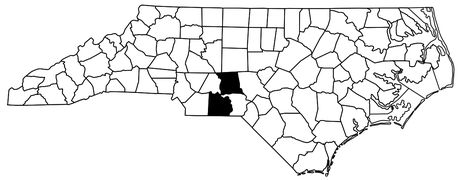
PROJ.: 15BPR.21 & 15BPR.38

CONTRACT NO.: C204230



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MONTGOMERY & ANSON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	15BPR.21	1A	

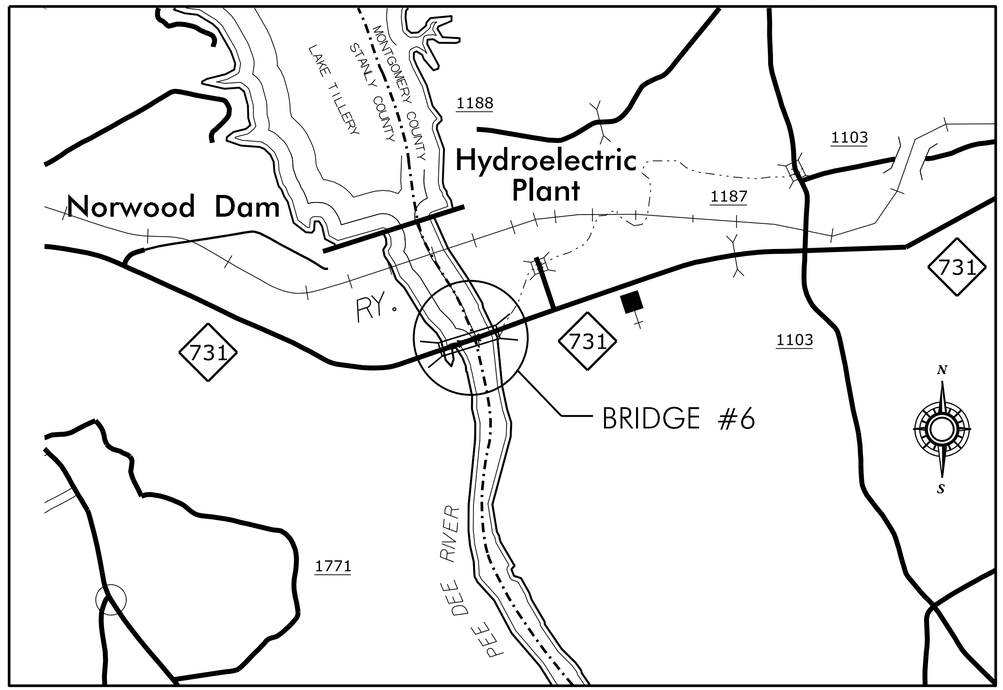
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
15BPR.21		P.E.
15BPR.21		CONST.

N.C.	15BPR.38	1A

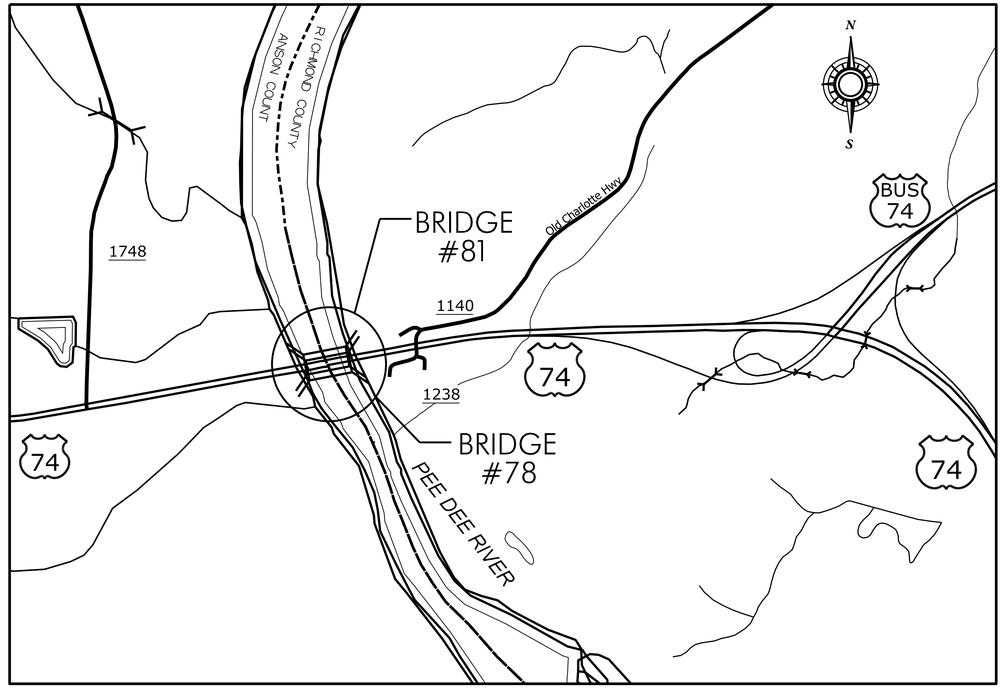
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
15BPR.38		P.E.
15BPR.38		CONST.

LOCATION: ***BRIDGE NO. 610006 ON NC 731 OVER PEE DEE RIVER***
BRIDGE NO. 030078 ON US 74 EBL OVER PEE DEE RIVER
BRIDGE NO. 030081 ON US 74 WBL OVER PEE DEE RIVER

TYPE OF WORK: BRIDGE PRESERVATION –
BRIDGE NO. 610006: POLYMER CONCRETE OVERLAY, JOINT REPLACEMENT, AND SUBSTRUCTURE REPAIRS.
BRIDGE NO. 030078: POLYMER CONCRETE OVERLAY, JOINT REPLACEMENT, CLEANING & PAINTING EXISTING BEARING ASSEMBLIES WITH HRCSA, GIRDER REPAIRS AND SUBSTRUCTURE REPAIRS.
BRIDGE NO. 030081: SILANE DECK TREATMENT, JOINT REPLACEMENT, AND SUBSTRUCTURE REPAIRS.



VICINITY MAP – MONTGOMERY & STANLY CO.



VICINITY MAP – ANSON & RICHMOND CO.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DESIGN DATA

MONTGOMERY COUNTY
BRIDGE NO. 610006 ADT 2017 = 2,500

ANSON COUNTY
BRIDGE NO. 030078 ADT 2017 = 9,000
BRIDGE NO. 030081 ADT 2017 = 9,000

PROJECT LENGTH

MONTGOMERY COUNTY
BRIDGE NO. 610006 = 0.166 MILE

ANSON COUNTY
BRIDGE NO. 030078 = 0.300 MILE
BRIDGE NO. 030081 = 0.303 MILE

Prepared in the Office of:
DIVISION OF HIGHWAYS
STRUCTURES MANAGEMENT UNIT
1000 BIRCH RIDGE DR.
RALEIGH, N.C. 27610

2018 STANDARD SPECIFICATIONS

LETTING DATE :

FEBRUARY 15, 2022

W. KEVIN FISCHER, P.E.
PROJECT ENGINEER

K. P. SEDAI, P. E.
PROJECT DESIGN ENGINEER

PROJ.: 15BPR.21 & 15BPR.38

CONTRACT NO.: C204230

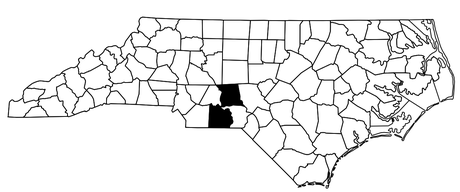
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MONTGOMERY & ANSON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	15BPR.21	1A	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
15BPR.21		P.E.	
15BPR.21		CONST.	
N.C.	15BPR.38	1A	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
15BPR.38		P.E.	
15BPR.38		CONST.	

LOCATION: ***BRIDGE NO. 610006 ON NC 731 OVER PEE DEE RIVER***
BRIDGE NO. 030078 ON US 74 EBL OVER PEE DEE RIVER
BRIDGE NO. 030081 ON US 74 WBL OVER PEE DEE RIVER

INDEX OF STRUCTURES SHEETS



TYPE OF WORK: BRIDGE PRESERVATION –
BRIDGE NO. 610006:
POLYMER CONCRETE OVERLAY, JOINT REPLACEMENT, AND SUBSTRUCTURE REPAIRS.
BRIDGE NO. 030078:
POLYMER CONCRETE OVERLAY, JOINT REPLACEMENT, CLEANING & PAINTING EXISTING BEARING ASSEMBLIES WITH HRCSA, GIRDER REPAIRS AND SUBSTRUCTURE REPAIRS.
BRIDGE NO. 030081:
SILANE DECK TREATMENT, JOINT REPLACEMENT, AND SUBSTRUCTURE REPAIRS.

Prepared In the Office of:
DIVISION OF HIGHWAYS
STRUCTURES MANAGEMENT UNIT
1000 BIRCH RIDGE DR.
RALEIGH, N.C. 27610

TOTAL BILL OF MATERIAL

BRIDGE NO.	INCIDENTAL MILLING	ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C	ASPHALT BINDER FOR PLANT MIX	GROOVING BRIDGE FLOORS	POLLUTION CONTROL	CLASS II SURFACE PREPARATION	CONCRETE REPAIRS	SHOTCRETE REPAIRS	EPOXY RESIN INJECTION	PAINTING CONTAINMENT FOR BRIDGE NO.__	REPAIR OF EXISTING DECK DRAINS	FOAM JOINT SEALS FOR PRESERVATION	POURABLE SILICONE JOINT SEALANT	PREFORMED SILICONE EXPANSION JOINT SEALS	POLYESTER POLYMER CONCRETE MATERIALS	EPOXY POLYMER CONCRETE MATERIALS (ALTERNATE)	ELASTOMERIC CONCRETE FOR PRESERVATION	REPAIRS TO PRESTRESSED CONCRETE GIRDERS	BRIDGE JOINT DEMOLITION
	SQ. YDS.	TONS	TONS	SQ. FT.	LUMP SUM	SQ. YDS.	CU. FT.	CU. FT.	LIN. FT.	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	CU. YDS.	CU. YDS.	CU. FT.	CU. FT.	SQ. FT.
610006	-	-	-	29778.0	-	21.3	-	81.7	108.0	-	-	72.0	48.0	36.0	151.8	151.8	-	-	-
030078	1000.0	90.0	10.0	39562.6	LUMP SUM	78.0	7.6	54.7	2.0	LUMP SUM	-	863.2	-	-	204.4	204.4	-	68.8	-
030081	-	-	-	-	-	-	6.3	13.9	1.0	-	LUMP SUM	280.0	48.0	80.0	-	-	20.0	-	80.0
TOTALS	1000.0	90.0	10.0	69340.6	LUMP SUM	99.3	13.9	150.3	111.0	LUMP SUM	LUMP SUM	1215.2	96.0	116.0	356.2	356.2	20.0	68.8	80.0

TOTAL BILL OF MATERIAL

BRIDGE NO.	EPOXY COATING	CONCRETE DECK REPAIR FOR POLYMER CONCRETE OVERLAY	PLACING & FINISHING POLYMER CONCRETE OVERLAY	SCARIFYING BRIDGE DECK	SHOTBLASTING BRIDGE DECK	SILANE DECK TREATMENT	CLEANING AND PAINTING EXISTING BEARINGS WITH HIGH RATIO CALCIUM SULFONATE	STEEL BEARING KEEPER ANGLE ASSEMBLY
	SQ. FT.	SQ. YDS.	SQ. YDS.	SQ. YDS.	SQ. YDS.	SQ. YDS.	EA.	EA.
610006	1406.0	21.3	3637.4	3637.4	3637.4	-	-	1
030078	2116.2	78.0	4922.1	4922.1	4922.1	-	252	-
030081	20.4	-	-	-	7250.1	7250.1	-	-
TOTALS	3542.6	99.3	8559.5	8559.5	15809.6	7250.1	252	1

PROJECT NO. 15BPR.21 & 15BPR.38

MONTGOMERY & ANSON COUNTY

BRIDGE NO. 610006, 030078 & 030081

DocuSigned by:
Krishna P. Sedai
EA6F794155...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TOTAL BILL OF MATERIAL

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

DRAWN BY : M. G. SHAIKH DATE : 01/2019
CHECKED BY : K. P. SEDAI DATE : 02/2019

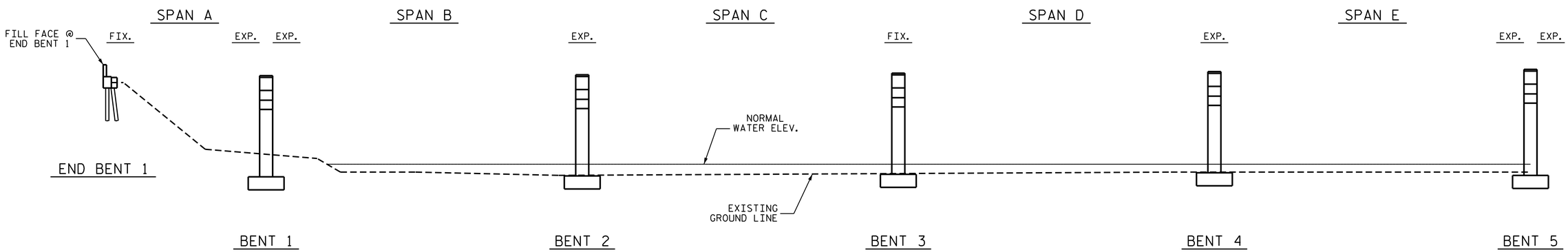
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

08-OCT-2021 09:05
X:\15BPR21\Structures\FinalPlans\400_005_15BPR21_15BPR38_SMU_ BOM.dgn
ksedai

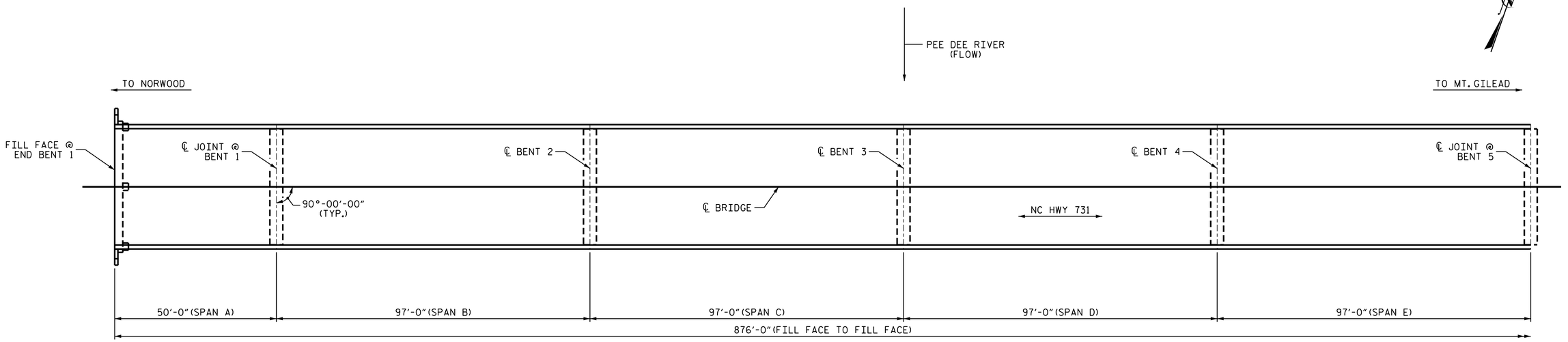
NOTES

GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 05/08/2018.

BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.



SECTION ALONG ℄ ROADWAY



PLAN

SCOPE OF WORK

- PREPARE AND REPAIR PRESTRESSED GIRDER REPAIR AREAS.
- EPOXY INJECTION OF CONCRETE CRACKS.
- REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE SHOTCRETE AND CONCRETE REPAIR AREAS.
- PERFORM SHOTCRETE AND CONCRETE REPAIRS IN PREPARED AREAS.
- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS.
- OVERLAY PREPARED BRIDGE DECK WITH POLYMER CONCRETE (PC).
- GROOVE PC BRIDGE DECK.
- REMOVE DEBRIS FROM TOP OF BENT CAPS AND STRUTS, AND APPLY EPOXY COATING.

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

RESIDENT ENGINEER DATE

DocuSigned by: Kevin Fischer ED19A1...
NORTH CAROLINA PROFESSIONAL SEAL 30878 ENGINEER W. KEVIN FISCHER
11/17/2021

DocuSigned by: Krishna P. Sedai EA6F794...
NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI
11/18/2021

PROJECT NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

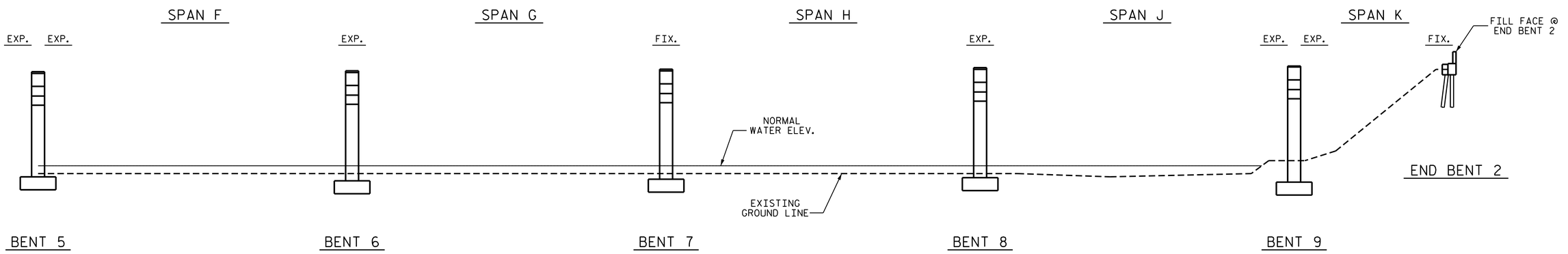
GENERAL DRAWING
FOR BRIDGE ON
NC 731 OVER
PEE DEE RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-1
1			3			TOTAL SHEETS
2			4			34

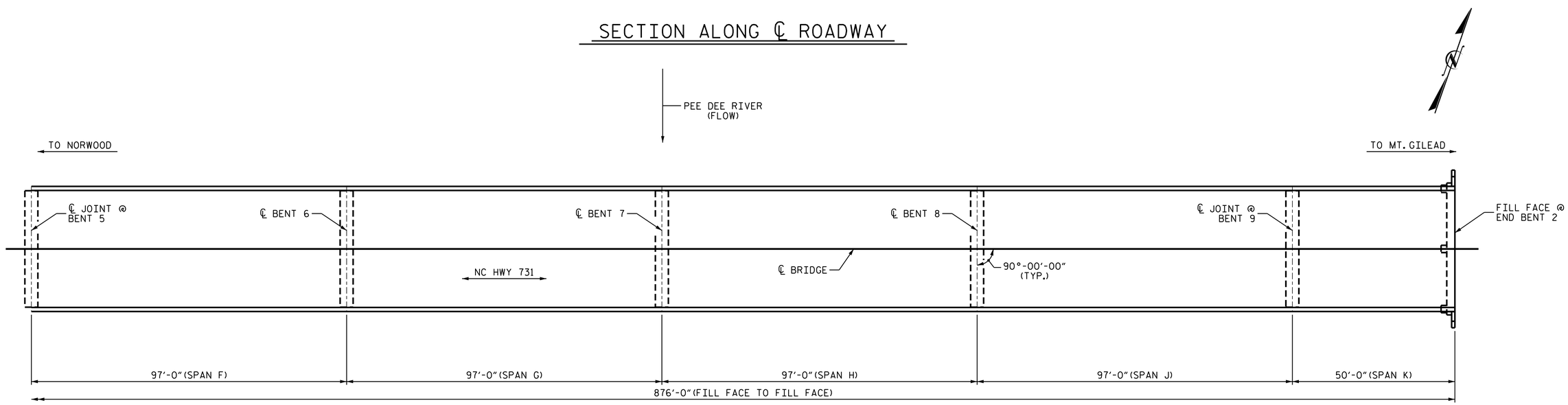
DRAWN BY : R.L.PUTEK DATE : 4/2018
CHECKED BY : A. SORSENGINH DATE : 12/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_001_15BPR21_SMU_GD_001_610006.dgn
ksedai



SECTION ALONG ℄ ROADWAY



PLAN

PROJECT NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

SHEET 2 OF 3

DocuSigned by: Kevin Fischer ED19A1...
NORTH CAROLINA PROFESSIONAL SEAL 30878 ENGINEER W. KEVIN FISCHER
11/17/2021

DocuSigned by: Krishna P. Sedai EA6F7941...
NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI
11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON
NC 731 OVER
PEE DEE RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-2
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : R.L.PUTEK DATE : 4/2018
CHECKED BY : A. SORSENGINH DATE : 12/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_003_15BPR21_SMU_GD_002_610006.dgn
ksedai

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.

