

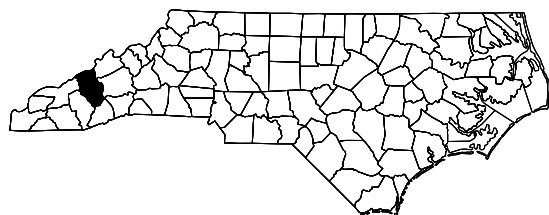
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5756	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
52034.1.1	NHPP-0040(018)23	P.E.	
52034.3.1	NHPP-0040(018)23	CONST.	



HAYWOOD COUNTY

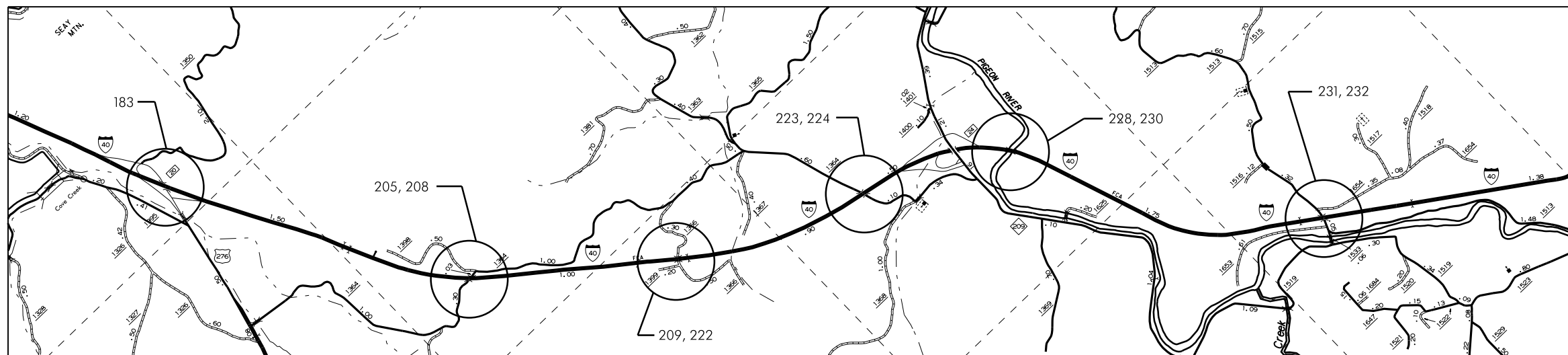
LOCATION:

HAYWOOD COUNTY:

- BRIDGE #183 ON INTERSTATE 40 EAST AND WEST BOUND OVER US 276 (JONATHAN CREEK RD.)
- BRIDGE #205 ON INTERSTATE 40 EAST BOUND OVER SR 1364 (COLEMAN MOUNTAIN RD.)
- BRIDGE #208 ON INTERSTATE 40 WEST BOUND OVER SR 1364 (COLEMAN MOUNTAIN RD.)
- BRIDGE #209 ON INTERSTATE 40 EAST BOUND OVER SR 1366 (ORCHARD COVE RD.)
- BRIDGE #222 ON INTERSTATE 40 WEST BOUND OVER SR 1366 (ORCHARD COVE RD.)
- BRIDGE #223 ON INTERSTATE 40 EAST BOUND OVER SR 1364 (IRON DUFF RD.)
- BRIDGE #224 ON INTERSTATE 40 WEST BOUND OVER SR 1364 (IRON DUFF RD.)
- BRIDGE #228 ON INTERSTATE 40 EAST BOUND OVER PIGEON RIVER
- BRIDGE #230 ON INTERSTATE 40 WEST BOUND OVER PIGEON RIVER
- BRIDGE #231 ON INTERSTATE 40 EAST BOUND OVER SR 1513 (HYDER MOUNTAIN RD.)
- BRIDGE #232 ON INTERSTATE 40 WEST BOUND OVER SR 1513 (HYDER MOUNTAIN RD.)

TYPE OF WORK:

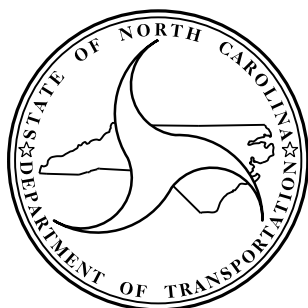
BRIDGE PRESERVATION - DECK REPAIR, SUBSTRUCTURE REPAIR, STRUCTURAL STEEL REPAIR, AND PAINTING OF EXISTING BRIDGE STRUCTURES.



VICINITY MAP - HAYWOOD CO.

PROJECT: I-5756

CONTRACT: C203761



DESIGN DATA

HAYWOOD COUNTY

#183 ADT 2012 =16,000	#205 ADT 2012 =12,500
#208 ADT 2012 =12,500	#209 ADT 2012 =12,500
#222 ADT 2011 =11,000	#223 ADT 2011 =11,000
#224 ADT 2011 =11,000	#228 ADT 2013 =13,500
#230 ADT 2013 =13,500	#231 ADT 2013 =13,500
#232 ADT 2013 =13,500	

PROJECT LENGTH

HAYWOOD COUNTY

- #183 = 0.049 MILE	- #205 = 0.030 MILE
- #208 = 0.030 MILE	- #209 = 0.022 MILE
- #222 = 0.022 MILE	- #223 = 0.027 MILE
- #224 = 0.027 MILE	- #228 = 0.091 MILE
- #230 = 0.091 MILE	- #231 = 0.029 MILE
- #232 = 0.029 MILE	

Prepared in the Office of:
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURES MANAGEMENT UNIT - PRESERVATION & REPAIR GROUP
1000 BIRCH RIDGE DR. RALEIGH, N.C. 27610

DOUGLAS R. CALHOUN, P.E.
PROJECT ENGINEER

2012 STANDARD SPECIFICATIONS

LETTING DATE:
MAY 17, 2016

DocuSigned by:

John A. Yannaccone

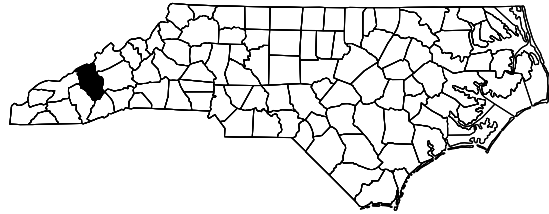


3/21/2016

JOHN A. YANNACCONE, P.E.
PROJECT DESIGN ENGINEER

PROJECT: I-5756

CONTRACT: C203761



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HAYWOOD COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5756	1A	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
52034.1.1	NHPP-0040(018)23	P.E.	
52034.3.1	NHPP-0040(018)23	CONST.	

LOCATION:

HAYWOOD COUNTY:

- BRIDGE #183 ON INTERSTATE 40 EAST AND WEST BOUND OVER US 276 (JONATHAN CREEK RD.)*
- BRIDGE #205 ON INTERSTATE 40 EAST BOUND OVER SR 1364 (COLEMAN MOUNTAIN RD.)*
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TYPE OF WORK:

BRIDGE PRESERVATION - DECK REPAIRS, SUBSTRUCTURE REPAIRS, STRUCTURAL STEEL REPAIRS, AND PAINTING OF EXISTING BRIDGE STRUCTURES.

INDEX OF SHEETS

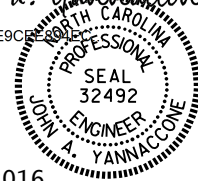
<i>1</i>	<i>TITLE SHEET</i>
<i>1A</i>	<i>INDEX OF SHEETS</i>
<i>S-1</i>	<i>BILL OF MATERIAL</i>
<i>S-2 THRU S-15</i>	<i>STRUCTURAL PLANS - BRIDGE NO. 183</i>
<i>S-16 THRU S-20</i>	<i>STRUCTURAL PLANS - BRIDGE NO. 205</i>
<i>S-21 THRU S-25</i>	<i>STRUCTURAL PLANS - BRIDGE NO. 208</i>
<i>S-26 THRU S-35</i>	<i>STRUCTURAL PLANS - BRIDGE NO. 209</i>
<i>S-36 THRU S-45</i>	<i>STRUCTURAL PLANS - BRIDGE NO. 222</i>
<i>S-46 THRU S-55</i>	<i>STRUCTURAL PLANS - BRIDGE NO. 223</i>
<i>S-56 THRU S-65</i>	<i>STRUCTURAL PLANS - BRIDGE NO. 224</i>
<i>S-66 THRU S-82</i>	<i>STRUCTURAL PLANS - BRIDGE NO. 228</i>
<i>S-83 THRU S-98</i>	<i>STRUCTURAL PLANS - BRIDGE NO. 230</i>
<i>S-99 THRU S-108</i>	<i>STRUCTURAL PLANS - BRIDGE NO. 231</i>
<i>S-109 THRU S-118</i>	<i>STRUCTURAL PLANS - BRIDGE NO. 232</i>
<i>S-119 THRU S-122</i>	<i>STRUCTURAL PLANS - TYPICAL REPAIR AND JACKING DETAILS</i>
<i>SN</i>	<i>STANDARD NOTES</i>

TOTAL BILL OF MATERIAL

BRIDGE NO.	GROOVING BRIDGE FLOORS	CLASS AA CONCRETE	REINFORCING STEEL	CLASS II. SURFACE PREPARATION	CLASS III. SURFACE PREPARATION	LATEX MODIFIED CONCRETE OVERLAY	PLACING & FINISHING OF LATEX MODIFIED CONC OVERLAY	SHOTCRETE REPAIRS	CONCRETE REPAIRS	EPOXY RESIN INJECTION	FOAM JOINT SEALS	CLEANING & REPAINTING OF BRIDGE #	PAINTING CONTAINMENT FOR BRIDGE #	POLLUTION CONTROL	ELASTOMERIC CONCRETE	BEAM REPAIR	EPOXY COATING	BRIDGE JOINT DEMOLITION	SCARIFYING BRIDGE DECK	HYDRO-DEMOLITION OF BRIDGE DECK	STEEL KEEPER ANGLE ASSEMBLY	ANCHOR BOLT REPAIR	BRIDGE JACKING
	SO. FT.	CU. YDS.	LBS.	SO. YDS.	SO. YDS.	CU. YDS.	SO. YDS.	CU. FT.	CU. FT.	LIN. FT.	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	CU. FT.	LBS.	SO. FT.	SO. FT.	SO. YDS.	SO. YDS.	EA.	EA.	EA.
183	—	—	—	—	—	—	—	180.7	70.9	129.5	—	LUMP SUM	LUMP SUM	LUMP SUM	—	1 *	714	—	—	—	—	6	9
205	—	—	—	—	—	—	—	21.3	—	24.0	—	—	—	—	—	—	—	—	—	—	—	—	—
208	—	—	—	—	—	—	—	24.7	—	142.8	—	—	—	—	—	—	—	—	—	—	—	—	—
209	4,280	3.8	320	4.7	—	29.0	515	20.5	—	5.6	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	21.0	—	—	40	515	515	—	—	—
222	4,280	3.8	320	0.2	—	28.7	515	33.6	—	15.8	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	21.0	—	—	40	515	515	—	—	—
223	5,178	6.0	366	25.0	8.8	36.6	623	40.9	—	5.0	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	24.4	—	—	46	623	623	—	—	—
224	5,178	4.8	366	12.4	2.3	35.6	623	71.7	—	3.5	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	24.4	—	—	46	623	623	—	—	—
228	17,526	—	—	1.8	—	117.5	2,114	634.3	62.3	41.4	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	40.0	50	656	160	2,114	2,114	4	—	4
230	17,526	—	—	11.1	—	118.2	2,114	493.2	—	70.0	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	40.0	45	656	160	2,114	2,114	—	—	—
231	5,610	4.6	332	—	—	37.5	676	8.0	17.8	—	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	22.0	—	—	42	676	676	—	—	—
232	5,610	4.6	332	2.1	—	37.7	676	6.4	—	7.6	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	22.0	—	—	42	676	676	—	—	—
TOTAL	65,188	27.6	2,036	57.3	11.1	440.8	7,856	1,535.3	151.0	445.2	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	214.8	96 *	2,026	576	7,856	7,856	4	6	13

* THE FLANGE REPAIR ON BRIDGE NO. 183 WILL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR "BEAM REPAIR". A TOKEN QUANTITY IS REPORTED ON THE TOTAL BILL OF MATERIAL.
 ◆ QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 183, 205, 208, 209,
222, 223, 224, 228, 230, 231, 232

DocuSigned by:
 John A. Yannaccone
 7BC36E9C

 4/5/2016

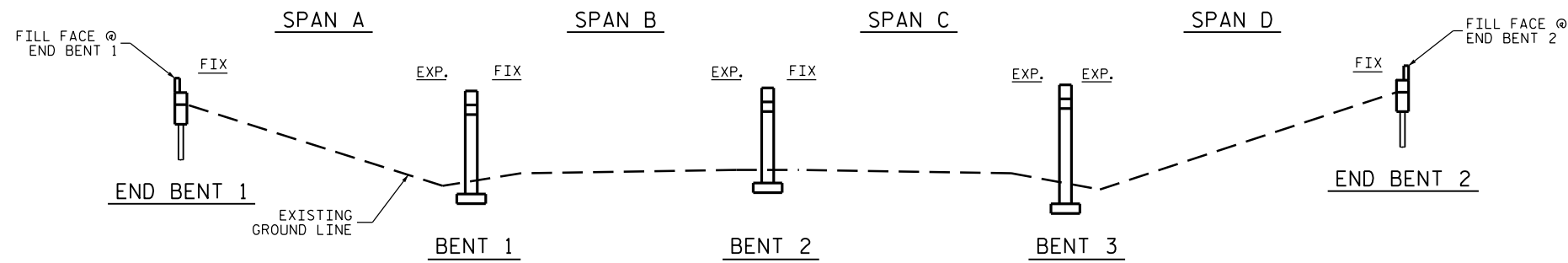
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

TOTAL BILL OF MATERIAL

DRAWN BY : J. YANNACCONE DATE : 10/15
 CHECKED BY : S. WANCE DATE : 1/16

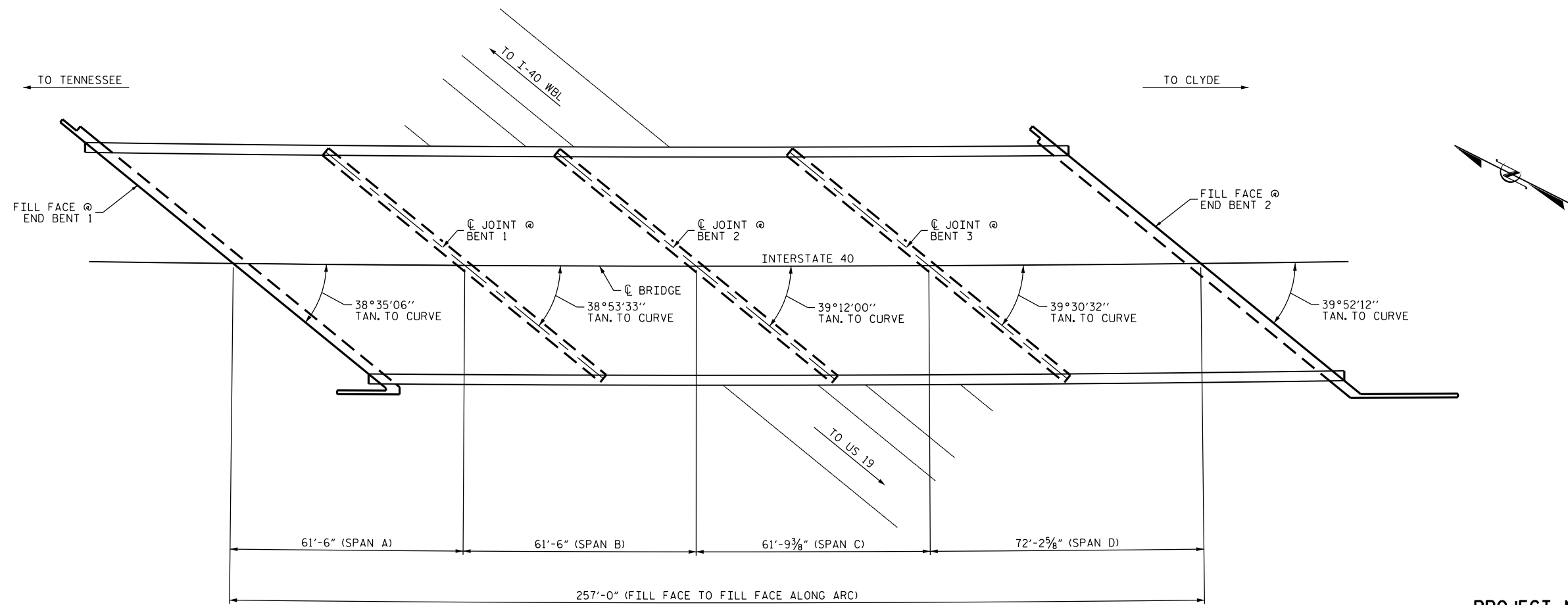
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1	
1			3			TOTAL SHEETS	
2			4			116	



NOTES
 PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 05/18/2015.
 BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

SECTION ALONG \bar{C} ROADWAY



PLAN

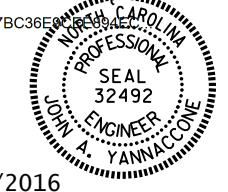
SCOPE OF WORK

- CLEAN, PAINT, AND REPAIR STEEL I-BEAMS AND BEARINGS.
- EPOXY INJECTION OF CONCRETE CRACKS.
- CLEAN AND REPAIR REBAR IN CONCRETE REPAIR AREAS.
- PERFORM SHOTCRETE AND CONCRETE REPAIRS IN PREPARED AREAS.
- REPAIR DAMAGED ANCHOR BOLTS.
- REMOVE DEBRIS FROM TOP OF BENT CAPS AND APPLY EPOXY COATING.

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

RESIDENT ENGINEER

DocuSigned by:
John A. Yannaccone



3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 183

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON I-40
 OVER US 276
 (JONATHAN CREEK ROAD)

DRAWN BY : R. BRANNAN DATE : 9/15
 CHECKED BY : J. YANNACCONE DATE : 11/15

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-2
2			4			122



LOCATION SKETCH

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

NOTES

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

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

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

ALL IMPACT DAMAGE TO BEAMS SHALL BE GROUND SMOOTH OR REPAIRED. ALL REPAIRS SHALL BE APPROVED BY THE ENGINEER PRIOR TO PAINTING.

FOR PAINTING CONTAINMENT, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR CLEANING AND REPAINTING OF BRIDGE, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR POLLUTION CONTROL, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR BEAM REPAIR, SEE SPECIAL PROVISIONS.

FOR ANCHOR BOLT REPAIR, SEE SPECIAL PROVISIONS.

FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.

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

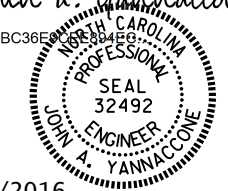
PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 183

SHEET 2 OF 2

DocuSigned by:

John A. Yannaccone

7BC36E...



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE ON I-40
 OVER US 276
 (JONATHAN CREEK ROAD)

DRAWN BY : R. BRANNAN DATE : 9/15
 CHECKED BY : J. YANNAKONE DATE : 11/15

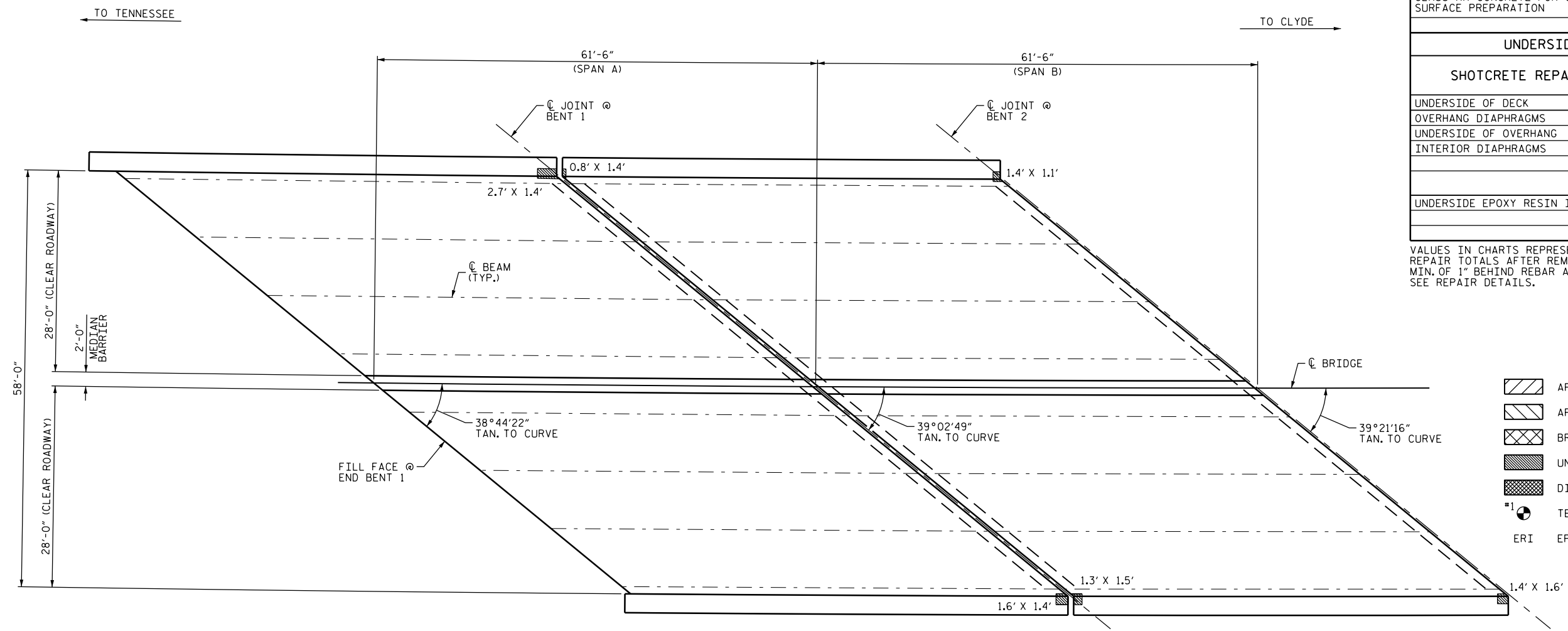
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			122

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE	ACTUAL		
SCARIFYING BRIDGE DECK	0.0 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	0.0 SY			
CLASS II SURFACE PREPARATION	0.0 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
BRIDGE JOINT DEMOLITION	0.0 SF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	12.9	6.7 *		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF			

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



- APPROX. CLASS II AREA
- APPROX. CLASS III AREA
- BRIDGE JOINT DEMOLITION
- UNDERSIDE REPAIR
- DIAPHRAGM REPAIR
- #1 TEST LOCATION
- ERI EPOXY RESIN INJECTION

PLAN

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 183

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPANS
 SPAN A & B**

NOTES

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

DocuSigned by:
John A. Yannaccone
 7BC36D...

 3/21/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-4
2			4			TOTAL SHEETS 122

DRAWN BY : R. BRANNON DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

AS-BUILT REPAIR QUANTITY TABLE

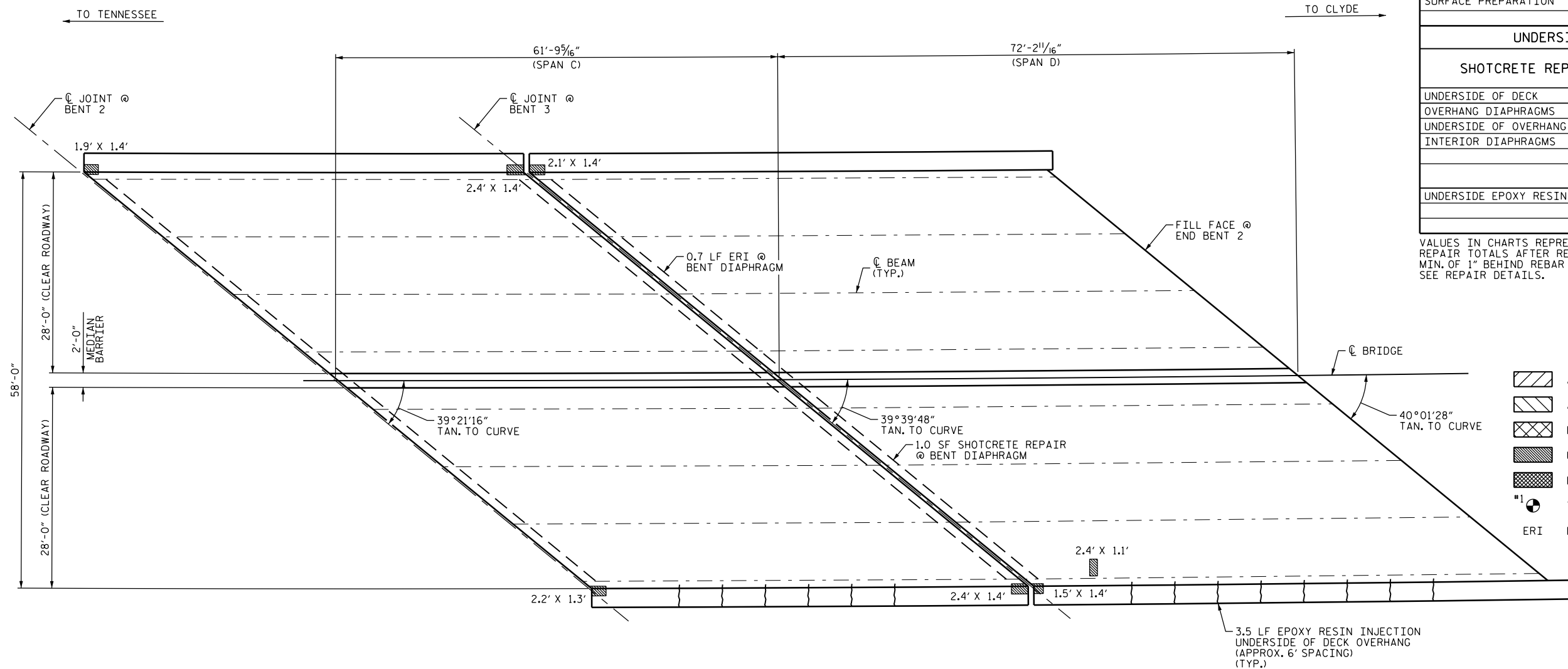
TOP OF DECK REPAIRS

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	0.0 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	0.0 SY	
CLASS II SURFACE PREPARATION	0.0 SY	
CLASS III SURFACE PREPARATION	0.0 SY	
BRIDGE JOINT DEMOLITION	0.0 SF	
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY	

UNDERSIDE OF DECK REPAIRS

SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	2.7	1.4 *		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	17.3	9.0 *		
INTERIOR DIAPHRAGMS	1.0	0.6 *		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	49.7 LF			

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



- APPROX. CLASS II AREA
- APPROX. CLASS III AREA
- BRIDGE JOINT DEMOLITION
- UNDERSIDE REPAIR
- DIAPHRAGM REPAIR
- #1 TEST LOCATION
- ERI EPOXY RESIN INJECTION

PLAN

NOTES

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

DocuSigned by:
John A. Yannaccone
7BC365...
STATE OF NORTH CAROLINA
PROFESSIONAL ENGINEER
SEAL 32492
JOHN A. YANNACCONI

3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 183

SHEET 2 OF 2

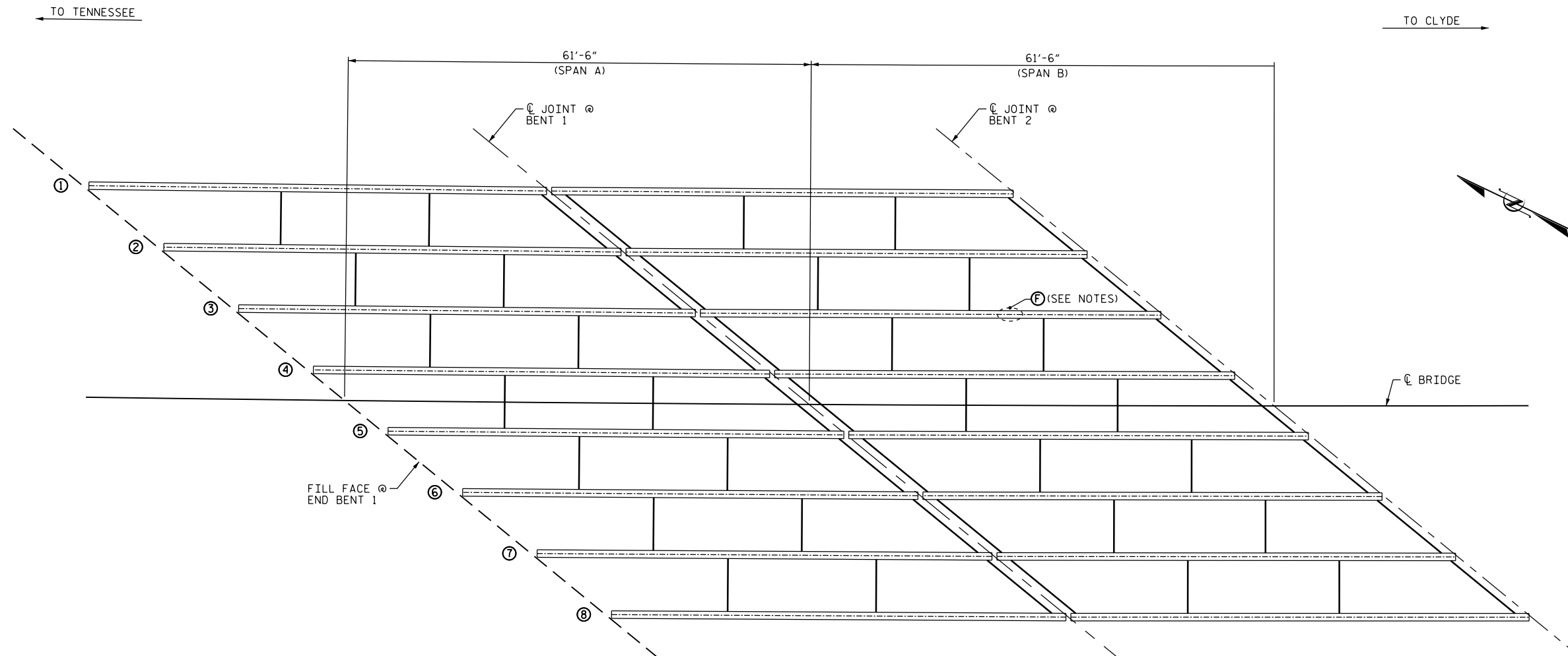
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPANS
SPAN C & D

DRAWN BY : R. BRANNON DATE : 11/15
CHECKED BY : J. YANNACCONI DATE : 12/15

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-5
2			4			TOTAL SHEETS 122



BEAM REPAIR LOCATIONS
(OTHER LOCATIONS MAY EXIST, SEE NOTES)

- Ⓑ BEAM END REPAIR
- Ⓕ FLANGE REPAIR
- Ⓖ STIFFENER REPAIR
- ① BEAM NUMBER

NOTES

FOR BEAM REPAIR DETAILS, SEE "BEAM REPAIR DETAILS" SHEET.

FOR BRIDGE JACKING DETAILS, SEE "JACKING DETAILS" SHEET.

THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENT OF REPAIR AREAS PRIOR TO STEEL FABRICATION.

FOR FLANGE REPAIR ON BEAM 3 IN SPAN B, REMOVE DISTORTED FLANGE MATERIAL THAT EXTENDS ABOVE THE BOTTOM FLANGE LIMITS. AFTER REMOVAL OF EXCESS MATERIAL, GRIND THE REMAINING FLANGE AREA SMOOTH AND LEVEL WITH THE EXISTING FLANGE.

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

ANTICIPATED BEAM REPAIR LOCATIONS						
SPAN	BEAM	LOCATION	DIM "A"	DIM "B"	DIM "C"	DIM "D"
B	3	MIDSPAN				SEE NOTES FOR FLANGE REPAIR

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 183

SHEET 1 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E5...
 PROFESSIONAL ENGINEER
 SEAL 32492
 JOHN A. YANNACCONE

3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

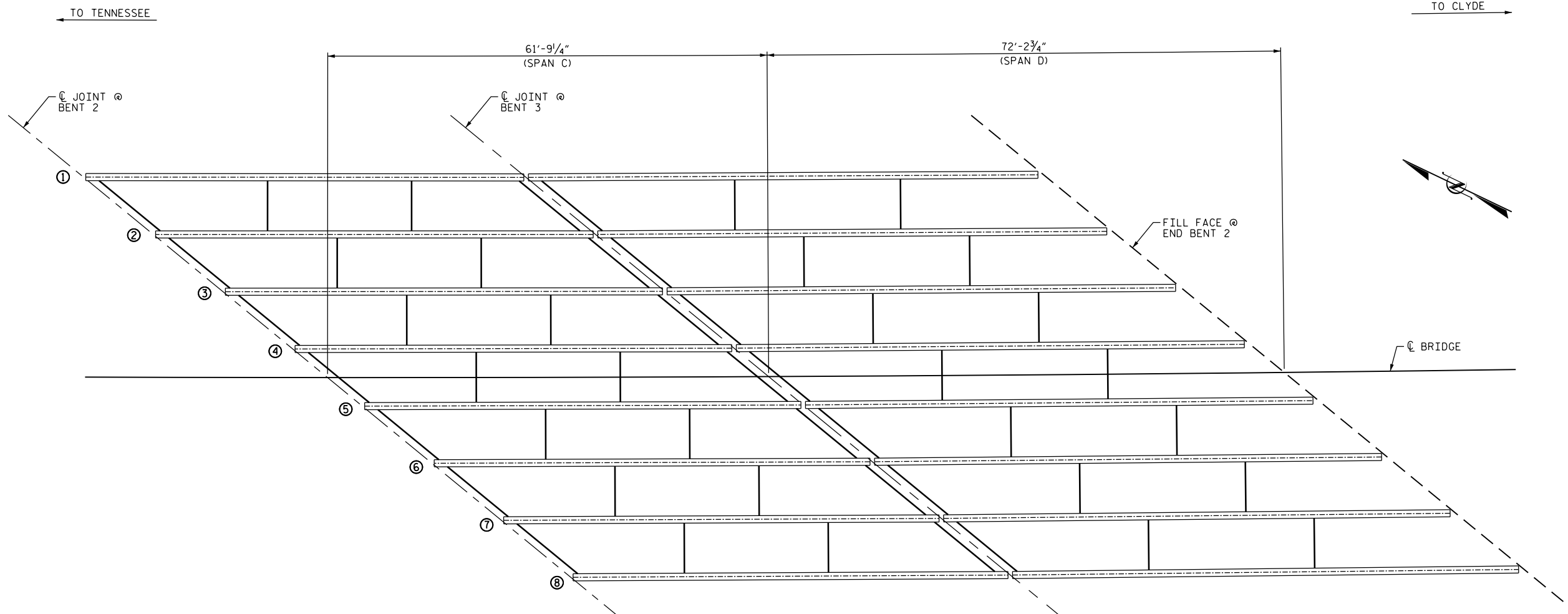
BEAM REPAIR LOCATIONS

DRAWN BY : R. BRANNON DATE : 09/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

21-MAR-2016 13:14
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 Jayannaccone

DOCUMENT NOT CONSIDERED
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 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-6
2			4			122



BEAM REPAIR LOCATIONS
(OTHER LOCATIONS MAY EXIST, SEE NOTES)

- (B) BEAM END REPAIR
- (F) FLANGE REPAIR
- (S) STIFFENER REPAIR
- (I) BEAM NUMBER

NOTES

FOR BEAM REPAIR DETAILS, SEE "BEAM REPAIR DETAILS" SHEET.

FOR BRIDGE JACKING DETAILS, SEE "JACKING DETAILS" SHEET.

THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENT OF REPAIR AREAS PRIOR TO STEEL FABRICATION.

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

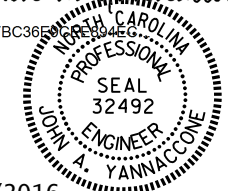
BEAM REPAIR					
BEAM END REPAIR		FLANGE REPAIR		STIFFENER REPAIR	
LBS.		LBS.		LBS.	
ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
0		0 *		0	

* SEE NOTES ON SHEET 1 OF 2 FOR FLANGE REPAIR. THE FLANGE REPAIR WILL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR "BEAM REPAIR", BUT NO QUANTITY IS ANTICIPATED.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 183

SHEET 2 OF 2

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John A. Yannaccone



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BEAM REPAIR LOCATIONS

DRAWN BY : R. BRANNON DATE : 09/15
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-7
1			3			TOTAL SHEETS
2			4			122

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	17.3	13.9*		
EPOXY RESIN INJECTION			LN. FT	
CAP		0.0		

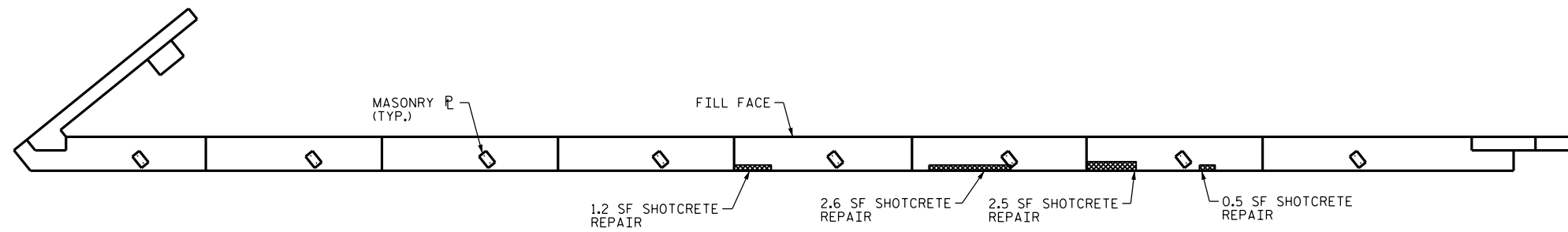
VALUES IN CHARTS REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT.

NOTES

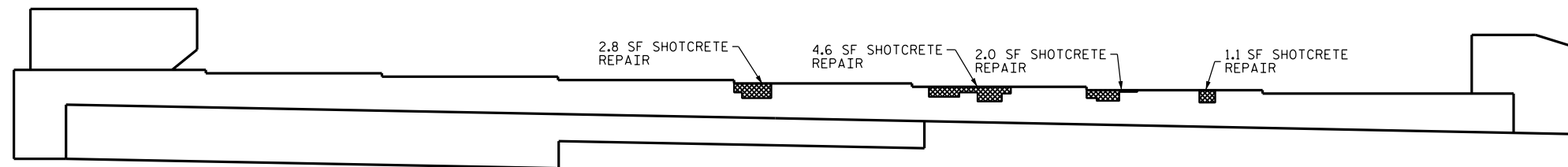
REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES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

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

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.



PLAN

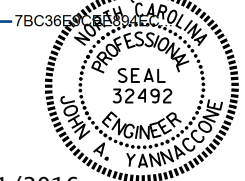


ELEVATION

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 183

SHEET 1 OF 2

DocuSigned by:
John A. Yannaccone



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 1

DRAWN BY : R. BRANNAN DATE : 11/15
 CHECKED BY : J. YANNAKONE DATE : 12/15

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-8
2			4			122

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
EPOXY RESIN INJECTION			LN. FT	
CAP			9.6	

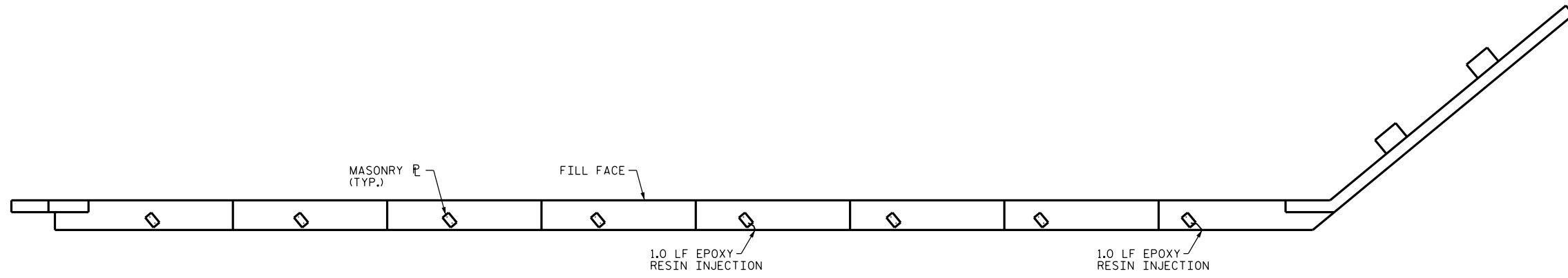
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NOTES

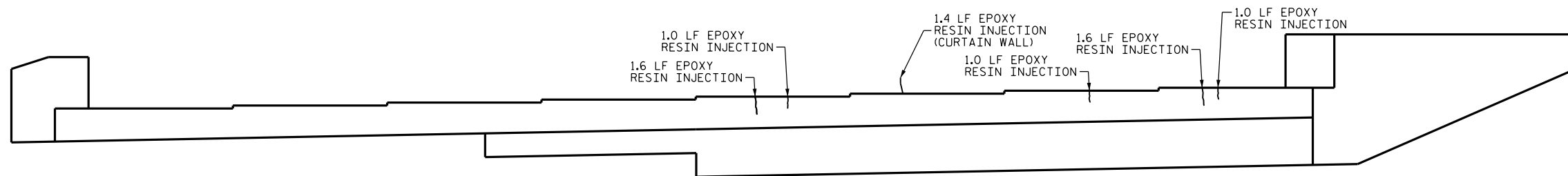
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PLAN



ELEVATION

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 183

SHEET 2 OF 2

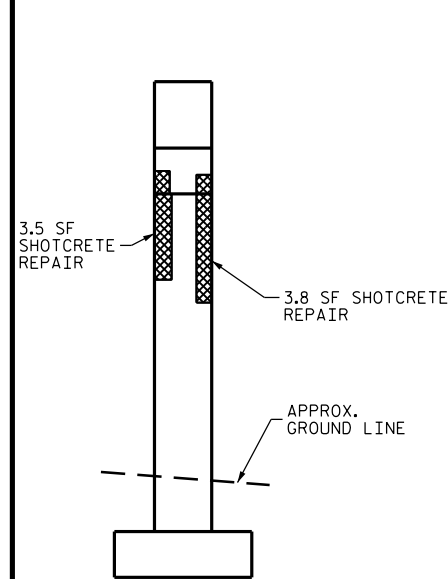
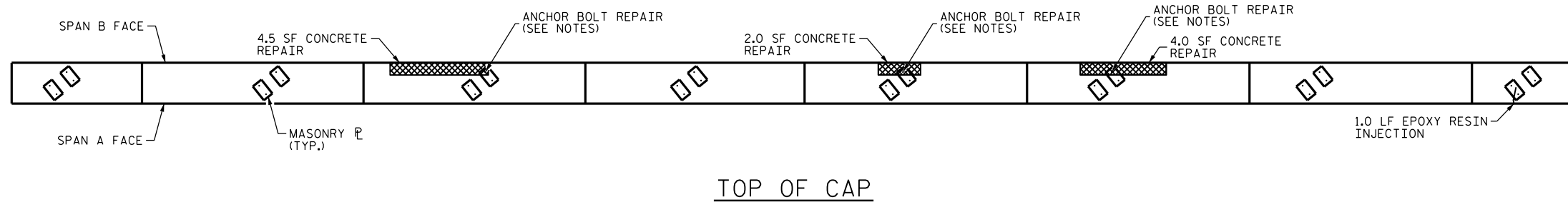
DocuSigned by:
John A. Yannaccone
 7BC36E0C-8E80-4E0C-804E-704E0C8E804E
 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 32492
 ENGINEER
 JOHN A. YANNACCONI
 3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 END BENT 2

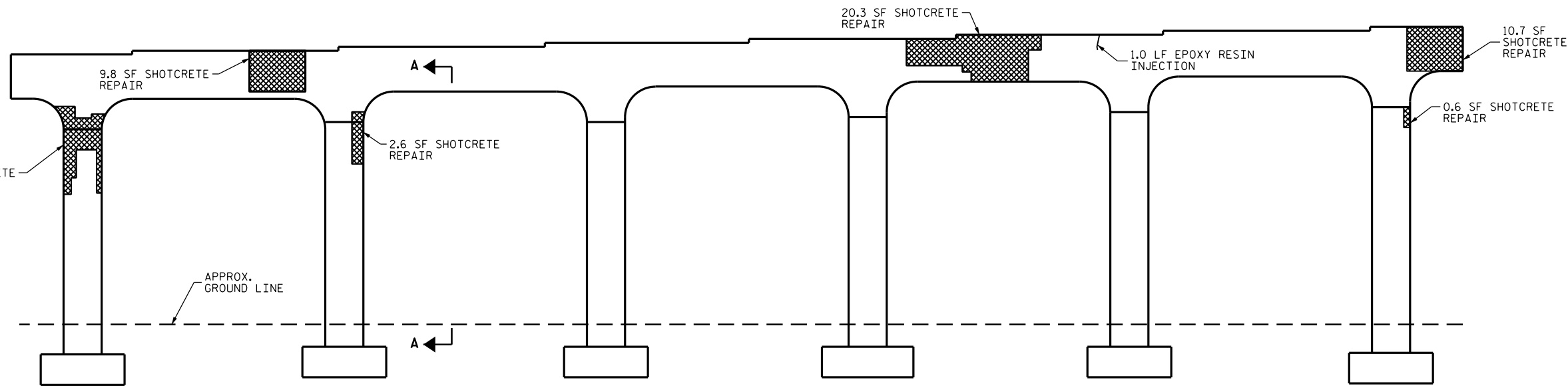
DRAWN BY : R. BRANNAN DATE : 11/15
 CHECKED BY : J. YANNACCONI DATE : 12/15

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-9
2			4			122



END VIEW
NORTH SIDE



ELEVATION

NOTES

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

EPOXY COATING SHALL BE APPLIED TO THE TOP FACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

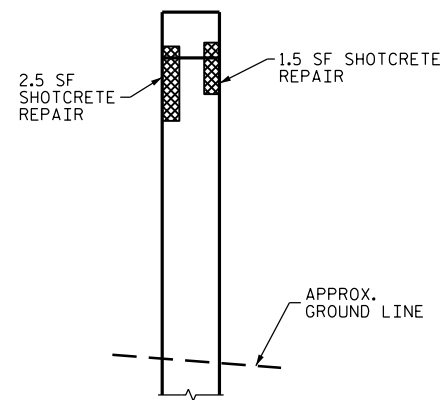
* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

ANCHOR BOLTS SHALL BE 1/4" DIAMETER. FOR ANCHOR BOLT REPAIR, SEE SPECIAL PROVISIONS.

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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.



VIEW A-A



AS-BUILT REPAIR QUANTITY TABLE					
REPAIRS BENT 1	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
CAP	45.3	36.3*			
COLUMN	36.9	29.0*			
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
CAP	37.0	29.7*			
COLUMN	0.0	0.0			
EPOXY RESIN INJECTION		LN. FT		LN. FT	
CAP		3.5			
COLUMN		12.5			
EPOXY COATING		SQ. FT		SQ. FT	
TOP OF BENT CAP		238			

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

DocuSigned by:
John A. Yannaccone
7BC365...
STATE OF NORTH CAROLINA
PROFESSIONAL ENGINEER
SEAL 32492
JOHN A. YANNACCONE
3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 183

SHEET 1 OF 6

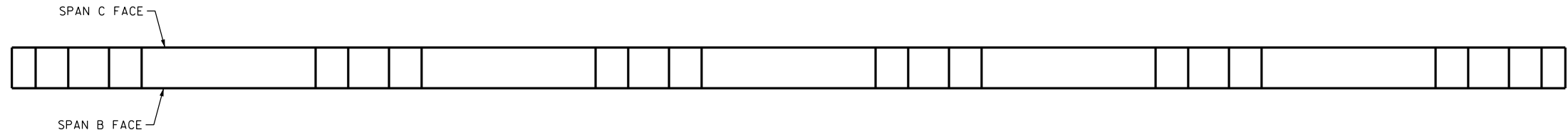
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 1
SPAN A FACE

DRAWN BY : R. BRANNON DATE : 11/15
CHECKED BY : J. YANNACCONE DATE : 12/15

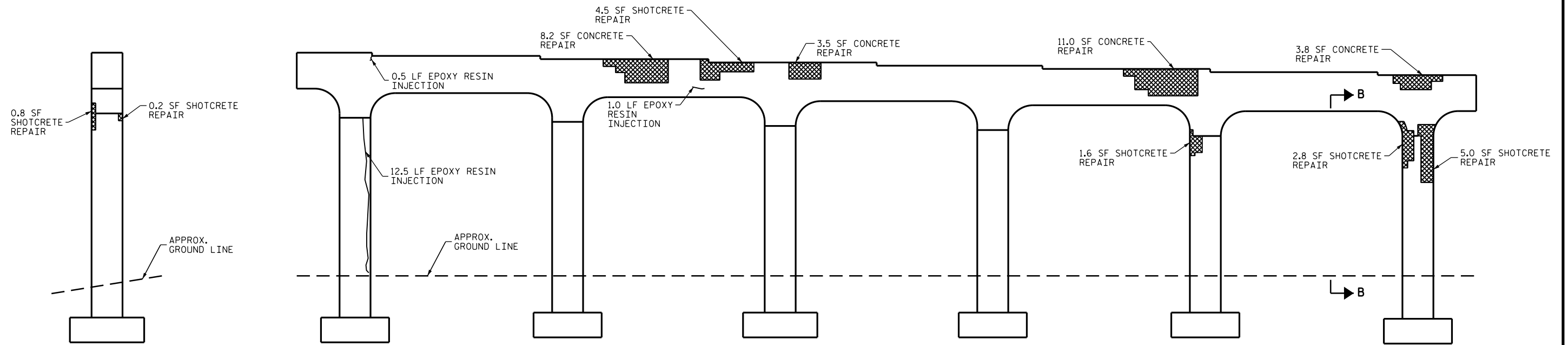
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			TOTAL SHEETS
2			4			122



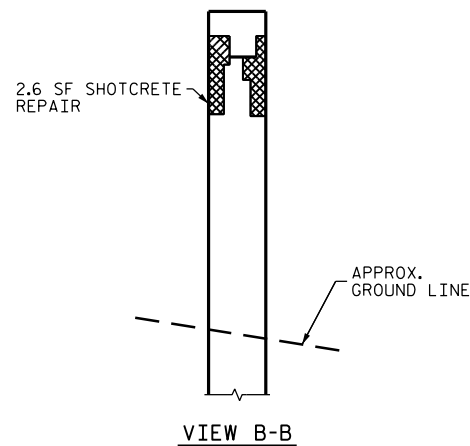
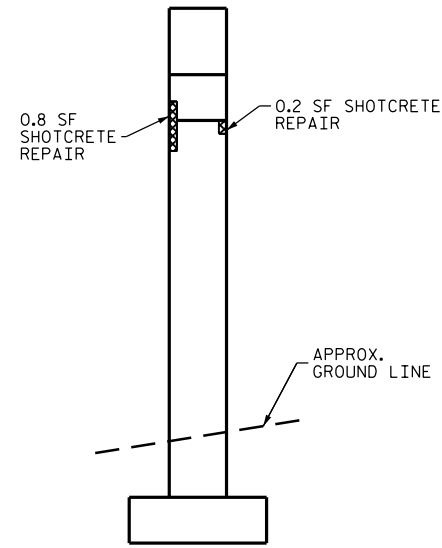
 DAMAGED AREA

BOTTOM OF CAP



ELEVATION

END VIEW
(SOUTH SIDE)



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 183

SHEET 2 OF 6

DocuSigned by:

John A. Yannaccone

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3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

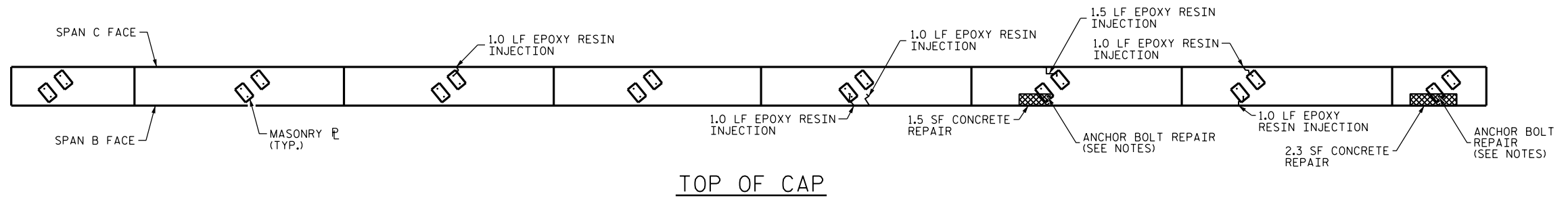
**BENT 1
 SPAN B FACE**

DRAWN BY : R. BRANNON DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

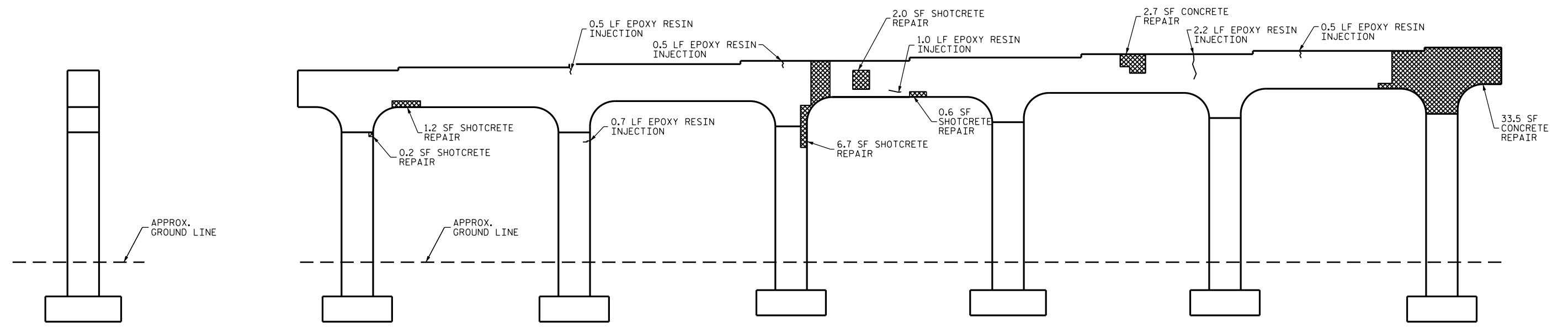
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			122



TOP OF CAP



ELEVATION

END VIEW
NORTH SIDE

NOTES

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ANCHOR BOLTS SHALL BE 1/4" DIAMETER. FOR ANCHOR BOLT REPAIR, SEE SPECIAL PROVISIONS.

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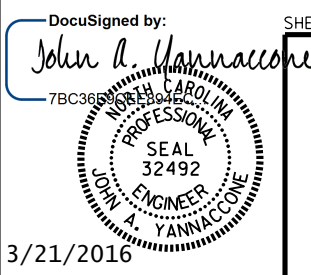
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AS-BUILT REPAIR QUANTITY TABLE					
REPAIRS BENT 2	QUANTITIES				
	ESTIMATE		ACTUAL		
	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
SHOTCRETE REPAIRS					
CAP	64.4	51.7 *			
COLUMN	2.6	2.0 *			
CONCRETE REPAIRS					
CAP	42.0	33.7 *			
COLUMN	0.0	0.0			
EPOXY RESIN INJECTION		LN. FT		LN. FT	
CAP		21.5			
COLUMN		1.7			
EPOXY COATING		SQ. FT		SQ. FT	
TOP OF BENT CAP		238			

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 183
 SHEET 3 OF 6



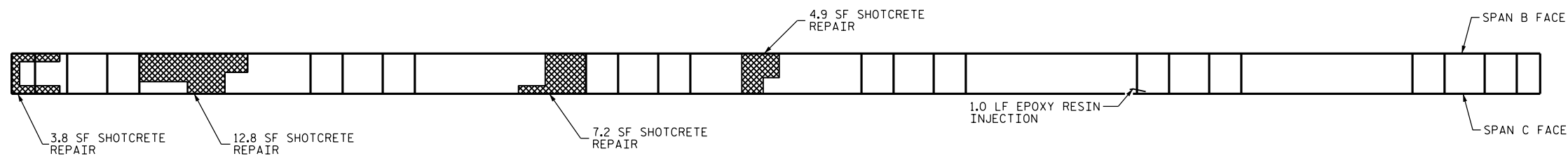
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**BENT 2
 SPAN B FACE**

DRAWN BY : R. BRANNON DATE : 11/15
 CHECKED BY : J. YANNAKONE DATE : 12/15

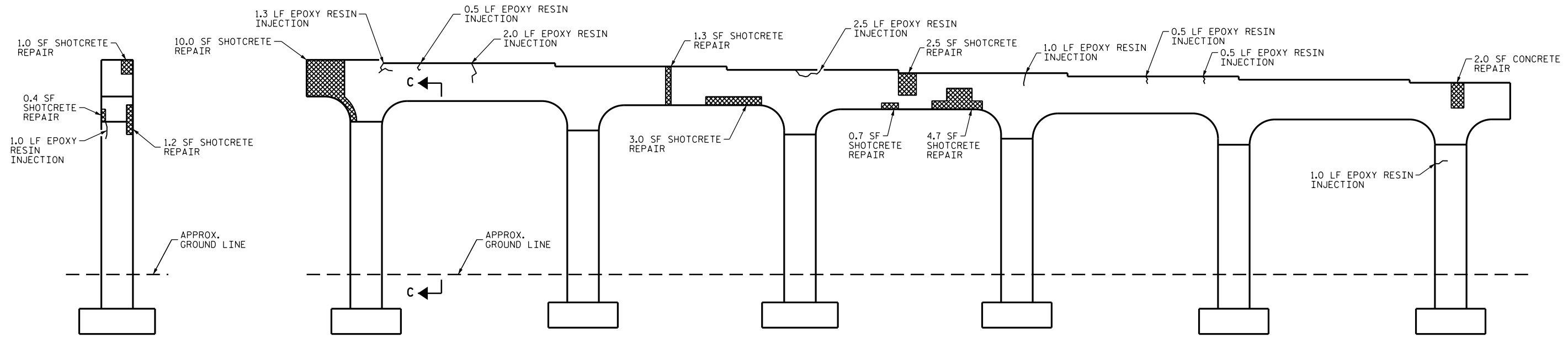
VALUES IN CHARTS REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT.

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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
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2			4			122



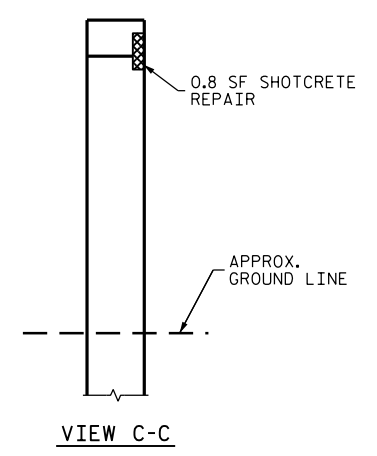
DAMAGED AREA

BOTTOM OF CAP



END VIEW
(SOUTH SIDE)

ELEVATION

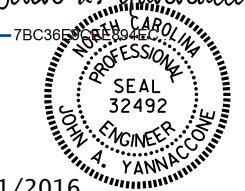


VIEW C-C

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 183

SHEET 4 OF 6

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John A. Yannaccone
 7BC365...



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

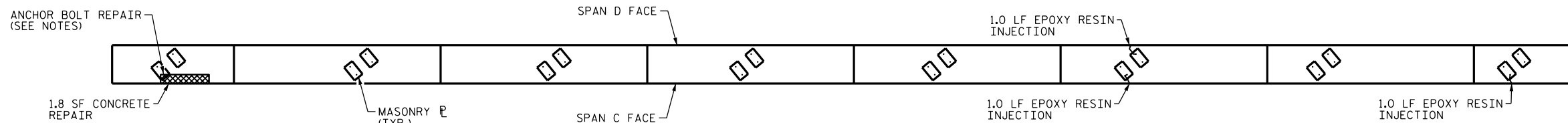
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DRAWN BY : R. BRANNON DATE : 11/15
 CHECKED BY : J. YANNAKONE DATE : 12/15

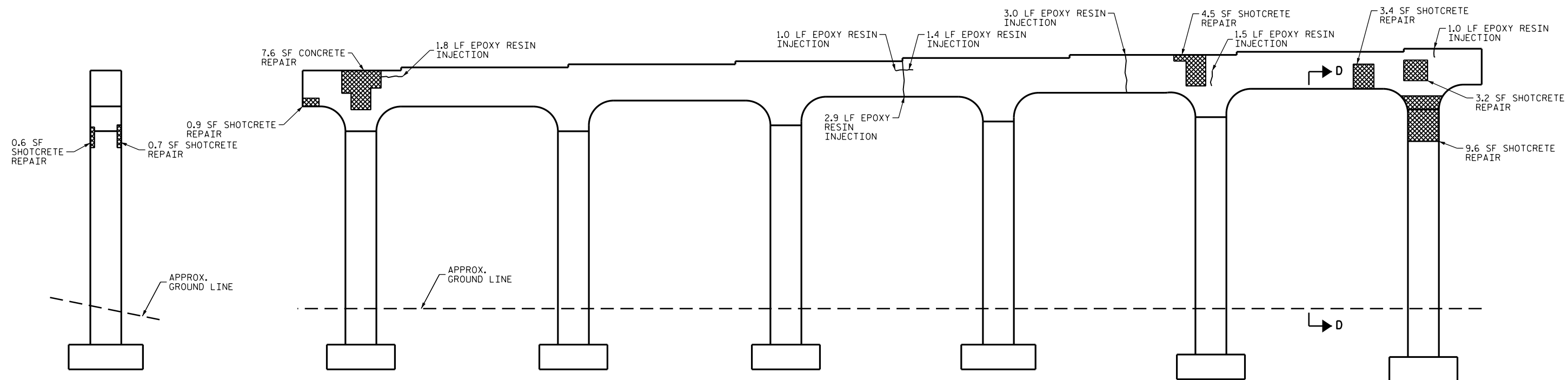
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 Jayannaccone

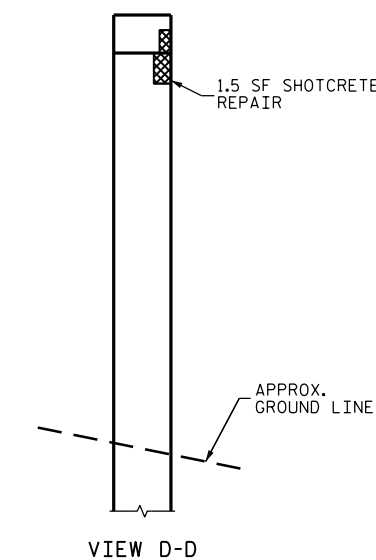


TOP OF CAP



ELEVATION

END VIEW
NORTH SIDE



NOTES

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AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 3	QUANTITIES			
	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
SHOTCRETE REPAIRS				
CAP	23.3	18.7 *		
COLUMN	14.5	11.4 *		
CONCRETE REPAIRS				
CAP	9.4	7.5 *		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		31.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT		SQ. FT
TOP OF BENT CAP		238		

DocuSigned by:
John A. Yannaccone
7BC365...
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 32492 JOHN A. YANNAKONE
3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 183

SHEET 5 OF 6
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

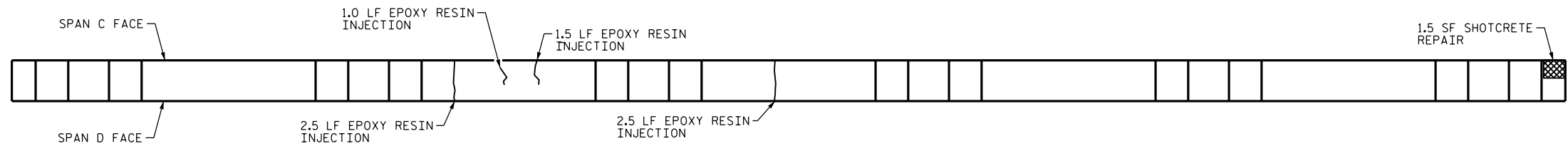
BENT 3
SPAN C FACE

DRAWN BY : R. BRANNON DATE : 11/15
CHECKED BY : J. YANNAKONE DATE : 12/15

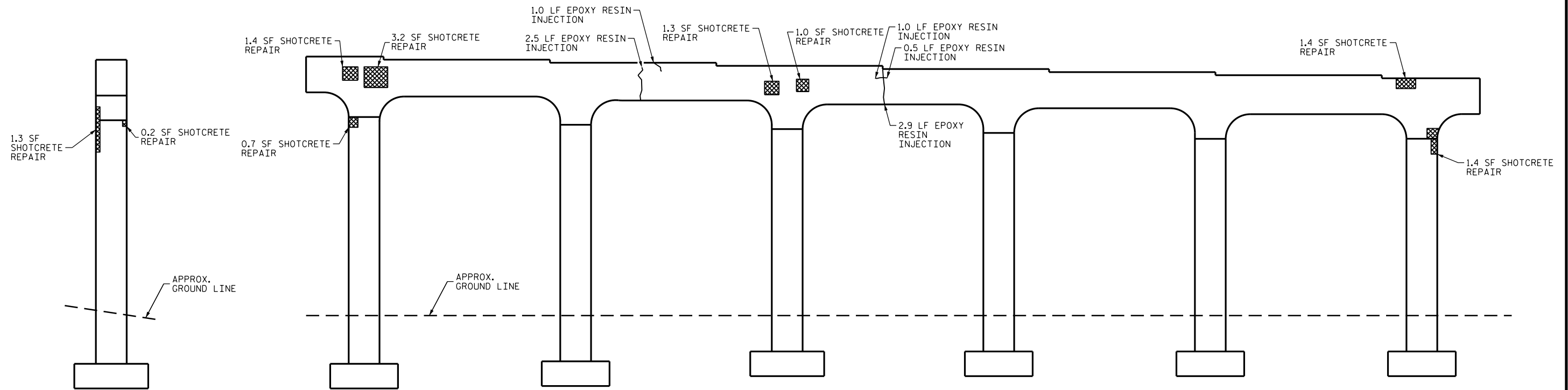
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-14
1			3			TOTAL SHEETS
2			4			122

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



BOTTOM OF CAP



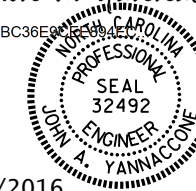
END VIEW
(SOUTH SIDE)

ELEVATION

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 183

SHEET 6 OF 6

DocuSigned by:
John A. Yannaccone
 7BC36E9...



3/21/2016

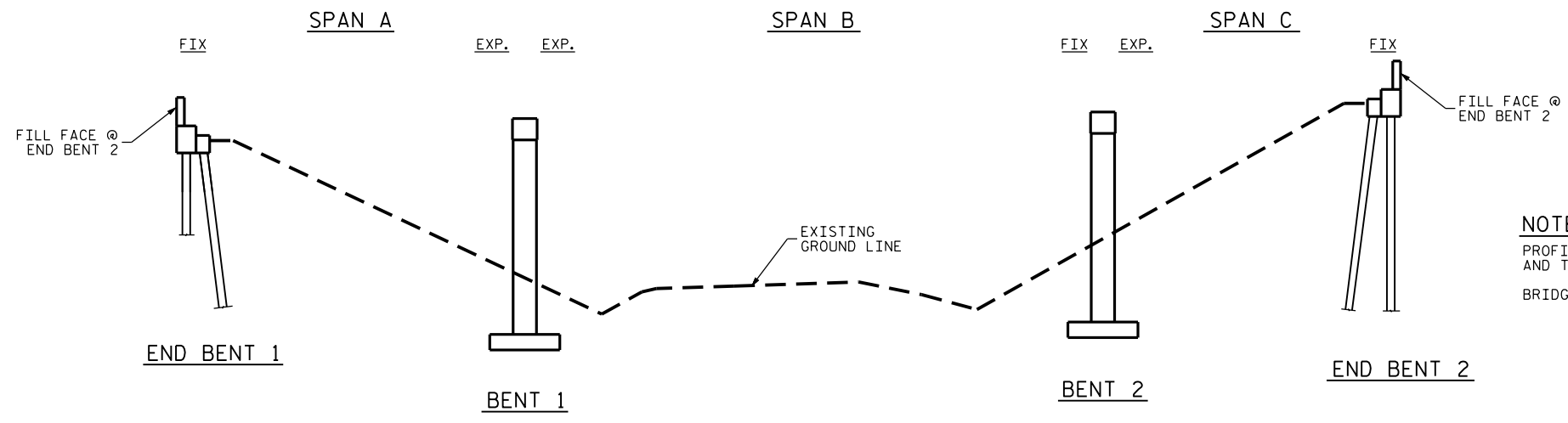
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 3
 SPAN D FACE

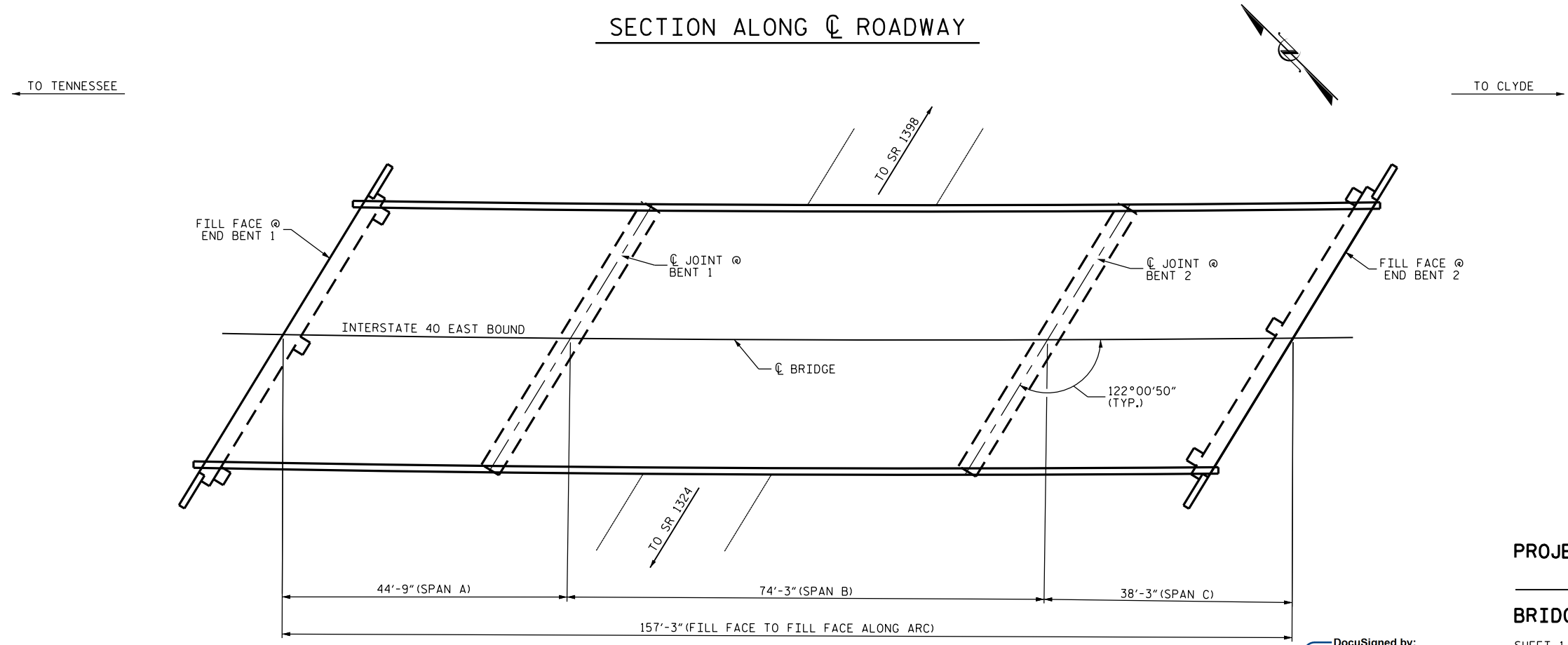
DRAWN BY : R. BRANNON DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

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 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-15
1			3			TOTAL SHEETS
2			4			122



NOTES
 PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 05/18/2015.
 BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.



SCOPE OF WORK

- EPOXY INJECTION OF CONCRETE CRACKS.
- CLEAN AND REPAIR REBAR IN CONCRETE REPAIR AREAS.
- PERFORM SHOTCRETE REPAIRS IN PREPARED AREAS.

PLAN

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

RESIDENT ENGINEER

DocuSigned by:
John A. Yannaccone
 7BC36E9C

 3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 205
 SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**GENERAL DRAWING
 FOR BRIDGE ON I-40 EBL
 OVER SR 1364
 (COLEMAN MOUNTAIN ROAD)**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-16
1			3			TOTAL SHEETS
2			4			122

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DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J. YANNACCONE DATE : 11/15



LOCATION SKETCH

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

NOTES

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

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

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

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 205

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9C...



