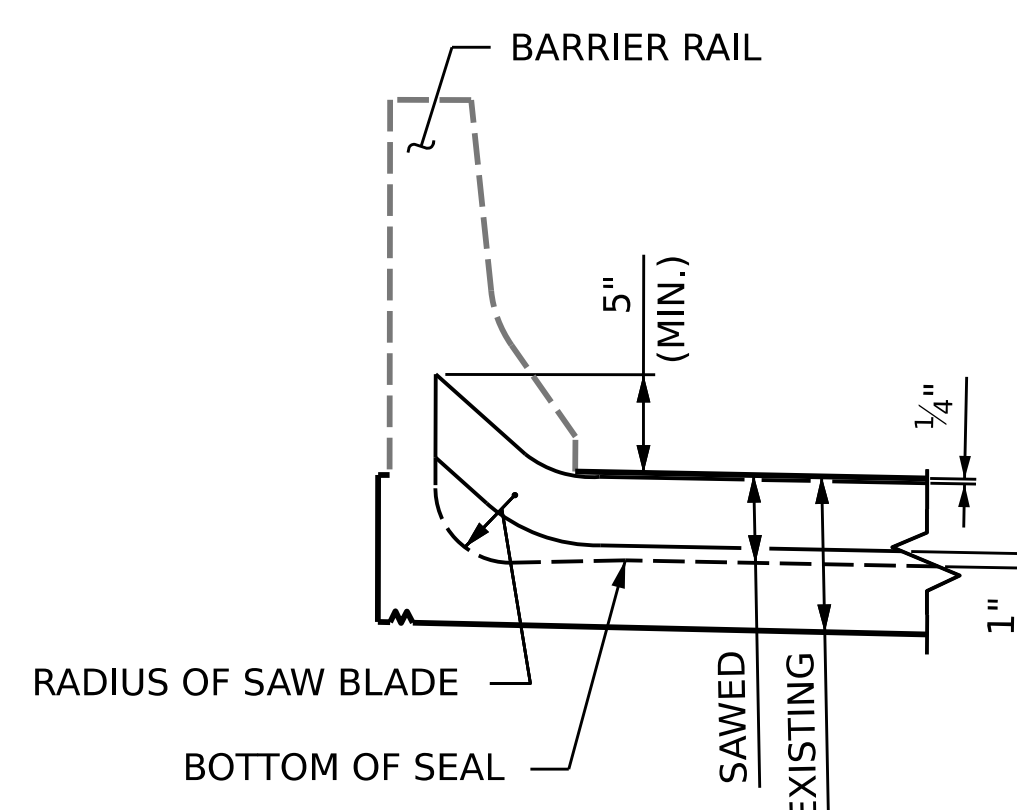
PROPOSED POURABLE SILICONE JOINT SEALANT  
\* SAW CUT SHALL BE 3/4" BELOW THE BOTTOM OF THE JOINT SEAL. SEE MANUFACTURER RECOMMENDATIONS

JOINT INSTALLATION SEQUENCE AT END BENTS

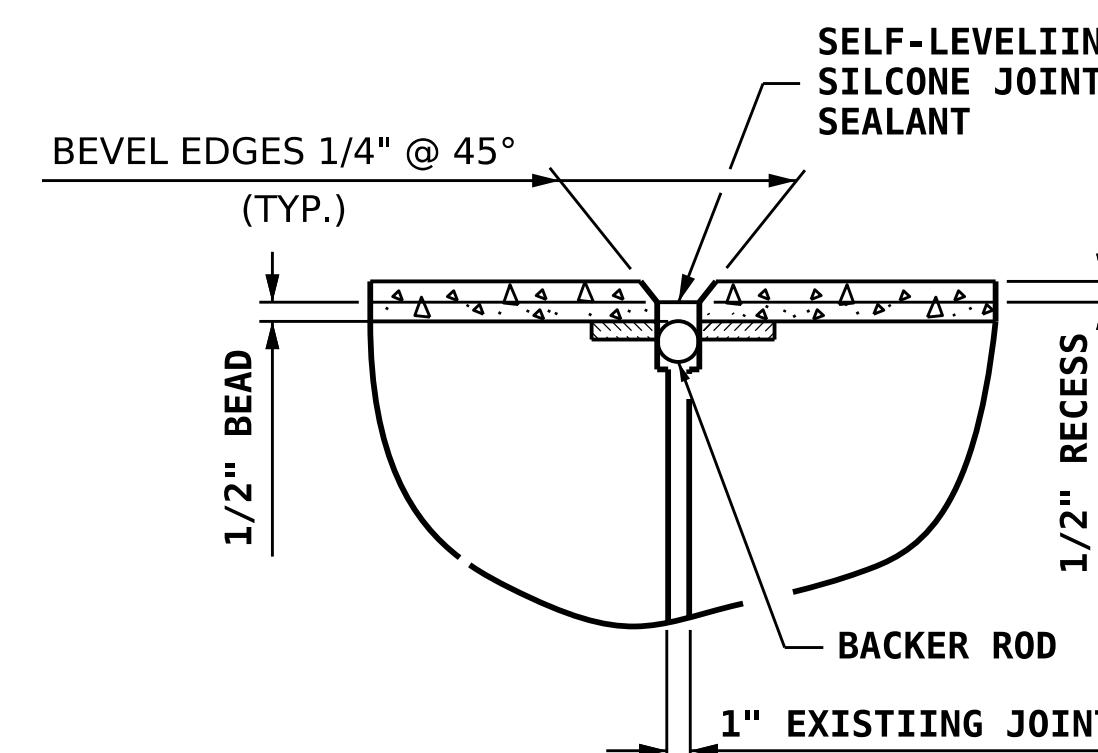
SECTION A-A



PLAN  
(@ END BENT)



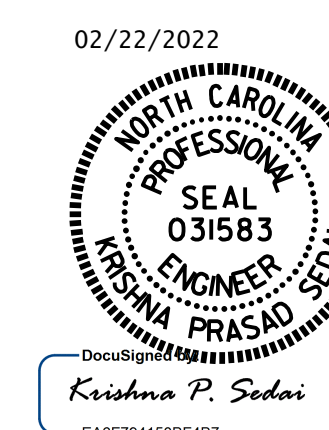
SECTION C-C



DETAIL A

POURABLE SILICONE JOINT SEALANT	
END BENT 1	44.2 LIN. FT.
END BENT 2	45.1 LIN. FT.
TOTAL	89.3 LIN. FT.

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
BRIDGE NO.: 750114



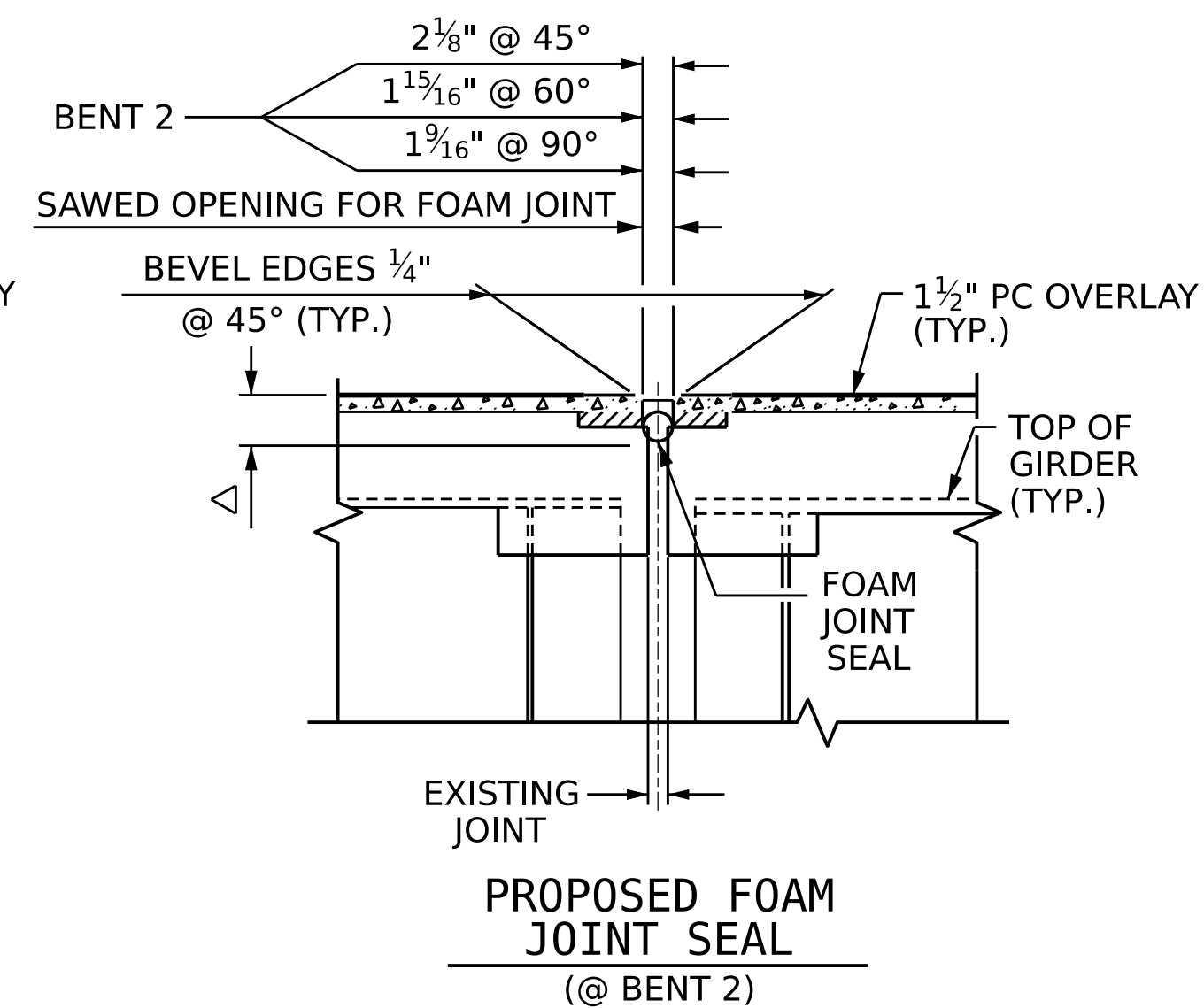
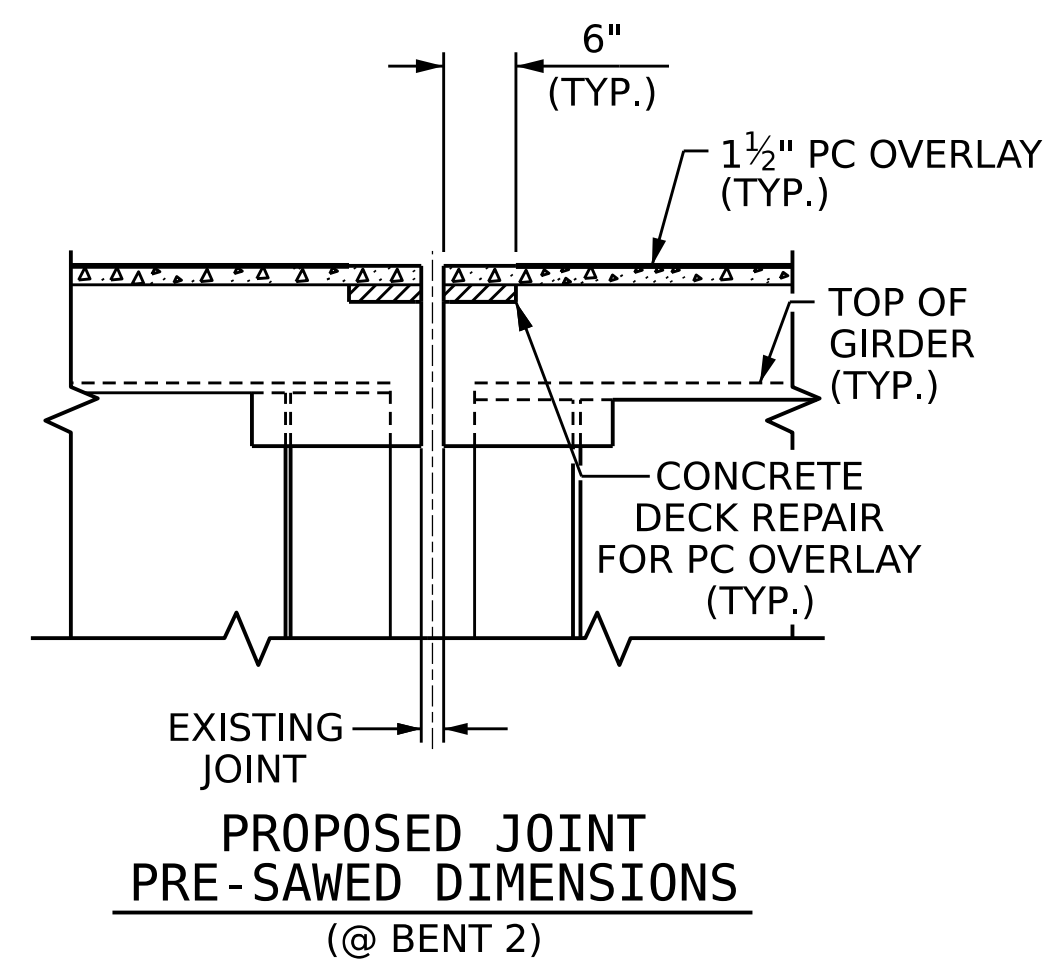
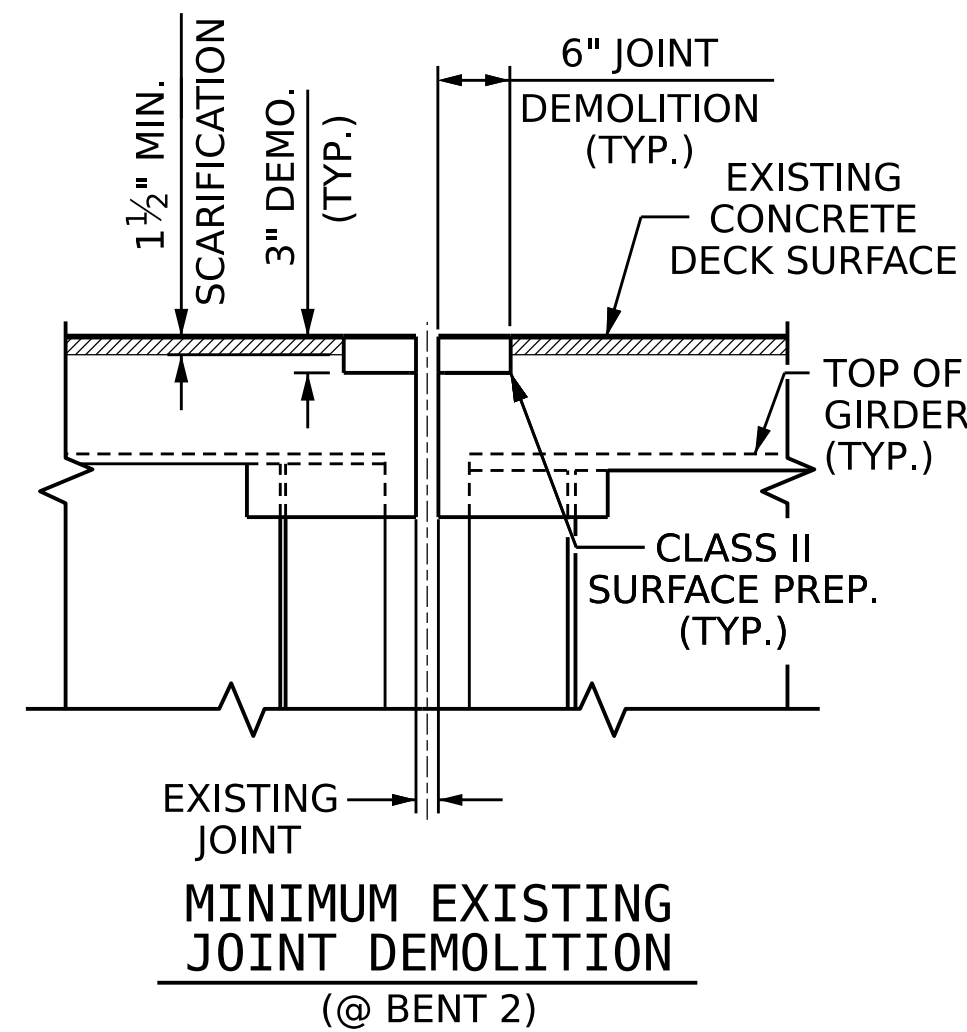
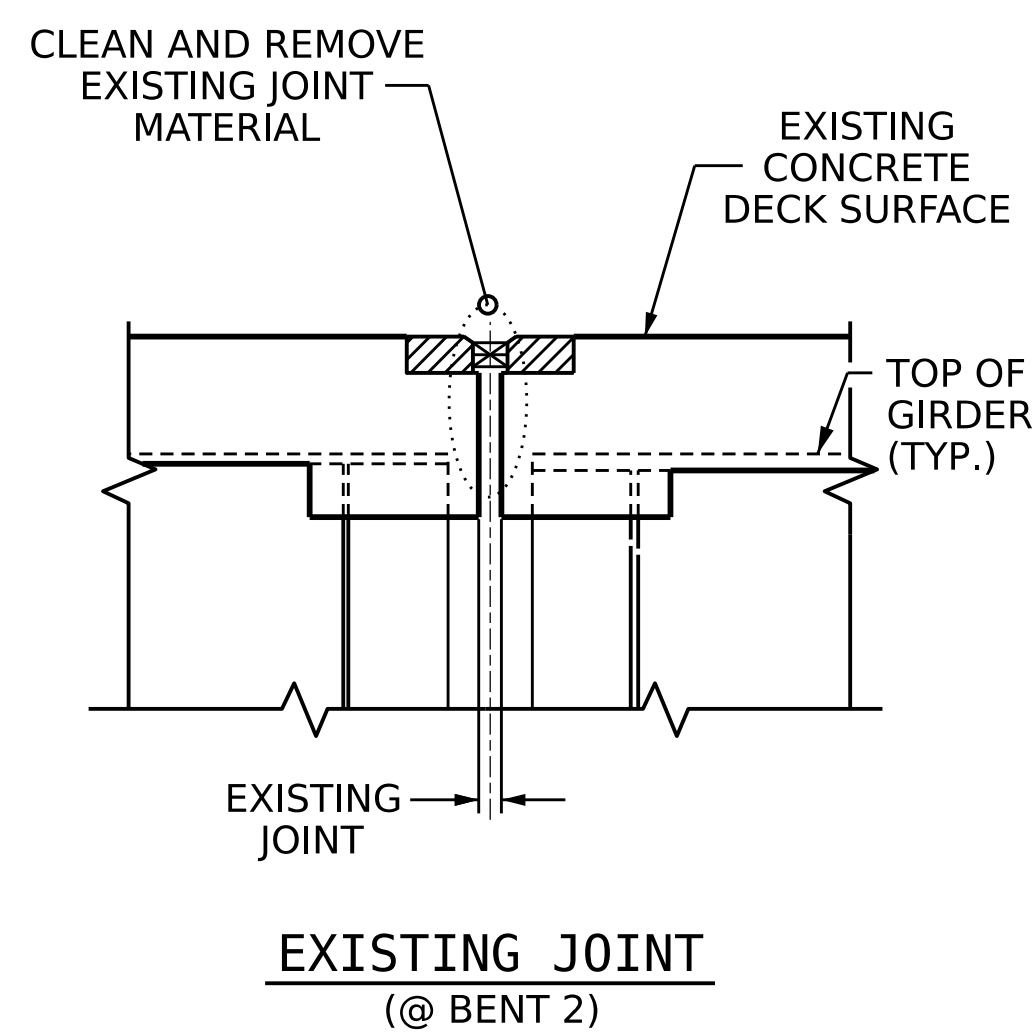
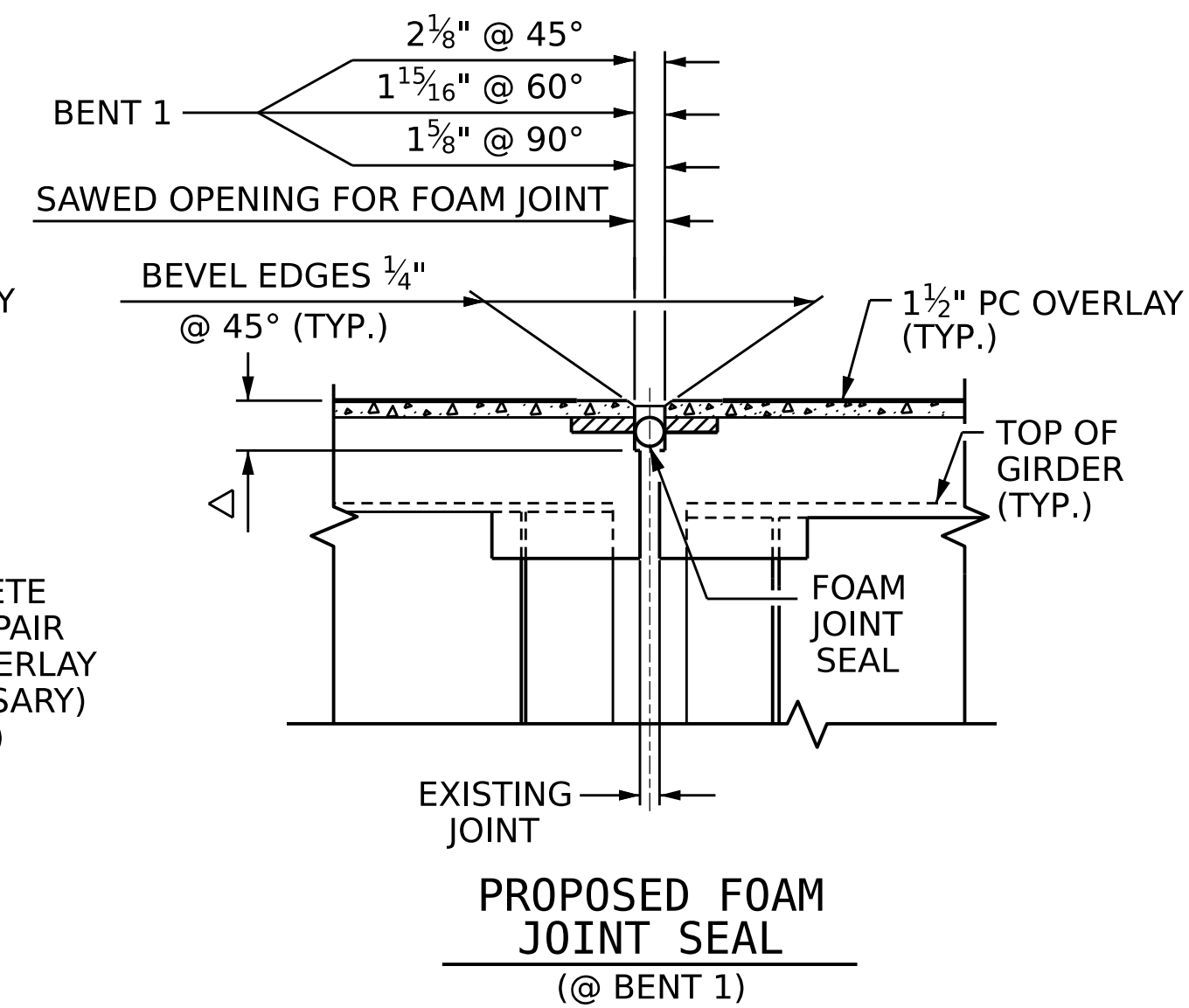
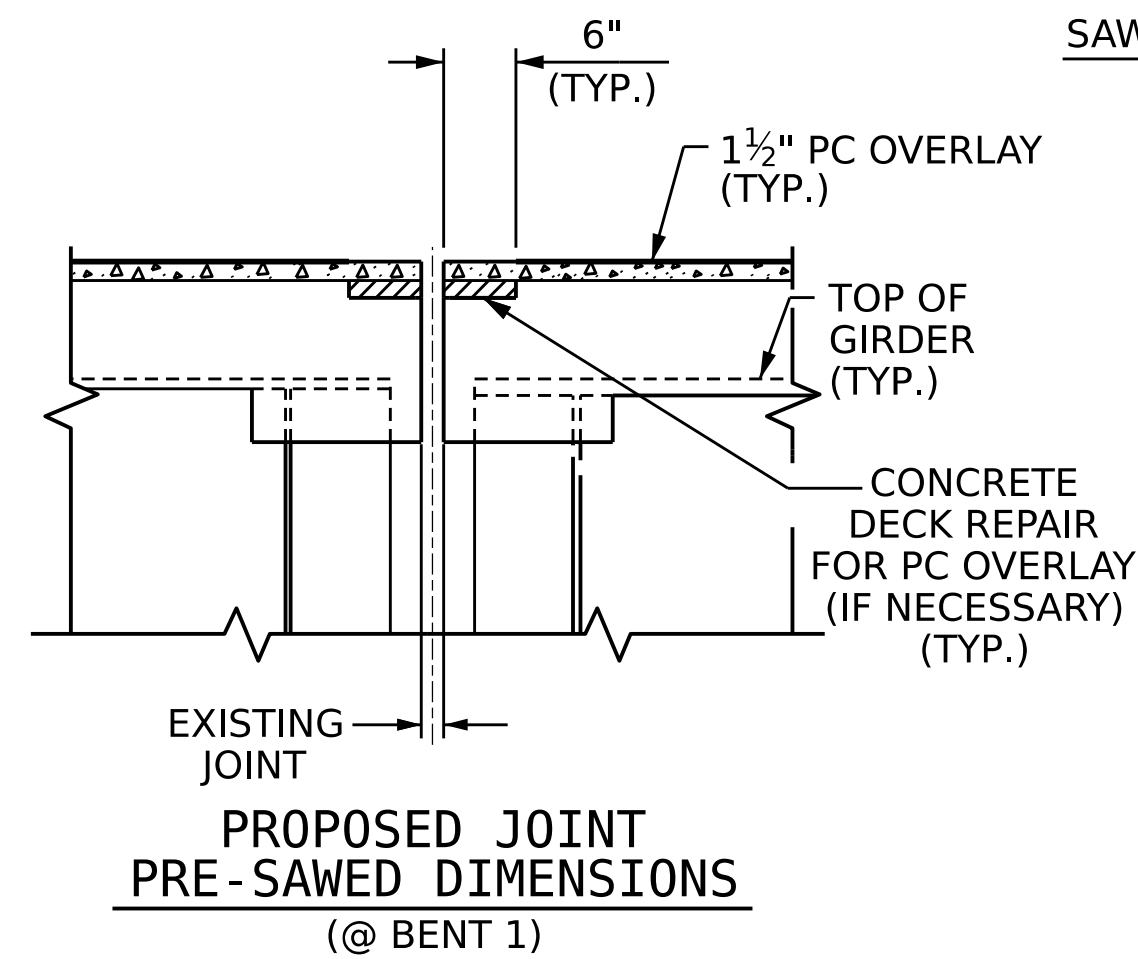
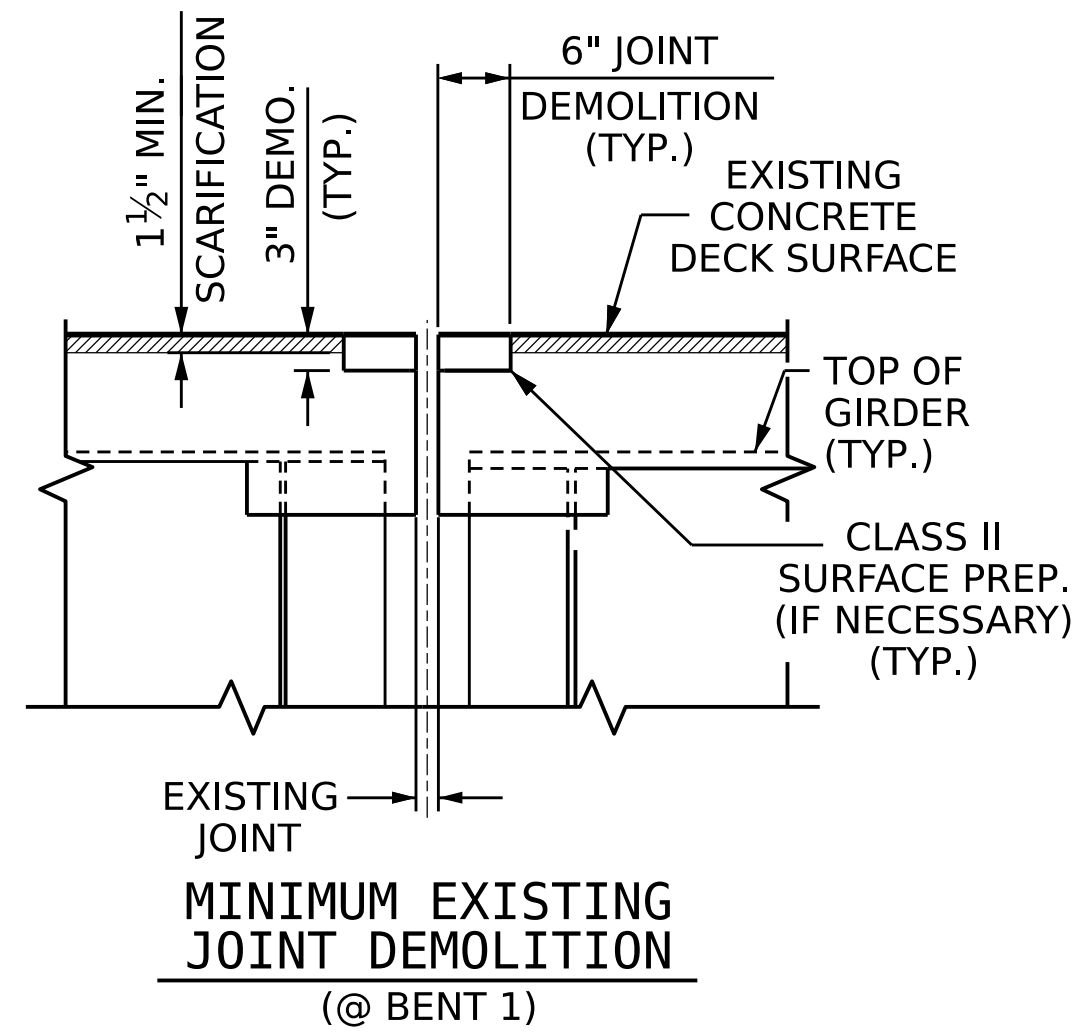
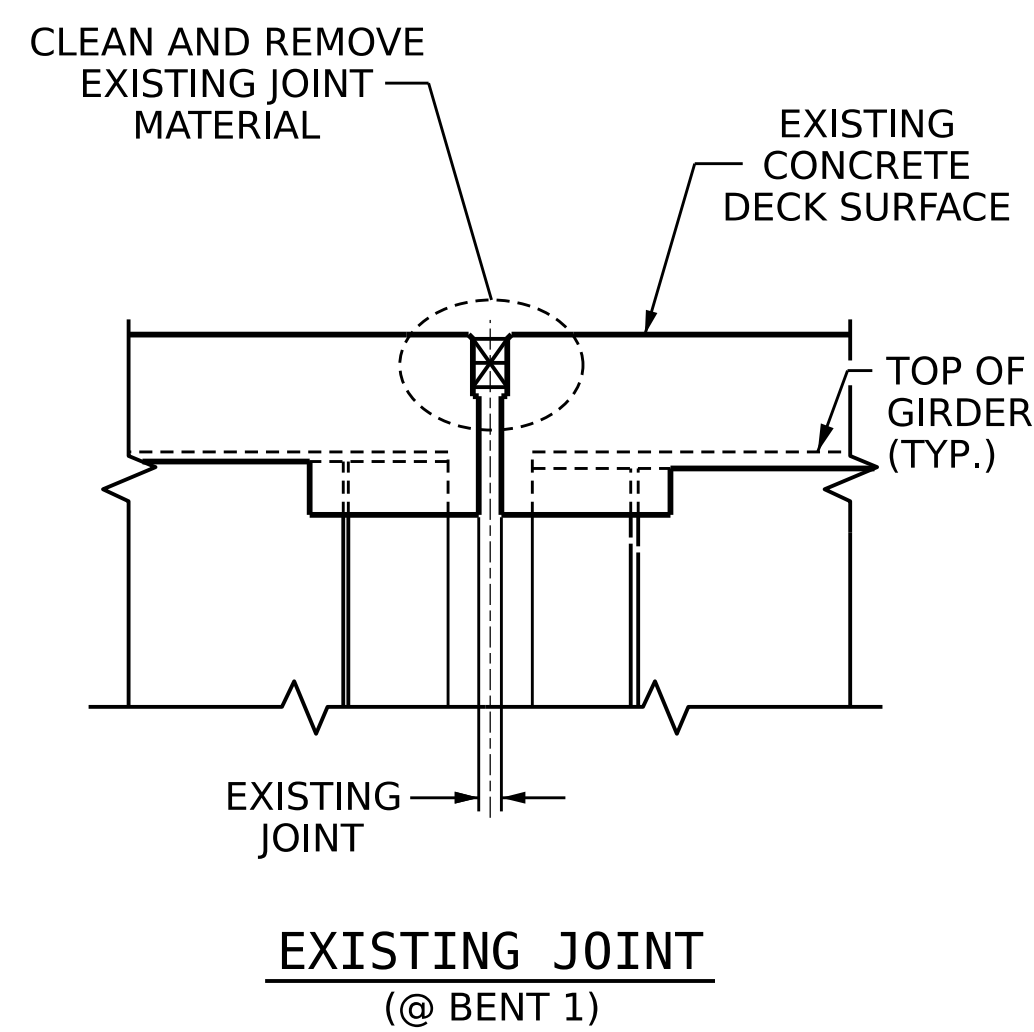
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**JOINT DETAILS**

DRAWN BY : A. SORSENGINH DATE : 6/2021  
CHECKED BY : H. A. LOCKLEAR DATE : 10/2021

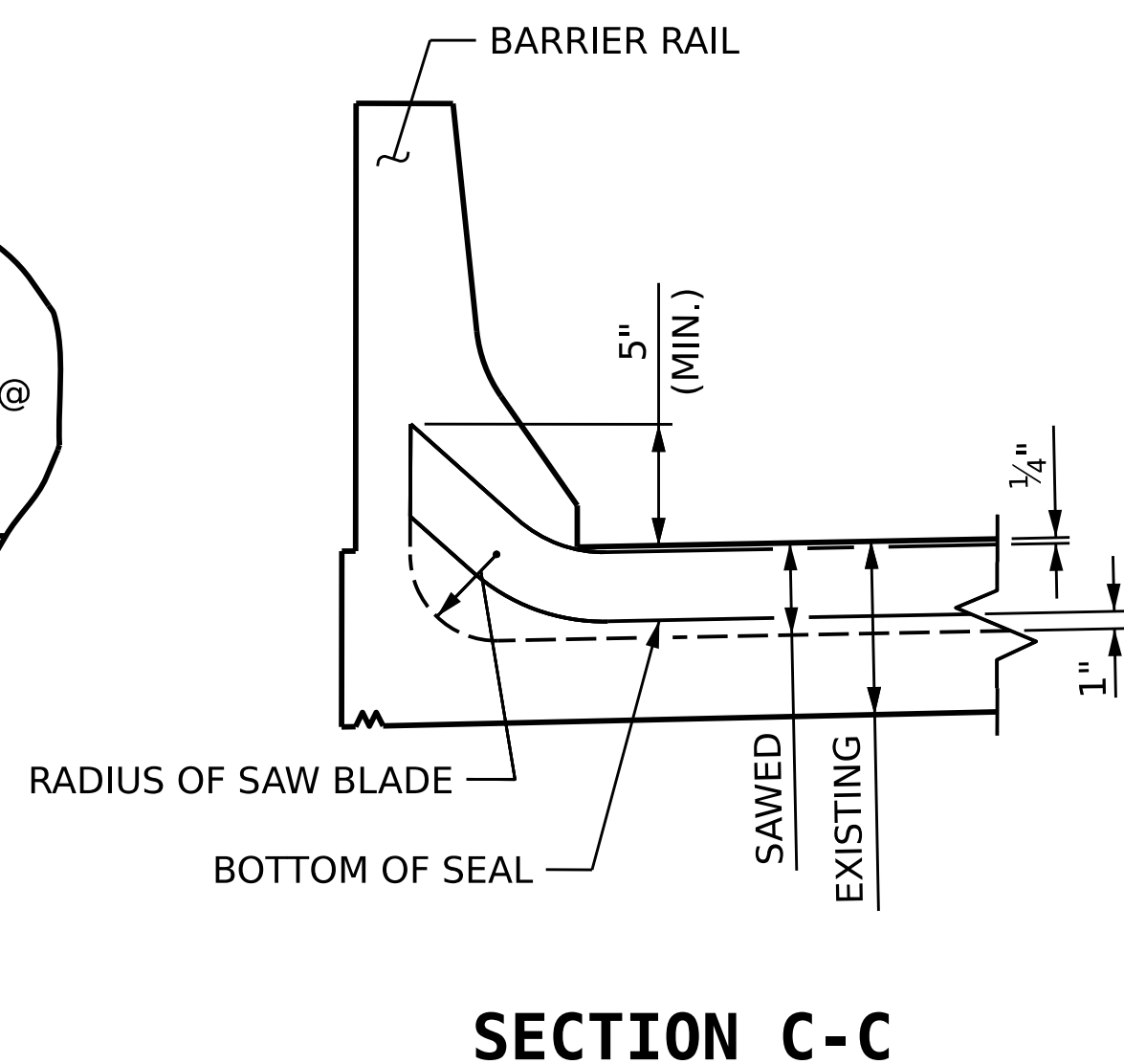
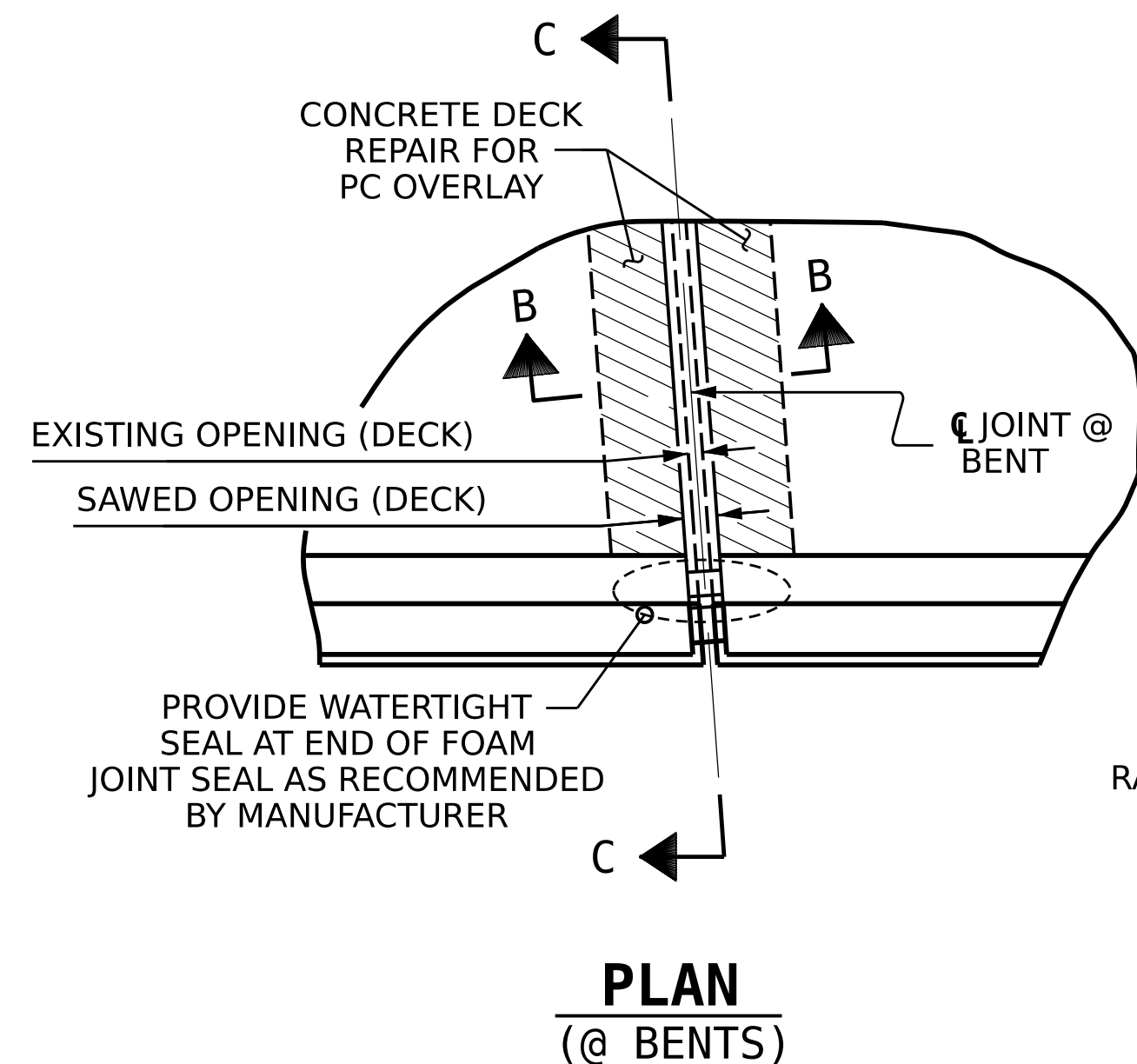
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2			4			17



△ SAW CUT SHALL BE 3/4" BELOW THE BOTTOM OF THE JOINT SEAL. SEE MANUFACTURER RECOMMENDATIONS

**JOINT INSTALLATION SEQUENCE AT BENTS**  
SECTION B-B

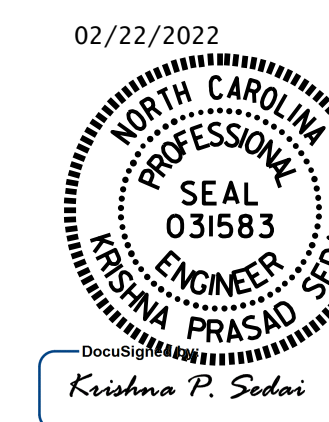


FOAM JOINT SEALS FOR PRESERVATION	
BENT 1	44.5 LIN. FT.
BENT 2	44.9 LIN. FT.
TOTAL	89.4 LIN. FT.

**NOTES**

- CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF ACTUAL JOINT OPENING VARIES FROM OPENING INDICATED IN DETAIL BY MORE THAN 1/4" NOTIFY ENGINEER. REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.
- THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS IN LIEU OF SAWING THE JOINT.
- FOAM JOINTS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.
- THE FOAM JOINTS SHALL MEET THE MANUFACTURER'S RECOMMENDATION FOR THE SIZE OF OPENING ON THE PLANS, AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.
- THE INSTALLED FOAM JOINTS SHALL BE WATER TIGHT.
- FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.
- THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL BASED ON JOINT OPENINGS AT THE BENTS.
- 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.
- DURING THE JOINT INSTALLATION PROCEDURE, THE JOINT AND SURROUNDING AREA SHALL BE KEPT CLEAN AND FREE OF DEBRIS.

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
BRIDGE NO. 750114



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**JOINT DETAILS**

DRAWN BY : A. SORSENGINH DATE : 6/2021  
CHECKED BY : H. A. LOCKLEAR DATE : 10/2021

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1			3			TOTAL SHEETS
2			4			17

**NOTES**

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CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

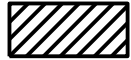


FOR UNDERSIDE OF DECK REPAIRS, SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

FOR OVERHANG REPAIRS, SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

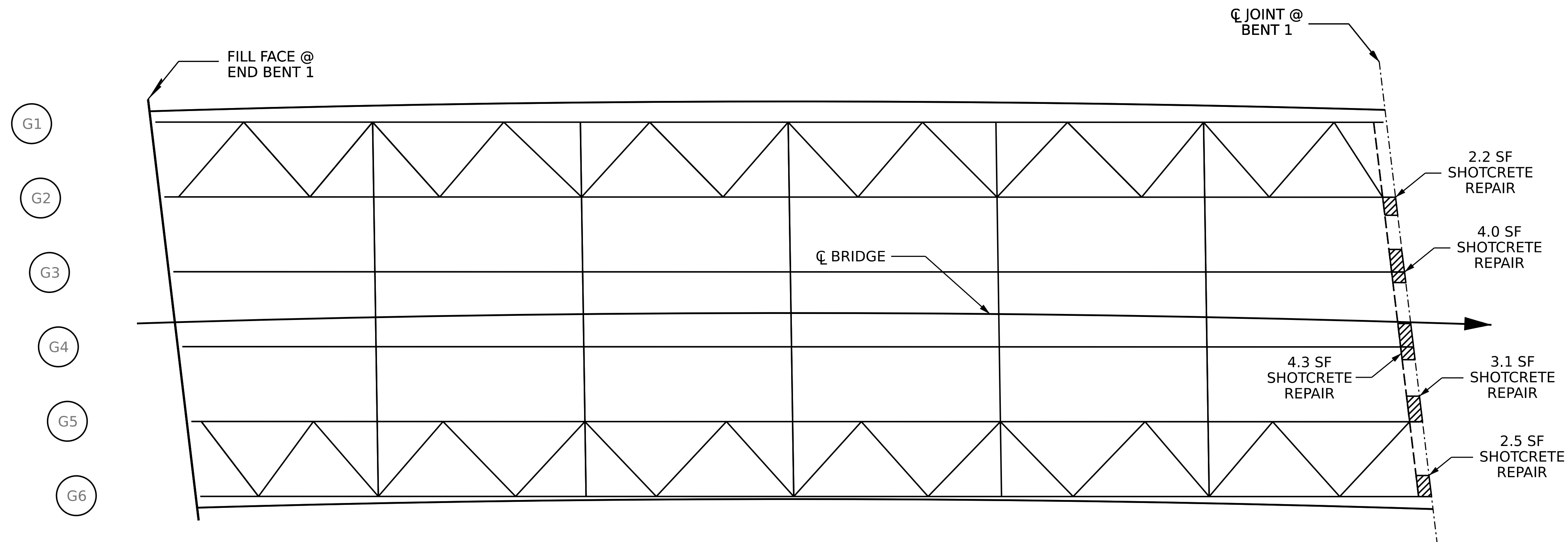
-  SHOTCRETE REPAIR
-  EPOXY RESIN INJECTION (ERI)
-  ANCHOR BOLT REPAIR

**AS-BUILT REPAIR QUANTITY TABLE**

**DECK UNDERSIDE REPAIR - SPAN A**

SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
BENT DIAPHRAGM	16.1	8.1		
OVERHANG	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
UNDERSIDE OF DECK		0.0		
BENT DIAPHRAGM		0.0		
OVERHANG		0.0		

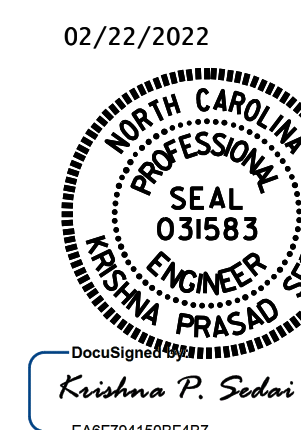
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.



**SPAN A**

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750114

SHEET 1 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**DECK UNDERSIDE  
 REPAIR  
 SPAN A**

DRAWN BY : A. SORSENGINH DATE : 5/2021  
 CHECKED BY : H. A. LOCKLEAR DATE : 10/2021

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1			3			TOTAL SHEETS
2			4			17

**NOTES**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON 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 ENTER THE QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

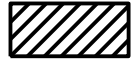


FOR UNDERSIDE OF DECK REPAIRS, SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

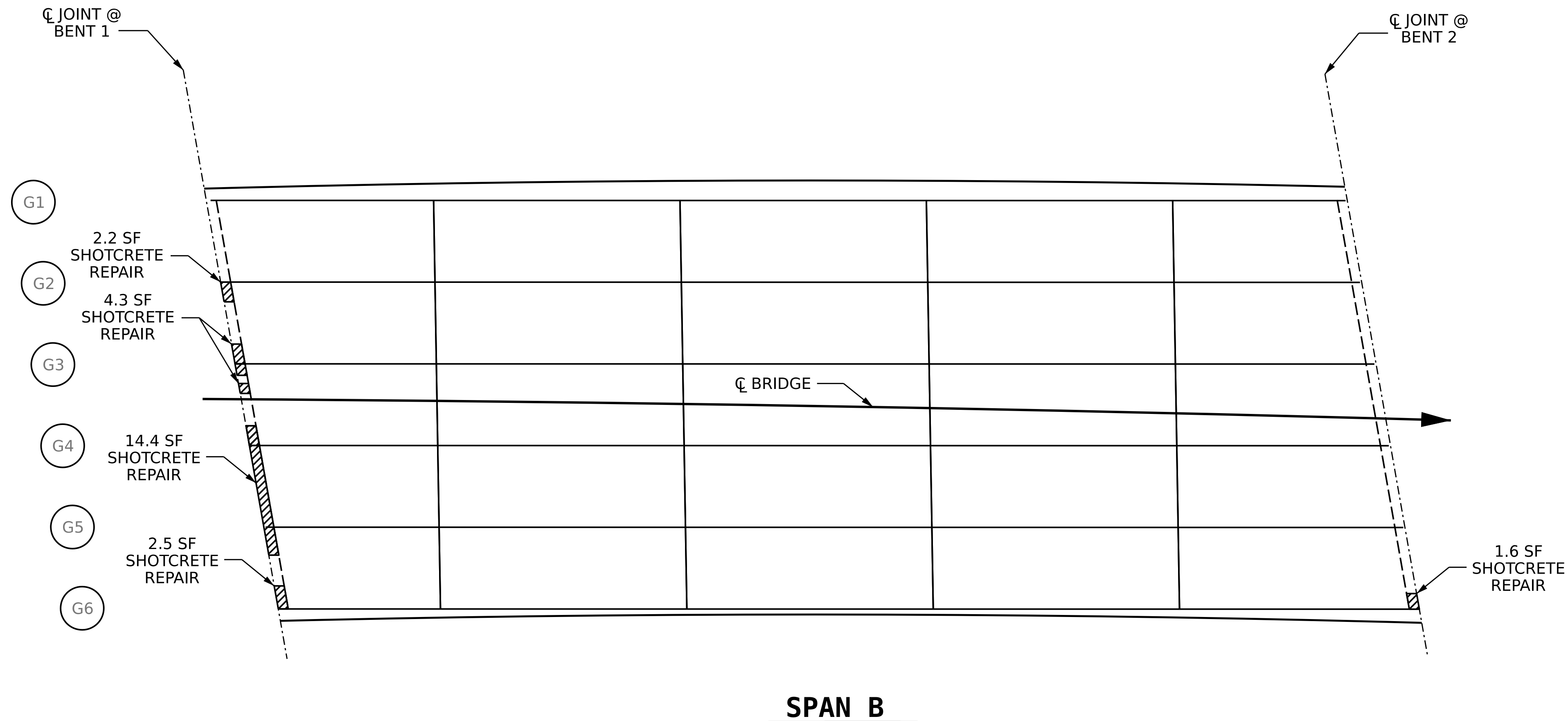
FOR OVERHANG REPAIRS, SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

-  SHOTCRETE REPAIR
-  EPOXY RESIN INJECTION (ERI)
-  ANCHOR BOLT REPAIR



**AS-BUILT REPAIR QUANTITY TABLE**

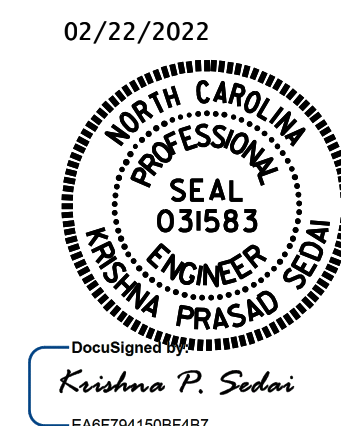
**DECK UNDERSIDE REPAIR - SPAN B**

REPAIR TYPE	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
<b>SHOTCRETE REPAIRS</b>				
UNDERSIDE OF DECK	0.0	0.0		
BENT DIAPHRAGM	25.0	12.5		
OVERHANG	0.0	0.0		
<b>EPOXY RESIN INJECTION</b>				
UNDERSIDE OF DECK		0.0		
BENT DIAPHRAGM		0.0		
OVERHANG		0.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750114

SHEET 2 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**DECK UNDERSIDE  
 REPAIR  
 SPAN B**

DRAWN BY : A. SORSENGINH DATE : 5/2021  
 CHECKED BY : H. A. LOCKLEAR DATE : 10/2021

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S3-10
1			3			TOTAL SHEETS
2			4			17



**NOTES**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON 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 ENTER THE QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

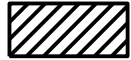


FOR UNDERSIDE OF DECK REPAIRS, SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

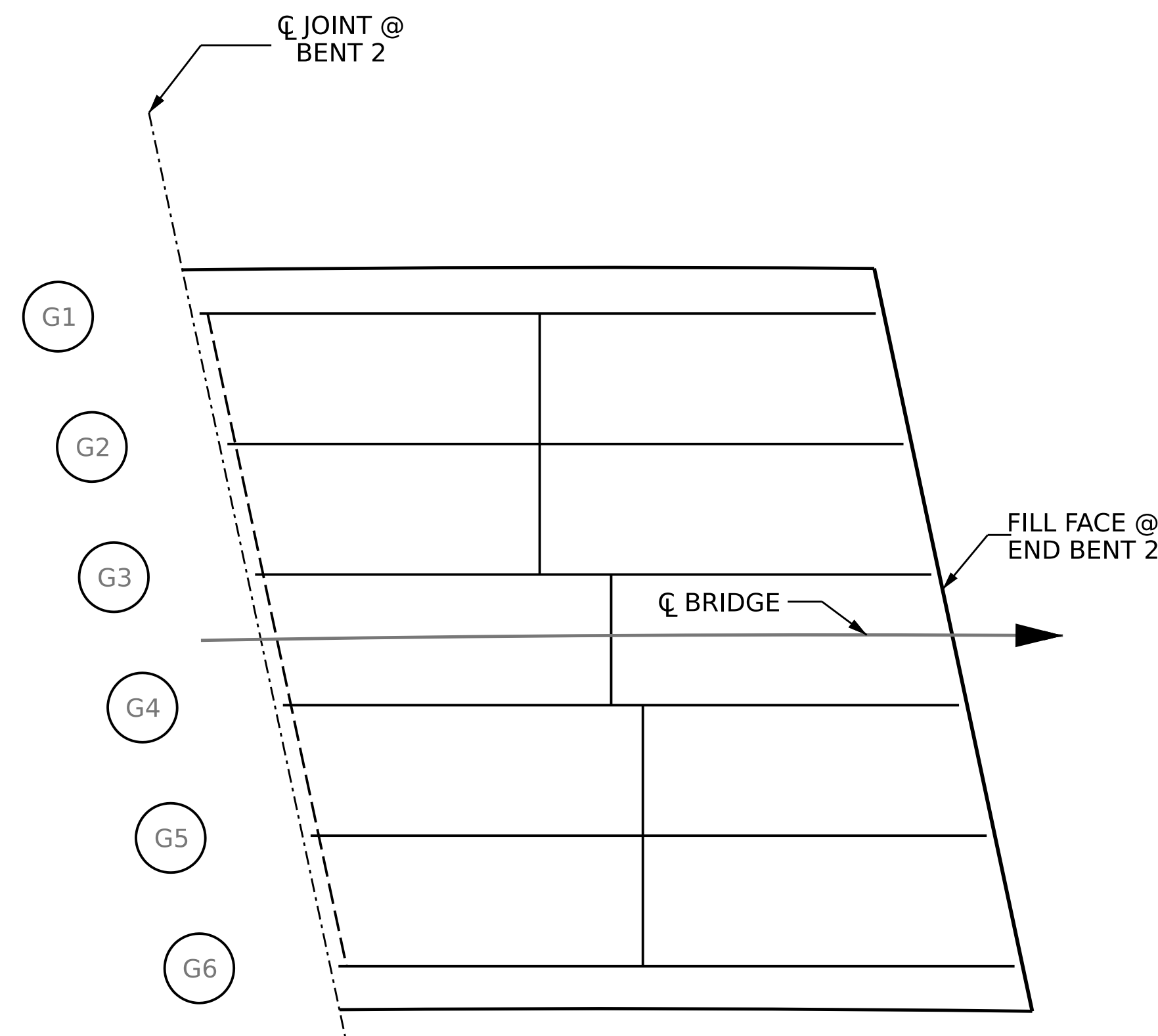
FOR OVERHANG REPAIRS, SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