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

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

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

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

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

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

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

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATION OF BRIDGE DECK.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR PREFORMED SILICONE EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

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

FOR STEEL BEARING KEEPER ANGLE ASSEMBLY, SEE SPECIAL PROVISIONS.

WORK ON BRIDGE SHALL BE PREFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS.

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

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

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

BRIDGE COORDINATES

LAT: 35.200700
LONG: -80.061828

TOTAL BILL OF MATERIAL

BRIDGE NO. 6	GROOVING BRIDGE FLOORS	CLASS II SURFACE PREPARATION	SHOTCRETE REPAIRS	EPOXY RESIN INJECTION	PREFORMED SILICONE EXPANSION JOINT SEALS	FOAM JOINT SEALS FOR PRESERVATION	POURABLE SILICONE JOINT SEALANT	POLYESTER POLYMER CONCRETE MATERIALS	EPOXY POLYMER CONCRETE MATERIALS (ALTERNATE)	EPOXY COATING	CONCRETE DECK REPAIR FOR POLYMER CONCRETE OVERLAY	PLACING & FINISHING POLYMER CONCRETE OVERLAY	SCARIFYING BRIDGE DECK	SHOTBLASTING BRIDGE DECK	STEEL BEARING KEEPER ANGLE ASSEMBLY
	SQ. FT.	SQ. YDS.	CU. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	CU. YDS.	CU. YDS.	SQ. FT.	SQ. YDS.	SQ. YDS.	SQ. YDS.	SQ. YDS.	EA.
TOTALS	29778.0	21.3	81.7	108.0	36.0	72.0	48.0	151.8	151.8	1406.0	21.3	3637.4	3637.4	3637.4	1

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

UNANTICIPATED ITEMS:

ITEM NO	DESCRIPTION	UNIT
1	CONCRTE REPAIRS	CU. FT.

DocuSigned by:
Krishna P. Sedai
EA6F794155...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

PROJ. NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON
NC 731 OVER
PEE DEE RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-3
1			3			TOTAL SHEETS
2			4			34

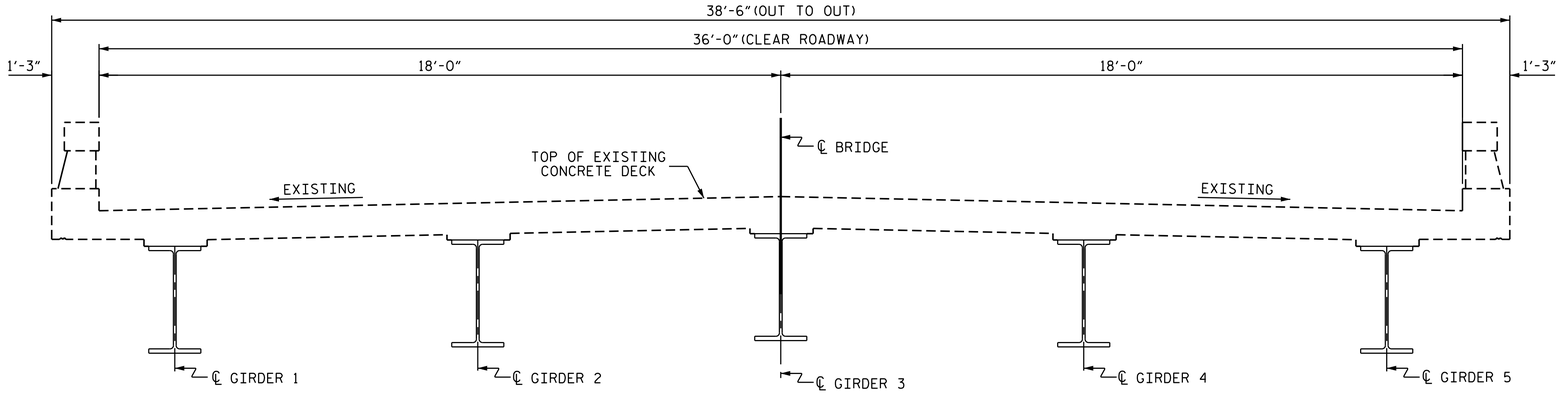
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : A. SORSENGINH DATE : 12/2018
CHECKED BY : R. L. PUTEK DATE : 12/2018

08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_005_15BPR21_SMU_ LS_003_610006.dgn
ksedai

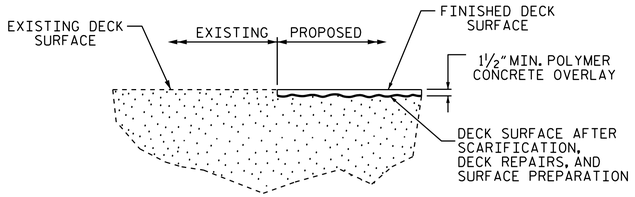
NOTE:

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

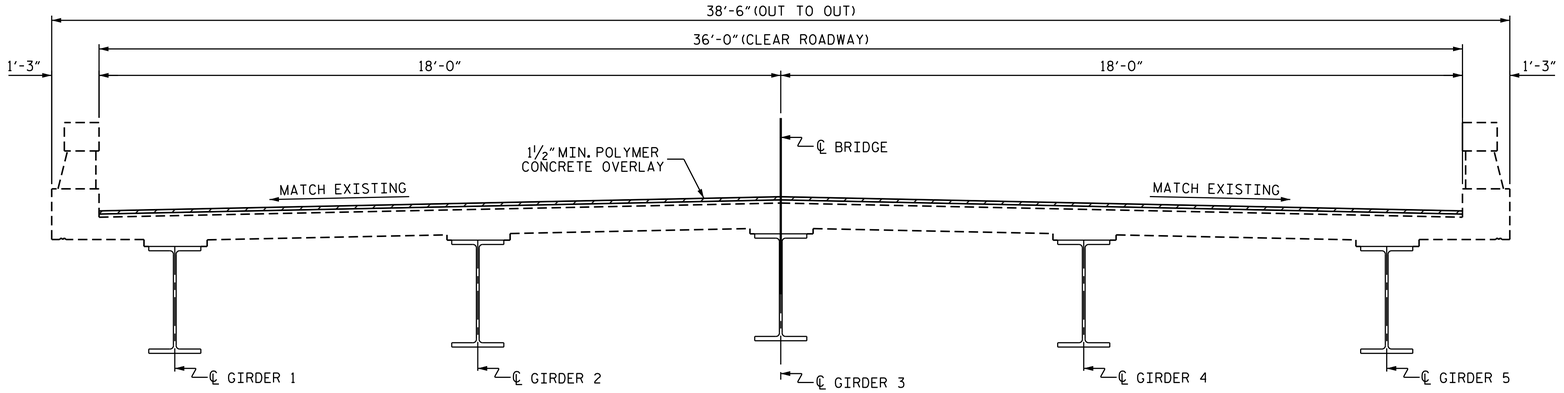


TYPICAL SECTION

(EXISTING)

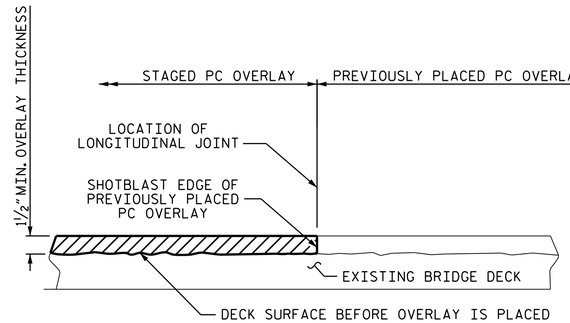


DETAIL OF POLYMER CONCRETE OVERLAY



TYPICAL SECTION

(PROPOSED)



STAGED POLYMER CONCRETE (PC) OVERLAY JOINT

(AS NEEDED)

PROJECT NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA8F7B4...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION & POLYMER CONCRETE OVERLAY DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-4
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : A. SORSENGINH DATE : 12/2018

CHECKED BY : E. BAYISSA DATE : 12/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

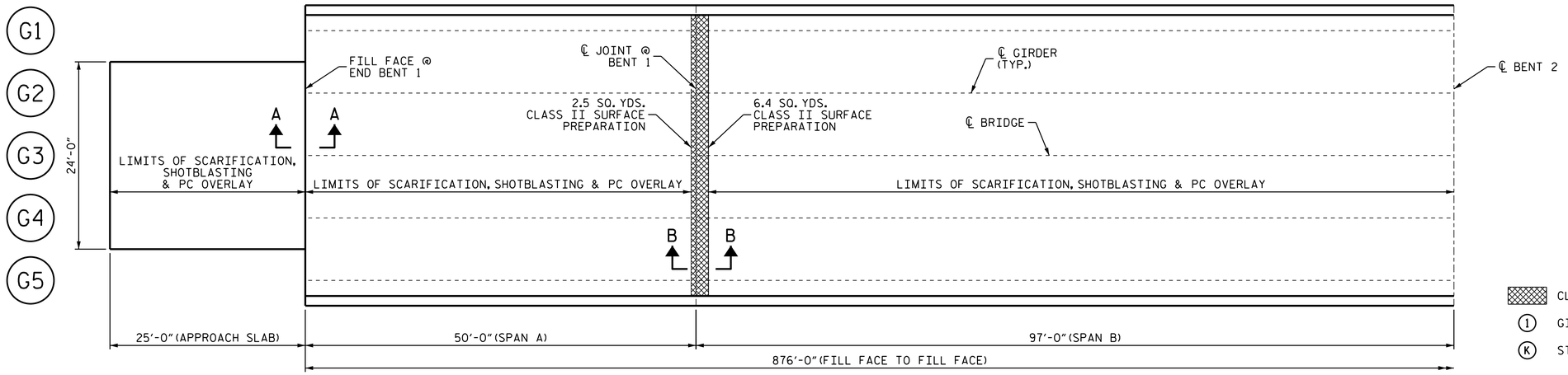
08-OCT-2021 09:05
X:\15BPR21\Structures\FinalPlans\401_007_15BPR21_SMU_TS_004_610006.dgn
ksedai

NOTES

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

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

FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.



SPANS A & B

CLASS II SURFACE PREPARATION

(1) GIRDER NUMBER

(K) STEEL BEARING KEEPER ANGLE ASSEMBLY

AS-BUILT REPAIR QUANTITY TABLE

APPROACH SLAB REPAIRS			TOP OF DECK REPAIRS SPAN A			TOP OF DECK REPAIRS SPAN B		
	ESTIMATE	ACTUAL		ESTIMATE	ACTUAL		ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	66.7 SQ. YDS.		SCARIFYING BRIDGE DECK	200.0 SQ. YDS.		SCARIFYING BRIDGE DECK	388.0 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	66.7 SQ. YDS.		SHOTBLASTING BRIDGE DECK	200.0 SQ. YDS.		SHOTBLASTING BRIDGE DECK	388.0 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	0.0 SQ. YDS.		CLASS II SURFACE PREPARATION	2.5 SQ. YDS.		CLASS II SURFACE PREPARATION	6.4 SQ. YDS.	
POLYMER CONCRETE MATERIALS	2.8 CU. YDS.		CONCRETE DECK REPAIR FOR PC OVERLAY	2.5 SQ. YDS.		CONCRETE DECK REPAIR FOR PC OVERLAY	6.4 SQ. YDS.	
PLACING & FINISHING PC OVERLAY	66.7 SQ. YDS.		POLYMER CONCRETE MATERIALS	8.3 CU. YDS.		POLYMER CONCRETE MATERIALS	16.2 CU. YDS.	
POURABLE SILICONE JOINT SEALANT	24.0 LIN. FT.		PLACING & FINISHING PC OVERLAY	200.0 SQ. YDS.		PLACING & FINISHING PC OVERLAY	388.0 SQ. YDS.	
GROOVING BRIDGE FLOOR	507.0 SQ. FT.		FOAM JOINT SEALS FOR PRESERVATION	36.0 LIN. FT.		GROOVING BRIDGE FLOOR	3180.0 SQ. FT.	
			GROOVING BRIDGE FLOOR	1620.0 SQ. FT.				

PROJECT NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

SHEET 1 OF 5

DocuSigned by:
Krishna P. Sedai
EA8F794...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPANS
SPANS A & B

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-5
1			3			TOTAL SHEETS
2			4			34

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

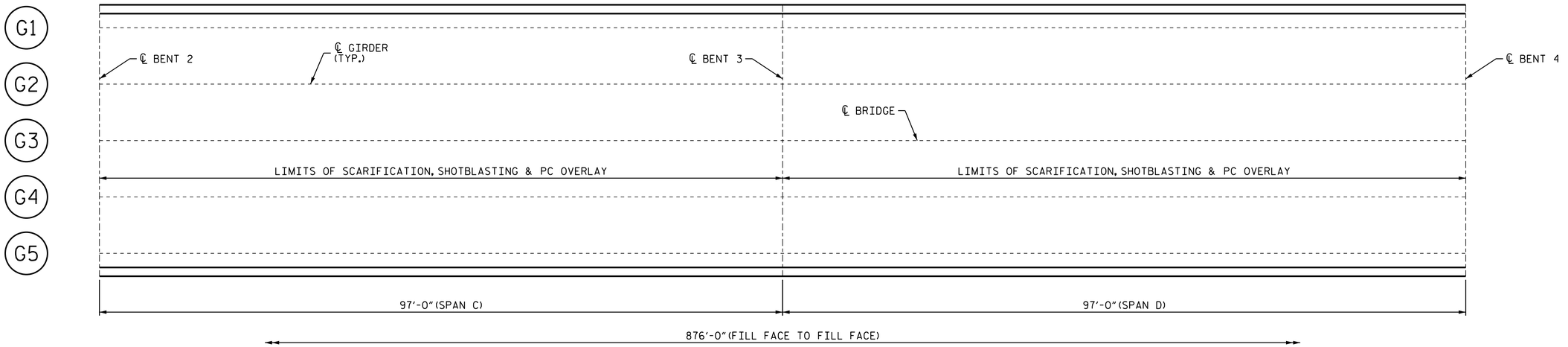
DRAWN BY : R.L.PUTEK DATE : 12/2018

CHECKED BY : E.BAYISSA DATE : 12/2018

08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_009_15BPR21_SMU_S1-S2_005_610006.dgn
ksedai

NOTES

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



SPANS C & D

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS SPAN C			TOP OF DECK REPAIRS SPAN D		
	ESTIMATE	ACTUAL		ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	388.0 SQ. YDS.		SCARIFYING BRIDGE DECK	388.0 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	388.0 SQ. YDS.		SHOTBLASTING BRIDGE DECK	388.0 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	0.0 SQ. YDS.		CONCRETE DECK REPAIR FOR PC OVERLAY	0.0 SQ. YDS.	
POLYMER CONCRETE MATERIALS	16.2 CU. YDS.		POLYMER CONCRETE MATERIALS	16.2 CU. YDS.	
PLACING & FINISHING PC OVERLAY	388.0 SQ. YDS.		PLACING & FINISHING PC OVERLAY	388.0 SQ. YDS.	
GROOVING BRIDGE FLOOR	3201.0 SQ. FT.		GROOVING BRIDGE FLOOR	3201.0 SQ. FT.	

CLASS II SURFACE PREPARATION

(1) GIRDER NUMBER

(K) STEEL BEARING KEEPER ANGLE ASSEMBLY

PROJECT NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

SHEET 2 OF 5

DocuSigned by:
Krishna P. Sedai
EA6F7941...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPANS
SPANS C & D

DRAWN BY : R.L.PUTEK DATE : 12/2018
CHECKED BY : E.BAYISSA DATE : 12/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-6
1			3			TOTAL SHEETS
2			4			34

08-OCT-2021 09:05
X:\15BPR21\Structures\FinalPlans\401_011_15BPR21_SMU_S3-S4_006_610006.dgn
ksedai

NOTES

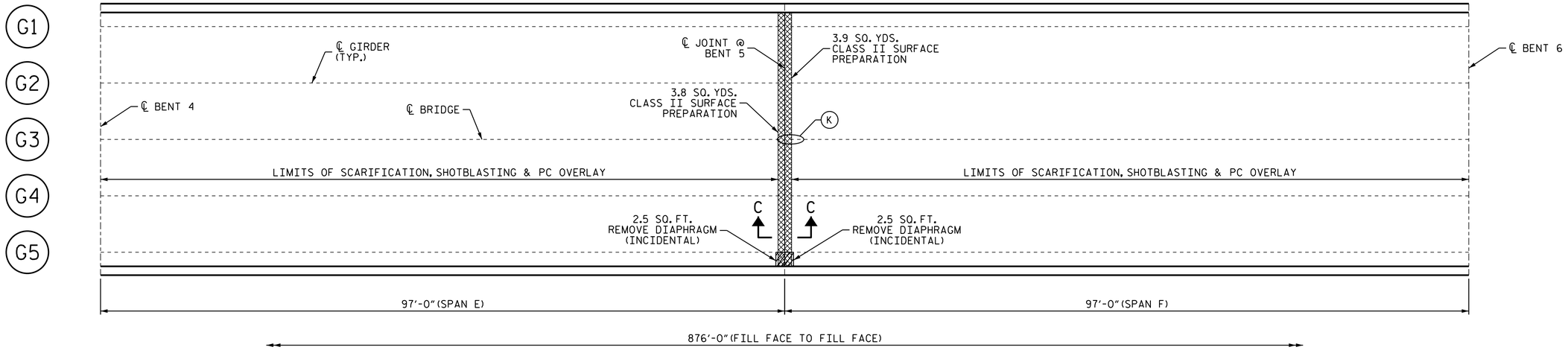
REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES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

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

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

FOR PREFORMED SILICONE EXPANSION JOINT SEALS, SEE "JOINT DETAILS" SHEET.

