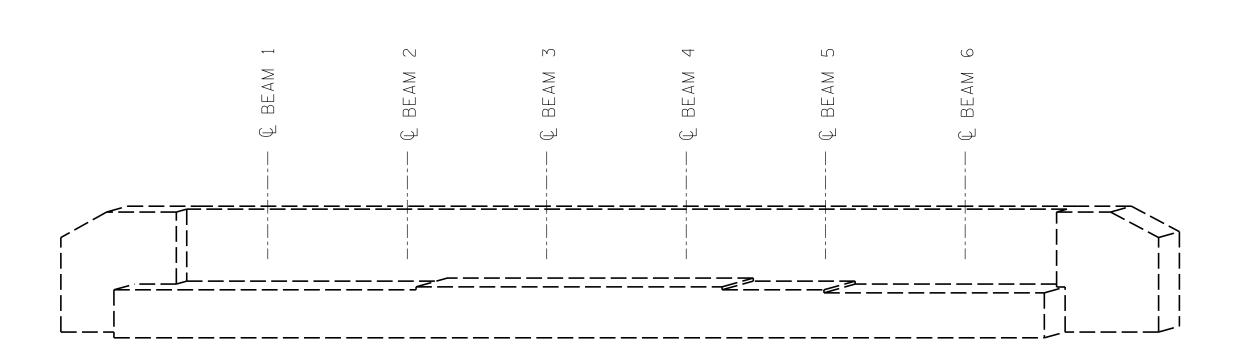


END BENT (EAST FACE)



END BENT 2 (WEST FACE)

LEGEND AS-BUILT REPAIR QUANTITY TABLE QUANTITIES CONCRETE REPAIR AREA (CR) ESTIMATE ACTUAL SHOTCRETE REPAIR AREA (SCR) SHOTCRETE REPAIRS EPOXY RESIN INJECTION (ERI) CAP/BACKWALL COLUMN/PILE VOLUME CU.FT. CONCRETE REPAIRS CAP EPOXY RESIN INJECTION LIN.FT. LIN.FT.

> VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE. MINIMUM OF 1"BEHIND REBAR AND MINIMUM 2"CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "CONCRETE RESTORATION DETAILS" SHEETS.

#### NOTES:

CAP/BACKWALL

COLUMN/PILE

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

CRACKING LOCATIONS AND QUANTITIES FOR LOCATIONS DESCRIBED AS "SCATTERED THROUGHOUT" IN THE INSPECTION REPORT ARE BASED ON THE BEST INFORMATION AVAILABLE. THE ENGINEER AND CONTRACTOR SHALL IDENTIFY AND REPAIR ALL CRACKS >= $\frac{1}{16}$  AS DESCRIBED IN THE SPECIAL PROVISIONS AT EACH BENT.

AVERAGE CONCRETE COVER IS EXPECTED TO BE FROM 2"TO 3"ON THE CAP AND FROM  $1\frac{1}{2}$ " TO 2" ON THE PILES. ACTUAL CONCRETE COVER SHALL BE DETERMINED BY THE CONTRACTOR AND PRESENTED TO THE ENGINEER PRIOR TO BEGINNING EXCAVATION/ DEMOLITION.

FOR CONCRETE AND SHOTCRETE REPAIRS, SEE "CONCRETE RESTORATION DETAILS" SHEETS.

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

REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.