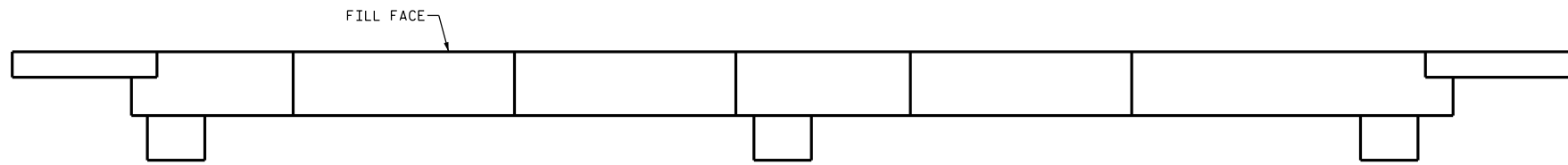
3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE ON I-40 EBL
 OVER SR 1364
 (COLEMAN MOUNTAIN ROAD)

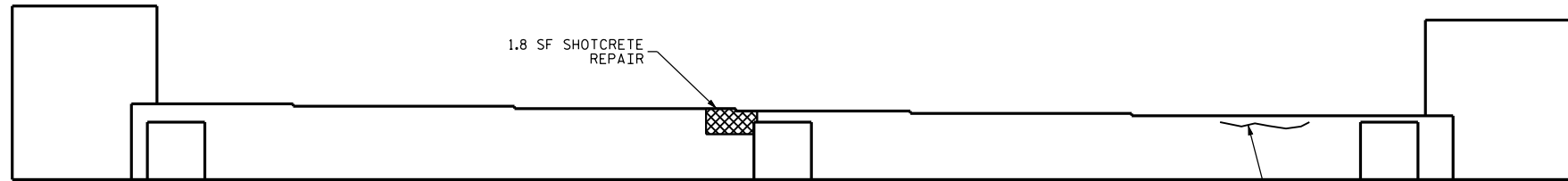
DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J. YANNACCONE DATE : 11/15

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-17
1			3			TOTAL SHEETS
2			4			122

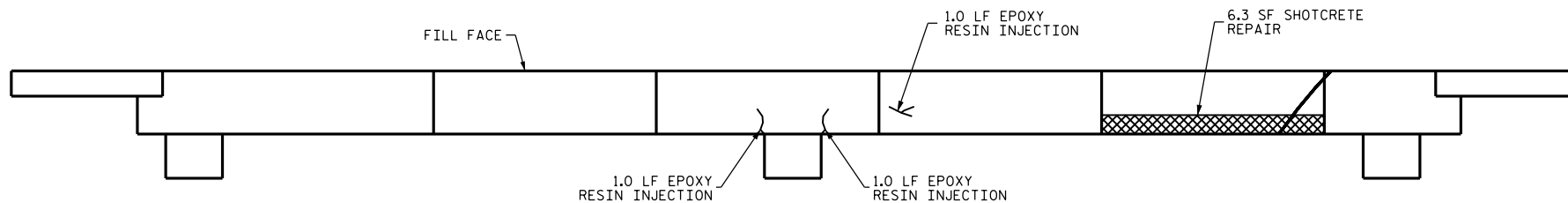


PLAN

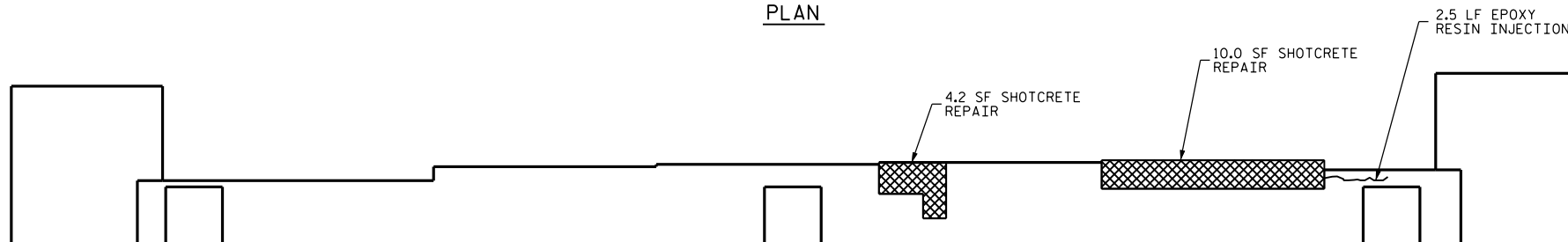


ELEVATION

END BENT 1



PLAN



ELEVATION

END BENT 2

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	1.8	1.6 *		
EPOXY RESIN INJECTION		LN. FT		
CAP		3.5		

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	20.5	17.7 *		
EPOXY RESIN INJECTION		LN. FT		
CAP		5.5		

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

NOTES

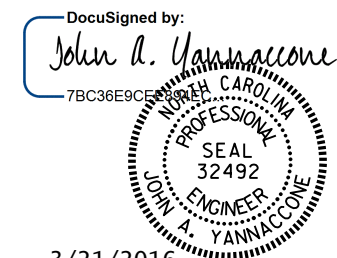
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FOR CAP REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 205



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 1 & 2

DRAWN BY : W.O. KEITH DATE : 11/15
 CHECKED BY : J. YANNACCONI DATE : 11/15

21-MAR-2016 13:14
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 Jayannaccone

DOCUMENT NOT CONSIDERED
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-18
2			4			TOTAL SHEETS 122

NOTES

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

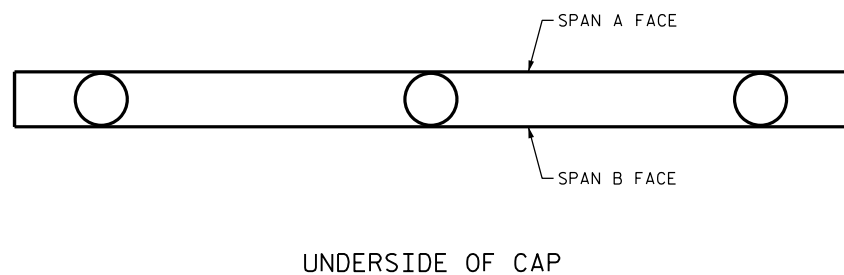
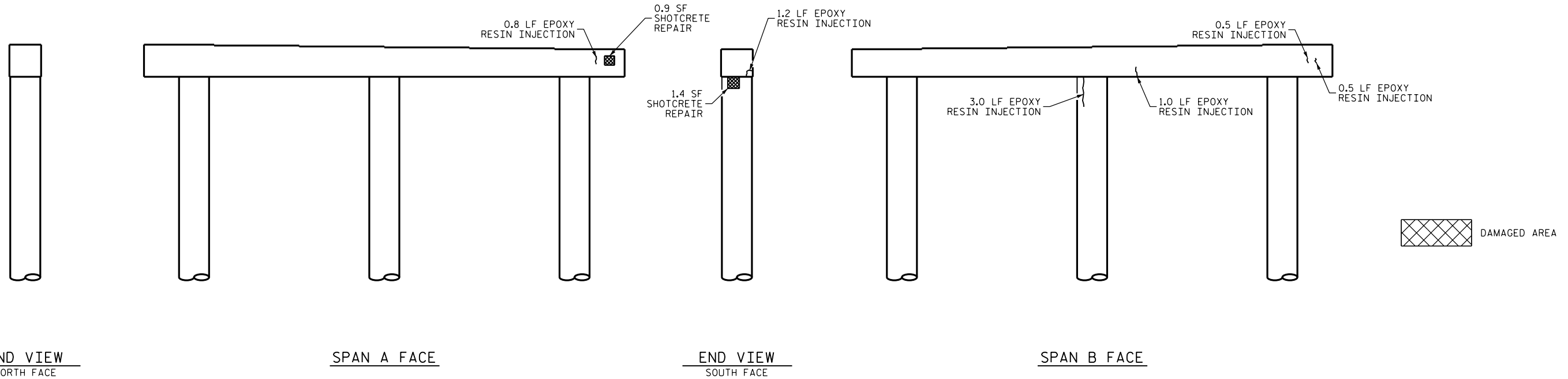
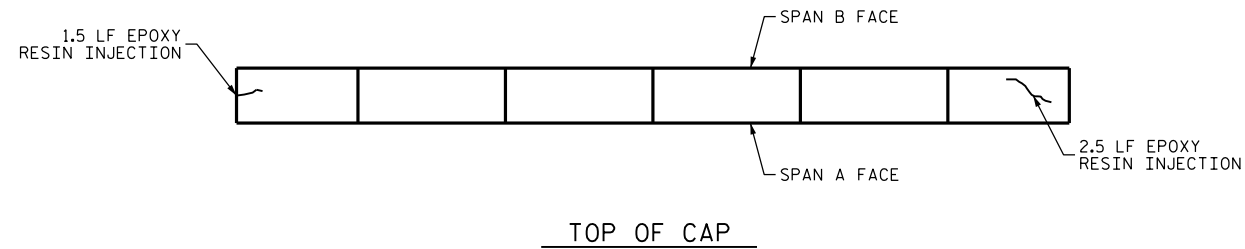
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AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.9	0.8 *		
COLUMN	1.4	1.2 *		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		8.0		
COLUMN		3.0		
EPOXY COATING		SO. FT		SO. FT
TOP OF BENT CAP		0		

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



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 205

SHEET 1 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9CE8888C

 3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 1

DRAWN BY : W. O. KEITH DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-19
1			3			TOTAL SHEETS
2			4			122

NOTES

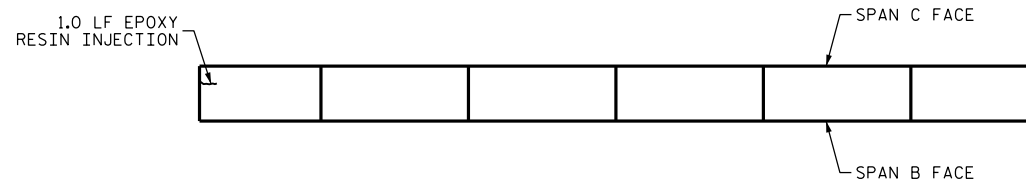
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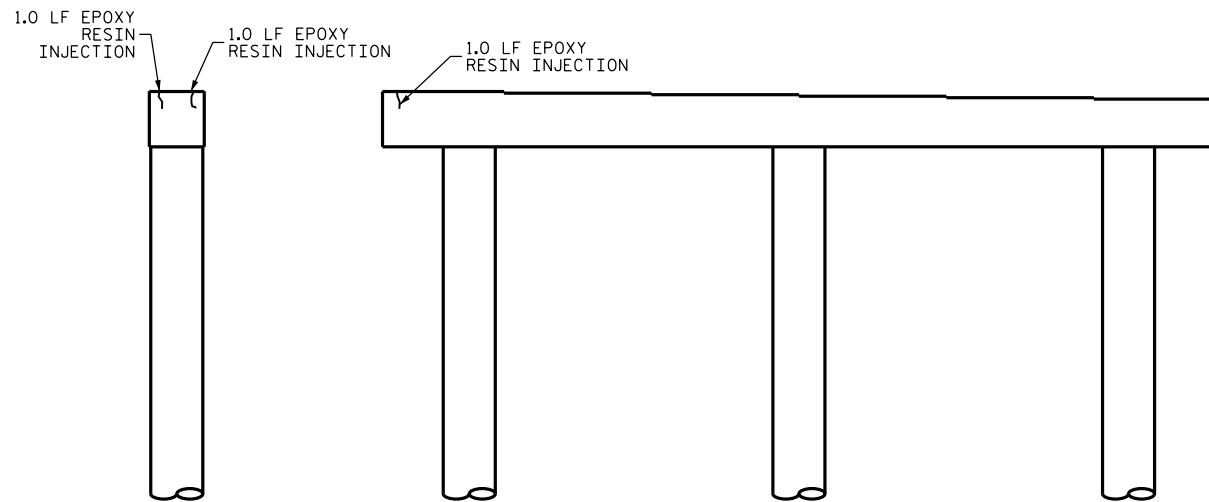
AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT		LN. FT	
CAP	4.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT		SQ. FT	
TOP OF BENT CAP	0			

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



TOP OF CAP

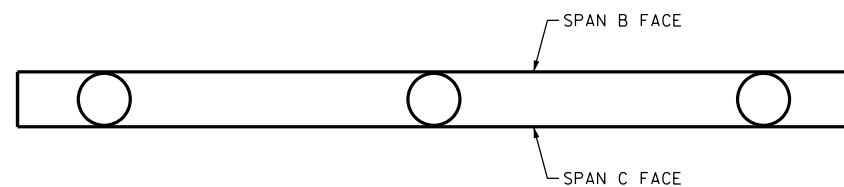


END VIEW
NORTH FACE

SPAN B FACE

END VIEW
SOUTH FACE

SPAN C FACE

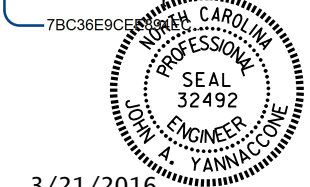


UNDERSIDE OF CAP

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 205

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 2

DRAWN BY : W. O. KEITH DATE : 11/15
 CHECKED BY : J. YANNACCONO DATE : 12/15

21-MAR-2016 13:14
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 Jayannaccone

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-20
1			3			TOTAL SHEETS
2			4			122



LOCATION SKETCH

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

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

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 208

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9CE
 NORTH CAROLINA
 PROFESSIONAL ENGINEER
 SEAL
 32492
 JOHN A. YANNACCONI
 3/21/2016

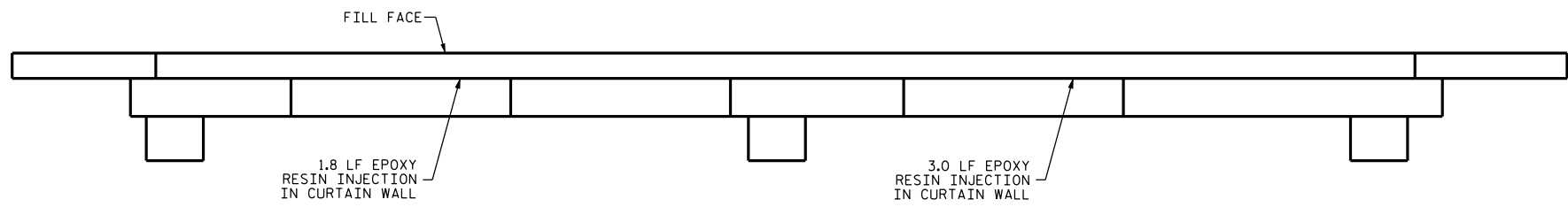
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE ON I-40 WBL
 OVER SR 1364
 (COLEMAN MOUNTAIN ROAD)

DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J. YANNACCONI DATE : 11/15

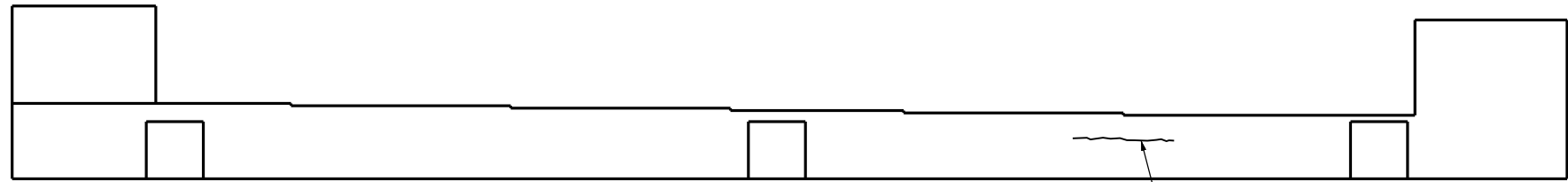
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DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-22
1			3			TOTAL SHEETS
2			4			122

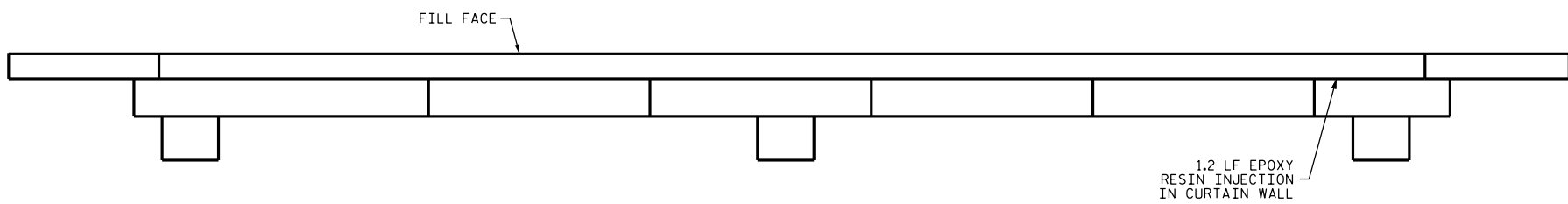


PLAN

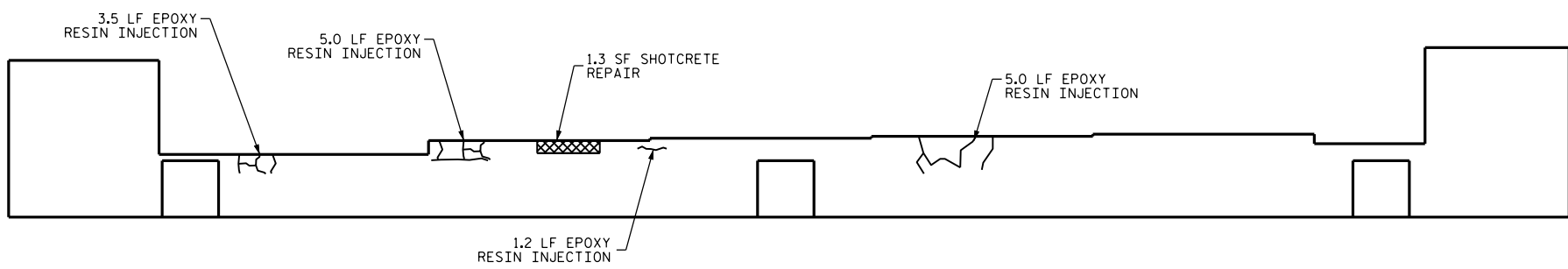


ELEVATION
(CURTAIN WALL NOT SHOWN FOR CLARITY)

END BENT 1



PLAN



ELEVATION

END BENT 2

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		
CAP		8.8		

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	1.3	1.1 *		
EPOXY RESIN INJECTION		LN. FT		
CAP		15.9		

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

NOTES

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

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

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 208

DocuSigned by:
John A. Yannaccone
 7BC36E9CE
 STATE OF NORTH CAROLINA
 PROFESSIONAL ENGINEER
 SEAL
 32492
 JOHN A. YANNACCONI
 3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 END BENT 1 & 2

DRAWN BY : W.O. KEITH DATE : 11/15
 CHECKED BY : J. YANNACCONI DATE : 11/15

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-23
1			3			TOTAL SHEETS
2			4			122

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NOTES

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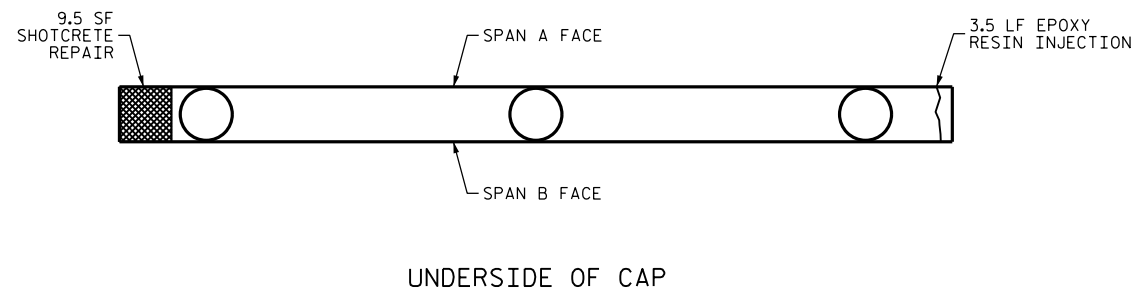
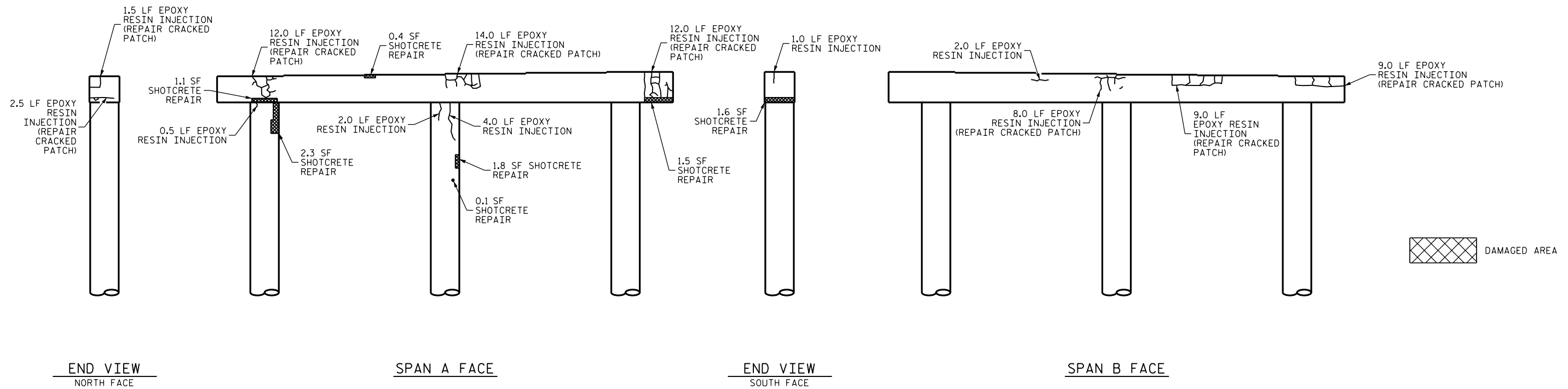
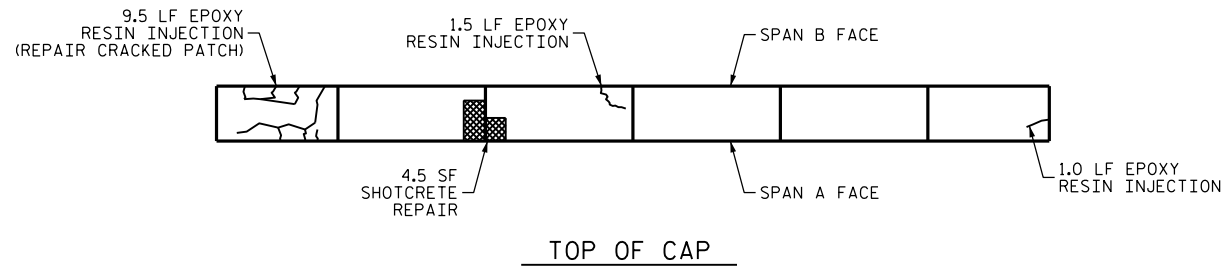
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AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	18.6	15.2 *		
COLUMN	4.2	3.4 *		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		86.5		
COLUMN		6.5		
EPOXY COATING		SQ. FT		SQ. FT
TOP OF BENT CAP		0		

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



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 208

SHEET 1 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9C...



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 1

DRAWN BY : W. O. KEITH DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-24
1			3			TOTAL SHEETS
2			4			122

NOTES

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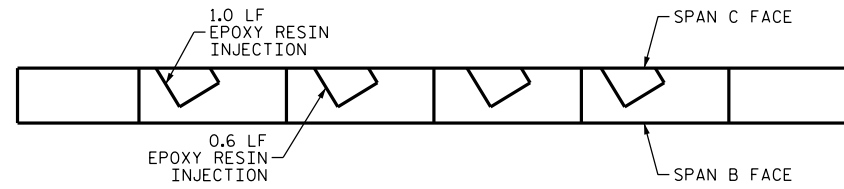
FOR CAP REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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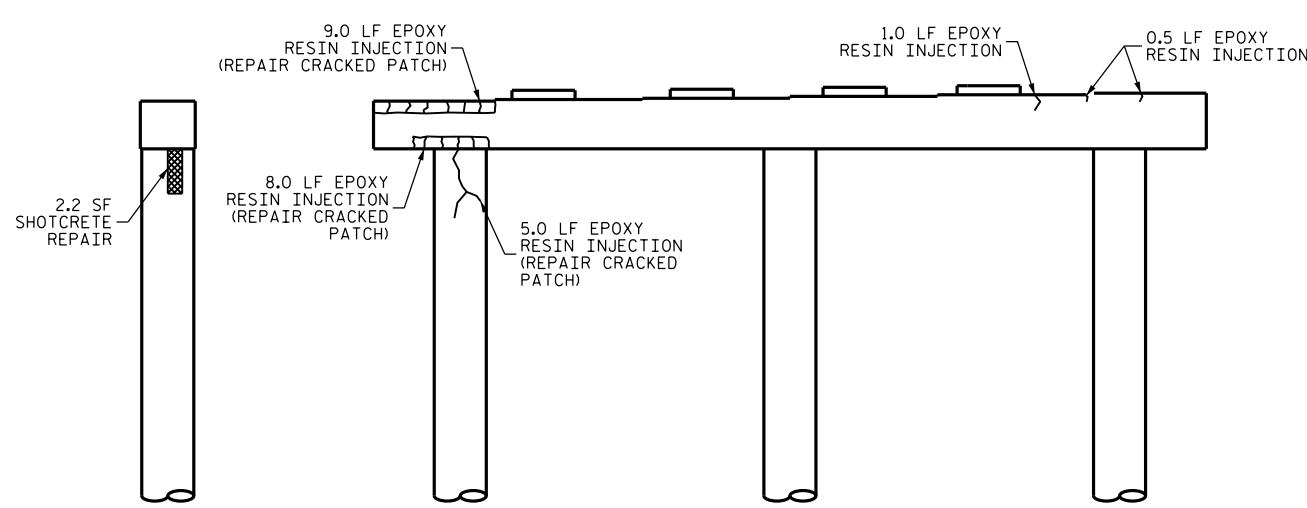
AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.9	0.8 *		
COLUMN	5.0	4.2 *		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		20.1		
COLUMN		5.0		
EPOXY COATING		SQ. FT		SQ. FT
TOP OF BENT CAP		0		

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



TOP OF CAP

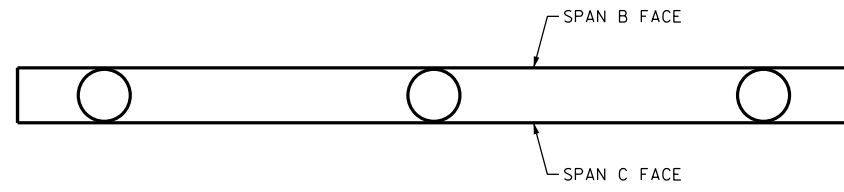


END VIEW NORTH FACE

SPAN B FACE

END VIEW SOUTH FACE

SPAN C FACE

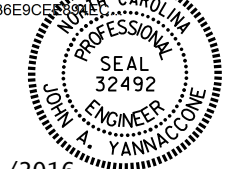


UNDERSIDE OF CAP

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 208

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9CE



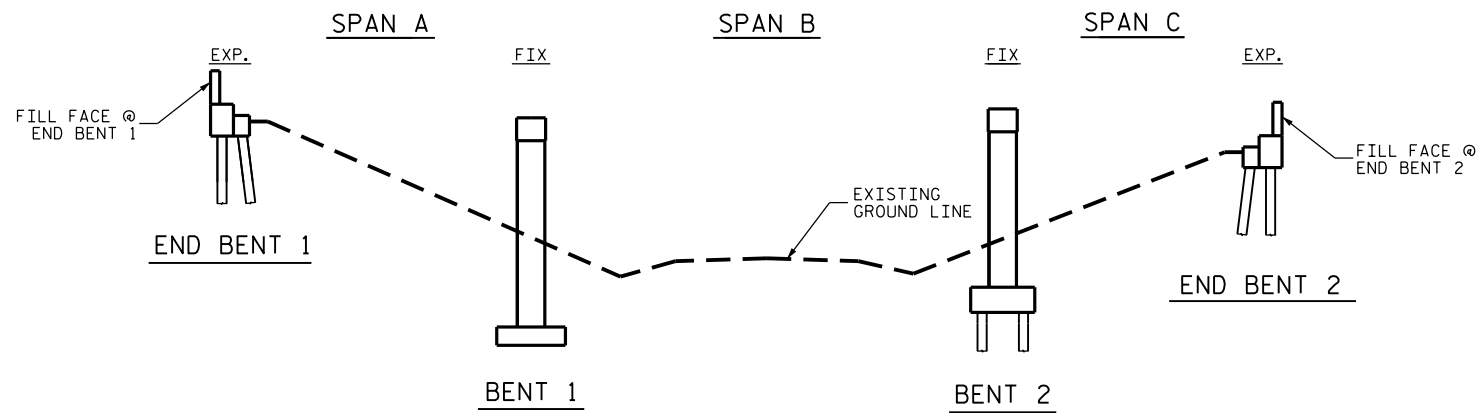
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 2

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-25
1			3			TOTAL SHEETS
2			4			122

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

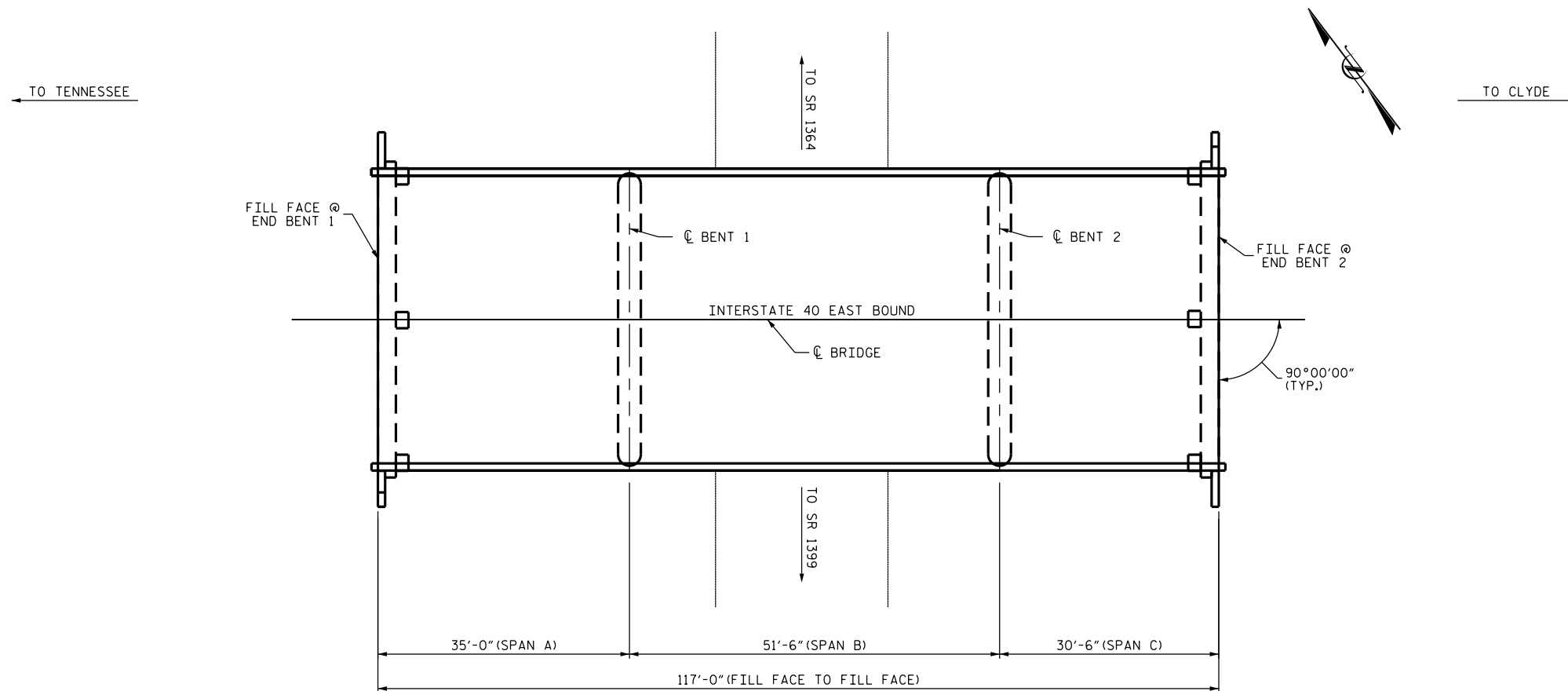
DRAWN BY : W. O. KEITH DATE : 11/15
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NOTES

PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 05/21/2015.
 BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

SECTION ALONG C ROADWAY



PLAN

SCOPE OF WORK

- CLEAN, PAINT AND REPAIR STEEL I-BEAMS AND BEARINGS.
- EPOXY INJECTION OF CONCRETE CRACKS.
- CLEAN AND REPAIR REBAR IN CONCRETE REPAIR AREAS.
- PERFORM SHOTCRETE REPAIRS IN PREPARED AREAS.
- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND HYDRO-DEMOLITION METHODS.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- OVERLAY PREPARED BRIDGE DECK WITH LATEX MODIFIED CONCRETE.
- CONSTRUCT CONCRETE HEADERS AT END BENTS.
- RECONSTRUCT BRIDGE JOINTS AND INSTALL JOINT SEALS.
- GROOVE LATEX MODIFIED CONCRETE BRIDGE DECK.

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

RESIDENT ENGINEER

DocuSigned by:

John A. Yannaccone

7BC36E9CE



3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 209

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON I-40 EBL
 OVER SR 1366
 (ORCHARD COVE ROAD)

DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J. YANNACCONE DATE : 11/15

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-26
1			3			TOTAL SHEETS
2			4			122



LOCATION SKETCH

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

NOTES

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

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

FOR OVERLAY OF BRIDGE WITH LATEX MODIFIED CONCRETE, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK.

FOR SCARIFYING BRIDGE DECK, HYDRO-DEMOLITION OF BRIDGE DECK, AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING REPAIR OF BRIDGE DECKS.

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

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

FOR PAINTING CONTAINMENT, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR CLEANING AND REPAINTING OF BRIDGE, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR POLLUTION CONTROL, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 209

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9CE
 NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 32492 JOHN A. YANNACCONI
 3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE ON I-40 EBL
 OVER SR 1366
 (ORCHARD COVE ROAD)

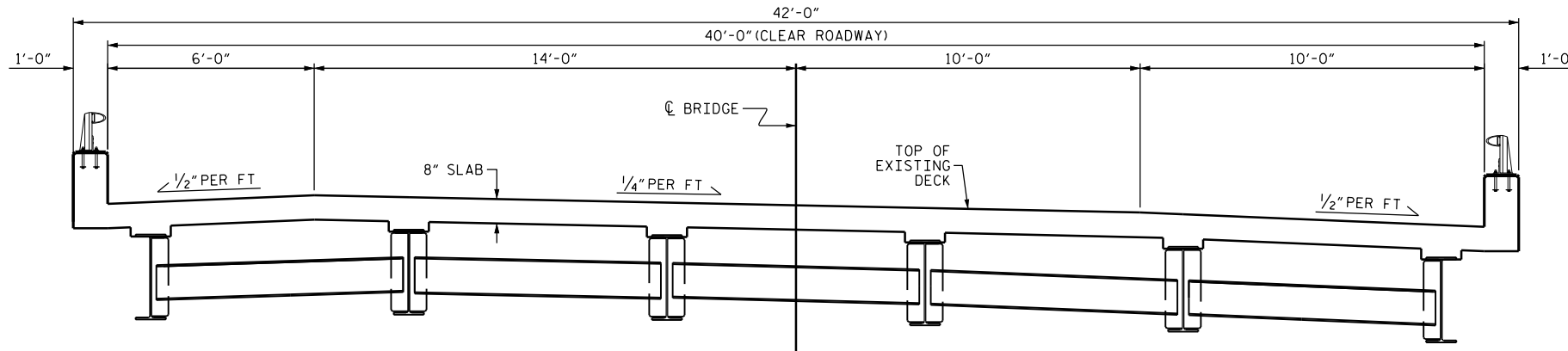
DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J. YANNACCONI DATE : 11/15

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

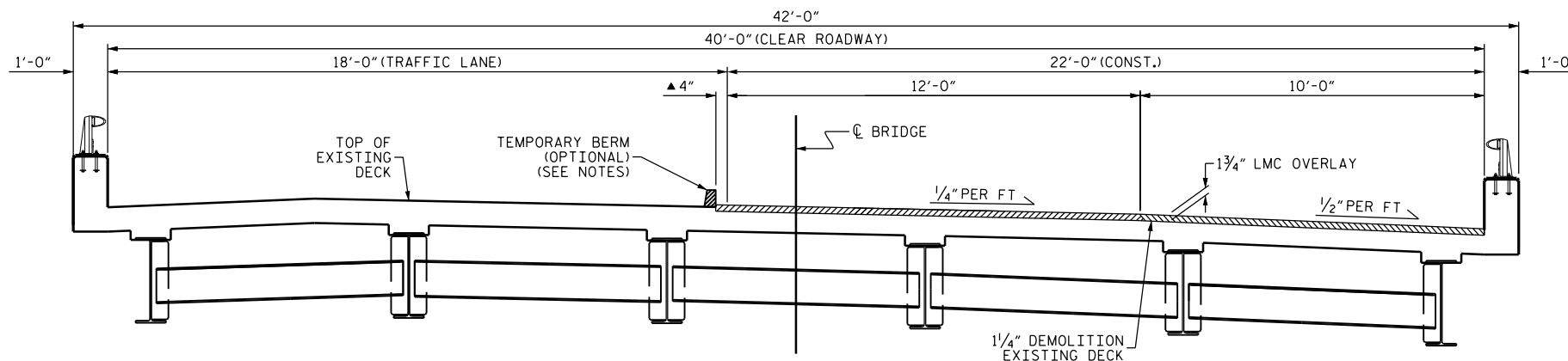
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-27
1			3			TOTAL SHEETS
2			4			122

NOTES

THE WORK STAGING ON THIS PLAN SHEET INDICATES THAT THE RIGHT LANE LMC WORK IS PERFORMED FIRST, FOLLOWED BY THE LEFT LANE LMC WORK. THE CONTRACTOR MAY ELECT TO SEQUENCE THE WORK DIFFERENTLY, BUT THE DIMENSIONS OF THE WORK ZONE AND CLEAR ROADWAY AREAS SHALL MATCH THAT INDICATED ON THIS PLAN SHEET, RESPECTIVE TO THE LANE WHERE THE LMC WORK IS BEING PERFORMED.

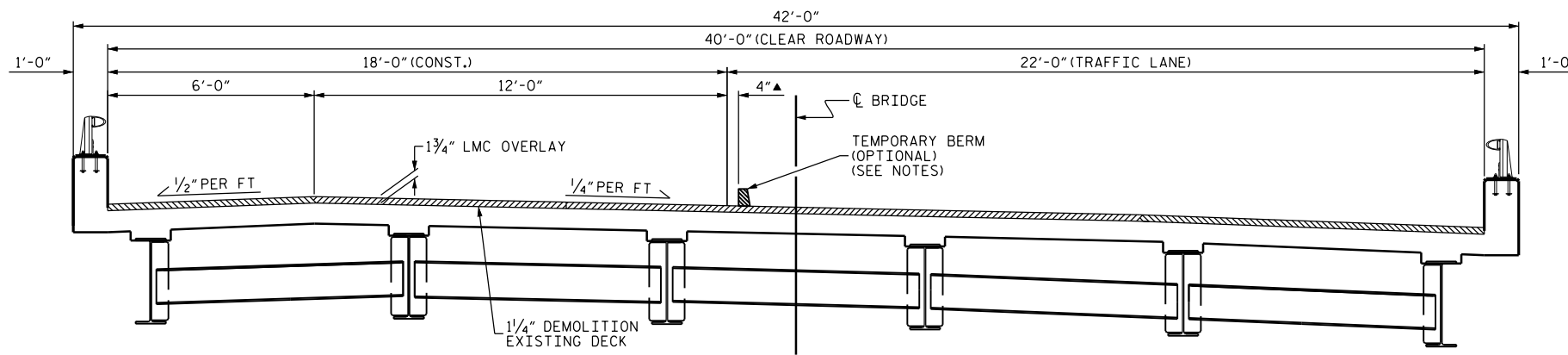


TYPICAL SECTION
(EXISTING)

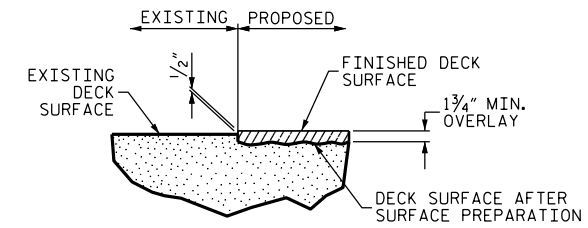


TYPICAL SECTION
(RIGHT LANE LMC WORK)

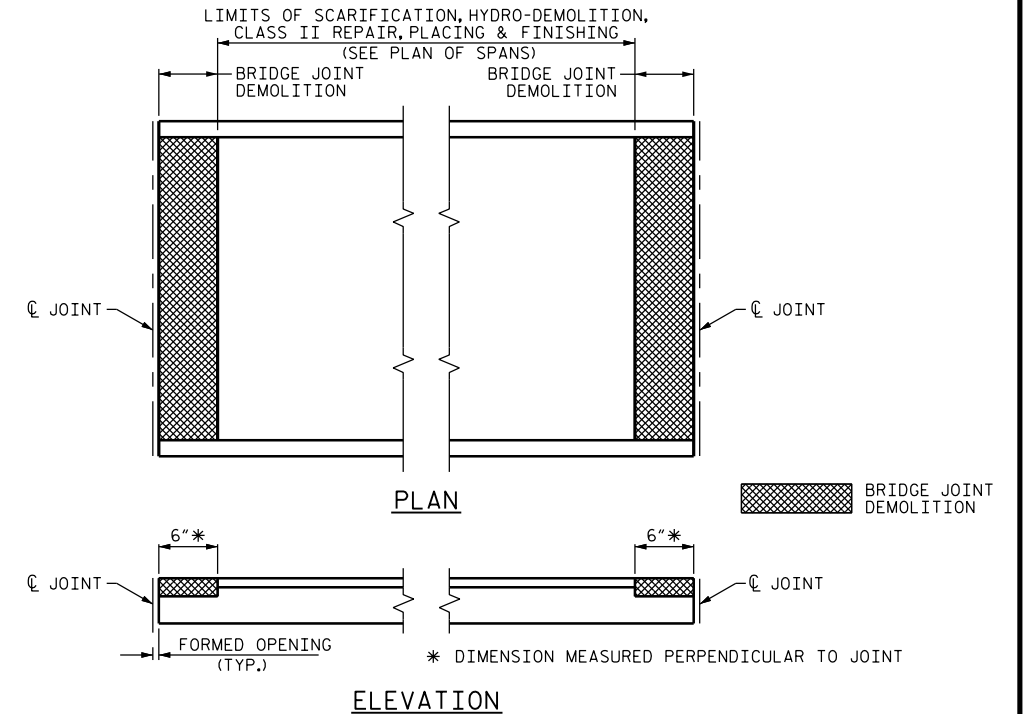
▲ 4" OVERLAP BETWEEN OVERLAYS
PREVIOUSLY POURED LMC
TO BE HYDRO-DEMOLITIONED
& RECAST WITH LMC



TYPICAL SECTION
(LEFT LANE LMC WORK)



DETAIL FOR LMC OVERLAY



PAY LIMITS FOR OVERLAY BID ITEMS

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 209

DocuSigned by:
John A. Yannaccone
7BC36E9C...



3/21/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**TYPICAL SECTION
AND SURFACE
PREPARATION DETAILS**

DRAWN BY : W.O. KEITH DATE : 9/15
CHECKED BY : J. YANNACCONE DATE : 11/15

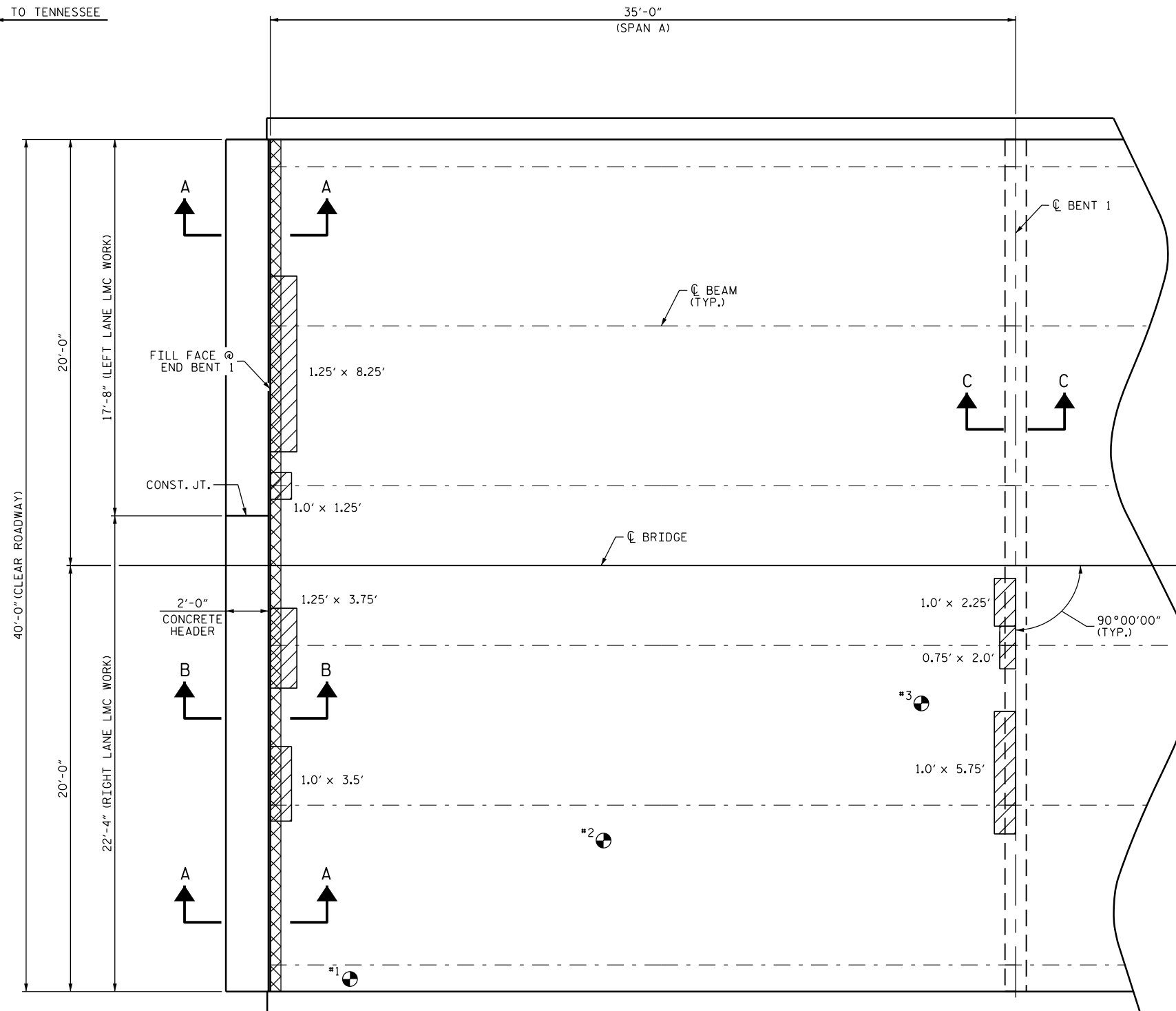
21-MAR-2016 13:14
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Jayannaccone

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-28
1			3			TOTAL SHEETS
2			4			122

← TO TENNESSEE

→ TO CLYDE



PLAN

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE	ACTUAL		
SCARIFYING BRIDGE DECK	153 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	153 SY			
CLASS II SURFACE PREPARATION	3.3 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
BRIDGE JOINT DEMOLITION	20.0 SF			
EPOXY RESIN INJECTION	0.0 LF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
UNDERSIDE EPOXY RESIN INJECTION				
	ESTIMATE	ACTUAL		
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF			

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

- APPROX. CLASS II AREA
- APPROX. CLASS III AREA
- BRIDGE JOINT DEMOLITION
- UNDERSIDE REPAIR
- DIAPHRAGM REPAIR
- #1 TEST LOCATION
- ERI EPOXY RESIN INJECTION

NOTES

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

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1/2" PER THE EXISTING BRIDGE PLANS.

PRIOR TO PLACEMENT OF THE LMC OVERLAY ACROSS THE CONTINUOUS DECK SPANS, THE CONTRACTOR SHALL SUBMIT A POUR SEQUENCE FOR APPROVAL BY THE ENGINEER.

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 209

SHEET 1 OF 3

DocuSigned by:
John A. Yannaccone
 7BC36E9CE

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPAN
 SPAN A**

TEST LOCATION	CONCRETE STRENGTH (PSI)
#1	6160
#2	6410
#3	6230

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 10/12/2015.

DRAWN BY : W. O. KEITH DATE : 9/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-29
1			3			TOTAL SHEETS
2			4			122

AS-BUILT REPAIR QUANTITY TABLE








TOP OF DECK REPAIRS

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	229 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	229 SY	
CLASS II SURFACE PREPARATION	1.4 SY	
CLASS III SURFACE PREPARATION	0.0 SY	
BRIDGE JOINT DEMOLITION	0.0 SF	
EPOXY RESIN INJECTION	0.0 LF	
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY	

UNDERSIDE OF DECK REPAIRS

SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	4.9	2.5 *		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.6	0.4 *		
INTERIOR DIAPHRAGMS	0.0	0.0		
			ESTIMATE	ACTUAL
UNDERSIDE EPOXY RESIN INJECTION			1.0 LF	

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

-  APPROX. CLASS II AREA
-  APPROX. CLASS III AREA
-  BRIDGE JOINT DEMOLITION
-  UNDERSIDE REPAIR
-  DIAPHRAGM REPAIR
- #1  TEST LOCATION
- ERI  EPOXY RESIN INJECTION

NOTES

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

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/2" PER THE EXISTING BRIDGE PLANS.

PRIOR TO PLACEMENT OF THE LMC OVERLAY ACROSS THE CONTINUOUS DECK SPANS, THE CONTRACTOR SHALL SUBMIT A POUR SEQUENCE FOR APPROVAL BY THE ENGINEER.

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

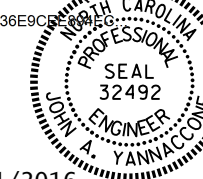
PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 209

SHEET 2 OF 3

DocuSigned by:

John A. Yannaccone

7BC36E9C8...



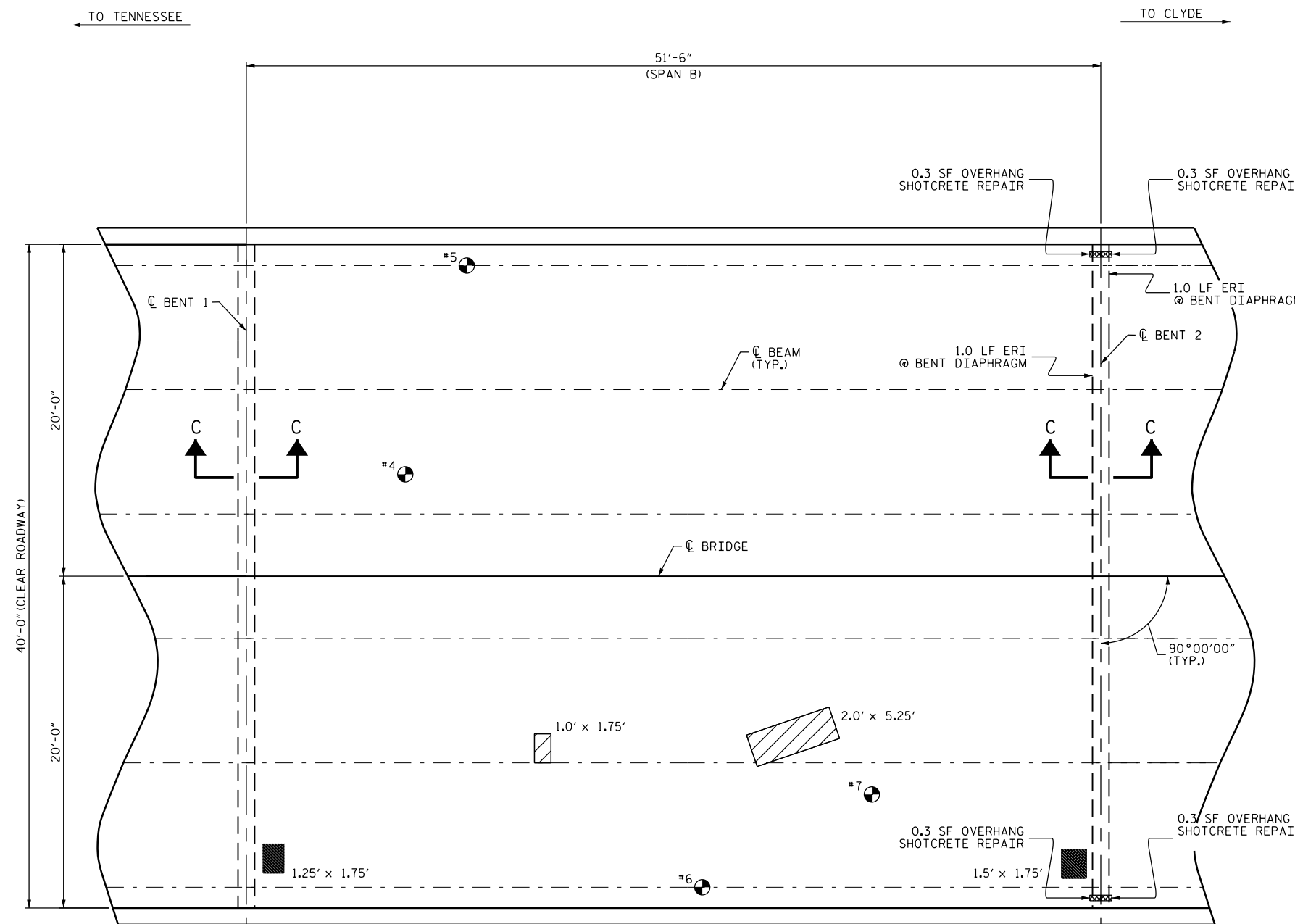
3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN
 SPAN B

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-30
1			3			TOTAL SHEETS
2			4			122

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PLAN

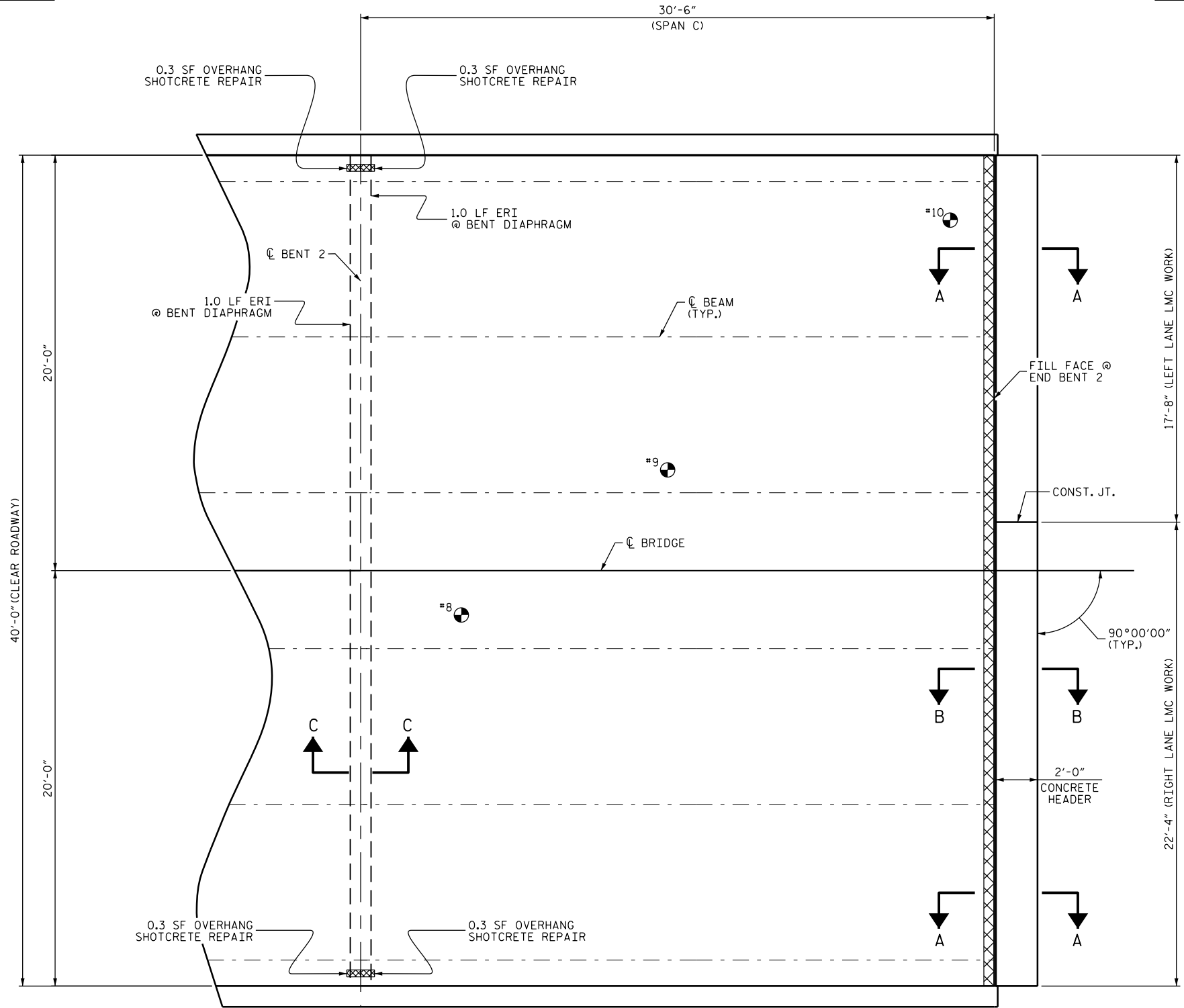
TEST LOCATION	CONCRETE STRENGTH (PSI)
#4	4680
#5	5800
#6	5450
#7	5930

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 10/12/2015.

DRAWN BY : W. O. KEITH DATE : 9/15
 CHECKED BY : J. YANNAKONE DATE : 12/15

← TO TENNESSEE

→ TO CLYDE



AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE	ACTUAL		
SCARIFYING BRIDGE DECK	133 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	133 SY			
CLASS II SURFACE PREPARATION	0.0 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
BRIDGE JOINT DEMOLITION	20.0 SF			
EPOXY RESIN INJECTION	0.0 LF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.6	0.4 *		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION		1.0 LF		

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

- APPROX. CLASS II AREA
- APPROX. CLASS III AREA
- BRIDGE JOINT DEMOLITION
- UNDERSIDE REPAIR
- DIAPHRAGM REPAIR
- #1 TEST LOCATION
- ERI EPOXY RESIN INJECTION

NOTES

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

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1/2" PER THE EXISTING BRIDGE PLANS.

PRIOR TO PLACEMENT OF THE LMC OVERLAY ACROSS THE CONTINUOUS DECK SPANS, THE CONTRACTOR SHALL SUBMIT A POUR SEQUENCE FOR APPROVAL BY THE ENGINEER.

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 209

SHEET 3 OF 3

TEST LOCATION	CONCRETE STRENGTH (PSI)
#8	6890
#9	5390
#10	5960

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 10/12/2015.

PLAN

DRAWN BY : W. O. KEITH DATE : 9/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

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 Jayannaccone

DocuSigned by:
John A. Yannaccone
 7BC36E9C5E

3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN SPAN C

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-31
1			3			TOTAL SHEETS
2			4			122

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NOTES

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.
 FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.
 FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
 THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.
 NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 2".
 THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE FOAM JOINT SEAL IN LIEU OF SAWING THE JOINT.
 FOR ADHESIVELY ANCHORED DOWELS, NO FIELD TESTING IS REQUIRED. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE ARTICLE 420-13 OF THE STANDARD SPECIFICATIONS.

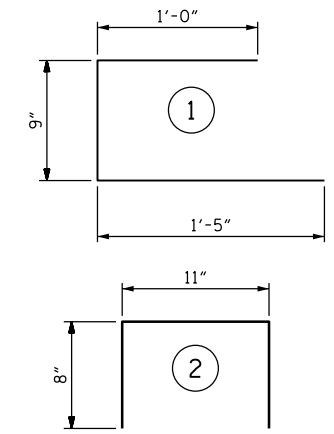
BILL OF MATERIAL

FOR ONE END BENT JOINT					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
D1	4	#4	STR	1'-6"	4
K1	2	#4	STR	24'-2"	32
K2	2	#4	STR	17'-6"	24
K3	3	#4	STR	5'-8"	11
K4	3	#4	STR	9'-8"	19
S1	16	#4	1	3'-2"	34
S2	24	#4	2	2'-3"	36

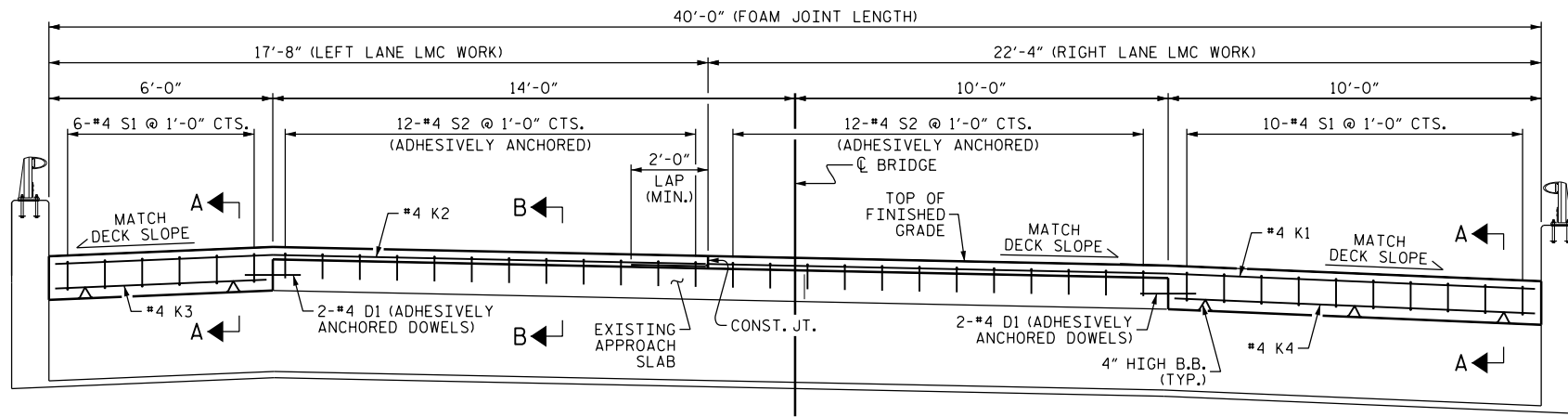
REINFORCING STEEL (FOR ONE END BENT JOINT) 160 LBS.

CLASS AA CONCRETE (FOR ONE END BENT JOINT) 1.9 CU. YDS.

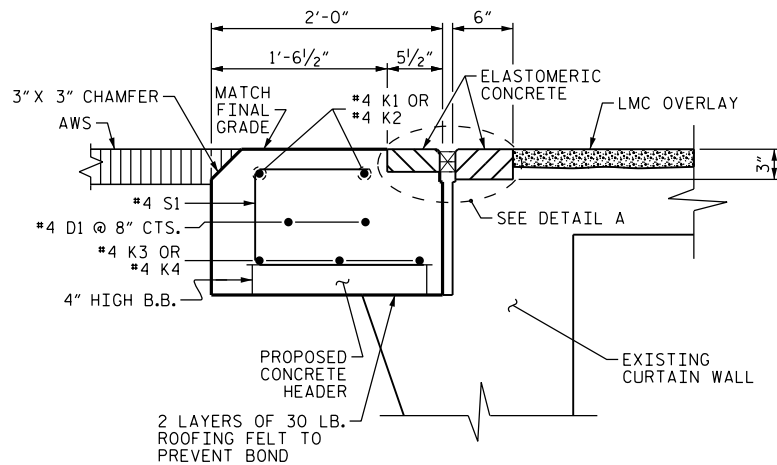
BAR TYPES



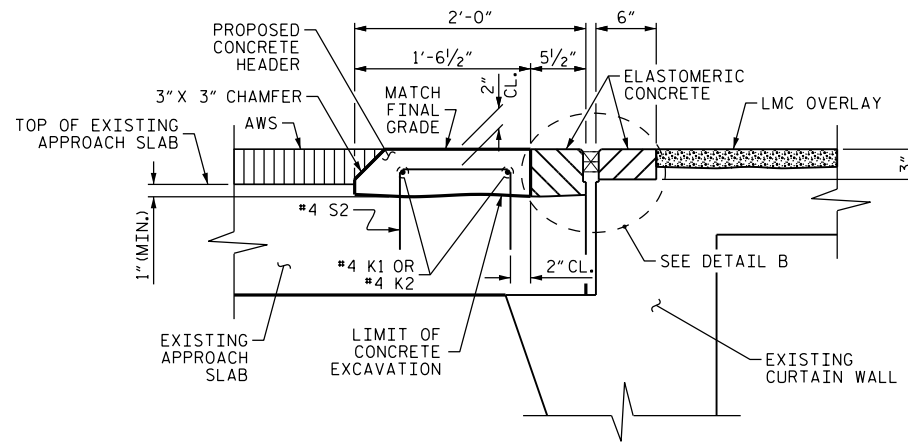
ALL BAR DIMENSIONS ARE OUT TO OUT.



TYPICAL SECTION
 (FILL FACE @ END BENT 1 SHOWN. END BENT 2 SIMILAR.)



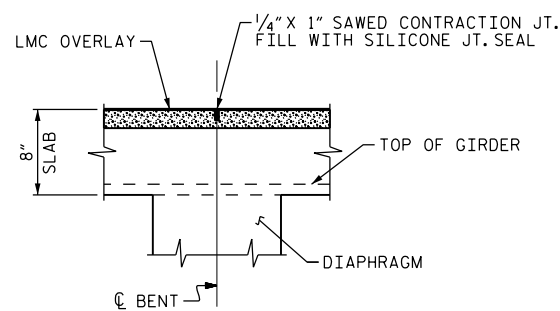
SECTION A-A



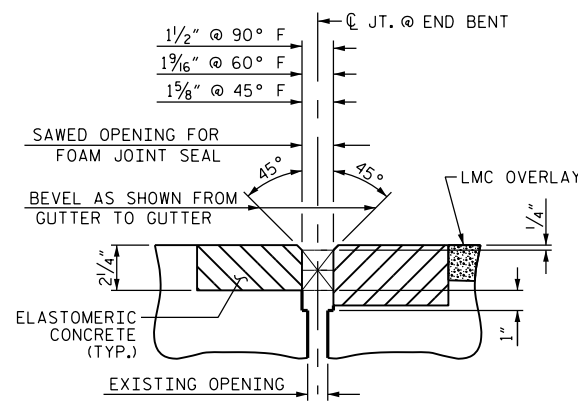
SECTION B-B

ELASTOMERIC CONCRETE		
END BENT 1	10.5	(CU. FT.)
END BENT 2	10.5	(CU. FT.)
* TOTAL	21.0	(CU. FT.)

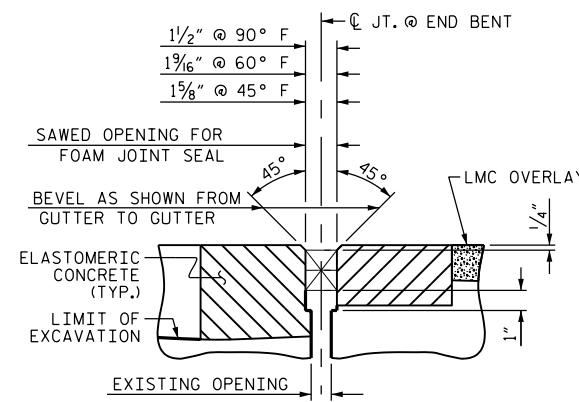
* BASED ON THE MINIMUM BLOCKOUT SHOWN.



SECTION C-C



DETAIL A
 FOAM JOINT SEAL



DETAIL B
 FOAM JOINT SEAL

PROJECT NO. I-5756
 HAYWOOD COUNTY
 BRIDGE NO. 209

DocuSigned by:
 John A. Yannaccone
 7BC36E9CF
 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 32492
 JOHN A. YANNACCONI
 ENGINEER

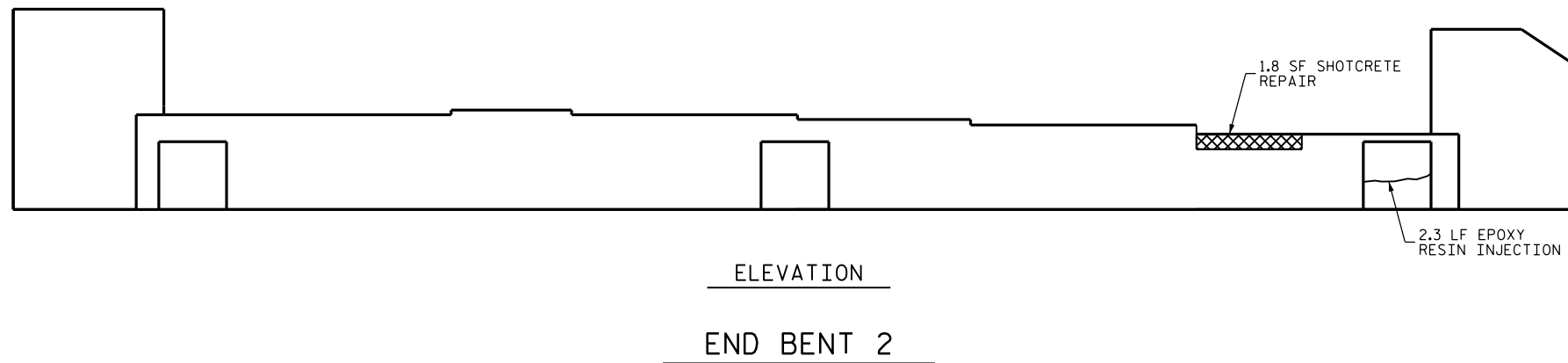
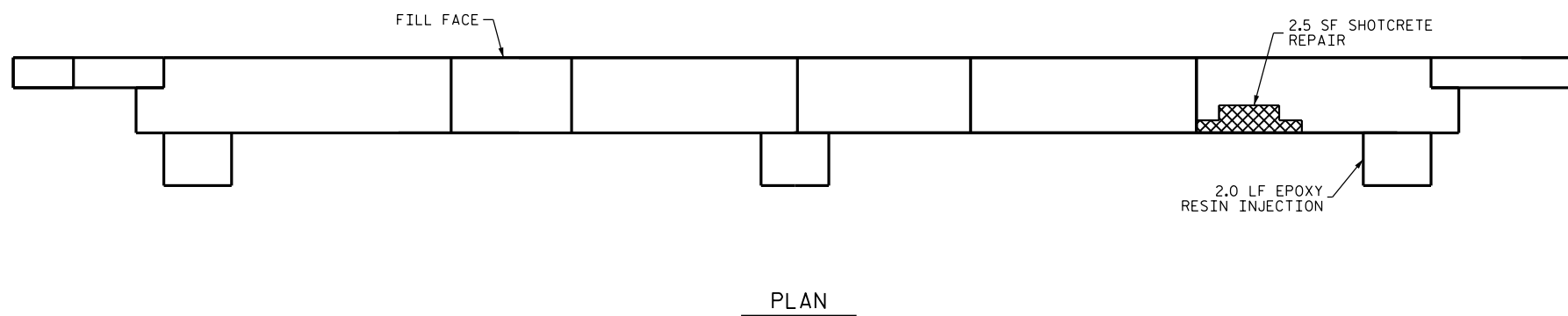
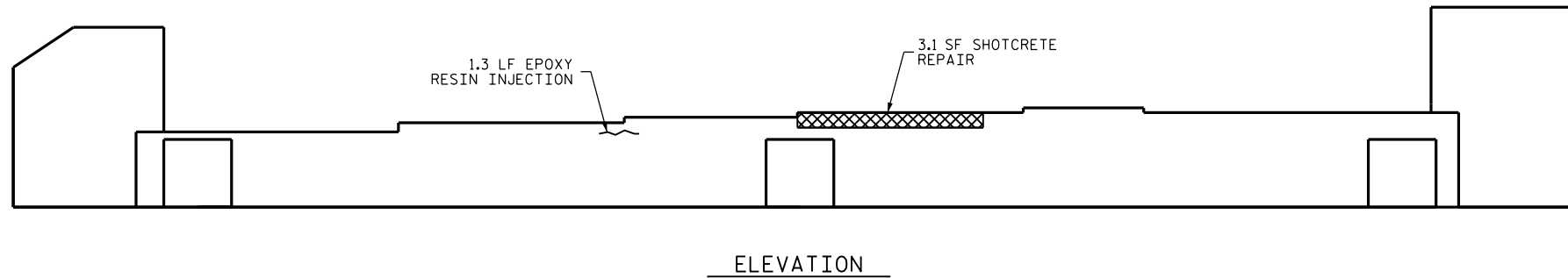
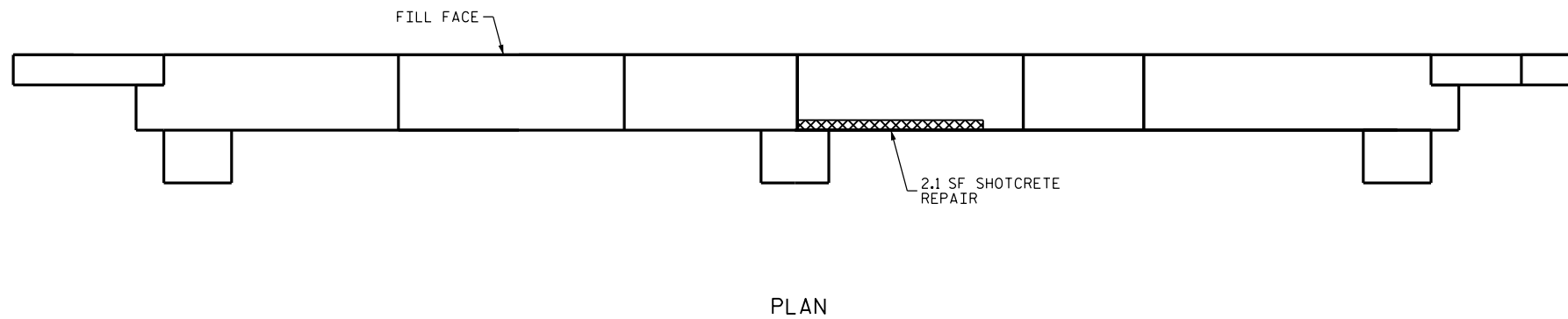
3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 JOINT DETAILS

DRAWN BY: J. YANNACCONI DATE: 3/16
 CHECKED BY: S. WANCE DATE: 3/16

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-32
2			4			TOTAL SHEETS 122



AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	5.2	4.5 *		
EPOXY RESIN INJECTION		LN. FT		
CAP		1.3		

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	4.3	3.7 *		
EPOXY RESIN INJECTION		LN. FT		
CAP		2.3		

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

NOTES

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

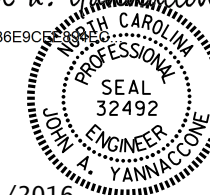
FOR CAP REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 209

DocuSigned by:
John A. Yannaccone
 7BC36E9C6809EC



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 1 & 2

DRAWN BY : W.O. KEITH DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 11/15

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-33
2			4			122

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NOTES

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

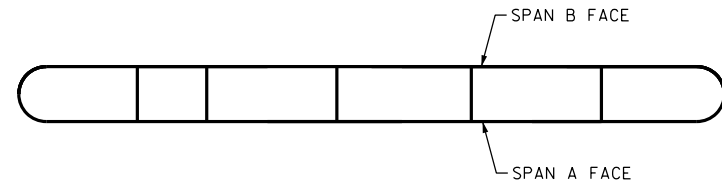
FOR CAP REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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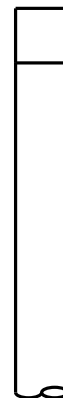
AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.3	0.2 *		
COLUMN	11.7	8.8 *		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SO. FT		SO. FT
TOP OF BENT CAP		0		

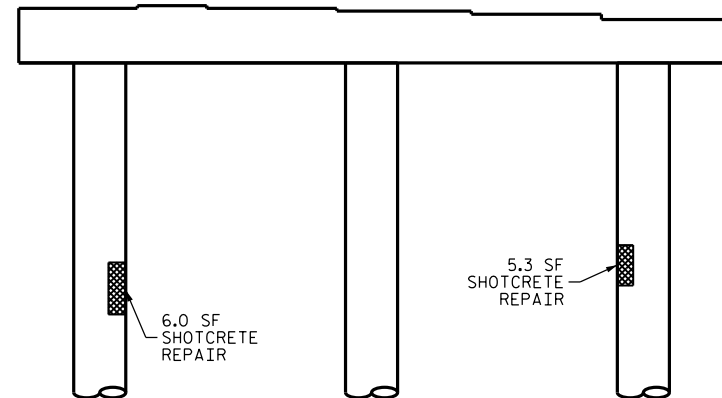
VALUES IN CHARTS REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT.



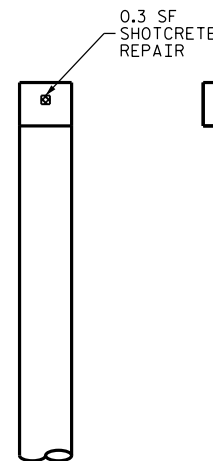
TOP OF CAP



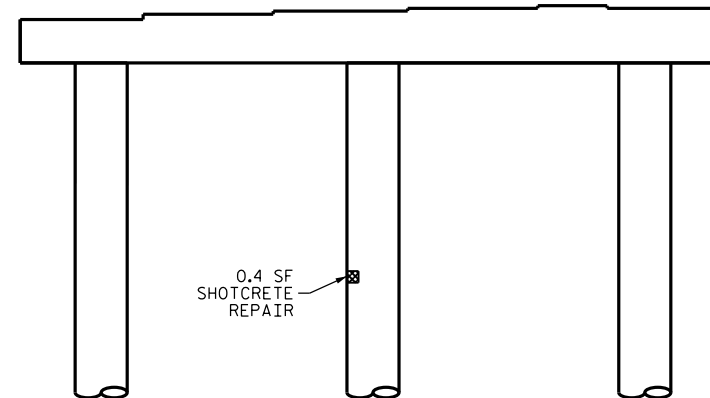
END VIEW
NORTH FACE



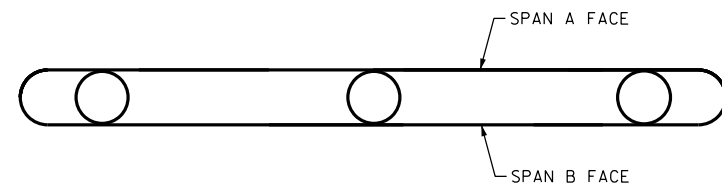
SPAN A FACE



END VIEW
SOUTH FACE



SPAN B FACE

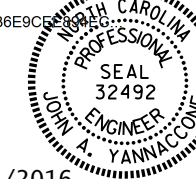


UNDERSIDE OF CAP

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 209

SHEET 1 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9C...



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 1

DRAWN BY : W. O. KEITH DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-34
1			3			TOTAL SHEETS
2			4			122

NOTES

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

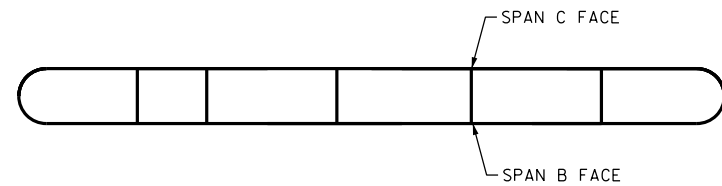
FOR CAP REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

AS-BUILT REPAIR QUANTITY TABLE

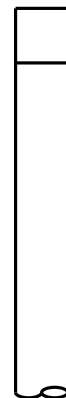
REPAIRS BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT		LN. FT	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT		SQ. FT	
TOP OF BENT CAP	0			

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

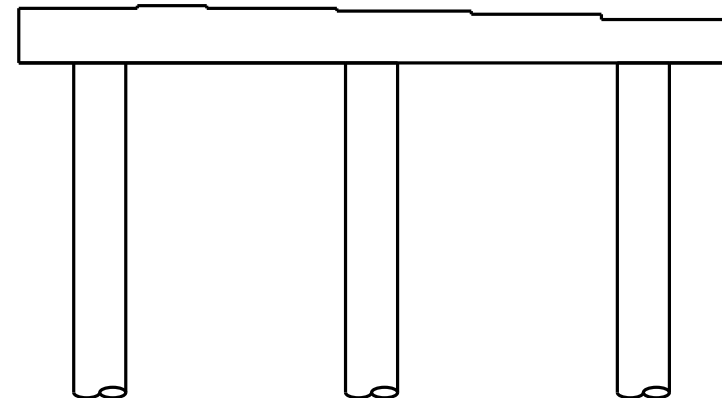
NO REPAIRS NOTED FOR BENT 2 DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE BENT PRIOR TO BEGINNING WORK.



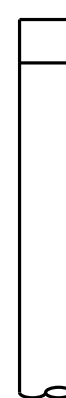
TOP OF CAP



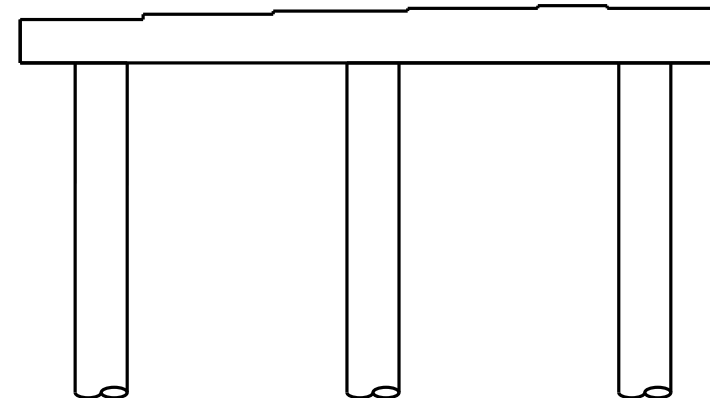
END VIEW
NORTH FACE



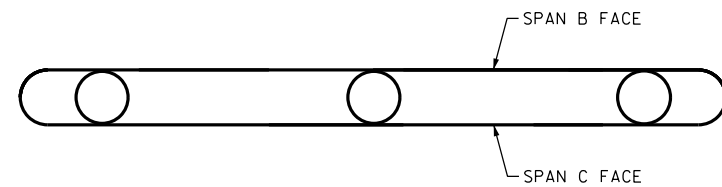
SPAN B FACE



END VIEW
SOUTH FACE



SPAN C FACE



UNDERSIDE OF CAP

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 209

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9C8E01E0
 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 32492
 ENGINEER
 JOHN A. YANNACCONI

3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

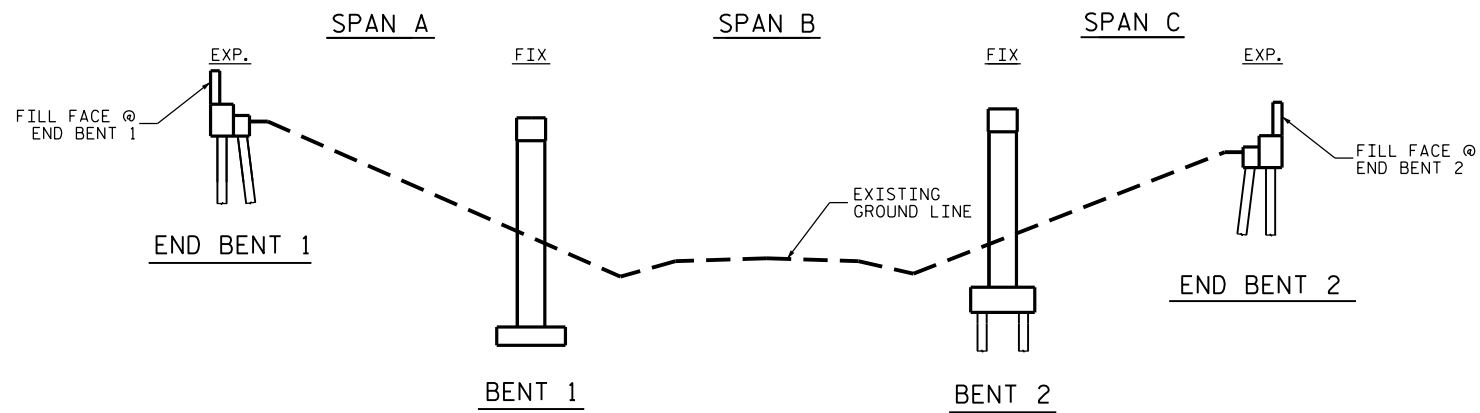
BENT 2

DRAWN BY : W. O. KEITH DATE : 11/15
 CHECKED BY : J. YANNACCONI DATE : 12/15

21-MAR-2016 13:14
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 Jayannaccone

DOCUMENT NOT CONSIDERED
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 SIGNATURES COMPLETED

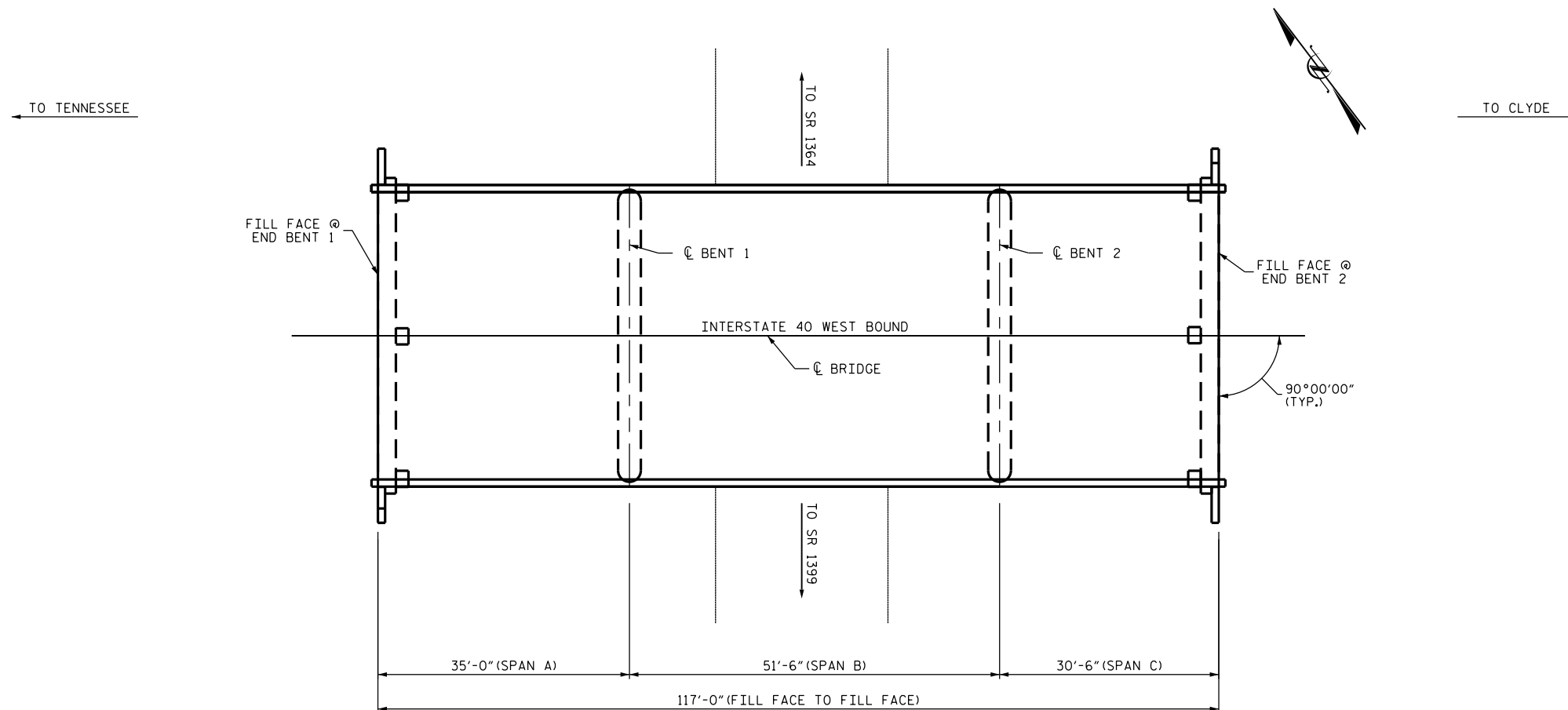
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-35
1			3			TOTAL SHEETS
2			4			122



NOTES

PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 05/21/2015.
 BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS. ORIENTATION OF ROUTINE INSPECTION REPORTS MAY VARY.