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



SPANS E & F

REMOVE DIAPHRAGM

CLASS II SURFACE PREPARATION

(1) GIRDER NUMBER

(K) STEEL BEARING KEEPER ANGLE ASSEMBLY

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS SPAN E			TOP OF DECK REPAIRS SPAN F		
	ESTIMATE	ACTUAL		ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	388.0 SQ. YDS.		SCARIFYING BRIDGE DECK	388.0 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	388.0 SQ. YDS.		SHOTBLASTING BRIDGE DECK	388.0 SQ. YDS.	
CLASS II SURFACE PREPARATION	3.8 SQ. YDS.		CLASS II SURFACE PREPARATION	3.9 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	3.8 SQ. YDS.		CONCRETE DECK REPAIR FOR PC OVERLAY	3.9 SQ. YDS.	
POLYMER CONCRETE MATERIALS	16.2 CU. YDS.		POLYMER CONCRETE MATERIALS	16.2 CU. YDS.	
PLACING & FINISHING PC OVERLAY	388.0 SQ. YDS.		PLACING & FINISHING PC OVERLAY	388.0 SQ. YDS.	
GROOVING BRIDGE FLOOR	3180.0 SQ. FT.		GROOVING BRIDGE FLOOR	3180.0 SQ. FT.	
PREFORMED SILICONE EXPANSION JOINT SEALS	36.0 LIN. FT.		STEEL BEARING KEEPER ANGLE ASSEMBLY	1 EA.	

PROJECT NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

SHEET 3 OF 5

DocuSigned by:
Krishna P. Sedai
EA6F7041...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPANS
SPANS E & F

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-7
1			3			TOTAL SHEETS
2			4			34

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

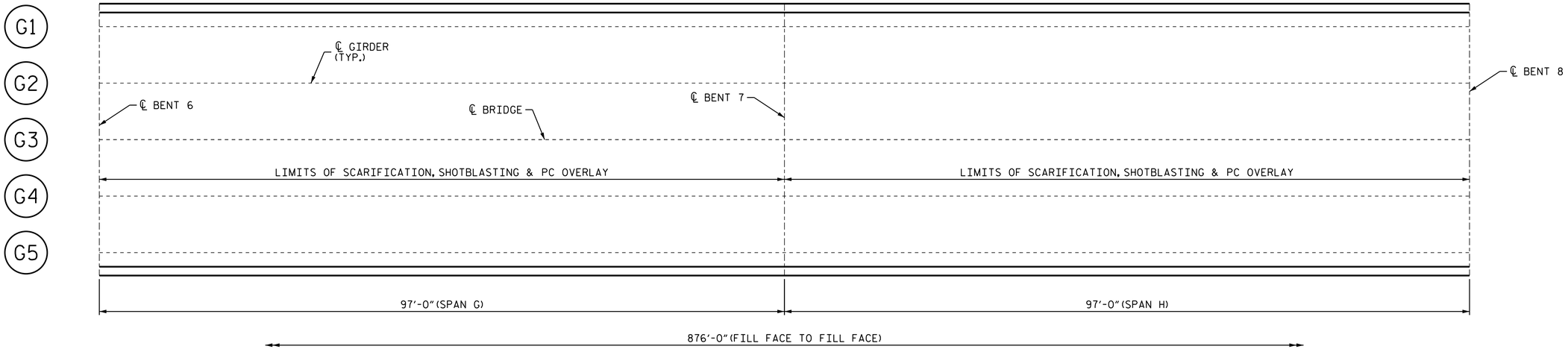
DRAWN BY : R.L.PUTEK DATE : 12/2018

CHECKED BY : E.BAYISSA DATE : 12/2018

17-NOV-2021 08:26
X:\15BPR21\Structures\Final Plans\401_013_15BPR21_SMU_S5-S6_007_610006.dgn
ksedai

NOTES

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



876'-0" (FILL FACE TO FILL FACE)

SPANS G & H

CLASS II SURFACE PREPARATION

(1) GIRDER NUMBER

(K) STEEL BEARING KEEPER ANGLE ASSEMBLY

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS SPAN G			TOP OF DECK REPAIRS SPAN H		
	ESTIMATE	ACTUAL		ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	388.0 SQ. YDS.		SCARIFYING BRIDGE DECK	388.0 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	388.0 SQ. YDS.		SHOTBLASTING BRIDGE DECK	388.0 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	0.0 SQ. YDS.		CONCRETE DECK REPAIR FOR PC OVERLAY	0.0 SQ. YDS.	
POLYMER CONCRETE MATERIALS	16.2 CU. YDS.		POLYMER CONCRETE MATERIALS	16.2 CU. YDS.	
PLACING & FINISHING PC OVERLAY	388.0 SQ. YDS.		PLACING & FINISHING PC OVERLAY	388.0 SQ. YDS.	
GROOVING BRIDGE FLOOR	3201.0 SQ. FT.		GROOVING BRIDGE FLOOR	3201.0 SQ. FT.	

PROJECT NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

SHEET 4 OF 5

DocuSigned by:
Krishna P. Sedai
EA6F7941500...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPANS
SPANS G & H

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-8
1			3			TOTAL SHEETS
2			4			34

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : R.L.PUTEK DATE : 12/2018

CHECKED BY : E.BAYISSA DATE : 12/2018

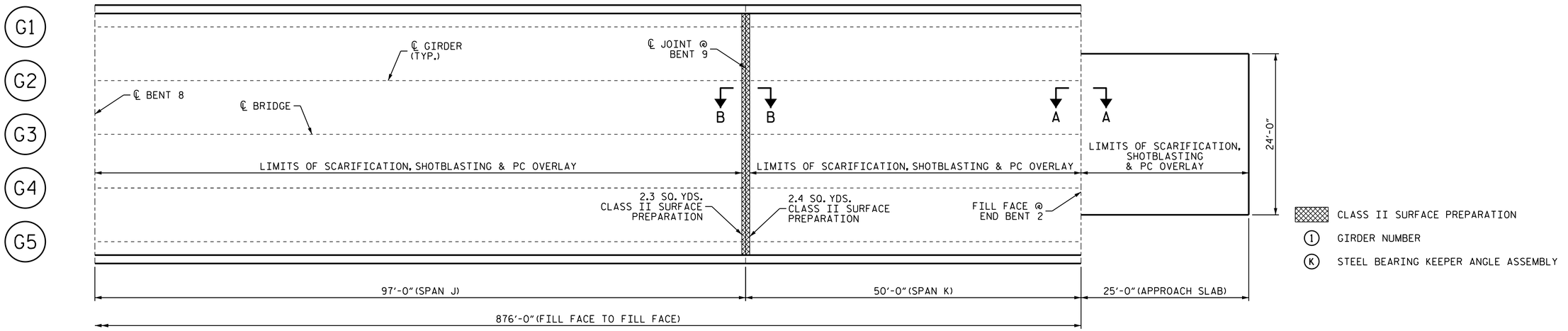
08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_015_15BPR21_SMU_S7-S8_008_610006.dgn
ksedal

NOTES

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

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

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE "JOINT DETAILS" SHEET.



SPANS J & K

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS SPAN J			TOP OF DECK REPAIRS SPAN K			APPROACH SLAB REPAIRS		
	ESTIMATE	ACTUAL		ESTIMATE	ACTUAL		ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	388.0 SQ. YDS.		SCARIFYING BRIDGE DECK	200.0 SQ. YDS.		SCARIFYING BRIDGE DECK	66.7 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	388.0 SQ. YDS.		SHOTBLASTING BRIDGE DECK	200.0 SQ. YDS.		SHOTBLASTING BRIDGE DECK	66.7 SQ. YDS.	
CLASS II SURFACE PREPARATION	2.3 SQ. YDS.		CLASS II SURFACE PREPARATION	2.4 SQ. YDS.		CONCRETE DECK REPAIR FOR PC OVERLAY	0.0 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	2.3 SQ. YDS.		CONCRETE DECK REPAIR FOR PC OVERLAY	2.4 SQ. YDS.		POLYMER CONCRETE MATERIALS	2.8 CU. YDS.	
POLYMER CONCRETE MATERIALS	16.2 CU. YDS.		POLYMER CONCRETE MATERIALS	8.3 CU. YDS.		PLACING & FINISHING PC OVERLAY	66.7 SQ. YDS.	
PLACING & FINISHING PC OVERLAY	388.0 SQ. YDS.		PLACING & FINISHING PC OVERLAY	200.0 SQ. YDS.		POURABLE SILICONE JOINT SEALANT	24.0 LIN. FT.	
FOAM JOINT SEALS FOR PRESERVATION	36.0 LIN. FT.		GROOVING BRIDGE FLOOR	1620.0 SQ. FT.		GROOVING BRIDGE FLOOR	507.0 SQ. FT.	
GROOVING BRIDGE FLOOR	3180.0 SQ. FT.							

PROJECT NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006

SHEET 5 OF 5

DocuSigned by:
Krishna P. Sedai
EA6F794155...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

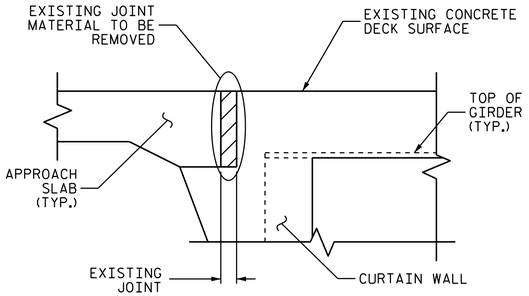
PLAN OF SPANS
SPANS J & K

DRAWN BY : R.L.PUTEK DATE : 12/2018
CHECKED BY : E.BAYISSA DATE : 12/2018

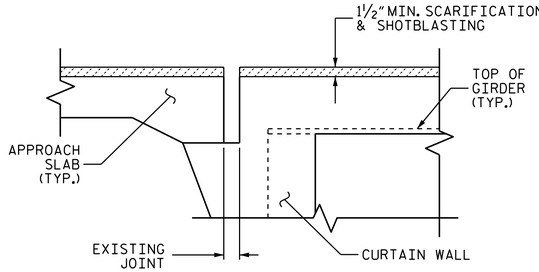
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-9
1			3			TOTAL SHEETS
2			4			34

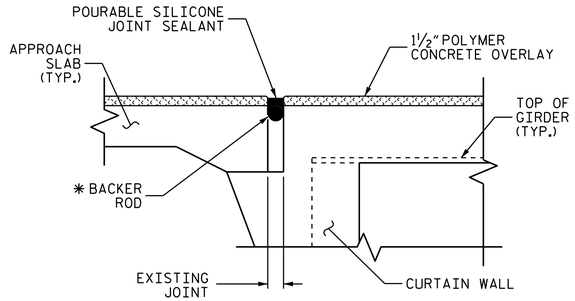
08-OCT-2021 09:05
X:\15BPR21\Structures\FinalPlans\401_017_15BPR21_SMU_S9-S10_009_610006.dgn
ksedai



SECTION A-A
(EXISTING JOINT)

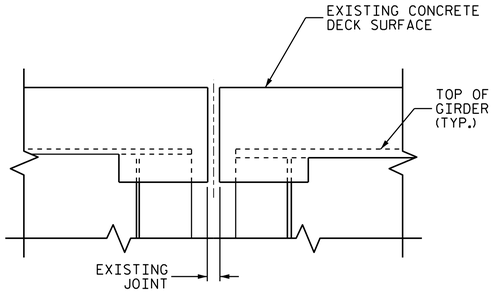


SECTION A-A

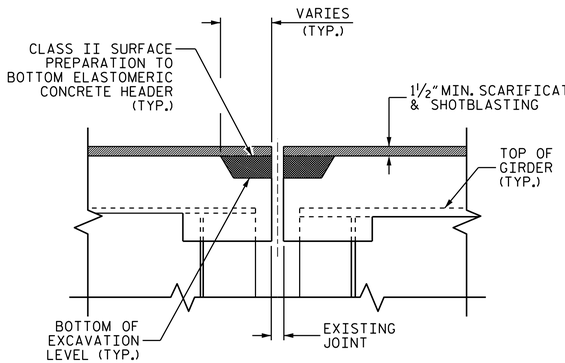


SECTION A-A

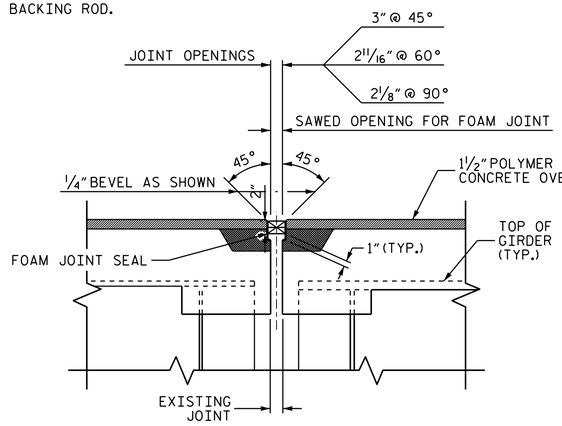
* CONTRACTOR TO FIELD VERIFY WIDTH OF EXISTING JOINT AT APPROACH SLABS FOR INSTALLATION OF THE PROPER SIZE BACKING ROD.



SECTION B-B
(EXISTING JOINT)

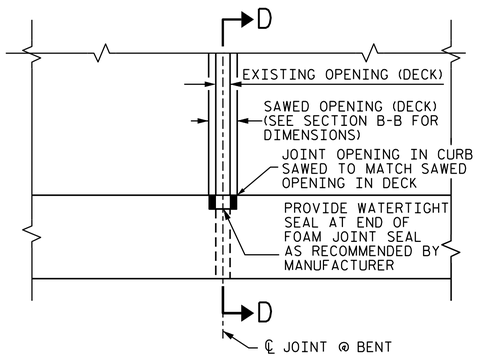


SECTION B-B
(JOINT AFTER 1½" SCARIFICATION AND CLASS II SURFACE PREPARATION)



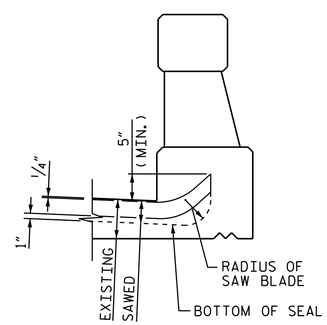
SECTION B-B
(JOINT @ BENT 1 SHOWN, JOINT @ BENT 9 SIMILAR)

POURABLE SILICONE JOINT SEALANT	
END BENT 1	24.0 LIN. FT.
END BENT 2	24.0 LIN. FT.
FOAM JOINT SEALS FOR PRESERVATION	
BENT 1	36.0 LIN. FT.
BENT 9	36.0 LIN. FT.



PLAN

JOINT SEAL DETAILS



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

NOTES

FOAM JOINTS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.

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

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

THE INSTALLED FOAM JOINTS SHALL BE WATER TIGHT.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

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

FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING THE BACKER ROD.

THE BACKER ROD SHALL MEET THE MANUFACTURER'S RECOMMENDATION FOR THE SIZE OF THE JOINT OPENING.

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL BASED ON JOINT OPENINGS AT THE BENTS 1 AND 9.

PROJECT NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006

SHEET 1 OF 2

DocuSigned by: Krishna P. Sedai EA8F7F4...
NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI
11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

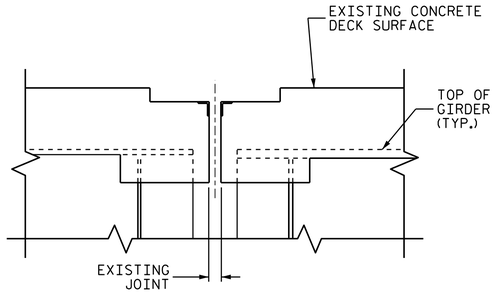
JOINT DETAILS

DRAWN BY : R.L.PUTEK DATE : 12/2018
CHECKED BY : E. A. BAYISSA DATE : 12/2018

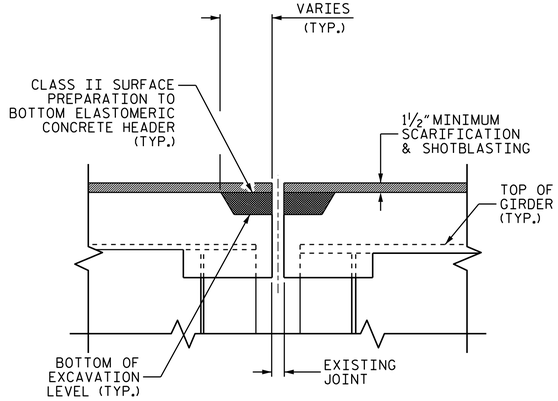
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-10
1			3			TOTAL SHEETS
2			4			34

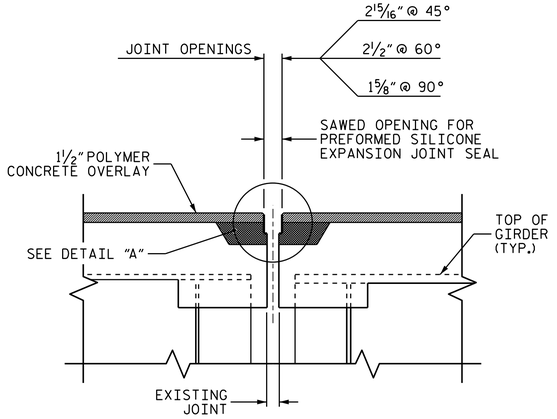
08-OCT-2021 09:05
X:\15BPR21\Structures\FinalPlans\401_019_15BPR21_SMU_JD1_010_610006.dgn
ksedai



SECTION C-C
(EXISTING JOINT)



SECTION C-C
(JOINT AFTER 1½" SCARIFICATION AND CLASS II SURFACE PREPARATION)



SECTION C-C
(PROPOSED JOINT)

NOTES

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

THE ENGINEER WILL REVIEW EXISTING DECK CONDITIONS. THE CONTRACTOR SHALL REMOVE UNSOUND CONCRETE IN THE DECK, OR AS DIRECTED BY THE ENGINEER.

REMOVE BRIDGE DECK CONCRETE TO THE EXTENT NECESSARY TO REMOVE EXISTING JOINT. INTRODUCE A PARTIAL DEPTH SAWCUT NOT EXCEEDING 1" IN DEPTH. FOLLOWED BY CONCRETE REMOVAL WITHOUT DAMAGE TO EXISTING REINFORCING STEEL AND EXISTING GIRDERS.

RETAIN BRIDGE DECK REINFORCING STEEL. STRAIGHTEN, REPAIR, OR REPLACE REINFORCING STEEL, AS NECESSARY.

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN THE DETAILS BY MORE THAN ¼", NOTIFY THE ENGINEER.

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

JOINT SEALS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

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

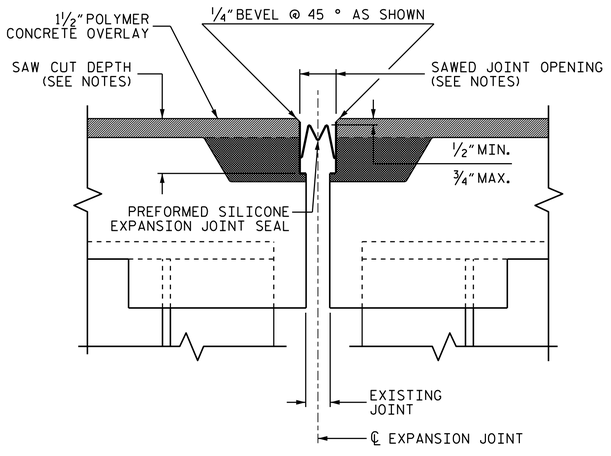
THE CONTRACTOR SHALL NOT BE PERMITTED TO FORM JOINTS IN LIEU OF SAWING THE JOINT.

THE INSTALLED JOINT SEALS SHALL BE WATER TIGHT.

