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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.




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

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

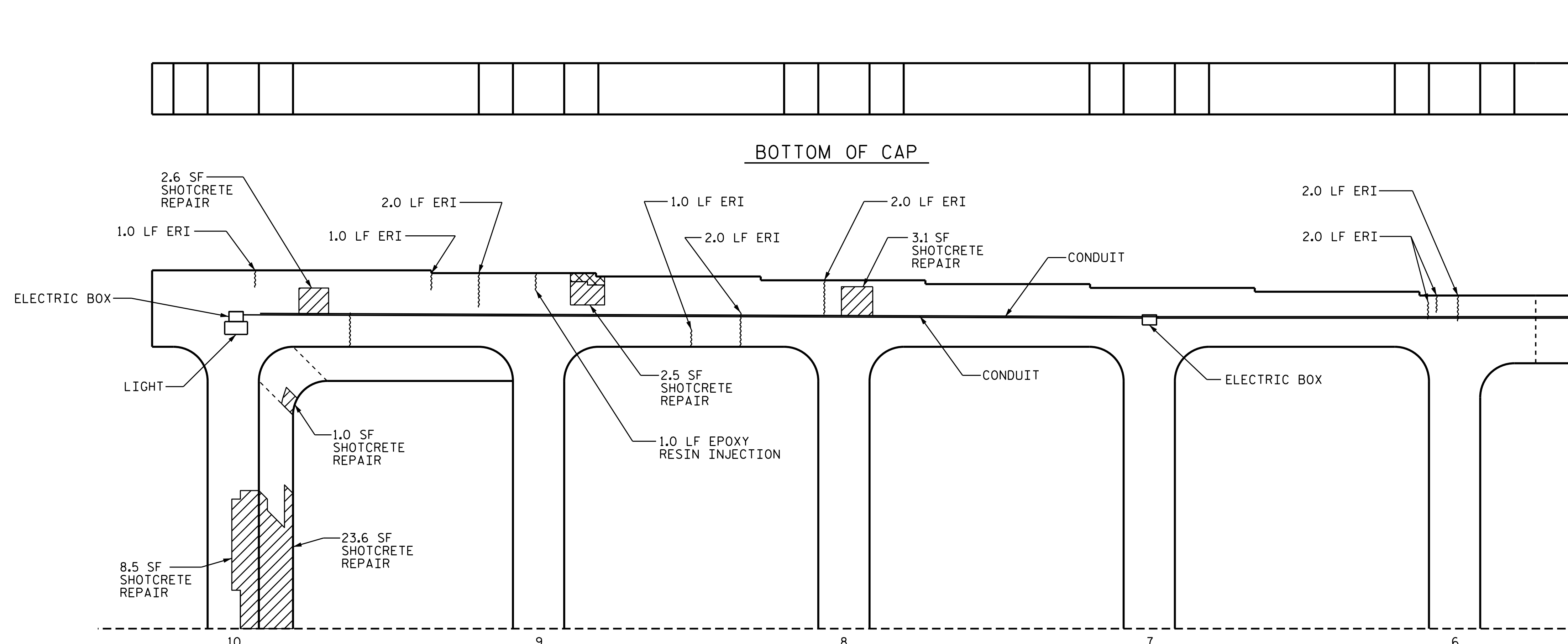
CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

AS-BUILT REPAIR QUANTITY TABLE

BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	9.2	4.6		
COLUMNS	32.1	16.1		
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		14.0		
COLUMNS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP		0		

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



BOTTOM OF CAP

SPAN B
SPAN A

MATCHLINE

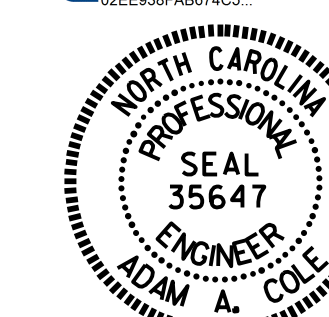
ELEVATION

BENT 1

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 332590

SHEET 3 OF 4

DocuSigned by:
02EE98FAB074C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 1
 SPAN B FACE

DRAWN BY : R.L. PUTK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			10-33
2			4			274

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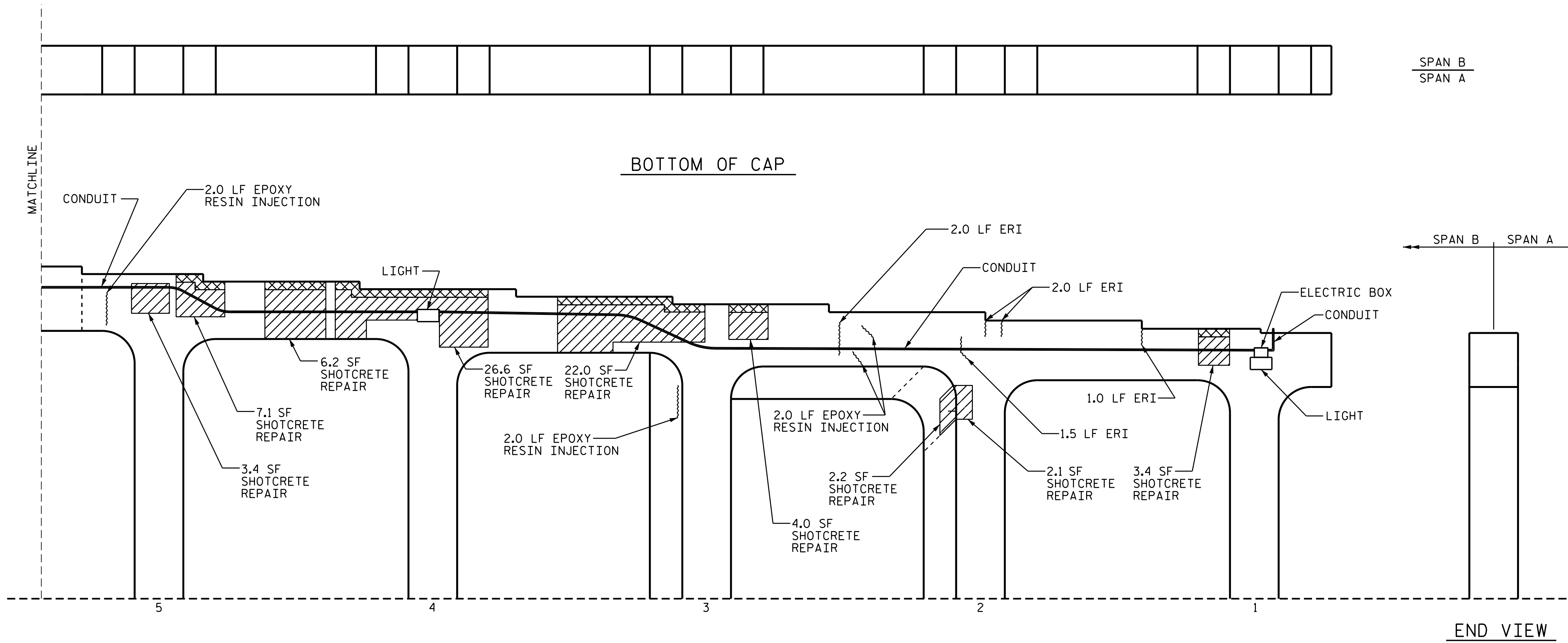
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

AS-BUILT REPAIR QUANTITY TABLE

BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	77.0	38.5		
COLUMNS	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.
CAP		10.5		
COLUMNS		2.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP		0		

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



BOTTOM OF CAP

SPAN B SPAN A

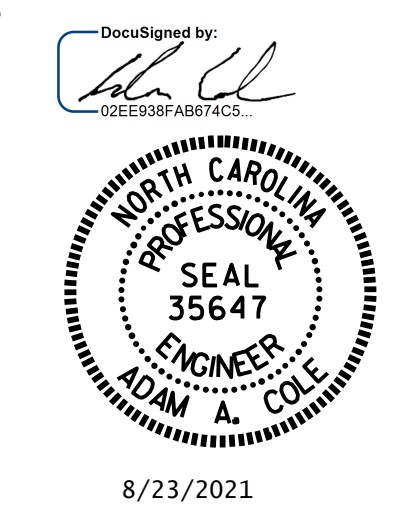
END VIEW

ELEVATION

BENT 1

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 4 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

 BENT 1
 SPAN B FACE

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

NO.	BY:	DATE:	REVISIONS			SHEET NO.
			NO.	BY:	DATE:	
1			3			S10-34 TOTAL SHEETS 274
2			4			

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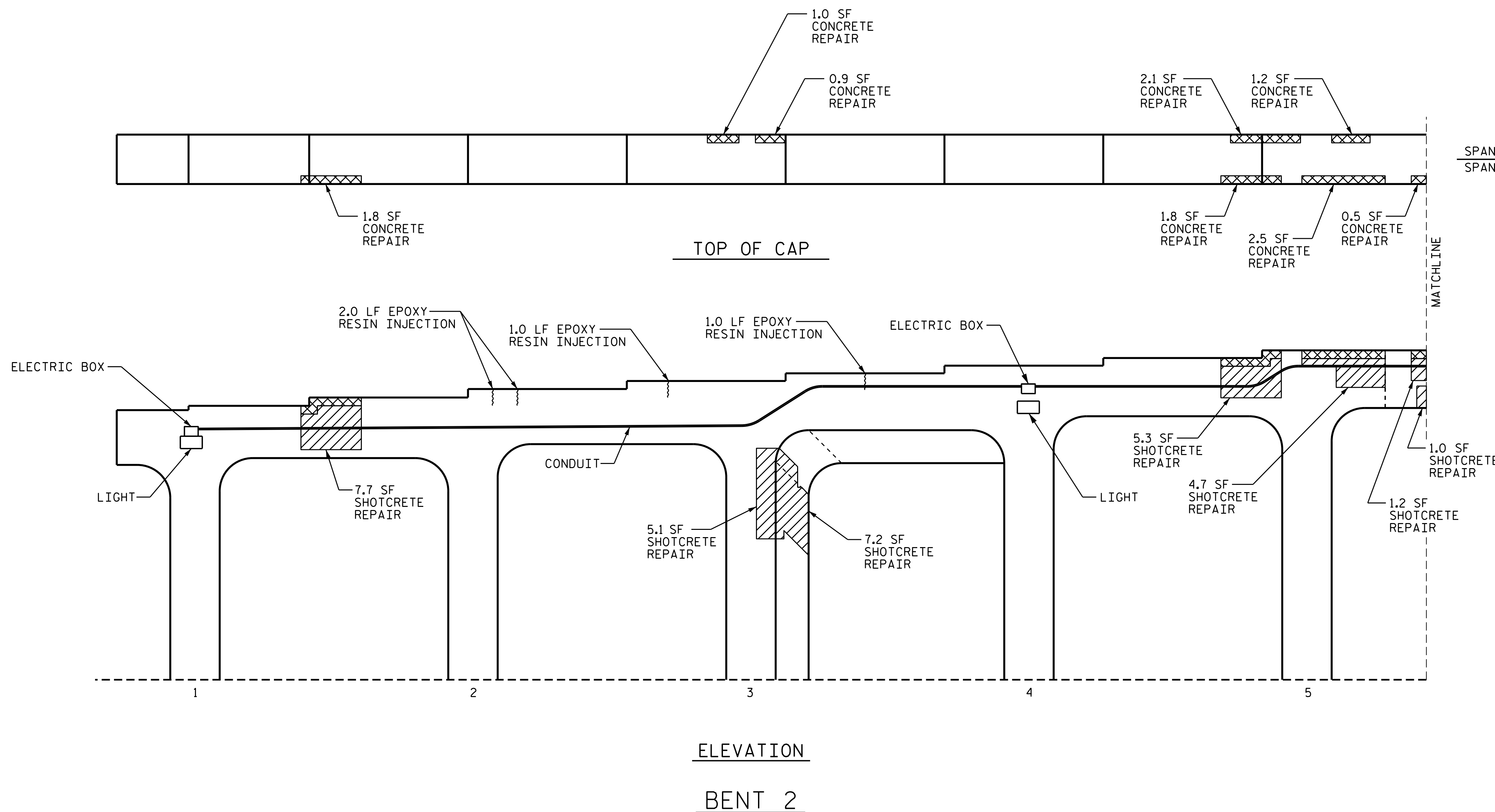
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

AS-BUILT REPAIR QUANTITY TABLE

BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	19.9	10.0		
COLUMNS	12.3	6.2		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	11.8	5.9		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		4.0		
COLUMNS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP		239		

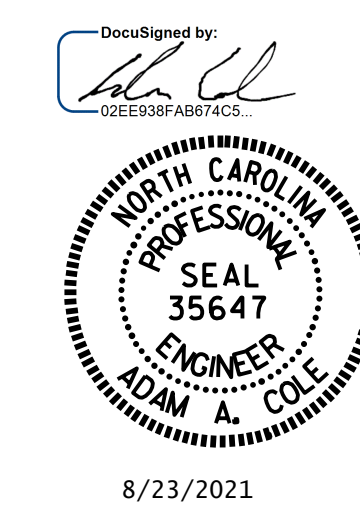
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ELEVATION
BENT 2

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 1 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

 BENT 2
 SPAN B FACE

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H.A.LOCKLEAR DATE : 06/2021

NO.	REVISIONS			NO.	REVISIONS			SHEET NO.
	BY:	DATE:			BY:	DATE:		
1				3				TOTAL SHEETS 274
2				4				

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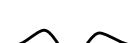
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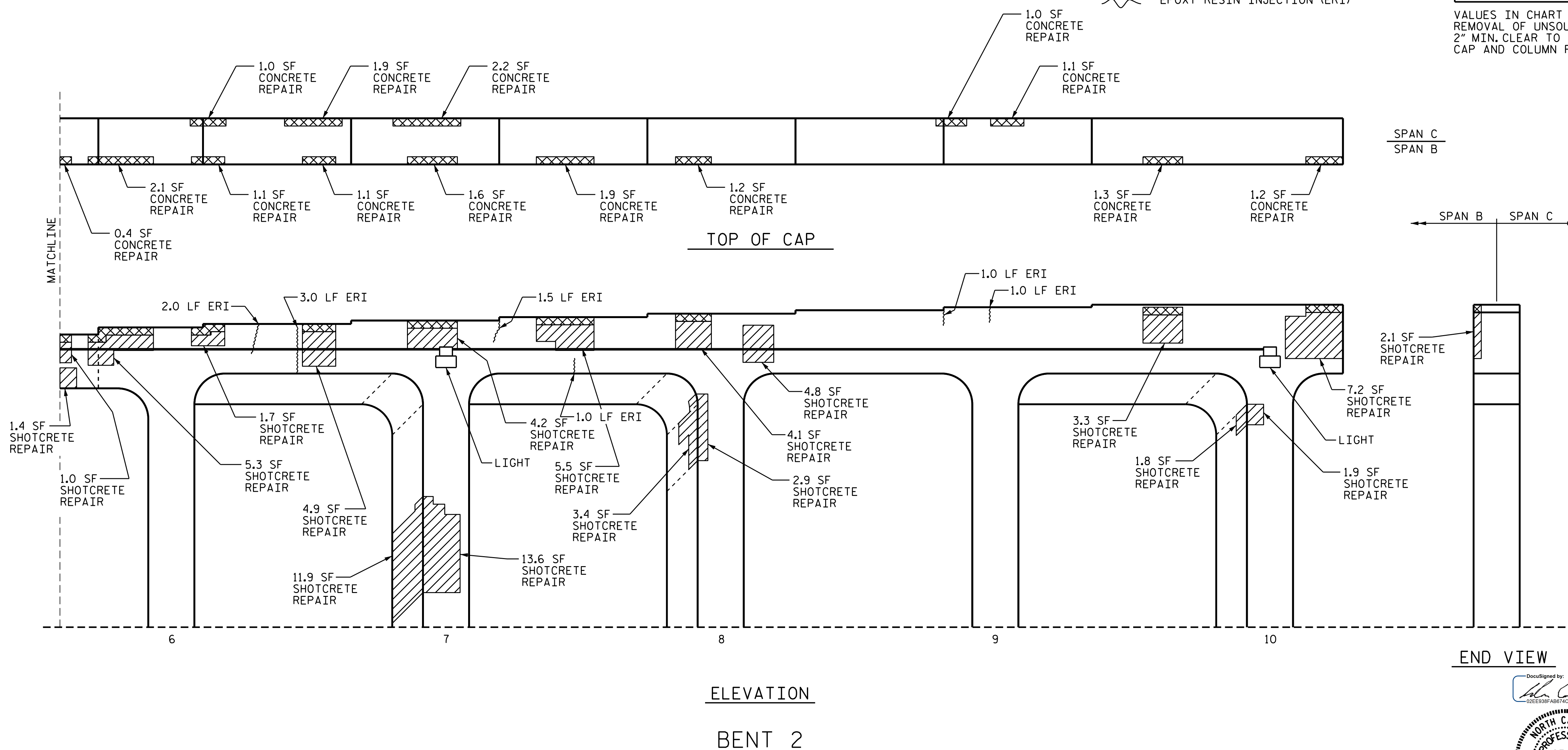
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

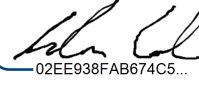
AS-BUILT REPAIR QUANTITY TABLE				
BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	45.5	22.8		
COLUMNS	35.5	17.8		
CONCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	19.1	9.6		
EPOXY RESIN INJECTION		LIN. FT		LIN. FT
CAP		9.5		
COLUMNS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP		251		

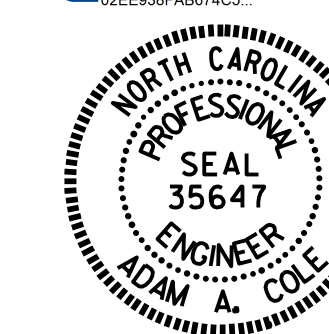
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PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 2 OF 4

DocuSigned by:

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8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 2
 SPAN B FACE

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			TOTAL SHEETS
2			4			274

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DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H.A.LOCKLEAR DATE : 06/2021

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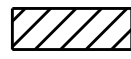


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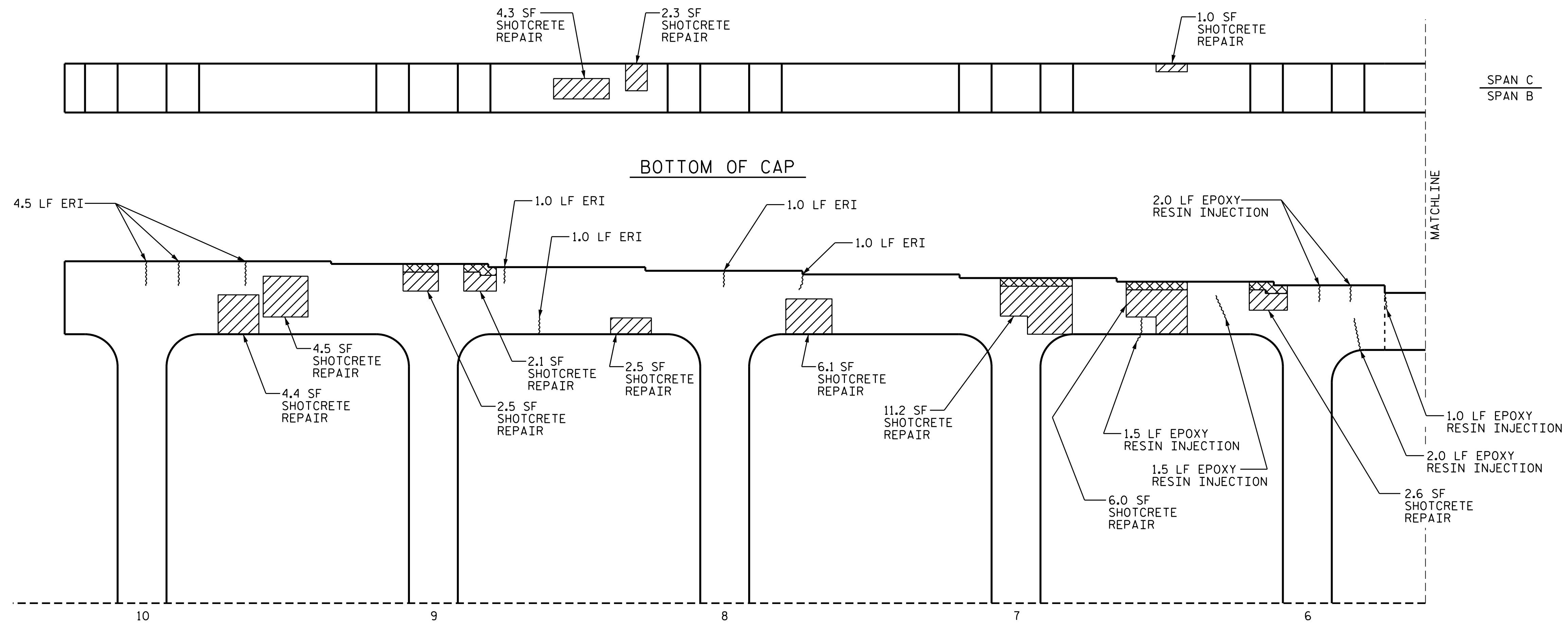
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

AS-BUILT REPAIR QUANTITY TABLE

BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	49.5	24.8		
COLUMNS	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
CAP		16.5		
COLUMNS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP		0		

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



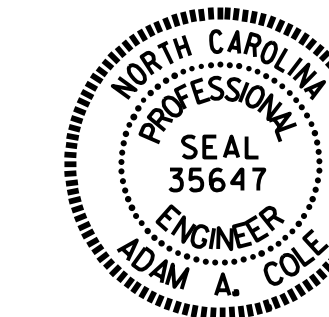
ELEVATION

BENT 2

PROJECT NO. I-5746C
 MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 3 OF 4

DocuSigned by:
 02EE98FAB074C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 2
 SPAN C FACE

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H.A.LOCKLEAR DATE : 06/2021

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1			3			274
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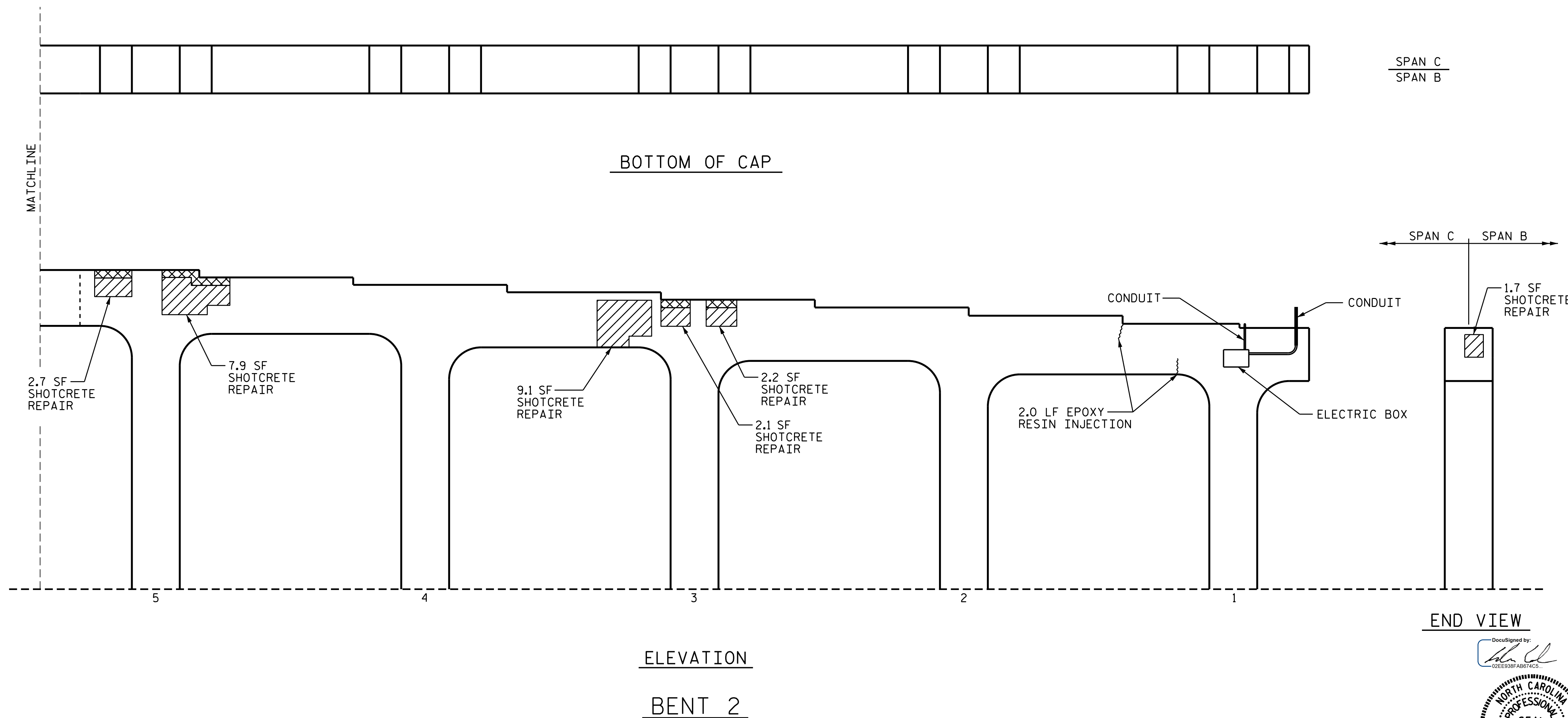
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-  EPOXY RESIN INJECTION (ERI)

AS-BUILT REPAIR QUANTITY TABLE

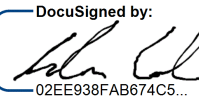
BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	25.7	12.9		
COLUMNS	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT		LIN. FT
CAP		2.0		
COLUMNS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP		0		

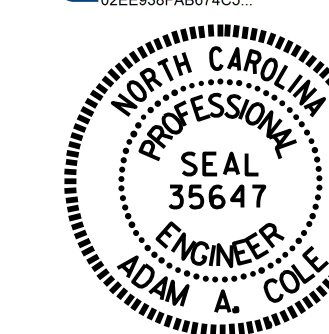
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PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 4 OF 4

DocuSigned by:

 02EE98FAB074C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**BENT 2
 SPAN C FACE**

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

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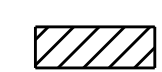


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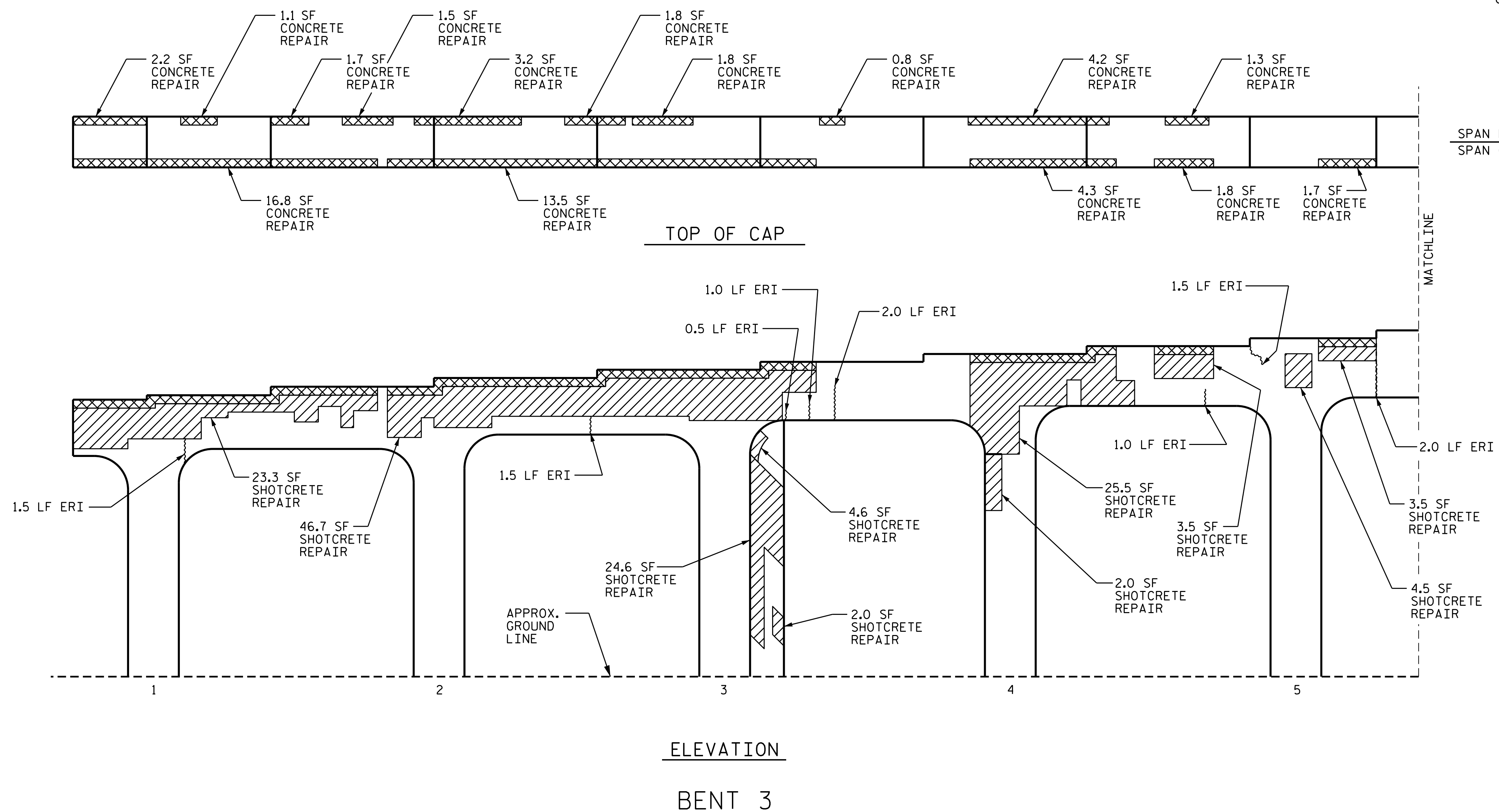
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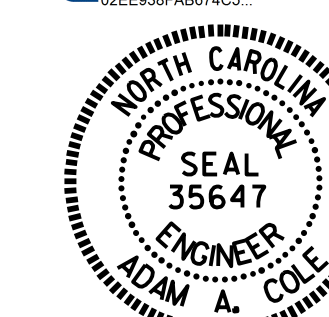
AS-BUILT REPAIR QUANTITY TABLE				
BENT 3	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	111.6	55.8		
COLUMNS	28.6	14.3		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	57.7	28.9		
EPOXY RESIN INJECTION		LIN. FT		LIN. FT
CAP		11.0		
COLUMNS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP		239		

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PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 1 OF 4

DocuSigned by:
 02EE98FAB074C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 3
 SPAN C FACE

REVISIONS

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1			3			TOTAL SHEETS 274
2			4			

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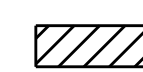
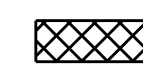

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FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

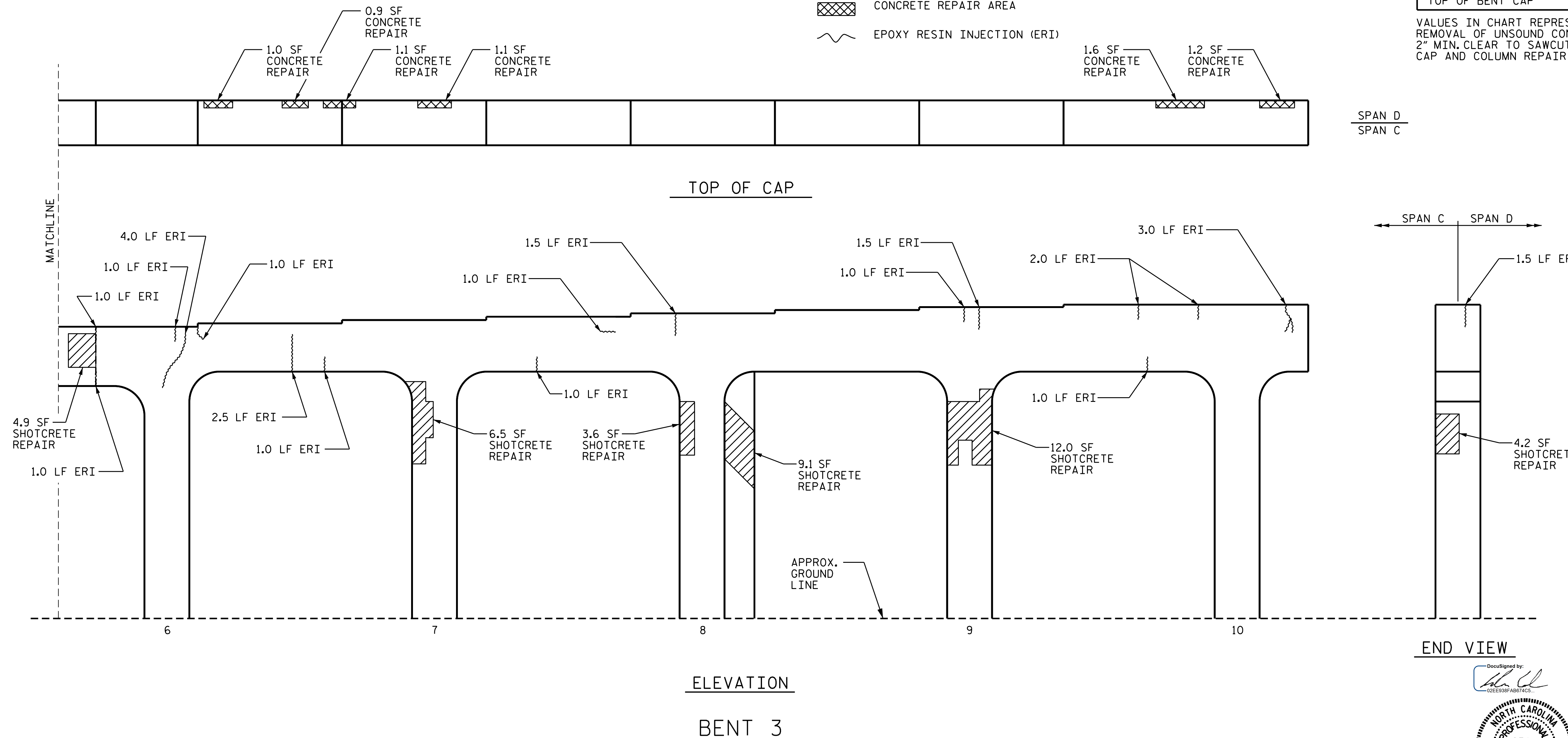
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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.

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

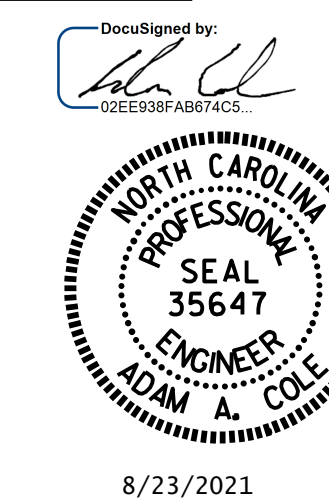
AS-BUILT REPAIR QUANTITY TABLE				
BENT 3	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	4.9	2.5		
COLUMNS	35.4	17.7		
CONCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	6.9	3.5		
EPOXY RESIN INJECTION		LIN. FT		LIN. FT
CAP		25.0		
COLUMNS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP		251		

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



PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 2 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 3
 SPAN C FACE

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H.A.LOCKLEAR DATE : 06/2021

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
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.




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

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

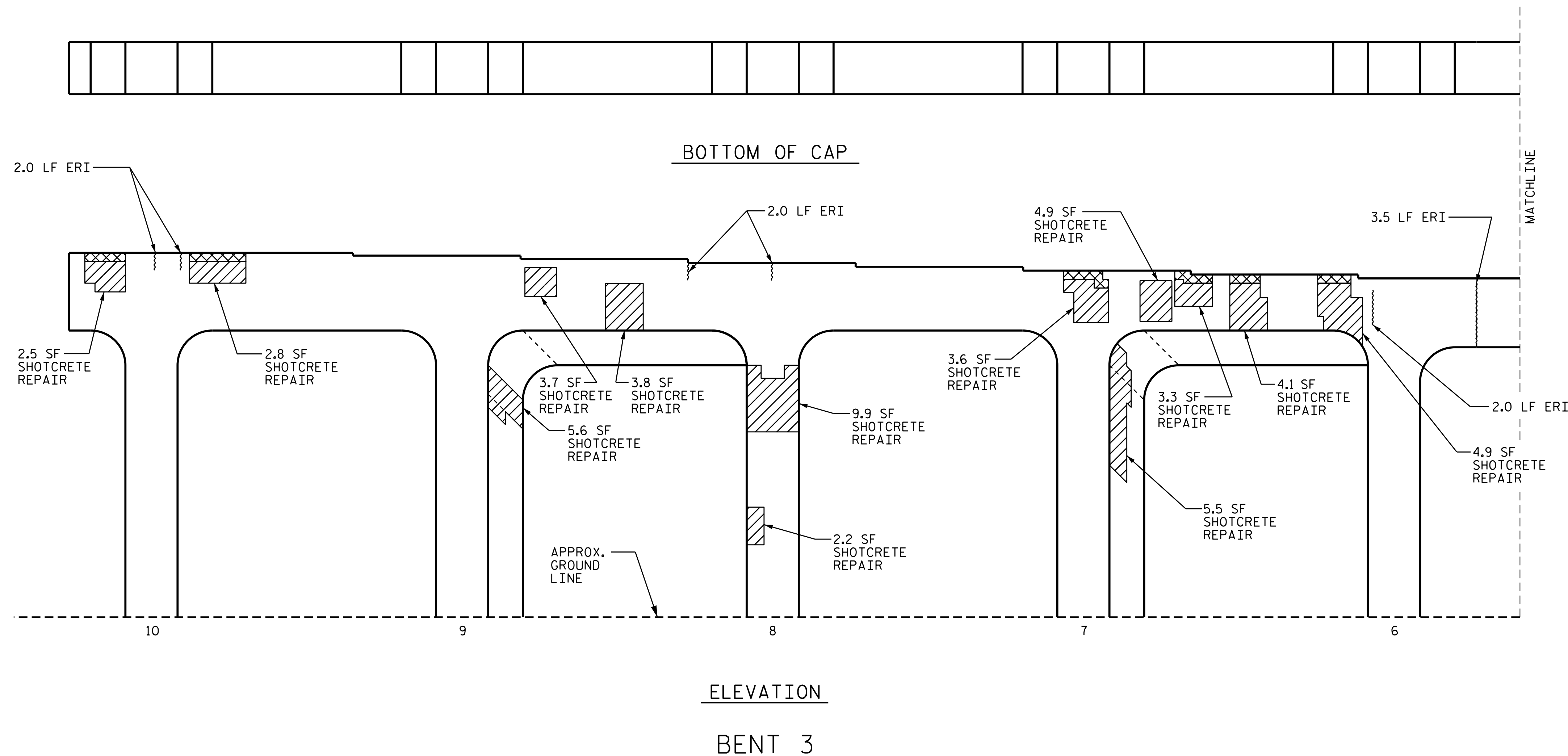
CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

AS-BUILT REPAIR QUANTITY TABLE

BENT 3	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	33.6	16.8		
COLUMNS	23.2	11.6		
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		9.5		
COLUMNS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP		0		

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



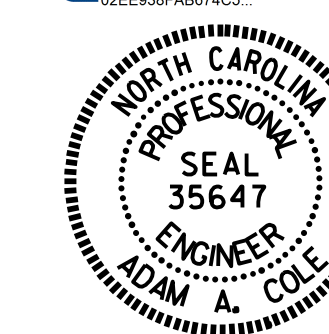
SPAN D
SPAN C

MATCHLINE

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 3 OF 4

DocuSigned by:
02EE98FA8074C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 3
 SPAN D FACE

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

DOCUMENT NOT CONSIDERED
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 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
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.

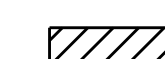


CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

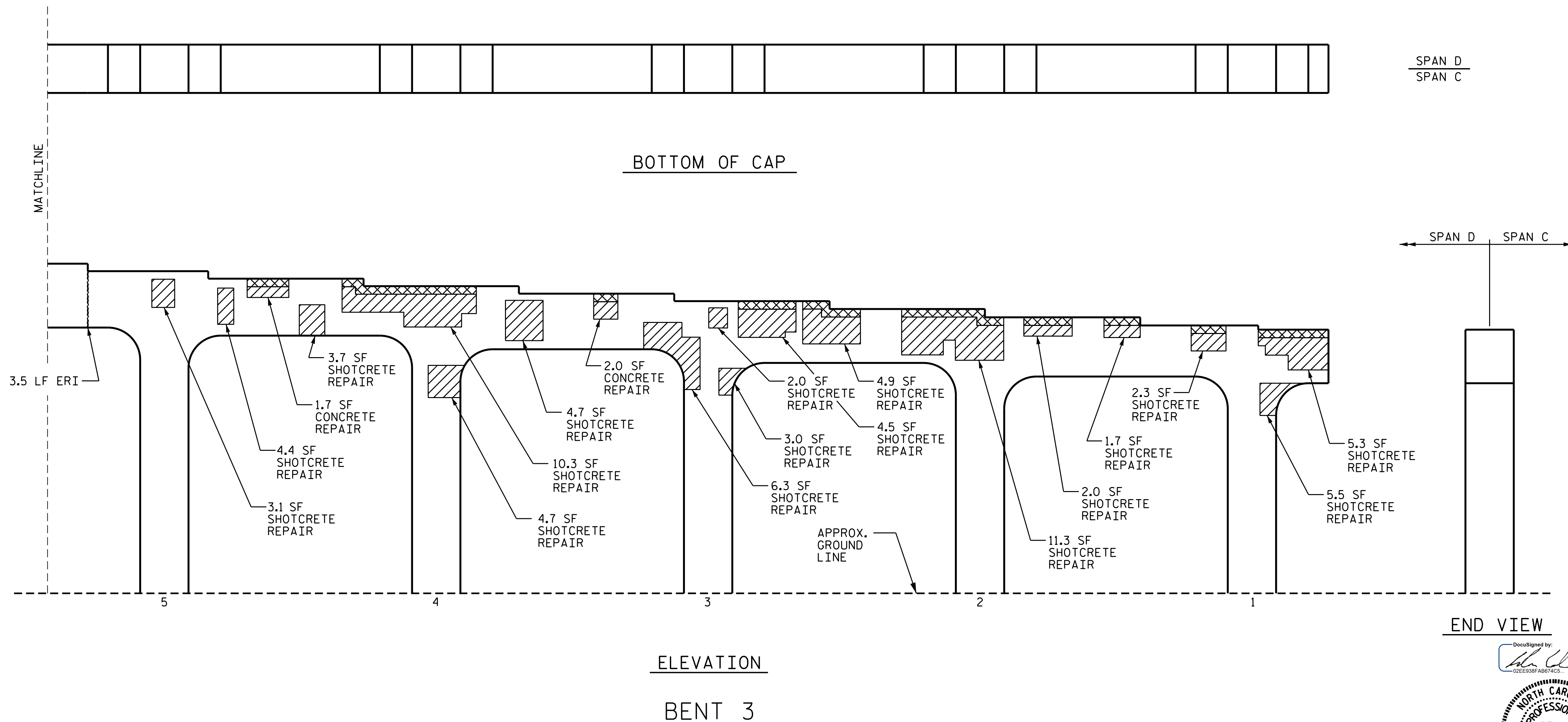
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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.

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

AS-BUILT REPAIR QUANTITY TABLE				
BENT 3	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	78.7	39.4		
COLUMNS	4.7	2.4		
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		3.5		
COLUMNS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP		0		

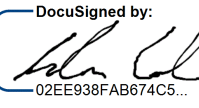
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.



ELEVATION
BENT 3

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 4 OF 4

DocuSigned by:

 02EE98FA8074C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 3
 SPAN D FACE

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			42
2			4			274

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

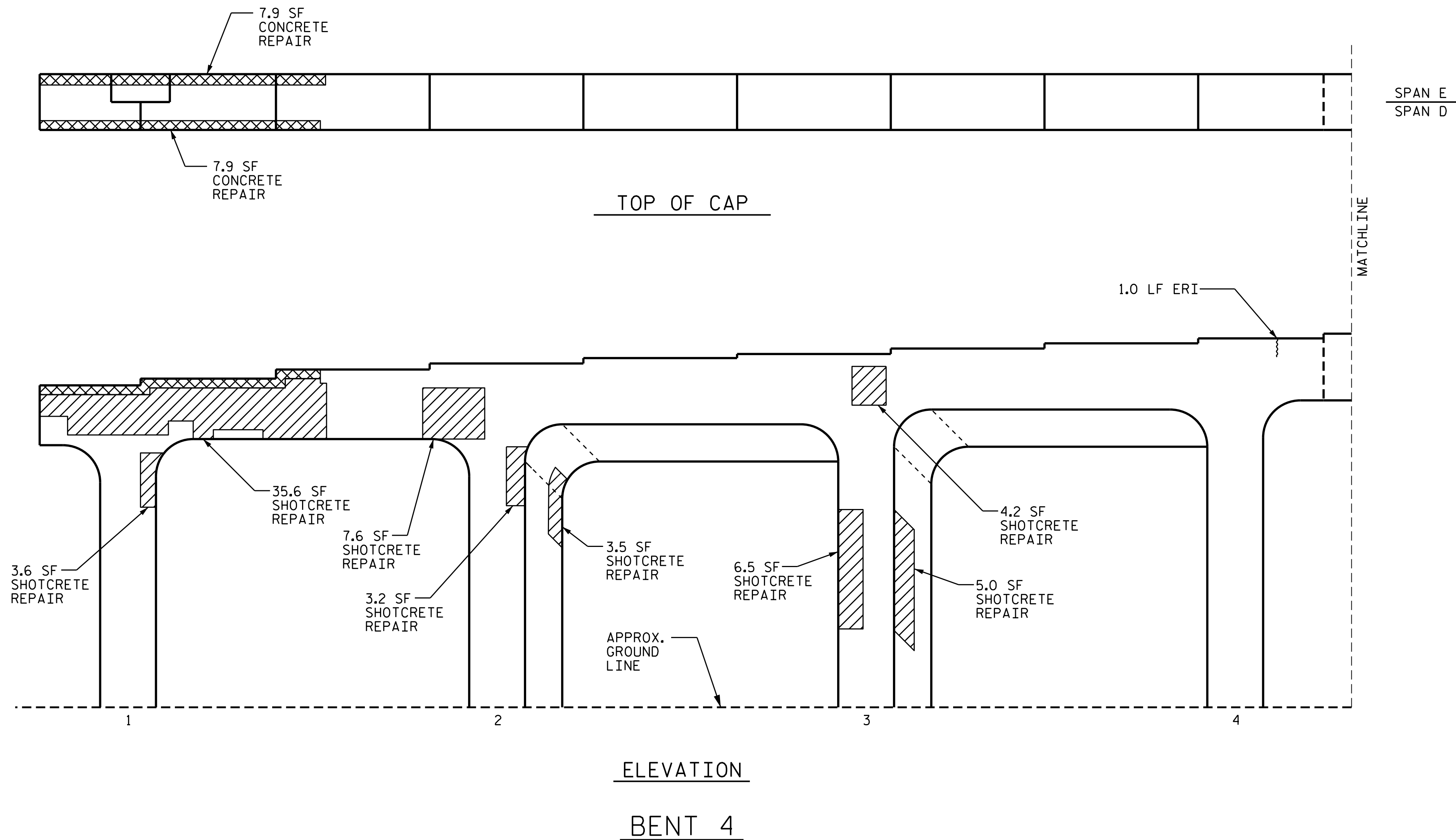
FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, 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.

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



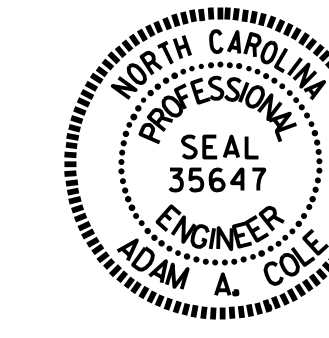
AS-BUILT REPAIR QUANTITY TABLE				
BENT 4	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	47.4	23.7		
COLUMNS	21.8	10.9		
CONCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	15.8	7.9		
EPOXY RESIN INJECTION		LIN. FT		LIN. FT
CAP		1.0		
COLUMNS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP		220		

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 1 OF 4

DocuSigned by:
 02EE98FAB074C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 4
 SPAN D FACE

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
2			4			274

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

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

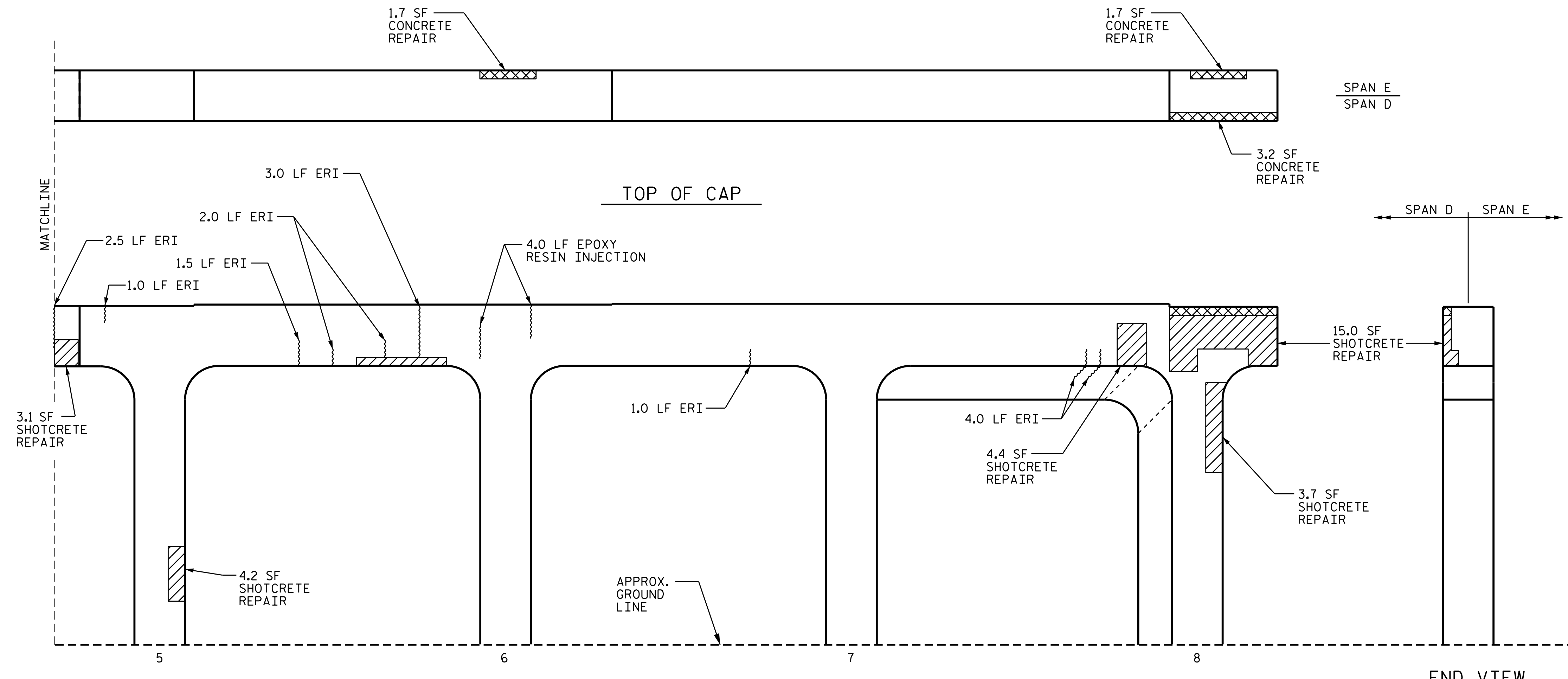
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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.

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

AS-BUILT REPAIR QUANTITY TABLE				
BENT 4	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	22.5	11.3		
COLUMNS	7.9	4.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	6.6	3.3		
EPOXY RESIN INJECTION		LIN. FT		LIN. FT
CAP		19.0		
COLUMNS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP		226		

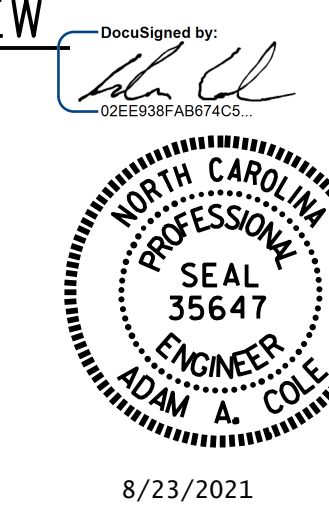
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.



ELEVATION
BENT 4

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 2 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**BENT 4
 SPAN D FACE**

DRAWN BY : R.L. PUTK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			44
2			4			274

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

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

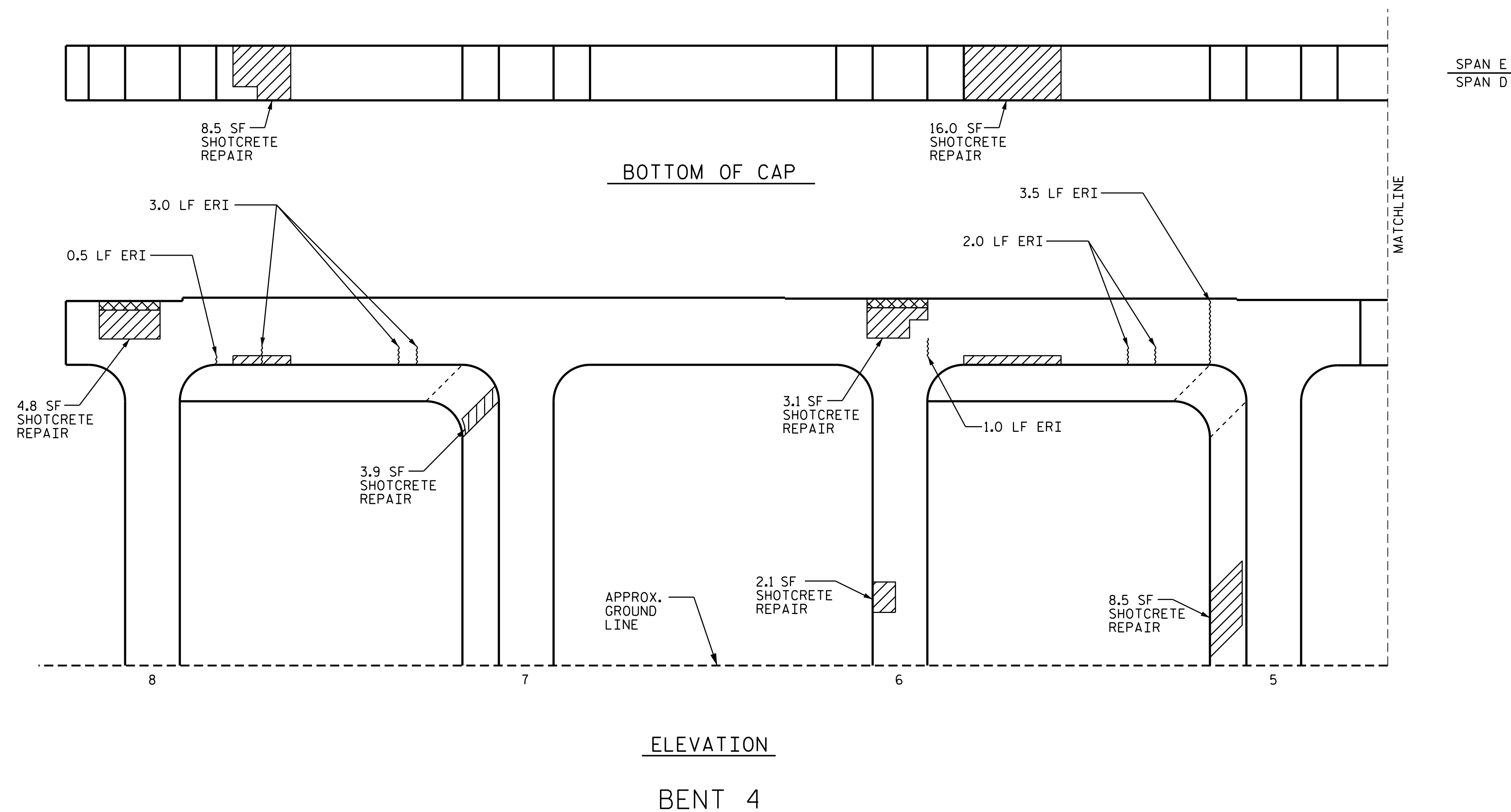
CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

AS-BUILT REPAIR QUANTITY TABLE

BENT 4	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	32.4	16.2		
COLUMNS	14.5	7.3		
CONCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		10.0		
COLUMNS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP		0		

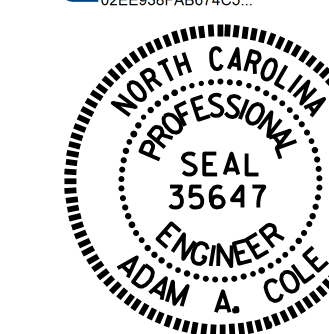
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.



PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 3 OF 4

DocuSigned by:
 02EE98FAB074C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 4
 SPAN E FACE

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
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.