SECTION ALONG C ROADWAY



PLAN

SCOPE OF WORK

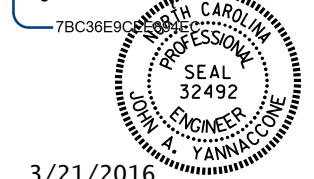
- CLEAN, PAINT AND REPAIR STEEL I-BEAMS AND BEARINGS.
- EPOXY INJECTION OF CONCRETE CRACKS.
- CLEAN AND REPAIR REBAR IN CONCRETE REPAIR AREAS.
- PERFORM SHOTCRETE REPAIRS IN PREPARED AREAS.
- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND HYDRO-DEMOLITION METHODS.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- OVERLAY PREPARED BRIDGE DECK WITH LATEX MODIFIED CONCRETE.
- CONSTRUCT CONCRETE HEADERS AT END BENTS.
- RECONSTRUCT BRIDGE JOINTS AND INSTALL JOINT SEALS.
- GROOVE LATEX MODIFIED CONCRETE BRIDGE DECK.

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

RESIDENT ENGINEER

DocuSigned by:

John A. Yannaccone



3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 222

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE ON I-40 WBL
 OVER SR 1366
 (ORCHARD COVE ROAD)

DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J. YANNACCONE DATE : 11/15

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-36
1			3			TOTAL SHEETS
2			4			122



LOCATION SKETCH

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

NOTES

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

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

FOR OVERLAY OF BRIDGE WITH LATEX MODIFIED CONCRETE, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK.

FOR SCARIFYING BRIDGE DECK, HYDRO-DEMOLITION OF BRIDGE DECK, AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING REPAIR OF BRIDGE DECKS.

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

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

FOR PAINTING CONTAINMENT, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR CLEANING AND REPAINTING OF BRIDGE, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR POLLUTION CONTROL, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

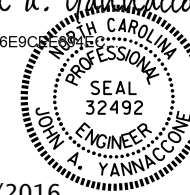
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 222

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9C...



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE ON I-40 EBL
 OVER SR 1366
 (ORCHARD COVE ROAD)

DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J. YANNACCONE DATE : 11/15

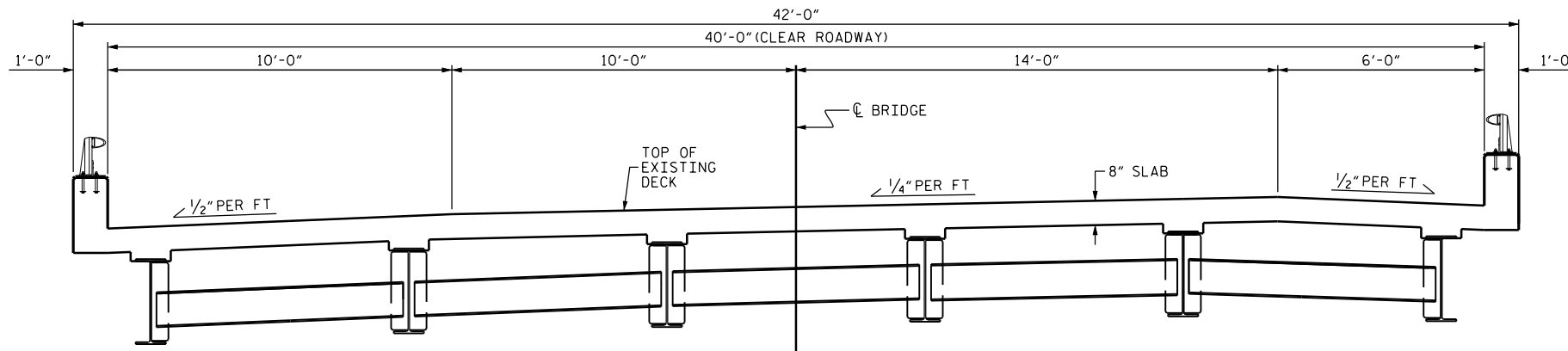
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 Jayannaccone

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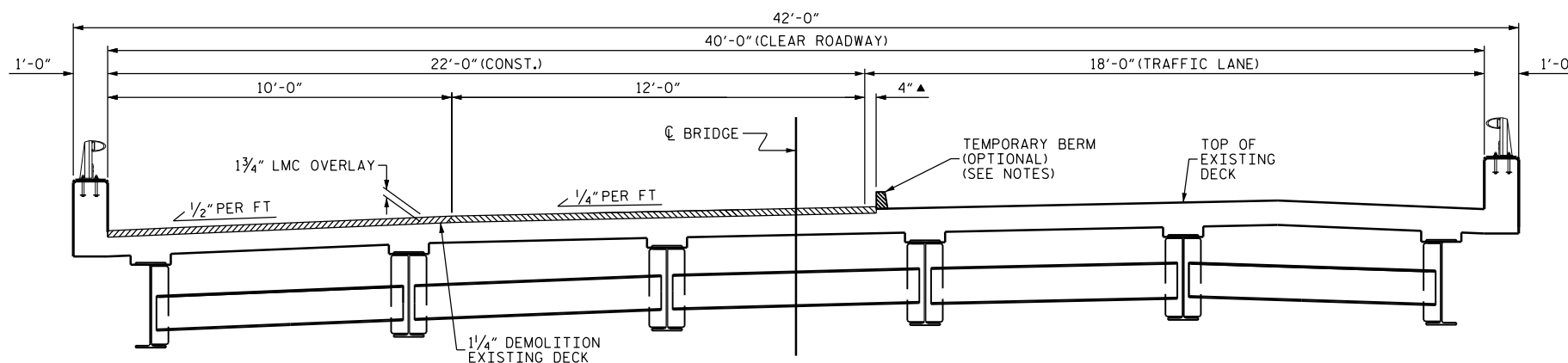
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-37
1			3			TOTAL SHEETS
2			4			122

NOTES

THE WORK STAGING ON THIS PLAN SHEET INDICATES THAT THE RIGHT LANE LMC WORK IS PERFORMED FIRST, FOLLOWED BY THE LEFT LANE LMC WORK. THE CONTRACTOR MAY ELECT TO SEQUENCE THE WORK DIFFERENTLY, BUT THE DIMENSIONS OF THE WORK ZONE AND CLEAR ROADWAY AREAS SHALL MATCH THAT INDICATED ON THIS PLAN SHEET, RESPECTIVE TO THE LANE WHERE THE LMC WORK IS BEING PERFORMED.

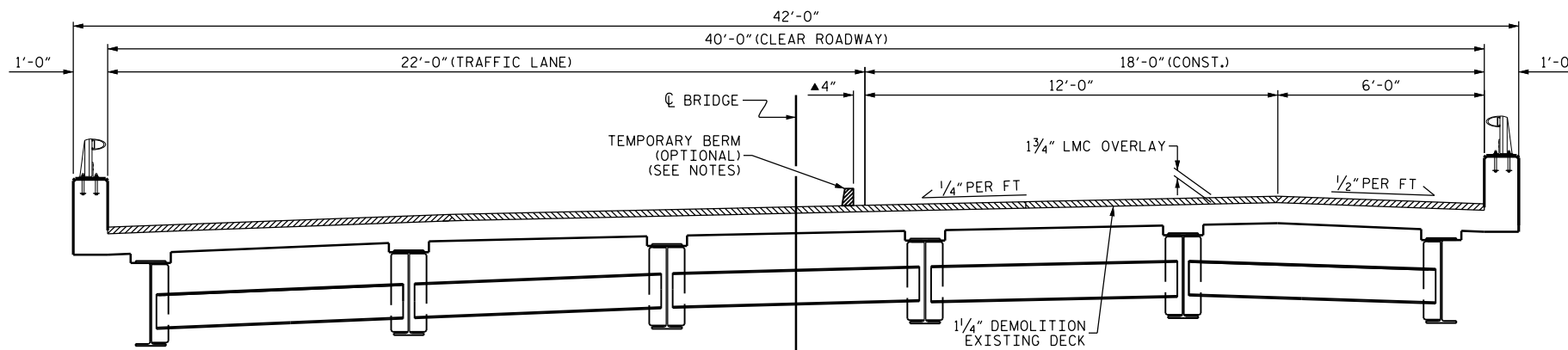


TYPICAL SECTION
(EXISTING)

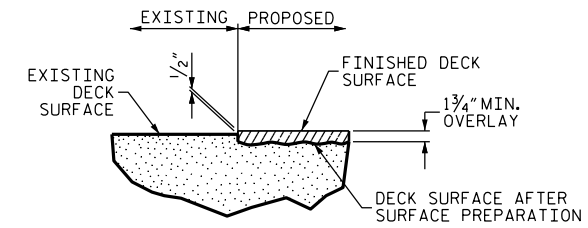


TYPICAL SECTION
(RIGHT LANE LMC WORK)

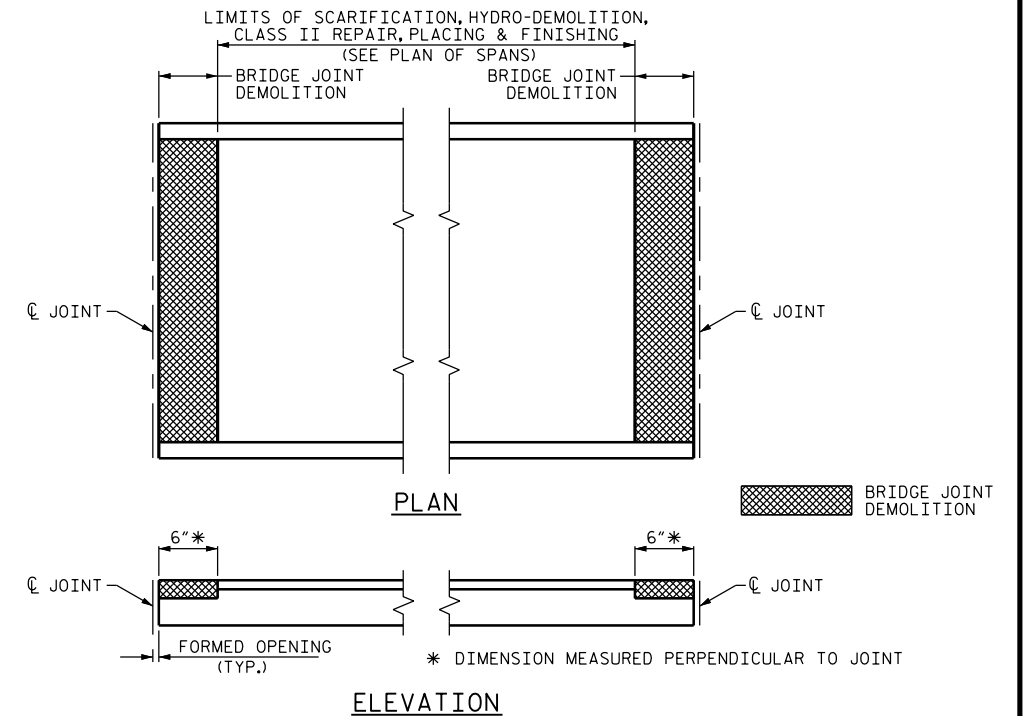
▲ 4" OVERLAP BETWEEN OVERLAYS
PREVIOUSLY POURED LMC TO BE HYDRO-DEMOLITIONED & RECAST WITH LMC



TYPICAL SECTION
(LEFT LANE LMC WORK)



DETAIL FOR LMC OVERLAY



PAY LIMITS FOR OVERLAY BID ITEMS

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 222

DocuSigned by:
John A. Yannaccone



3/21/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
TYPICAL SECTION AND SURFACE PREPARATION DETAILS

DRAWN BY : W.O. KEITH DATE : 9/15
CHECKED BY : J. YANNACCONE DATE : 11/15

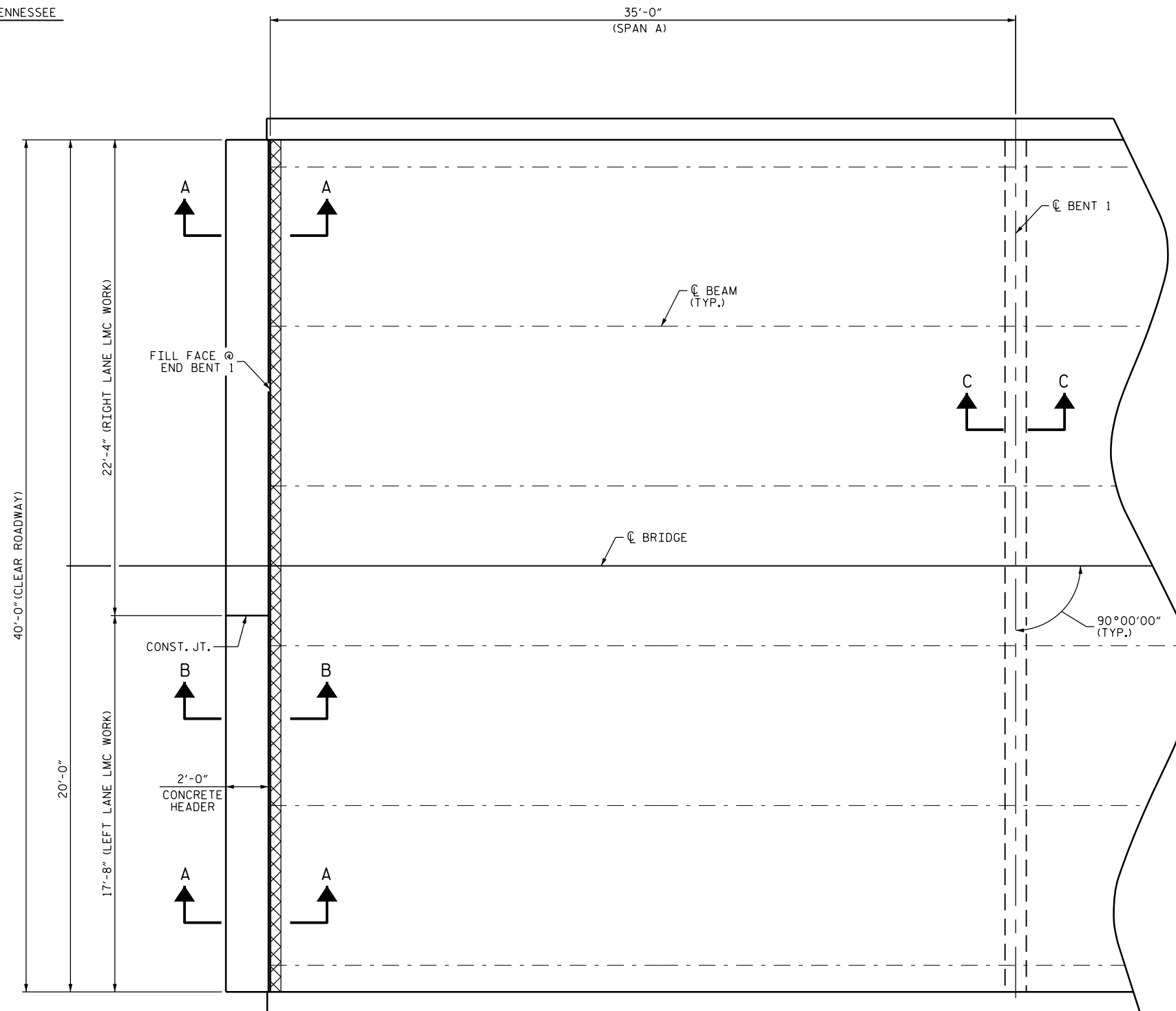
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Jayannaccone

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-38
1			3			TOTAL SHEETS
2			4			122

← TO TENNESSEE

→ TO CLYDE



PLAN

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE	ACTUAL		
SCARIFYING BRIDGE DECK	153 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	153 SY			
CLASS II SURFACE PREPARATION	0.0 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
BRIDGE JOINT DEMOLITION	20.0 SF			
EPOXY RESIN INJECTION	0.0 LF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
		ESTIMATE	ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION		0.0 LF		

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

- APPROX. CLASS II AREA
- APPROX. CLASS III AREA
- BRIDGE JOINT DEMOLITION
- UNDERSIDE REPAIR
- DIAPHRAGM REPAIR
- TEST LOCATION
- ERI EPOXY RESIN INJECTION

NOTES

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

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1/2" PER THE EXISTING BRIDGE PLANS.

PRIOR TO PLACEMENT OF THE LMC OVERLAY ACROSS THE CONTINUOUS DECK SPANS, THE CONTRACTOR SHALL SUBMIT A POUR SEQUENCE FOR APPROVAL BY THE ENGINEER.

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 222

SHEET 1 OF 3

DocuSigned by:
John A. Yannaccone
 7BC36E9C6E88E6C

 3/21/2016

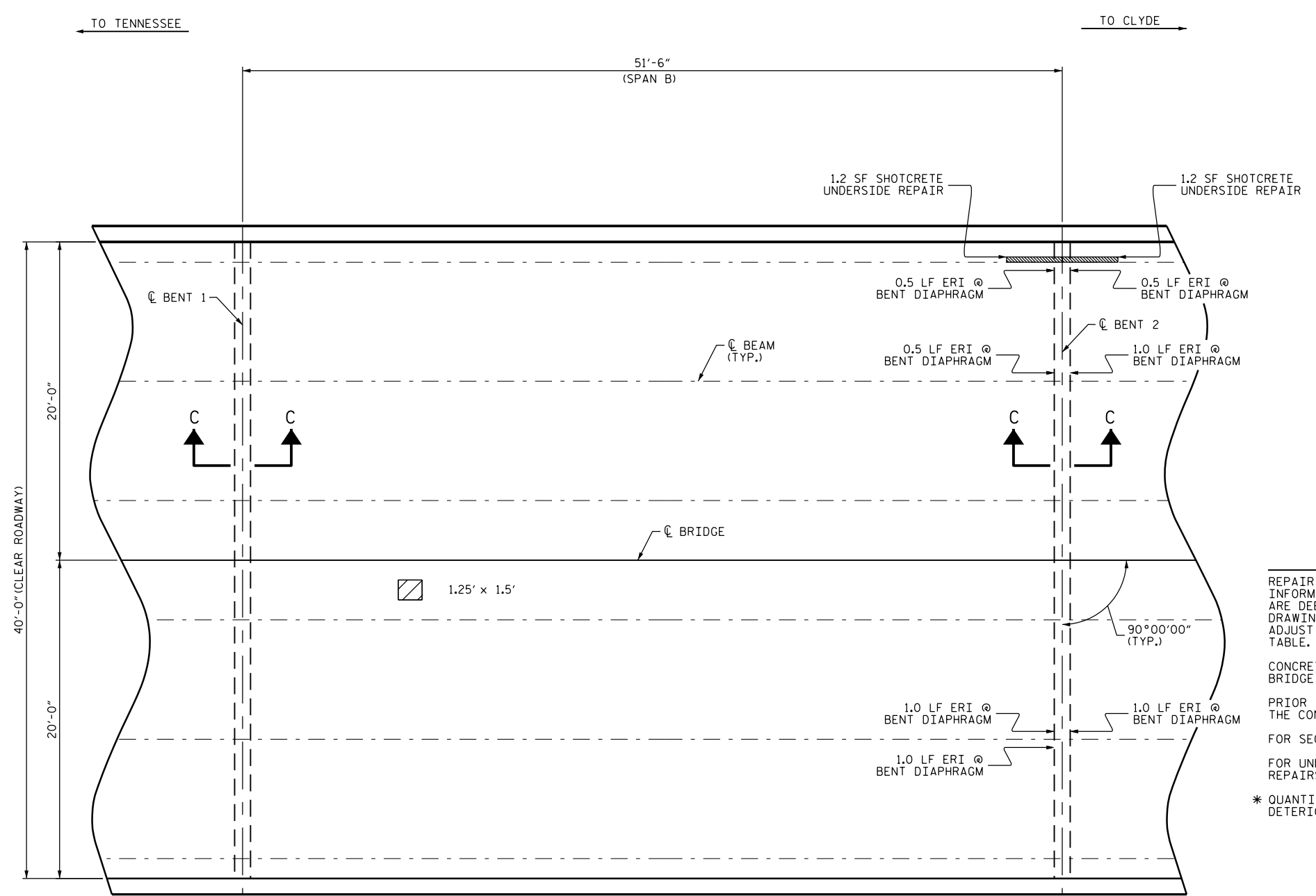
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN
 SPAN A

DRAWN BY : W. O. KEITH DATE : 9/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-39
2			4			122



AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	229 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	229 SY	
CLASS II SURFACE PREPARATION	0.2 SY	
CLASS III SURFACE PREPARATION	0.0 SY	
BRIDGE JOINT DEMOLITION	0.0 SF	
EPOXY RESIN INJECTION	0.0 LF	
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY	

UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	1.2	0.8 *		
INTERIOR DIAPHRAGMS	0.0	0.0		

	ESTIMATE	ACTUAL
UNDERSIDE EPOXY RESIN INJECTION	3.0 LF	

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

- APPROX. CLASS II AREA
- APPROX. CLASS III AREA
- BRIDGE JOINT DEMOLITION
- UNDERSIDE REPAIR
- DIAPHRAGM REPAIR
- #1 TEST LOCATION
- ERI EPOXY RESIN INJECTION

NOTES

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CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/2" PER THE EXISTING BRIDGE PLANS.

PRIOR TO PLACEMENT OF THE LMC OVERLAY ACROSS THE CONTINUOUS DECK SPANS, THE CONTRACTOR SHALL SUBMIT A POUR SEQUENCE FOR APPROVAL BY THE ENGINEER.

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 222

SHEET 2 OF 3

DocuSigned by:
John A. Yannaccone
 7BC36E9C6...
 STATE OF NORTH CAROLINA
 PROFESSIONAL ENGINEER
 SEAL 32492
 JOHN A. YANNACCONI
 3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPAN
 SPAN B**

PLAN

DRAWN BY : W. O. KEITH DATE : 9/15
 CHECKED BY : J. YANNACCONI DATE : 12/15

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-40
1			3			TOTAL SHEETS
2			4			122

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NOTES

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.
 FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.
 FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
 THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.
 NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 2".
 THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE FOAM JOINT SEAL IN LIEU OF SAWING THE JOINT.
 FOR ADHESIVELY ANCHORED DOWELS, NO FIELD TESTING IS REQUIRED. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE ARTICLE 420-13 OF THE STANDARD SPECIFICATIONS.

BILL OF MATERIAL

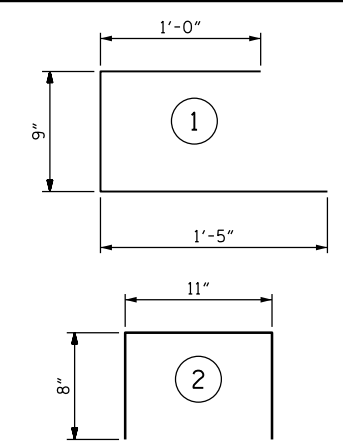
FOR ONE END BENT JOINT

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
D1	4	#4	STR	1'-6"	4
K1	2	#4	STR	24'-2"	32
K2	2	#4	STR	17'-6"	24
K3	3	#4	STR	5'-8"	11
K4	3	#4	STR	9'-8"	19
S1	16	#4	1	3'-2"	34
S2	24	#4	2	2'-3"	36

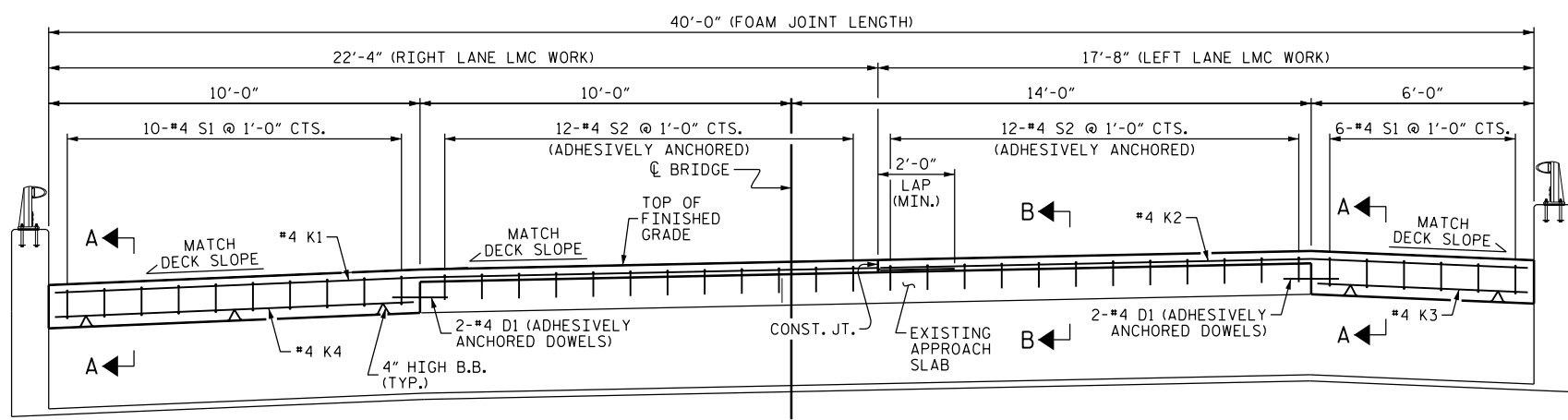
REINFORCING STEEL (FOR ONE END BENT JOINT) 160 LBS.

CLASS AA CONCRETE (FOR ONE END BENT JOINT) 1.9 CU. YDS.

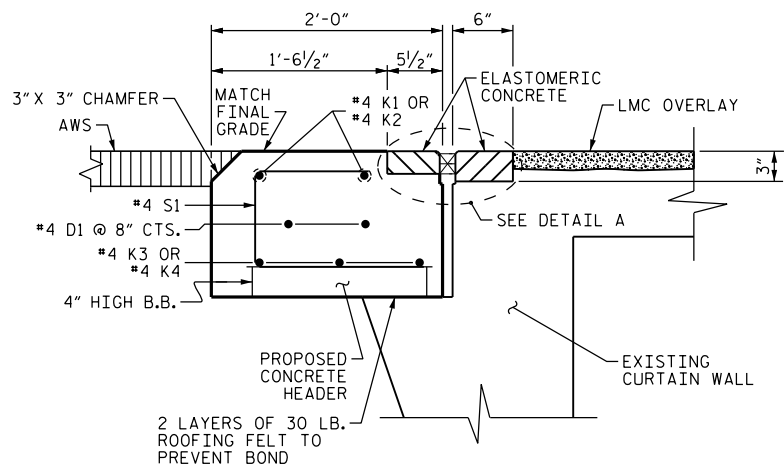
BAR TYPES



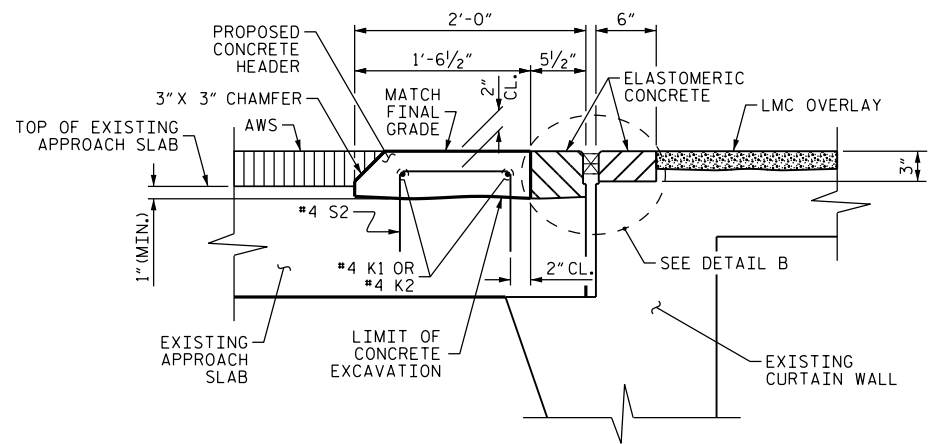
ALL BAR DIMENSIONS ARE OUT TO OUT.



TYPICAL SECTION
 (FILL FACE @ END BENT 1 SHOWN. END BENT 2 SIMILAR.)



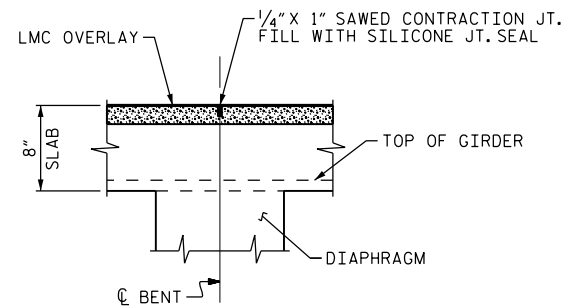
SECTION A-A



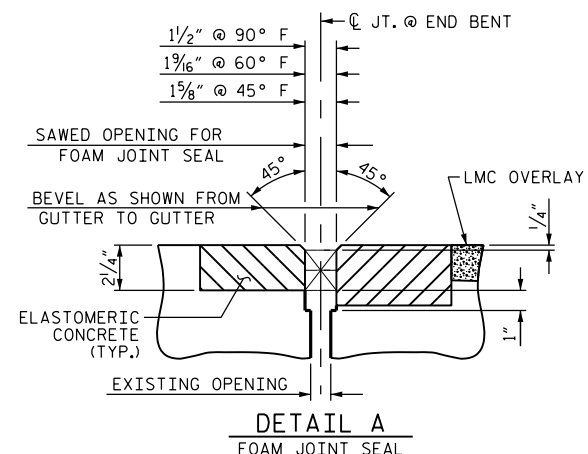
SECTION B-B

ELASTOMERIC CONCRETE		
END BENT 1	10.5	(CU. FT.)
END BENT 2	10.5	(CU. FT.)
* TOTAL	21.0	(CU. FT.)

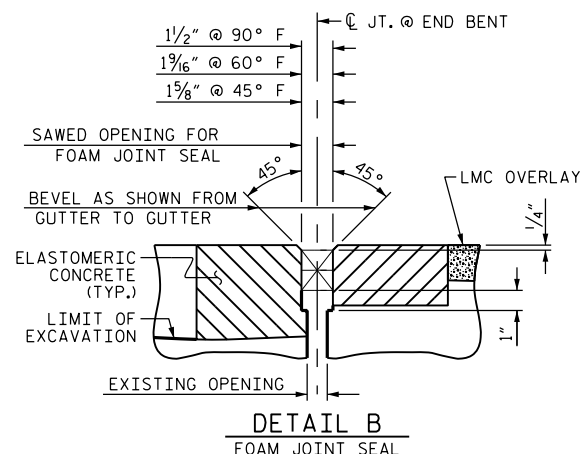
* BASED ON THE MINIMUM BLOCKOUT SHOWN.



SECTION C-C



DETAIL A
 FOAM JOINT SEAL



DETAIL B
 FOAM JOINT SEAL

DocuSigned by:
 John A. Yannaccone
 7BC36E9C
 NORTH CAROLINA PROFESSIONAL SEAL 32492
 JOHN A. YANNACCONI
 ENGINEER

3/21/2016

PROJECT NO. I-5756
 HAYWOOD COUNTY
 BRIDGE NO. 222

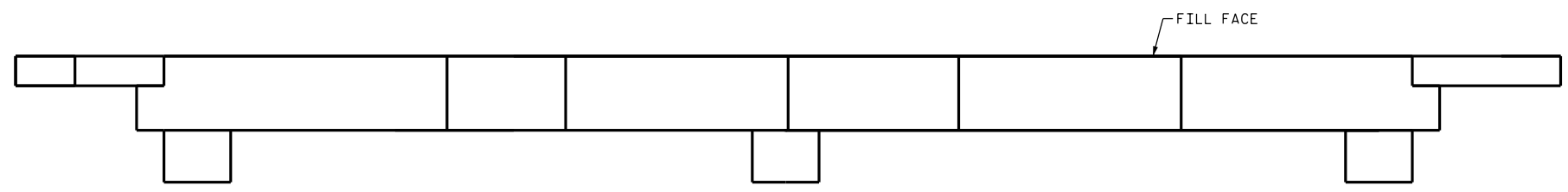
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

JOINT DETAILS

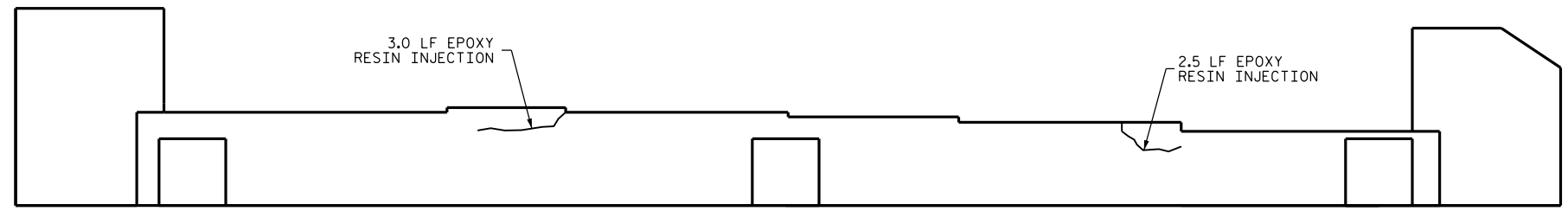
DRAWN BY: J. YANNACCONI DATE: 3/16
 CHECKED BY: S. WANCE DATE: 3/16

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-42
1			3			TOTAL SHEETS
2			4			122

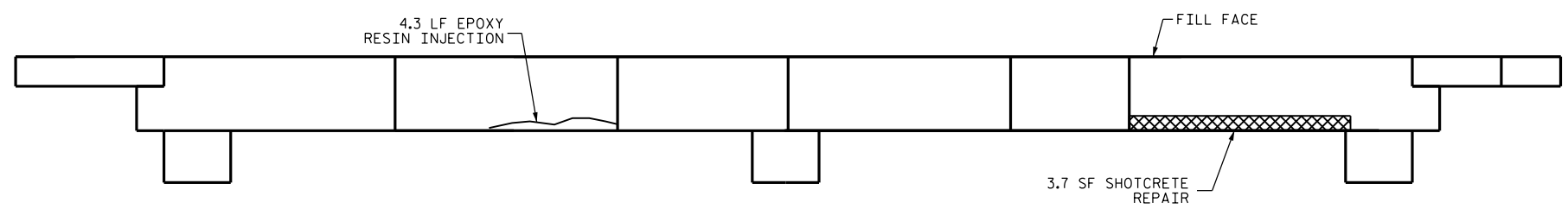


PLAN

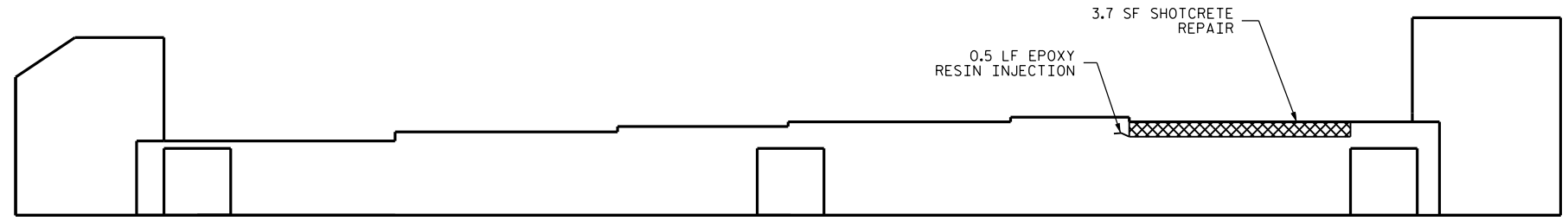


ELEVATION

END BENT 1



PLAN



ELEVATION

END BENT 2

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		
CAP		5.5		

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	7.4	6.2 *		
EPOXY RESIN INJECTION		LN. FT		
CAP		4.8		

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

NOTES

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

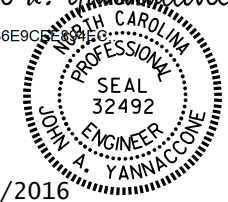
FOR CAP REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 222

DocuSigned by:
John A. Yannaccone
 7BC36E9C8E04E04E04E04E04E04E04E



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 1 & 2

DRAWN BY : W.O. KEITH DATE : 9/15
 CHECKED BY : J. YANNACCONE DATE : 11/15

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-43
1			3			TOTAL SHEETS
2			4			122

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NOTES

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

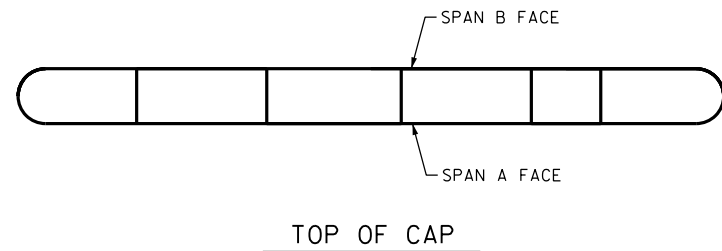
FOR CAP REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	16.0	12.0*		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SO. FT		SO. FT
TOP OF BENT CAP		0		

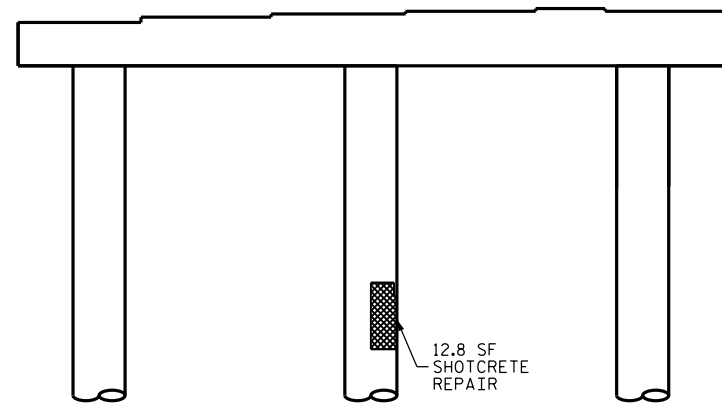
VALUES IN CHARTS REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT.



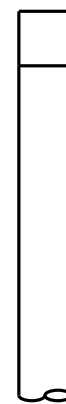
TOP OF CAP



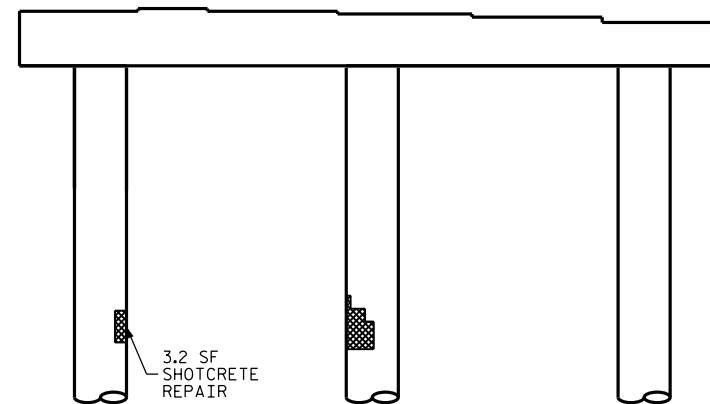
END VIEW
NORTH FACE



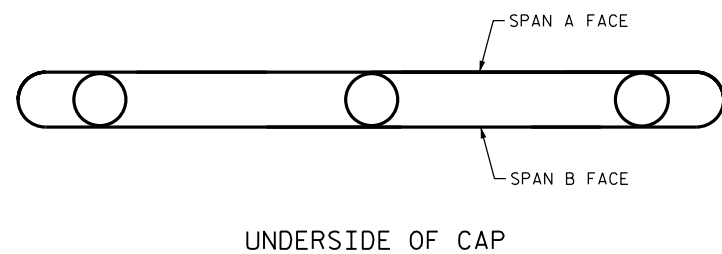
SPAN A FACE



END VIEW
SOUTH FACE



SPAN B FACE



UNDERSIDE OF CAP

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 222

SHEET 1 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9C...
 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 32492
 ENGINEER
 JOHN A. YANNACCONI

3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 1

DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J. YANNACCONI DATE : 11/15

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-44
1			3			TOTAL SHEETS
2			4			122

NOTES

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

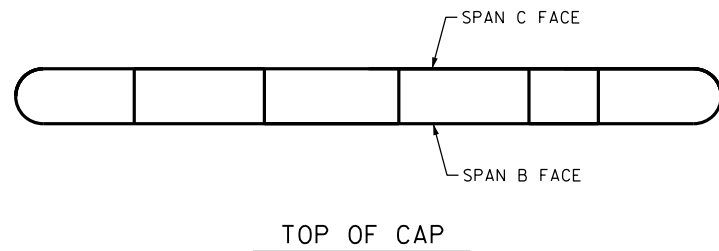
FOR CAP REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

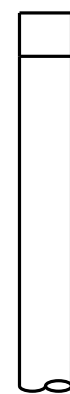
AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	18.2	13.8 *		
EPOXY RESIN INJECTION	LN. FT		LN. FT	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT		SQ. FT	
TOP OF BENT CAP	0			

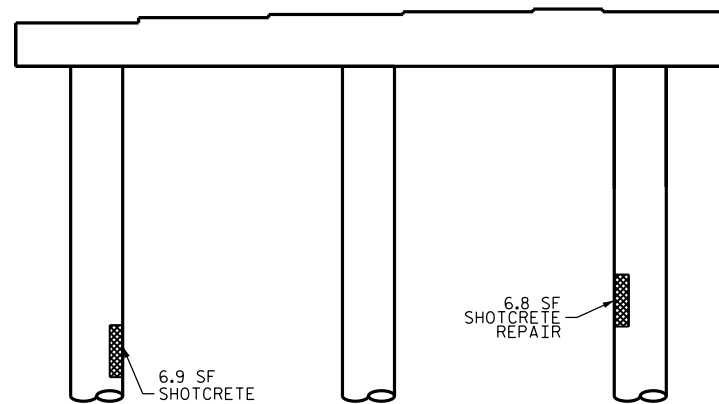
VALUES IN CHARTS REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT.



TOP OF CAP



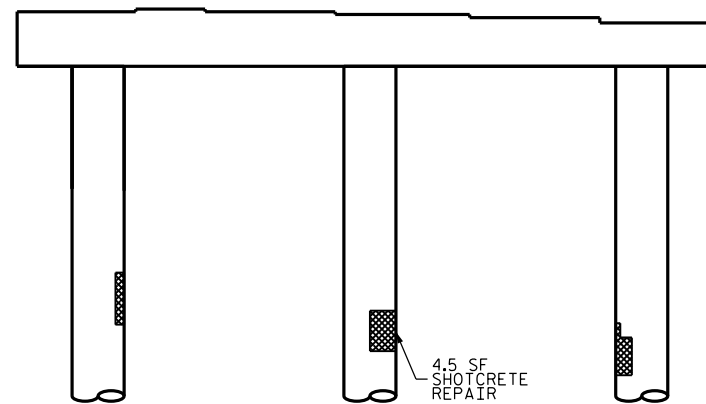
END VIEW
NORTH FACE



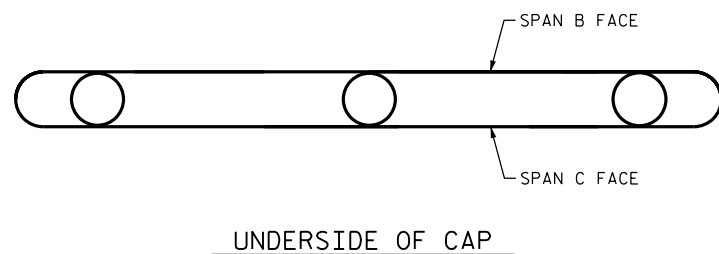
SPAN B FACE



END VIEW
SOUTH FACE



SPAN C FACE



UNDERSIDE OF CAP

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 222

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9C5...
 STATE OF NORTH CAROLINA
 PROFESSIONAL ENGINEER
 SEAL
 32492
 JOHN A. YANNACCONI
 3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

 BENT 2

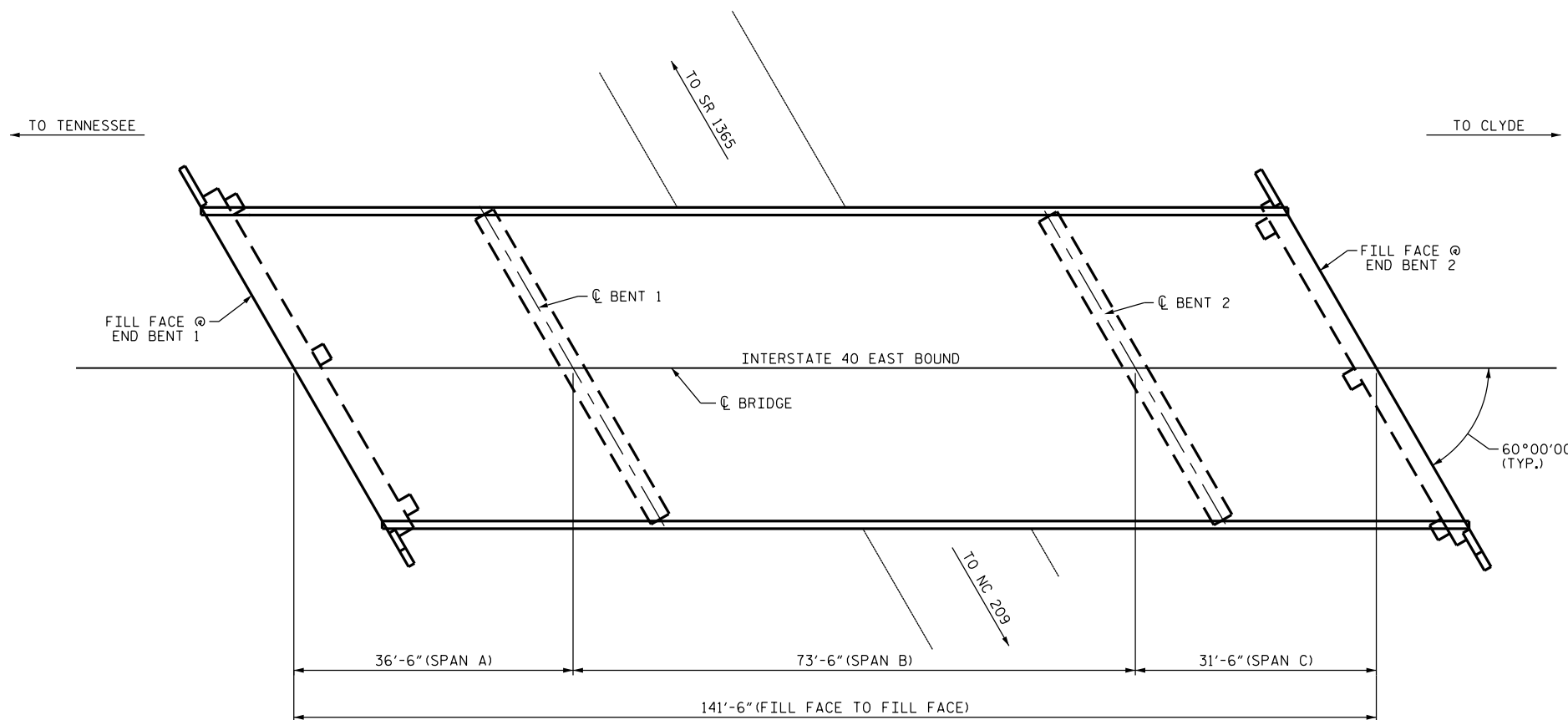
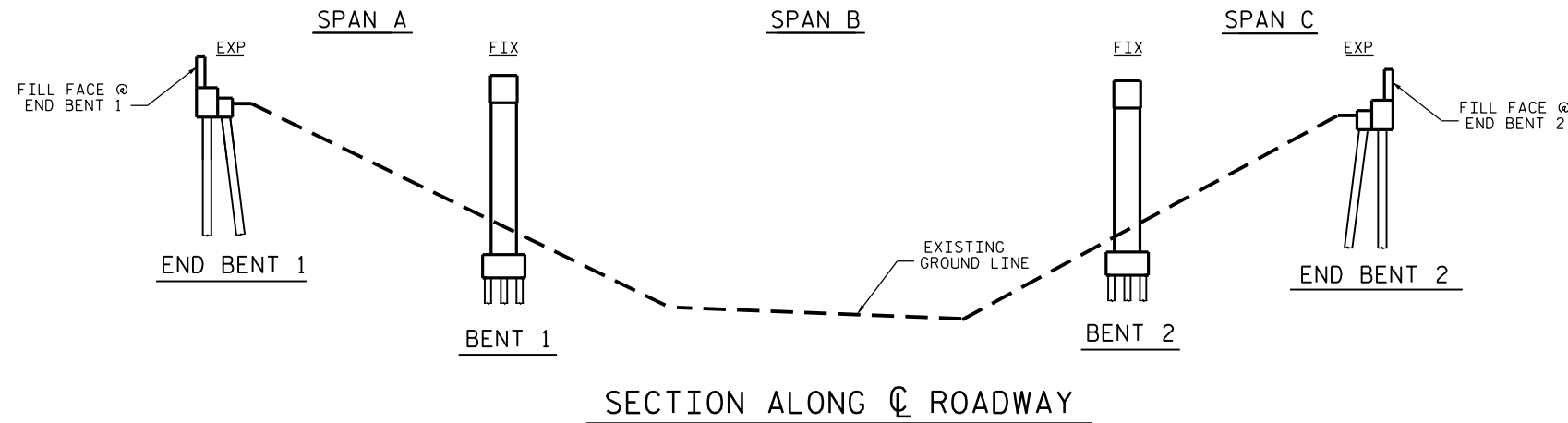
DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J. YANNACCONI DATE : 11/15

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-45
1			3			TOTAL SHEETS
2			4			122

NOTES

PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 05/21/2015.
BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.



PLAN

SCOPE OF WORK

- CLEAN, PAINT AND REPAIR STEEL I-BEAMS AND BEARINGS.
- EPOXY INJECTION OF CONCRETE CRACKS.
- CLEAN AND REPAIR REBAR IN CONCRETE REPAIR AREAS.
- PERFORM SHOTCRETE REPAIRS IN PREPARED AREAS.
- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND HYDRO-DEMOLITION METHODS.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- OVERLAY PREPARED BRIDGE DECK WITH LATEX MODIFIED CONCRETE.
- CONSTRUCT CONCRETE HEADERS AT END BENTS.
- RECONSTRUCT BRIDGE JOINTS AND INSTALL JOINT SEALS.
- GROOVE LATEX MODIFIED CONCRETE BRIDGE DECK.

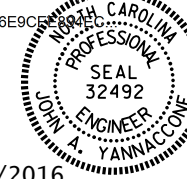
I HEREBY CERTIFY THAT THIS STRUCTURE WAS REHABILITATED ACCORDING TO THESE PLANS OR AS NOTED HEREIN.

RESIDENT ENGINEER

DocuSigned by:

John A. Yannaccone

7BC36E9CE8845C



3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 223

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**GENERAL DRAWING
FOR BRIDGE ON I-40 EBL
OVER SR 1364
(IRON DUFF ROAD)**

DRAWN BY : R.Z. DEAN DATE : 09/15
CHECKED BY : J. YANNACCONI DATE : 11/15

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SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-46
1			3			TOTAL SHEETS
2			4			122



LOCATION SKETCH

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

NOTES

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

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

FOR OVERLAY OF BRIDGE WITH LATEX MODIFIED CONCRETE, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK.

FOR SCARIFYING BRIDGE DECK, HYDRO-DEMOLITION OF BRIDGE DECK, AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING REPAIR OF BRIDGE DECKS.

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

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

FOR PAINTING CONTAINMENT, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR CLEANING AND REPAINTING OF BRIDGE, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR POLLUTION CONTROL, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 223

SHEET 2 OF 2

DocuSigned by:
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 7BC36E9CE
 STATE OF NORTH CAROLINA
 PROFESSIONAL ENGINEER
 SEAL
 32492
 JOHN A. YANNACCONI
 3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE ON I-40 EBL
 OVER SR 1364
 (IRON DUFF ROAD)

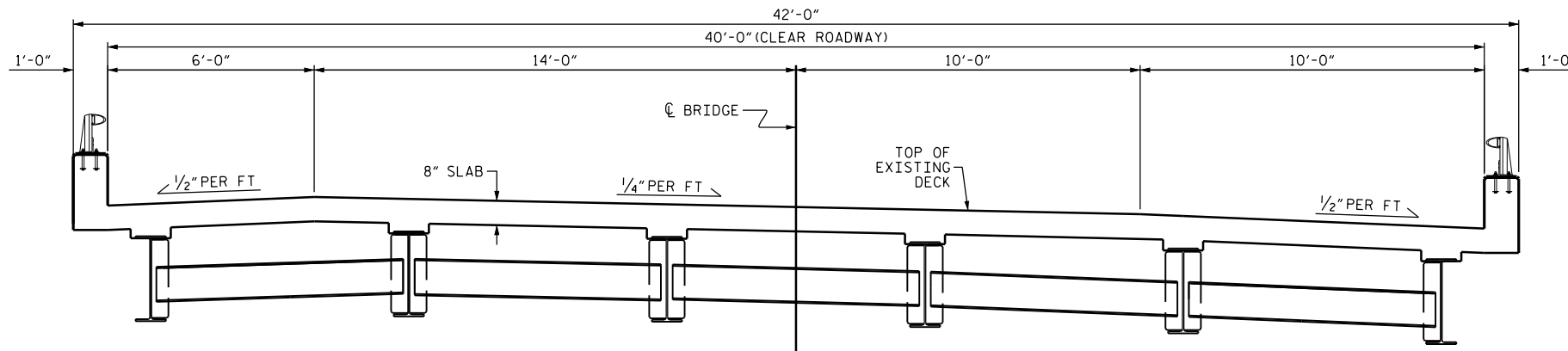
DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J. YANNACCONI DATE : 11/15

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

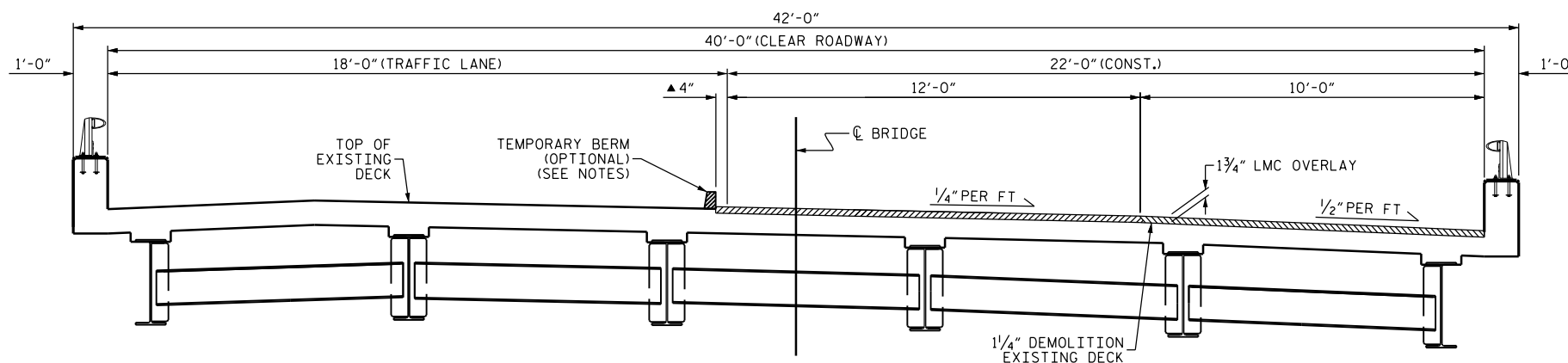
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-47
1			3			TOTAL SHEETS
2			4			122

NOTES

THE WORK STAGING ON THIS PLAN SHEET INDICATES THAT THE RIGHT LANE LMC WORK IS PERFORMED FIRST, FOLLOWED BY THE LEFT LANE LMC WORK. THE CONTRACTOR MAY ELECT TO SEQUENCE THE WORK DIFFERENTLY, BUT THE DIMENSIONS OF THE WORK ZONE AND CLEAR ROADWAY AREAS SHALL MATCH THAT INDICATED ON THIS PLAN SHEET, RESPECTIVE TO THE LANE WHERE THE LMC WORK IS BEING PERFORMED.

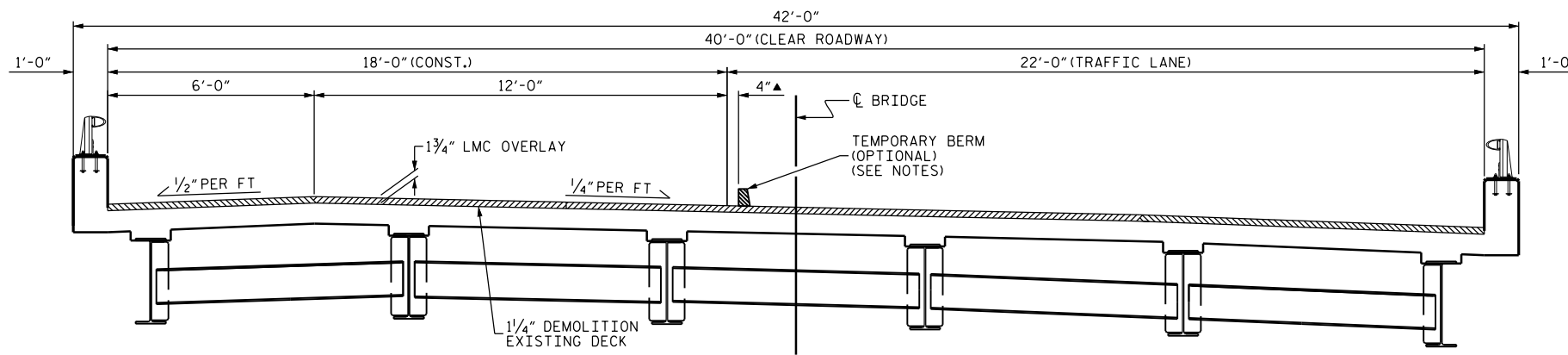


TYPICAL SECTION
(EXISTING)

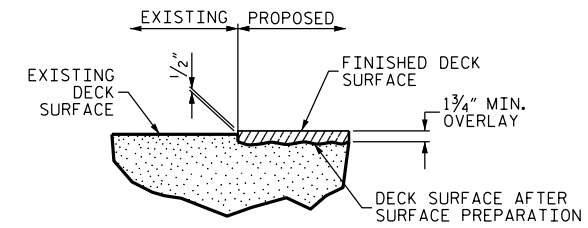


TYPICAL SECTION
(RIGHT LANE LMC WORK)

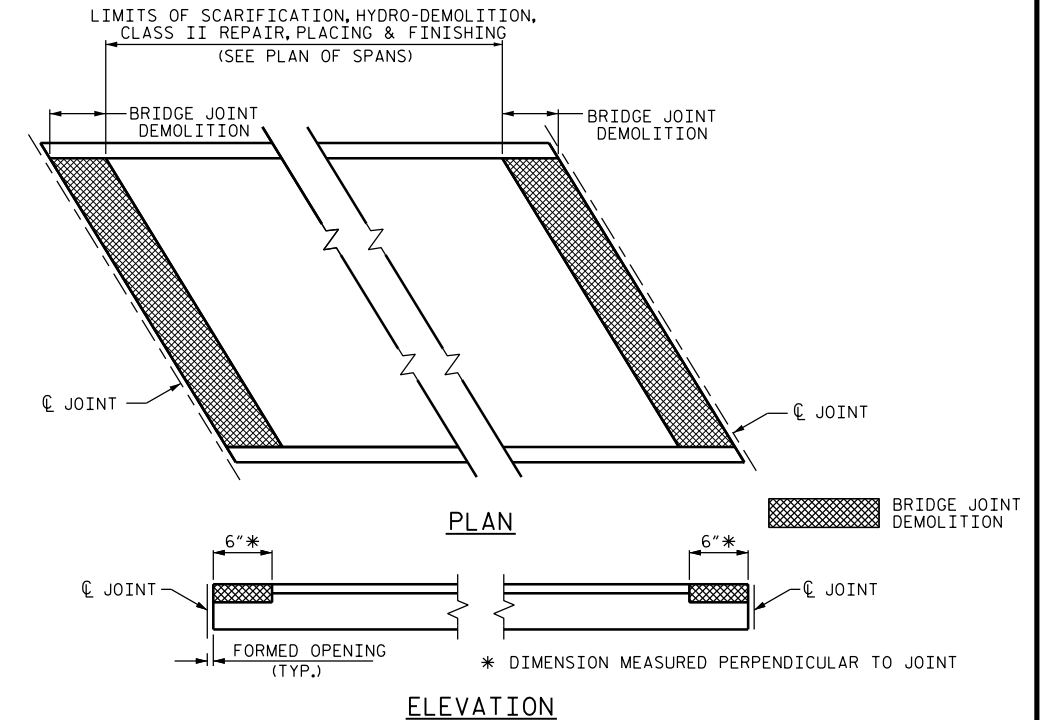
▲ 4" OVERLAP BETWEEN OVERLAYS
PREVIOUSLY POURED LMC
TO BE HYDRO-DEMOLITIONED
& RECAST WITH LMC



TYPICAL SECTION
(LEFT LANE LMC WORK)



DETAIL FOR LMC OVERLAY



PAY LIMITS FOR OVERLAY BID ITEMS

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 223

DocuSigned by:
John A. Yannaccone
7BC36E9CE8888
NORTH CAROLINA
PROFESSIONAL
SEAL
32492
ENGINEER
JOHN A. YANNACCONI

3/21/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**TYPICAL SECTION
AND SURFACE
PREPARATION DETAILS**

DRAWN BY : R.Z. DEAN DATE : 9/15
CHECKED BY : J. YANNACCONI DATE : 11/15

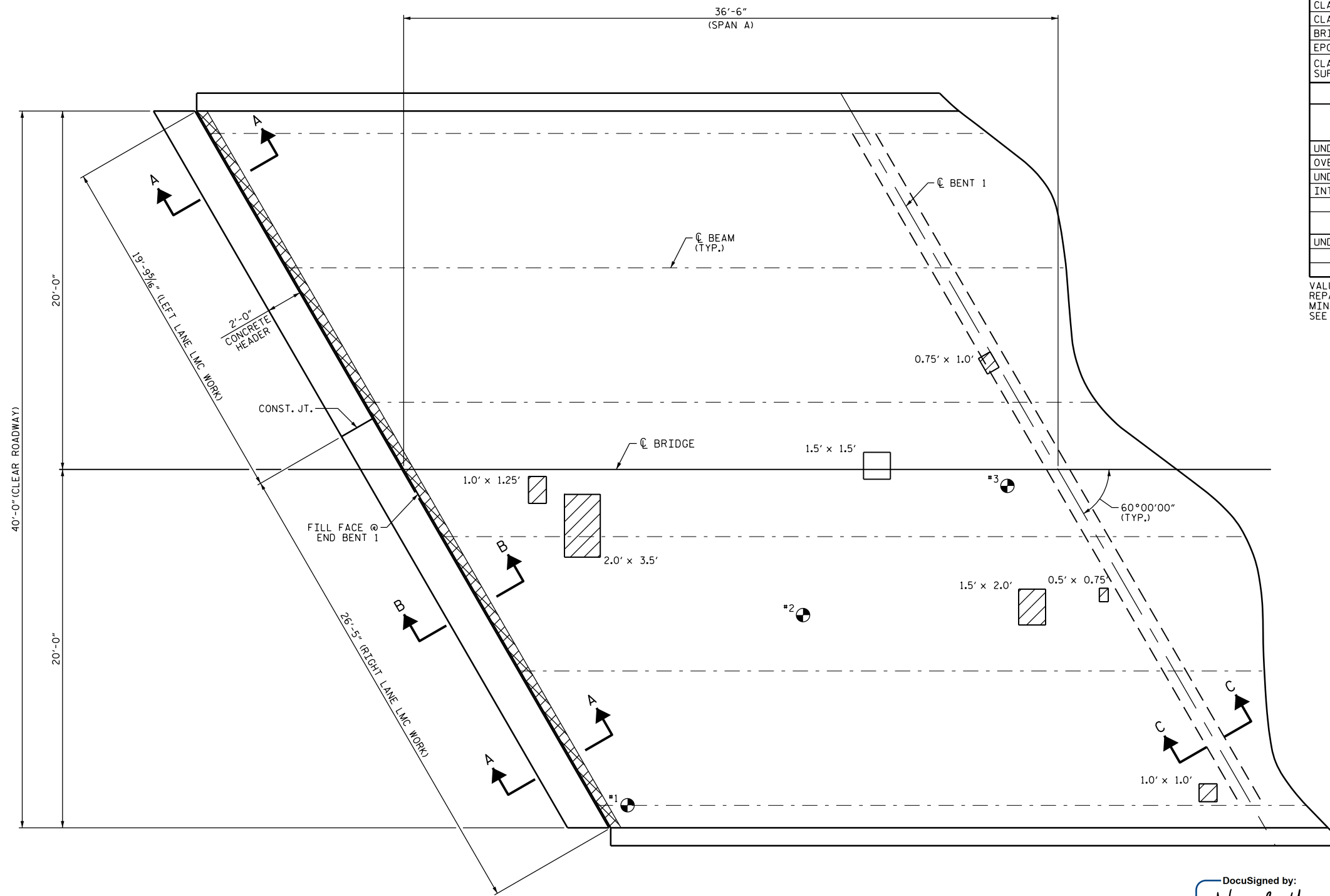
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Jayannaccone

DOCUMENT NOT CONSIDERED
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SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-48
1			3			TOTAL SHEETS
2			4			122

← TO TENNESSEE

→ TO CLYDE



AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	159 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	159 SY	
CLASS II SURFACE PREPARATION	1.8 SY	
CLASS III SURFACE PREPARATION	0.0 SY	
BRIDGE JOINT DEMOLITION	23.0 SF	
EPOXY RESIN INJECTION	0.0 LF	
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY	

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

	ESTIMATE	ACTUAL
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF	

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

- APPROX. CLASS II AREA
- APPROX. CLASS III AREA
- BRIDGE JOINT DEMOLITION
- UNDERSIDE REPAIR
- DIAPHRAGM REPAIR
- #1 TEST LOCATION
- ERI EPOXY RESIN INJECTION

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 223

SHEET 1 OF 3

DocuSigned by:
John A. Yannaccone
 7BC36E9C68



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN SPAN A

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-49
1			3			TOTAL SHEETS
2			4			122

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NOTES

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

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/2" PER THE EXISTING BRIDGE PLANS.

PRIOR TO PLACEMENT OF THE LMC OVERLAY ACROSS THE CONTINUOUS DECK SPANS, THE CONTRACTOR SHALL SUBMIT A POUR SEQUENCE FOR APPROVAL BY THE ENGINEER.

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

PLAN

TEST LOCATION	CONCRETE STRENGTH (PSI)
#1	6500
#2	6990
#3	8520

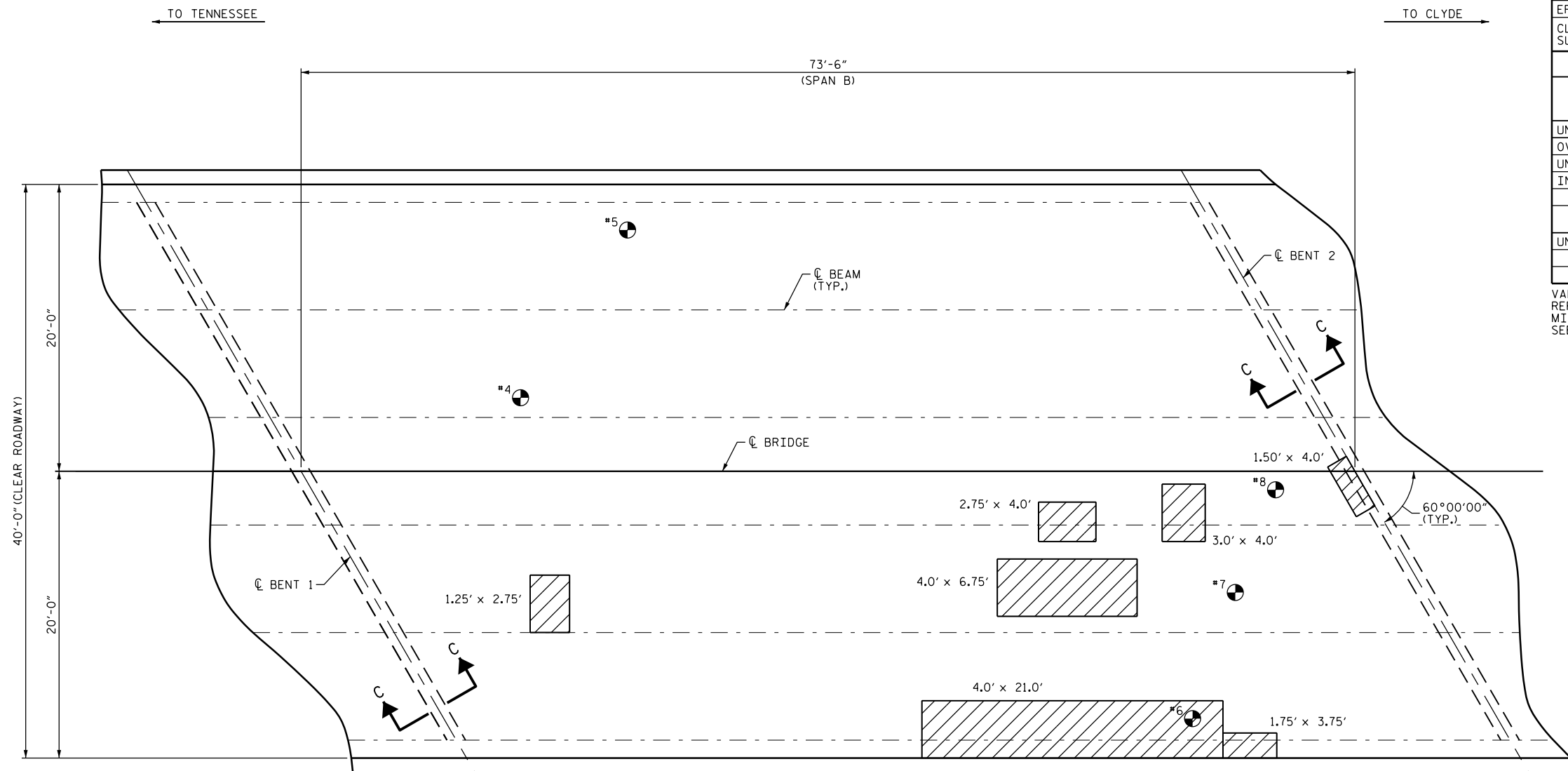
INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 10/12/2015.

DRAWN BY: S. WANCE DATE: 11/15
 CHECKED BY: J. YANNACCONE DATE: 12/15

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE	ACTUAL		
SCARIFYING BRIDGE DECK	327 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	327 SY			
CLASS II SURFACE PREPARATION	16.7 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
BRIDGE JOINT DEMOLITION	0.0 SF			
EPOXY RESIN INJECTION	0.0 LF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
		ESTIMATE	ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION		0.0 LF		

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



- APPROX. CLASS II AREA
- APPROX. CLASS III AREA
- BRIDGE JOINT DEMOLITION
- UNDERSIDE REPAIR
- DIAPHRAGM REPAIR
- #1 TEST LOCATION
- ERI EPOXY RESIN INJECTION

PLAN

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 223

SHEET 2 OF 3

TEST LOCATION	CONCRETE STRENGTH (PSI)
#4	5220
#5	6100
#6	6010
#7	6150
#8	6330

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 10/12/2015.

NOTES

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CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1/2" PER THE EXISTING BRIDGE PLANS.

PRIOR TO PLACEMENT OF THE LMC OVERLAY ACROSS THE CONTINUOUS DECK SPANS, THE CONTRACTOR SHALL SUBMIT A POUR SEQUENCE FOR APPROVAL BY THE ENGINEER.

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

DocuSigned by:
John A. Yannaccone
 7BC36E9C...

 3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN
 SPAN B

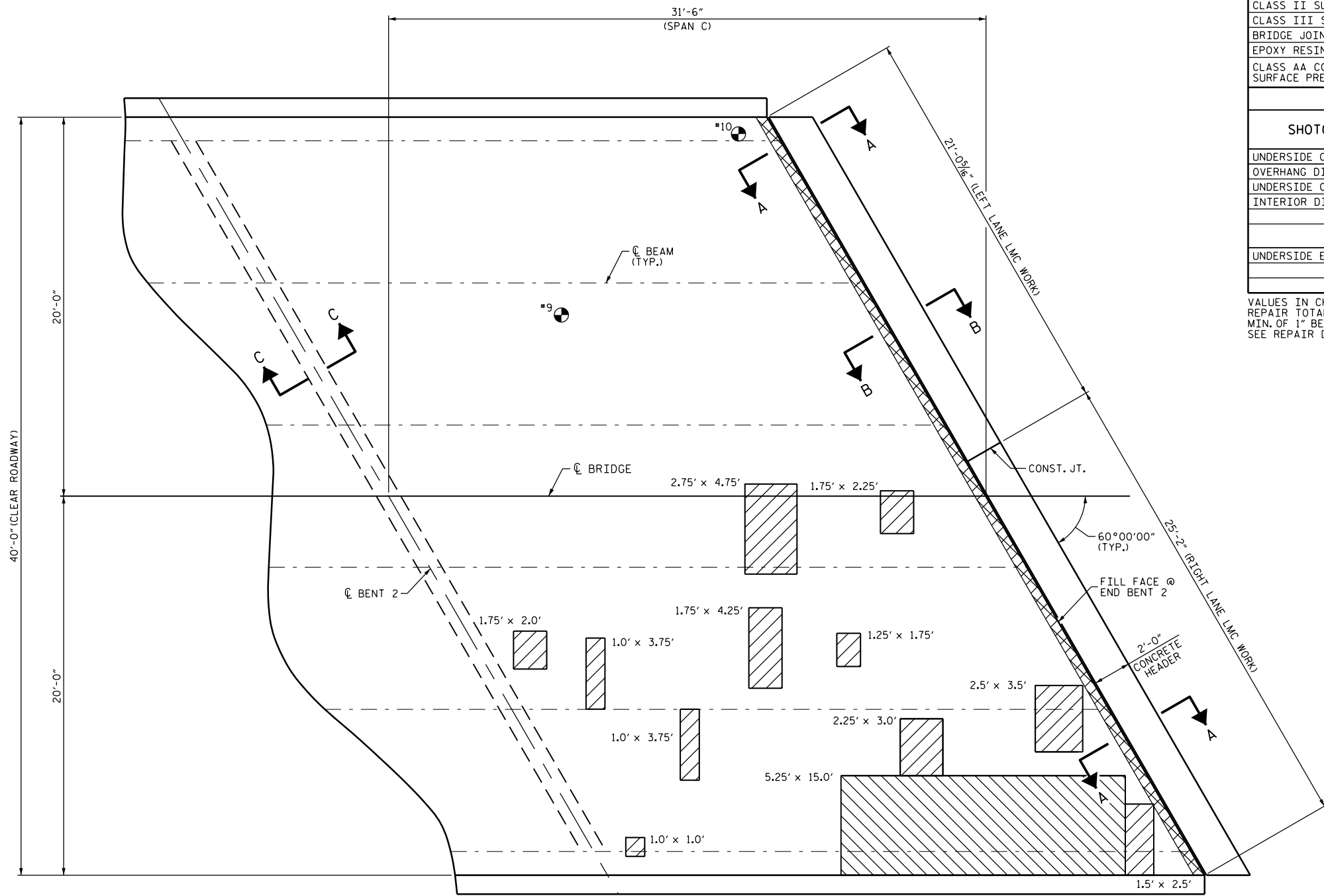
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-50
2			4			122

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DRAWN BY : S. WANCE DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

← TO TENNESSEE

TO CLYDE →



AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	137 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	137 SY	
CLASS II SURFACE PREPARATION	6.5 SY	
CLASS III SURFACE PREPARATION	8.8 SY	
BRIDGE JOINT DEMOLITION	23.0 SF	
EPOXY RESIN INJECTION	0.0 LF	
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	1.6 CY	
UNDERSIDE OF DECK REPAIRS		
SHOTCRETE REPAIRS		
	ESTIMATE	ACTUAL
UNDERSIDE OF DECK	0.0	0.0
OVERHANG DIAPHRAGMS	0.0	0.0
UNDERSIDE OF OVERHANG	0.0	0.0
INTERIOR DIAPHRAGMS	0.0	0.0
UNDERSIDE EPOXY RESIN INJECTION		
	ESTIMATE	ACTUAL
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF	

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

- APPROX. CLASS II AREA
- APPROX. CLASS III AREA
- BRIDGE JOINT DEMOLITION
- UNDERSIDE REPAIR
- DIAPHRAGM REPAIR
- TEST LOCATION
- ERI EPOXY RESIN INJECTION

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 223

SHEET 3 OF 3

NOTES

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

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/2" PER THE EXISTING BRIDGE PLANS.

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

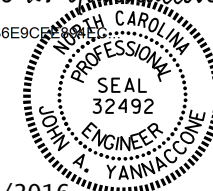
FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

PLAN

TEST LOCATION	CONCRETE STRENGTH (PSI)
#9	5930
#10	6300

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 10/12/2015.

DocuSigned by:
John A. Yannaccone
 7BC36E9C...



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN SPAN C

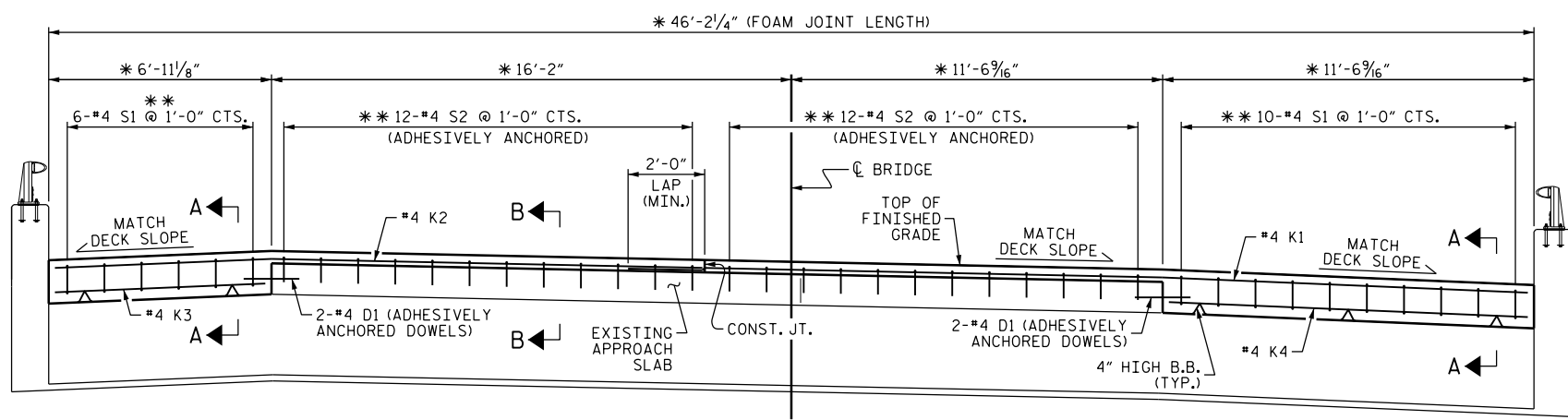
DRAWN BY: S. WANCE DATE: 11/15
 CHECKED BY: J. YANNACCONE DATE: 12/15

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-51
2			4			TOTAL SHEETS 122

NOTES

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.
 FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.
 FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
 THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.
 NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 2".
 THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE FOAM JOINT SEAL IN LIEU OF SAWING THE JOINT.
 FOR ADHESIVELY ANCHORED DOWELS, NO FIELD TESTING IS REQUIRED. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE ARTICLE 420-13 OF THE STANDARD SPECIFICATIONS.
 PLACE #4 S1 AND #4 S2 BARS PARALLEL TO BRIDGE CENTERLINE.
 CONSTRUCTION JOINT SHALL BE PERPENDICULAR TO THE FILL FACE OF THE END BENT.



TYPICAL SECTION
 (FILL FACE @ END BENT 1 SHOWN. END BENT 2 SIMILAR.)

* DIMENSION MEASURED ALONG FILL FACE
 ** BAR SPACING MEASURED PERPENDICULAR TO BRIDGE CENTERLINE

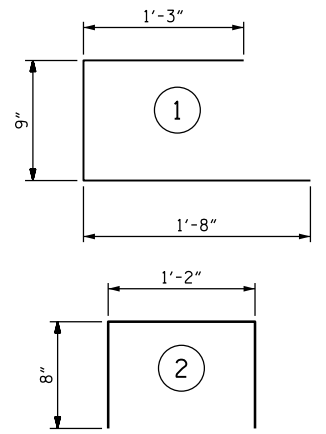
BILL OF MATERIAL
 FOR ONE END BENT JOINT

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
D1	4	#4	STR	1'-6"	4
K1	2	#4	STR	28'-0"	37
K2	2	#4	STR	19'-10"	27
K3	3	#4	STR	6'-7"	13
K4	3	#4	STR	11'-3"	23
S1	16	#4	1	3'-8"	39
S2	24	#4	2	2'-6"	40

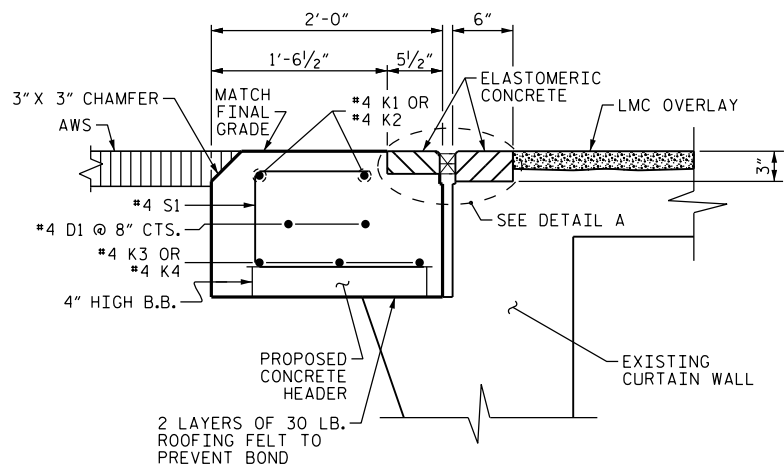
REINFORCING STEEL
 (FOR ONE END BENT JOINT) 183 LBS.