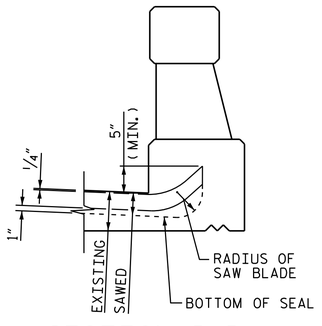
FOR PREFORMED SILICONE EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.

PREFORMED SILICONE EXPANSION JOINT SEAL

(FOR BENT 5)



DETAIL "A"



SECTION D-D
(PREFORMED SILICONE EXPANSION JOINT SEAL)

PREFORMED SILICONE EXPANSION JOINT SEALS	
BENT 5	36.0 LIN. FT.

PROJECT NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006
SHEET 2 OF 2

DocuSigned by:
Krishna P. Sedai
EA6F7941...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

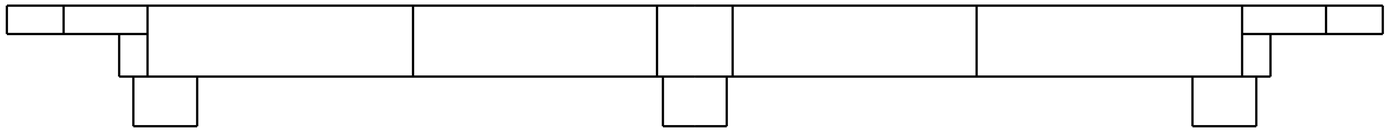
JOINT DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-11
1			3			TOTAL SHEETS
2			4			34

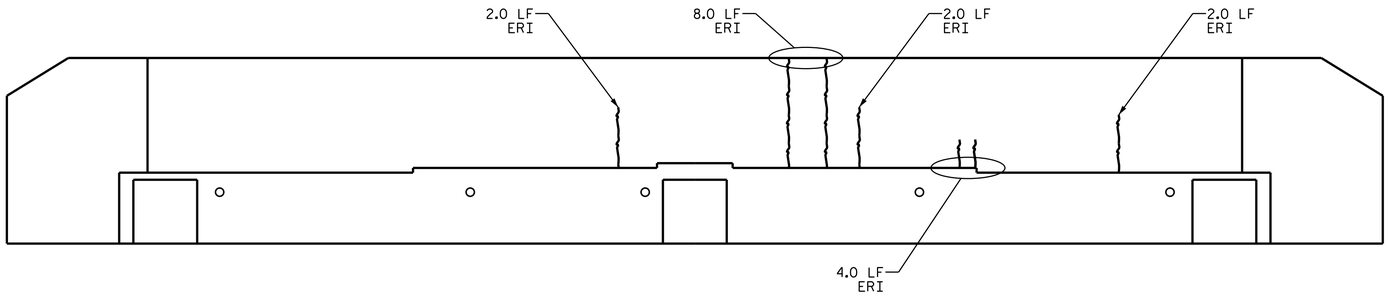
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : R.L.PUTEK DATE : 12/2018
CHECKED BY : E. A. BAYISSA DATE : 12/2018

08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_021_15BPR21_SMU_JD2_011_610006.dgn
ksedai



PLAN



ELEVATION

AS-BUILT REPAIR QUANTITY TABLE

END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		0.0		
CURTAIN WALL		18.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
CAP		58.0		

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

NOTES:

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

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7041...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

END BENT 1

DRAWN BY : M.WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

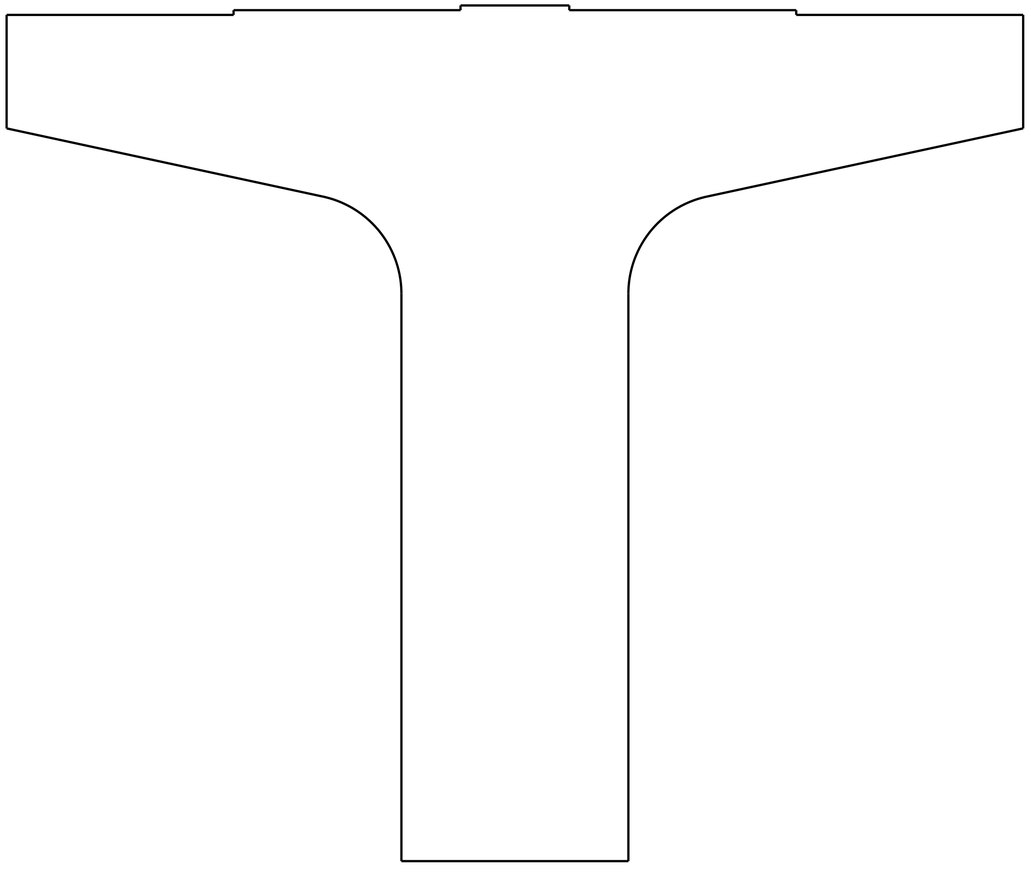
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-12
1			3			TOTAL SHEETS
2			4			34

08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_023_15BPR21_SMU_EB1_012_610006.DGN
ksedai

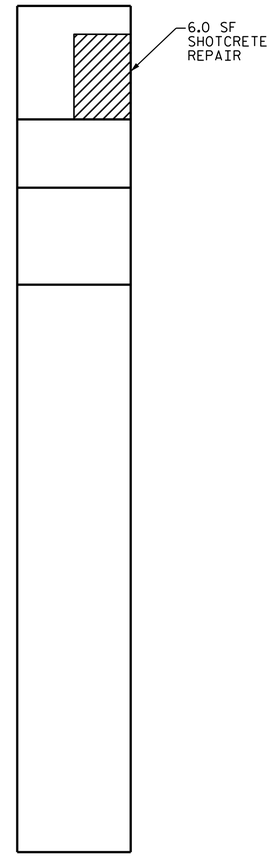
SPAN B
SPAN A

TOP OF CAP



ELEVATION

SPAN A | SPAN B



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 1 SPAN A FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	6.0	3.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
TOP OF BENT CAP		143.3		

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

NOTES:

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

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7041...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

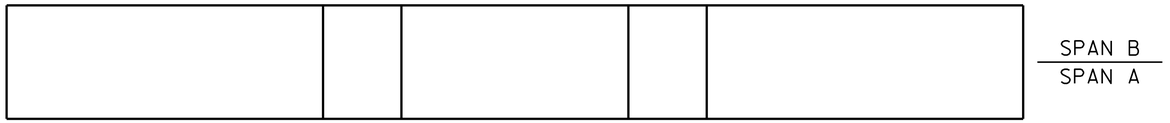
BENT 1
SPAN A FACE

DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

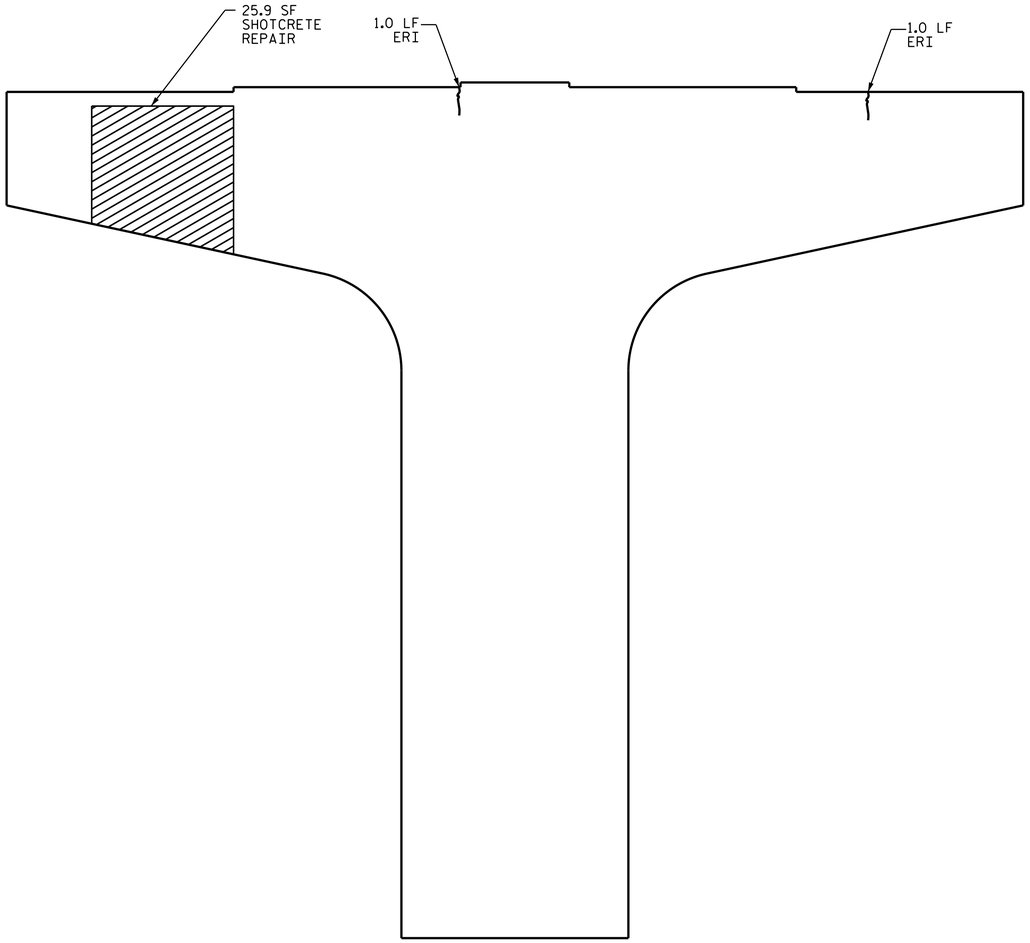
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-13
1			3			TOTAL SHEETS
2			4			34

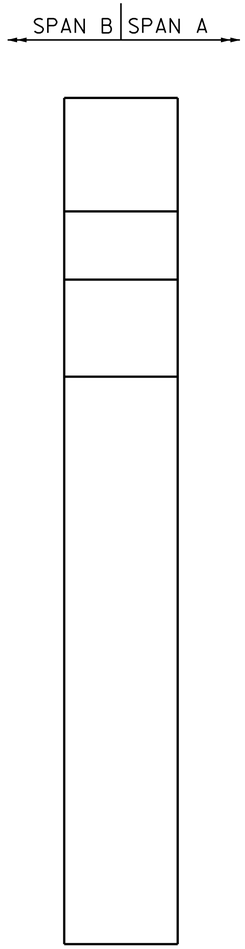
08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_025_15BPR21_SMU_B1A_013_610006.DGN
ksedai



BOTTOM OF CAP



ELEVATION



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 1 SPAN B FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	25.9	12.9		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		2.0		
COLUMN		0.0		

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

NOTES:

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7941500...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 1
SPAN B FACE

DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

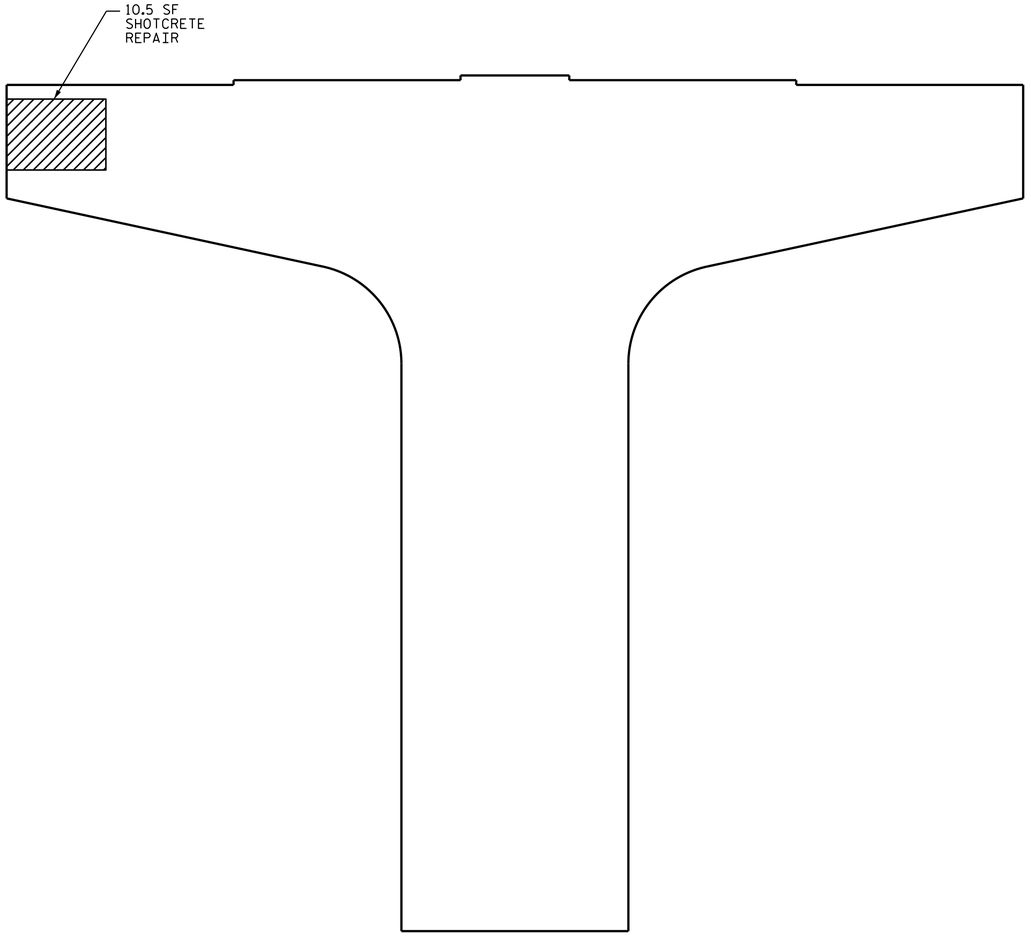
SHEET NO. S1-14

TOTAL SHEETS 34

08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_027_15BPR21_SMU_B1B_014_610006.DGN
ksedai

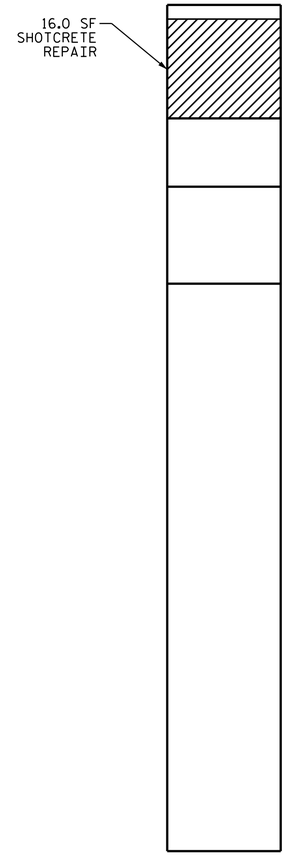
SPAN C
SPAN B

TOP OF CAP



ELEVATION

SPAN B | SPAN C



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 2 SPAN B FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	26.5	13.3		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
TOP OF BENT CAP		143.3		

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

NOTES:

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

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7041...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 2
SPAN B FACE

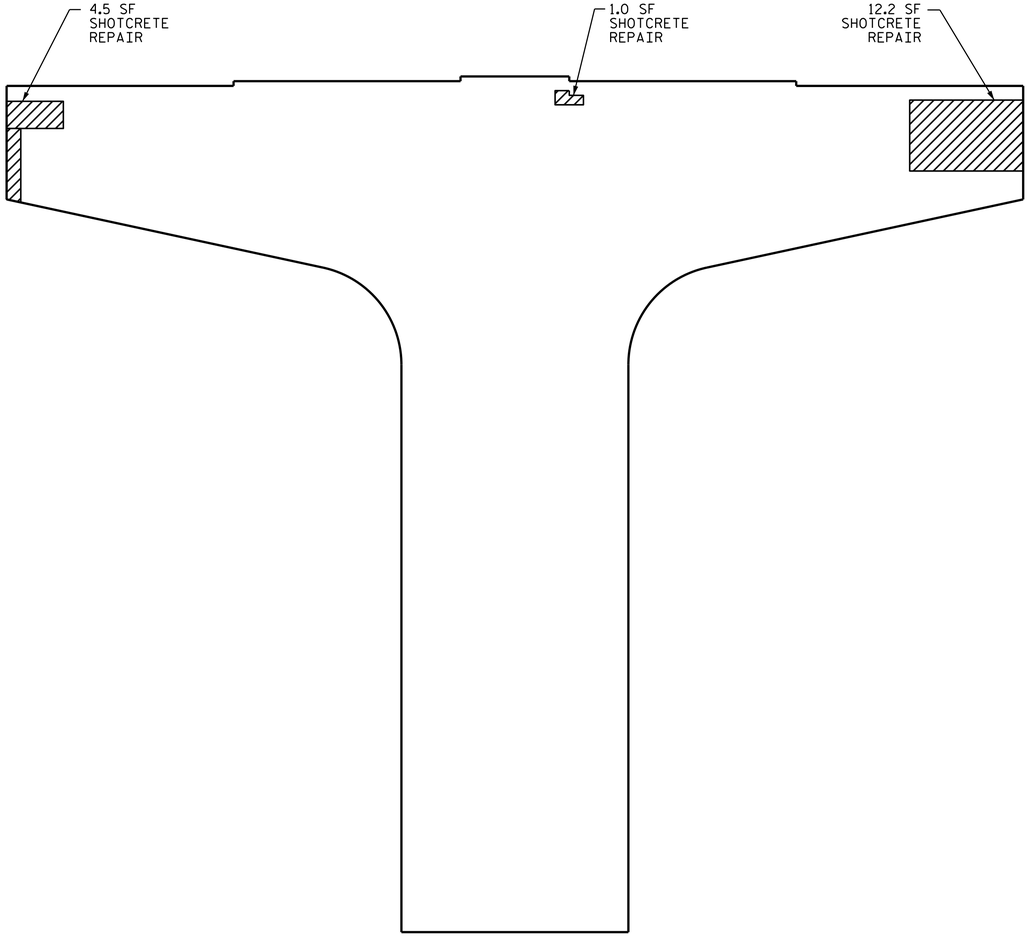
DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