-  SHOTCRETE REPAIR
-  EPOXY RESIN INJECTION (ERI)
-  ANCHOR BOLT REPAIR



**SPAN C**

**AS-BUILT REPAIR QUANTITY TABLE**

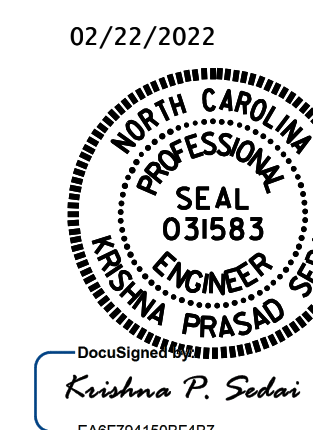
**DECK UNDERSIDE REPAIR - SPAN C**

SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
BENT DIAPHRAGM	0.0	0.0		
OVERHANG	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
UNDERSIDE OF DECK		0.0		
BENT DIAPHRAGM		0.0		
OVERHANG		0.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750114

SHEET 3 OF 3



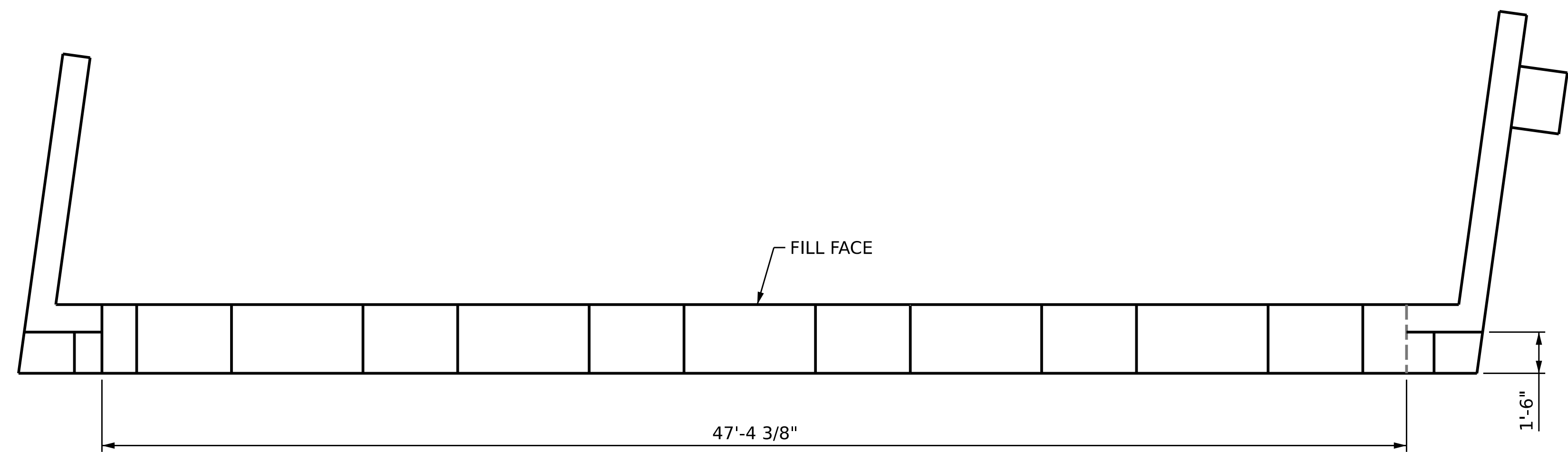
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**DECK UNDERSIDE  
 REPAIR  
 SPAN C**

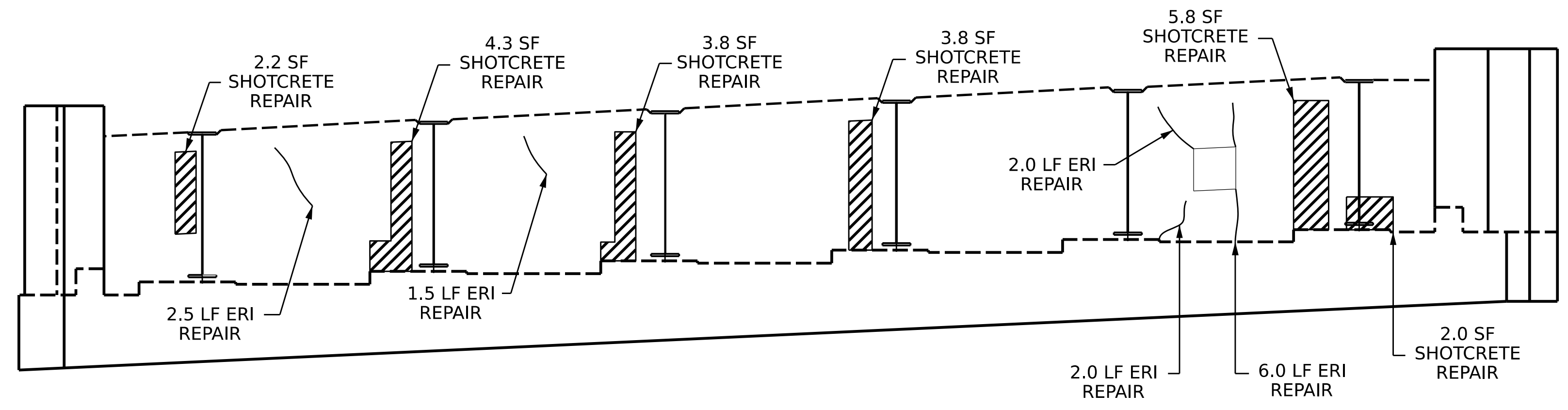
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S3-11
1			3			TOTAL SHEETS 17
2			4			

DRAWN BY : A. SORSENGINH DATE : 5/2021  
 CHECKED BY : H. A. LOCKLEAR DATE : 10/2021



PLAN



ELEVATION

END BENT 1

AS-BUILT REPAIR QUANTITY TABLE				
END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	21.9	11.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CURTAIN WALL		14.0		
CAP		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF END BENT CAP		71.0		
CURTAIN WALL		0.0		

NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CONCRETE REPAIRS MAY BE REPLACED WITH SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

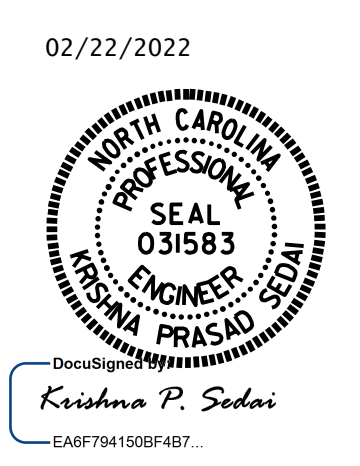
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750114



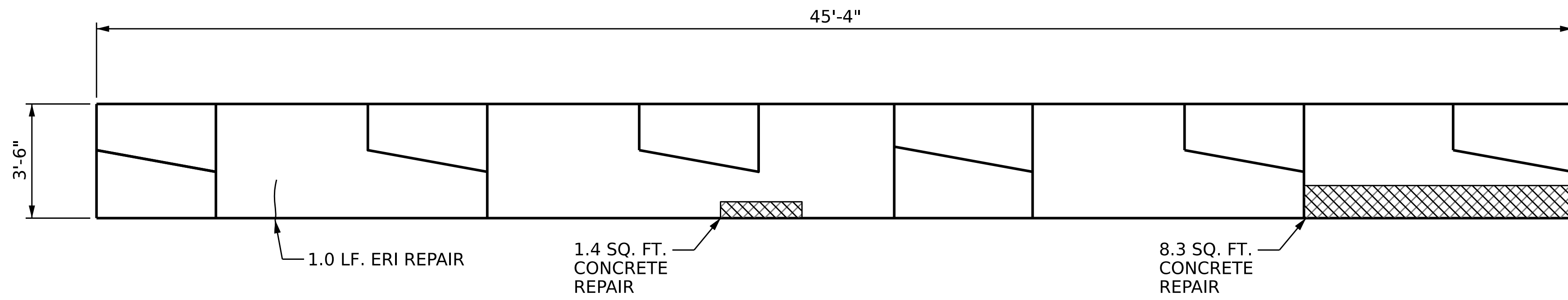
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**END BENT 1**

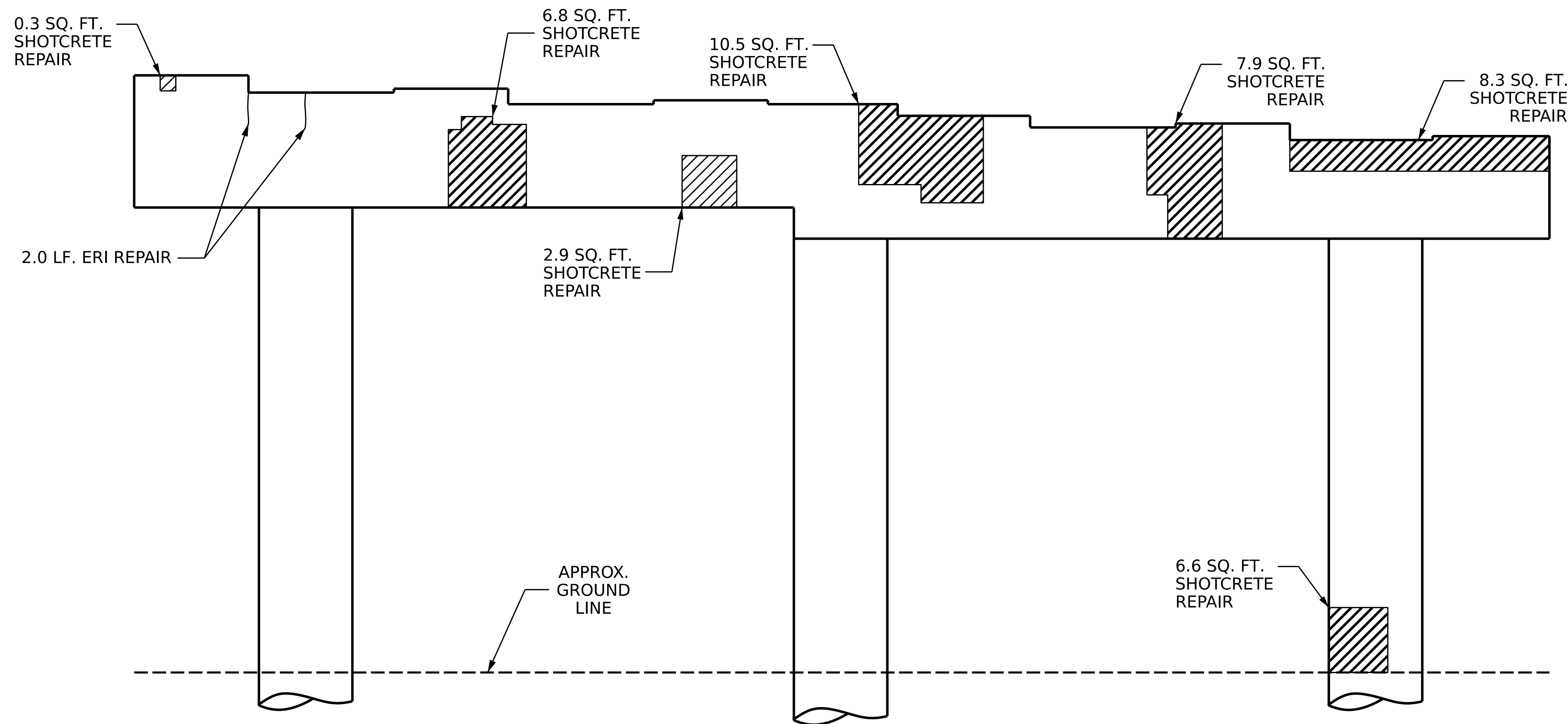
DRAWN BY : A. SORSENGINH DATE : 6/2021  
 CHECKED BY : H. A. LOCKLEAR DATE : 10/2021

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			NO.	BY:	DATE:	
1			3			S3-12 TOTAL SHEETS 17
2			4			

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**PLAN - TOP OF CAP**



**SPAN A VIEW - ELEVATION**

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

DRAWN BY : A. SORSENGINH DATE : 6/2021  
 CHECKED BY : H. A. LOCKLEAR DATE : 10/2021

**AS-BUILT REPAIR QUANTITY TABLE**

BENT 1 SPAN A FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	36.7	18.4		
COLUMN	6.6	3.3		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	9.7	4.9		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		3.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		159.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

**NOTES:**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CONCRETE REPAIRS MAY BE REPLACED WITH SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

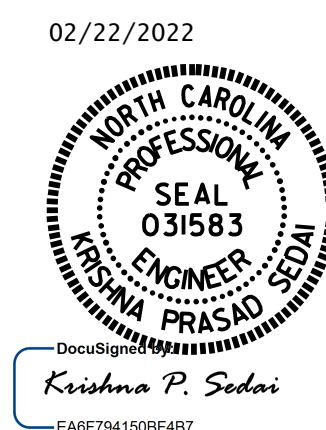
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

PROJECT NO. HI-0002  
 RANDOLPH COUNTY  
 BRIDGE NO. 750114

SHEET 1 OF 2

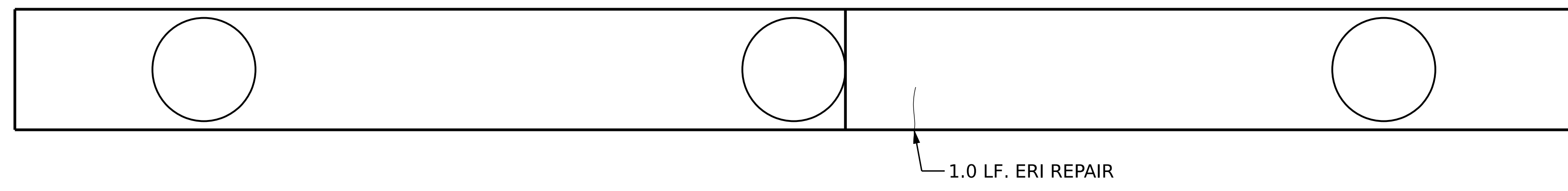


STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1  
 SPAN A FACE**

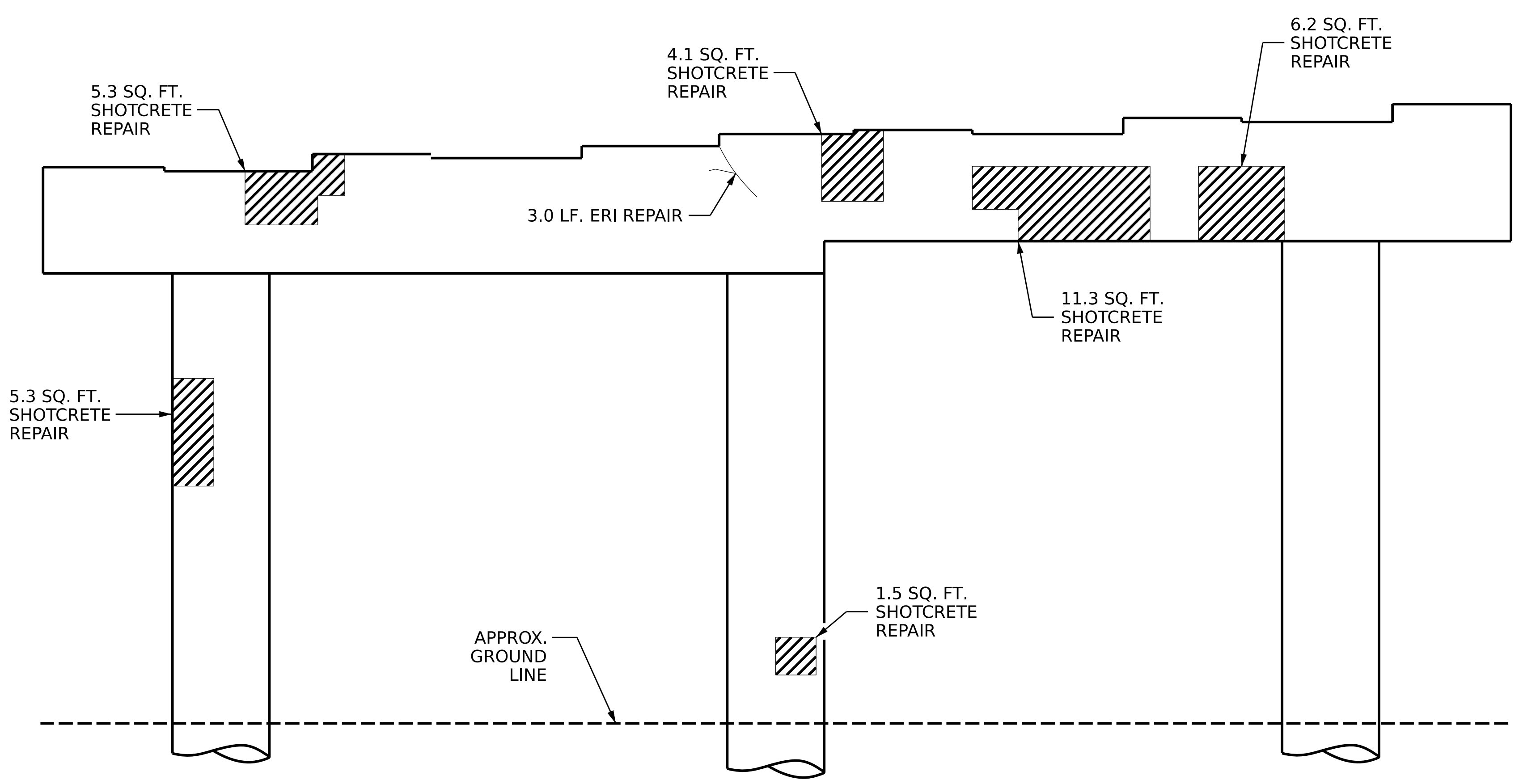
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1			3			S3-13
2			4			TOTAL SHEETS 17

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SPAN B  
SPAN A

**PLAN - BOTTOM OF CAP**



**SPAN B VIEW - ELEVATION**

**AS-BUILT REPAIR QUANTITY TABLE**

BENT 1 SPAN B FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	26.9	13.5		
COLUMN	6.8	3.4		
EPOXY RESIN INJECTION		LN. FT.	LN. FT.	
CAP		4.0		
COLUMN		0.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

**NOTES:**

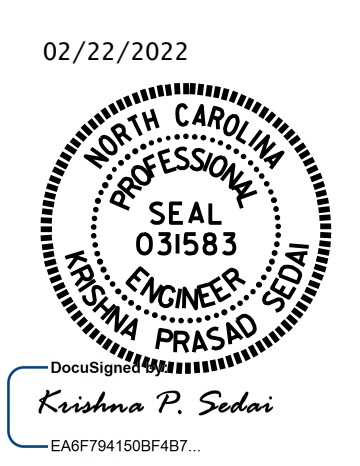
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.  
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

- SHOTCRETE REPAIR AREA
- EPOXY RESIN INJECTION (ERI)

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750114

SHEET 2 OF 2



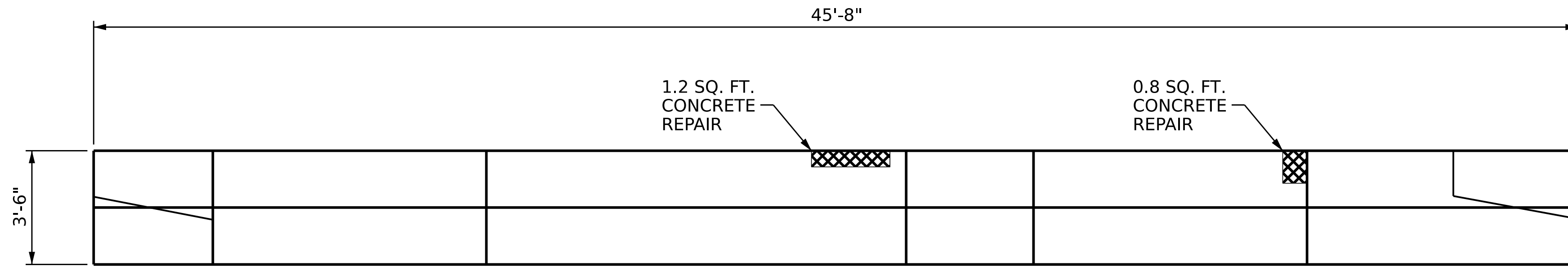
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1  
 SPAN B FACE**

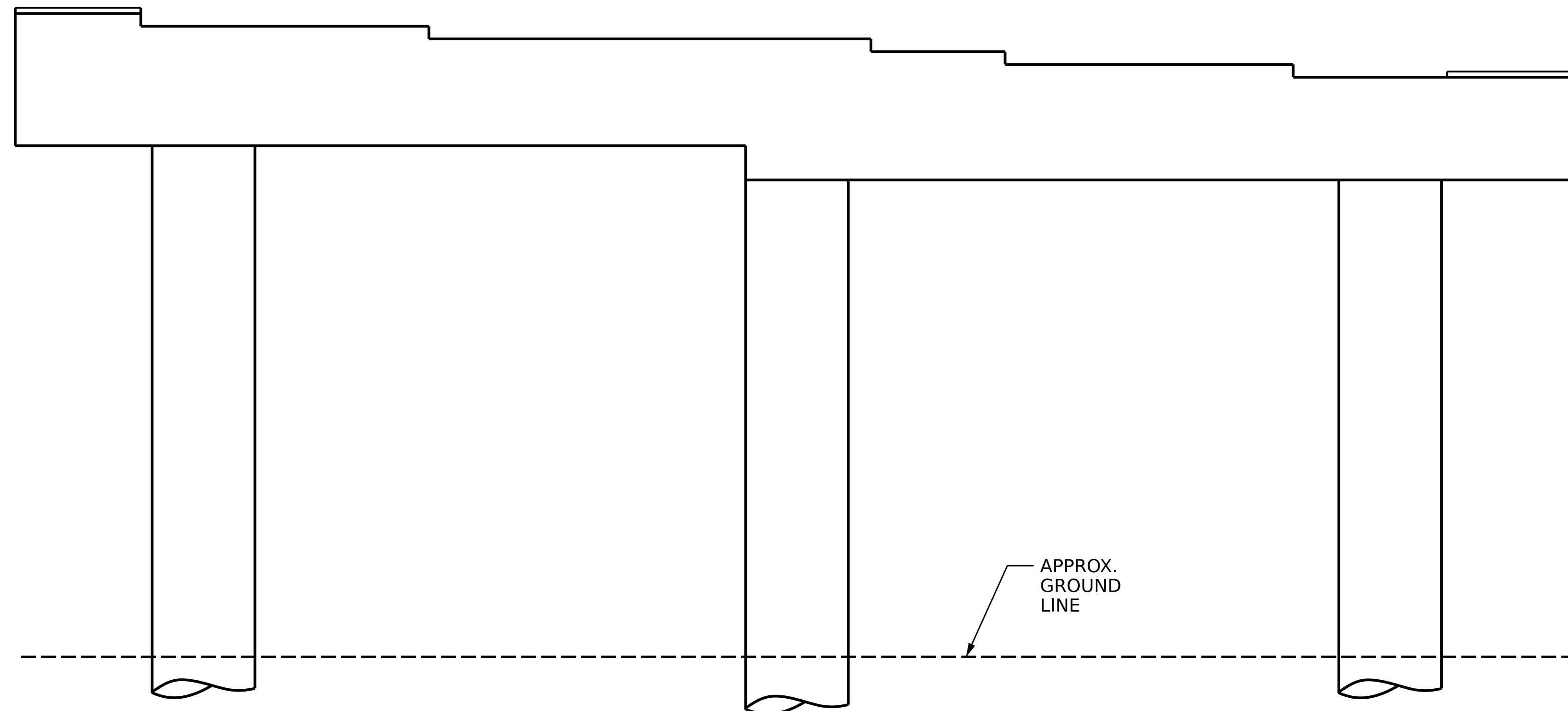
DRAWN BY : A. SORSENGINH DATE : 6/2021  
 CHECKED BY : H. A. LOCKLEAR DATE : 10/2021

NO.	REVISIONS			NO.	REVISIONS			SHEET NO.
	BY:	DATE:			BY:	DATE:		
1				3			S3-14	
2				4			TOTAL SHEETS 17	

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**PLAN - TOP OF CAP**



**SPAN B VIEW - ELEVATION**

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

**AS-BUILT REPAIR QUANTITY TABLE**

BENT 2 SPAN B FACE	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	2.0	1.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		160.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

**NOTES:**

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CONCRETE REPAIRS MAY BE REPLACED WITH SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

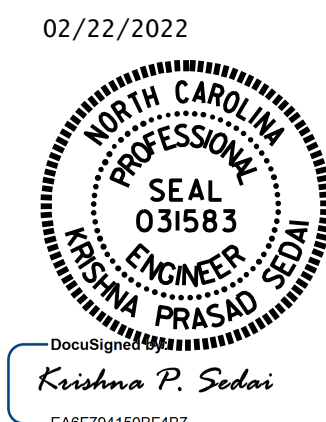
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750114

SHEET 1 OF 2



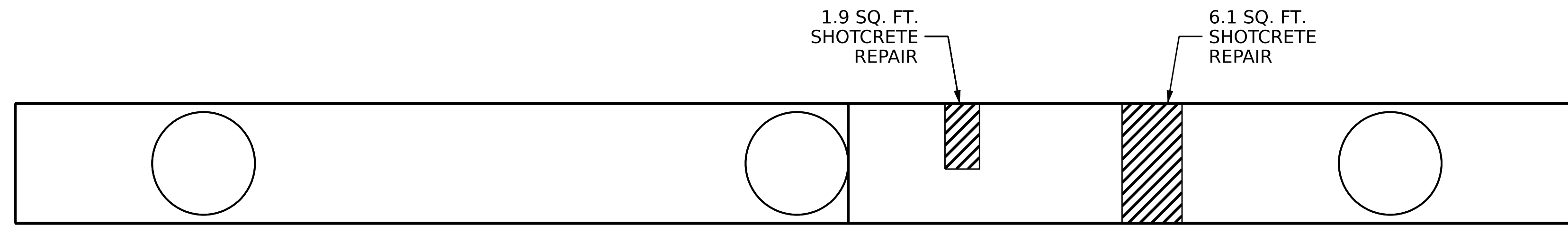
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 2  
 SPAN B FACE**

DRAWN BY : A. SORSENGINH DATE : 6/2021  
 CHECKED BY : H. A. LOCKLEAR DATE : 10/2021

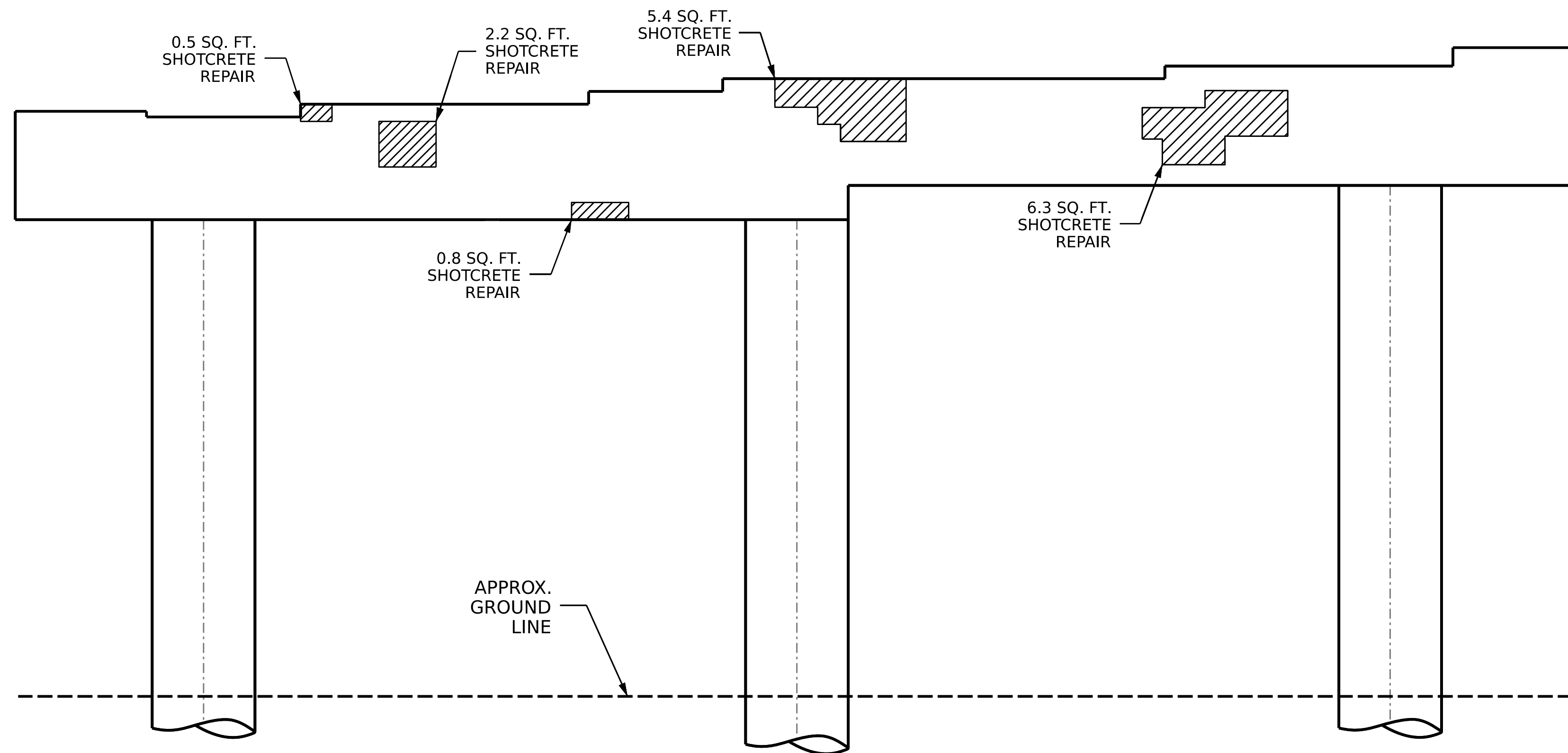
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			NO.	BY:	DATE:	
1			3			S3-15
2			4			TOTAL SHEETS 17

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SPAN C  
SPAN B

**PLAN - BOTTOM OF CAP**



**SPAN C VIEW - ELEVATION**

**AS-BUILT REPAIR QUANTITY TABLE**

BENT 2 SPAN C FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	23.2	11.6		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0.0		
COLUMN		0.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

**NOTES:**

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

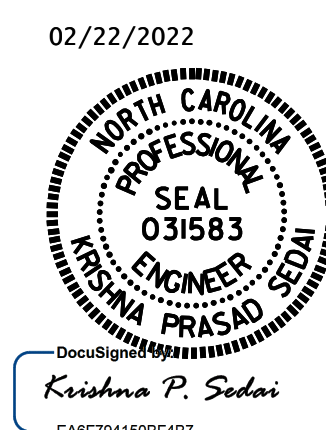
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

 SHOTCRETE REPAIR AREA

 EPOXY RESIN INJECTION (ERI)

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750114

SHEET 2 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 2  
 SPAN C FACE**

DRAWN BY : A. SORSENGINH DATE : 6/2021  
 CHECKED BY : H. A. LOCKLEAR DATE : 10/2021

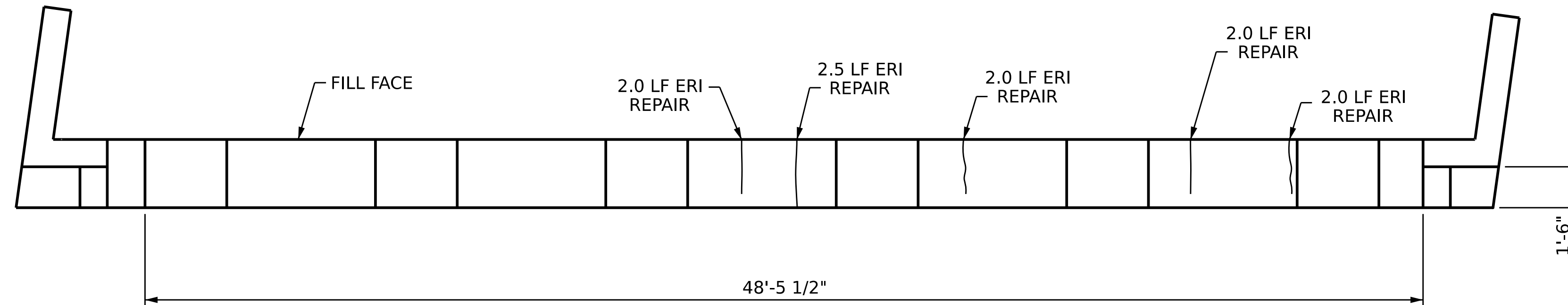
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1			3			S3-16
2			4			TOTAL SHEETS 17

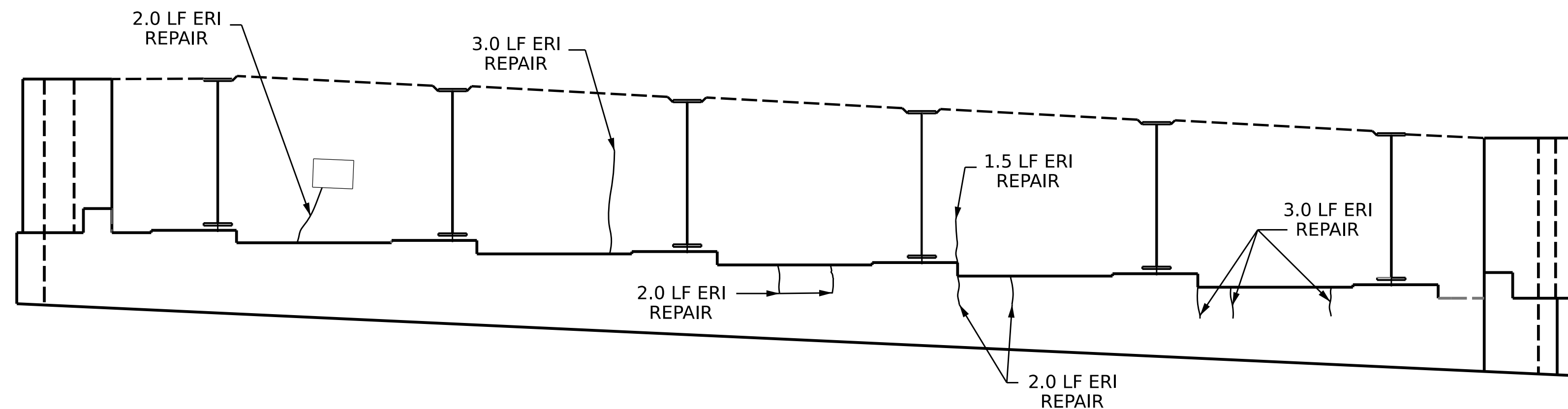
DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

**AS-BUILT REPAIR QUANTITY TABLE**

END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CURTAIN WALL		6.5		
CAP		17.5		
EPOXY COATING		LIN. FT.		LIN. FT.
TOP OF END BENT CAP		73.0		
CURTAIN WALL		0.0		



PLAN



ELEVATION

**END BENT 2**

**NOTES**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.




CONCRETE REPAIRS MAY BE REPLACED WITH SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

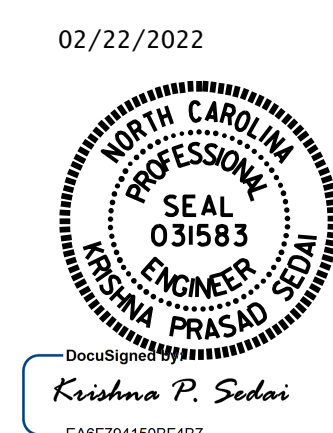
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750114



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**END BENT 2**

DRAWN BY : A. SORSENGINH DATE : 6/2021  
 CHECKED BY : H. A. LOCKLEAR DATE : 10/2021

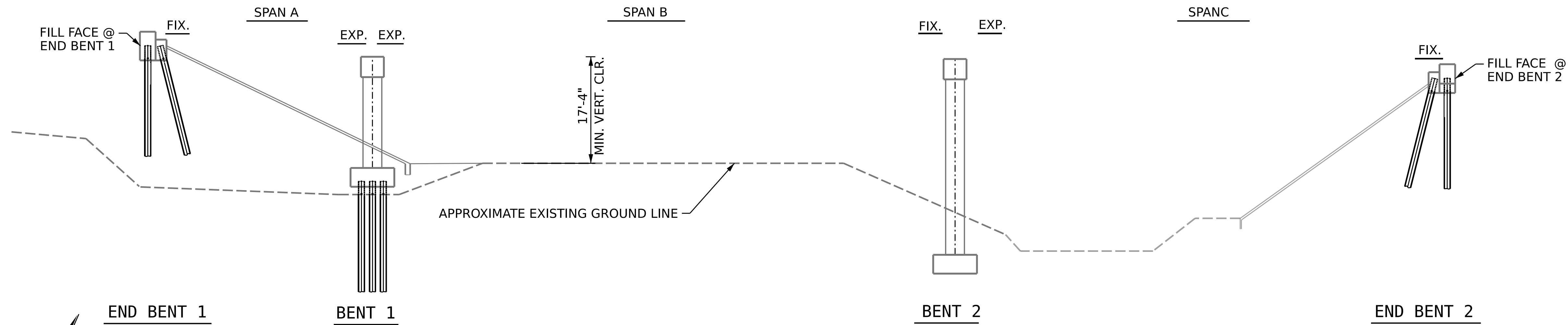
2/22/2022  
 S:\DPS\3\HI-0002\Final Plans\403.033.HI-0002.SMU.EB2.S17.750114.dgn  
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1			3			S3-17
2			4			TOTAL SHEETS 17

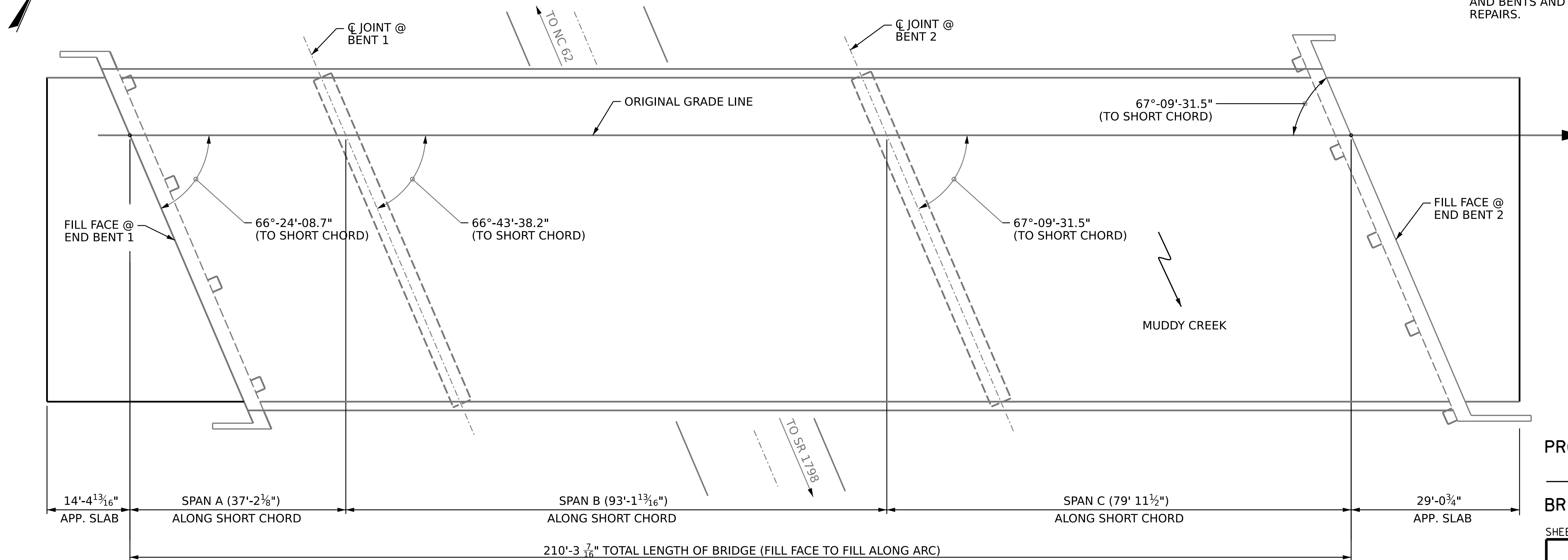
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

**NOTES**

- GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 03/18/2020
- BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.
- SCOPE OF WORK  
PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS.
- OVERLAY PREPARED TOP OF BRIDGE DECK WITH POLYMER CONCRETE(PC).
- REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINTS.
- REMOVE EXISTING JOINT MATERIAL AND INSTALL POURABLE SILICONE JOINTS.
- GROOVE PC BRIDGE DECK.
- 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.
- PROPERLY PREPARE SPALLED AREAS IN EXISTING END BENT AND BENTS AND PERFORM SHOTCRETE AND CONCRETE REPAIRS.



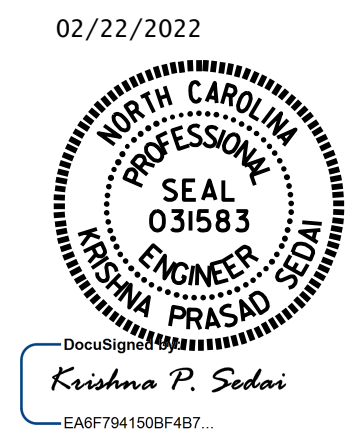
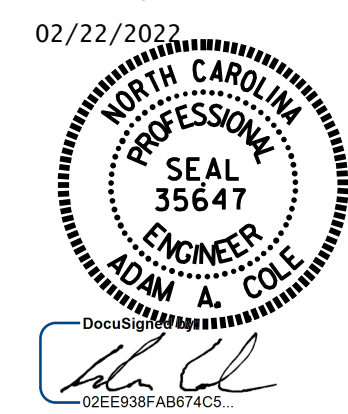
**SECTION ALONG ORIGINAL GRADE LINE**



**PLAN**

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

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



PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750466

SHEET 1 OF 2

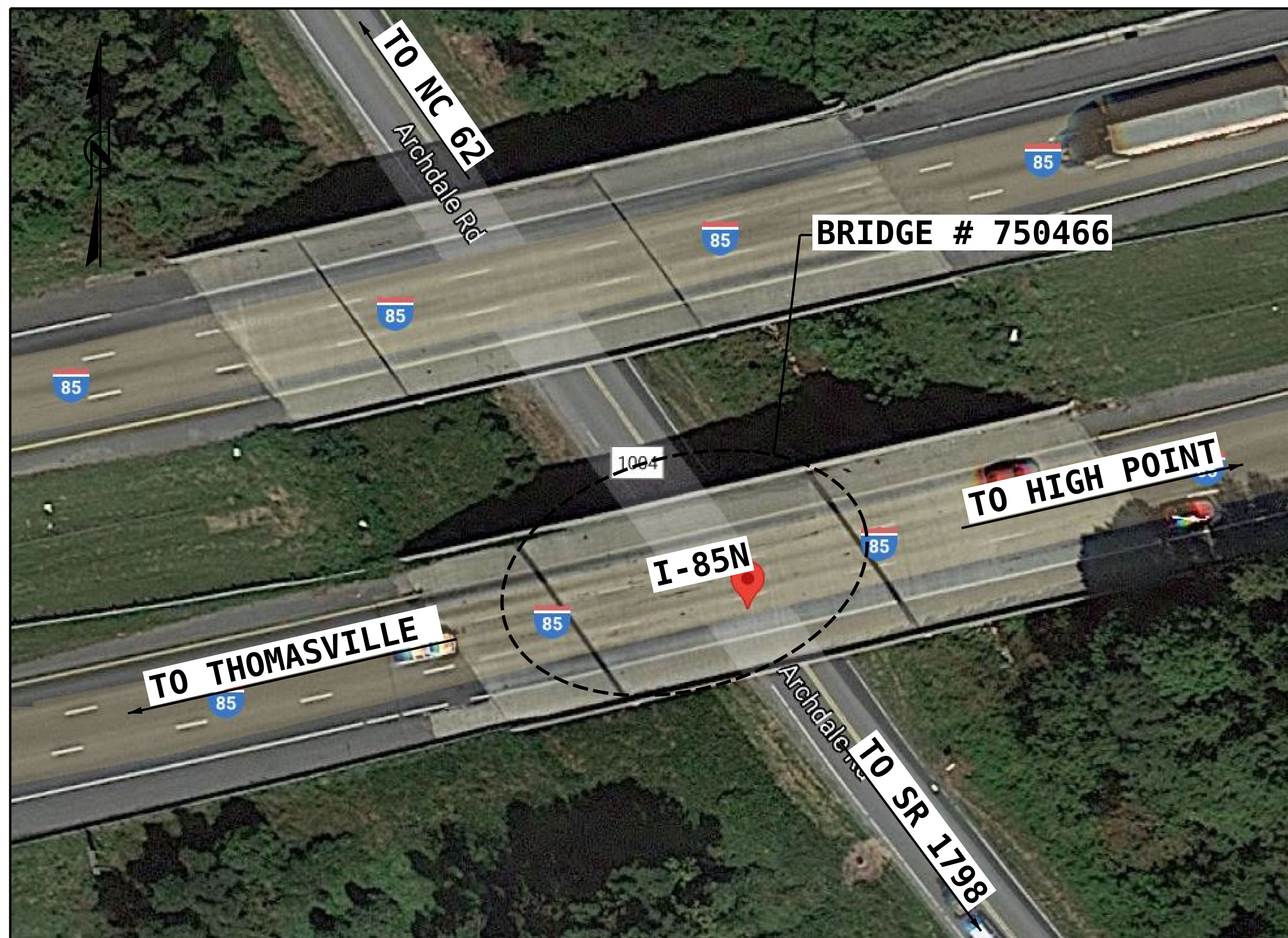
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 FOR BRIDGE ON I-85N  
 OVER SR1577 (ARCHDALE RD.)  
 AND MUDDY CREEK

DRAWN BY : GHOLAMREZA KOUCHEKI DATE : 01/2022  
 CHECKED BY : E. BAYISSA DATE : 02/2022

DOCUMENT NOT CONSIDERED  
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REVISIONS						SHEET NO.
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1			3			TOTAL SHEETS
2			4			91





**BRIDGE #750466 LOCATION SKETCH**

**BRIDGE COORDINATES**

BRIDGE No.	LATITUDE	LONGITUDE
750466	35°-53'-50.02"	79°-57'-57.58"

**TOTAL BILL OF MATERIAL**

BRIDGE NO. 750466	GROOVING BRIDGE FLOORS	CLASS II SURFACE PREPARATION	CONCRETE REPAIRS	SHOTCRETE REPAIRS	EPOXY RESIN INJECTION	FOAM JOINT SEALS FOR PRESERVATION	POURABLE SILICONE JOINT SEALANT	EPOXY POLYMER CONCRETE MATERIALS (ALTERNATE)	POLYESTER POLYMER CONCRETE MATERIALS	EPOXY COATING	CONCRETE DECK REPAIR FOR POLYMER CONCRETE OVERLAY	PLACING & FINISHING POLYMER CONCRETE OVERLAY	SCARIFYING BRIDGE DECK	SHOTBLASTING BRIDGE DECK	BARRIER RAIL COVER PLATE
TOTAL	SQ. FT.	SQ. YDS.	CU. FT.	CU. FT.	LN. FT.	LN. FT.	LN. FT.	CU. YDS.	CU. YDS.	SQ. FT.	SQ. YDS.	SQ. YDS.	SQ. YDS.	SQ. YDS.	EA.
	13,206	27.1	4.3	191.4	2.8	122.0	121.8	76.9	76.9	1120.0	27.1	1579.0	1579.0	1579.0	4

**NOTES**

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.

EXISTING DIMENSIONS AND BRIDGE CONDITION ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER.

THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT FOR ANY DELAYS OF ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN WHAT IS SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

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 AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATIONS OF THE BRIDGE DECK. THE CONTRACTOR SHALL TAKE CARE THAT ANY CONSTRUCTION DEBRIS THAT COLLECTS IN THE DRAINS IS CONTAINED. DRAINS IN SHOULDERS OF ADJACENT TRAVEL LANE(S) SHALL BE KEPT FREE AND CLEAR OF DEBRIS.

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

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

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR POURABLE SILICONE EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTIONS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR BARRIER RAIL COVER PLATE, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

ANY DAMAGE TO EXISTING REINFORCING STEEL, DURING CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AND PERFORMED AT NO ADDITIONAL COST TO THE DEPARTMENT.

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

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN DETAIL BY MORE THAN 1/4", NOTIFY ENGINEER. REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.

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

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A COMPLETE SEQUENCE OF TASKS FOR EACH OPERATION AFFECTING THE BRIDGE SURFACE AND/OR TRAFFIC.

WORK ON THE BRIDGE(S) SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW, EXCEPT WHERE THE CONTRACTOR'S PLAN USE PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES TO CATCH THE MATERIAL. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS.

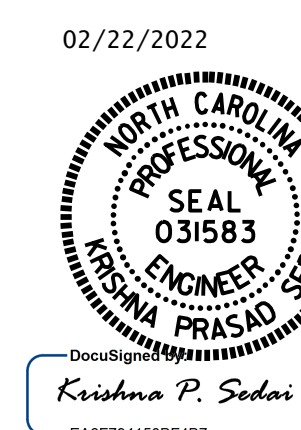
FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

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

PROJECT NO. **HI-0002**  
**RANDOLPH** COUNTY  
 BRIDGE NO. **750466**

SHEET 2 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

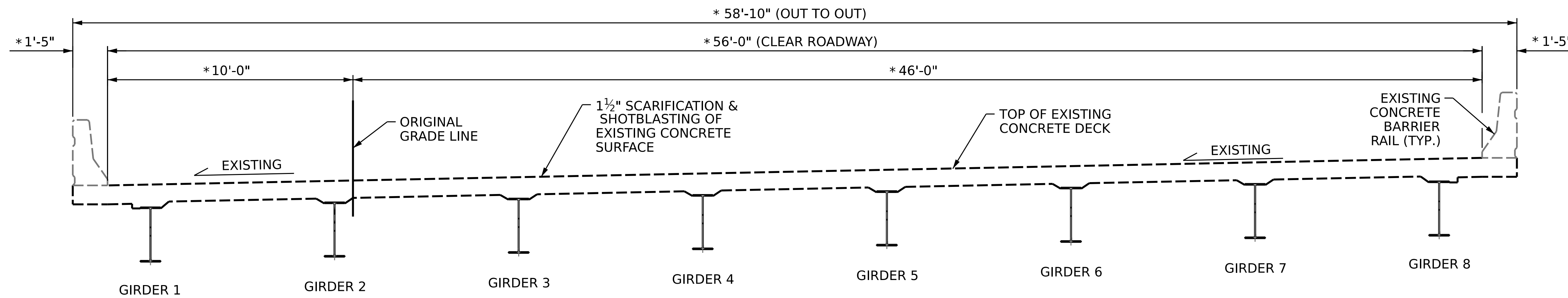
**GENERAL DRAWING**

FOR BRIDGE ON I-85N  
 OVER SR1577 (ARCHDALE RD.)  
 AND MUDDY CREEK

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

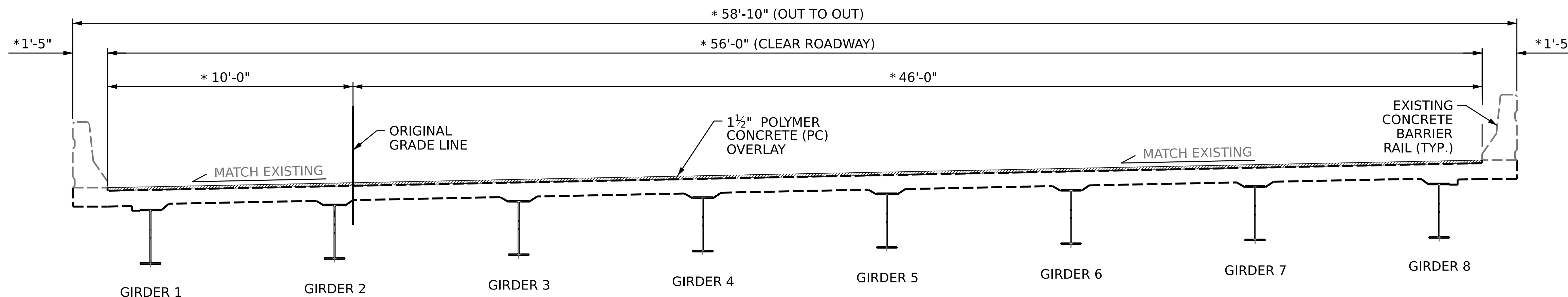
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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
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2			4			

DRAWN BY : GHOLAMREZA KOUCHEKI DATE : 1/2022  
 CHECKED BY : E. BAYISSA DATE : 02/2022  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_



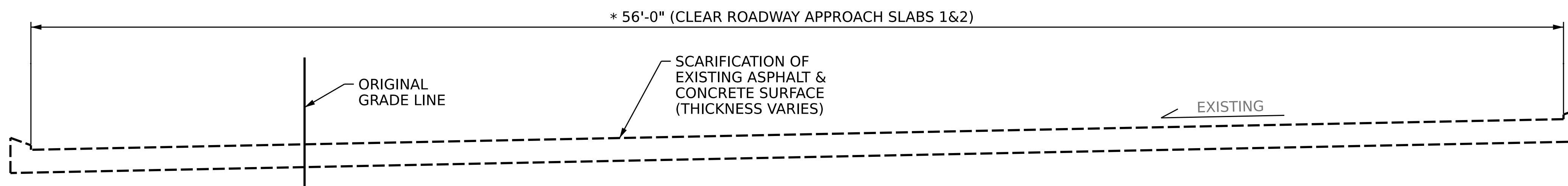
**TYPICAL SECTION**

(EXISTING)  
\* RADIAL DIMENSION



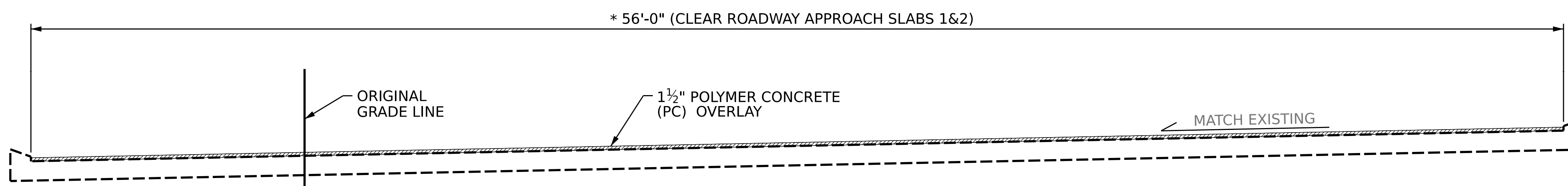
**TYPICAL SECTION**

(PROPOSED)  
\* RADIAL DIMENSION



**TYPICAL SECTION - APPROACH SLAB**

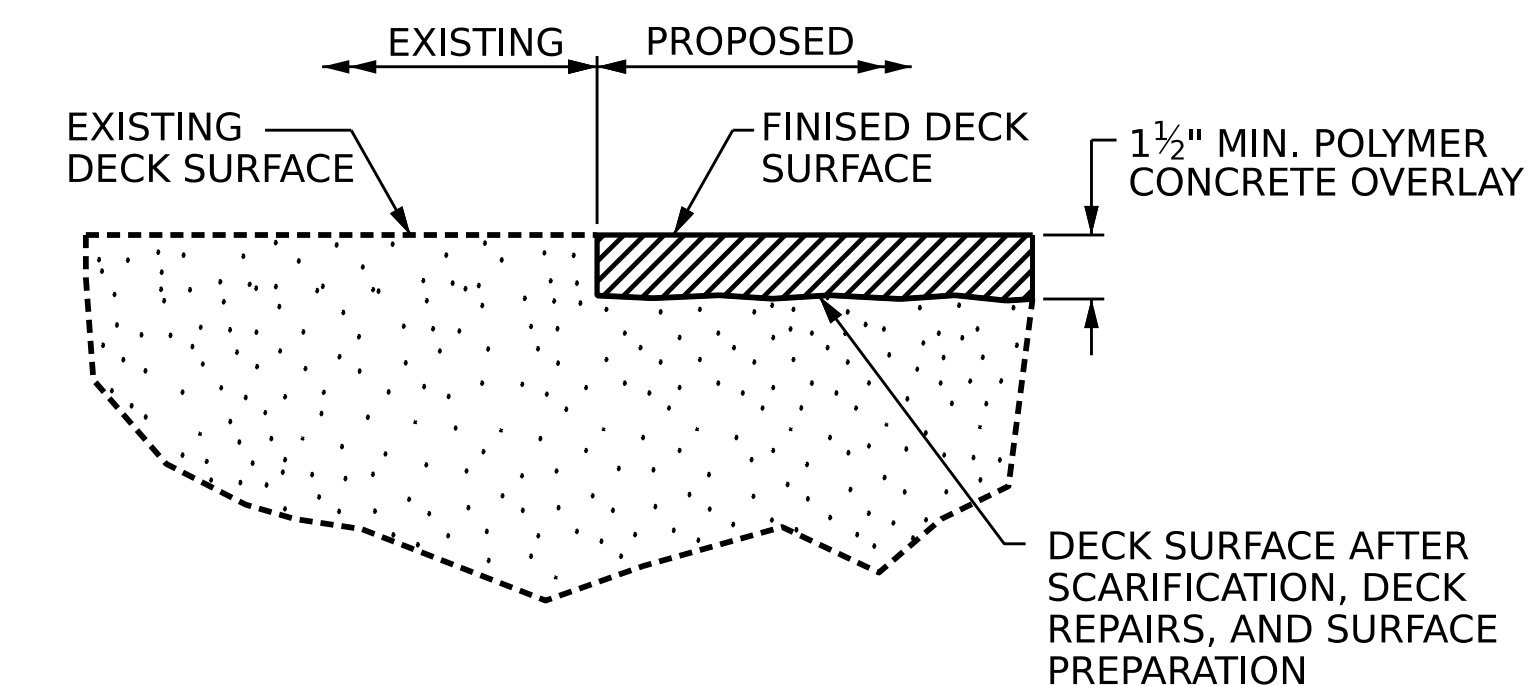
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**TYPICAL SECTION - APPROACH SLAB**

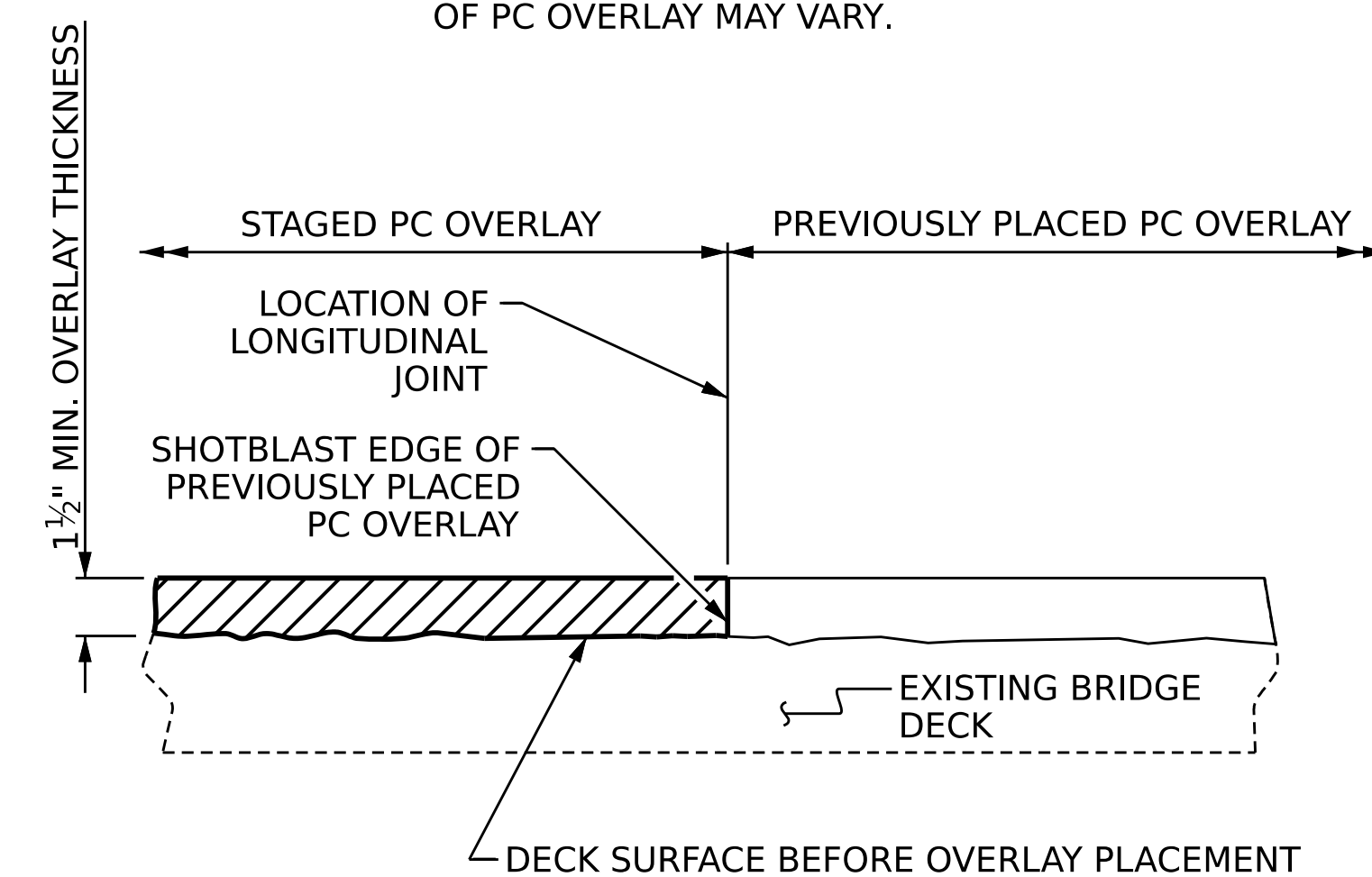
(PROPOSED)

NOTE:  
SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF POLYMER CONCRETE (PC) OVERLAY SYSTEM AND SURFACE PREPARATION.