CLASS AA CONCRETE
 (FOR ONE END BENT JOINT) 2.2 CU. YDS.

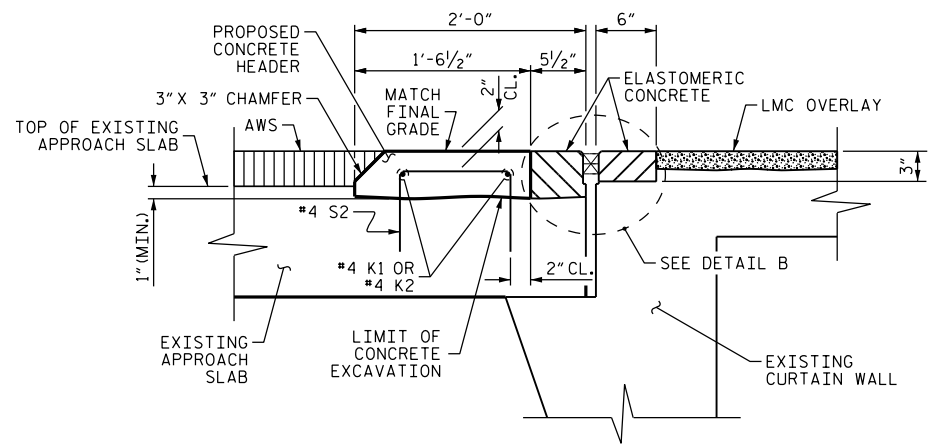
BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.



SECTION A-A

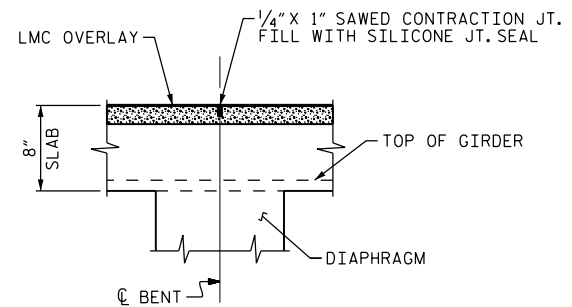


SECTION B-B

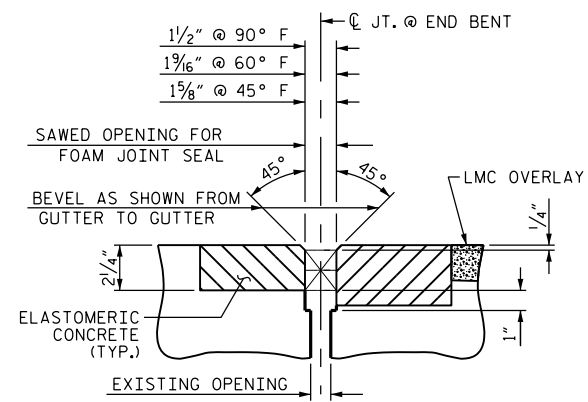
ELASTOMERIC CONCRETE

END BENT 1	12.2	(CU. FT.)
END BENT 2	12.2	(CU. FT.)
* TOTAL	24.4	(CU. FT.)

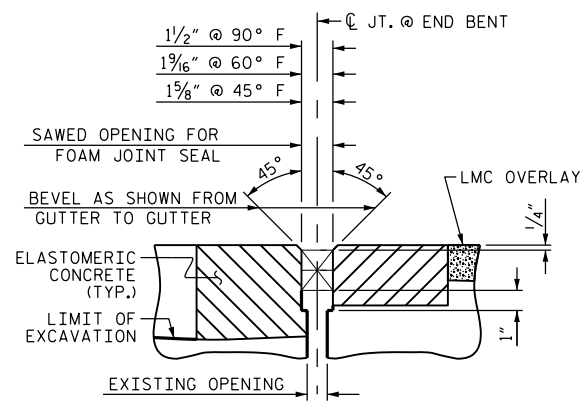
* BASED ON THE MINIMUM BLOCKOUT SHOWN.



SECTION C-C



DETAIL A
 FOAM JOINT SEAL



DETAIL B
 FOAM JOINT SEAL

DocuSigned by:
 John A. Yannaccone
 7BC36E9CE
 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 32492
 JOHN A. YANNACCONI
 ENGINEER

3/21/2016

PROJECT NO. I-5756
 HAYWOOD COUNTY
 BRIDGE NO. 223

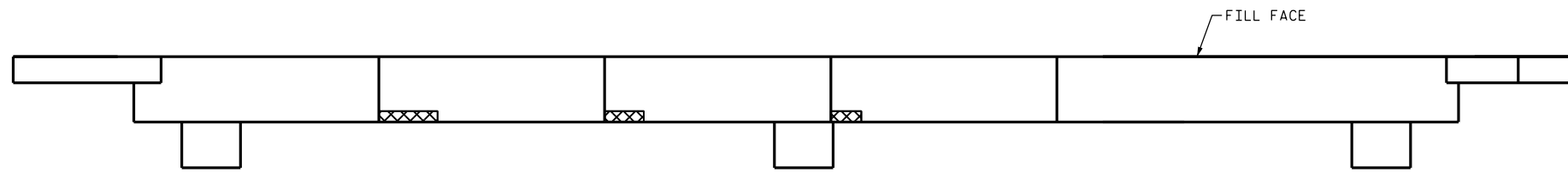
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

JOINT DETAILS

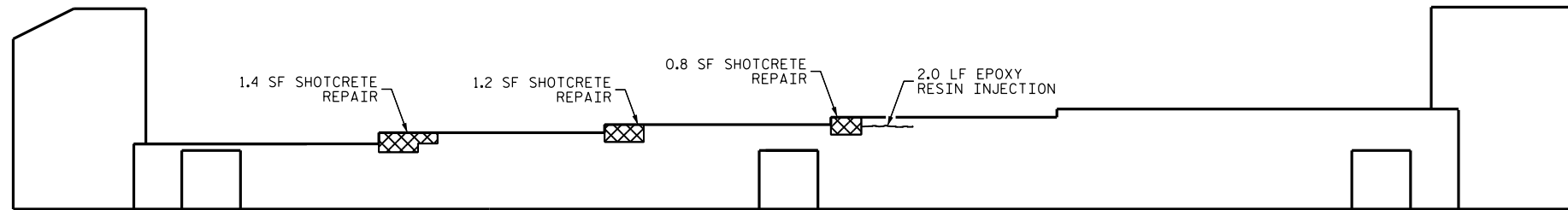
DRAWN BY : J. YANNACCONI DATE : 3/16
 CHECKED BY : S. WANCE DATE : 3/16

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-52
1			3			TOTAL SHEETS
2			4			122

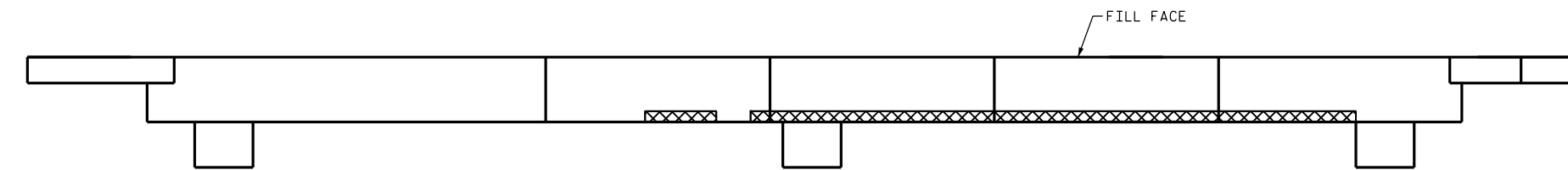


PLAN

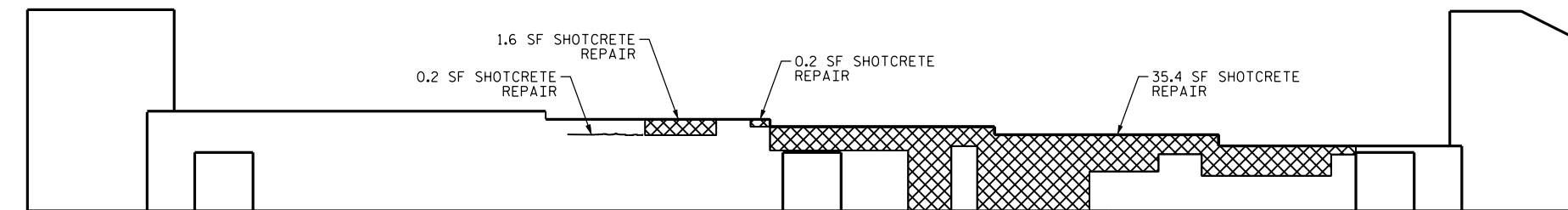


ELEVATION

END BENT 1



PLAN



ELEVATION

END BENT 2

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	3.4	2.8*		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		2.0		

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	37.2	31.0*		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		3.0		

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

NOTES

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

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 223

DocuSigned by:
John A. Yannaccone
 7BC36E9C...
 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 32492
 ENGINEER
 JOHN A. YANNACCONI
 3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 END BENT 1 & 2

DRAWN BY : R. Z. DEAN DATE : 10/15
 CHECKED BY : J. YANNACCONI DATE : 11/15

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-53
2			4			122

NOTES

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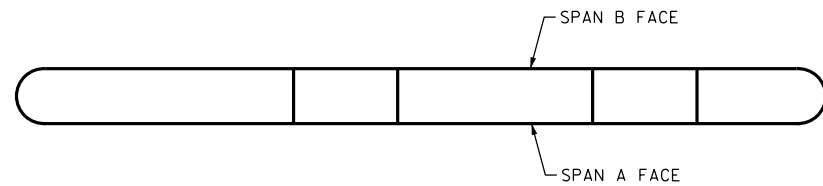
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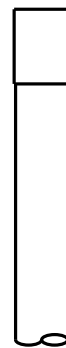
AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	8.4	7.1 *		
EPOXY RESIN INJECTION			LN. FT	LN. FT
CAP			0.0	
COLUMN			0.0	
EPOXY COATING			SO. FT	SO. FT
TOP OF BENT CAP			0	

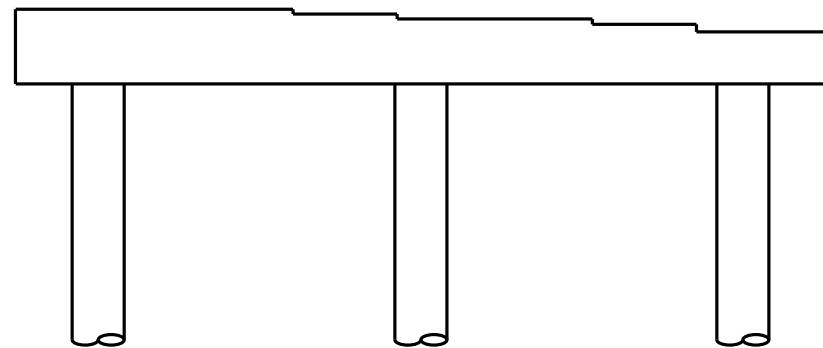
VALUES IN CHARTS REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT.



TOP OF CAP



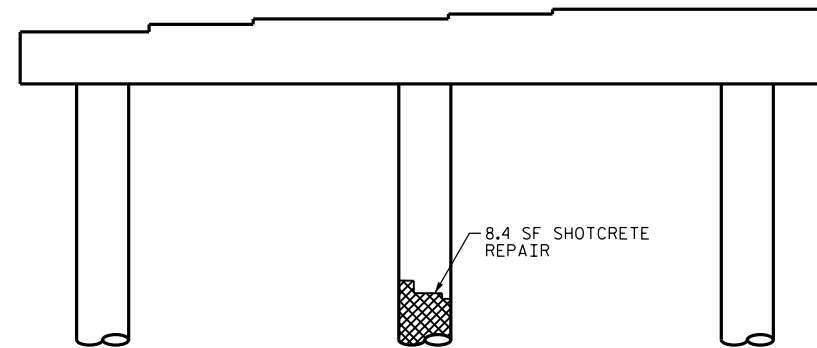
END VIEW NORTH FACE



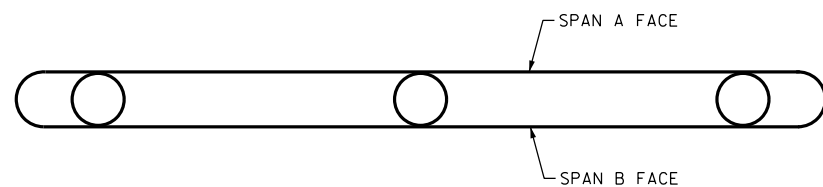
SPAN A FACE



END VIEW SOUTH FACE



SPAN B FACE



UNDERSIDE OF CAP

PROJECT NO. I-5756
 HAYWOOD COUNTY
 BRIDGE NO. 223

SHEET 1 OF 2

DocuSigned by:
 John A. Yannaccone



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 1

DRAWN BY : R. Z. DEAN DATE : 09/15
 CHECKED BY : J. YANNACCONI DATE : 12/15

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-54
1			3			TOTAL SHEETS
2			4			122

NOTES

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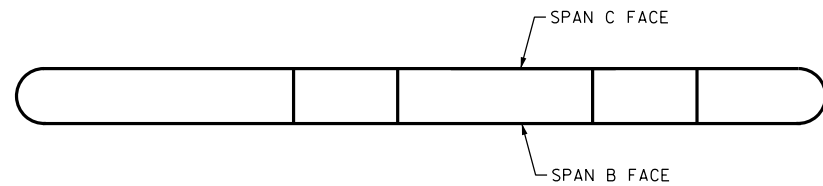
FOR CAP REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

AS-BUILT REPAIR QUANTITY TABLE

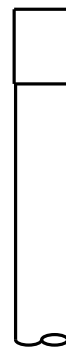
REPAIRS BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT		LN. FT	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT		SQ. FT	
TOP OF BENT CAP	0			

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

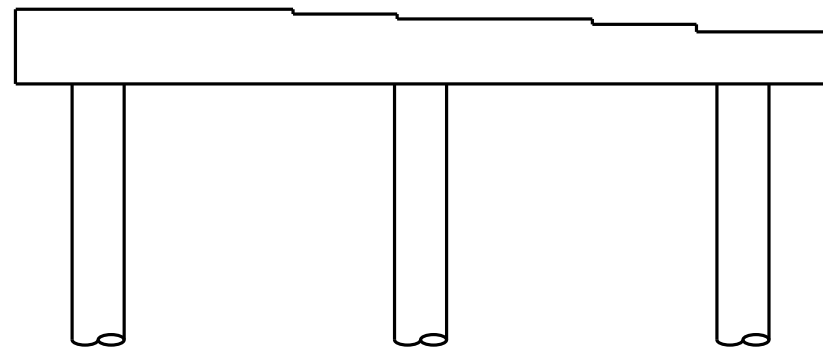
NO REPAIRS NOTED FOR BENT 2 DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE BENT PRIOR TO BEGINNING WORK.



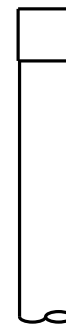
TOP OF CAP



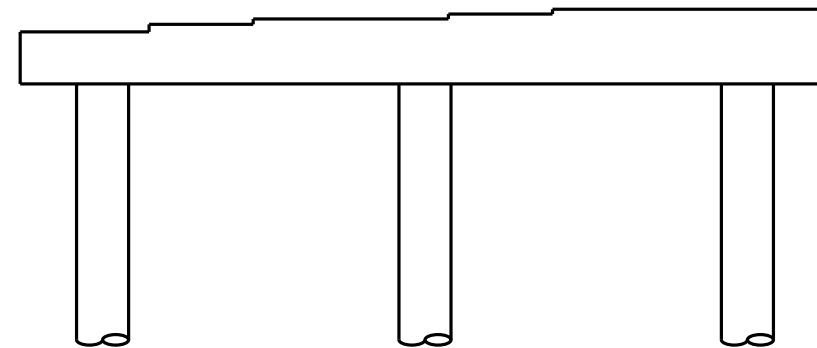
END VIEW
NORTH FACE



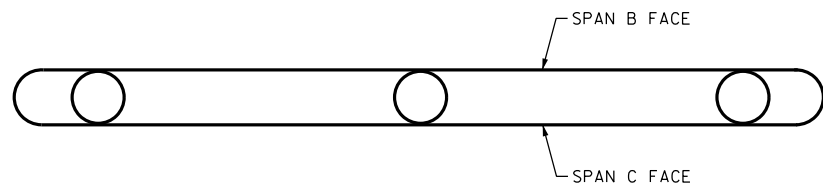
SPAN B FACE



END VIEW
SOUTH FACE



SPAN C FACE



UNDERSIDE OF CAP

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 223

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9C...



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

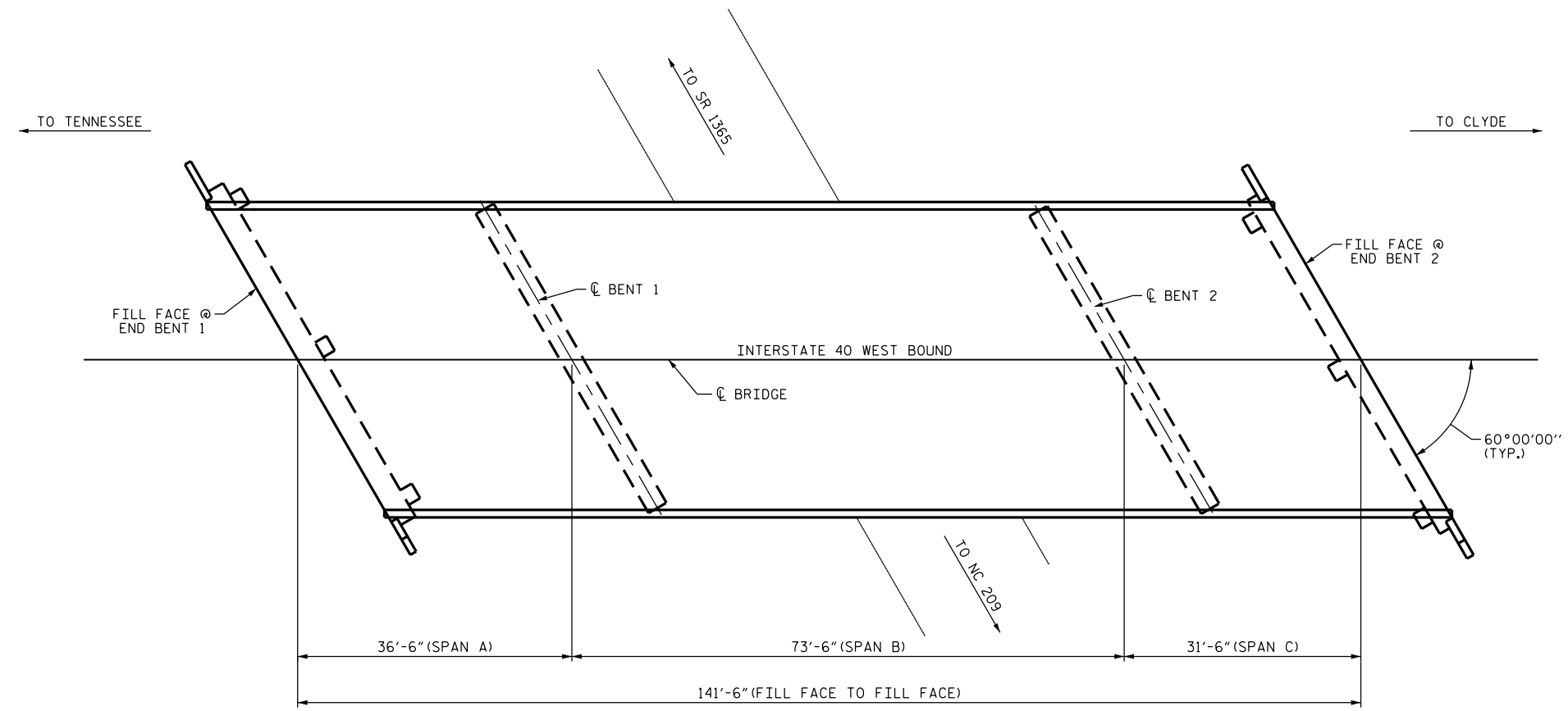
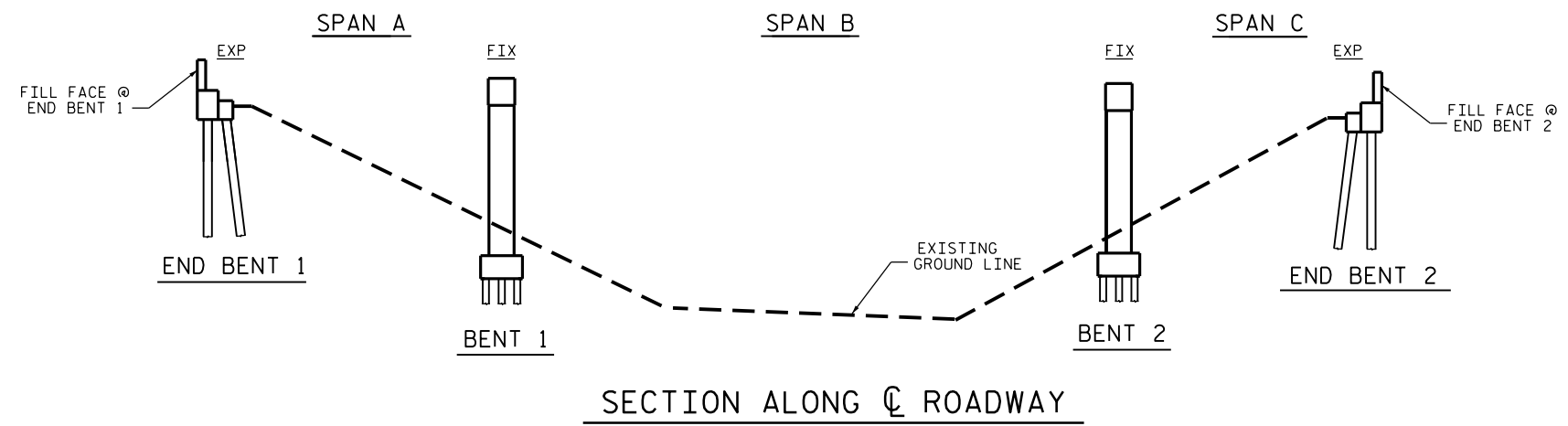
BENT 2

DRAWN BY : R. Z. DEAN DATE : 09/15
 CHECKED BY : J. YANNACCONI DATE : 12/15

DOCUMENT NOT CONSIDERED
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-55
2			4			122

NOTES
 PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 05/21/2015.
 BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS. ORIENTATION OF ROUTINE INSPECTION REPORTS MAY VARY.



PLAN

SCOPE OF WORK

- CLEAN, PAINT AND REPAIR STEEL I-BEAMS AND BEARINGS.
- EPOXY INJECTION OF CONCRETE CRACKS.
- CLEAN AND REPAIR REBAR IN CONCRETE REPAIR AREAS.
- PERFORM SHOTCRETE REPAIRS IN PREPARED AREAS.
- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND HYDRO-DEMOLITION METHODS.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- OVERLAY PREPARED BRIDGE DECK WITH LATEX MODIFIED CONCRETE.
- CONSTRUCT CONCRETE HEADERS AT END BENTS.
- RECONSTRUCT BRIDGE JOINTS AND INSTALL JOINT SEALS.
- GROOVE LATEX MODIFIED CONCRETE BRIDGE DECK.

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

RESIDENT ENGINEER

DocuSigned by:
John A. Yannaccone
 7BC36E9CE
 NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 32492
 JOHN A. YANNACCONI
 3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 224

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE ON I-40 WBL
 OVER SR 1364
 (IRON DUFF ROAD)

DRAWN BY : R.Z. DEAN DATE : 09/15
 CHECKED BY : J. YANNACCONI DATE : 11/15

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-56
1			3			TOTAL SHEETS
2			4			122



LOCATION SKETCH

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

NOTES

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

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

FOR OVERLAY OF BRIDGE WITH LATEX MODIFIED CONCRETE, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK.

FOR SCARIFYING BRIDGE DECK, HYDRO-DEMOLITION OF BRIDGE DECK, AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING REPAIR OF BRIDGE DECKS.

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

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

FOR PAINTING CONTAINMENT, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR CLEANING AND REPAINTING OF BRIDGE, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR POLLUTION CONTROL, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

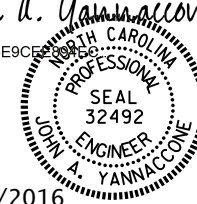
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 224

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9CE
 3/21/2016



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE ON I-40 WBL
 OVER SR 1364
 (IRON DUFF ROAD)

DRAWN BY : W.O. KEITH DATE : 10/15
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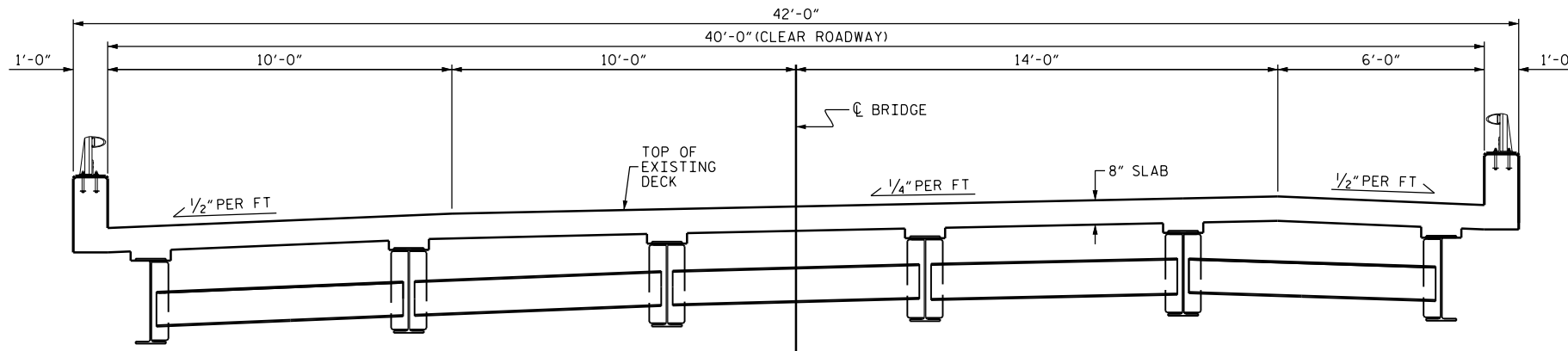
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 Jayannaccone

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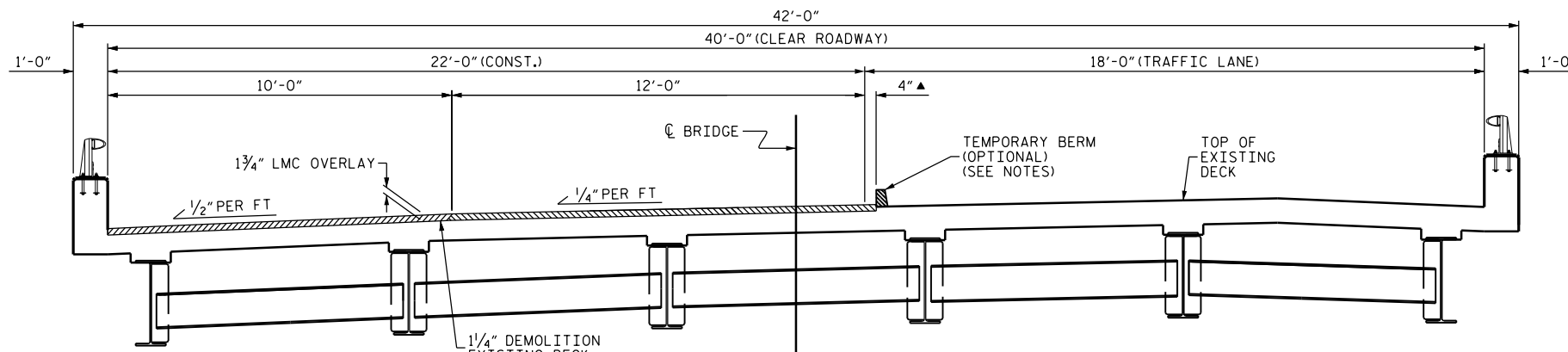
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-57
1			3			TOTAL SHEETS
2			4			122

NOTES

THE WORK STAGING ON THIS PLAN SHEET INDICATES THAT THE RIGHT LANE LMC WORK IS PERFORMED FIRST, FOLLOWED BY THE LEFT LANE LMC WORK. THE CONTRACTOR MAY ELECT TO SEQUENCE THE WORK DIFFERENTLY, BUT THE DIMENSIONS OF THE WORK ZONE AND CLEAR ROADWAY AREAS SHALL MATCH THAT INDICATED ON THIS PLAN SHEET, RESPECTIVE TO THE LANE WHERE THE LMC WORK IS BEING PERFORMED.

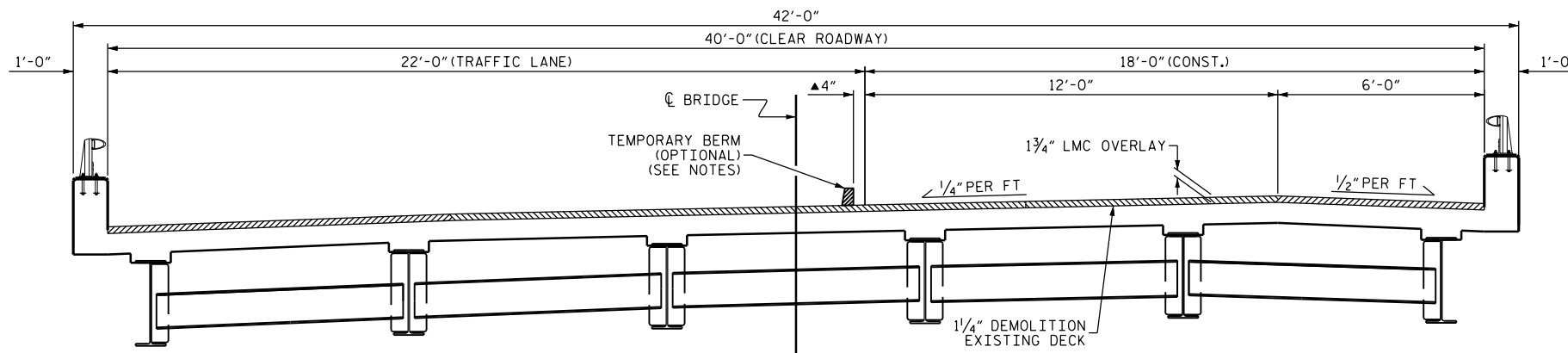


TYPICAL SECTION
(EXISTING)

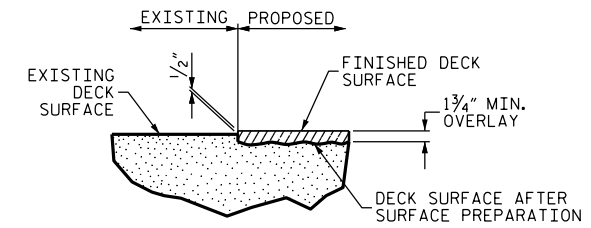


TYPICAL SECTION
(RIGHT LANE LMC WORK)

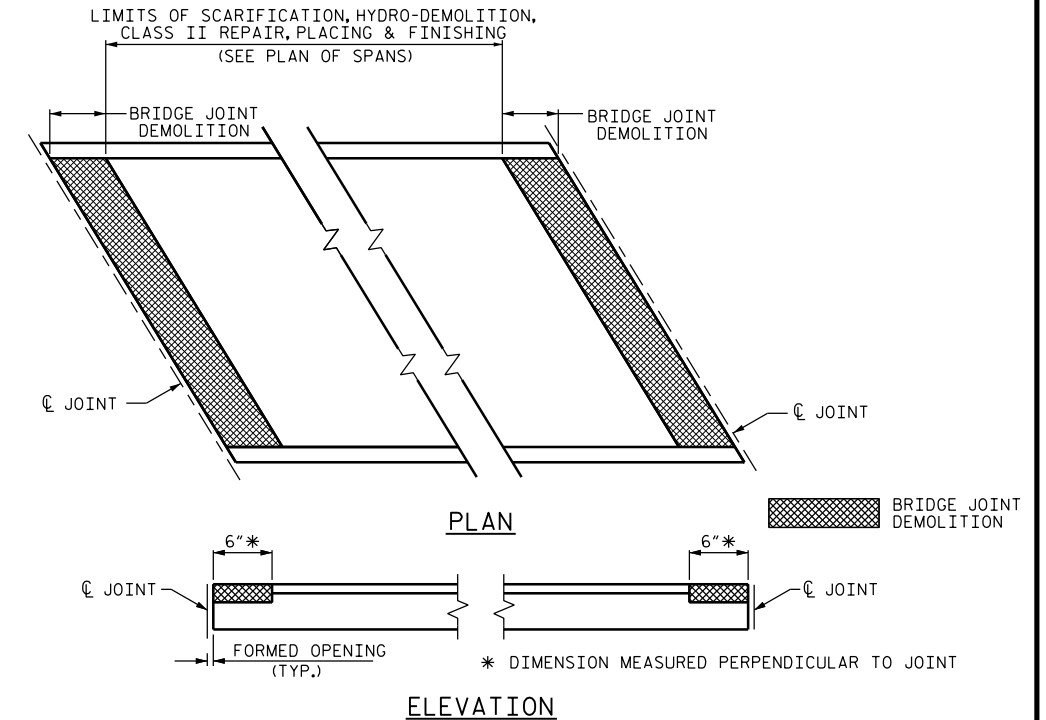
▲ 4" OVERLAP BETWEEN OVERLAYS
PREVIOUSLY POURED LMC
TO BE HYDRO-DEMOLITIONED
& RECAST WITH LMC



TYPICAL SECTION
(LEFT LANE LMC WORK)



DETAIL FOR LMC OVERLAY



PAY LIMITS FOR OVERLAY BID ITEMS

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 224

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SEAL
32492
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3/21/2016

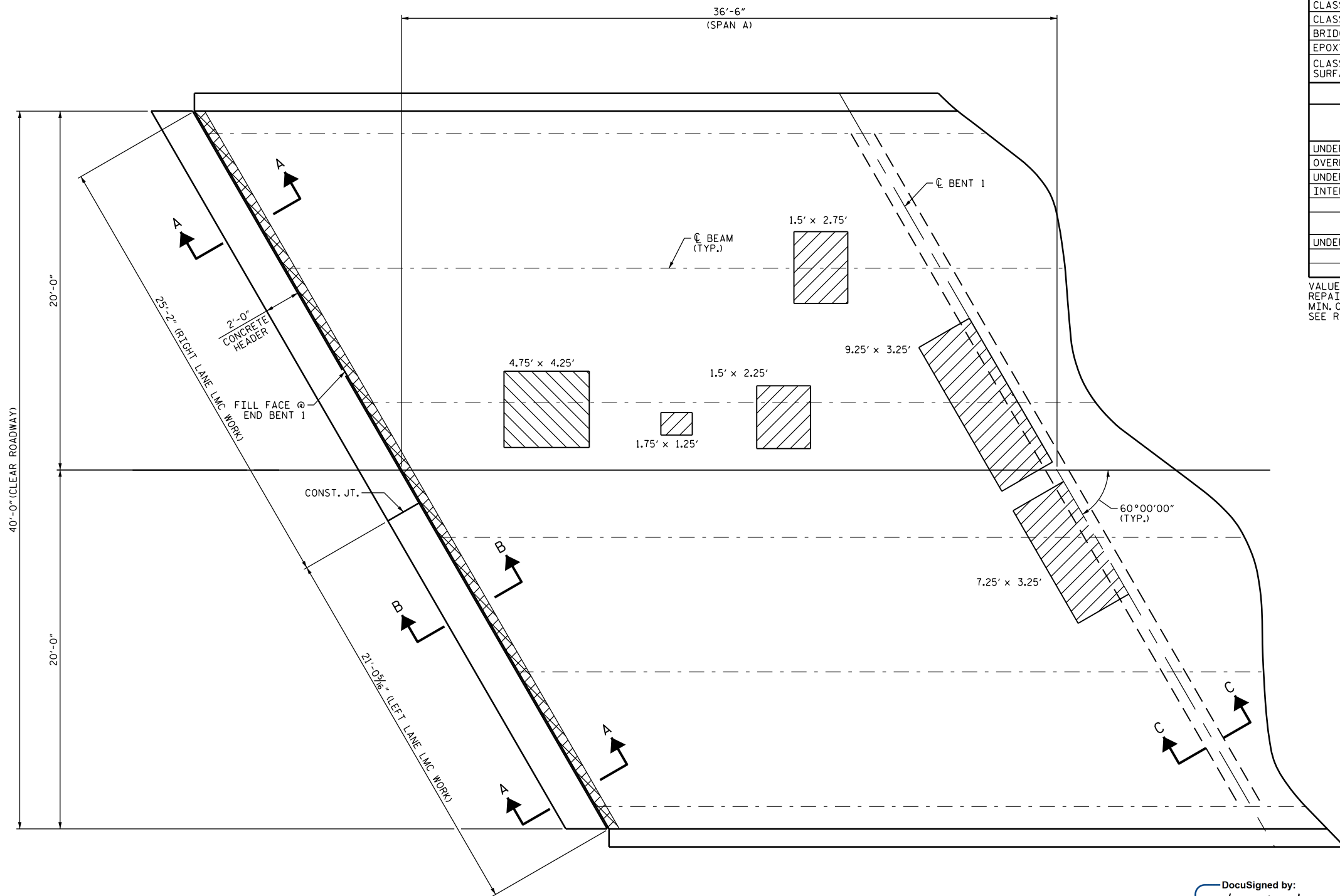
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO.
TYPICAL SECTION AND SURFACE PREPARATION DETAILS						S-58
REVISIONS						TOTAL SHEETS
NO.	BY:	DATE:	NO.	BY:	DATE:	122
1			3			
2			4			

DRAWN BY : R.Z. DEAN DATE : 9/15
CHECKED BY : J. YANNACCONI DATE : 11/15

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SIGNATURES COMPLETED

← TO TENNESSEE

→ TO CLYDE



NOTES

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

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/2" PER THE EXISTING BRIDGE PLANS.

PRIOR TO PLACEMENT OF THE LMC OVERLAY ACROSS THE CONTINUOUS DECK SPANS, THE CONTRACTOR SHALL SUBMIT A POUR SEQUENCE FOR APPROVAL BY THE ENGINEER.

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

PLAN

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE	ACTUAL		
SCARIFYING BRIDGE DECK	159 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	159 SY			
CLASS II SURFACE PREPARATION	7.1 SY			
CLASS III SURFACE PREPARATION	2.3 SY			
BRIDGE JOINT DEMOLITION	23.0 SF			
EPOXY RESIN INJECTION	0.0 LF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.4 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF			

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

- APPROX. CLASS II AREA
- APPROX. CLASS III AREA
- BRIDGE JOINT DEMOLITION
- UNDERSIDE REPAIR
- DIAPHRAGM REPAIR
- TEST LOCATION
- ERI EPOXY RESIN INJECTION

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 224

SHEET 1 OF 3

DocuSigned by:
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 7BC36E9C8E80E3C
 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 32492
 ENGINEER
 JOHN A. YANNACCONI

3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
PLAN OF SPAN
SPAN A

DRAWN BY : S. WANCE DATE : 11/15
 CHECKED BY : J. YANNACCONI DATE : 12/15








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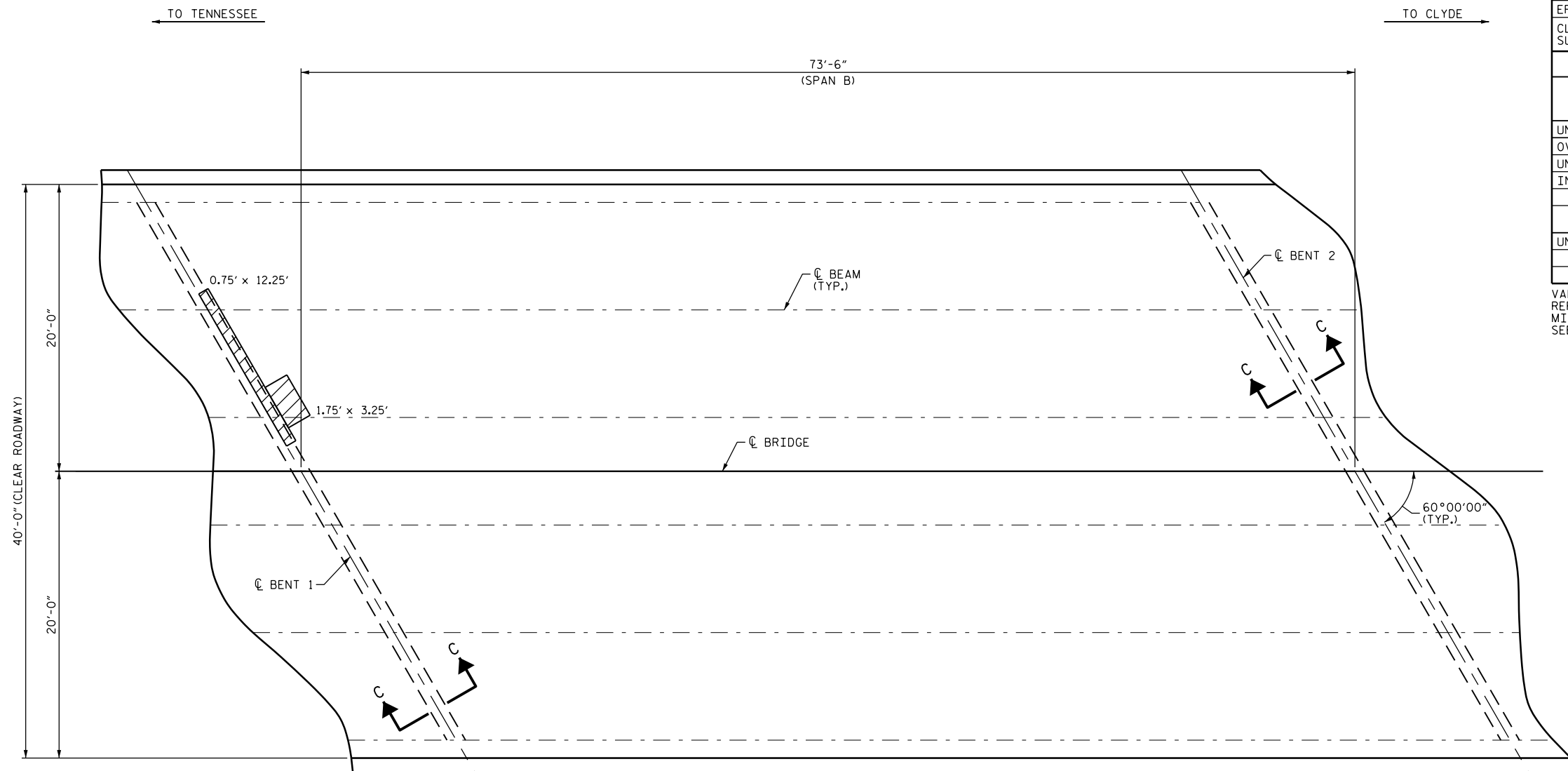
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-59
1			3			TOTAL SHEETS
2			4			122

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE	ACTUAL		
SCARIFYING BRIDGE DECK	327 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	327 SY			
CLASS II SURFACE PREPARATION	1.7 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
BRIDGE JOINT DEMOLITION	0.0 SF			
EPOXY RESIN INJECTION	0.0 LF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
		ESTIMATE	ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION		0.0 LF		

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

-  APPROX. CLASS II AREA
-  APPROX. CLASS III AREA
-  BRIDGE JOINT DEMOLITION
-  UNDERSIDE REPAIR
-  DIAPHRAGM REPAIR
-  #1 TEST LOCATION
-  ERI EPOXY RESIN INJECTION



PLAN

NOTES

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

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/2" PER THE EXISTING BRIDGE PLANS.


PRIOR TO PLACEMENT OF THE LMC OVERLAY ACROSS THE CONTINUOUS DECK SPANS, THE CONTRACTOR SHALL SUBMIT A POUR SEQUENCE FOR APPROVAL BY THE ENGINEER.

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 224

SHEET 2 OF 3

DocuSigned by:
John A. Yannaccone
 7BC36E9C...

 3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 PLAN OF SPAN
 SPAN B

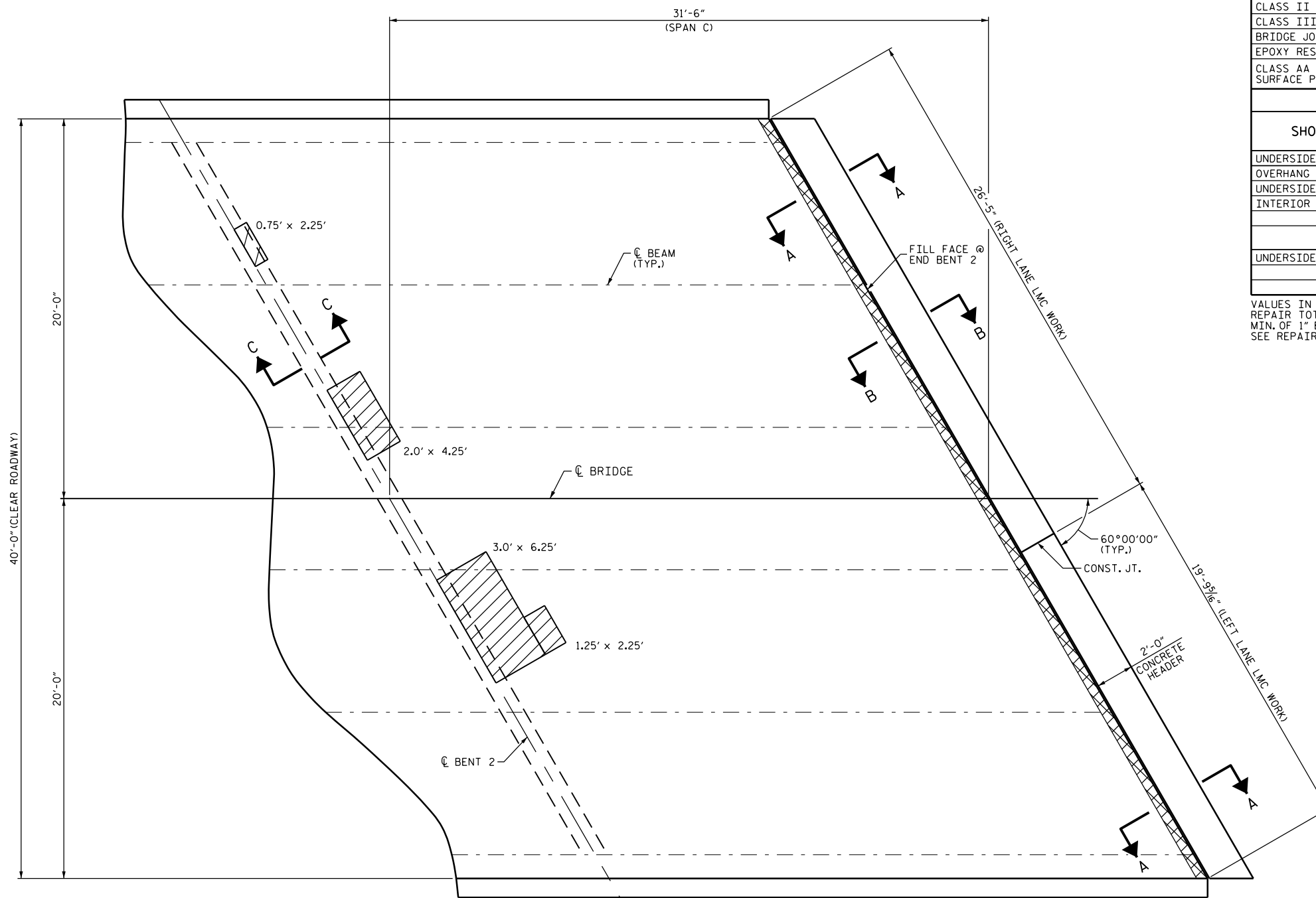
DRAWN BY : S. WANCE DATE : 11/15
 CHECKED BY : J. YANNAACONE DATE : 12/15

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-60 TOTAL SHEETS 122
2			4			

← TO TENNESSEE

TO CLYDE →



AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE	ACTUAL		
SCARIFYING BRIDGE DECK	137 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	137 SY			
CLASS II SURFACE PREPARATION	3.6 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
BRIDGE JOINT DEMOLITION	23.0 SF			
EPOXY RESIN INJECTION	0.0 LF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
			ESTIMATE	
UNDERSIDE EPOXY RESIN INJECTION				ACTUAL

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

- APPROX. CLASS II AREA
- APPROX. CLASS III AREA
- BRIDGE JOINT DEMOLITION
- UNDERSIDE REPAIR
- DIAPHRAGM REPAIR
- #1 TEST LOCATION
- ERI EPOXY RESIN INJECTION

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 224

SHEET 3 OF 3

NOTES

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

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/2" PER THE EXISTING BRIDGE PLANS.

PRIOR TO PLACEMENT OF THE LMC OVERLAY ACROSS THE CONTINUOUS DECK SPANS, THE CONTRACTOR SHALL SUBMIT A POUR SEQUENCE FOR APPROVAL BY THE ENGINEER.

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

PLAN

DocuSigned by:
John A. Yannaccone
 7BC36E9C

 3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 PLAN OF SPAN
 SPAN C

DRAWN BY : S. WANCE DATE : 11/15
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-61
1			3			TOTAL SHEETS
2			4			122

NOTES

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.
 FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.
 FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
 THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.
 NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 2".
 THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE FOAM JOINT SEAL IN LIEU OF SAWING THE JOINT.
 FOR ADHESIVELY ANCHORED DOWELS, NO FIELD TESTING IS REQUIRED. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE ARTICLE 420-13 OF THE STANDARD SPECIFICATIONS.
 PLACE #4 S1 AND #4 S2 BARS PARALLEL TO BRIDGE CENTERLINE.
 CONSTRUCTION JOINT SHALL BE PERPENDICULAR TO THE FILL FACE OF THE END BENT.

BILL OF MATERIAL

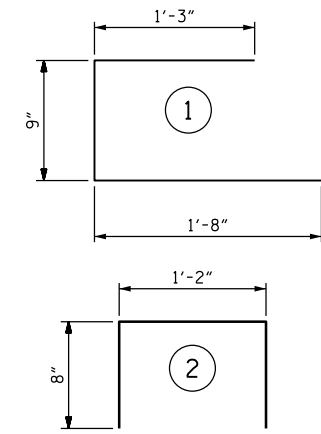
FOR ONE END BENT JOINT

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
D1	4	#4	STR	1'-6"	4
K1	2	#4	STR	28'-0"	37
K2	2	#4	STR	19'-10"	27
K3	3	#4	STR	6'-7"	13
K4	3	#4	STR	11'-3"	23
S1	16	#4	1	3'-8"	39
S2	24	#4	2	2'-6"	40

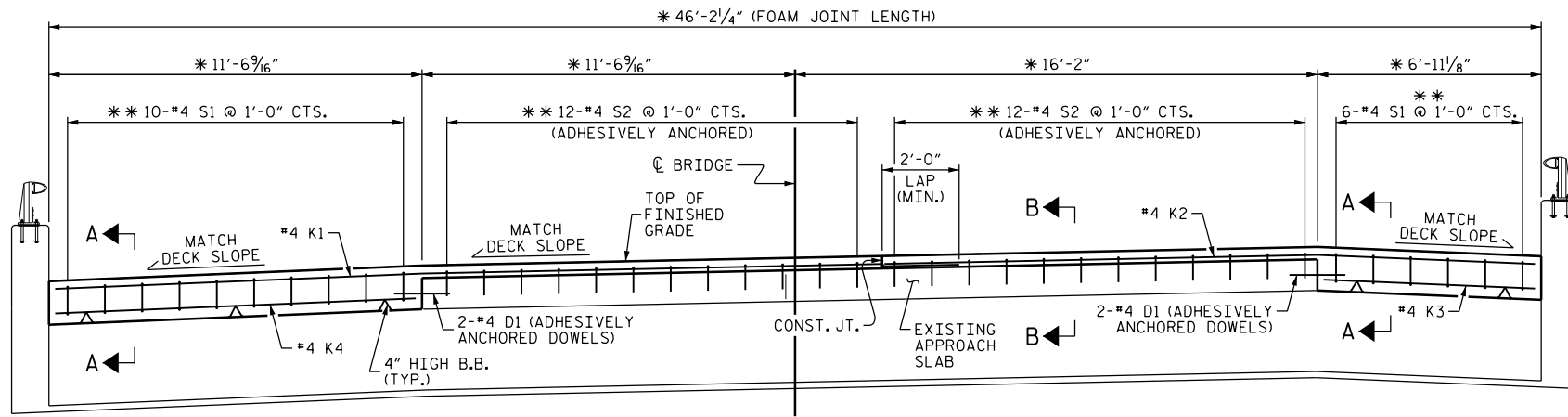
REINFORCING STEEL (FOR ONE END BENT JOINT) 183 LBS.

CLASS AA CONCRETE (FOR ONE END BENT JOINT) 2.2 CU. YDS.

BAR TYPES

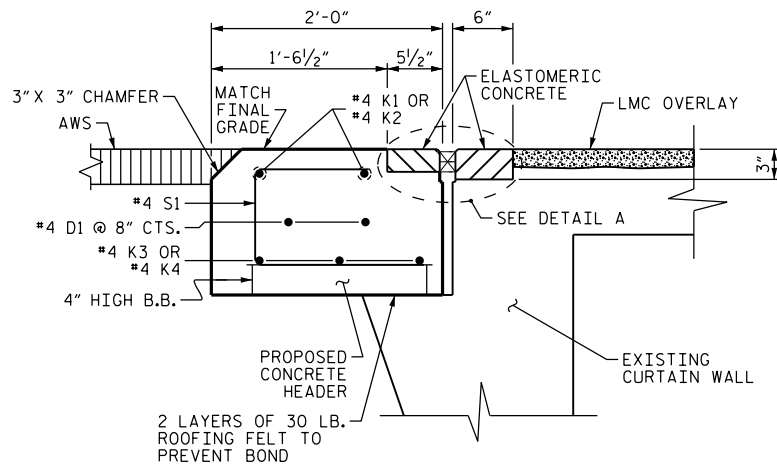


ALL BAR DIMENSIONS ARE OUT TO OUT.

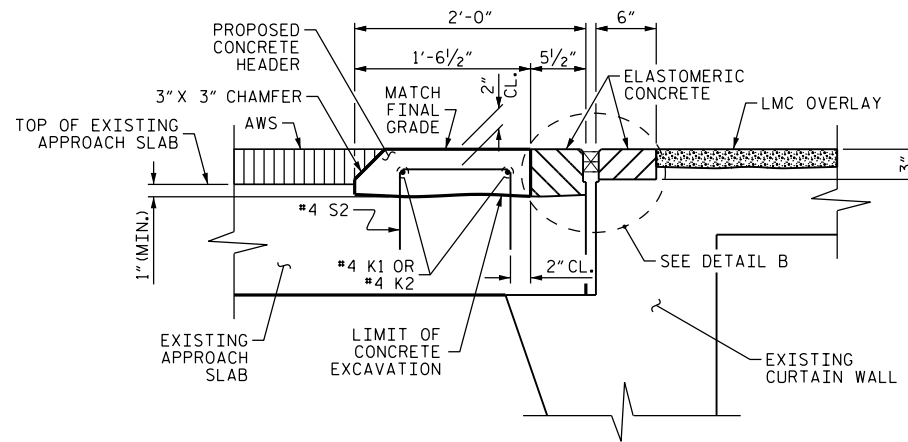


TYPICAL SECTION
 (FILL FACE @ END BENT 1 SHOWN. END BENT 2 SIMILAR.)

* DIMENSION MEASURED ALONG FILL FACE
 ** BAR SPACING MEASURED PERPENDICULAR TO BRIDGE CENTERLINE



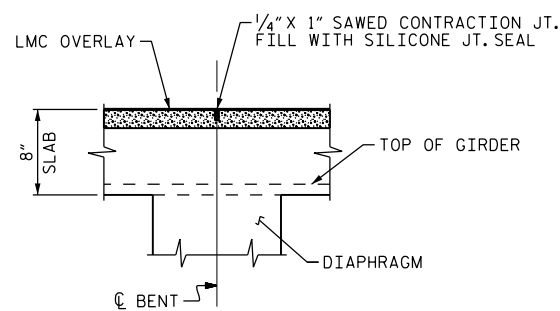
SECTION A-A



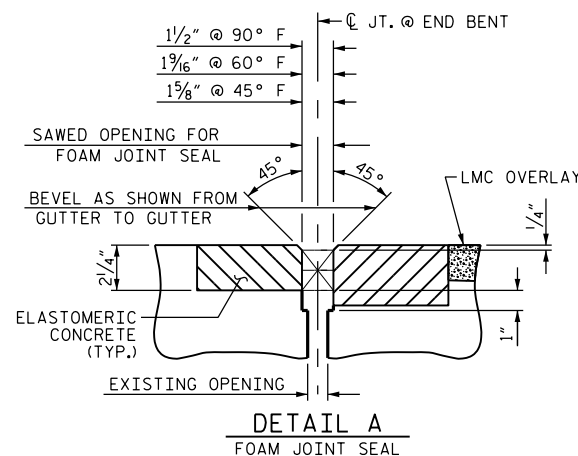
SECTION B-B

ELASTOMERIC CONCRETE		
END BENT 1	12.2	(CU. FT.)
END BENT 2	12.2	(CU. FT.)
* TOTAL	24.4	(CU. FT.)

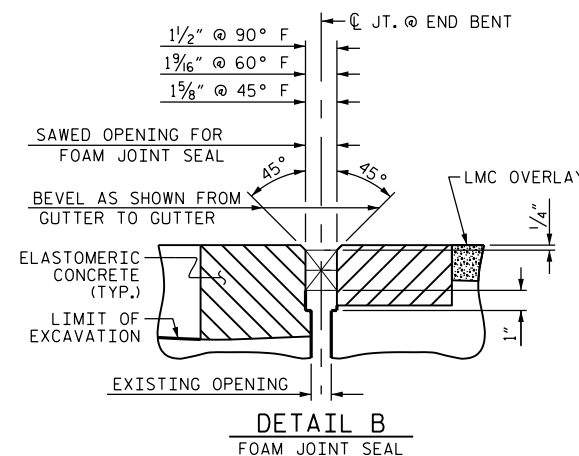
* BASED ON THE MINIMUM BLOCKOUT SHOWN.



SECTION C-C



DETAIL A
 FOAM JOINT SEAL



DETAIL B
 FOAM JOINT SEAL

PROJECT NO. I-5756
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 BRIDGE NO. 224

DocuSigned by:
 John A. Yannaccone
 7BC36E9C
 NORTH CAROLINA PROFESSIONAL SEAL 32492
 JOHN A. YANNACCONI
 ENGINEER

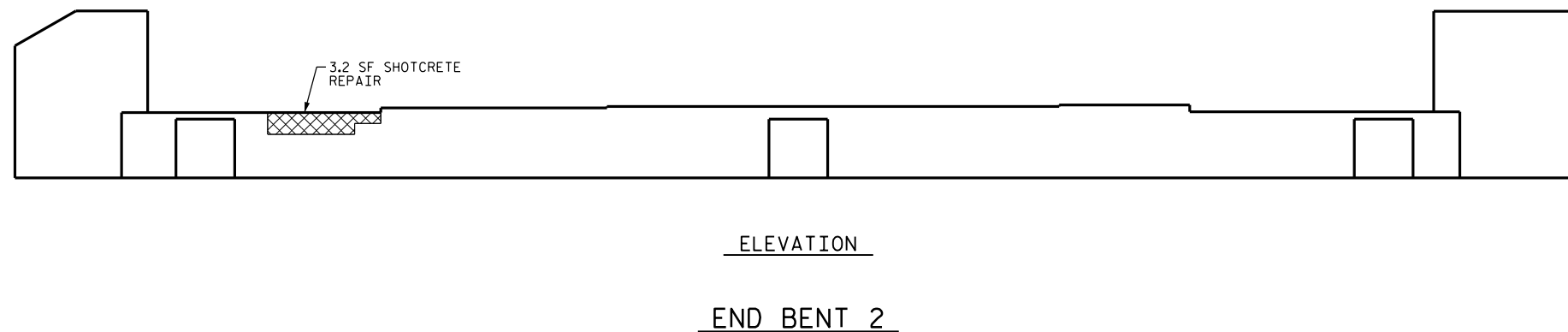
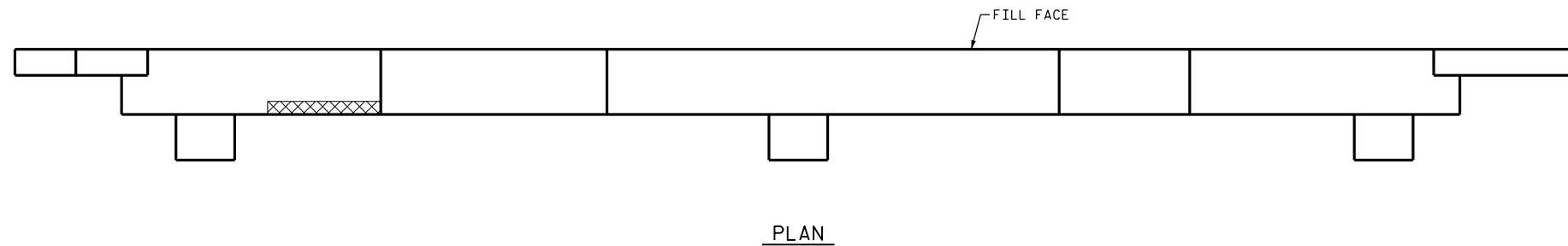
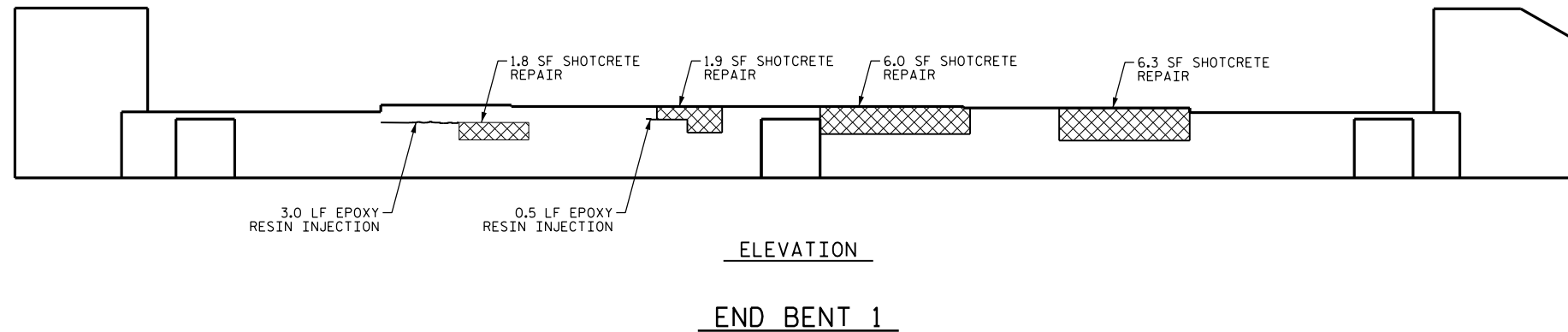
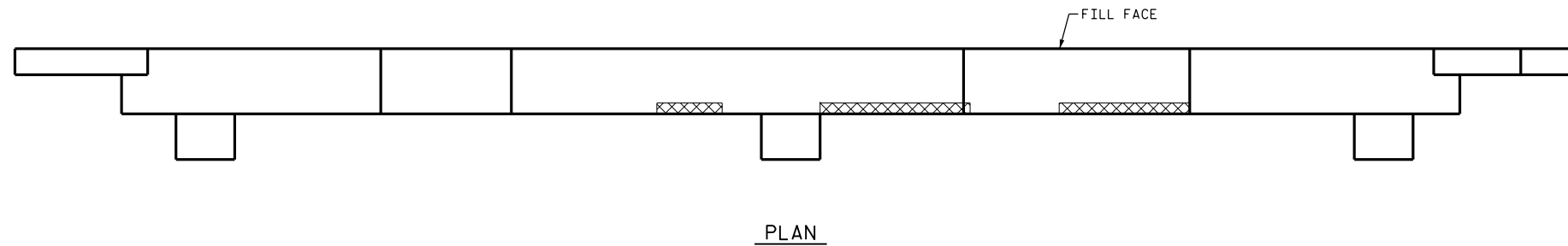
3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 JOINT DETAILS

DRAWN BY: J. YANNACCONI DATE: 3/16
 CHECKED BY: S. WANCE DATE: 3/16

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-62
1			3			TOTAL SHEETS
2			4			122



AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	16.0	13.3*		
EPOXY RESIN INJECTION			LN. FT	
CAP			3.5	

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	3.2	2.7 *		
EPOXY RESIN INJECTION			LN. FT	
CAP			0.0	

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

NOTES

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

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

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.



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 BRIDGE NO. 224

DocuSigned by:
John A. Yannaccone
 7BC36E9C8...

 3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 1 & 2

DRAWN BY : R. L. PUTEK DATE : 12/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			122
2			4			

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTES

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

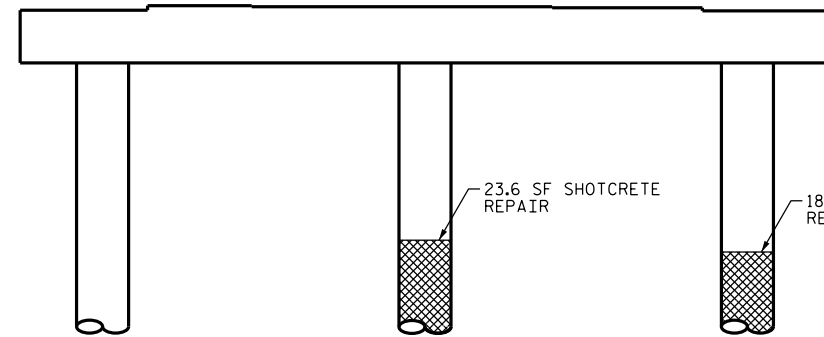
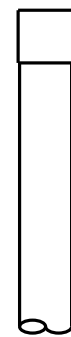
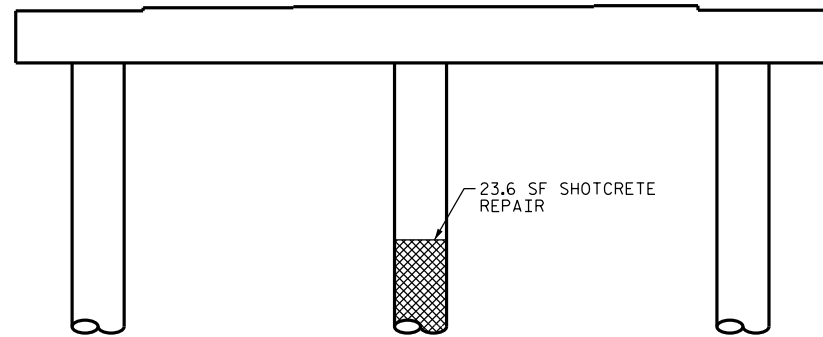
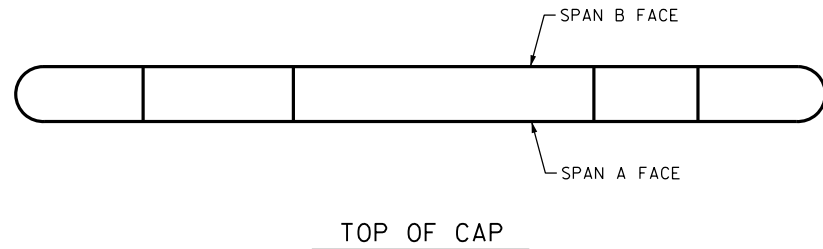
FOR CAP REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	66.0	55.7*		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SO. FT		SO. FT
TOP OF BENT CAP		0		

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

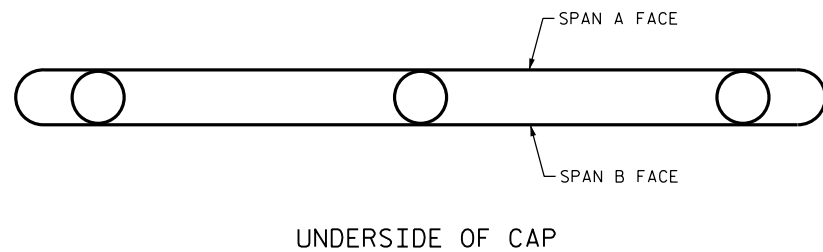


END VIEW
NORTH FACE

SPAN A FACE

END VIEW
SOUTH FACE

SPAN B FACE



UNDERSIDE OF CAP

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 224

SHEET 1 OF 2

DocuSigned by:
John A. Yannaccone
7BC36E9C...



3/21/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 1

DRAWN BY : R. Z. DEAN DATE : 09/15
CHECKED BY : J. YANNACCONE DATE : 12/15

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			122
2			4			

NOTES

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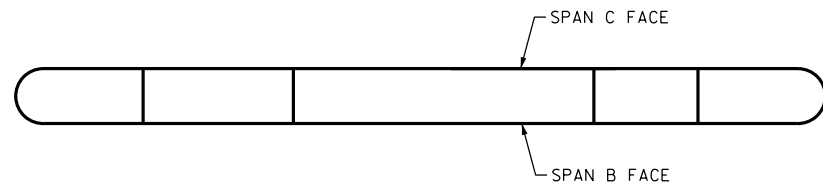
FOR CAP REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

AS-BUILT REPAIR QUANTITY TABLE

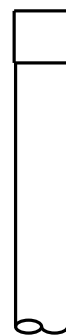
REPAIRS BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT		SQ. FT
TOP OF BENT CAP		0		

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

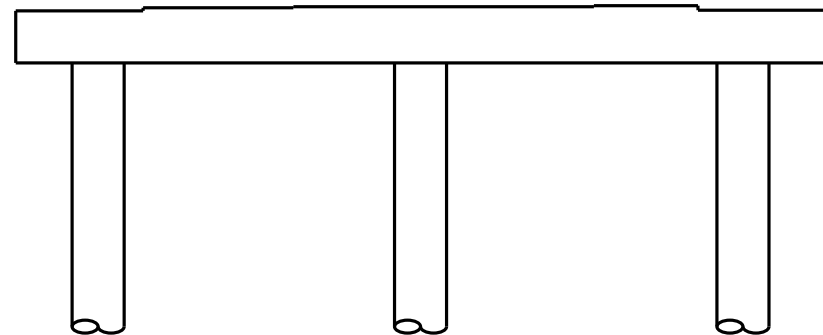
NO REPAIRS NOTED FOR BENT 2 DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE BENT PRIOR TO BEGINNING WORK.



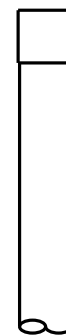
TOP OF CAP



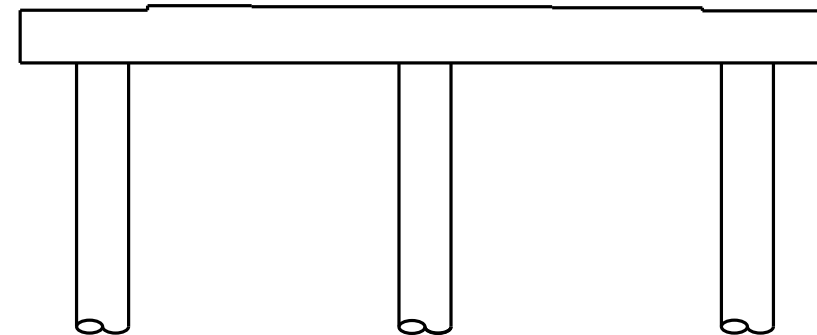
END VIEW NORTH FACE



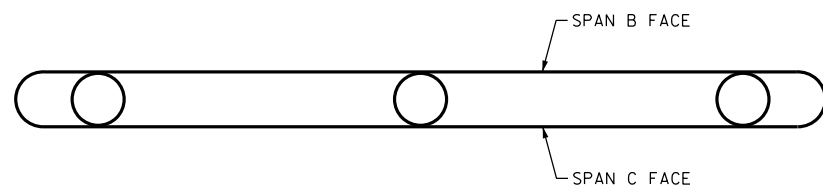
SPAN B FACE



END VIEW SOUTH FACE



SPAN C FACE



UNDERSIDE OF CAP

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 224

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9C

 3/21/2016

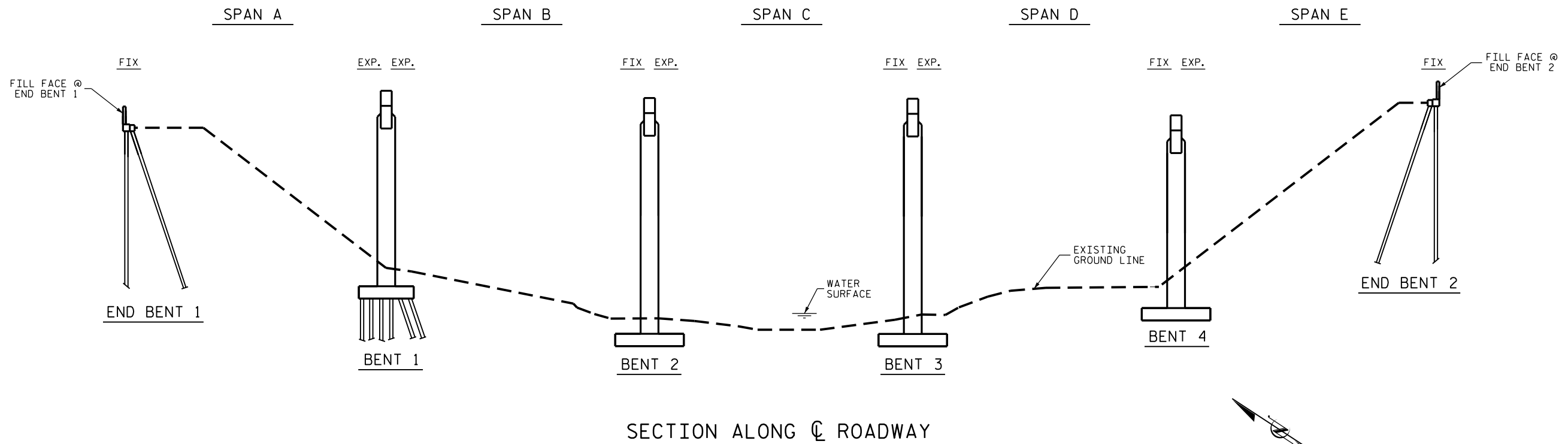
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

 BENT 2

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
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2			4			122

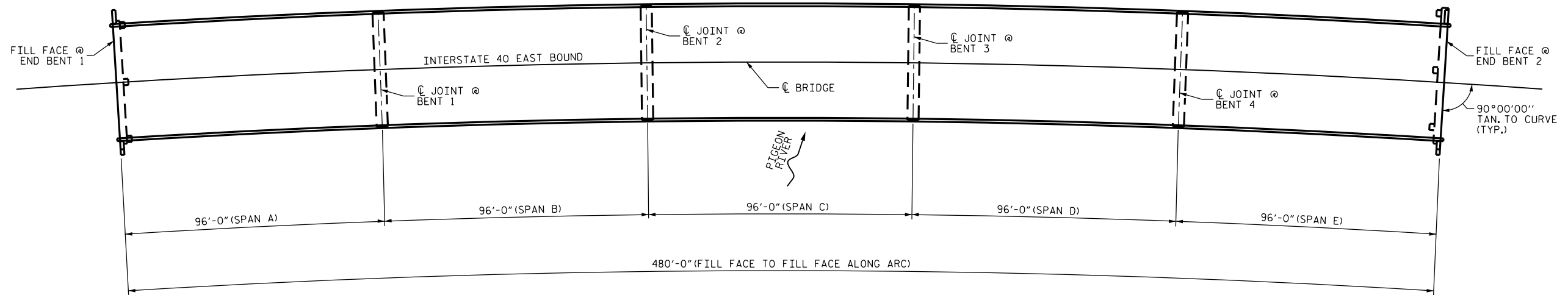
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : R. Z. DEAN DATE : 09/15
 CHECKED BY : J. YANNACCONI DATE : 12/15



← TO TENNESSEE

→ TO CLYDE



PLAN

NOTES

PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 04/22/2015.
BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

SCOPE OF WORK

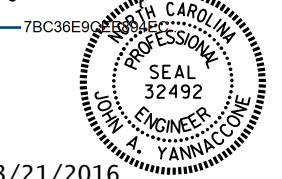
- CLEAN, PAINT AND REPAIR STEEL I-BEAMS AND BEARINGS.
- EPOXY INJECTION OF CONCRETE CRACKS.
- CLEAN AND REPAIR REBAR IN CONCRETE REPAIR AREAS.
- PERFORM SHOTCRETE AND CONCRETE REPAIRS IN PREPARED AREAS.
- INSTALL STEEL KEEPER ANGLE ASSEMBLIES.
- REMOVE DEBRIS FROM TOP OF BENT CAPS AND APPLY EPOXY COATING.
- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND HYDRO-DEMOLITION METHODS.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- OVERLAY PREPARED BRIDGE DECK WITH LATEX MODIFIED CONCRETE.
- RECONSTRUCT BRIDGE JOINTS AND INSTALL JOINT SEALS.
- GROOVE LATEX MODIFIED CONCRETE BRIDGE DECK.

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

RESIDENT ENGINEER

DocuSigned by:

John A. Yannaccone



3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 228

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE ON I-40 EBL
OVER PIGEON RIVER

DRAWN BY : W.O. KEITH DATE : 10/15
CHECKED BY : J. YANNACCONE DATE : 11/15

DOCUMENT NOT CONSIDERED
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SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-66
1			3			TOTAL SHEETS
2			4			122



LOCATION SKETCH

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

NOTES

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

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

FOR OVERLAY OF BRIDGE WITH LATEX MODIFIED CONCRETE, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK.

FOR SCARIFYING BRIDGE DECK, HYDRO-DEMOLITION OF BRIDGE DECK, AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING REPAIR OF BRIDGE DECKS.

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

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

FOR PAINTING CONTAINMENT, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR CLEANING AND REPAINTING OF BRIDGE, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR POLLUTION CONTROL, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR BEAM REPAIR, SEE SPECIAL PROVISIONS.

FOR STEEL KEEPER ANGLE ASSEMBLY, SEE SPECIAL PROVISIONS.

FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 228

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9CE5808
 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 32492
 ENGINEER
 JOHN A. YANNACCONI

3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

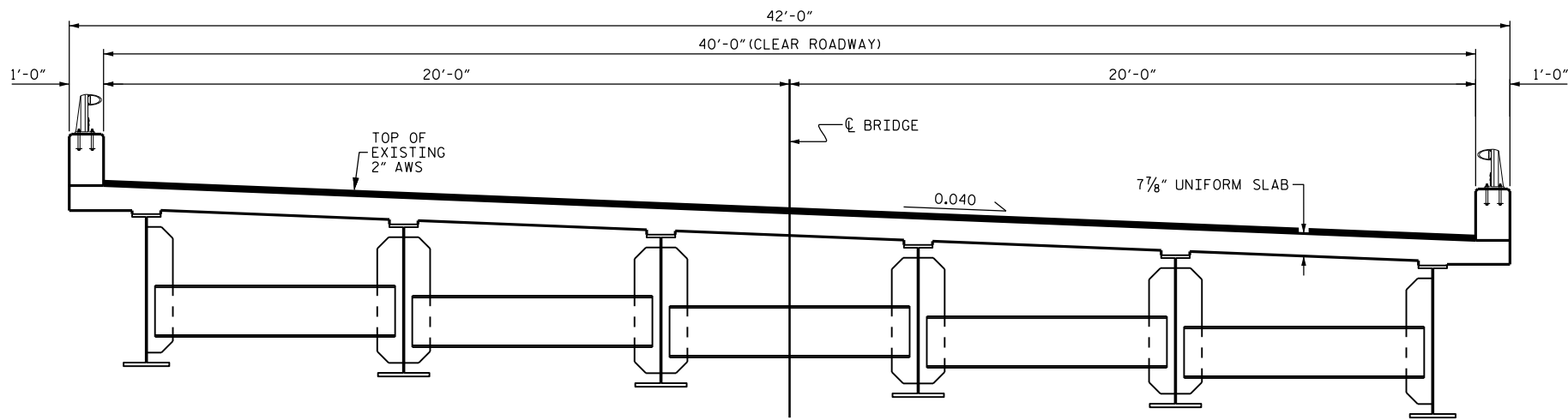
GENERAL DRAWING
 FOR BRIDGE ON I-40 EBL
 OVER PIGEON RIVER

DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J. YANNACCONI DATE : 11/15

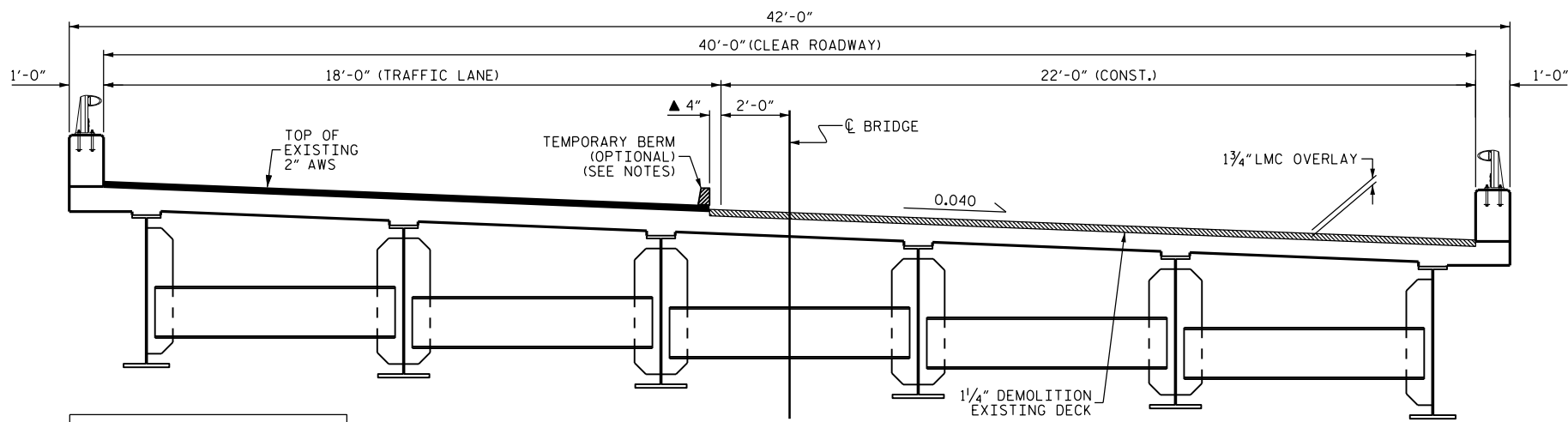
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 Jayannaccone

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
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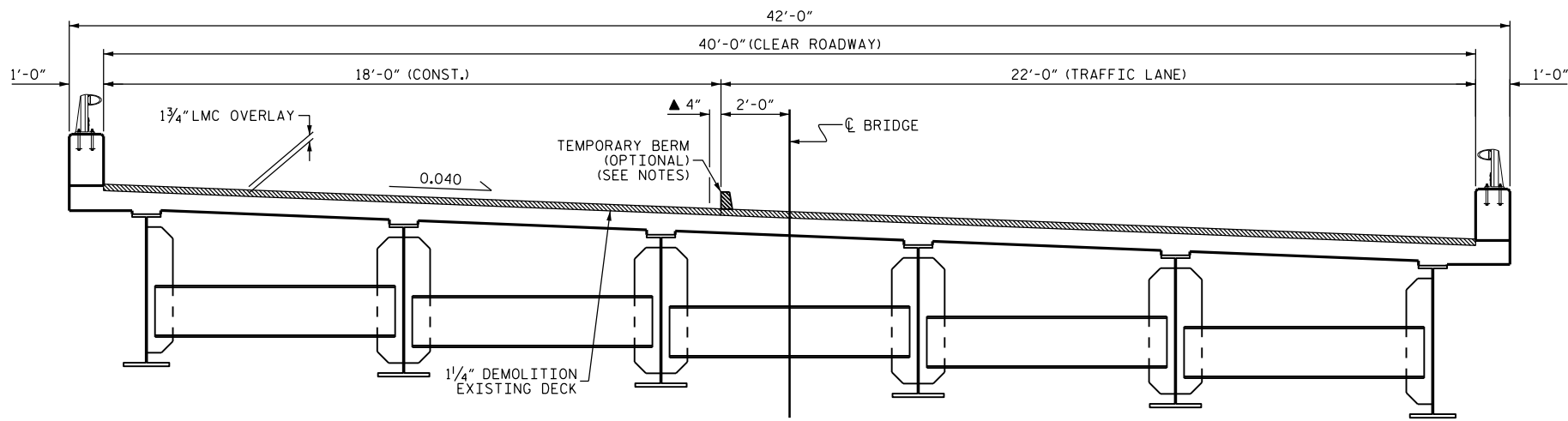


TYPICAL SECTION
(EXISTING)



TYPICAL SECTION
(RIGHT LANE LMC WORK)

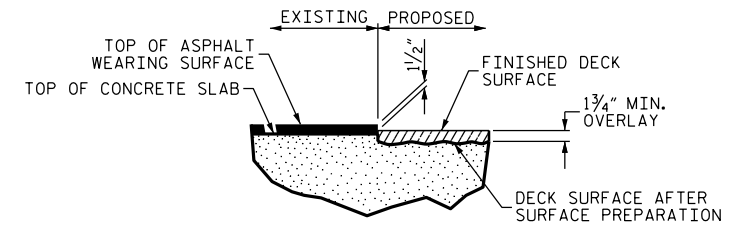
▲ 4" OVERLAP BETWEEN OVERLAYS
PREVIOUSLY POURED LMC
TO BE HYDRO-DEMOLITIONED
& RECAST WITH LMC



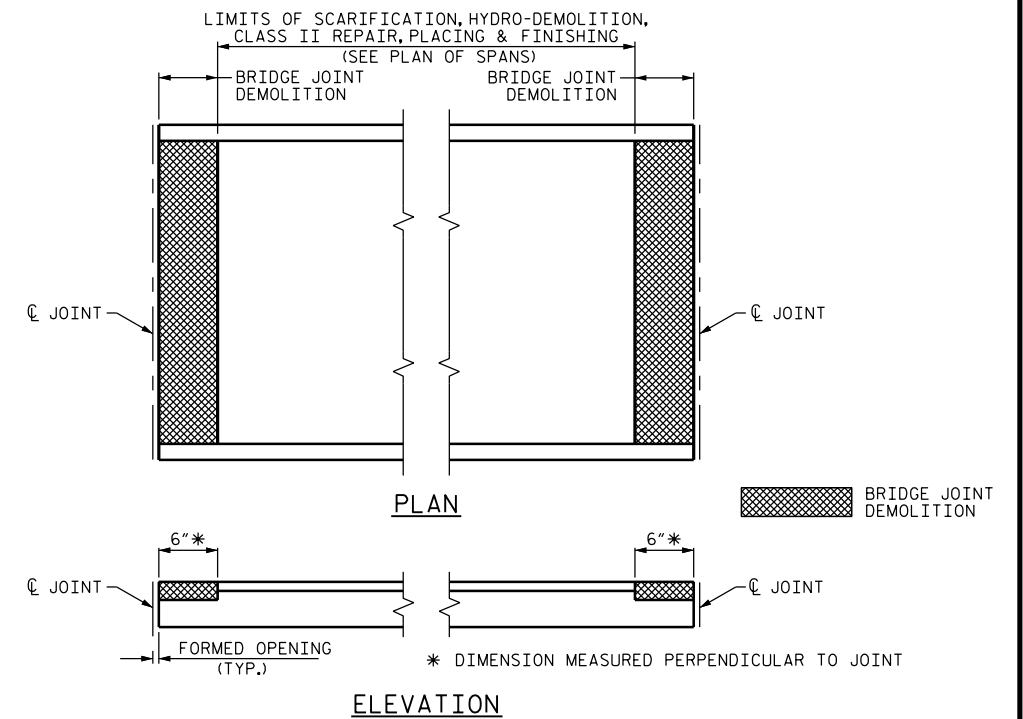
TYPICAL SECTION
(LEFT LANE LMC WORK)

NOTES

THE WORK STAGING ON THIS PLAN SHEET INDICATES THAT THE RIGHT LANE LMC WORK IS PERFORMED FIRST, FOLLOWED BY THE LEFT LANE LMC WORK. THE CONTRACTOR MAY ELECT TO SEQUENCE THE WORK DIFFERENTLY, BUT THE DIMENSIONS OF THE WORK ZONE AND CLEAR ROADWAY AREAS SHALL MATCH THAT INDICATED ON THIS PLAN SHEET, RESPECTIVE TO THE LANE WHERE THE LMC WORK IS BEING PERFORMED.



DETAIL FOR LMC OVERLAY



PAY LIMITS FOR OVERLAY BID ITEMS

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO: 228

DocuSigned by:
John A. Yannaccone
7BC36E9CE88E
STATE OF NORTH CAROLINA
PROFESSIONAL
SEAL
32492
ENGINEER
JOHN A. YANNACCONE

3/21/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**TYPICAL SECTION
AND SURFACE
PREPARATION DETAILS**

DRAWN BY : H. T. BARBOUR DATE : 10-26-15
CHECKED BY : J. YANNACCONE DATE : 11-15

21-MAR-2016 13:15
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Jayannaccone

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SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			122
2			4			

AS-BUILT REPAIR QUANTITY TABLE








TOP OF DECK REPAIRS

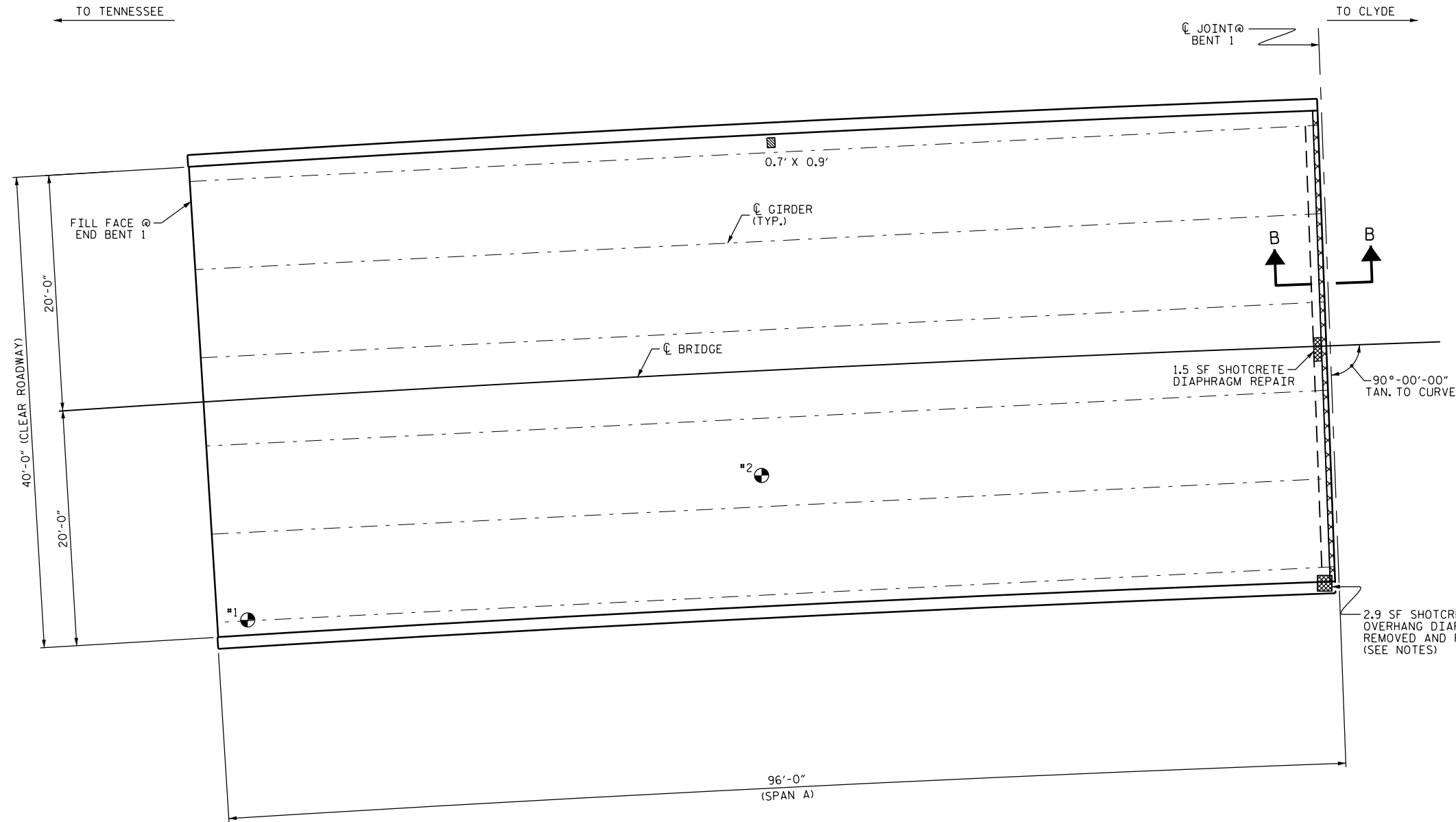
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	424 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	424 SY	
CLASS II SURFACE PREPARATION	0.0 SY	
CLASS III SURFACE PREPARATION	0.0 SY	
BRIDGE JOINT DEMOLITION	20.0 SF	
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY	

UNDERSIDE OF DECK REPAIRS

	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
SHOTCRETE REPAIRS				
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	2.9	0.8		
UNDERSIDE OF OVERHANG	0.6	0.3*		
INTERIOR DIAPHRAGMS	1.5	1.0*		
UNDERSIDE EPOXY RESIN INJECTION				
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF			

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

-  APPROX. CLASS II AREA
-  APPROX. CLASS III AREA
-  BRIDGE JOINT DEMOLITION
-  UNDERSIDE REPAIR
-  DIAPHRAGM REPAIR
-  TEST LOCATION
-  ERI EPOXY RESIN INJECTION



PLAN

NOTES

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THE EXISTING REINFORCING STEEL IN THE OVERHANG DIAPHRAGMS PILE CAPS SHALL REMAIN IN PLACE. REINFORCING BARS SHALL BE CLEANED AND BENT TO THEIR ORIGINAL SHAPE. ANY DAMAGED BARS SHALL BE REPLACED. THE UNIT CONTRACT PRICE BID FOR "SHOTCRETE REPAIRS" WILL BE FULL COMPENSATION FOR THIS WORK.

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

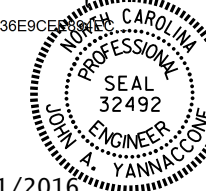
FOR SECTION B-B, SEE "JOINT DETAILS" SHEET.

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

DocuSigned by:

John A. Yannaccone

7BC36E9CE5



3/21/2016

PROJECT NO. I-5756
 HAYWOOD COUNTY
 BRIDGE NO. 228

SHEET 1 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPANS
 SPAN A

TEST LOCATION	ASPHALT THICKNESS (INCH)	CONCRETE STRENGTH (PSI)
#1	2"	*
#2	1"	*

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 10/13/2015.
 * CONCRETE COMPRESSIVE STRENGTH COULD NOT BE TESTED DUE TO THE PRESENCE OF ASPHALT OVERLAY.

DRAWN BY: H. T. BARBOUR DATE: 11/15
 CHECKED BY: J. YANNACCONE DATE: 12/15

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

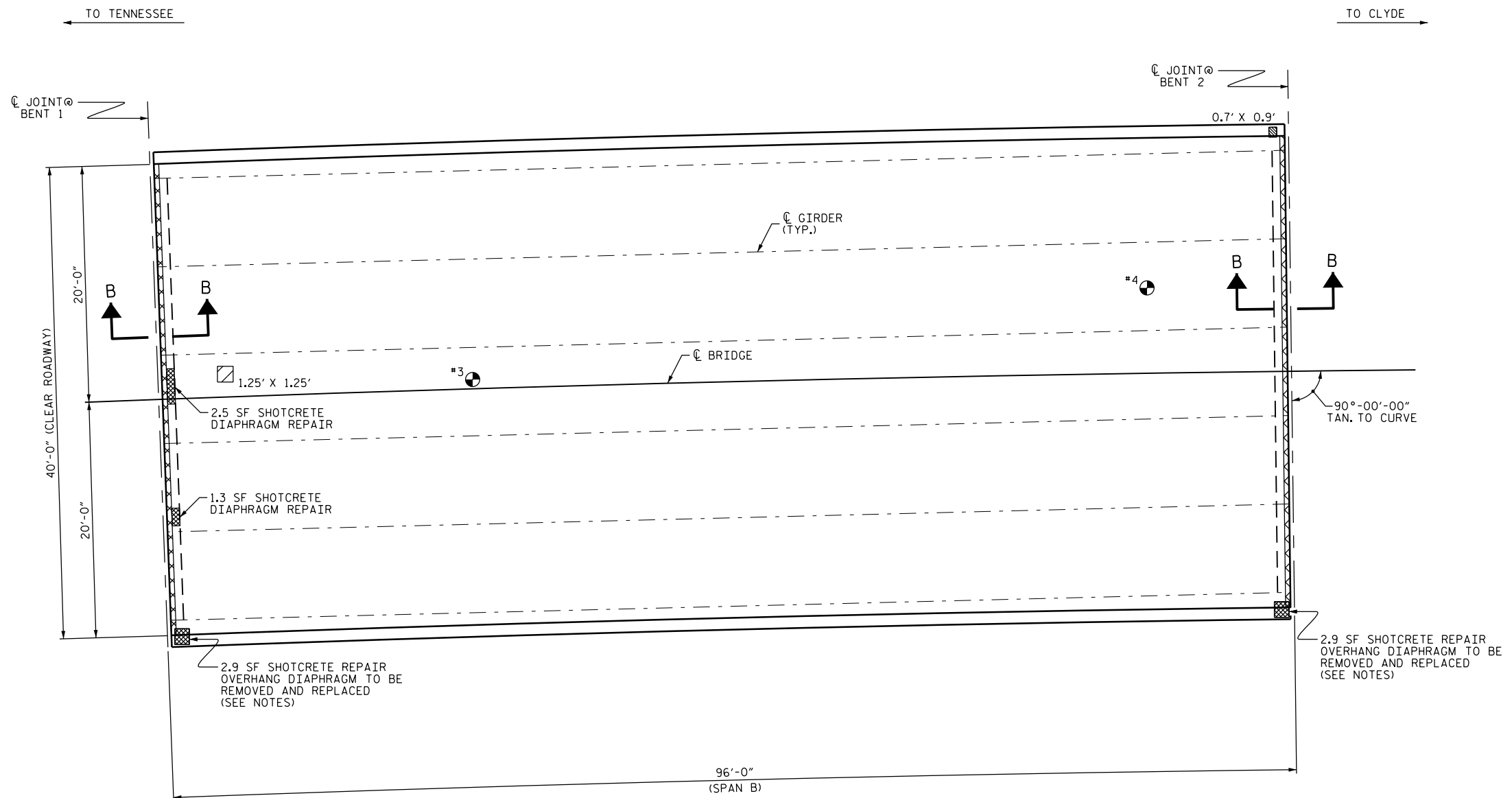
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-69
2			4			122

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE	ACTUAL		
SCARIFYING BRIDGE DECK	422 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	422 SY			
CLASS II SURFACE PREPARATION	0.2 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
BRIDGE JOINT DEMOLITION	40.0 SF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	5.8	1.5		
UNDERSIDE OF OVERHANG	0.6	0.3*		
INTERIOR DIAPHRAGMS	3.8	2.4*		
		ESTIMATE	ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION		0.0 LF		

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

- APPROX. CLASS II AREA
- APPROX. CLASS III AREA
- BRIDGE JOINT DEMOLITION
- UNDERSIDE REPAIR
- DIAPHRAGM REPAIR
- #1 TEST LOCATION
- ERI EPOXY RESIN INJECTION

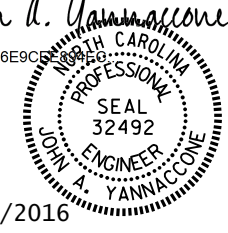


PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 228

SHEET 2 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPANS
 SPAN B**



DocuSigned by:
John A. Yannaccone
 7BC36E9C6...
 3/21/2016

NOTES

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

THE EXISTING REINFORCING STEEL IN THE OVERHANG DIAPHRAGMS PILE CAPS SHALL REMAIN IN PLACE. REINFORCING BARS SHALL BE CLEANED AND BENT TO THEIR ORIGINAL SHAPE. ANY DAMAGED BARS SHALL BE REPLACED. THE UNIT CONTRACT PRICE BID FOR "SHOTCRETE REPAIRS" WILL BE FULL COMPENSATION FOR THIS WORK.

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

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

PLAN

TEST LOCATION	ASPHALT THICKNESS (INCH)	CONCRETE STRENGTH (PSI)
#3	1 1/4"	*
#4	1 1/2"	*

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 10/13/2015.
 * CONCRETE COMPRESSIVE STRENGTH COULD NOT BE TESTED DUE TO THE PRESENCE OF ASPHALT OVERLAY.

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED








REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
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2			4			122

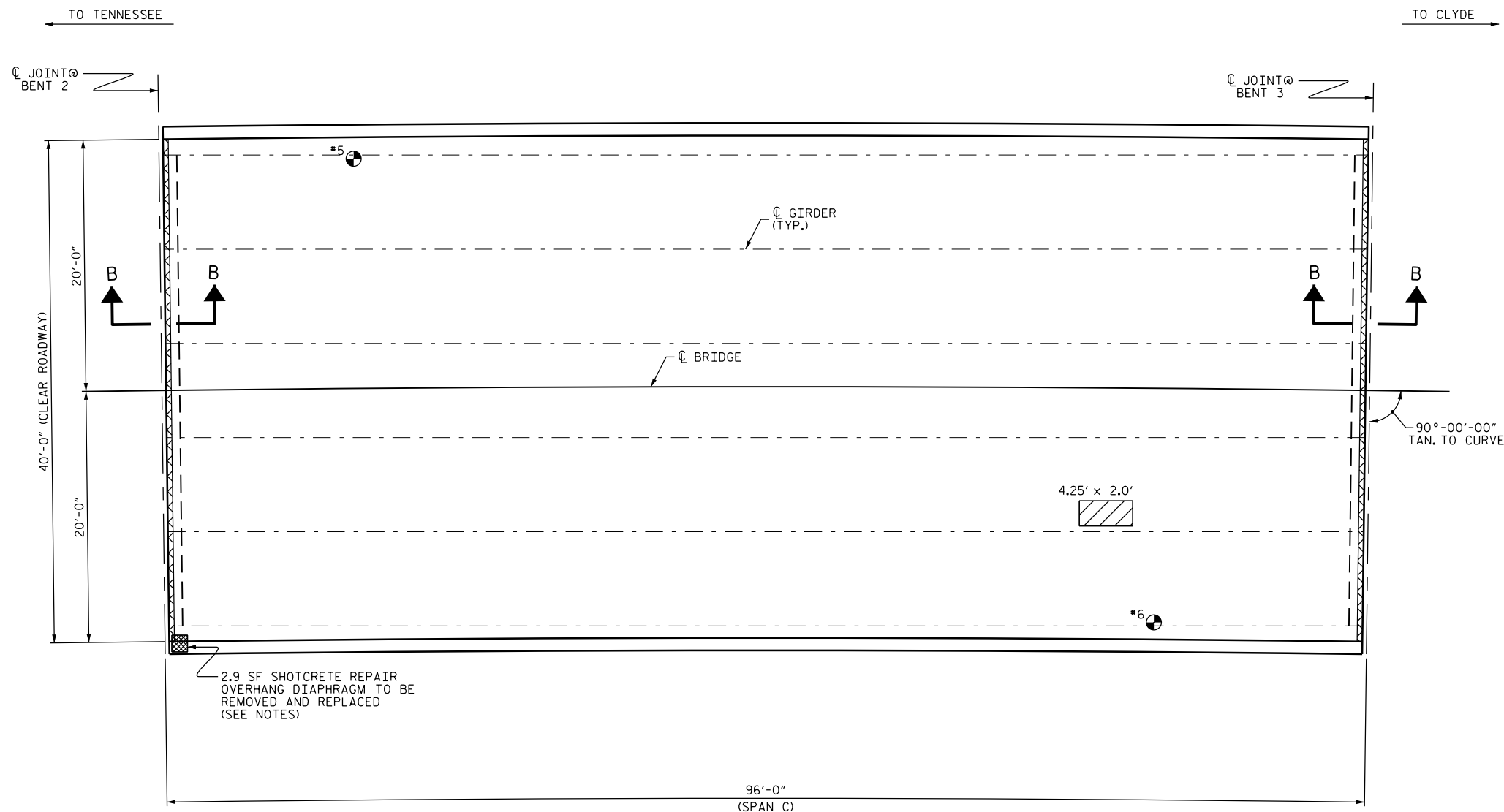
DRAWN BY : H. T. BARBOUR DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE	ACTUAL		
SCARIFYING BRIDGE DECK	422 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	422 SY			
CLASS II SURFACE PREPARATION	1.0 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
BRIDGE JOINT DEMOLITION	40.0 SF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	2.9	0.8		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
		ESTIMATE	ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION		0.0 LF		

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

-  APPROX. CLASS II AREA
-  APPROX. CLASS III AREA
-  BRIDGE JOINT DEMOLITION
-  UNDERSIDE REPAIR
-  DIAPHRAGM REPAIR
-  #1 TEST LOCATION
-  ERI EPOXY RESIN INJECTION



2.9 SF SHOTCRETE REPAIR OVERHANG DIAPHRAGM TO BE REMOVED AND REPLACED (SEE NOTES)

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 228

SHEET 3 OF 5

TEST LOCATION	ASPHALT THICKNESS (INCH)	CONCRETE STRENGTH (PSI)
#5	1"	*
#6	1 1/2"	*

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 10/13/2015.
 * CONCRETE COMPRESSIVE STRENGTH COULD NOT BE TESTED DUE TO THE PRESENCE OF ASPHALT OVERLAY.

PLAN

NOTES

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

THE EXISTING REINFORCING STEEL IN THE OVERHANG DIAPHRAGMS PILE CAPS SHALL REMAIN IN PLACE. REINFORCING BARS SHALL BE CLEANED AND BENT TO THEIR ORIGINAL SHAPE. ANY DAMAGED BARS SHALL BE REPLACED. THE UNIT CONTRACT PRICE BID FOR "SHOTCRETE REPAIRS" WILL BE FULL COMPENSATION FOR THIS WORK.

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

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

DocuSigned by:
John A. Yannaccone



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPANS
 SPAN C

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-71
1			3			TOTAL SHEETS
2			4			122

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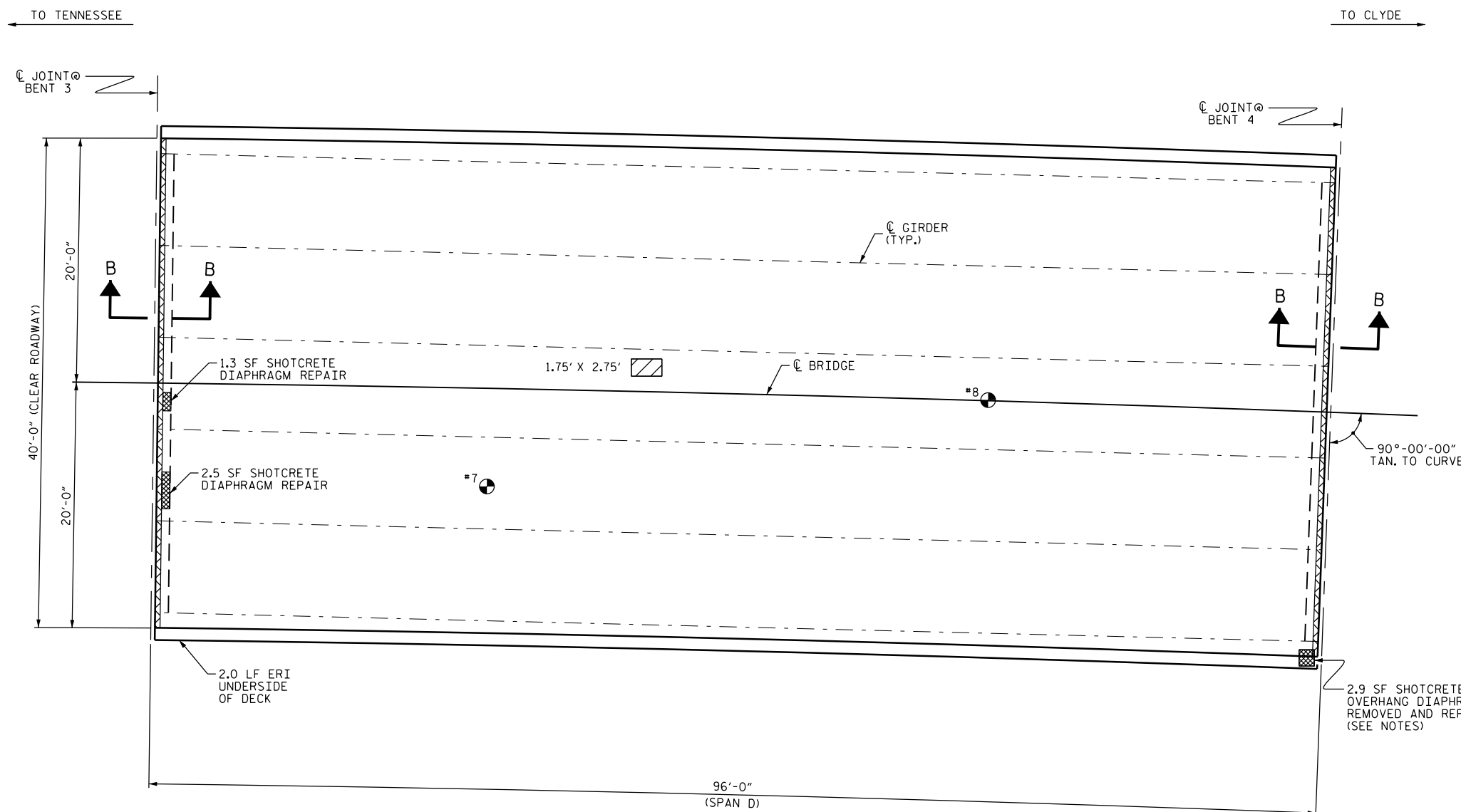
DRAWN BY : H. T. BARBOUR DATE : 11/15
 CHECKED BY : J. YANNAKONE DATE : 12/15

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE	ACTUAL		
SCARIFYING BRIDGE DECK	422 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	422 SY			
CLASS II SURFACE PREPARATION	0.6 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
BRIDGE JOINT DEMOLITION	40.0 SF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	2.9	0.8		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	3.8	2.4*		
		ESTIMATE	ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION		2.0 LF		

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

- APPROX. CLASS II AREA
- APPROX. CLASS III AREA
- BRIDGE JOINT DEMOLITION
- UNDERSIDE REPAIR
- DIAPHRAGM REPAIR
- TEST LOCATION
- ERI EPOXY RESIN INJECTION



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 228

SHEET 4 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPANS
 SPAN D



DocuSigned by:
 John A. Yannaccone
 7BC36E9C...

3/21/2016

NOTES

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

THE EXISTING REINFORCING STEEL IN THE OVERHANG DIAPHRAGMS PILE CAPS SHALL REMAIN IN PLACE. REINFORCING BARS SHALL BE CLEANED AND BENT TO THEIR ORIGINAL SHAPE. ANY DAMAGED BARS SHALL BE REPLACED. THE UNIT CONTRACT PRICE BID FOR "SHOTCRETE REPAIRS" WILL BE FULL COMPENSATION FOR THIS WORK.

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

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

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

PLAN

TEST LOCATION	ASPHALT THICKNESS (INCH)	CONCRETE STRENGTH (PSI)
#7	1 1/2"	*
#8	1 1/4"	*

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 10/13/2015.
 * CONCRETE COMPRESSIVE STRENGTH COULD NOT BE TESTED DUE TO THE PRESENCE OF ASPHALT OVERLAY.

DRAWN BY : H. T. BARBOUR DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 12/15








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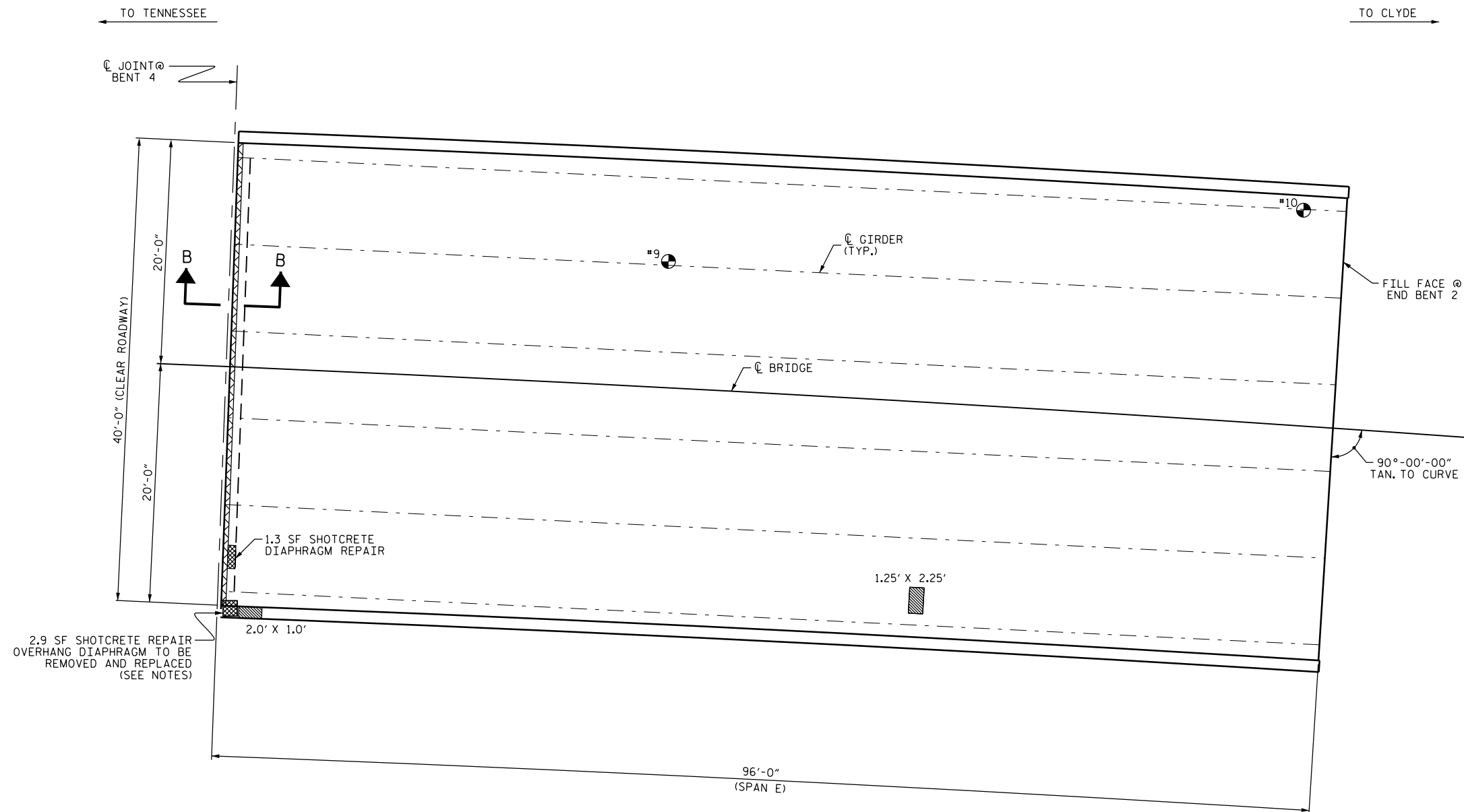
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-72
1			3			TOTAL SHEETS
2			4			122

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE	ACTUAL		
SCARIFYING BRIDGE DECK	424 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	424 SY			
CLASS II SURFACE PREPARATION	0.0 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
BRIDGE JOINT DEMOLITION	20.0 SF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	2.8	1.5 *		
OVERHANG DIAPHRAGMS	2.9	0.8		
UNDERSIDE OF OVERHANG	2.0	1.1 *		
INTERIOR DIAPHRAGMS	1.3	0.8 *		
		ESTIMATE	ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION		0.0 LF		

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

-  APPROX. CLASS II AREA
-  APPROX. CLASS III AREA
-  BRIDGE JOINT DEMOLITION
-  UNDERSIDE REPAIR
-  DIAPHRAGM REPAIR
-  TEST LOCATION
-  ERI EPOXY RESIN INJECTION



NOTES

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

THE EXISTING REINFORCING STEEL IN THE OVERHANG DIAPHRAGMS PILE CAPS SHALL REMAIN IN PLACE. REINFORCING BARS SHALL BE CLEANED AND BENT TO THEIR ORIGINAL SHAPE. ANY DAMAGED BARS SHALL BE REPLACED. THE UNIT CONTRACT PRICE BID FOR "SHOTCRETE REPAIRS" WILL BE FULL COMPENSATION FOR THIS WORK.

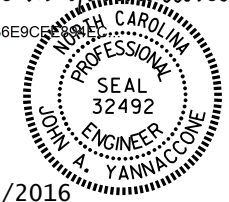
FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

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

PLAN

TEST LOCATION	ASPHALT THICKNESS (INCH)	CONCRETE STRENGTH (PSI)
#9	1 1/2"	*
#10	1 1/4"	*

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 10/13/2015.
 * CONCRETE COMPRESSIVE STRENGTH COULD NOT BE TESTED DUE TO THE PRESENCE OF ASPHALT OVERLAY.

DocuSigned by:
John A. Yannaccone
 7BC36E9C...

 3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 228

SHEET 5 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPANS
 SPAN E

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-73
2			4			122

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

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DRAWN BY : H. T. BARBOUR DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

NOTES

FOR FOAM JOINT SEAL, SEE SPECIAL PROVISIONS.

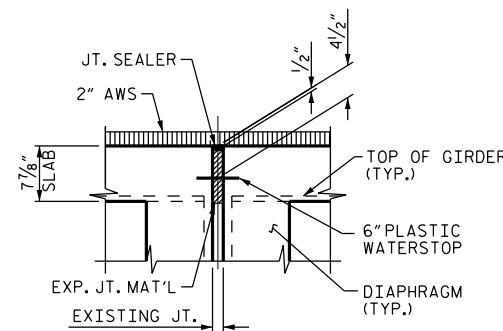
THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.

NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 3" AT BENT 1 AND 2" AT BENTS 2, 3 & 4.

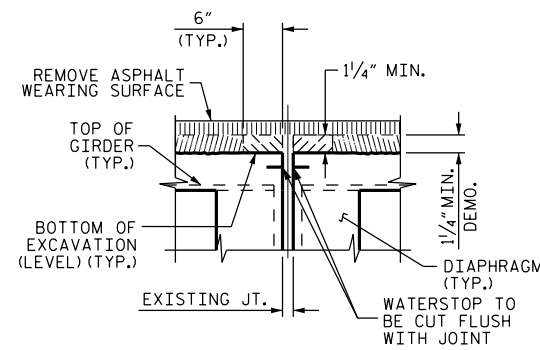
THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE FOAM JOINT SEAL IN LIEU OF SAWING THE JOINT.

ELASTOMERIC CONCRETE		
BENT 1	10.0	(CU. FT.)
BENT 2	10.0	(CU. FT.)
BENT 3	10.0	(CU. FT.)
BENT 4	10.0	(CU. FT.)
* TOTAL	40.0	(CU. FT.)

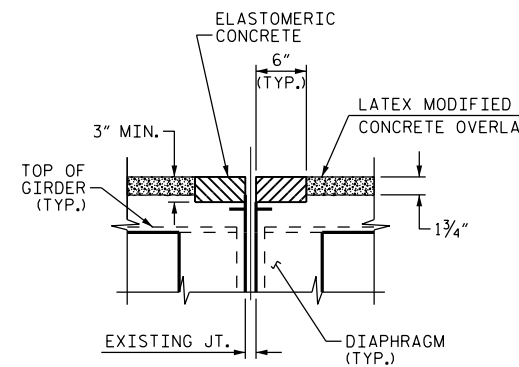
* BASED ON THE MINIMUM BLOCKOUT SHOWN.



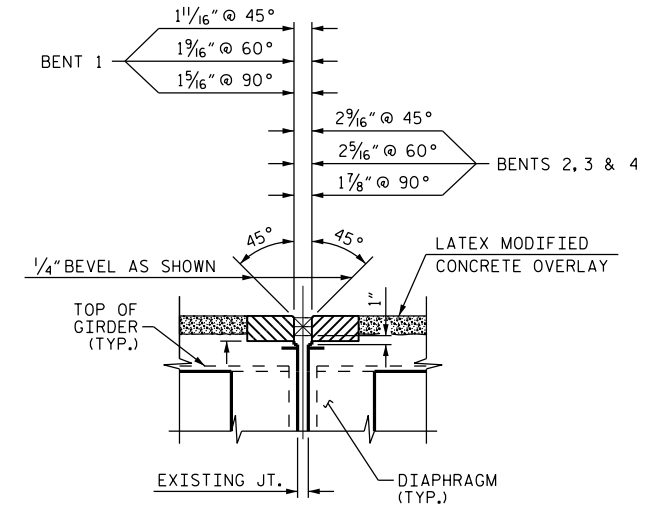
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION



PROPOSED JOINT PRE-SAWED

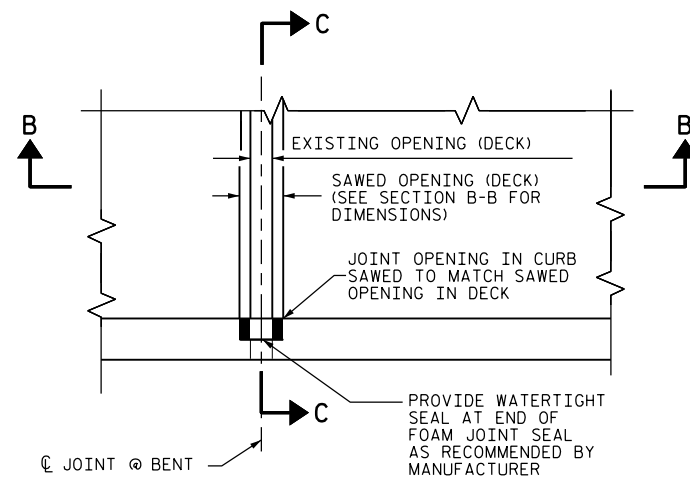


PROPOSED FOAM JOINT SEAL

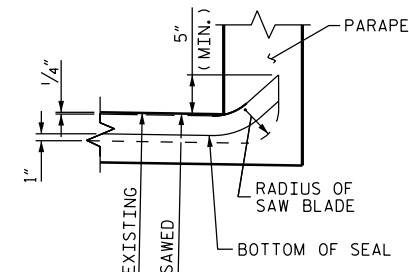
SECTION B-B

IF THE EMBEDDED PORTION OF THE EXISTING PLASTIC WATERSTOP IS EXPOSED DURING REMOVAL OF UNSOUND CONCRETE, OR IF UNSOUND CONCRETE IS REMOVED WITHIN 2" OF THE WATERSTOP, THE ENTIRE CONCRETE DEPTH TO THE WATERSTOP SHALL BE REMOVED. IF SUCH EXCAVATION EXTENDS MORE THAN 2" BELOW THE BOTTOM OF THE PLANNED ELASTOMERIC CONCRETE HEADER, AS SHOWN, APPROVED REPAIR CONCRETE SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION AT THE BOTTOM OF THE ELASTOMERIC CONCRETE.

DEMOLISH BRIDGE JOINT AREA TO THE NECESSARY DEPTH, SUCH THAT ELASTOMERIC CONCRETE SHALL BE FOUNDED ON CONCRETE OR REPAIR CONCRETE SUBSTRATE, NOT LATEX MODIFIED CONCRETE.



PLAN

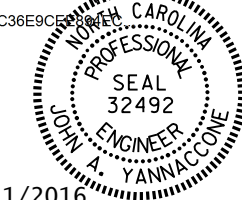


SECTION C-C

FOAM JOINT SEAL SHALL BE FACTORY FORMED OR CUT, HEAT WELDED AND TURNED UP PARALLEL TO FACE OF PARAPET.

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 228

DocuSigned by:
John A. Yannaccone



3/21/2016

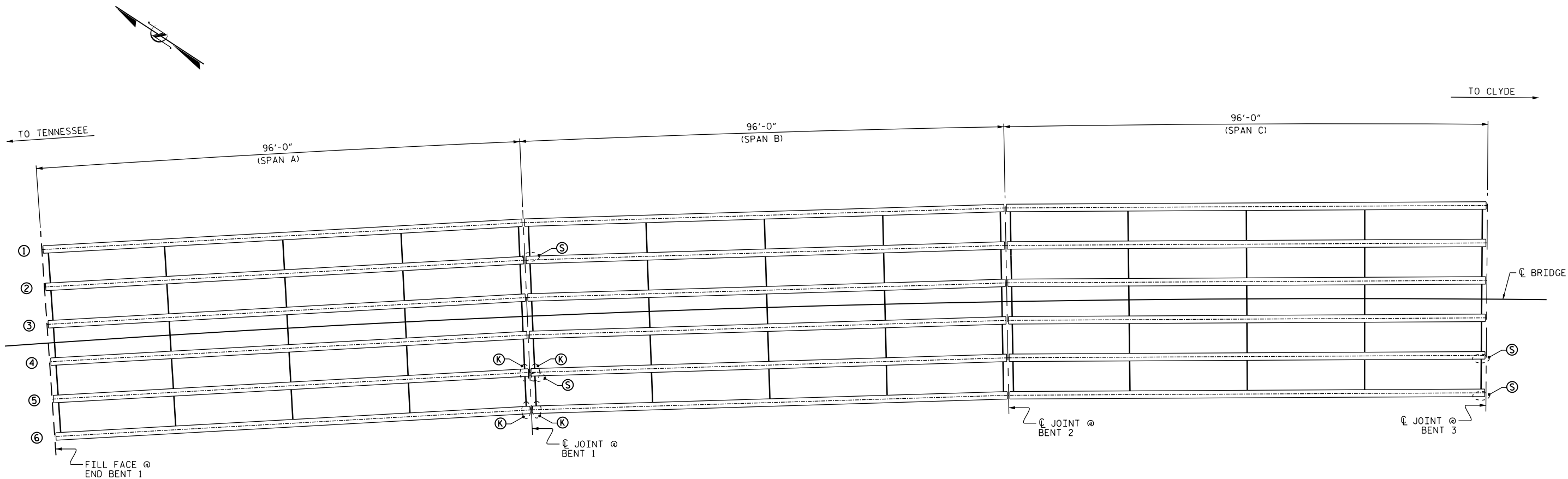
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JOINT DETAILS

DRAWN BY : H. T. BARBOUR DATE : 11-02-15
CHECKED BY : J. YANNACCONE DATE : 11-15

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-74
1			3			TOTAL SHEETS
2			4			122



BEAM REPAIR LOCATIONS
(OTHER LOCATIONS MAY EXIST, SEE NOTES)

- ⓑ BEAM END REPAIR
- ⓕ FLANGE REPAIR
- Ⓢ STIFFENER REPAIR
- Ⓚ STEEL KEEPER ANGLE ASSEMBLY
- Ⓛ BEAM NUMBER

NOTES

THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENT OF REPAIR AREAS PRIOR TO STEEL FABRICATION.

FOR BEAM REPAIR, SEE SPECIAL PROVISIONS.

FOR BEAM REPAIR DETAILS, SEE "BEAM REPAIR DETAILS" SHEET.

FOR BRIDGE JACKING DETAILS, SEE "JACKING DETAILS" SHEET.

FOR STEEL KEEPER ANGLE ASSEMBLY DETAILS, SEE "STEEL KEEPER ANGLE ASSEMBLY DETAILS" SHEET.

FOR STEEL KEEPER ANGLE ASSEMBLY, SEE SPECIAL PROVISIONS.

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

ANTICIPATED BEAM REPAIR LOCATIONS						
SPAN	BEAM	LOCATION	DIM "A"	DIM "B"	DIM "C"	DIM "D"
B	2	BENT 1	3"	—	—	—
B	5	BENT 1	2"	—	—	—
C	5	BENT 3	2"	—	—	—
C	6	BENT 3	1'-0"	—	—	—
E	5	BENT 4	3"	—	—	—
E	6	BENT 4	1'-0"	—	—	—

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 228

SHEET 1 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9CE
 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 32492
 ENGINEER
 JOHN A. YANNACCONI

3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

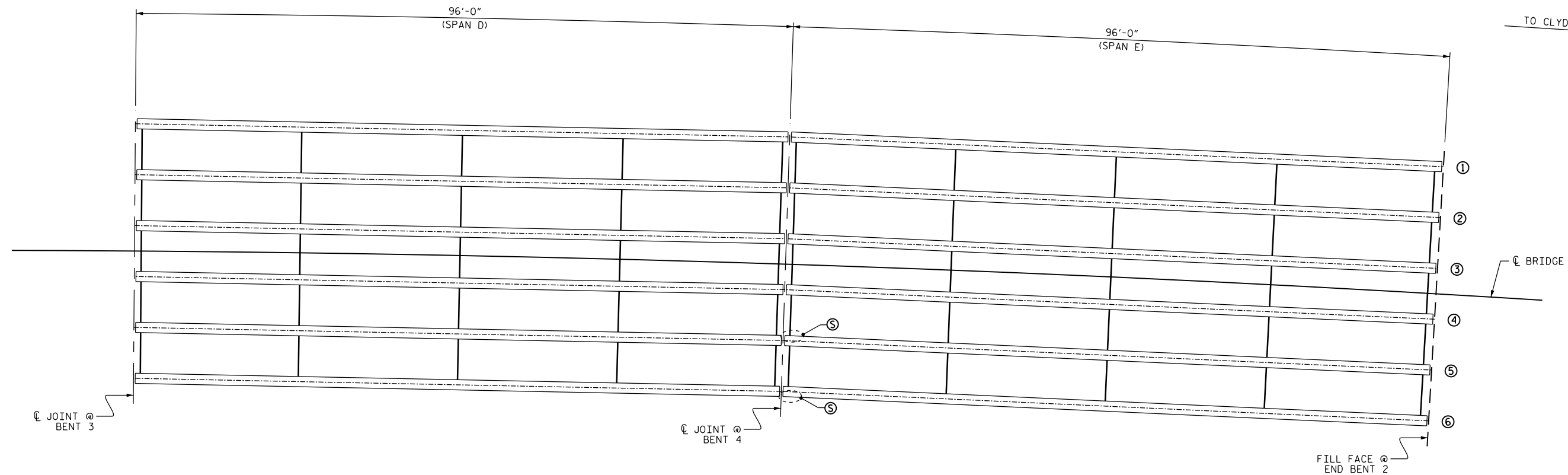
BEAM REPAIR LOCATIONS

DRAWN BY : H. T. BARBOUR DATE : 11/15
 CHECKED BY : J. YANNACCONI DATE : 11/15

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-75
1			3			TOTAL SHEETS
2			4			122

← TO TENNESSEE

→ TO CLYDE



BEAM REPAIR LOCATIONS
(OTHER LOCATIONS MAY EXIST, SEE NOTES)

- ⓑ BEAM END REPAIR
- ⓕ FLANGE REPAIR
- Ⓢ STIFFENER REPAIR
- Ⓚ STEEL KEEPER ANGLE ASSEMBLY
- Ⓛ BEAM NUMBER

NOTES

THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENT OF REPAIR AREAS PRIOR TO STEEL FABRICATION.

FOR BEAM REPAIR, SEE SPECIAL PROVISIONS.

FOR BEAM REPAIR DETAILS, SEE "BEAM REPAIR DETAILS" SHEET.

FOR BRIDGE JACKING DETAILS, SEE "JACKING DETAILS" SHEET.

FOR STEEL KEEPER ANGLE ASSEMBLY DETAILS, SEE "STEEL KEEPER ANGLE ASSEMBLY DETAILS" SHEET.

FOR STEEL KEEPER ANGLE ASSEMBLY, SEE SPECIAL PROVISIONS.

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

BEAM REPAIR					
BEAM END REPAIR		FLANGE REPAIR		STIFFENER REPAIR	
LBS.		LBS.		LBS.	
ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
0		0		50	

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 228

SHEET 2 OF 2

DocuSigned by:

John A. Yannaccone

7BC36E9C...



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BEAM REPAIR LOCATIONS

DRAWN BY : H. T. BARBOUR DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 11/15

21-MAR-2016 13:16
 R:\Structures\Final Drawings\430228\I5756_SD_430228_FP.dgn
 Jayannaccone

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-76
1			3			TOTAL SHEETS
2			4			122

NOTES

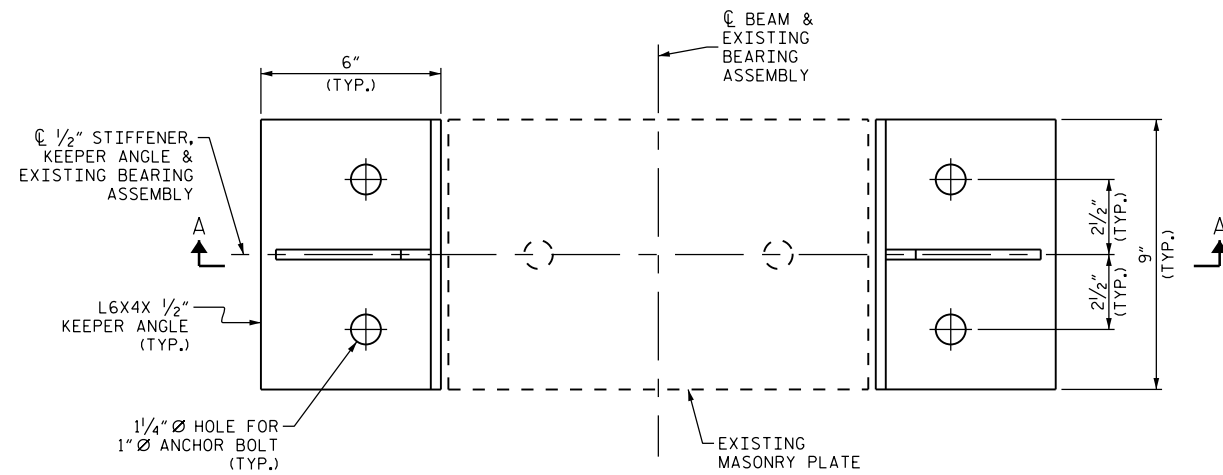
STRUCTURAL STEEL SHALL BE AASHTO GRADE 36 OR GREATER.

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

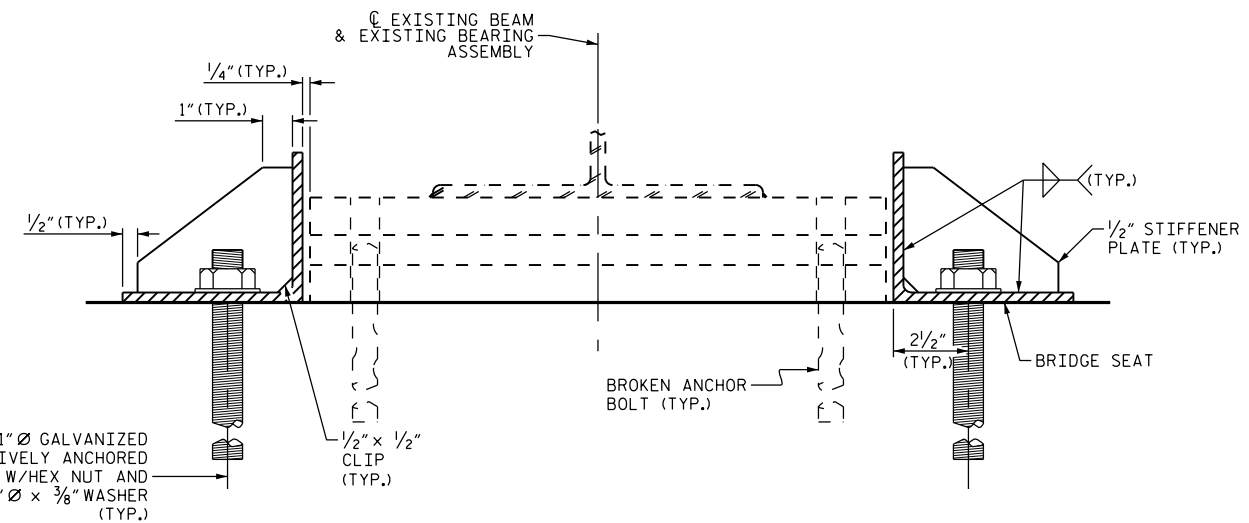
ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO M292-2H. WASHERS SHALL MEET THE REQUIREMENTS OF AASHTO M293. SHOP DRAWINGS ARE REQUIRED FOR ANCHOR BOLTS, NUTS AND WASHERS. SHOP INSPECTION IS NOT REQUIRED.

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.



PLAN



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

STEEL KEEPER ANGLE ASSEMBLY DETAILS

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 228

STEEL KEEPER ANGLE ASSEMBLY	
EACH	
ESTIMATE	ACTUAL
4	

DocuSigned by:
John A. Yannaccone
 7BC36E9C804E0

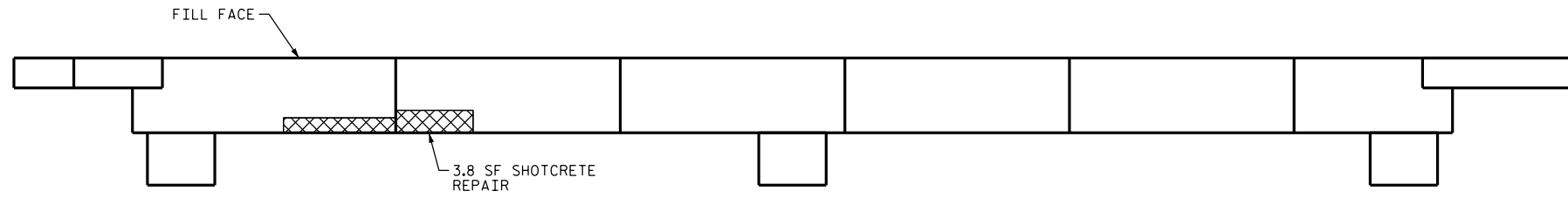
 3/21/2016

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

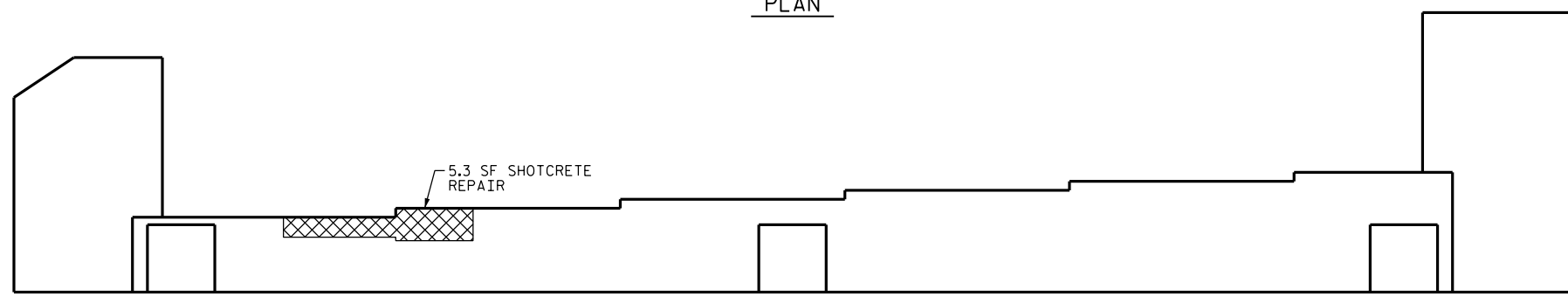
DRAWN BY : J. YANNAKONE DATE : 1/16
 CHECKED BY : S. WANCE DATE : 1/16

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-77
2			4			122

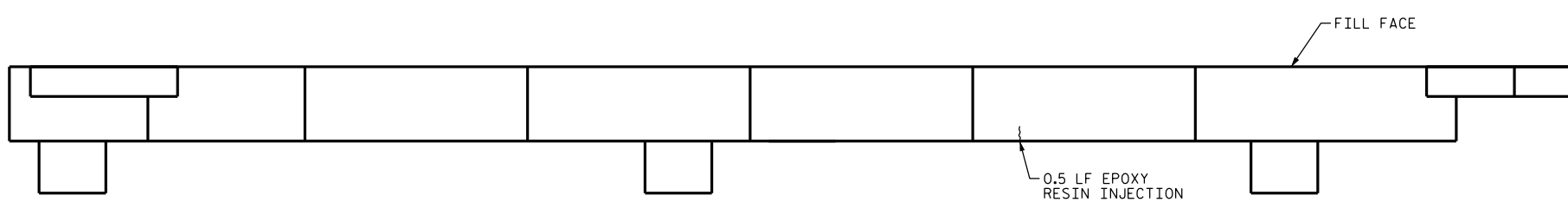


PLAN

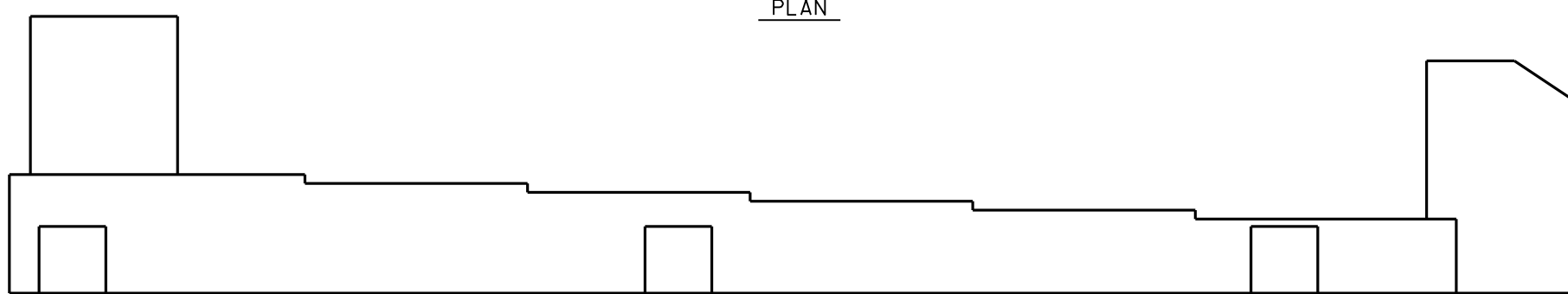


ELEVATION

END BENT 1



PLAN



ELEVATION

END BENT 2

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	9.1	7.9 *		
EPOXY RESIN INJECTION		LN. FT		
CAP		0.0		

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		
CAP		0.5		

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

NOTES

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

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

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 228

DocuSigned by:
John A. Yannaccone
 7BC36E9C6894E6



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 1 & 2

DRAWN BY : H. T. BARBOUR DATE : 09/15
 CHECKED BY : R. L. PUTEK DATE : 11/15

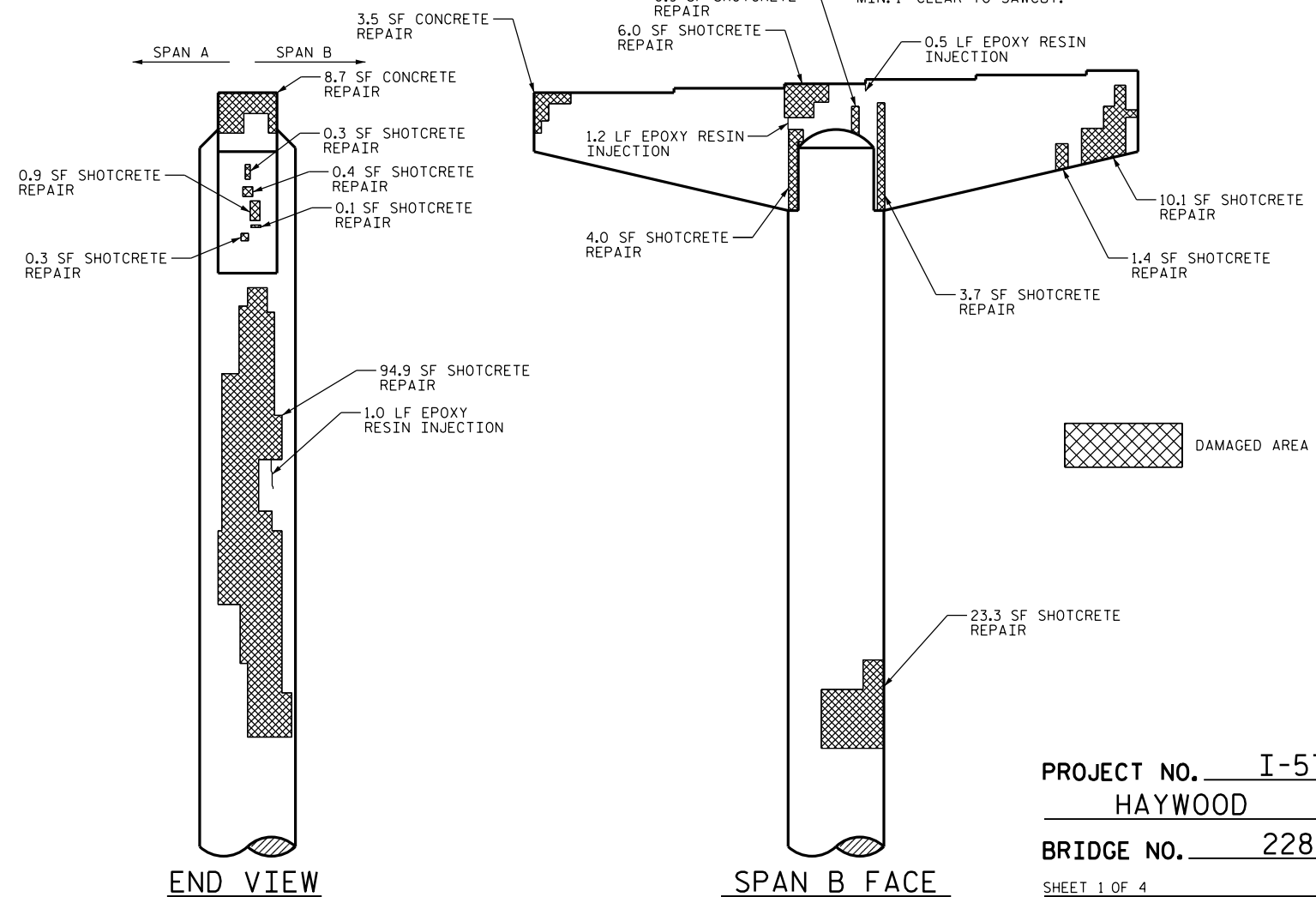
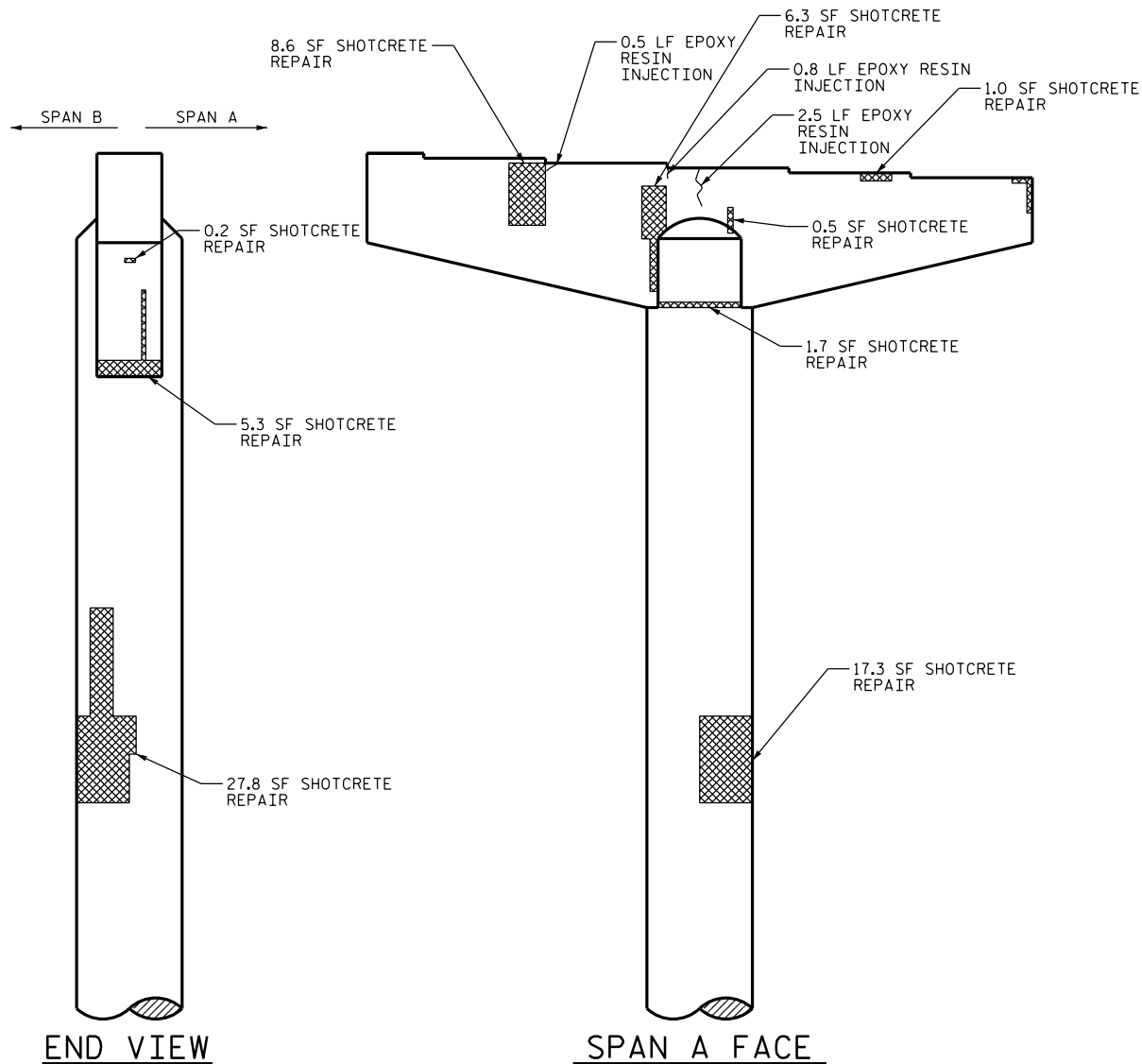
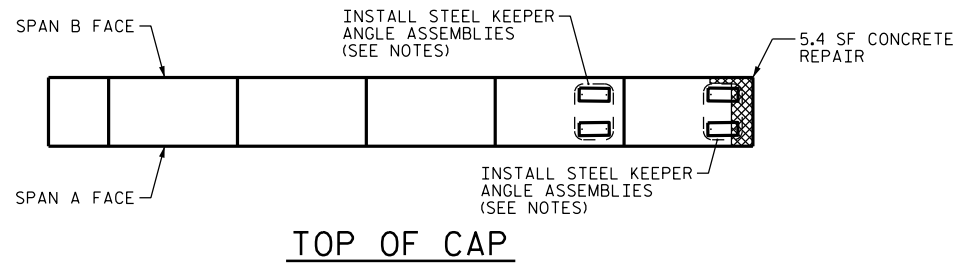
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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-78
2			4			122

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AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	50.0	44.3*		
COLUMN	165.0	139.2*		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	17.6	15.6*		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT		LN. FT	
CAP	5.5			
COLUMN	1.0			
EPOXY COATING	SQ. FT		SQ. FT	
TOP OF BENT CAP	164			

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



NOTES

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

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

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

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

EPOXY COATING SHALL BE APPLIED TO THE TOP FACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR STEEL KEEPER ANGLE ASSEMBLY DETAILS, SEE "STEEL KEEPER ANGLE ASSEMBLY DETAILS" SHEET.

FOR STEEL KEEPER ANGLE ASSEMBLY, SEE SPECIAL PROVISIONS.