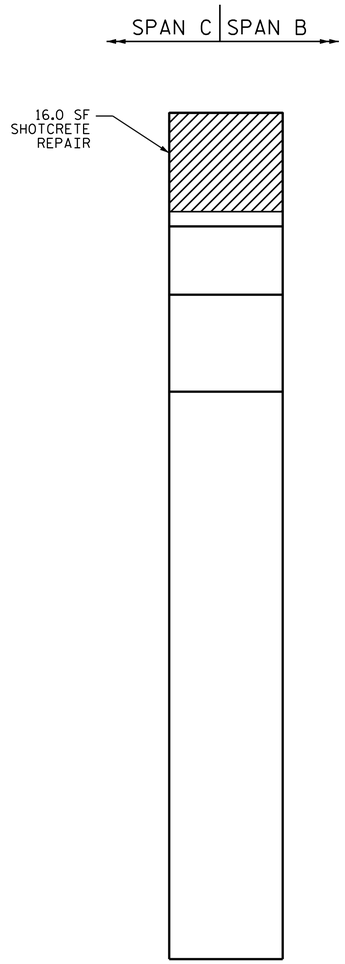
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-15
1			3			TOTAL SHEETS
2			4			34

08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_029_15BPR21_SMU_B2B_015_610006.DGN
ksedai

BOTTOM OF CAP



ELEVATION



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 2 SPAN C FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	33.7	16.9		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		0.0		
COLUMN		0.0		

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

NOTES:

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7941500...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 2
SPAN C FACE

DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

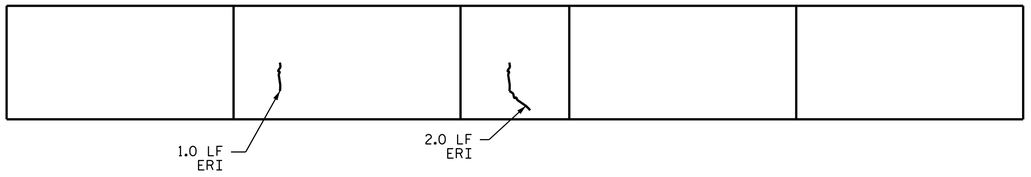
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

SHEET NO. S1-16

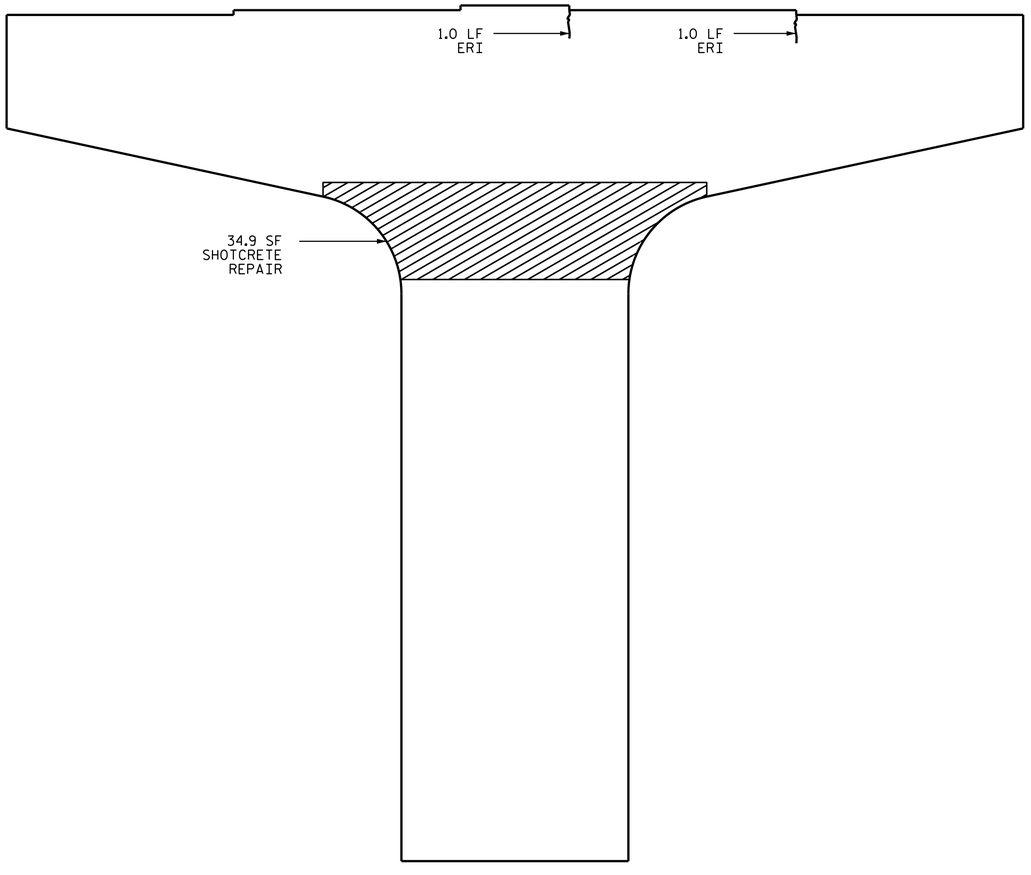
TOTAL SHEETS 34

08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_031_15BPR21_SMU_B2C_016_610006.DGN
ksedai



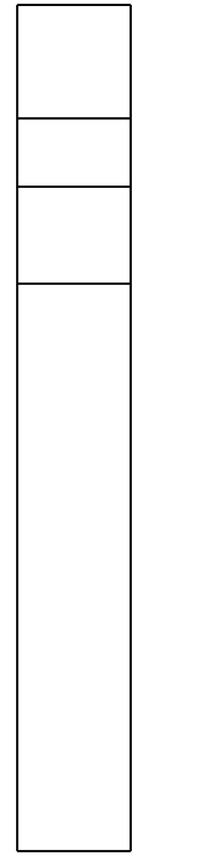
TOP OF CAP

SPAN D
SPAN C



ELEVATION

SPAN C | SPAN D



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 3 SPAN C FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	34.9	17.5		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		5.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
TOP OF BENT CAP		143.3		

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

NOTES:

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

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7041...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 3
SPAN C FACE

DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

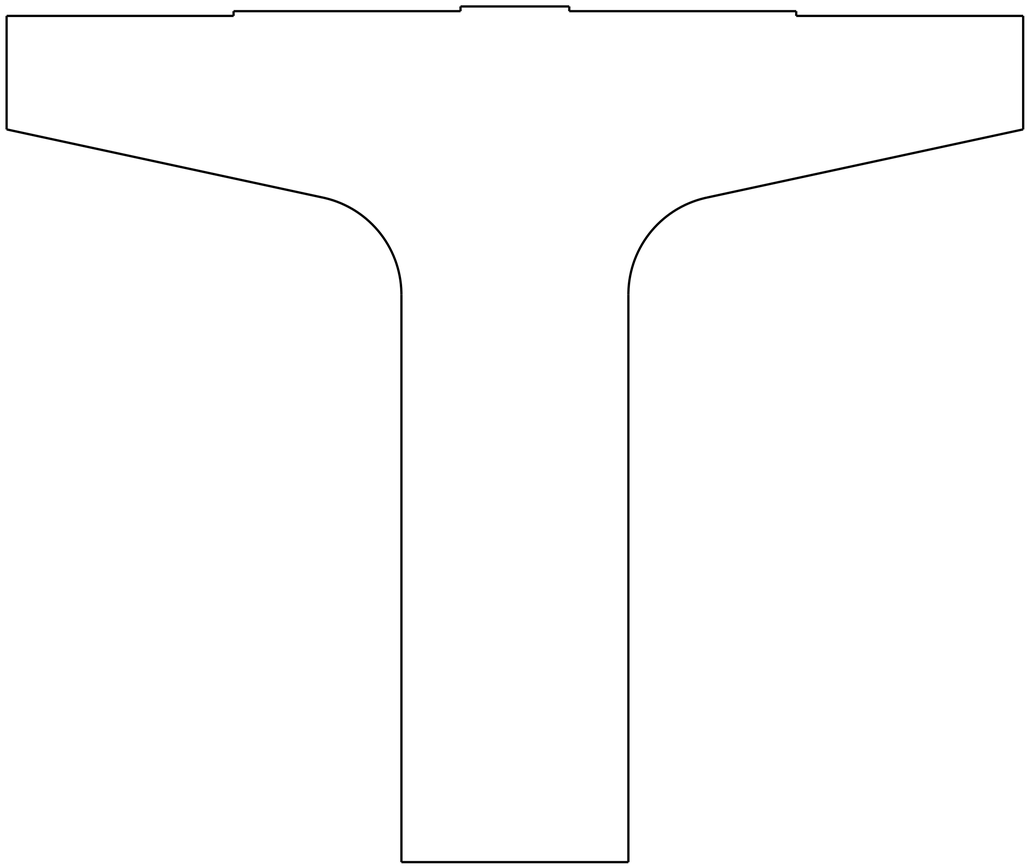
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-17
1			3			TOTAL SHEETS
2			4			34

08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_033_15BPR21_SMU_B3C_017_610006.DGN
ksedai

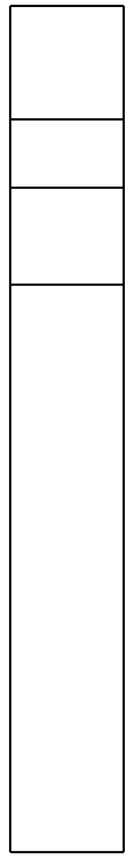
SPAN D
SPAN C

BOTTOM OF CAP



ELEVATION

SPAN D | SPAN C



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 3 SPAN D FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		0.0		
COLUMN		0.0		

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

NOTES:

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7941500...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 3
SPAN D FACE

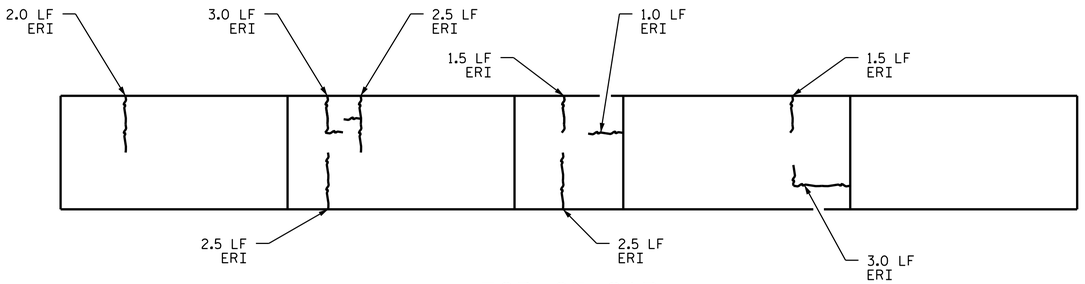
DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

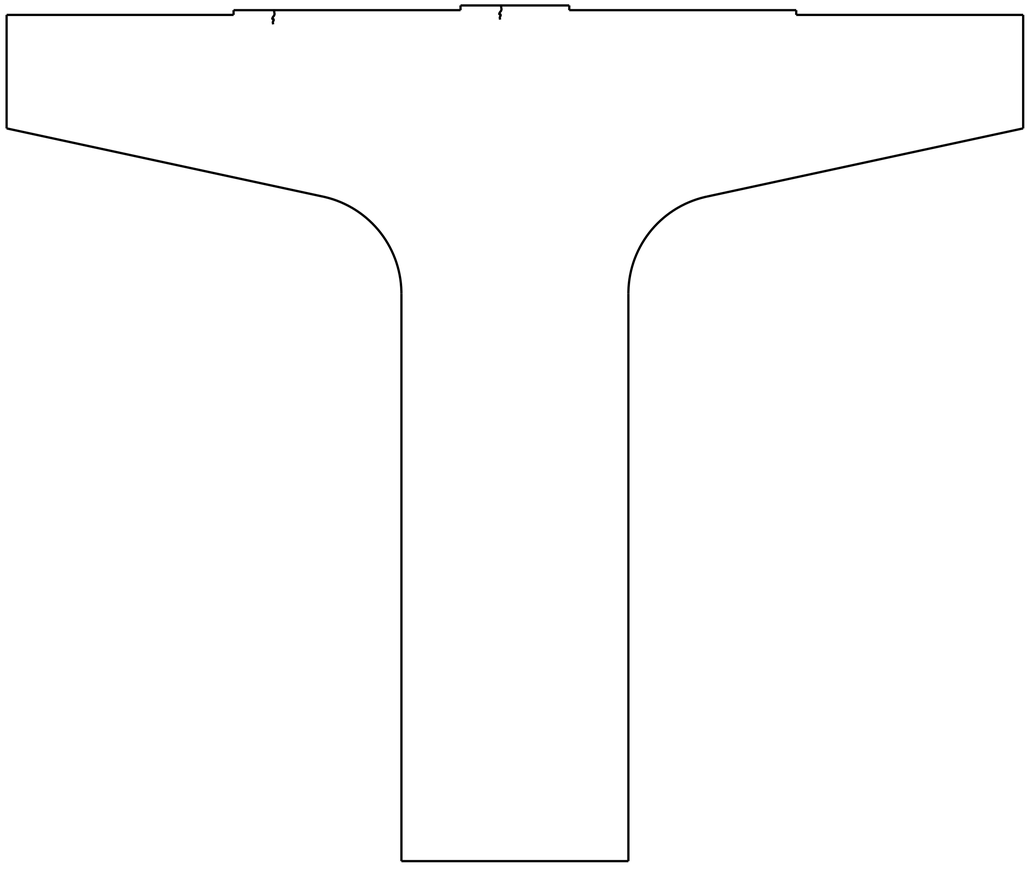
SHEET NO. S1-18
TOTAL SHEETS 34

08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_035_15BPR21_SMU_B3D_018_610006.DGN
ksedai



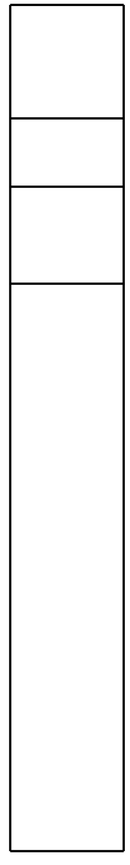
TOP OF CAP

SPAN E
SPAN D



ELEVATION

SPAN D | SPAN E



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 4 SPAN D FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		19.5		
COLUMN		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
TOP OF BENT CAP		143.3		

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

NOTES:

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

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7041...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 4
SPAN D FACE

DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

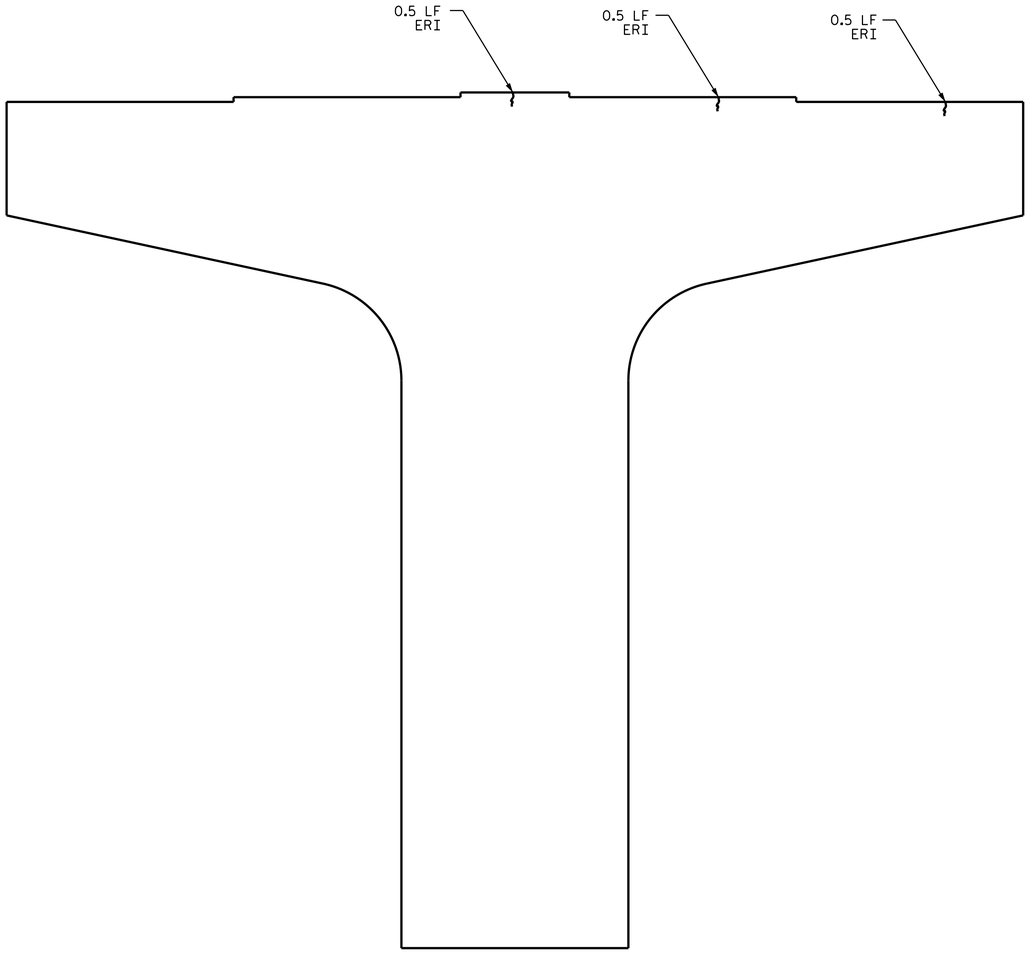
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-19
1			3			TOTAL SHEETS
2			4			34

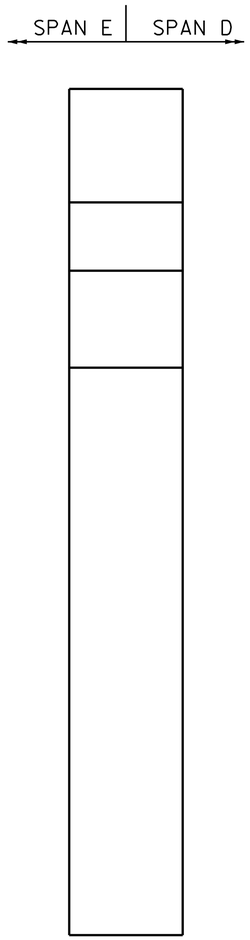
08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_037_15BPR21_SMU_B4D_019_610006.DGN
ksedai

SPAN E
SPAN D

BOTTOM OF CAP



ELEVATION



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 4 SPAN E FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		1.5		
COLUMN		0.0		

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

NOTES:

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7941500...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 4
SPAN E FACE

DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

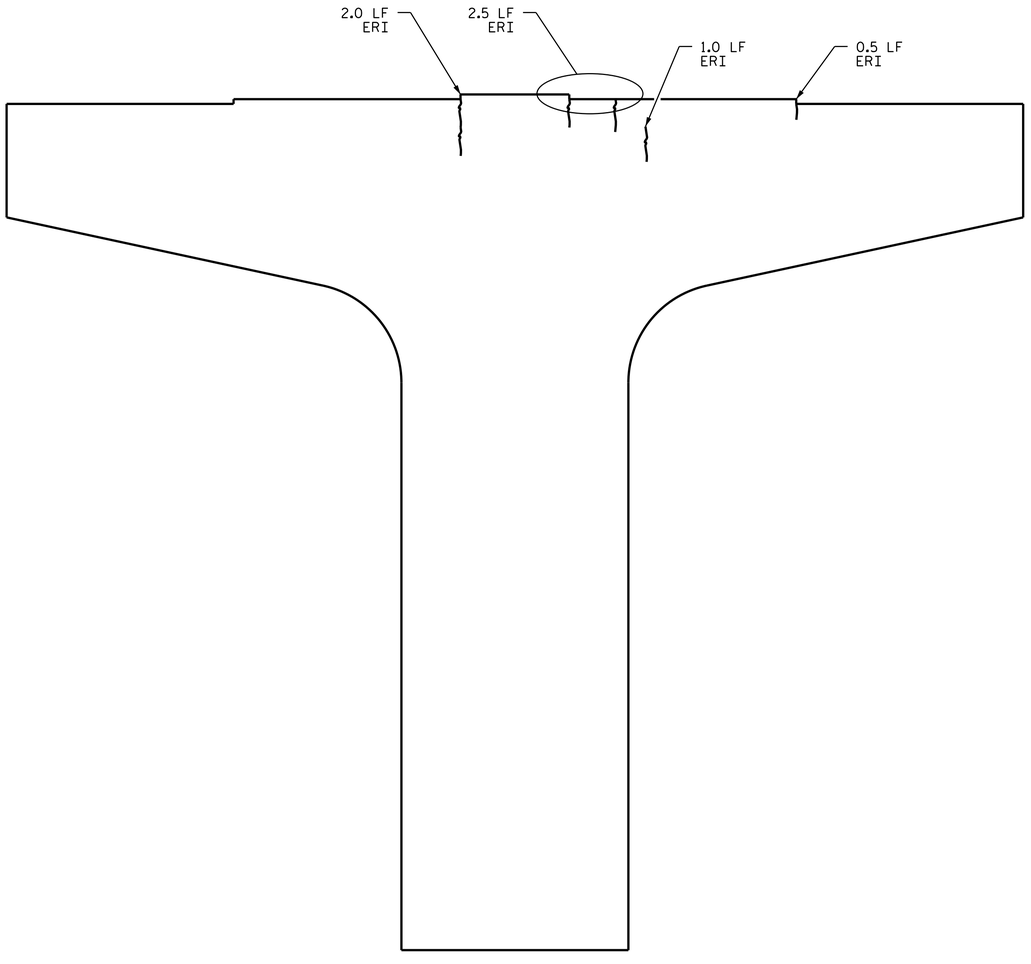
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. S1-20
TOTAL SHEETS 34

08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_039_15BPR21_SMU_B4E_020_610006.DGN
ksedai

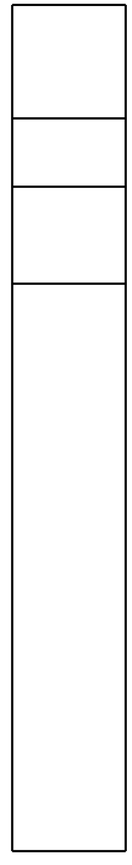
SPAN F
SPAN E

TOP OF CAP



ELEVATION

SPAN E | SPAN F



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 5 SPAN E FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		6.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		143.3		

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

NOTES:

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

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7041...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 5
SPAN E FACE

DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

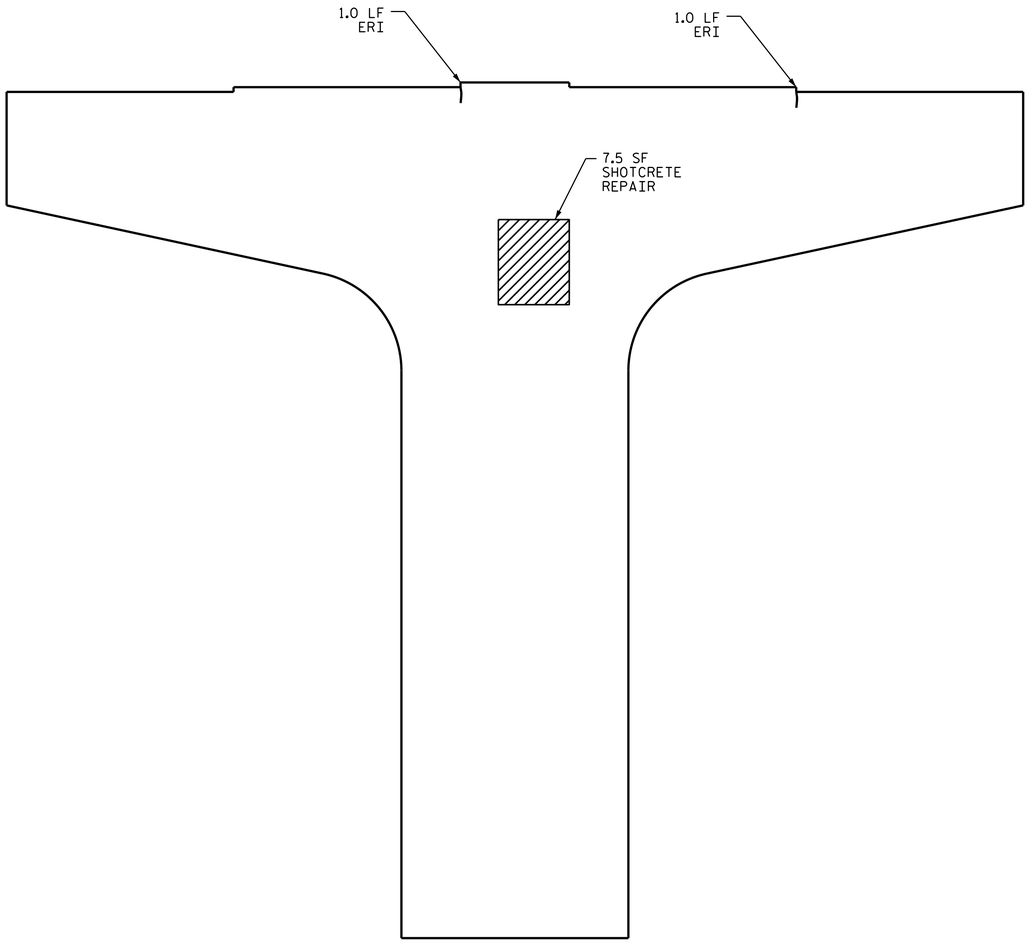
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-21
1			3			TOTAL SHEETS
2			4			34

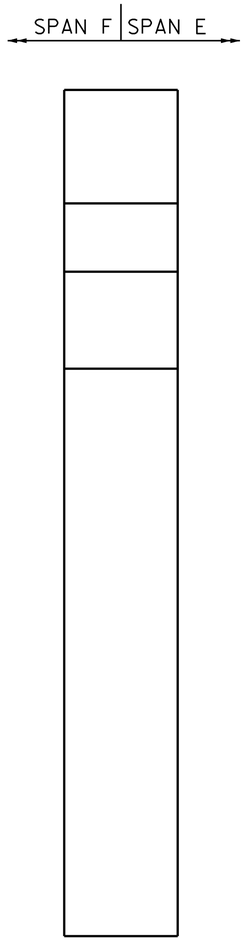
08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_041_15BPR21_SMU_B5E_021_610006.DGN
ksedai

SPAN F
SPAN E

BOTTOM OF CAP



ELEVATION



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 5 SPAN F FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	7.5	3.7		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		2.0		
COLUMN		0.0		

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

NOTES:

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7941500...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 5
SPAN F FACE

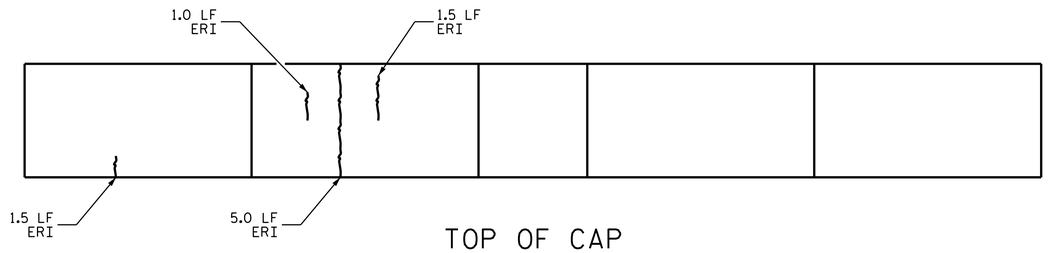
DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

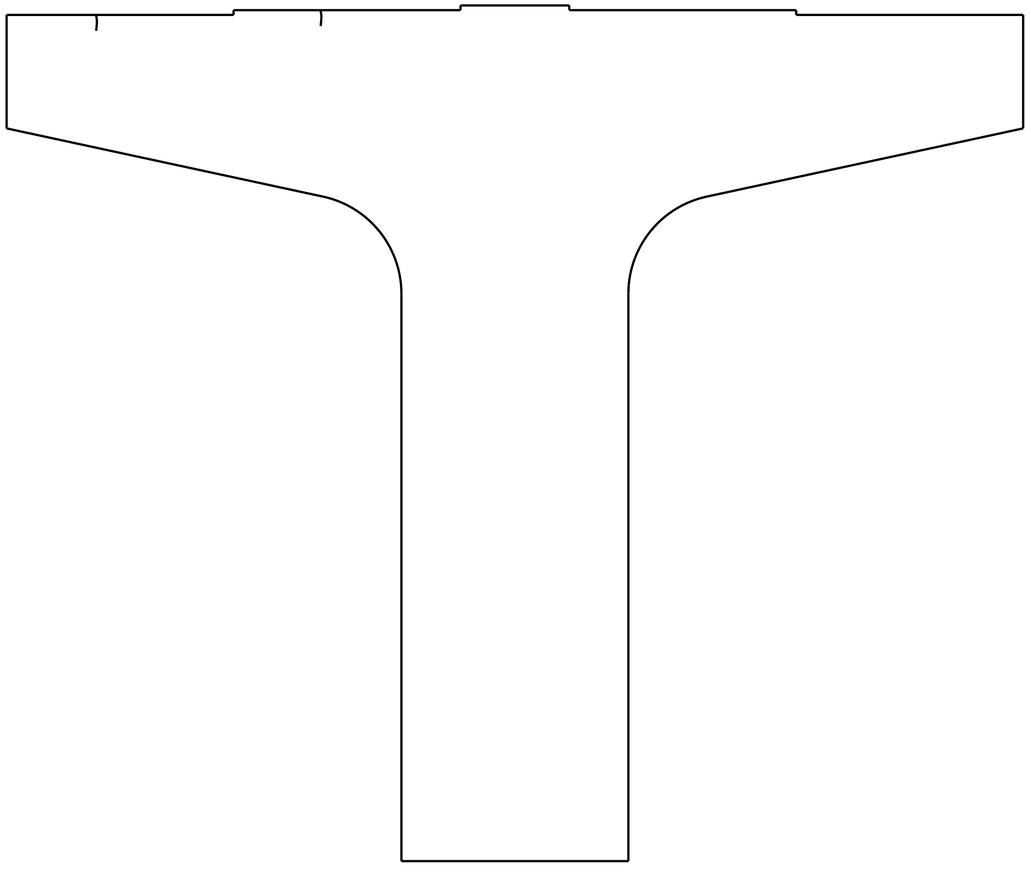
SHEET NO. S1-22
TOTAL SHEETS 34

08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_043_15BPR21_SMU_B5F_022_610006.DGN
ksedai



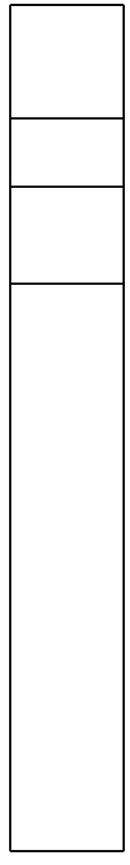
TOP OF CAP

SPAN G
SPAN F



ELEVATION

SPAN F | SPAN G



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 6 SPAN F FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		9.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
TOP OF BENT CAP		143.3		

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

NOTES:

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

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7041...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 6
SPAN F FACE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-23
1			3			TOTAL SHEETS
2			4			34

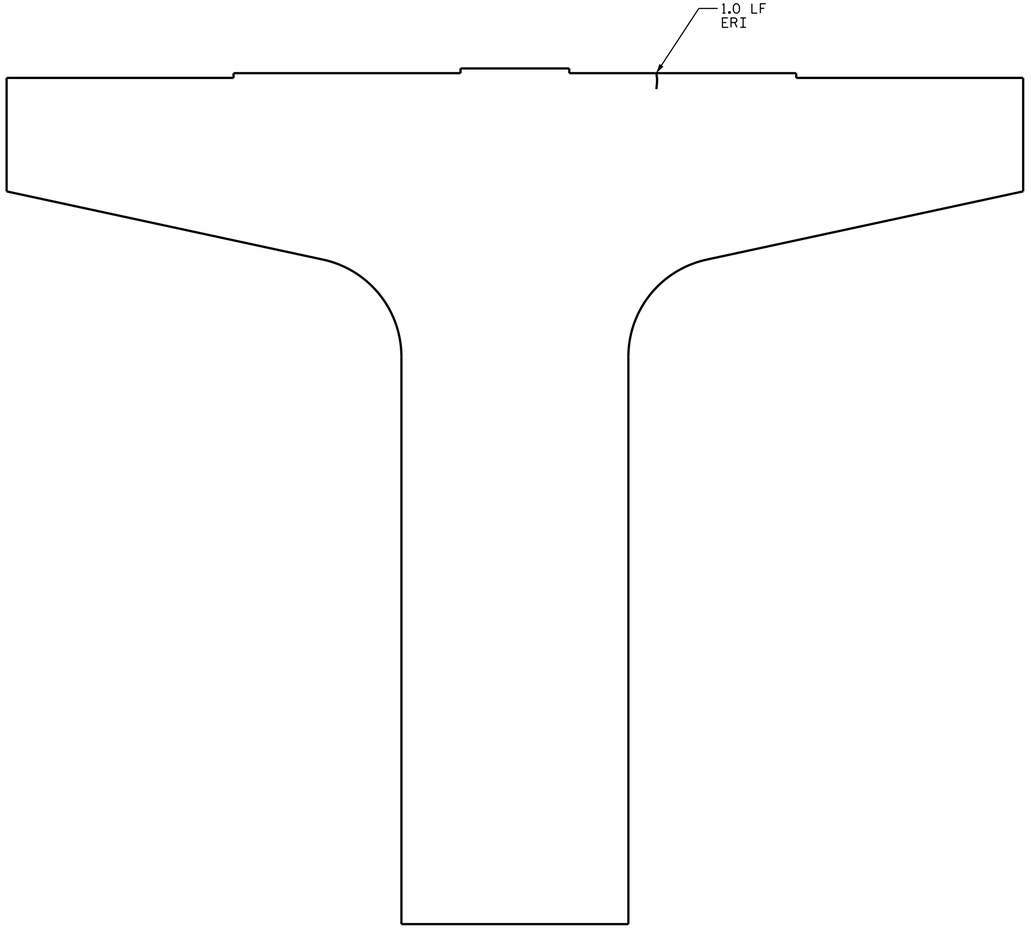
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_045_15BPR21_SMU_B6F_023_610006.DGN
ksedai

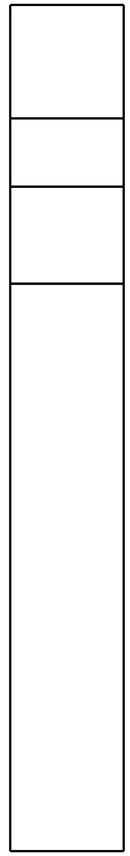
SPAN G
SPAN F

BOTTOM OF CAP



ELEVATION

SPAN G | SPAN F



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 6 SPAN G FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		1.0		
COLUMN		0.0		

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

NOTES:

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7941500...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 6
SPAN G FACE

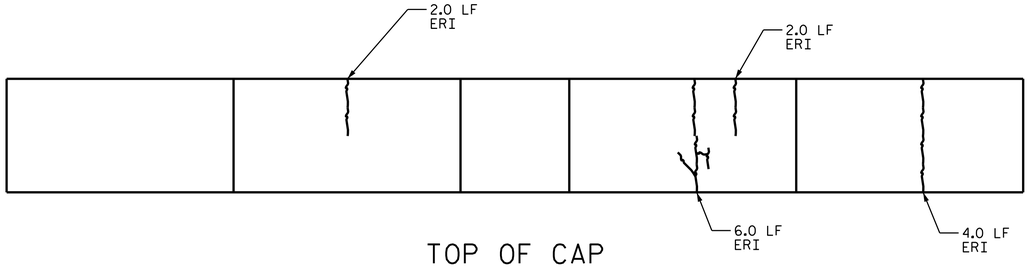
DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

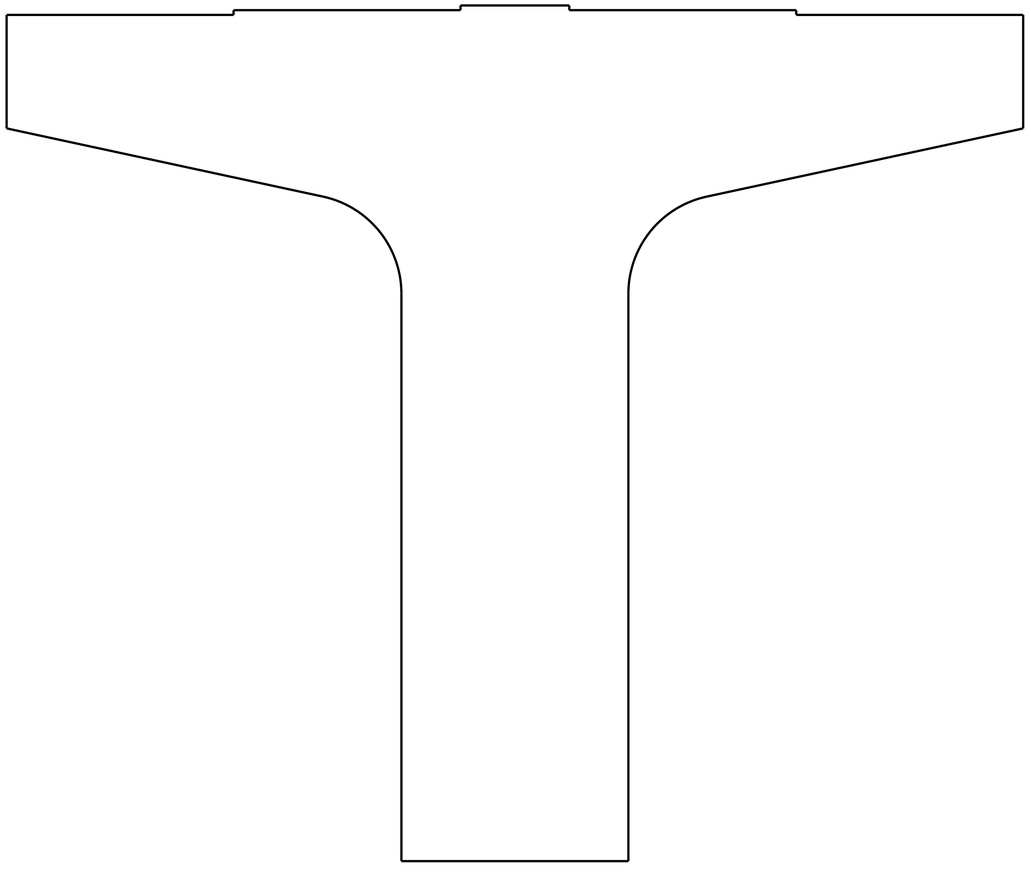
SHEET NO. S1-24
TOTAL SHEETS 34

08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_047_15BPR21_SMU_B6G_024_610006.DGN
ksedai