**DETAIL FOR POLYMER CONCRETE OVERLAY**

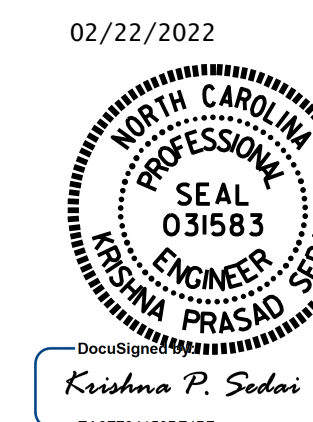
FINISHED SURFACE ELEVATION SHALL MATCH EXISTING CONCRETE SURFACE ELEVATION. ACTUAL THICKNESS OF PC OVERLAY MAY VARY.



**STAGED PC OVERLAY JOINT**

(AS NEEDED)

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750466



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**TYPICAL SECTION AND PC OVERLAY DETAIL**

DRAWN BY : GHOLAMREZA KOUICHEKI DATE : 05/2021  
 CHECKED BY : E. BAYISSA DATE : 12/2021  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

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2			4			TOTAL SHEETS 91

BARRIER RAIL COVER PLATE QUANTITIES	
EA.	
ESTIMATE	ACTUAL
2	

**NOTES**

TOP OF DECK SURFACE REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR AFTER REMOVAL OF UNSOUND CONCRETE. (MIN. 2" CLEAR TO SAWCUT). SEE CONCRETE FOR DECK REPAIR SPECIAL PROVISION.

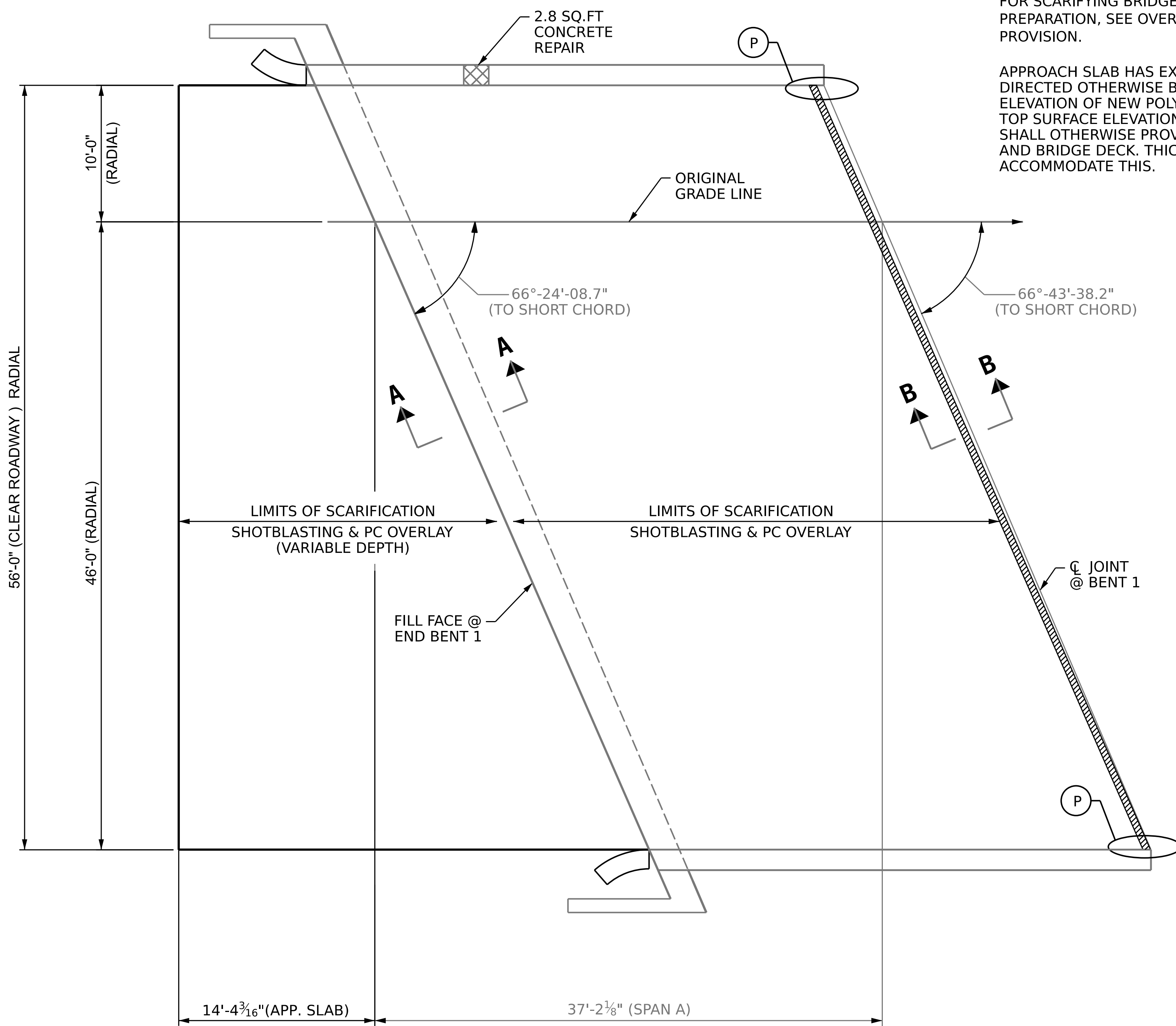
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES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

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

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

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

APPROACH SLAB HAS EXISTING ASPHALT WEARING SURFACE IN PLACE. UNLESS DIRECTED OTHERWISE BY OTHER PROJECT REQUIREMENTS, TOP SURFACE ELEVATION OF NEW POLYMER CONCRETE OVERLAY SHALL MATCH THE EXISTING TOP SURFACE ELEVATION OF THE EXISTING ASPHALT WEARING SURFACE AND SHALL OTHERWISE PROVIDE A SMOOTH TRANSITION BETWEEN APPROACH PAVEMENT AND BRIDGE DECK. THICKNESS OF POLYMER CONCRETE OVERLAY MAY VARY TO ACCOMMODATE THIS.



**SPAN A**

**AS-BUILT REPAIR QUANTITY TABLE**

**DECK SURFACE REPAIR - SPAN A**

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	231.0 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	231.0 SQ. YDS.	
CLASS II SURFACE PREPARATION	6.8 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	6.8 SQ. YDS.	
POLYMER CONCRETE MATERIAL	11.2 CU. YDS.	
PLACING AND FINISHING PC OVERLAY	231.0 SQ. YDS.	
GROOVING BRIDGE FLOOR	1922.0 SQ. FT	

CONCRETE REPAIR	AREA SF	VOLUME CF	AREA SF	VOLUME CF
	2.8	2.1		

**APPROACH SLAB 1**

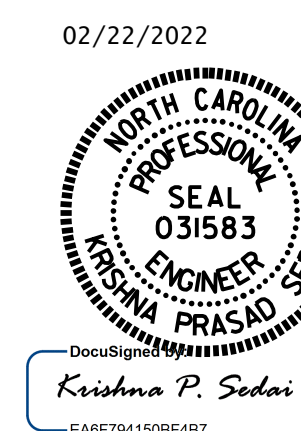
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	137.0 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	137.0 SQ. YDS.	
CLASS II SURFACE PREPARATION	3.4 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	3.4 SQ. YDS.	
POLYMER CONCRETE MATERIAL	6.7 CU.YDS.	
PLACING AND FINISHING PC OVERLAY	137.0 SQ. YDS.	
GROOVING BRIDGE FLOOR	1123.0 SQ.FT	

(P) MISSING COVER PLATE IN BARRIER RAIL. FOR PROPOSED COVER PLATE REPLACEMENT, SEE "BARRIER RAIL COVER PLATE DETAILS".

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- CLASS II SURFACE PREPARATION

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750466

SHEET 1 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**DECK SURFACE REPAIR  
 SPAN A & APPROACH SLAB**

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DRAWN BY : GHOLAMREZA KOUCHEKI DATE : 05/2021  
 CHECKED BY : E. BAYISSA DATE : 12/2021  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

**NOTES**

TOP OF DECK SURFACE REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR AFTER REMOVAL OF UNSOUND CONCRETE. (MIN. 2" CLEAR TO SAWCUT). SEE CONCRETE FOR DECK REPAIR SPECIAL PROVISION.

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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



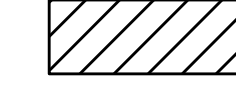
FOR SECTIONS A-A AND B-B, SEE "JOINT DETAILS" SHEET.

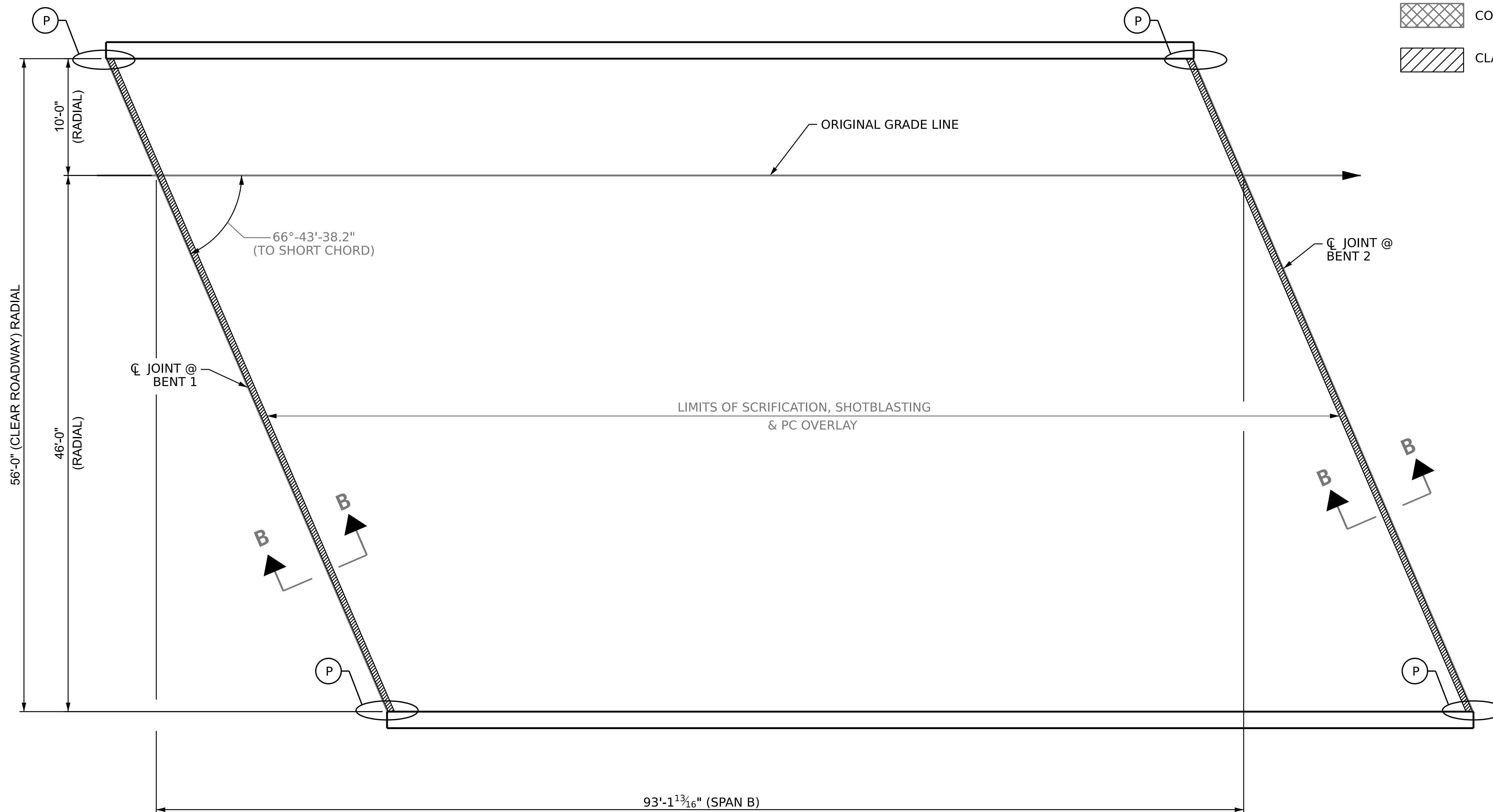
FOR SCARIFYING BRIDGE DECK, SHOTBLASTING BRIDGE DECK AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SEPCIAL PROVISION.

**AS-BUILT REPAIR QUANTITY TABLE**

DECK SURFACE REPAIR - SPAN B		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	579.0 SQ.YDS.	
SHOTBLASTING BRIDGE DECK	579.0 SQ. YDS.	
CLASS II SURFACE PREPARATION	6.8 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	6.8 SQ. YDS.	
POLYMER CONCRETE MATERIALS	28.2 CU. YDS.	
PLACING & FINISHING PC MATERIALS	579.0 SQ. YDS.	
GROOVING BRIDGE FLOOR	4864.0 SQ. FT.	

(P) MISSING COVER PLATE IN BARRIER RAIL. FOR PROPOSED COVER PLATE REPLACEMENT, SEE "BARRIER RAIL COVER PLATE DETAILS".

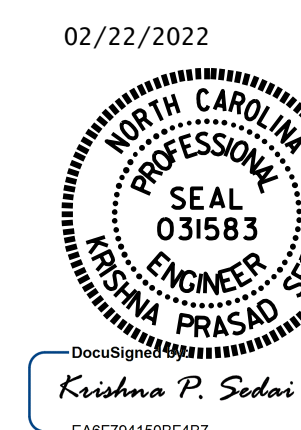
-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  CLASS II SURFACE PREPARATION



**SPAN B**

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750466

SHEET 2 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**DECK SURFACE REPAIR**  
**SPAN B**

DRAWN BY : GHOLAMREZA KOUCHEKI DATE : 05/2021  
 CHECKED BY : E.BAYISSA DATE : 12/2021  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

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2			4			91

**NOTES**

TOP OF DECK SURFACE REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR AFTER REMOVAL OF UNSOUND CONCRETE. (MIN. 2" CLEAR TO SAWCUT). SEE CONCRETE FOR DECK REPAIR SPECIAL PROVISION.


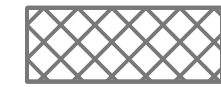

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES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

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

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

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

APPROACH SLAB HAS EXISTING ASPHALT WEARING SURFACE IN PLACE. UNLESS DIRECTED OTHERWISE BY OTHER PROJECT REQUIREMENTS, TOP SURFACE ELEVATION OF NEW POLYMER CONCRETE OVERLAY SHALL MATCH THE EXISTING TOP SURFACE ELEVATION OF THE EXISTING ASPHALT WEARING SURFACE AND SHALL OTHERWISE PROVIDE A SMOOTH TRANSITION BETWEEN APPROACH PAVEMENT AND BRIDGE DECK. THICKNESS OF POLYMER CONCRETE OVERLAY MAY VARY TO ACCOMMODATE THIS.

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  CLASS II SURFACE PREPARATION

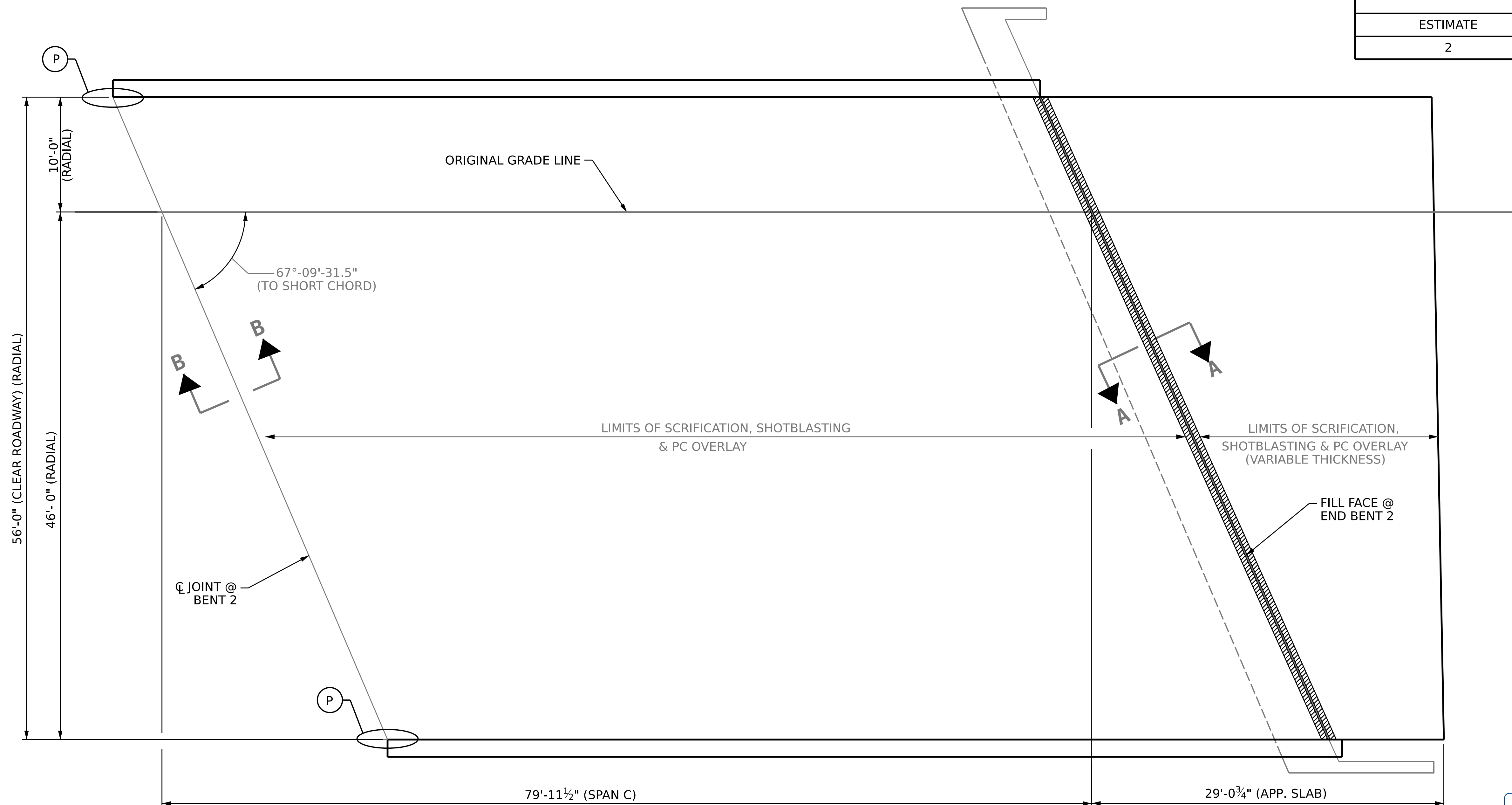
**AS-BUILT REPAIR QUANTITY TABLE**

	DECK SURFACE REPAIR - SPAN C		APPROACH SLAB 2	
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	497.0 SQ. YDS.		135.0 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	497.0 SQ. YDS.		135.0 SQ. YDS.	
CLASS II SURFACE PREPARATION	6.8 SQ. YDS.		3.4 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	6.8 SQ. YDS.		3.4 SQ. YDS.	
POLYMER CONCRETE MATERIALS	24.2 CU. YDS		6.6 CU. YDS.	
PLACING & FINISHING PC MATERIALS	497.0 SQ. YDS.		135.0 SQ. YDS.	
GROOVING BRIDGE DECK	4189.0 SQ. FT.		1108.0 SQ. FT.	

(P) MISSING COVER PLATE IN BARRIER RAIL. FOR PROPOSED COVER PLATE REPLACEMENT, SEE "BARRIER RAIL COVER PLATE DETAILS".

**BARRIER RAIL COVER PLATE QUANTITIES**

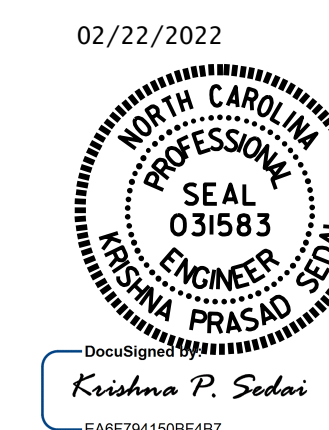
EA.	
ESTIMATE	ACTUAL
2	



**SPAN C**

DRAWN BY : GHOLAMREZA KOUCHEKI DATE : 05/2021  
 CHECKED BY : E. BAYISSA DATE : 12/2021

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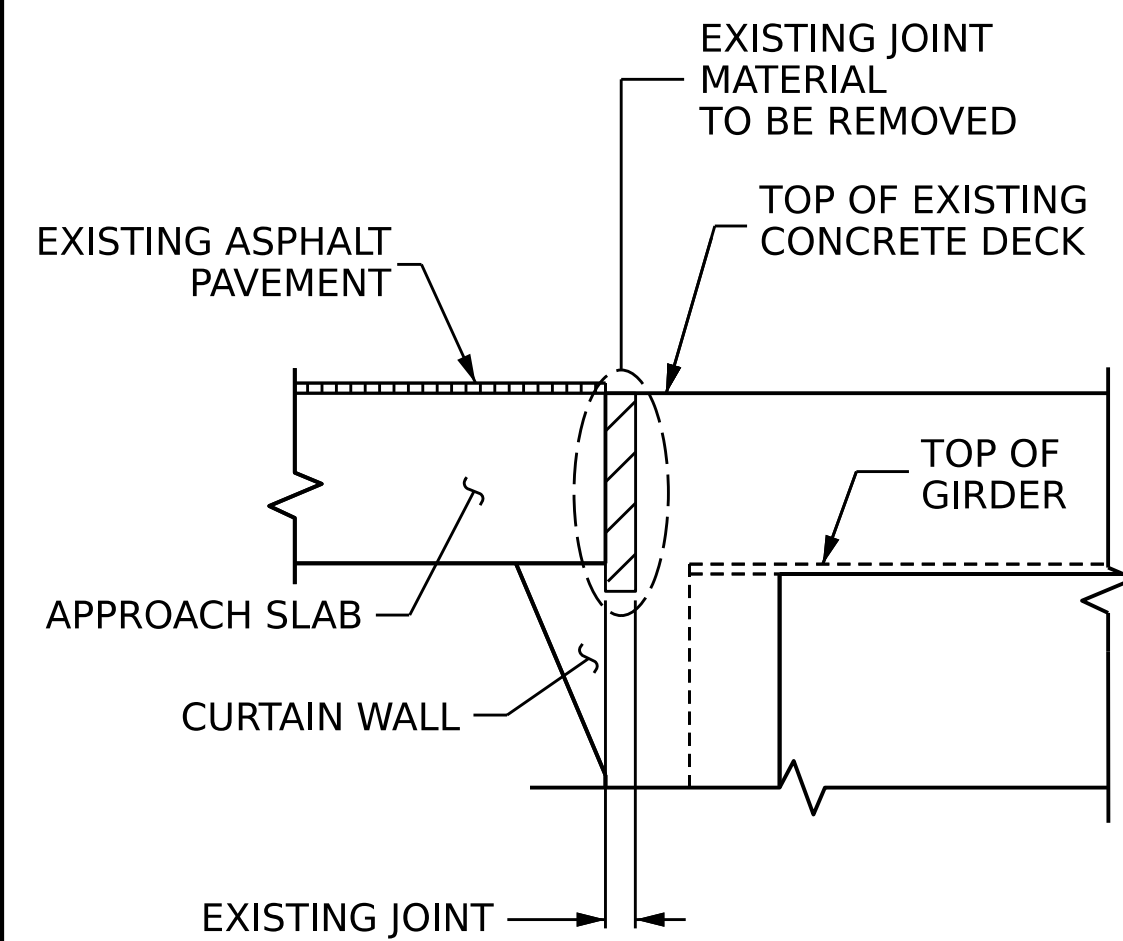


PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750466

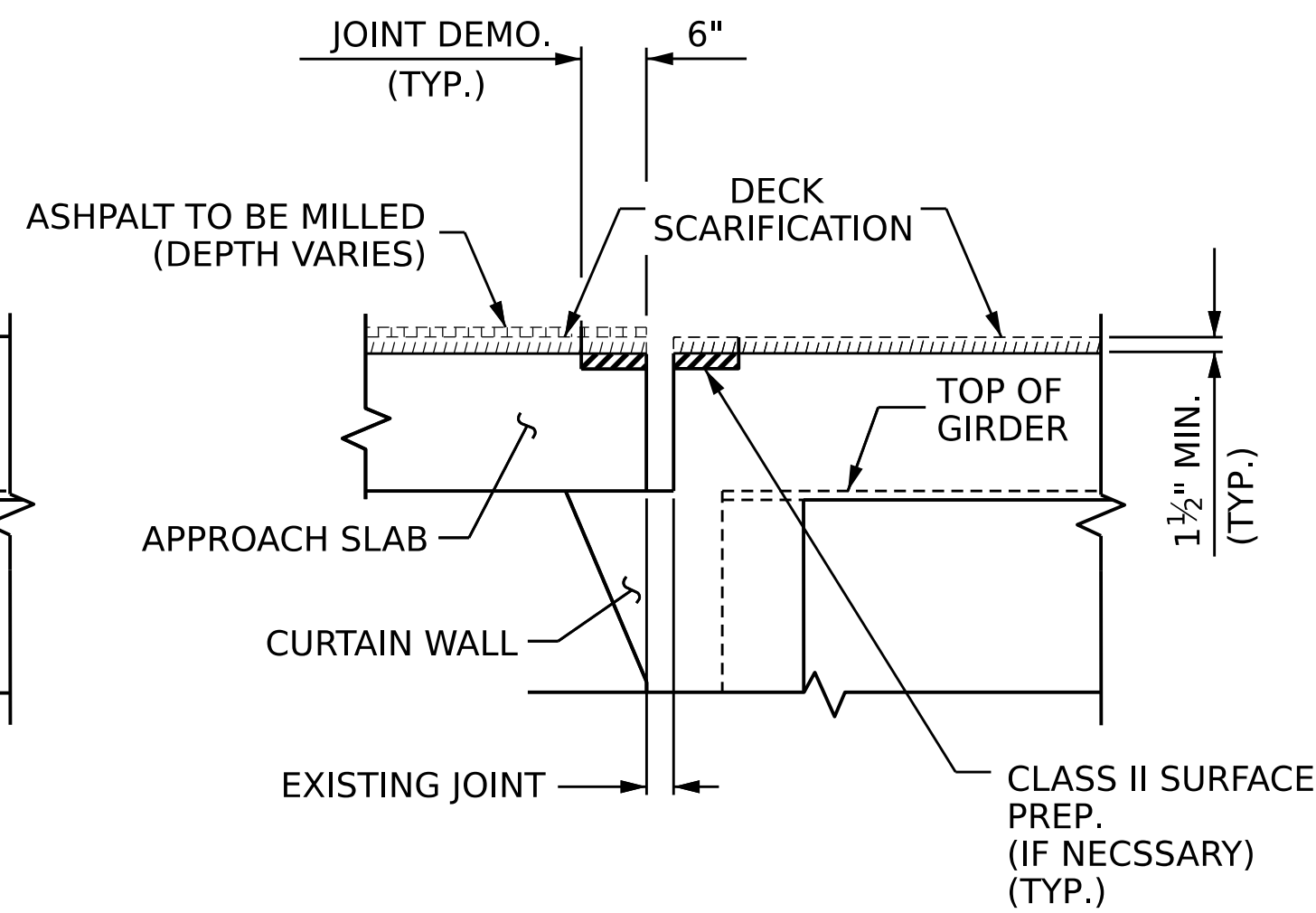
SHEET 3 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**DECK SURFACE REPAIR  
 SPAN C & APPROACH SLAB**

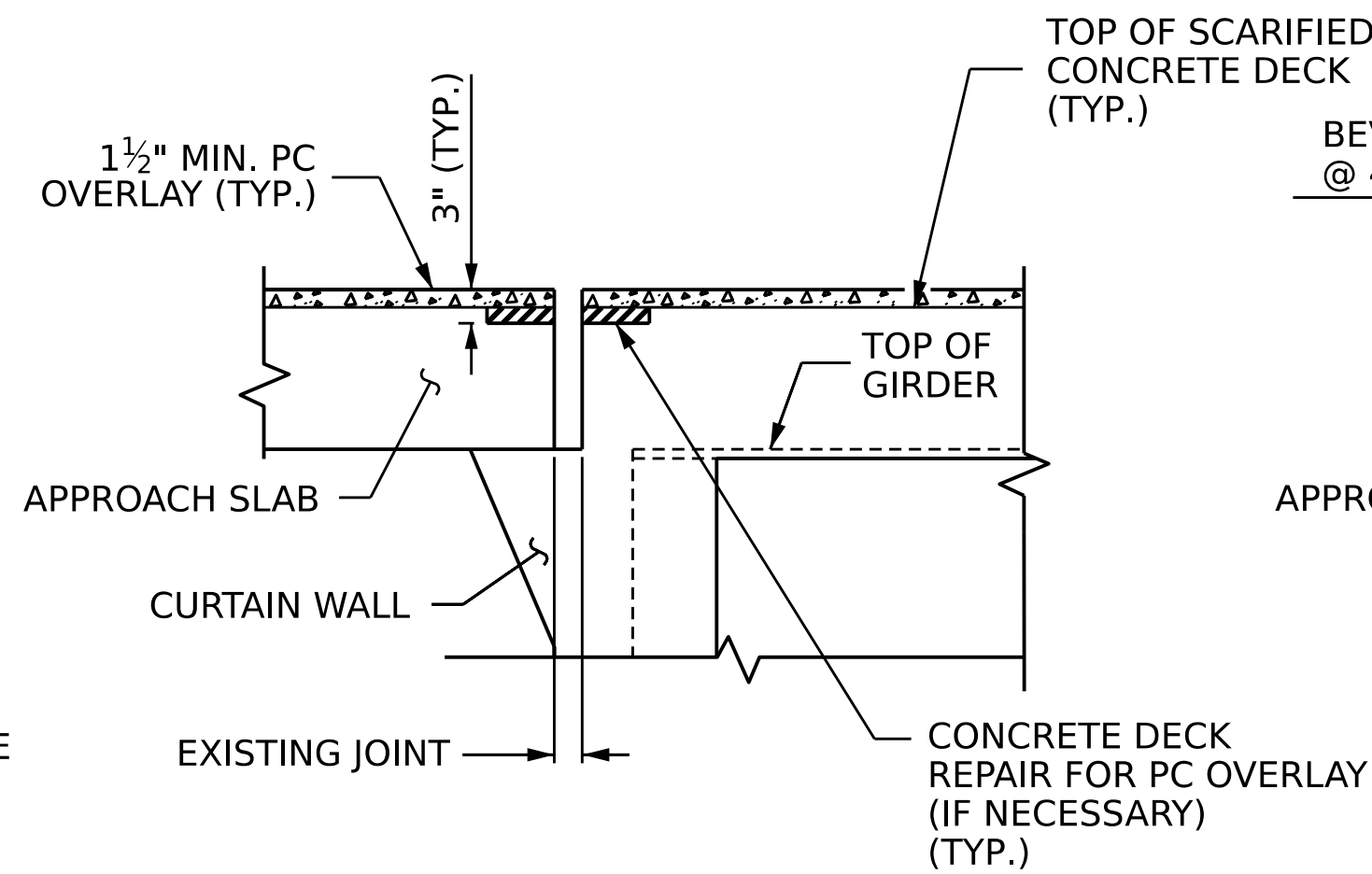
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NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			TOTAL
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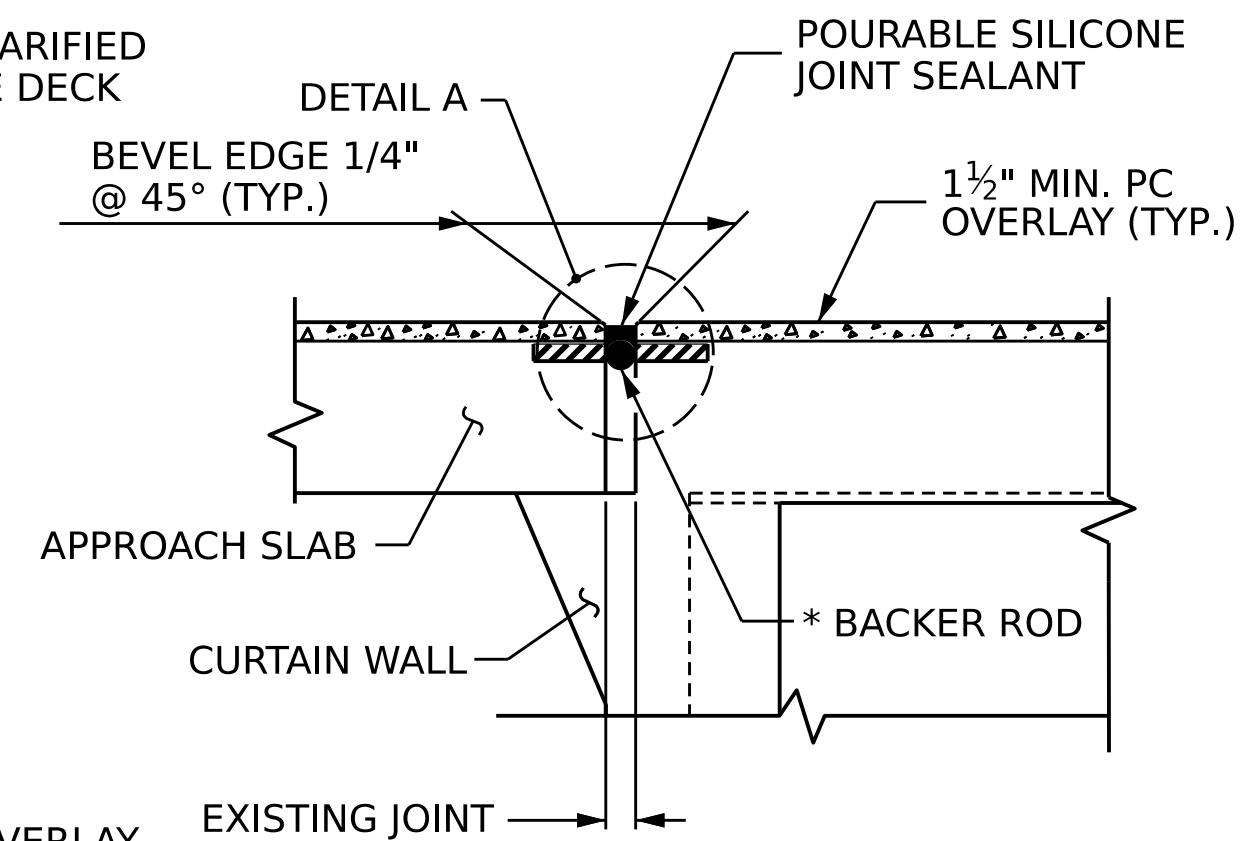
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION & SCARIFICATION



PROPOSED JOINT PRE-SAWED & PC OVERLAY

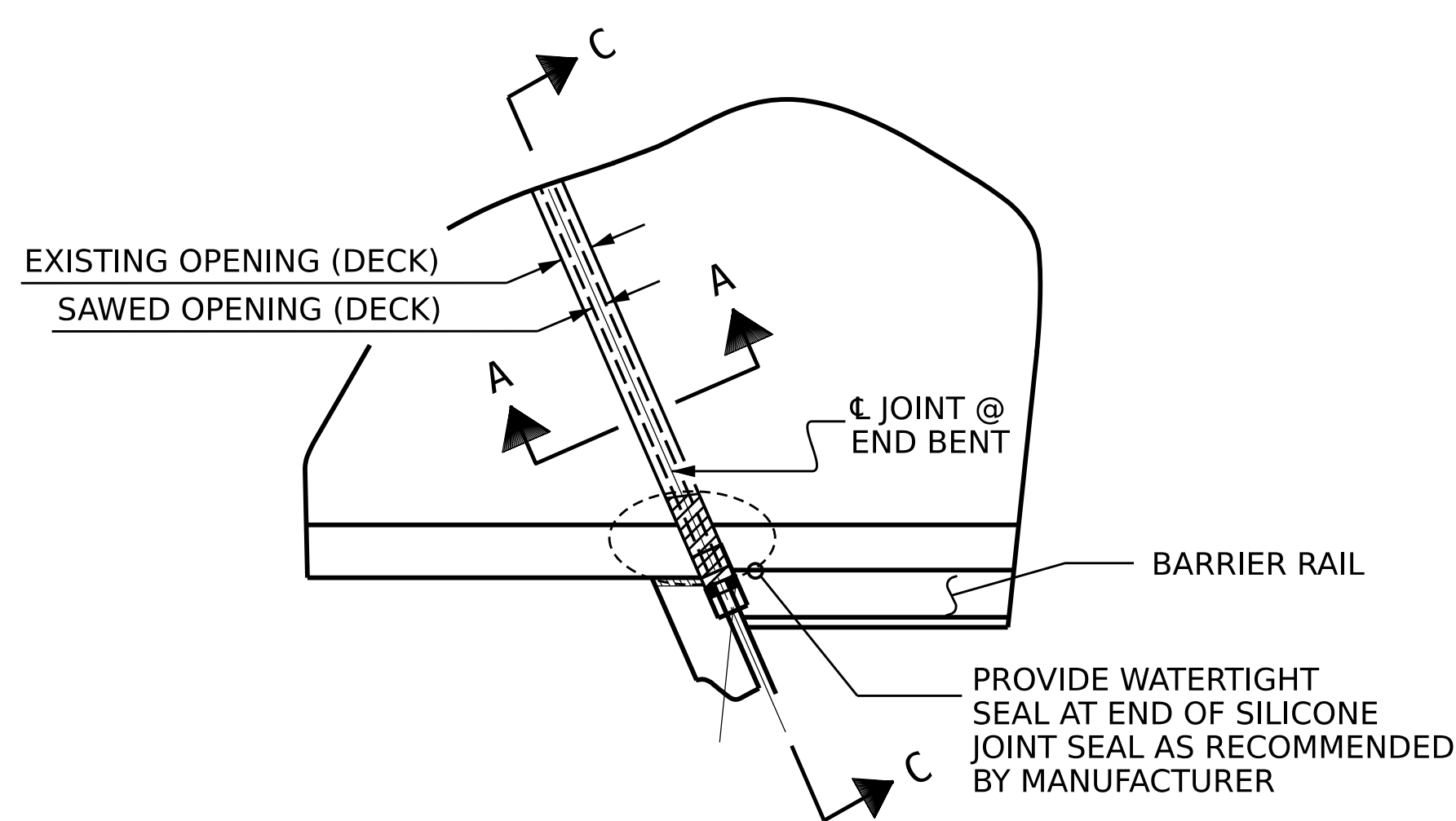


PROPOSED POURABLE SILICONE JOINT SEALANT

\* CONTRACTOR TO FIELD VERIFY WIDTH OF EXISTING JOINT AT APPROACH SLABS FOR INSTALLATION OF THE PROPER SIZE BACKER ROD

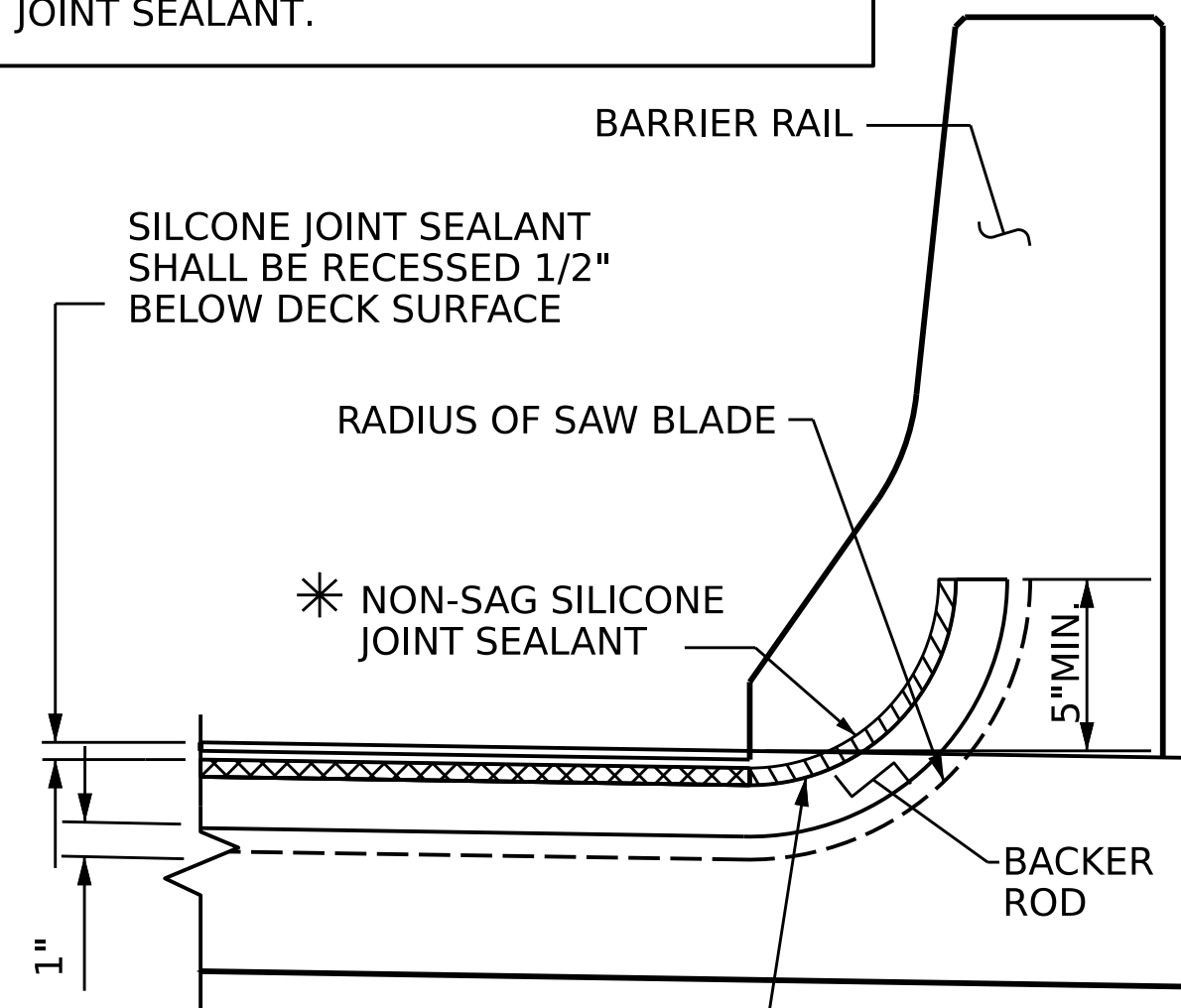
JOINT INSTALLATION SEQUENCE AT END BENTS

SECTION A-A

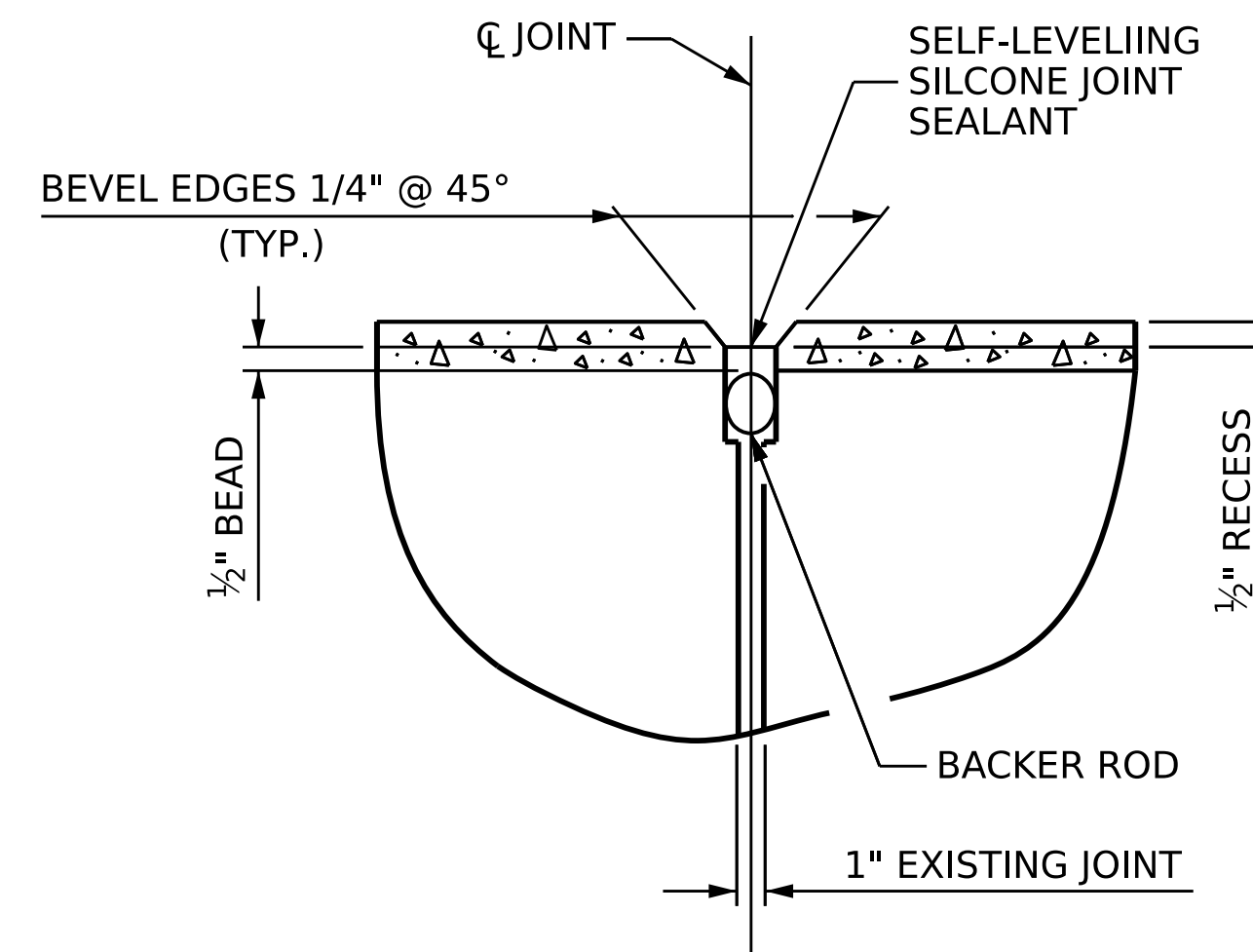


PLAN (@ END BENTS)

\* NOW-SAG SILICONE JOINT SEALANT TO BE PLACED AND ALLOWED TO SET, PRIOR TO PLACEMENT OF SELF-LEVELING SILICONE JOINT SEALANT.



SECTION A-A



DETAIL A

NOTES

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN DETAIL BY MORE THAN 1/4", NOTIFY ENGINEER. REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.

FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY IS COMPLETE.

THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE WITHOUT PROTECTIVE DEVICES BELOW TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT THE PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

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

DURING THE JOINT INSTALLATION PROCEDURE, THE JOINT AND SURROUNDING AREA SHALL BE KEPT CLEAN AND FREE OF DEBRIS.

FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

A MANUFACTURER'S CERTIFIED TRAINED REPRESENTATIVE SHALL BE PRESENT DURING THE INSTALLATION OF THE FIRST JOINT OF THE PROJECT, OR UNTIL THE ENGINEER IS SATISFIED WITH THE INSTALLATION PROCESS.

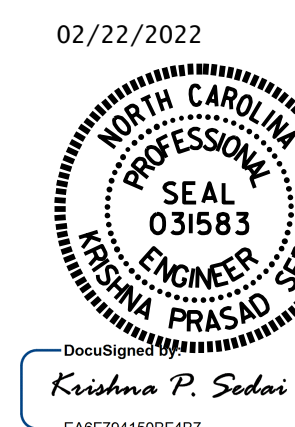
THE INSTALLED POURABLE SILICONE JOINT SEALANT SHALL BE WATERTIGHT.

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.

POURABLE SILICONE JOINT SEALANT

END BENT 1	61.1 LN. FT.
END BENT 2	60.7 LN. FT.
TOTAL	121.8 LN. FT.