DocuSigned by:
John A. Yannaccone
7BC36E90...
STATE OF NORTH CAROLINA
PROFESSIONAL ENGINEER
SEAL
32492
JOHN A. YANNAACONE
3/21/2016

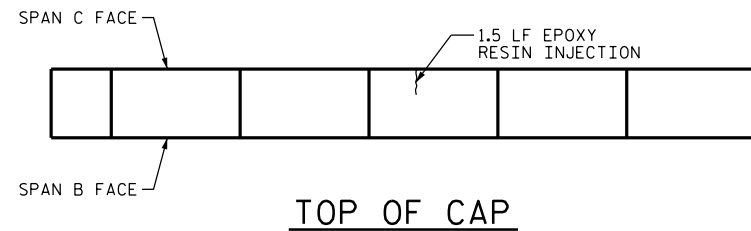
PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 228

SHEET 1 OF 4

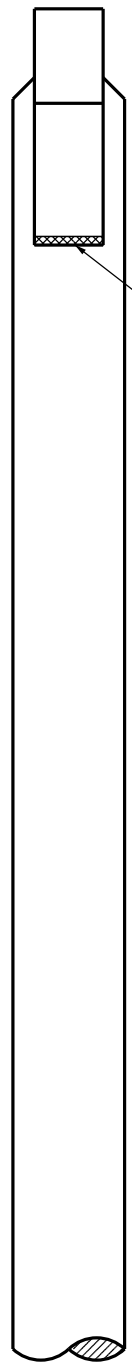
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-79	
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2			4			122	

DRAWN BY : H. T. BARBOUR DATE : 09/15
CHECKED BY : J. YANNAACONE DATE : 12/15

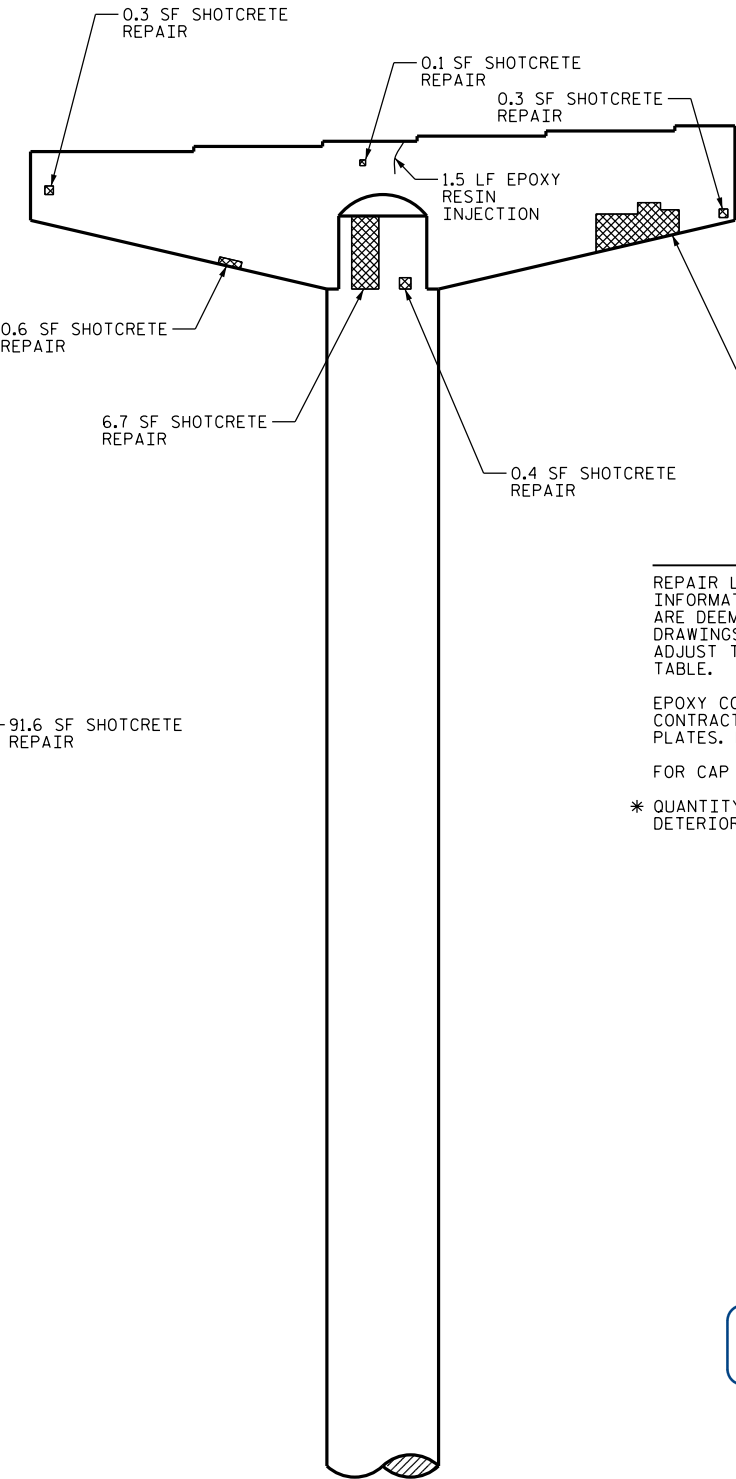
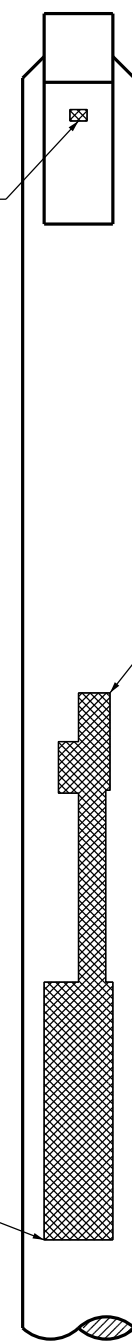
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FINAL UNLESS ALL
SIGNATURES COMPLETED



SPAN C SPAN B



SPAN B SPAN C



AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	13.5	12.0 *		
COLUMN	98.7	83.3 *		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION			LN. FT	LN. FT
CAP			3.0	
COLUMN			1.0	
EPOXY COATING			SQ. FT	SQ. FT
TOP OF BENT CAP			164	

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

NOTES

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

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

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 228

SHEET 2 OF 4

DocuSigned by:
John A. Yannaccone
 7BC36E9C
 NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 32492 JOHN A. YANNACCONI
 3/21/2016

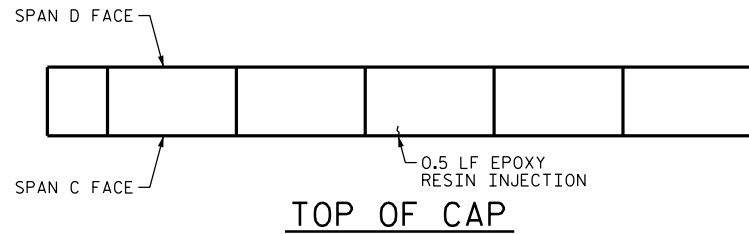
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 2

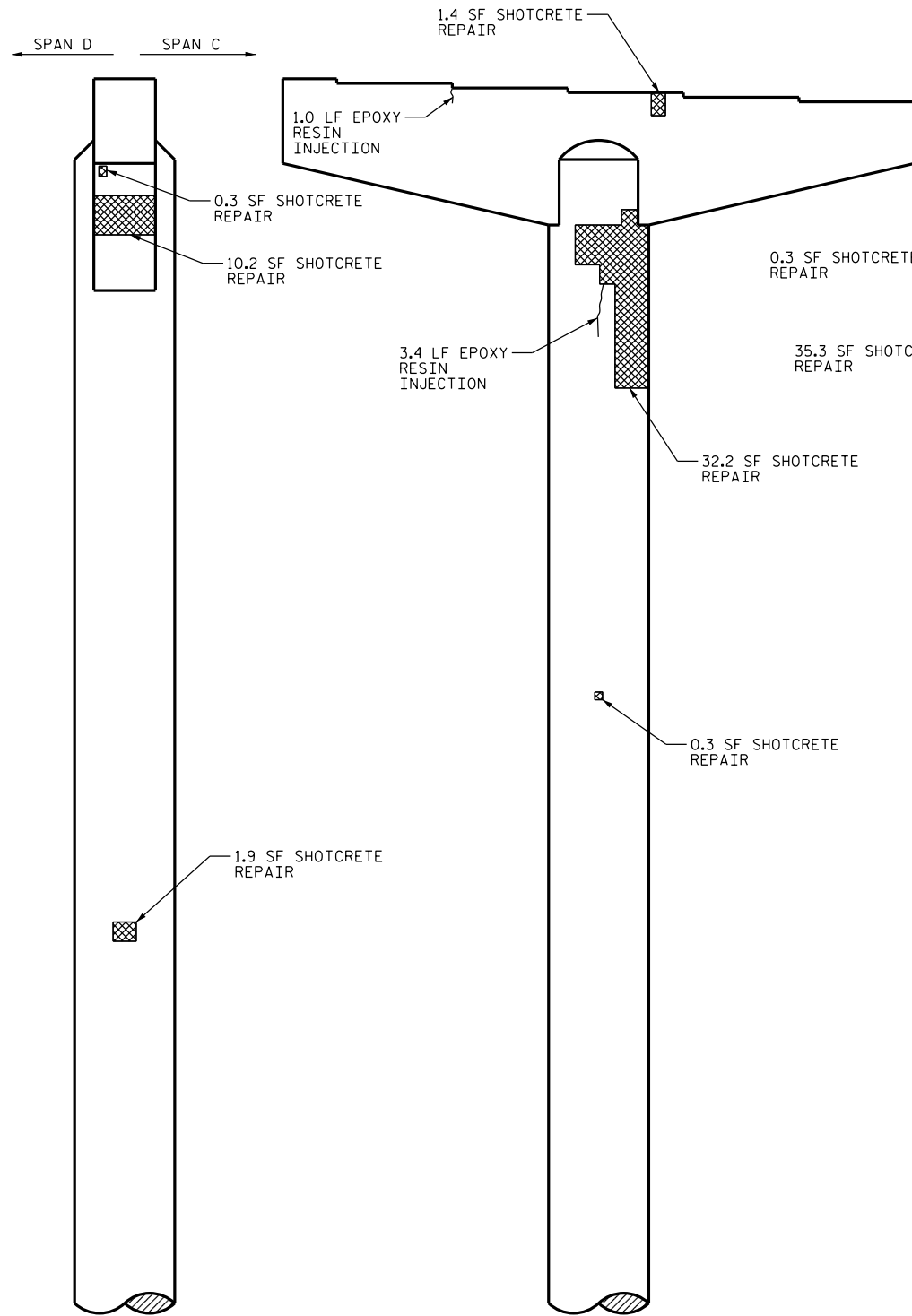
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-80
1			3			TOTAL SHEETS
2			4			122

DRAWN BY : H. T. BARBOUR DATE : 09/15
 CHECKED BY : J. YANNACCONI DATE : 12/15

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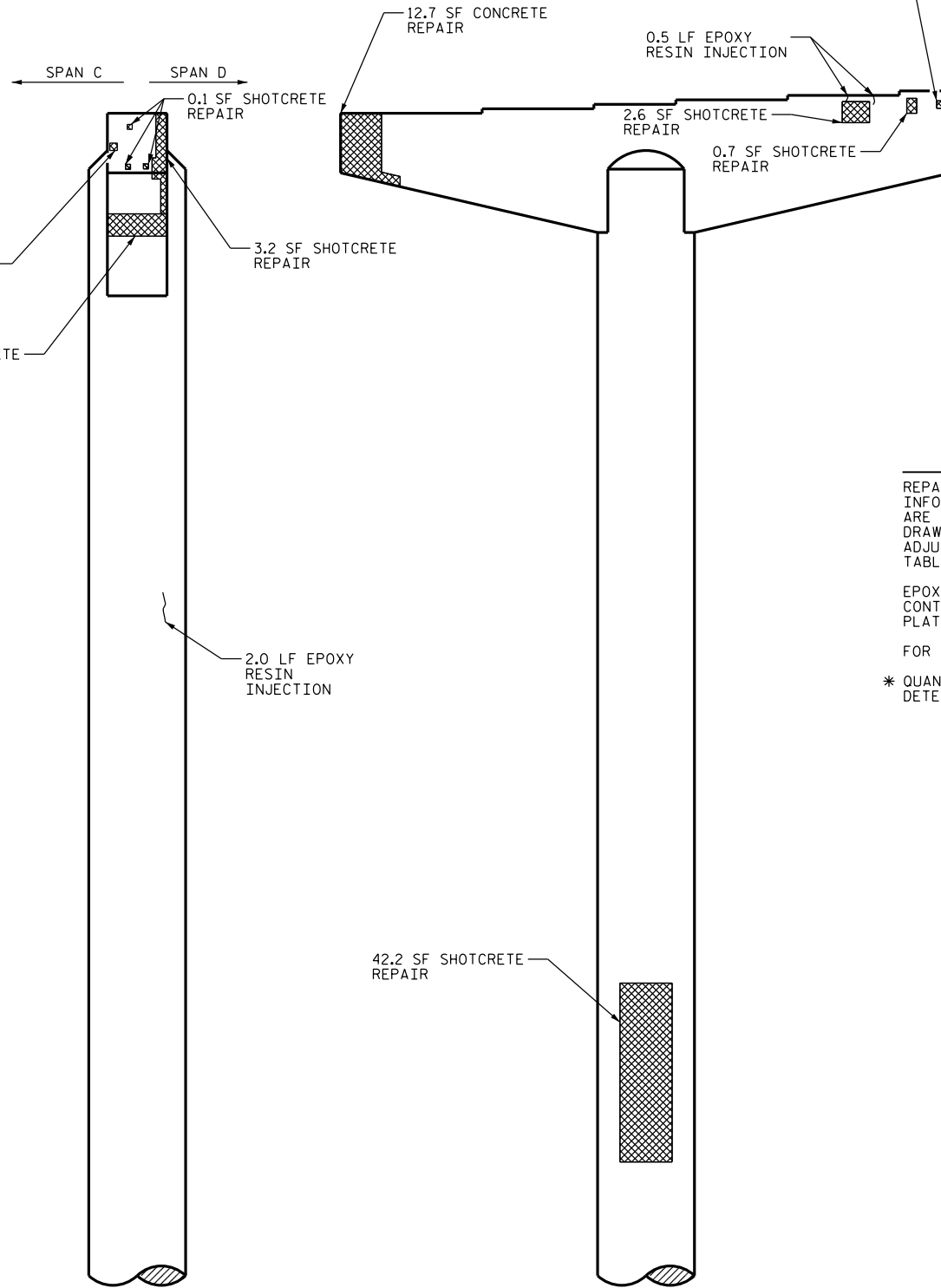


TOP OF CAP



END VIEW

SPAN C FACE



END VIEW

SPAN D FACE

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 3	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	54.5	48.3*		
COLUMN	76.6	64.6*		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	12.7	11.9*		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION			LN. FT	LN. FT
CAP			2.5	
COLUMN			5.4	
EPOXY COATING			SO. FT	SO. FT
TOP OF BENT CAP			164	

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

NOTES

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

EPOXY COATING SHALL BE APPLIED TO THE TOP FACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 228

SHEET 3 OF 4

DocuSigned by:
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 7BC36E9CF888944
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 PROFESSIONAL
 SEAL
 32492
 ENGINEER
 JOHN A. YANNACCONI

3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

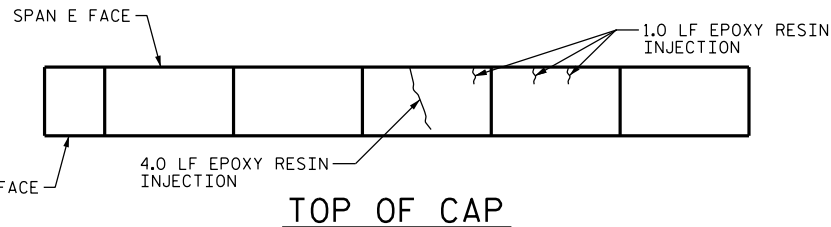
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DRAWN BY : H. T. BARBOUR DATE : 09/15
 CHECKED BY : J. YANNACCONI DATE : 12/15

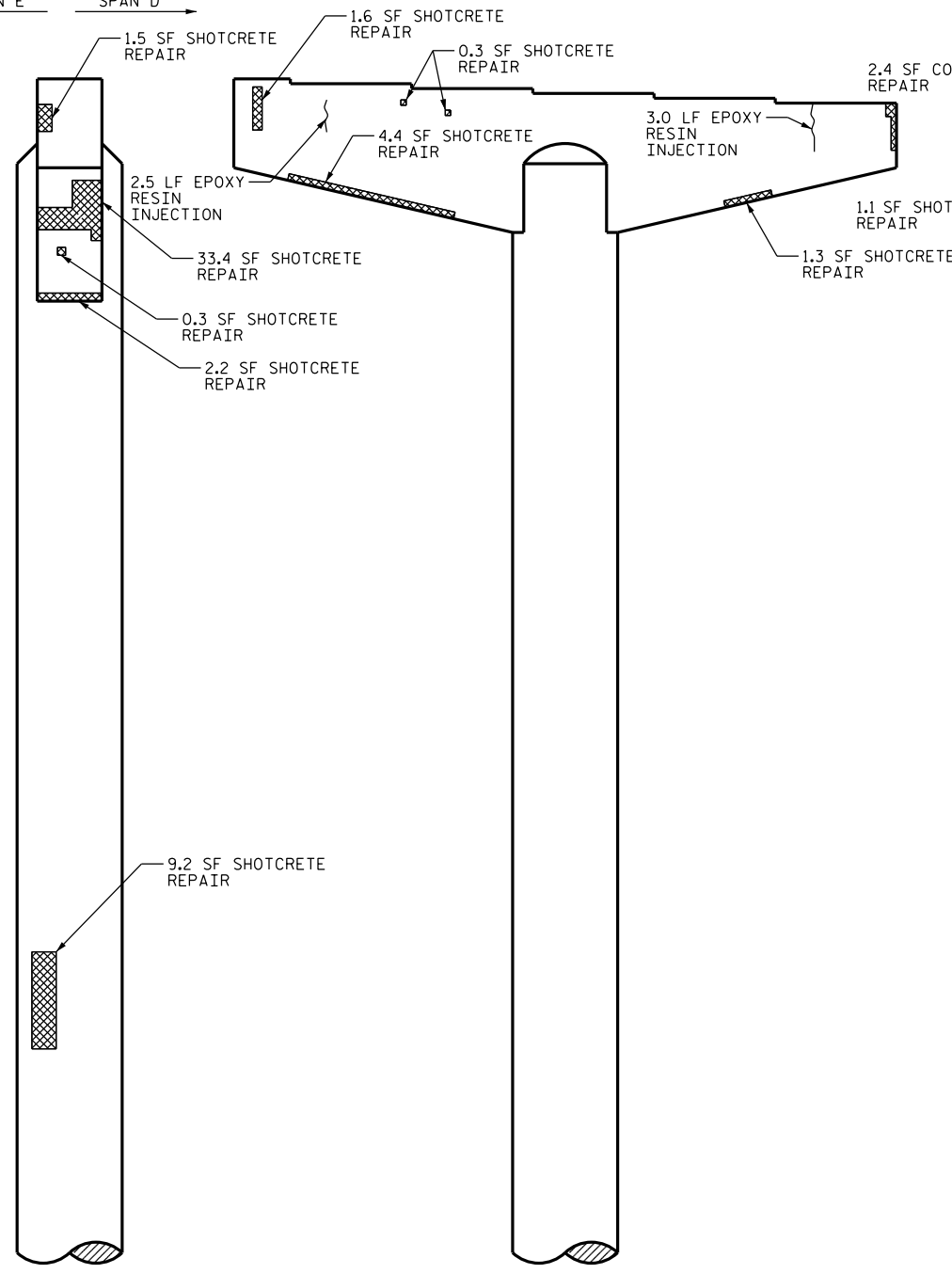
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1			3			TOTAL SHEETS
2			4			122



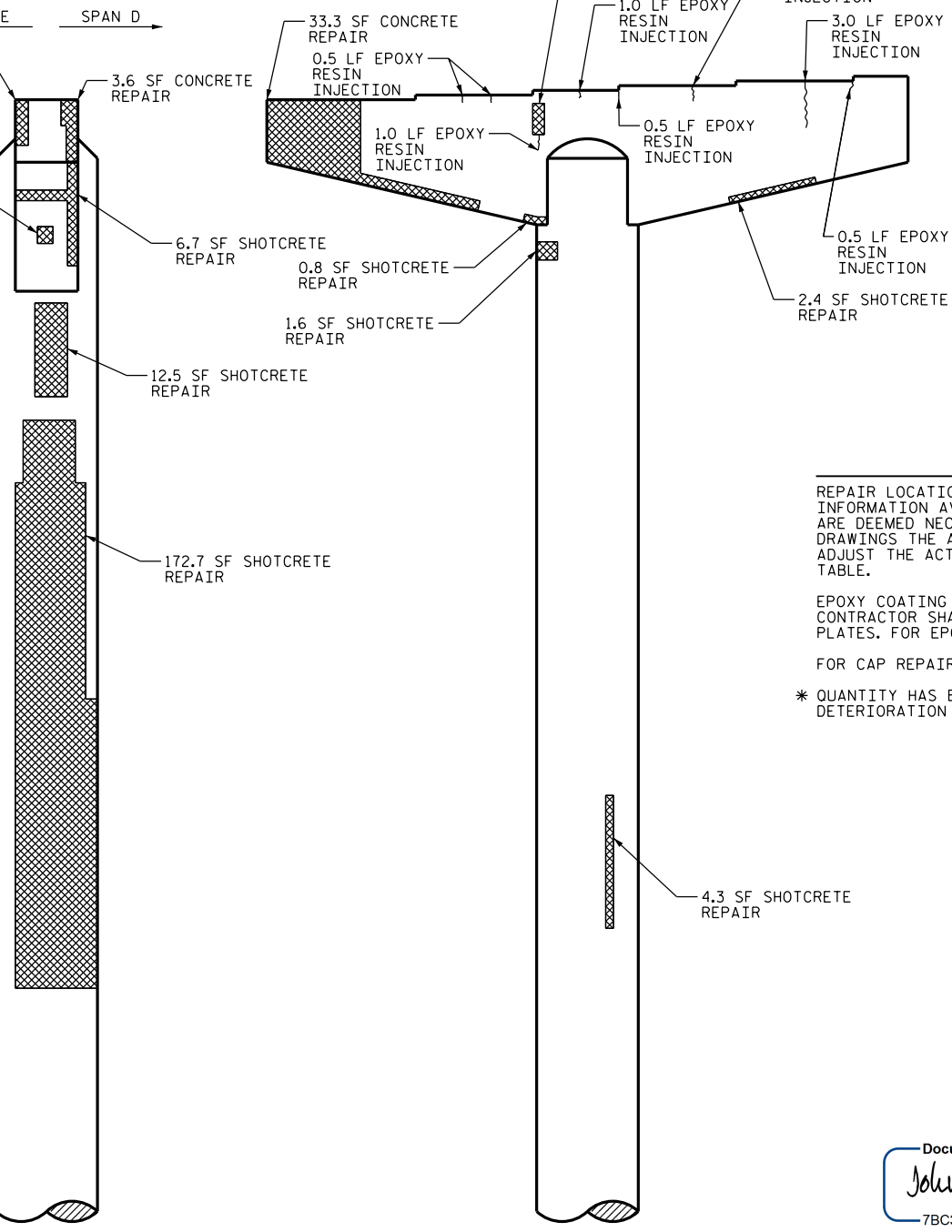
← SPAN E SPAN D →



END VIEW

SPAN D FACE

← SPAN E SPAN D →



END VIEW

SPAN E FACE

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 4	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	57.8	51.2 *		
COLUMN	200.3	169.0*		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	39.3	34.8 *		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		20.5		
COLUMN		0.0		
EPOXY COATING		SQ. FT		SQ. FT
TOP OF BENT CAP		164		

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

NOTES

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

EPOXY COATING SHALL BE APPLIED TO THE TOP FACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

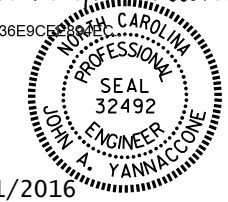
* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 228

SHEET 4 OF 4

DocuSigned by:
John A. Yannaccone
 7BC36E9C...



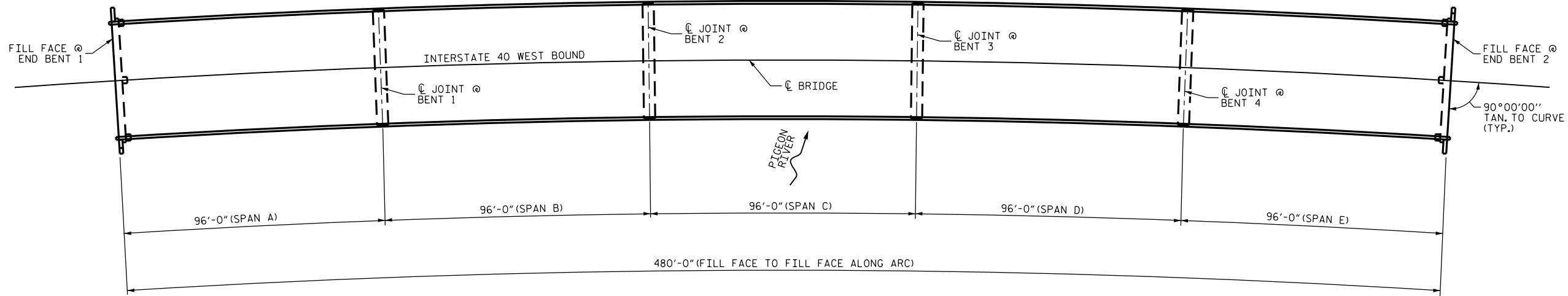
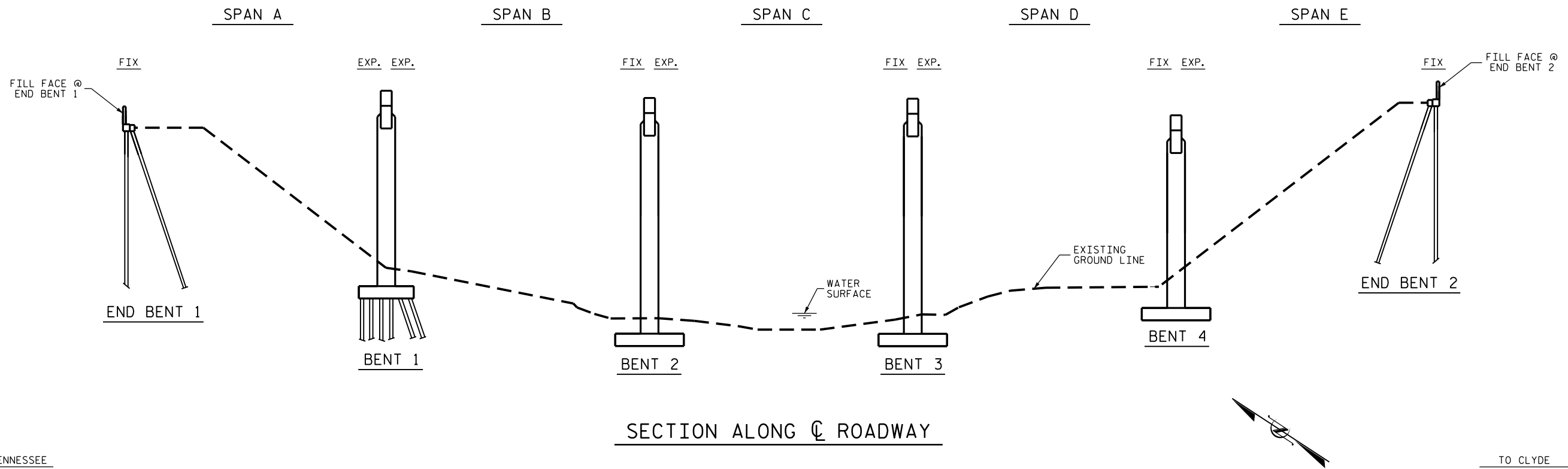
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 4

DRAWN BY : H. T. BARBOUR DATE : 09/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-82
1			3			TOTAL SHEETS
2			4			122

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PLAN

NOTES

PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 04/22/2015.
 BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS. ORIENTATION OF ROUTINE INSPECTION REPORTS MAY VARY.

SCOPE OF WORK

- CLEAN, PAINT AND REPAIR STEEL I-BEAMS AND BEARINGS.
- EPOXY INJECTION OF CONCRETE CRACKS.
- CLEAN AND REPAIR REBAR IN CONCRETE REPAIR AREAS.
- PERFORM SHOTCRETE REPAIRS IN PREPARED AREAS.
- REMOVE DEBRIS FROM TOP OF BENT CAPS AND APPLY EPOXY COATING.
- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND HYDRO-DEMOLITION METHODS.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- OVERLAY PREPARED BRIDGE DECK WITH LATEX MODIFIED CONCRETE.
- RECONSTRUCT BRIDGE JOINTS AND INSTALL JOINT SEALS.
- GROOVE LATEX MODIFIED CONCRETE BRIDGE DECK.

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

RESIDENT ENGINEER

DocuSigned by:

John A. Yannaccone
 7BC36E9C8E88454E88454E88454E8845
 STATE OF NORTH CAROLINA
 PROFESSIONAL ENGINEER
 SEAL 32492
 JOHN A. YANNACCONE

3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 230

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON I-40 WBL
 OVER PIGEON RIVER

DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J. YANNACCONE DATE : 11/15

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-83
1			3			TOTAL SHEETS
2			4			122



LOCATION SKETCH

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

NOTES

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

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

FOR OVERLAY OF BRIDGE WITH LATEX MODIFIED CONCRETE, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK.

FOR SCARIFYING BRIDGE DECK, HYDRO-DEMOLITION OF BRIDGE DECK, AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING REPAIR OF BRIDGE DECKS.

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

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

FOR PAINTING CONTAINMENT, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR CLEANING AND REPAINTING OF BRIDGE, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR POLLUTION CONTROL, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR BEAM REPAIR, SEE SPECIAL PROVISIONS.

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

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 230

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9CE
 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 32492
 ENGINEER
 JOHN A. YANNACCONI
 3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

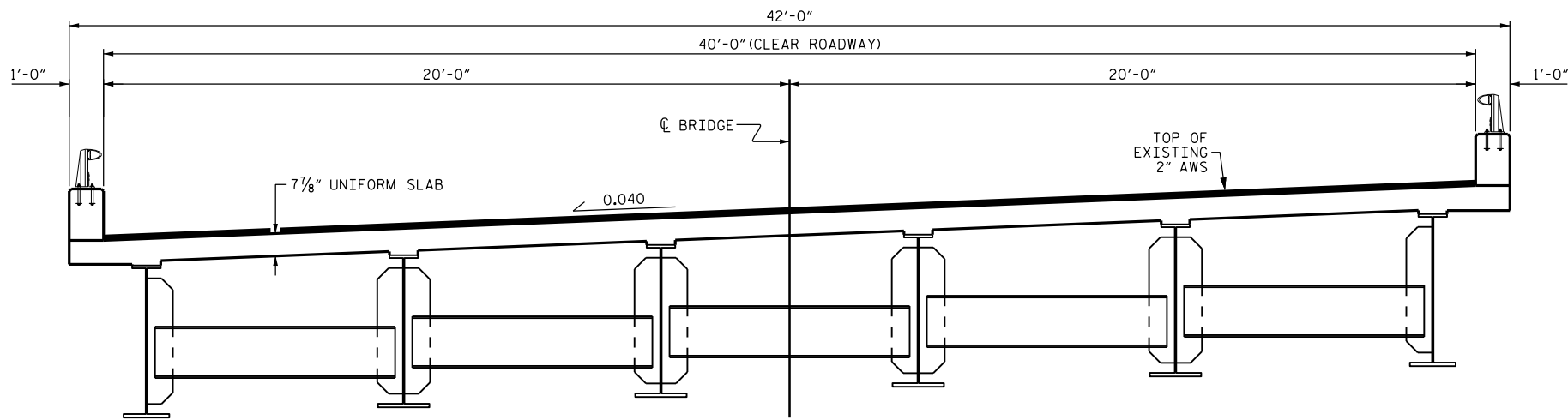
GENERAL DRAWING
 FOR BRIDGE ON I-40 WBL
 OVER PIGEON RIVER

DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J. YANNACCONI DATE : 11/15

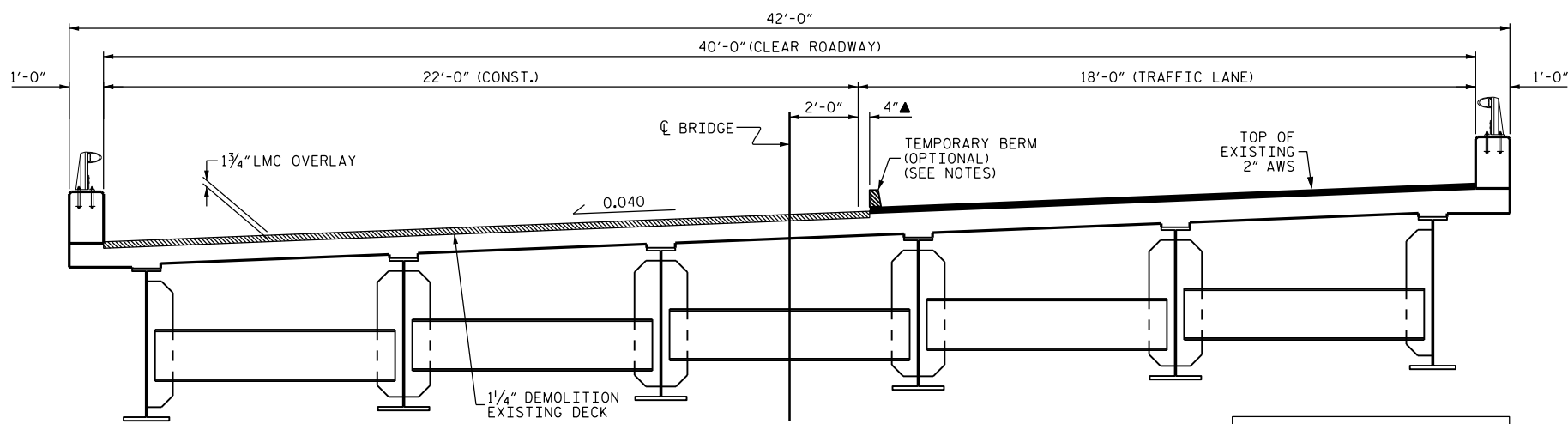
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 Jayannaccone

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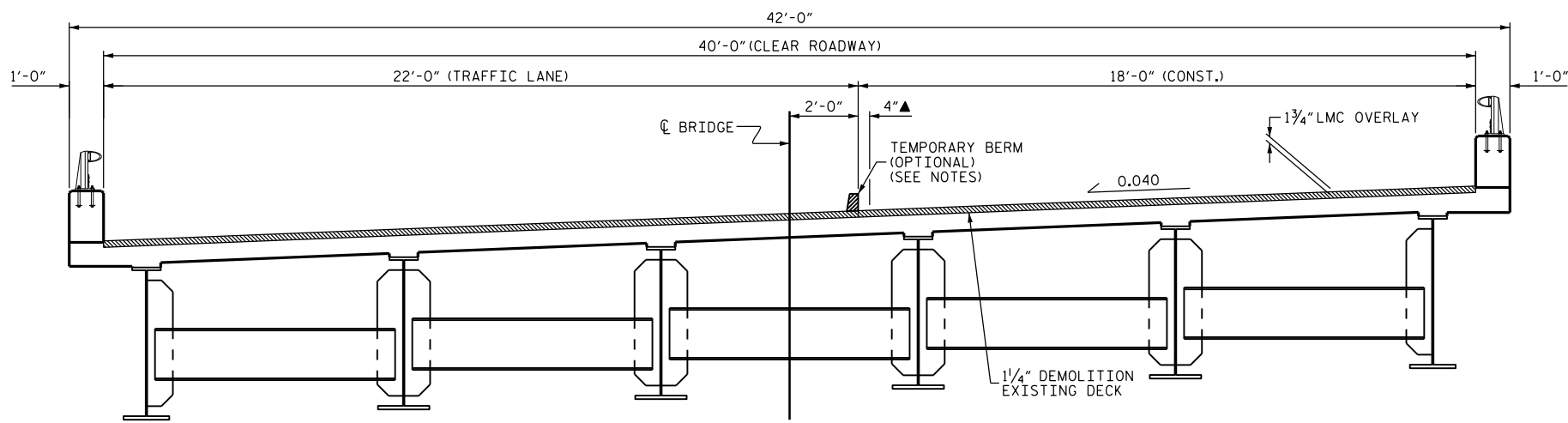


TYPICAL SECTION
(EXISTING)



TYPICAL SECTION
(RIGHT LANE LMC WORK)

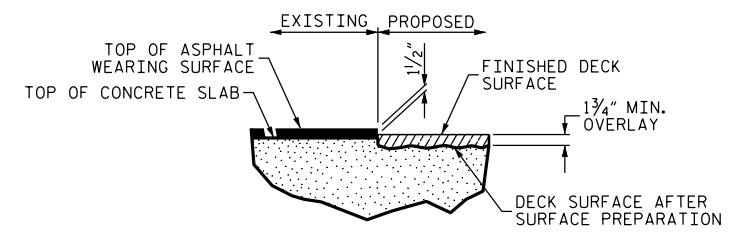
▲ 4" OVERLAP BETWEEN OVERLAYS
PREVIOUSLY POURED LMC
TO BE HYDRO-DEMOLITIONED
& RECAST WITH LMC



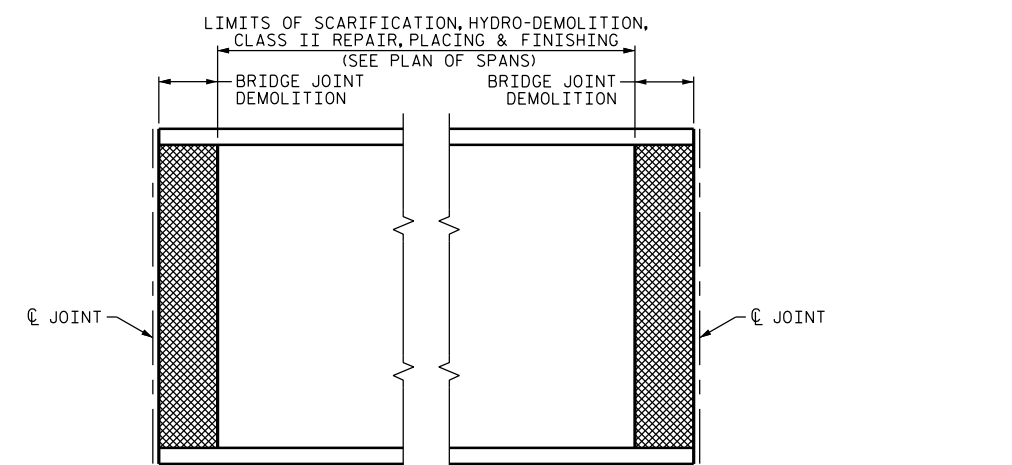
TYPICAL SECTION
(LEFT LANE LMC WORK)

NOTES

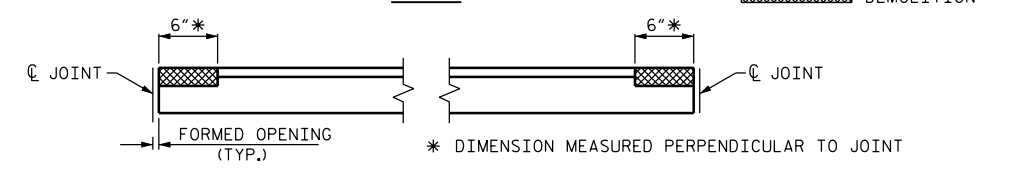
THE WORK STAGING ON THIS PLAN SHEET INDICATES THAT THE RIGHT LANE LMC WORK IS PERFORMED FIRST, FOLLOWED BY THE LEFT LANE LMC WORK. THE CONTRACTOR MAY ELECT TO SEQUENCE THE WORK DIFFERENTLY, BUT THE DIMENSIONS OF THE WORK ZONE AND CLEAR ROADWAY AREAS SHALL MATCH THAT INDICATED ON THIS PLAN SHEET, RESPECTIVE TO THE LANE WHERE THE LMC WORK IS BEING PERFORMED.



DETAIL FOR LMC OVERLAY



PLAN



ELEVATION

PAY LIMITS FOR OVERLAY BID ITEMS

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO: 230

DocuSigned by:
John A. Yannaccone
7BC36E9CE
NORTH CAROLINA
PROFESSIONAL
SEAL
32492
ENGINEER
JOHN A. YANNACCONE

3/21/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**TYPICAL SECTION
AND SURFACE
PREPARATION DETAILS**

DRAWN BY : H. T. BARBOUR DATE : 10-26-15
CHECKED BY : J. YANNACCONE DATE : 11-15

21-MAR-2016 13:16
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Jayannaccone

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-85
1			3			TOTAL SHEETS
2			4			122

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SIGNATURES COMPLETED

AS-BUILT REPAIR QUANTITY TABLE








TOP OF DECK REPAIRS

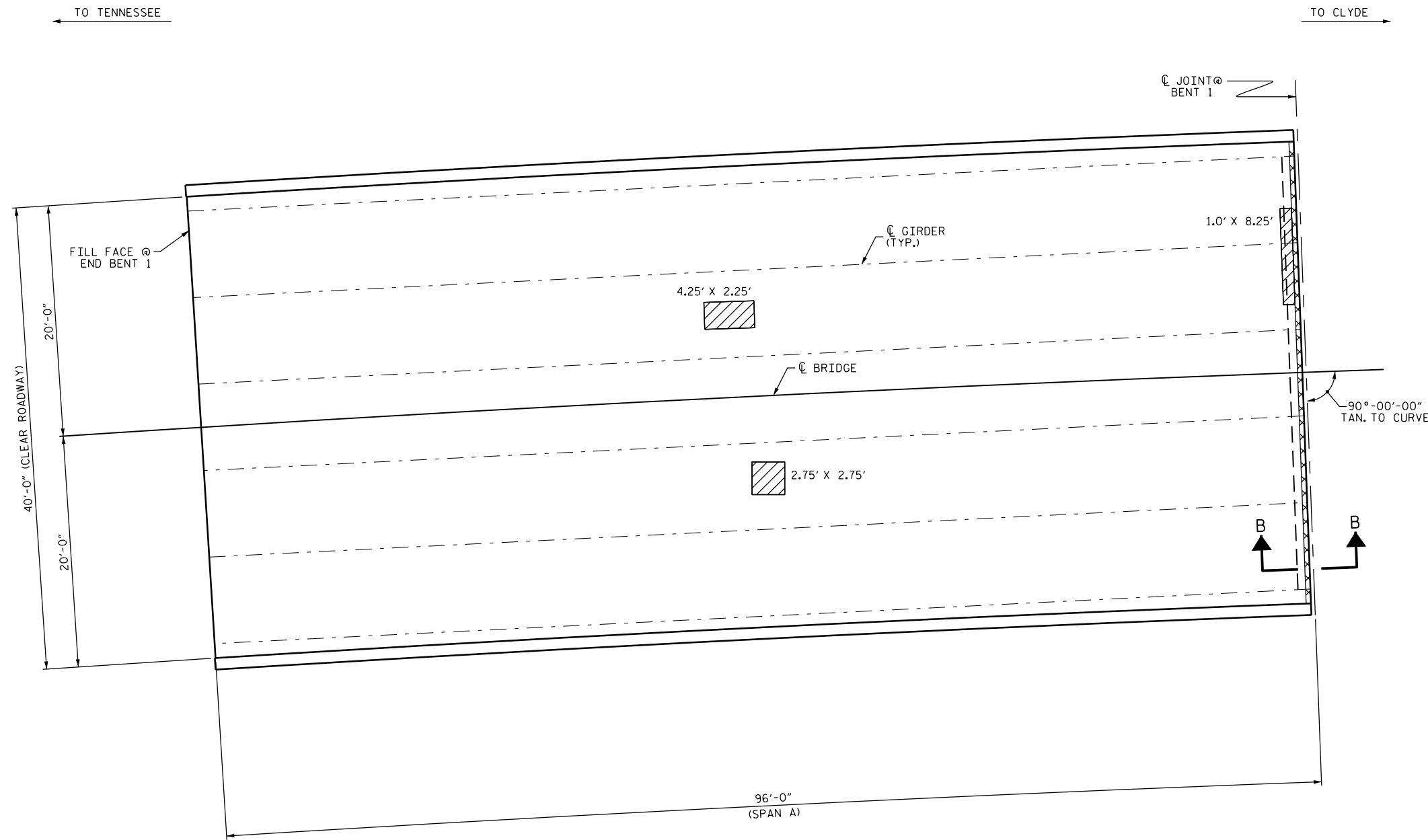
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	424 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	424 SY	
CLASS II SURFACE PREPARATION	2.9 SY	
CLASS III SURFACE PREPARATION	0.0 SY	
BRIDGE JOINT DEMOLITION	20.0 SF	
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY	

UNDERSIDE OF DECK REPAIRS

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

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

-  APPROX. CLASS II AREA
-  APPROX. CLASS III AREA
-  BRIDGE JOINT DEMOLITION
-  UNDERSIDE REPAIR
-  DIAPHRAGM REPAIR
-  TEST LOCATION
-  ERI EPOXY RESIN INJECTION



PLAN

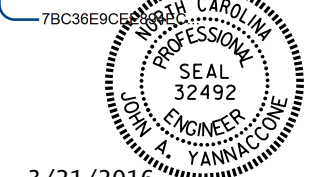
NOTES

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

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

DocuSigned by:
John A. Yannaccone



3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 230

SHEET 1 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPANS
SPAN A

DRAWN BY : H. T. BARBOUR DATE : 11/15
CHECKED BY : J. YANNACCONI DATE : 12/15








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SIGNATURES COMPLETED

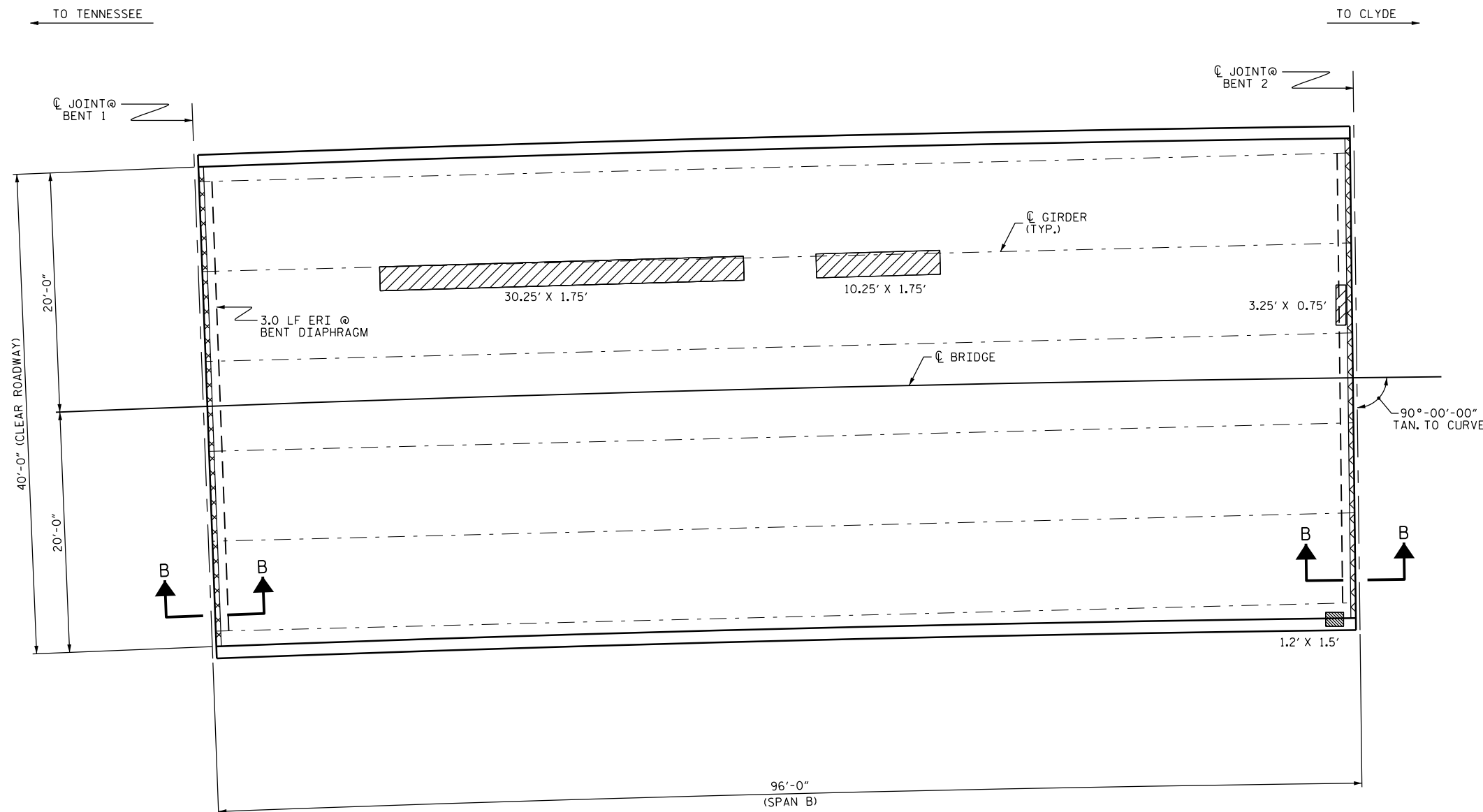
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-86
1			3			TOTAL SHEETS
2			4			122

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE		ACTUAL	
SCARIFYING BRIDGE DECK	422	SY		
HYDRO-DEMOLITION OF BRIDGE DECK	422	SY		
CLASS II SURFACE PREPARATION	8.2	SY		
CLASS III SURFACE PREPARATION	0.0	SY		
BRIDGE JOINT DEMOLITION	40.0	SF		
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0	CY		
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	1.8	1.0 *		
INTERIOR DIAPHRAGMS	0.0	0.0		
		ESTIMATE	ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION		3.0 LF		

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

-  APPROX. CLASS II AREA
-  APPROX. CLASS III AREA
-  BRIDGE JOINT DEMOLITION
-  UNDERSIDE REPAIR
-  DIAPHRAGM REPAIR
-  #1 TEST LOCATION
-  ERI EPOXY RESIN INJECTION



PLAN

NOTES

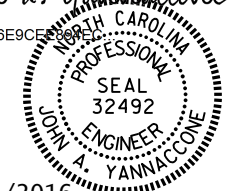
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FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

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

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

DocuSigned by:
John A. Yannaccone
7BC36E9CE



PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 230

SHEET 2 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPANS
SPAN B

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-87
1			3			TOTAL SHEETS
2			4			122








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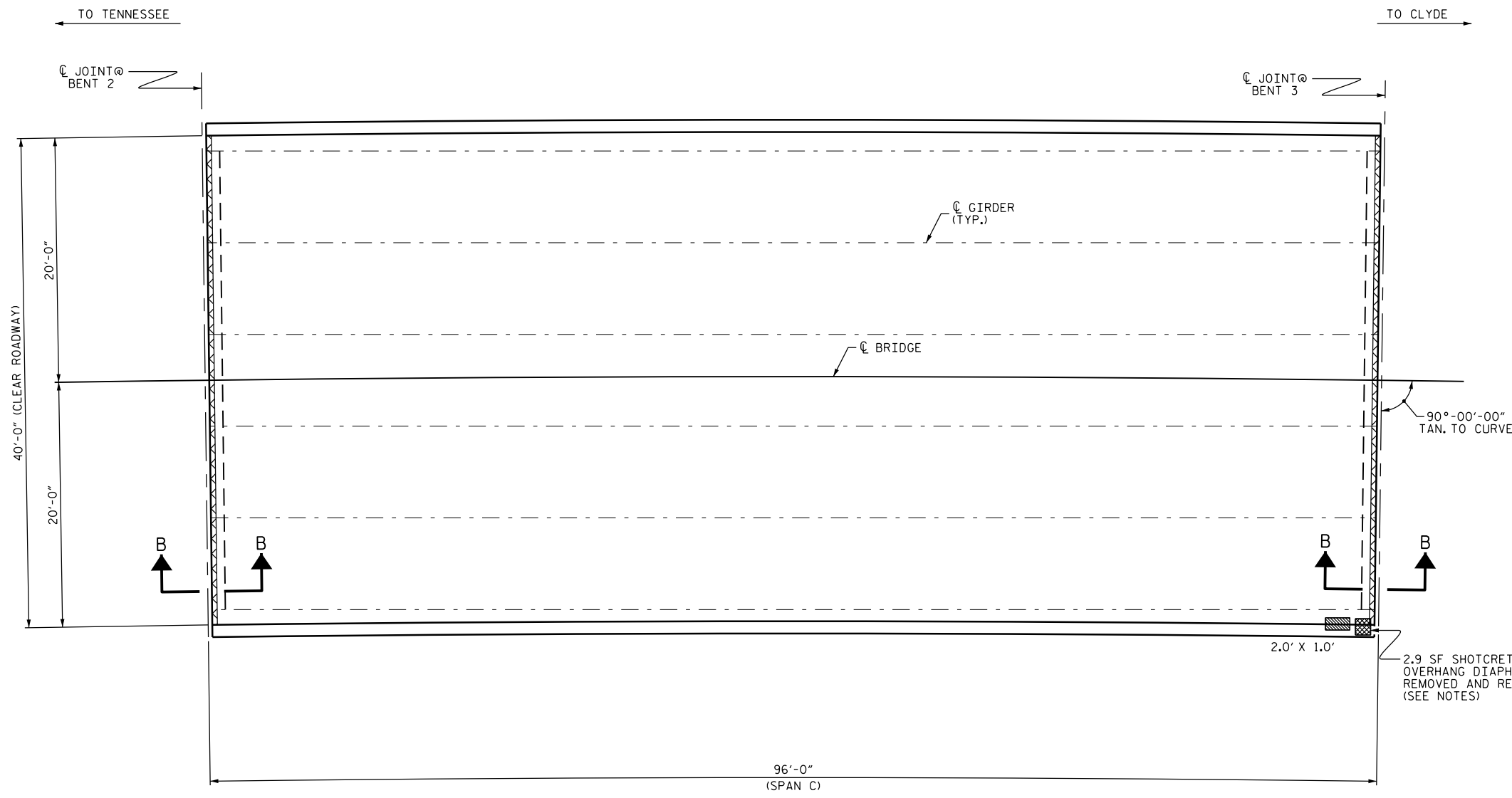
DRAWN BY : H. T. BARBOUR DATE : 11/15
CHECKED BY : J. YANNACCONE DATE : 12/15

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE		ACTUAL	
SCARIFYING BRIDGE DECK	422	SY		
HYDRO-DEMOLITION OF BRIDGE DECK	422	SY		
CLASS II SURFACE PREPARATION	0.0	SY		
CLASS III SURFACE PREPARATION	0.0	SY		
BRIDGE JOINT DEMOLITION	40.0	SF		
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0	CY		
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	2.9	1.5		
UNDERSIDE OF OVERHANG	2.0	1.1 *		
INTERIOR DIAPHRAGMS	0.0	0.0		
		ESTIMATE	ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION		0.0	LF	

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

-  APPROX. CLASS II AREA
-  APPROX. CLASS III AREA
-  BRIDGE JOINT DEMOLITION
-  UNDERSIDE REPAIR
-  DIAPHRAGM REPAIR
-  #1 TEST LOCATION
-  ERI EPOXY RESIN INJECTION



PLAN

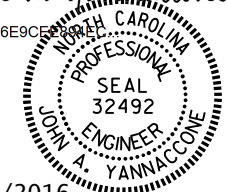
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THE EXISTING REINFORCING STEEL IN THE OVERHANG DIAPHRAGMS SHALL REMAIN IN PLACE. REINFORCING BARS SHALL BE CLEANED AND BENT TO THEIR ORIGINAL SHAPE. ANY DAMAGED BARS SHALL BE REPLACED. THE UNIT CONTRACT PRICE BID FOR "SHOTCRETE REPAIRS" WILL BE FULL COMPENSATION FOR THIS WORK.

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

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

DocuSigned by:
John A. Yannaccone
 7BC36E9C5...

 3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 230

SHEET 3 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPANS
 SPAN C

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-88
2			4			122

DRAWN BY : H. T. BARBOUR DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

AS-BUILT REPAIR QUANTITY TABLE








TOP OF DECK REPAIRS

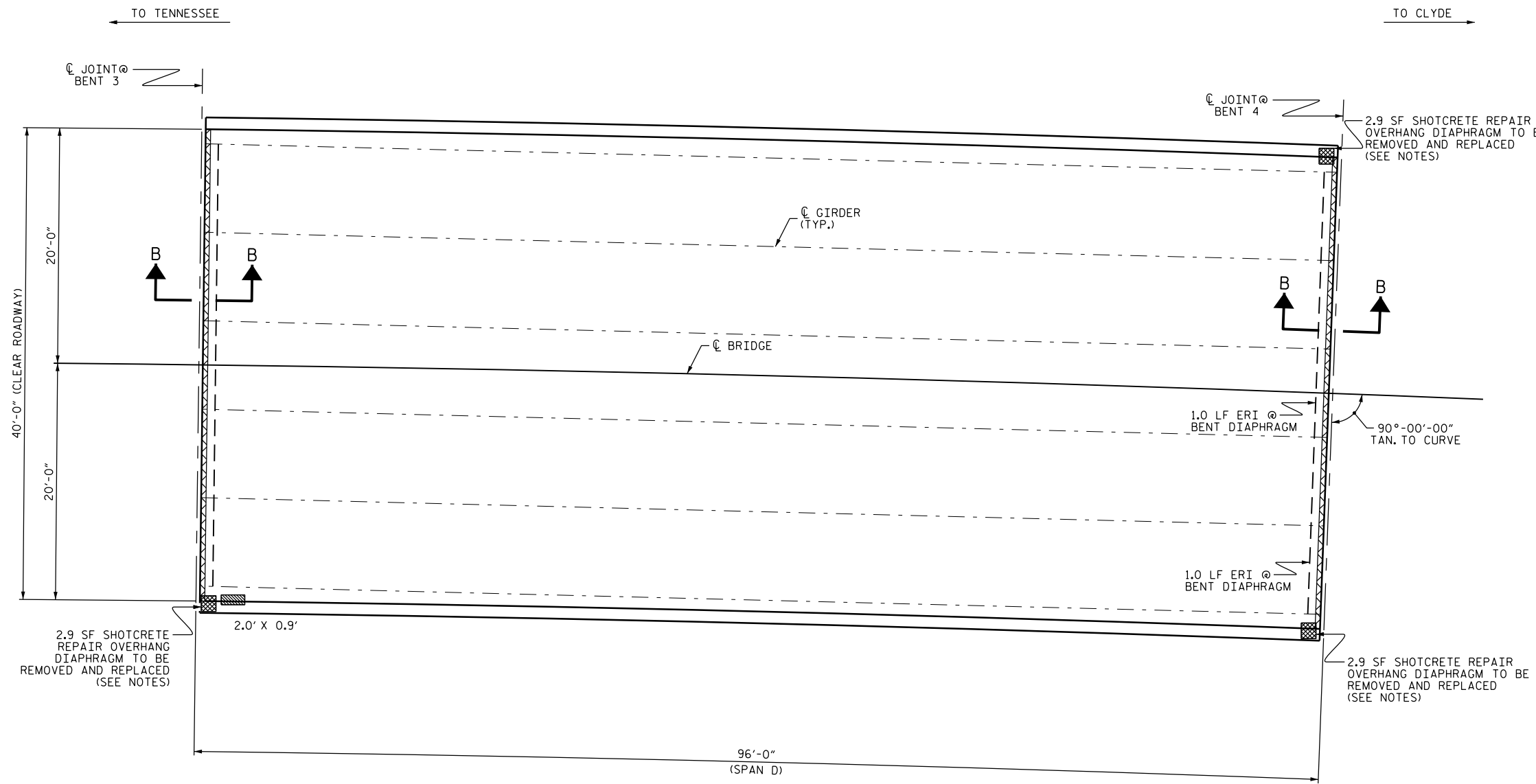
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	422 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	422 SY	
CLASS II SURFACE PREPARATION	0.0 SY	
CLASS III SURFACE PREPARATION	0.0 SY	
BRIDGE JOINT DEMOLITION	40.0 SF	
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY	

UNDERSIDE OF DECK REPAIRS

	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
SHOTCRETE REPAIRS				
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	8.7	4.5		
UNDERSIDE OF OVERHANG	1.8	1.0 *		
INTERIOR DIAPHRAGMS	0.0	0.0		
UNDERSIDE EPOXY RESIN INJECTION				
	2.0 LF			

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

-  APPROX. CLASS II AREA
-  APPROX. CLASS III AREA
-  BRIDGE JOINT DEMOLITION
-  UNDERSIDE REPAIR
-  DIAPHRAGM REPAIR
-  #1 TEST LOCATION
-  ERI EPOXY RESIN INJECTION



NOTES

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

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

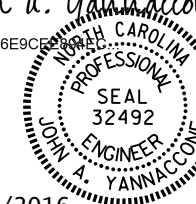
* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

PLAN

DocuSigned by:

John A. Yannaccone

7BC36E9C6...



3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 230

SHEET 4 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPANS
 SPAN D

DRAWN BY : H. T. BARBOUR DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 12/15








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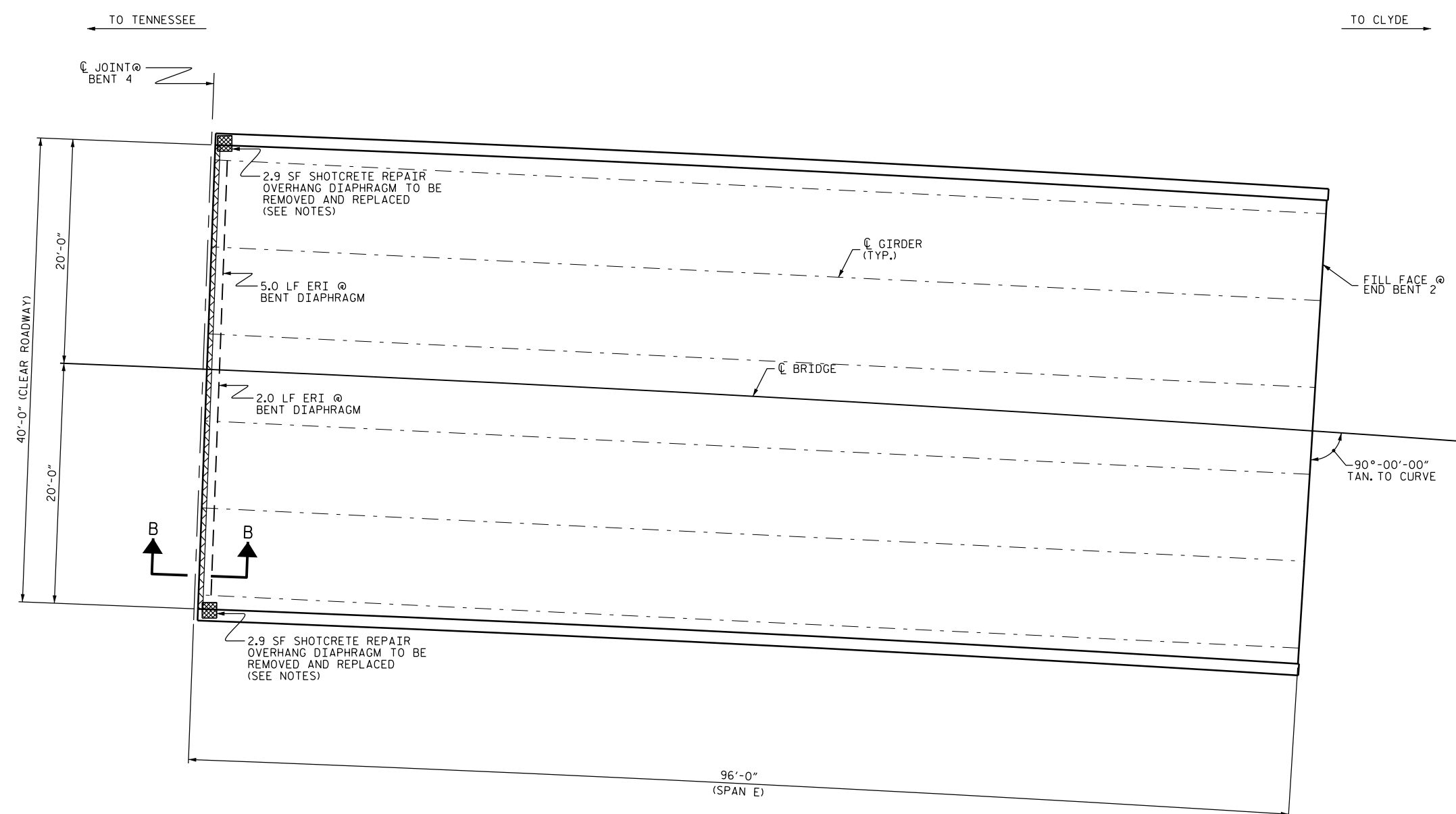
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-89
2			4			122

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE	ACTUAL		
SCARIFYING BRIDGE DECK	424 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	424 SY			
CLASS II SURFACE PREPARATION	0.0 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
BRIDGE JOINT DEMOLITION	20.0 SF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	5.8	3.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
		ESTIMATE	ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION		7.0 LF		

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

-  APPROX. CLASS II AREA
-  APPROX. CLASS III AREA
-  BRIDGE JOINT DEMOLITION
-  UNDERSIDE REPAIR
-  DIAPHRAGM REPAIR
-  #1 TEST LOCATION
-  ERI EPOXY RESIN INJECTION



PLAN

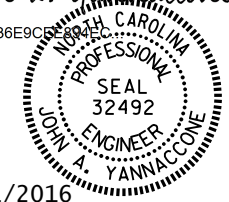
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FOR SECTION B-B, SEE "JOINT DETAILS" SHEET.

DocuSigned by:
John A. Yannaccone
 7BC36E9C...

 3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 230
 SHEET 5 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPANS
 SPAN E**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-90
1			3			TOTAL SHEETS
2			4			122

DRAWN BY : H. T. BARBOUR DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

NOTES

FOR FOAM JOINT SEAL, SEE SPECIAL PROVISIONS.

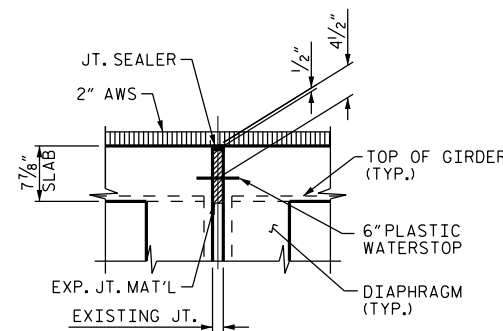
THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.

NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 3" AT BENT 1 AND 2" AT BENTS 2, 3 & 4.

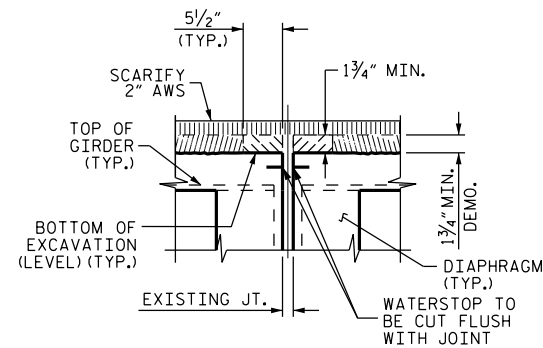
THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE FOAM JOINT SEAL IN LIEU OF SAWING THE JOINT.

ELASTOMERIC CONCRETE		
BENT 1	10.0	(CU. FT.)
BENT 2	10.0	(CU. FT.)
BENT 3	10.0	(CU. FT.)
BENT 4	10.0	(CU. FT.)
* TOTAL	40.0	(CU. FT.)

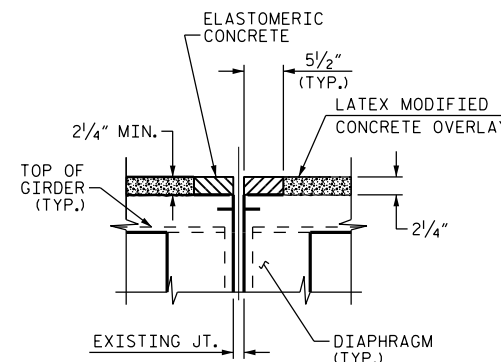
* BASED ON THE MINIMUM BLOCKOUT SHOWN.



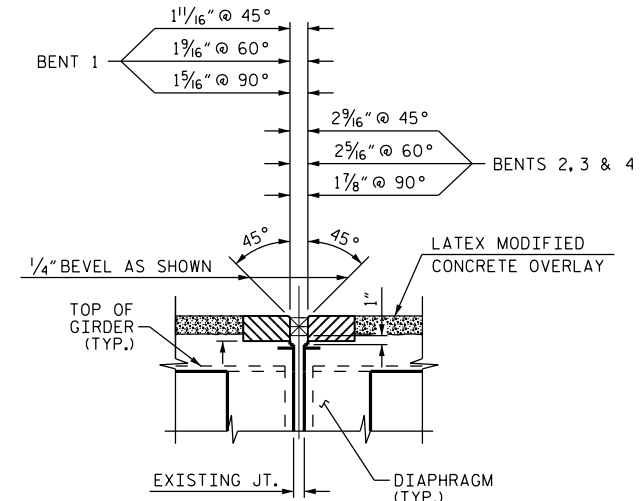
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION



PROPOSED JOINT PRE-SAWED

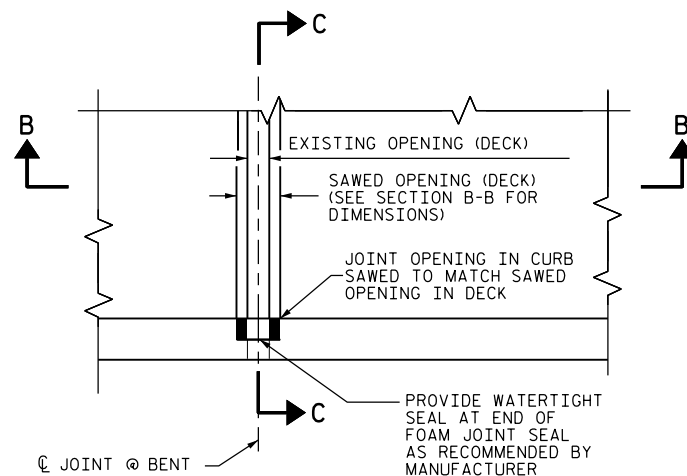


PROPOSED FOAM JOINT SEAL

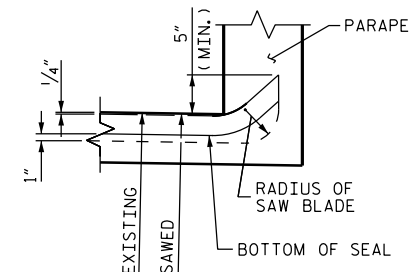
SECTION B-B

IF THE EMBEDDED PORTION OF THE EXISTING PLASTIC WATERSTOP IS EXPOSED DURING REMOVAL OF UNSOUND CONCRETE, OR IF UNSOUND CONCRETE IS REMOVED WITHIN 2" OF THE WATERSTOP, THE ENTIRE CONCRETE DEPTH TO THE WATERSTOP SHALL BE REMOVED. IF SUCH EXCAVATION EXTENDS MORE THAN 2" BELOW THE BOTTOM OF THE PLANNED ELASTOMERIC CONCRETE HEADER, AS SHOWN, APPROVED REPAIR CONCRETE SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION AT THE BOTTOM OF THE ELASTOMERIC CONCRETE.

DEMOLISH BRIDGE JOINT AREA TO THE NECESSARY DEPTH, SUCH THAT ELASTOMERIC CONCRETE SHALL BE FOUNDED ON CONCRETE OR REPAIR CONCRETE SUBSTRATE, NOT LATEX MODIFIED CONCRETE.



PLAN



SECTION C-C

FOAM JOINT SEAL SHALL BE FACTORY FORMED OR CUT, HEAT WELDED AND TURNED UP PARALLEL TO FACE OF PARAPET.

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 230

DocuSigned by:
John A. Yannaccone
7BC36E9CE8
STATE OF NORTH CAROLINA
PROFESSIONAL
SEAL
32492
JOHN A. YANNACCONE
ENGINEER

3/21/2016

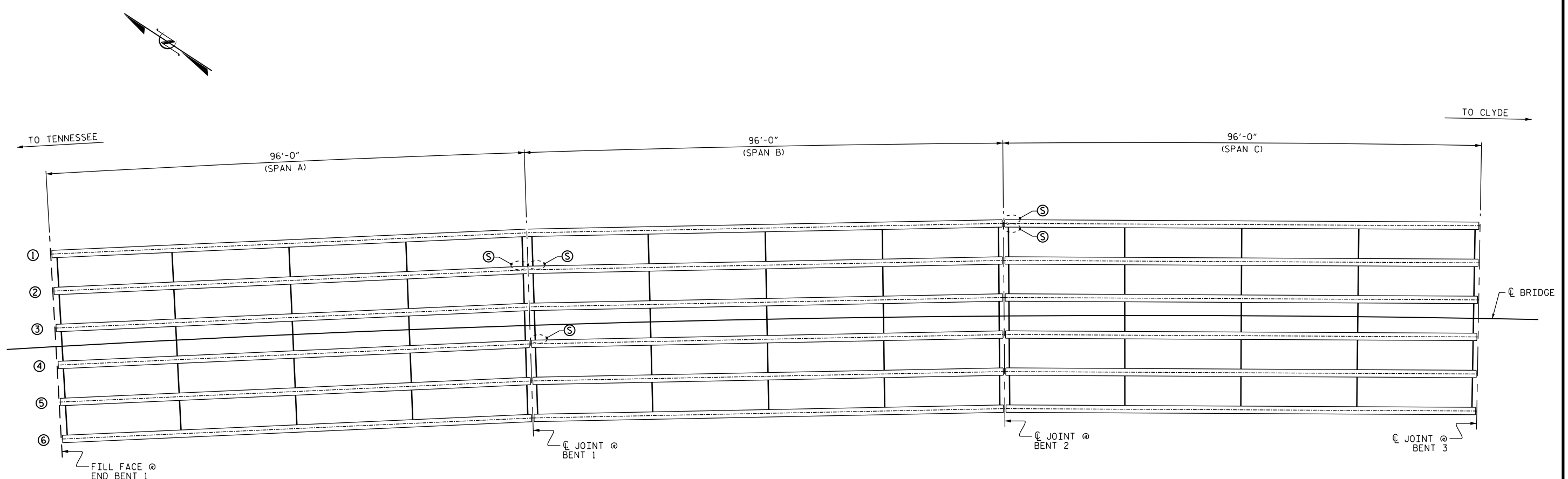
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JOINT DETAILS

DRAWN BY : H. T. BARBOUR DATE : 11-02-15
CHECKED BY : J. YANNACCONE DATE : 11-15

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-91
1			3			TOTAL SHEETS
2			4			122



BEAM REPAIR LOCATIONS
(OTHER LOCATIONS MAY EXIST, SEE NOTES)

- Ⓑ BEAM END REPAIR
- Ⓕ FLANGE REPAIR
- Ⓕ STIFFENER REPAIR
- ① BEAM NUMBER

NOTES

FOR BEAM REPAIR DETAILS, SEE "BEAM REPAIR DETAILS" SHEET.

FOR BRIDGE JACKING DETAILS, SEE "JACKING DETAILS" SHEET.

THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENT OF REPAIR AREAS PRIOR TO STEEL FABRICATION.

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

ANTICIPATED BEAM REPAIR LOCATIONS						
SPAN	BEAM	LOCATION	DIM "A"	DIM "B"	DIM "C"	DIM "D"
A	2	BENT 1	3"	—	—	—
B	2	BENT 1	2"	—	—	—
B	4	BENT 1	4"	—	—	—
C	1	BENT 2	2"	—	—	—
C	1	BENT 2	3"	—	—	—
D	3	BENT 4	2"	—	—	—
E	1	BENT 4	4"	—	—	—
E	1	BENT 4	4"	—	—	—

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 230

SHEET 1 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9CE

 3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BEAM REPAIR LOCATIONS

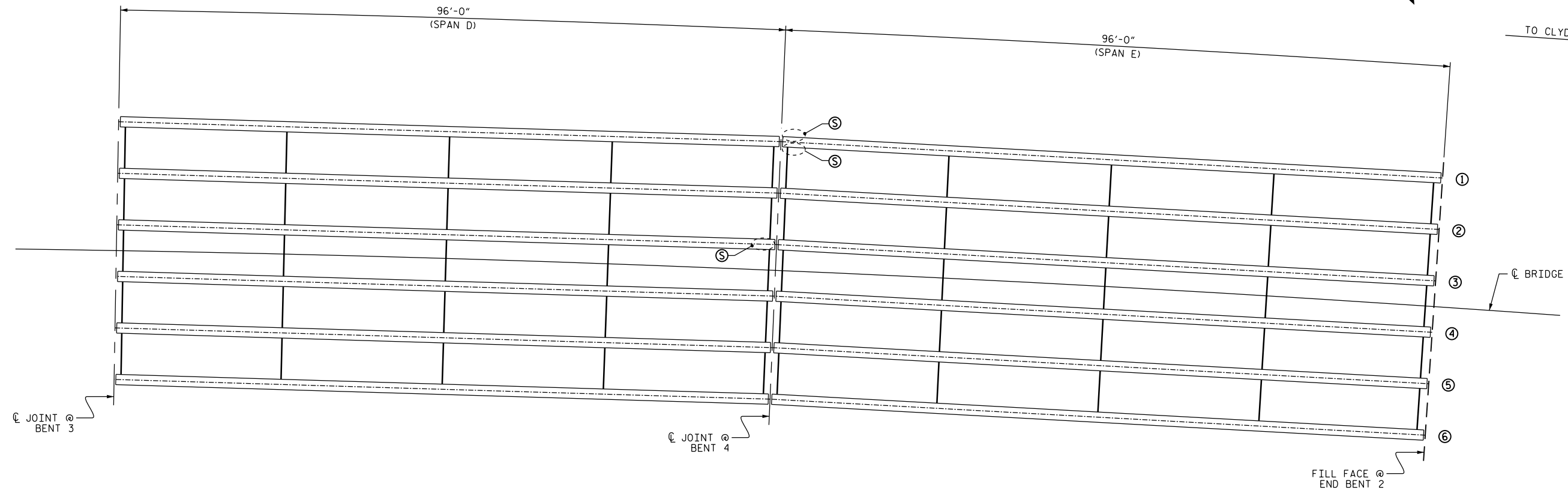
DRAWN BY : H. T. BARBOUR DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 11/15

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-92
1			3			TOTAL SHEETS
2			4			122

← TO TENNESSEE

→ TO CLYDE



BEAM REPAIR LOCATIONS
(OTHER LOCATIONS MAY EXIST, SEE NOTES)

- Ⓑ BEAM END REPAIR
- Ⓕ FLANGE REPAIR
- Ⓔ STIFFENER REPAIR
- ① BEAM NUMBER

NOTES

FOR BEAM REPAIR DETAILS, SEE "BEAM REPAIR DETAILS" SHEET.

FOR BRIDGE JACKING DETAILS, SEE "JACKING DETAILS" SHEET.

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

BEAM REPAIR					
BEAM END REPAIR		FLANGE REPAIR		STIFFENER REPAIR	
LBS.		LBS.		LBS.	
ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
0		0		45	

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 230

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9CE

 3/21/2016

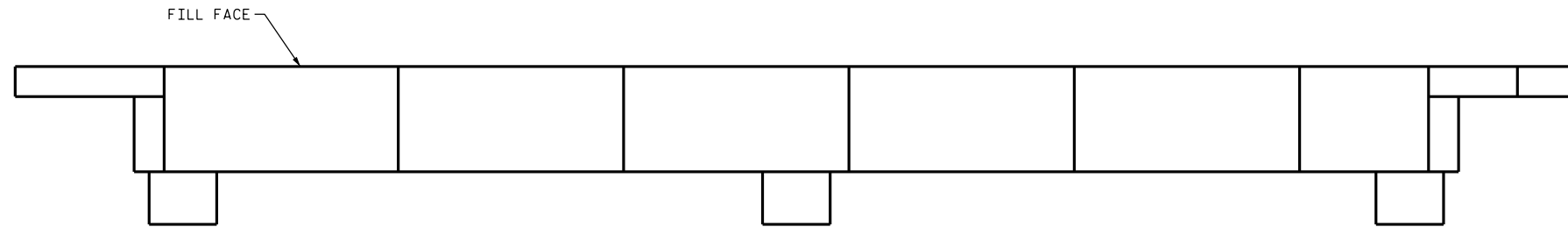
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
BEAM REPAIR LOCATIONS

DRAWN BY : H. T. BARBOUR DATE : 11/15
 CHECKED BY : J. YANNACCONE DATE : 11/15

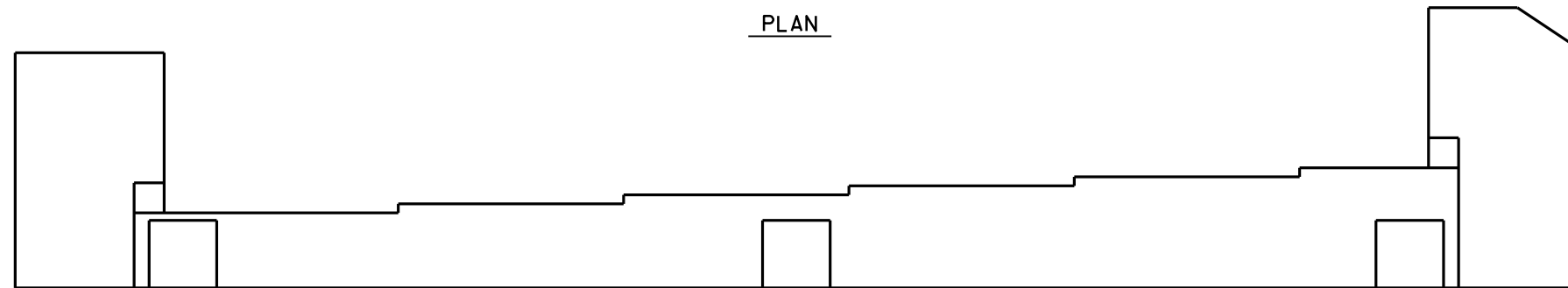
21-MAR-2016 13:16
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 Jayannaccone

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1			3			TOTAL SHEETS
2			4			122



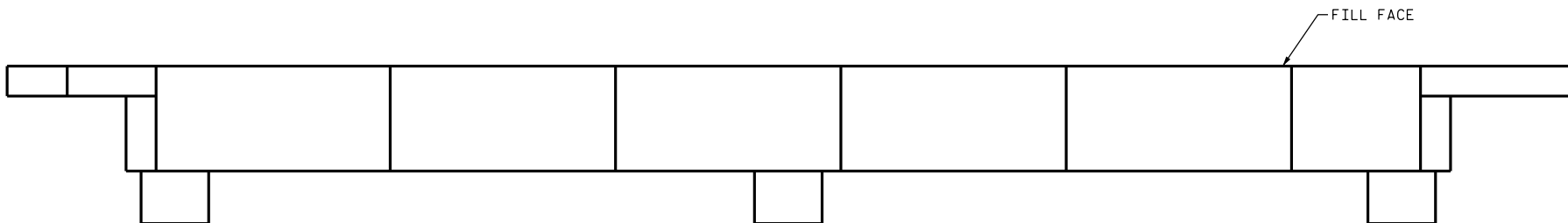
PLAN



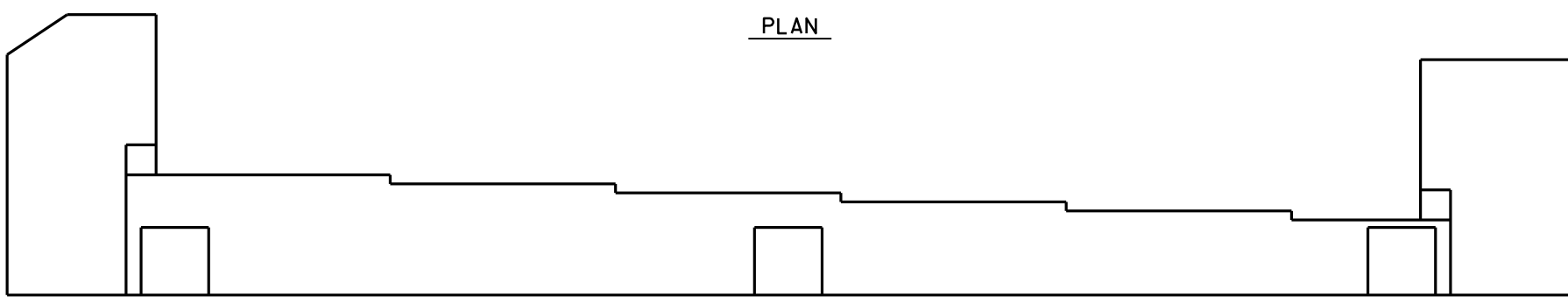
ELEVATION

END BENT 1

NO REPAIRS NOTED FOR THE END BENTS DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE END BENTS PRIOR TO BEGINNING WORK.



PLAN



ELEVATION

END BENT 2

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		
CAP		0.0		

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		
CAP		0.0		

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

NOTES

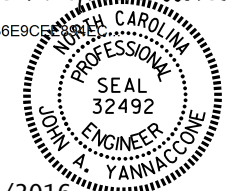
REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES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

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



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 230

DocuSigned by:
John A. Yannaccone
 7BC36E9CE



3/21/2016

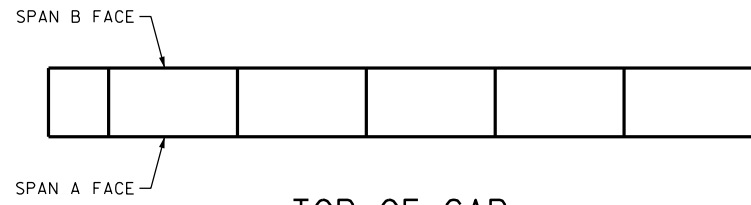
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 1 & 2

DRAWN BY : H. I. BARBOUR DATE : 11-02-15
 CHECKED BY : R. L. PUTEK DATE : 11-15
 DESIGN ENGINEER OF RECORD: _____ DATE : _____

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			122
2			4			



NOTES

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

EPOXY COATING SHALL BE APPLIED TO THE TOP FACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

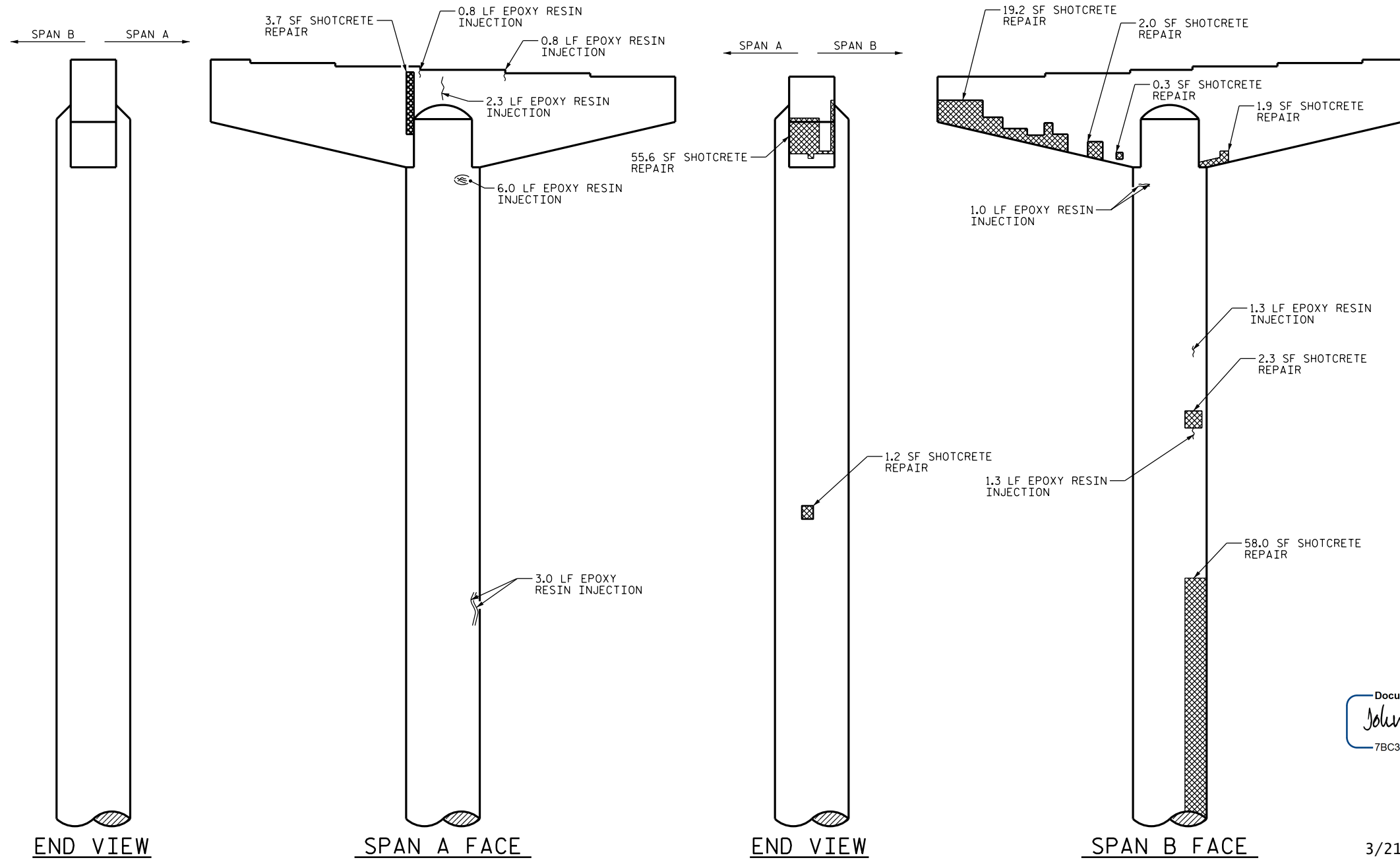
FOR CAP REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	82.7	73.2*		
COLUMN	61.5	51.9*		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT		LN. FT	
CAP	3.9			
COLUMN	16.6			
EPOXY COATING	SQ. FT		SQ. FT	
TOP OF BENT CAP	164			

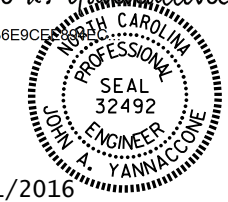
VALUES IN CHARTS REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT.