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

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

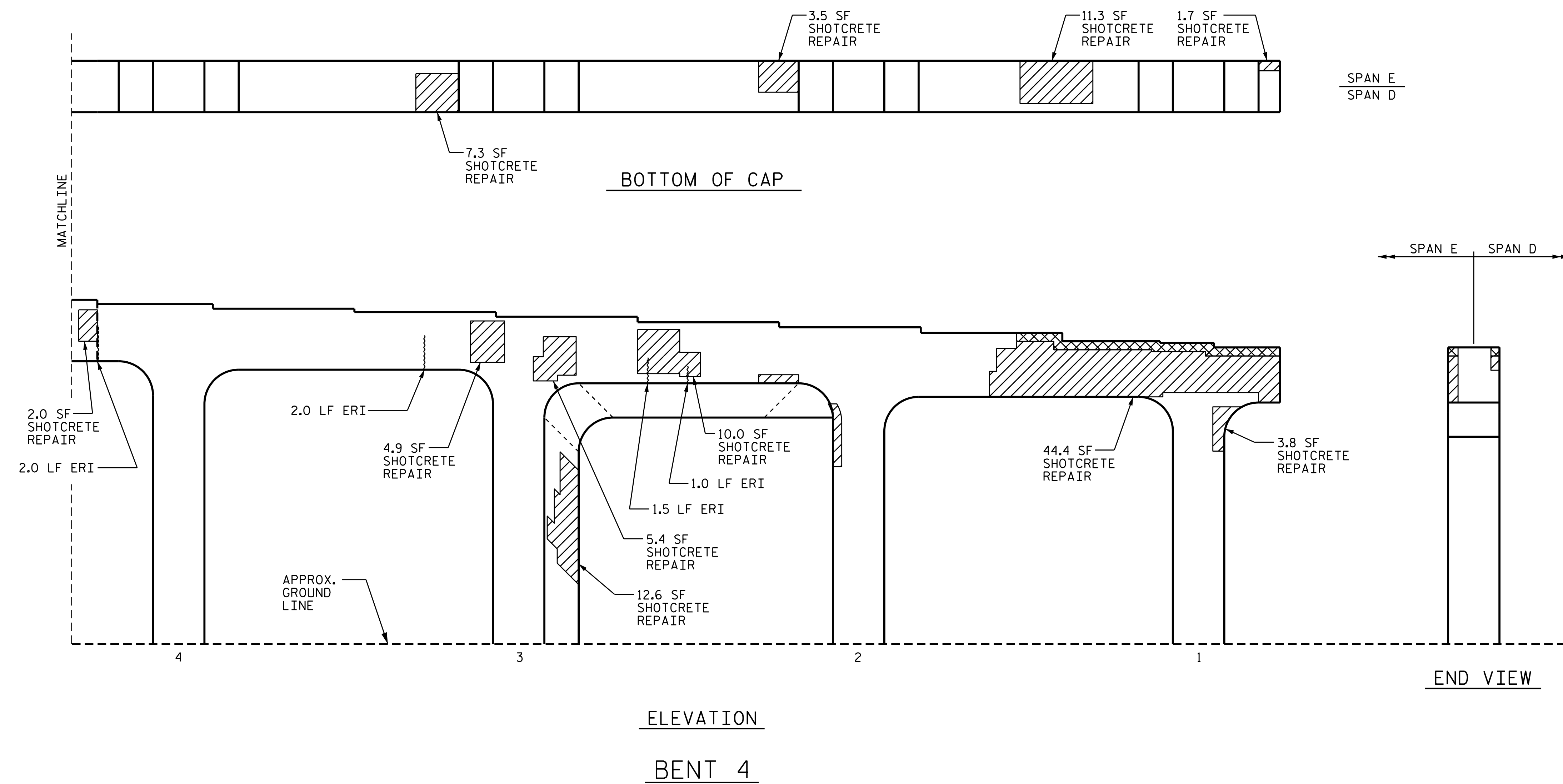
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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.

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

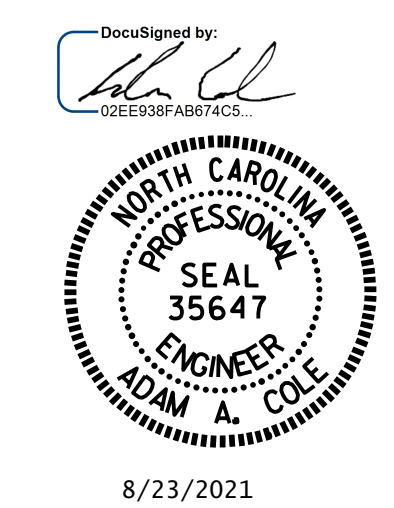
AS-BUILT REPAIR QUANTITY TABLE				
BENT 4	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	90.5	45.3		
COLUMNS	16.4	8.2		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		6.5		
COLUMNS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP		0		

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



PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 4 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
BENT 4
SPAN E FACE

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

NO.	BY:	DATE:	REVISIONS			SHEET NO.
			NO.	BY:	DATE:	
1			3			S10-46 TOTAL SHEETS 274
2			4			

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

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.

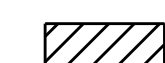
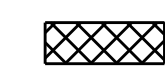

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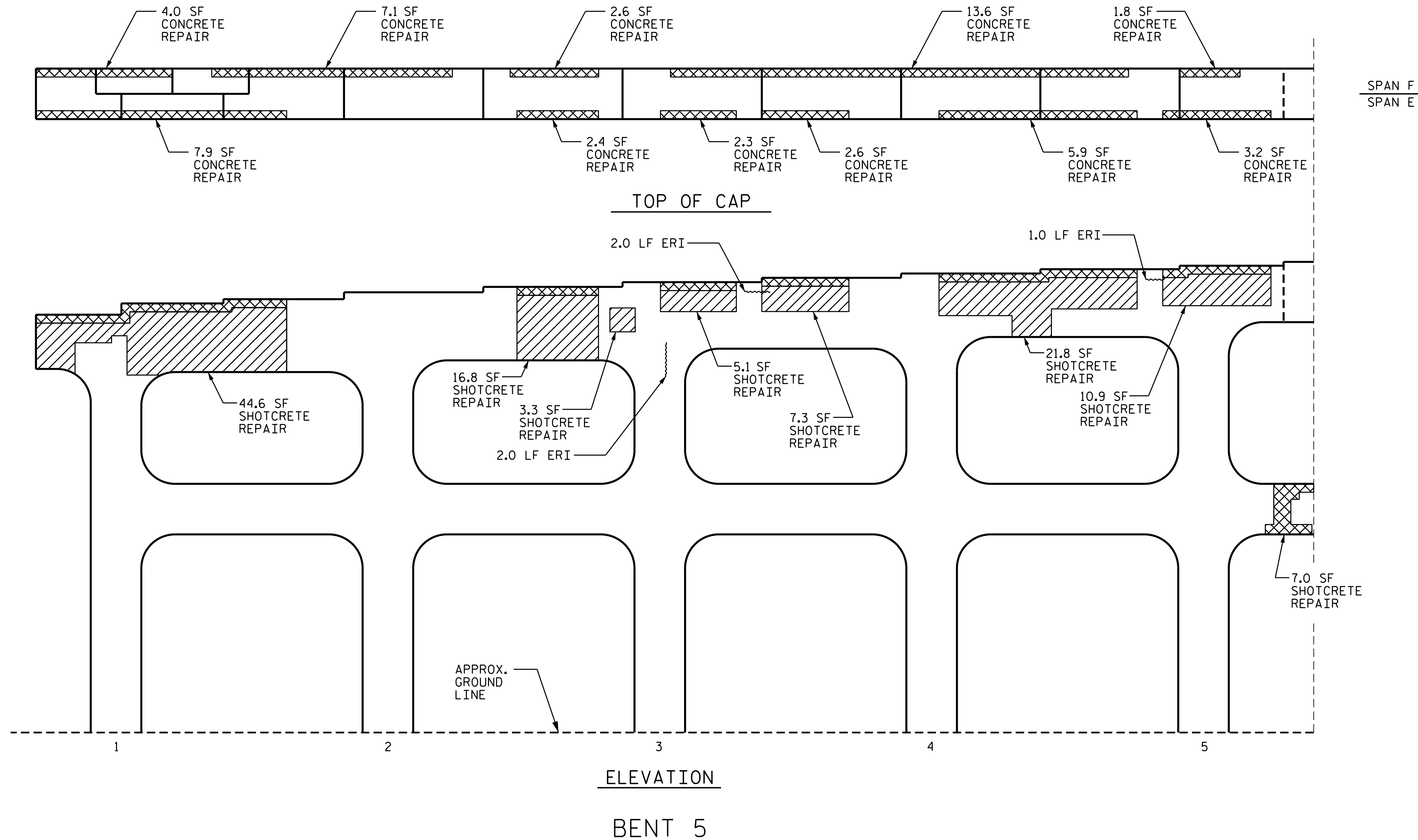
FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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



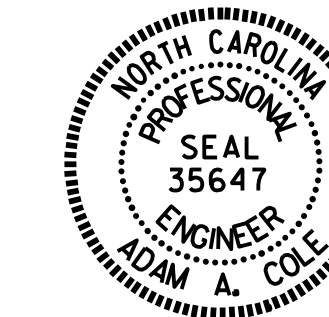
AS-BUILT REPAIR QUANTITY TABLE				
BENT 5	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	109.8	54.9		
COLUMNS & STRUTS	7.0	3.5		
CONCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	53.4	26.7		
EPOXY RESIN INJECTION		LIN. FT		LIN. FT
CAP		5.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		228		

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 1 OF 4

DocuSigned by:
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8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 5
SPAN E FACE

DRAWN BY : R.L. PUTK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

NO.	BY:	DATE:	REVISIONS			SHEET NO.
			NO.	BY:	DATE:	
1			3			S10-47 TOTAL SHEETS 274
2			4			

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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.




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

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

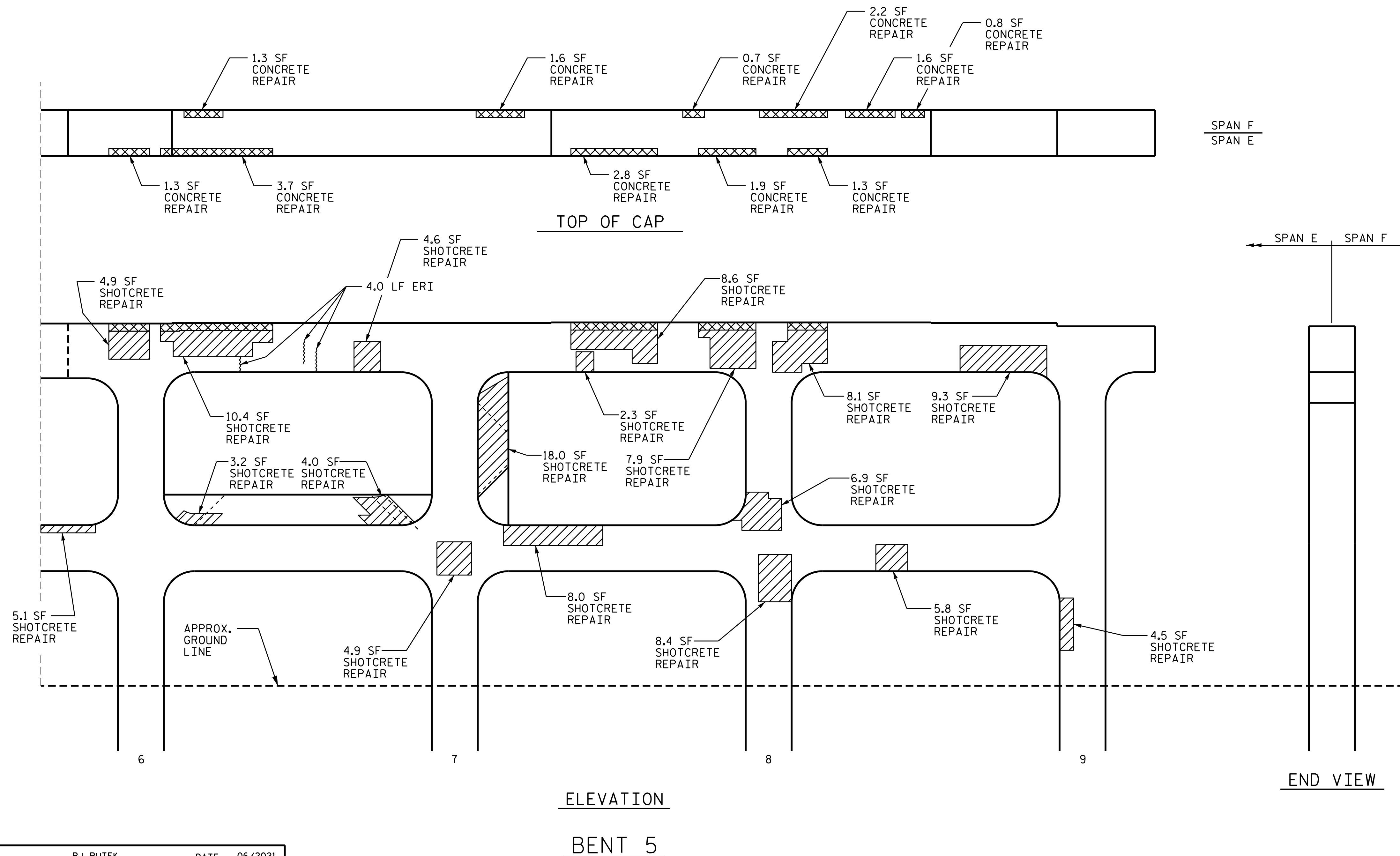
CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

AS-BUILT REPAIR QUANTITY TABLE

BENT 5	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	56.1	28.1		
COLUMNS & STRUTS	68.8	34.4		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	19.2	9.6		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		4.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP & STRUTS		219		

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



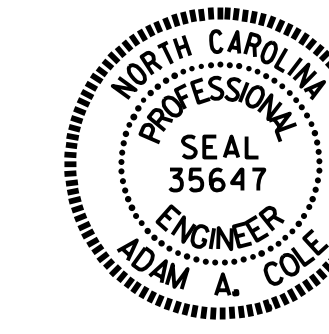
ELEVATION
BENT 5

END VIEW

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 2 OF 4

DocuSigned by:
 02EE98FAB074C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 5
 SPAN E FACE

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

DOCUMENT NOT CONSIDERED
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			510-48
2			4			274

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.

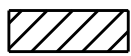


CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

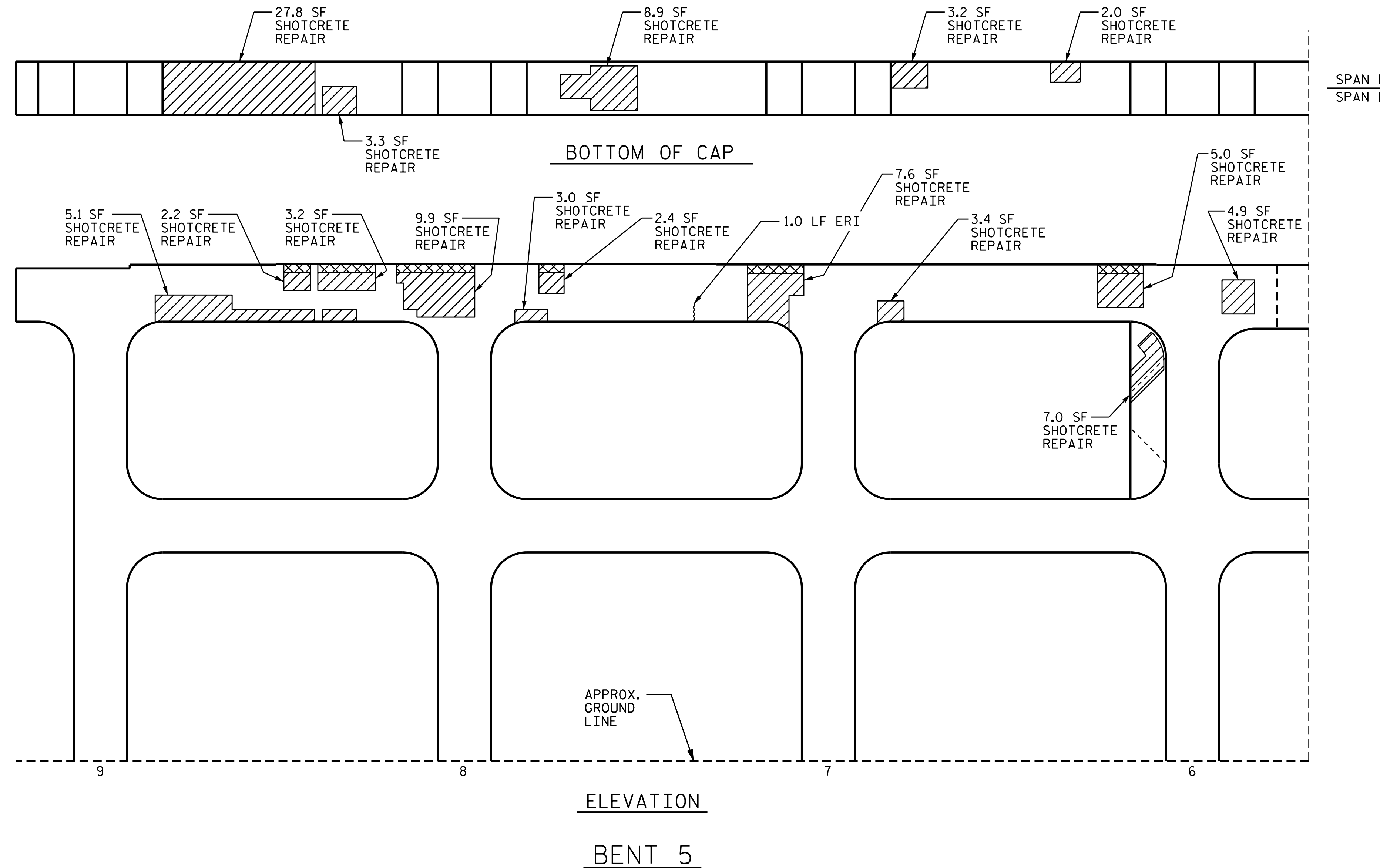
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

AS-BUILT REPAIR QUANTITY TABLE

BENT 5	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	88.6	44.3		
COLUMNS & STRUTS	7.0	3.5		
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		1.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

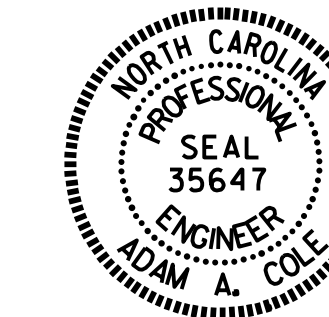
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PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 3 OF 4

DocuSigned by:
 02EE98FAB074C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 5
SPAN F FACE

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
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.




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FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

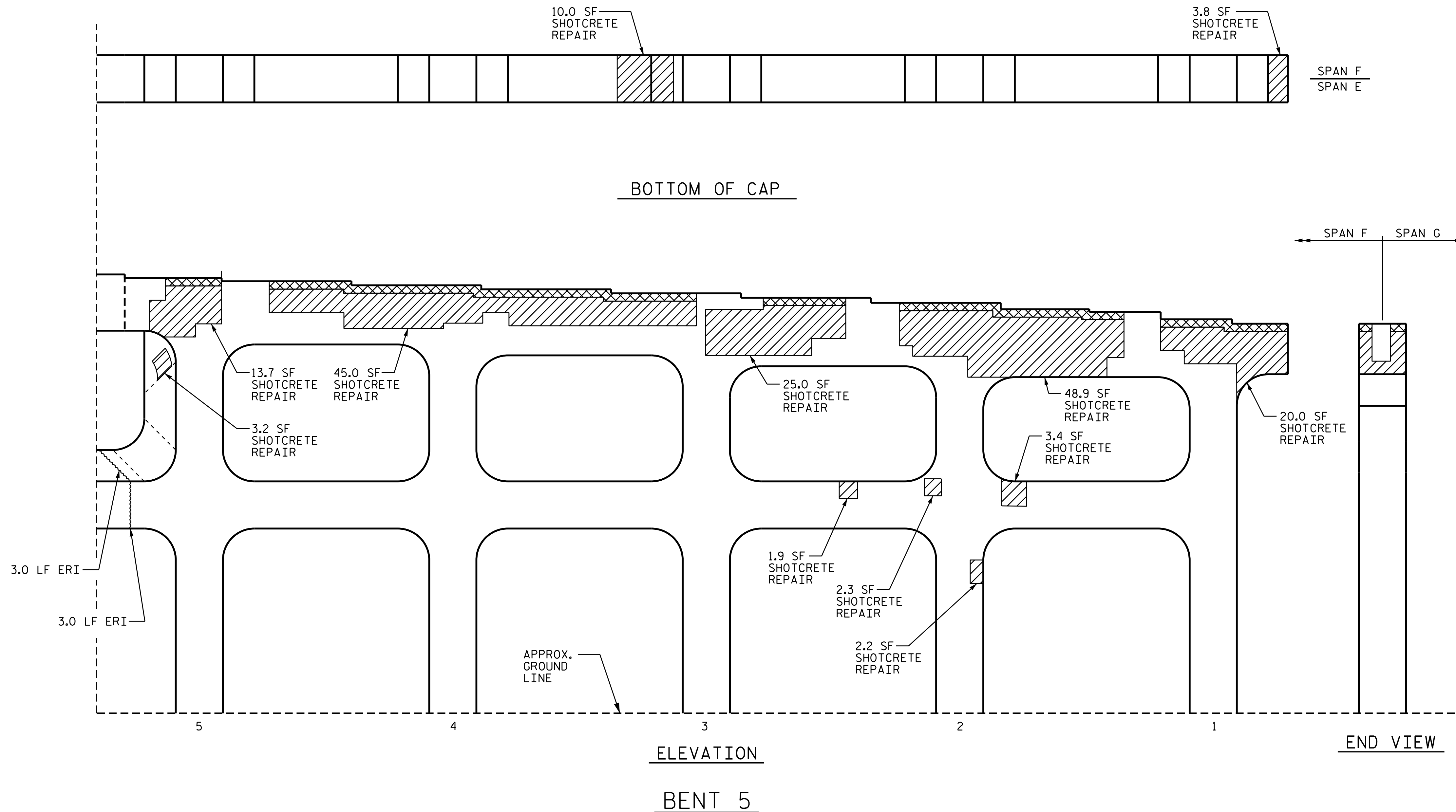
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

AS-BUILT REPAIR QUANTITY TABLE

BENT 5	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	166.4	83.2		
COLUMNS & STRUTS	13.0	6.5		
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		0.0		
COLUMNS & STRUTS		6.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

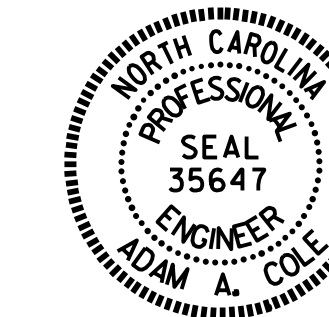
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PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 4 OF 4

DocuSigned by:
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8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 5
 SPAN F FACE

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S10-50
2			4			TOTAL SHEETS 274

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DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

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.




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FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

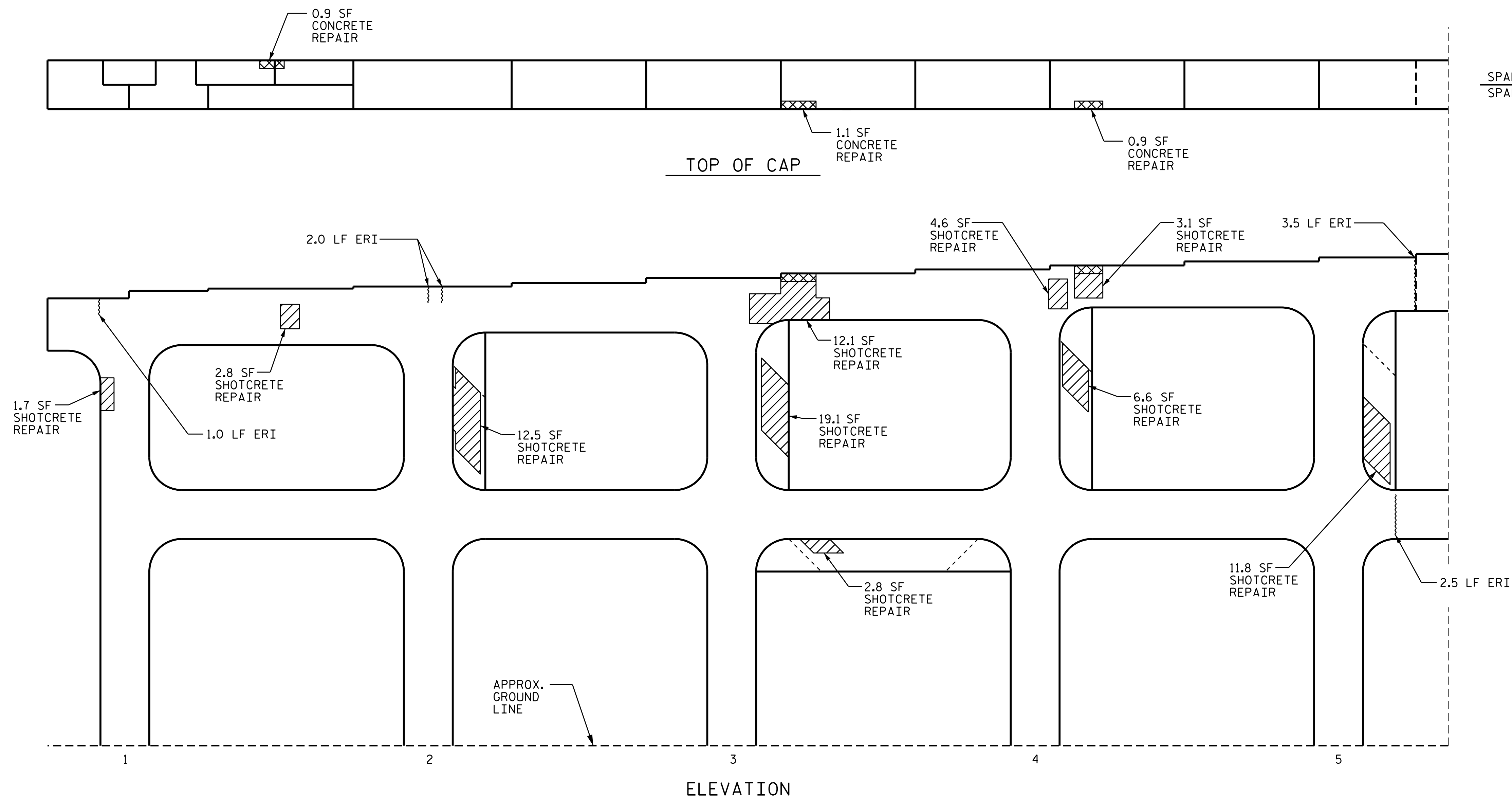
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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.

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

AS-BUILT REPAIR QUANTITY TABLE				
BENT 6	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	22.6	11.3		
COLUMNS & STRUTS	54.5	27.3		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	2.9	1.5		
EPOXY RESIN INJECTION		LIN. FT		LIN. FT
CAP		6.5		
COLUMNS & STRUTS		2.5		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP & STRUTS		492		

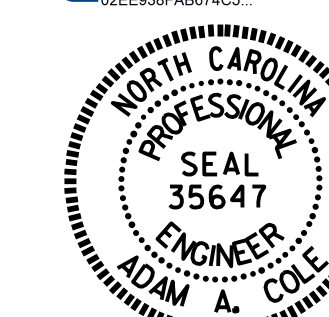
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PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 1 OF 4

DocuSigned by:
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8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 6
 SPAN F FACE

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

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1			3			S10-51
2			4			274

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NOTES

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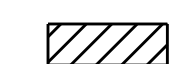

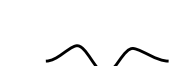
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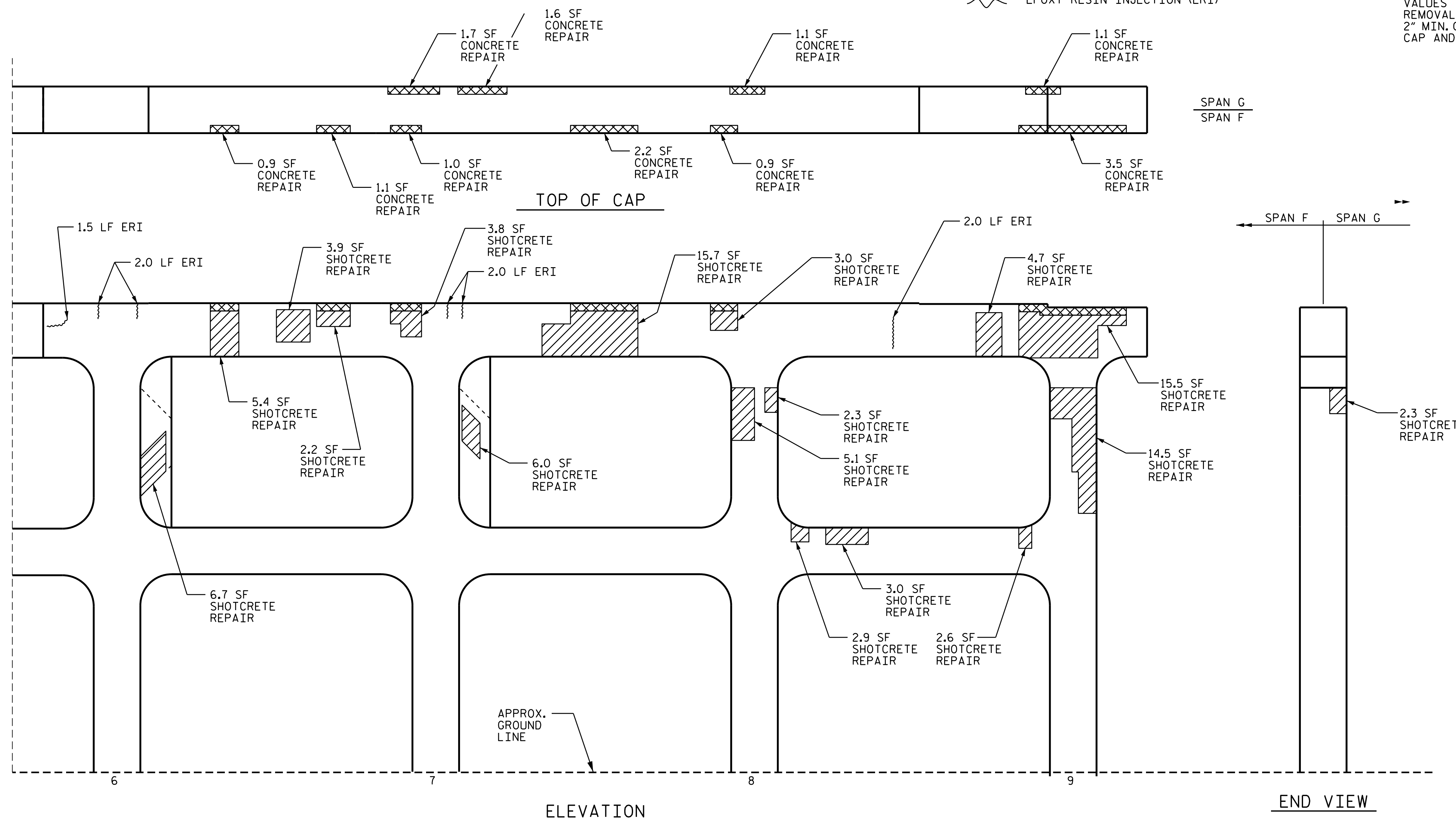
FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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



ELEVATION

BENT 6

END VIEW

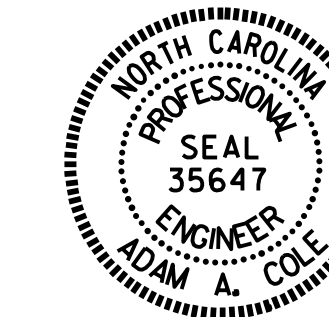
AS-BUILT REPAIR QUANTITY TABLE				
BENT 6	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	54.2	27.1		
COLUMNS & STRUTS	45.4	22.7		
CONCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	15.1	7.6		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		7.5		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		417		

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 2 OF 4

DocuSigned by:
 02EE98FAB074C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 6
 SPAN F FACE

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			510-52
2			4			274

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.

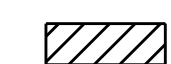
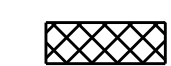

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FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

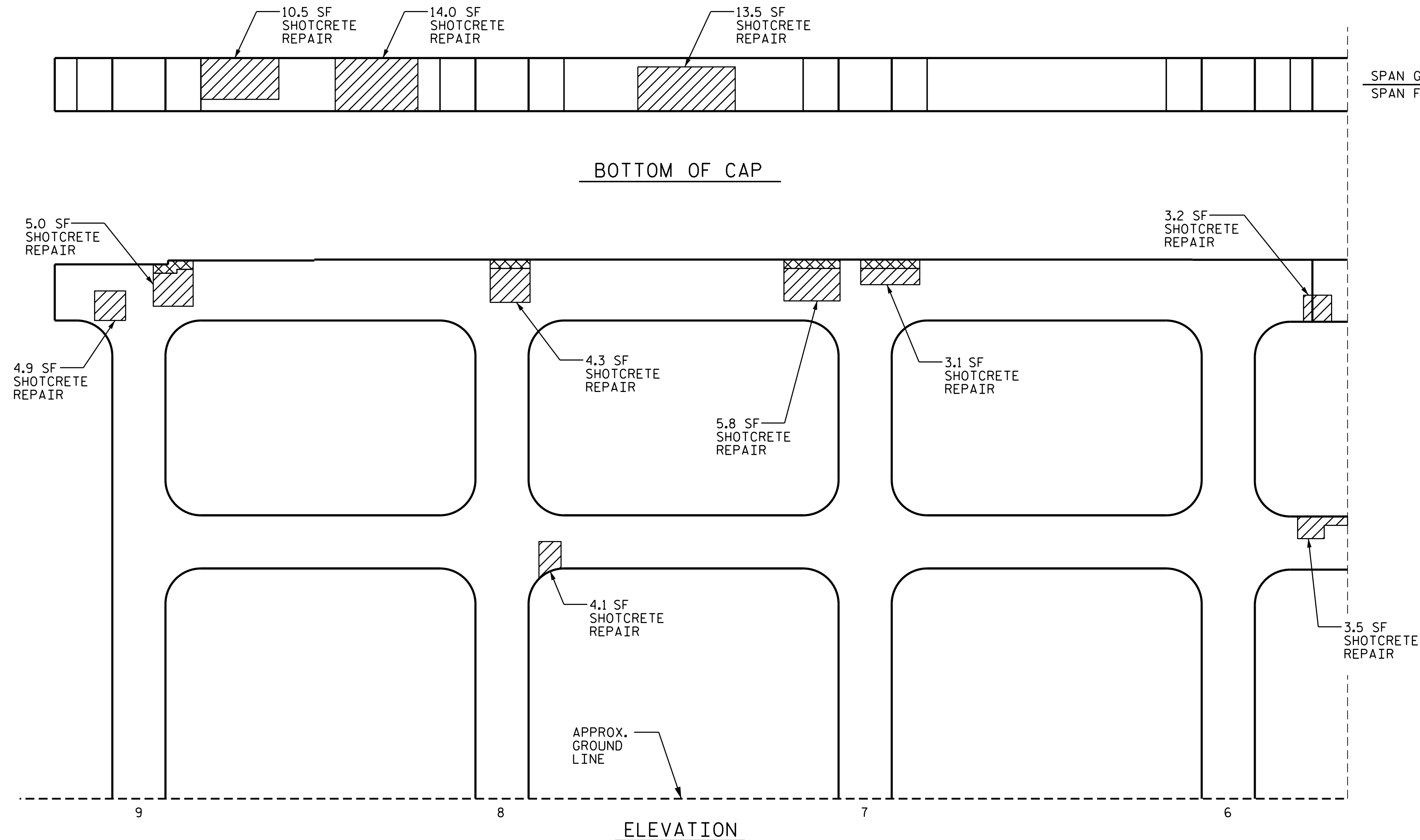
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

AS-BUILT REPAIR QUANTITY TABLE

BENT 6	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	64.3	32.2		
COLUMNS & STRUTS	7.6	3.8		
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		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

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



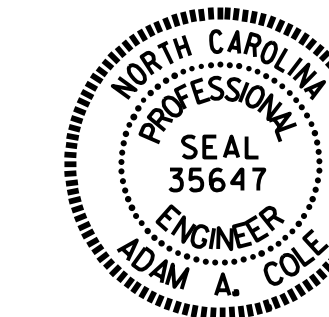
ELEVATION

BENT 6

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 3 OF 4

DocuSigned by:
 02EE98FAB074C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 6
 SPAN G FACE

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H.A.LOCKLEAR DATE : 06/2021

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			510-53
2			4			274

NOTES

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FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

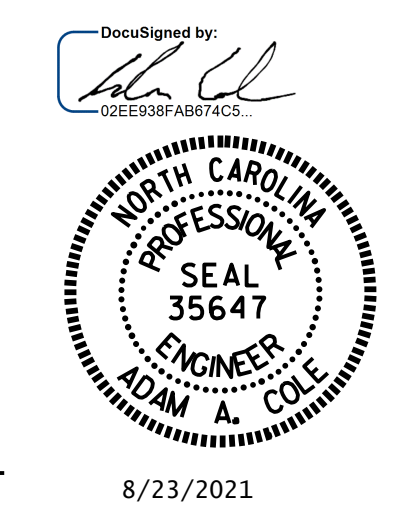
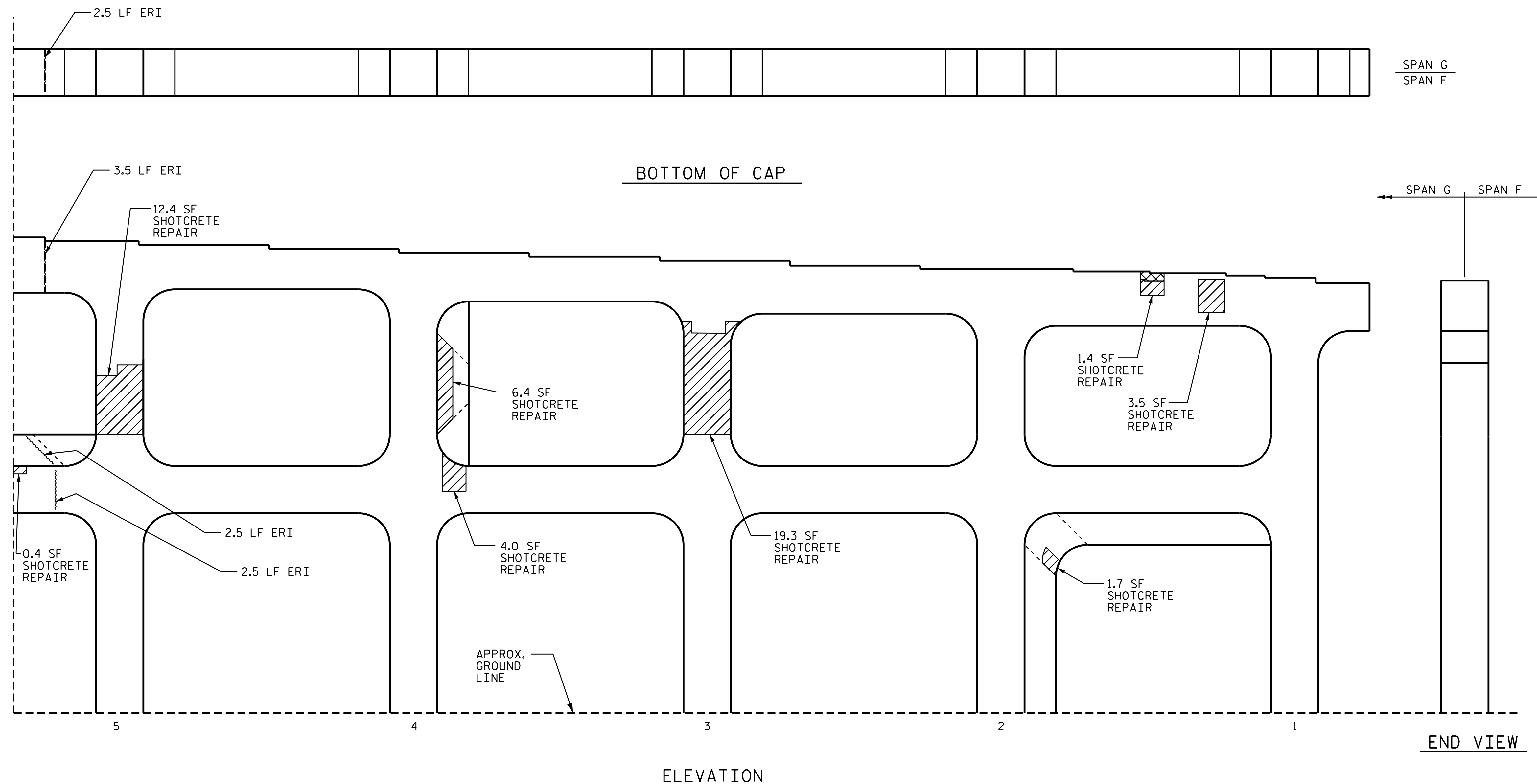
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

AS-BUILT REPAIR QUANTITY TABLE

BENT 6	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	4.9	2.5		
COLUMNS & STRUTS	44.2	22.1		
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		6.0		
COLUMNS & STRUTS		5.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

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



PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 4 OF 4
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
BENT 6
SPAN G FACE

DRAWN BY : R.L. PUTK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

BENT 6

NO.	BY:	DATE:	REVISIONS			SHEET NO.
			NO.	BY:	DATE:	
1			3			S10-54 TOTAL SHEETS 274
2			4			

DOCUMENT NOT CONSIDERED
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 SIGNATURES COMPLETED

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

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

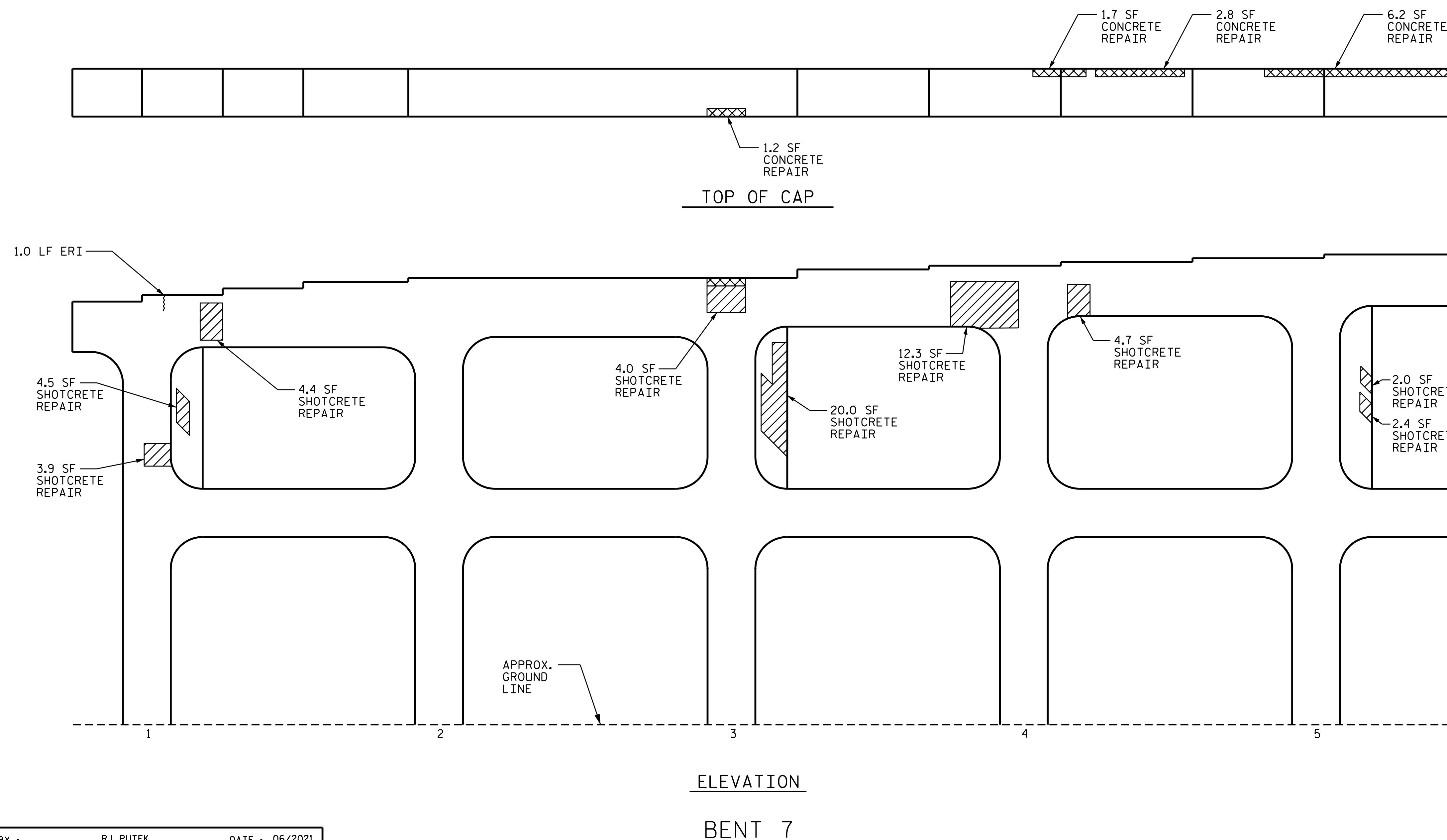
CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

AS-BUILT REPAIR QUANTITY TABLE

BENT 7	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	25.4	12.7		
COLUMNS & STRUTS	32.8	16.4		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	11.9	6.0		
EPOXY RESIN INJECTION		LIN. FT		LIN. FT
CAP		1.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		500		

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



SPAN H
SPAN G

TOP OF CAP

ELEVATION

BENT 7

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 1 OF 4

DocuSigned by:
02EE98FAB074C3



8/23/2021

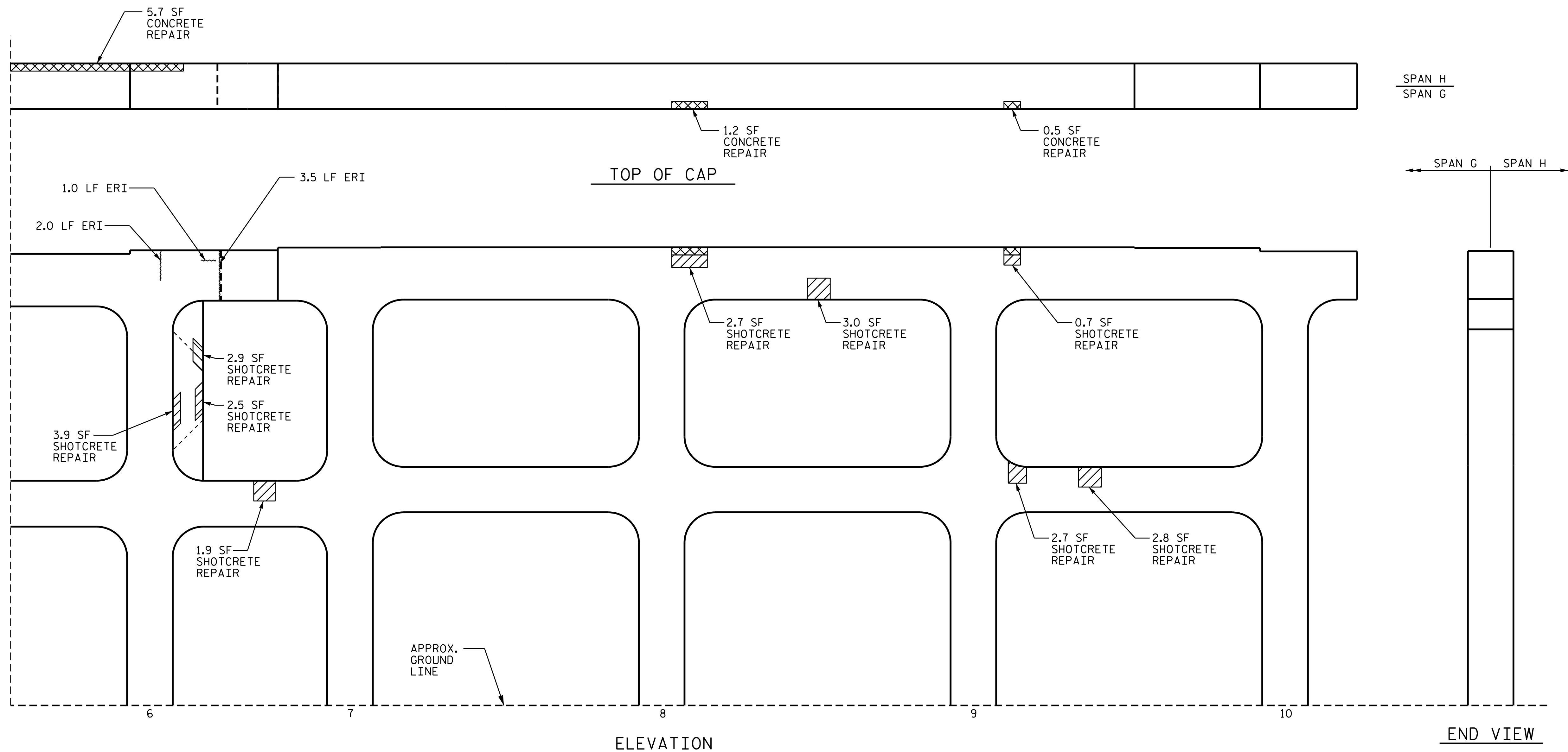
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 7
 SPAN G FACE

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			510-55
2			4			274



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

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, 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.

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

**ELEVATION
BENT 7**

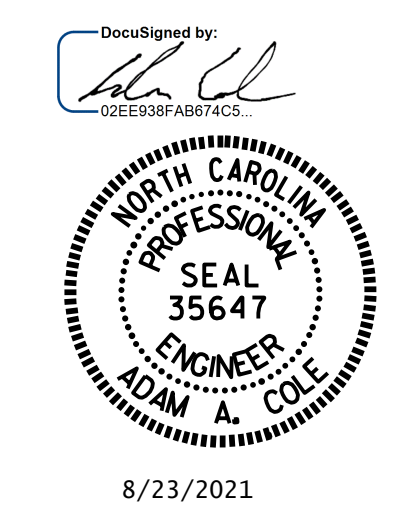
AS-BUILT REPAIR QUANTITY TABLE

BENT 7	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	6.4	3.2		
COLUMNS & STRUTS	16.7	8.4		
CONCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	7.4	3.7		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		6.5		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		508		

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 2 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**BENT 7
SPAN G FACE**

DRAWN BY : R.L. PUTK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

NO.	BY:	DATE:	REVISIONS			SHEET NO.
			NO.	BY:	DATE:	
1			3			S10-56 TOTAL SHEETS 274
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.

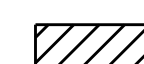

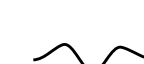
CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

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FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

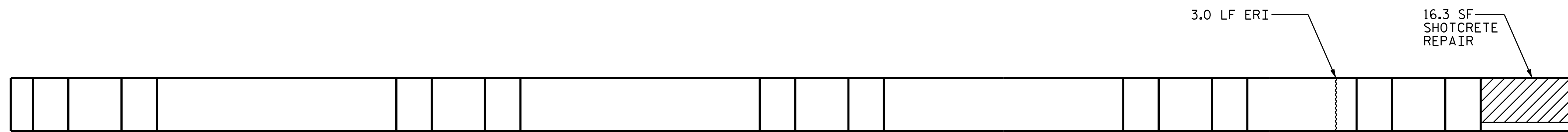
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

AS-BUILT REPAIR QUANTITY TABLE

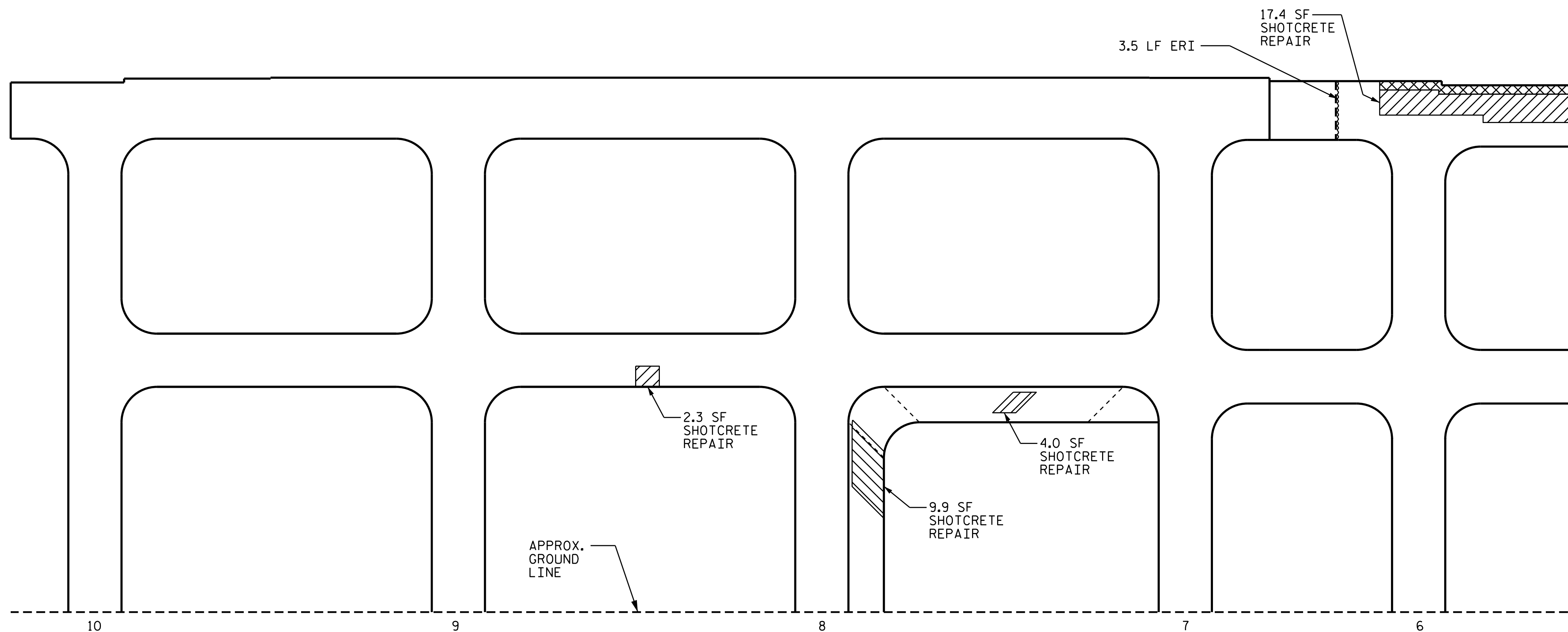
BENT 7	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	33.7	16.9		
COLUMNS & STRUTS	16.2	8.1		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT		LIN. FT
CAP		6.5		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

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



SPAN H
SPAN G

BOTTOM OF CAP



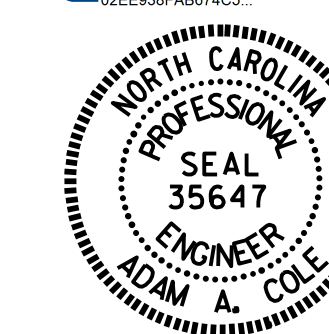
ELEVATION

BENT 7

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 3 OF 4

DocuSigned by:
 02EE98FAB074C3



8/23/2021

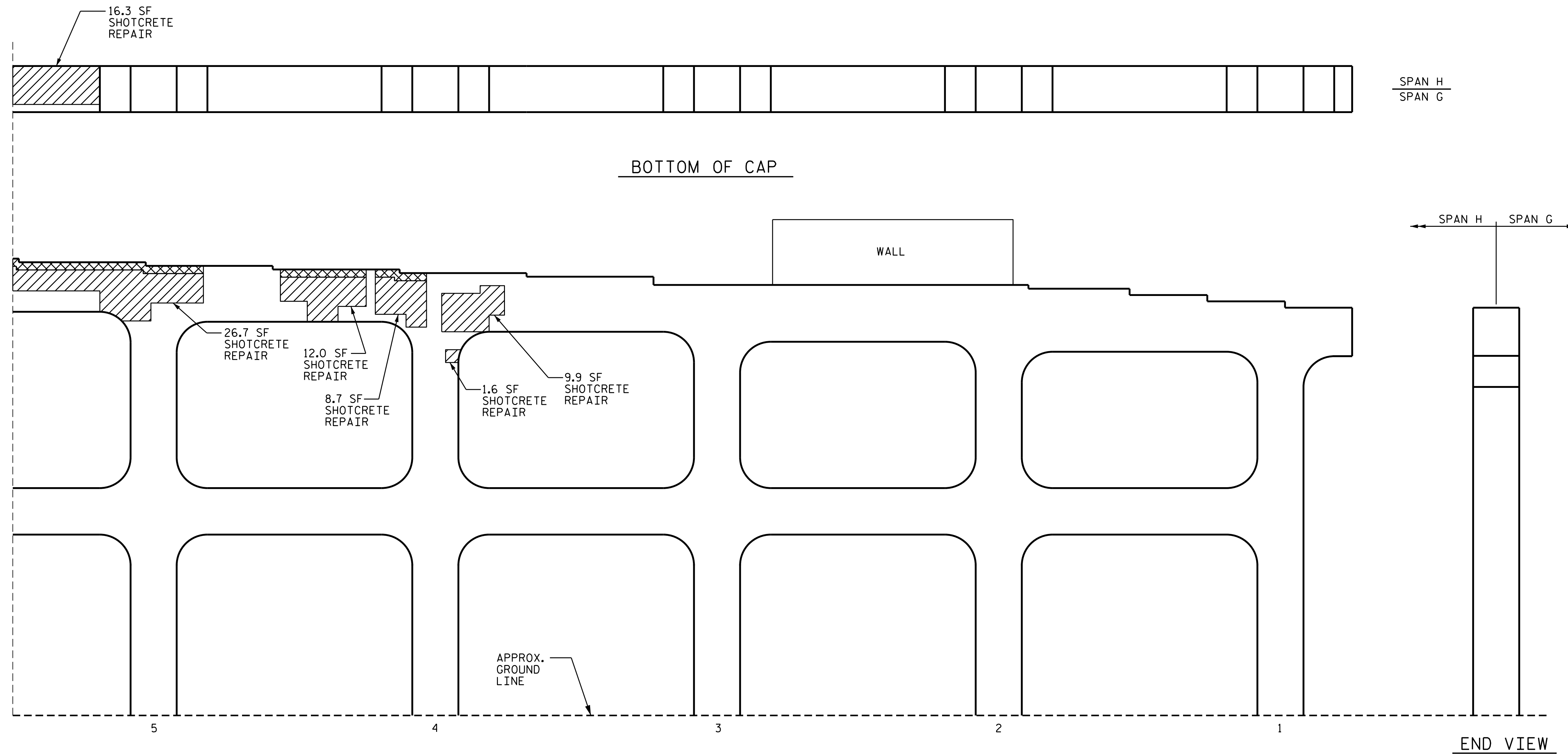
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 7
 SPAN H FACE

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
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.