PROJECT NO. **HI-0002**  
**RANDOLPH** COUNTY  
 BRIDGE NO.: **750466**



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

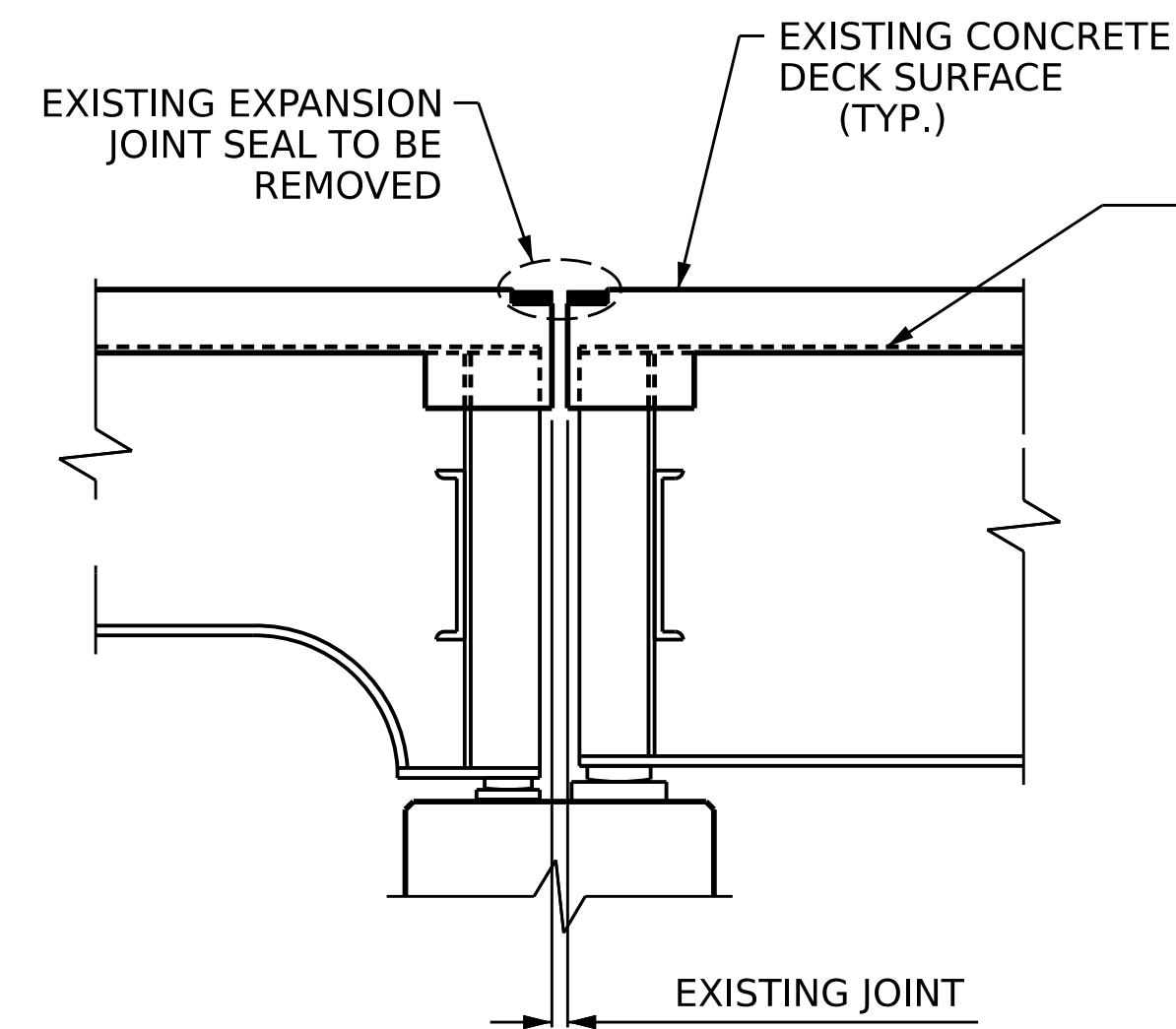
JOINT DETAILS

DRAWN BY : GHOLAMREZA KOUCHEKI DATE : 01/2022  
 CHECKED BY : E. BAYISSA DATE : 01/2022  
 DESIGN ENGINEER OF RECORD: DATE :

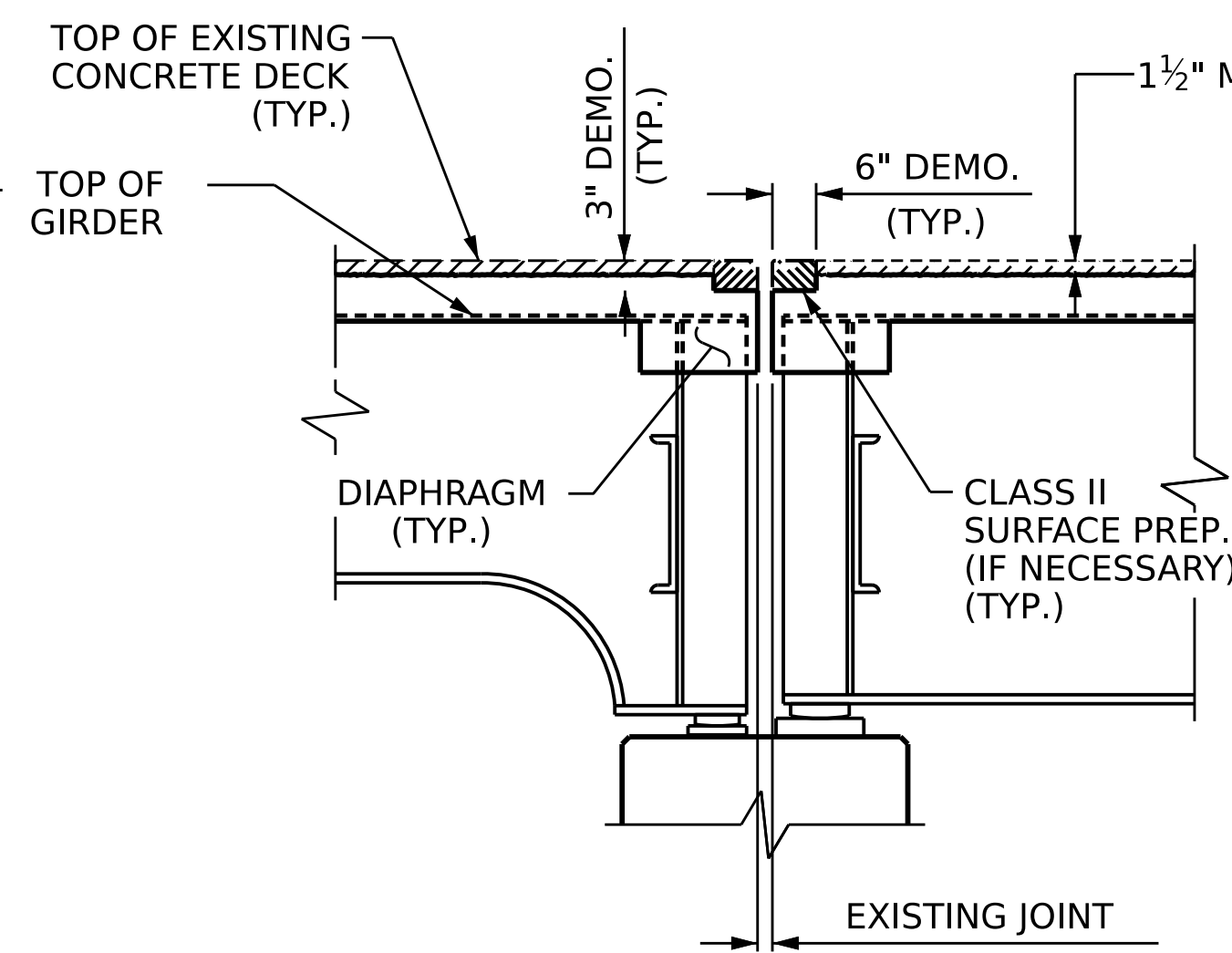
2/22/2022  
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 ksedai

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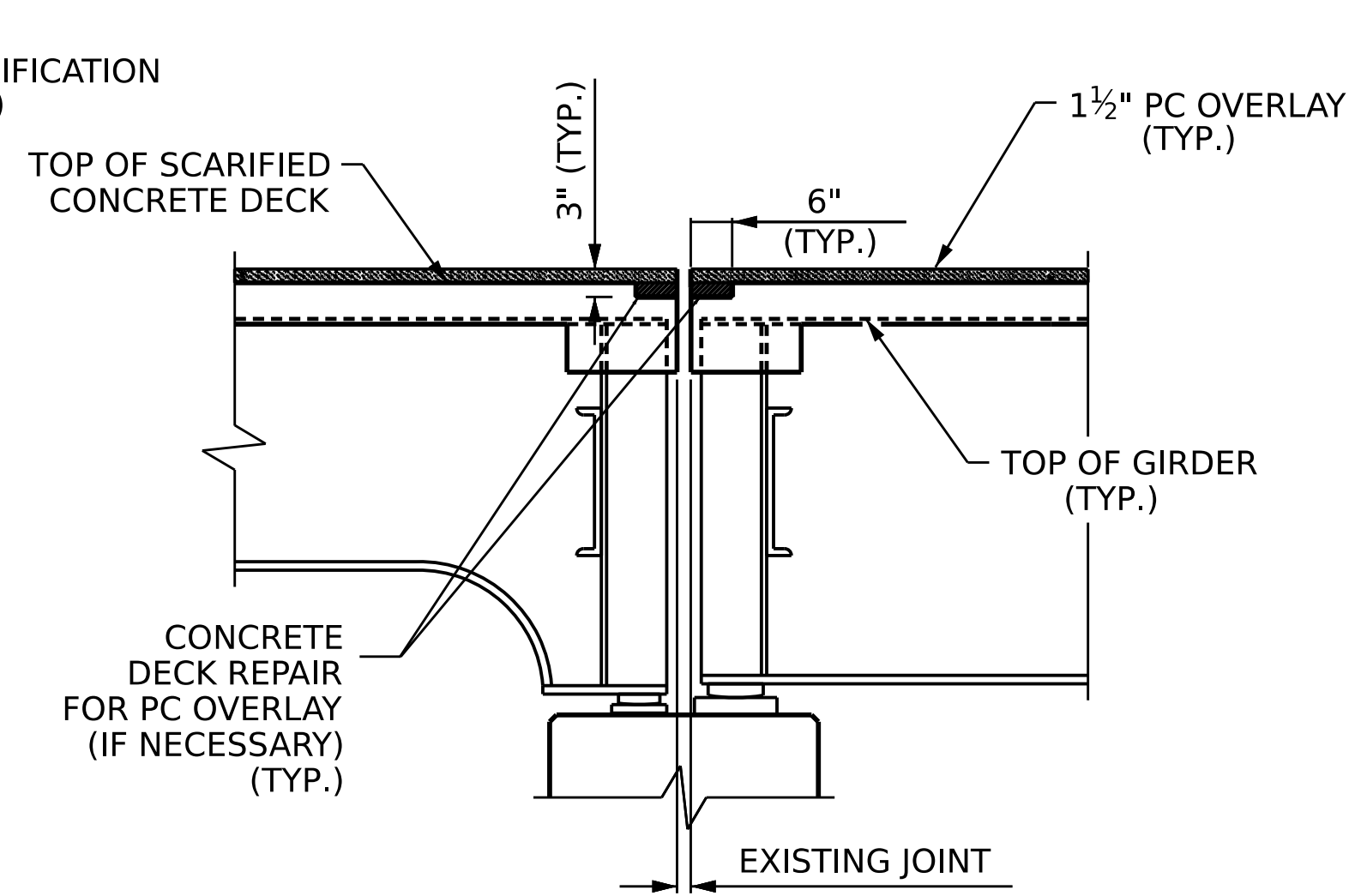
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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			91
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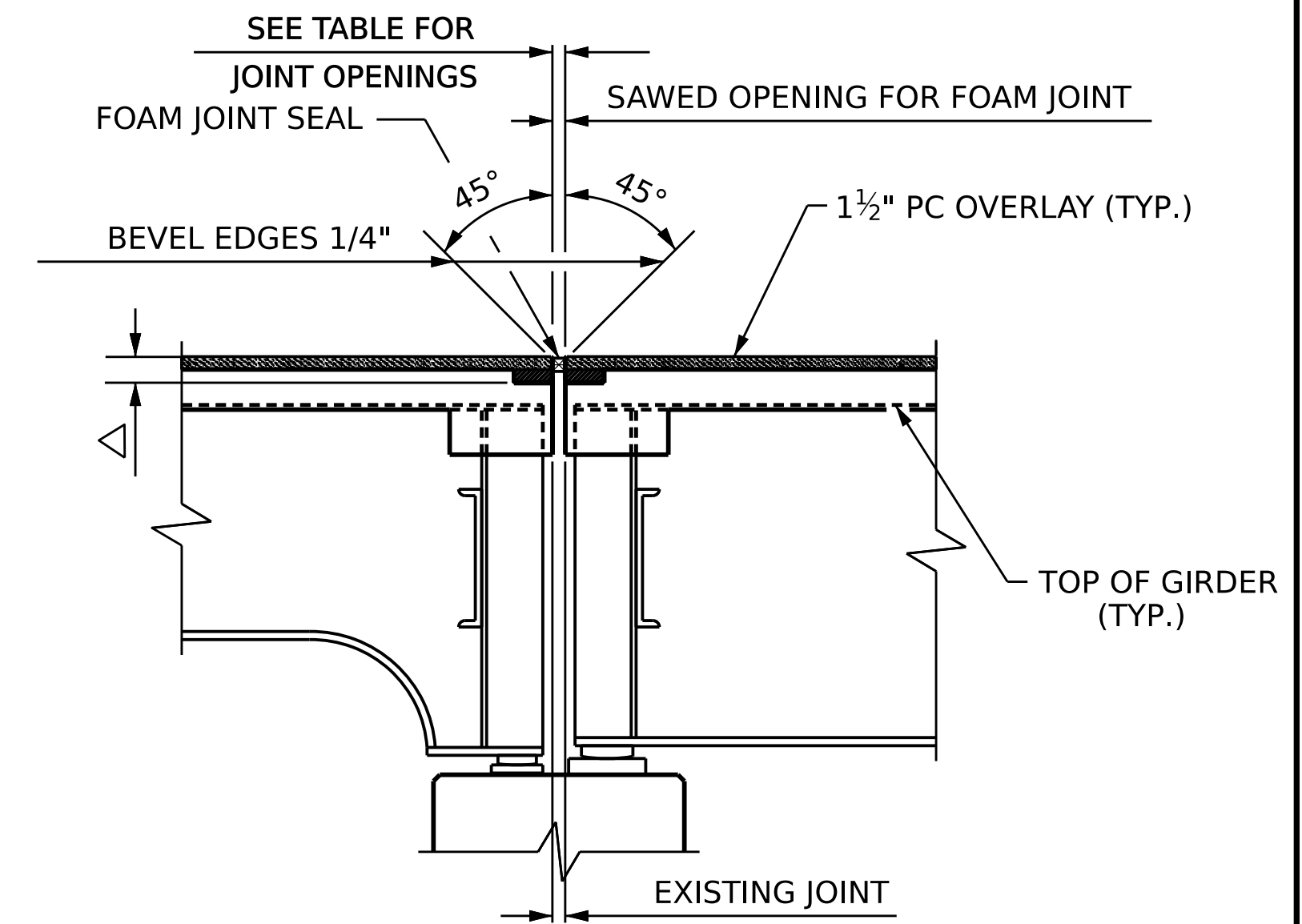
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION & SCARIFICATION



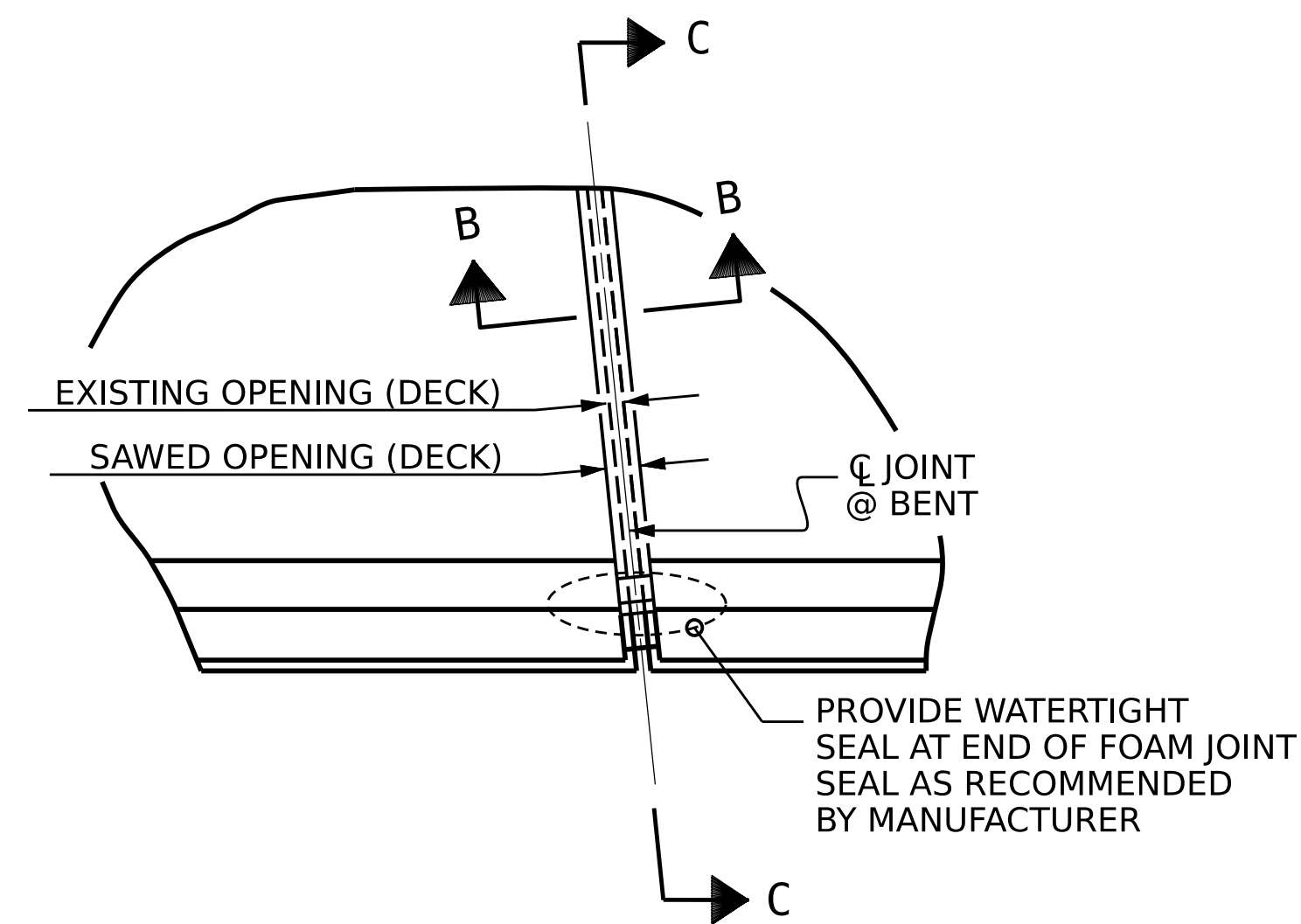
PROPOSED JOINT PRE-SAWED & PC OVERLAY



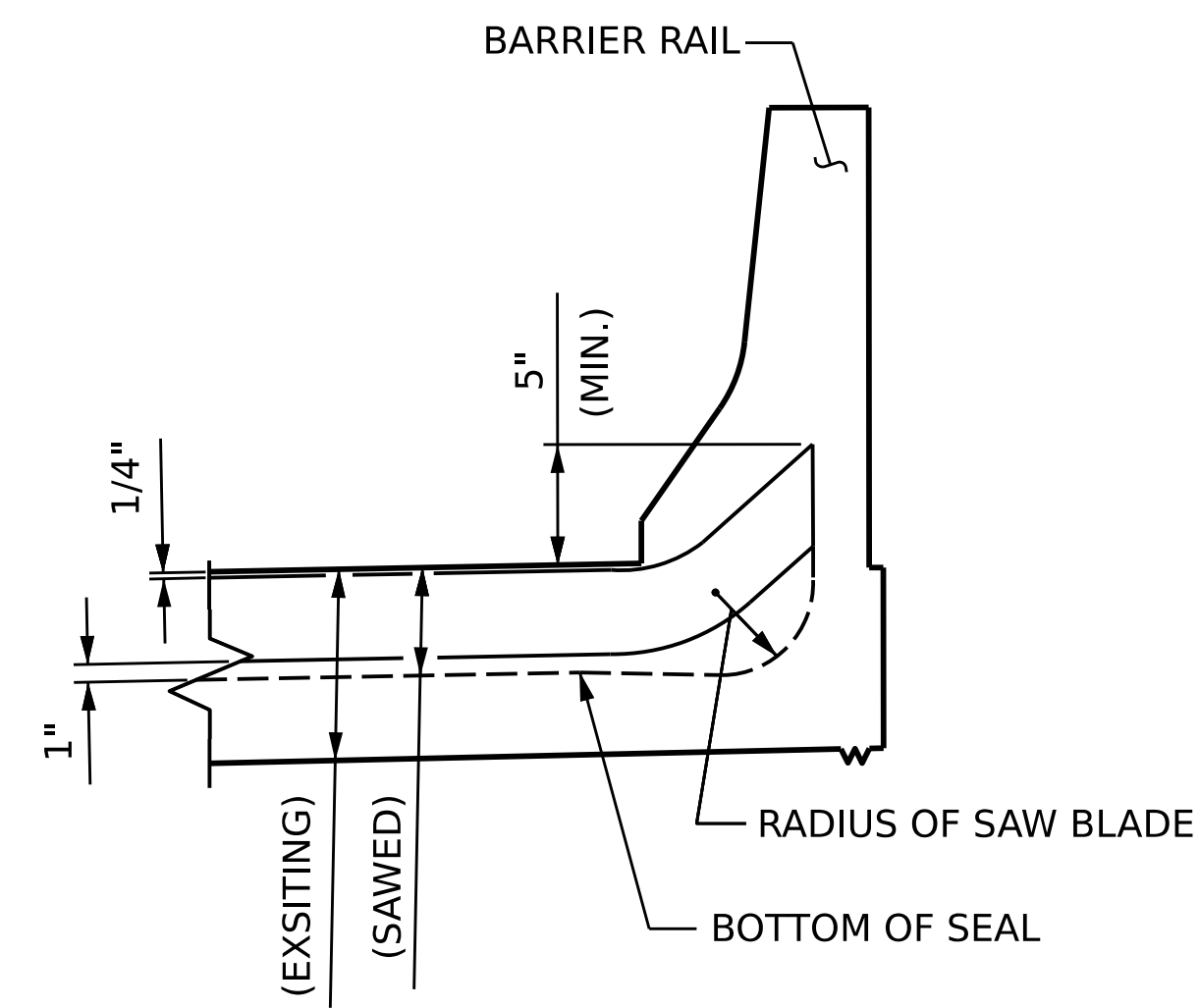
PROPOSED FOAM JOINT SEAL

△ SAW CUT SHALL BE 3/4" BELOW THE BOTTOM OF THE JOINT SEAL SEE MANUFACTURER RECOMMENDATION.

**JOINT INSTALLATION SEQUENCE AT BENTS**  
SECTION B-B



PLAN  
(@ BENT)



SECTION C-C

**JOINT SEAL DETAILS AT BENTS**

**NOTE**

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN THE DETAILS BY MORE THAN 1/4", NOTIFY THE ENGINEER. REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.

FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY IS COMPLETE.

THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE WITHOUT PROTECTIVE DEVICES BELOW TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT THE PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

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

DURING THE JOINT INSTALLATION PROCEDURE, THE JOINT AND SURROUNDING AREA SHALL BE KEPT CLEAN AND FREE OF DEBRIS.

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

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL FOR THE SIZE OF THE OPENING ON THE PLANS AND THAT ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

THE INSTALLATION OF THE JOINT SEAL SHALL BE WATERTIGHT.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

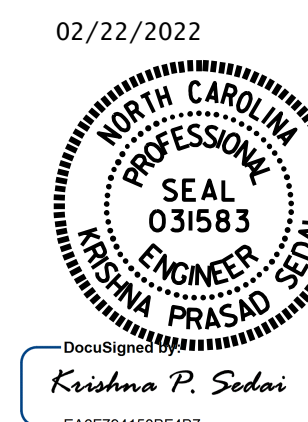
FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF REPAIR CONCRETE.

FOR CONCRETE DECK REPAIR FOR POLYMER CONCRETE OVERLAY, SEE SPECIAL PROVISIONS.

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
BRIDGE NO. 750466

SAWED JOINT OPENING TABLE			
LOCATION	SAWED JOINT OPENING (PERPENDICULAR TO JOINT)		
	AT 45°	AT 60°	AT 90°
BENT 1	1 1/16"	1 3/16"	1 5/16"
BENT 2	1 5/8"	1 9/16"	1 3/8"

JOINT REPAIR QUANTITY TABLE		
	ESTIMATED LN.FT.	ACTUAL LN.FT.
FOAM JOINT SEALS FOR PRESERVATION		
BENT 1	61.0	
BENT 2	61.0	
TOTAL	122.0	



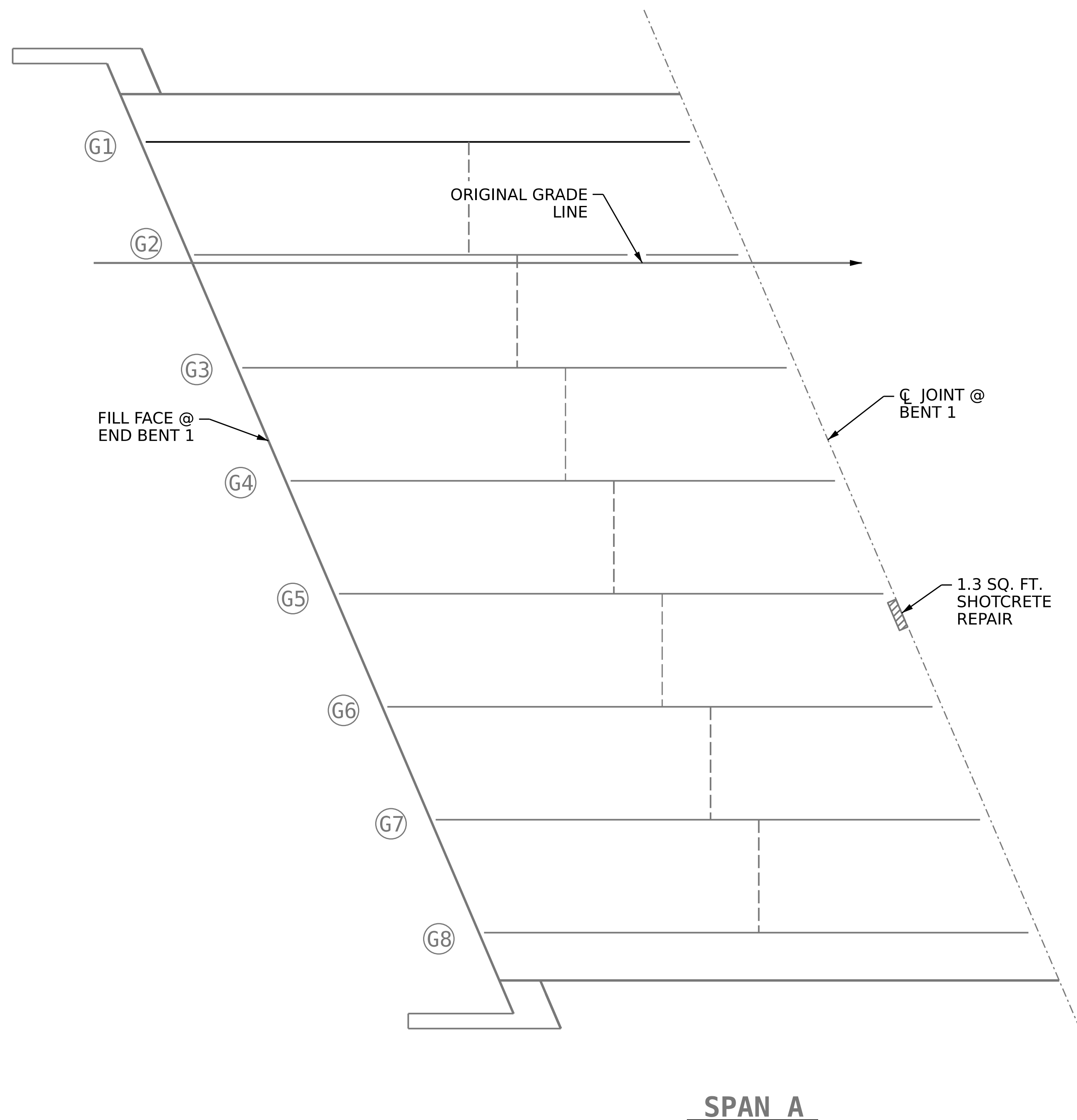
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**JOINT DETAILS**

DRAWN BY : GHOLAMREZA KOUCHEKI DATE : 01/2022  
CHECKED BY : E. BAYISSA DATE : 01/2022

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2			4			TOTAL SHEETS 91



### AS-BUILT REPAIR QUANTITY TABLE

DECK UNDERSIDE REPAIRS SPAN A	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0	0		
BENT DIAPHRAGM	1.3	0.7		
OVERHANG	0	0		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0	0		
BENT DIAPHRAGM	0	0		
OVERHANG	0	0		
EPOXY RESIN INJECTON		LIN. FT.	LIN. FT.	
UNDERSIDE OF DECK		0		
BENT DIAPHRAGM		0		
OVERHANG		0		

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




#### NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

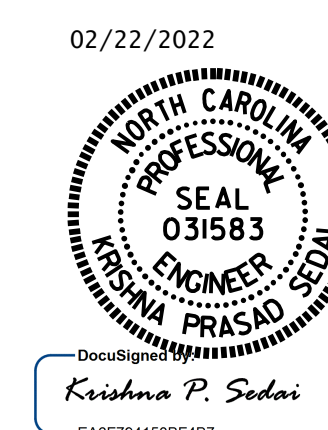
FOR "SHOTCRETE REPAIRS", SEE SPECIAL PROVISIONS.

FOR "CONCRETE REPAIRS", SEE SPECIAL PROVISIONS.

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

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750466

SHEET 1 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**DECK UNDERSIDE REPAIR  
 SPAN A**

DRAWN BY : GHOLAMREZA KOUCHEKI DATE : 05/2021  
 CHECKED BY : E. BAYISSA DATE : 12/2021  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

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1			3			S4-09
2			4			TOTAL SHEETS 91



### AS-BUILT REPAIR QUANTITY TABLE

DECK UNDERSIDE REPAIRS SPAN B	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0	0		
BENT DIAPHRAGM	6.2	3.1		
OVERHANG	0	0		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0	0		
BENT DIAPHRAGM	0	0		
OVERHANG	0	0		

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

#### NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

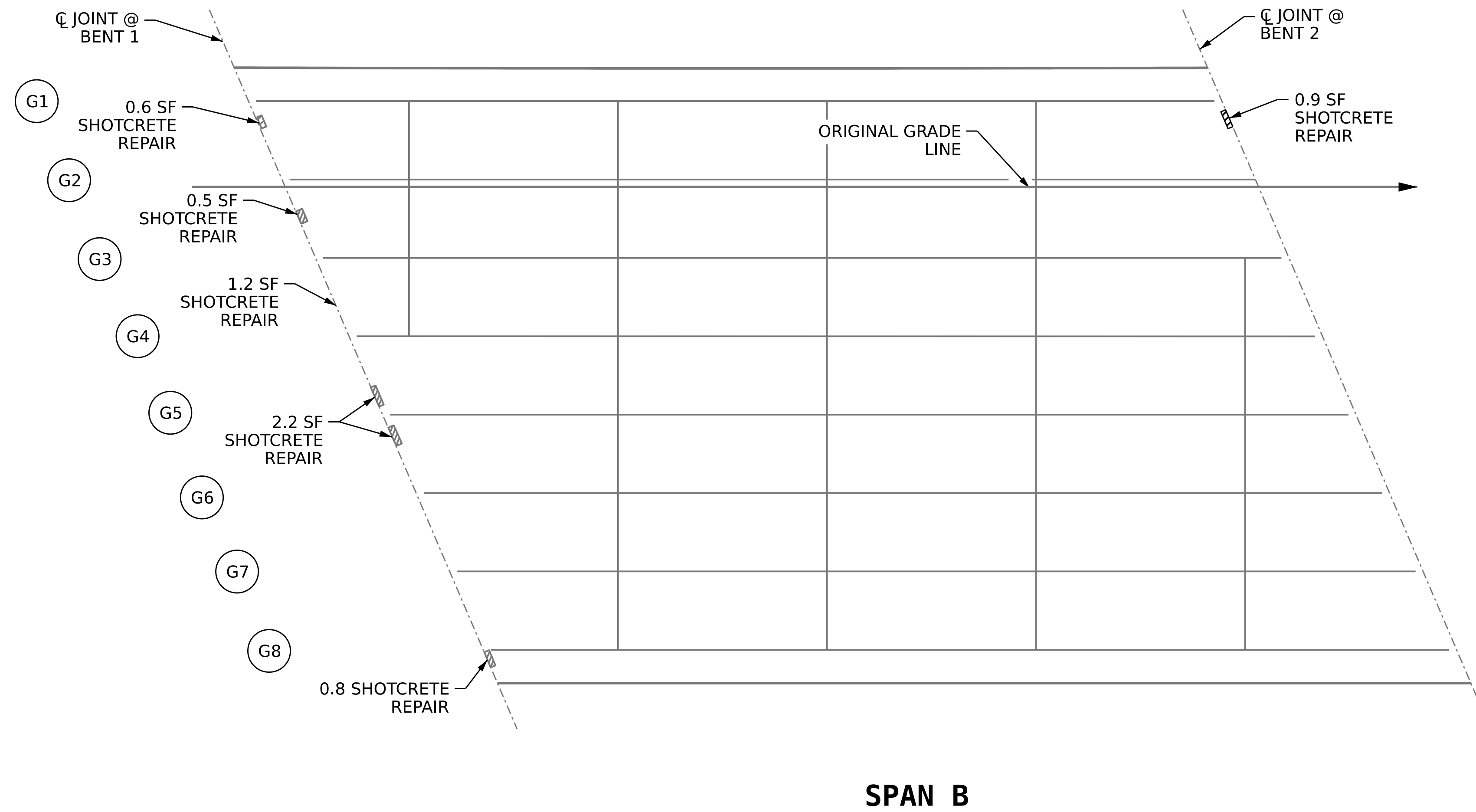
SHOTCRETE REPAIRS MAYBE SUBSTITUTED IN LIEU OF CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR "SHOTCRETE REPAIRS", SEE SPECIAL PROVISIONS.

FOR "CONCRETE REPAIRS", SEE SPECIAL PROVISIONS.

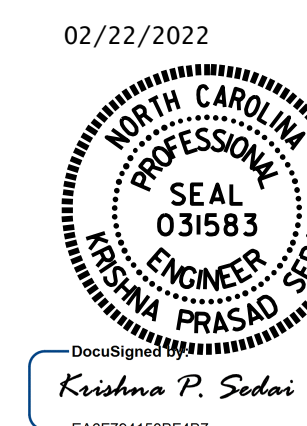
 SHOTCRETE REPAIR AREA

 CONCRETE REPAIR AREA



PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750466

SHEET 2 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

### DECK UNDERSIDE REPAIR SPAN B

DRAWN BY : GHOLAMREZA KOUCHEKI DATE : 11/2021  
 CHECKED BY : E. BAYISSA DATE : 12/2021  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

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2			4			TOTAL SHEETS 91

### AS-BUILT REPAIR QUANTITY TABLE

DECK UNDERSIDE REPAIRS SPAN C	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0	0		
BENT DIAPHRAGM	0.9	0.5		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0	0		
BENT DIAPHRAGM	0	0		
OVERHANG	0	0		

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



#### NOTES

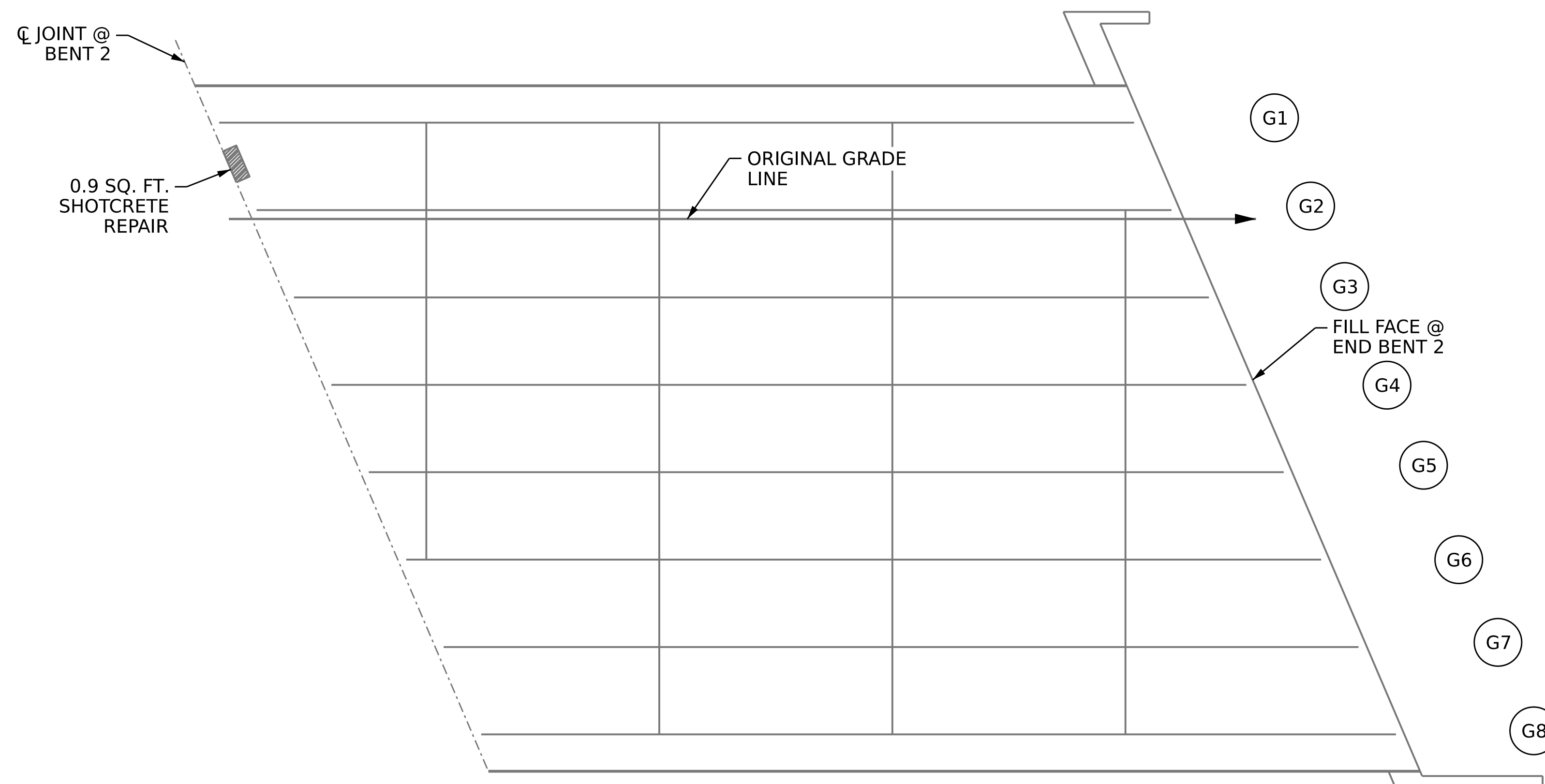
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

FOR "SHOTCRETE REPAIRS", SEE SPECIAL PROVISIONS.

FOR "CONCRETE REPAIRS", SEE SPECIAL PROVISIONS.

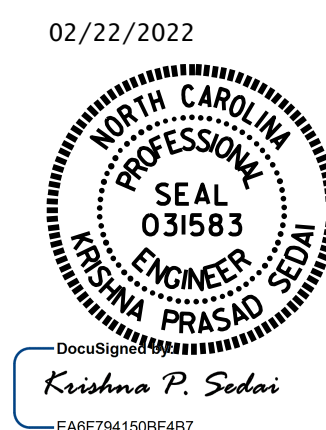
-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA



**SPAN C**

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750466

SHEET 3 OF 3

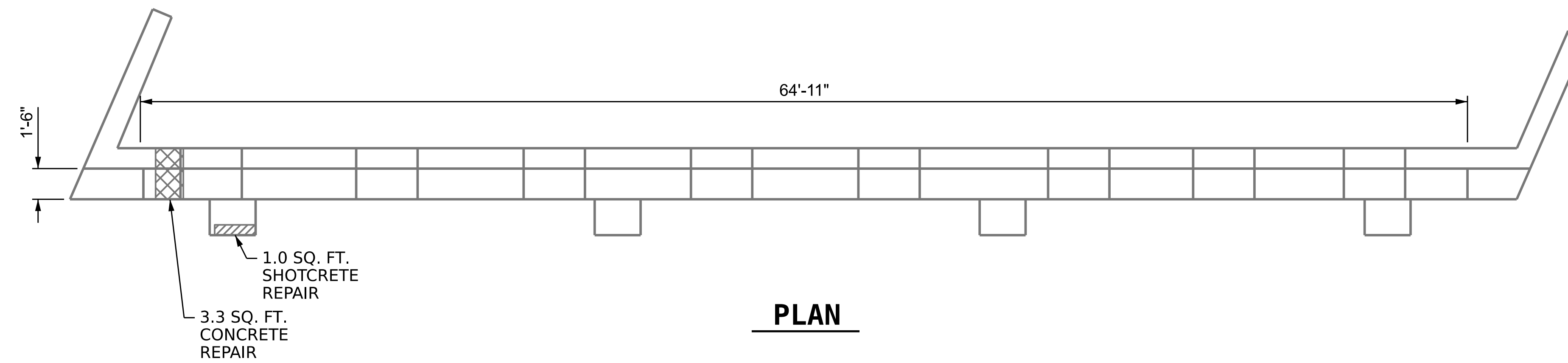


STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**DECK UNDERSIDE REPAIR  
 SPAN C**

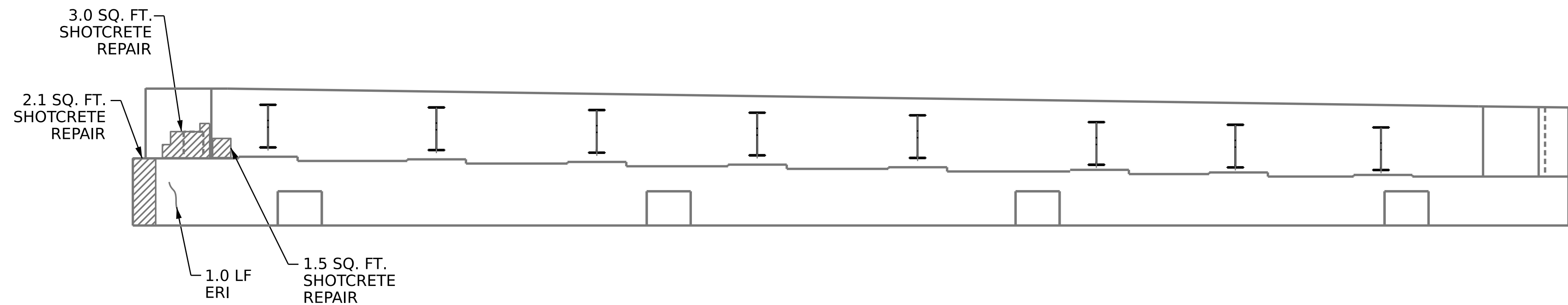
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 CHECKED BY : E. BAYISSA DATE : 12/2021  
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1			3			TOTAL SHEETS
2			4			91



**PLAN**



**ELEVATION**

**AS-BUILT REPAIR QUANTITY TABLE**

END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	3.1	1.6		
CURTAIN WALL	4.5	3.8		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	3.3	1.7		
CURTAIN WALL	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		1.0		
CURTAIN WALL		0		
EPOXY COATING	AREA SF		AREA SF	
CAP	97.0		0	
CURTAIN WALL	227.0		0	

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

**NOTES**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

FOR "SHOTCRETE REPAIRS", SEE SPECIAL PROVISIONS.

FOR " CONCRETE REPAIRS", SEE SPECIAL PROVISIONS.

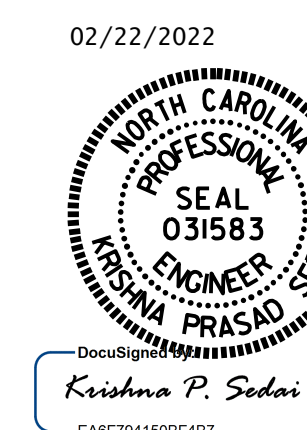
FOR CAP REPAIRS, SEE " TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

EPOXY RESIN INJECTION

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750466



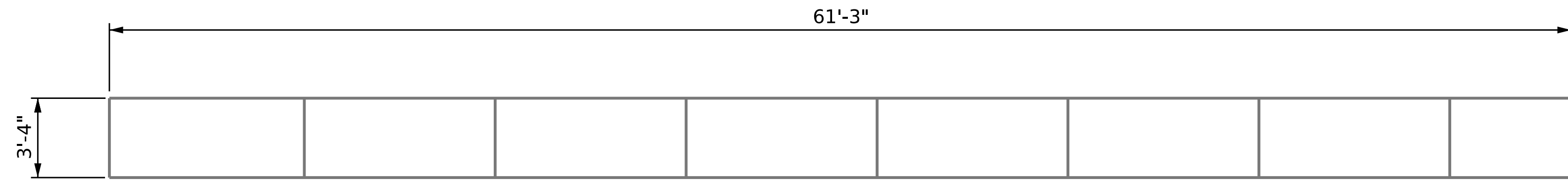
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**END BENT 1**

DRAWN BY : GHOLAMREZA KOUICHEKI DATE : 05/2021  
 CHECKED BY : E. BAYISSA DATE : 12/2021  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

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 SIGNATURES COMPLETED

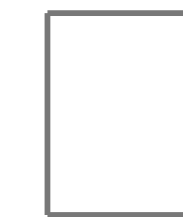
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			91
2			4			



**PLAN - TOP OF CAP**

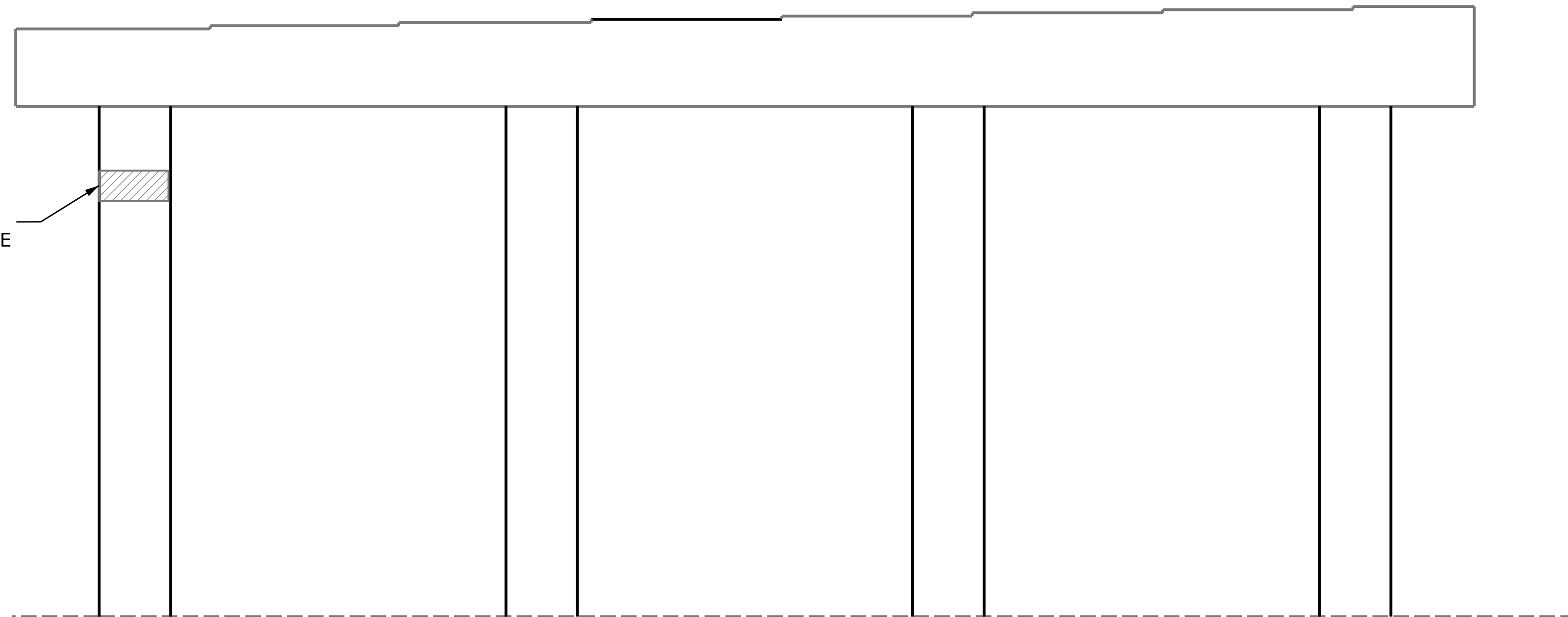
SPAN B  
SPAN A

SPAN A | SPAN B



**END VIEW**

3.5 SQ. FT.  
SHOTCRETE  
REPAIR



**ELEVATION**

**AS-BUILT REPAIR QUANTITY TABLE**

REPAIRS - BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
<b>SHOTCRETE REPAIRS</b>				
CAP	0	0		
COLUMN	3.5	1.5		
<b>CONCRETE REPAIRS</b>				
CAP	0	0		
COLUMN	0	0		
<b>EPOXY RESIN INJECTION</b>		LIN. FT.		LIN. FT.
CAP		0		
COLUMN		0		
<b>EPOXY COATING</b>		AREA SF		AREA SF
TOP OF BENT CAP		204.0		

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

**NOTES**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

FOR "SHOTCRETE REPAIRS", SEE SPECIAL PROVISIONS.

FOR " CONCRETE REPAIR", SEE SPECIAL PROVISIONS.

FOR CAP REPAIRS, SEE "TYPICAL REPAIR CAP AND COLUMN REPAIR DETAILS" SHEET.

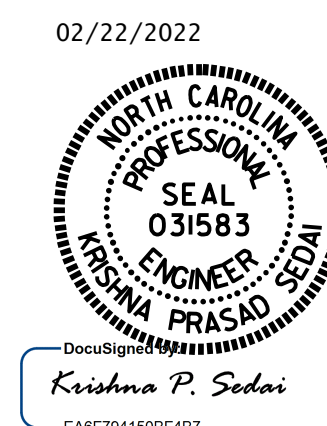
 SHOTCRETE REPAIR AREA

 CONCRETE REPAIR AREA

 EPOXY RESIN INJECTION

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750466

SHEET 1 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1**  
**SPAN A FACE**

DRAWN BY : GHOLAMREZA KOUICHEKI DATE : 05/2021  
 CHECKED BY : E. BAYISSA DATE : 12/2021  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			54-13
2			4			TOTAL SHEETS 91

### AS-BUILT REPAIR QUANTITY TABLE

REPAIRS - BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	7.3	3.7		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0	0		
COLUMN	0	0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		1.8		
COLUMN		0		

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

#### NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.




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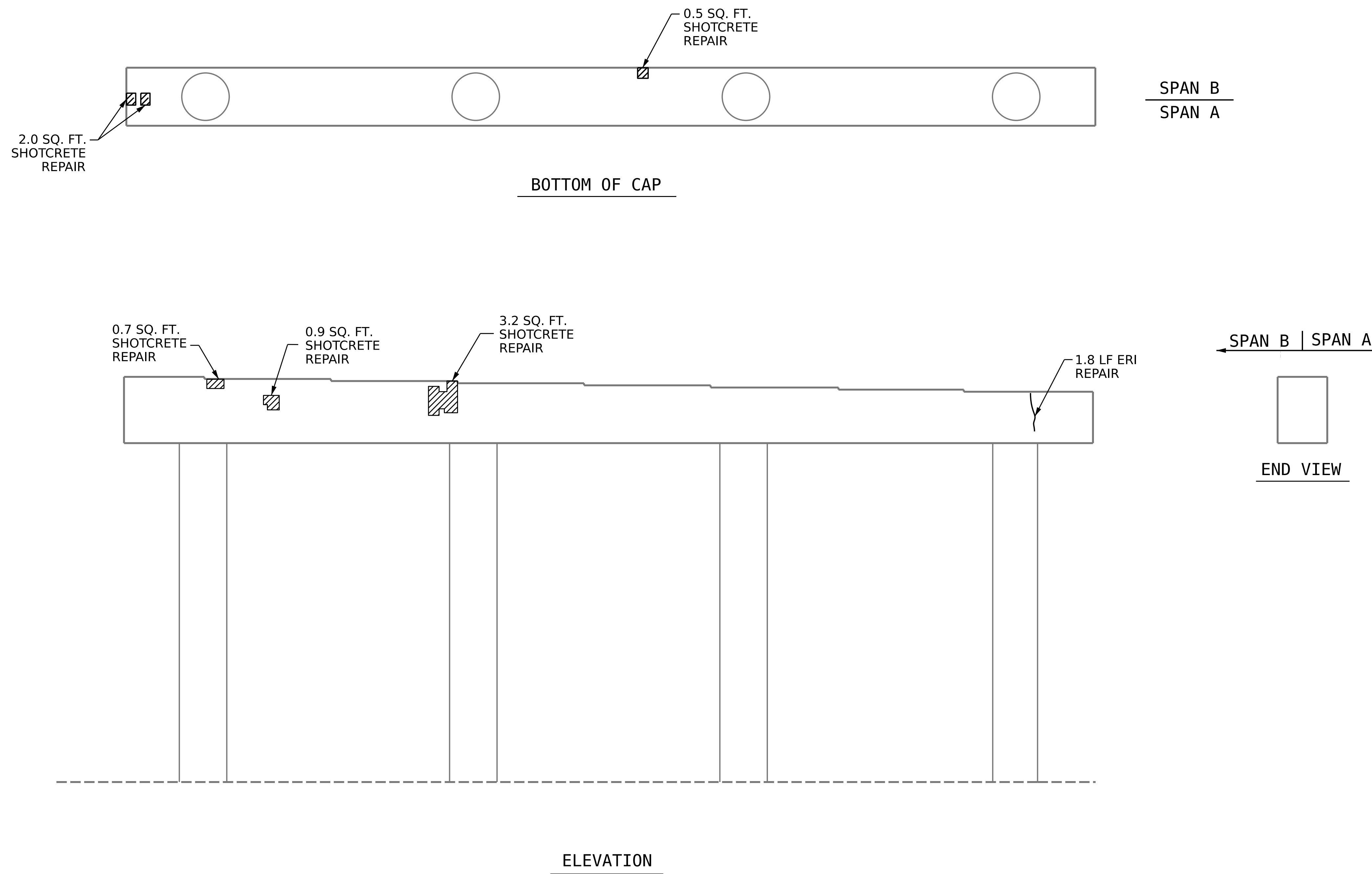
SHOTCRETE REPAIRS MAYBE SUBSTITUTED IN LIEU OF CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR "SHOTCRETE REPAIRS", SEE SPECIAL PROVISIONS.

FOR "CONCRETE REPAIRS", SEE SPECIAL PROVISIONS.