> PROJECT NO. I-5915B IREDELL COUNTY 48Ø123

BRIDGE NO. \_

SHEET 1 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

> SUBSTRUCTURE REPAIRS

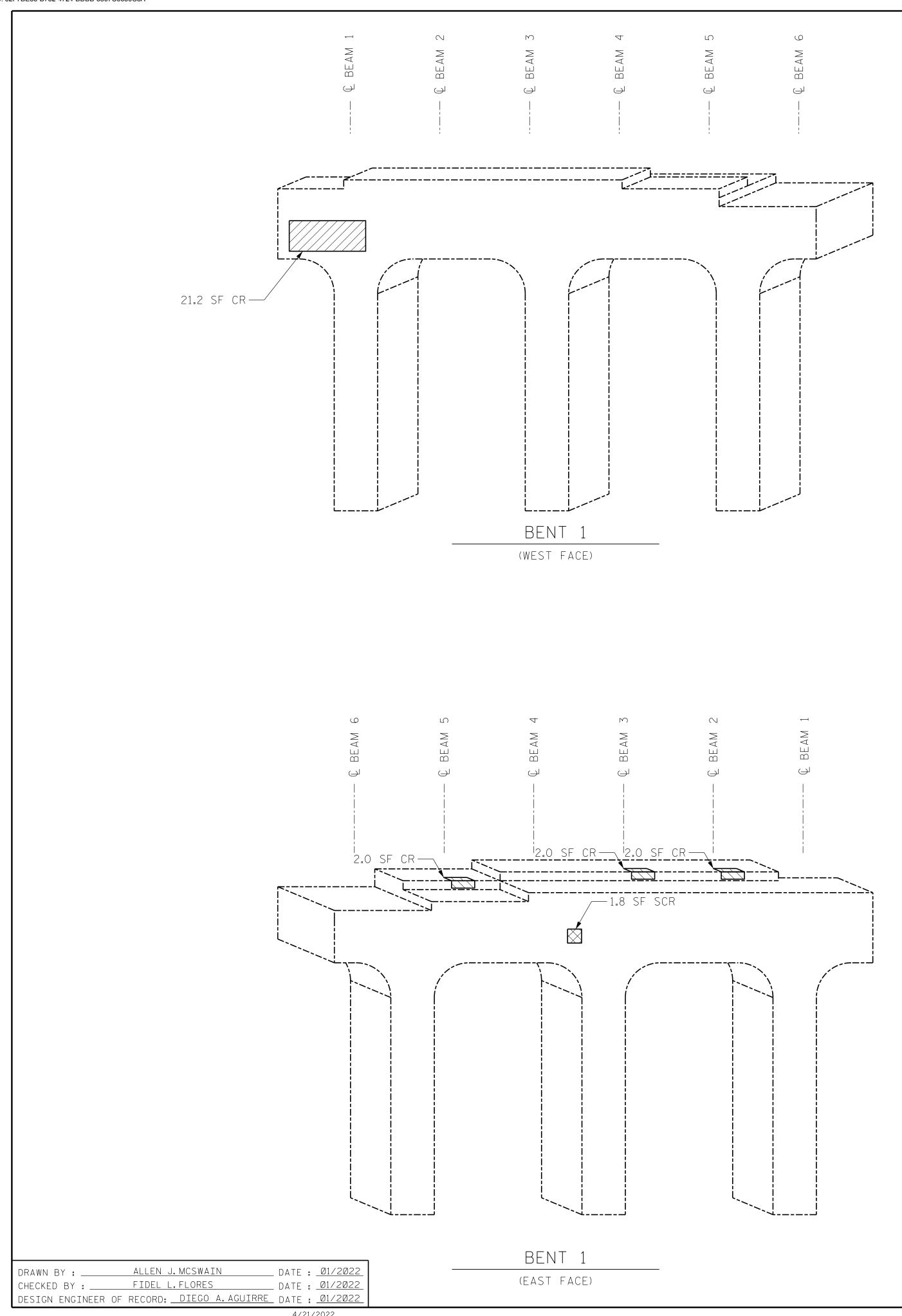
END BENTS 1 & 2

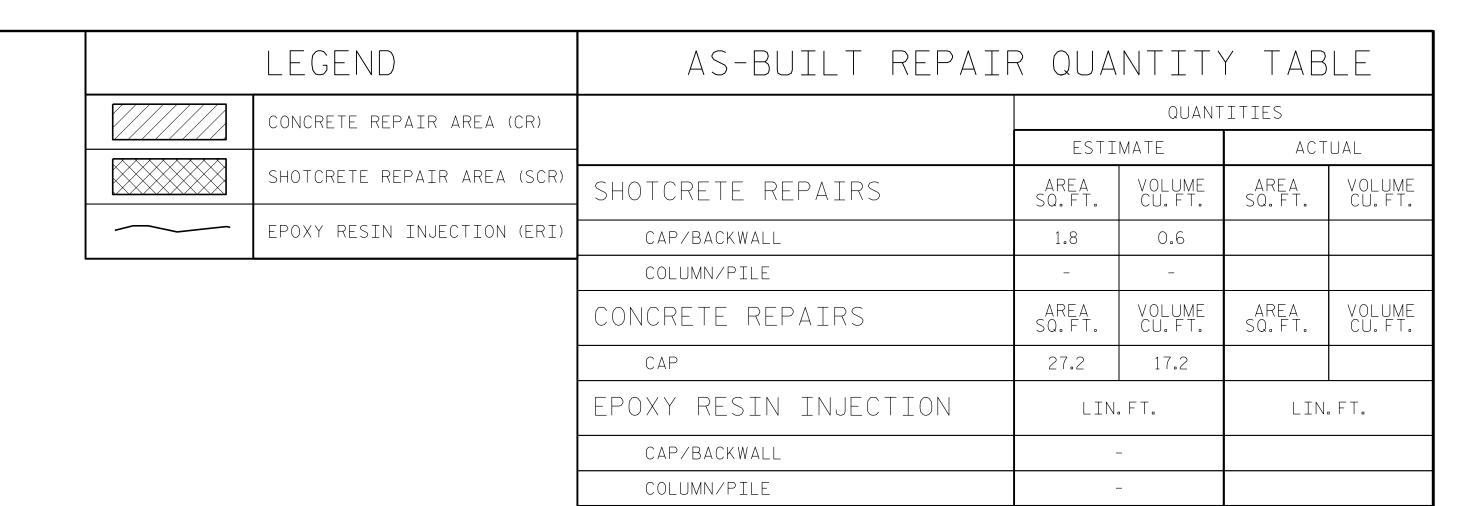
OCUMENT NOT CONSIDERED 301 FAYETTEVILLE ST., SUITE 1500 FINAL UNLESS ALL

RALEIGH, NC 27601 (919) 882-7839 SIGNATURES COMPLETED NC FIRM LICENSE: C-1506

SHEET NO REVISIONS DATE: S17-6 BY: DATE: NO. BY:

ALLEN J. MCSWAIN \_ DATE : <u>01/2022</u> \_ DATE : <u>01/2022</u> CHECKED BY: \_\_\_\_\_FIDEL L.FLORES DESIGN ENGINEER OF RECORD: <u>DIEGO A.AGUIRRE</u> DATE: <u>01/2022</u>





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

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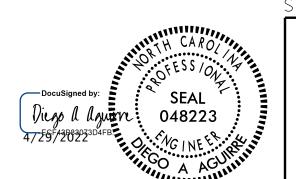
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> PROJECT NO.\_ IREDELL COUNTY 48Ø123 BRIDGE NO. \_