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 230

SHEET 1 OF 4

DocuSigned by:
John A. Yannaccone
 7BC36E9CE



3/21/2016

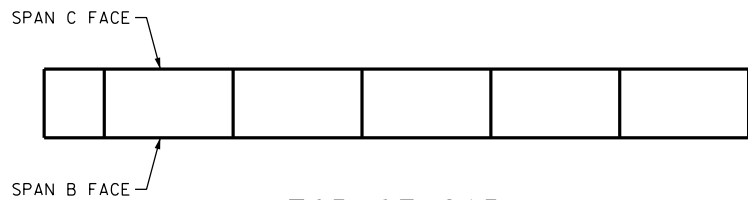
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 1

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-95
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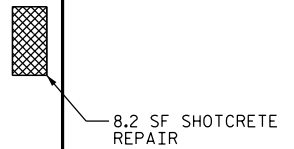
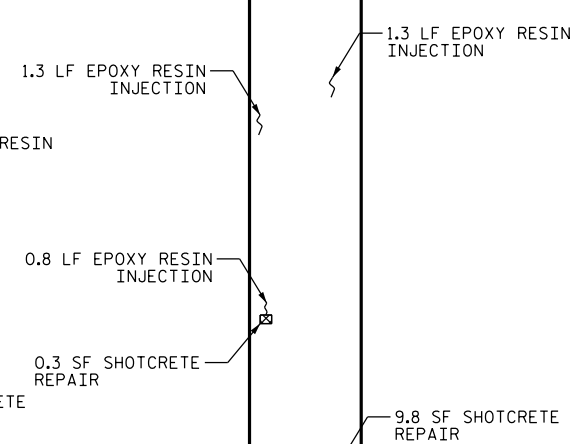
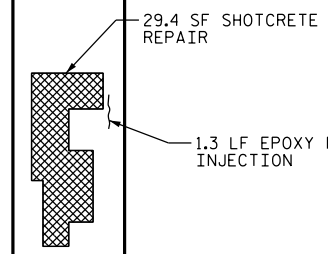
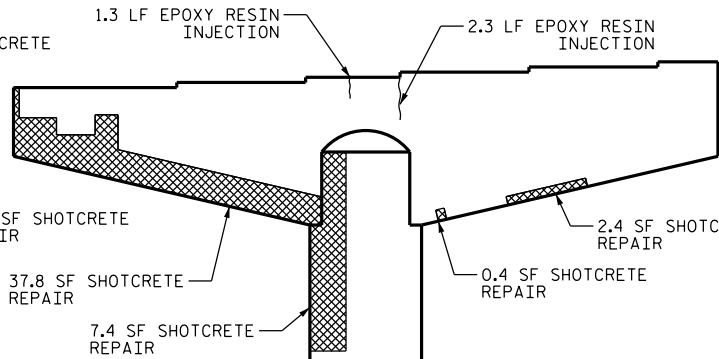
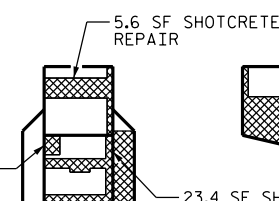
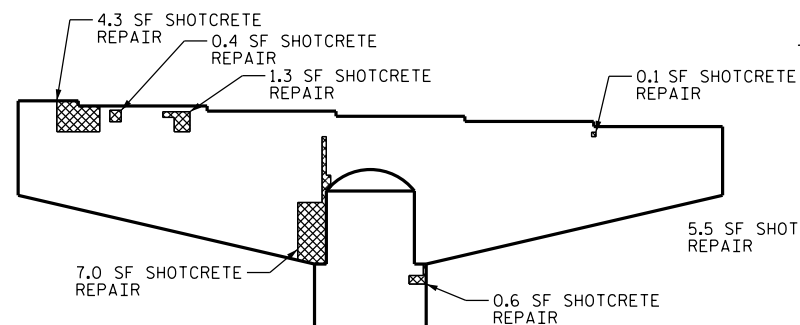
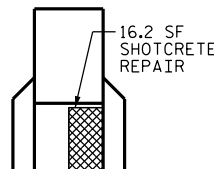
DRAWN BY : H. T. BARBOUR DATE : 09/15
 CHECKED BY : J. YANNACCONE DATE : 12/15



TOP OF CAP

← SPAN C SPAN B →

← SPAN B SPAN C →



AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	104.4	92.5*		
COLUMN	115.1	97.1*		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION			LN. FT	LN. FT
CAP			3.6	
COLUMN			4.7	
EPOXY COATING			SO. FT	SO. FT
TOP OF BENT CAP			164	

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

NOTES

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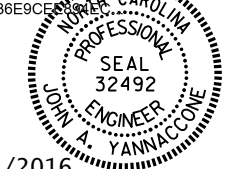
* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 230

SHEET 2 OF 4

DocuSigned by:
 John A. Yannaccone
 7BC36E9CE



3/21/2016

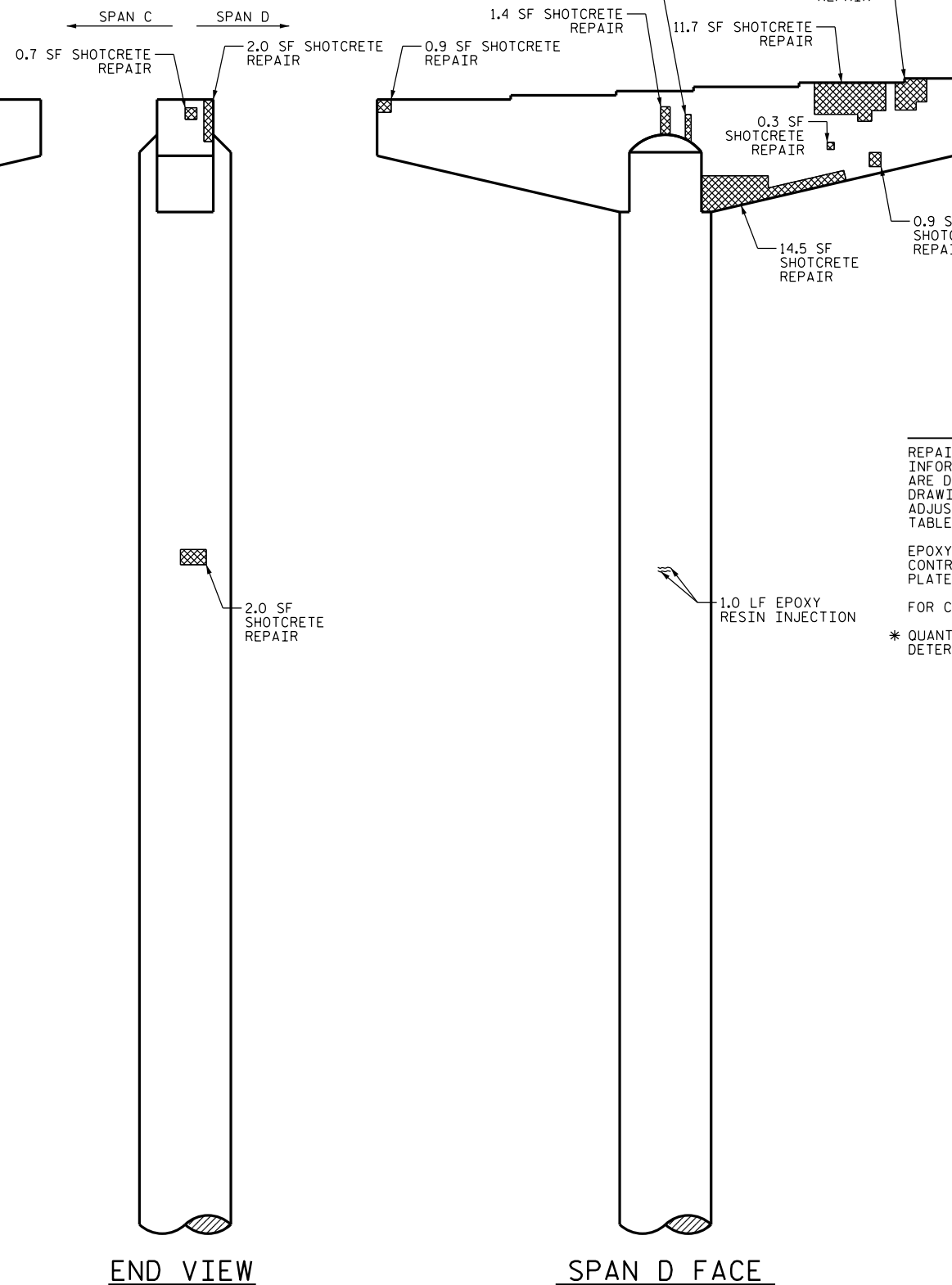
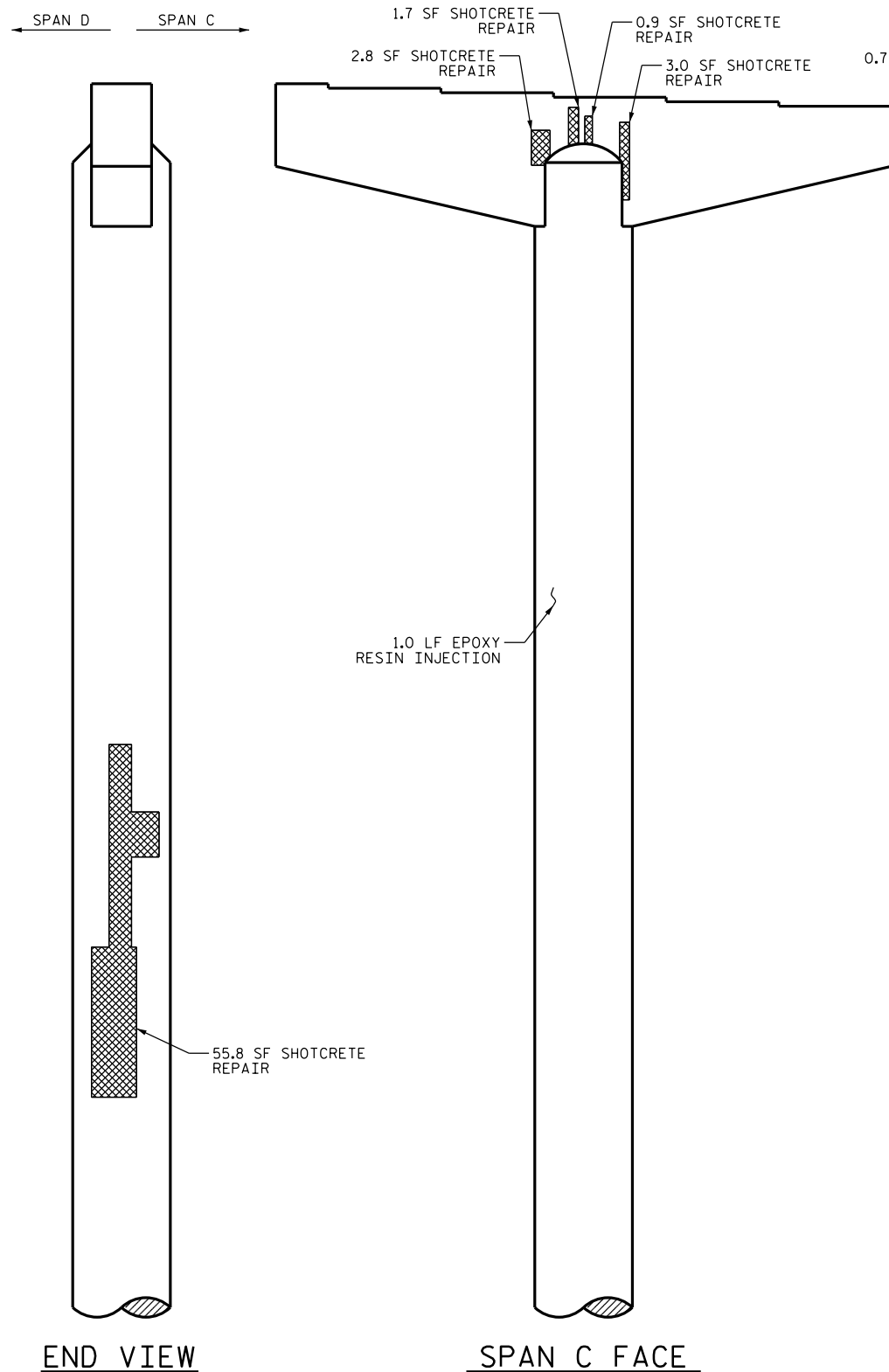
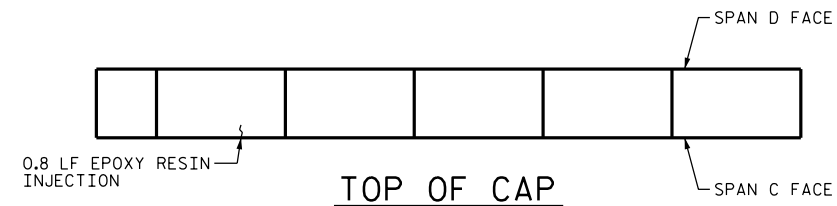
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 2

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1			3			TOTAL SHEETS
2			4			122

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DRAWN BY : H. T. BARBOUR DATE : 09/15
 CHECKED BY : J. YANNAKONE DATE : 12/15



AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 3	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	46.0	40.7*		
COLUMN	57.8	48.8*		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION			LN. FT	LN. FT
CAP			0.8	
COLUMN			3.0	
EPOXY COATING			SQ. FT	SQ. FT
TOP OF BENT CAP			164	

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

NOTES

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* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 230

SHEET 3 OF 4

DocuSigned by:
John A. Yannaccone
 7BC36E9CE
 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 32492
 ENGINEER
 JOHN A. YANNACCONI

3/21/2016

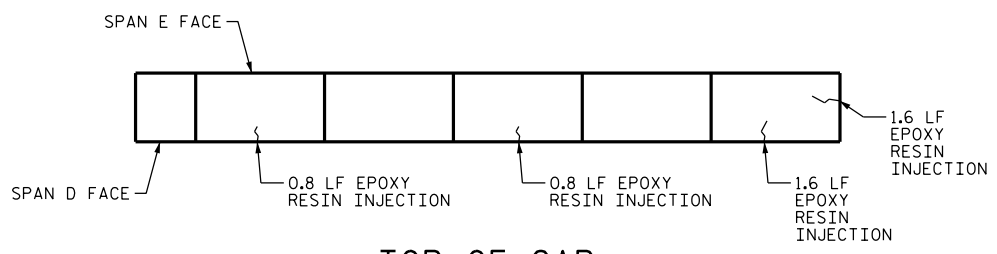
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

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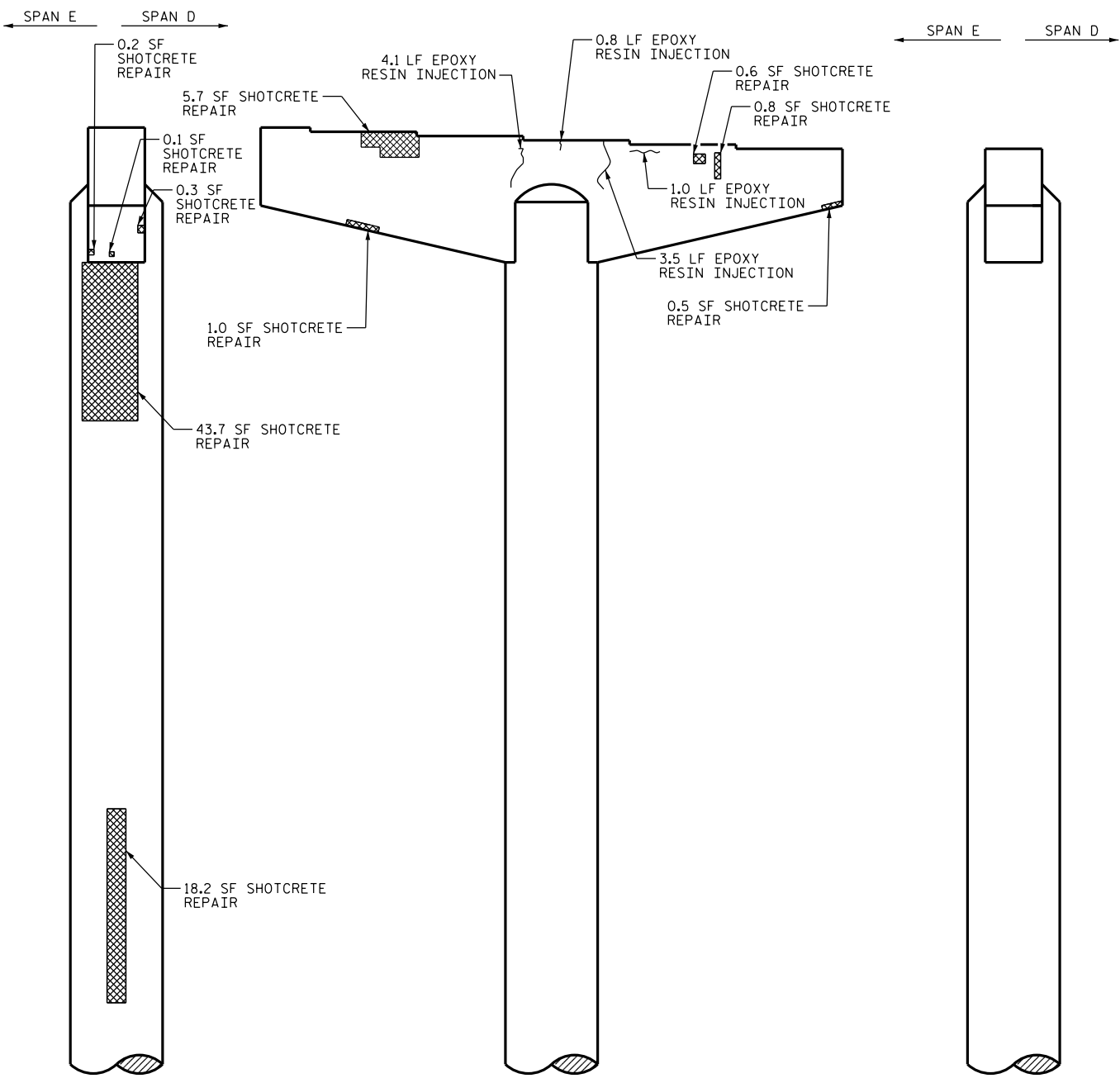
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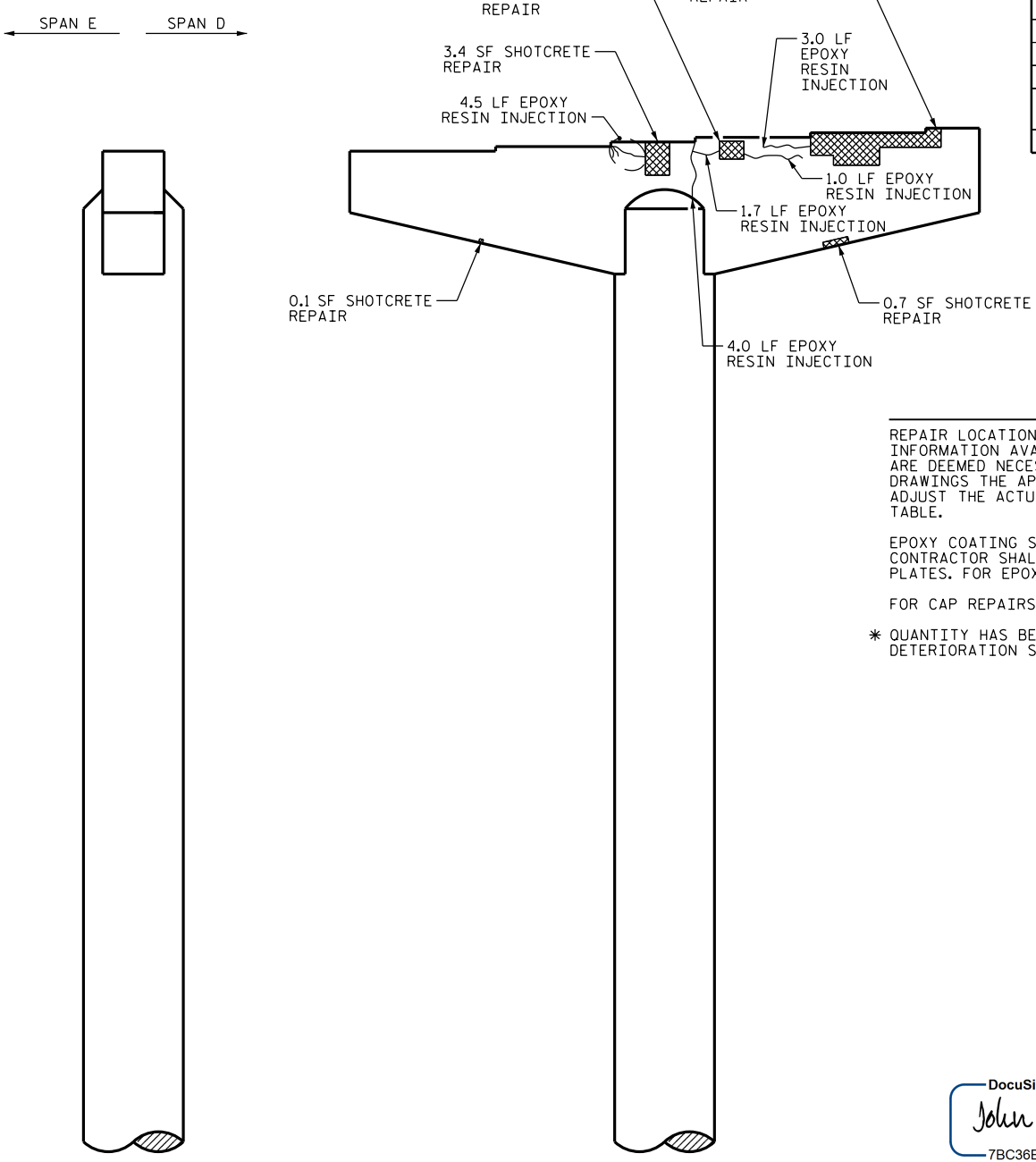


TOP OF CAP



END VIEW

SPAN D FACE



SPAN E FACE

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 4	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	27.9	24.7*		
COLUMN	61.9	52.2*		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION			LN. FT	LN. FT
CAP			28.4	
COLUMN			0.0	
EPOXY COATING			SQ. FT	SQ. FT
TOP OF BENT CAP			164	

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

NOTES

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

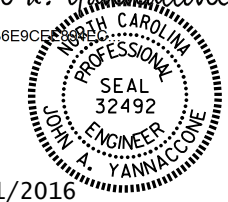
* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 230

SHEET 4 OF 4

DocuSigned by:
John A. Yannaccone
 7BC36E9CE8883



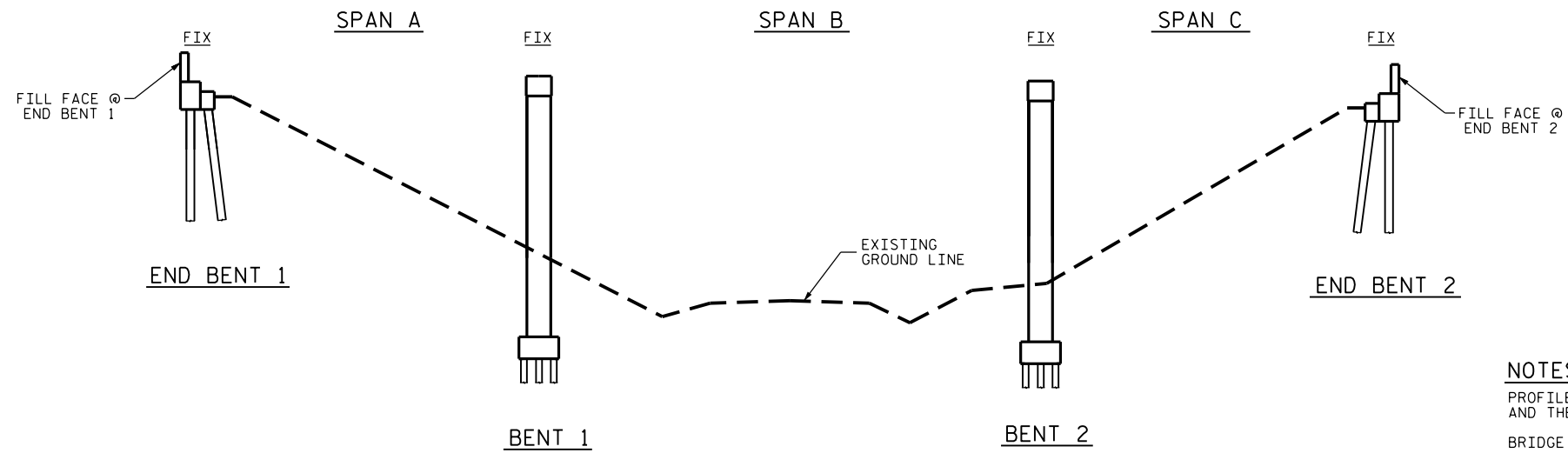
3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 4

DRAWN BY : H. T. BARBOUR DATE : 09/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

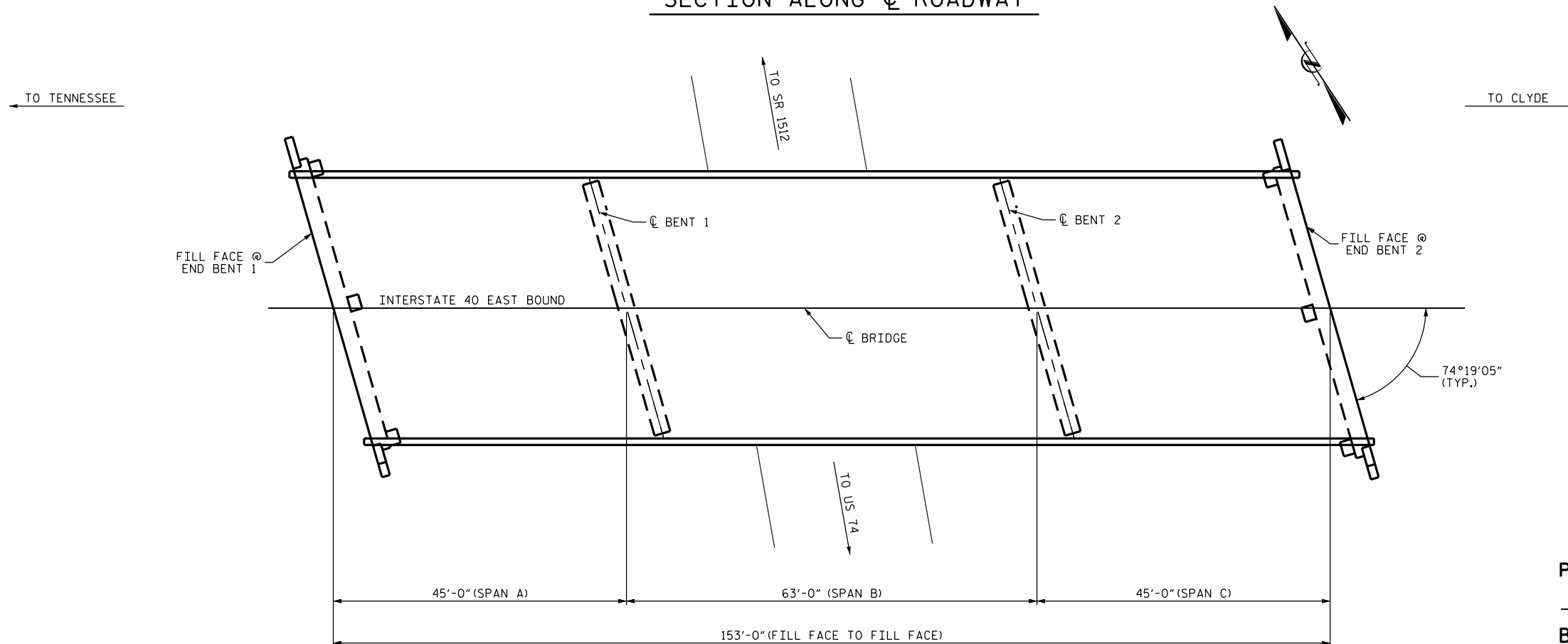
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-98
1			3			TOTAL SHEETS
2			4			122



NOTES

PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 04/21/2015.
BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

SECTION ALONG CL ROADWAY



PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 231

SHEET 1 OF 2

SCOPE OF WORK

- CLEAN, PAINT AND REPAIR STEEL I-BEAMS AND BEARINGS.
- CLEAN AND REPAIR REBAR IN CONCRETE REPAIR AREAS.
- PERFORM SHOTCRETE AND CONCRETE REPAIRS IN PREPARED AREAS.
- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND HYDRO-DEMOLITION METHODS.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- OVERLAY PREPARED BRIDGE DECK WITH LATEX MODIFIED CONCRETE.
- CONSTRUCT CONCRETE HEADERS AT END BENTS.
- RECONSTRUCT BRIDGE JOINTS AND INSTALL JOINT SEALS.
- GROOVE LATEX MODIFIED CONCRETE BRIDGE DECK.

PLAN

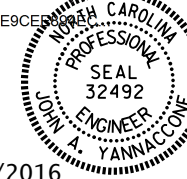
I HEREBY CERTIFY THAT THIS STRUCTURE WAS REHABILITATED ACCORDING TO THESE PLANS OR AS NOTED HEREIN.

RESIDENT ENGINEER

DocuSigned by:

John A. Yannaccone

7BC36E9CE8



3/21/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**GENERAL DRAWING
FOR BRIDGE ON I-40 EBL
OVER SR 1513
(RICHLAND CREEK
MOUNTAIN ROAD)**

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DRAWN BY : W.O. KEITH DATE : 10/15
CHECKED BY : J. YANNACCONE DATE : 11/15



LOCATION SKETCH

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

NOTES

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

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

FOR OVERLAY OF BRIDGE WITH LATEX MODIFIED CONCRETE, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK.

FOR SCARIFYING BRIDGE DECK, HYDRO-DEMOLITION OF BRIDGE DECK, AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING REPAIR OF BRIDGE DECKS.

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

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

FOR PAINTING CONTAINMENT, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR CLEANING AND REPAINTING OF BRIDGE, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR POLLUTION CONTROL, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 231

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9CE894E
 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 32492
 ENGINEER
 JOHN A. YANNACCONI

3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE ON I-40 EBL
 OVER SR 1513
 (RICHLAND CREEK
 MOUNTAIN ROAD)

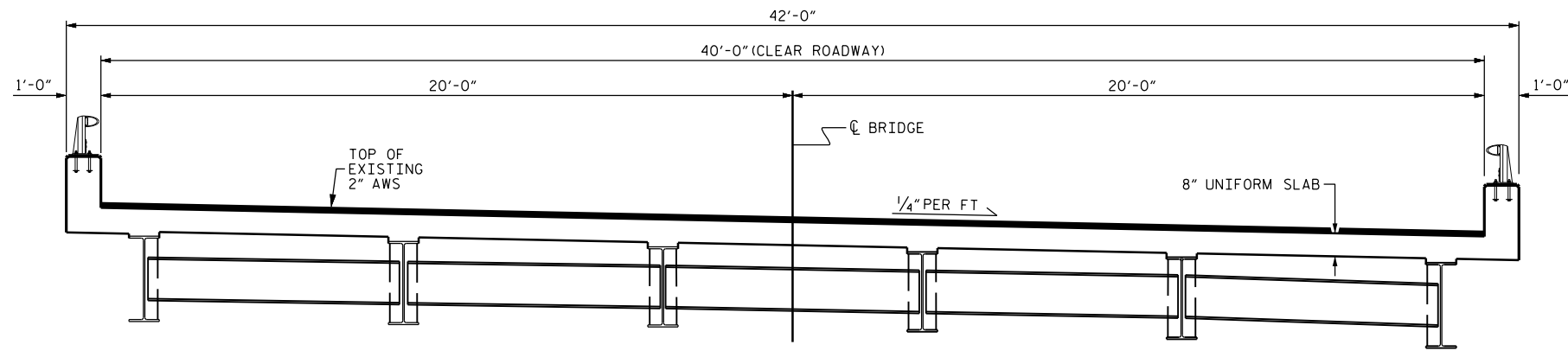
DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J.YANNACCONI DATE : 11/15

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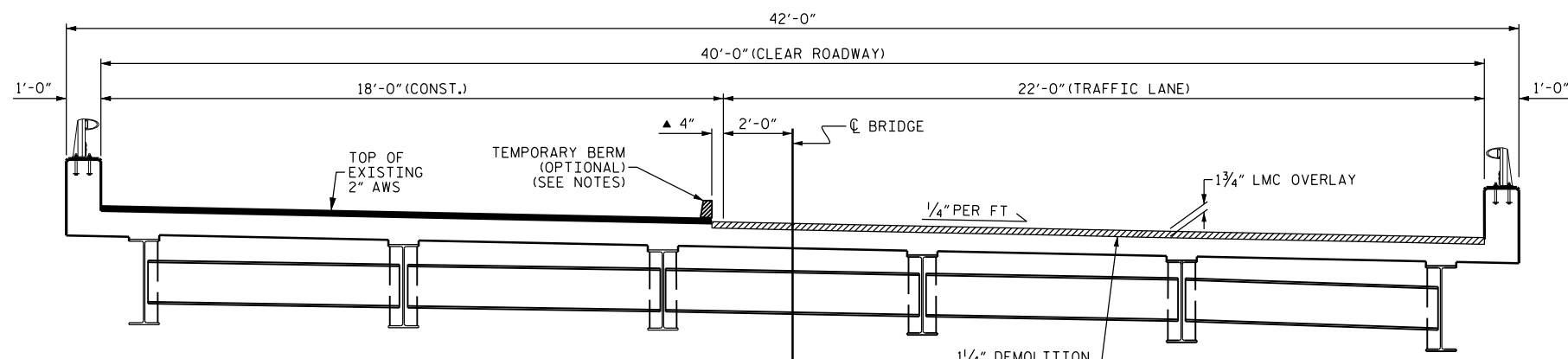
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 SIGNATURES COMPLETED

NOTES

THE WORK STAGING ON THIS PLAN SHEET INDICATES THAT THE RIGHT LANE LMC WORK IS PERFORMED FIRST, FOLLOWED BY THE LEFT LANE LMC WORK. THE CONTRACTOR MAY ELECT TO SEQUENCE THE WORK DIFFERENTLY, BUT THE DIMENSIONS OF THE WORK ZONE AND CLEAR ROADWAY AREAS SHALL MATCH THAT INDICATED ON THIS PLAN SHEET, RESPECTIVE TO THE LANE WHERE THE LMC WORK IS BEING PERFORMED.

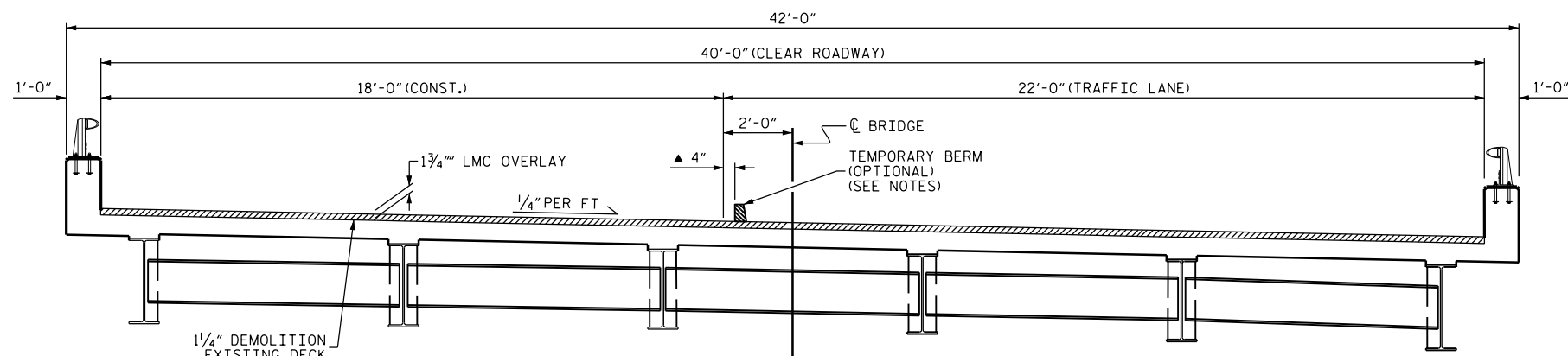


TYPICAL SECTION
(EXISTING)

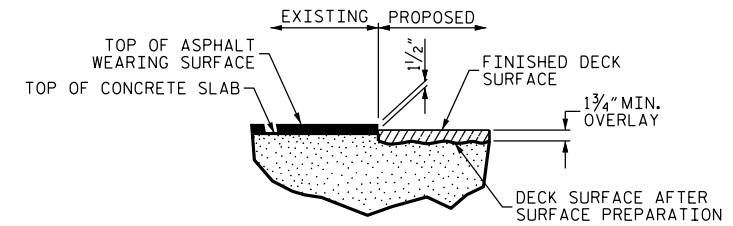


TYPICAL SECTION
(RIGHT LANE LMC WORK)

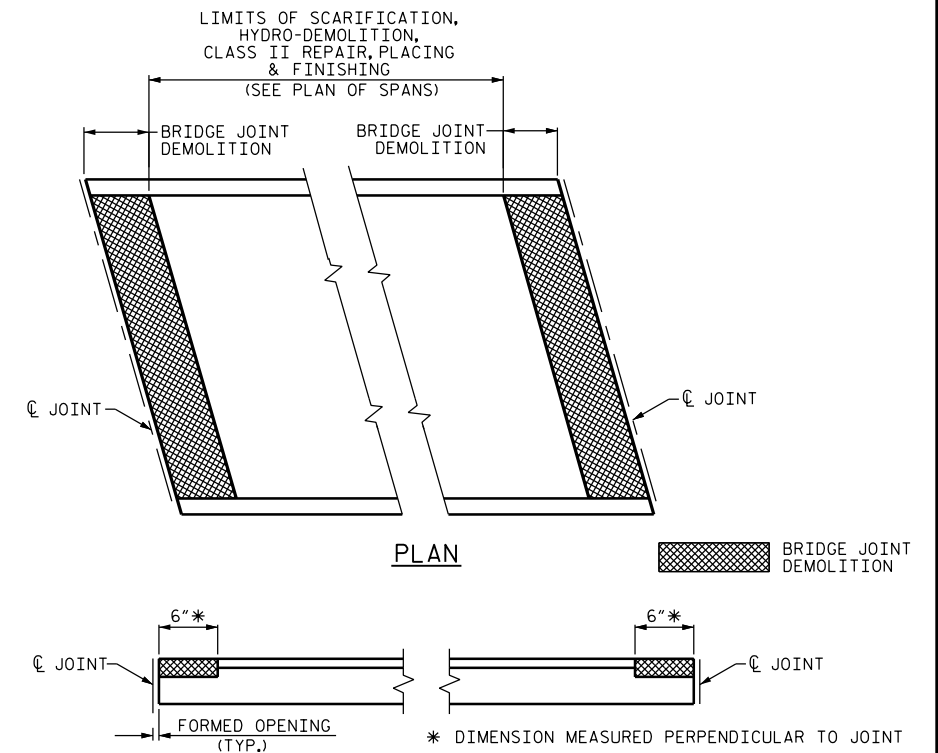
▲ 4" OVERLAP BETWEEN OVERLAYS
PREVIOUSLY POURED LMC TO BE HYDRO-DEMOLITIONED & RECAST WITH LMC



TYPICAL SECTION
(LEFT LANE LMC WORK)



DETAIL FOR LMC OVERLAY



ELEVATION

PAY LIMITS FOR OVERLAY BID ITEMS

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 231

DocuSigned by:
John A. Yannaccone
7BC36E9CE
NORTH CAROLINA
PROFESSIONAL
SEAL
32492
ENGINEER
JOHN A. YANNACCONE

3/21/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**TYPICAL SECTION
AND SURFACE
PREPARATION DETAILS**

DRAWN BY : W.O. KEITH DATE : 9/15
CHECKED BY : J. YANNACCONE DATE : 11/15

21-MAR-2016 13:16
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Jyannaccone








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REVISIONS						SHEET NO.
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1			3			S-101
2			4			122

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE		ACTUAL	
SCARIFYING BRIDGE DECK	198 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	198 SY			
CLASS II SURFACE PREPARATION	0.0 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
BRIDGE JOINT DEMOLITION	21.0 SF			
EPOXY RESIN INJECTION	0.0 LF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	2.9	1.8 *		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
UNDERSIDE EPOXY RESIN INJECTION				
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF			

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

-  APPROX. CLASS II AREA
-  APPROX. CLASS III AREA
-  BRIDGE JOINT DEMOLITION
-  UNDERSIDE REPAIR
-  DIAPHRAGM REPAIR
-  #1 TEST LOCATION
-  ERI EPOXY RESIN INJECTION

NOTES

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

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1/2" PER THE EXISTING BRIDGE PLANS.

PRIOR TO PLACEMENT OF THE LMC OVERLAY ACROSS THE CONTINUOUS DECK SPANS, THE CONTRACTOR SHALL SUBMIT A POUR SEQUENCE FOR APPROVAL BY THE ENGINEER.

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

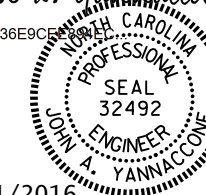
PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 231

SHEET 1 OF 3

DocuSigned by:

John A. Yannaccone

7BC36E9C5



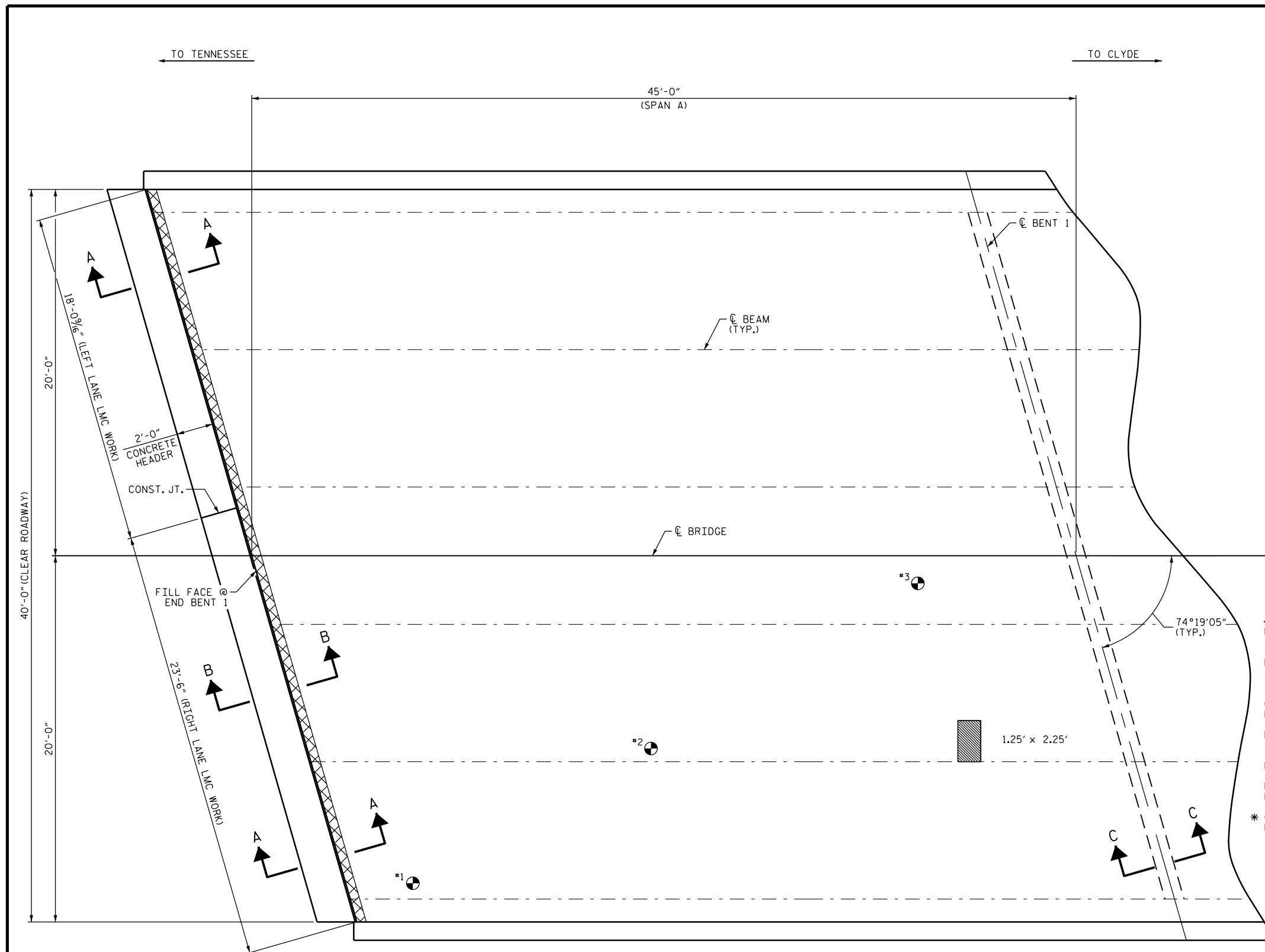
3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPAN
 SPAN A**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-102
1			3			TOTAL SHEETS
2			4			122

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PLAN

TEST LOCATION	ASPHALT THICKNESS (INCH)	CONCRETE STRENGTH (PSI)
#1	1"	*
#2	1 1/2"	*
#3	1 1/2"	*

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 10/13/2015.
 * CONCRETE COMPRESSIVE STRENGTH COULD NOT BE TESTED DUE TO THE PRESENCE OF ASPHALT OVERLAY.

DRAWN BY: W. O. KEITH DATE: 9/15
 CHECKED BY: J. YANNACCONE DATE: 12/15

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS








	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	280 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	280 SY	
CLASS II SURFACE PREPARATION	0.0 SY	
CLASS III SURFACE PREPARATION	0.0 SY	
BRIDGE JOINT DEMOLITION	0.0 SF	
EPOXY RESIN INJECTION	0.0 LF	
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY	

UNDERSIDE OF DECK REPAIRS

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

	ESTIMATE	ACTUAL
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF	

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

-  APPROX. CLASS II AREA
-  APPROX. CLASS III AREA
-  BRIDGE JOINT DEMOLITION
-  UNDERSIDE REPAIR
-  DIAPHRAGM REPAIR
- #1  TEST LOCATION
- ERI  EPOXY RESIN INJECTION

NOTES

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

CONCRETE COVER FOR TOP BAR IN THE DECK SLAB IS 1/2" PER THE EXISTING BRIDGE PLANS.

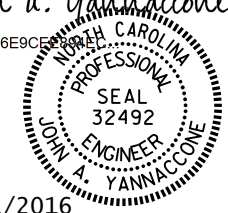
PRIOR TO PLACEMENT OF THE LMC OVERLAY ACROSS THE CONTINUOUS DECK SPANS, THE CONTRACTOR SHALL SUBMIT A POUR SEQUENCE FOR APPROVAL BY THE ENGINEER. FOR SECTION C-C, SEE "JOINT DETAILS" SHEET.

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 231

SHEET 2 OF 3

DocuSigned by:
John A. Yannaccone
 7BC36E9C5

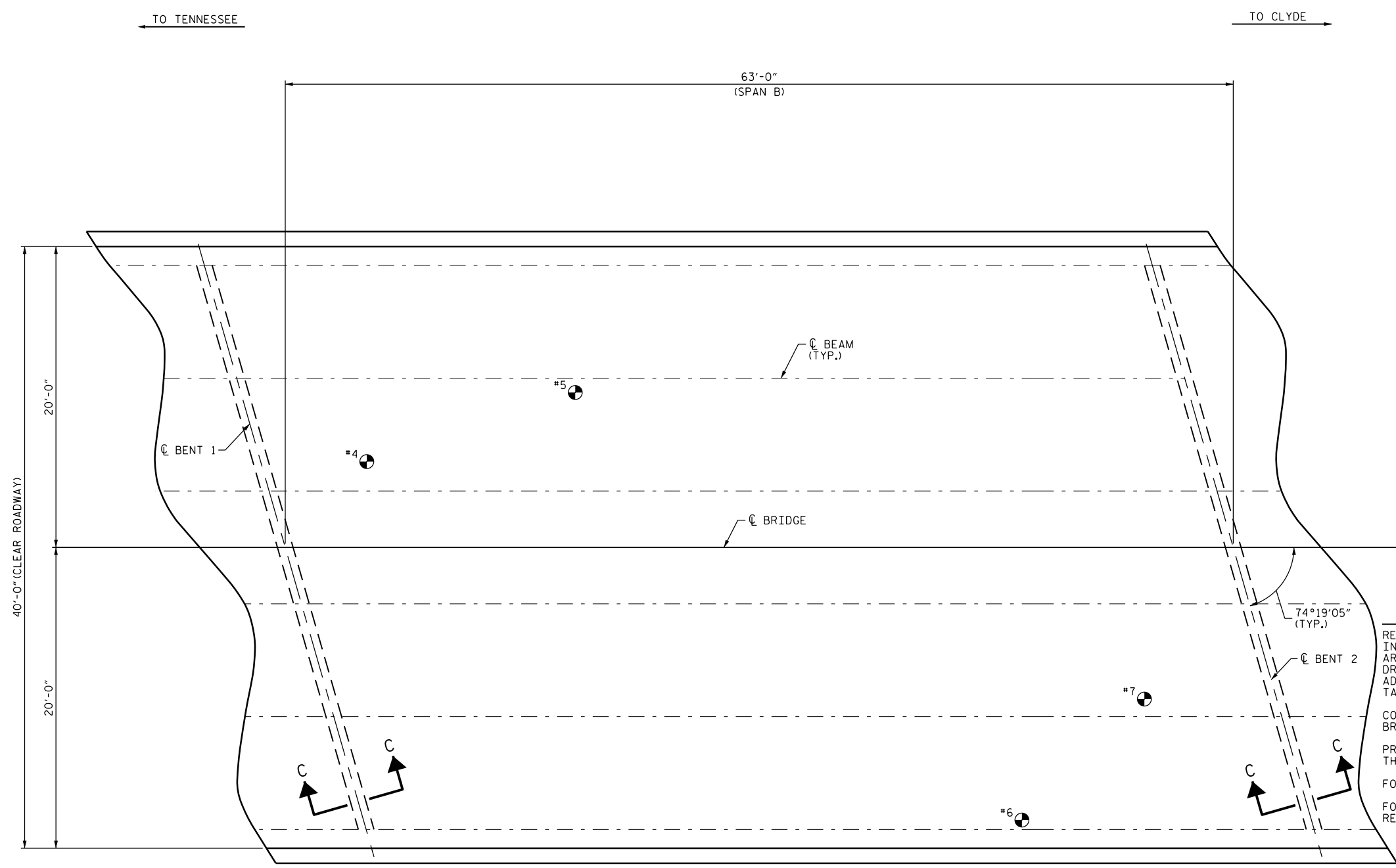


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPAN
 SPAN B**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-103
2			4			122

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PLAN

TEST LOCATION	ASPHALT THICKNESS (INCH)	CONCRETE STRENGTH (PSI)
#4	1 3/8"	*
#5	1 1/4"	*
#6	1 1/4"	*
#7	1 1/4"	*

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 10/13/2015.
 * CONCRETE COMPRESSIVE STRENGTH COULD NOT BE TESTED DUE TO THE PRESENCE OF ASPHALT OVERLAY.

DRAWN BY : W. O. KEITH DATE : 9/15
 CHECKED BY : J. YANNACCONE DATE : 12/15

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE	ACTUAL		
SCARIFYING BRIDGE DECK	198 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	198 SY			
CLASS II SURFACE PREPARATION	0.0 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
BRIDGE JOINT DEMOLITION	21.0 SF			
EPOXY RESIN INJECTION	0.0 LF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	9.7	6.2 *		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF			

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

NOTES

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

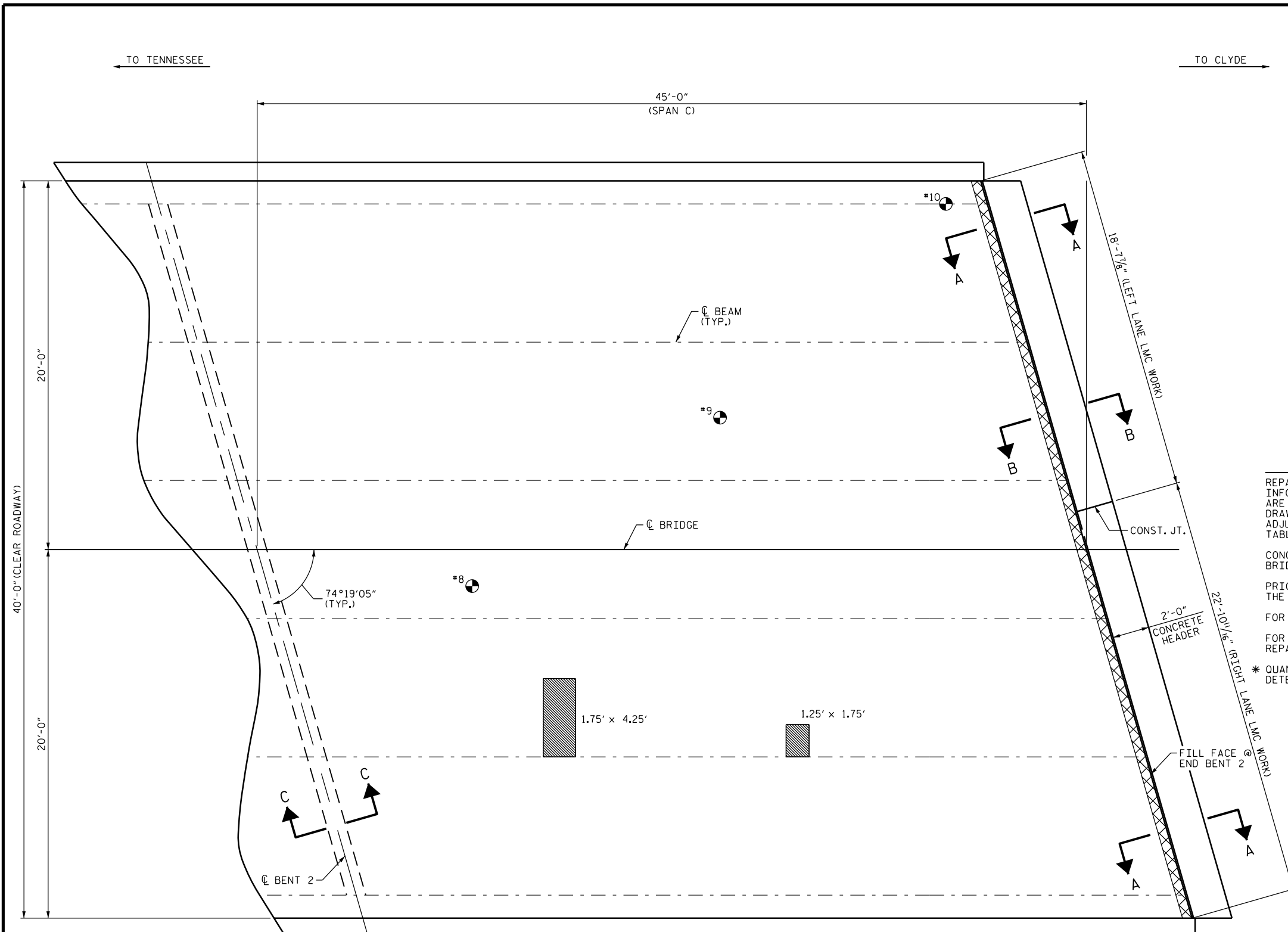
CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1/2" PER THE EXISTING BRIDGE PLANS.

PRIOR TO PLACEMENT OF THE LMC OVERLAY ACROSS THE CONTINUOUS DECK SPANS, THE CONTRACTOR SHALL SUBMIT A POUR SEQUENCE FOR APPROVAL BY THE ENGINEER.

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.



TEST LOCATION	ASPHALT THICKNESS (INCH)	CONCRETE STRENGTH (PSI)
#8	1 1/4"	*
#9	1 1/4"	*
#10	7/8"	*

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 10/13/2015.
* CONCRETE COMPRESSIVE STRENGTH COULD NOT BE TESTED DUE TO THE PRESENCE OF ASPHALT OVERLAY.

DRAWN BY : W. O. KEITH DATE : 9/15
CHECKED BY : J. YANNACCONE DATE : 12/15

PLAN

- APPROX. CLASS II AREA
- APPROX. CLASS III AREA
- BRIDGE JOINT DEMOLITION
- UNDERSIDE REPAIR
- DIAPHRAGM REPAIR
- TEST LOCATION
- ERI EPOXY RESIN INJECTION

DocuSigned by:
John A. Yannaccone
7BC36E90...
STATE OF NORTH CAROLINA
PROFESSIONAL ENGINEER
SEAL 32492
JOHN A. YANNACCONE

3/21/2016

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 231

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPAN
SPAN C

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-104
2			4			TOTAL SHEETS 122

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NOTES

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.
 FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.
 FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
 THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.
 NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 2".
 THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE FOAM JOINT SEAL IN LIEU OF SAWING THE JOINT.
 FOR ADHESIVELY ANCHORED DOWELS, NO FIELD TESTING IS REQUIRED. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE ARTICLE 420-13 OF THE STANDARD SPECIFICATIONS.
 PLACE #4 S1 AND #4 S2 BARS PARALLEL TO BRIDGE CENTERLINE.
 CONSTRUCTION JOINT SHALL BE PERPENDICULAR TO THE FILL FACE OF THE END BENT.

BILL OF MATERIAL

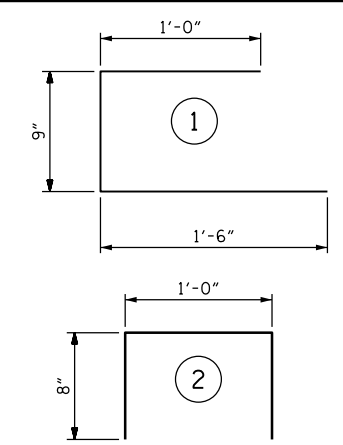
FOR ONE END BENT JOINT

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
D1	4	#4	STR	1'-6"	4
K1	2	#4	STR	25'-3"	34
K2	2	#4	STR	18'-0"	24
K3	3	#4	STR	6'-0"	12
K4	3	#4	STR	10'-2"	20
S1	16	#4	1	3'-3"	35
S2	24	#4	2	2'-4"	37

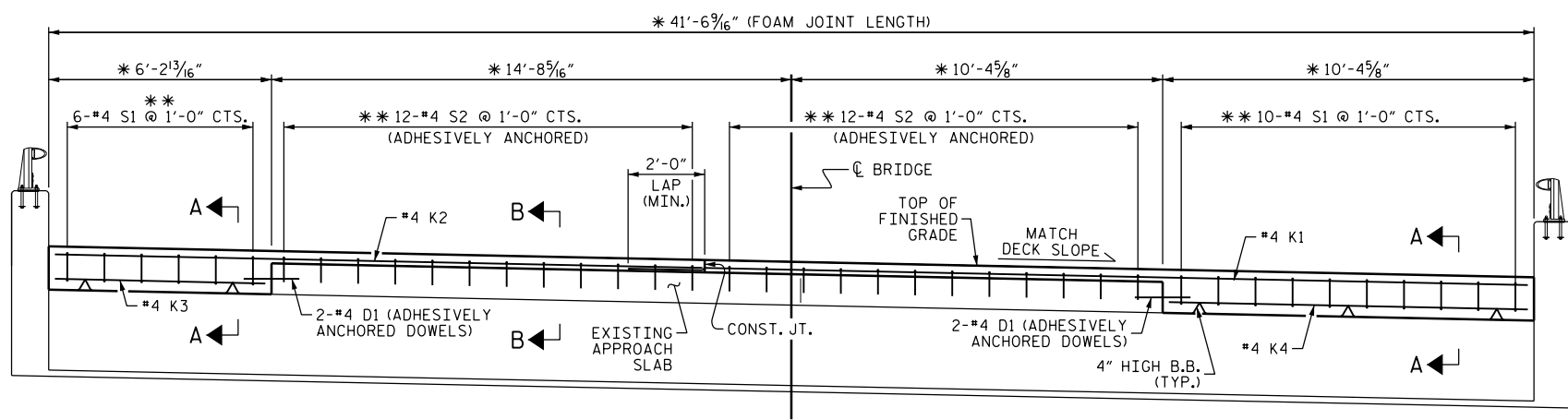
REINFORCING STEEL (FOR ONE END BENT JOINT) 166 LBS.

CLASS AA CONCRETE (FOR ONE END BENT JOINT) 2.3 CU. YDS.

BAR TYPES

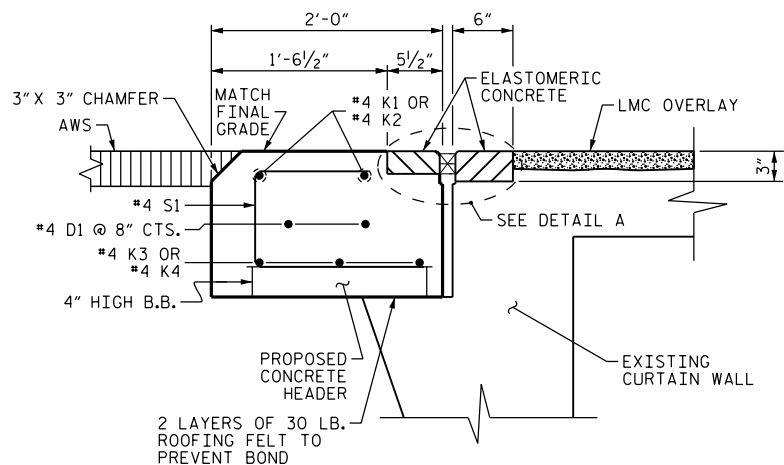


ALL BAR DIMENSIONS ARE OUT TO OUT.

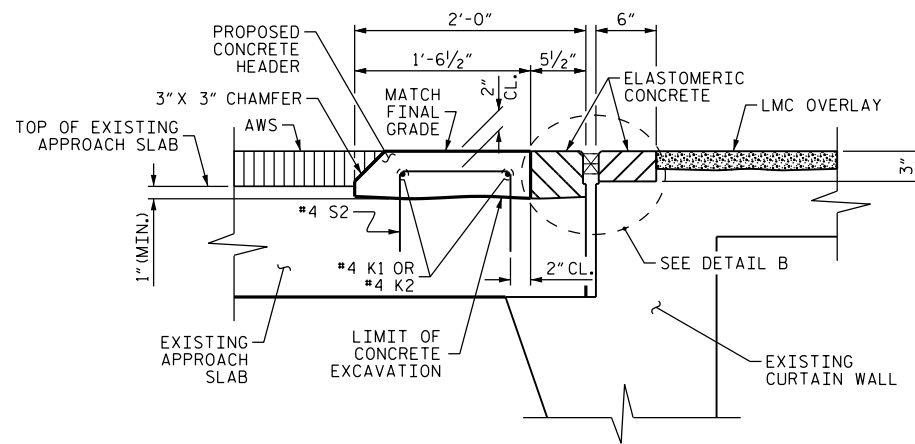


TYPICAL SECTION
(FILL FACE END BENT 1 SHOWN, END BENT 2 SIMILAR.)

* DIMENSION MEASURED ALONG FILL FACE
 ** BAR SPACING MEASURED PERPENDICULAR TO BRIDGE CENTERLINE



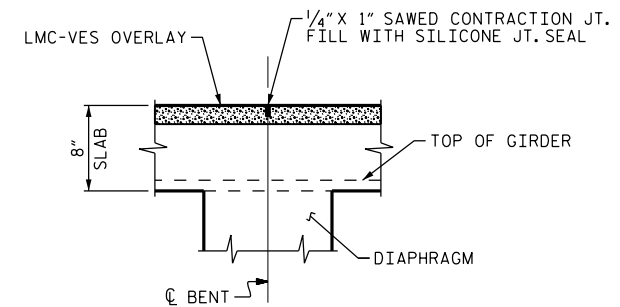
SECTION A-A



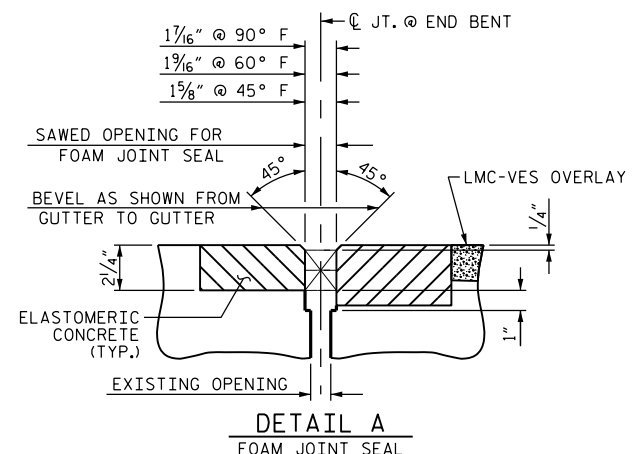
SECTION B-B

ELASTOMERIC CONCRETE		
END BENT 1	11.0	(CU. FT.)
END BENT 2	11.0	(CU. FT.)
* TOTAL	22.0	(CU. FT.)

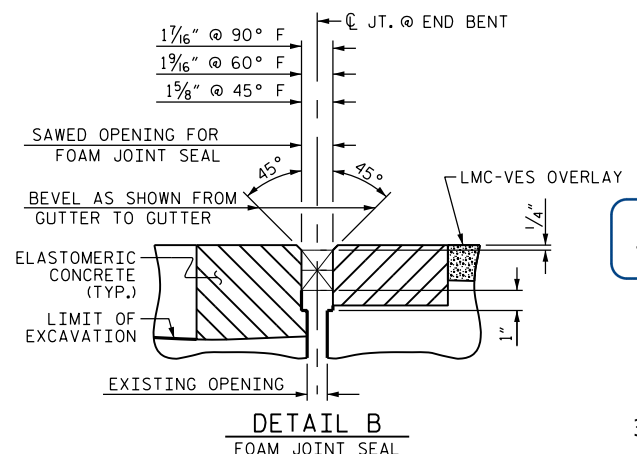
* BASED ON THE MINIMUM BLOCKOUT SHOWN.



SECTION C-C



DETAIL A
FOAM JOINT SEAL



DETAIL B
FOAM JOINT SEAL

DocuSigned by:
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 7BC36E9C
 NORTH CAROLINA PROFESSIONAL SEAL 32492
 JOHN A. YANNACCONI
 ENGINEER

3/21/2016

PROJECT NO. I-5756
 HAYWOOD COUNTY
 BRIDGE NO. 231

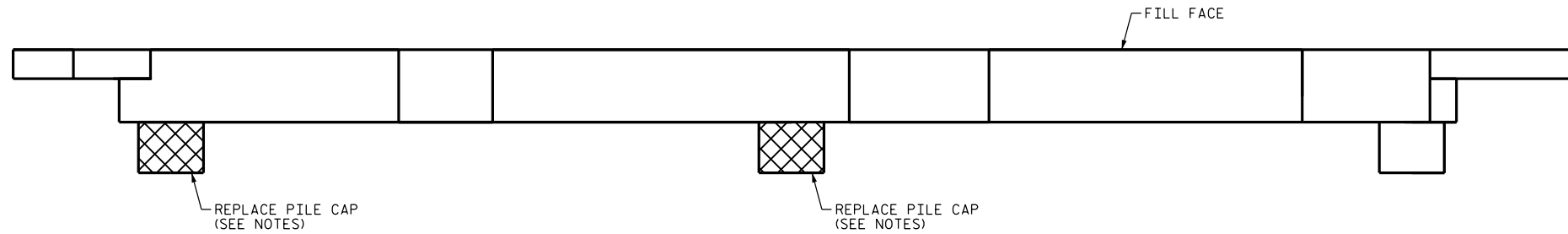
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

JOINT DETAILS

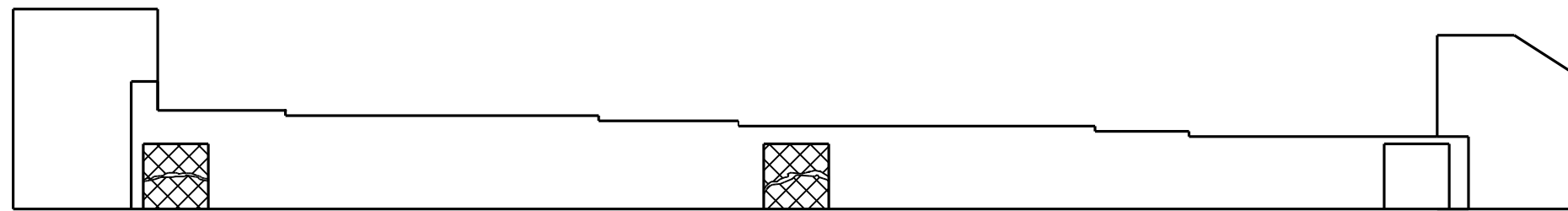
DRAWN BY: J. YANNACCONI DATE: 3/16
 CHECKED BY: S. WANCE DATE: 3/16

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-105
1			3			TOTAL SHEETS
2			4			122

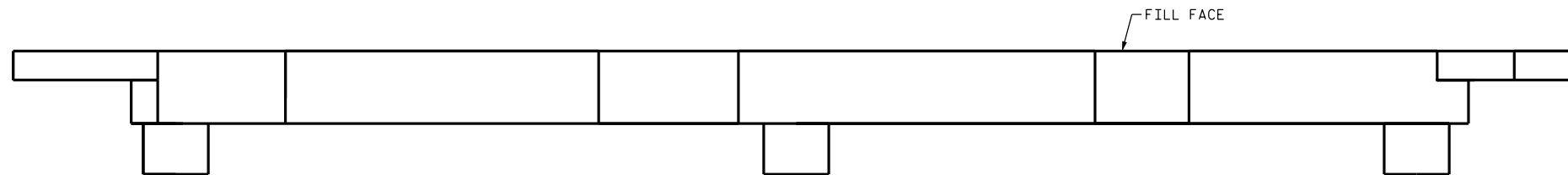


PLAN



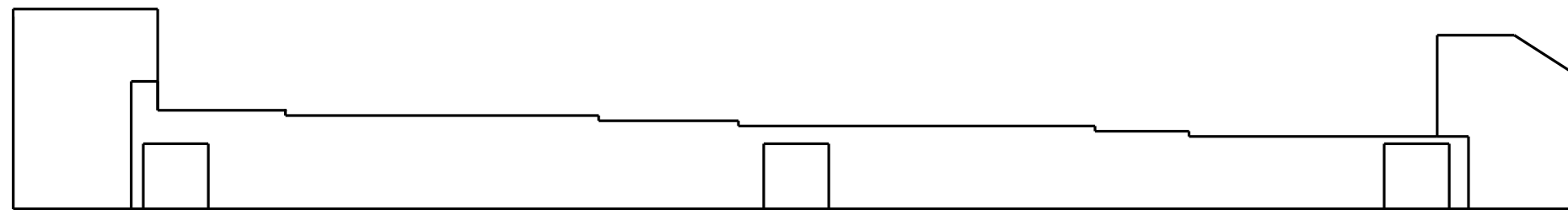
ELEVATION

END BENT 1



PLAN

NO REPAIRS NOTED FOR END BENT 2 DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE END BENT PRIOR TO BEGINNING WORK.



ELEVATION

END BENT 2

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
CONCRETE REPAIRS	VOLUME CF		VOLUME CF	
CAP (PILE CAPS)		17.8		
EPOXY RESIN INJECTION	LN. FT		LN. FT	
CAP	0.0			

SUMMARY OF QUANTITIES

REPAIRS END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT		LN. FT	
CAP	0.0			

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

NOTES

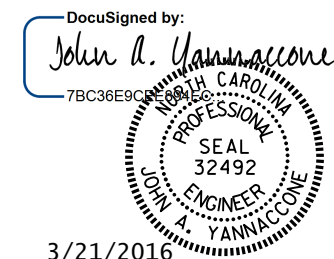
REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES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

THE EXISTING REINFORCING STEEL IN THE PILE CAPS SHALL REMAIN IN PLACE. REINFORCING BARS SHALL BE CLEANED AND BENT TO THEIR ORIGINAL SHAPE. ANY DAMAGED BARS SHALL BE REPLACED. THE UNIT CONTRACT PRICE BID FOR "CONCRETE REPAIRS" WILL BE FULL COMPENSATION FOR THIS WORK.

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



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 231



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 1 & 2

DRAWN BY : W.O. KEITH DATE : 09/15
 CHECKED BY : J. YANNACCONO DATE : 11/15

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			122
2			4			

NOTES

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

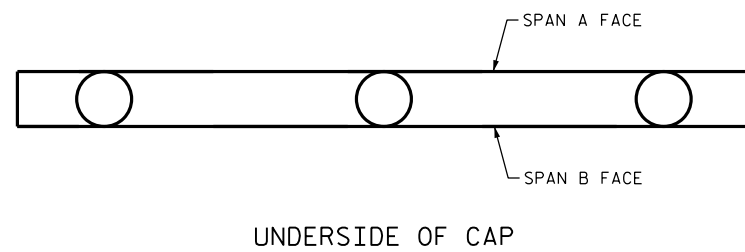
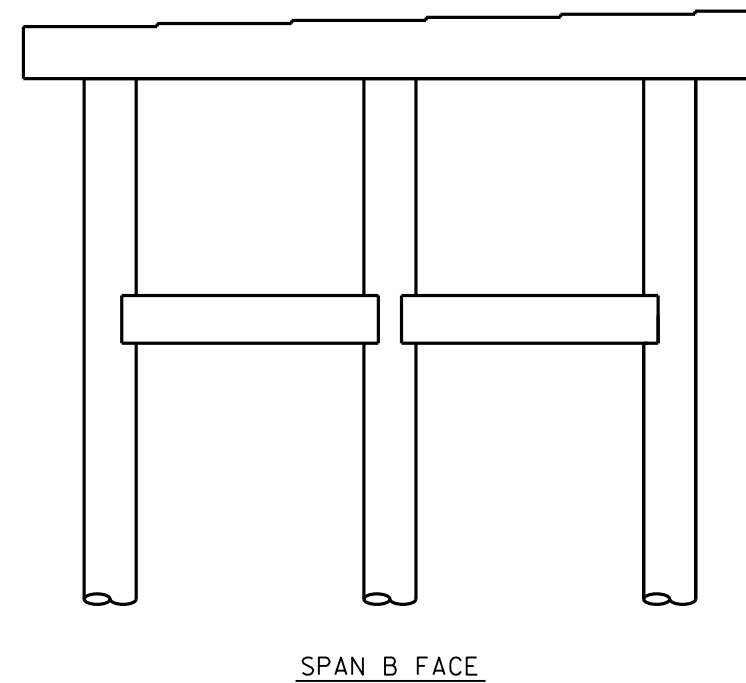
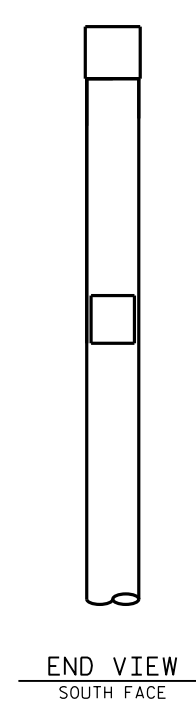
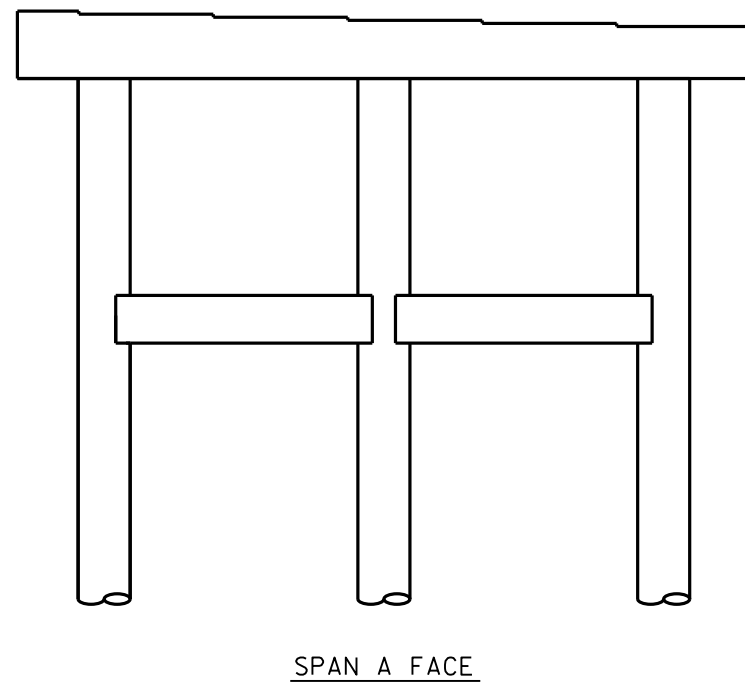
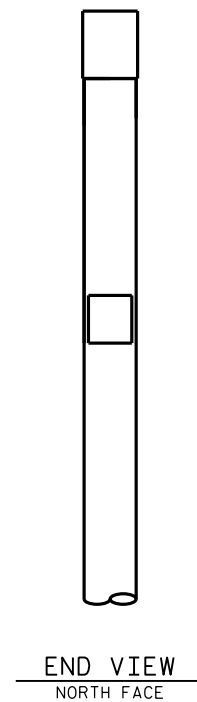
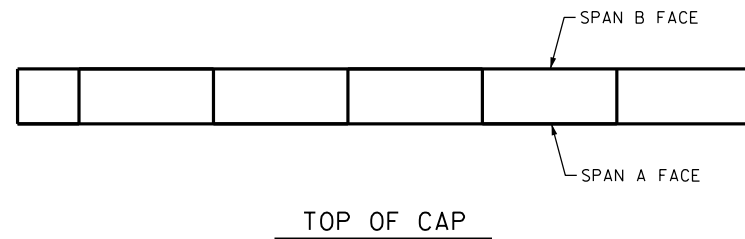
FOR CAP REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NO REPAIRS NOTED FOR BENT 1 DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE BENT PRIOR TO BEGINNING WORK.

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SO. FT		SO. FT
TOP OF BENT CAP		0		

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



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 231

SHEET 1 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E90...
 NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 32492 JOHN A. YANNACCONI

3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 1

DRAWN BY : W. O. KEITH DATE : 11/15
 CHECKED BY : J. YANNACCONI DATE : 12/15

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-107
2			4			122

NOTES

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

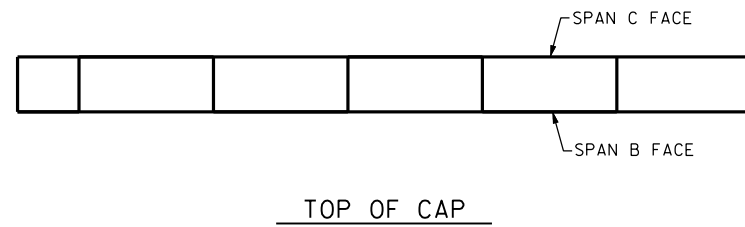
FOR CAP REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NO REPAIRS NOTED FOR BENT 2 DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE BENT PRIOR TO BEGINNING WORK.

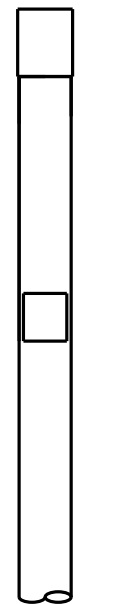
AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT		LN. FT	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT		SQ. FT	
TOP OF BENT CAP	0			

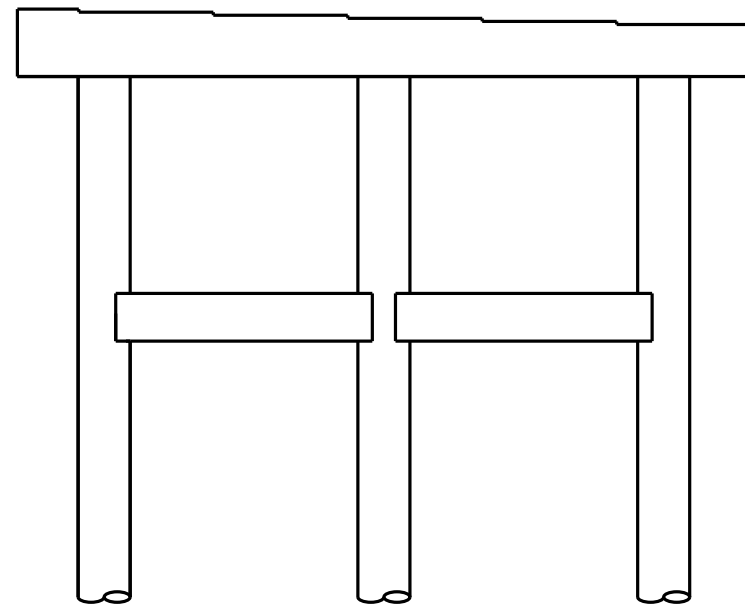
VALUES IN CHARTS REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT.