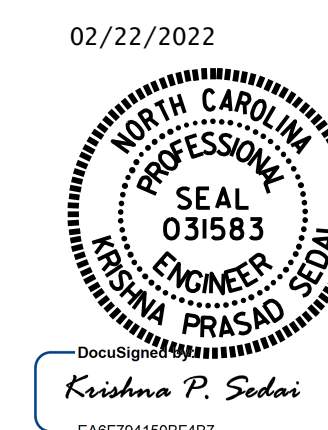
FOR "CAP REPAIRS", SEE TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION



PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750466

SHEET 2 OF 2



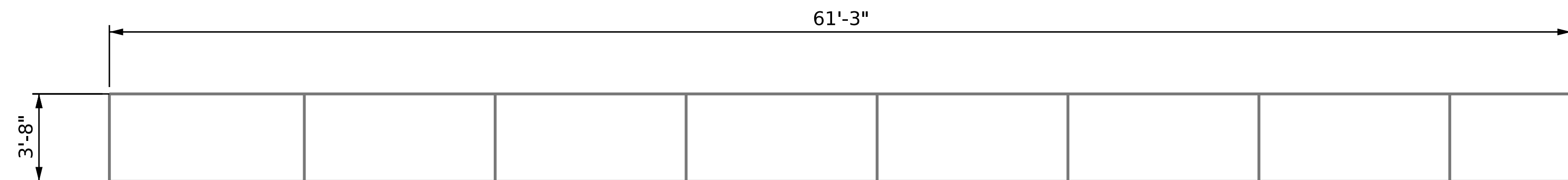
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1  
 SPAN B FACE**

DRAWN BY : GHOLAMREZA KOUCHEKI DATE : 05/2021  
 CHECKED BY : E. BAYISSA DATE : 12/2021  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

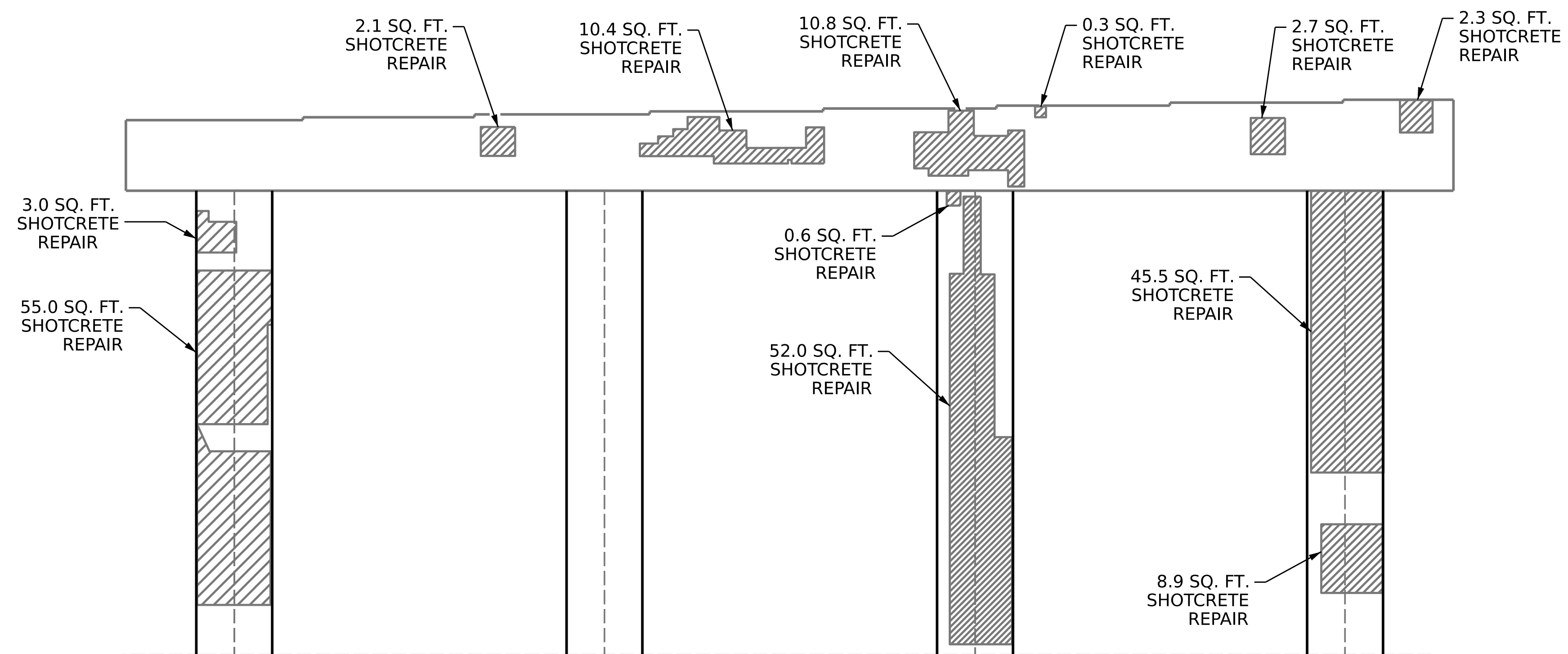
DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			91
2			4			



**PLAN - TOP OF CAP**

SPAN C  
SPAN B



SPAN B | SPAN C

**END VIEW**

**ELEVATION**

**AS-BUILT REPAIR QUANTITY TABLE**

REPAIRS - BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
<b>SHOTCRETE REPAIRS</b>	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	28.6	14.3		
COLUMN	165.0	82.5		
<b>CONCRETE REPAIRS</b>	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0	0		
COLUMN	0	0		
<b>EPOXY RESIN INJECTION</b>		LIN. FT.		LIN. FT.
CAP		0		
COLUMN		0		
<b>EPOXY COATING</b>		AREA SF		AREA SF
TOP OF BENT CAP		224.0		

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

**NOTES**

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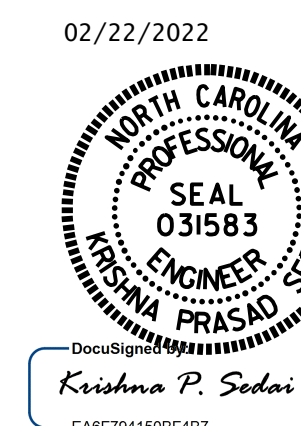
SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

EPOXY RESIN INJECTION

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750466

SHEET 1 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 2**  
**SPAN B FACE**

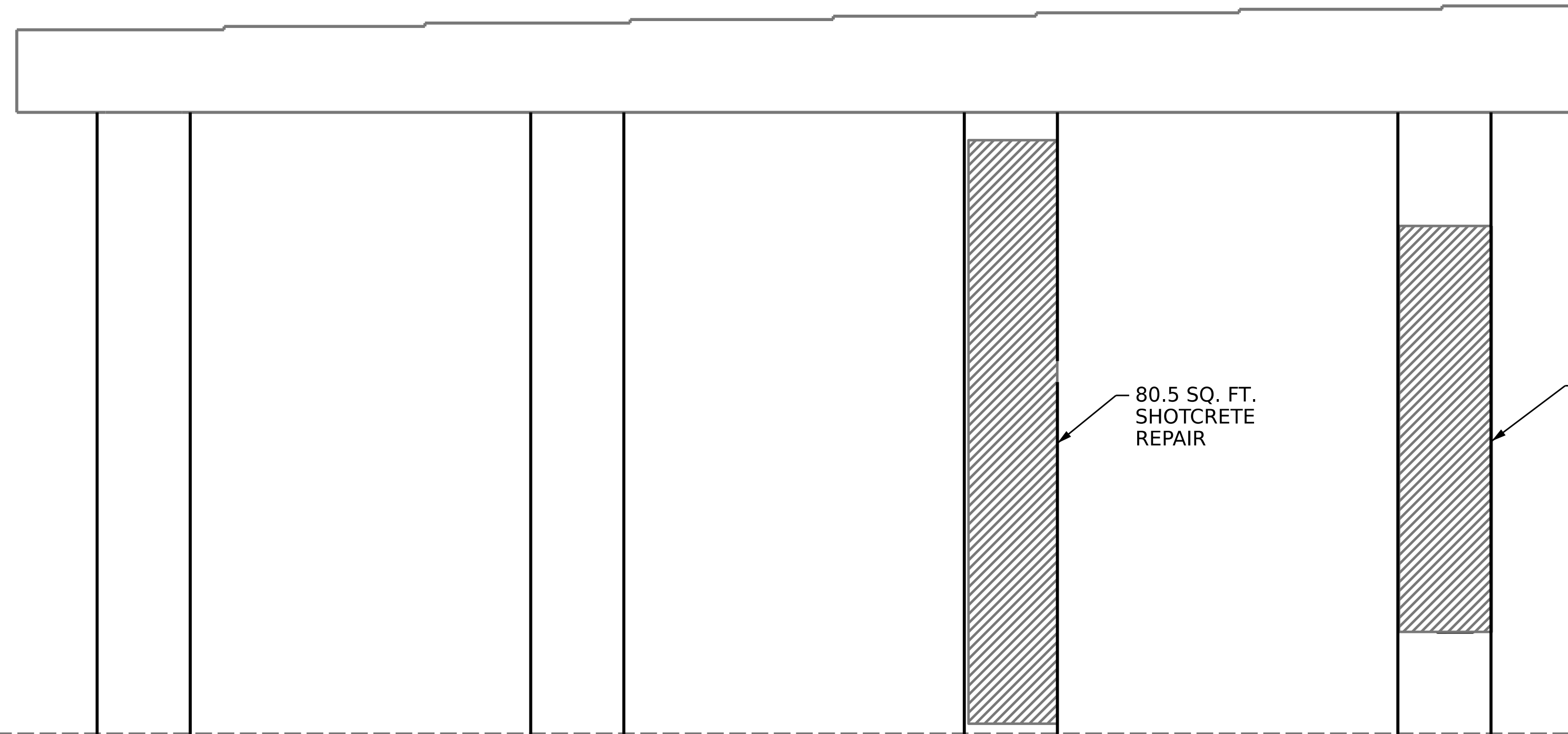
DRAWN BY : GHOLAMREZA KOUICHEKI DATE : 05/2021  
 CHECKED BY : E. BAYISSA DATE : 12/2021  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

DOCUMENT NOT CONSIDERED  
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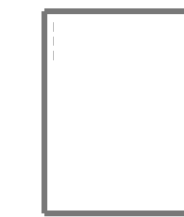
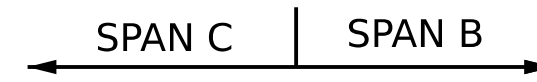
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			91
2			4			



**BOTTOM OF CAP**



**ELEVATION**



**END VIEW**

**AS-BUILT REPAIR QUANTITY TABLE**

REPAIRS - BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0	0		
COLUMN	144.5	72.3		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0	0		
COLUMN	0	0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0		
COLUMN		0		

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




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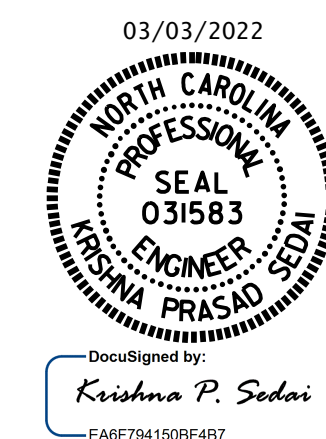
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FOR "SHOTCRETE REPAIRS", SEE SPECIAL PROVISIONS.

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750466

SHEET 2 OF 2



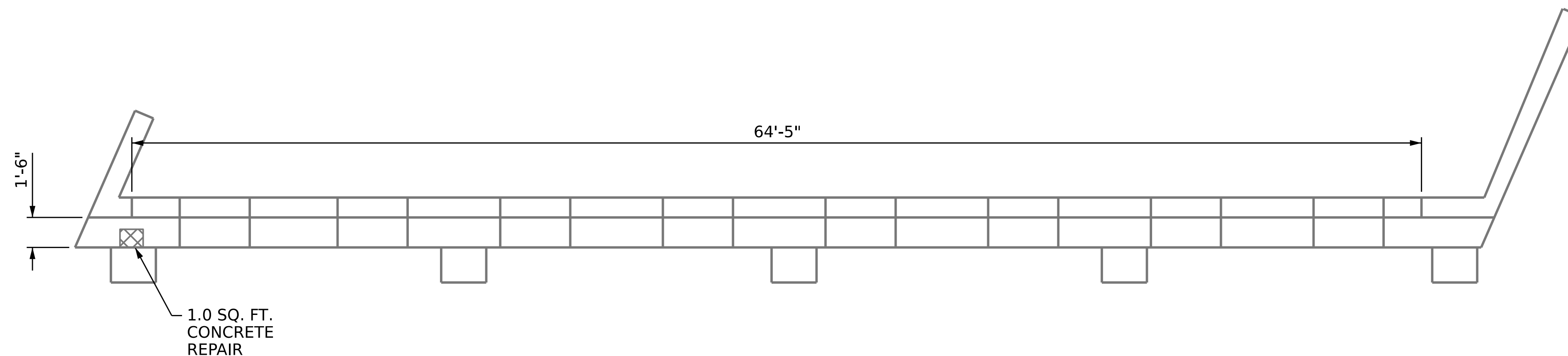
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 2**  
**SPAN C FACE**

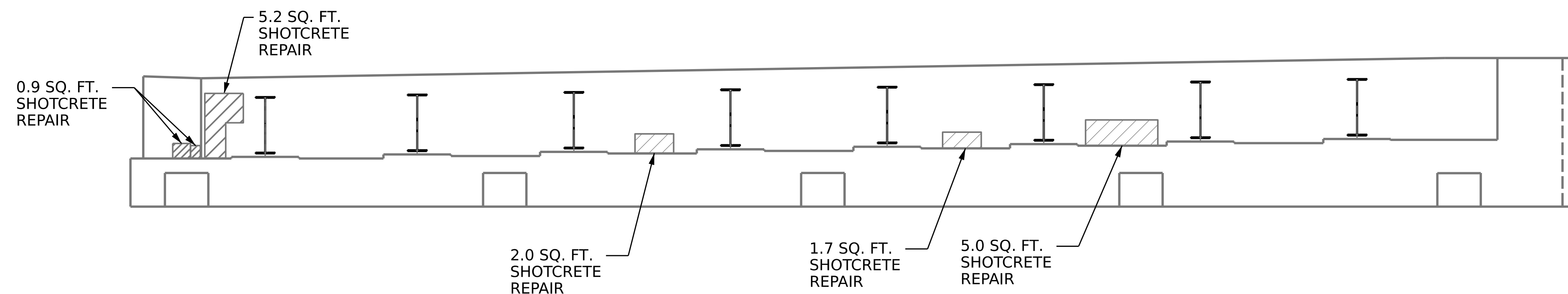
DRAWN BY : GHOLAMREZA KOUICHEKI DATE : 05/2021  
 CHECKED BY : E. BAYISSA DATE : 12/2021  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			91
2			4			



**PLAN**



**ELEVATION**

**AS-BUILT REPAIR QUANTITY TABLE**

REPAIRS - END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0	0		
CURTAIN WALL	14.8	7.4		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	1.0	0.5		
CURTAIN WALL	0	0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0		
CURTAIN WALL		0		
EPOXY COATING	AREA SF		AREA SF	
TOP OF CAP	96.0		0	
CURTAIN WALL	272.0		0	

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

**NOTES**

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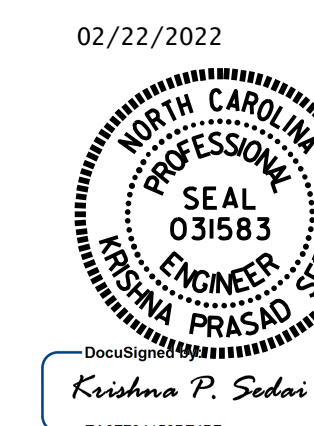
FOR "SHOTCRETE REPAIRS", SEE SPECIAL PROVISIONS.

FOR " CAP REPAIRS", SEE SPECIAL PROVISIONS.

FOR " CONCRETE REPAIRS " SEE CAP AND COLUMN REPAIR DETAILS " SHEET.

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- EPOXY RESIN INJECTION

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750466



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**END BENT 2**

DRAWN BY : GHOLAMREZA KOUICHEKI DATE : 05/2021  
 CHECKED BY : E. BAYISSA DATE : 12/2021  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S4-17
2			4			TOTAL SHEETS 91



**NOTES:**

GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 3/18/2020.

BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

**SCOPE OF WORK**

PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS.

OVERLAY PREPARED TOP OF BRIDGE DECK WITH POLYMER CONCRETE (PC).

REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINTS.

REMOVE EXISTING JOINT MATERIAL AND INSTALL POURABLE SILICONE JOINTS.

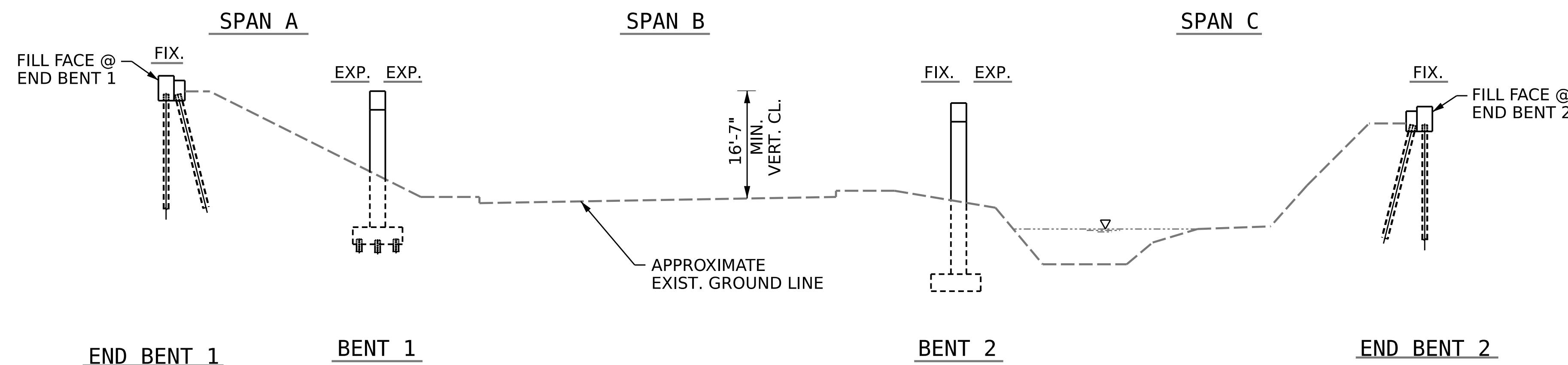
GROOVE PC BRIDGE DECK.

REMOVE DEBRIS FROM TOP OF EXISTING BENT CAPS AND APPLY EPOXY COATING.

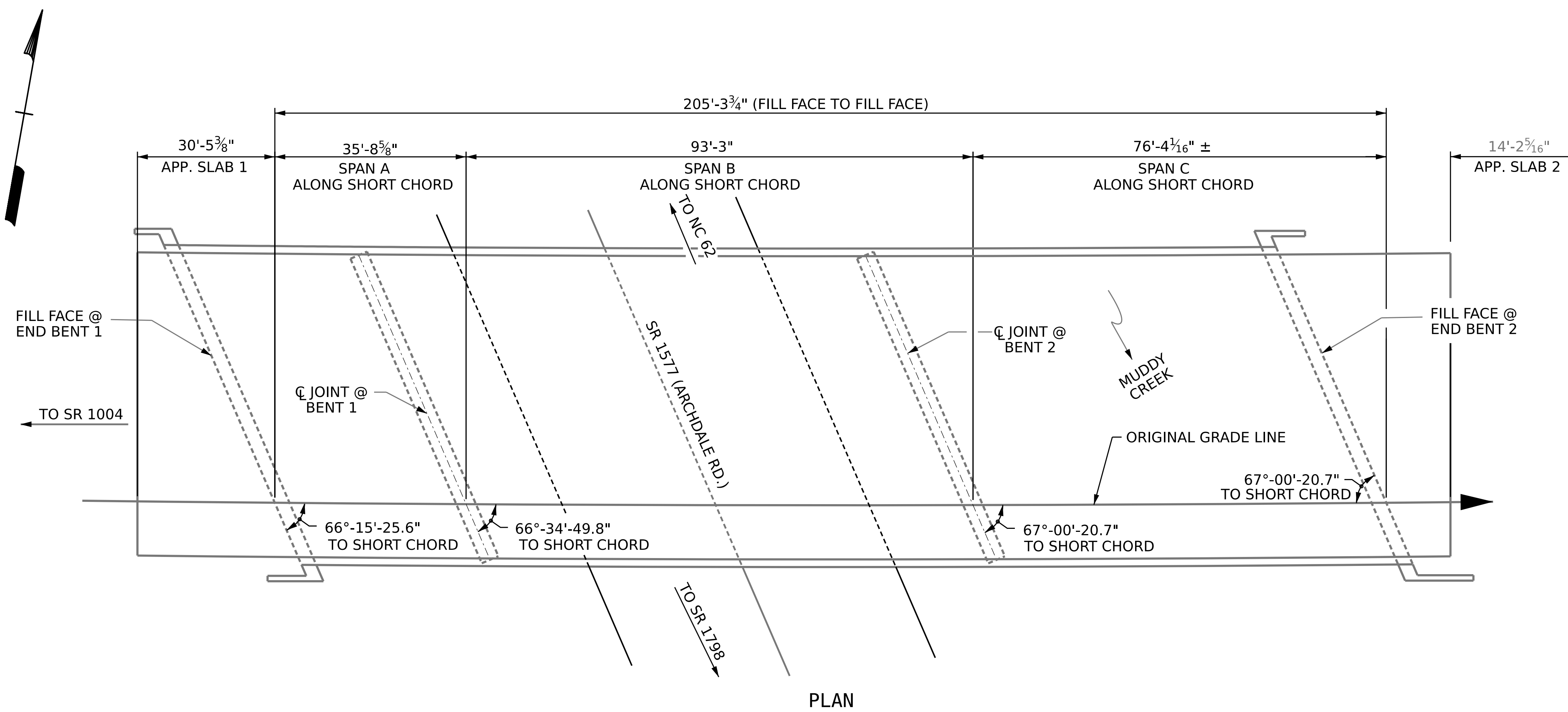
EPOXY RESIN INJECTION OF CONCRETE CRACKS.

REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AND BENT AREAS FOR SHOTCRETE AND CONCRETE REPAIRS.

PROPERLY PREPARE SPALLED AREAS IN EXISTING END BENT AND BENTS AND PERFORM SHOTCRETE AND CONCRETE REPAIRS.



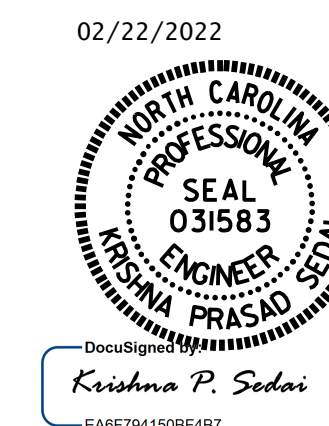
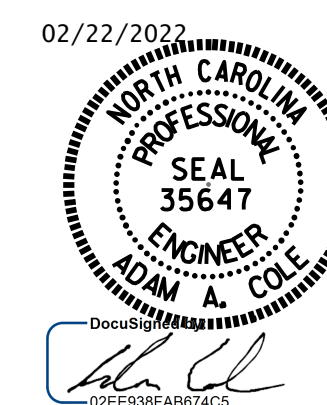
SECTION ALONG ORIGINAL GRADE LINE



PLAN

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

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



PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750467

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**GENERAL DRAWING**  
 FOR BRIDGE ON I-85S  
 OVER SR 1577 (ARCHDALE RD.)  
 AND MUDDY CREEK

DRAWN BY : K. PUROHIT DATE : 5/2021  
 CHECKED BY : A. SORSENGINH DATE : 1/2022

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S5-01
1			3			TOTAL SHEETS
2			4			91



**BRIDGE 750467 LOCATION SKETCH**

**BRIDGE COORDINATES**

BRIDGE No.	LATITUDE	LONGITUDE
750467	35°-53'-50.91"	79°-57'-58.40"

**TOTAL BILL OF MATERIAL**

BRIDGE NO.	GROOVING BRIDGE FLOORS	CLASS II SURFACE PREPARATION	CONCRETE REPAIRS	SHOTCRETE REPAIRS	FOAM JOINT SEALS FOR PRESERVATION	POURABLE SILICONE JOINT SEALANT	EPOXY POLYMER CONCRETE MATERIALS (ALTERNATE)	POLYESTER POLYMER CONCRETE MATERIALS	EPOXY COATING	CONCRETE DECK REPAIR FOR POLYMER CONCRETE OVERLAY	PLACING & FINISHING POLYMER CONCRETE OVERLAY	SCARIFYING BRIDGE DECK	SHOTBLASTING BRIDGE DECK	BARRIER RAIL COVER PLATE
	SQ. FT.	SQ. YDS.	CU. FT.	CU. FT.	LN. FT.	LN. FT.	CU. YDS.	CU. YDS.	SQ. FT.	SQ. YDS.	SQ. YDS.	SQ. YDS.	SQ. YDS.	EA.
TOTAL	12931.0	27.2	2.4	149.9	122.2	122.2	75.3	75.3	912.0	27.2	1548.4	1548.4	1548.4	4

**NOTES**

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.

EXISTING DIMENSIONS AND BRIDGE CONDITION ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER.

THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT FOR ANY DELAYS OF ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN WHAT IS SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

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 AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATIONS OF THE BRIDGE DECK. THE CONTRACTOR SHALL TAKE CARE THAT ANY CONSTRUCTION DEBRIS THAT COLLECTS IN THE DRAINS IS CONTAINED. DRAINS IN SHOULDERS OF ADJACENT TRAVEL LANE(S) SHALL BE KEPT FREE AND CLEAR OF DEBRIS.

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

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPACIAL PROVISIONS.

FOR BARRIER RAIL COVER PLATE, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

ANY DAMAGE TO EXISTING REINFORCING STEEL, DURING CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AND PERFORMED AT NO ADDITIONAL COST TO THE DEPARTMENT.

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

PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A COMPLETE SEQUENCE OF TASKS FOR EACH OPERATION AFFECTING THE BRIDGE SURFACE AND/OR TRAFFIC.

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN DETAIL BY MORE THAN 1/4", NOTIFY ENGINEER. REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

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

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

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

WORK ON THE BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A COMPLETE SEQUENCE OF TASKS FOR EACH OPERATION AFFECTING THE BRIDGE SURFACE AND/OR TRAFFIC.

FOR STEEL BEARING KEEPER ANGLE ASSEMBLY AND STEEL BEARING RETAINER ANGLE ASSEMBLY, SEE SPECIAL PROVISIONS.

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

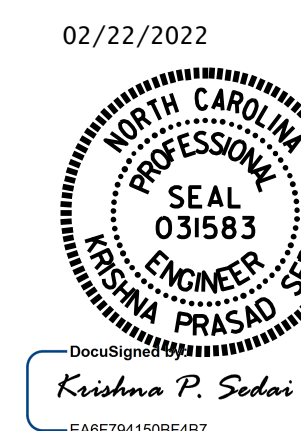
AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) LISTED WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING ITEM(S) LISTED, OR OTHER WORK WILL BE NECESSARY TO PROPERLY COMPLETE THE INTENDED BRIDGE PRESERVATION/REHABILITATION WORK. 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 PER ARTICLE 104-7 OF THE STANDARD SPECIFICATIONS. PROJECT SPECIAL PROVISIONS THAT OUTLINE REQUIREMENTS FOR THESE POTENTIAL ADDITIONAL WORK ITEMS HAVE BEEN PROVIDED IN THE PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES, AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:

ITEM NO.	DESCRIPTION	UNIT
1	EPOXY RESIN INJECTION	LN. FT.

PROJECT NO. HI-0002  
RANDOPH COUNTY  
 BRIDGE NO. 750467

SHEET 2 OF 2



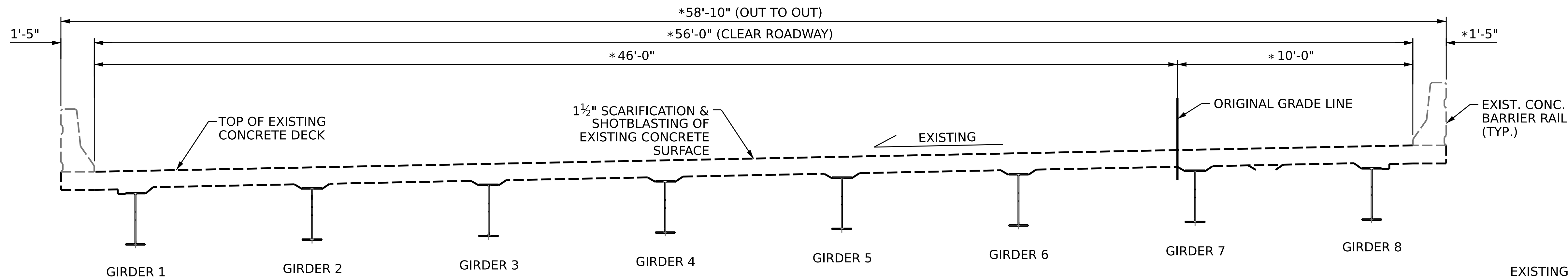
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
**GENERAL DRAWING**  
 FOR BRIDGE ON I-85S  
 OVER SR1577 (ARCHDALE RD.)  
 AND MUDDY CREEK

DRAWN BY : K. PUROHIT DATE : 1/2022  
 CHECKED BY : A. SORSENGINH DATE : 1/2022

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

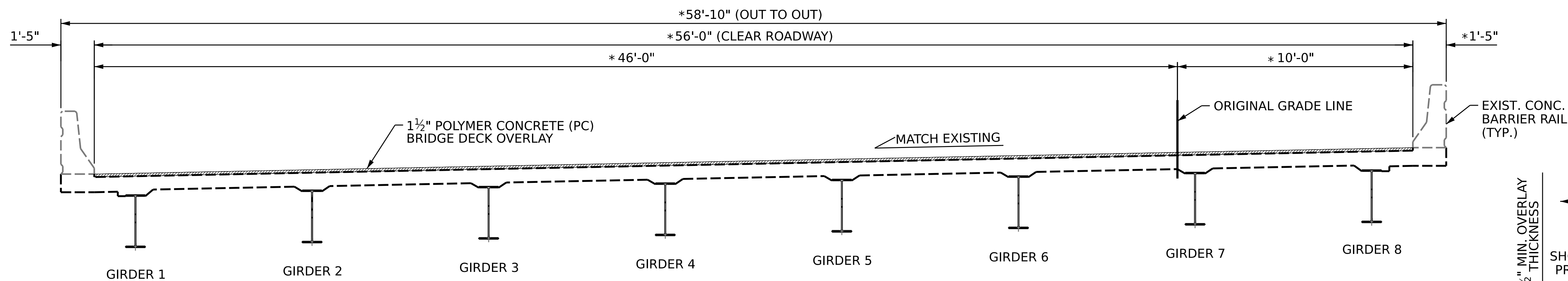
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S5-02
2			4			TOTAL SHEETS 91

**NOTE:**  
SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF POLYMER CONCRETE (PC) OVERLAY SYSTEM AND SURFACE PREPARATION.



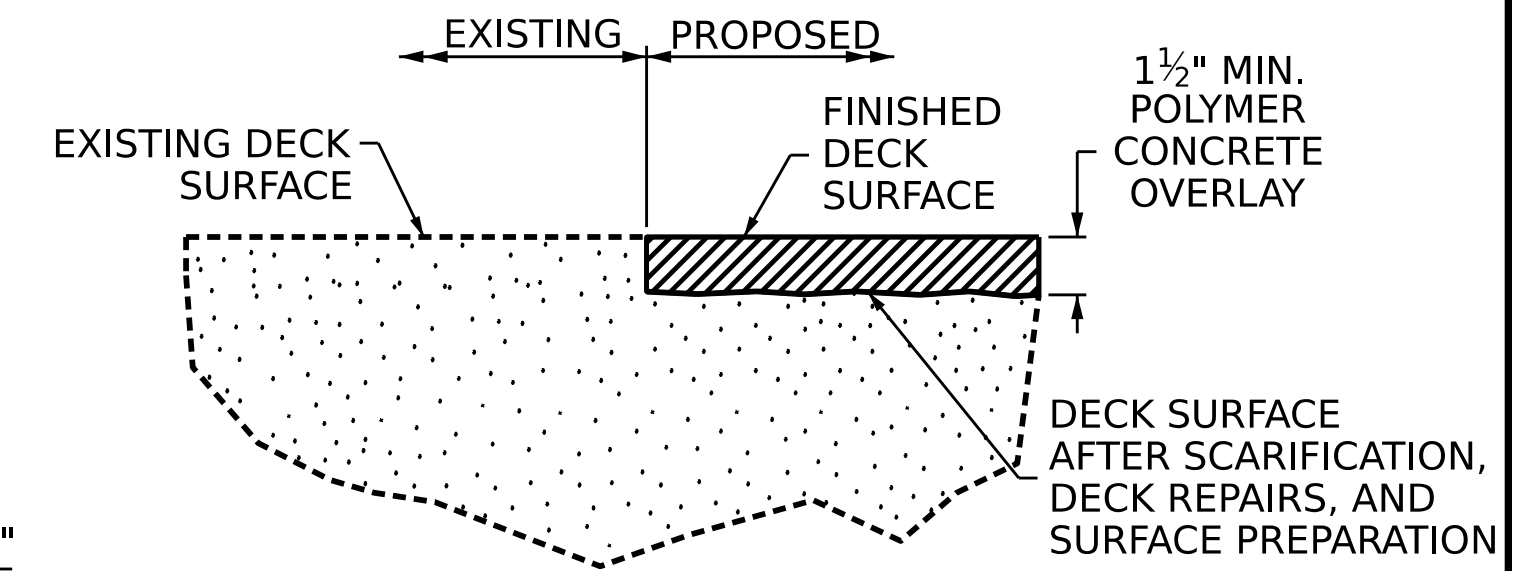
**TYPICAL SECTION**

(EXISTING)  
\* RADIAL DIMENSION

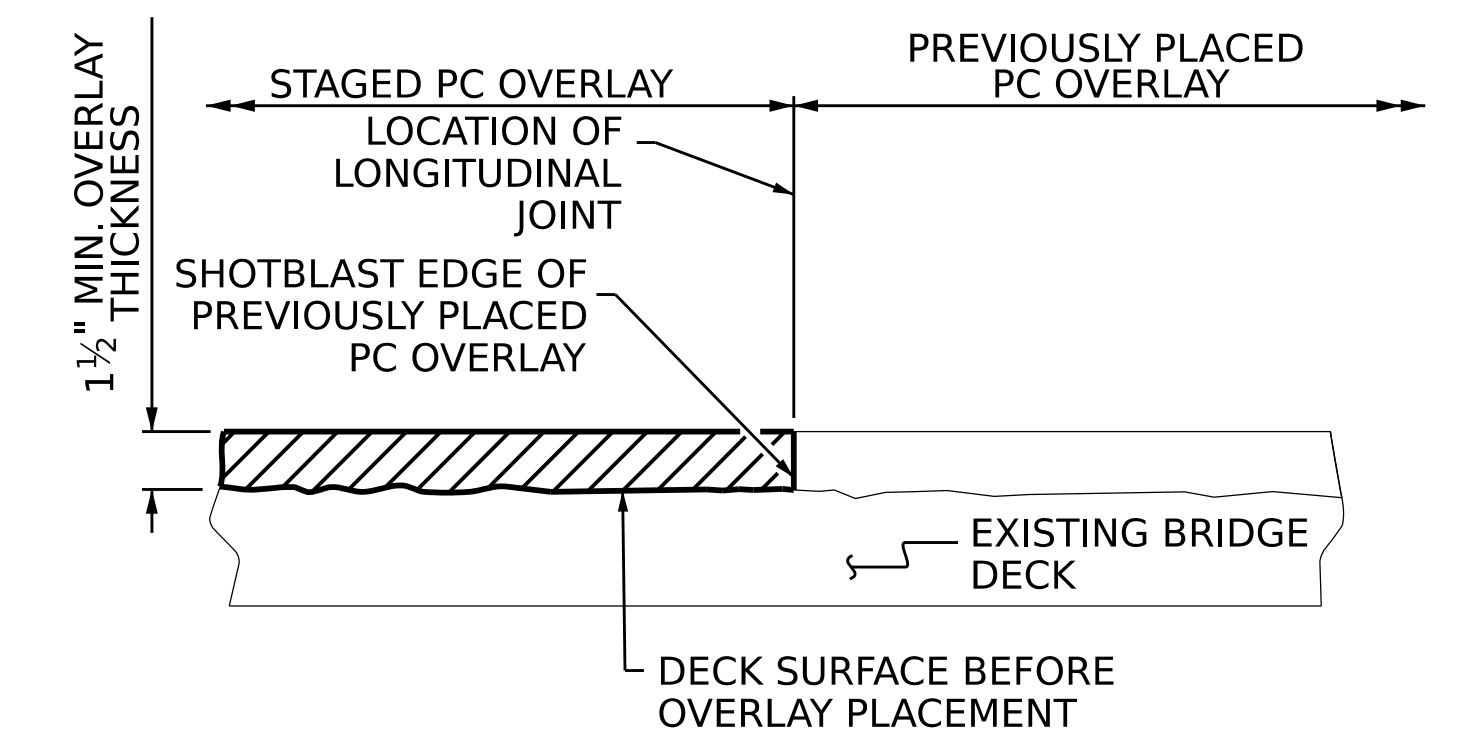


**TYPICAL SECTION**

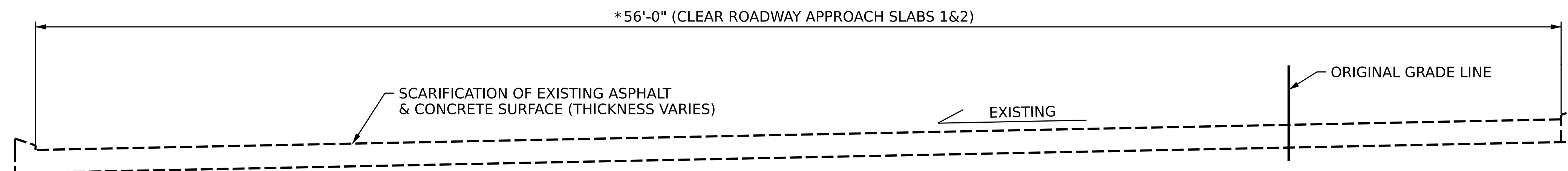
(PROPOSED)  
\* RADIAL DIMENSION



**DETAIL FOR POLYMER CONCRETE OVERLAY**

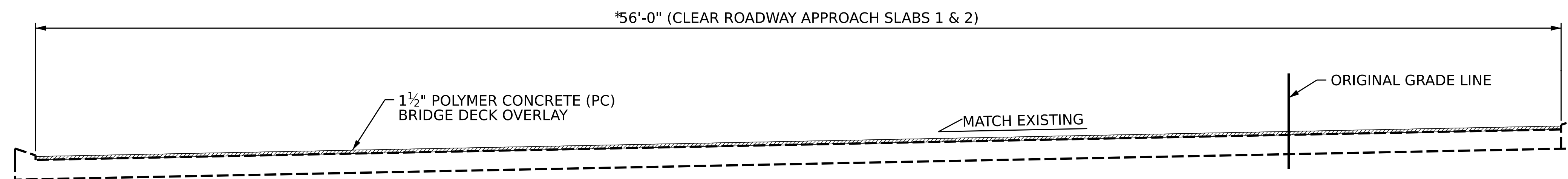


**STAGED PC OVERLAY JOINT**  
(AS NEEDED)



**TYPICAL SECTION - APPROACH SLAB**

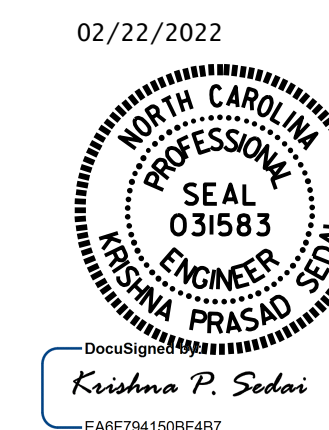
(EXISTING)



**TYPICAL SECTION - APPROACH SLAB**

(PROPOSED)

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
BRIDGE NO. 750467



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**TYPICAL SECTION & PC OVERLAY**

DRAWN BY : K. PUROHIT DATE : 6/2021  
CHECKED BY : A. SORSENGINH DATE : 2/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S5-03
1			3			TOTAL SHEETS
2			4			91

**NOTE:**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

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

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

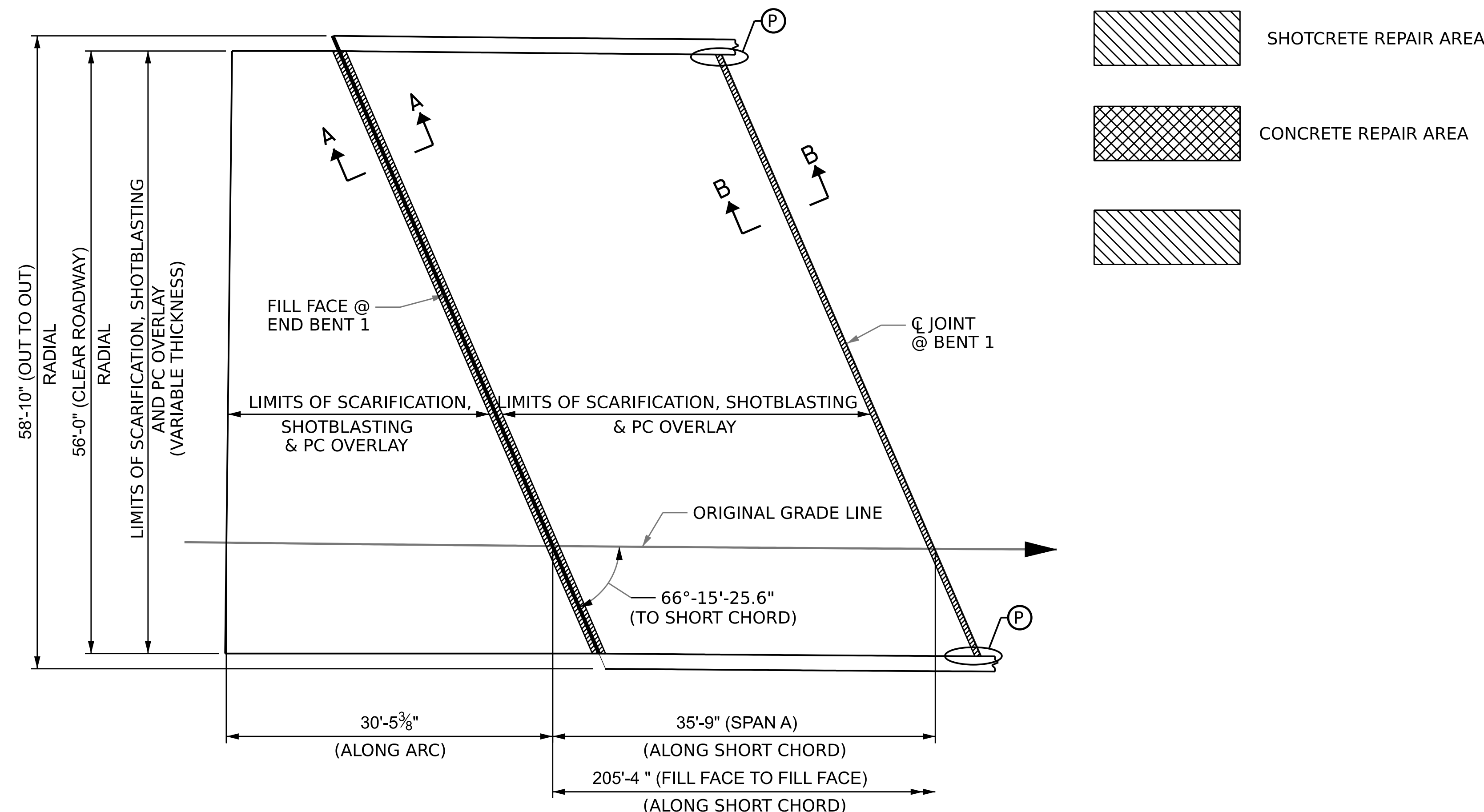
FOR SCARIFYING BRIDGE DECK, SHOTBLASTING BRIDGE DECK AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

APPROACH SLAB HAS EXISTING ASPHALT WEARING SURFACE IN PLACE. UNLESS DIRECTED OTHERWISE BY OTHER PROJECT REQUIREMENTS, TOP SURFACE ELEVATION OF NEW POLYMER CONCRETE OVERLAY SHALL MATCH THE EXISTING TOP SURFACE ELEVATION OF THE EXISTING ASPHALT WEARING SURFACE AND SHALL OTHERWISE PROVIDE A SMOOTH TRANSITION BETWEEN APPROACH PAVEMENT AND BRIDGE DECK. THICKNESS OF POLYMER OVERLAY MAY VARY TO ACCOMMODATE THIS.

**AS-BUILT REPAIR QUANTITY TABLE**

TOP OF DECK REPAIRS	APPROACH SLAB 1		SPAN A	
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	135.5 SQ. YDS.		222.4 SQ. YDS.	
SHOTBLASTING OF BRIDGE DECK	135.5 SQ. YDS.		222.4 SQ. YDS.	
CLASS II SURFACE PREPARATION	3.4 SQ. YDS.		6.8 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	3.4 SQ. YDS.		6.8 SQ. YDS.	
POLYMER CONCRETE MATERIAL	6.6 CU. YDS.		10.8 CU. YDS.	
PLACING & FINISHING PC OVERLAY	135.5 SQ. YDS.		222.4 SQ. YDS.	
GROOVING BRIDGE FLOOR	1117.0 SQ. FT.		1822.0 SQ. FT.	
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SQ.FT.	VOLUME CU.FT.	AREA SQ.FT.	VOLUME CU.FT.
CONCRETE BARRIER RAIL	0.0	0.0	0.0	0.0

(P) MISSING COVER PLATE IN BARRIER RAIL - FOR PROPOSED COVER PLATE REPLACEMENT, SEE "BARRIER RAIL COVER PLATE DETAILS"



**APPROACH SLAB & SPAN A**

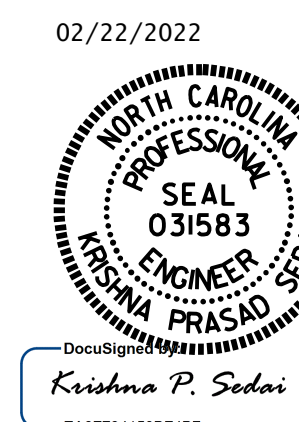
BARRIER RAIL COVER PLATE QUANTITIES	
EA.	
ESTIMATE	ACTUAL
2	

PROJECT NO. HI-0002  
 RANDOLPH COUNTY  
 BRIDGE NO. 750467

SHEET 1 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**DECK SURFACE REPAIR SPAN A**



DRAWN BY : K. PUROHIT DATE : 7/2021  
 CHECKED BY : A. SORSENGINH DATE : 1/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S5-04
1			3			TOTAL SHEETS
2			4			91

**NOTE:**

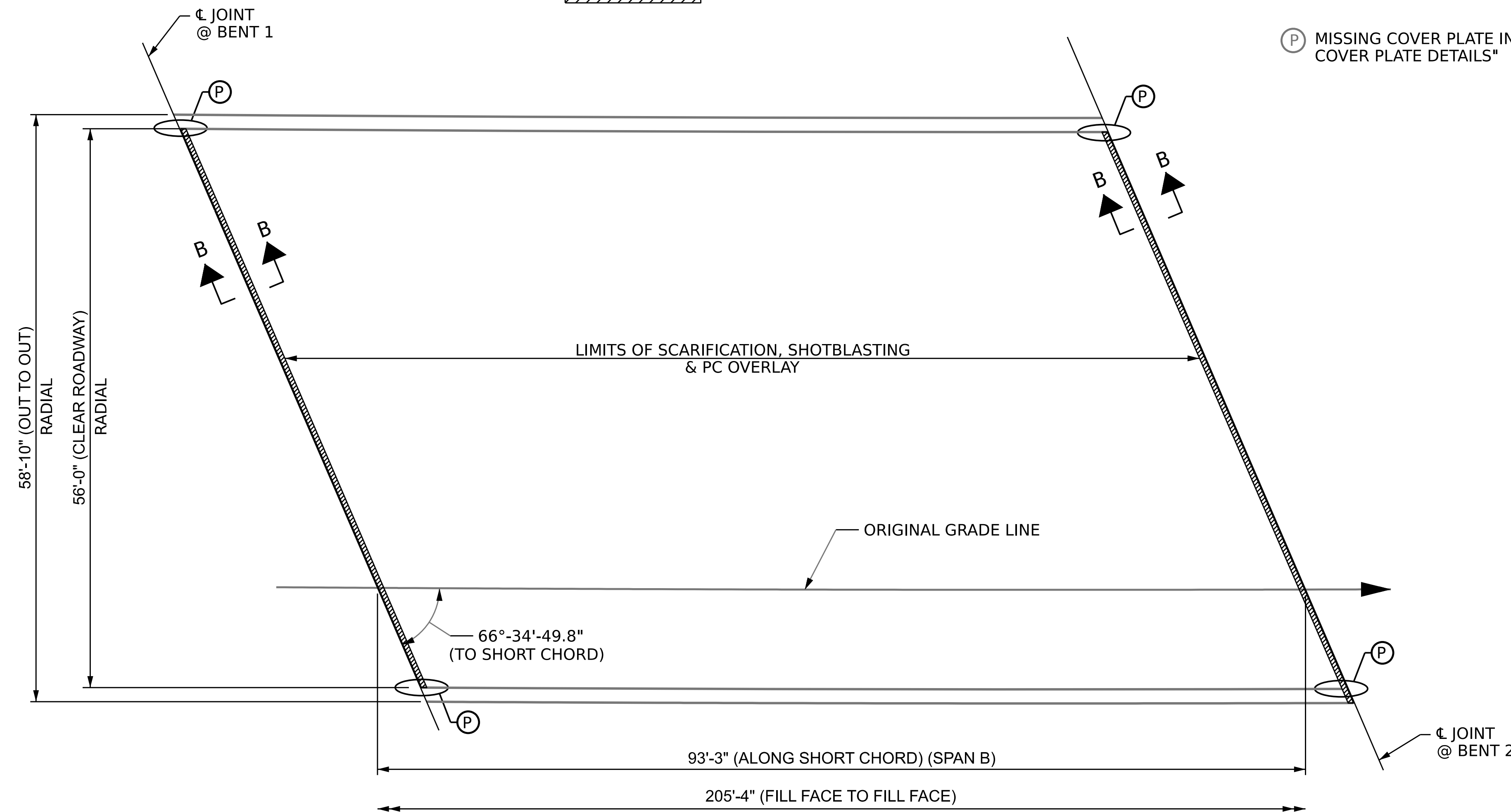
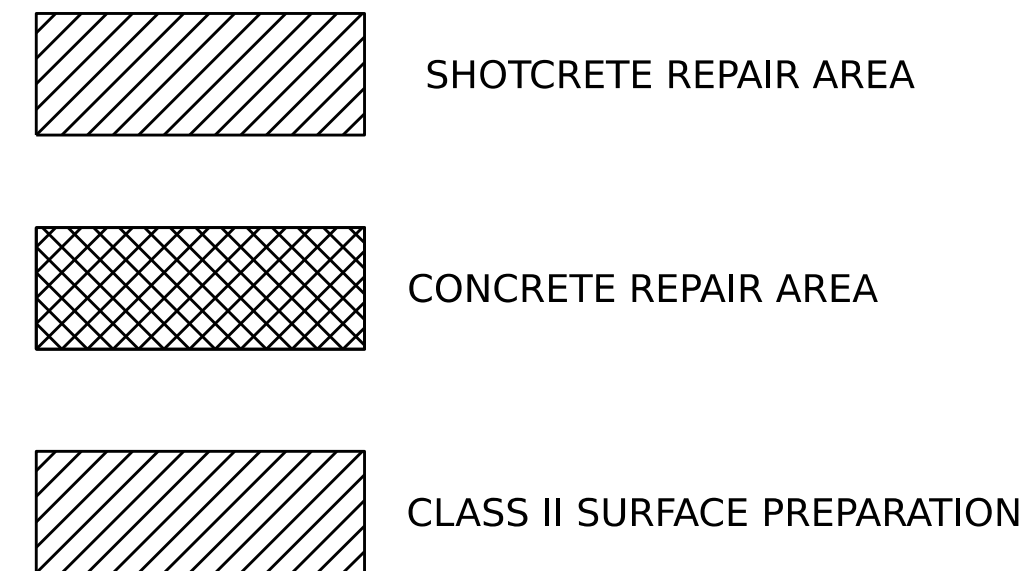
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES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

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

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

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

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



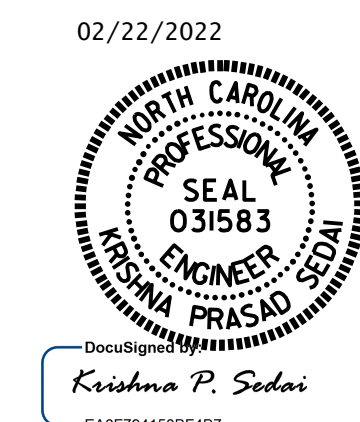
**SPAN B**

AS-BUILT REPAIR QUANTITY TABLE				
TOP OF DECK REPAIRS	SPAN B			
	ESTIMATE		ACTUAL	
SCARIFYING BRIDGE DECK	580.0 SQ. YDS.			
SHOTBLASTING OF BRIDGE DECK	580.0 SQ. YDS.			
CLASS II SURFACE PREPARATION	6.8 SQ. YDS.			
CONCRETE DECK REPAIR FOR PC OVERLAY	6.8 SQ. YDS.			
POLYMER CONCRETE MATERIAL	28.2 CU. YDS.			
PLACING & FINISHING PC OVERLAY	580.0 SQ. YDS.			
GROOVING BRIDGE FLOOR	4876.0 SQ. FT.			
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SQ.FT.	VOLUME CU.FT.	AREA SQ.FT.	VOLUME CU.FT.
CONCRETE BARRIER RAIL	0.0	0.0	0.0	0.0

(P) MISSING COVER PLATE IN BARRIER RAIL - FOR PROPOSED COVER PLATE REPLACEMENT, SEE "BARRIER RAIL COVER PLATE DETAILS"

PROJECT NO. HI-0002  
 RANDOLPH COUNTY  
 BRIDGE NO. 750467

SHEET 2 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**DECK SURFACE REPAIR  
 SPAN B**

DRAWN BY : K. PUROHIT DATE : 8/2021  
 CHECKED BY : A. SORSENGINH DATE : 1/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S5-05
1			3			TOTAL SHEETS
2			4			91

**NOTE:**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

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

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

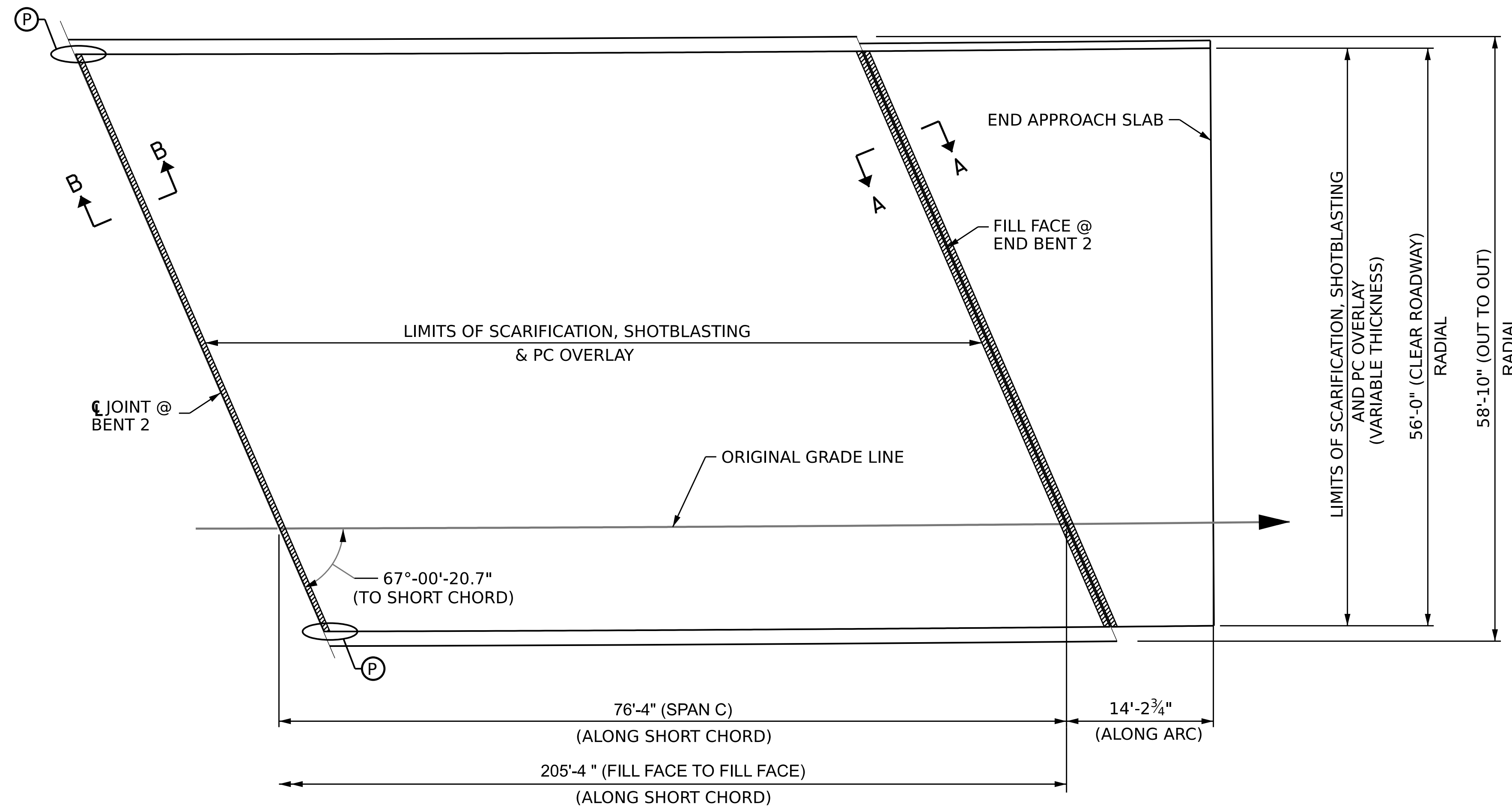
FOR SCARIFYING BRIDGE DECK, SHOTBLASTING BRIDGE DECK AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

APPROACH SLAB HAS EXISTING ASPHALT WEARING SURFACE IN PLACE. UNLESS DIRECTED OTHERWISE BY OTHER PROJECT REQUIREMENTS, TOP SURFACE ELEVATION OF NEW POLYMER CONCRETE OVERLAY SHALL MATCH THE EXISTING TOP SURFACE ELEVATION OF THE EXISTING ASPHALT WEARING SURFACE AND SHALL OTHERWISE PROVIDE A SMOOTH TRANSITION BETWEEN APPROACH PAVEMENT AND BRIDGE DECK. THICKNESS OF POLYMER OVERLAY MAY VARY TO ACCOMMODATE THIS.