SHEET 2 OF 3



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

> SUBSTRUCTURE REPAIRS

> > BENT 1

WISINGER CAMPO

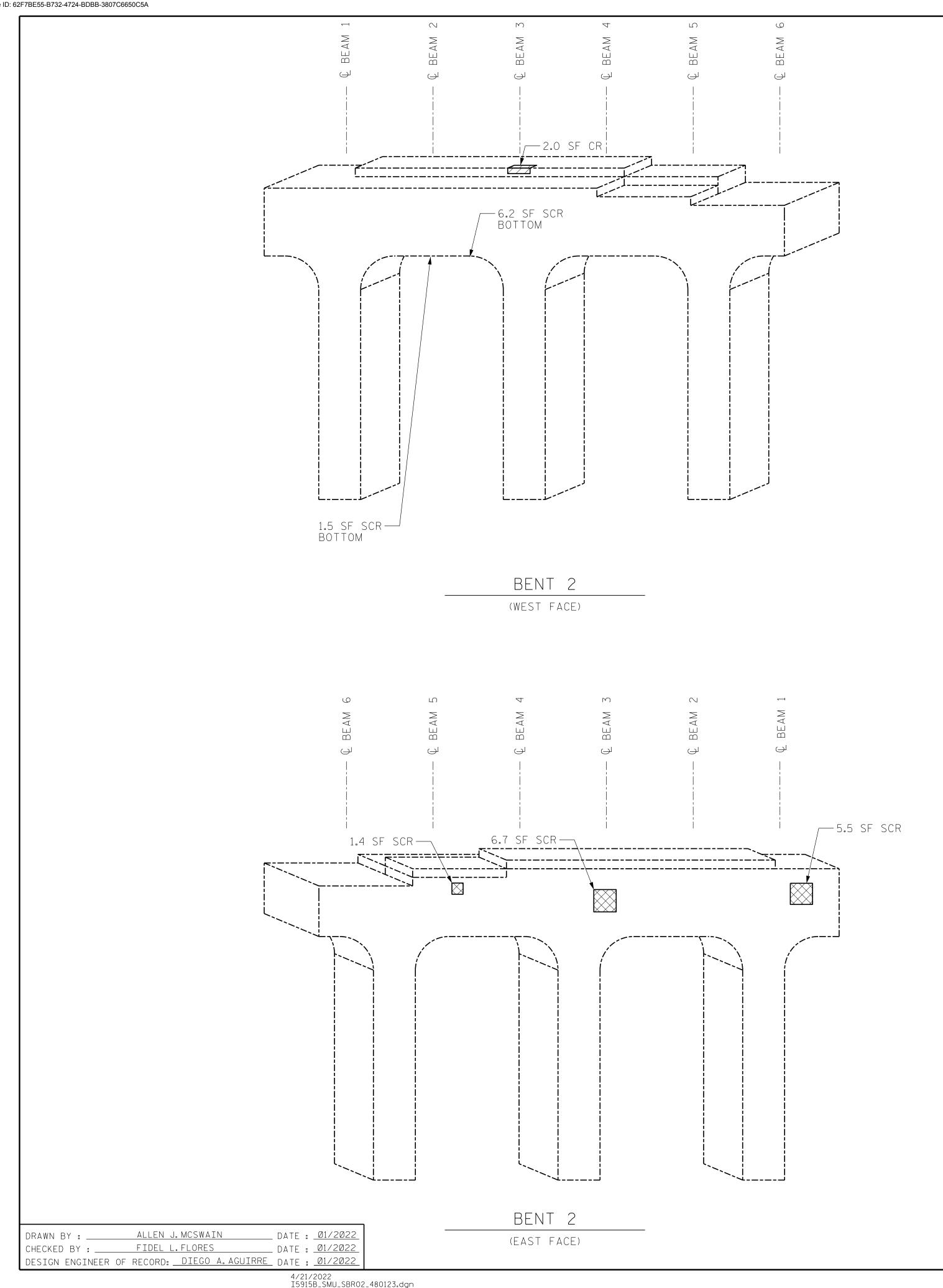
& ASSOCIATES

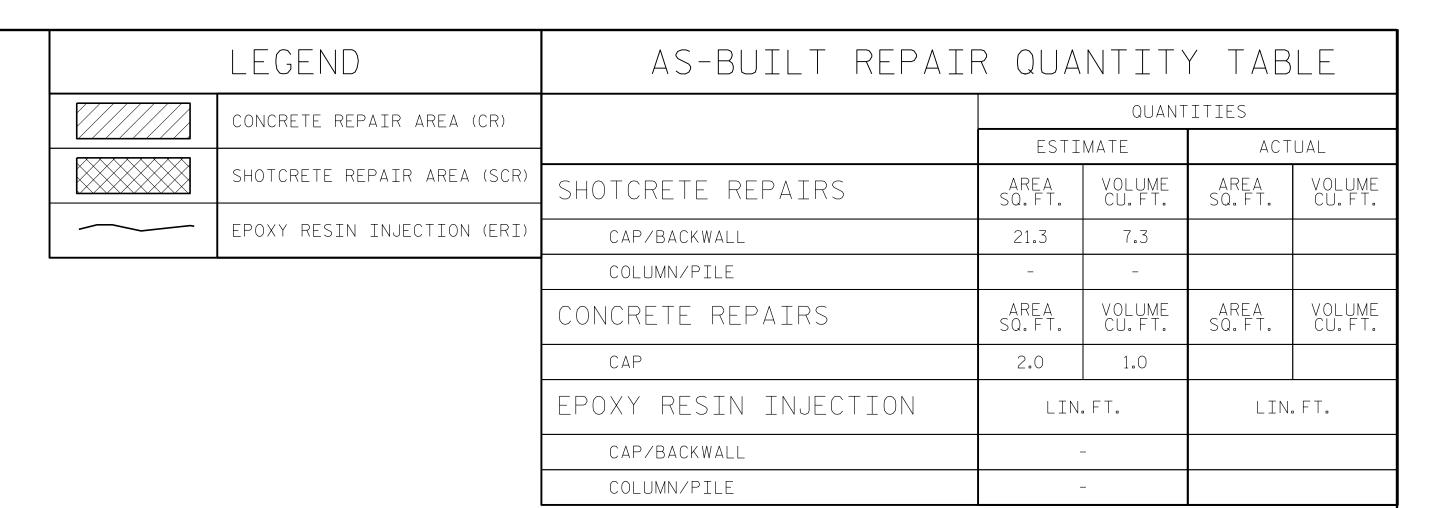
301 FAYETTEVILLE ST., SUITE 1500 FINAL UNLESS ALL