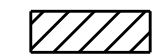


CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, 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.

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

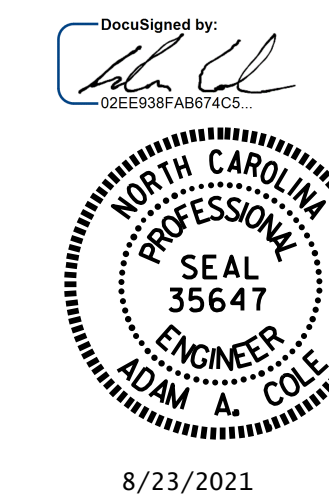
ELEVATION

BENT 7

AS-BUILT REPAIR QUANTITY TABLE

BENT 7	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	73.6	36.8		
COLUMNS & STRUTS	1.6	0.8		
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	0.0			
COLUMNS & STRUTS	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP & STRUTS	0			

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



PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 4 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 7
SPAN H FACE

DRAWN BY : R.L. PUTK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

DOCUMENT NOT CONSIDERED
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			510-58
2			4			274

NOTES

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

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

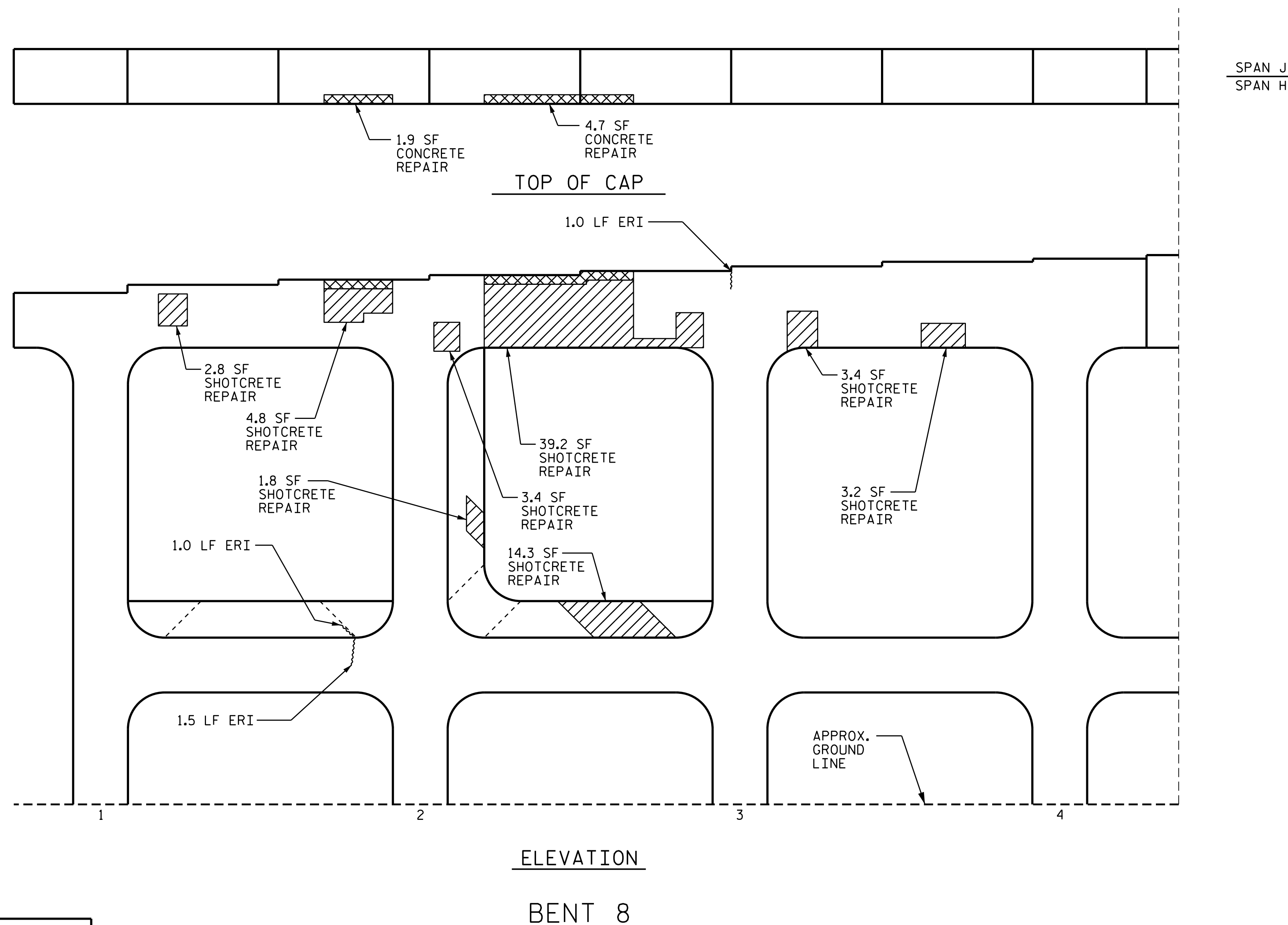
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

AS-BUILT REPAIR QUANTITY TABLE

BENT 8	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	56.8	28.4		
COLUMNS & STRUTS	16.1	8.1		
CONCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	6.6	3.3		
EPOXY RESIN INJECTION		LIN. FT		LIN. FT
CAP		1.0		
COLUMNS & STRUTS		2.5		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		362		

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



PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 1 OF 4

DocuSigned by:
 02EE98FAB074C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 8
 SPAN H FACE

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S10-59
2			4			TOTAL SHEETS 274

DOCUMENT NOT CONSIDERED
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DRAWN BY : R.L.PUTEK DATE : 06/2020
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2020

NOTES

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

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

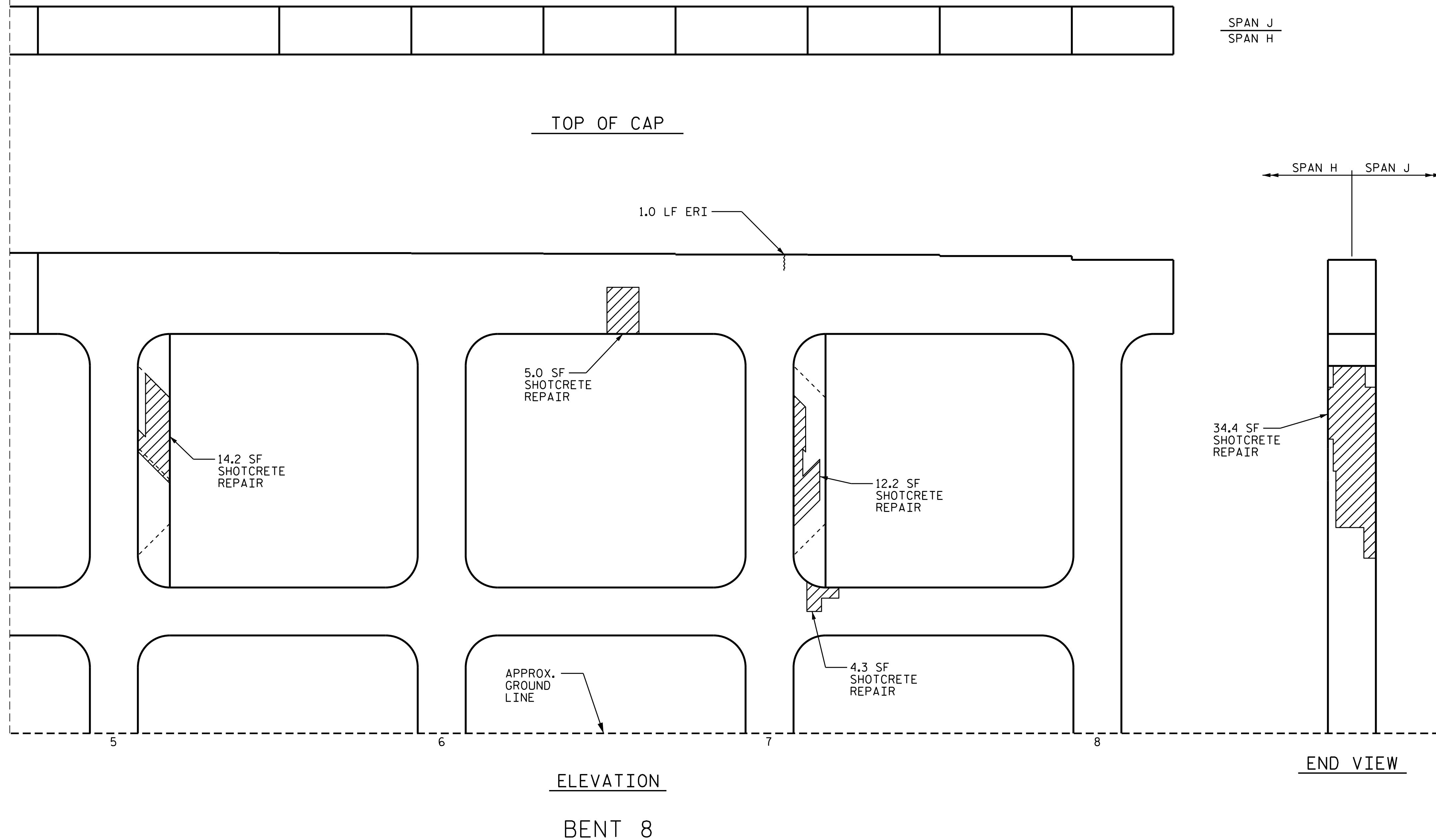
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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.

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

AS-BUILT REPAIR QUANTITY TABLE				
BENT 8	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	5.0	2.5		
COLUMNS & STRUTS	65.1	32.6		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	6.6	3.3		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		1.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		414		

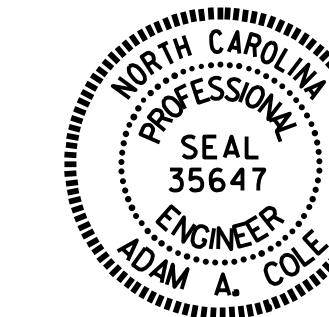
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PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 2 OF 4

DocuSigned by:
 02EE98FAB074C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 8
SPAN H FACE

DRAWN BY : R.L. PUTK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
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.




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FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

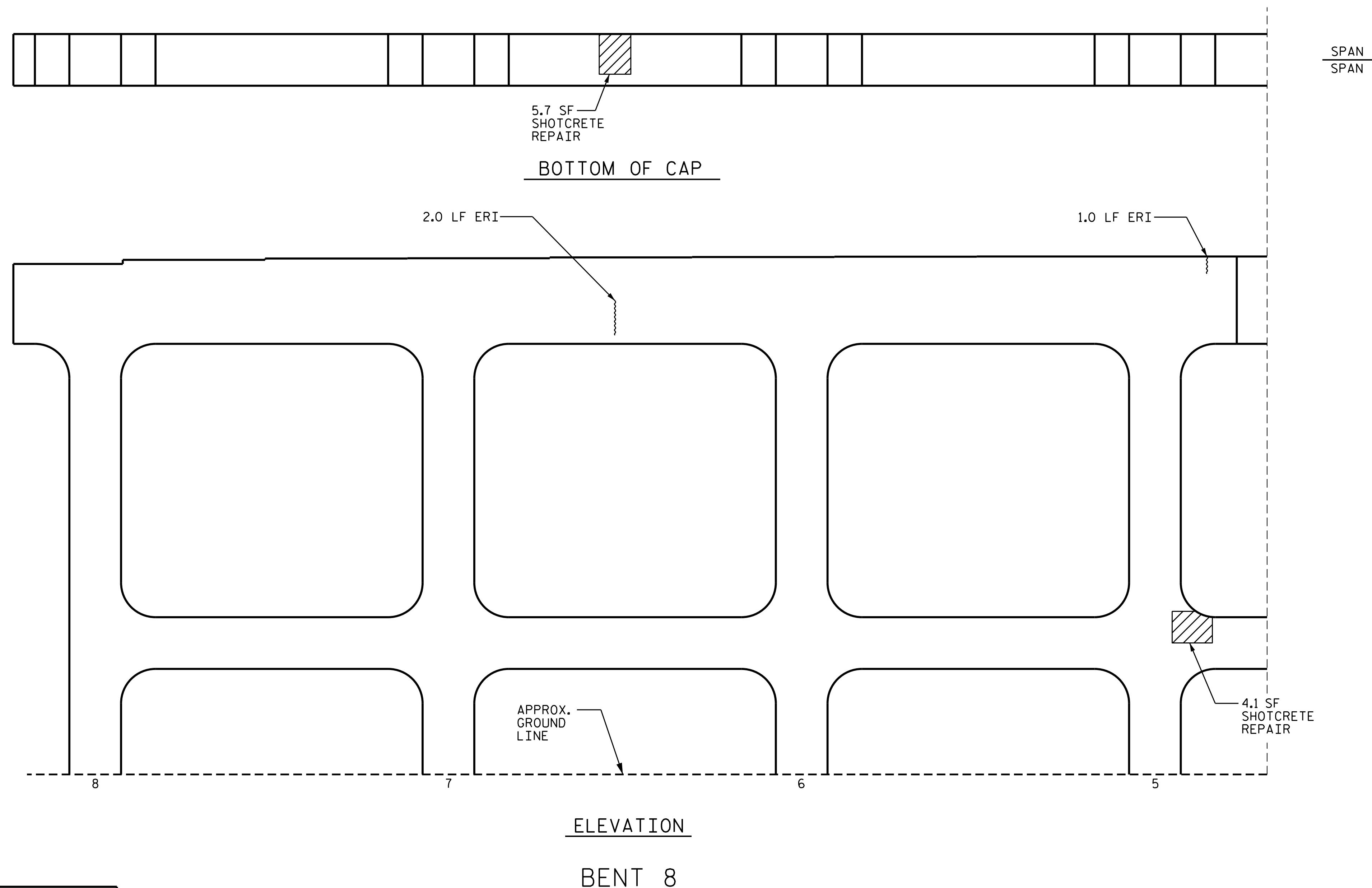
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

AS-BUILT REPAIR QUANTITY TABLE

BENT 8	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	5.7	2.9		
COLUMNS & STRUTS	4.1	2.1		
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		3.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

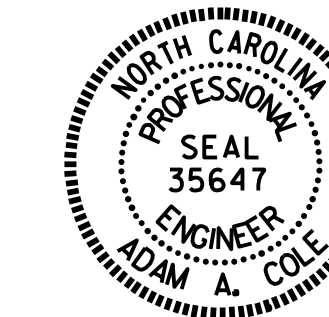
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PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 3 OF 4

DocuSigned by:
 02EE98FAB074C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 8
 SPAN J FACE

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			510-61
2			4			274

NOTES

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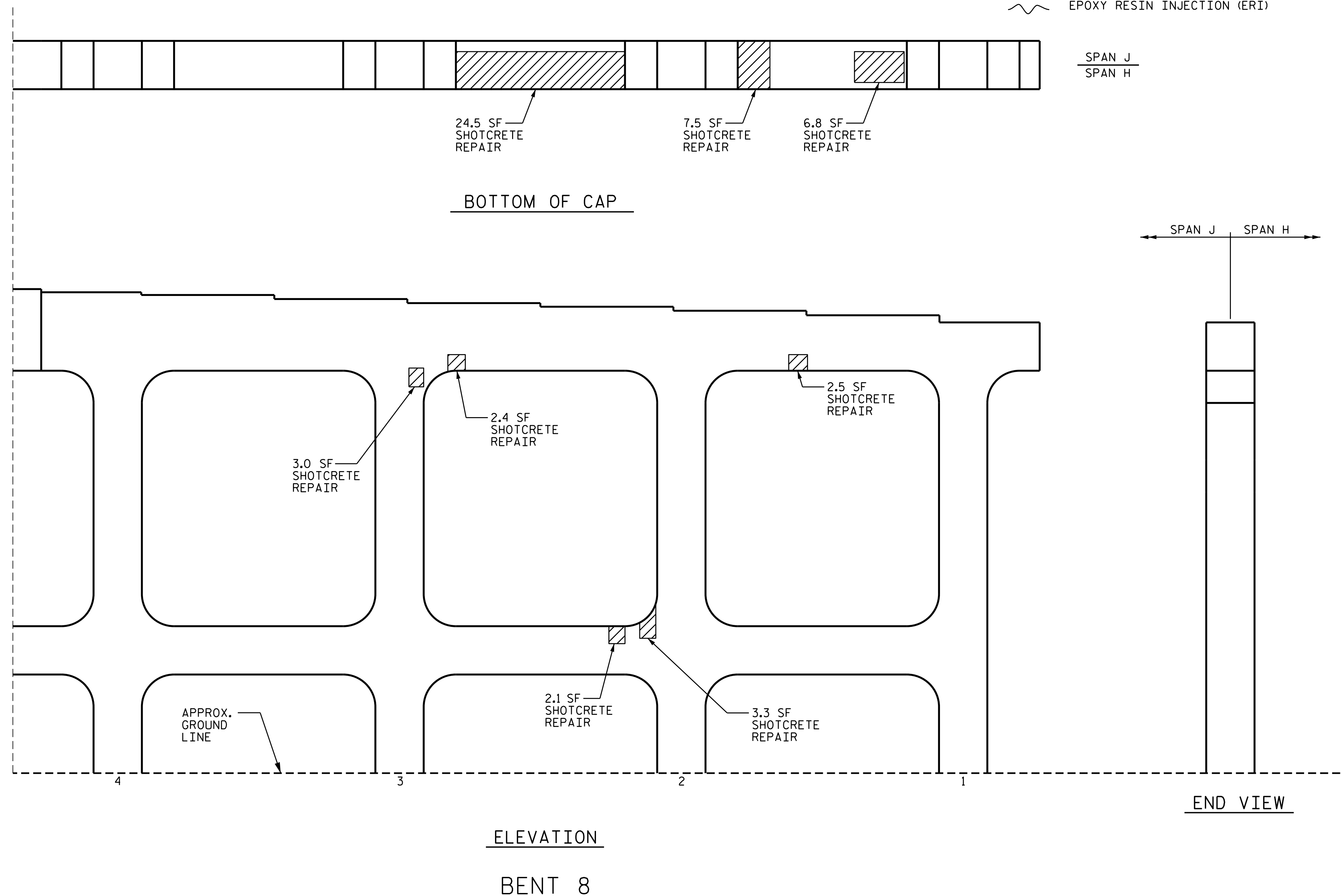
FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

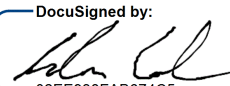


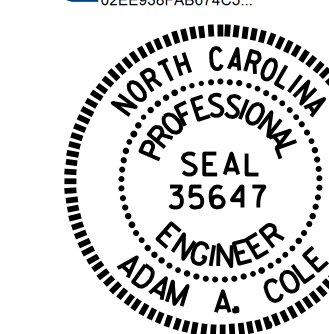
AS-BUILT REPAIR QUANTITY TABLE				
BENT 8	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	46.7	23.4		
COLUMNS & STRUTS	5.4	2.7		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 4 OF 4

DocuSigned by:

 02EE98FAB074C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 8
SPAN J FACE

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

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

AS-BUILT REPAIR QUANTITY TABLE

BENT 9	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	56.2	28.1		
COLUMNS & STRUTS	11.4	5.7		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	8.3	4.2		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMNS & STRUTS	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP & STRUTS	306			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR 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 SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 1 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

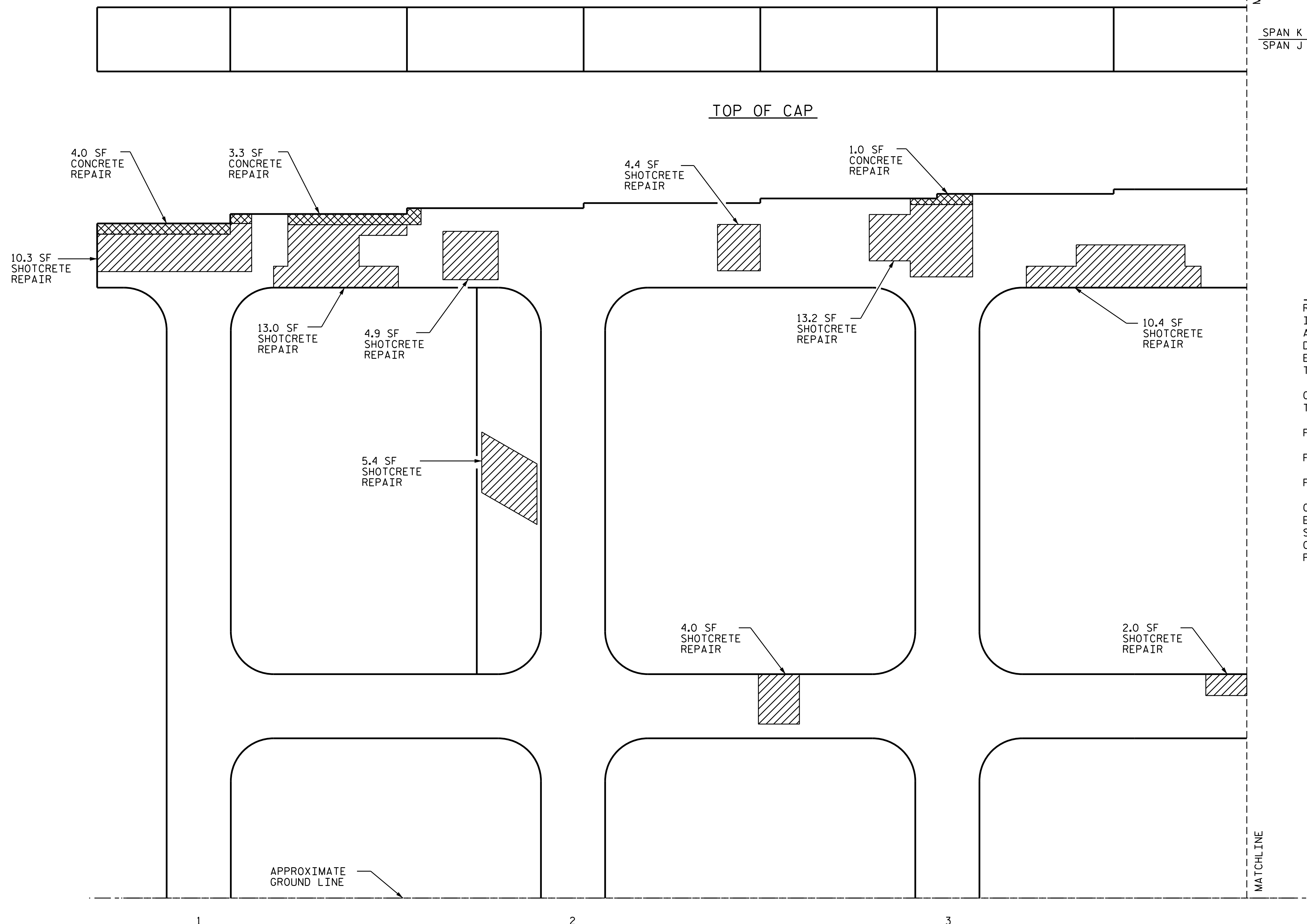
BENT 9
 SPAN J FACE

REVISIONS

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1			3		
2			4		

SHEET NO.
 S10-63
 TOTAL SHEETS
 274

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ELEVATION
 BENT 9

DRAWN BY : R.L. PUTK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 9	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	5.5	2.8		
COLUMNS & STRUTS	3.1	1.6		
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		0.0		
COLUMNS & STRUTS		3.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		152		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR 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 SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

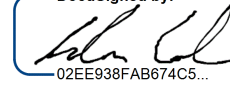
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

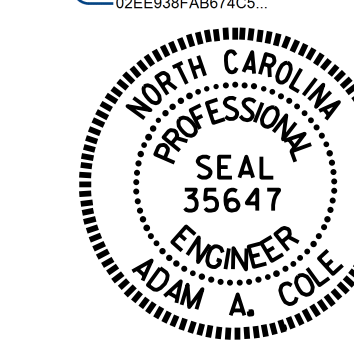
CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND STRUTS AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP AND STRUTS. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 2 OF 6

DocuSigned by:

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8/23/2021

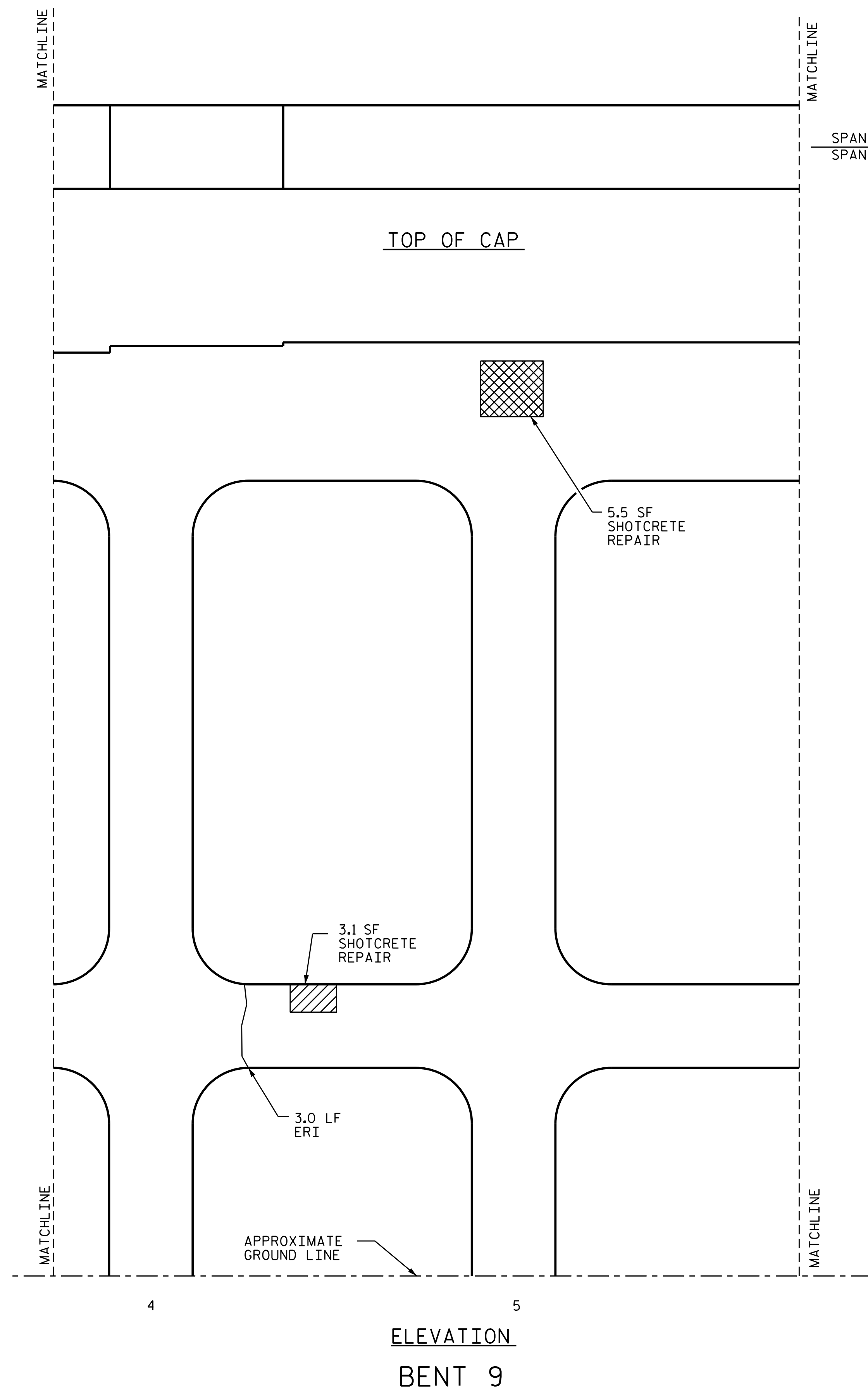
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 9
 SPAN J FACE

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S10-64
2			4			TOTAL SHEETS 274

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ELEVATION
 BENT 9

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 9	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	25.5	12.8		
COLUMNS & STRUTS	3.0	1.5		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	6.0	3.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		318		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR 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 SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

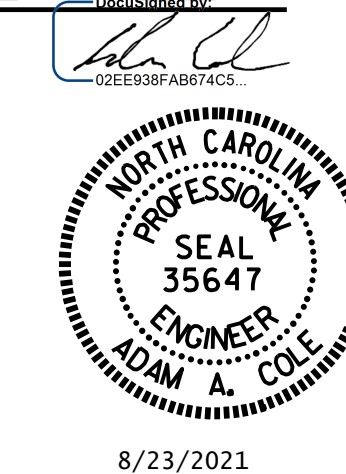
CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND STRUTS AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP AND STRUTS. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 3 OF 6

END VIEW



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 9
 SPAN J FACE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S10-65
2			4			274

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MATCHLINE

SPAN K
 SPAN J

TOP OF CAP

3.0 SF
 CONCRETE
 REPAIR

1.0 SF
 CONCRETE
 REPAIR

2.0 SF
 CONCRETE
 REPAIR

2.6 SF
 SHOTCRETE
 REPAIR

20.4 SF
 SHOTCRETE
 REPAIR

2.5 SF
 SHOTCRETE
 REPAIR

3.0 SF
 SHOTCRETE
 REPAIR

APPROXIMATE
 GROUND LINE

6

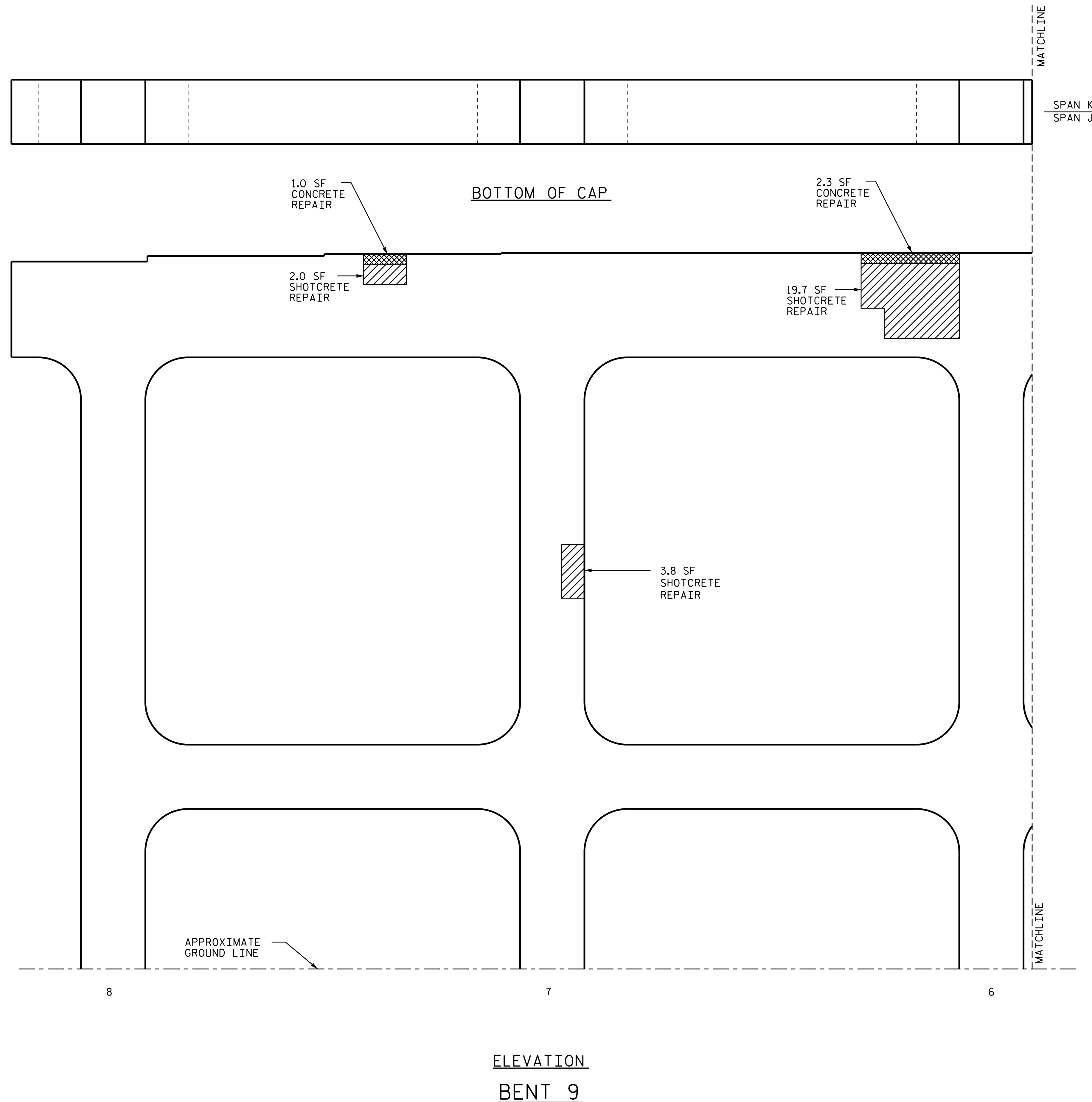
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8

ELEVATION

BENT 9

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021



AS-BUILT REPAIR QUANTITY TABLE

BENT 9	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	21.7	10.9		
COLUMNS & STRUTS	3.8	1.9		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	3.3	1.7		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

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

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FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

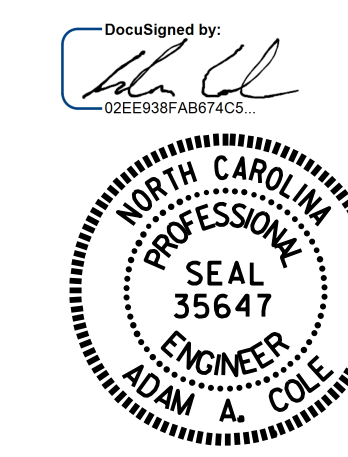
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 4 OF 6



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 9
 SPAN K FACE

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S10-66
2			4			TOTAL SHEETS 274

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DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

ELEVATION
 BENT 9

AS-BUILT REPAIR QUANTITY TABLE

BENT 9	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	55.3	27.7		
COLUMNS & STRUTS	15.3	7.7		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	1.1	0.6		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

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

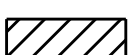


CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

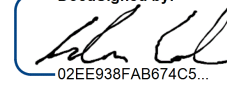
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

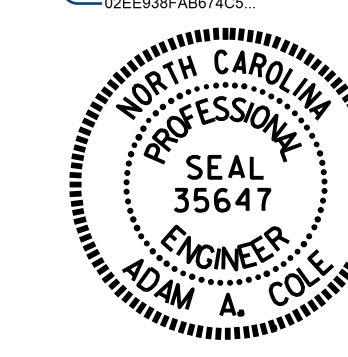
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 5 OF 6

DocuSigned by:




8/23/2021

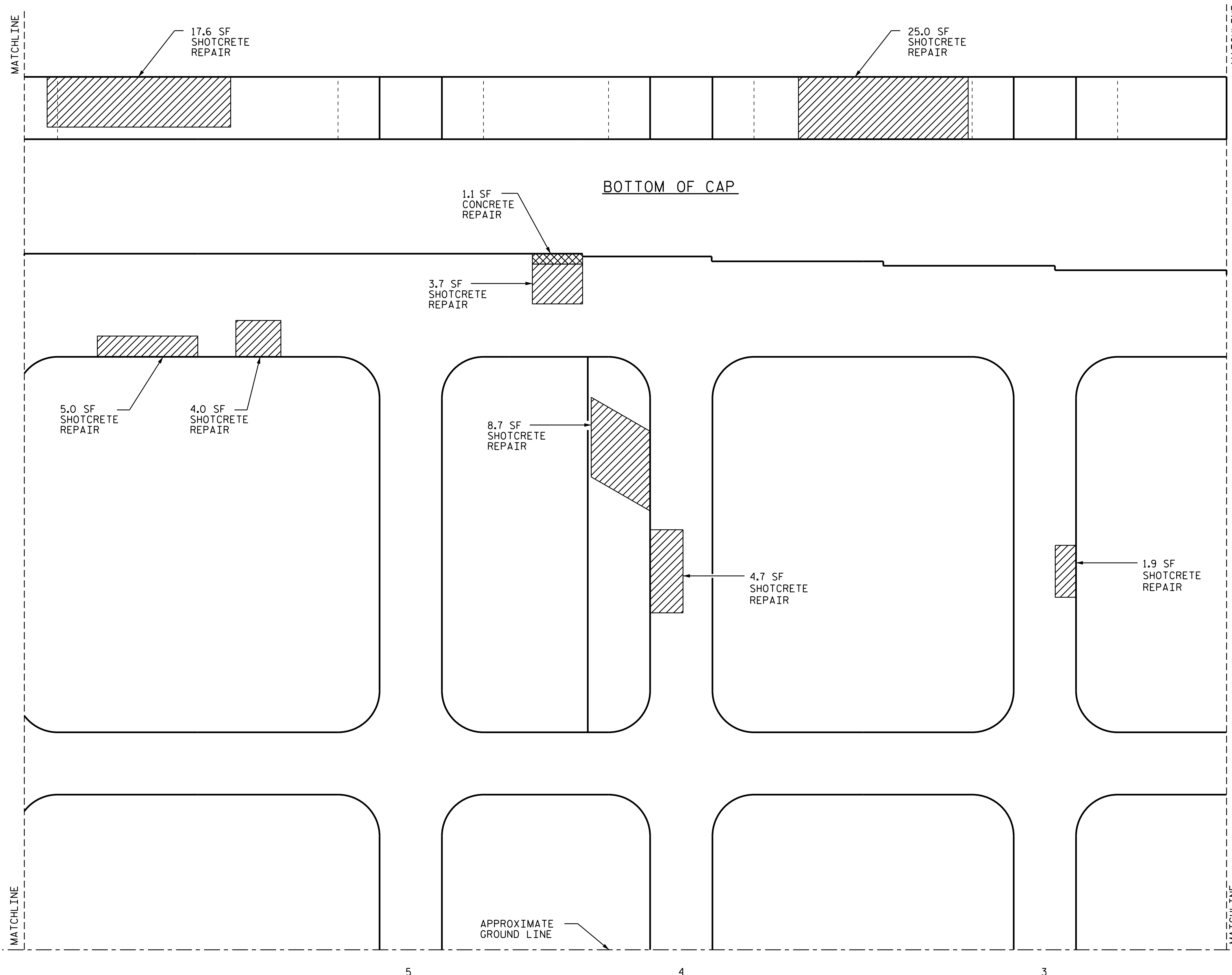
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 9
 SPAN K FACE

REVISIONS

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2			4			TOTAL SHEETS 274

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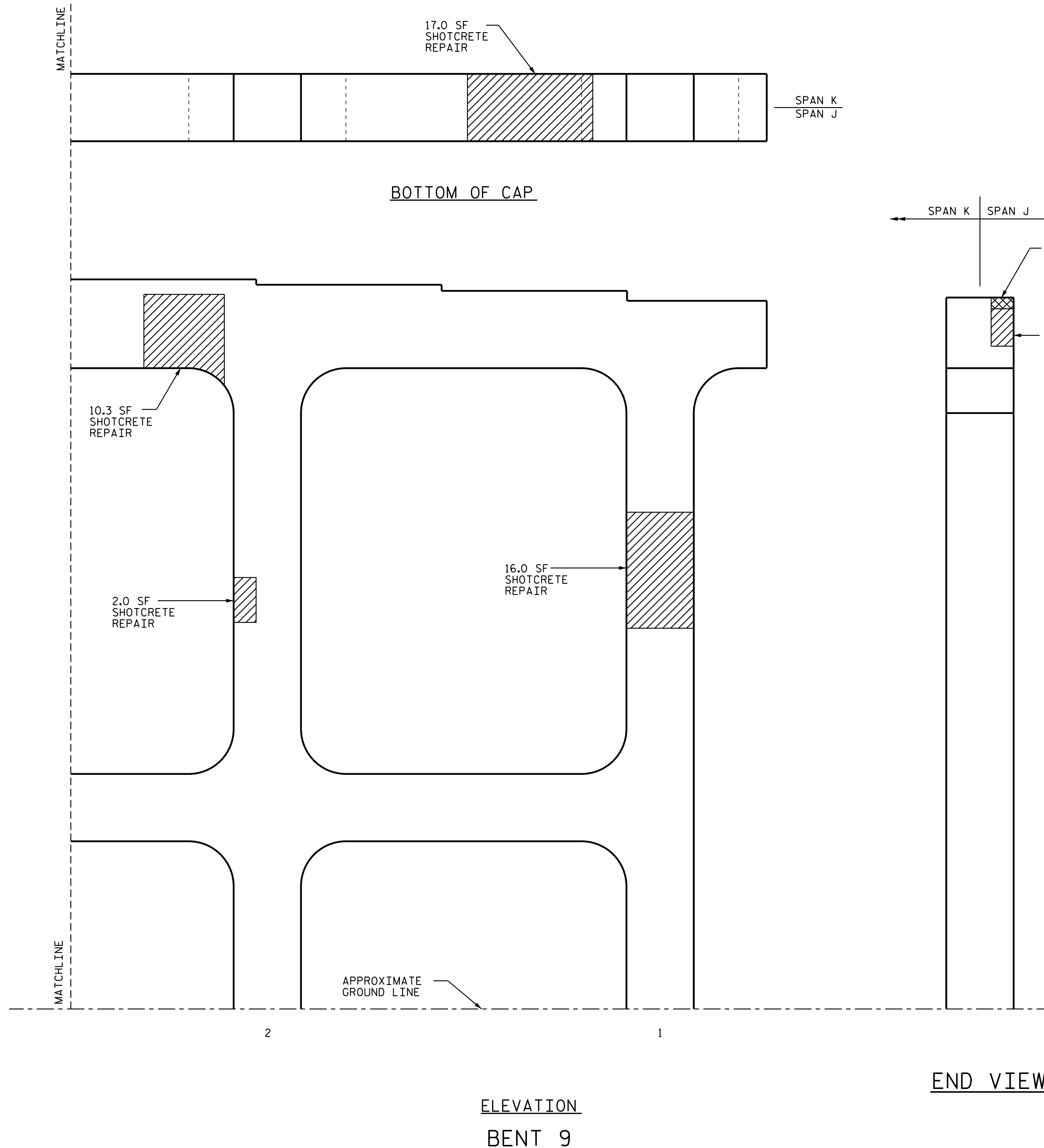


ELEVATION
 BENT 9

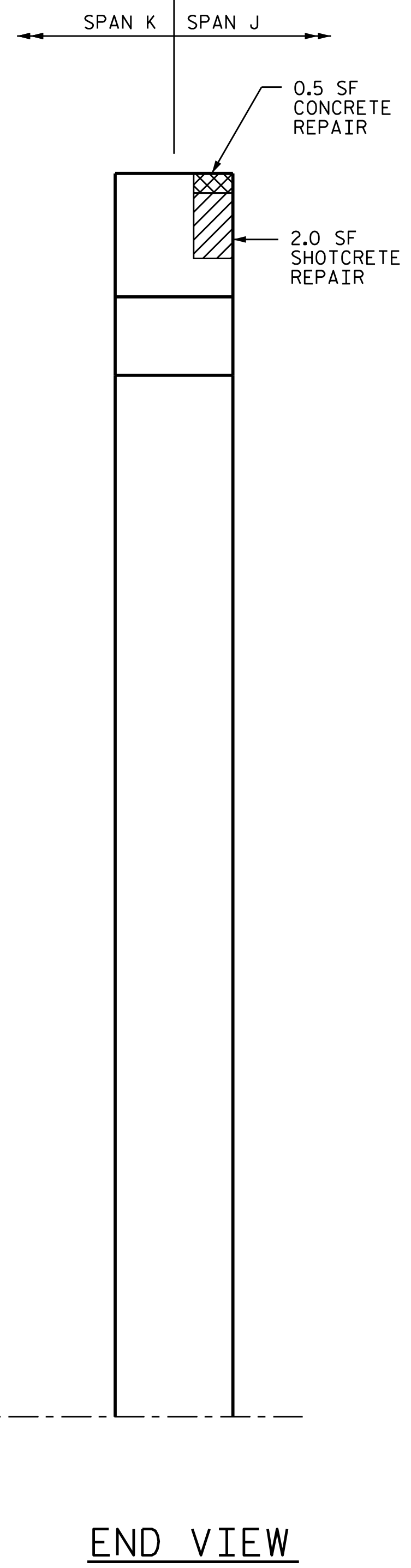
DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H.A.LOCKLEAR DATE : 06/2021

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ELEVATION
BENT 9



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 9	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	29.3	14.7		
COLUMNS & STRUTS	18.0	9.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.5	0.3		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMNS & STRUTS	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP & STRUTS	0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR 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 SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

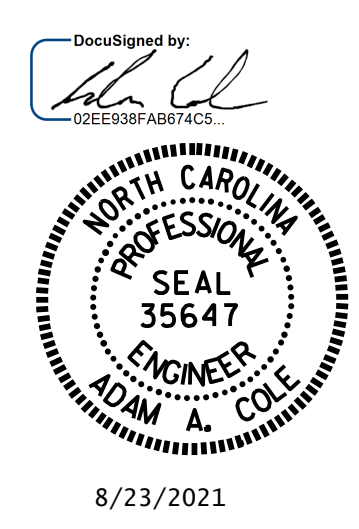
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 6 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 9
 SPAN K FACE

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
2			4			

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AS-BUILT REPAIR QUANTITY TABLE

BENT 10	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	22.5	11.3		
COLUMNS & STRUTS	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	2.4	1.2		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMNS & STRUTS	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP & STRUTS	176			

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

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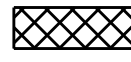

CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

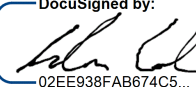
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 1 OF 6

DocuSigned by:

 02E898FA9074C2



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

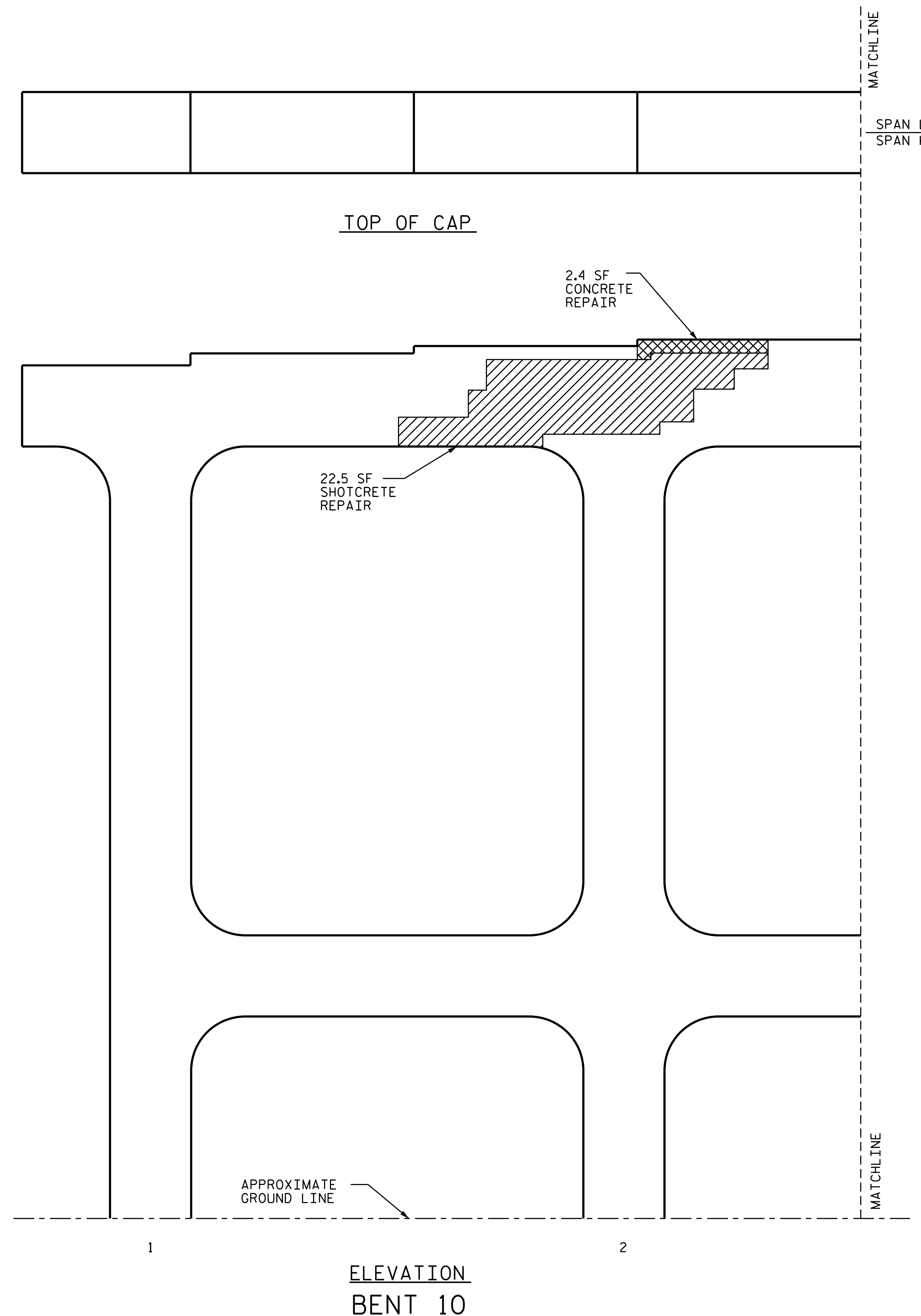
BENT 10
 SPAN K FACE

REVISIONS

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1			3		
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SHEET NO.
 S10-69
 TOTAL SHEETS
 274

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DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 10	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	12.8	6.4		
COLUMNS & STRUTS	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.	
CAP	7.0			
COLUMNS & STRUTS	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP & STRUTS	320			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR 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 SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

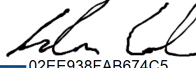
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

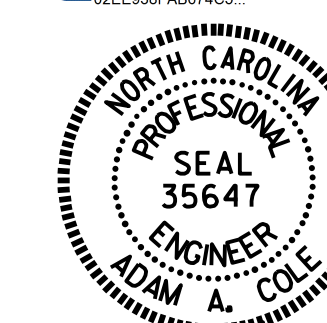
CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND STRUTS AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP AND STRUTS. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 2 OF 6

DocuSigned by:

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8/23/2021

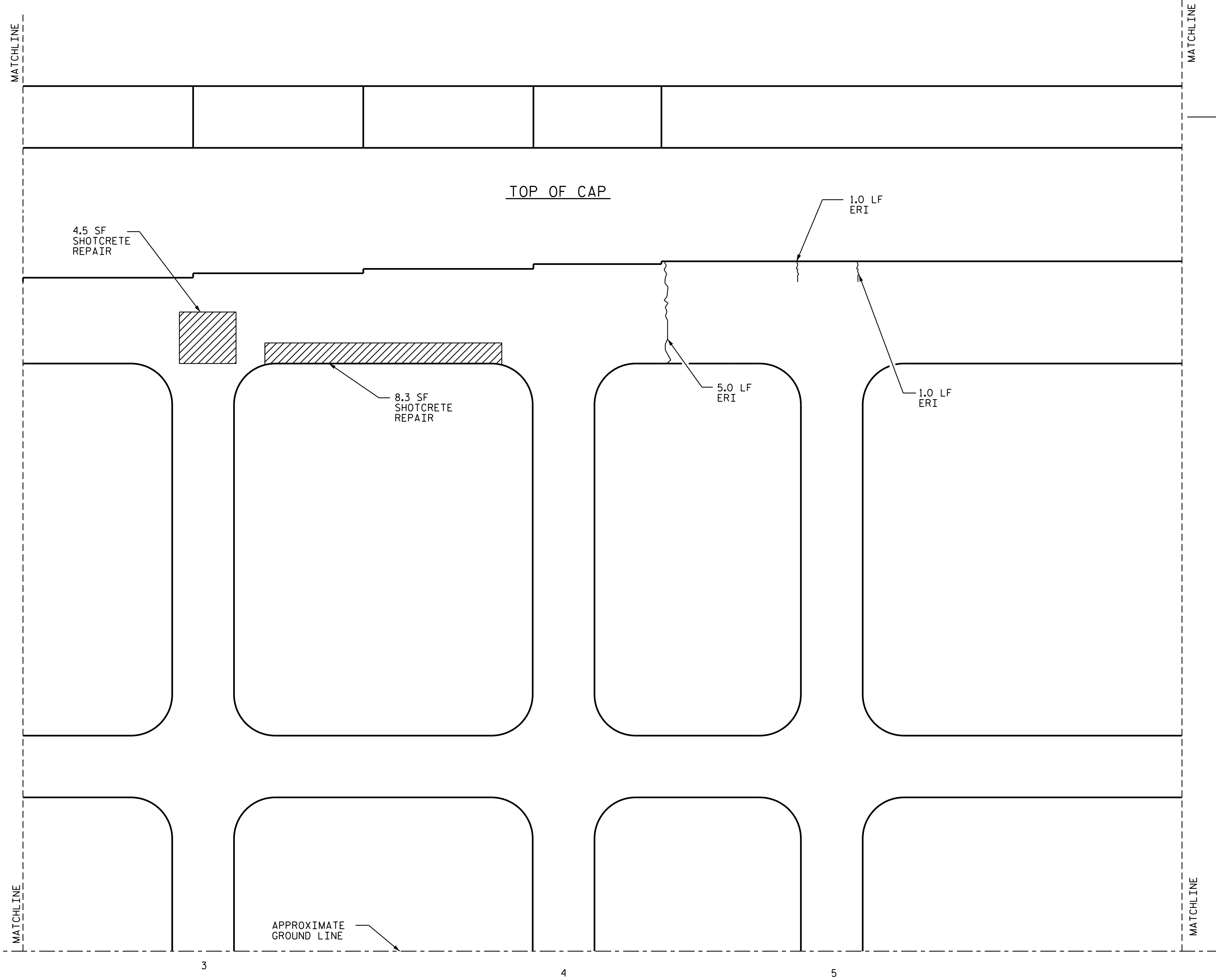
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 10
 SPAN K FACE

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S10-70
2			4			TOTAL SHEETS 274

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ELEVATION
 BENT 10

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 10	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	43.8	21.9		
COLUMNS & STRUTS	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	4.3	2.2		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		2.0		
COLUMNS & STRUTS		1.5		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		280		

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

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FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

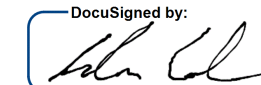
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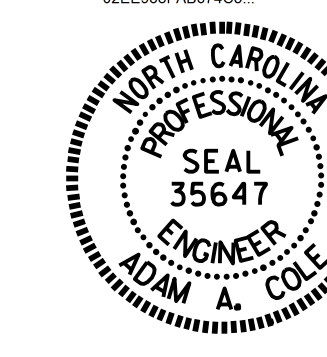
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 3 OF 6

DocuSigned by:

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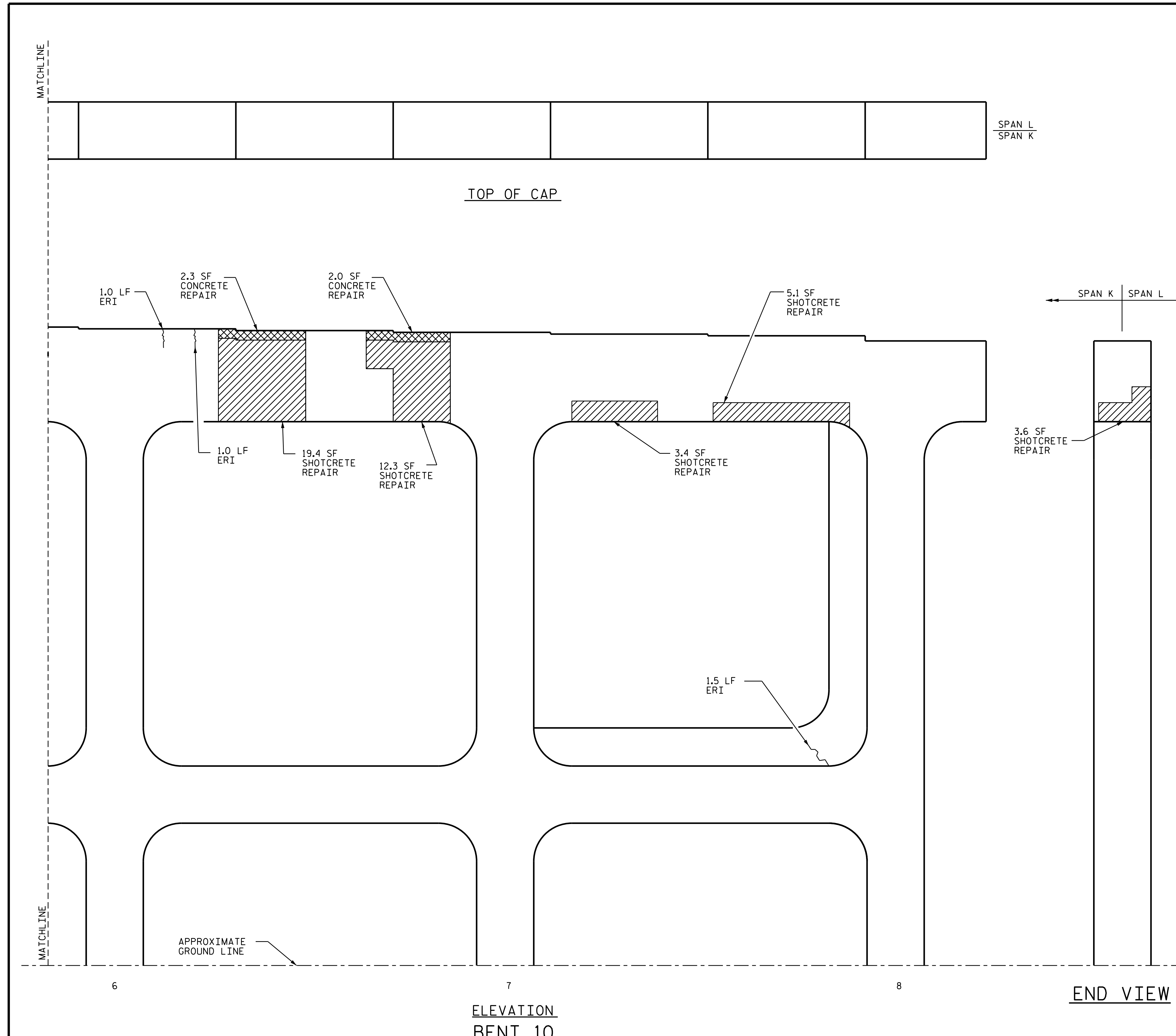
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 10
 SPAN K FACE

REVISIONS

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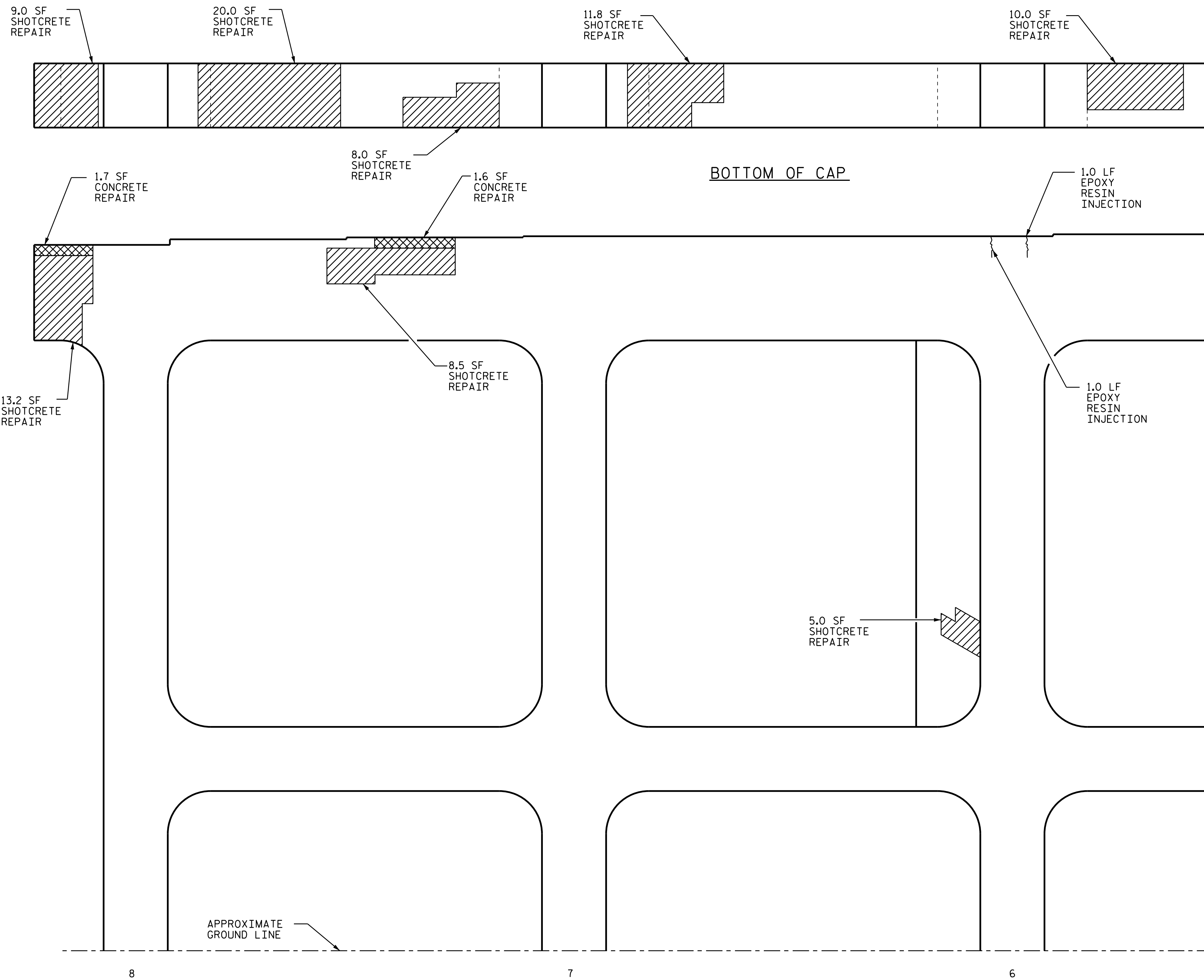
SHEET NO.
 S10-71
 TOTAL SHEETS
 274



ELEVATION
 BENT 10

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H.A.LOCKLEAR DATE : 06/2021

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 FINAL UNLESS ALL
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AS-BUILT REPAIR QUANTITY TABLE

BENT 10	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	80.5	40.3		
COLUMNS & STRUTS	5.0	2.5		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	3.3	1.7		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		2.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

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

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FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

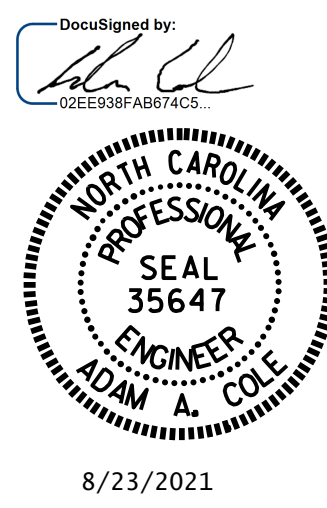
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- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 4 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

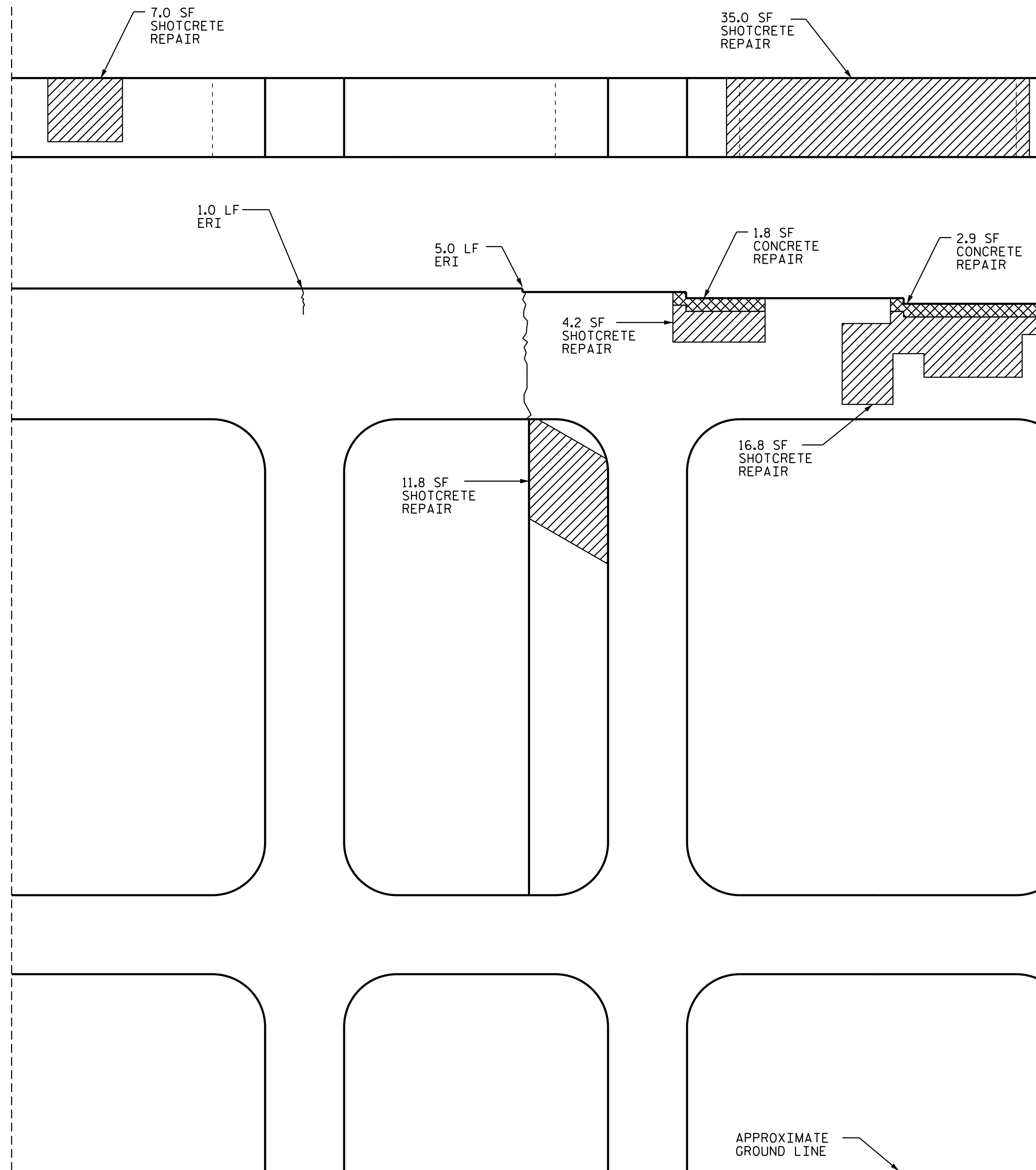
BENT 10
SPAN L FACE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
2			4			

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DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

**ELEVATION
 BENT 10**



ELEVATION
BENT 10

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

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AS-BUILT REPAIR QUANTITY TABLE				
BENT 10	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	63.0	31.5		
COLUMNS & STRUTS	11.8	5.9		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	4.7	2.4		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		6.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

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

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FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 5 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 10
 SPAN L FACE

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

MATCHLINE

38.0 SF SHOTCRETE REPAIR

20.0 SF SHOTCRETE REPAIR

SPAN L
SPAN K

BOTTOM OF CAP

12.6 SF CONCRETE REPAIR

1.6 SF CONCRETE REPAIR

SPAN L SPAN K

60.7 SF SHOTCRETE REPAIR

1.0 LF ERI

1.4 SF SHOTCRETE REPAIR

MATCHLINE

APPROXIMATE GROUND LINE

3

2

1

ELEVATION
BENT 10

END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 10	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	120.1	60.1		
COLUMNS & STRUTS	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	14.2	7.1		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		1.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

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

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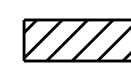


CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

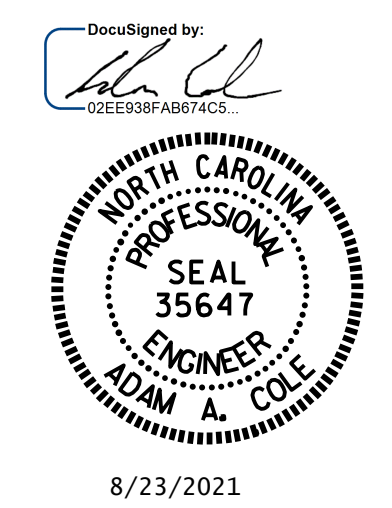
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
BRIDGE NO: 590332

SHEET 6 OF 6



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 10
SPAN L FACE

DRAWN BY : R.L.PUTEK DATE : 06/2021
CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 274
2			4			

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AS-BUILT REPAIR QUANTITY TABLE

BENT 11	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	162.2	81.1		
COLUMNS & STRUTS	4.0	2.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	27.0	13.5		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMNS & STRUTS	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP & STRUTS	265			

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

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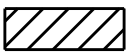


CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

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FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

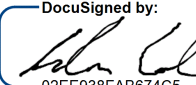
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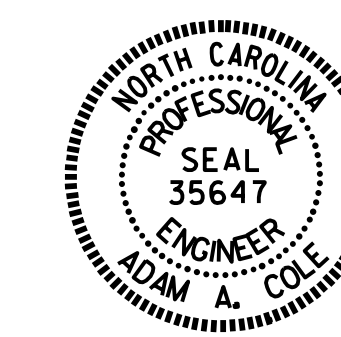
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 1 OF 6

DocuSigned by:

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8/23/2021

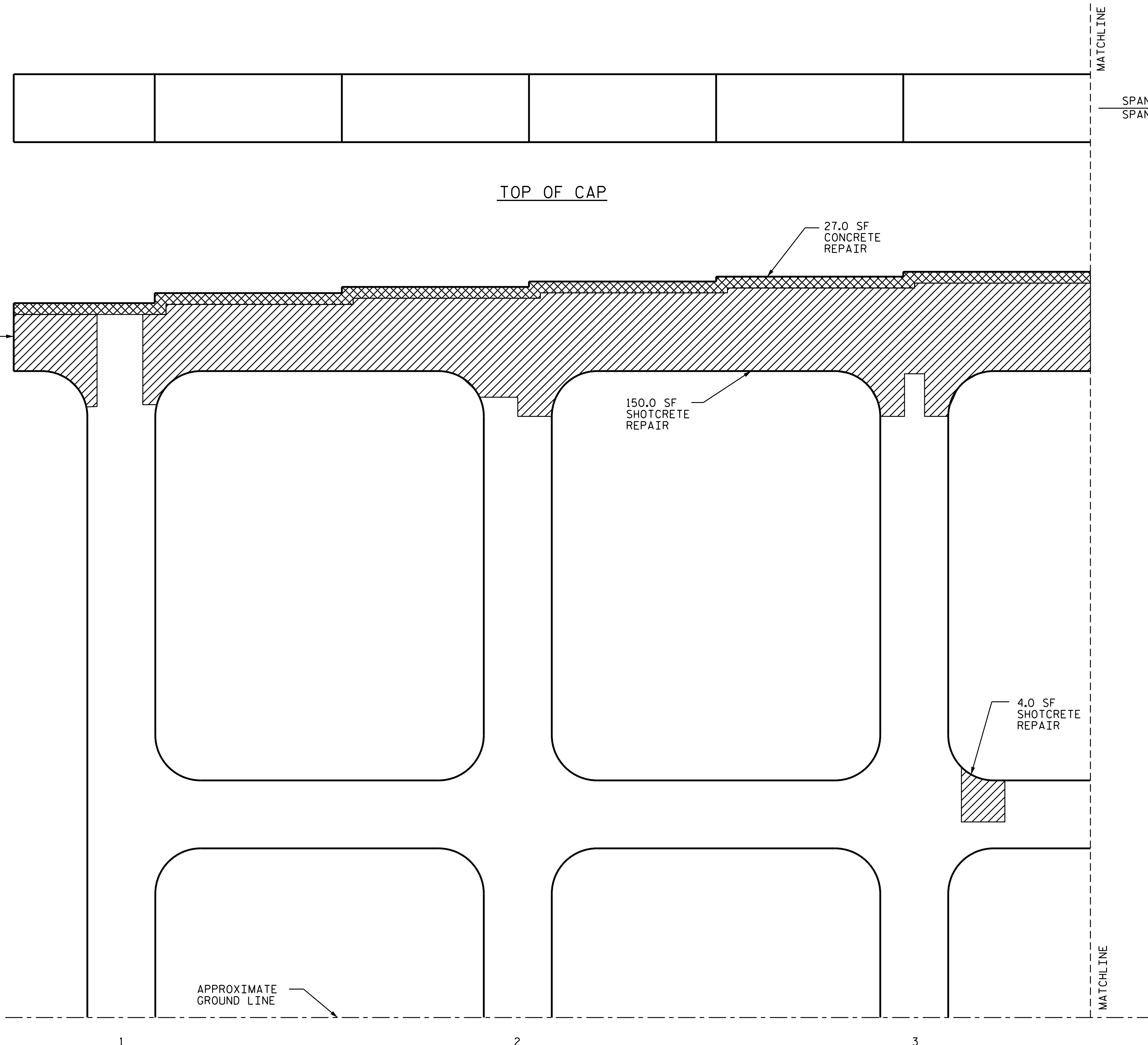
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 11
 SPAN L FACE

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			TOTAL SHEETS 274
2			4			

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ELEVATION
 BENT 11

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 11	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	57.9	29.0		
COLUMNS & STRUTS	10.0	5.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	9.3	4.7		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		3.5		
COLUMNS & STRUTS		3.5		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		264		

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

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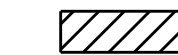


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FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

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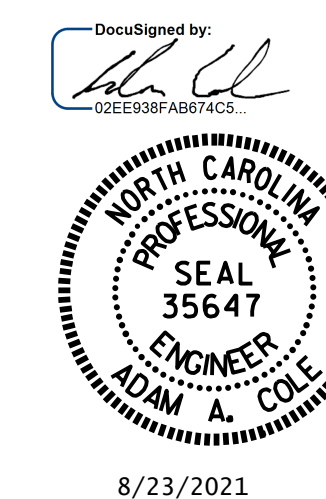
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 2 OF 6

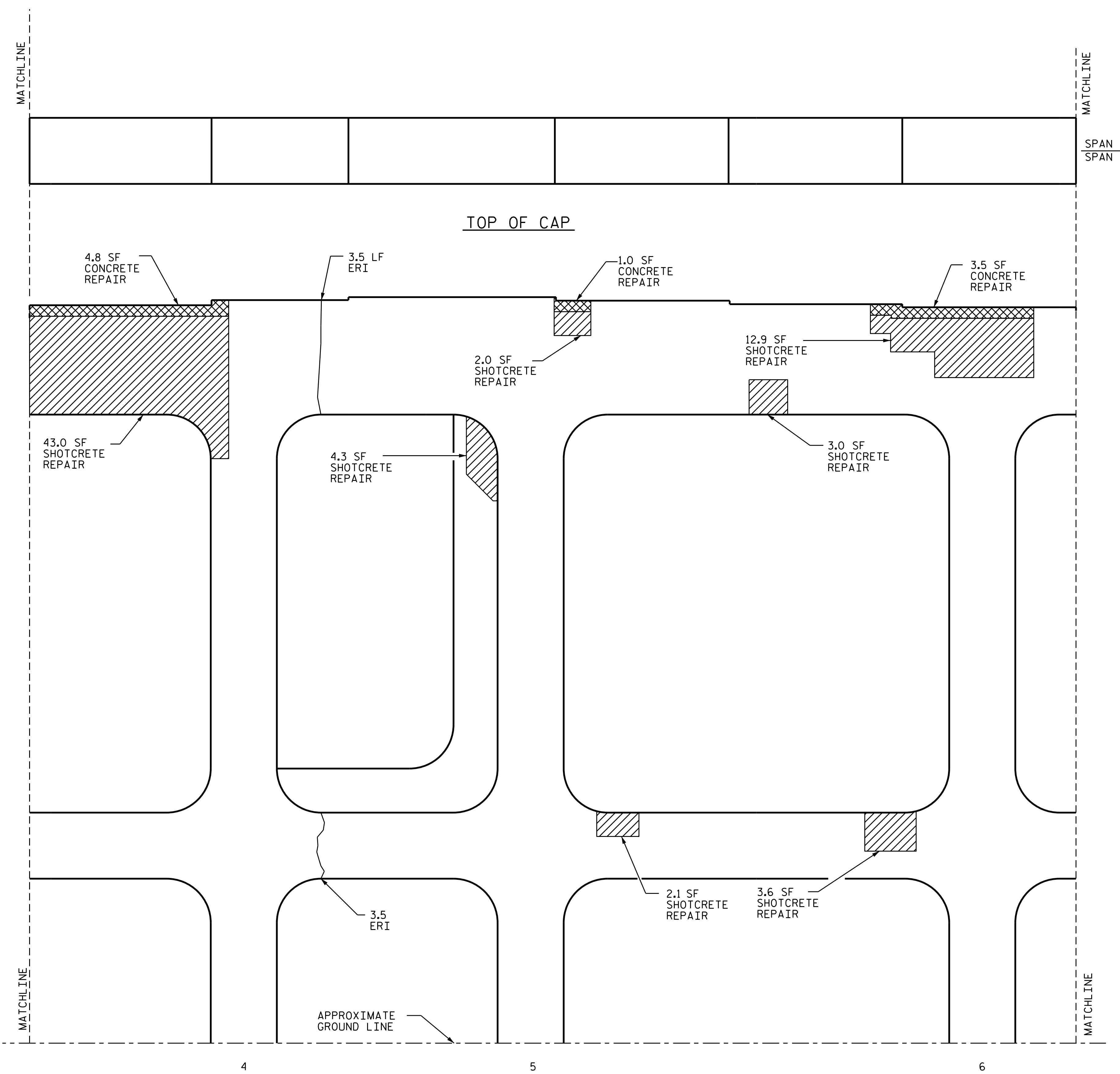


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 11
 SPAN L FACE

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

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ELEVATION
 BENT 11

DRAWN BY : R.L. PUTEK DATE : 06/2021
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AS-BUILT REPAIR QUANTITY TABLE

BENT 11	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	67.0	33.5		
COLUMNS & STRUTS	19.9	10.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	10.5	5.3		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		208		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR 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 SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

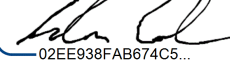
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

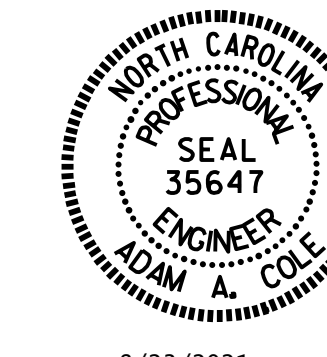
CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND STRUTS AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP AND STRUTS. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 3 OF 6

DocuSigned by:

 GREENSBORO, NC



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 11
 SPAN L FACE

REVISIONS

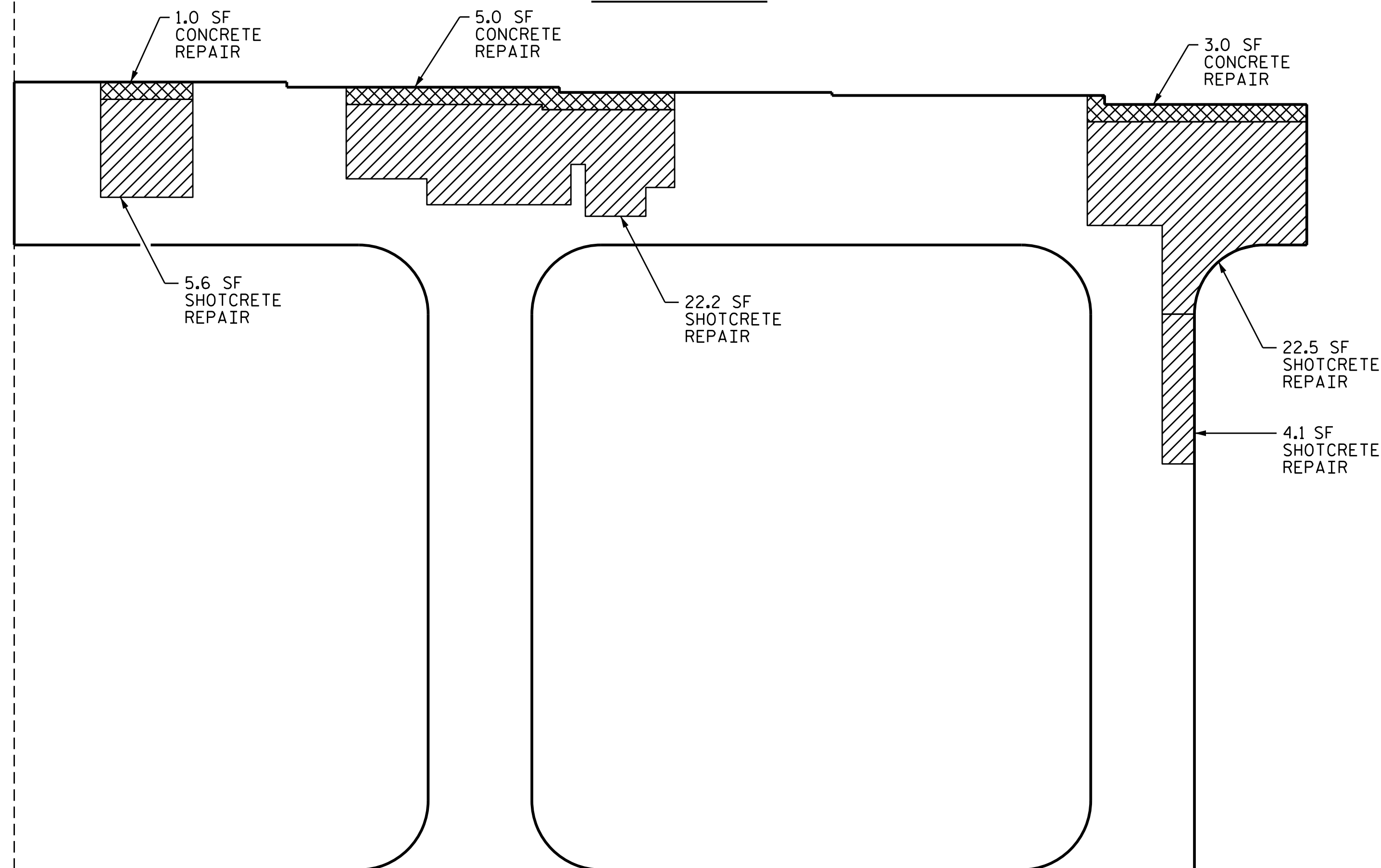
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2			4			TOTAL SHEETS 274

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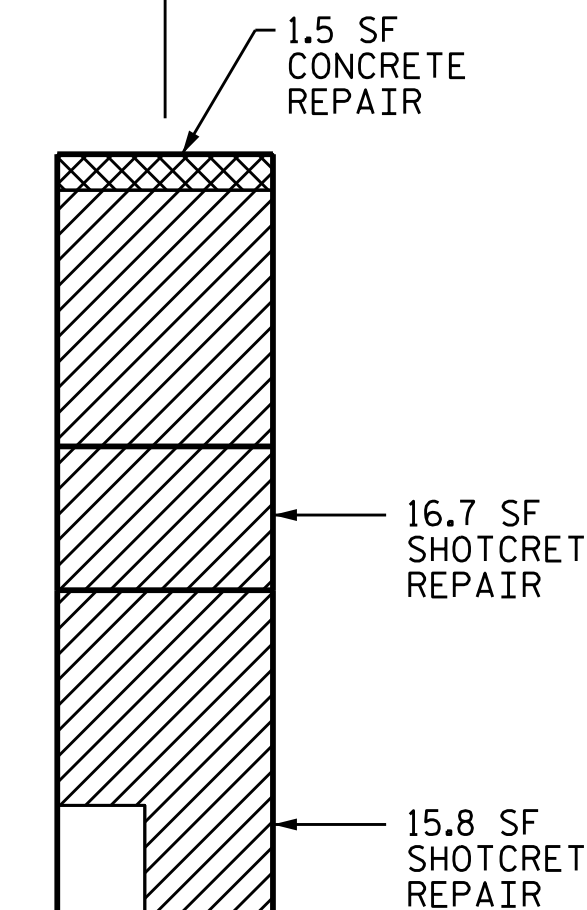
MATCHLINE



TOP OF CAP



SPAN L SPAN M



APPROXIMATE GROUND LINE

ELEVATION
 BENT 11

END VIEW

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 11	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	69.2	34.6		
COLUMNS & STRUTS	49.3	24.7		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	11.2	5.6		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

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

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FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

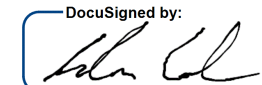
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

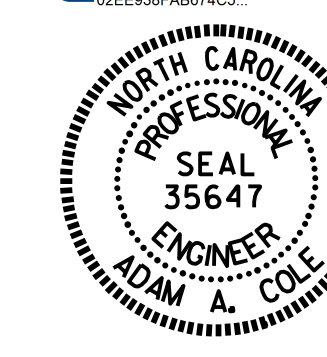
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 4 OF 6

DocuSigned by:




8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

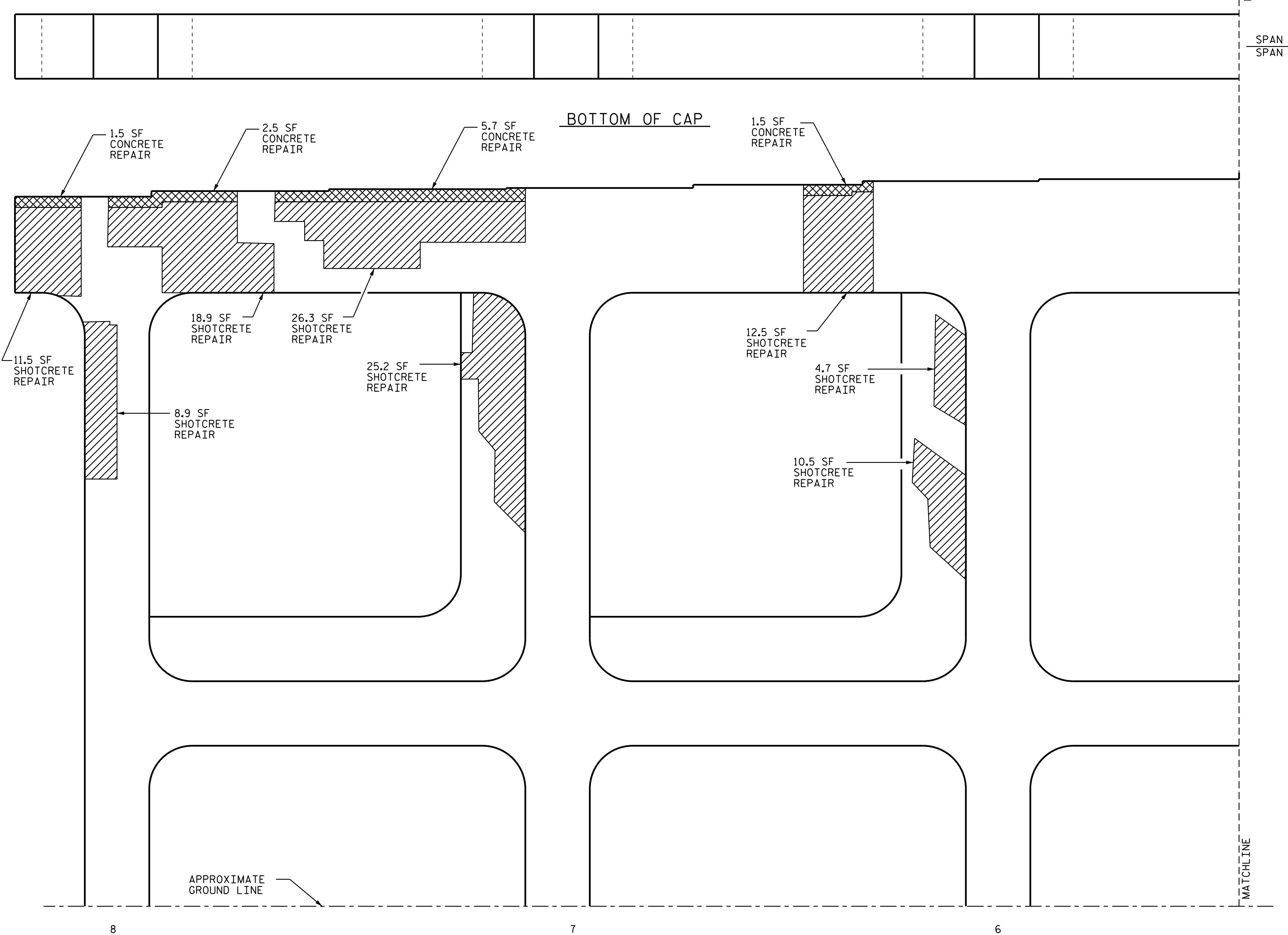
BENT 11
 SPAN M FACE

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ELEVATION
 BENT 11

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 11	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	71.8	35.9		
COLUMNS & STRUTS	2.3	1.2		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	5.6	2.8		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	3.5			
COLUMNS & STRUTS	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP & STRUTS	0			

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

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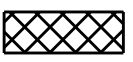

CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

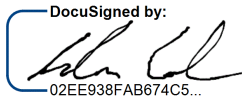
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

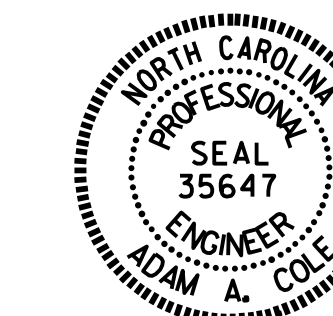
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 5 OF 6

DocuSigned by:




8/23/2021

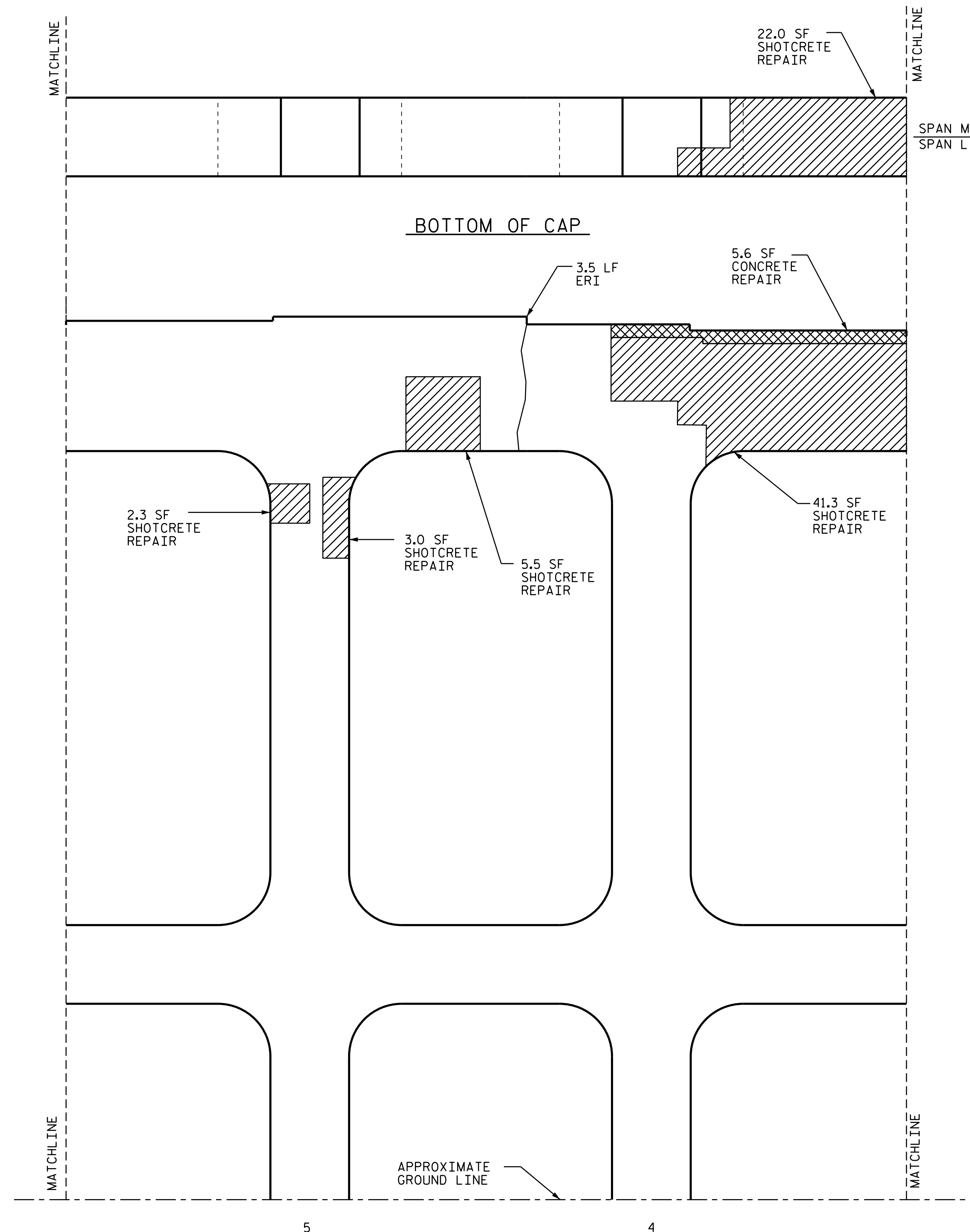
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 11
 SPAN M FACE

REVISIONS

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2			4			TOTAL SHEETS 274

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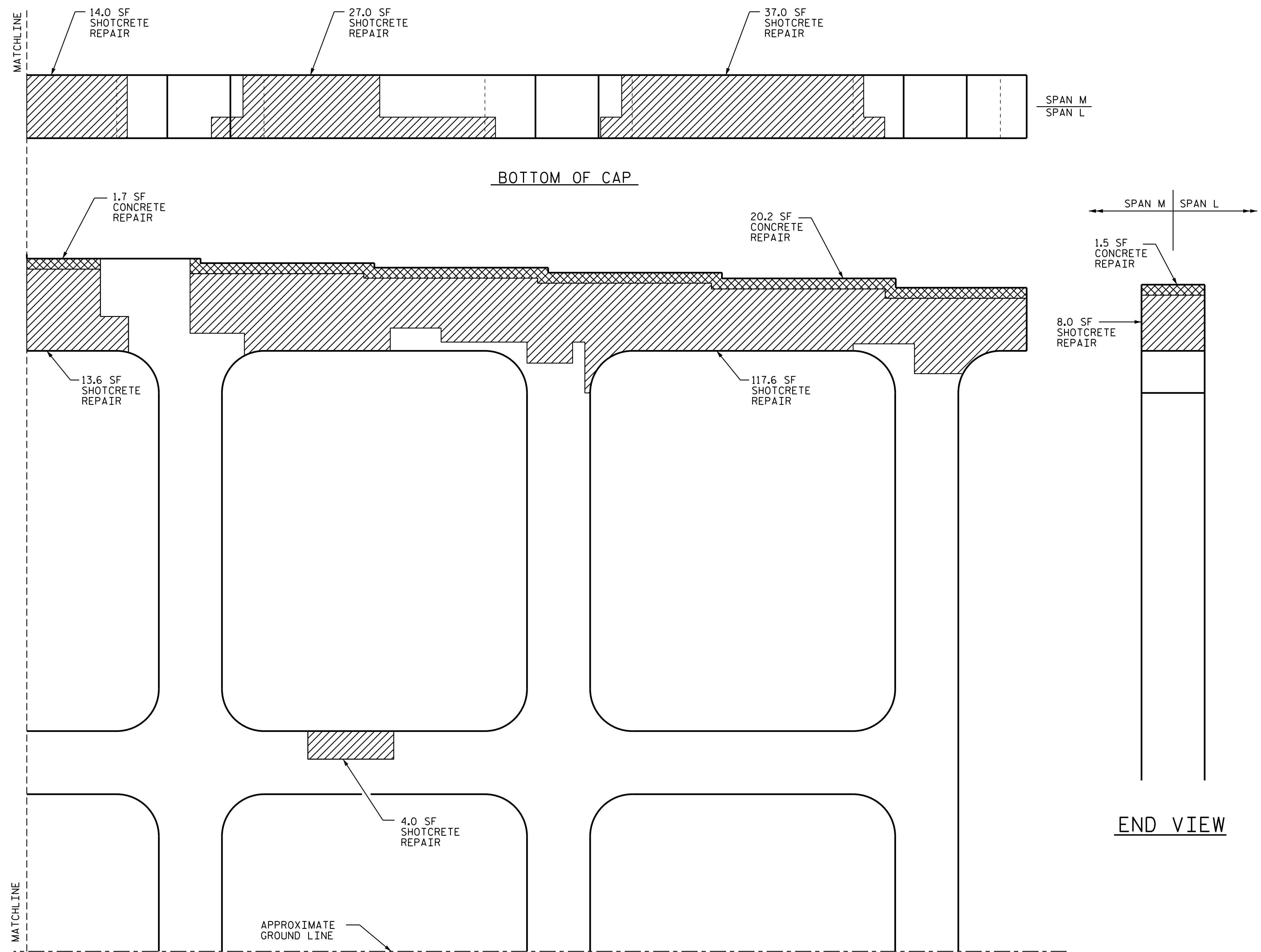


ELEVATION
 BENT 11

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H.A.LOCKLEAR DATE : 06/2021

23-AUG-2021 12:05

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AS-BUILT REPAIR QUANTITY TABLE

BENT 11	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	217.2	108.6		
COLUMNS & STRUTS	4.0	2.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	23.4	11.7		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

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

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FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

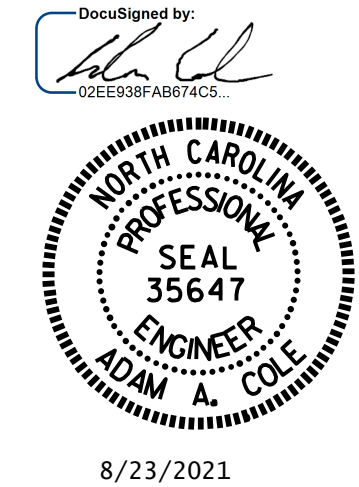
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 6 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 11
SPAN M FACE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
2			4			

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DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 12	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	21.2	10.6		
COLUMNS & STRUTS	4.8	2.4		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	6.2	3.1		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	1.0			
COLUMNS & STRUTS	3.5			
EPOXY COATING	SO. FT.		SO. FT.	
TOP OF BENT CAP & STRUTS	339			

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

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FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

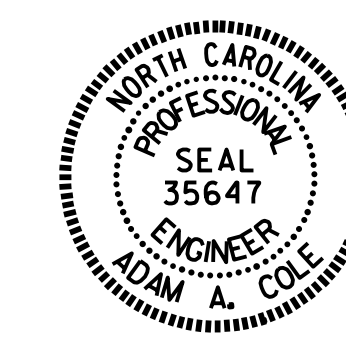
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 1 OF 6

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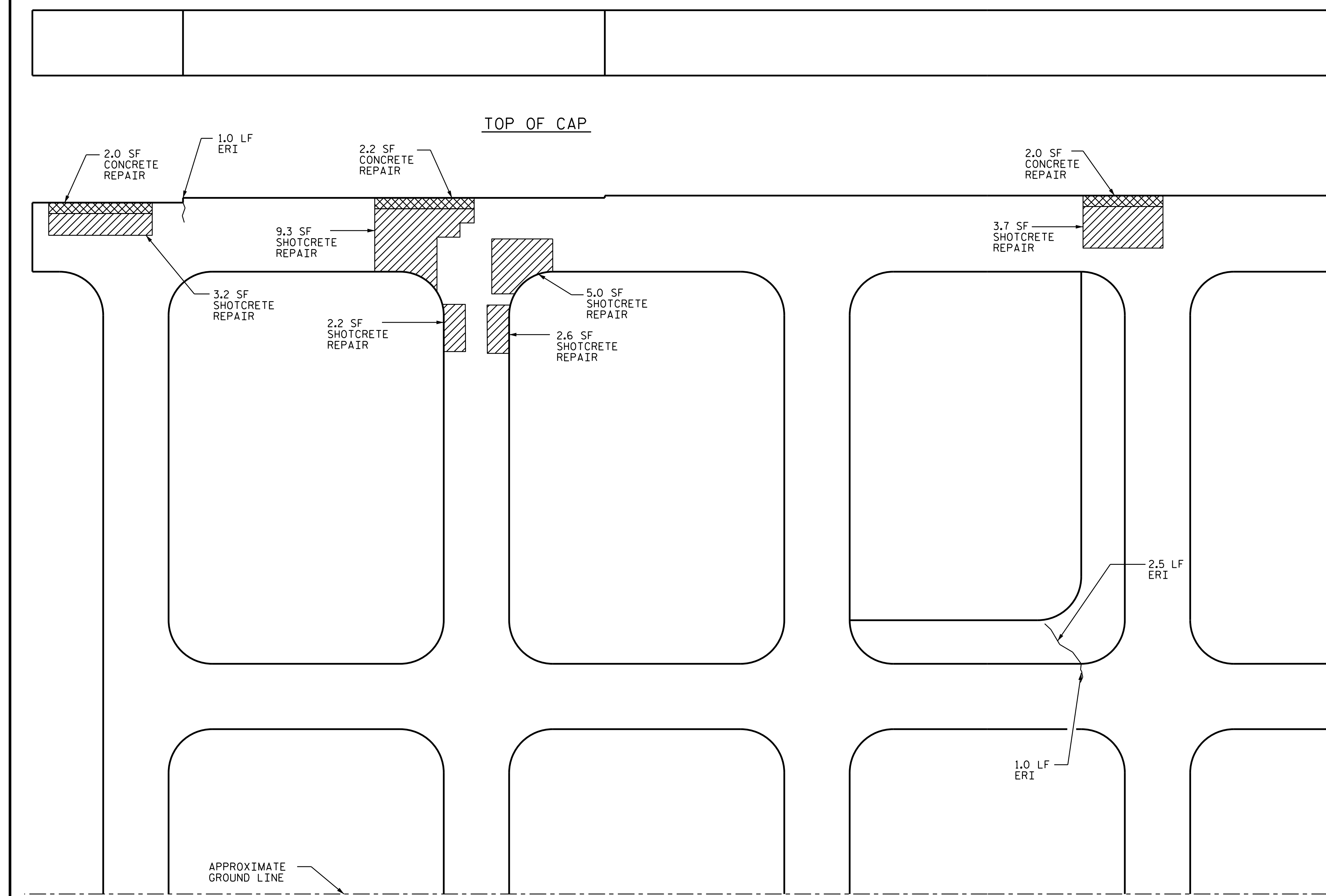
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 12
 SPAN M FACE

REVISIONS

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2			4			TOTAL SHEETS 274

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ELEVATION
 BENT 12

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 12	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMNS & STRUTS	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.	
CAP	3.5			
COLUMNS & STRUTS	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP & STRUTS	283			

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

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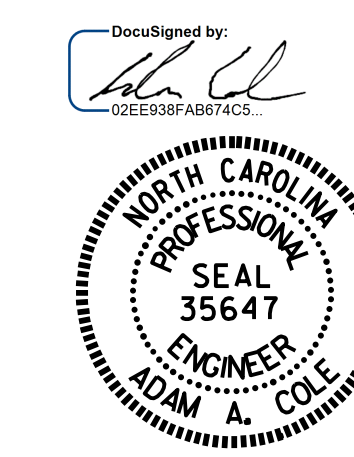
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 2 OF 6



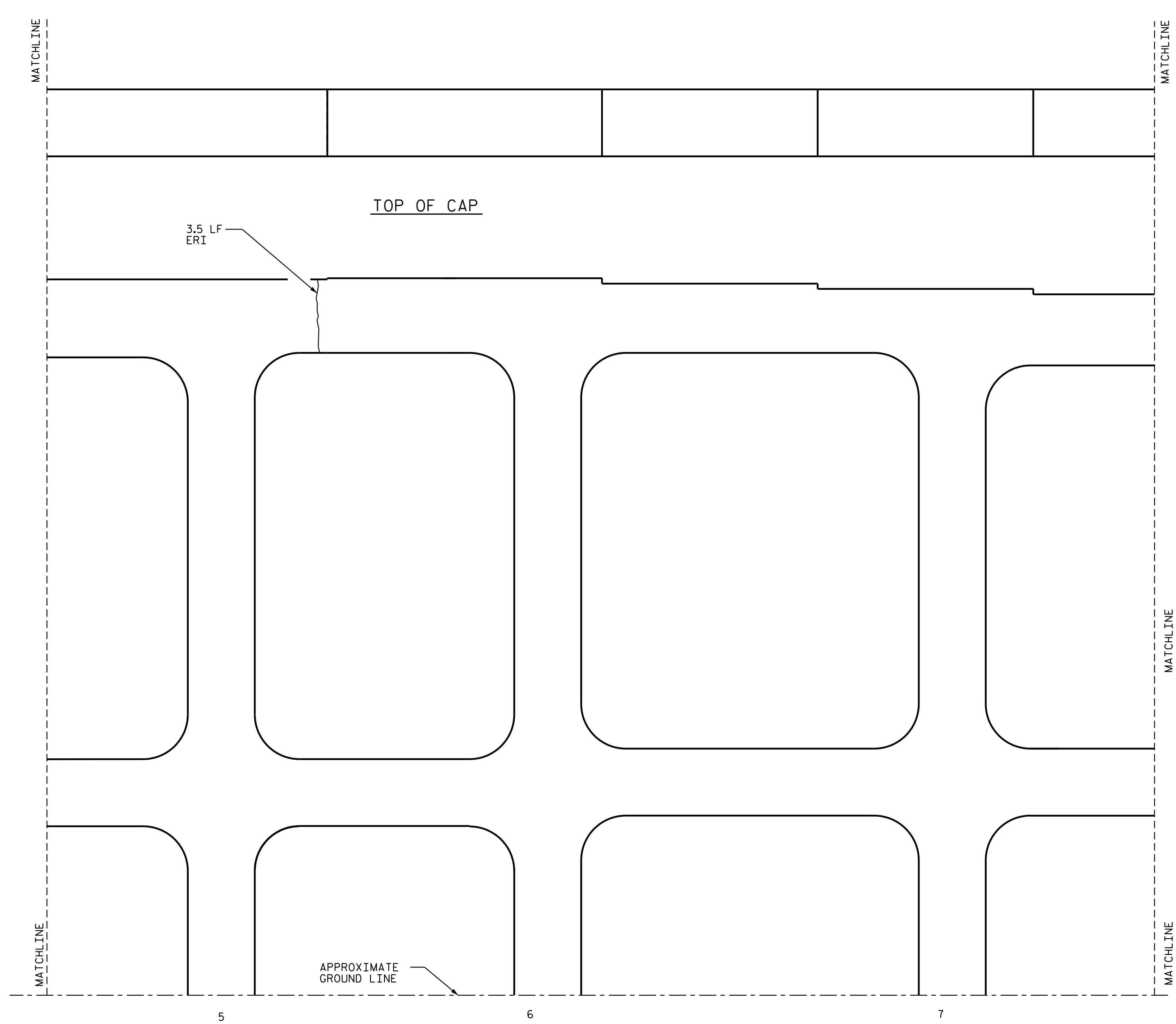
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 12
 SPAN M FACE

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1			3			S10-82
2			4			TOTAL SHEETS 274

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ELEVATION
 BENT 12

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 12	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMNS & STRUTS	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.	
CAP	1.0			
COLUMNS & STRUTS	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP & STRUTS	286			

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

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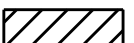


CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

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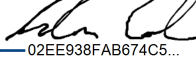
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 3 OF 6

DocuSigned by:




8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

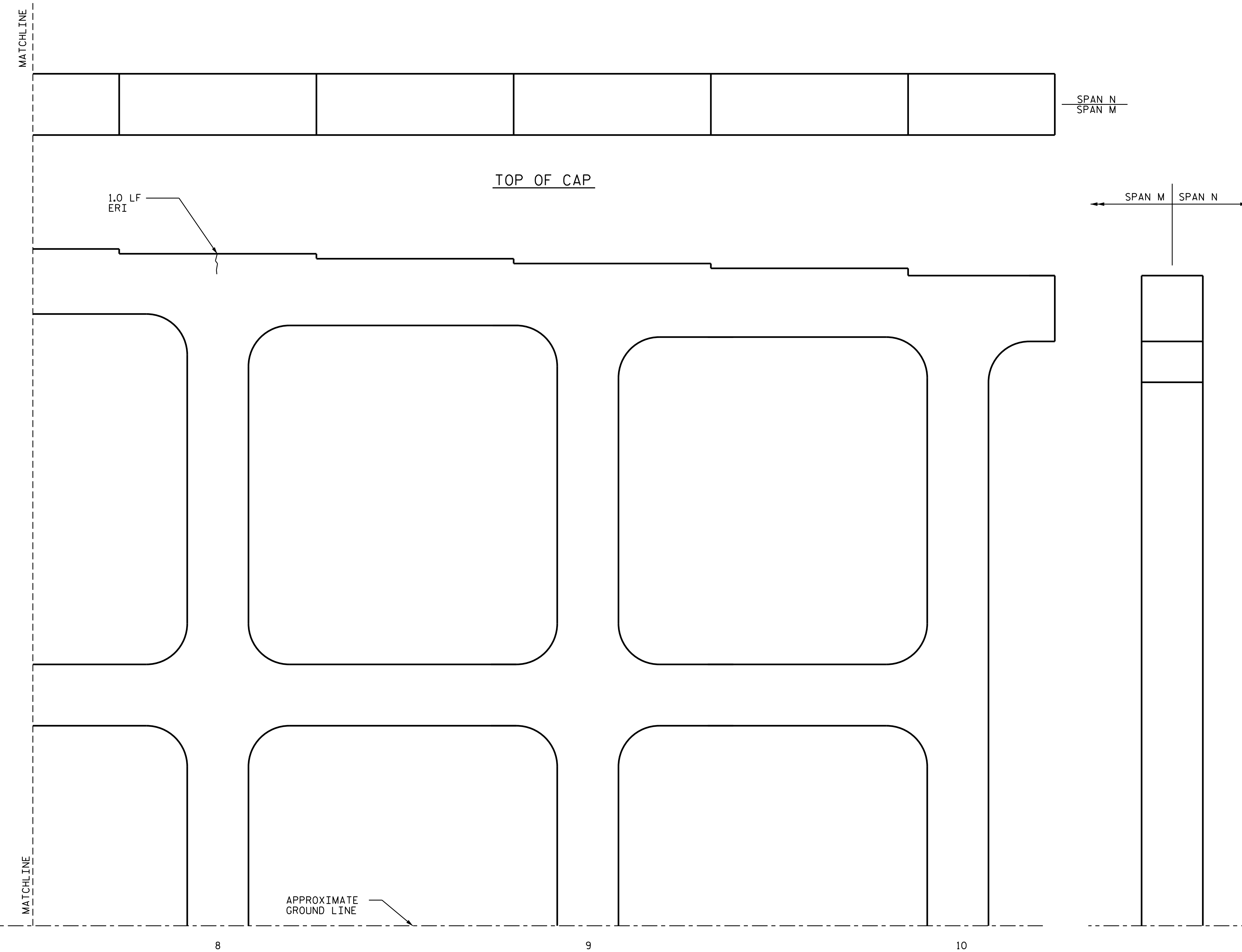
BENT 12
 SPAN M FACE

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 S10-83
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ELEVATION
 BENT 12

END VIEW

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 12	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMNS & STRUTS	4.4	2.2		
CONCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMNS & STRUTS	0.0			
EPOXY COATING	SO. FT.		SO. FT.	
TOP OF BENT CAP & STRUTS	0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR 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 SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

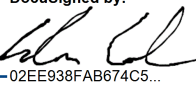
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

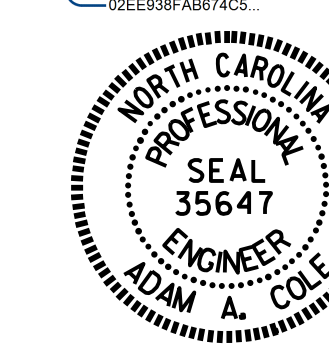
CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND STRUTS AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP AND STRUTS. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 4 OF 6