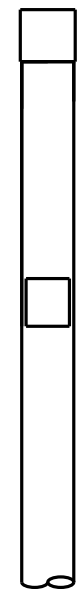
TOP OF CAP



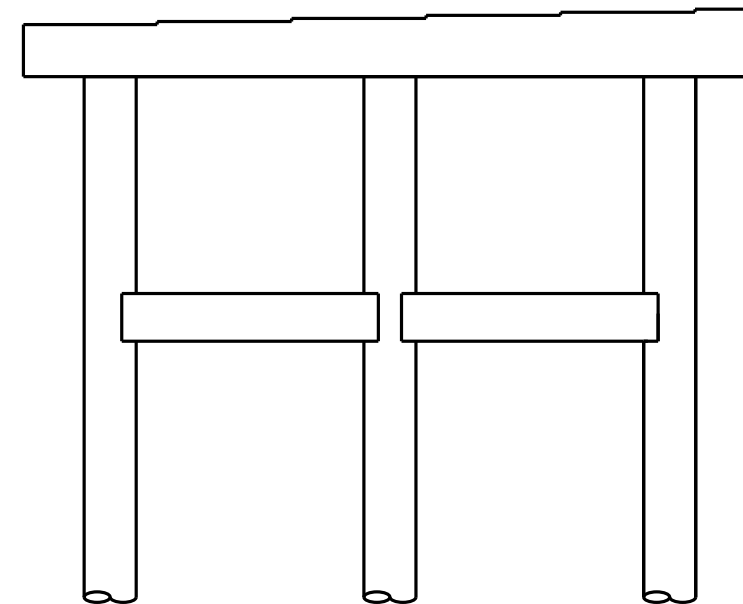
END VIEW
NORTH FACE



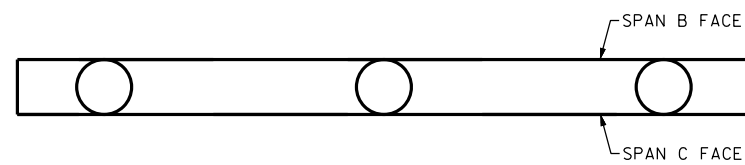
SPAN B FACE



END VIEW
SOUTH FACE



SPAN C FACE

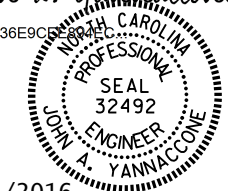


UNDERSIDE OF CAP

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 231

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
7BC36E9C...



3/21/2016

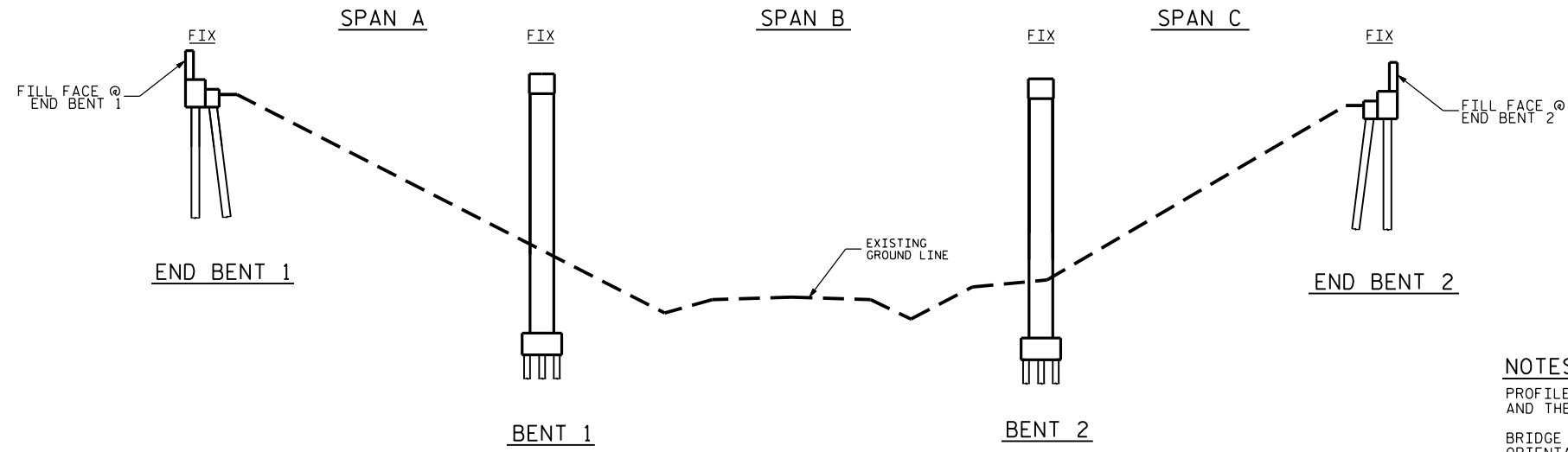
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 2

DRAWN BY : W. O. KEITH DATE : 11/15
CHECKED BY : J. YANNACCONE DATE : 12/15

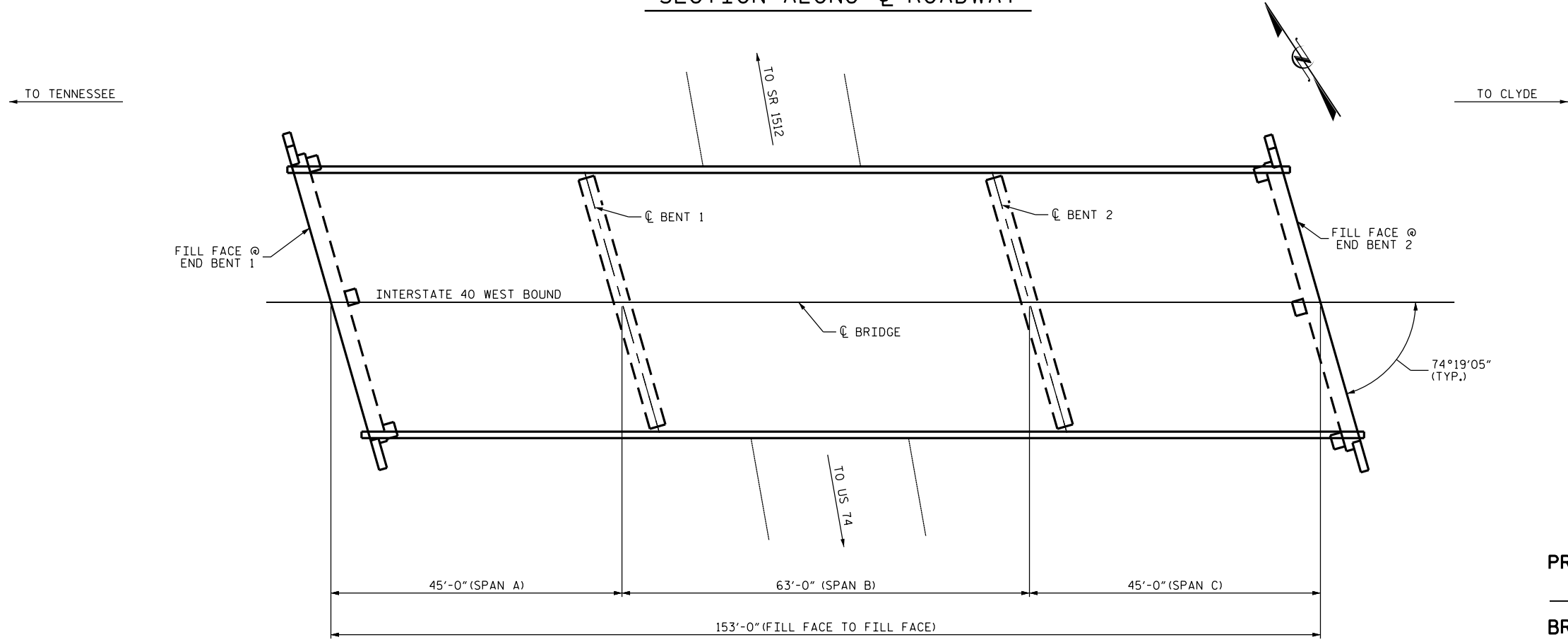
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-108
2			4			122

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NOTES
 PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 04/21/2015.
 BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS. ORIENTATION OF ROUTINE INSPECTION REPORTS MAY VARY.

SECTION ALONG CL ROADWAY



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 232

SHEET 1 OF 2

SCOPE OF WORK

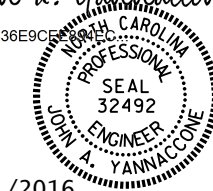
- CLEAN, PAINT AND REPAIR STEEL I-BEAMS AND BEARINGS.
- EPOXY INJECTION OF CONCRETE CRACKS.
- CLEAN AND REPAIR REBAR IN CONCRETE REPAIR AREAS.
- PERFORM SHOTCRETE REPAIRS IN PREPARED AREAS.
- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND HYDRO-DEMOLITION METHODS.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- OVERLAY PREPARED BRIDGE DECK WITH LATEX MODIFIED CONCRETE.
- CONSTRUCT CONCRETE HEADERS AT END BENTS.
- RECONSTRUCT BRIDGE JOINTS AND INSTALL JOINT SEALS.
- GROOVE LATEX MODIFIED CONCRETE BRIDGE DECK.

PLAN

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

RESIDENT ENGINEER

DocuSigned by:
John A. Yannaccone
 7BC36E9CE



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**GENERAL DRAWING
 FOR BRIDGE ON I-40 WBL
 OVER SR 1513
 (RICHLAND CREEK
 MOUNTAIN ROAD)**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-109
2			4			122

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DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J. YANNACCONE DATE : 11/15



LOCATION SKETCH

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

NOTES

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

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

FOR OVERLAY OF BRIDGE WITH LATEX MODIFIED CONCRETE, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK.

FOR SCARIFYING BRIDGE DECK, HYDRO-DEMOLITION OF BRIDGE DECK, AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING REPAIR OF BRIDGE DECKS.

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

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

FOR PAINTING CONTAINMENT, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR CLEANING AND REPAINTING OF BRIDGE, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR POLLUTION CONTROL, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 232

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36E9CE894E0
 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 32492
 ENGINEER
 JOHN A. YANNACCONI

3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE ON I-40 WBL
 OVER SR 1513
 (RICHLAND CREEK
 MOUNTAIN ROAD)

DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J. YANNACCONI DATE : 11/15

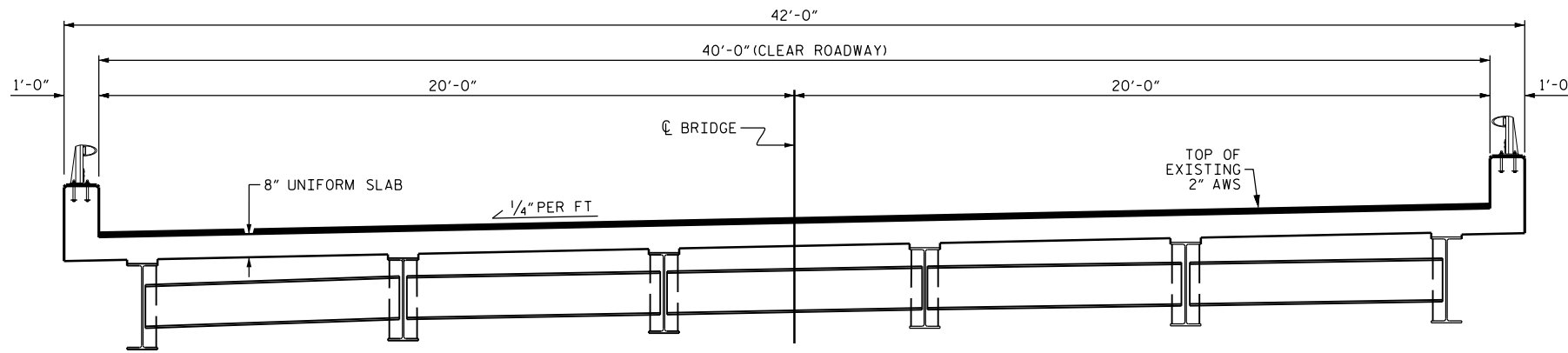
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 Jayannaccone

DOCUMENT NOT CONSIDERED
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 SIGNATURES COMPLETED

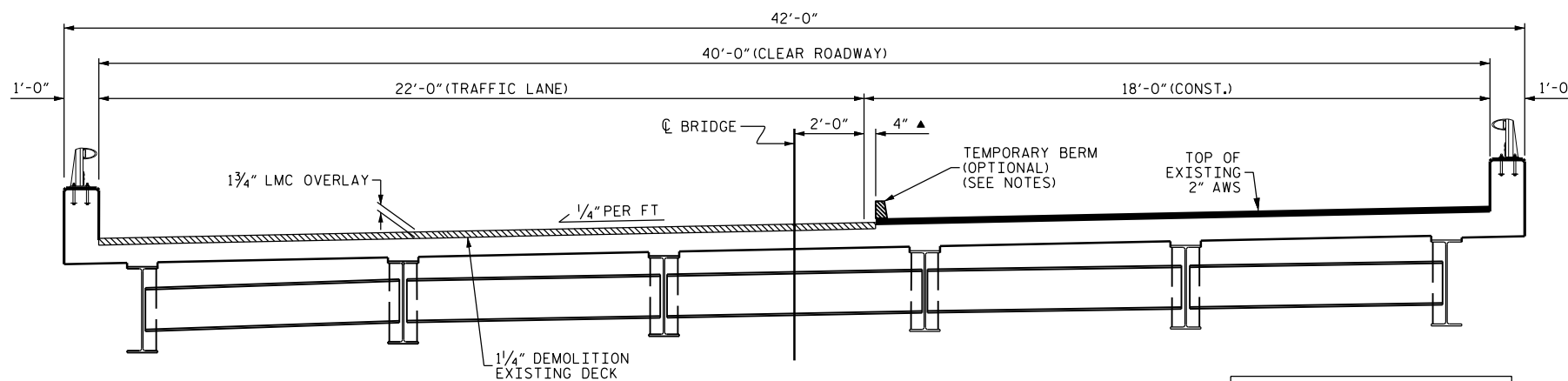
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-110
1			3			TOTAL SHEETS
2			4			122

NOTES

THE WORK STAGING ON THIS PLAN SHEET INDICATES THAT THE RIGHT LANE LMC WORK IS PERFORMED FIRST, FOLLOWED BY THE LEFT LANE LMC WORK. THE CONTRACTOR MAY ELECT TO SEQUENCE THE WORK DIFFERENTLY, BUT THE DIMENSIONS OF THE WORK ZONE AND CLEAR ROADWAY AREAS SHALL MATCH THAT INDICATED ON THIS PLAN SHEET, RESPECTIVE TO THE LANE WHERE THE LMC WORK IS BEING PERFORMED.

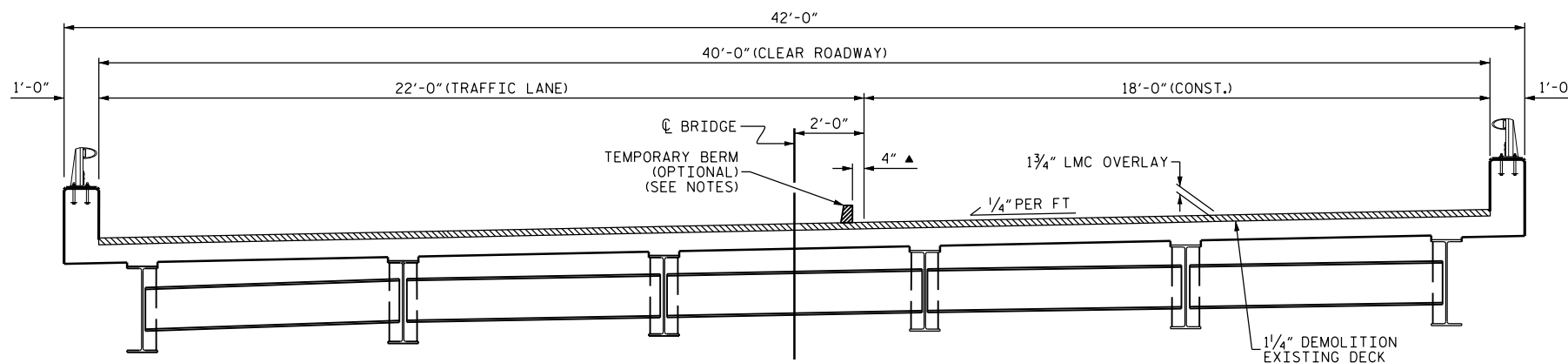


TYPICAL SECTION
(EXISTING)

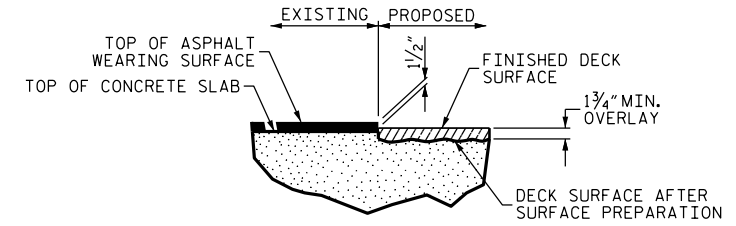


TYPICAL SECTION
(RIGHT LANE LMC WORK)

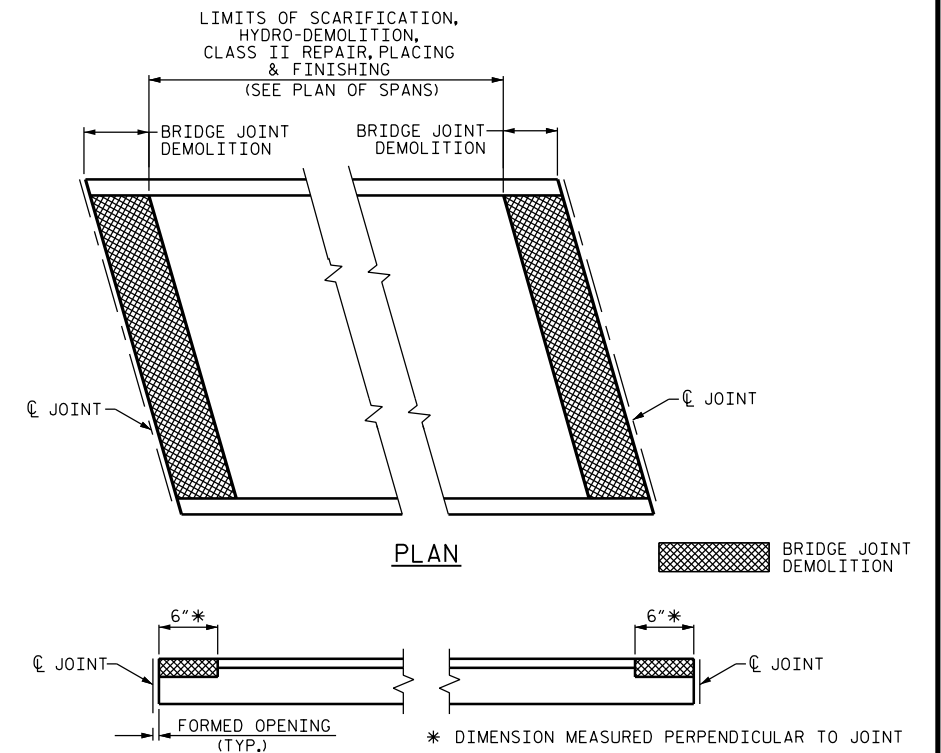
▲ 4" OVERLAP BETWEEN OVERLAYS
PREVIOUSLY POURED LMC
TO BE HYDRO-DEMOLITIONED
& RECAST WITH LMC



TYPICAL SECTION
(LEFT LANE LMC WORK)



DETAIL FOR LMC OVERLAY



ELEVATION

PAY LIMITS FOR OVERLAY BID ITEMS

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 232

DocuSigned by:
John A. Yannaccone
7BC36E9CE84E3
STATE OF NORTH CAROLINA
PROFESSIONAL
SEAL
32492
ENGINEER
JOHN A. YANNACCONE
3/21/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**TYPICAL SECTION
AND SURFACE
PREPARATION DETAILS**

DRAWN BY : W.O. KEITH DATE : 9/15
CHECKED BY : J. YANNACCONE DATE : 11/15

21-MAR-2016 13:17
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Jayannaccone








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NO.	BY:	DATE:	NO.	BY:	DATE:	S-111
1			3			TOTAL SHEETS
2			4			122

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AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE		ACTUAL	
SCARIFYING BRIDGE DECK	198 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	198 SY			
CLASS II SURFACE PREPARATION	0.3 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
BRIDGE JOINT DEMOLITION	21.0 SF			
EPOXY RESIN INJECTION	0.0 LF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
UNDERSIDE EPOXY RESIN INJECTION				
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF			

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

-  APPROX. CLASS II AREA
-  APPROX. CLASS III AREA
-  BRIDGE JOINT DEMOLITION
-  UNDERSIDE REPAIR
-  DIAPHRAGM REPAIR
-  #1 TEST LOCATION
-  ERI EPOXY RESIN INJECTION

NOTES

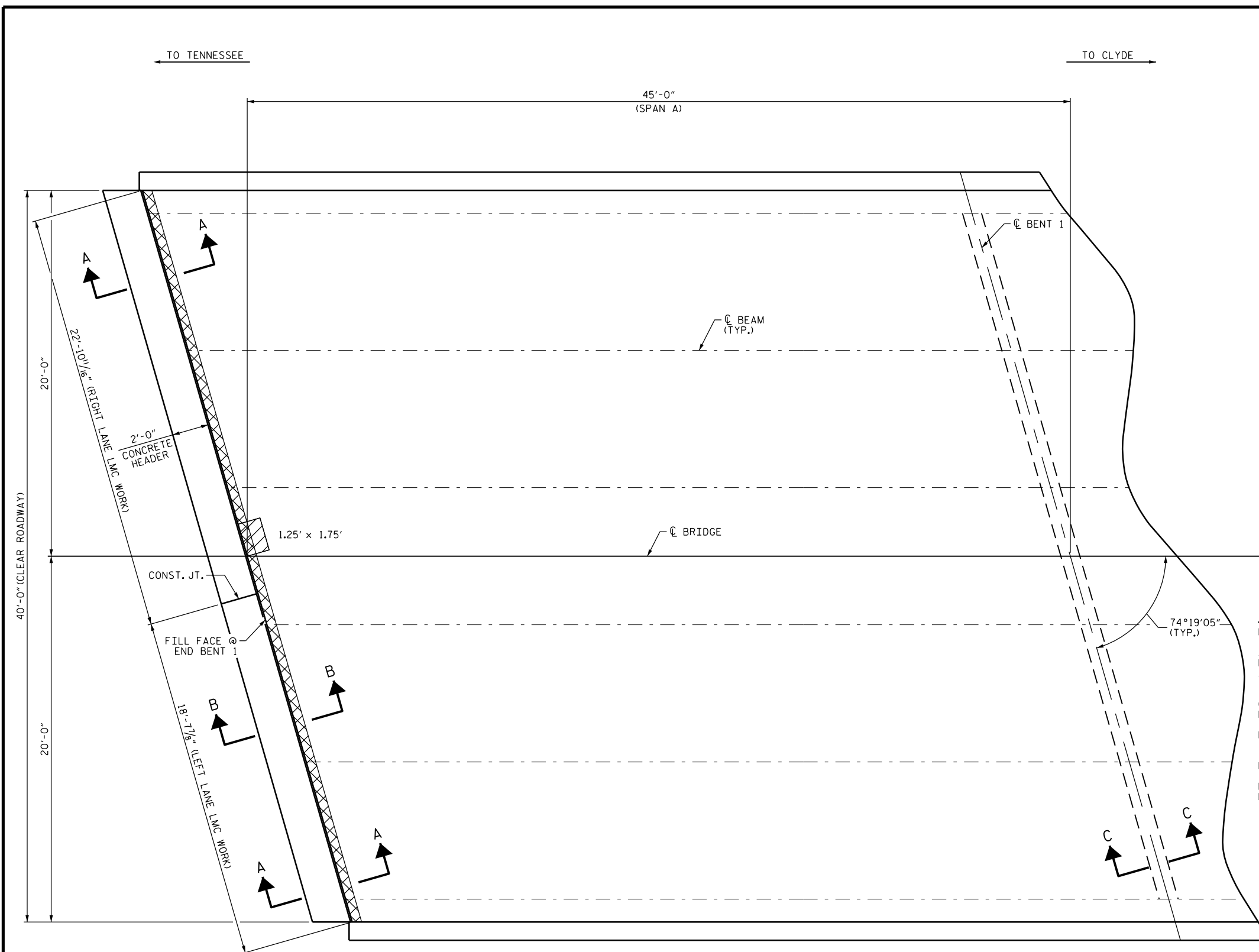
REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES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

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1/2" PER THE EXISTING BRIDGE PLANS.

PRIOR TO PLACEMENT OF THE LMC OVERLAY ACROSS THE CONTINUOUS DECK SPANS, THE CONTRACTOR SHALL SUBMIT A POUR SEQUENCE FOR APPROVAL BY THE ENGINEER.

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

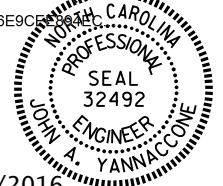
FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.



PLAN

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 232

SHEET 1 OF 3

DocuSigned by:
John A. Yannaccone
 7BC36E9C...


3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPAN
 SPAN A**

DRAWN BY : W. O. KEITH DATE : 9/15
 CHECKED BY : J. YANNACCONO DATE : 12/15

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1			3			TOTAL SHEETS
2			4			122

AS-BUILT REPAIR QUANTITY TABLE








TOP OF DECK REPAIRS

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	280 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	280 SY	
CLASS II SURFACE PREPARATION	0.0 SY	
CLASS III SURFACE PREPARATION	0.0 SY	
BRIDGE JOINT DEMOLITION	0.0 SF	
EPOXY RESIN INJECTION	0.0 LF	
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY	

UNDERSIDE OF DECK REPAIRS

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

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

-  APPROX. CLASS II AREA
-  APPROX. CLASS III AREA
-  BRIDGE JOINT DEMOLITION
-  UNDERSIDE REPAIR
-  DIAPHRAGM REPAIR
-  #1 TEST LOCATION
-  ERI EPOXY RESIN INJECTION

NOTES

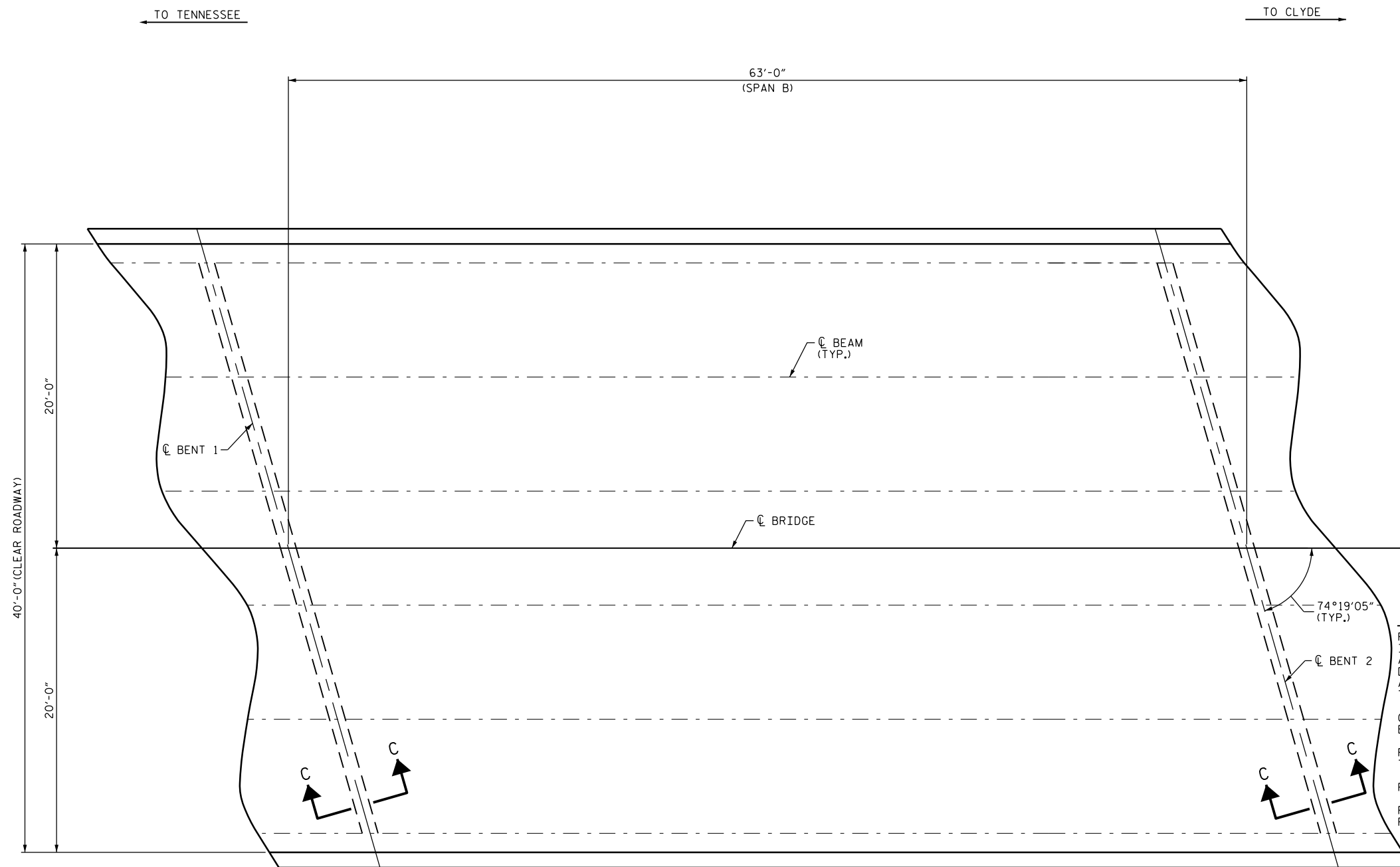
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CONCRETE COVER FOR TOP BAR IN THE DECK SLAB IS 1/2" PER THE EXISTING BRIDGE PLANS.

PRIOR TO PLACEMENT OF THE LMC OVERLAY ACROSS THE CONTINUOUS DECK SPANS, THE CONTRACTOR SHALL SUBMIT A POUR SEQUENCE FOR APPROVAL BY THE ENGINEER.

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

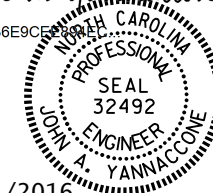
FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.



PLAN

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 232

SHEET 2 OF 3

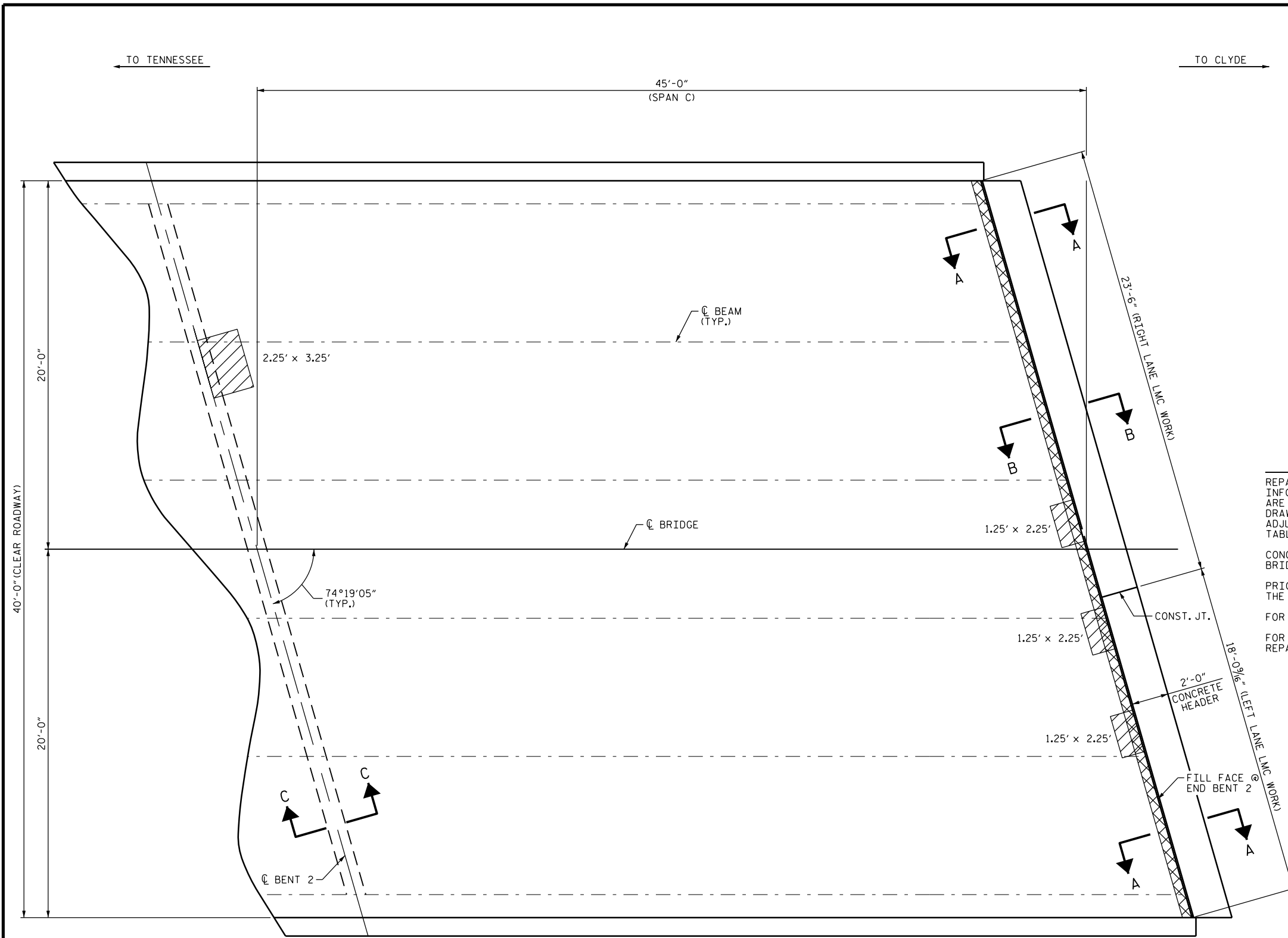
DocuSigned by:
John A. Yannaccone
 7BC36E9C5...


3/21/2016

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2			4			122

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DRAWN BY : W. O. KEITH DATE : 9/15
 CHECKED BY : J. YANNACCONO DATE : 12/15



PLAN

- APPROX. CLASS II AREA
- APPROX. CLASS III AREA
- BRIDGE JOINT DEMOLITION
- UNDERSIDE REPAIR
- DIAPHRAGM REPAIR
- #1 TEST LOCATION
- ERI EPOXY RESIN INJECTION

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS				
	ESTIMATE		ACTUAL	
SCARIFYING BRIDGE DECK	198 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	198 SY			
CLASS II SURFACE PREPARATION	1.8 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
BRIDGE JOINT DEMOLITION	21.0 SF			
EPOXY RESIN INJECTION	0.0 LF			
CLASS AA CONCRETE FOR CLASS III SURFACE PREPARATION	0.0 CY			
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
UNDERSIDE EPOXY RESIN INJECTION				
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF			

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

NOTES

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

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1/2" PER THE EXISTING BRIDGE PLANS.

PRIOR TO PLACEMENT OF THE LMC OVERLAY ACROSS THE CONTINUOUS DECK SPANS, THE CONTRACTOR SHALL SUBMIT A POUR SEQUENCE FOR APPROVAL BY THE ENGINEER.

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG & DIAPHRAGM REPAIRS DETAILS" SHEET.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 232

SHEET 3 OF 3

DocuSigned by:
John A. Yannaccone
 7BC36E9C...
 NORTH CAROLINA
 PROFESSIONAL ENGINEER
 SEAL
 32492
 JOHN A. YANNACCONI
 3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPAN
 SPAN C**

DRAWN BY : W. O. KEITH DATE : 9/15
 CHECKED BY : J. YANNACCONI DATE : 12/15

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-114
1			3			TOTAL SHEETS
2			4			122

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NOTES

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.
 FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.
 FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
 THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.
 NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 2".
 THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE FOAM JOINT SEAL IN LIEU OF SAWING THE JOINT.
 FOR ADHESIVELY ANCHORED DOWELS, NO FIELD TESTING IS REQUIRED. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE ARTICLE 420-13 OF THE STANDARD SPECIFICATIONS.
 PLACE #4 S1 AND #4 S2 BARS PARALLEL TO BRIDGE CENTERLINE.
 CONSTRUCTION JOINT SHALL BE PERPENDICULAR TO THE FILL FACE OF THE END BENT.

BILL OF MATERIAL

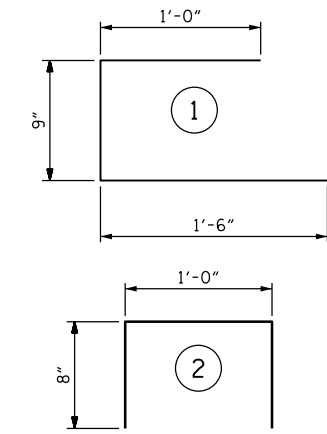
FOR ONE END BENT JOINT

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
D1	4	#4	STR	1'-6"	4
K1	2	#4	STR	25'-3"	34
K2	2	#4	STR	18'-0"	24
K3	3	#4	STR	6'-0"	12
K4	3	#4	STR	10'-2"	20
S1	16	#4	1	3'-3"	35
S2	24	#4	2	2'-4"	37

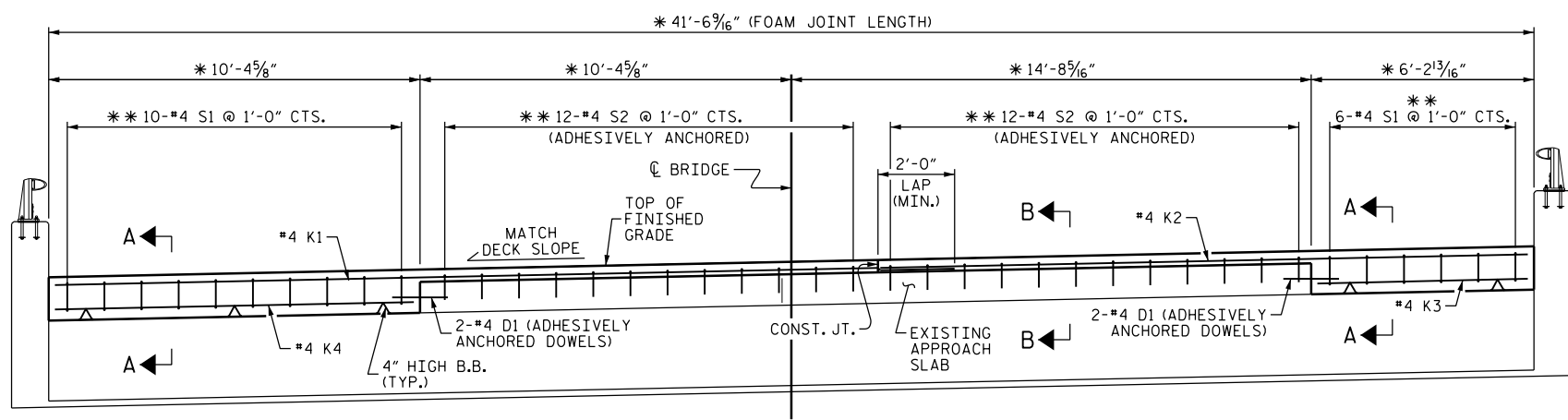
REINFORCING STEEL (FOR ONE END BENT JOINT) 166 LBS.

CLASS AA CONCRETE (FOR ONE END BENT JOINT) 2.3 CU. YDS.

BAR TYPES

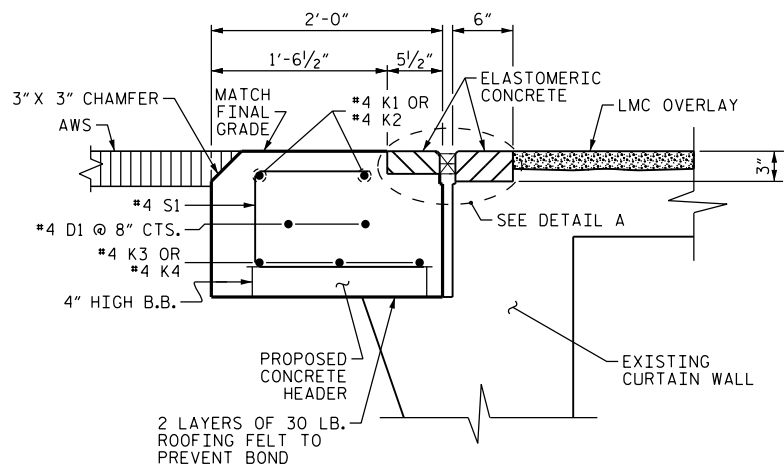


ALL BAR DIMENSIONS ARE OUT TO OUT.

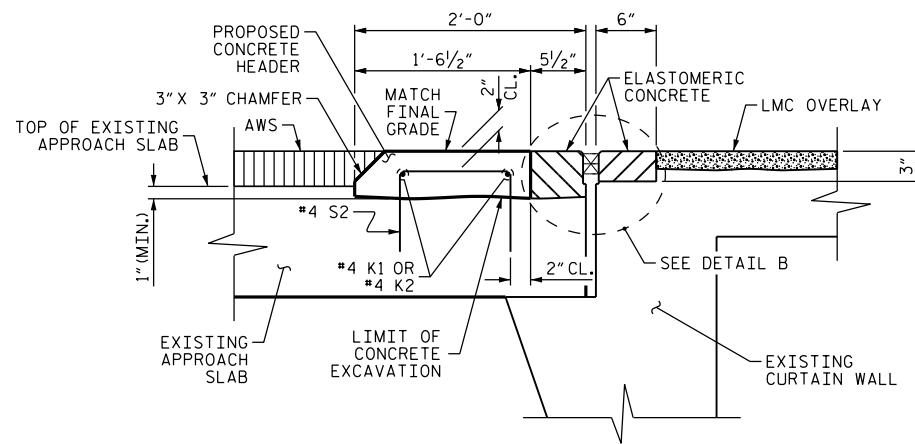


TYPICAL SECTION
 (FILL FACE END BENT 1 SHOWN, END BENT 2 SIMILAR.)

* DIMENSION MEASURED ALONG FILL FACE
 ** BAR SPACING MEASURED PERPENDICULAR TO BRIDGE CENTERLINE



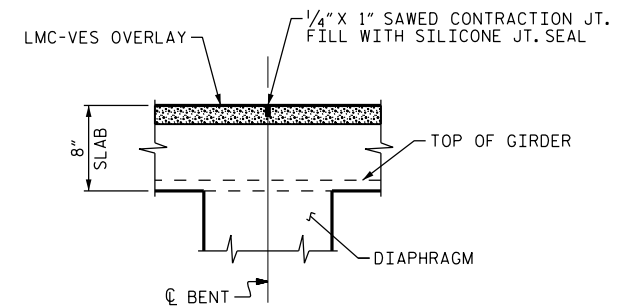
SECTION A-A



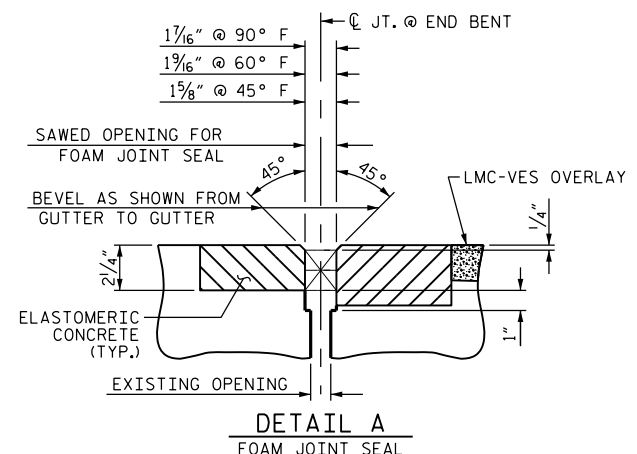
SECTION B-B

ELASTOMERIC CONCRETE		
END BENT 1	11.0	(CU. FT.)
END BENT 2	11.0	(CU. FT.)
* TOTAL	22.0	(CU. FT.)

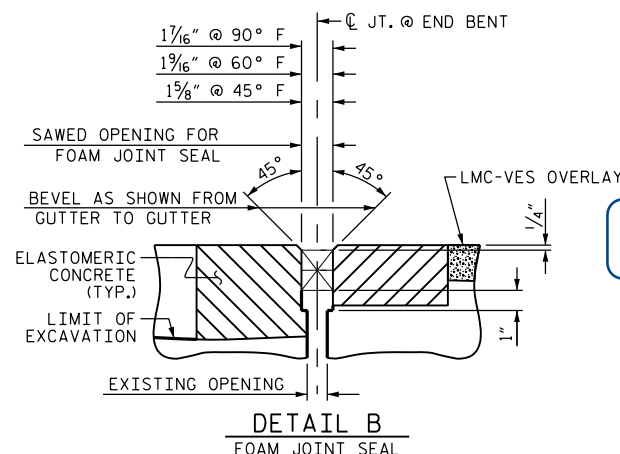
* BASED ON THE MINIMUM BLOCKOUT SHOWN.



SECTION C-C



DETAIL A
 FOAM JOINT SEAL



DETAIL B
 FOAM JOINT SEAL

DocuSigned by:
 John A. Yannaccone
 7BC36E9CE
 NORTH CAROLINA PROFESSIONAL SEAL 32492
 JOHN A. YANNACCONI
 ENGINEER

3/21/2016

PROJECT NO. I-5756
 HAYWOOD COUNTY
 BRIDGE NO. 232

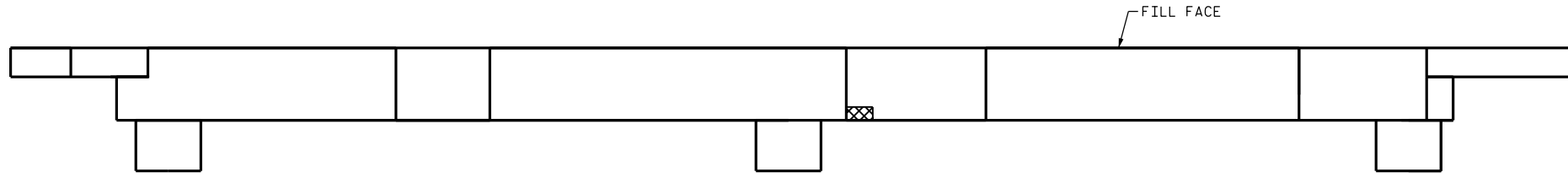
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

JOINT DETAILS

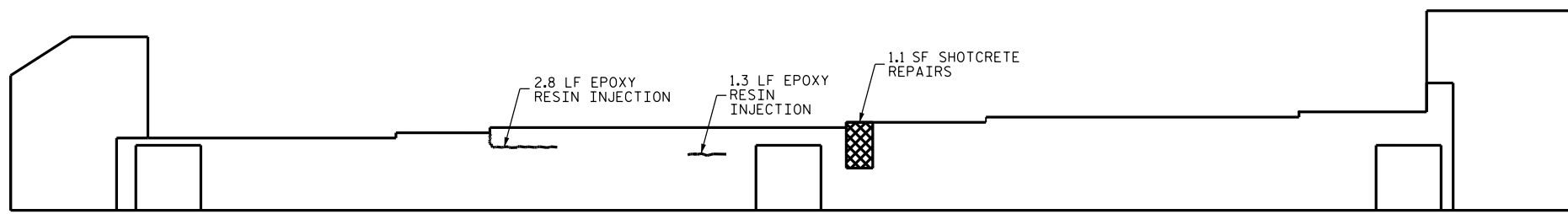
DRAWN BY: J. YANNACCONI DATE: 3/16
 CHECKED BY: S. WANCE DATE: 3/16

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1			3			TOTAL SHEETS
2			4			122

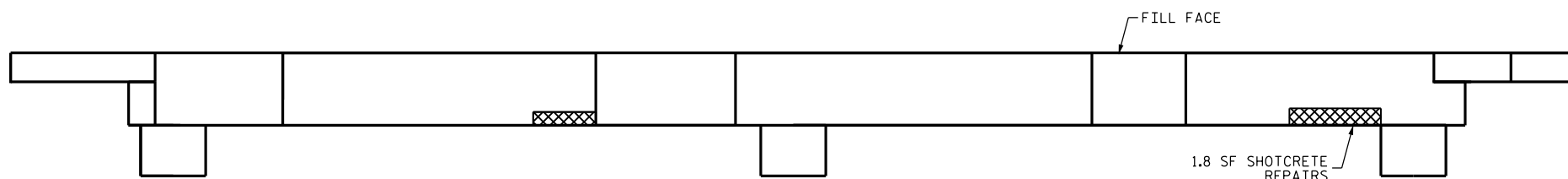


PLAN

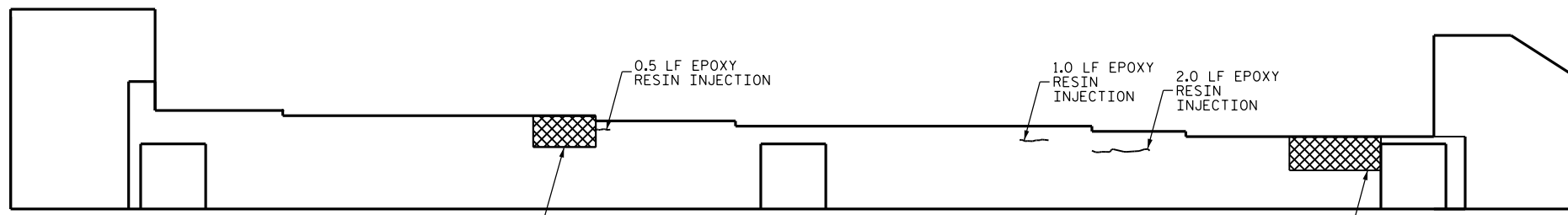


ELEVATION

END BENT 1



PLAN



ELEVATION

END BENT 2

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	1.1	1.0 *		
EPOXY RESIN INJECTION		LN. FT		
CAP		4.1		

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	7.1	5.4 *		
EPOXY RESIN INJECTION		LN. FT		
CAP		3.5		

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

NOTES

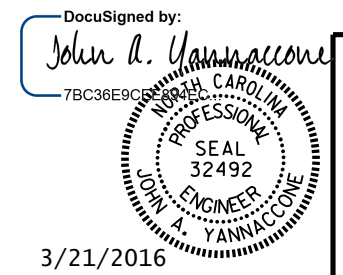
REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES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

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

* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.



PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 232



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 1 & 2

DRAWN BY : W.O. KEITH DATE : 10/15
 CHECKED BY : J. YANNACCONE DATE : 11/15

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			122
2			4			

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NOTES

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

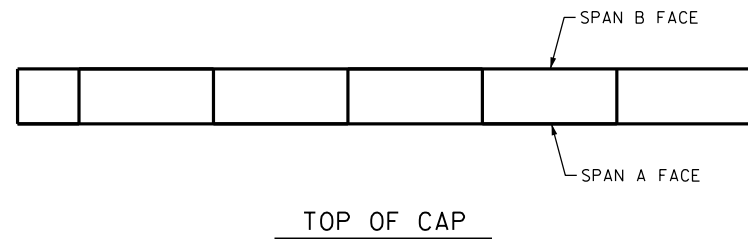
FOR CAP REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NO REPAIRS NOTED FOR BENT 1 DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE BENT PRIOR TO BEGINNING WORK.

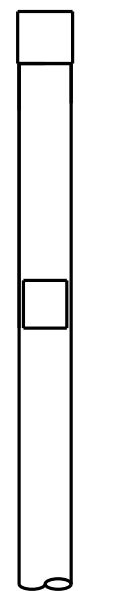
AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT		SQ. FT
TOP OF BENT CAP		0		

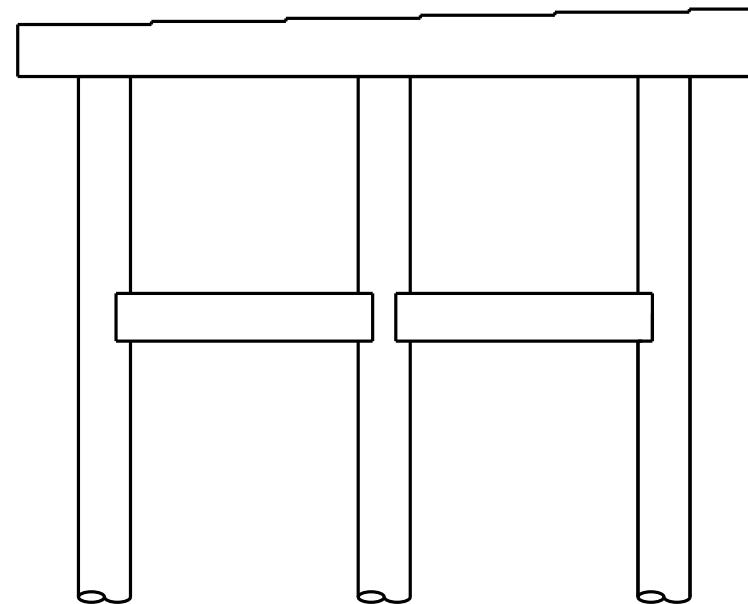
VALUES IN CHARTS REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT.



TOP OF CAP



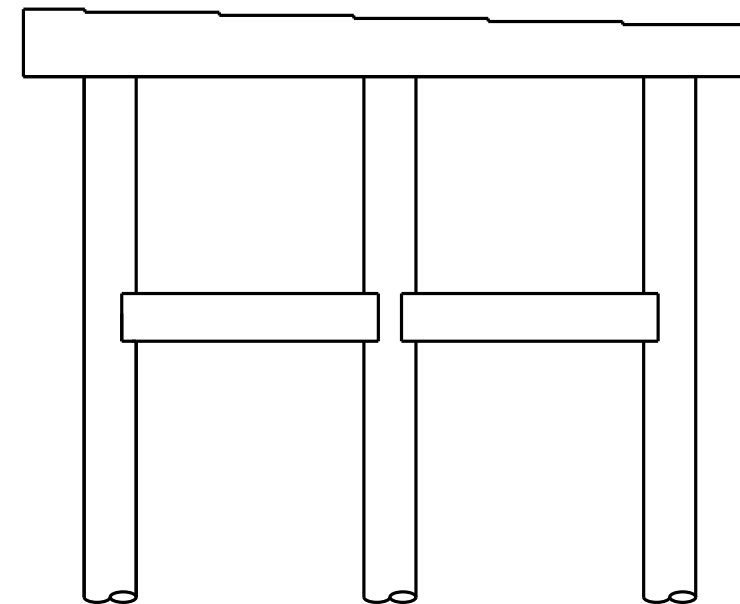
END VIEW
NORTH FACE



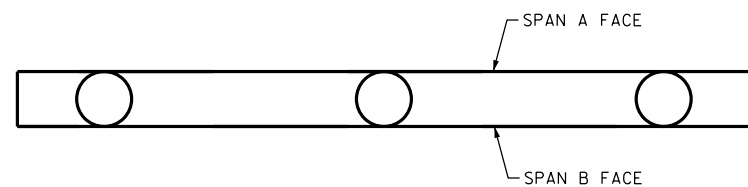
SPAN A FACE



END VIEW
SOUTH FACE



SPAN B FACE



UNDERSIDE OF CAP

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 232

SHEET 1 OF 2

DocuSigned by:
John A. Yannaccone
7BC36E9C8E8450
NORTH CAROLINA
PROFESSIONAL
SEAL
32492
ENGINEER
JOHN A. YANNACCONI

3/21/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 1

DRAWN BY : W. O. KEITH DATE : 11/15
CHECKED BY : J. YANNACCONI DATE : 12/15

21-MAR-2016 13:17
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Jayannaccone

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-117
2			4			122

NOTES

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

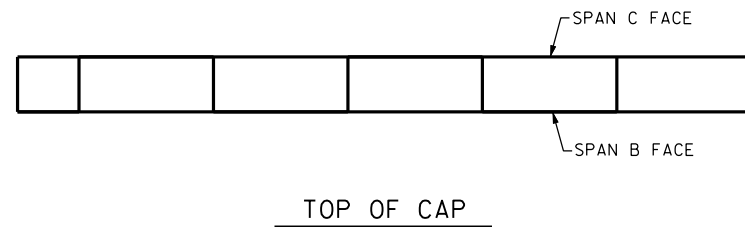
FOR CAP REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT		LN. FT	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT		SQ. FT	
TOP OF BENT CAP	0			

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

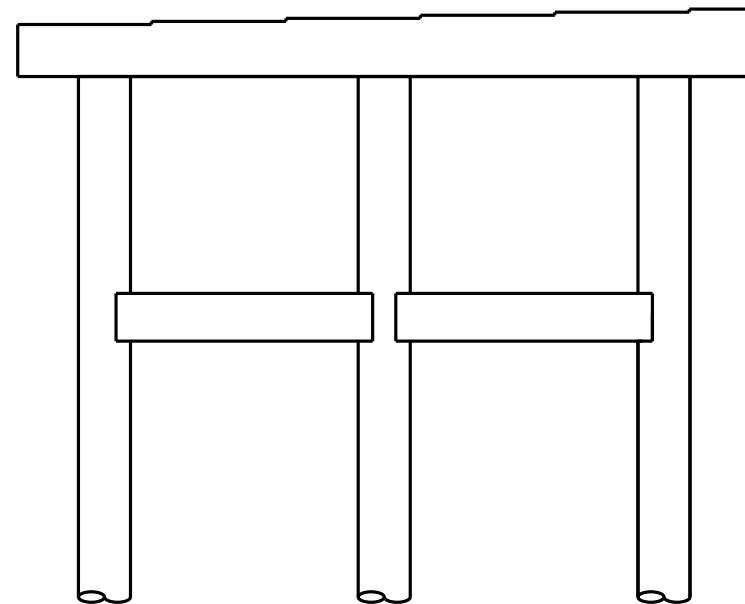
NO REPAIRS NOTED FOR BENT 2 DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE BENT PRIOR TO BEGINNING WORK.



TOP OF CAP



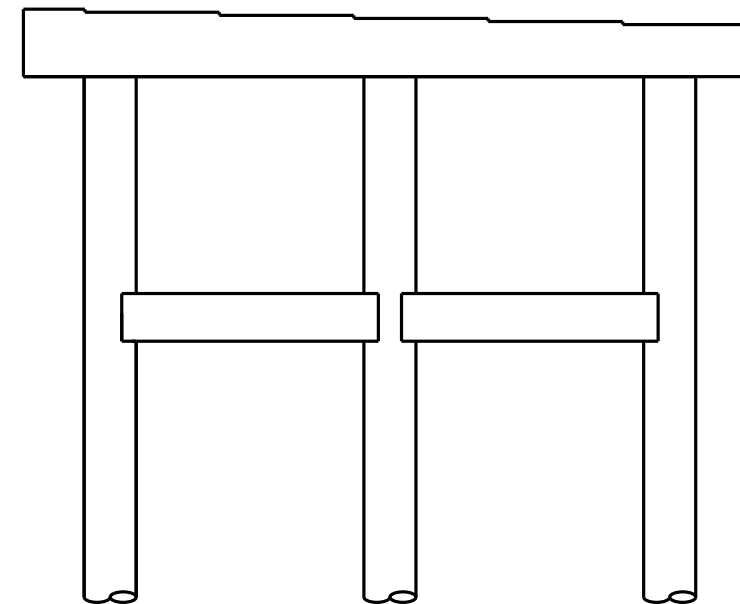
END VIEW
NORTH FACE



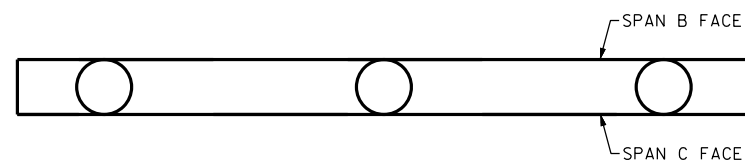
SPAN B FACE



END VIEW
SOUTH FACE



SPAN C FACE



UNDERSIDE OF CAP

PROJECT NO. I-5756
HAYWOOD COUNTY
BRIDGE NO. 232

SHEET 2 OF 2

DocuSigned by:

John A. Yannaccone

7BC36E90E087E



3/21/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

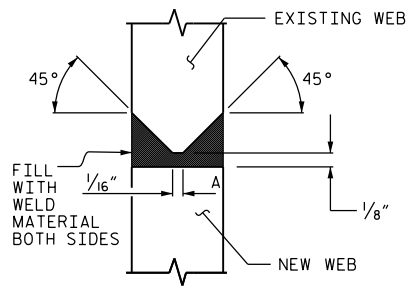
BENT 2

DRAWN BY : W. O. KEITH DATE : 11/15
CHECKED BY : J. YANNACCONE DATE : 12/15

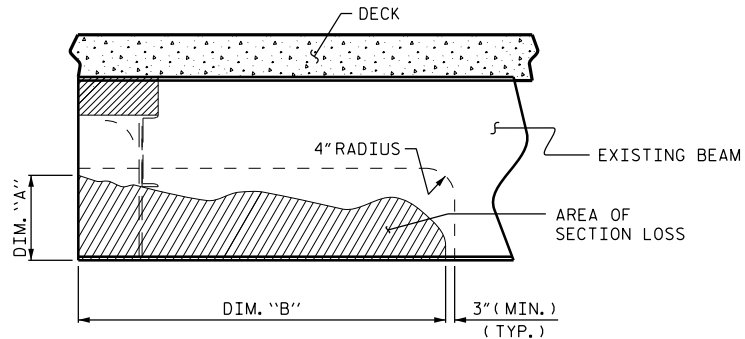
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Jayannaccone

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FINAL UNLESS ALL
SIGNATURES COMPLETED

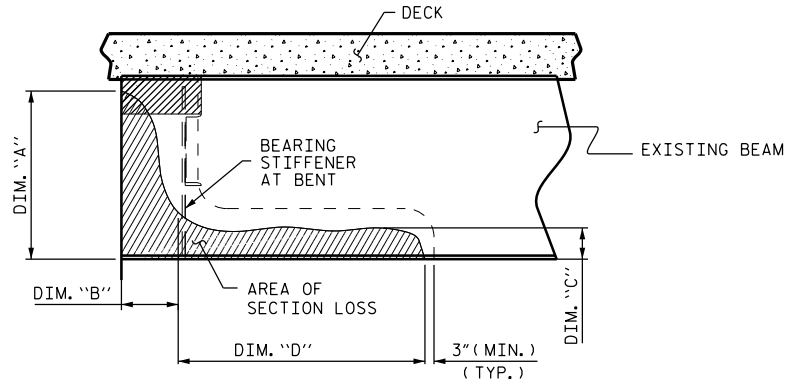
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2			4			



DETAIL "A"

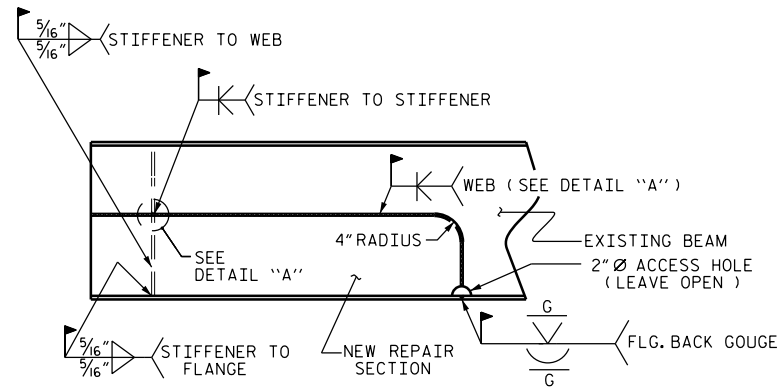


SECTION LOSS BEAM END REPAIR

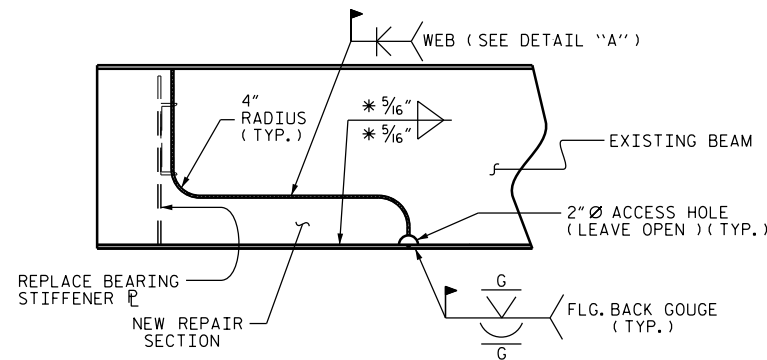


SECTION LOSS BEAM END REPAIR

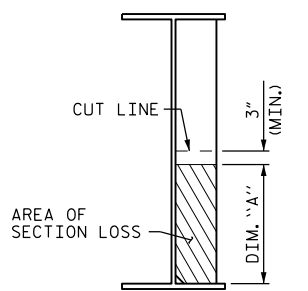
* NOT NEEDED IF REPAIRED SECTION IS CUT FROM A ROLLED BEAM



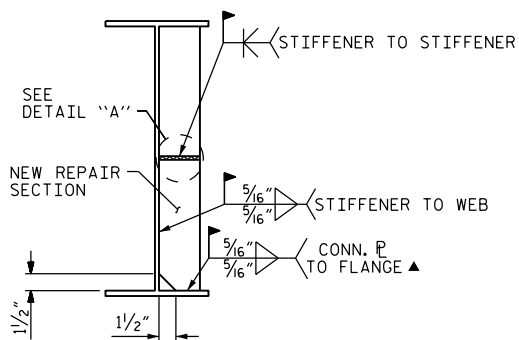
SECTION LOSS BEAM END REPAIR SECTION



SECTION LOSS BEAM END REPAIR SECTION

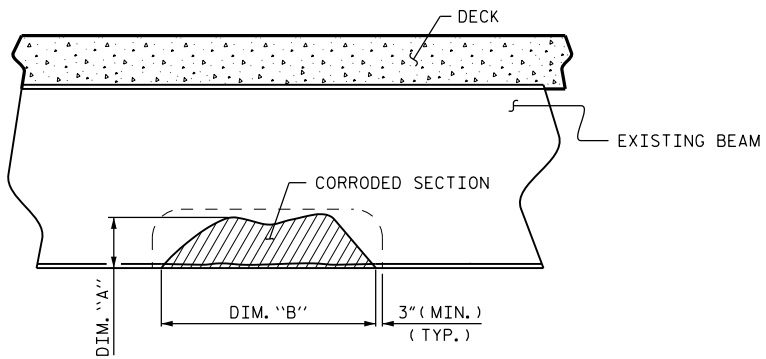


SECTION LOSS STIFFENER/CONN. P REPAIR

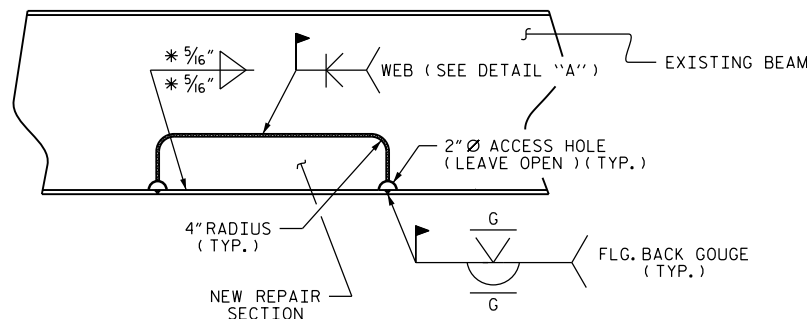


SECTION LOSS STIFFENER/CONN. P REPAIR SECTION

▲ FOR STIFFENERS, MILL TO BEAR AND DO NOT WELD



SECTION LOSS INTERMEDIATE BEAM REPAIR



SECTION LOSS INTERMEDIATE BEAM REPAIR SECTION

BEAM REPAIR

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

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

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

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

REPAIR SEQUENCE:

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

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

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

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

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

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

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

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

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

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

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

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

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

LOWER SPAN TO BEAR; CHECK FOR DISTRESS.

REMOVE JACKING EQUIPMENT AND TEMPORARY SUPPORTS.

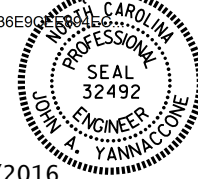
REMOVE ALL TRAFFIC CONTROL DEVICES.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 183, 205, 208, 209,
222, 223, 224, 228, 230, 231, 232

DocuSigned by:

John A. Yannaccone

7BC36E9C-8704E6



3/21/2016

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BEAM END AND INTERMEDIATE REPAIR DETAILS

DRAWN BY : S. T. SANDOR DATE : 11/2014
 CHECKED BY : J. A. YANNAKONE DATE : 12/2014

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-120
1			3			TOTAL SHEETS
2			4			122

JACKING NOTES:

THE CONTRACTOR SHALL SUBMIT JACKING PLANS AND CALCULATIONS FOR REVIEW AND APPROVAL PRIOR TO MATERIAL PURCHASE OR FABRICATION OF THE JACKING SYSTEM.

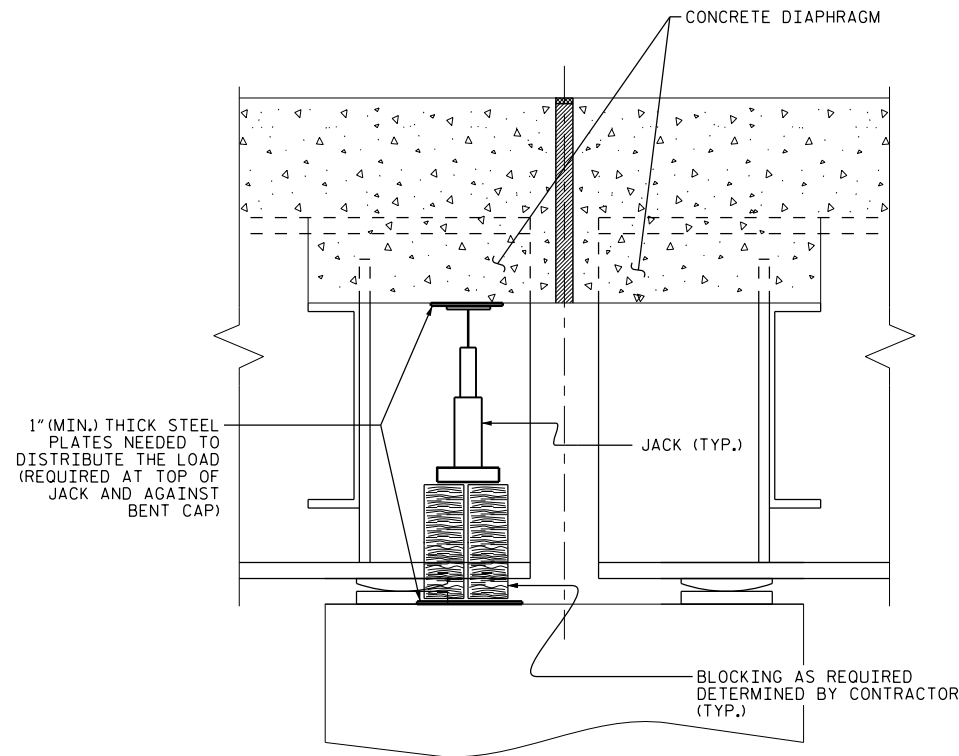
THE BEAM SHALL BE LIFTED ENOUGH THAT THE BEAM CLEAR THE BEARINGS AND ALL LOAD IS SUPPORTED BY THE JACKS. AFTER JACKING IS COMPLETE THE CONTRACTOR SHALL PROVIDE A METHOD TO SUPPORT THE BEAM FOR DEAD AND LIVE LOADS AND REMOVE THE JACKS DURING THE REPAIR OPERATIONS. IF THE JACKS REMAIN IN PLACE DURING THE 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.

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

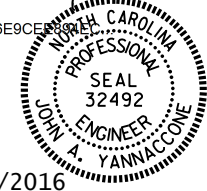
ALL ADJACENT BEARINGS OF BEAMS NOT BEING JACKED MAY BE LOOSENED TO DECREASE THE RESISTANCE OF THE DECK SLAB DURING JACKING. ALL BEARINGS LOOSENED SHALL BE TIGHTENED BACK AFTER REPAIR OPERATIONS ARE COMPLETED AND THE JACKS AND BLOCKING HAVE BEEN REMOVED.

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



SECTION THRU DIAPHRAGM

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 183, 205, 208, 209,
222, 223, 224, 228, 230, 231, 232

DocuSigned by:
John A. Yannaccone
 7BC36E9CE88E8

 3/21/2016

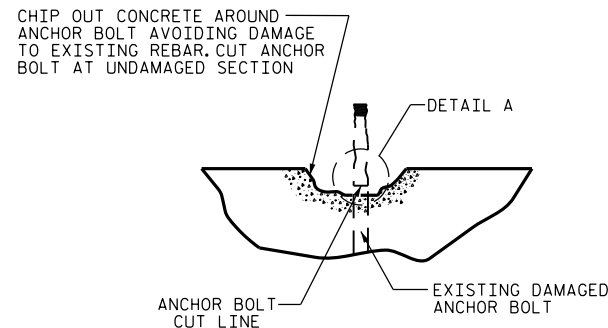
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

JACKING DETAILS

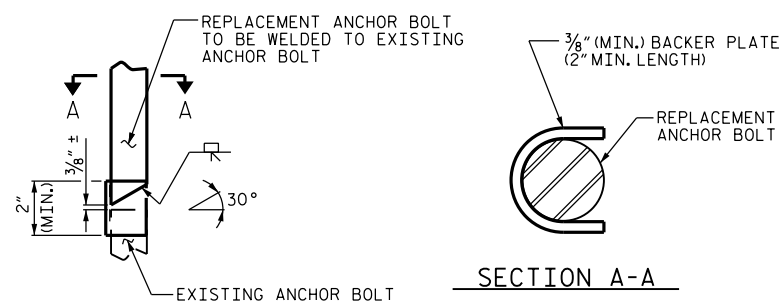
DRAWN BY : J. YANNACCONI DATE : 1/16
 CHECKED BY : S. WANCE DATE : 1/16

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			122
2			4			122



SECTION AT BEARING



DETAIL A

ANCHOR BOLT WELD DETAIL

CONSTRUCTION SEQUENCE:

JACK BRIDGE AND CHIP OUT AROUND DAMAGED ANCHOR BOLT. REMOVE CONCRETE BELOW UNDAMAGED AREA ENOUGH TO CUT AND PREPARE FOR WELDING.

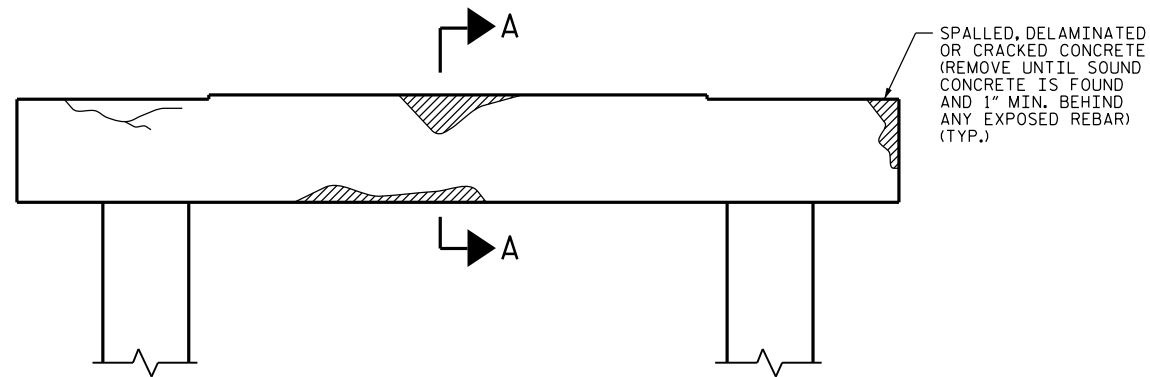
WELD ANCHOR BOLT AS SHOWN ABOVE.

ALL WELDS NEED TO BE APPROVED BY THE NCDOT MATERIALS AND TEST UNIT BEFORE RECASTING CONCRETE AT BRIDGE SEAT.

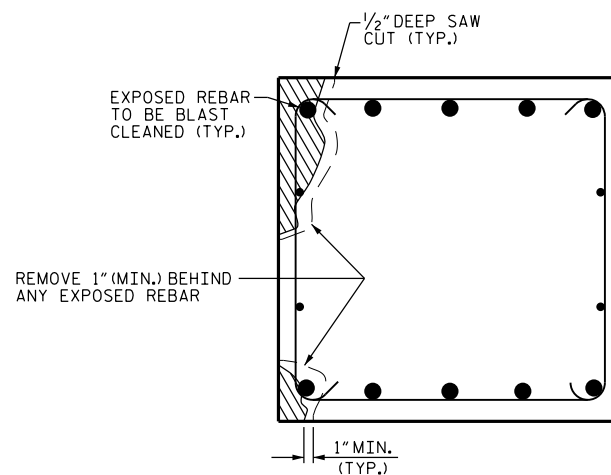
REPAIR BRIDGE SEAT IN ACCORDANCE WITH THE SPECIAL PROVISION FOR CONCRETE REPAIR.

REMOVE JACKS.

ANCHOR BOLT REPAIR

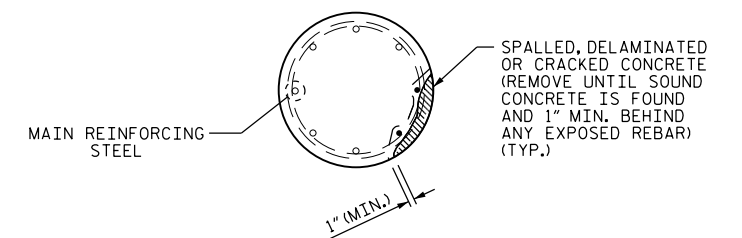


BENT CAP REPAIRS

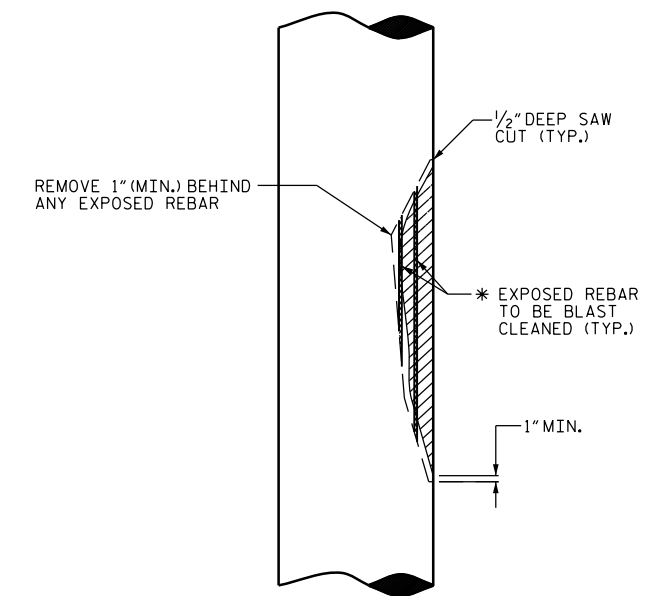


SECTION A-A

CAP REPAIR



PLAN OF COLUMN



* REPAIR LENGTH SHALL NOT EXCEED 10 FEET.

ELEVATION OF CAP

COLUMN REPAIR

NOTE

TYPICAL REPAIRS FOR ROUND-COLUMNED BENTS ARE SHOWN. REPAIR DETAILS SIMILAR FOR END BENT CAPS AND SQUARE-COLUMNED BENTS.

PROJECT NO. I-5756
HAYWOOD COUNTY
 BRIDGE NO. 183, 205, 208, 209,
222, 223, 224, 228, 230, 231, 232

DocuSigned by:
John A. Yannaccone
 7BC36E9CE
 STATE OF NORTH CAROLINA
 PROFESSIONAL ENGINEER
 SEAL
 32492
 JOHN A. YANNACCONI
 3/21/2016

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

DRAWN BY : J. YANNACCONI DATE : 1/16
 CHECKED BY : S. WANCE DATE : 1/16

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			122
2			4			122

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 2012 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

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

CONCRETE:

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

CONCRETE CHAMFERS:

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

DOWELS:

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

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

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

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

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

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

REINFORCING STEEL:

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

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

STRUCTURAL STEEL:

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

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

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

HANDRAILS AND POSTS:

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

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

SPECIAL NOTES:

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

ENGLISH

JANUARY, 1990

STD. NO. SN