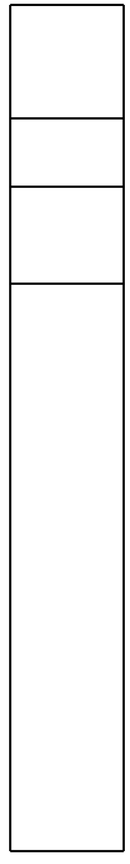
TOP OF CAP

SPAN H
SPAN G



ELEVATION

SPAN G | SPAN H



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 7 SPAN G FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		14.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
TOP OF BENT CAP		143.3		

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

NOTES:

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

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7041...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 7
SPAN G FACE

DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

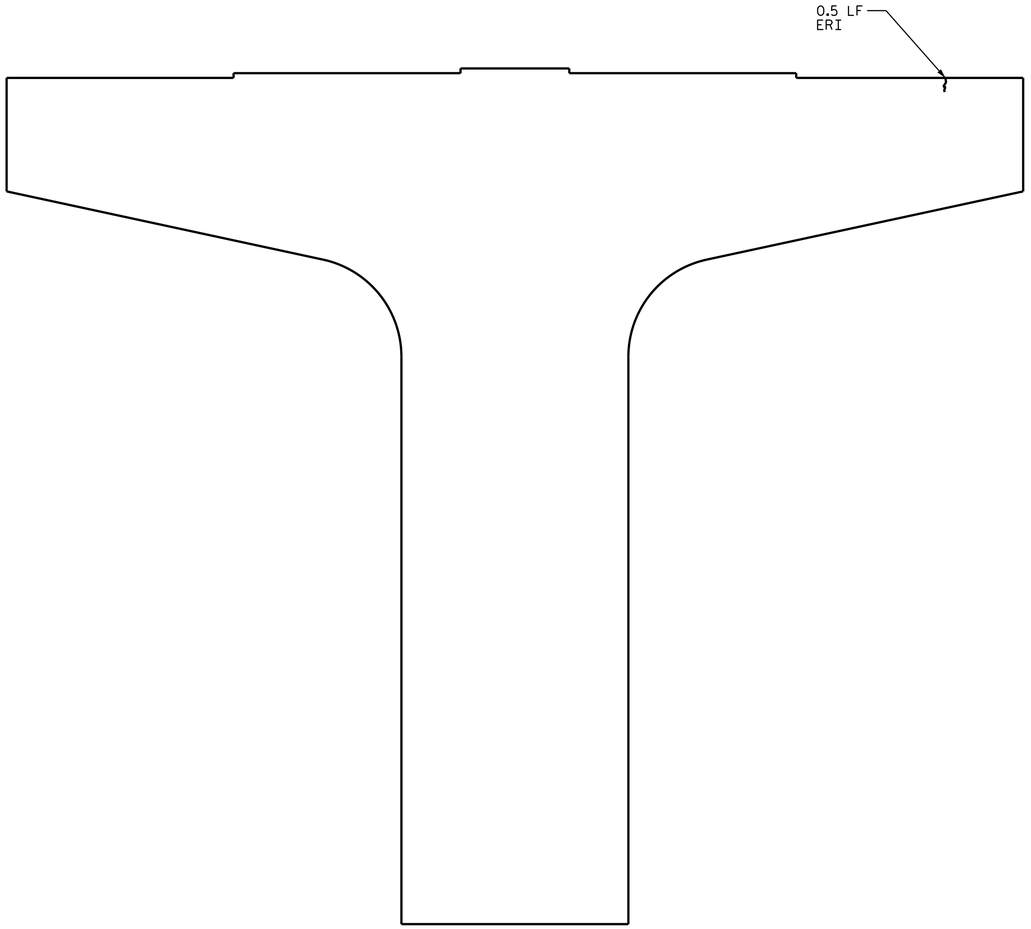
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-25
1			3			TOTAL SHEETS
2			4			34

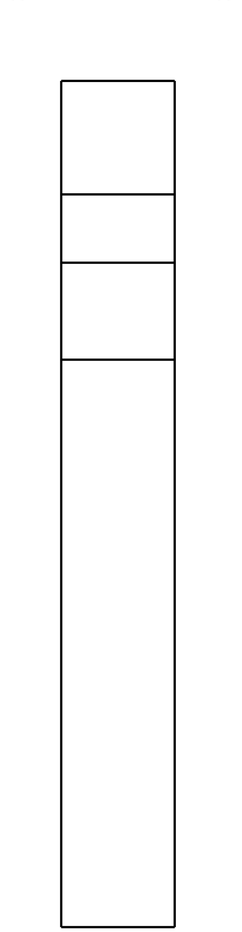
08-OCT-2021 09:05
X:\15BPR21\Structures\Final Plans\401_049_15BPR21_SMU_B7G_025_610006.DGN
ksedai

SPAN H
SPAN G

BOTTOM OF CAP



ELEVATION



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 7 SPAN H FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		0.5		
COLUMN		0.0		

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

NOTES:

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7941500...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 7
SPAN H FACE

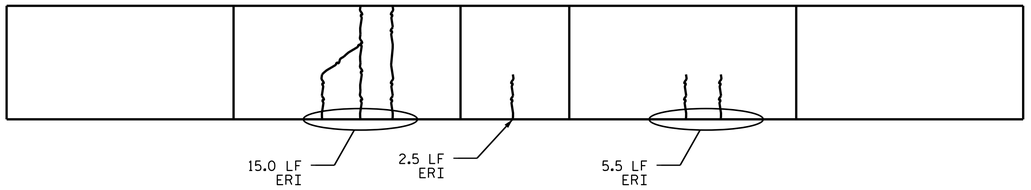
DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

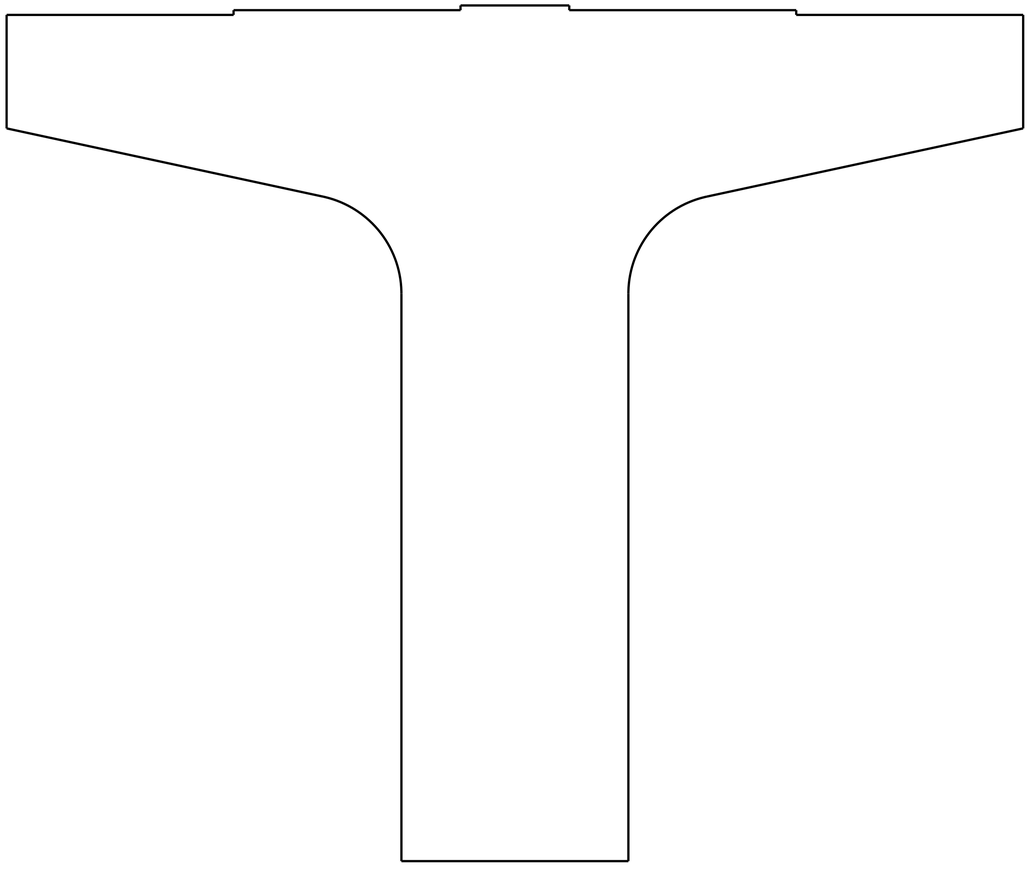
SHEET NO. S1-26
TOTAL SHEETS 34

08-OCT-2021 09:06
X:\15BPR21\Structures\FinalPlans\401_051_15BPR21_SMU_B7H_026_610006.DGN
ksedai



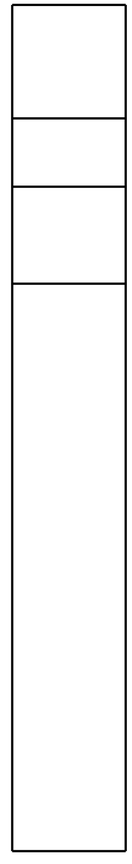
TOP OF CAP

SPAN J
SPAN H



ELEVATION

SPAN H | SPAN J



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 8 SPAN H FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		23.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
TOP OF BENT CAP		143.3		

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

NOTES:

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

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7041...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 8
SPAN H FACE

DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

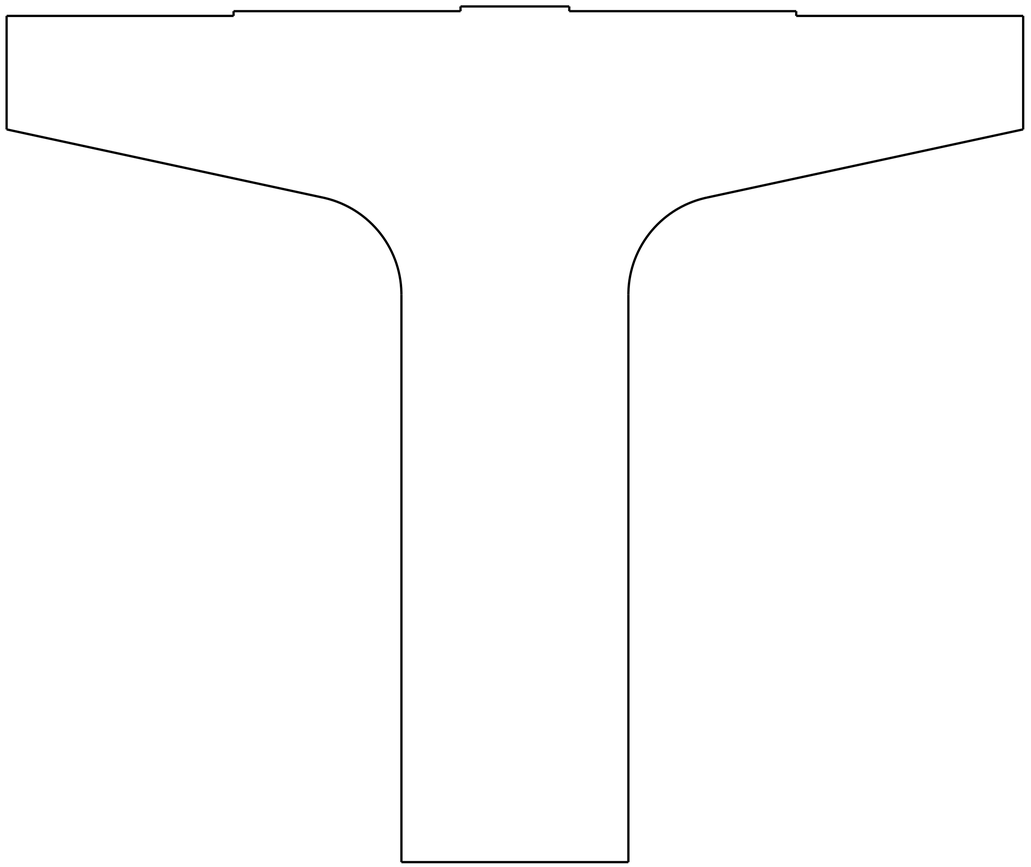
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-27
1			3			TOTAL SHEETS
2			4			34

08-OCT-2021 09:06
X:\15BPR21\Structures\Final Plans\401_053_15BPR21_SMU_B8H_027_610006.DGN
ksedai

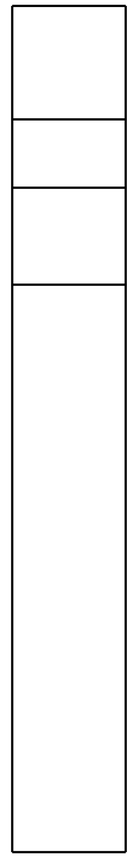
SPAN J
SPAN H

BOTTOM OF CAP



ELEVATION

SPAN J | SPAN H



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 8 SPAN J FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		0.0		
COLUMN		0.0		

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

NOTES:

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7041500...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

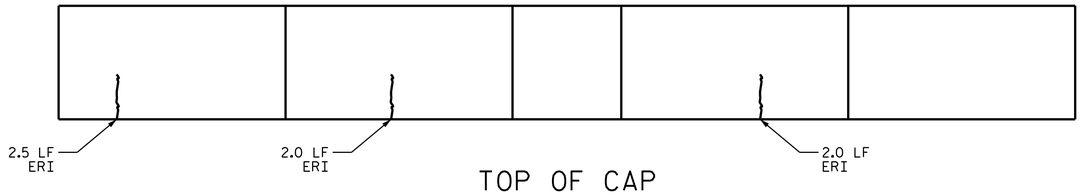
BENT 8
SPAN J FACE

DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

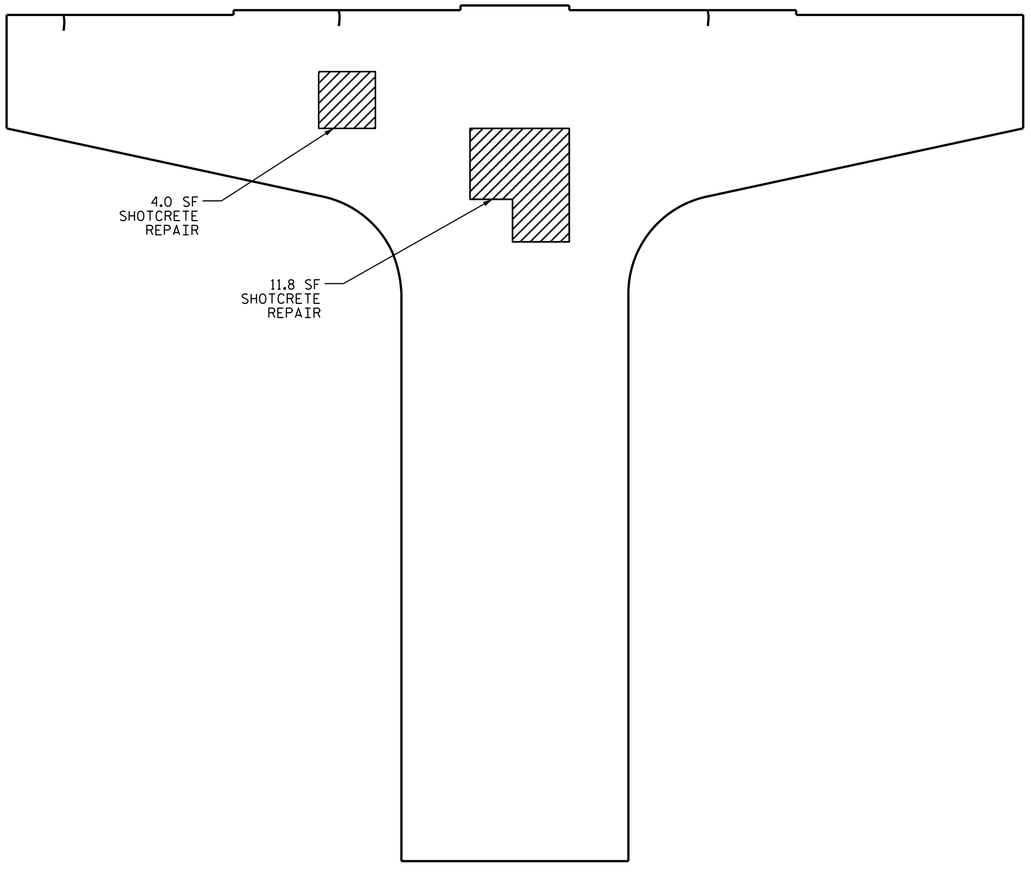
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-28
1			3			TOTAL SHEETS
2			4			34

08-OCT-2021 09:06
X:\15BPR21\Structures\Final Plans\401_055_15BPR21_SMU_B8J_028_610006.DGN
ksedai



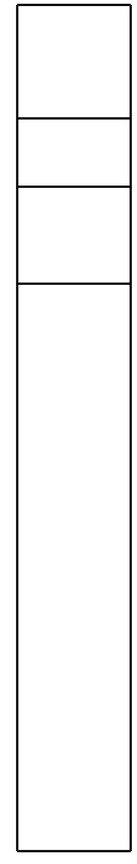
TOP OF CAP

SPAN K
SPAN J



ELEVATION

SPAN J | SPAN K



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 9 SPAN J FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	15.8	7.9		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		6.5		
COLUMN		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
TOP OF BENT CAP		143.3		

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

NOTES:

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

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7041...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 9
SPAN J FACE

DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

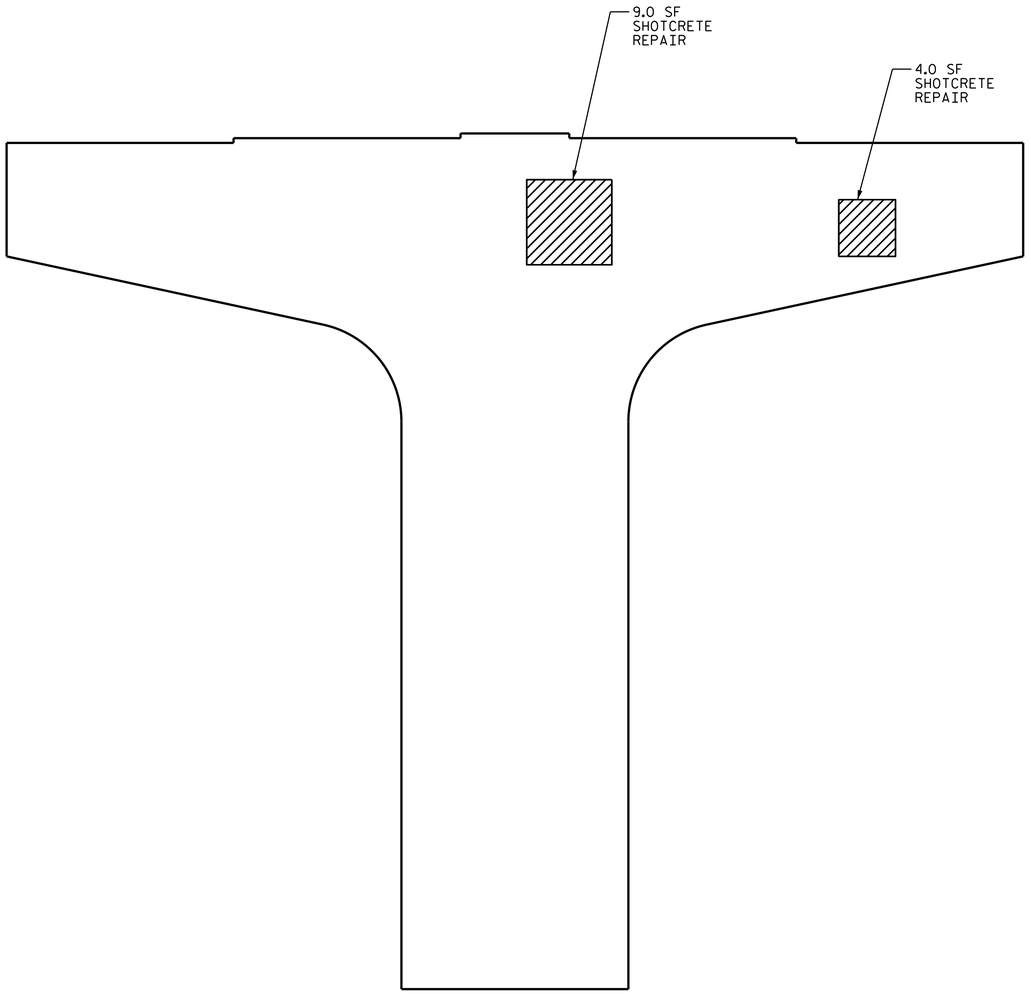
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-29
1			3			TOTAL SHEETS
2			4			34