Designed by: 



8/23/2021

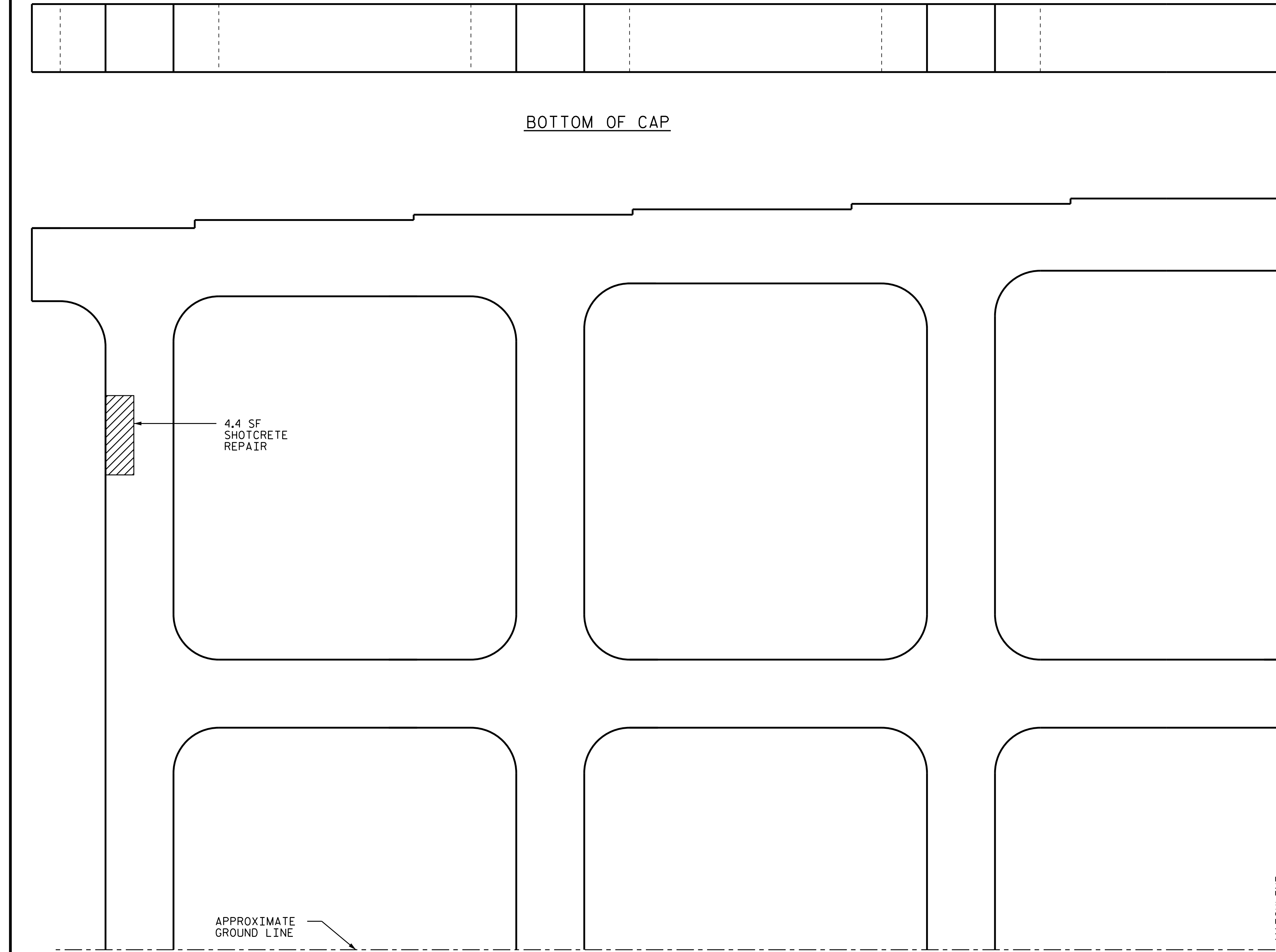
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 12
 SPAN N FACE

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S10-84
2			4			TOTAL SHEETS 274

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ELEVATION BENT 12

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

23-AUG-2021 12:05

oacole

AS-BUILT REPAIR QUANTITY TABLE

BENT 12	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMNS & STRUTS	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.	
CAP	6.5			
COLUMNS & STRUTS	1.5			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP & STRUTS	0			

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

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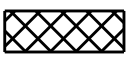

CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

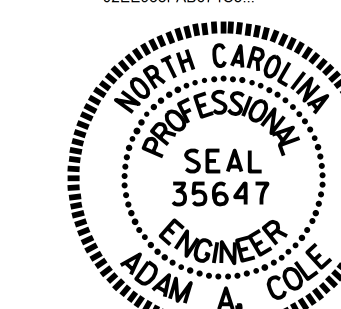
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 5 OF 6

DocuSigned by:

8/23/2021

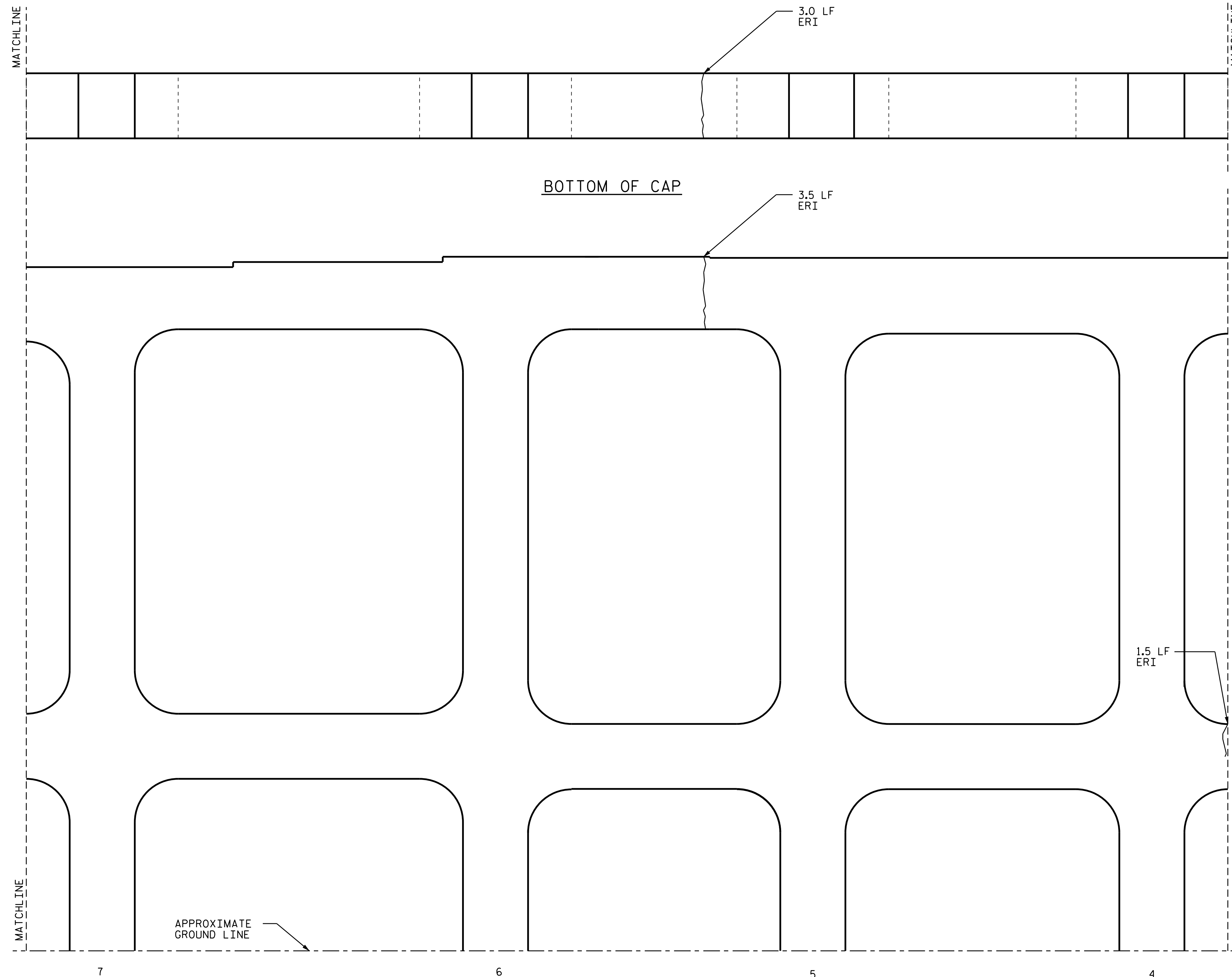
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 12
 SPAN N FACE

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S10-85
2			4			TOTAL SHEETS 274

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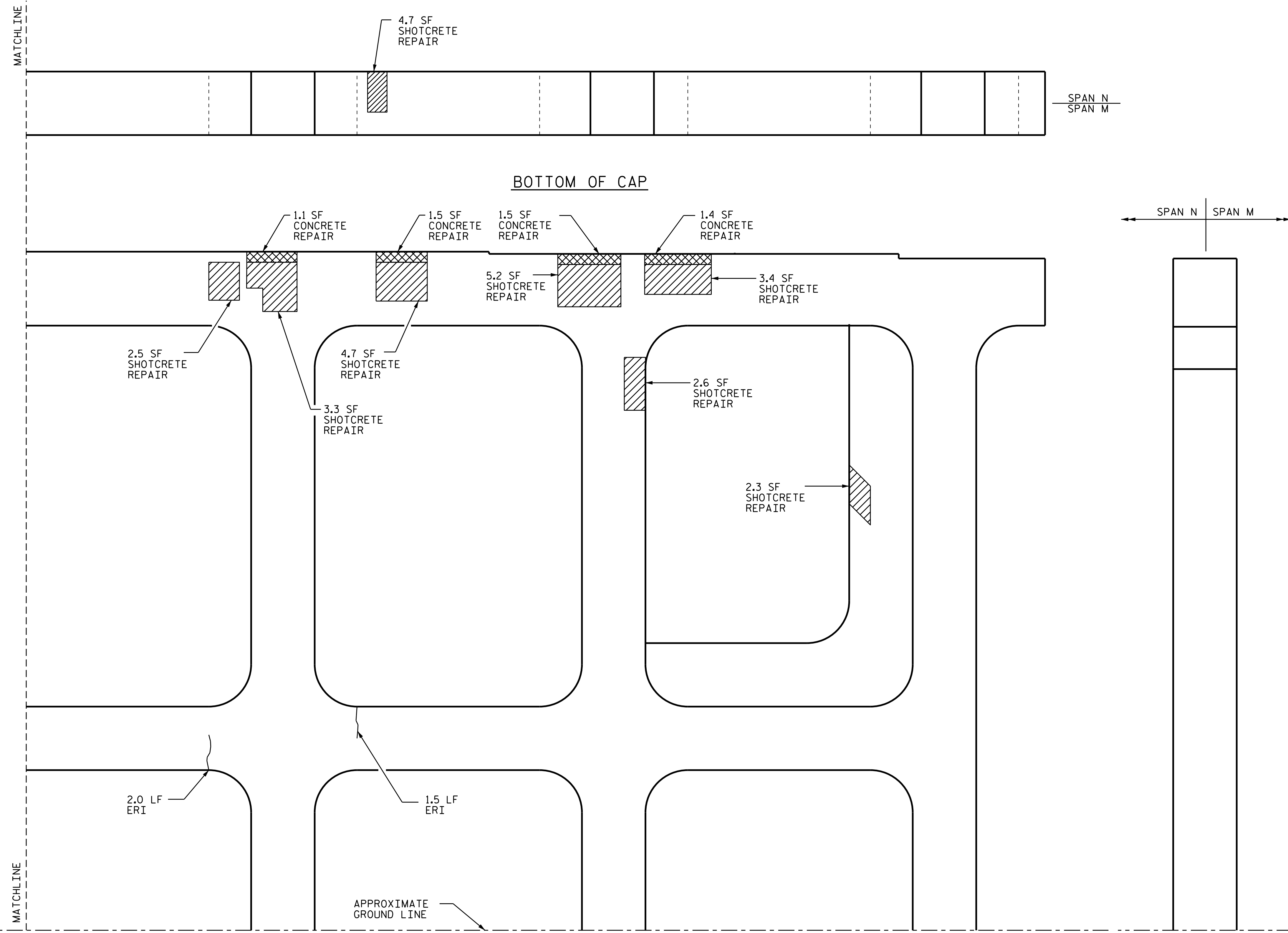


ELEVATION
 BENT 12

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

23-AUG-2021 12:05

oacole



ELEVATION
BENT 12

END VIEW

AS-BUILT REPAIR QUANTITY TABLE				
BENT 12	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	23.8	11.9		
COLUMNS & STRUTS	4.9	2.5		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	5.5	2.8		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMNS & STRUTS	3.5			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP & STRUTS	0			

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

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FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 6 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 12
 SPAN N FACE

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
2			4			274

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AS-BUILT REPAIR QUANTITY TABLE

BENT 13	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	2.0	1.0		
COLUMNS & STRUTS	6.5	3.3		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	1.0	0.5		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMNS & STRUTS	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP & STRUTS	315			

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

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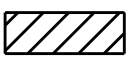


CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

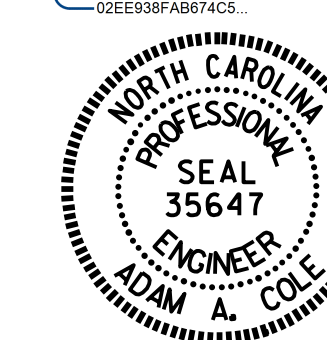
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 1 OF 6

DocuSign by: 



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 13
 SPAN N FACE

REVISIONS

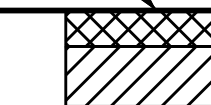
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S10-87
2			4			TOTAL SHEETS 274

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TOP OF CAP

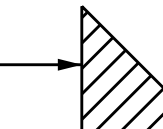
1.0 SF CONCRETE REPAIR



2.0 SF SHOTCRETE REPAIR

2.5 SF SHOTCRETE REPAIR

4.0 SF SHOTCRETE REPAIR



APPROXIMATE GROUND LINE

ELEVATION
 BENT 13

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 13	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMNS & STRUTS	14.4	7.2		
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	0.0			
COLUMNS & STRUTS	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP & STRUTS	308			

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

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FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

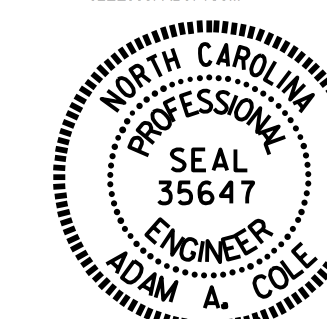
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 2 OF 6

DocuSigned by:
02E838FAB074CS



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 13
 SPAN N FACE

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S10-88
2			4			TOTAL SHEETS 274

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MATCHLINE

MATCHLINE

SPAN P
 SPAN N

TOP OF CAP

5.7 SF
 SHOTCRETE
 REPAIR

3.2 SF
 SHOTCRETE
 REPAIR

2.5 SF
 SHOTCRETE
 REPAIR

3.0 SF
 SHOTCRETE
 REPAIR

APPROXIMATE
 GROUND LINE

5

6

7

ELEVATION
 BENT 13

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 13	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	3.0	1.5		
COLUMNS & STRUTS	9.0	4.5		
CONCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMNS & STRUTS	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP & STRUTS	286			

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

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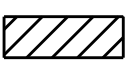


CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

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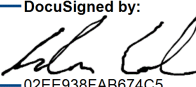
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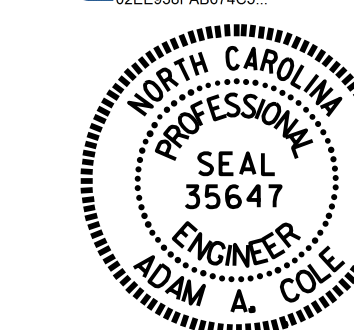
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 3 OF 6

DocuSigned by: 



8/23/2021

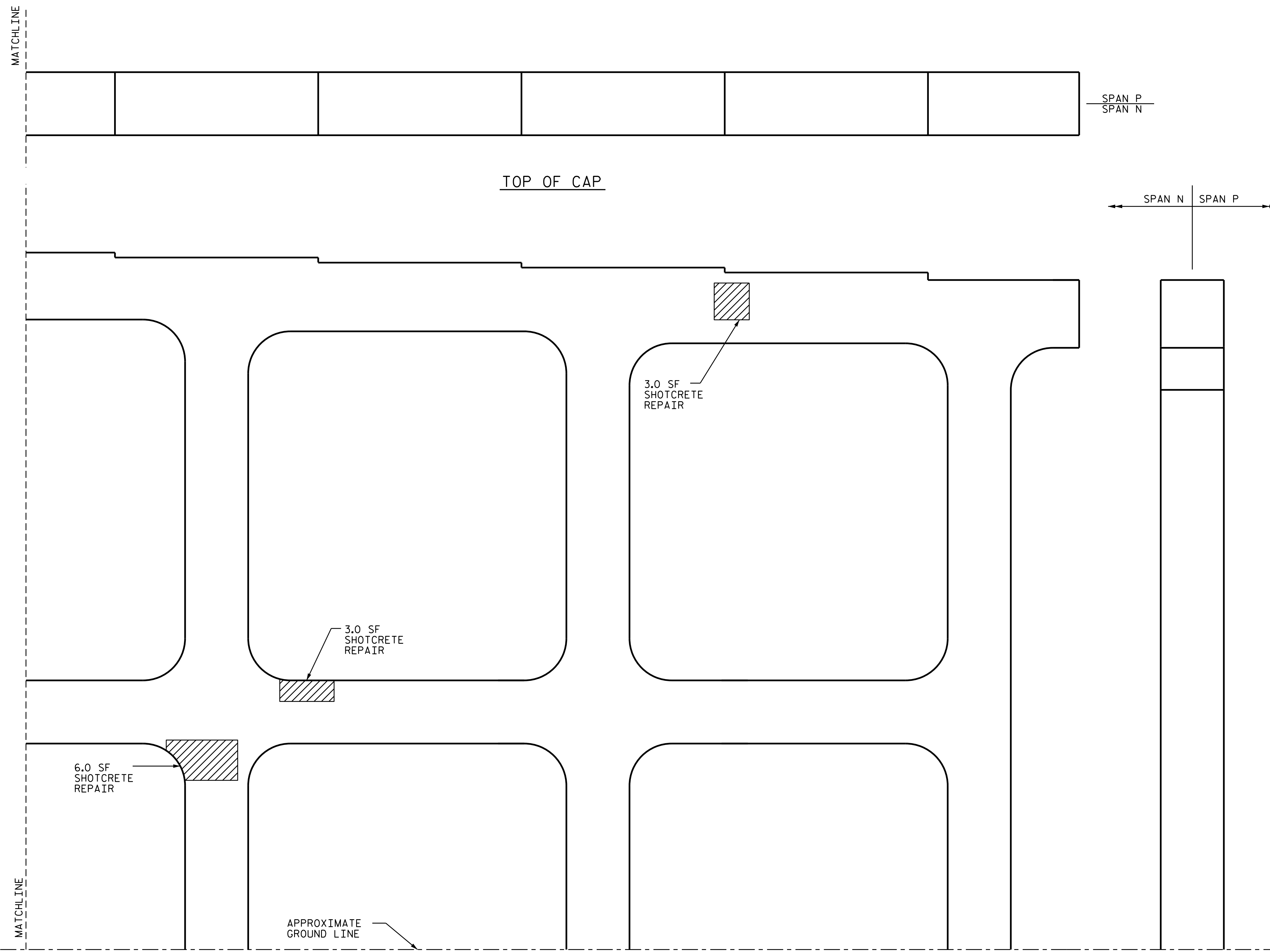
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 13
 SPAN N FACE

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S10-89
2			4			TOTAL SHEETS 274

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ELEVATION
 BENT 13

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 13	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	8.0	4.0		
COLUMNS & STRUTS	69.7	34.9		
CONCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

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

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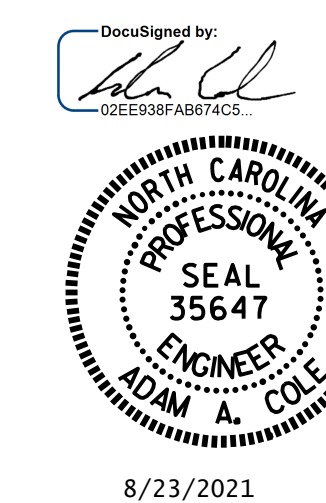
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 4 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

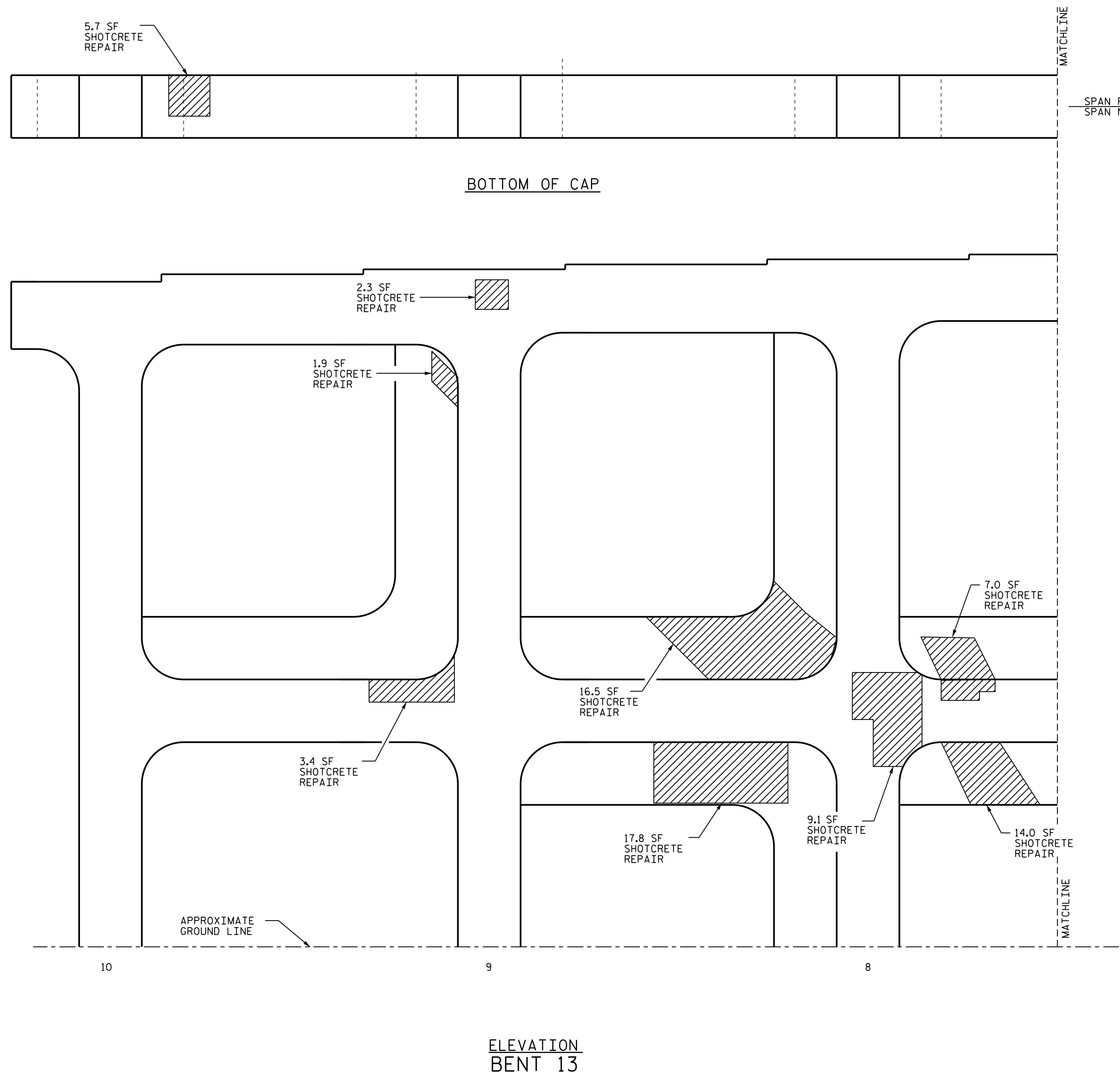
BENT 13
 SPAN P FACE

REVISIONS

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

SHEET NO.
 S10-90
 TOTAL SHEETS
 274

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ELEVATION
 BENT 13

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

23-AUG-2021 12:05

oacole

AS-BUILT REPAIR QUANTITY TABLE

BENT 13	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMNS & STRUTS	29.8	14.9		
CONCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0.0		
COLUMNS & STRUTS		2.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

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

NOTES

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

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

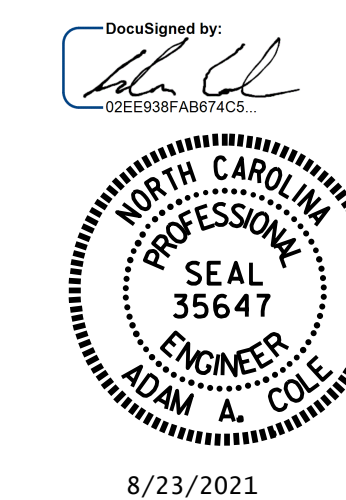
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 5 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 13
 SPAN P FACE

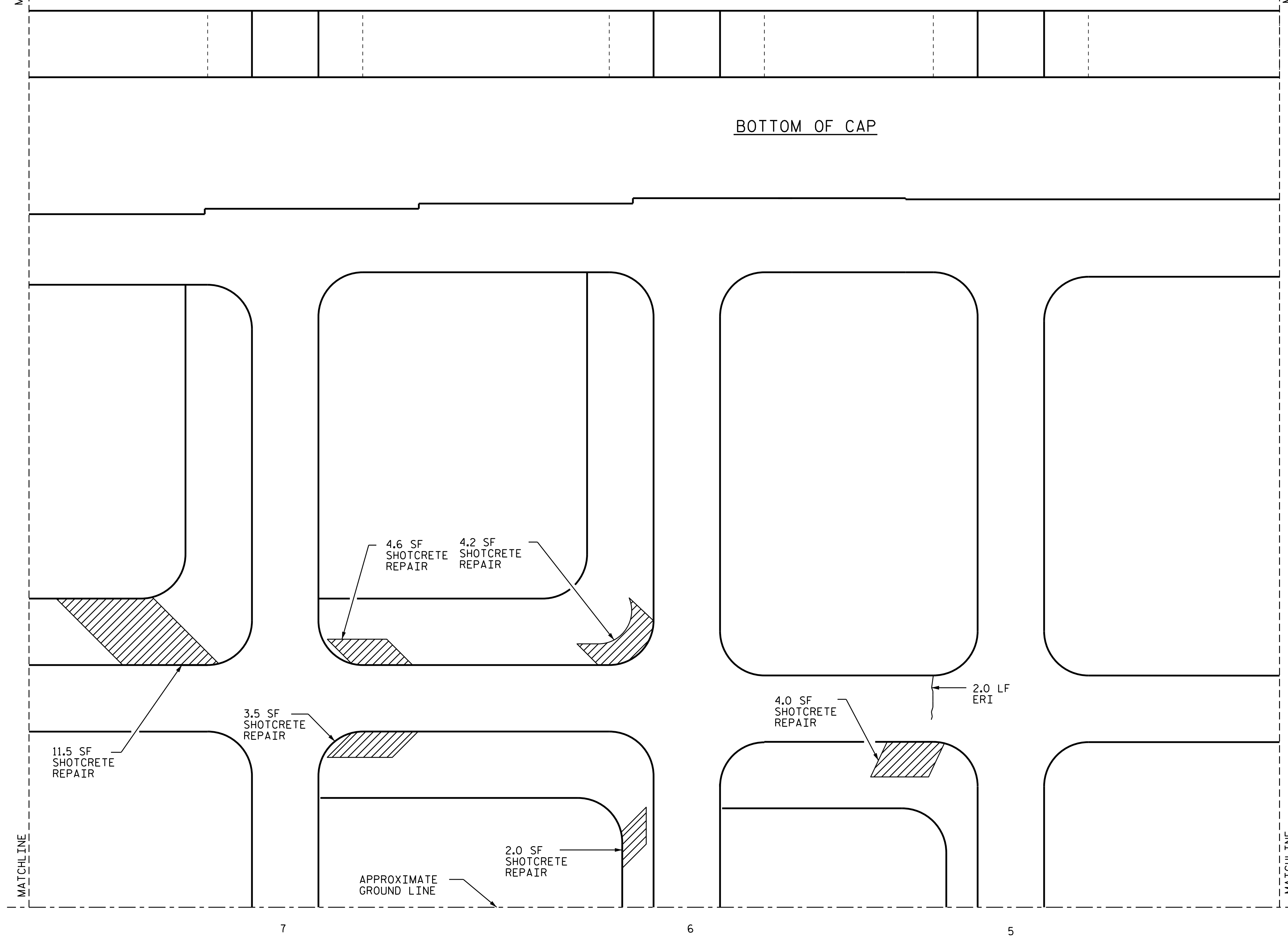
REVISIONS

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

SHEET NO.
 S10-91
 TOTAL SHEETS
 274

ELEVATION
 BENT 13

BOTTOM OF CAP



DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

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AS-BUILT REPAIR QUANTITY TABLE

BENT 13	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	6.0	3.0		
COLUMNS & STRUTS	4.2	2.1		
CONCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. CLEAR 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 SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

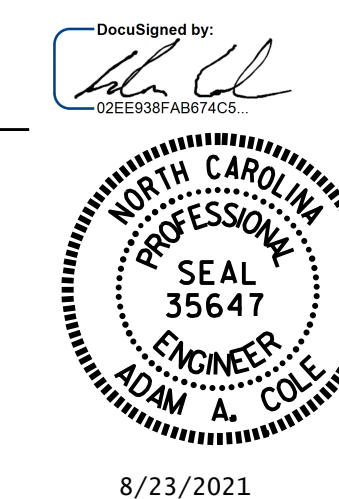
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 6 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 13
 SPAN P FACE

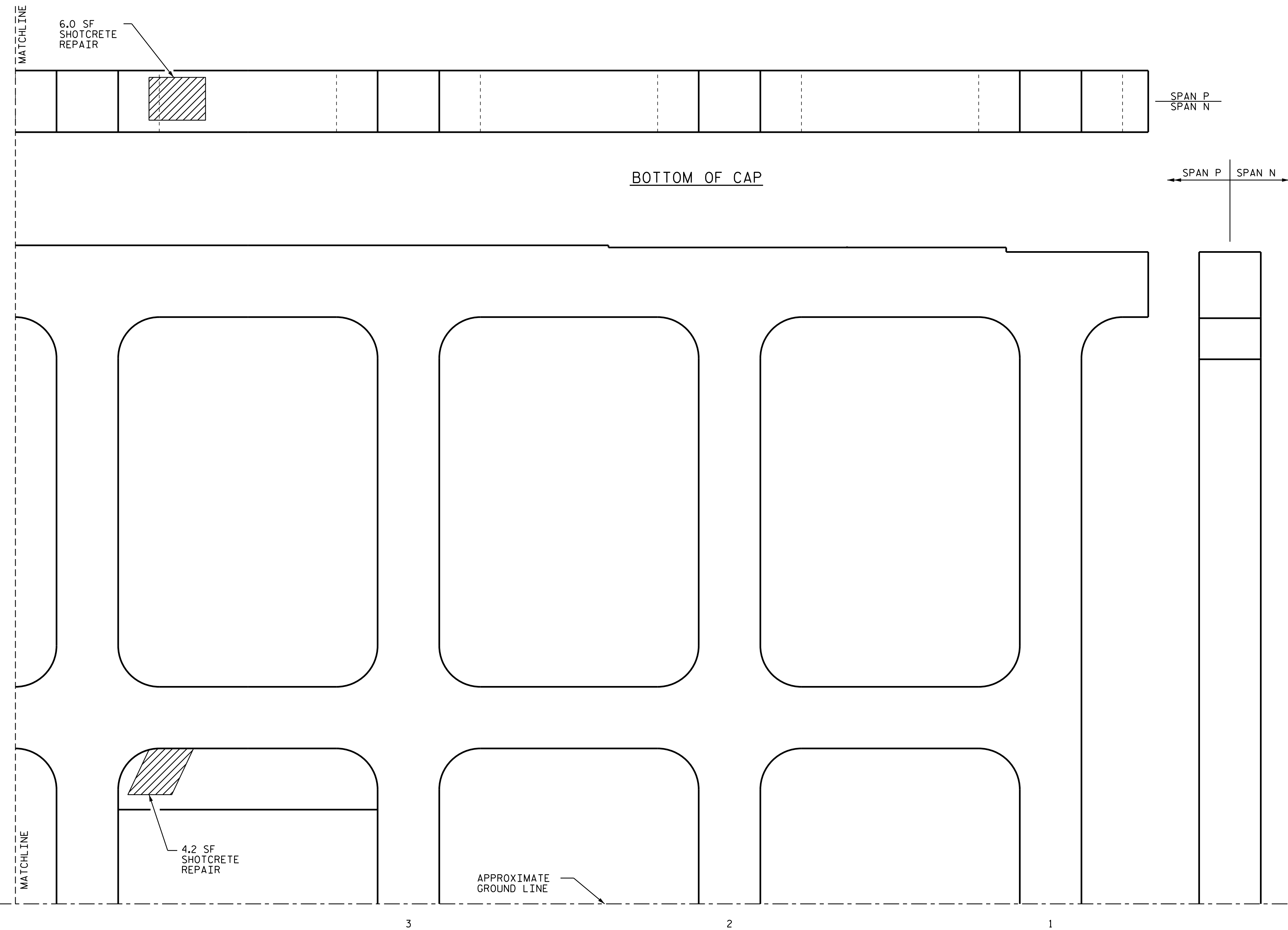
REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S10-92
2			4			TOTAL SHEETS 274

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END VIEW

ELEVATION
 BENT 13



DRAWN BY : R.L. PUTK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

23-AUG-2021 12:05

oacole

AS-BUILT REPAIR QUANTITY TABLE

BENT 14	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMNS & STRUTS	2.0	1.0		
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	0.0			
COLUMNS & STRUTS	0.0			

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




NOTES

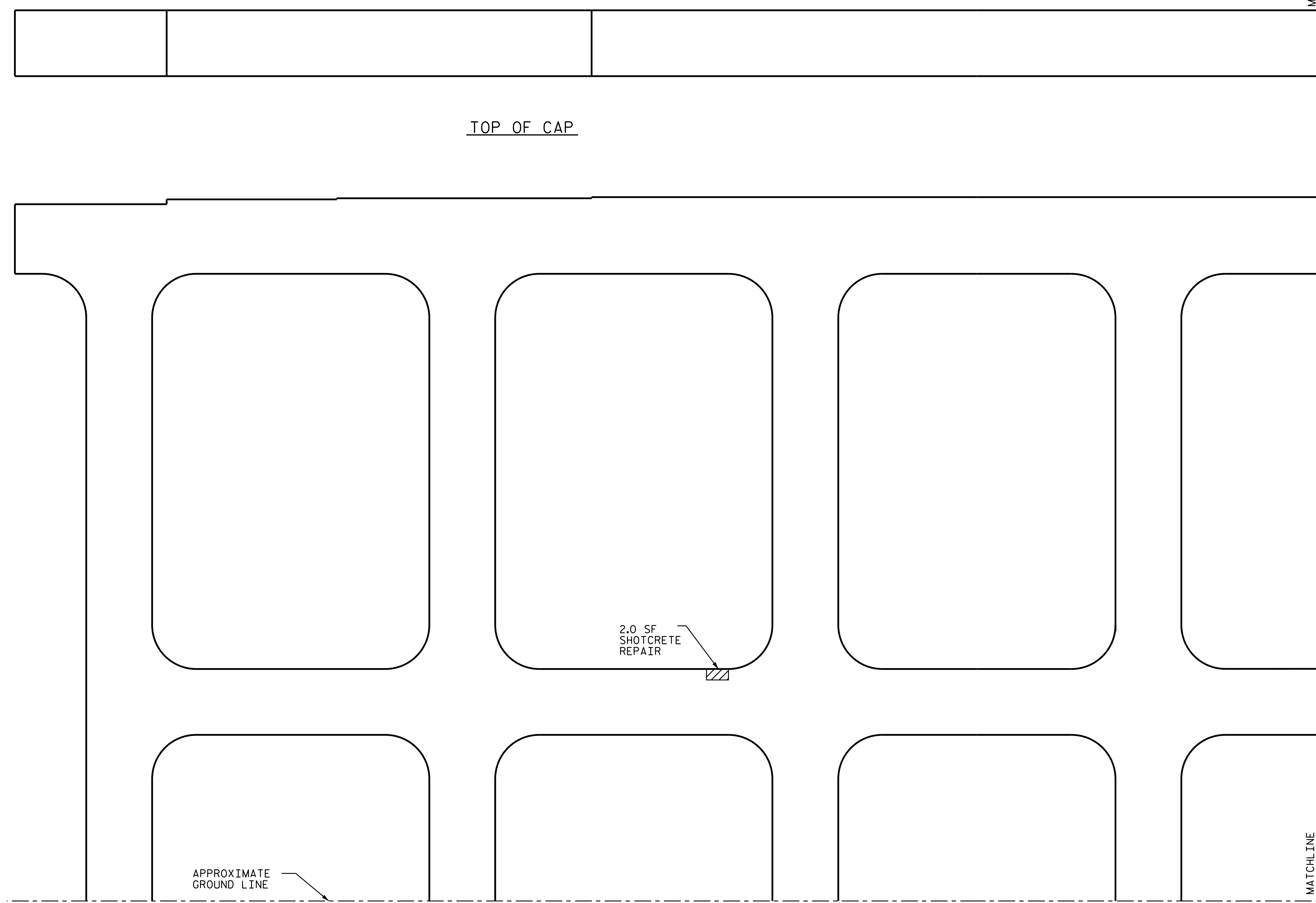
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FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

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

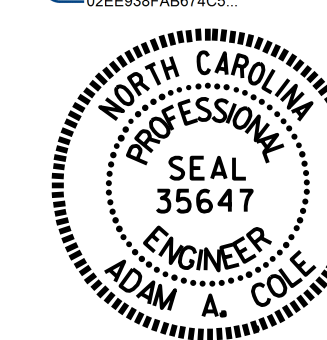


ELEVATION
BENT 14

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 1 OF 6

DocuSigned by:
00E5287A8874C5



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 14
 SPAN P FACE

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
2			4			274

AS-BUILT REPAIR QUANTITY TABLE

BENT 14	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMNS & STRUTS	3.6	1.8		
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	0.0			
COLUMNS & STRUTS	0.0			

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




NOTES

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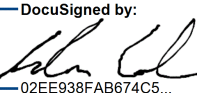
FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

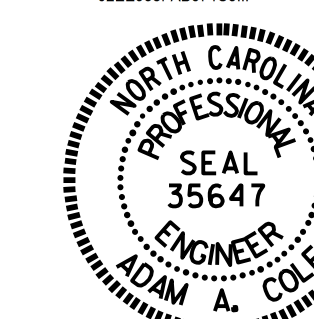
FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 2 OF 6

DocuSigned by:

 02E8938FAB074C5



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 14
 SPAN P FACE

REVISIONS

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1			3			S10-94
2			4			TOTAL SHEETS 274

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MATCHLINE

MATCHLINE

SPAN R
 SPAN P

TOP OF CAP

MATCHLINE

MATCHLINE

3.6 SF SHOTCRETE REPAIR

APPROXIMATE GROUND LINE

ELEVATION
 BENT 14

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 14	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMNS & STRUTS	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.	
CAP	0.0			
COLUMNS & STRUTS	0.0			

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




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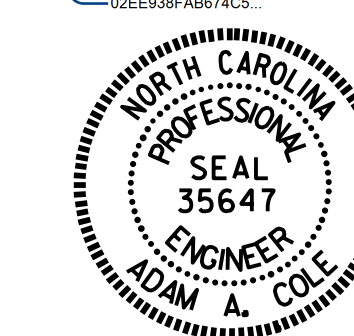
-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 3 OF 6

DocuSigned by:

 02E938FAB874C5



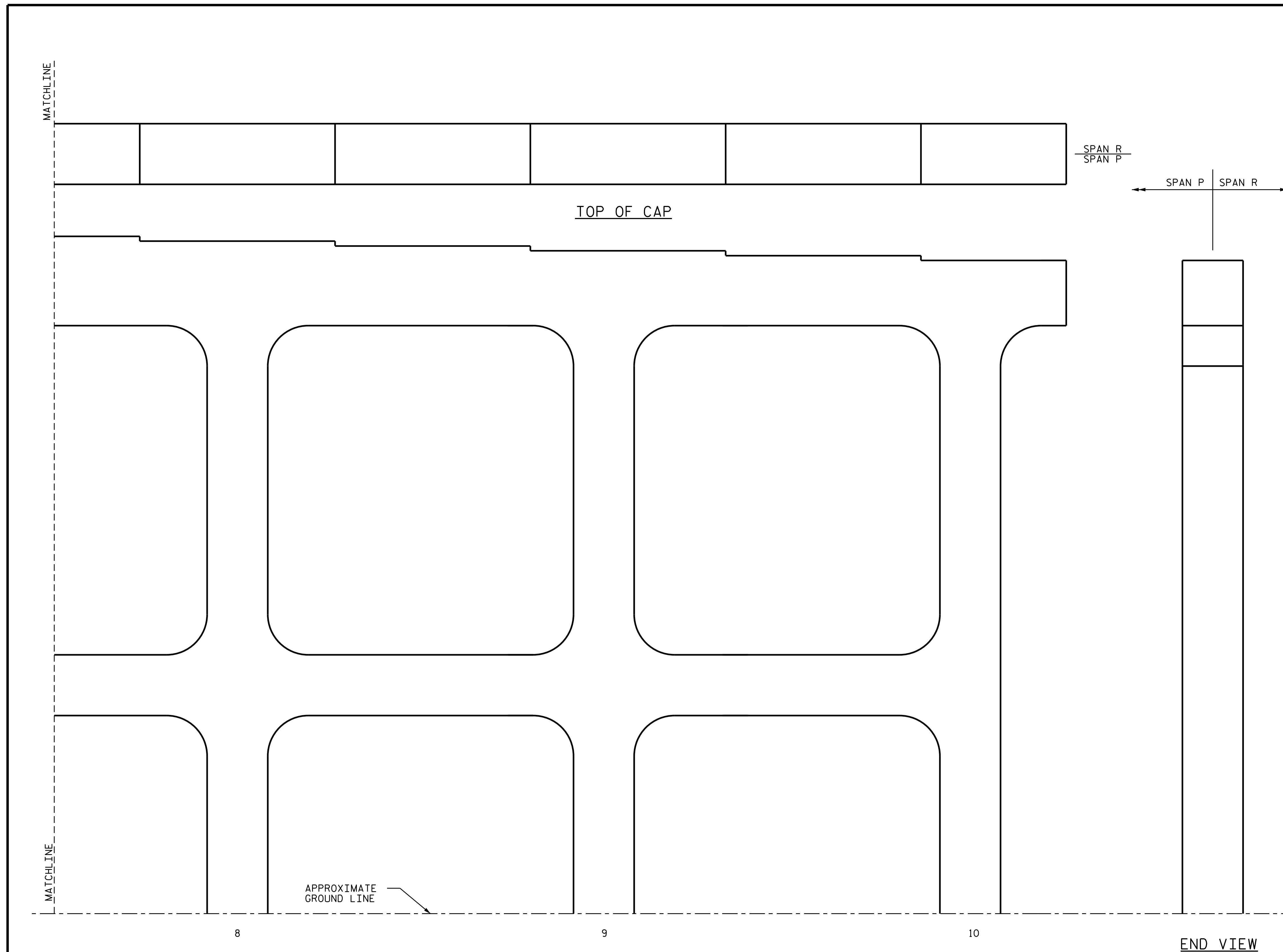
8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 14
 SPAN P FACE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
2			4			274

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ELEVATION
 BENT 14

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 14	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMNS & STRUTS	6.0	3.0		
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	0.0			
COLUMNS & STRUTS	0.0			

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




NOTES

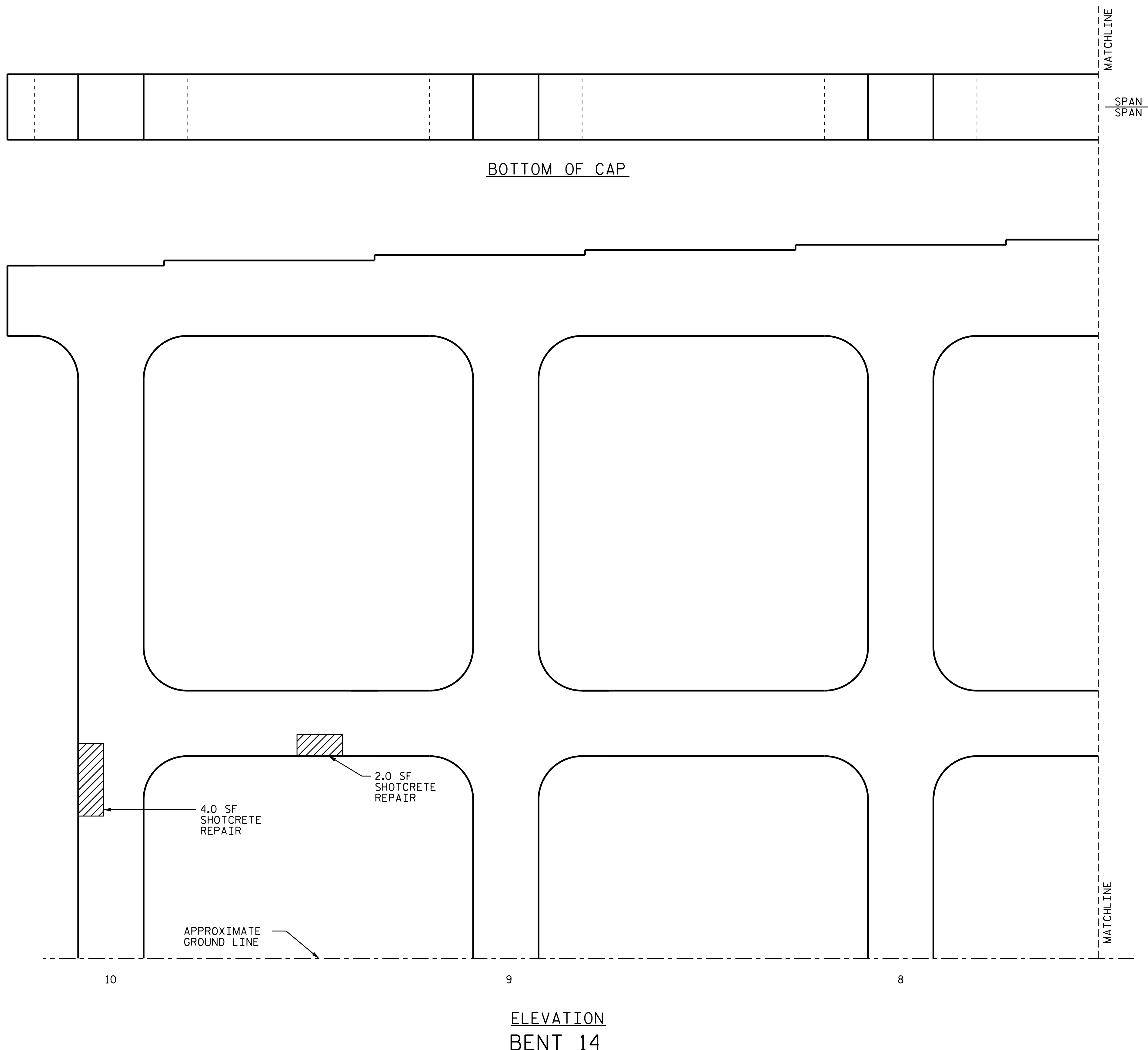
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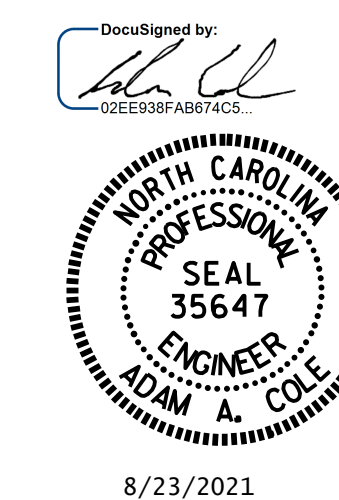
FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

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



PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 4 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 14
SPAN R FACE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			10-96
2			4			274

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DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

MATCHLINE

MATCHLINE

SPAN R
SPAN P

BOTTOM OF CAP

2.6 SF
SHOTCRETE
REPAIR

APPROXIMATE
GROUND LINE

ELEVATION
BENT 14

AS-BUILT REPAIR QUANTITY TABLE

BENT 14	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	2.6	1.3		
COLUMNS & STRUTS	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.	
CAP	0.0			
COLUMNS & STRUTS	0.0			

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

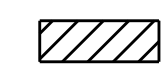


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FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 5 OF 6

DocuSigned by:
02EE938FAB874C3



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 14
SPAN R FACE

REVISIONS						SHEET NO.
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1			3			274
2			4			

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DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 14	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMNS & STRUTS	2.0	1.0		
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		0.0		
COLUMNS & STRUTS		0.0		

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

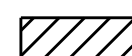

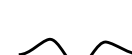
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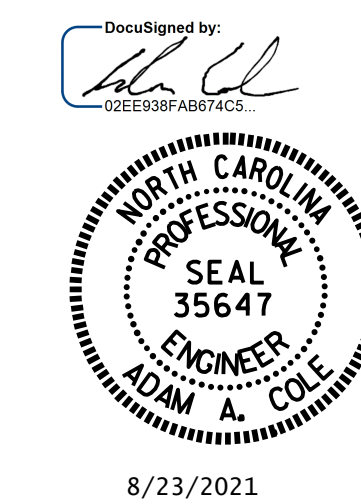
FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 6 OF 6

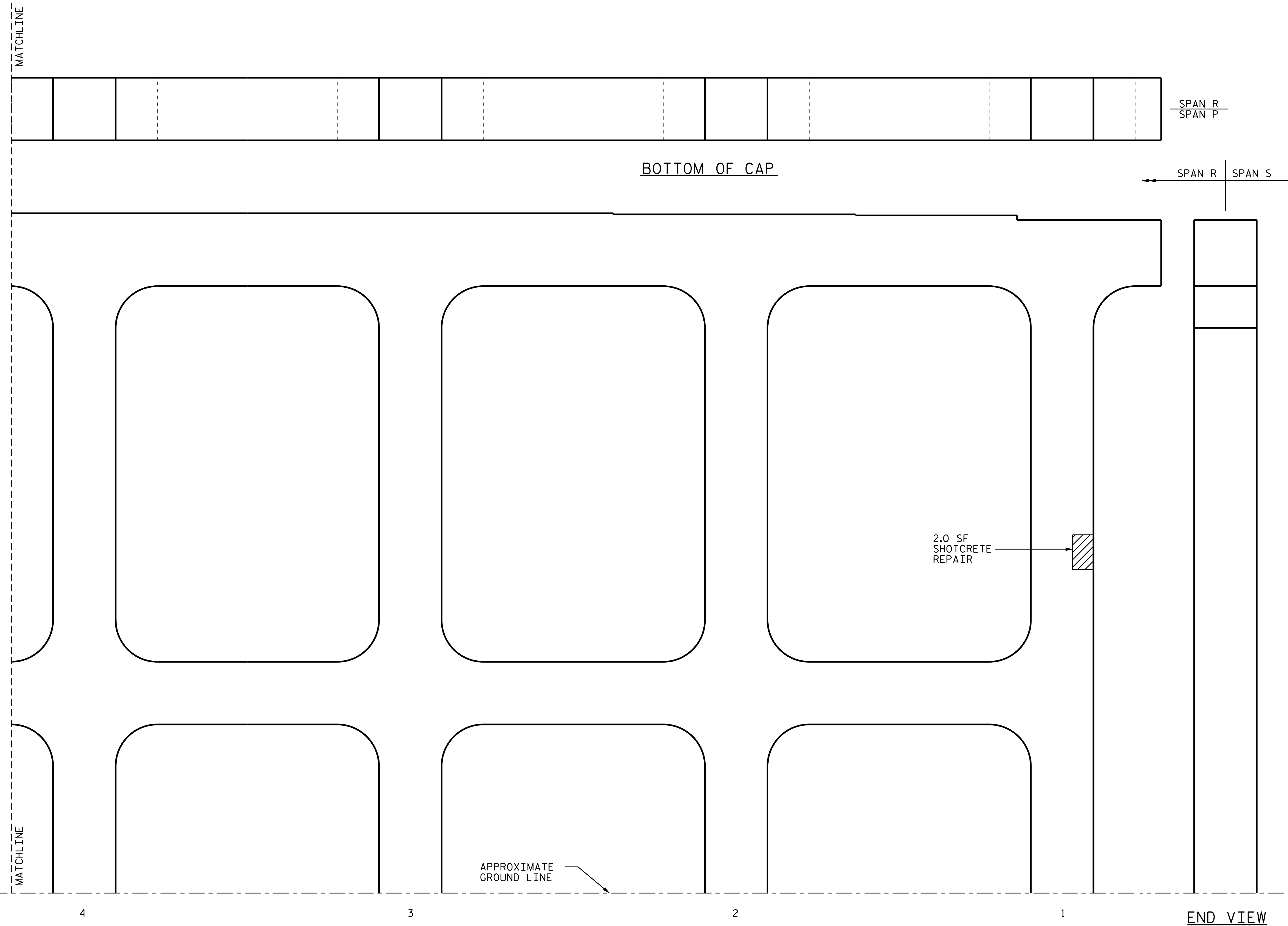


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 14
SPAN R FACE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
2			4			

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ELEVATION
BENT 14

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 15	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMNS & STRUTS	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.	
CAP	0.0			
COLUMNS & STRUTS	0.0			

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




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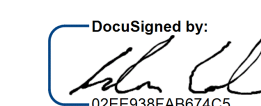
FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 1 OF 6

DocuSigned by:




8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 15
 SPAN R FACE

REVISIONS

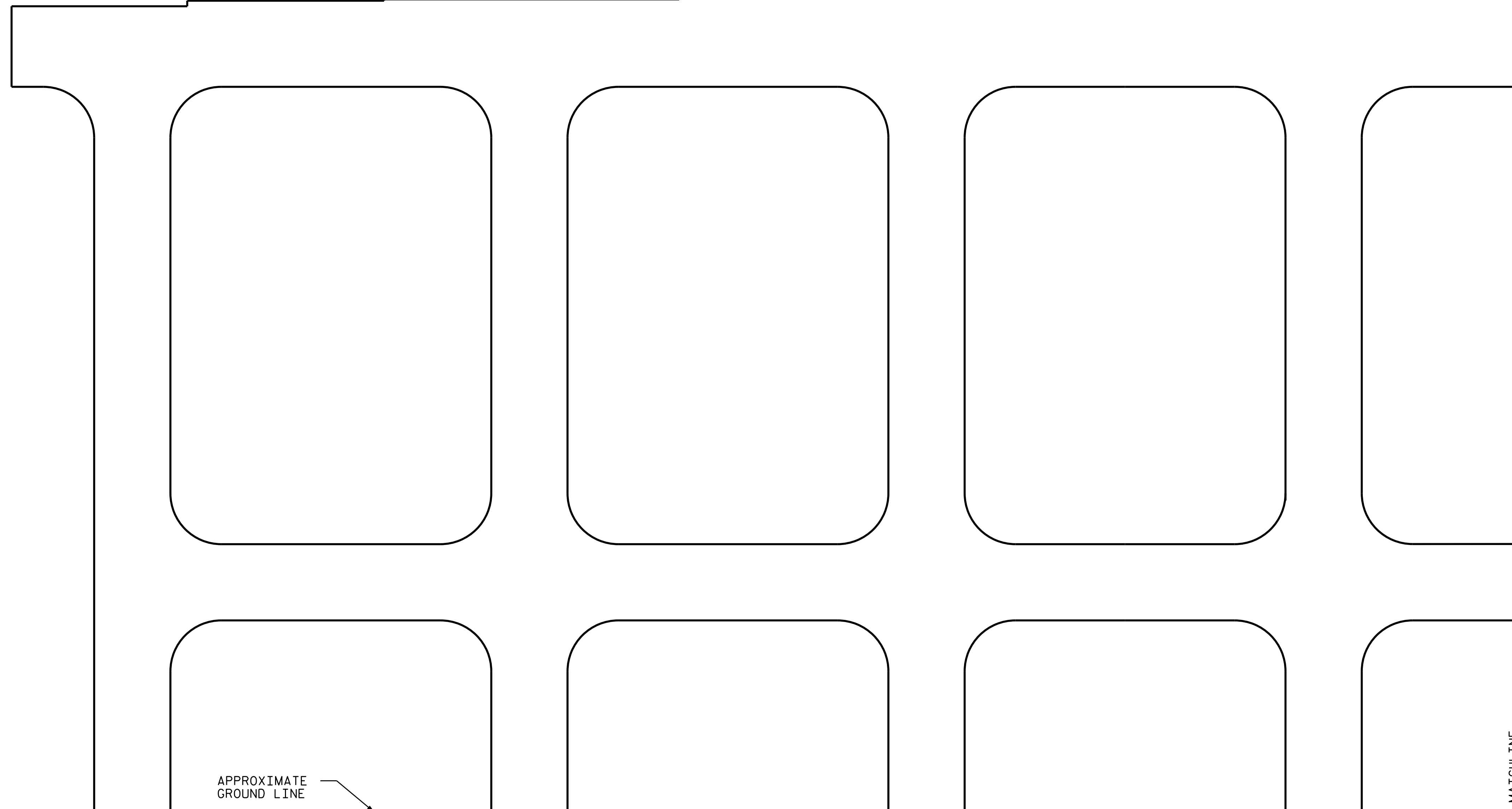
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S10-99
2			4			TOTAL SHEETS 274