**AS-BUILT REPAIR QUANTITY TABLE**

TOP OF DECK REPAIRS	SPAN C		APPROACH SLAB 2	
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	475.0 SQ. YDS.		135.5 SQ. YDS.	
SHOTBLASTING OF BRIDGE DECK	475.0 SQ. YDS.		135.5 SQ. YDS.	
CLASS II SURFACE PREPARATION	6.8 SQ. YDS.		3.4 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	6.8 SQ. YDS.		3.4 SQ. YDS.	
POLYMER CONCRETE MATERIAL	23.1 CU. YDS.		6.6 CU. YDS.	
PLACING & FINISHING PC OVERLAY	475 SQ. YDS.		135.5 SQ. YDS.	
GROOVING BRIDGE FLOOR	3999.0 SQ. FT.		1117.0 SQ. FT.	
SHOTCRETE REPAIRS			ESTIMATE	ACTUAL
			AREA SQ.FT.	VOLUME CU.FT.
CONCRETE BARRIER RAIL			0.0	0.0

(P) MISSING COVER PLATE IN BARRIER RAIL - FOR PROPOSED COVER PLATE REPLACEMENT, SEE "BARRIER RAIL COVER PLATE DETAILS"

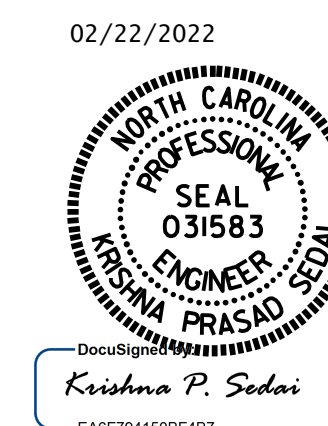


- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- CLASS II SURFACE PREPARATION

BARRIER RAIL COVER PLATE QUANTITIES	
EA.	
ESTIMATE	ACTUAL
2	

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
BRIDGE NO. 750467

SHEET 3 OF 3



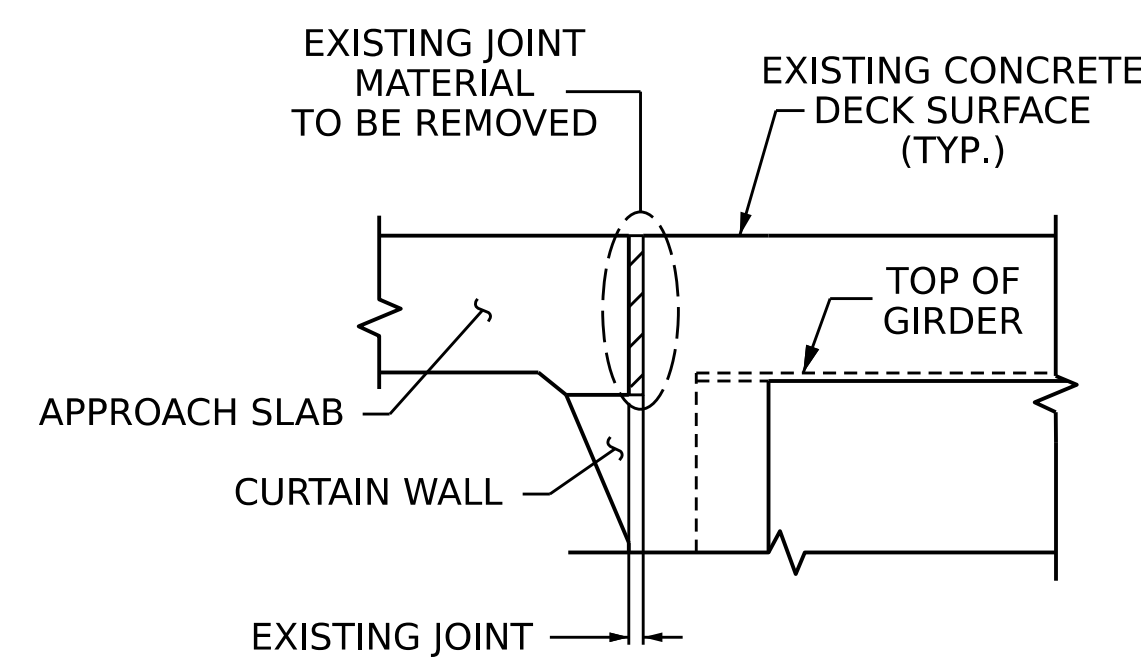
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**DECK SURFACE REPAIR SPAN C**

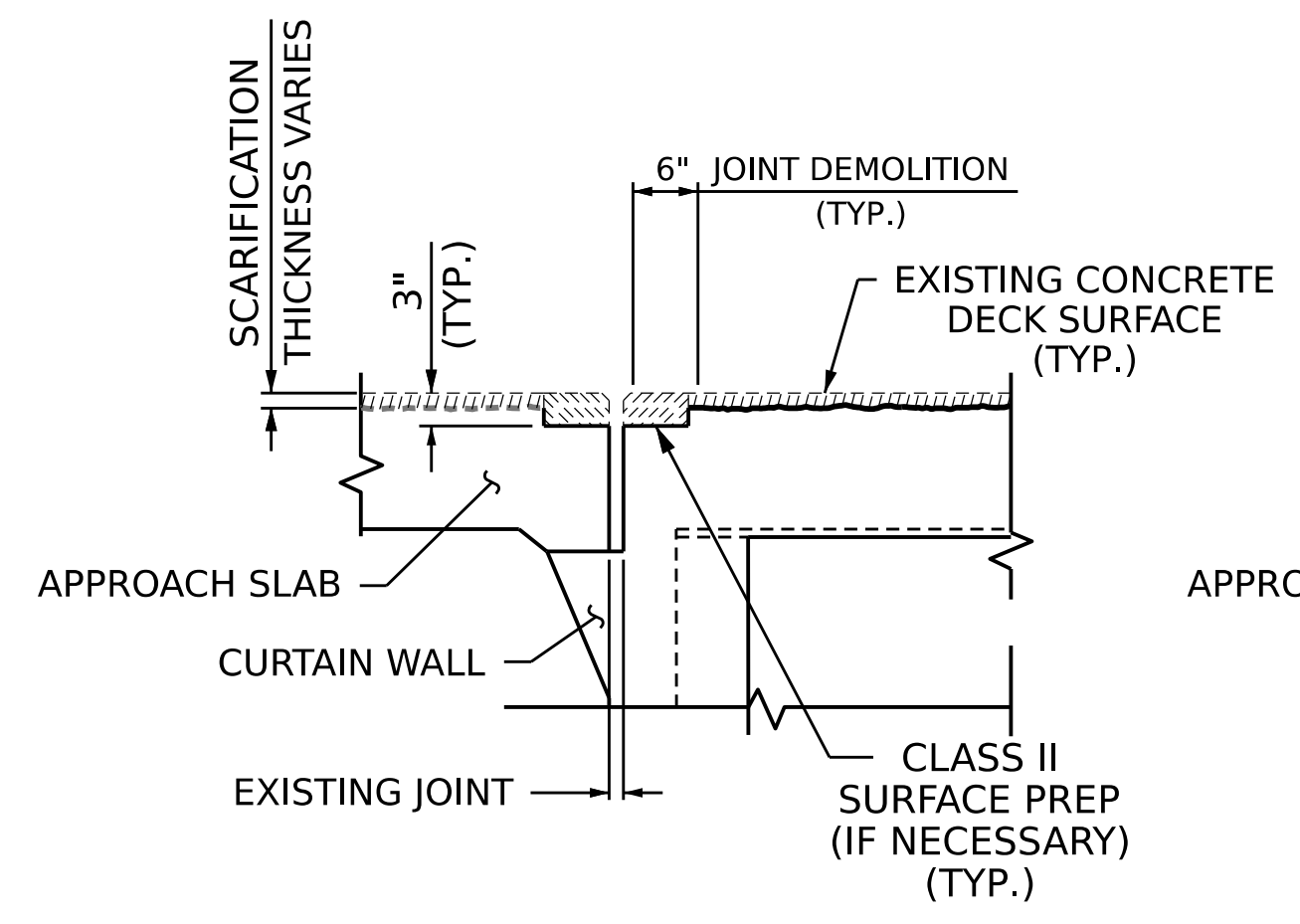
DRAWN BY : K. PUROHIT DATE : 8/2021  
CHECKED BY : A. SORSENGINH DATE : 1/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

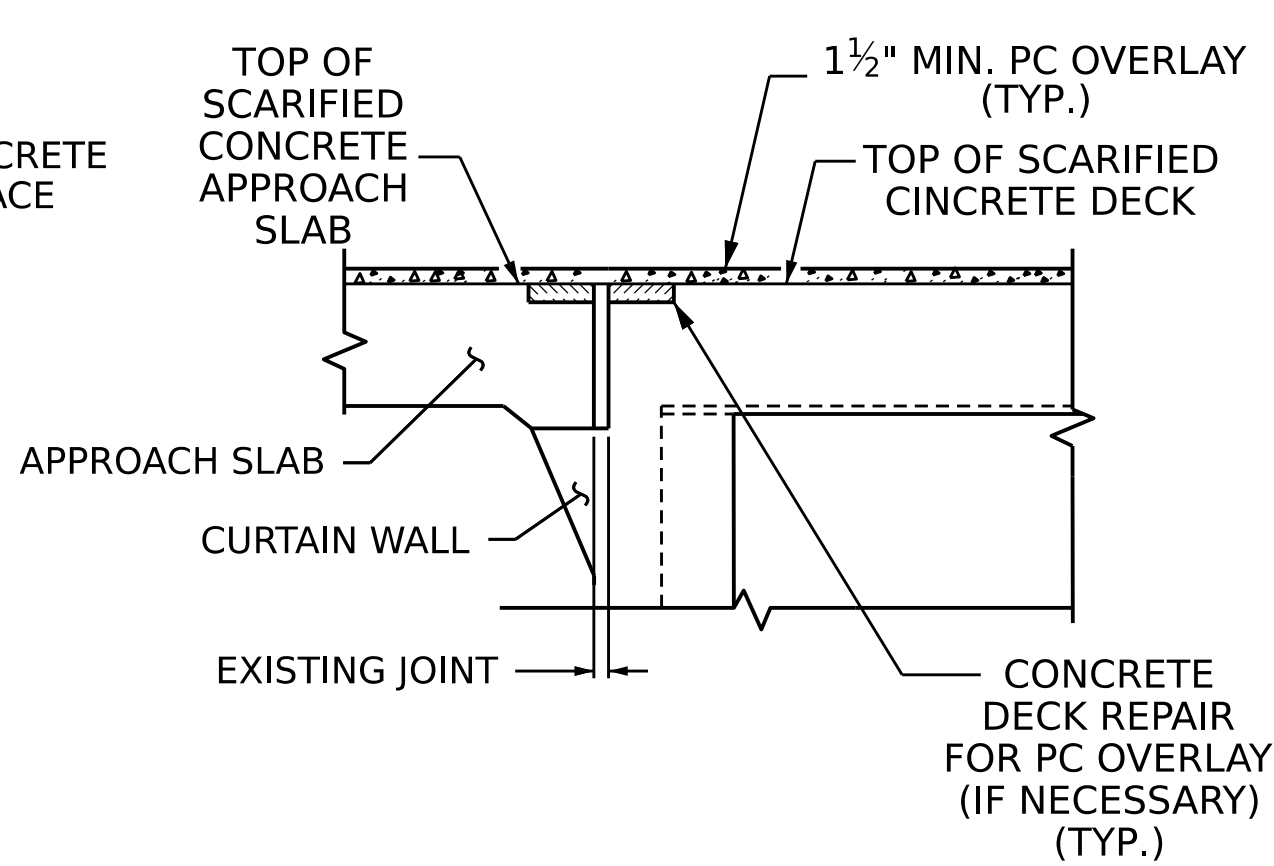
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NO.	BY:	DATE:	NO.	BY:	DATE:	S5-06
1			3			TOTAL SHEETS
2			4			91



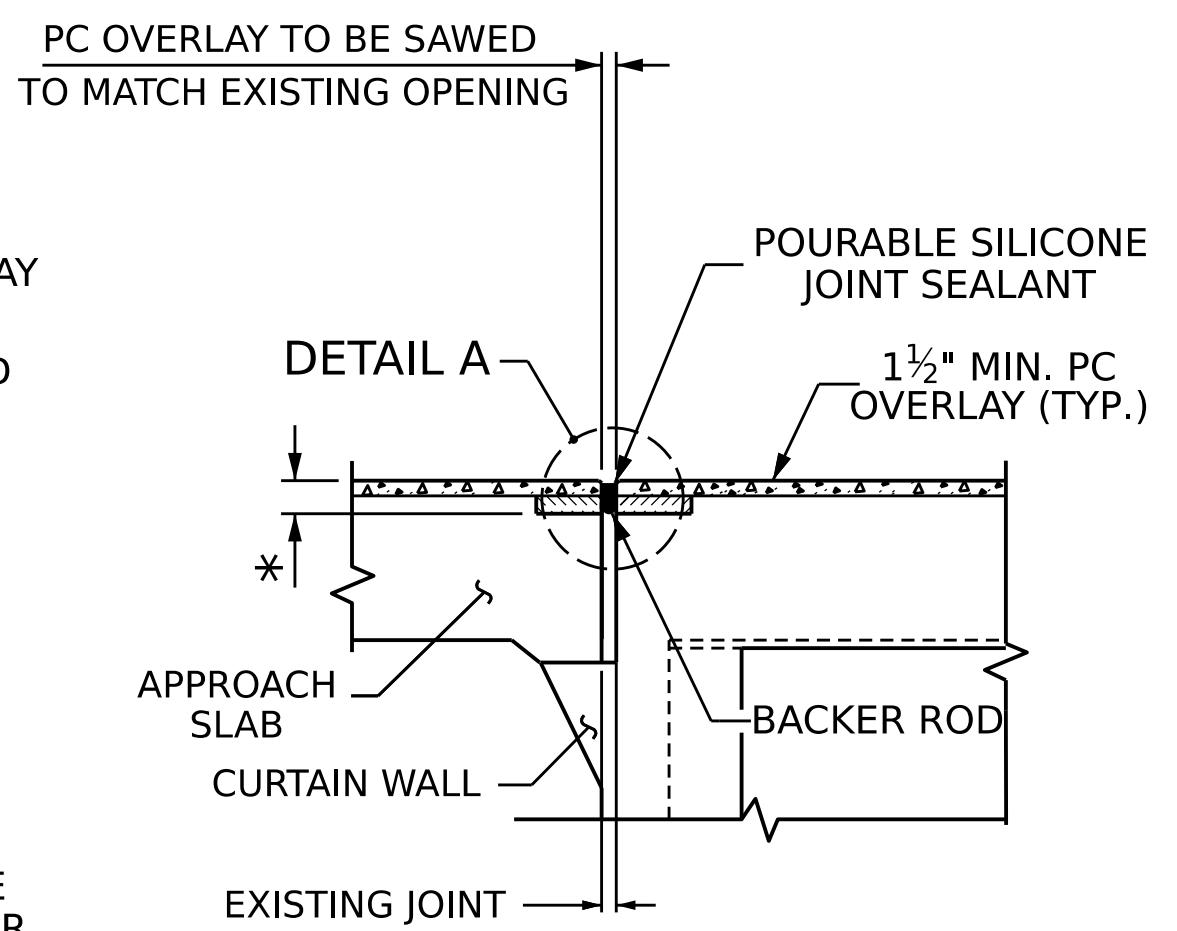
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION & SCARIFICATION



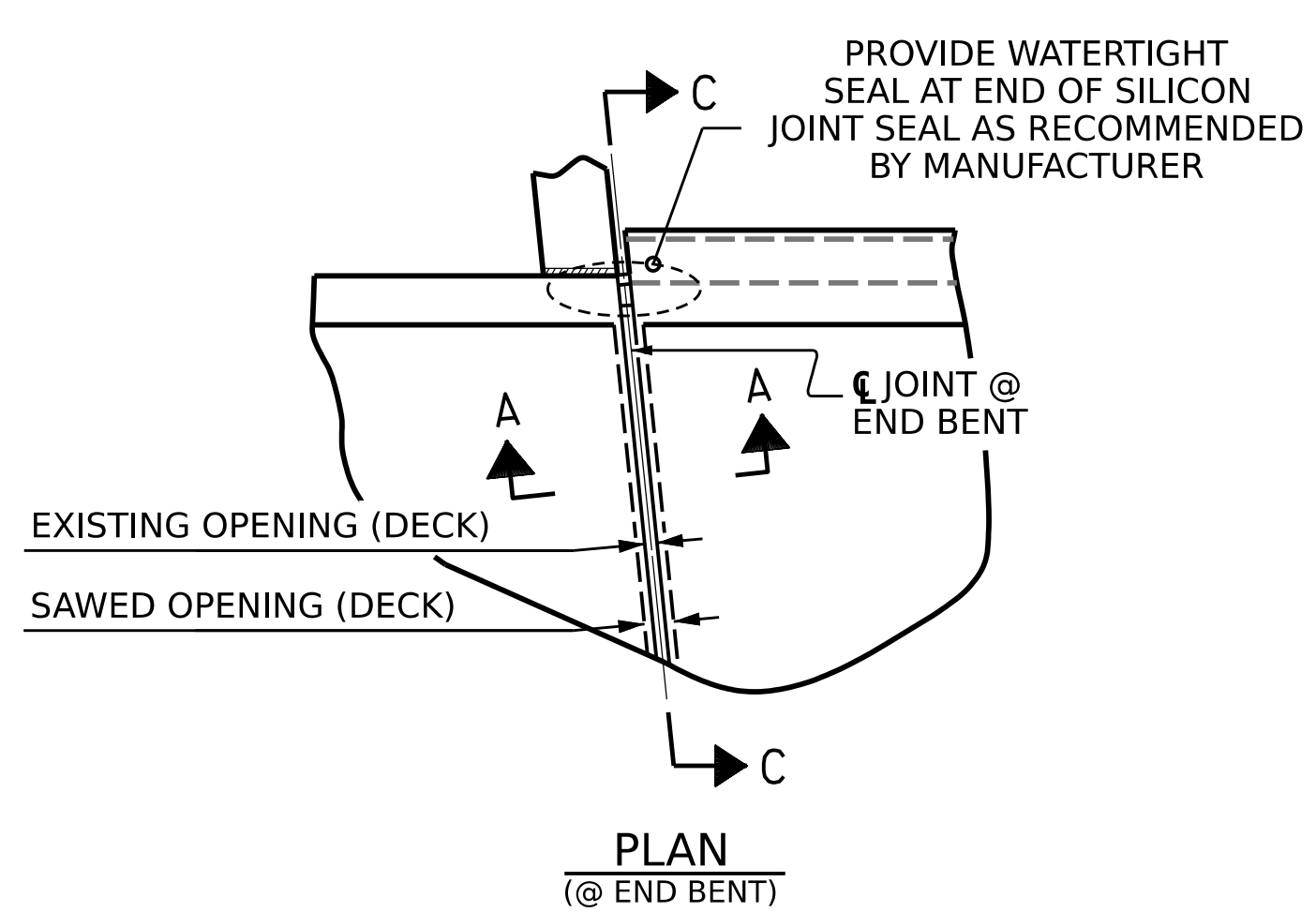
PROPOSED JOINT PRE-SAWED & PC OVERLAY



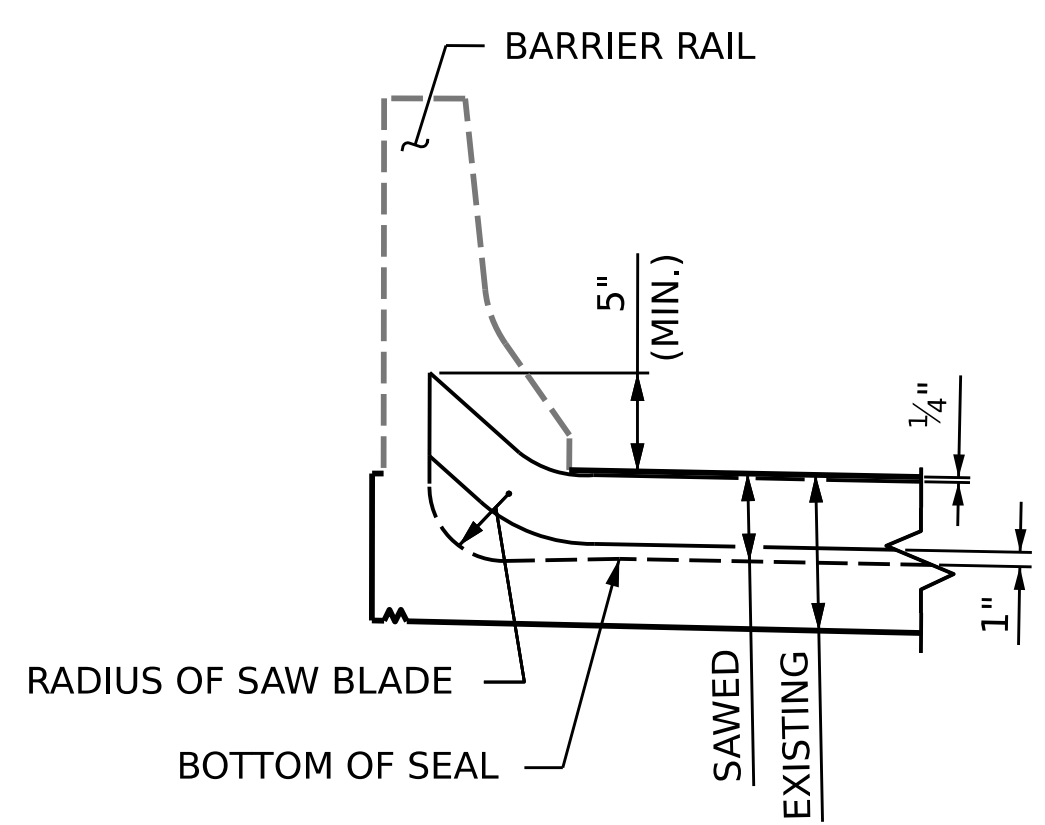
PROPOSED POURABLE SILICONE JOINT SEALANT  
\* SAW CUT SHALL BE 3/4" BELOW THE BOTTOM OF THE JOINT SEAL. SEE MANUFACTURER RECOMMENDATIONS

JOINT INSTALLATION SEQUENCE AT END BENTS

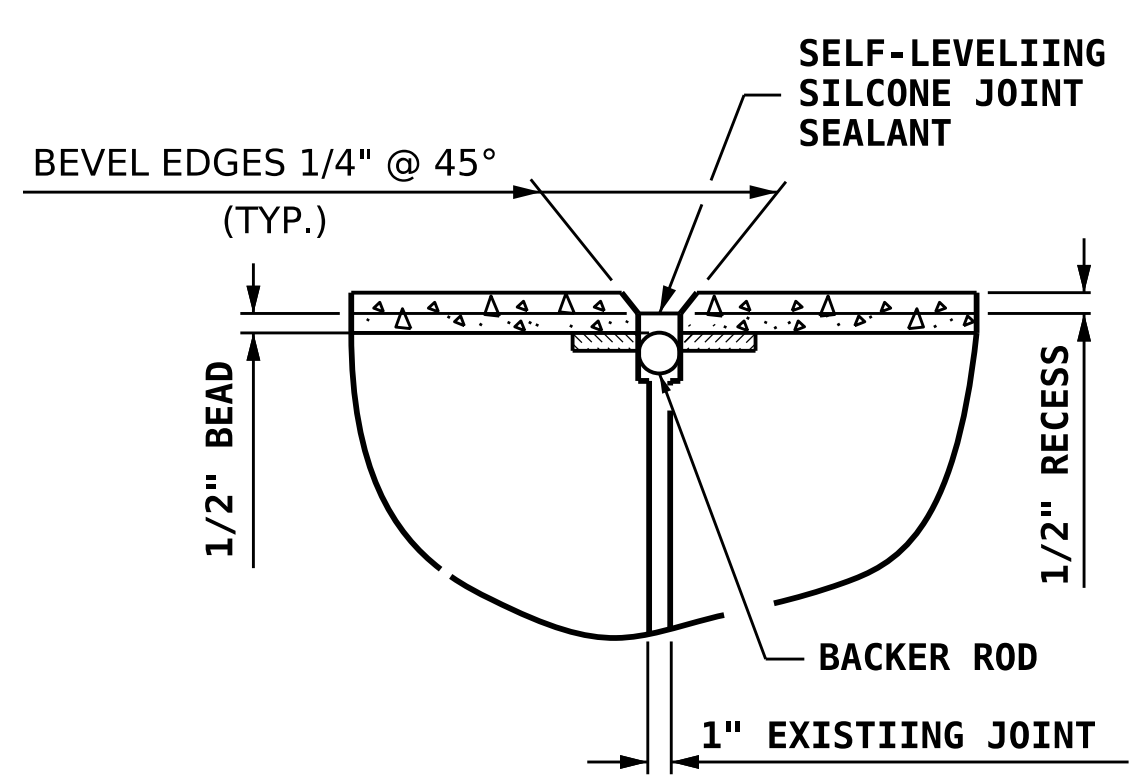
SECTION A-A



PLAN @ END BENT



SECTION C-C



DETAIL A

POURABLE SILICONE JOINT SEALANT	
END BENT 1	61.2 LIN. FT.
END BENT 2	61.0 LIN. FT.
TOTAL	122.2 LIN. FT.

NOTES

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN DETAIL BY MORE THAN 1/4", NOTIFY ENGINEER. REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.

FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY IS COMPLETE.

THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE WITHOUT PROTECTIVE DEVICES BELOW TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT THE PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

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

DURING THE JOINT INSTALLATION PROCEDURE, THE JOINT AND SURROUNDING AREA SHALL BE KEPT CLEAN AND FREE OF DEBRIS.

FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE BACKER ROD FOR THE EXISTING JOINT SIZE AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

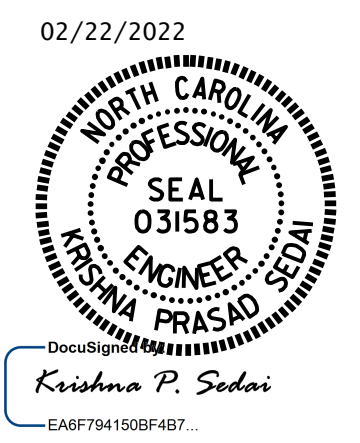
A MANUFACTURER'S CERTIFIED TRAINED REPRESENTATIVE SHALL BE PRESENT DURING THE INSTALLATION OF THE FIRST JOINT OF THE PROJECT, OR UNTIL THE ENGINEER IS SATISFIED WITH THE INSTALLATION PROCESS.

THE INSTALLED POURABLE JOINT SEALANT SHALL BE WATERTIGHT.

POURABLE SILICONE JOINT SEALANT SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS.

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. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750467



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**JOINT DETAILS**

DRAWN BY : K. PUROHIT DATE : 10/2021  
 CHECKED BY : A. SORSENGINH DATE : 1/2022

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S5-07
1			3			TOTAL SHEETS
2			4			91

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**NOTES**

CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF ACTUAL JOINT OPENING VARIES FROM OPENING INDICATED IN DETAIL BY MORE THAN 1/4" NOTIFY ENGINEER. REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.

THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS IN LIEU OF SAWING THE JOINT.  
FOAM JOINTS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.

THE FOAM JOINTS SHALL MEET THE MANUFACTURER'S RECOMMENDATION FOR THE SIZE OF OPENING ON THE PLANS, AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

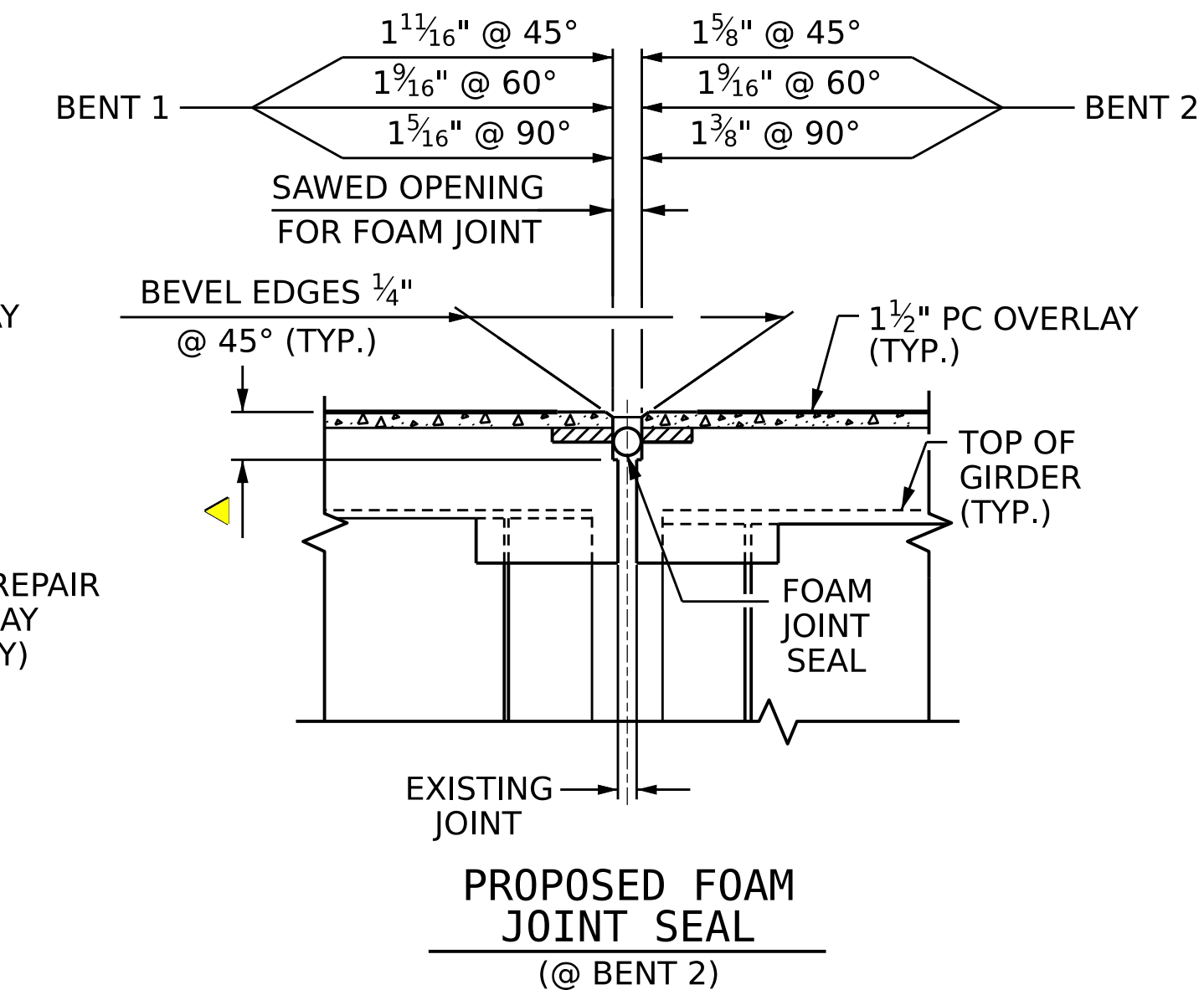
THE INSTALLED FOAM JOINTS SHALL BE WATER TIGHT.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

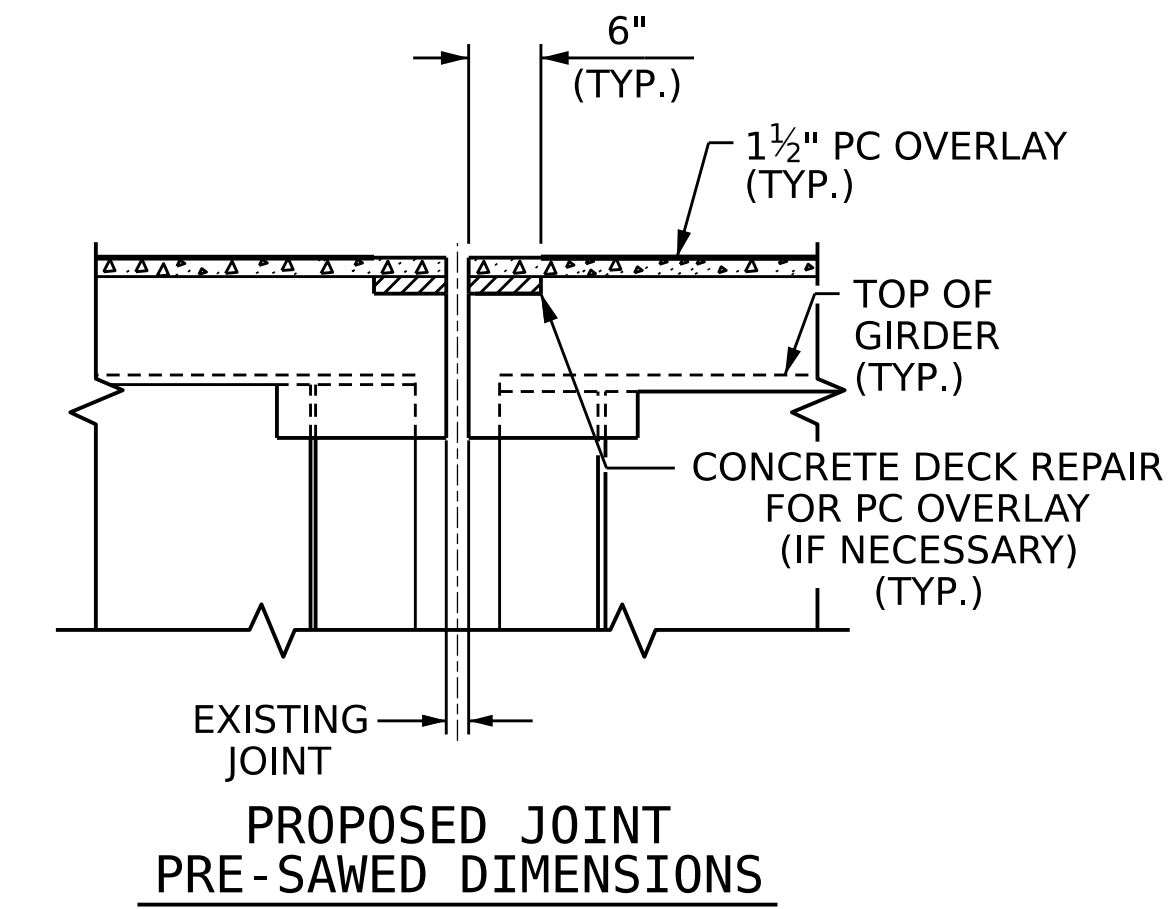
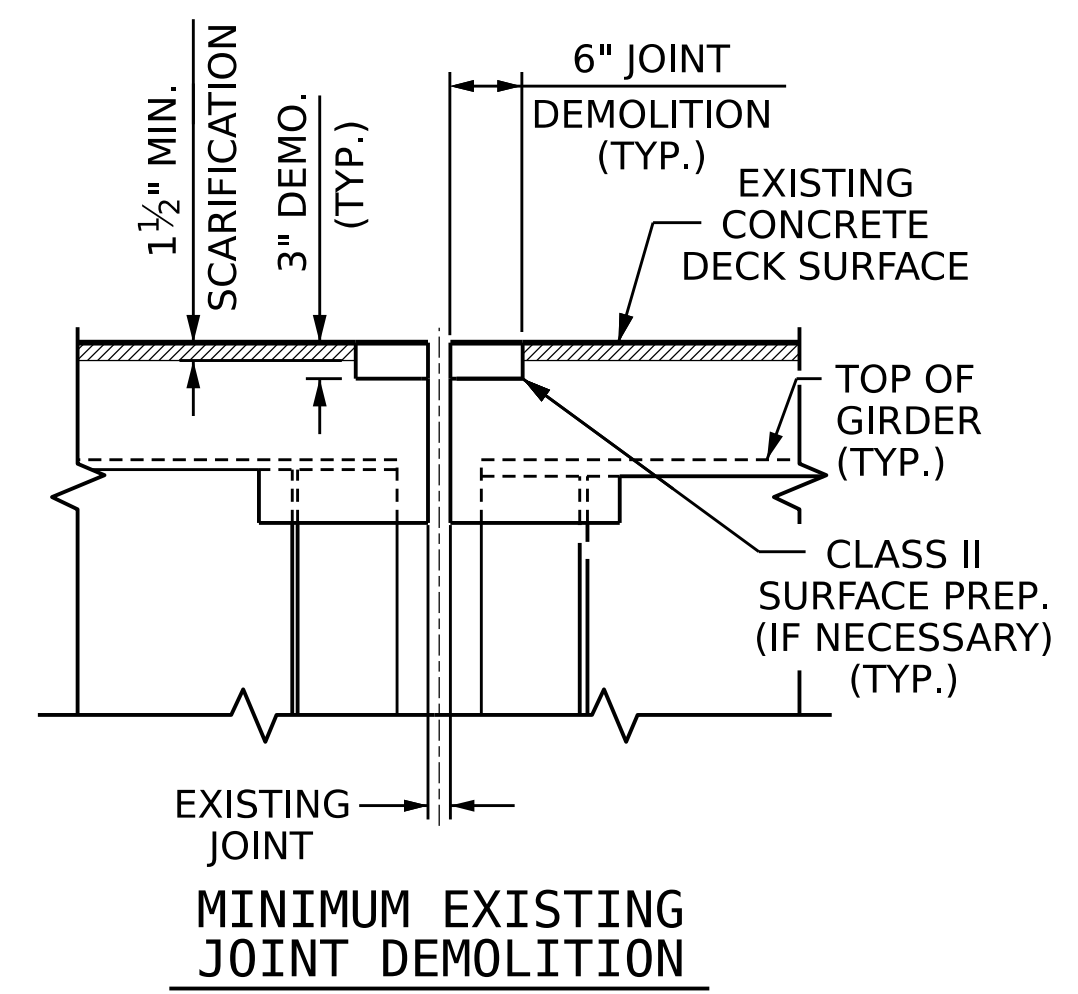
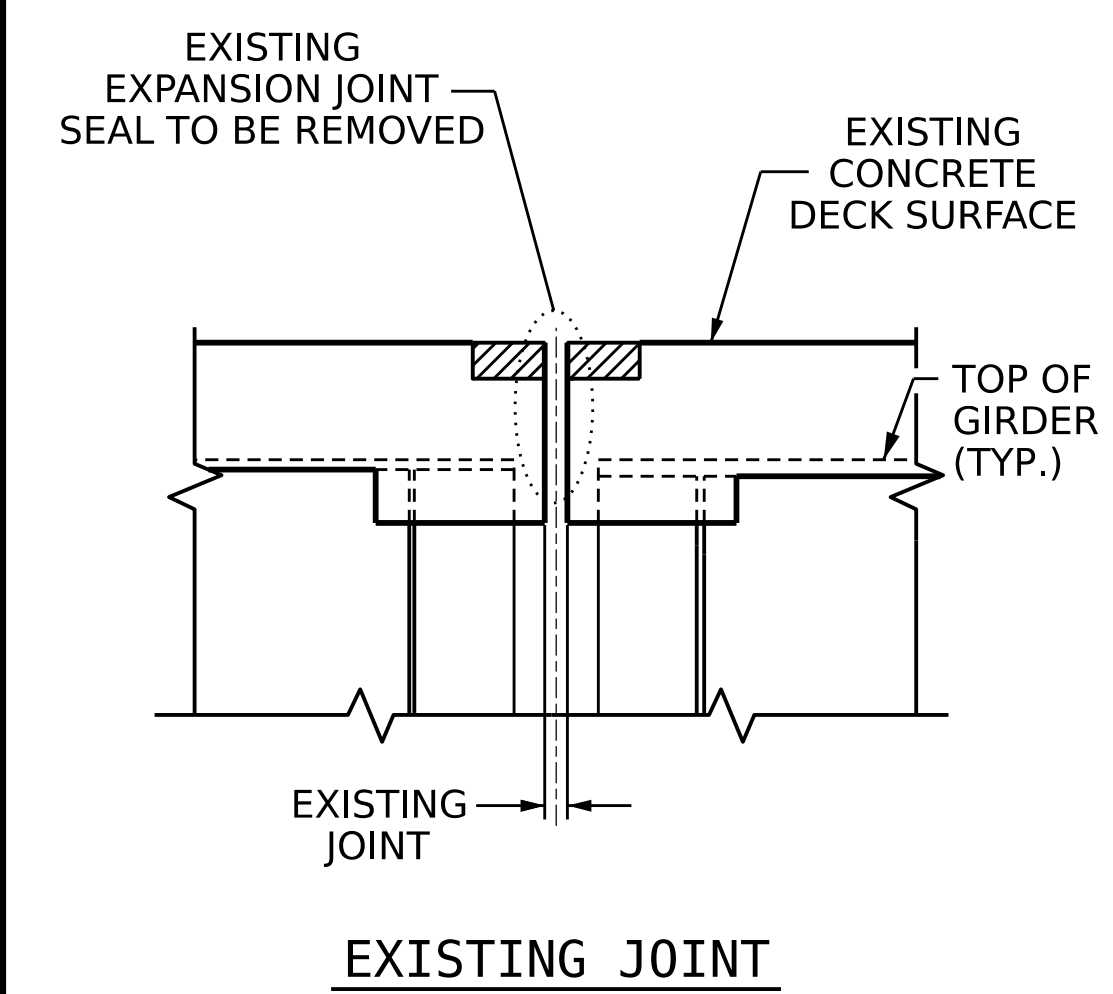
THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL BASED ON JOINT OPENINGS AT THE BENTS.

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.

DURING THE JOINT INSTALLATION PROCEDURE, THE JOINT AND SURROUNDING AREA SHALL BE KEPT CLEAN AND FREE OF DEBRIS.

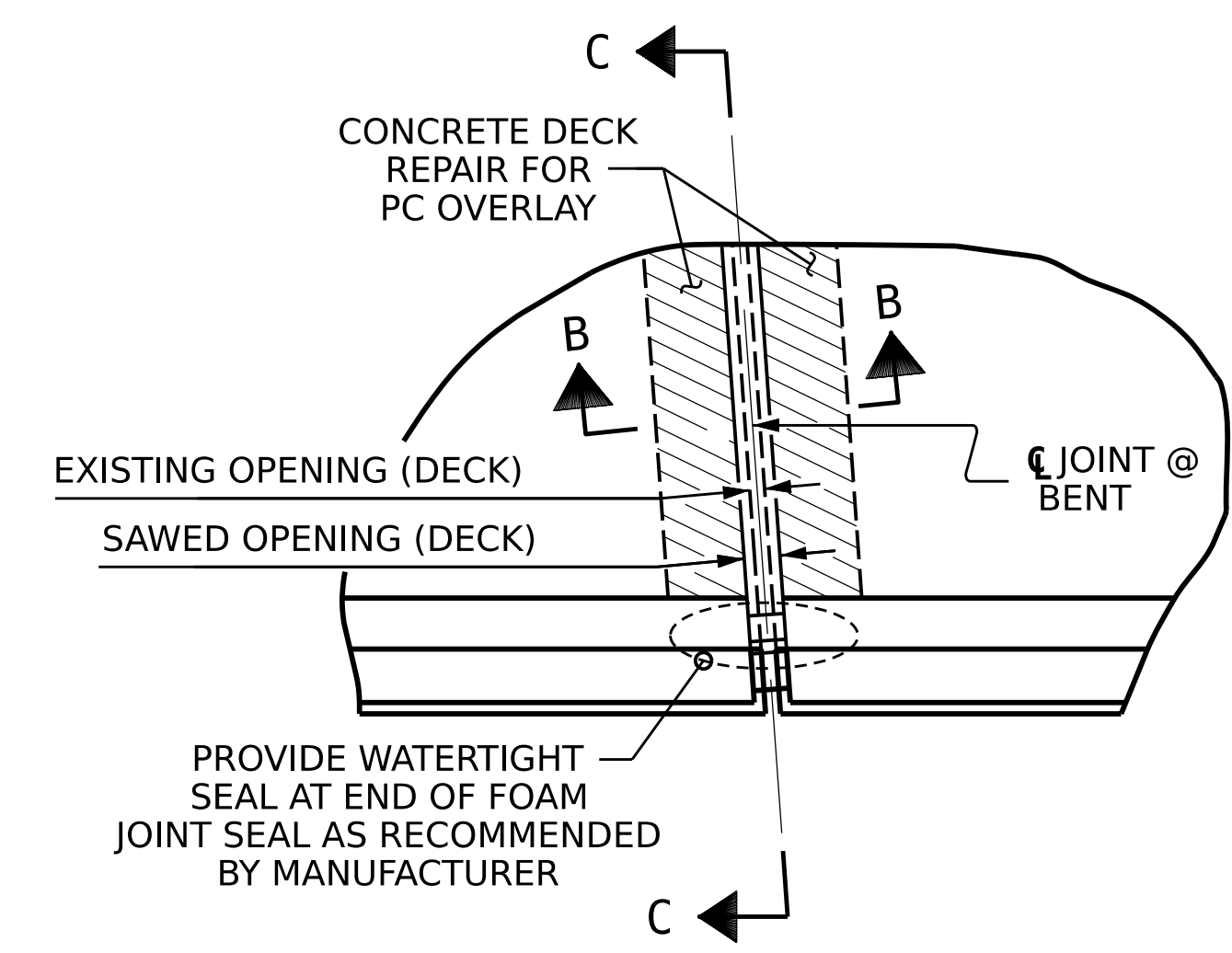


▲ SAW CUT SHALL BE 3/4" BELOW THE BOTTOM OF THE JOINT SEAL. SEE MANUFACTURER RECOMMENDATIONS

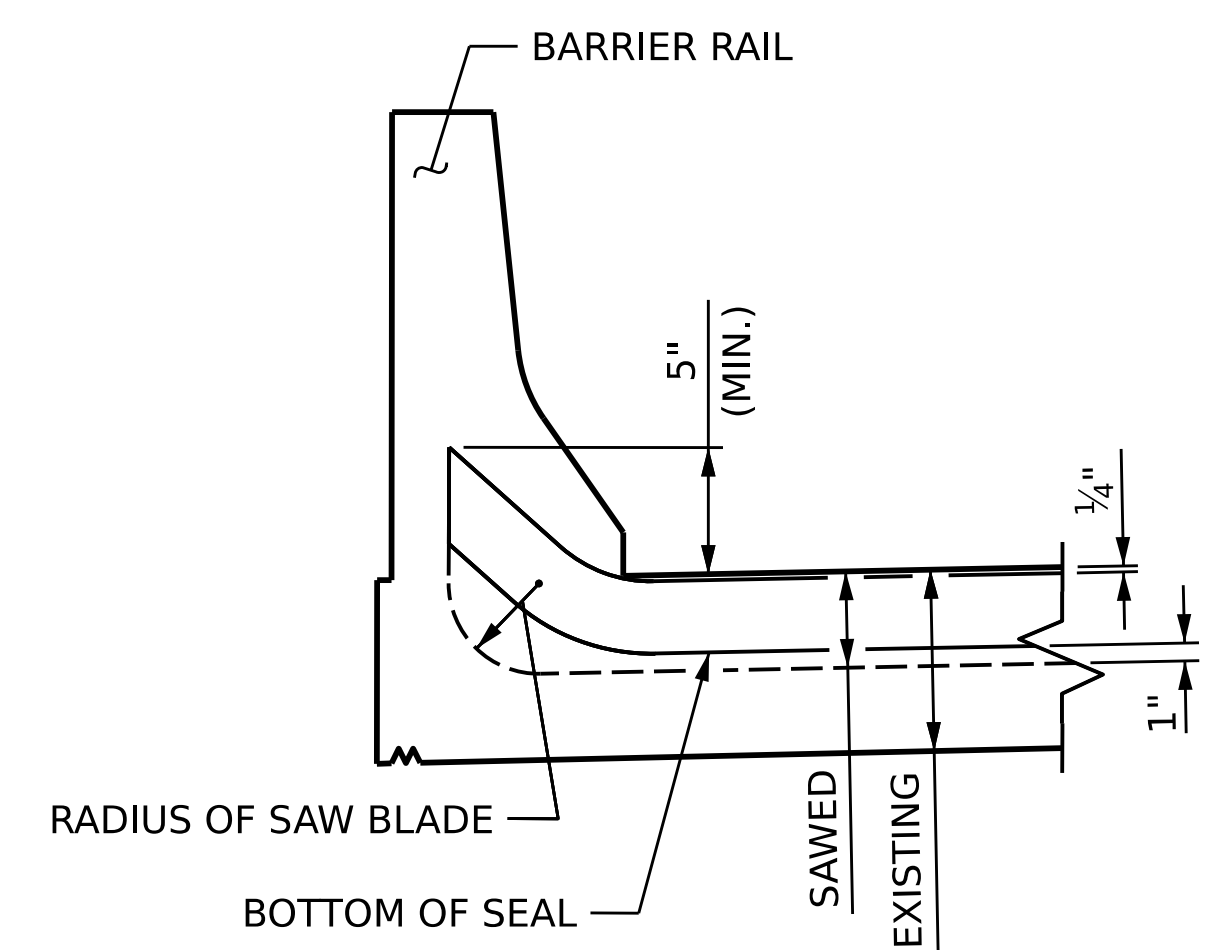


**JOINT INSTALLATION SEQUENCE AT BENTS**

SECTION B-B



**PLAN**  
(@ BENTS)



**SECTION C-C**

FOAM JOINT SELAS FOR PRESERVATION	
BENT 1	61.2 LIN. FT.
BENT 2	61.0 LIN. FT.
BENT 3	122.2 LIN. FT.

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
BRIDGE NO. 750467



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**JOINT DETAILS**

DRAWN BY : K. PUROHIT DATE : 10/2021  
CHECKED BY : A. SORSENGINH DATE : 1/2022

NO.	REVISIONS			NO.	REVISIONS			SHEET NO. S5-08
	BY:	DATE:			BY:	DATE:		
1				3			TOTAL SHEETS	
2				4			91	

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### AS-BUILT REPAIR QUANTITY TABLE

DECK UNDERSIDE REPAIRS SPAN A	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0	0		
BENT DIAPHRAGM	1.2	0.6		
OVERHANG	0	0		

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

#### NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCEMENT STEEL.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR UNDERSIDE OF DECK REPAIRS, SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

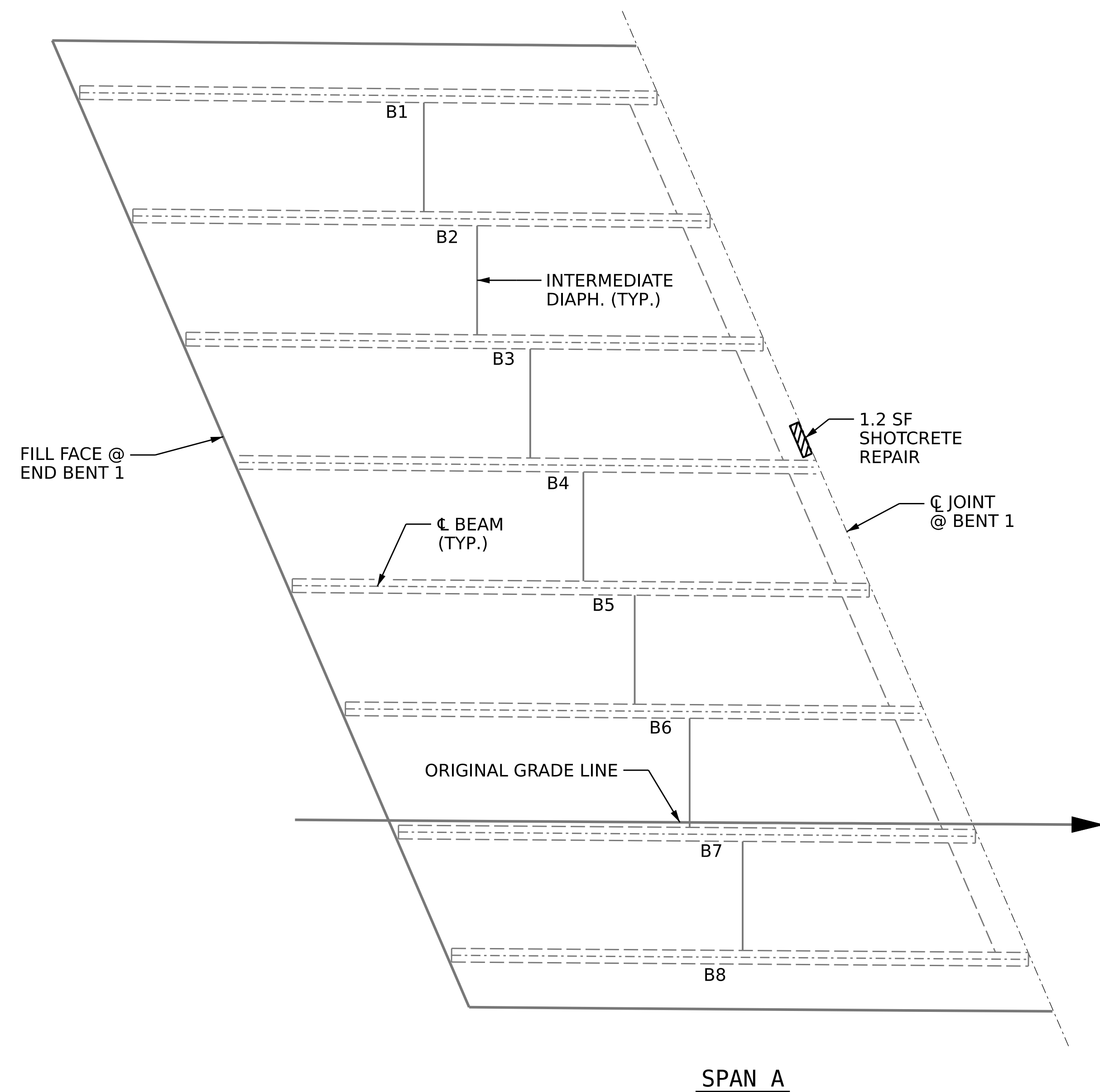
FOR OVERHANG REPAIRS, SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

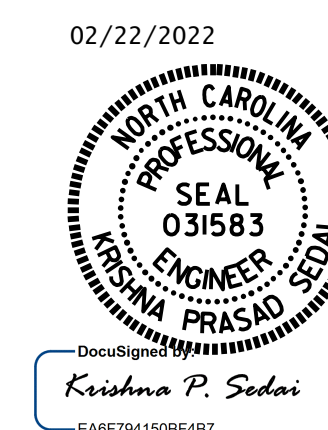
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

 SHOTCRETE REPAIR AREA



PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750467

SHEET 1 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

DECK UNDERSIDE  
 REPAIR  
 SPAN A

DRAWN BY : K. PUROHIT DATE : 8/2021  
 CHECKED BY : A. SORSENGINH DATE : 1/2022

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1			3			TOTAL SHEETS
2			4			91

### AS-BUILT REPAIR QUANTITY TABLE

DECK UNDERSIDE REPAIRS SPAN B	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0	0		
BENT DIAPHRAGM	5.7	2.9		
OVERHANG	0	0		

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

#### NOTES

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CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCEMENT STEEL.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR UNDERSIDE OF DECK REPAIRS, SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

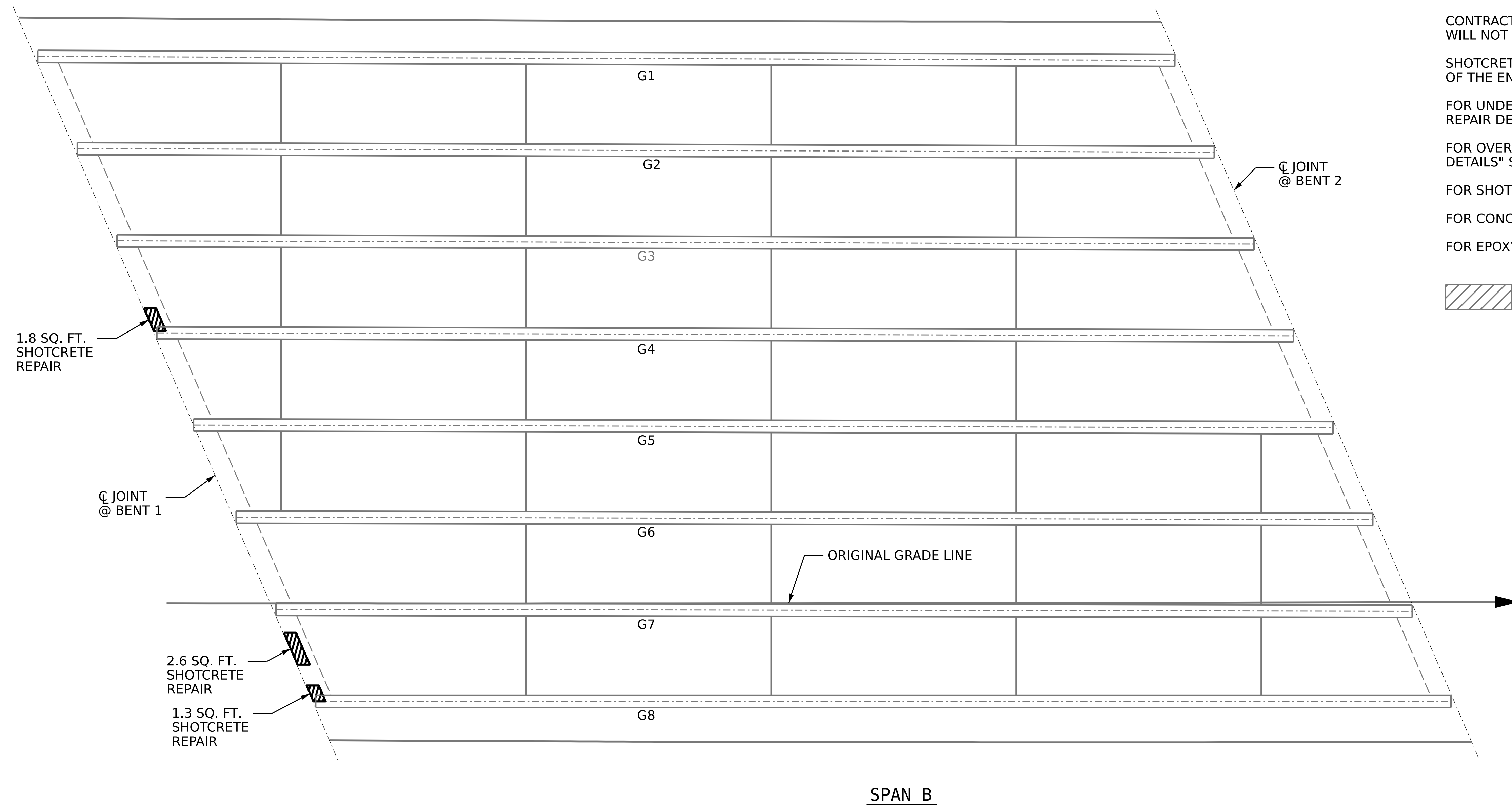
FOR OVERHANG REPAIRS, SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

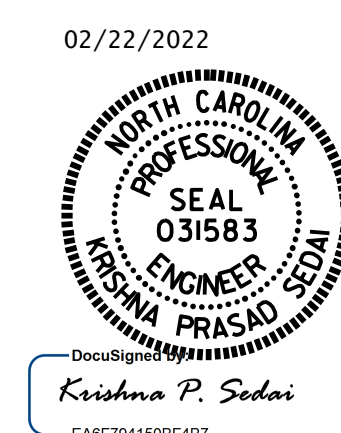
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

 SHOTCRETE REPAIR AREA



PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750467

SHEET 2 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

### DECK UNDERSIDE REPAIR SPAN B

DRAWN BY : K. PUROHIT DATE : 8/2021  
 CHECKED BY : A. SORSENGIN DATE : 1/2022

DOCUMENT NOT CONSIDERED  
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1			3			TOTAL SHEETS
2			4			91