08-OCT-2021 09:06
X:\15BPR21\Structures\Final Plans\401_057_15BPR21_SMU_B9J_029_610006.DGN
ksedai

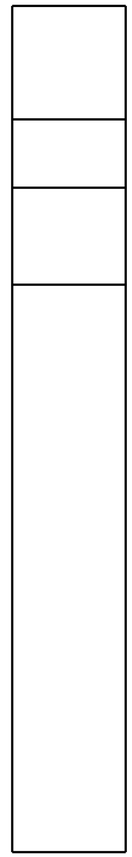
SPAN K
SPAN J

BOTTOM OF CAP



ELEVATION

SPAN K | SPAN J



END VIEW

AS-BUILT REPAIR QUANTITY TABLE

BENT 9 SPAN K FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	13.0	6.5		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		0.0		
COLUMN		0.0		

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

NOTES:

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7941500...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI
11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

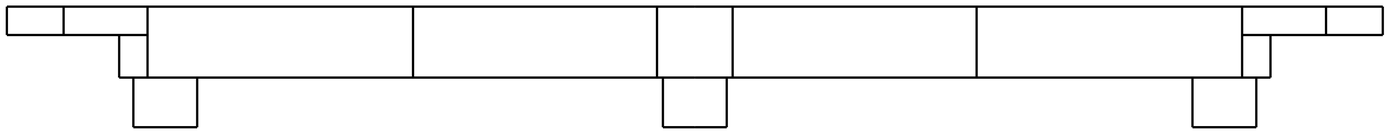
BENT 9
SPAN K FACE

DRAWN BY : M. WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

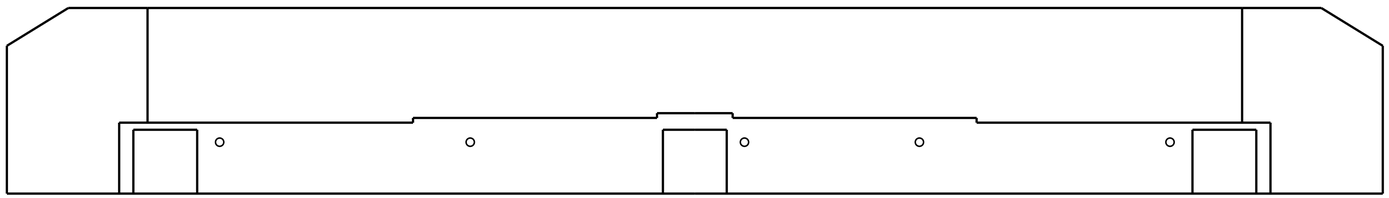
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-30
1			3			TOTAL SHEETS
2			4			34

08-OCT-2021 09:06
X:\15BPR21\Structures\FinalPlans\401_059_15BPR21_SMU_B9K_030_610006.DGN
ksedai



PLAN



ELEVATION

AS-BUILT REPAIR QUANTITY TABLE

END BEND 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		0.0		
CURTAIN WALL		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
CAP		58.0		

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

NOTES:

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

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

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

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7941...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

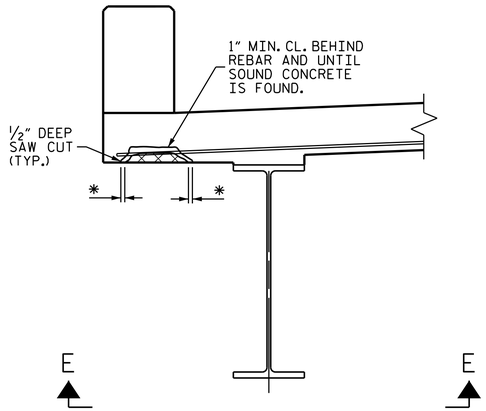
END BENT 2

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-31
1			3			TOTAL SHEETS
2			4			34

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

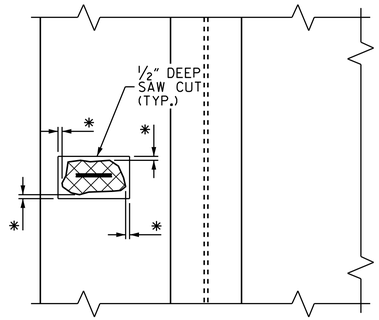
DRAWN BY : M.WELDON DATE : 05/18
CHECKED BY : R. L. PUTEK DATE : 05/18

08-OCT-2021 09:06
X:\15BPR21\Structures\Final Plans\401_061_15BPR21_SMU_EB2_031_610006.DGN
ksedai

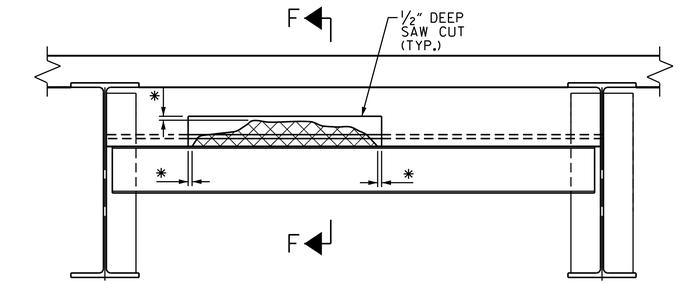


TYPICAL SECTION

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



SECTION E-E

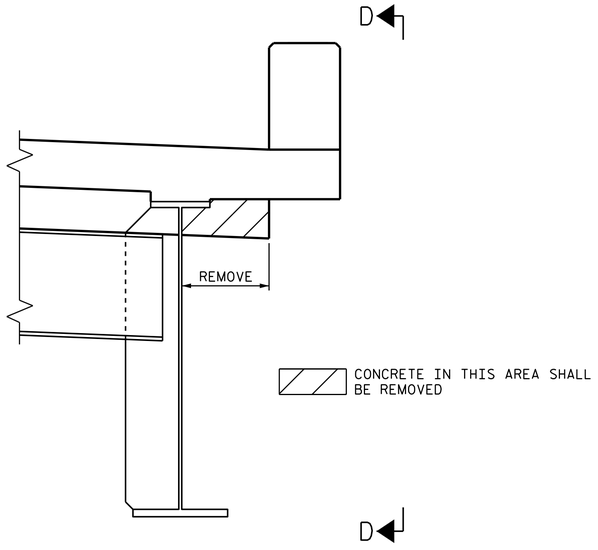


TYPICAL SECTION

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

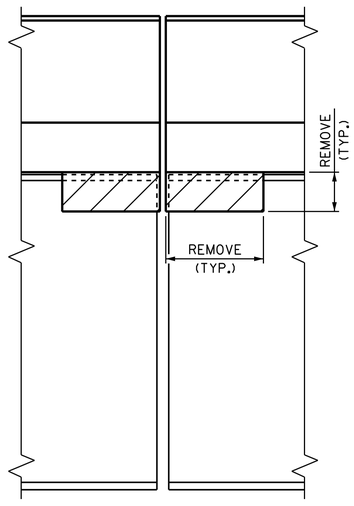
OVERHANG DETAILS

NOTE: OVERHANG DIAPHRAGMS TO BE REMOVED ARE SHOWN ON "PLAN OF SPAN" SHEETS.



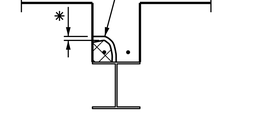
CONCRETE IN THIS AREA SHALL BE REMOVED

TYPICAL SECTION



SECTION D-D

OVERHANG DIAPHRAGM REMOVAL DETAILS



SECTION F-F

DAMAGED AREA

NOTE:
EXISTING REBAR TO REMAIN IN PLACE. CLEAN AND REPAIR AS NECESSARY.

INTERIOR DIAPHRAGM REPAIR DETAILS

PROJECT NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA8F7F4...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

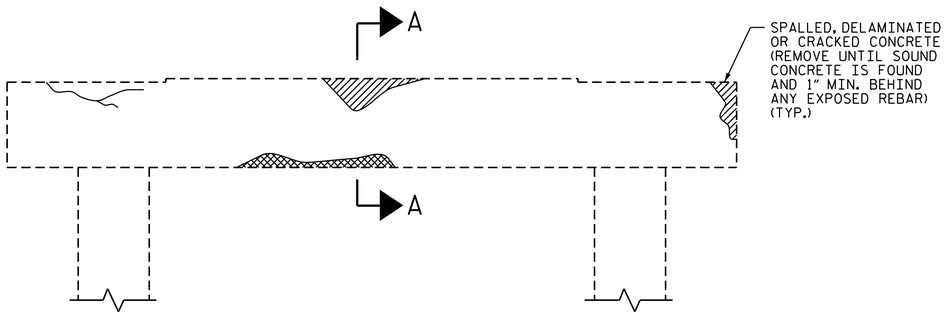
OVERHANG AND DIAPHRAGM REPAIR DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-32
1			3			TOTAL SHEETS
2			4			34

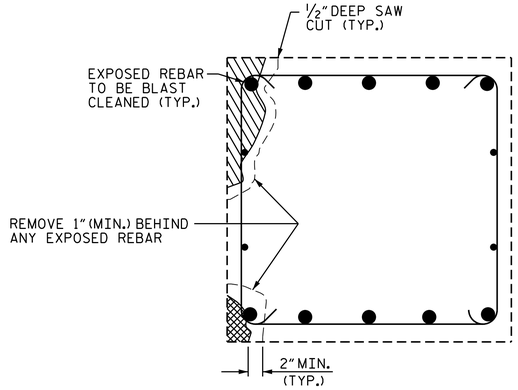
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : R.L.PUTEK DATE : 12/18
CHECKED BY : E. A. BAYISSA DATE : 12/18

08-OCT-2021 09:06
X:\15BPR21\Structures\FinalPlans\401_063_15BPR21_SMU_0DBR_032_610006.dgn
ksedai

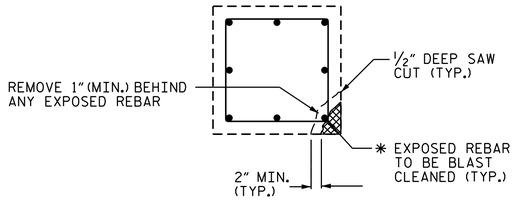


BENT CAP REPAIRS



SECTION A-A

CAP REPAIR



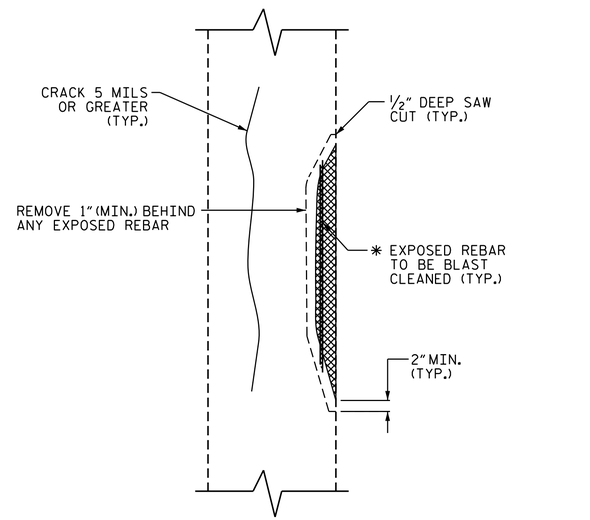
PLAN OF COLUMN

REPAIR KEY

CONCRETE REPAIR AREA (FORM AND POUR)

SHOTCRETE REPAIR AREA

EPOXY RESIN INJECTION (ERI)

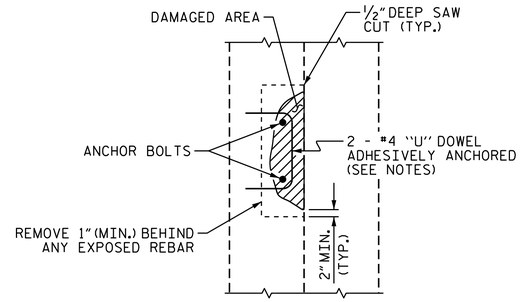


* REPAIR LENGTH SHALL NOT EXCEED 10 FEET.

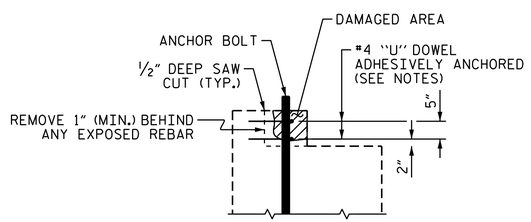
ELEVATION OF COLUMN

COLUMN REPAIR

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



PLAN



ELEVATION

PEDESTAL WALL REPAIR

NOTES

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

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

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

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

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

SIMULTANEOUS REMOVAL OF UNSOUND CONCRETE MAY BE PERMITTED ON MORE THAN ONE FACE OF A CAP AND/OR COLUMN, IF THE AREAS OF REMOVAL ARE NOT ADJACENT TO OR DIRECTLY OPPOSITE ONE ANOTHER. IF REMOVAL EXTENDS MORE THAN 1½" BEHIND THE MAIN REINFORCING BARS, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

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

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

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

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

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

PROJ. NO. 15BPR.21

MONTGOMERY COUNTY

BRIDGE NO. 610006

DocuSigned by: Krishna P. Sedai EA6F7941500...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

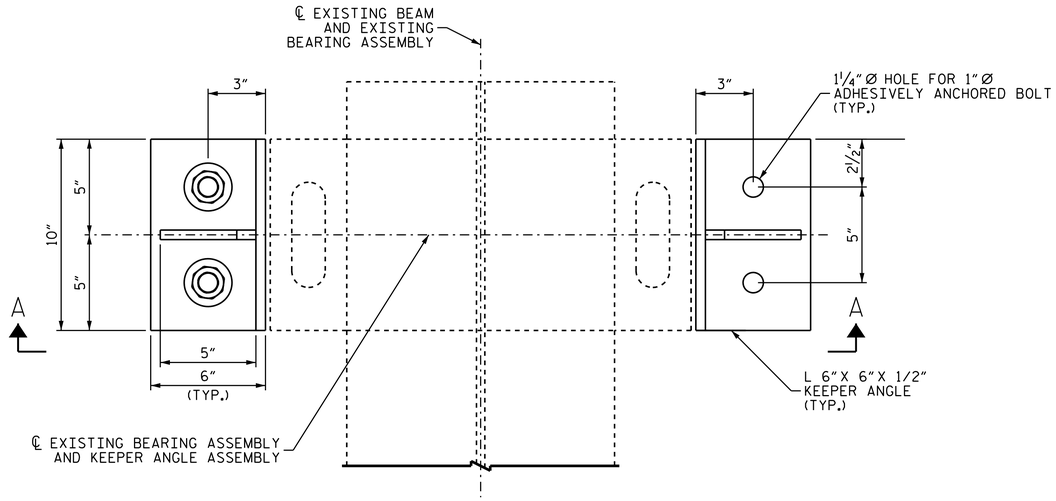
STANDARD
TYPICAL CAP AND COLUMN REPAIR DETAILS

ASSEMBLED BY : R. L. PUTEK	DATE : 12/2018
CHECKED BY : E. A. BAYISSA	DATE : 12/2018
DRAWN BY : NAP 8/18	
CHECKED BY :	

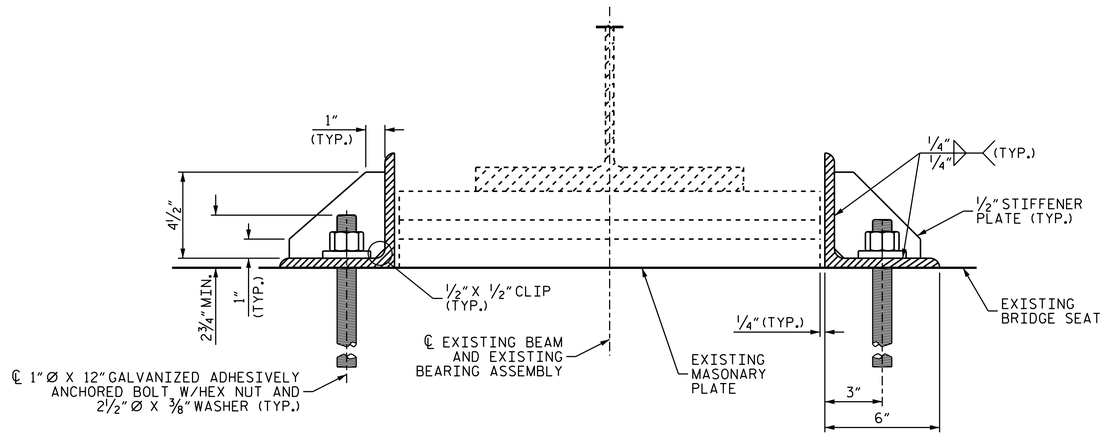
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-33
1			3			TOTAL SHEETS
2			4			34

X:\15BPR21\Structures\FinalPlans\401_065_15BPR21_SMU_CCR_033_610006.dgn



PLAN



SECTION A-A

STEEL KEEPER ANGLE ASSEMBLY DETAILS

NOTES

STRUCTURAL STEEL SHALL BE AASHTO GRADE 36 OR GREATER.

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

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

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

GALVANIZE THE ASSEMBLIES IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS.

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

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

PROJECT NO. 15BPR.21
MONTGOMERY COUNTY
BRIDGE NO. 610006

DocuSigned by:
Krishna P. Sedai
EA6F7041...

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

11/18/2021

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

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-34
1			3			TOTAL SHEETS
2			4			34

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ASSEMBLED BY :	R. L. PUTEK	DATE : 12/2018
CHECKED BY :	E. A. BAYISSA	DATE : 12/2018

08-OCT-2021 09:06
X:\15BPR21\Structures\Final Plans\401_067_15BPR21_SMU_KA_034_610006.dgn
ksedai

STANDARD NOTES

DESIGN DATA:

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

MATERIAL AND WORKMANSHIP:

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

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

CONCRETE:

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

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED ¾" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1½" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A ¼" 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 ¼" 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 ⅞" Ø SHEAR STUDS FOR THE ¾" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - ⅞" Ø STUDS FOR 4 - ¾" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF ⅞" Ø STUDS ALONG THE BEAM AS SHOWN FOR ¾" Ø STUDS BASED ON THE RATIO OF 3 - ⅞" Ø STUDS FOR 4 - ¾" 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. FINS 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