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SPAN S
 SPAN R

TOP OF CAP



APPROXIMATE GROUND LINE

1

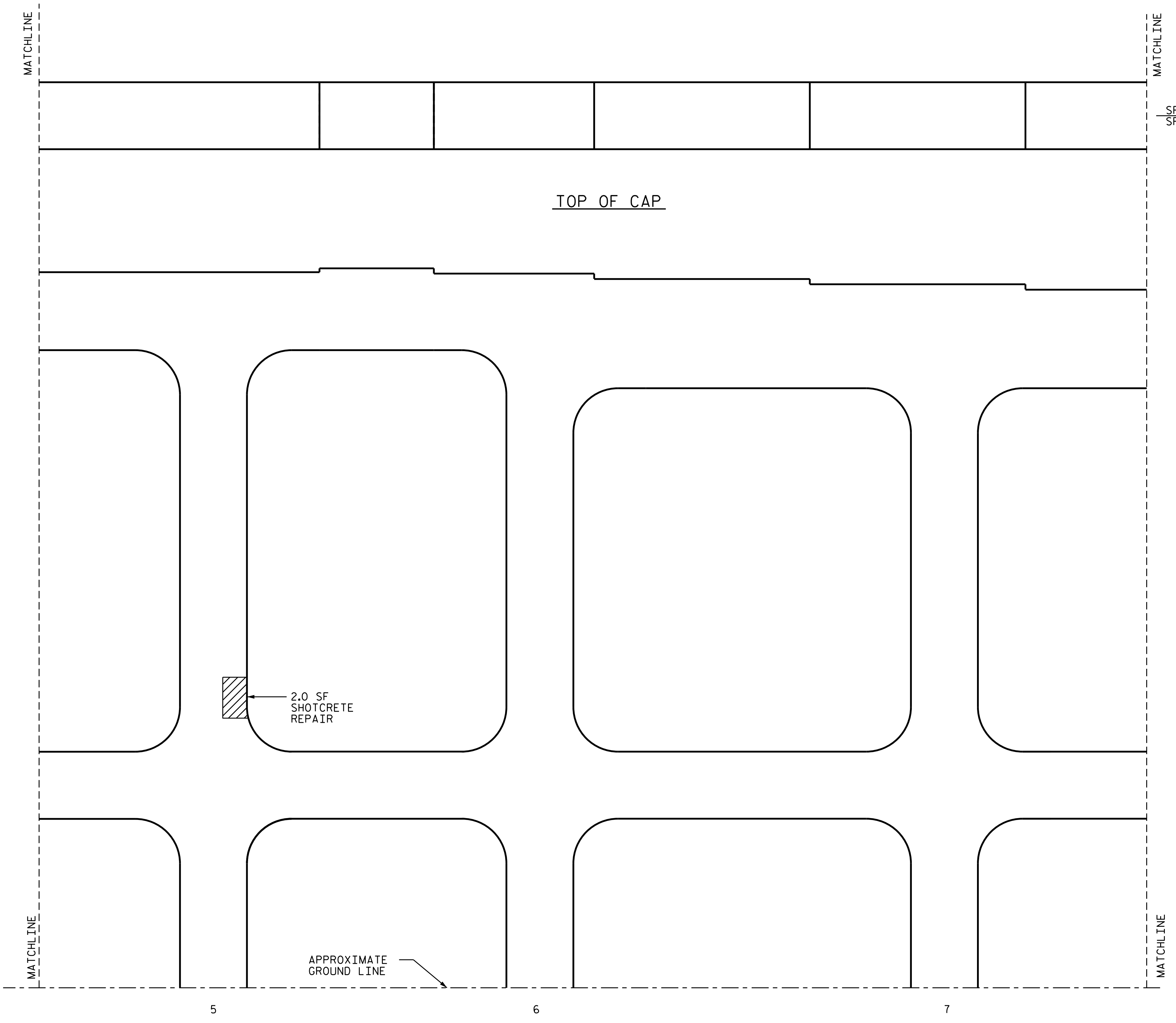
2

3

4

ELEVATION
 BENT 15

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021



ELEVATION
BENT 15

AS-BUILT REPAIR QUANTITY TABLE

BENT 15	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMNS & STRUTS	2.0	1.0		
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	0.0			
COLUMNS & STRUTS	0.0			

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

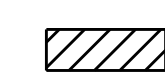
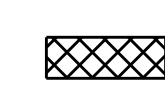

NOTES

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

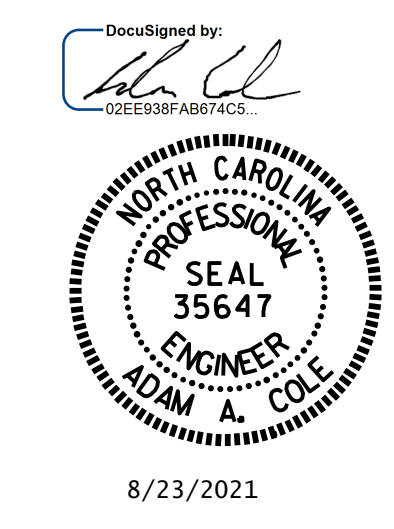
FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 2 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 15
 SPAN R FACE

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			274

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 FINAL UNLESS ALL
 SIGNATURES COMPLETED

AS-BUILT REPAIR QUANTITY TABLE

BENT 15	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	1.4	0.7		
COLUMNS & STRUTS	2.0	1.0		
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	0.0			
COLUMNS & STRUTS	0.0			

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

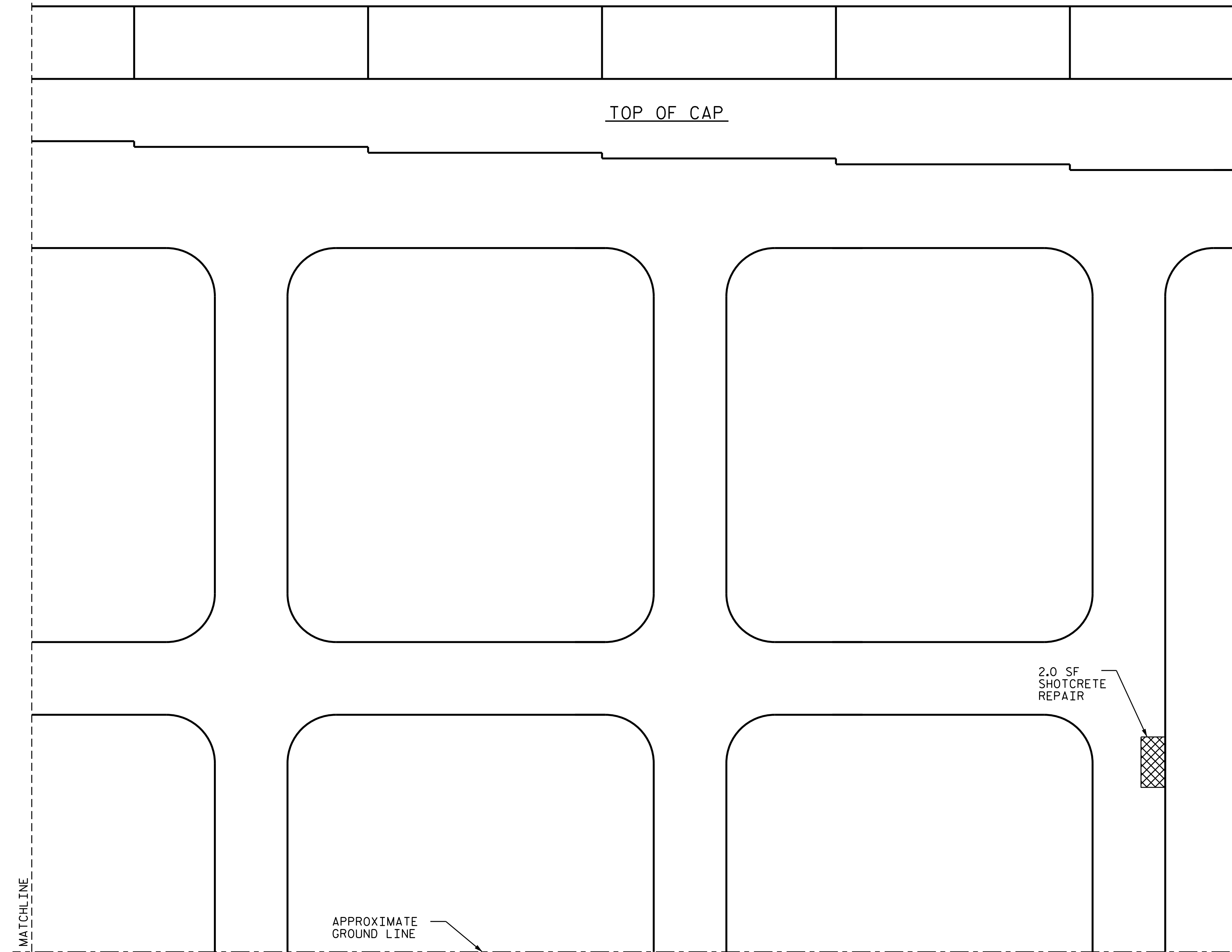
CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

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

MATCHLINE



SPAN S
SPAN R

SPAN R SPAN S

1.4 SF SHOTCRETE REPAIR

2.0 SF SHOTCRETE REPAIR

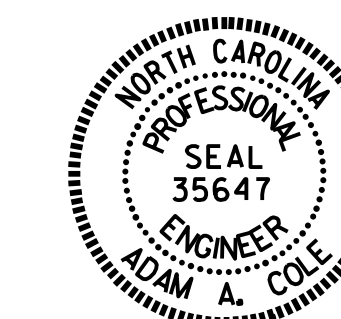
END VIEW

ELEVATION
BENT 15

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 3 OF 6

DocuSigned by:
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8/23/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

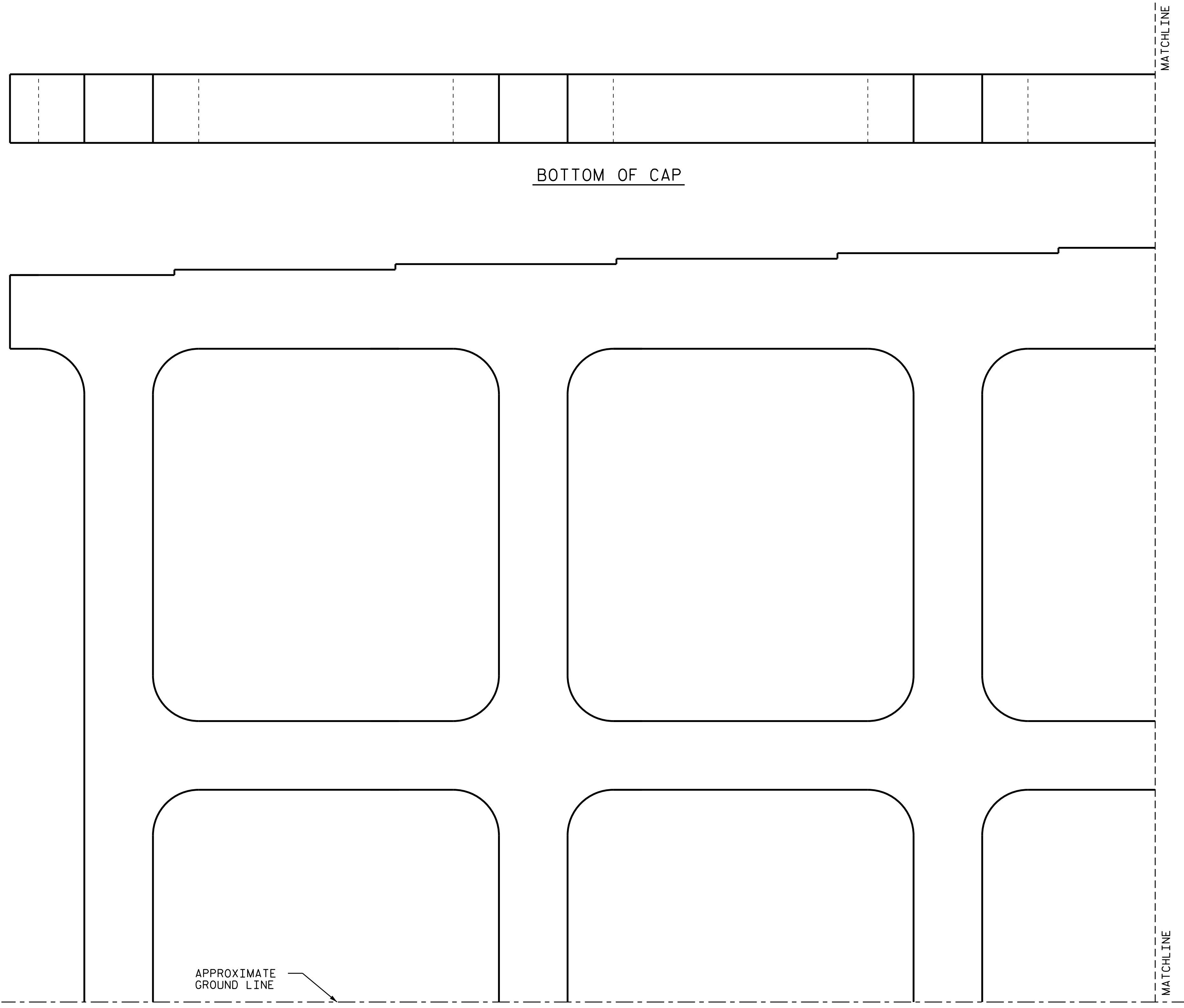
BENT 15
SPAN R FACE

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

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DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
2			4			274



BOTTOM OF CAP

SPAN S
SPAN R

APPROXIMATE
GROUND LINE

ELEVATION
BENT 15

AS-BUILT REPAIR QUANTITY TABLE				
BENT 15	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMNS & STRUTS	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.	
CAP	0.0			
COLUMNS & STRUTS	0.0			

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

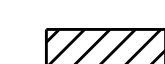


NOTES

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

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 4 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 15
SPAN S FACE

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
2			4			274

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

AS-BUILT REPAIR QUANTITY TABLE

BENT 15	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMNS & STRUTS	5.0	2.5		
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	0.0			
COLUMNS & STRUTS	0.0			

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




NOTES

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

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 5 OF 6

DocuSigned by:

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8/23/2021

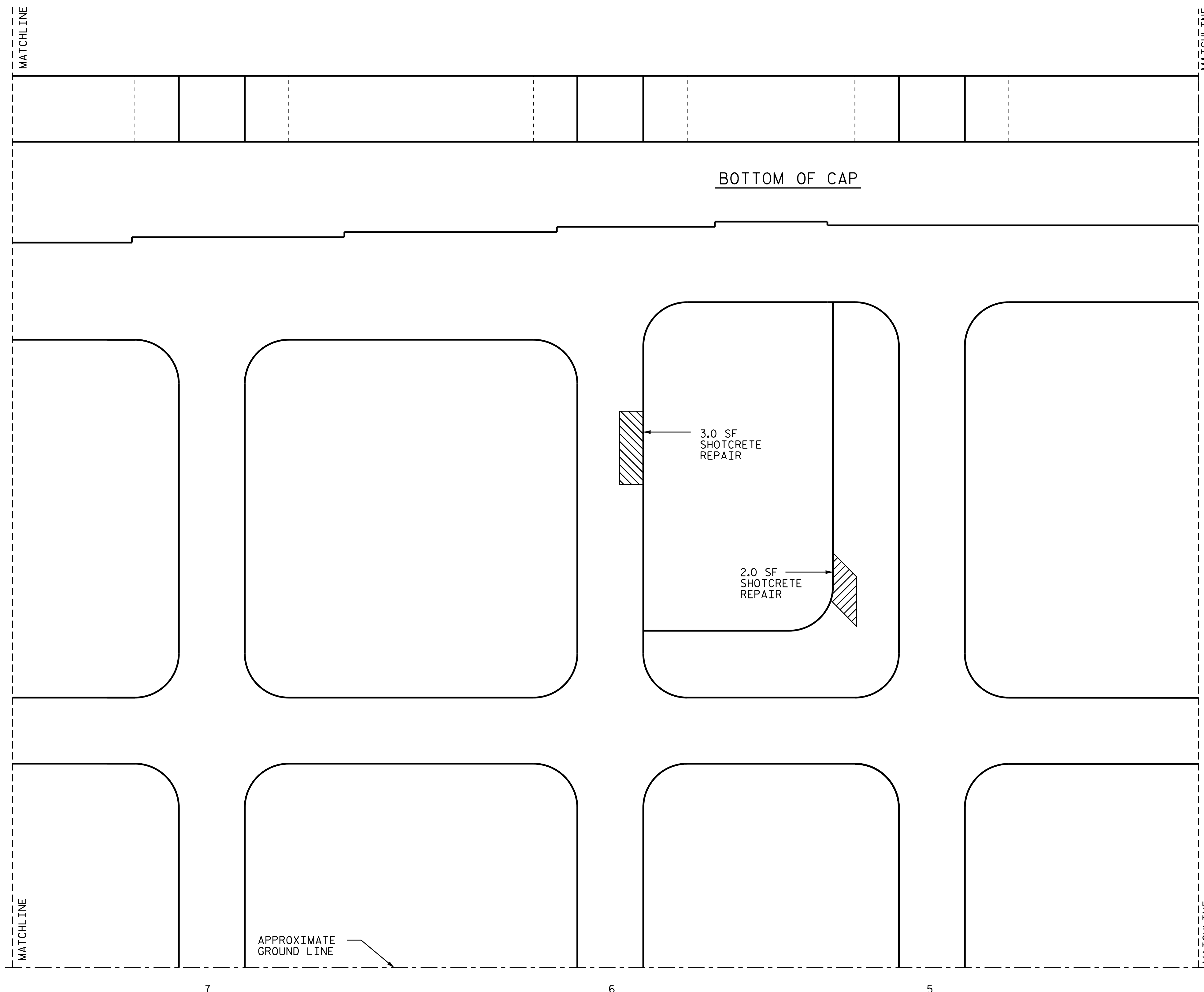
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 15
 SPAN S FACE

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S10-103
2			4			TOTAL SHEETS 274

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



ELEVATION
 BENT 15

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 15	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	2.0	1.0		
COLUMNS & STRUTS	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.	
CAP	0.0			
COLUMNS & STRUTS	0.0			

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

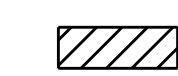
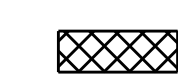

NOTES

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

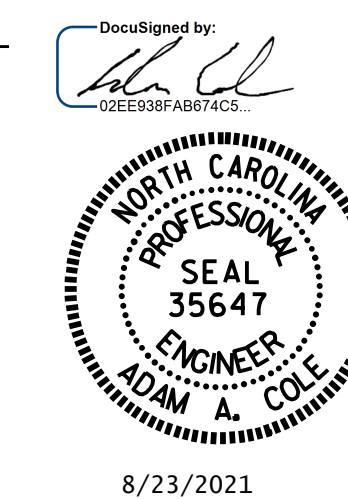
FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 6 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 15
SPAN S FACE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			104
2			4			274

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BOTTOM OF CAP

SPAN S
SPAN R

SPAN S SPAN R

2.0 SF SHOTCRETE REPAIR

APPROXIMATE GROUND LINE

END VIEW

ELEVATION
BENT 15

MATCHLINE

MATCHLINE

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 16	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMNS & STRUTS	6.9	3.5		
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	0.0			
COLUMNS & STRUTS	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP & STRUTS	339			

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

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FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

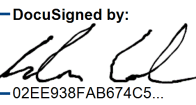
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 1 OF 6

DocuSign by: 



8/23/2021

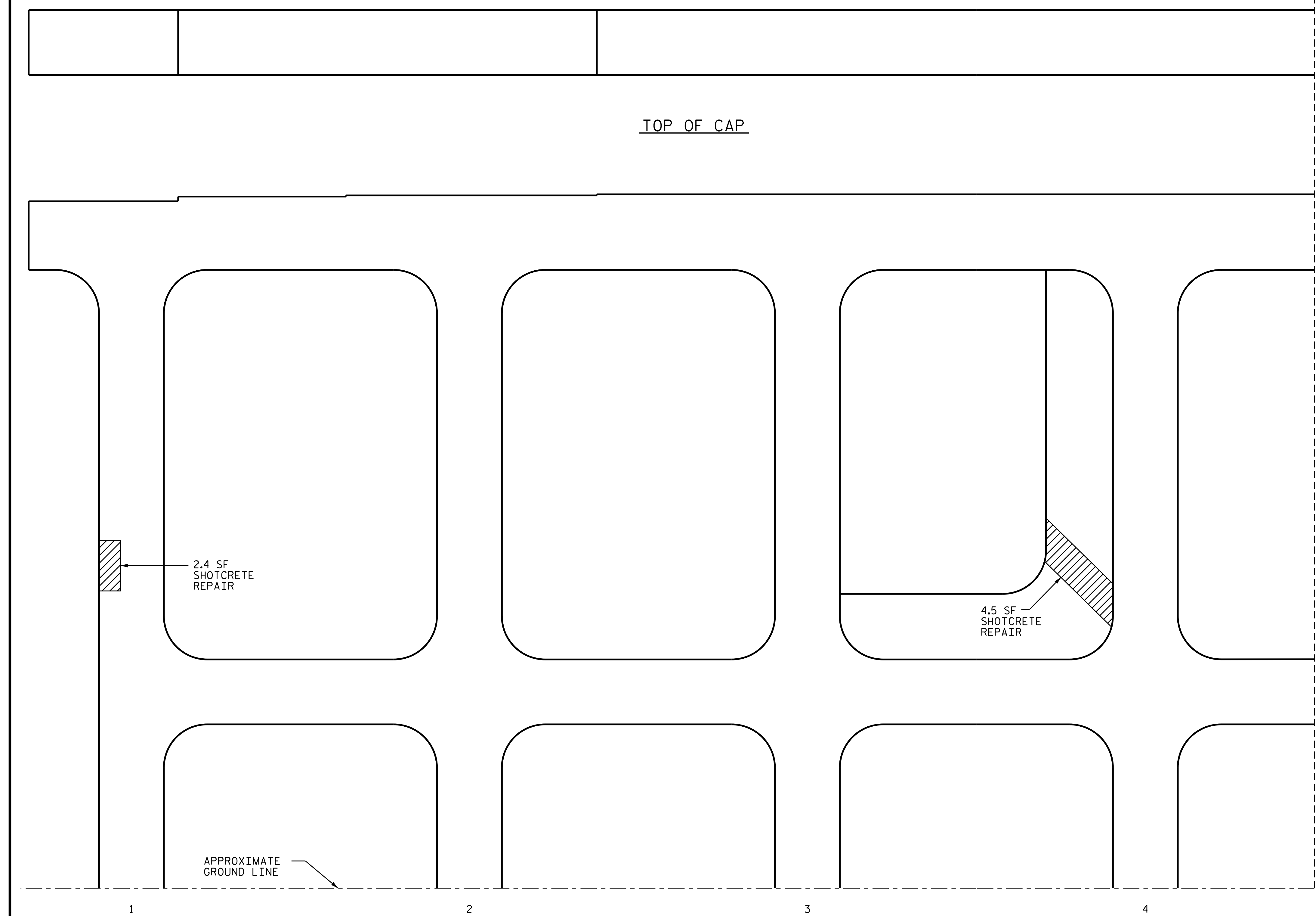
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 16
 SPAN S FACE

REVISIONS

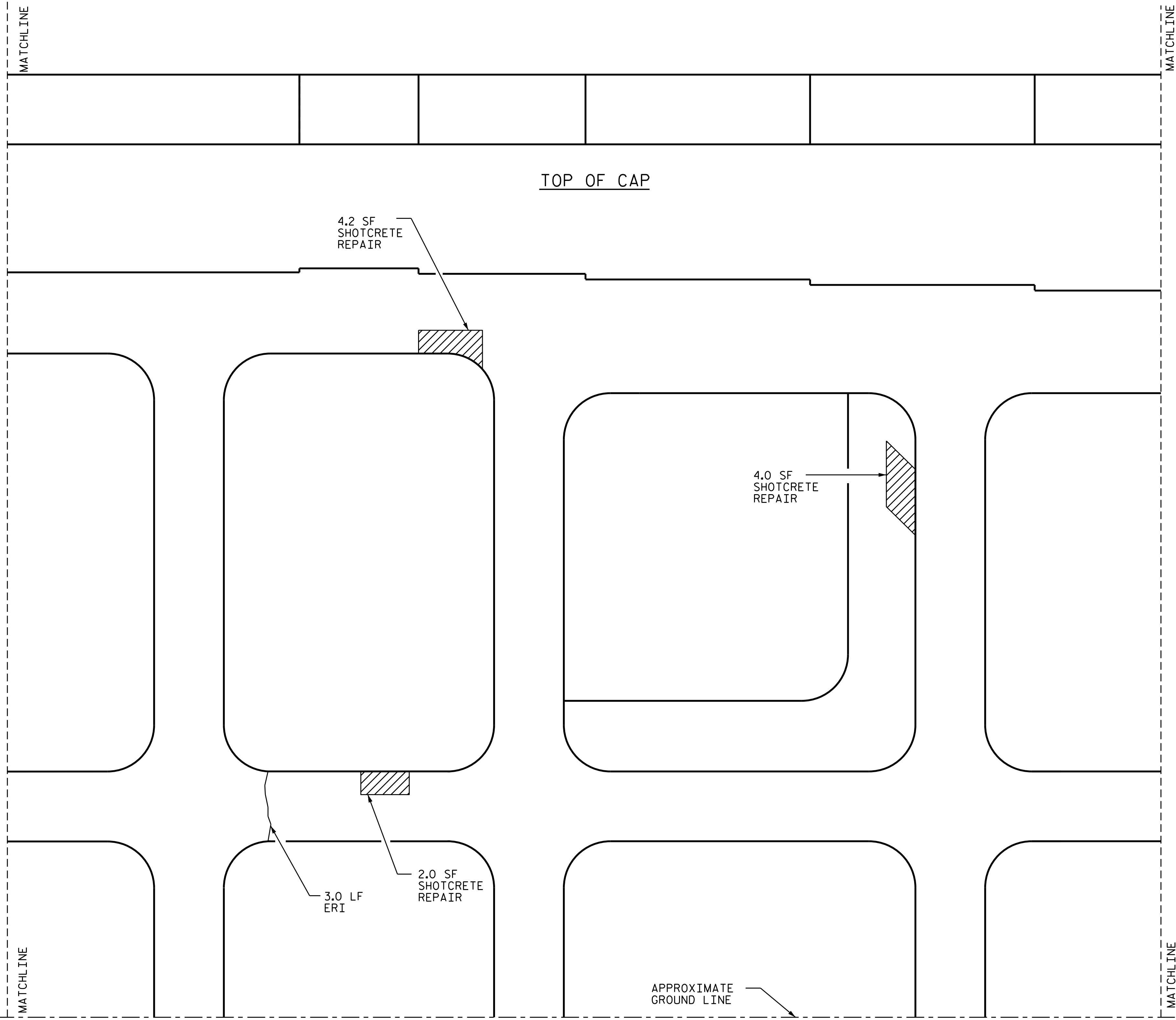
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S10-105
2			4			TOTAL SHEETS 274

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



ELEVATION
 BENT 16

DRAWN BY : R.L.PUTEK DATE : 06/2021
 CHECKED BY : H.A.LOCKLEAR DATE : 06/2021



SPAN T
SPAN S

ELEVATION
BENT 16

AS-BUILT REPAIR QUANTITY TABLE

BENT 16	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	4.2	2.1		
COLUMNS & STRUTS	6.0	3.0		
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		0.0		
COLUMNS & STRUTS		3.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		283		

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

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

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

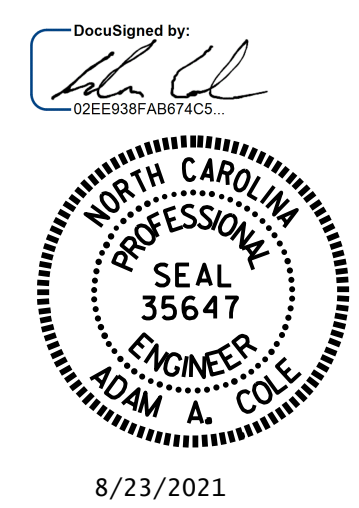
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 2 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 16
 SPAN S FACE

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

REVISIONS						SHEET NO. S10-106
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 274
2			4			

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

AS-BUILT REPAIR QUANTITY TABLE

BENT 16	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	4.0	2.0		
COLUMNS & STRUTS	6.0	3.0		
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	0.0			
COLUMNS & STRUTS	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP & STRUTS	286			

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

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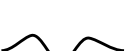
CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

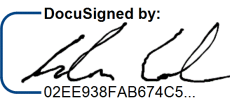
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

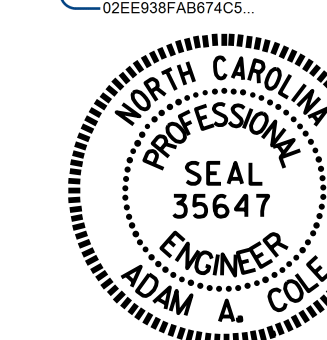
CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND STRUTS AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP AND STRUTS. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 3 OF 6

DocuSigned by:




8/23/2021

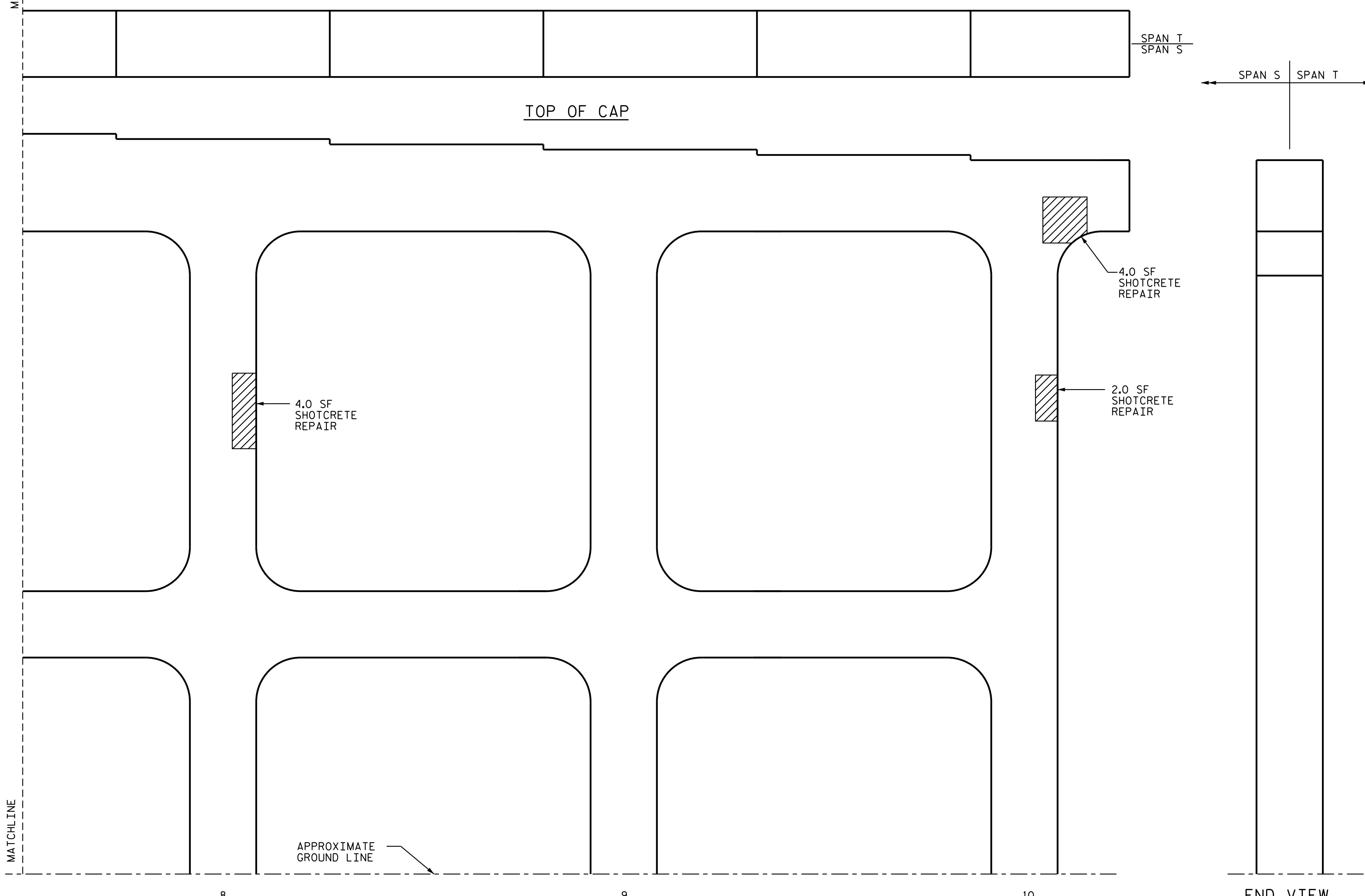
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 16
 SPAN S FACE

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S10-107
2			4			TOTAL SHEETS 274

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ELEVATION
 BENT 16

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

AS-BUILT REPAIR QUANTITY TABLE

BENT 16	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	60.0	30.0		
COLUMNS & STRUTS	7.2	3.6		
CONCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

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

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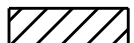


CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

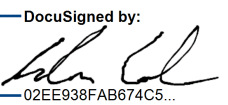
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

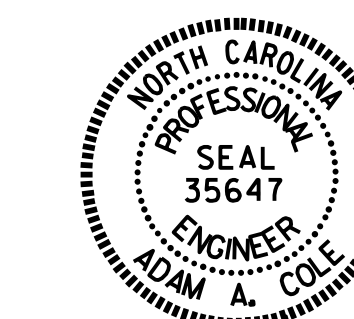
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 4 OF 6

DocuSign by: 



8/23/2021

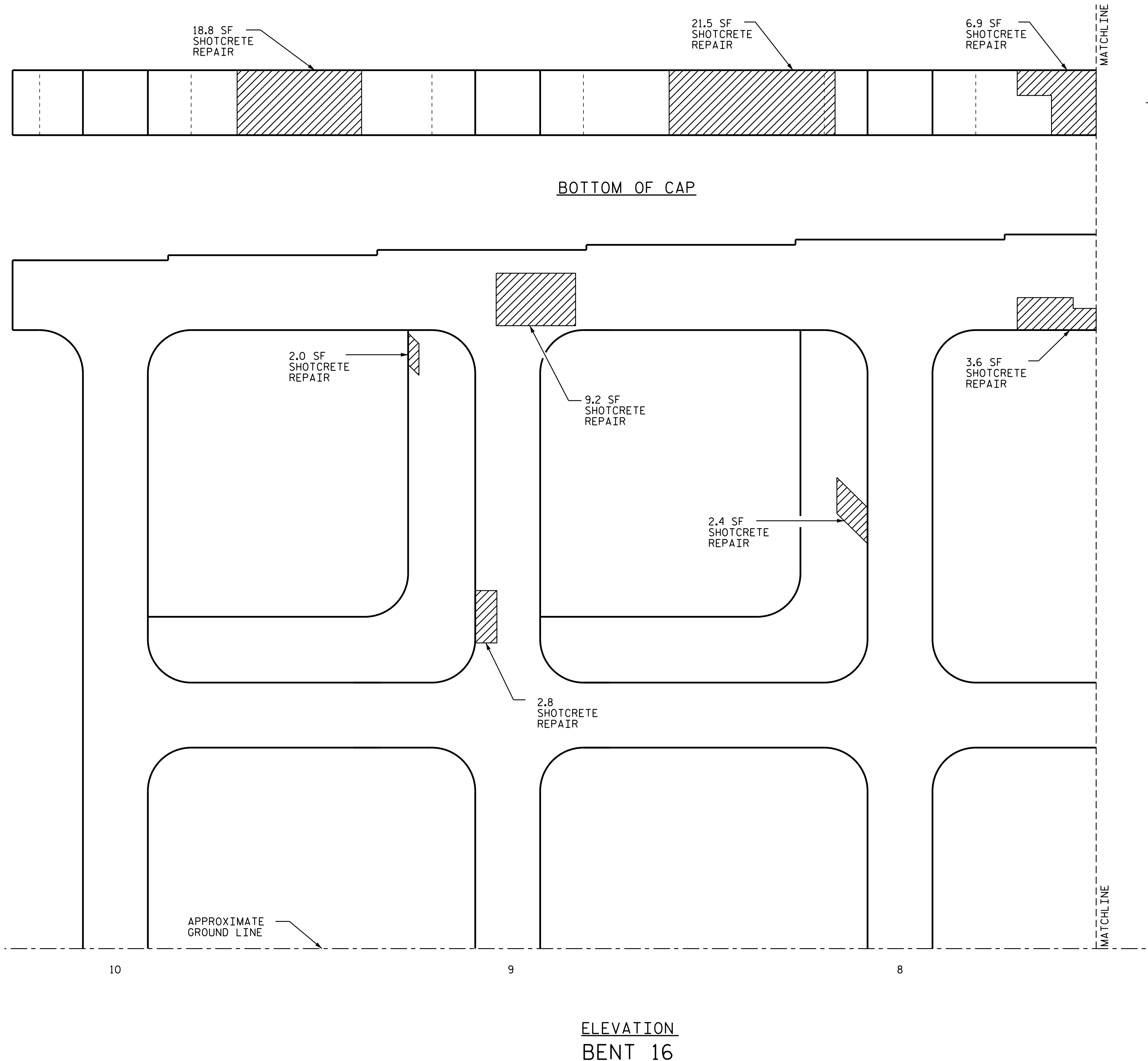
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 16
 SPAN T FACE

REVISIONS

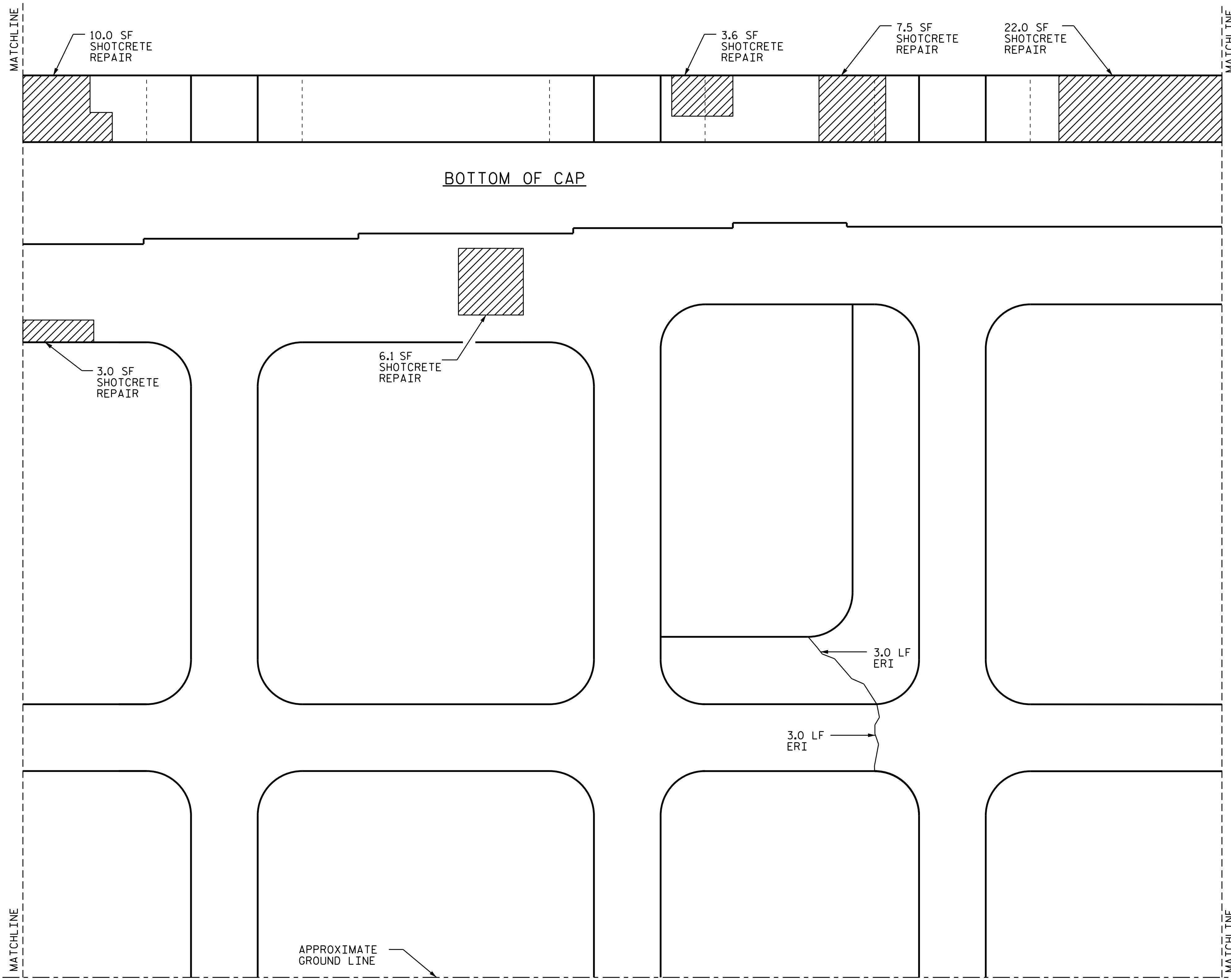
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1			3			S10-108
2			4			TOTAL SHEETS 274

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ELEVATION
 BENT 16

DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021



AS-BUILT REPAIR QUANTITY TABLE

BENT 16	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	52.2	26.1		
COLUMNS & STRUTS	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.
CAP		0.0		
COLUMNS & STRUTS		6.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

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

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FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

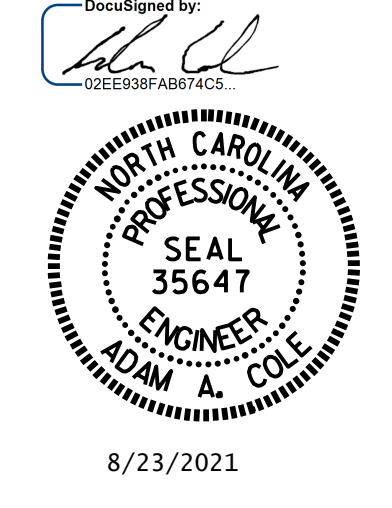
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 5 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

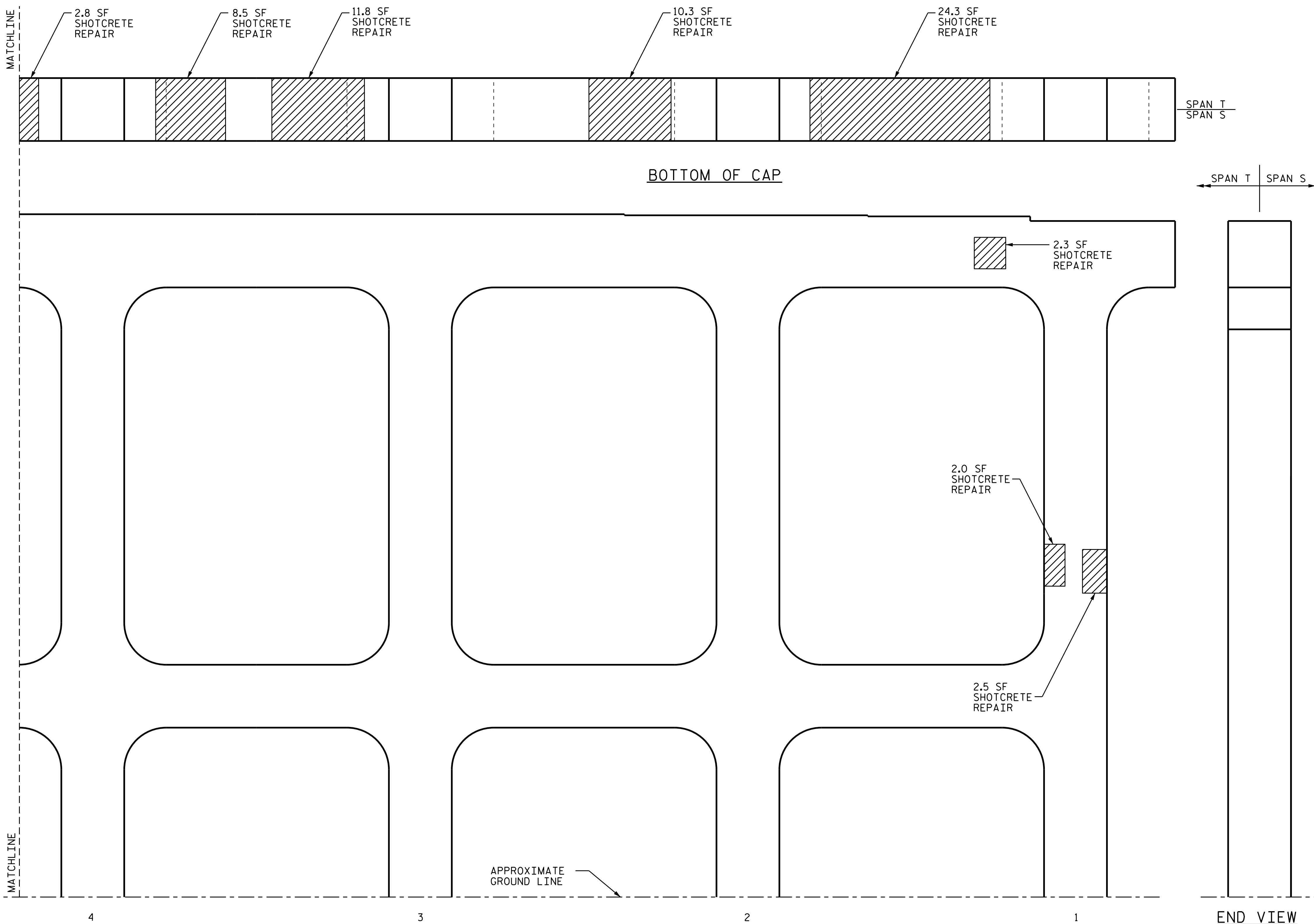
BENT 16
SPAN T FACE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			109
2			4			274

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DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

ELEVATION BENT 16



AS-BUILT REPAIR QUANTITY TABLE

BENT 16	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	60.0	30.0		
COLUMNS & STRUTS	4.5	2.3		
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		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP & STRUTS		0		

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

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FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

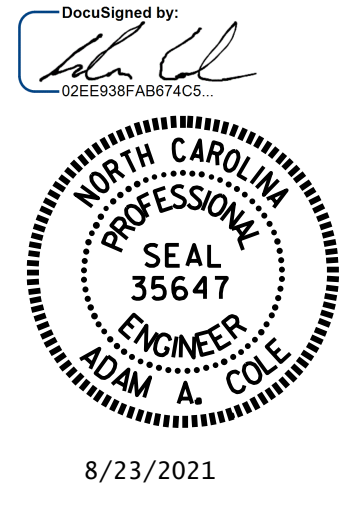
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO: 590332

SHEET 6 OF 6



8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

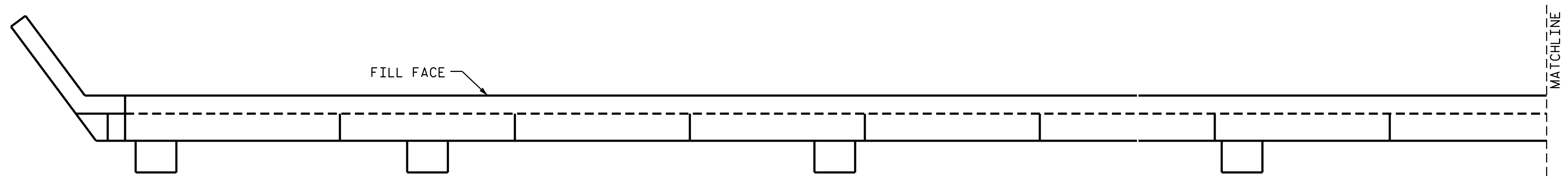
BENT 16
 SPAN T FACE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
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2			4			274

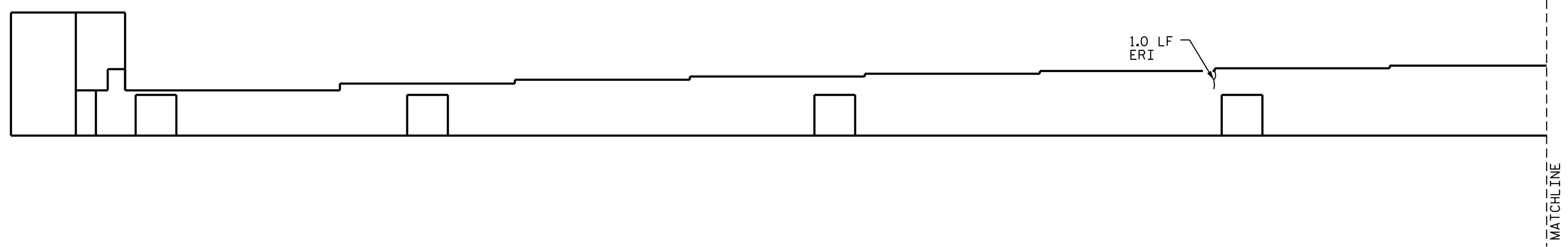
DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 06/2021

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ELEVATION
 BENT 16



PLAN



ELEVATION

NOTES

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

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		
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		1.0		
EPOXY COATING		SQ. FT.		SQ. FT.
CAP		121		

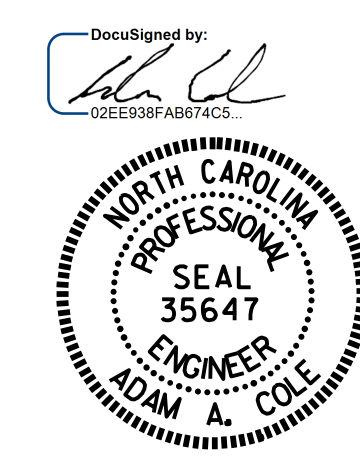
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 6" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 2

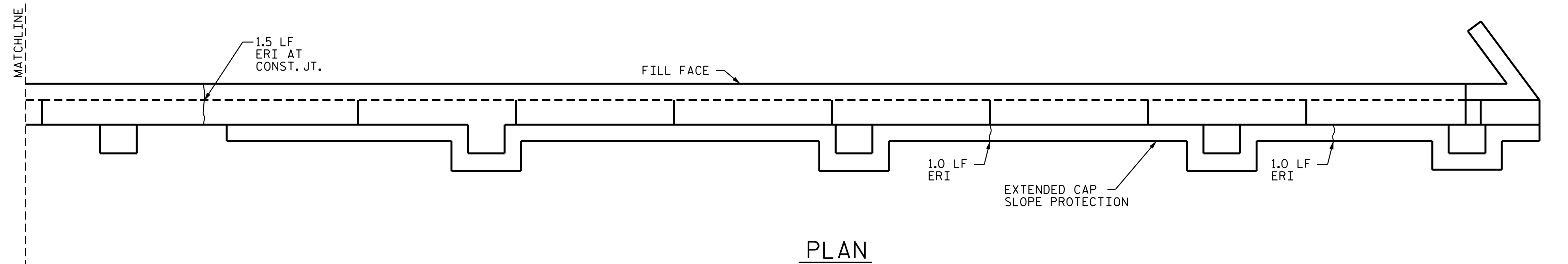


8/23/2021

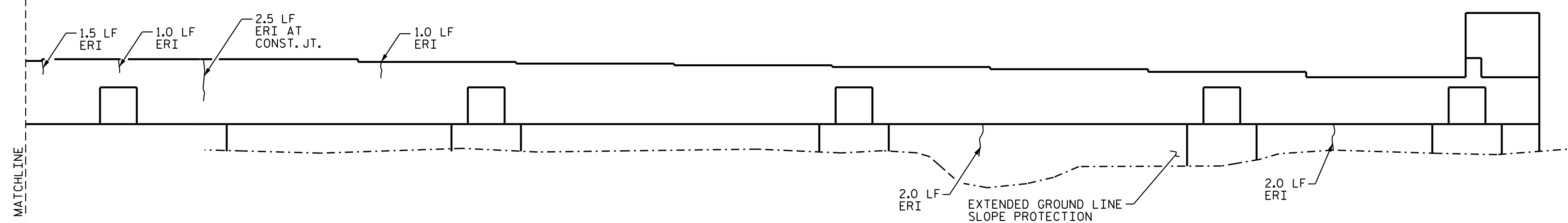
DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
2			4			274



PLAN



ELEVATION

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		
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		13.5		
EPOXY COATING		SQ. FT.		SQ. FT.
CAP		140		

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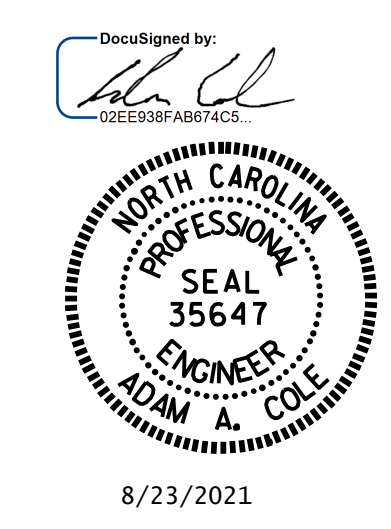
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- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 590332

SHEET 2 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

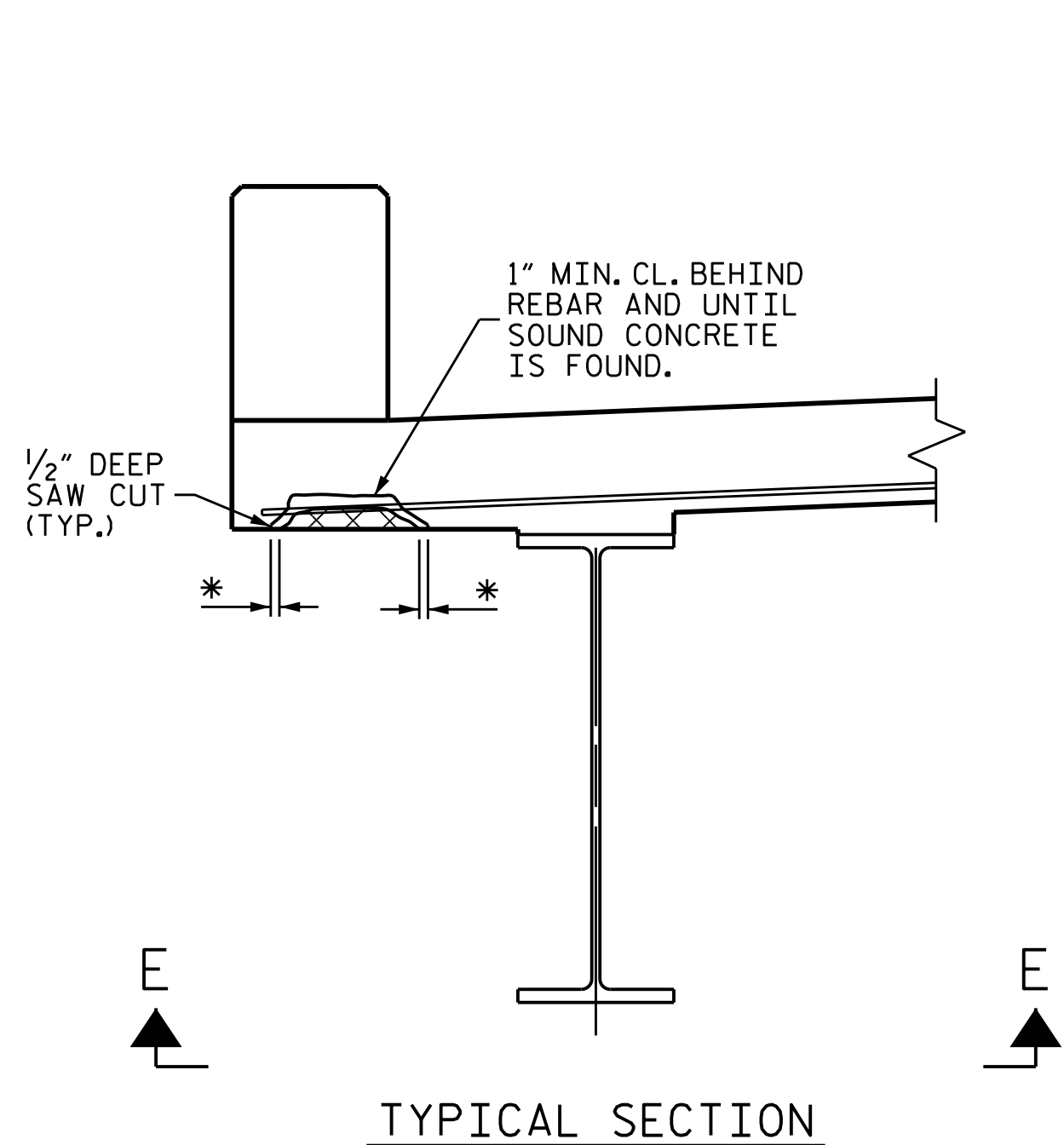
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DRAWN BY : R.L. PUTEK DATE : 06/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 06/2021

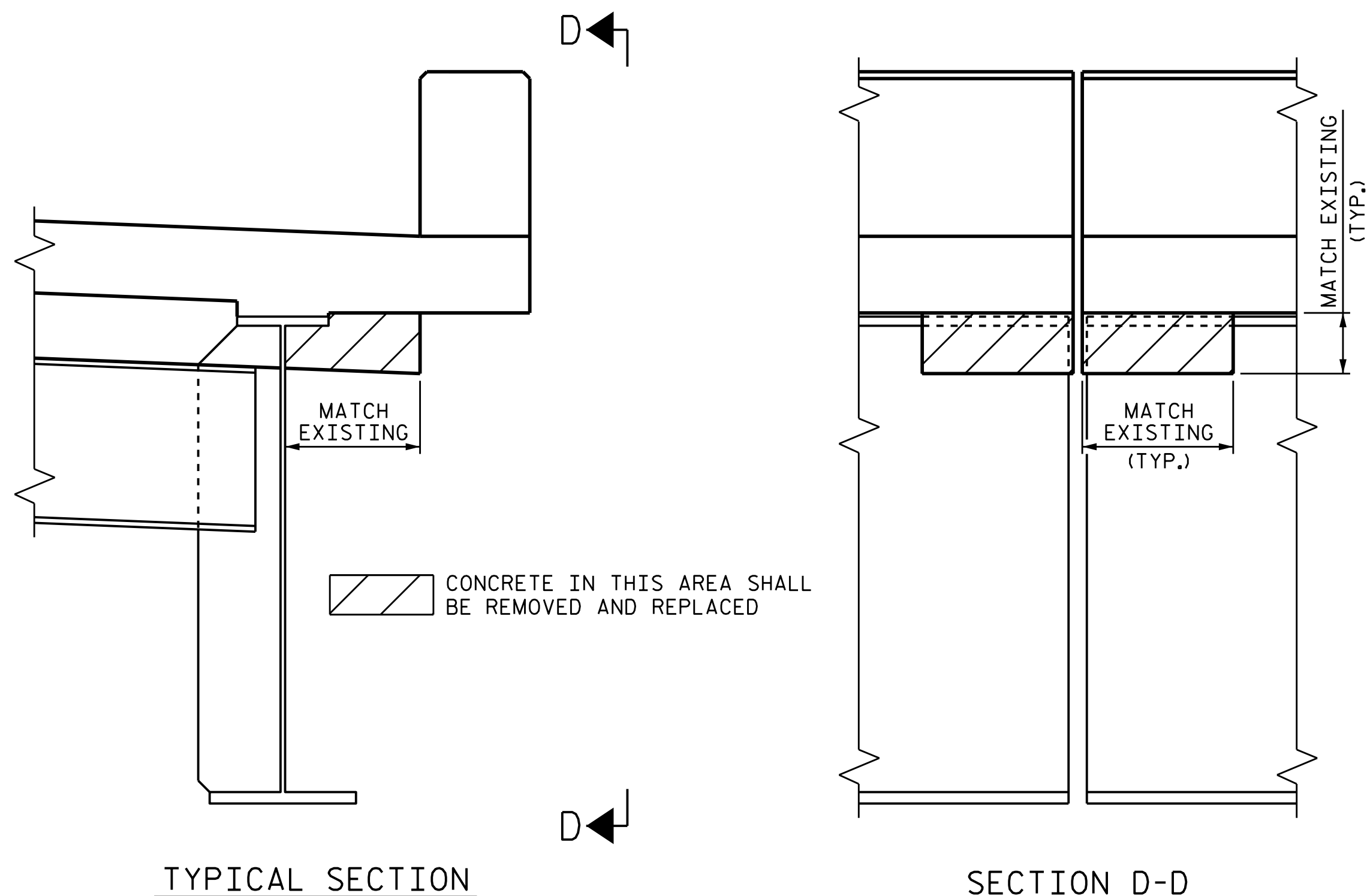
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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

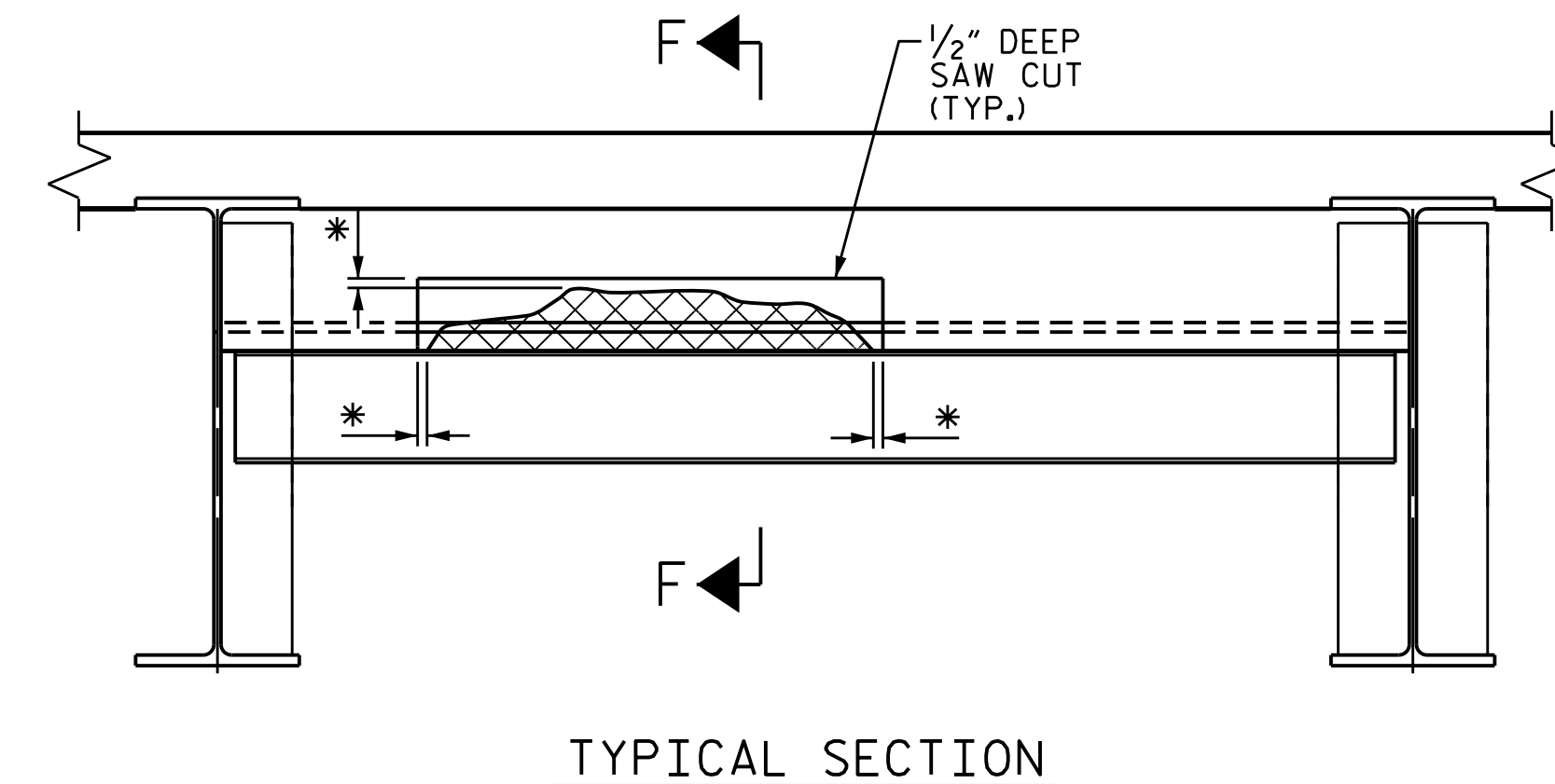
NOTE: OVERHANG DIAPHRAGMS TO BE REMOVED AND REPLACED, ARE SHOWN ON "PLAN OF SPAN" SHEETS. OVERHANG DIAPHRAGMS SHALL BE REMOVED PRIOR TO CLEANING AND PAINTING OF BEAMS AND REPLACED AFTER BEAM REPAIRS AND PAINTING ARE COMPLETE.