RALEIGH, NC 27601 (919) 882-7839 SIGNATURES COMPLETED NC FIRM LICENSE: C-1506

DATE:

SHEET NO REVISIONS DATE: S17-7 NO. BY:





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

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> PROJECT NO.\_ IREDELL COUNTY

48Ø123 BRIDGE NO. \_

SHEET 3 OF 3



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

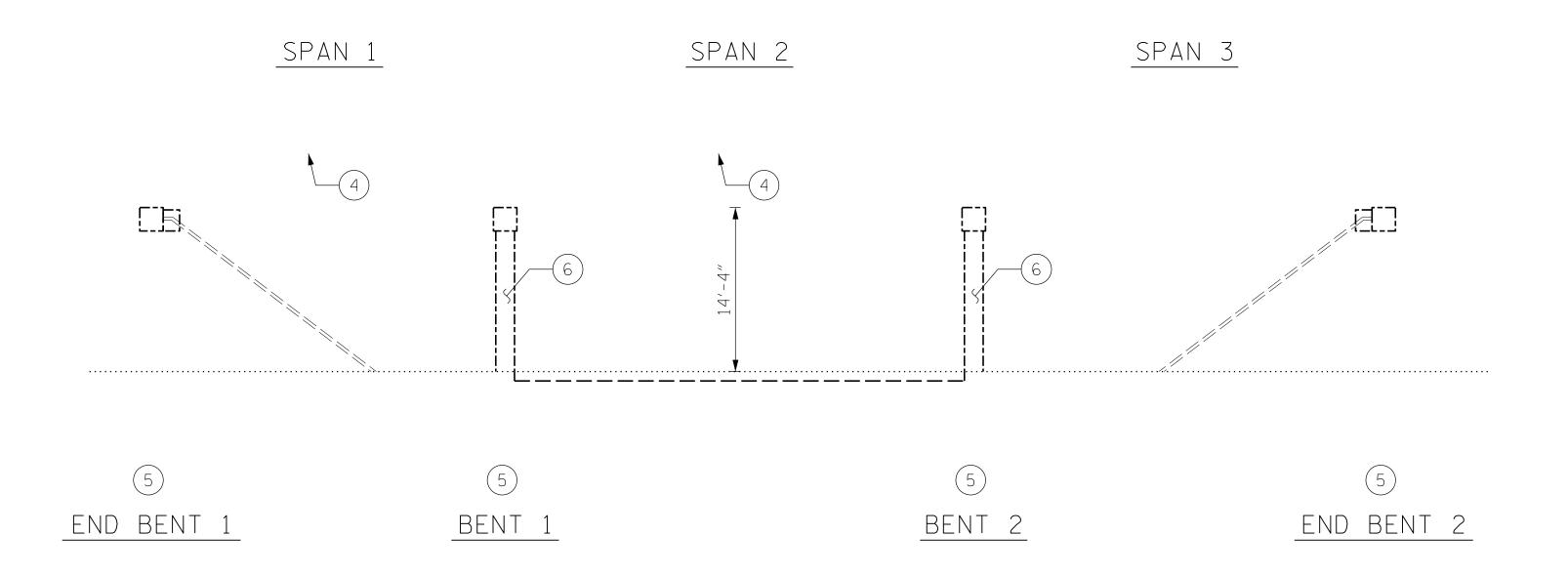
SUBSTRUCTURE REPAIRS

BENT 2

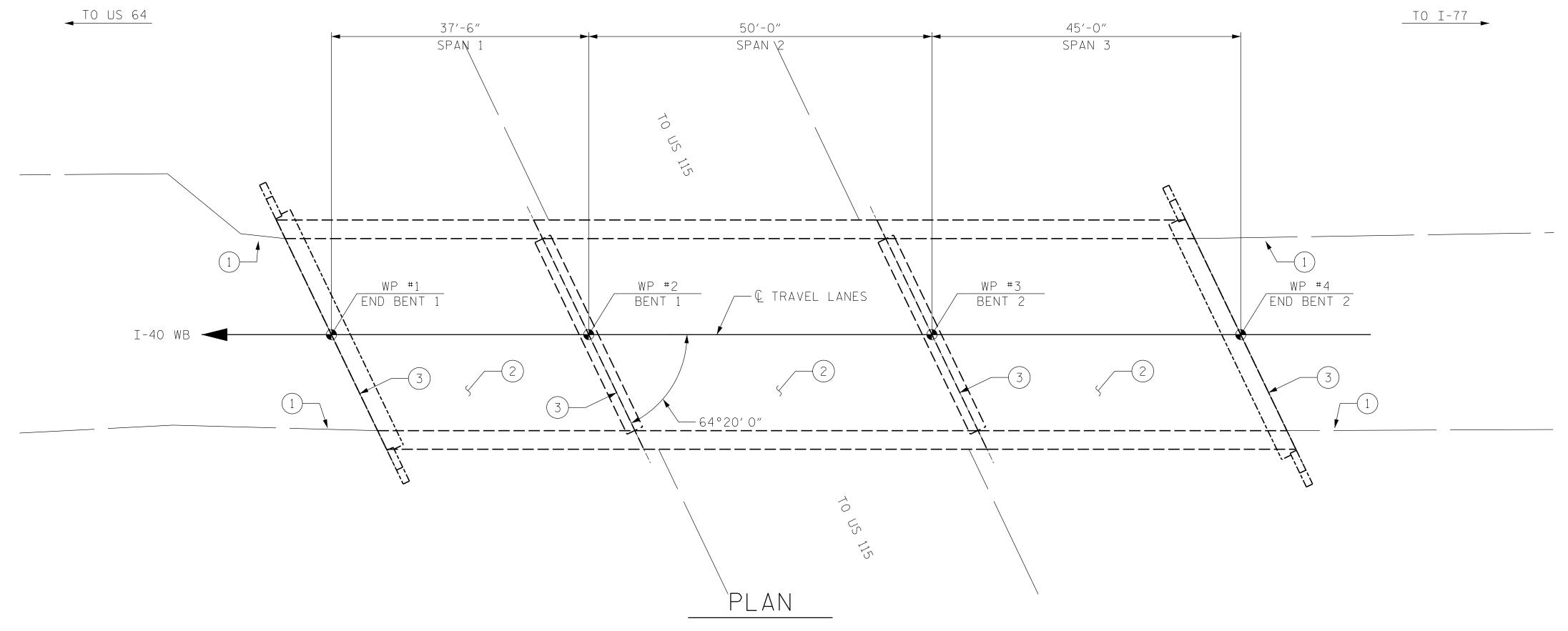
OCUMENT NOT CONSIDERED 301 FAYETTEVILLE ST., SUITE 1500 FINAL UNLESS ALL SIGNATURES COMPLETED

RALEIGH, NC 27601 (919) 882-7839 NC FIRM LICENSE: C-1506

SHEET NO REVISIONS DATE: S17-8 DATE: NO. BY:



## SECTION ALONG ROADWAY



NOTES:

GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE MOST UP TO DATE ROUTINE INSPECTION REPORT DATED 09/16/2021.

DIEGO A. AGUIRRE \_\_\_ DATE : <u>01/2022</u> DRAWN BY : \_\_\_\_ FIDEL L.FLORES \_ DATE : <u>0</u>1/2022 DESIGN ENGINEER OF RECORD: <u>DIEGO A.AGUIRRE</u> DATE : <u>01/2022</u>

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED
RALEIGH, NC 27601 (919) 892 7022 SIGNATURES COMPLETED NC FIRM LICENSE: C-1506

## SCOPE LEGEND:

- CLEAR SHOULDERS OF DEBRIS AND VEGETATION
- CONCRETE DECK REPAIRS
- JOINT REPAIRS/REPLACEMENT
- SUPERSTRUCTURE CONCRETE REPAIRS
- SUBSTRUCTURE CONCRETE REPAIRS
- SUBSTRUCTURE EPOXY RESIN INJECTION