### AS-BUILT REPAIR QUANTITY TABLE

DECK UNDERSIDE REPAIRS SPAN C	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0	0		
BENT DIAPHRAGM	0	0		
OVERHANG	11.8	5.9		

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

#### NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCEMENT STEEL.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR UNDERSIDE OF DECK REPAIRS, SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

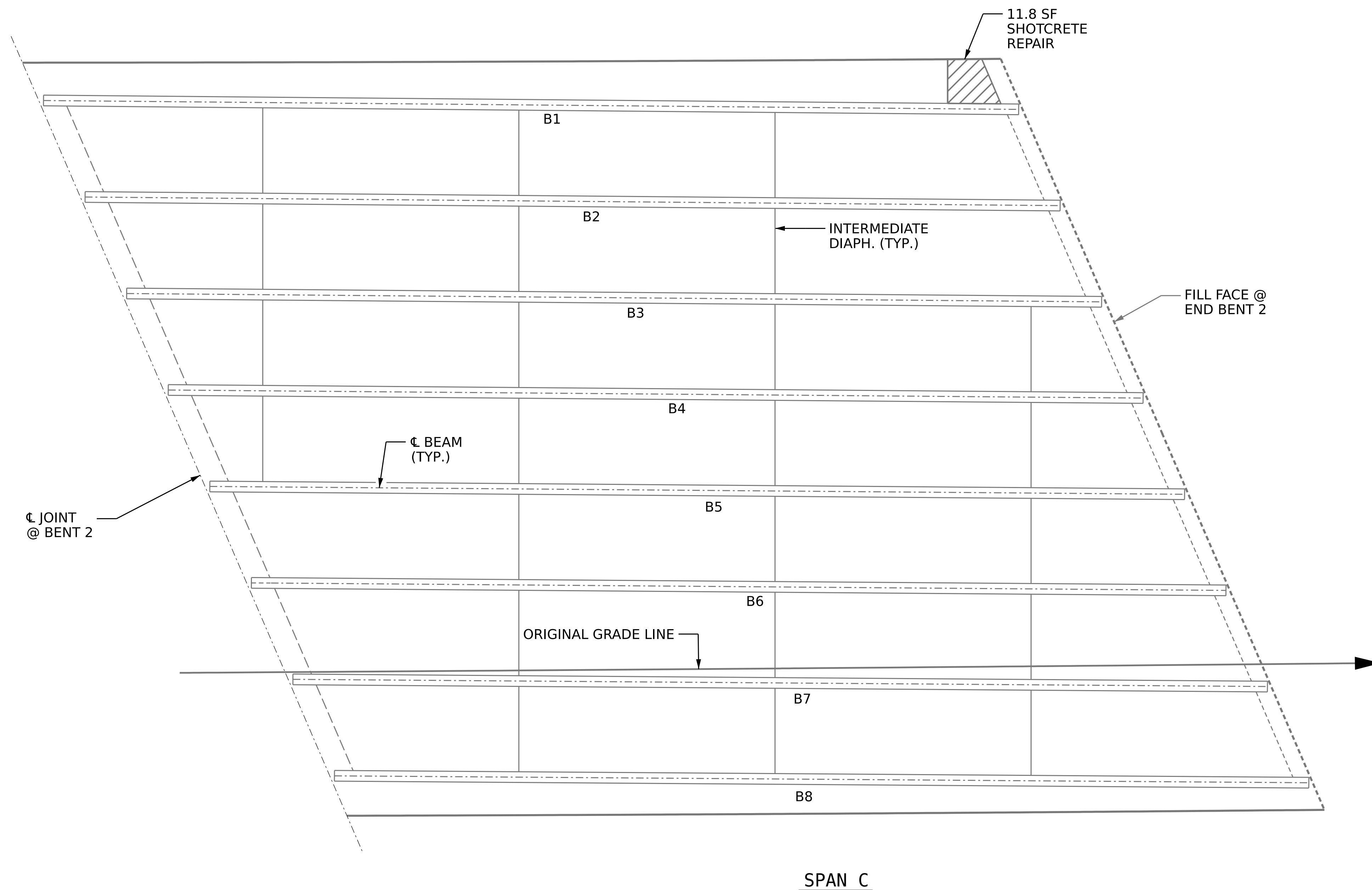
FOR OVERHANG REPAIRS, SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

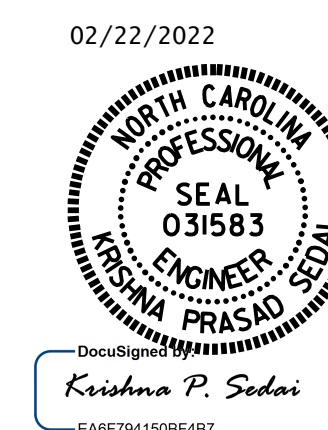
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

 SHOTCRETE REPAIR AREA



PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750467

SHEET 3 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

### DECK UNDERSIDE REPAIR SPAN C

DRAWN BY : K. PUROHIT DATE : 8/2021  
 CHECKED BY : A. SORSENGINH DATE : 1/2022

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 FINAL UNLESS ALL  
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S5-11
1			3			TOTAL SHEETS
2			4			91

### AS-BUILT REPAIR QUANTITY TABLE

END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	2.3	1.2		
CURTAIN WALL	0	0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0		
CURTAIN WALL		0		
EPOXY COATING		AREA SQ. FT.		AREA SQ. FT.
CAP		97.0		
CURTAIN WALL		145.0		

#### NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

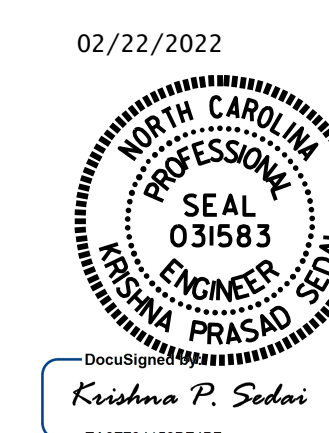
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

 SHOTCRETE REPAIR AREA

 CONCRETE REPAIR AREA

 EPOXY RESIN INJECTION

PROJECT NO. **HI-0002**  
**RANDOLPH** COUNTY  
 BRIDGE NO. **750467**



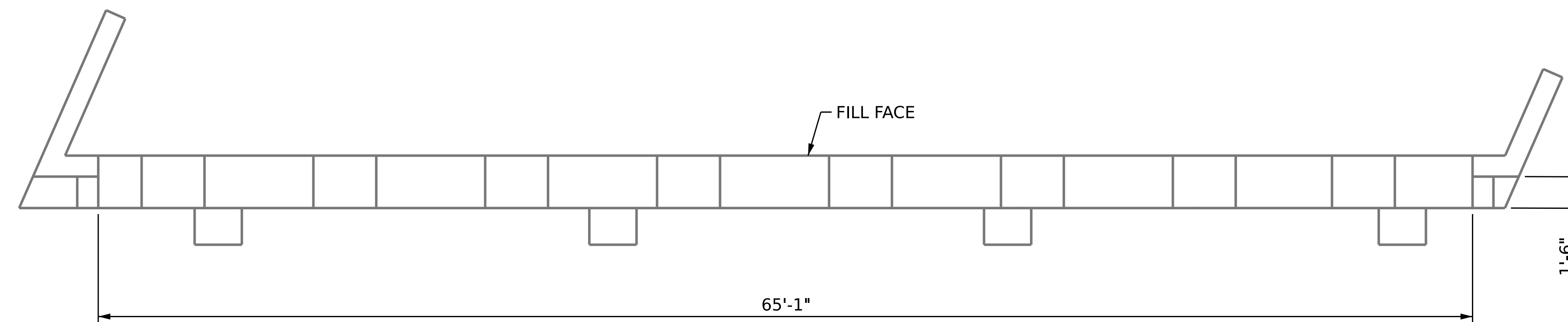
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

### END BENT 1

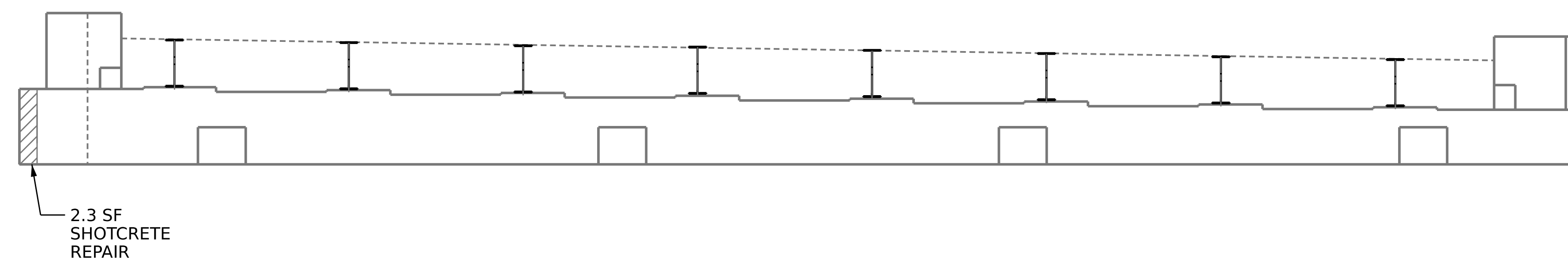
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			91
2			4			

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DRAWN BY : K. PUROHIT DATE : 05/2021  
 CHECKED BY : A. SORSENGINH DATE : 1/2022

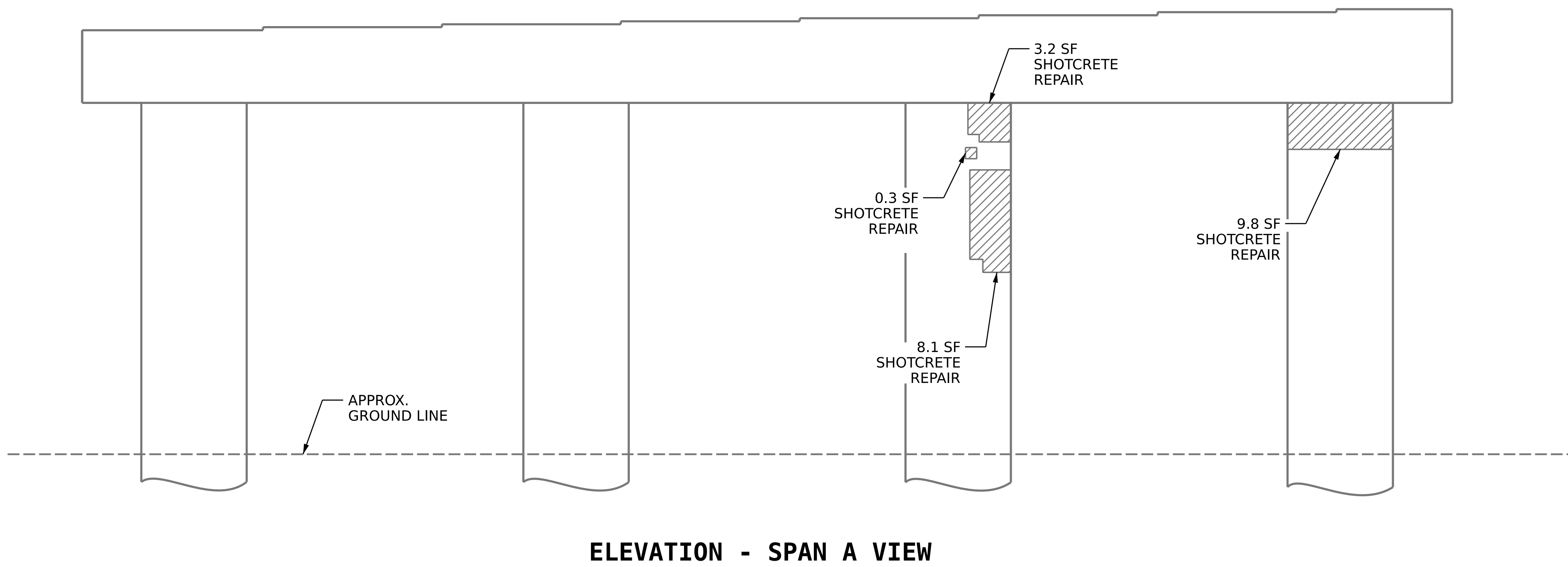
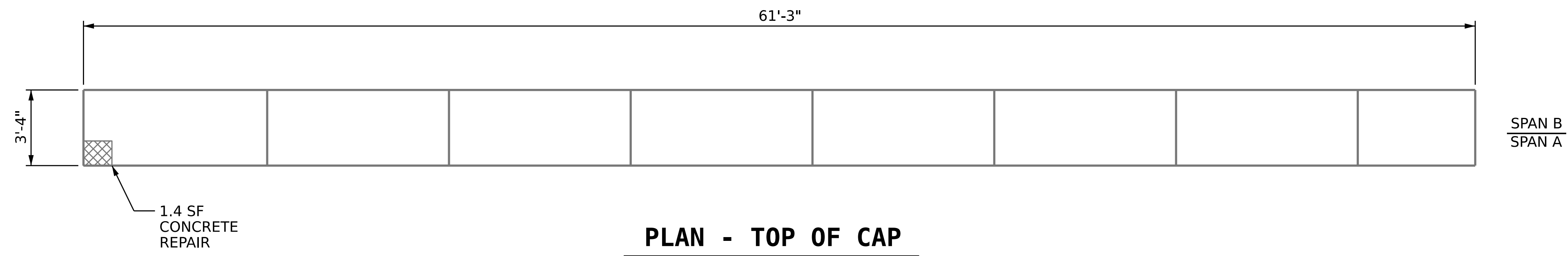


PLAN



ELEVATION

### END BENT 1



AS-BUILT REPAIR QUANTITY TABLE				
BENT 1 SPAN A FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP				
COLUMN	21.4	10.7		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	1.4	0.7		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP				
COLUMN				
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP	204.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

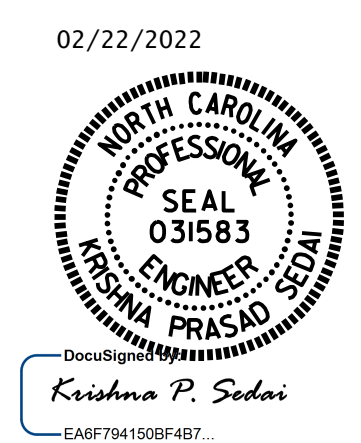
**NOTES:**  
 REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CONCRETE REPAIRS MAY BE REPLACED WITH SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.  
 FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.  
 FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.  
 FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.  
 CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

PROJECT NO. **HI-0002**  
**RANDOLPH** COUNTY  
 BRIDGE NO. **750467**

SHEET 1 OF 2



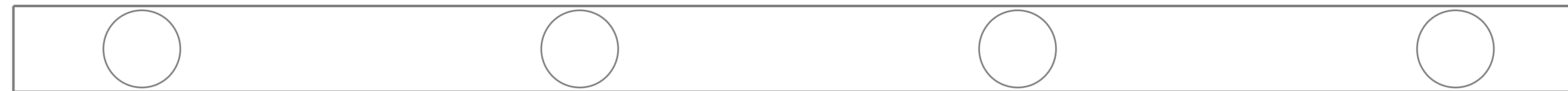
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1**

DRAWN BY : K. PUROHIT DATE : 11/2021  
 CHECKED BY : A. SORSENGINH DATE : 1/2022

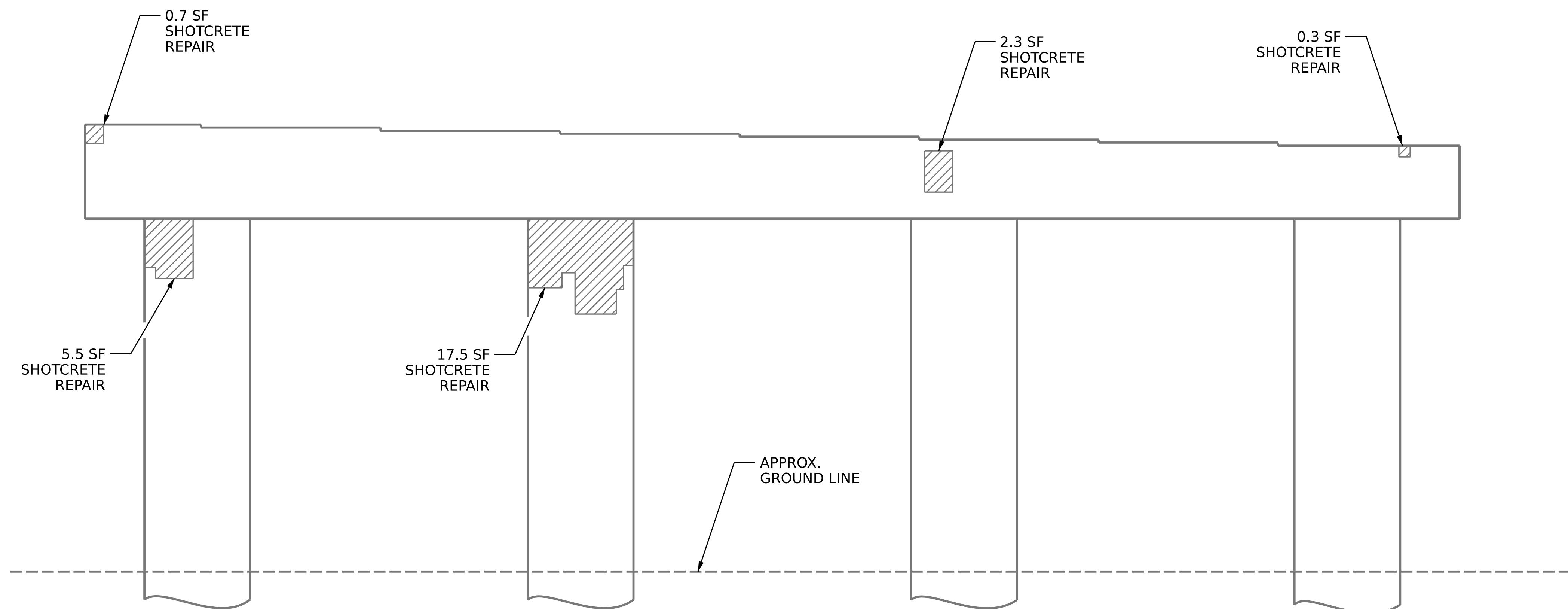
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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			91
2			4			

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SPAN B  
SPAN A

**PLAN - BOTTOM OF CAP**



**ELEVATION - SPAN B VIEW**

AS-BUILT REPAIR QUANTITY TABLE				
BENT 1 SPAN B FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	3.3	1.7		
COLUMN	23.0	11.5		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP				
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP				
COLUMN				

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

**NOTES:**

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SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

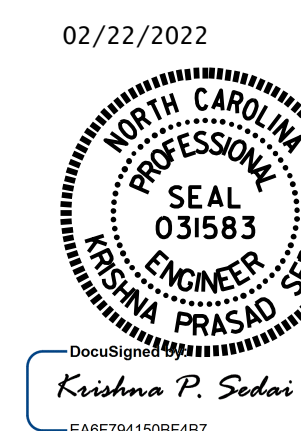
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

PROJECT NO. **HI-0002**  
**RANDOLPH** COUNTY  
 BRIDGE NO. **750467**

SHEET 2 OF 2



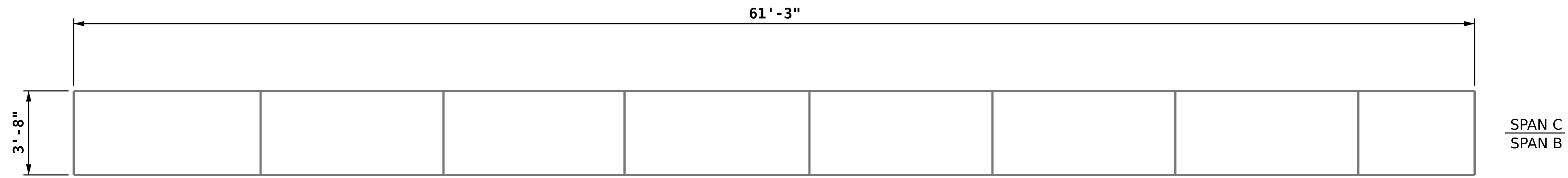
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1**  
 SPAN B FACE

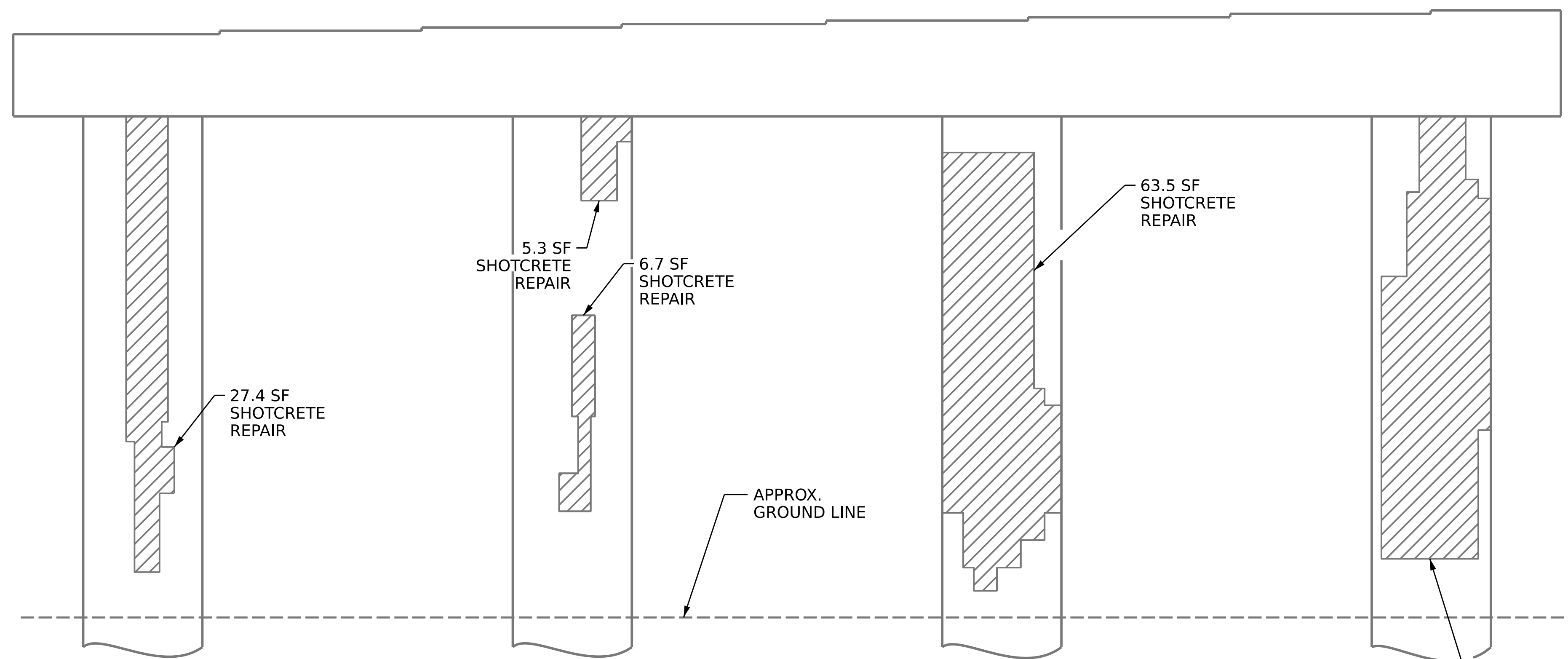
DRAWN BY : K. PUROHIT DATE : 11/2021  
 CHECKED BY : A. SORSENGINH DATE : 1/2022

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REVISIONS						SHEET NO. S5-14
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 91
2			4			



**PLAN - TOP OF CAP**



**ELEVATION - SPAN B VIEW**

AS-BUILT REPAIR QUANTITY TABLE				
BENT 2 SPAN B FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP				
COLUMN	165.5	82.8		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP				
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP				
COLUMN				
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		224.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

**NOTES:**

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CONCRETE REPAIRS MAY BE REPLACED WITH SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

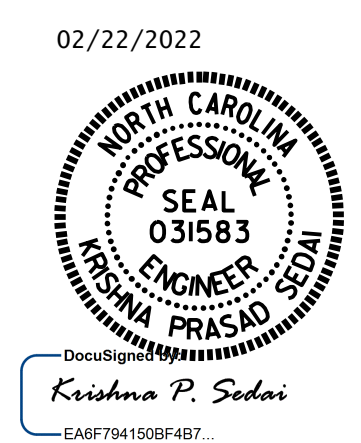
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

PROJECT NO. **HI-0002**  
**RANDOLPH** COUNTY  
 BRIDGE NO. **750467**

SHEET 1 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 2**  
 SPAN B FACE

DRAWN BY : K. PUROHIT DATE : 12/2021  
 CHECKED BY : A. SORSENGINH DATE : 1/2022

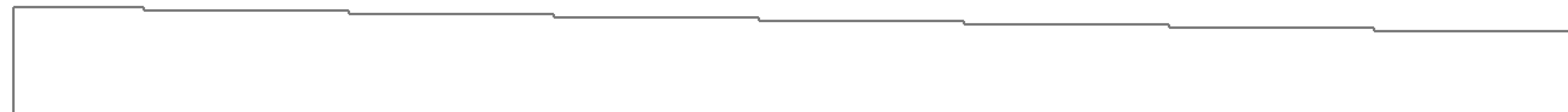
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S5-15
1			3			TOTAL SHEETS
2			4			91

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



SPAN C  
SPAN B

**PLAN - BOTTOM OF CAP**



10.3 SF  
SHOTCRETE  
REPAIR

27.4 SF  
SHOTCRETE  
REPAIR

**ELEVATION - SPAN C VIEW**

AS-BUILT REPAIR QUANTITY TABLE				
BENT 2 SPAN C FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP				
COLUMN	37.7	18.9		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP				
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP				
COLUMN				

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

**NOTES:**

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SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

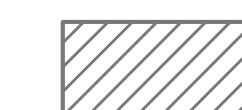
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.



CONCRETE REPAIR AREA



SHOTCRETE REPAIR AREA



EPOXY RESIN INJECTION (ERI)

PROJECT NO. **HI-0002**

**RANDOLPH** COUNTY

BRIDGE NO. **750467**

SHEET 2 OF 2

02/22/2022



Krishna P. Sedai

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**BENT 2**  
SPAN C FACE

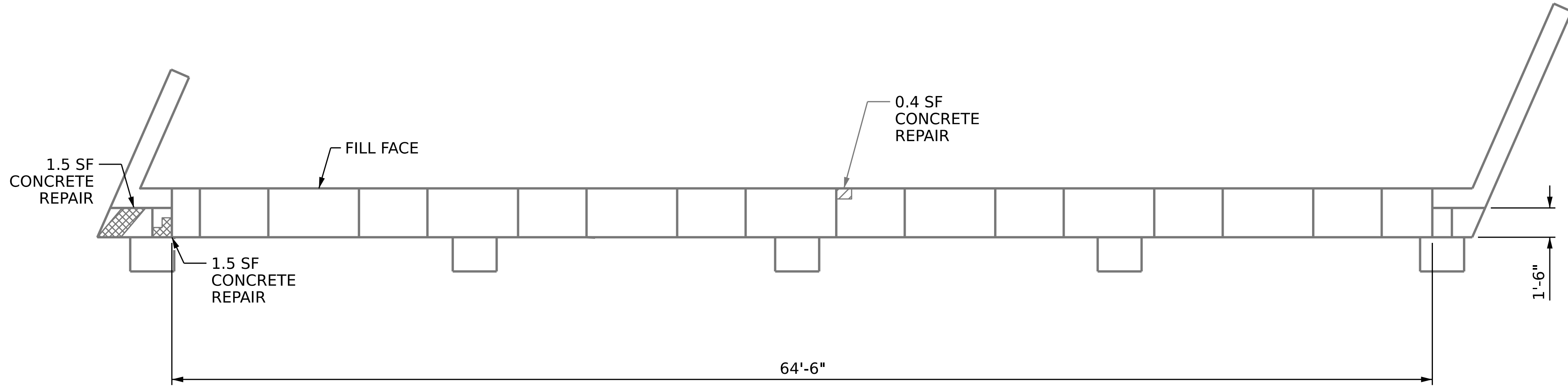
DOCUMENT NOT CONSIDERED  
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NO.	BY:	DATE:	NO.	BY:	DATE:
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2			4		

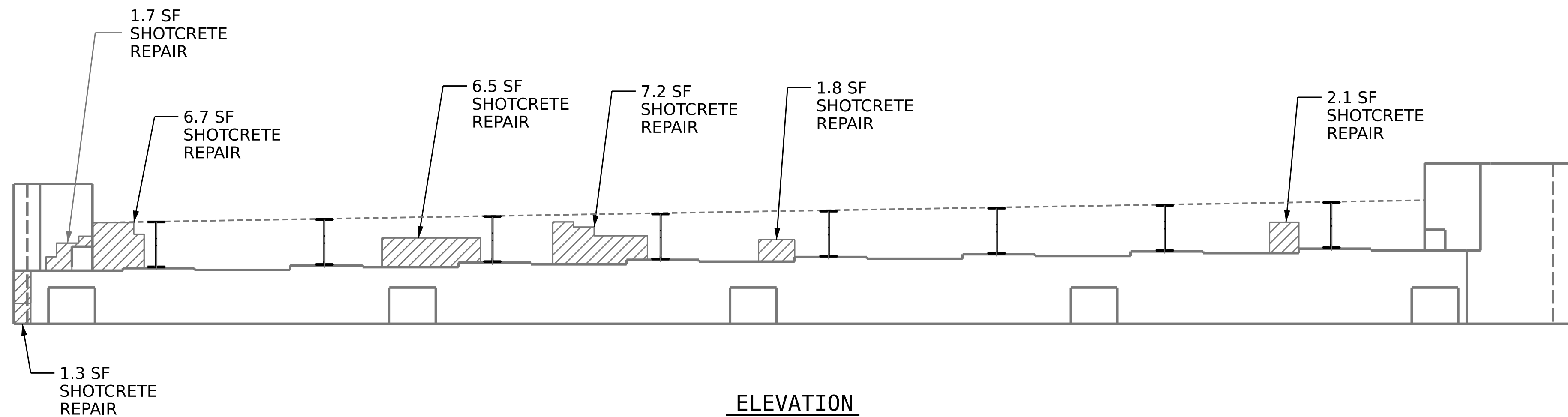
TOTAL SHEETS: 91

DRAWN BY : **K. PUROHIT** DATE : **12/2021**  
CHECKED BY : **A. SORSENGINH** DATE : **1/2022**





**PLAN**



**ELEVATION**

**END BENT 2**

**AS-BUILT REPAIR QUANTITY TABLE**

END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	1.3	0.7		
CURTAIN WALL	26.0	13.0		
WINGWALL				
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	3.4	1.7		
CURTAIN WALL	0	0		
WINGWALL				
EPOXY RESIN INJECTION		LINEAR FT		LINEAR FT
CAP		0		
CURTAIN WALL		0		
WINGWALL				
EPOXY COATING		AREA SF		AREA SF
CAP		97.0		
CURTAIN WALL		145.0		

**NOTES**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

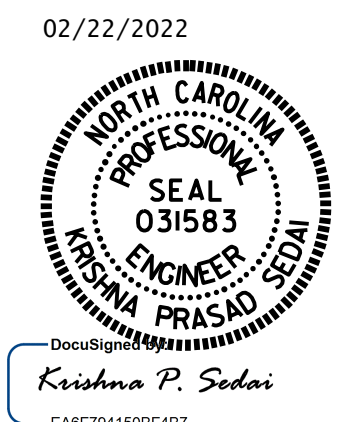
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- EPOXY RESIN INJECTION

PROJECT NO. **HI-0002**  
**RANDOLPH** COUNTY  
 BRIDGE NO. **750467**



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**END BENT 2**

DRAWN BY : K. PUROHIT DATE : 05/2021  
 CHECKED BY : A. SORSENGINH DATE : 12/2021

NO.	BY:	DATE:	REVISIONS			SHEET NO.
			NO.	BY:	DATE:	
1			3			S5-17 TOTAL SHEETS 91
2			4			

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

**NOTES**

THE COVER PLATES SHALL CONFORM TO AASHTO M270 GRADE 36 STEEL OR APPROVED EQUAL.

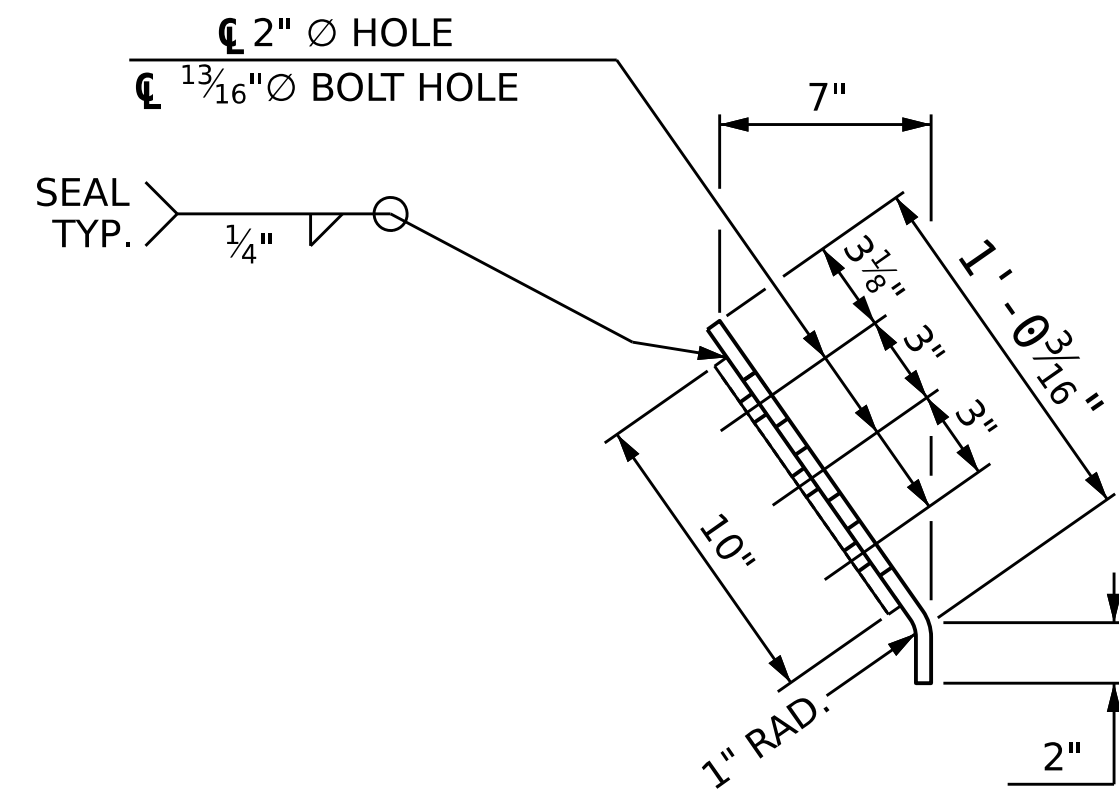
THE CONTRACTOR SHALL USE ADHESIVELY ANCHORED ANCHOR BOLTS FOR THE COVER PLATES. THE YIELD LOAD OF THE 3/4" Ø BOLT IS 10 KIPS. FIELD TESTING OF THE ADHESIVE BONDING SYSTEM IS NOT REEQUIRED.

THE COVER PLATES SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

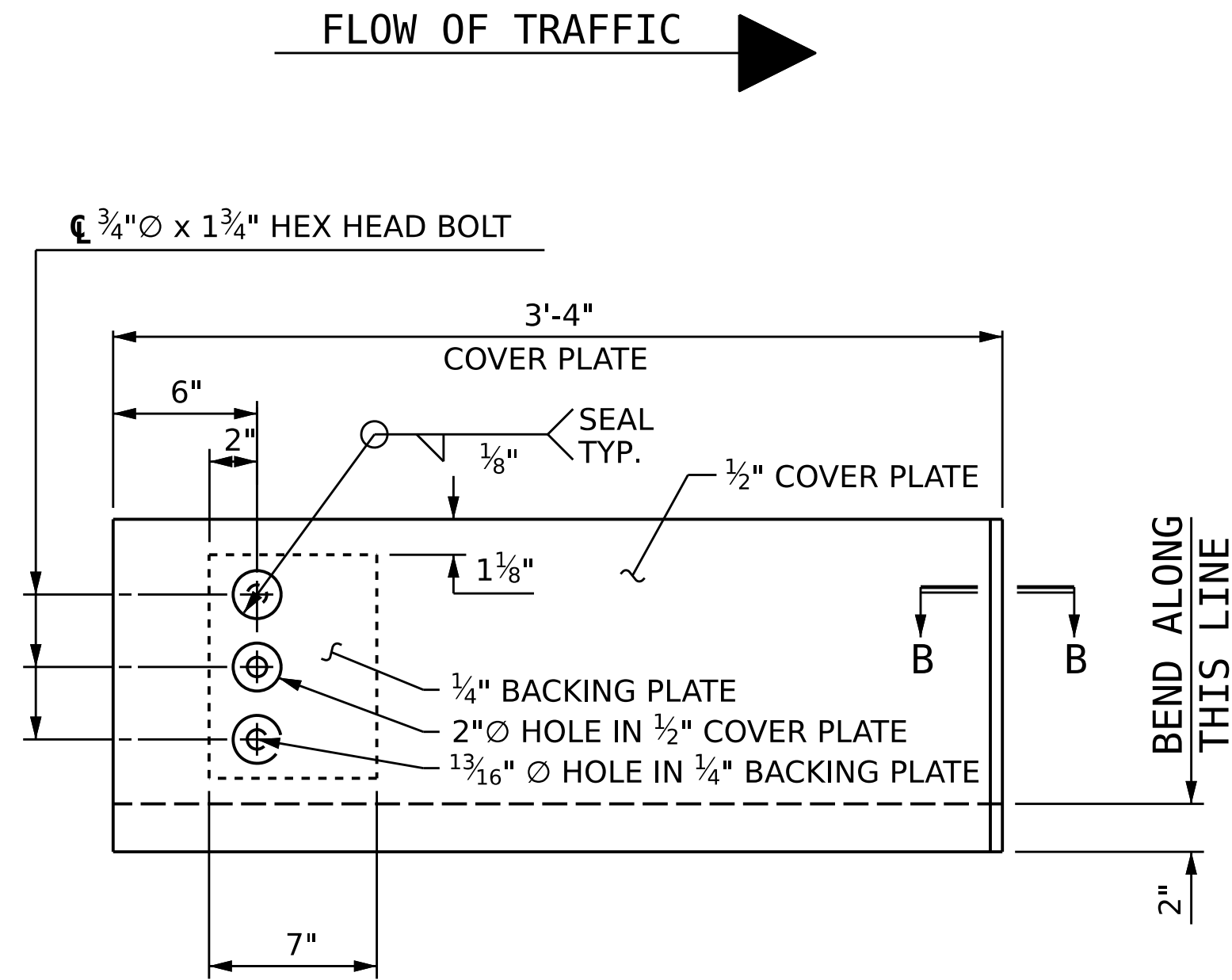
THE ADHESIVELY ANCHORED ANCHOR BOLTS SHALL BE EMBEDDED A MINIMUM OF 6 INCHES OR AS PER THE MANUFACTURER'S RECOMMENDATIONS.

THE ADHESIVELY ANCHORED ANCHOR BOLTS SHALL BE CUT FLUSH TO THE TOP OF THE NUTS AFTER INSTALLATION. THE ENDS OF THE ANCHOR BOLTS SHALL BE PAINTED WITH ZINC RICH PAINT.

THE DETAILS FOR THE COVER PLATES AS DESCRIBED ON THE PLANS ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS AND LOCATIONS FOR EACH COVER PLATE.



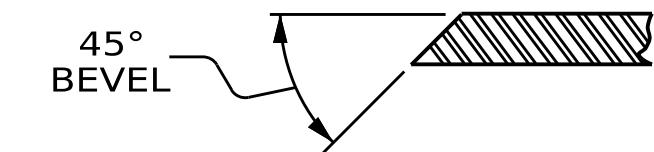
**END VIEW**



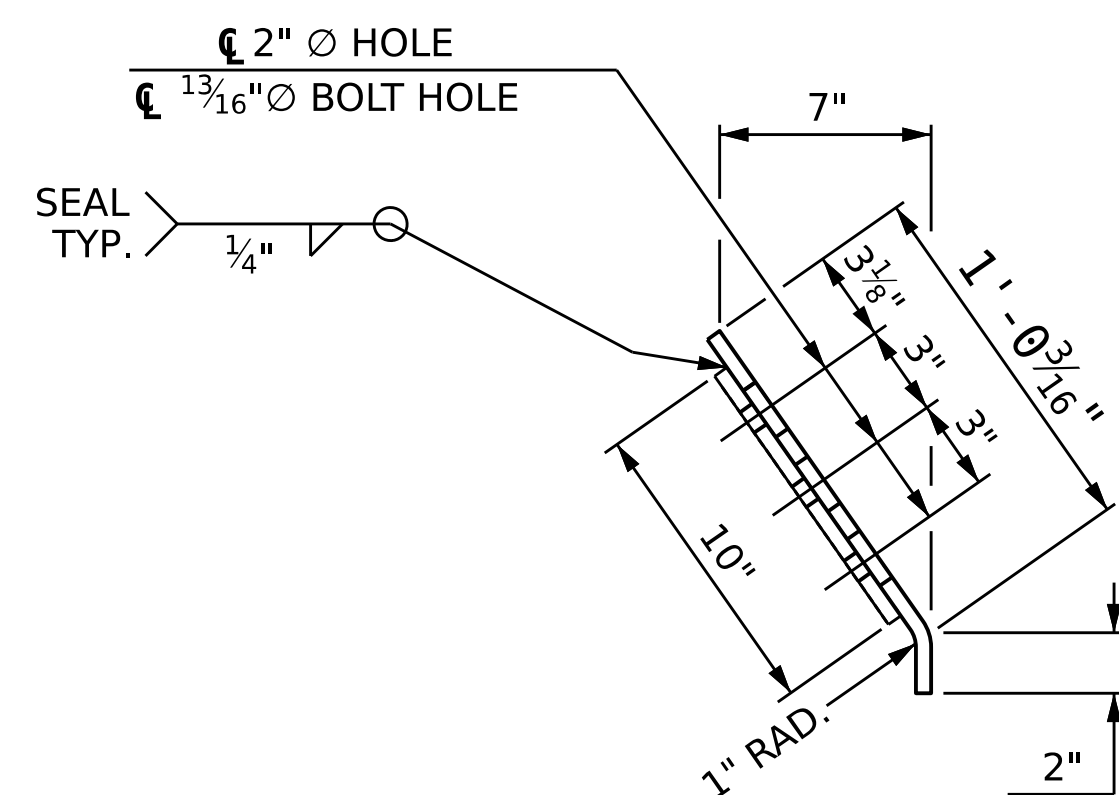
**TYPE I - ELEVATION VIEW**

**COVER PLATE DETAILS**

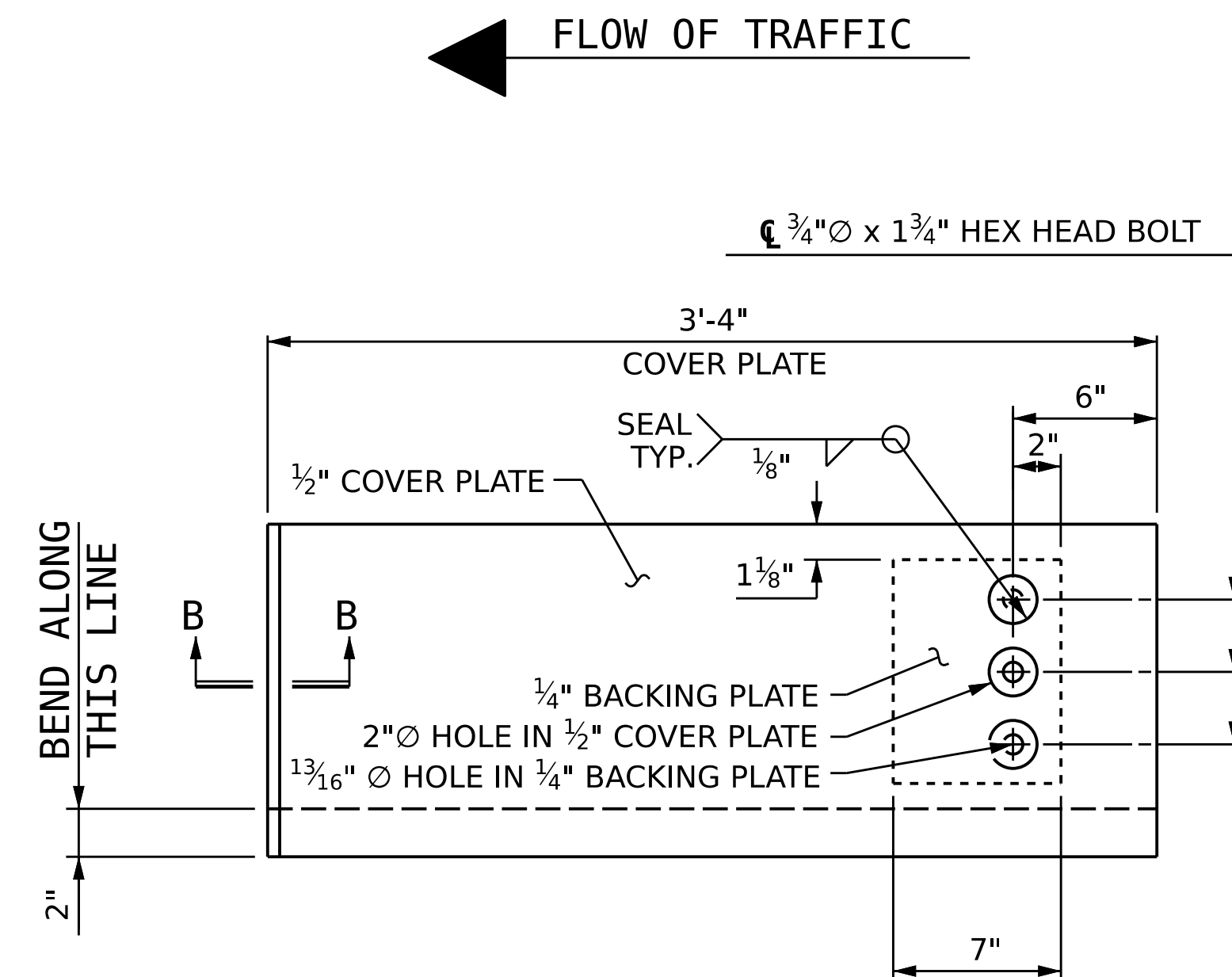
(TYPE I)



**SECTION B - B**



**END VIEW**



**TYPE II - ELEVATION VIEW**

**COVER PLATE DETAILS**

(TYPE II)

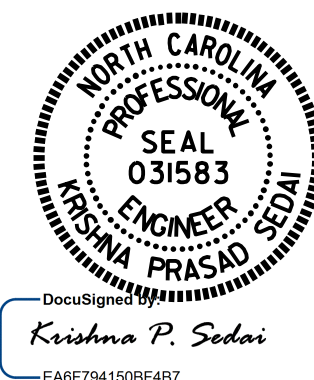
BARRIER RAIL COVER PLATE QUANTITY			
BRIDGE	TYPE I	TYPE II	TOTAL
750020	2	2	4
750026	2	2	4
750114	1	1	2
750466	2	2	4
750467	2	2	4

PROJECT NO. **HI-0002**

**RANDOLPH** COUNTY

BRIDGE NO. **750020, 750026, 750466 & 750467**

02/22/2022



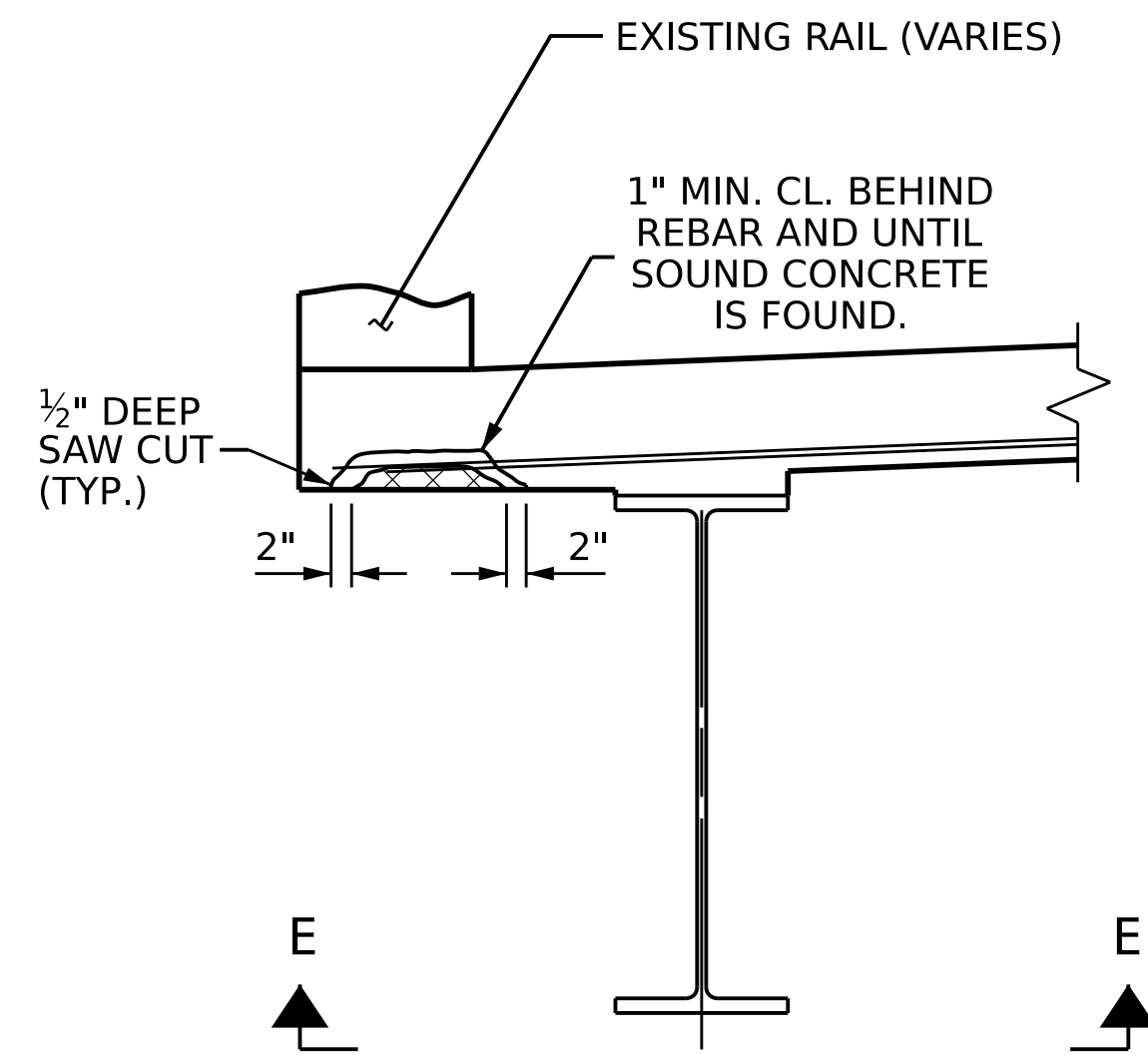
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**BARRIER RAIL  
COVER PLATE  
DETAILS**

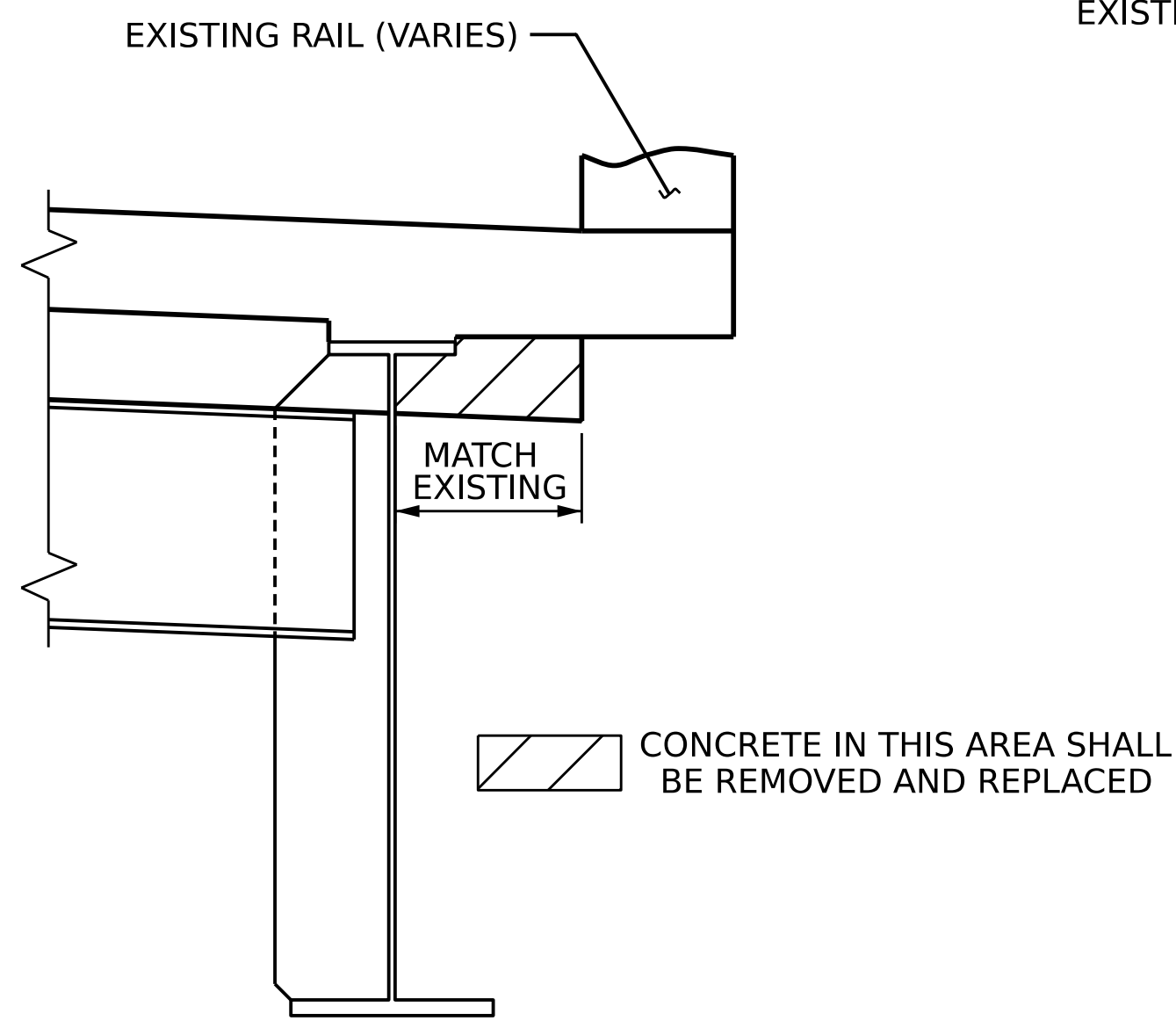
DRAWN BY : J. A. TILLMAN DATE : 01/2022  
CHECKED BY : H. A. LOCKLEAR DATE : 01/2022  
DESIGN ENGINEER OF RECORD: DATE :

DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

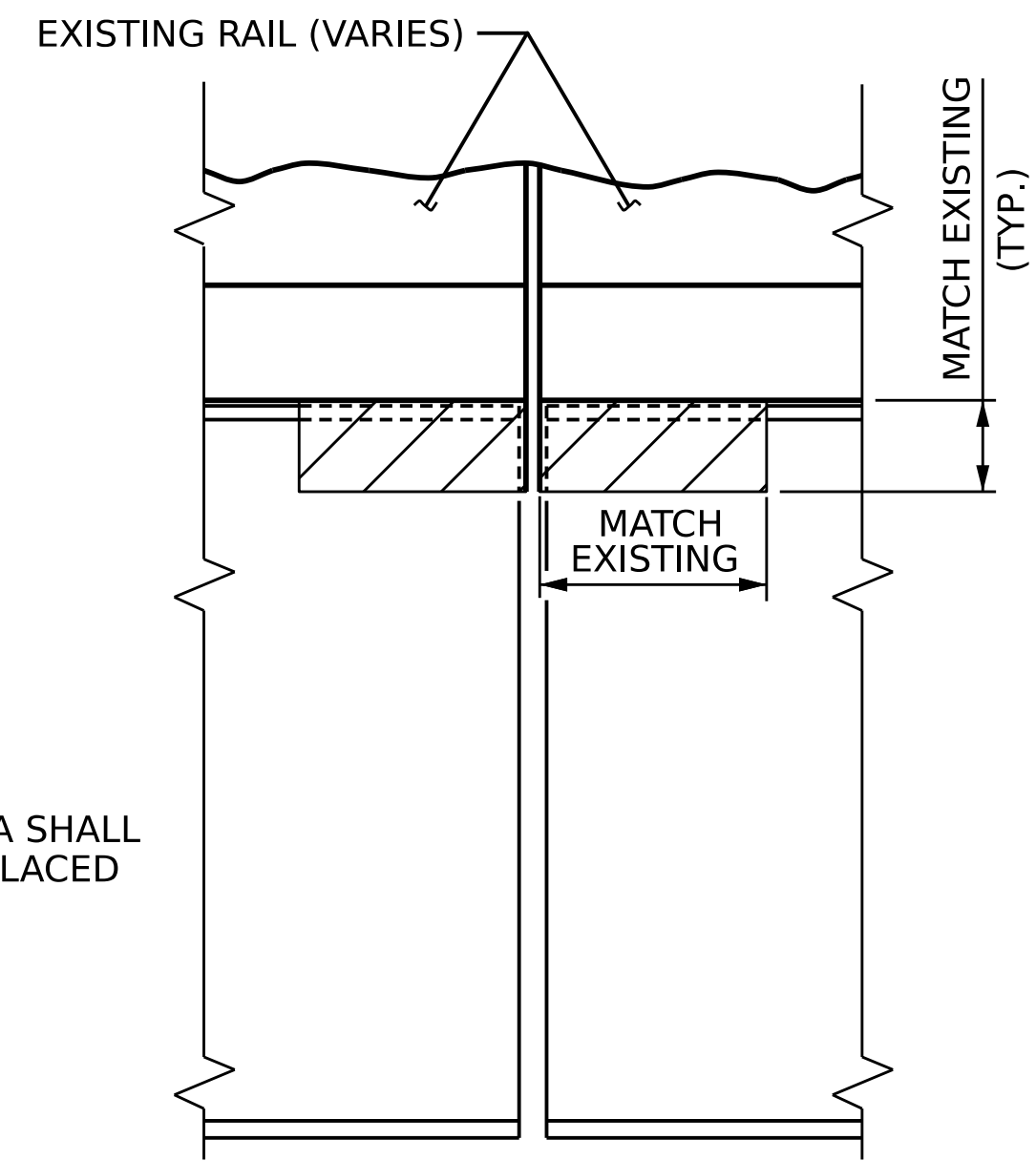
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-87
1			3			TOTAL SHEETS
2			4			91



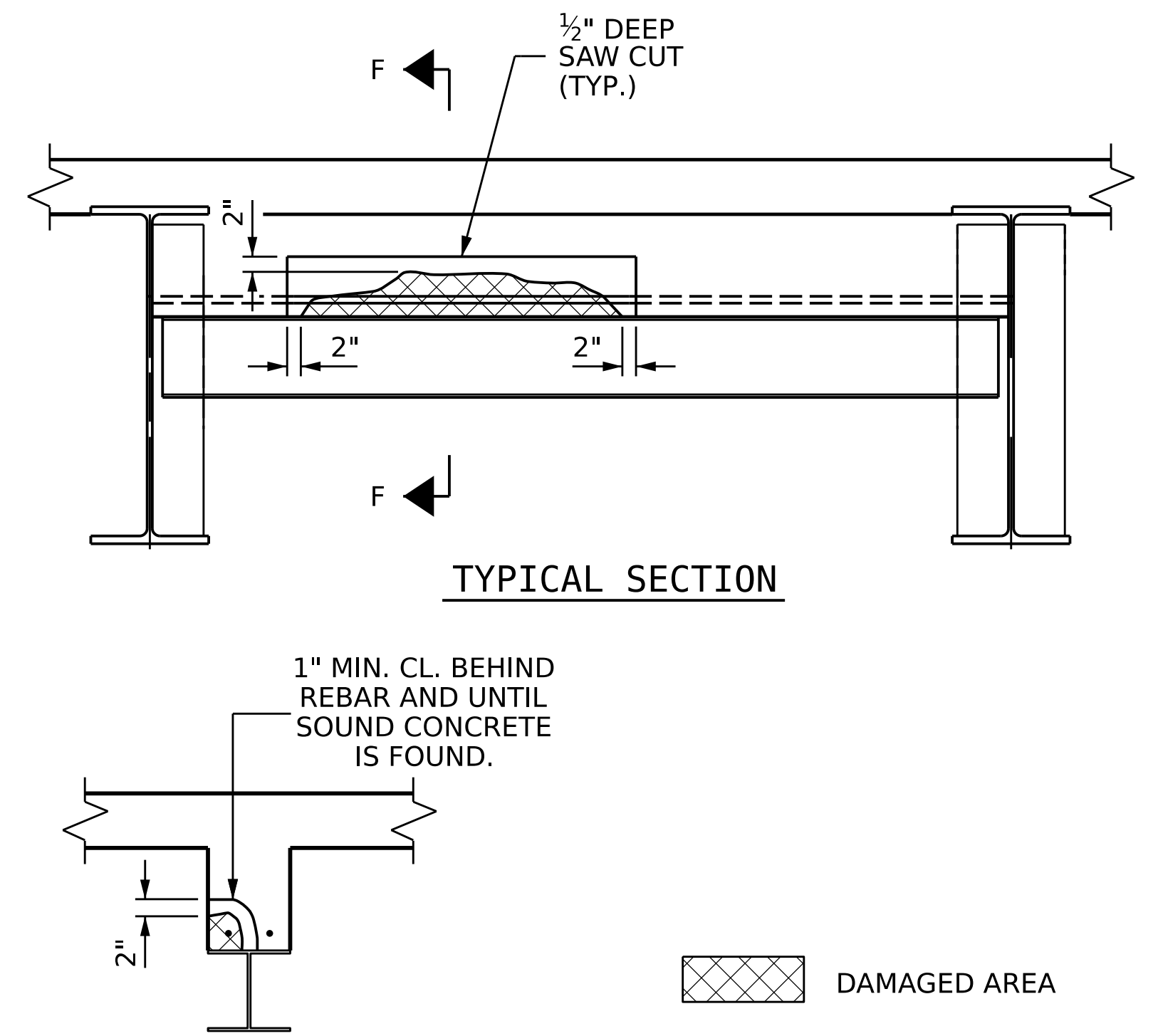
TYPICAL SECTION



TYPICAL SECTION



SECTION D-D

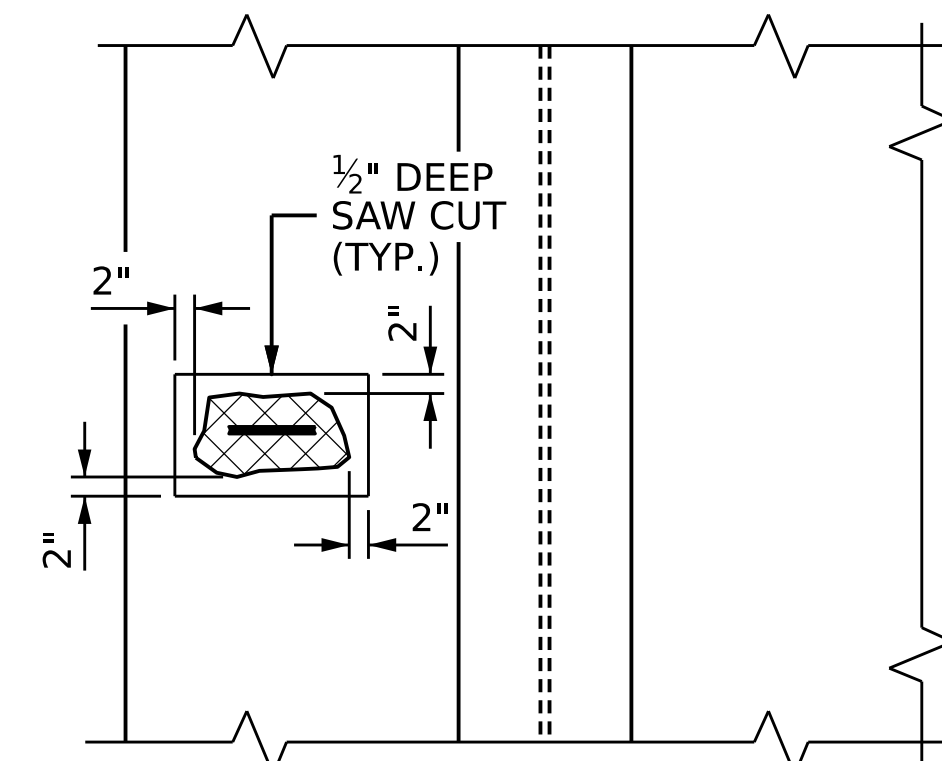


SECTION F-F

**OVERHANGE DIAPHRAGM REPLACEMENT DETAILS**

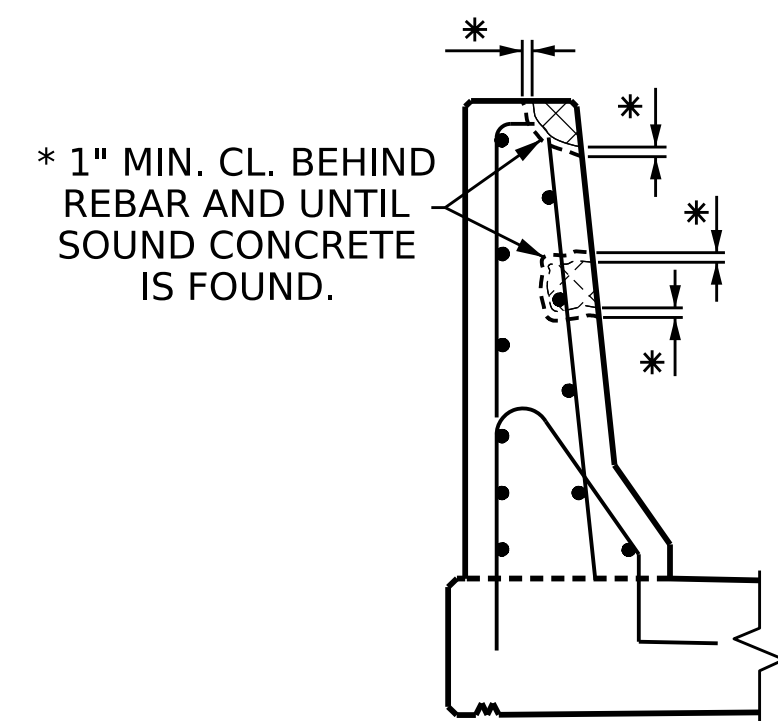
**INTERIOR DIAPHRAGM REPAIR DETAILS**

DAMAGED AREA

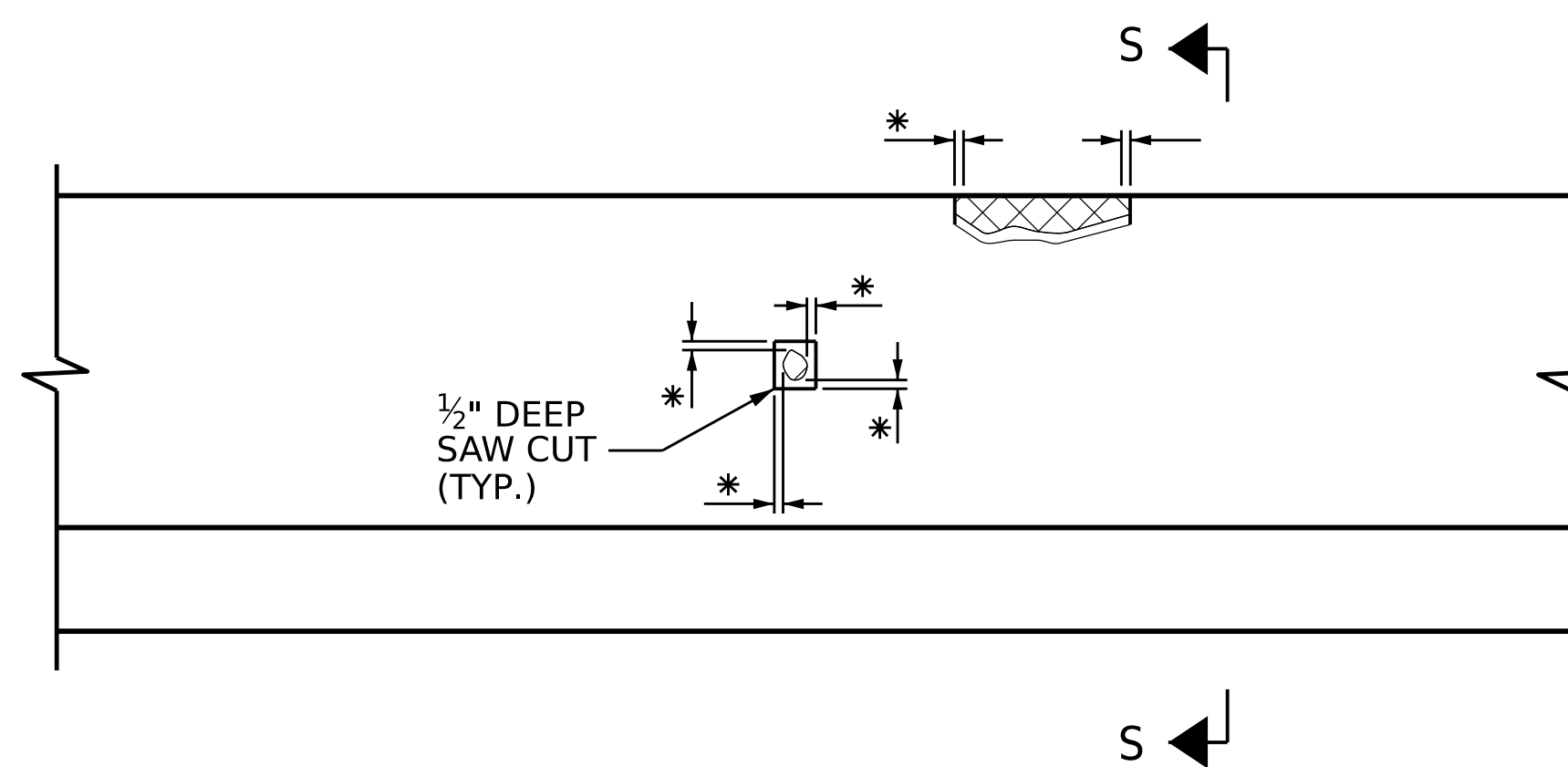


SECTION E-E

**OVERHANGE DETAILS**

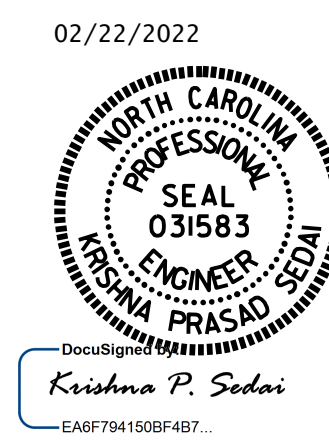


SECTION S-S



**BRIDGE RAIL AND CURB REPAIR DETAILS**

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750026, 750114,  
750466 & 750467



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**OVERHANG, DIAPHRAGM  
 AND BRIDGE RAIL  
 REPAIR DETAILS**

DRAWN BY : A. SORSENGINH DATE : 10/2021  
 CHECKED BY : E. BAYISSA DATE : 02/2022

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	5-88
1			3			TOTAL SHEETS
2			4			91

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**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.

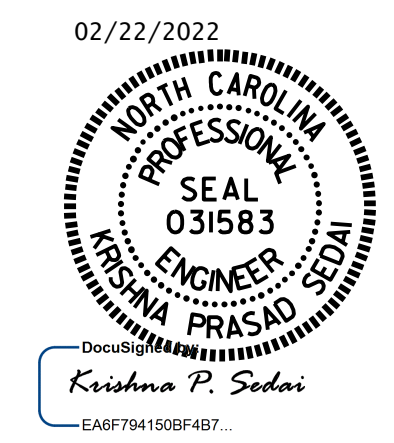
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

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

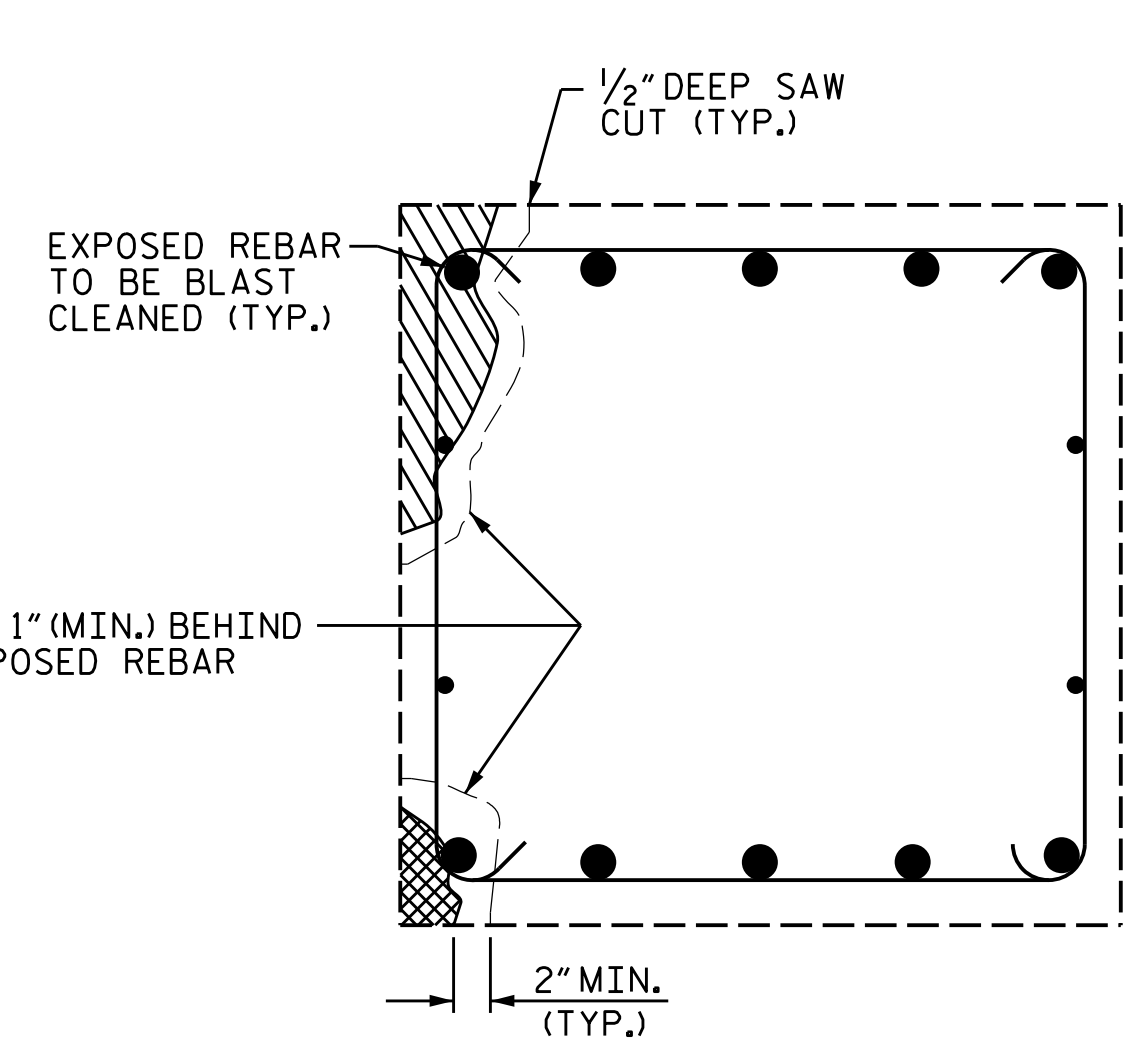
PROJ. NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750020, 750026,  
750114, 750466 & 750467

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



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-89
1			3			TOTAL SHEETS
2			4			91

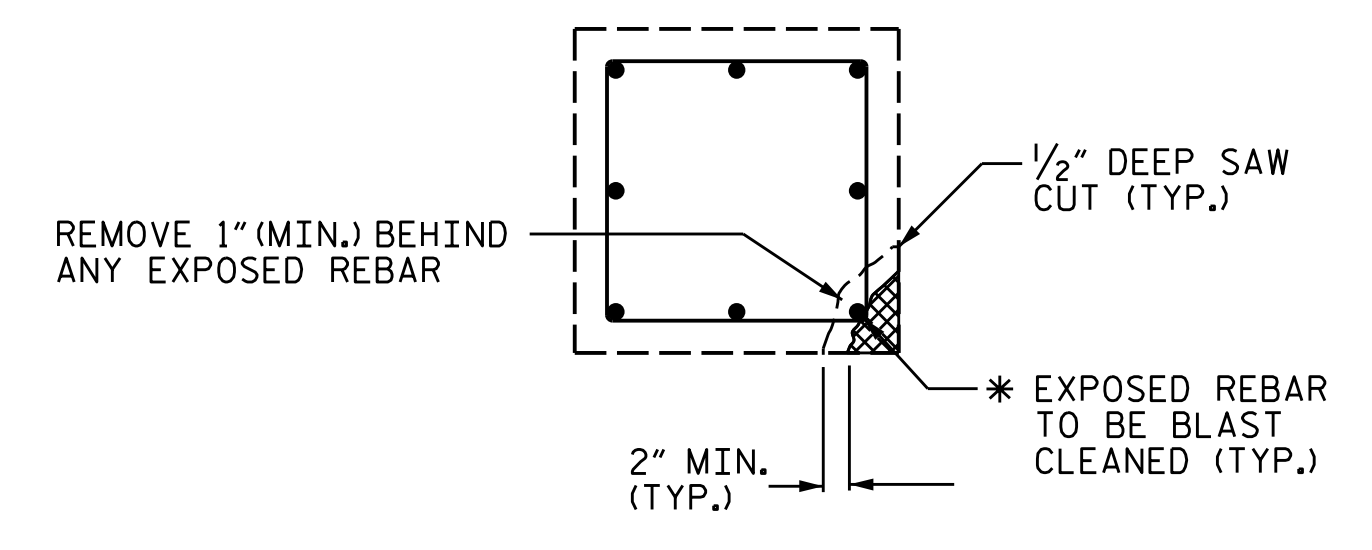
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



SECTION A-A  
 CAP REPAIR

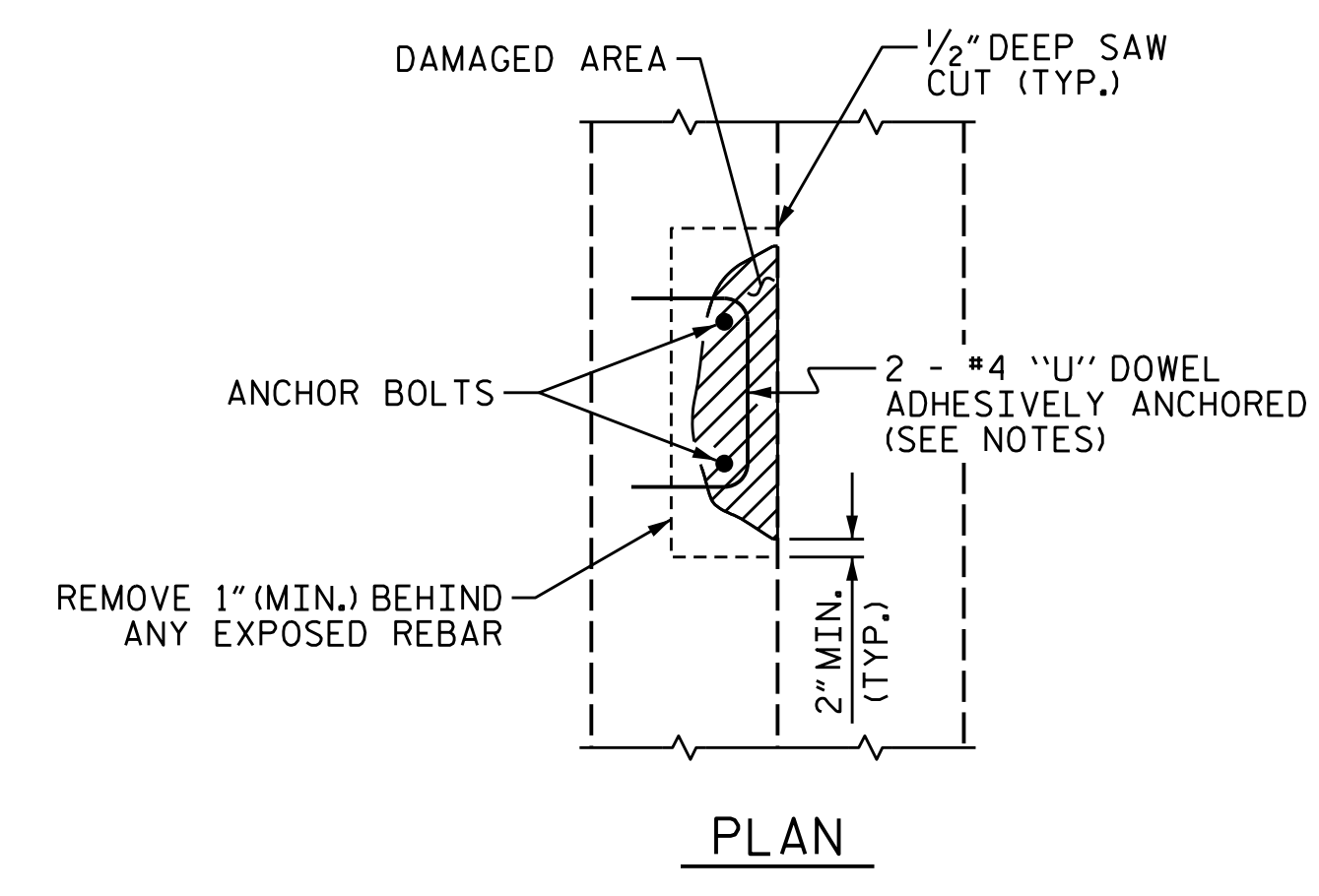
**REPAIR KEY**

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

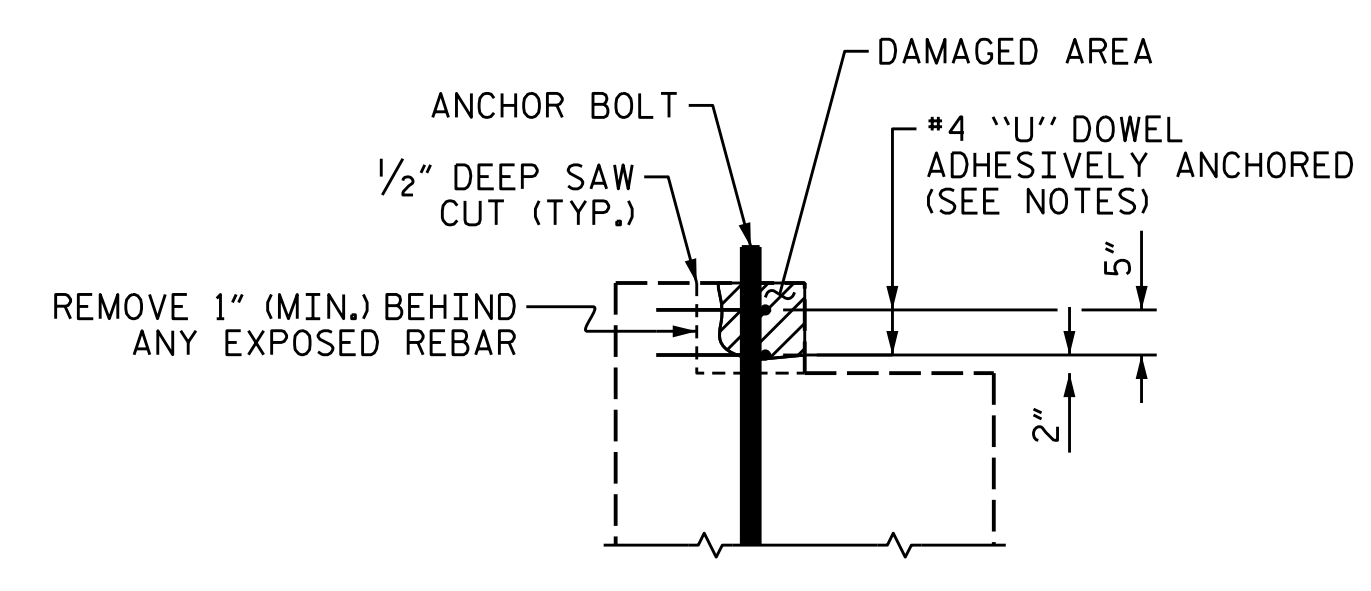


PLAN OF COLUMN

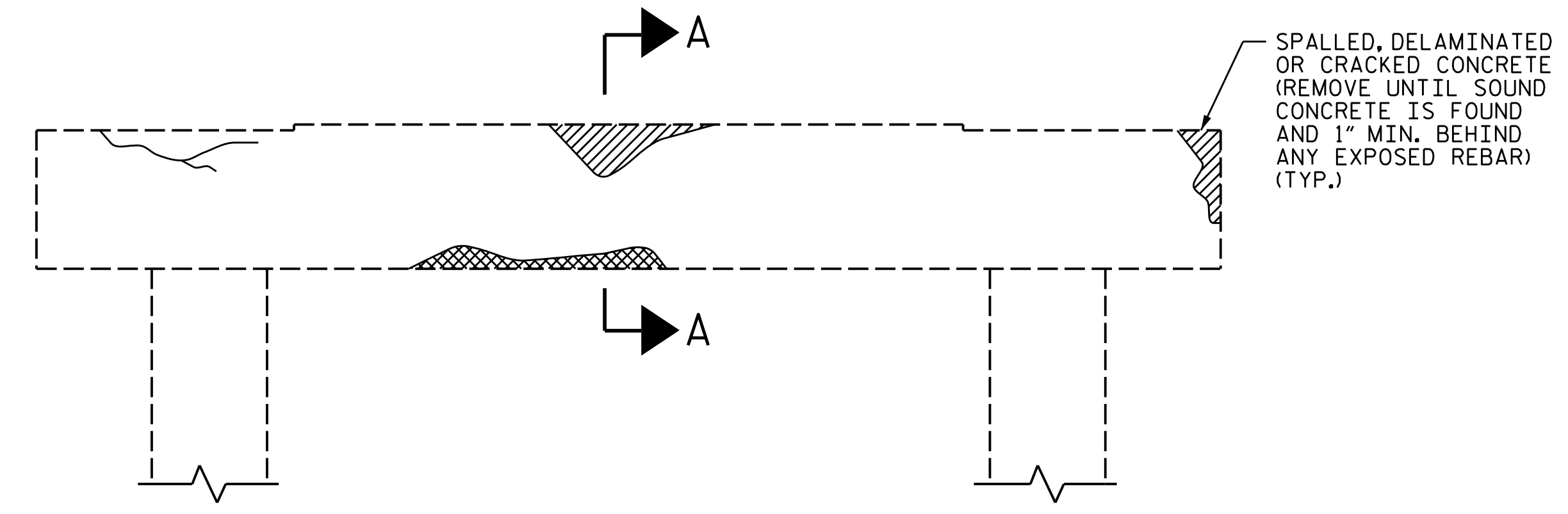
BAR SIZE	MIN. SPLICE LENGTH
#4	2'-4"
#5	2'-9"
#6	4'-0"
#7	5'-3"
#8	6'-9"
#9	8'-6"
#10	10'-11"
#11	13'-4"



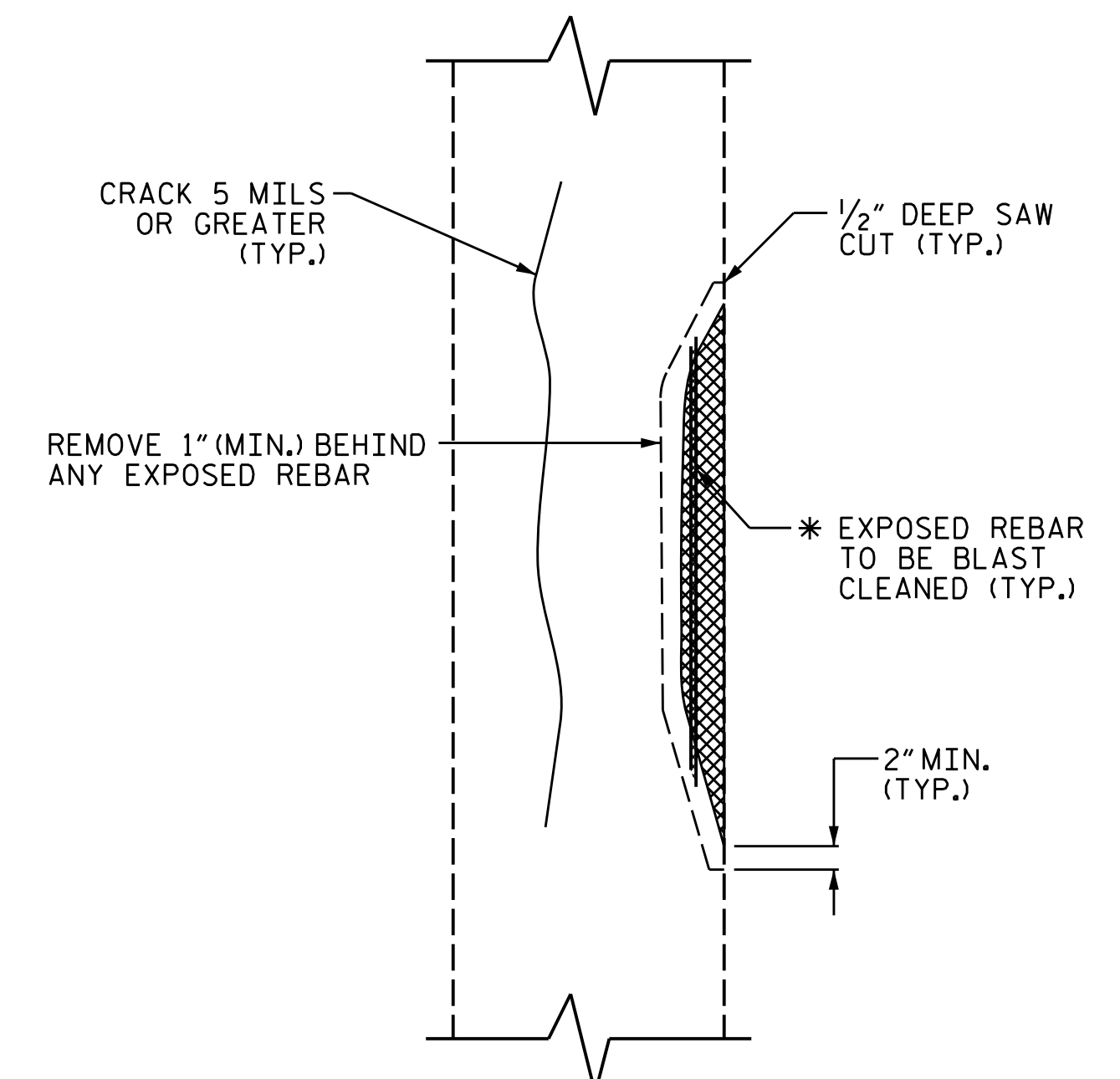
PLAN



ELEVATION  
 PEDESTAL WALL REPAIR



BENT CAP REPAIRS



ELEVATION OF COLUMN

**COLUMN REPAIR**

\* REPAIR LENGTH SHALL NOT EXCEED 10 FEET.

ASSEMBLED BY : A. SORSENGINH DATE : 10/2021  
 CHECKED BY : E. BAYISSA DATE : 02/2022  
 DRAWN BY : NAP 8/18  
 CHECKED BY :

**NOTES**

STRUCTURAL STEEL SHALL BE AASHTO GRADE 36 OR GREATER.

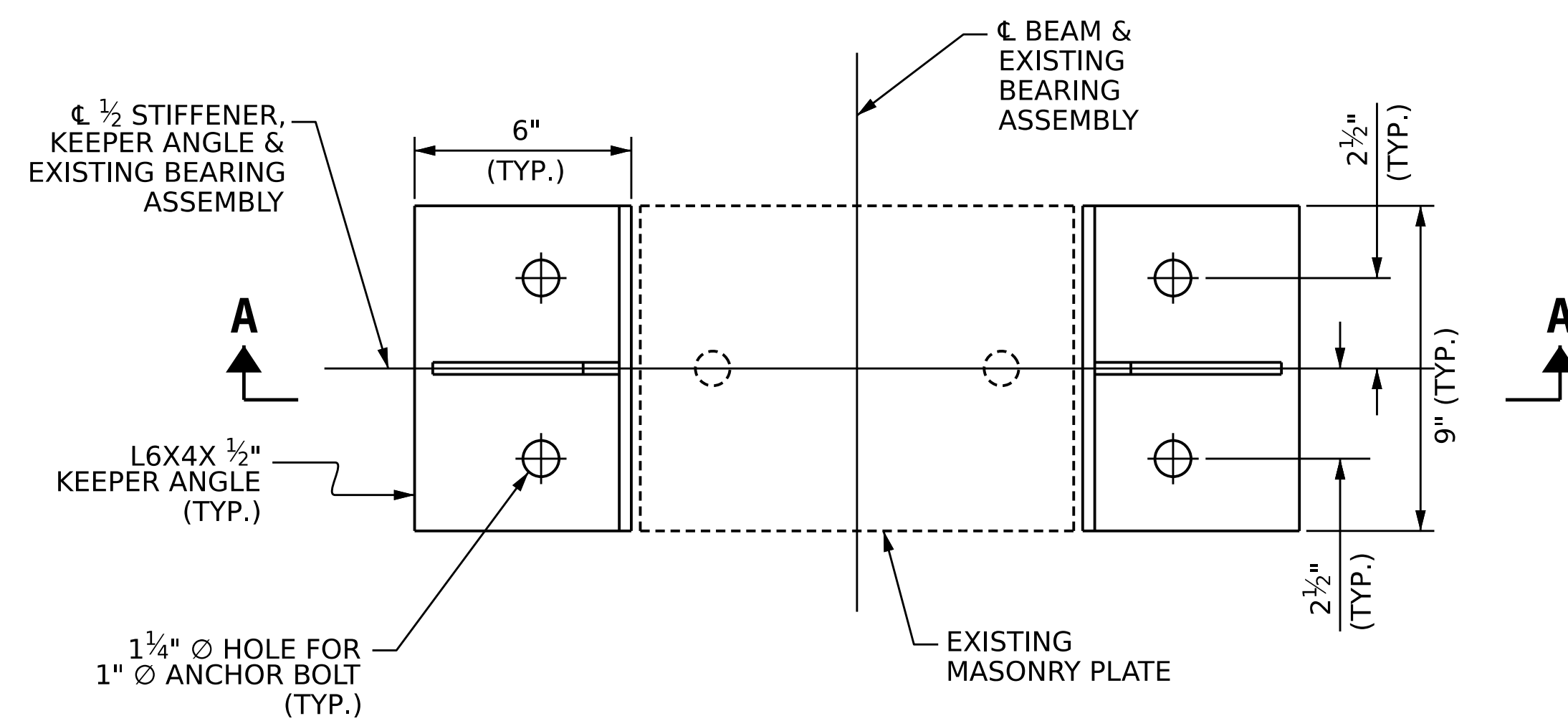
STRUCTURAL STEEL, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO 292-2H. WASHERS SHALL MEET THE REQUIREMENTS OF AASHTO M293. SHOP DRAWINGS ARE REQUIRED FOR ANCHOR BOLTS, NUTS AND WASHERS. SHOP INSPECTION IS REQUIRED.

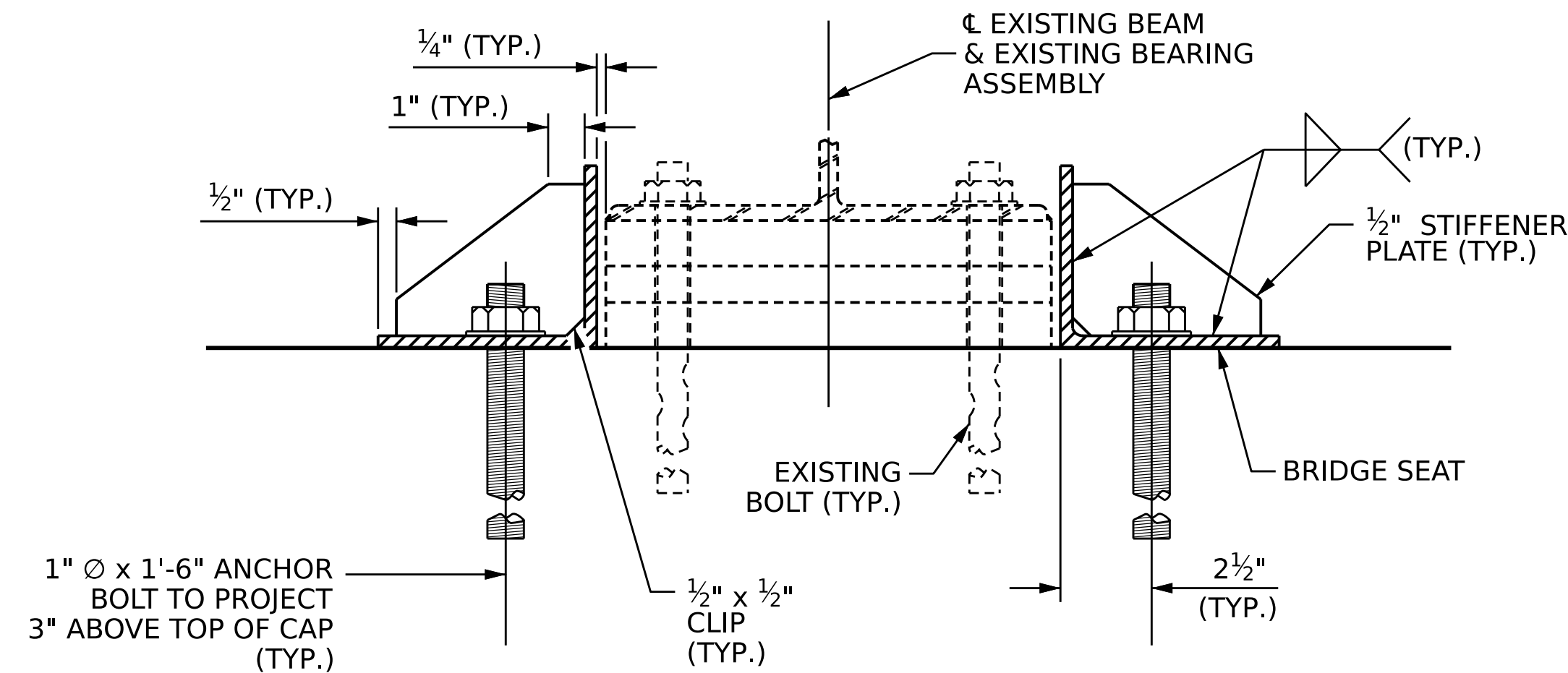
THE CONTRACTOR MAY USE ADHESIVELY ANCHORED ANCHOR BOLTS. NO FIELD TESTING IS REQUIRED. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE SECTION 420 OR THE STANDARD SPECIFICATIONS.

FOR STEEL KEEPER ANGLE ASSEMBLY, SEE SPECIAL PROVISIONS.

NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1/2 TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.



PLAN

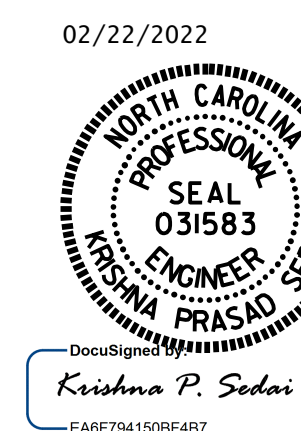


SECTION A-A

**STEEL KEEPER ANGLE ASSEMBLY DETAILS**

BRIDGE NO.	STEEL KEEPER ANGLE ASSEMBLY	
	EACH	
	ESTIMATE	ACTUAL
750020	27	
750026	16	

PROJECT NO. **HI-0002**  
**RANDOLPH** COUNTY  
 BRIDGE NO. **750020, 750026**



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**STEEL KEEPER ANGLE ASSEMBLY DETAILS**

DRAWN BY : J. A. TILLMAN DATE : 11/2021  
 CHECKED BY : H. A. LOCKLEAR DATE : 11/2021  
 DESIGN ENGINEER OF RECORD: DATE :

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-90
1			3			TOTAL SHEETS
2			4			91

**NOTES**

STRUCTURAL STEEL SHALL BE AASHTO GRADE 36 OR GREATER.

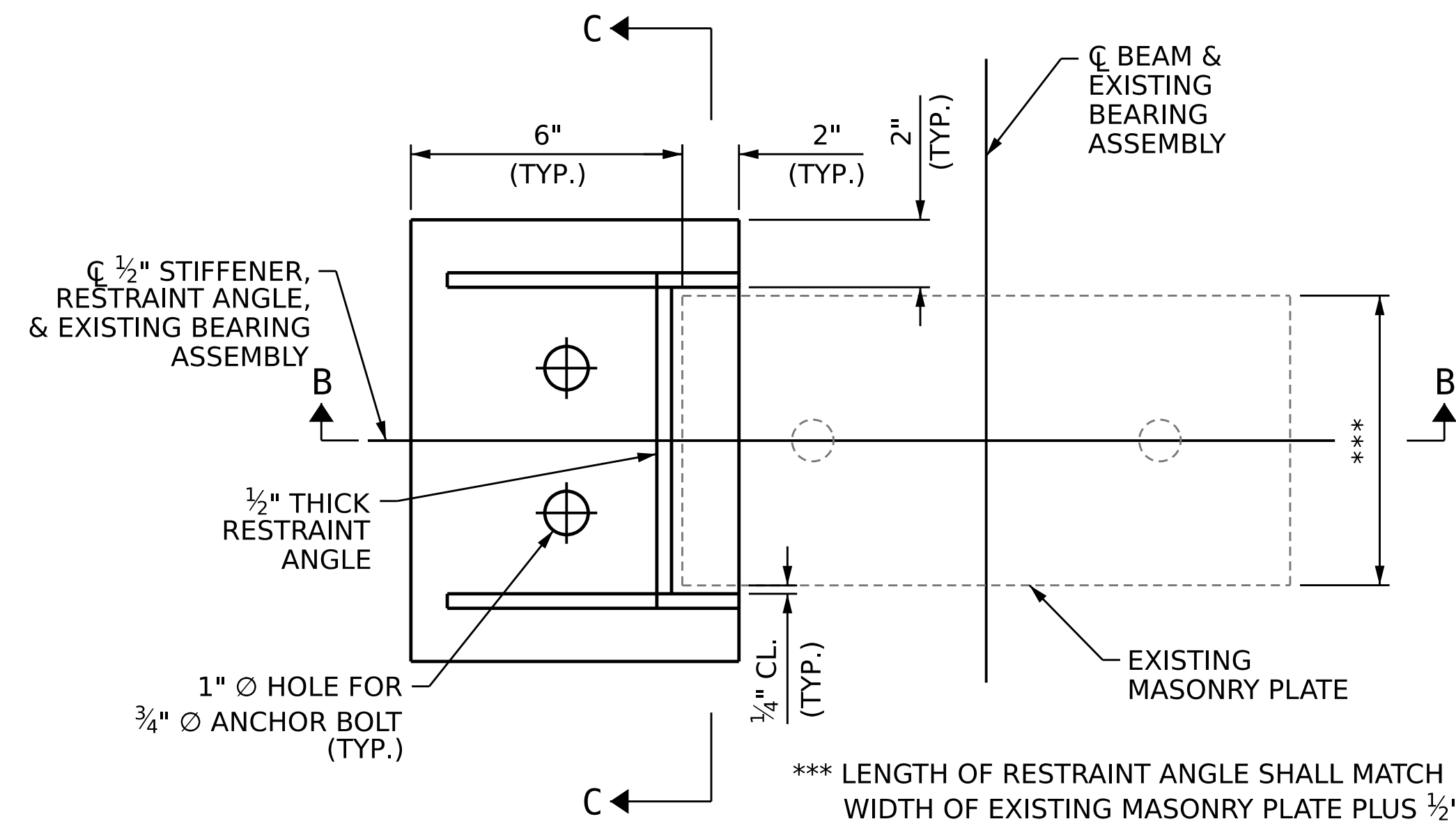
ASSEMBLIES, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO M292-2H. WASHERS SHALL MEET THE REQUIREMENTS OF AASHTO M293. SHOP DRAWINGS ARE NOT REQUIRED FOR ANCHOR BOLTS, NUTS AND WASHERS. SHOP INSPECTION IS REQUIRED.

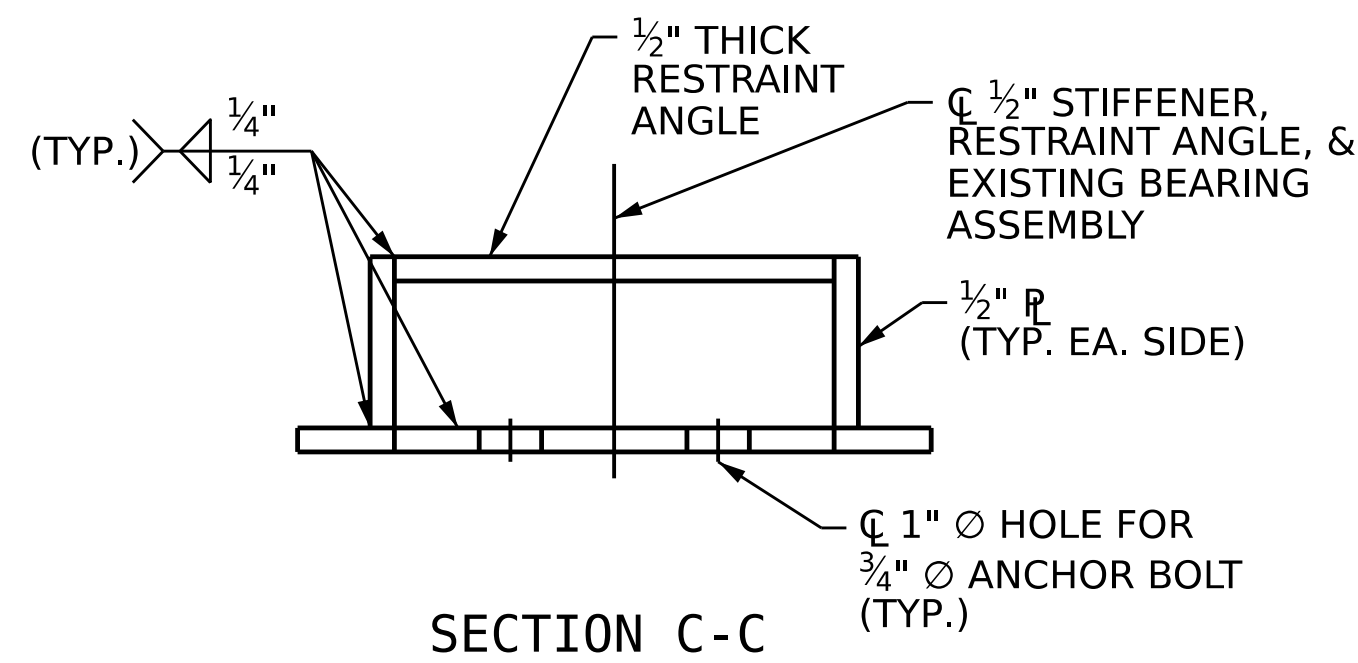
ADHESIVELY ANCHORED ANCHOR BOLTS SHALL HAVE MINIMUM EMBEDMENT OF 12" WITH SUFFICIENT PROJECTION TO PROVIDE FULL NUT ENGAGEMENT ABOVE KEEPER ASSEMBLY. SEE STANDARD SPECIFICATIONS FOR ADHESIVE ANCHOR REQUIREMENTS. NO FIELD TESTING REQUIRED.

THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF PROPOSED ANCHOR BOLTS AND EXISTING CAP REINFORCING STEEL TO ENSURE NO CONFLICTS.

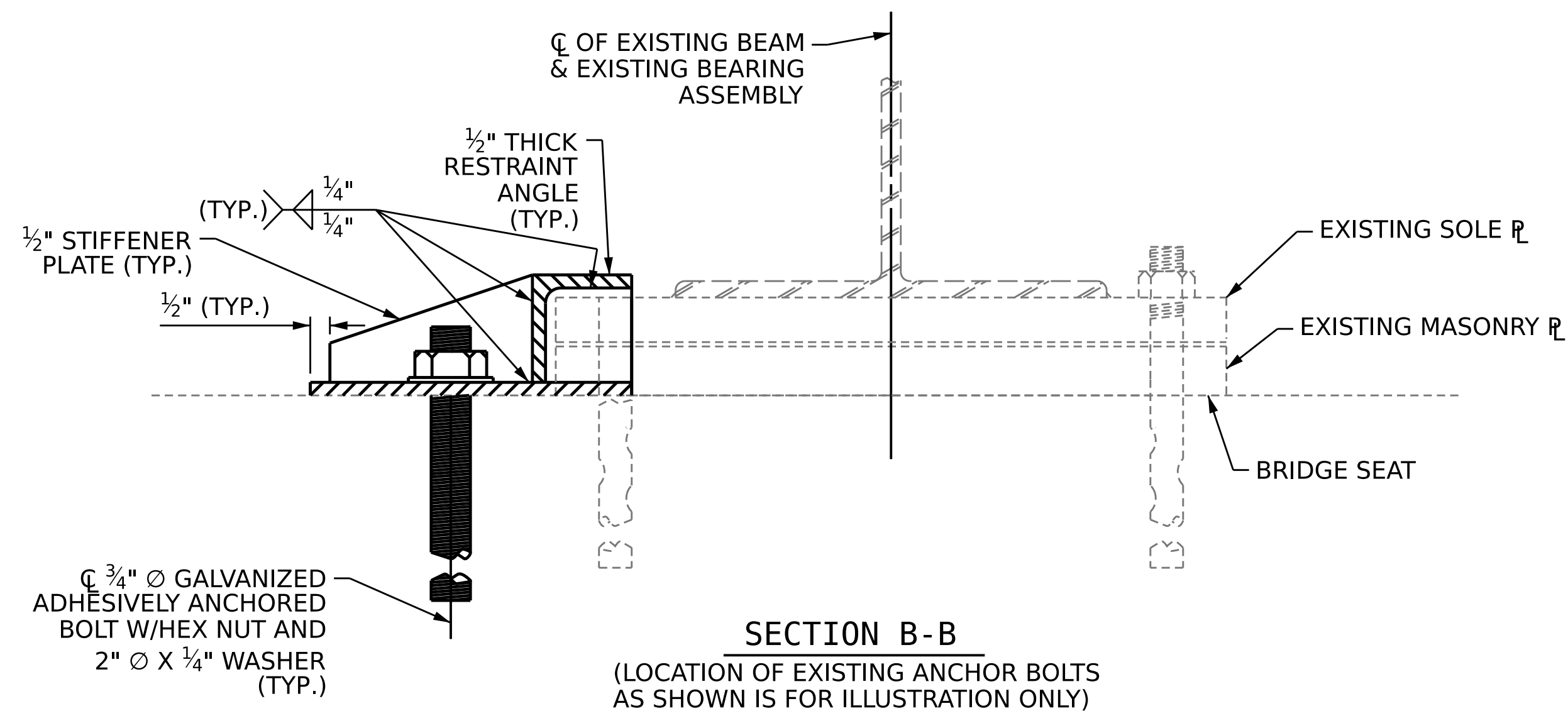
THE CONTRACTOR SHALL SUBMIT WORKING DRAWINGS SHOWING LOCATIONS OF ANCHOR BOLTS AND EXISTING CAP REINFORCEMENT TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION OF ASSEMBLIES.



**PLAN**



**SECTION C-C**



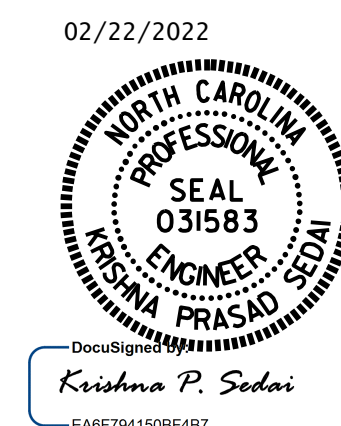
**SECTION B-B**

(LOCATION OF EXISTING ANCHOR BOLTS AS SHOWN IS FOR ILLUSTRATION ONLY)

**STEEL BEARING RETAINER ANGLE ASSEMBLY**

(STEEL RESTRAINT ANGLE OPTION TYP. ON BOTH SIDE)

PROJECT NO. HI-0002  
RANDOLPH COUNTY  
 BRIDGE NO. 750026



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
**STEEL BEARING RETAINER ANGLE ASSEMBLY DETAILS**

ASSEMBLED BY :	C. RUIZ	DATE :	02/2022
CHECKED BY :	E. BAYISSA	DATE :	02/2022
DRAWN BY :	NAP 08/18	REV.	-
CHECKED BY :	-	REV.	-

2/22/2022  
 SANDP3\HI-0002\Final Plans\406.009.HI-0002.SMU.BKD.S91.dgn  
 ksedal

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 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-91
1			3			TOTAL SHEETS
2			4			91