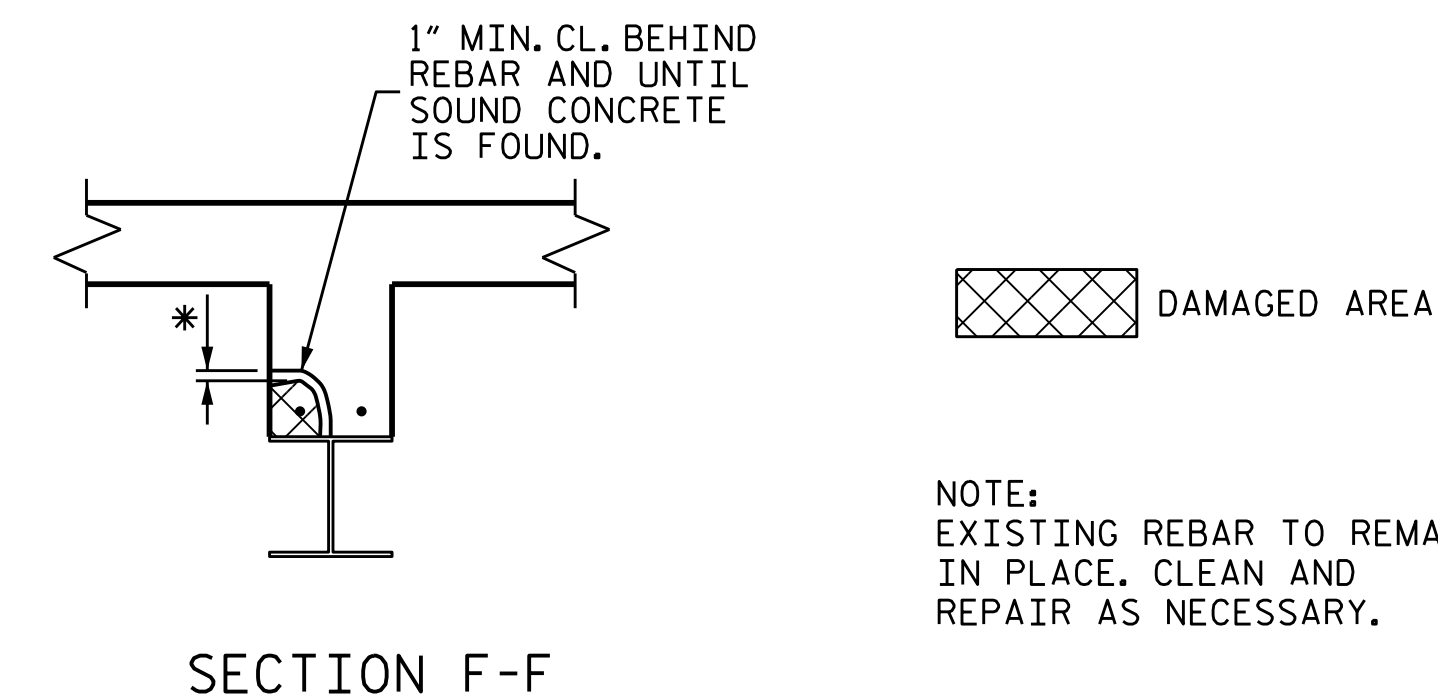
DAMAGED AREA * REMOVE CONCRETE UNTIL SOUND CONCRETE IS FOUND (2" MIN. CL.)



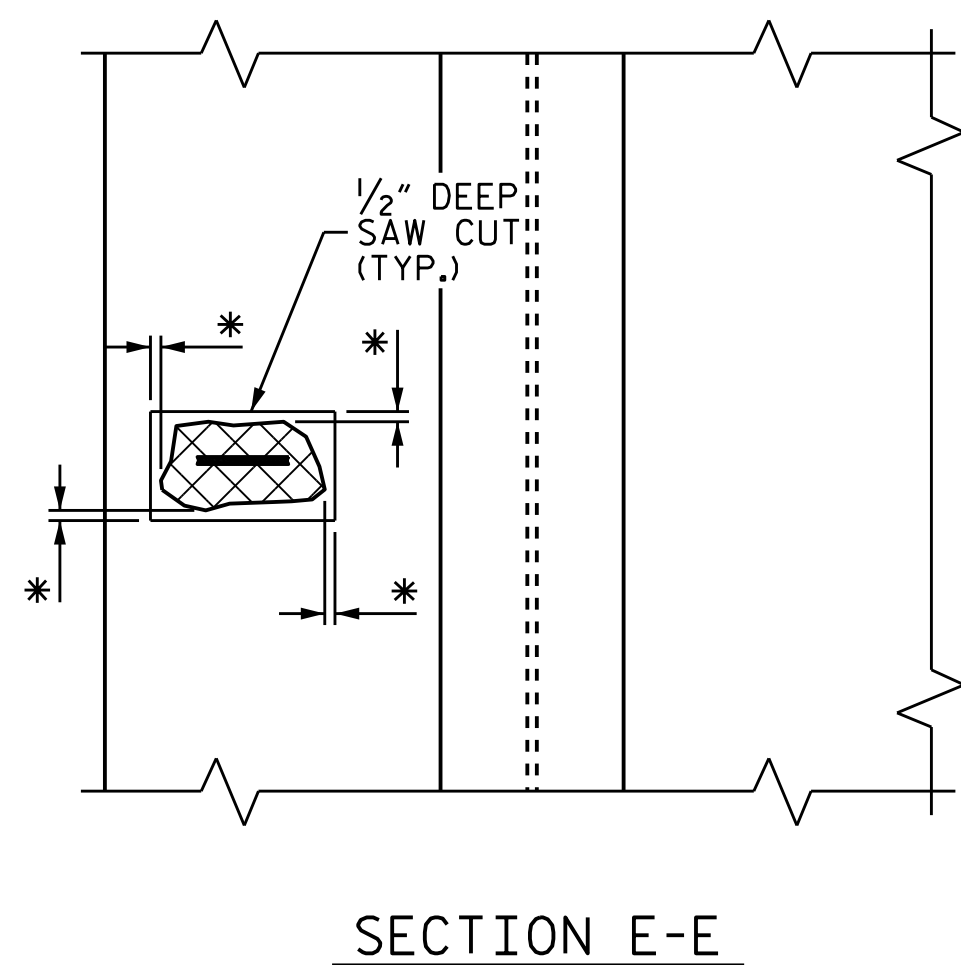
OVERHANG DIAPHRAGM REPLACEMENT DETAILS



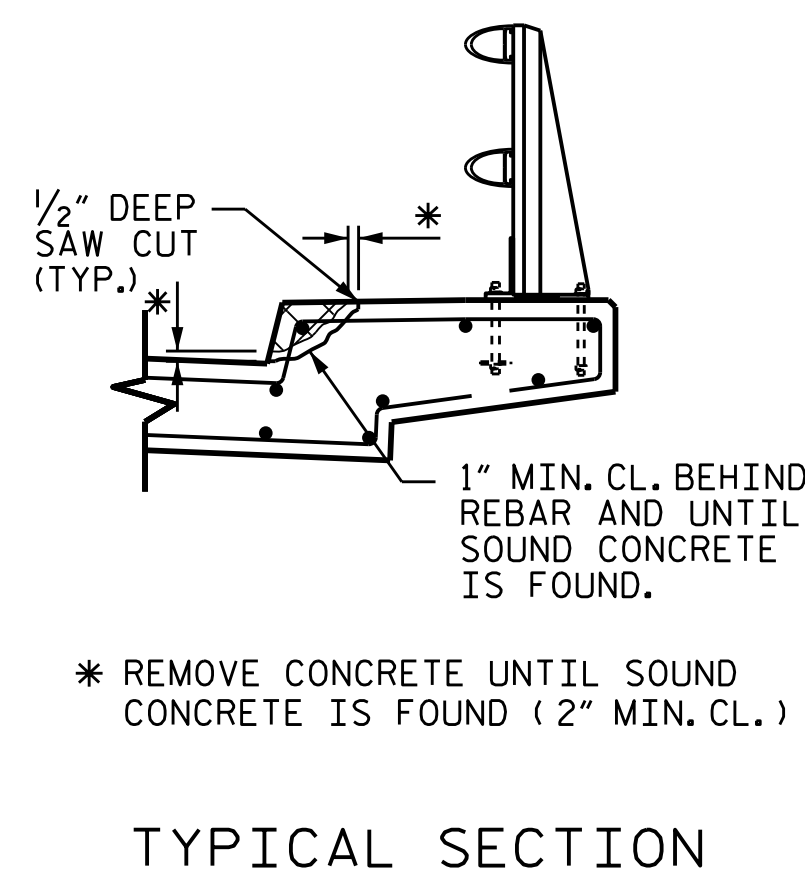
* REMOVE CONCRETE UNTIL SOUND CONCRETE IS FOUND (2" MIN. CL.)



INTERIOR DIAPHRAGM REPAIR DETAILS

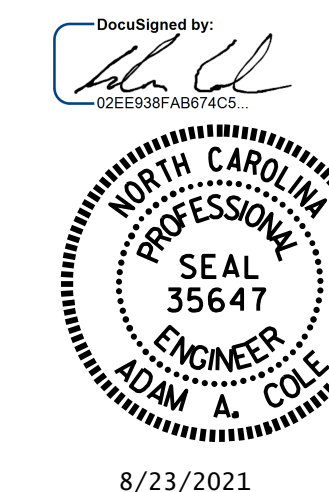


OVERHANG DETAILS



BRIDGE RAIL AND CURB REPAIR DETAILS

PROJ. NO. I-5746C
 MECKLENBURG COUNTY
 BRIDGE NO. 44,138,320,326,327
 328,330,332

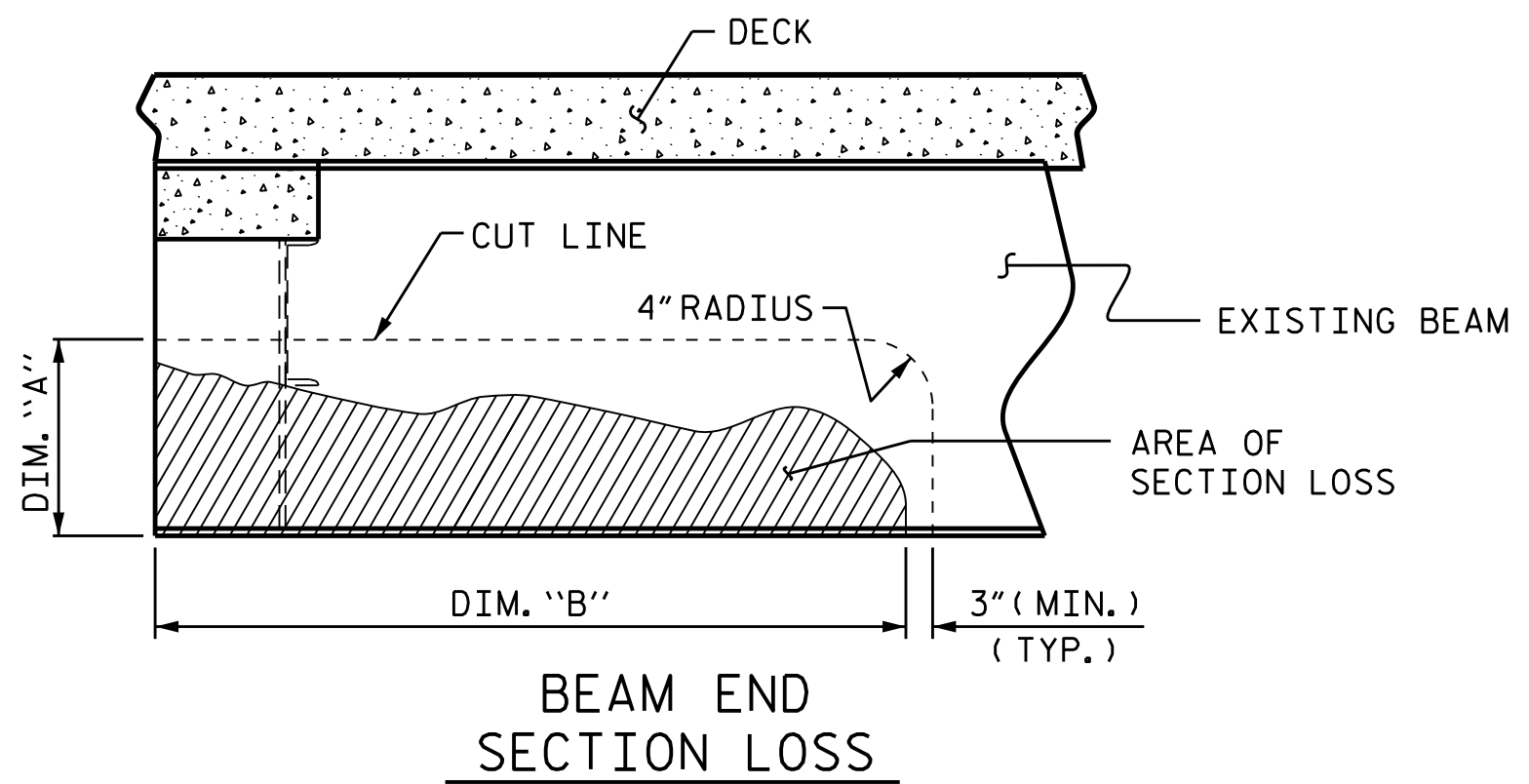


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 OVERHANG, DIAPHRAGM
 AND BRIDGE RAIL
 REPAIR DETAILS

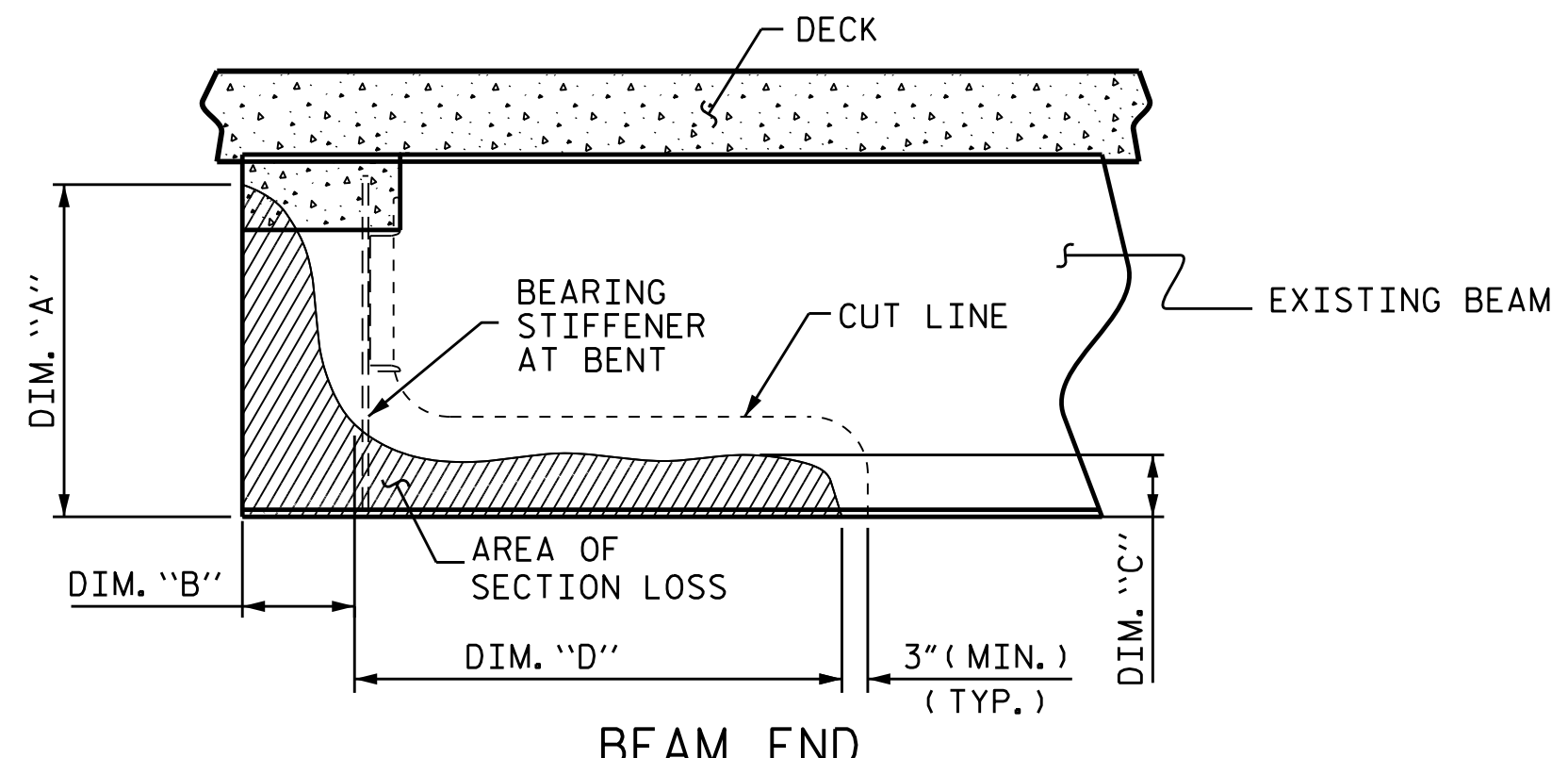
DRAWN BY : R.L. PUTEK DATE : 05/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 05/2021

DOCUMENT NOT CONSIDERED
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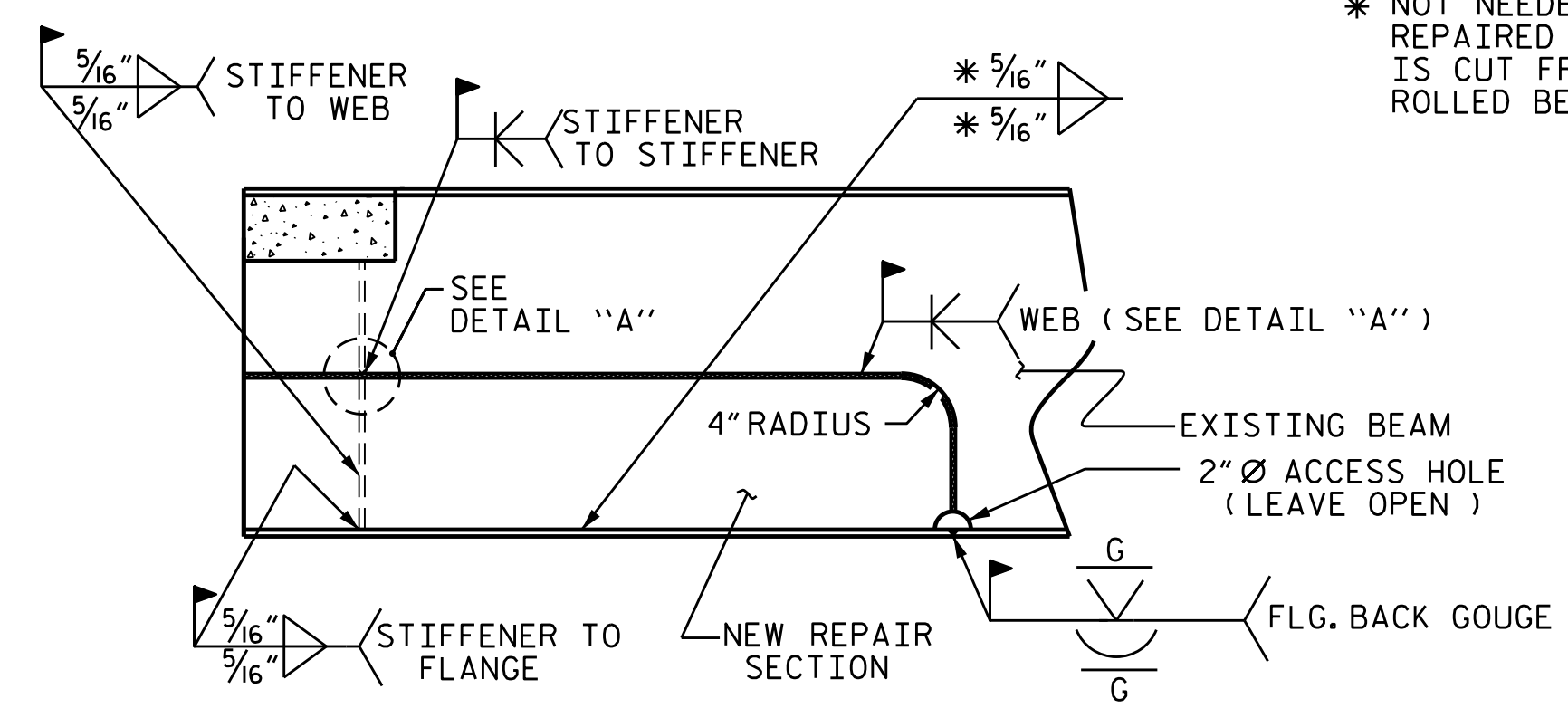
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			274
2			4			



BEAM END SECTION LOSS

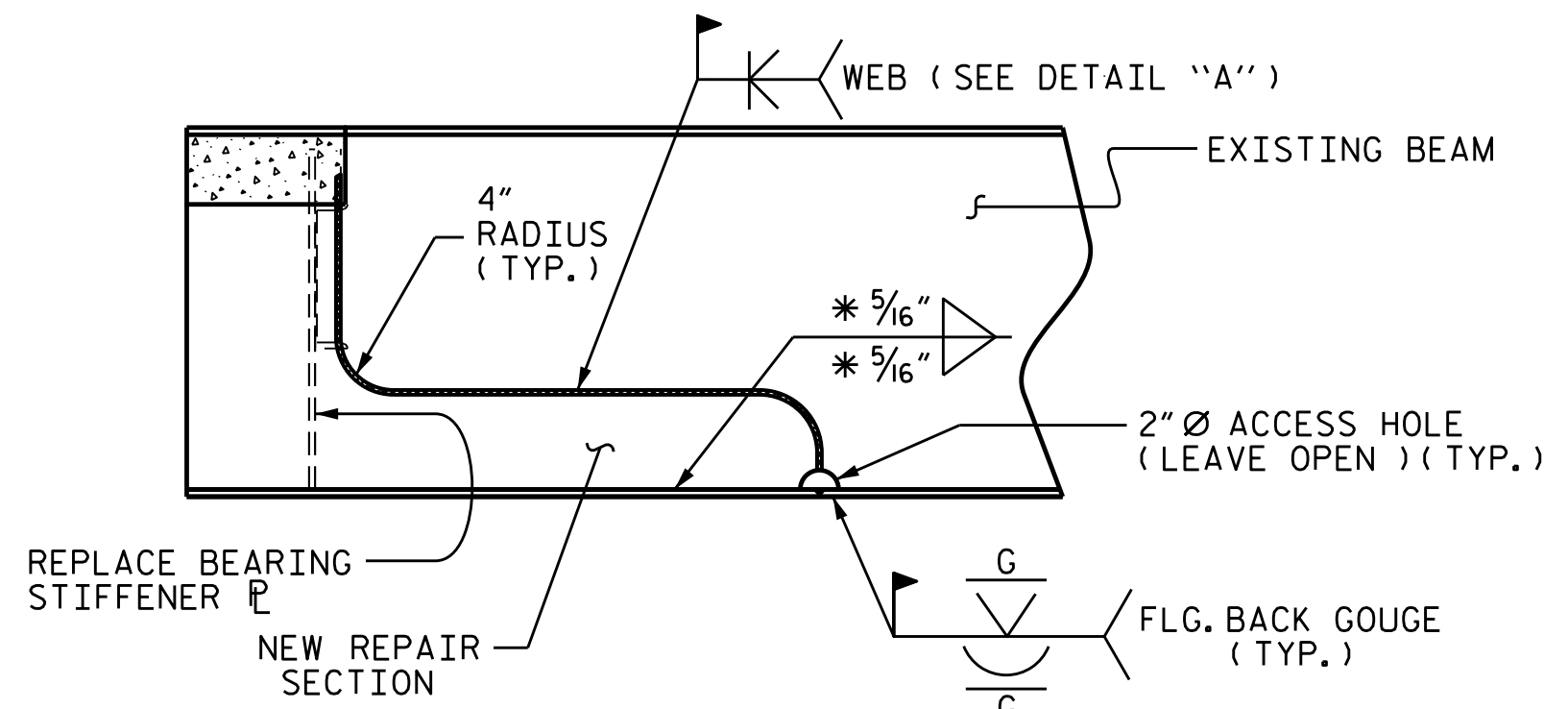


BEAM END SECTION LOSS

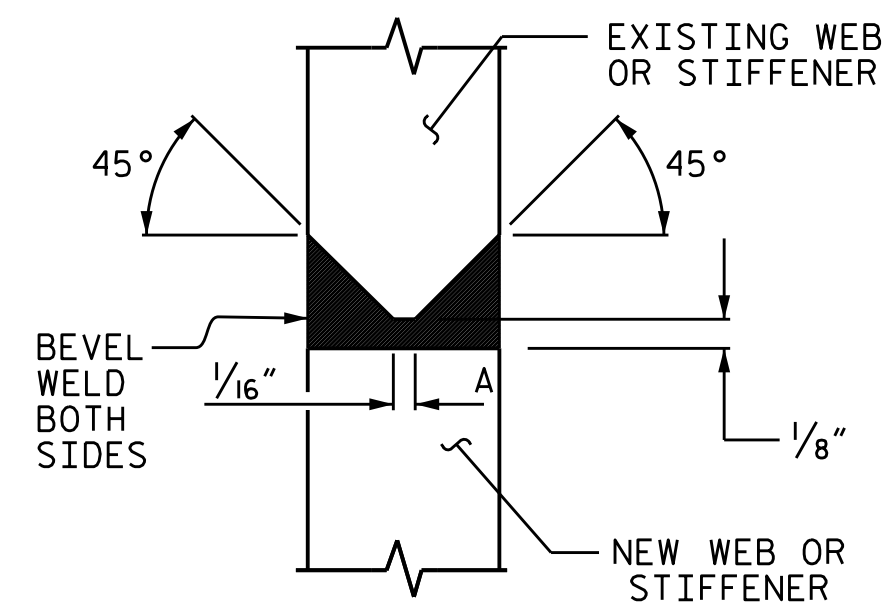


BEAM END SECTION REPAIR

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

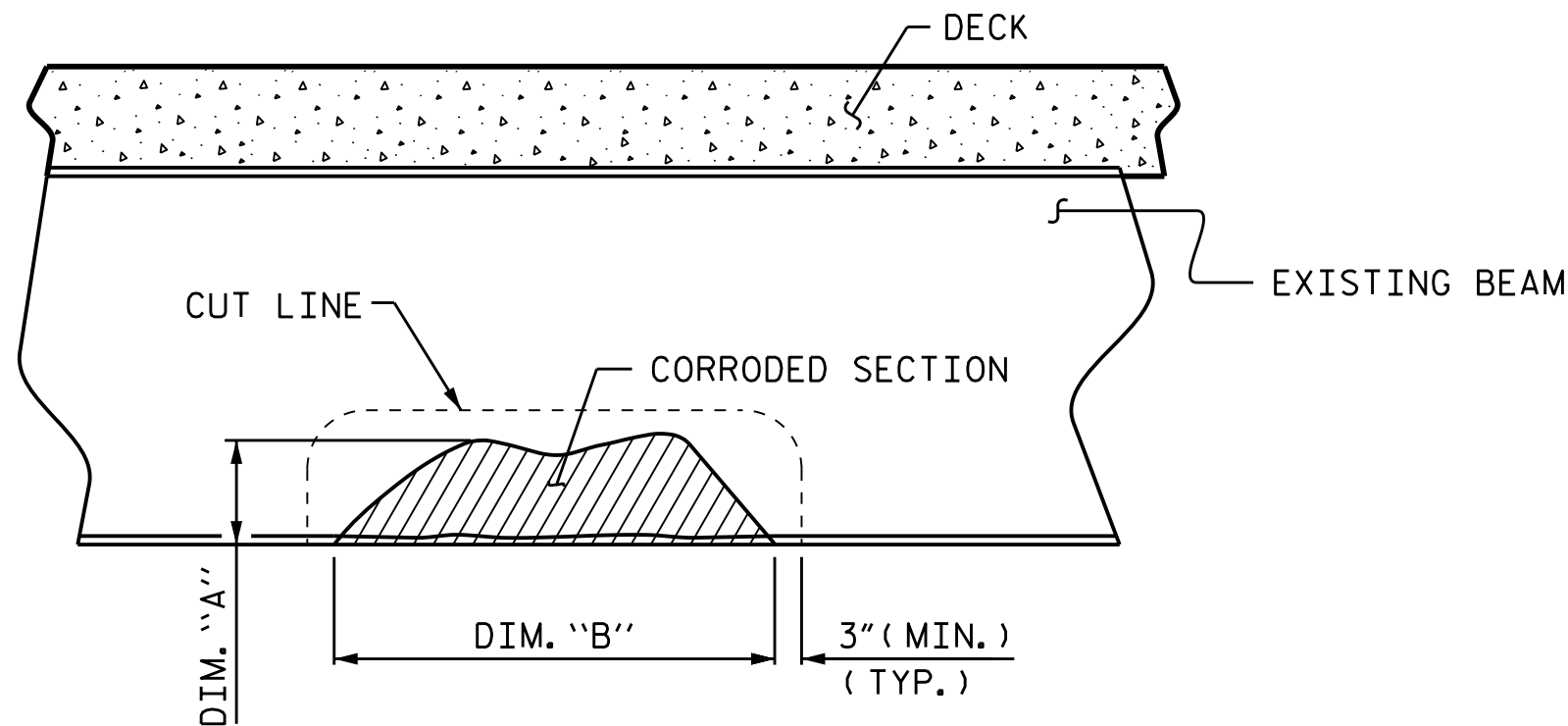


BEAM END SECTION REPAIR

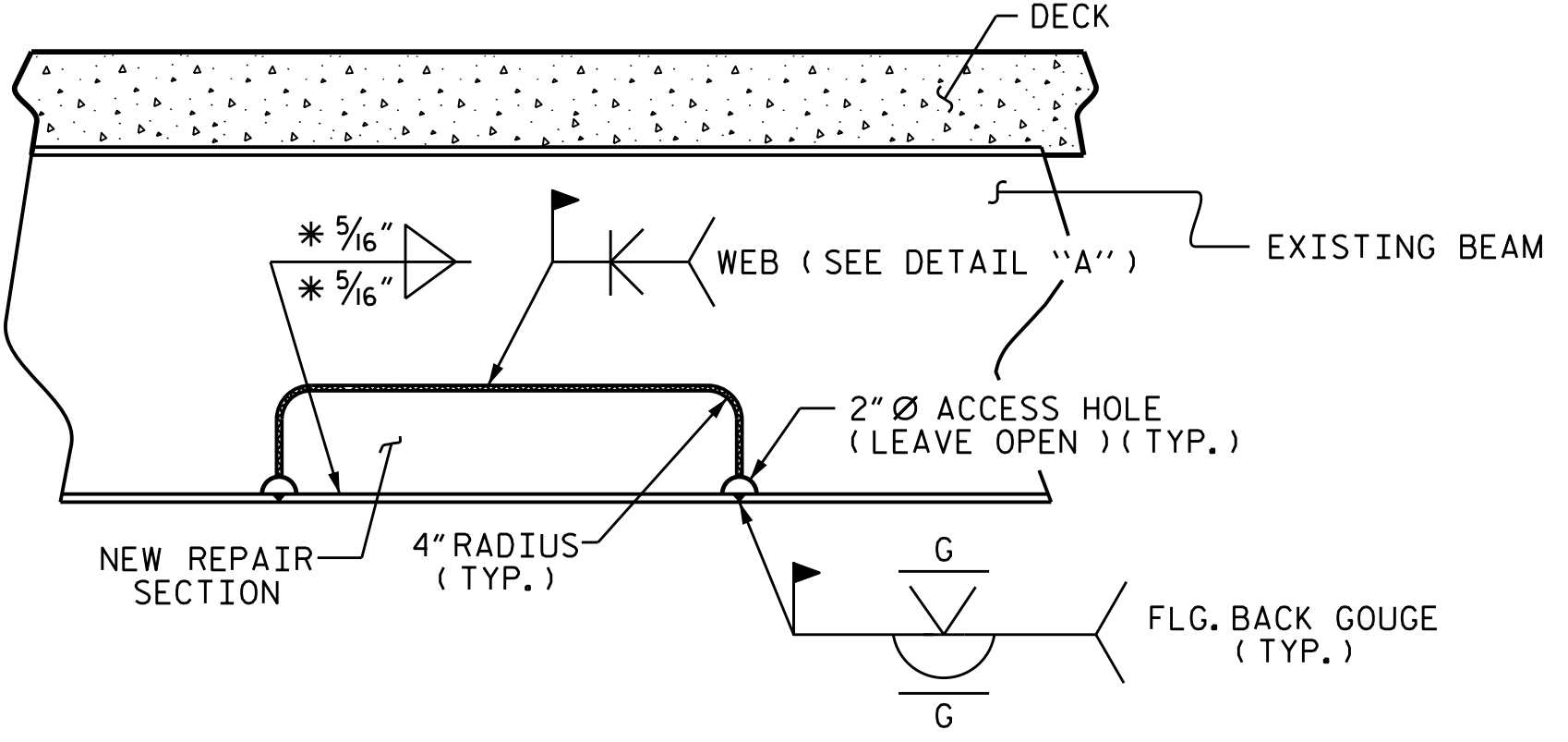


DETAIL "A"

BEAM END SECTION REPAIR

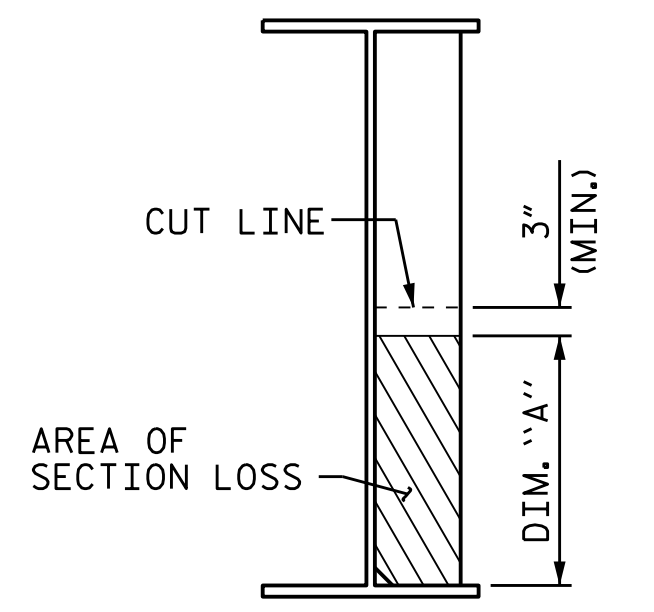


INTERMEDIATE BEAM SECTION LOSS

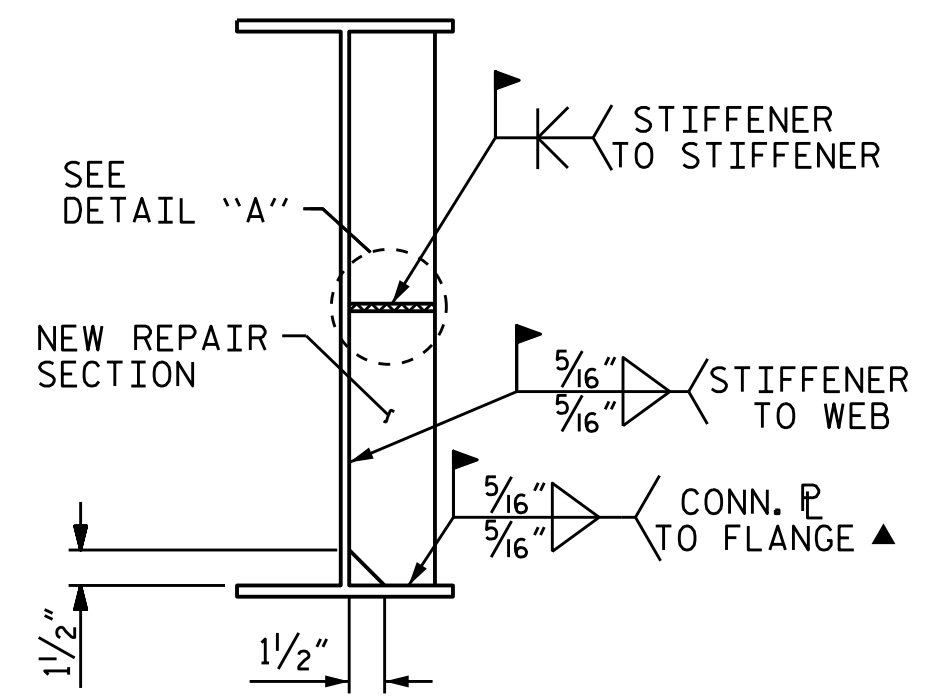


INTERMEDIATE BEAM SECTION REPAIR

INTERMEDIATE BEAM SECTION REPAIR



STIFFENER/CONN. SECTION LOSS



STIFFENER/CONN. SECTION REPAIR

▲ FOR STIFFENERS, MILL TO BEAR AND DO NOT WELD

STIFFENER/CONNECTOR PLATE REPAIR

BEAM SECTION REPAIR NOTES

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

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

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

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

REPAIR SEQUENCE:

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

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

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

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

MECHANICALLY CLEAN RUST, SCALE, AND EXISTING PAINT TO AT LEAST 3" BEYOND REPAIR AREA.

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

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

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

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

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

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

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

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

LOWER SPAN TO BEAR; CHECK FOR DISTRESS.

REMOVE JACKING EQUIPMENT AND TEMPORARY SUPPORTS.

REMOVE ALL TRAFFIC CONTROL DEVICES.