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

DATE

RESIDENT ENGINEER

I-5915B PROJECT NO.\_ IREDELL \_ COUNTY 48Ø124 BRIDGE NO. \_

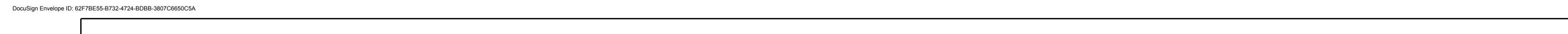
STATE OF NORTH CAROLINA

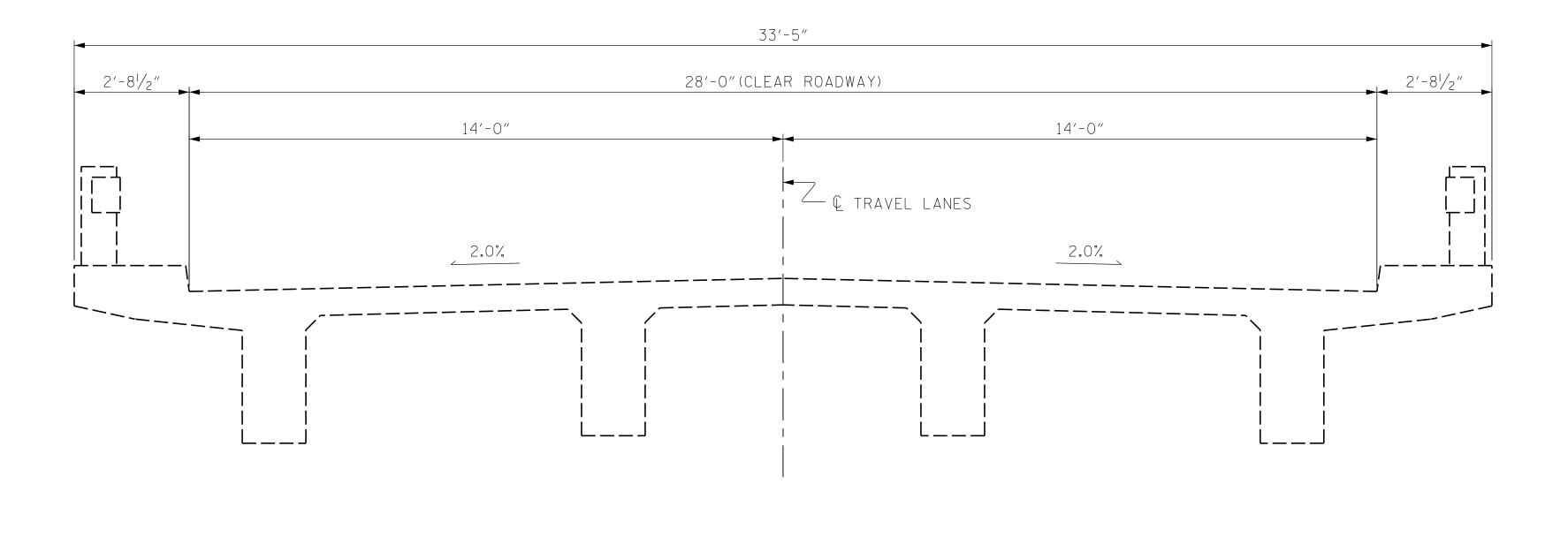
DEPARTMENT OF TRANSPORTATION RALEIGH

GENERAL DRAWING

FOR BRIDGE ON I-40 WB OVER NC 115

SHEET NO. REVISIONS S18-1 NO. BY: BY: DATE: DATE: TOTAL SHEETS





EXISTING

PROJECT NO. I-5915B IREDELL COUNTY BRIDGE NO. <u>480124</u>



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPTCAL SECTION

DOCUMENT NOT CONSIDERED :
FINAL UNLESS ALL
SIGNATURES COMPLETED

KCT		
KISINGER CAMPO		
& ASSOCIATES 301 FAYETTEVILLE ST., SUITE 1500	NO.	
RALEIGH, NC 27601 (919) 882-7839	1	
NC FIRM LICENSE: C-1506	2	-