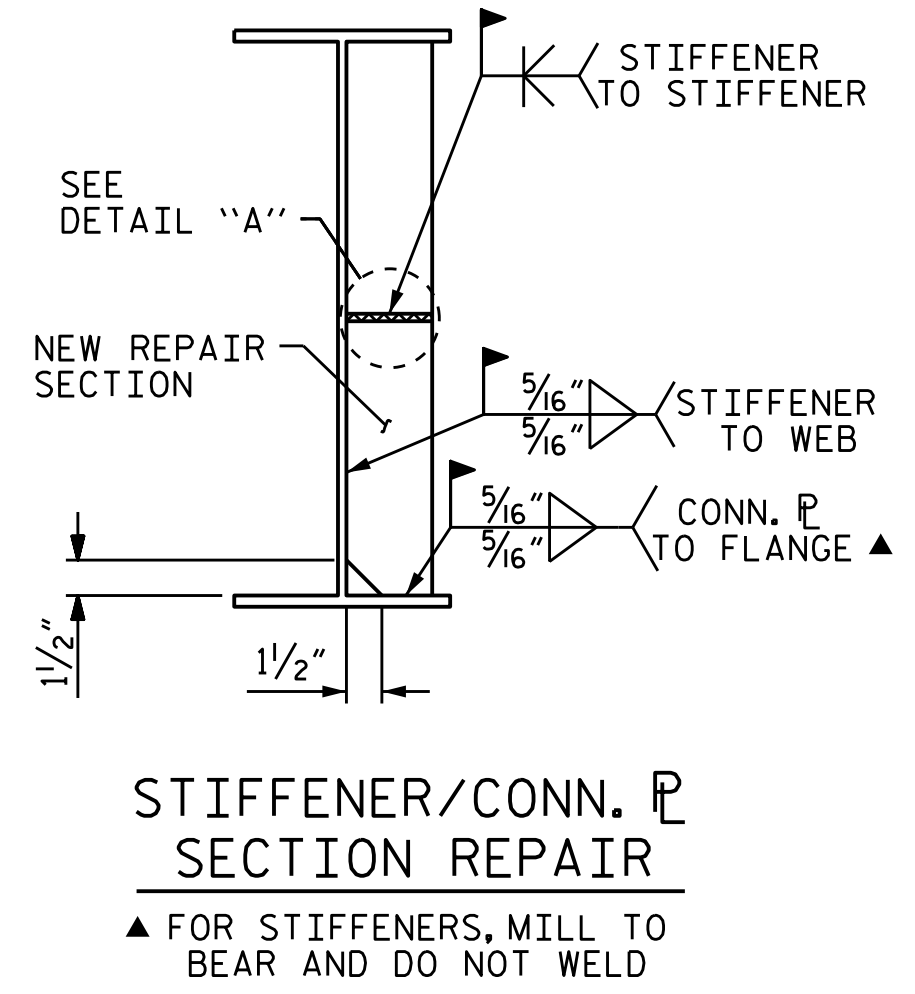
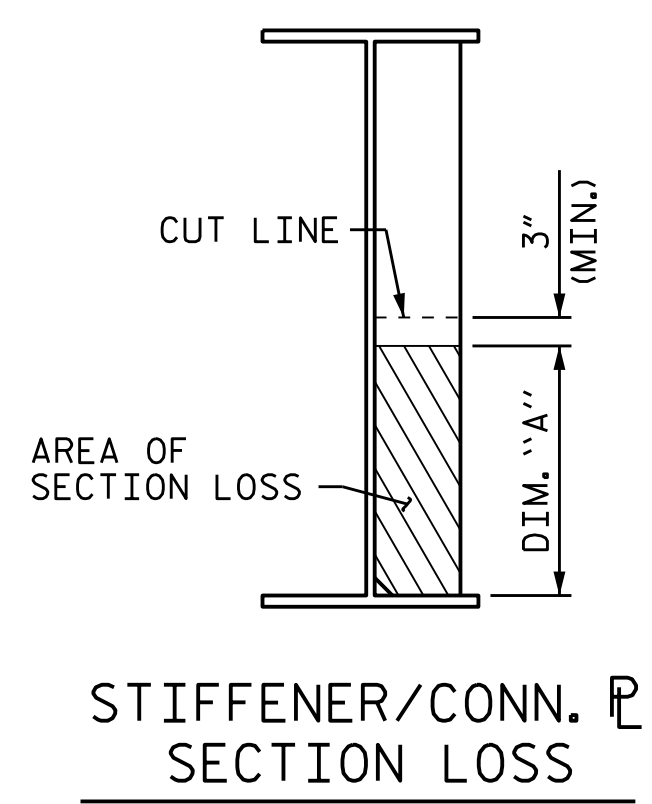
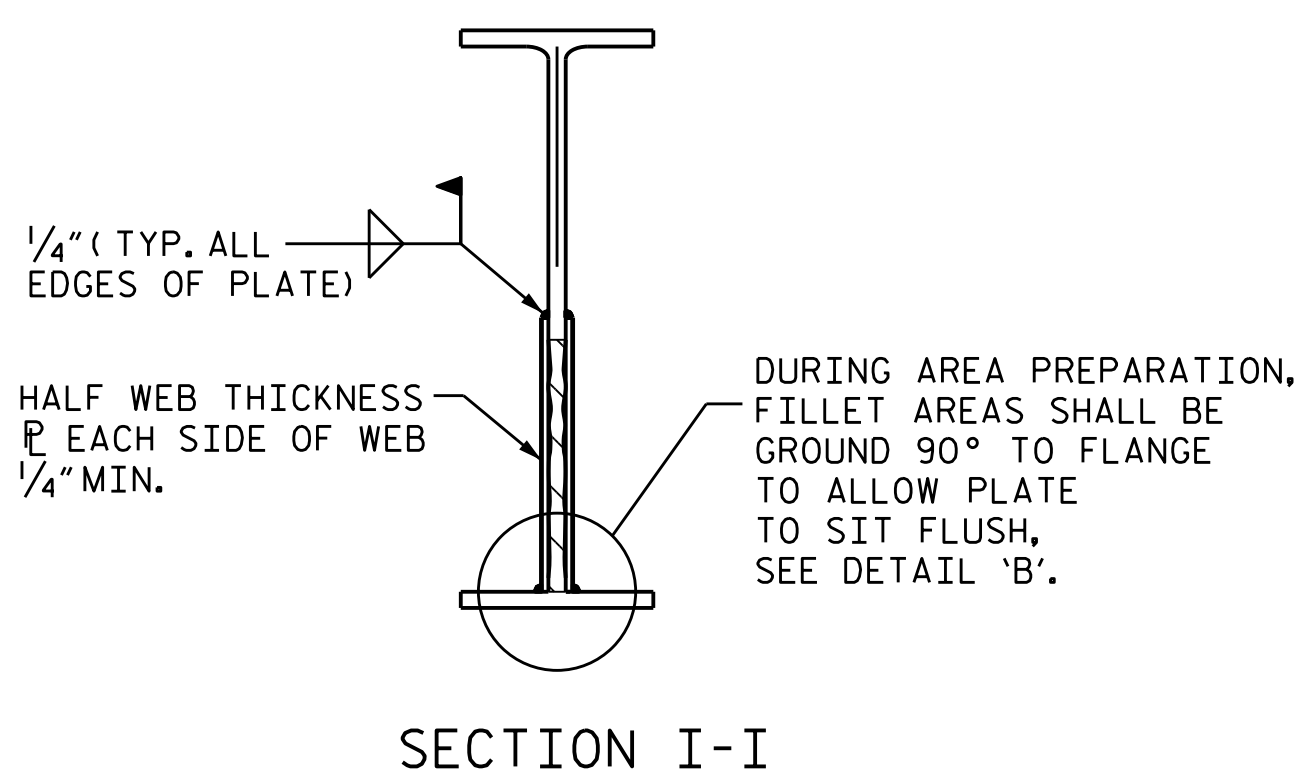
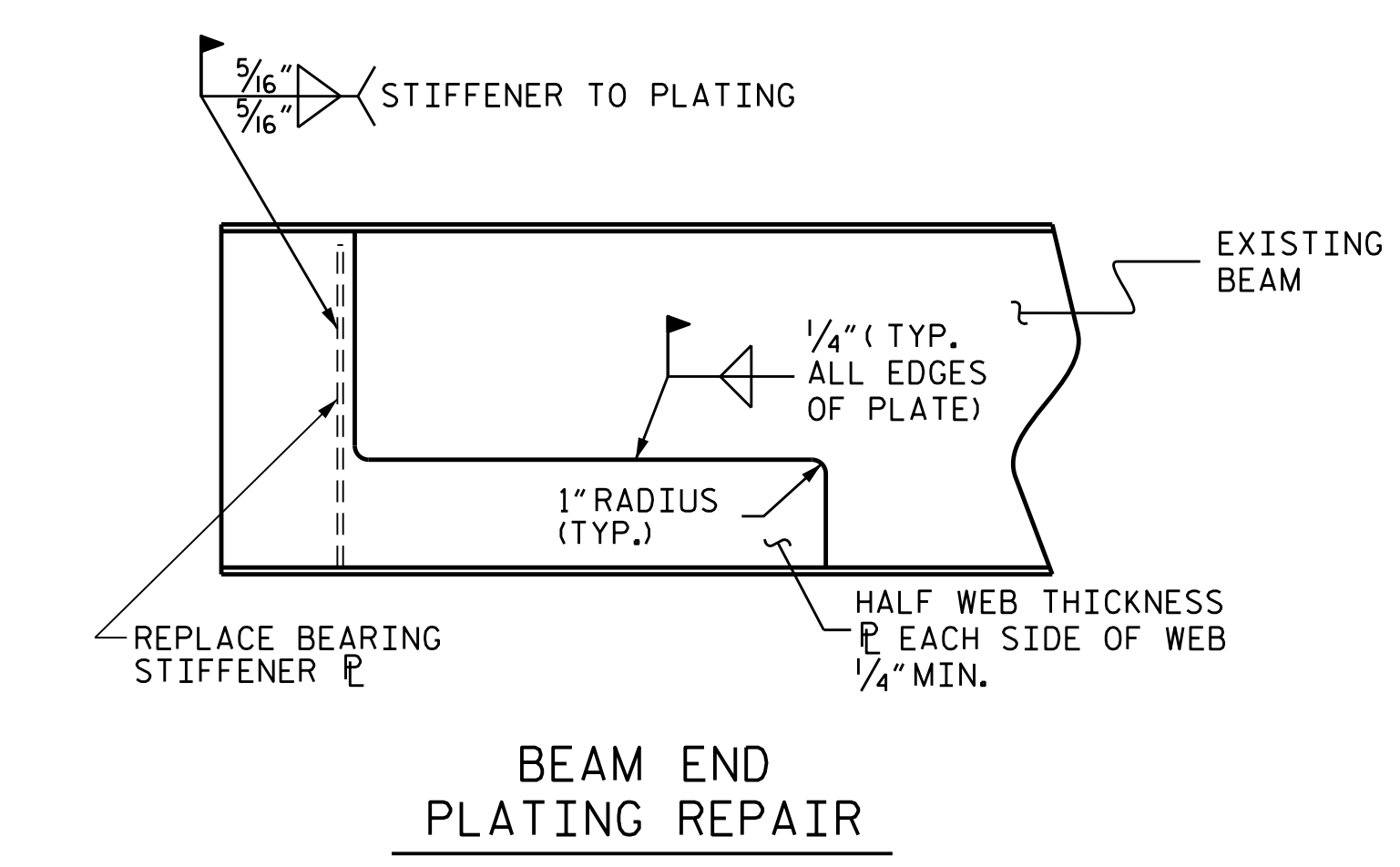
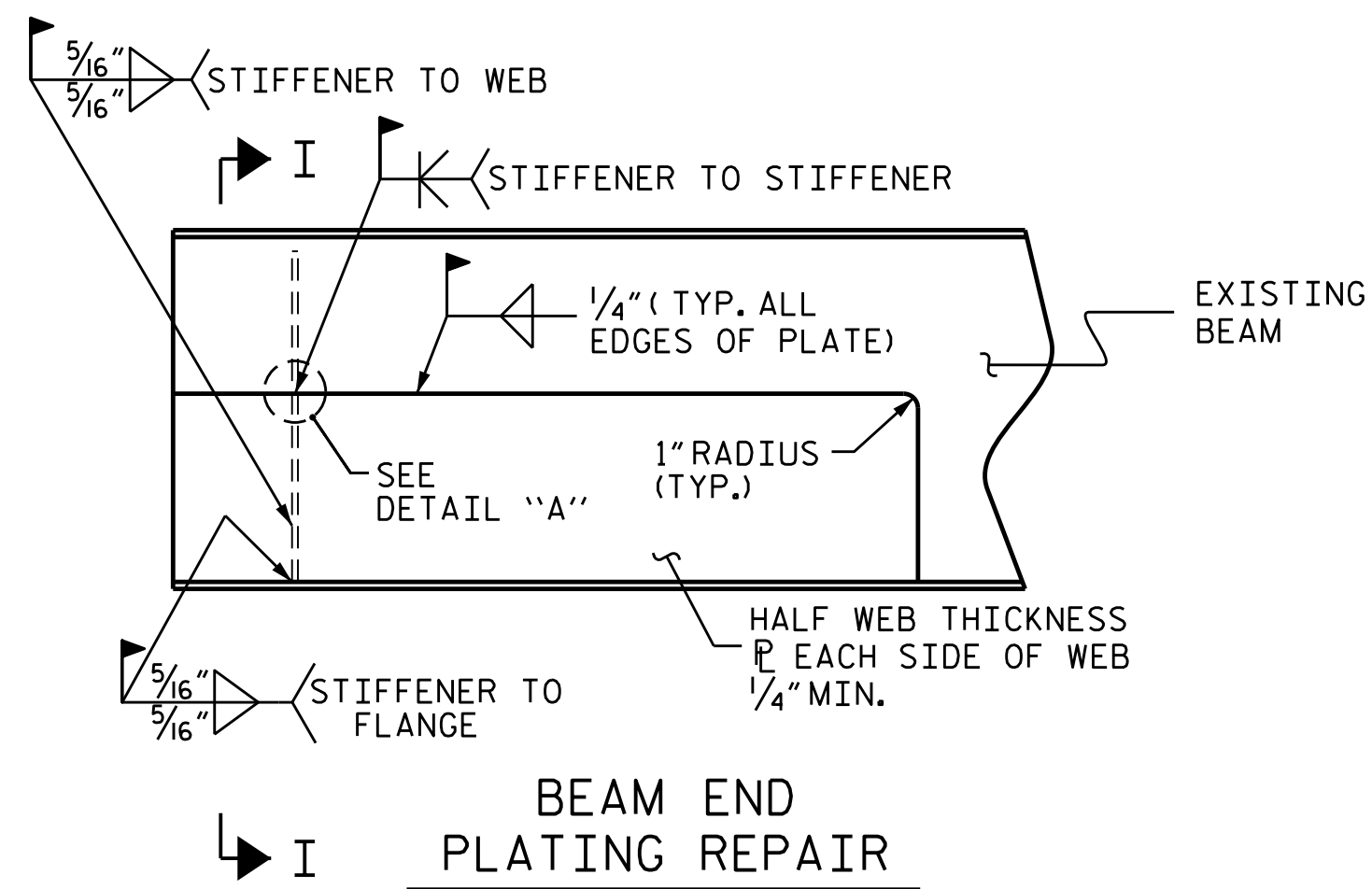
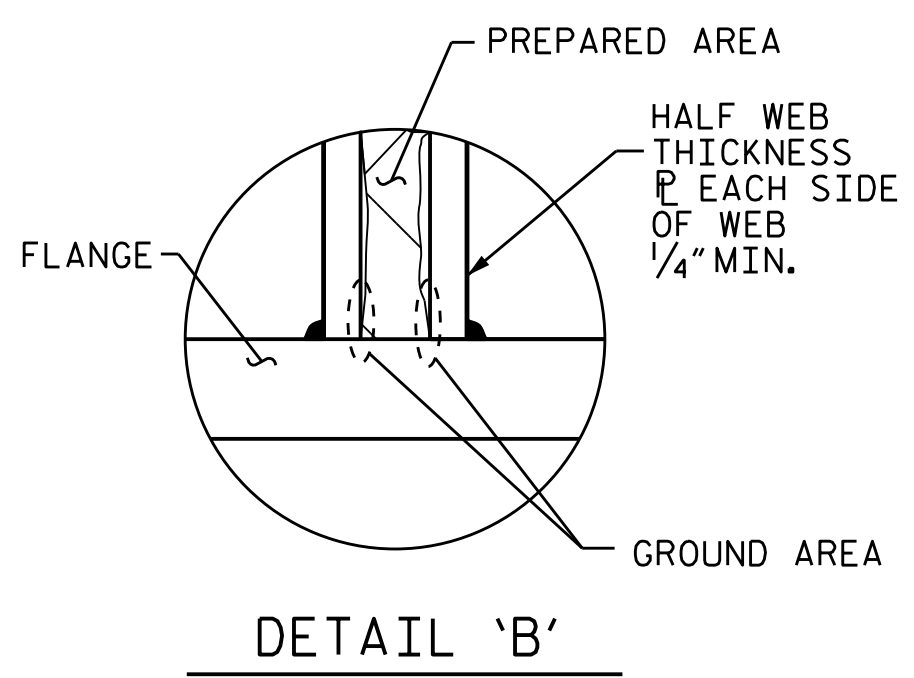
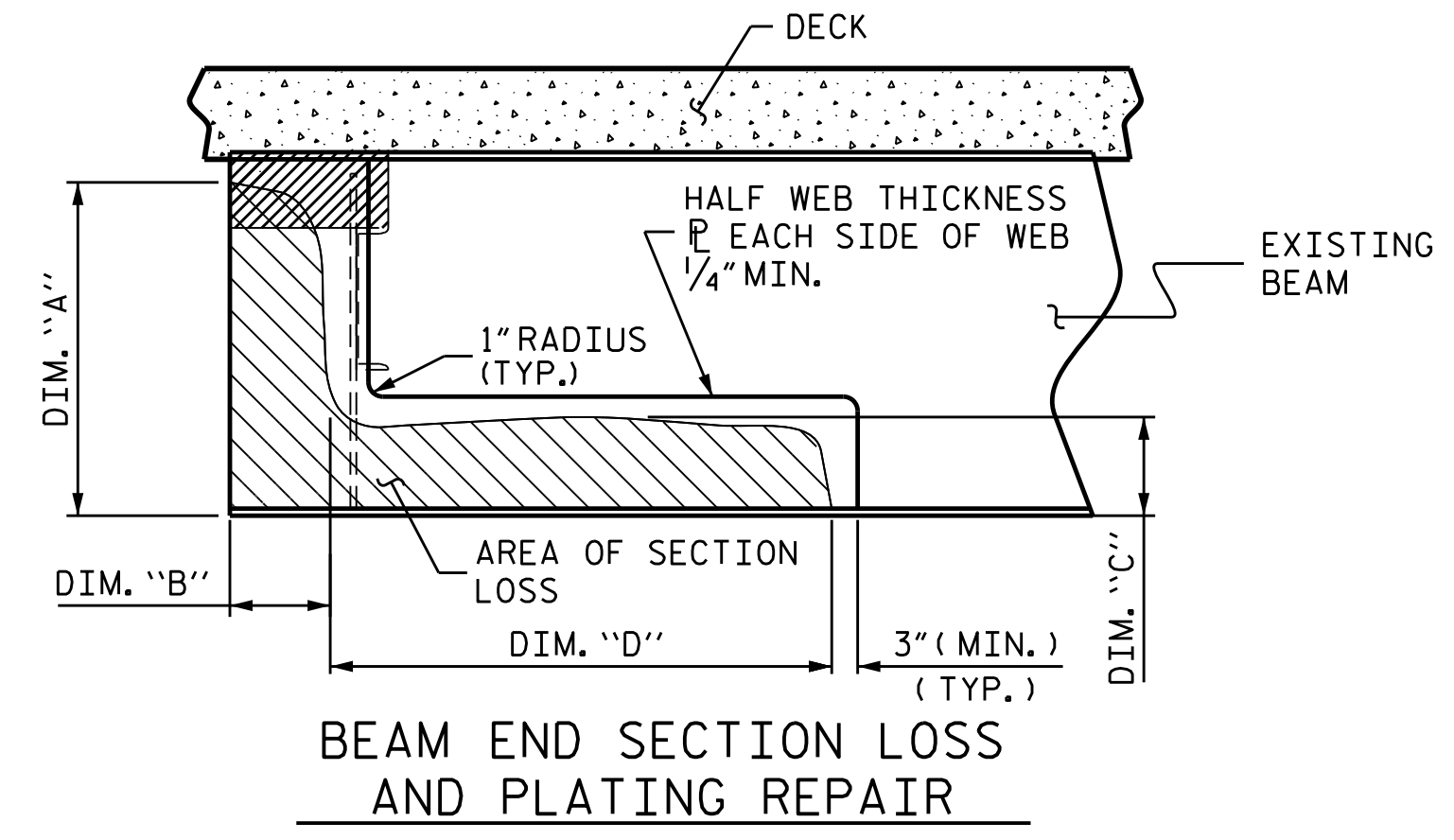
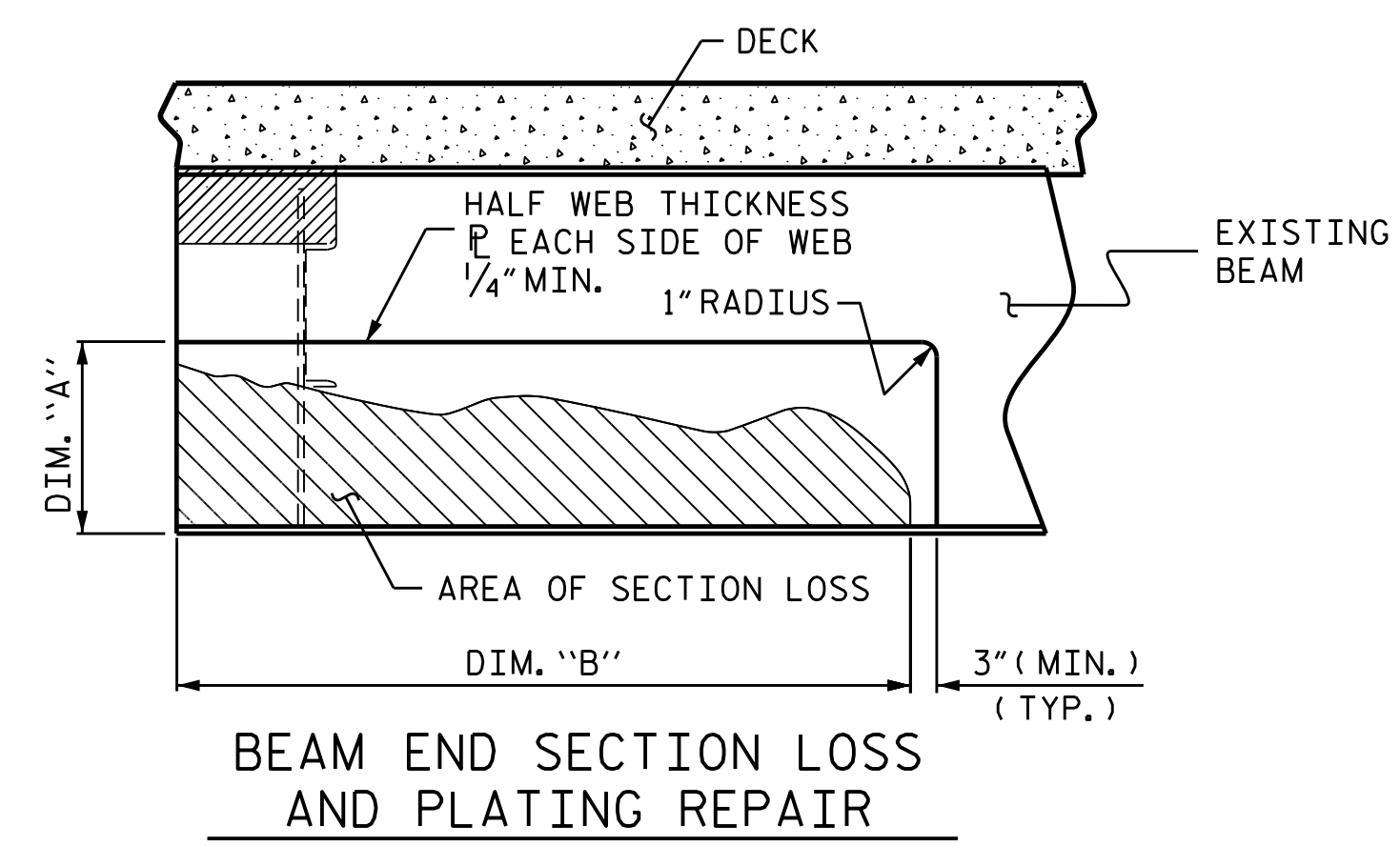
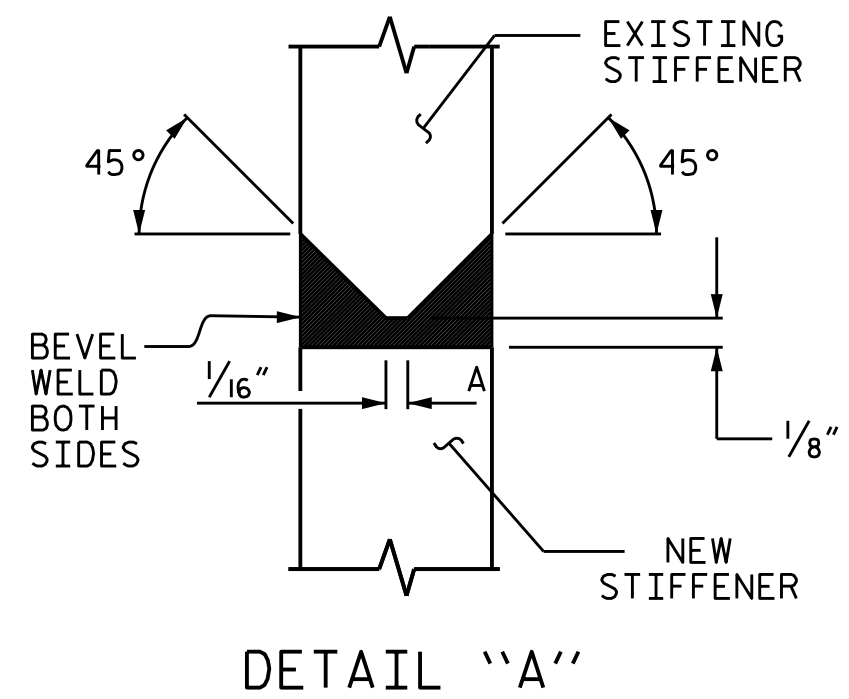
PROJ. NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 320,326,327,328,330
332



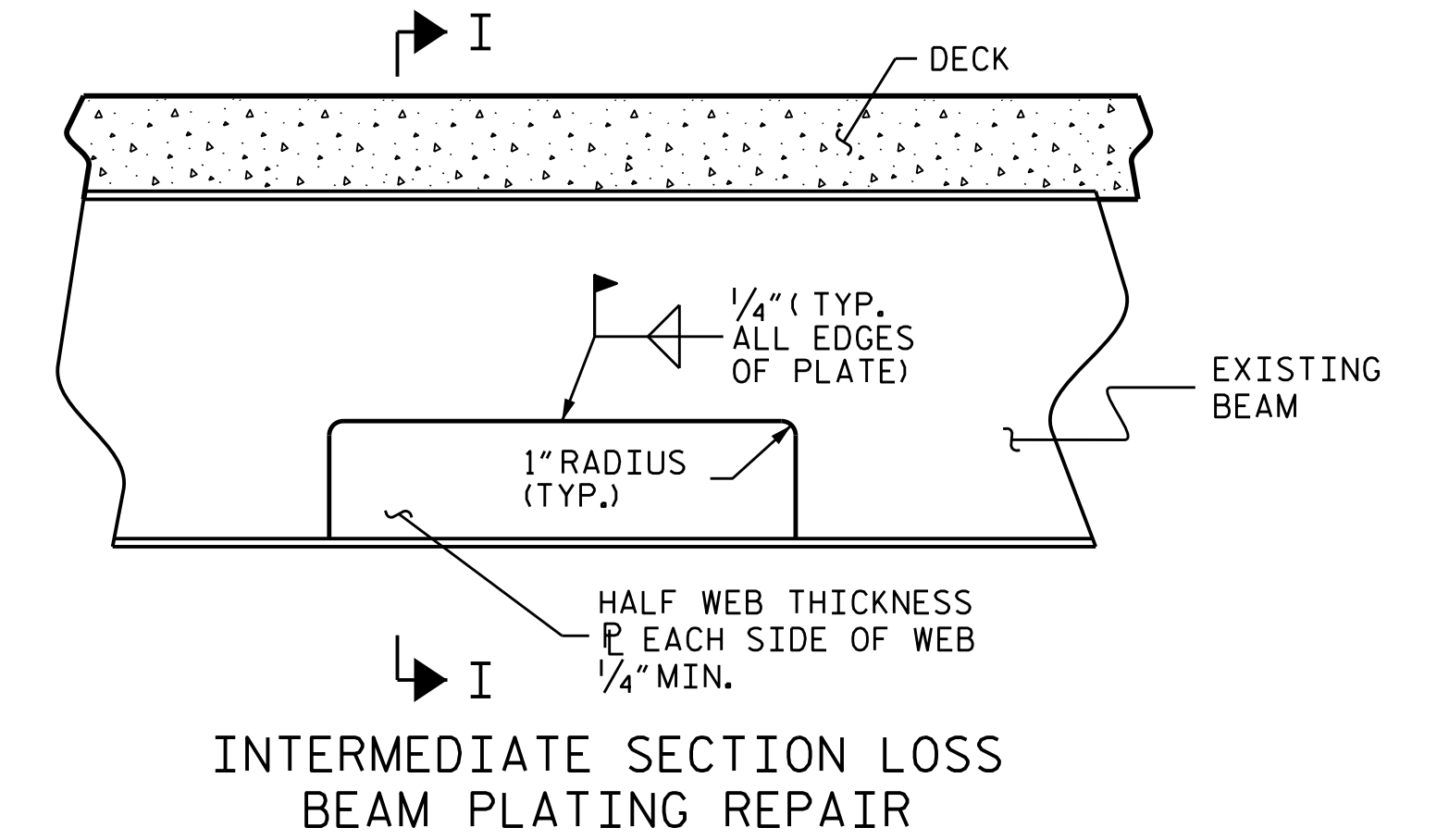
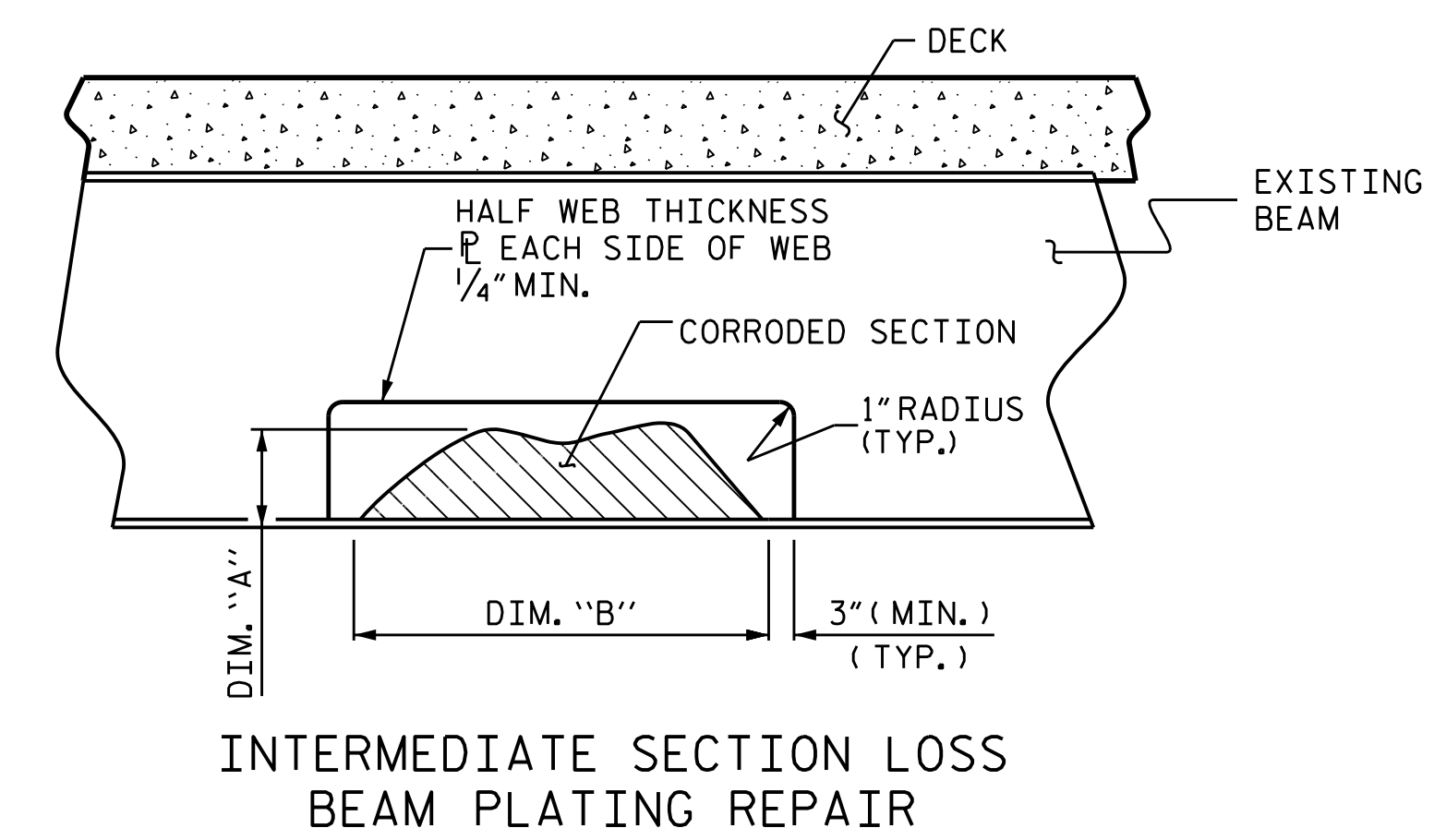
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 BEAM SECTION REPAIR DETAILS

DRAWN BY : R.L. PUTK DATE : 05/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 05/2021

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-271
1			3			TOTAL SHEETS
2			4			274



STIFFENER/CONNECTOR PLATE REPAIR



INTERMEDIATE BEAM PLATING REPAIR

BEAM PLATING REPAIR NOTES

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

REPAIR PLATES SHALL BE MINIMUM 36 KSI STEEL.

REPAIR SEQUENCE:

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

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

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

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

MECHANICALLY CLEAN RUST, SCALE, AND EXISTING PAINT TO AT LEAST 3" BEYOND REPAIR AREA.

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

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

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

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

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

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

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

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

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

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

REMOVE ALL TRAFFIC CONTROL DEVICES.

PROJ. NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 320,326,327,328,330
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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BEAM PLATING REPAIR DETAILS

DRAWN BY : R.L. PUTEK DATE : 05/2021
 CHECKED BY : H. A. LOCKLEAR DATE : 05/2021

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-272
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2			4			274

BRIDGE JACKING NOTES:

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

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

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

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

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

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

THE MAXIMUM DIFFERENTIAL BETWEEN ADJACENT BEAMS THAT ARE BEING JACKED IS $\frac{1}{8}$ ".

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

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

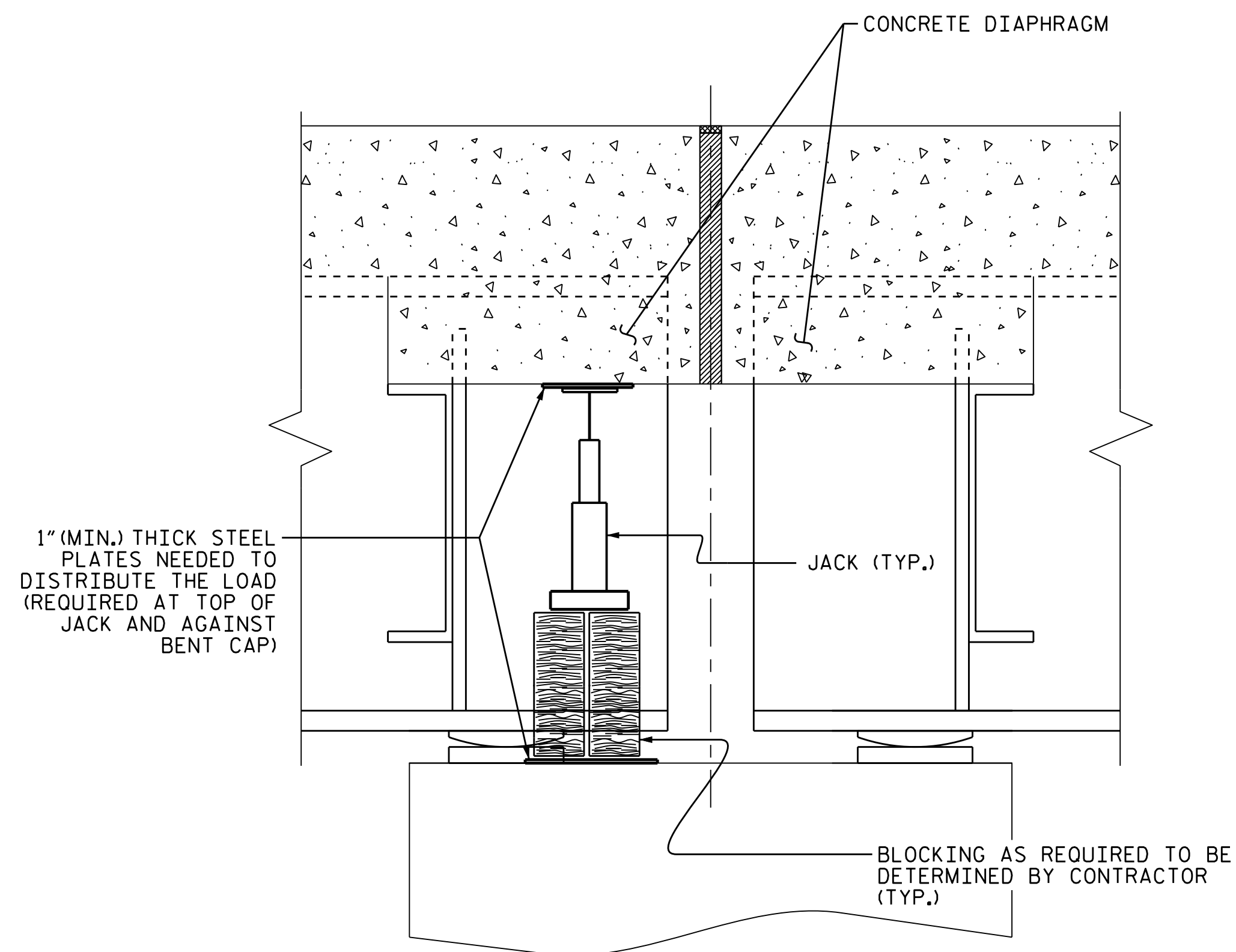
FOR TYPE I OR TYPE II BRIDGE JACKING, SEE SPECIAL PROVISIONS.

FOR WORKING DRAWING SUBMITTALS, SEE SPECIAL PROVISIONS.

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

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

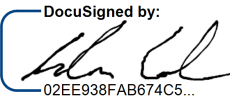
THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED TO THE EXISTING STRUCTURE BY BRIDGE JACKING OPERATIONS AT NO ADDITIONAL COST TO THE DEPARTMENT.



SECTION THRU DIAPHRAGM

BRIDGE JACKING TABLE			
BRIDGE	SPAN	BRIDGE JACKING TYPE	DEAD LOAD (DC+DW) (KIPS)
590138	B	1	48 KIPS
590320	B	1	27 KIPS
590326	B	1	36 KIPS
590327	B	1	56 KIPS
590328	B	1	34 KIPS
590330	B	1	49 KIPS
590332	R	1	65 KIPS

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 138,320,326,327
328,330,332

Designed by:

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8/23/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD

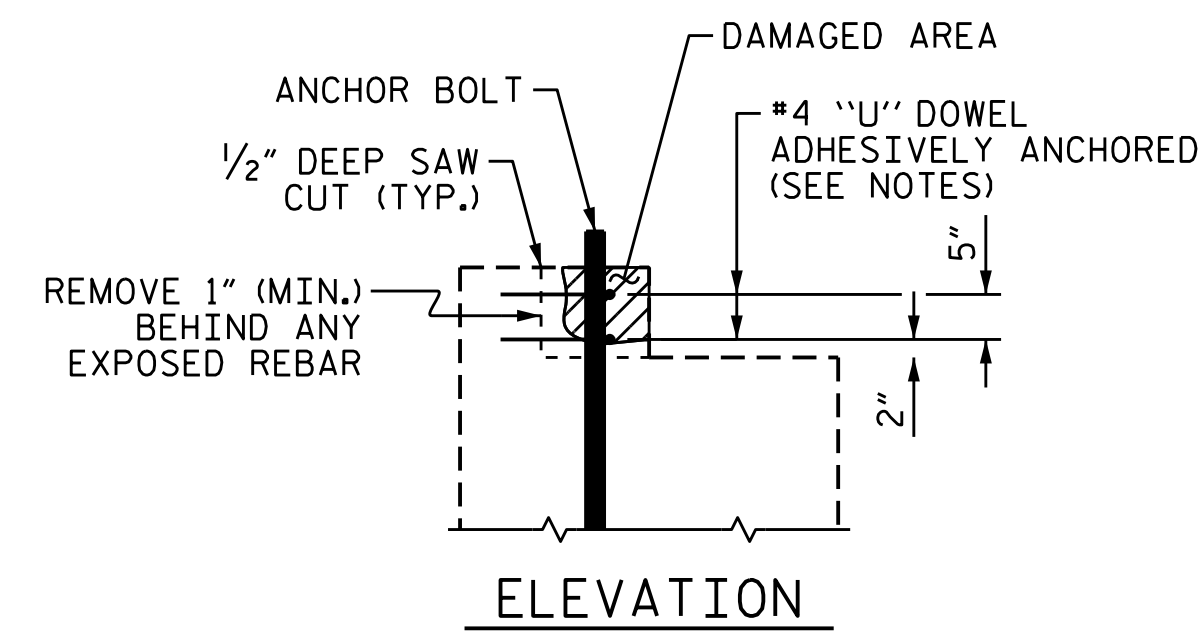
BRIDGE JACKING
 DETAILS

ASSEMBLED BY : R.L. PUTEK DATE : 05/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 05/2021

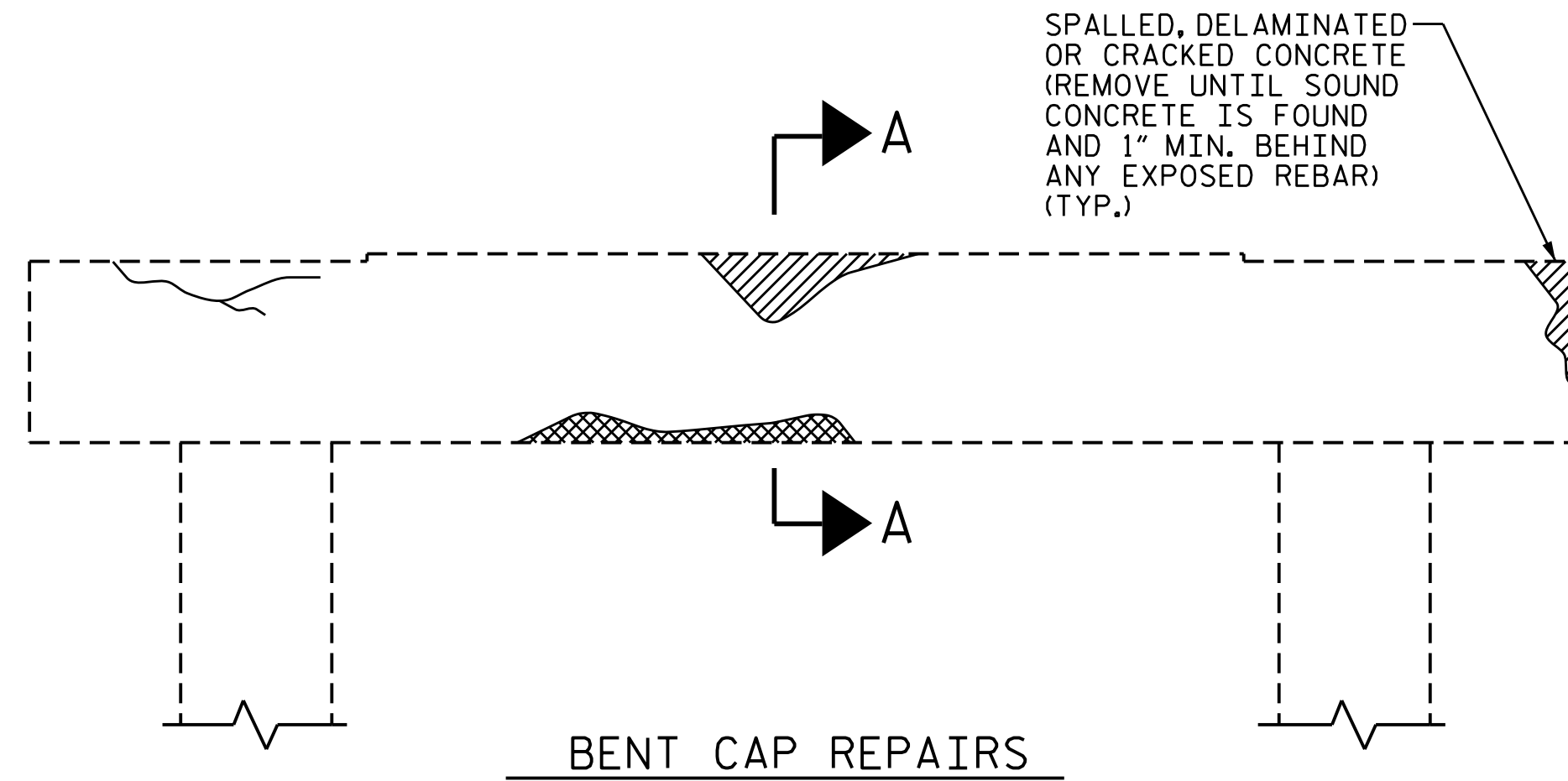
DRAWN BY : NAP 08/18
 CHECKED BY :

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
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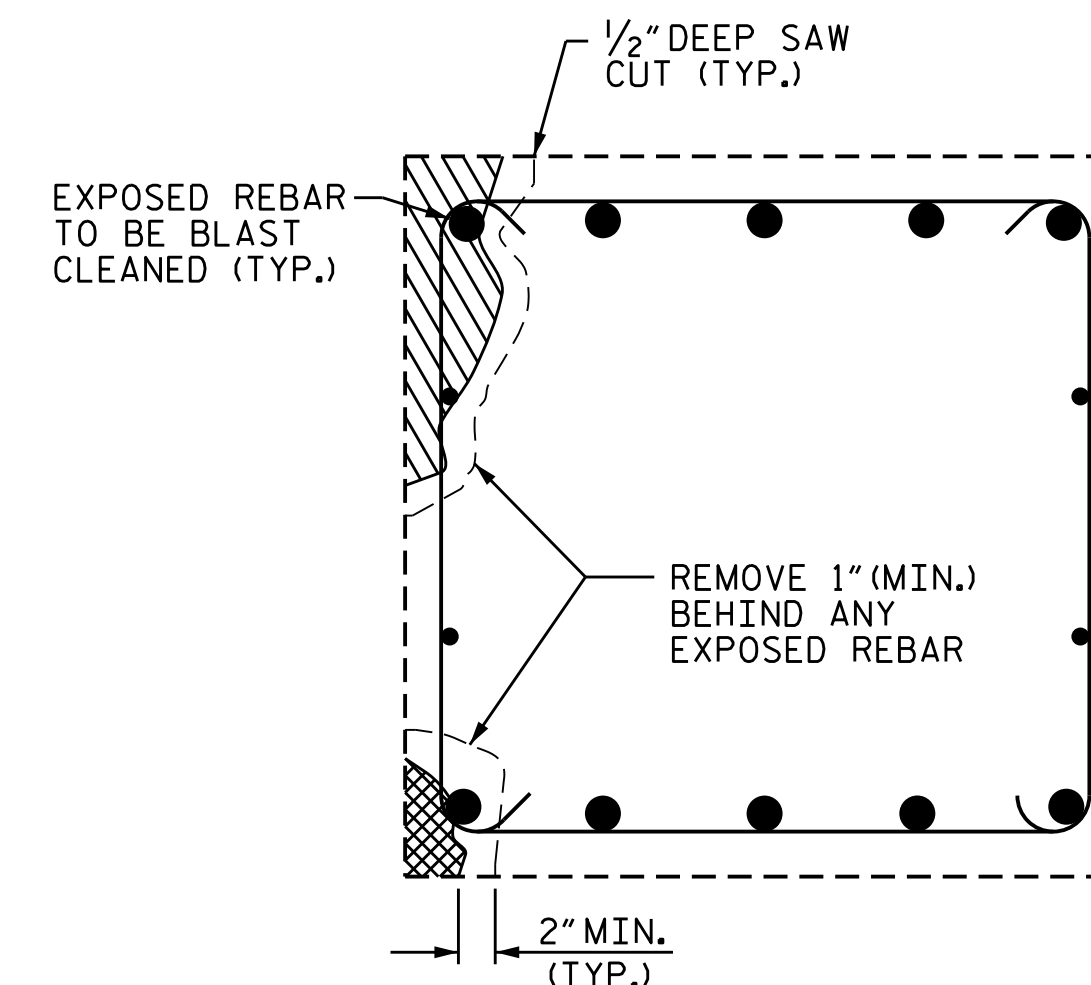
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-273
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2			4			274



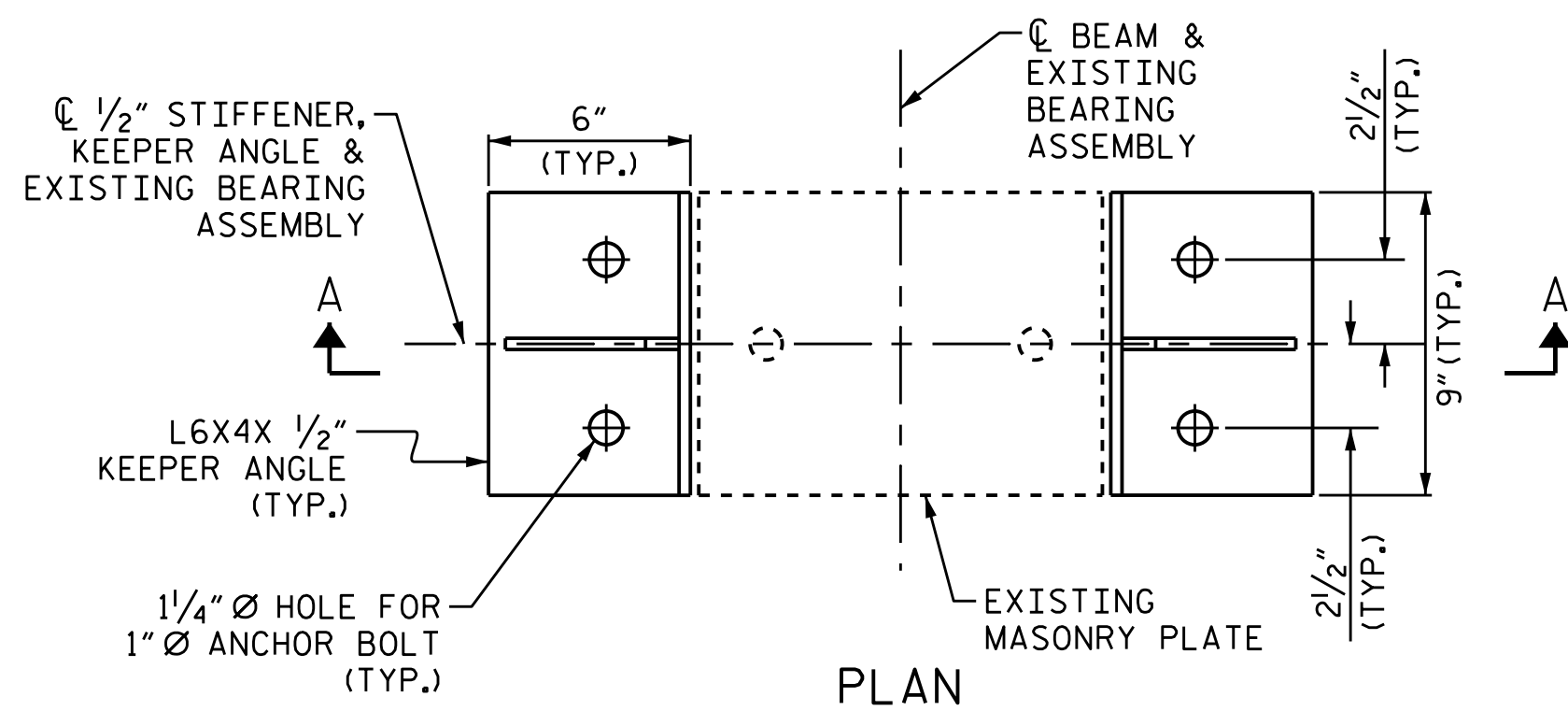
PEDESTAL WALL REPAIR



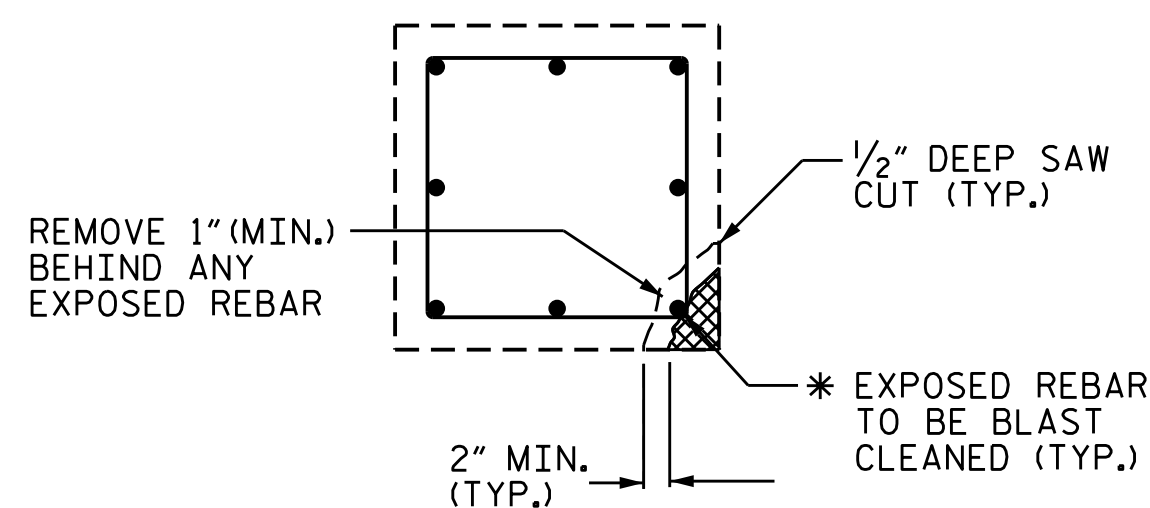
BENT CAP REPAIRS



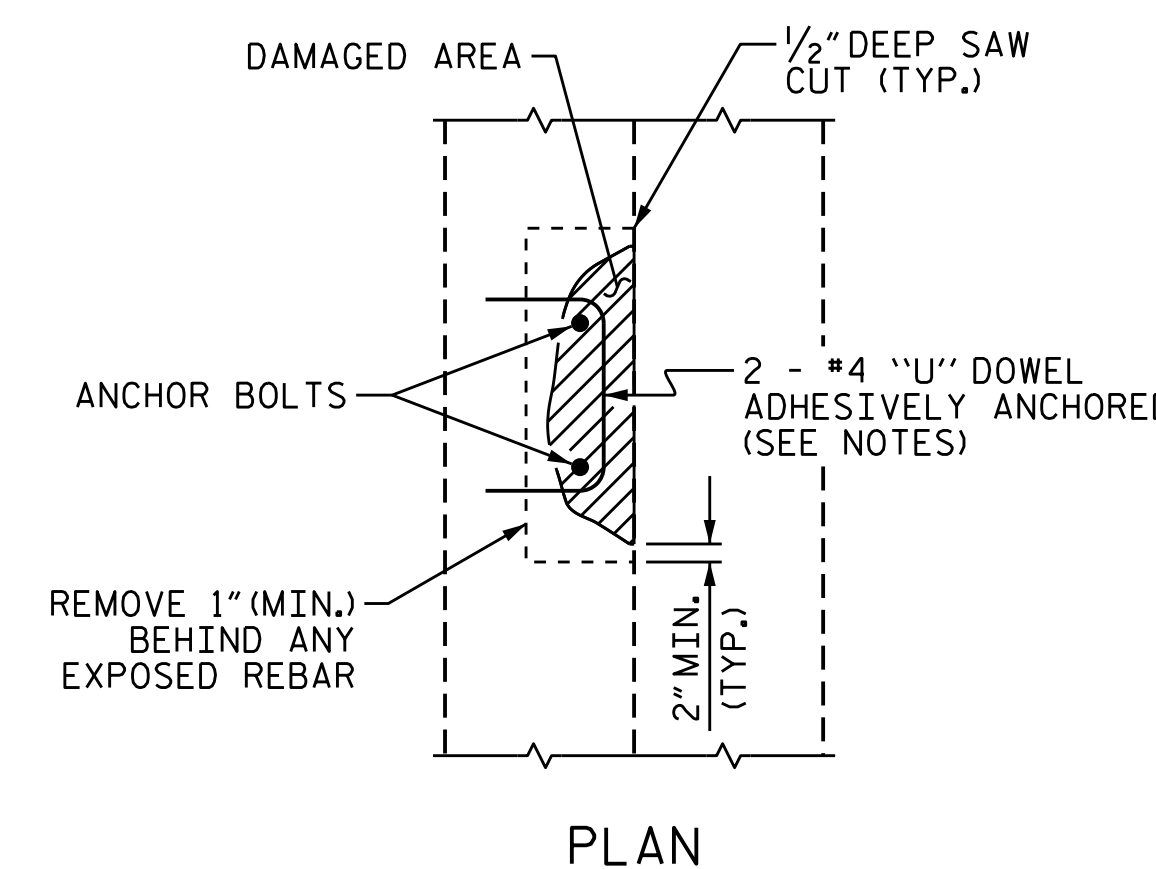
**SECTION A-A
CAP REPAIR**



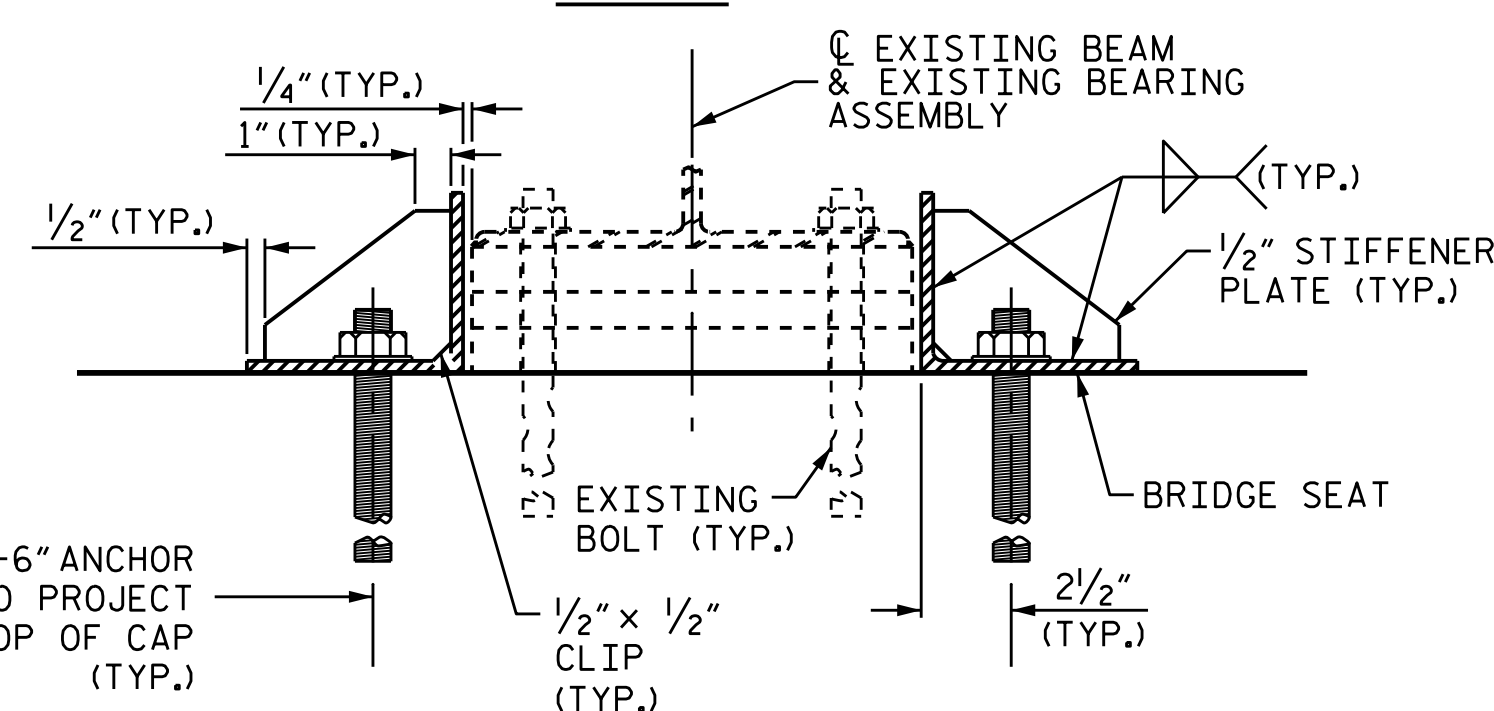
PLAN



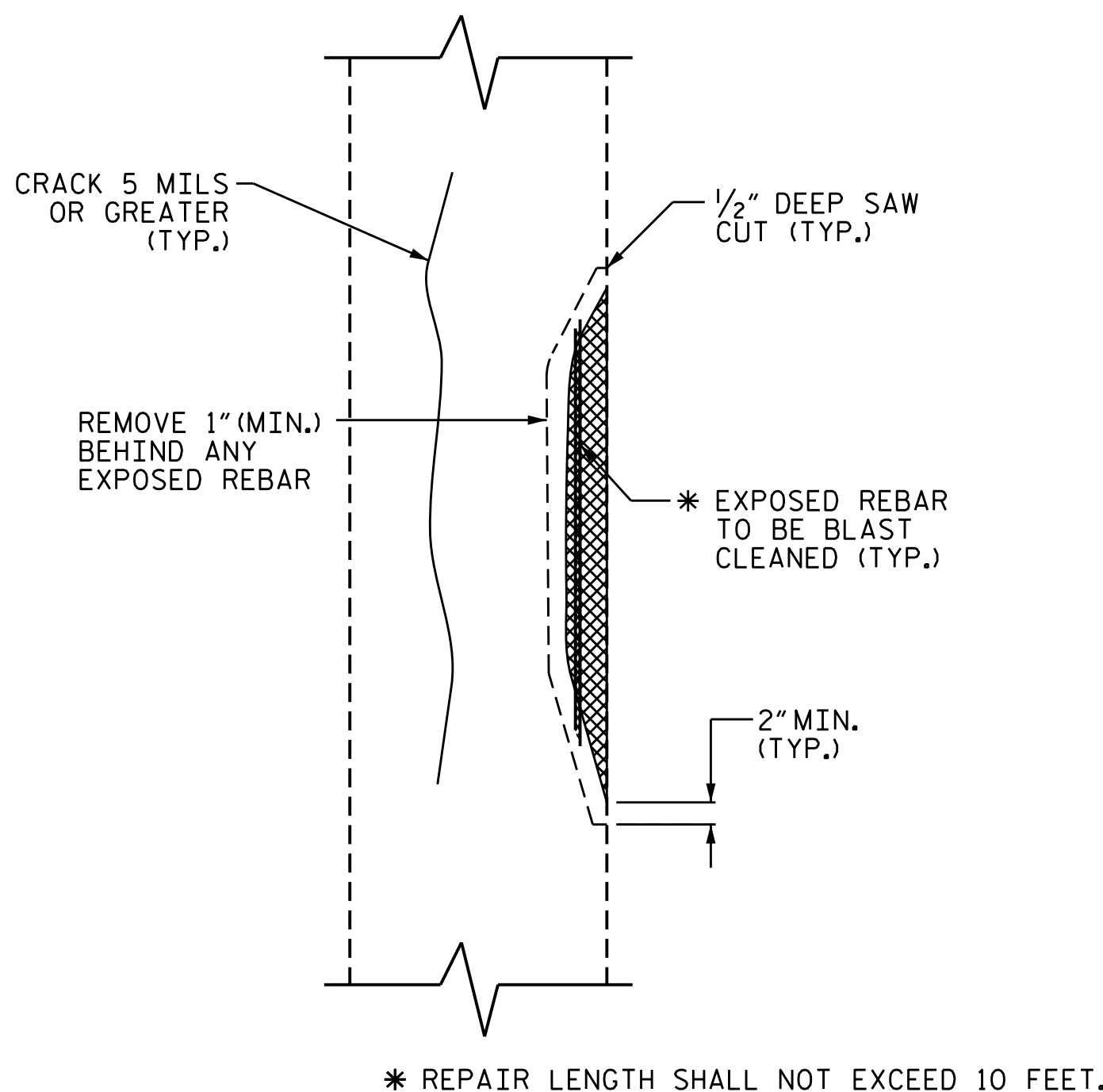
PLAN OF COLUMN



PLAN



SECTION A-A



**ELEVATION OF COLUMN
COLUMN REPAIR**

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

REPAIR KEY

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

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.

STEEL KEEPER ANGLE ASSEMBLY DETAILS

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 M292-2H. WASHERS SHALL MEET THE REQUIREMENTS OF AASHTO M293. SHOP DRAWINGS ARE REQUIRED FOR ANCHOR BOLTS, NUTS AND WASHERS. SHOP INSPECTION IS REQUIRED.

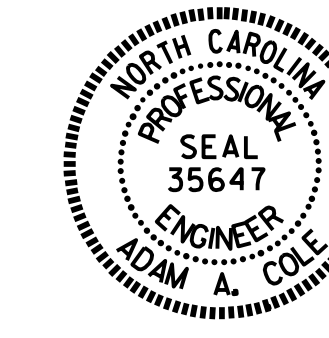
THE CONTRACTOR MAY USE ADHESIVELY ANCHORED ANCHOR BOLTS, NO FIELD TESTING IS REQUIRED. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE SECTION 420 OF THE STANDARD SPECIFICATIONS.

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.

PROJECT NO. I-5746C
MECKLENBURG COUNTY
 BRIDGE NO. 44,48,138,320
322,326,327,328,330,332

DocuSigned by:
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8/23/2021

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

ASSEMBLED BY : R.L. PUTEK	DATE : 05/2021
CHECKED BY : H.A. LOCKLEAR	DATE : 05/2021
DRAWN BY : NAP 8/18	
CHECKED BY :	

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-274
2			4			TOTAL SHEETS 274

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	- - - - -	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	- - - - -	SEE PLANS
IMPACT ALLOWANCE	- - - - -	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36	- -	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	- -	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	- -	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60	- - -	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	- - - - -	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	- - - - -	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS	- - -	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	- - - - -	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	- - - - -	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

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

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

CONCRETE:

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

CONCRETE CHAMFERS:

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

DOWELS:

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

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

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

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

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

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

REINFORCING STEEL:

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

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

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE $\frac{1}{8}$ " \emptyset SHEAR STUDS FOR THE $\frac{3}{4}$ " \emptyset STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - $\frac{1}{8}$ " \emptyset STUDS FOR 4 - $\frac{3}{4}$ " \emptyset STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF $\frac{1}{8}$ " \emptyset STUDS ALONG THE BEAM AS SHOWN FOR $\frac{3}{4}$ " \emptyset STUDS BASED ON THE RATIO OF 3 - $\frac{1}{8}$ " \emptyset STUDS FOR 4 - $\frac{3}{4}$ " \emptyset STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

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

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

HANDRAILS AND POSTS:

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

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

SPECIAL NOTES:

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

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