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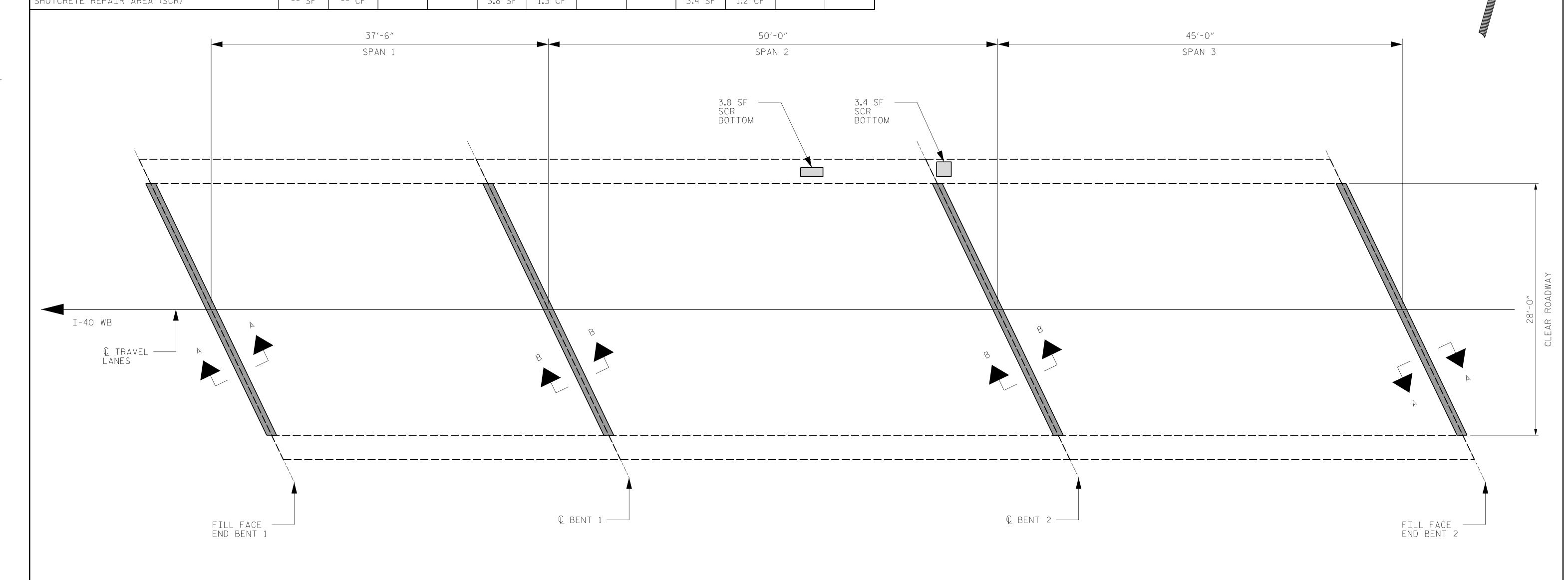
SHEET NO. REVISIONS S18-2 NO. BY: BY: DATE: DATE: TOTAL SHEETS

DRAWN BY: \_\_\_\_\_DIEGO A. AGUIRRE DATE: \_\_\_01/2022 CHECKED BY: \_\_\_\_FIDEL L.FLORES DATE: \_\_\_01/2022 DESIGN ENGINEER OF RECORD: \_\_\_\_DIEGO A. AGUIRRE DATE: \_\_\_01/2022 DRAWN BY: \_\_\_\_\_\_DIEGO A.AGUIRRE CHECKED BY: \_\_\_\_\_FIDEL L.FLORES

#### AS-BUILT REPAIR QUANTITY TABLE DECK REPAIRS SPAN 3 SPAN 1 SPAN 2 ACTUAL ESTIMATE ACTUAL ESTIMATE ESTIMATE ACTUAL CLASS II SURFACE PREPARATION VOLUME VOLUME VOLUME AREA VOLUME VOLUME VOLUME AREA AREA AREA 3.8 SF | 1.3 CF 1.2 CF SHOTCRETE REPAIR AREA (SCR) -- CF 3.4 SF -- SF

LEGEND:

SCR SHOTCRETE REPAIR AREA



PROJECT NO. I-5915B IREDELL COUNTY

48Ø124 BRIDGE NO. \_\_

NOTES:

PRIOR TO SURFACE PREPARATION, REMOVE ALL LOOSE, DISINTEGRATED, UNSOUND OR CONTAMINATED CONCRETE FROM THE BRIDGE DECK.

FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL PROVISIONS.

FOR SCARIFYING BRIDGE DECK, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

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

ALLEN J.MCSWAIN \_\_\_ DATE : <u>0</u>1/2022 DRAWN BY : \_\_\_\_ \_ DATE : <u>01/2022</u> CHECKED BY : \_\_\_\_\_\_\_\_\_\_JACOB H. DUKE

DESIGN ENGINEER OF RECORD: <u>DIEGO A.AGUIRRE</u> DATE : <u>01/2022</u>

BRIDGE JOINT DEMOLITION

FINAL UNLESS ALL

SIGNATURES COMPLETED

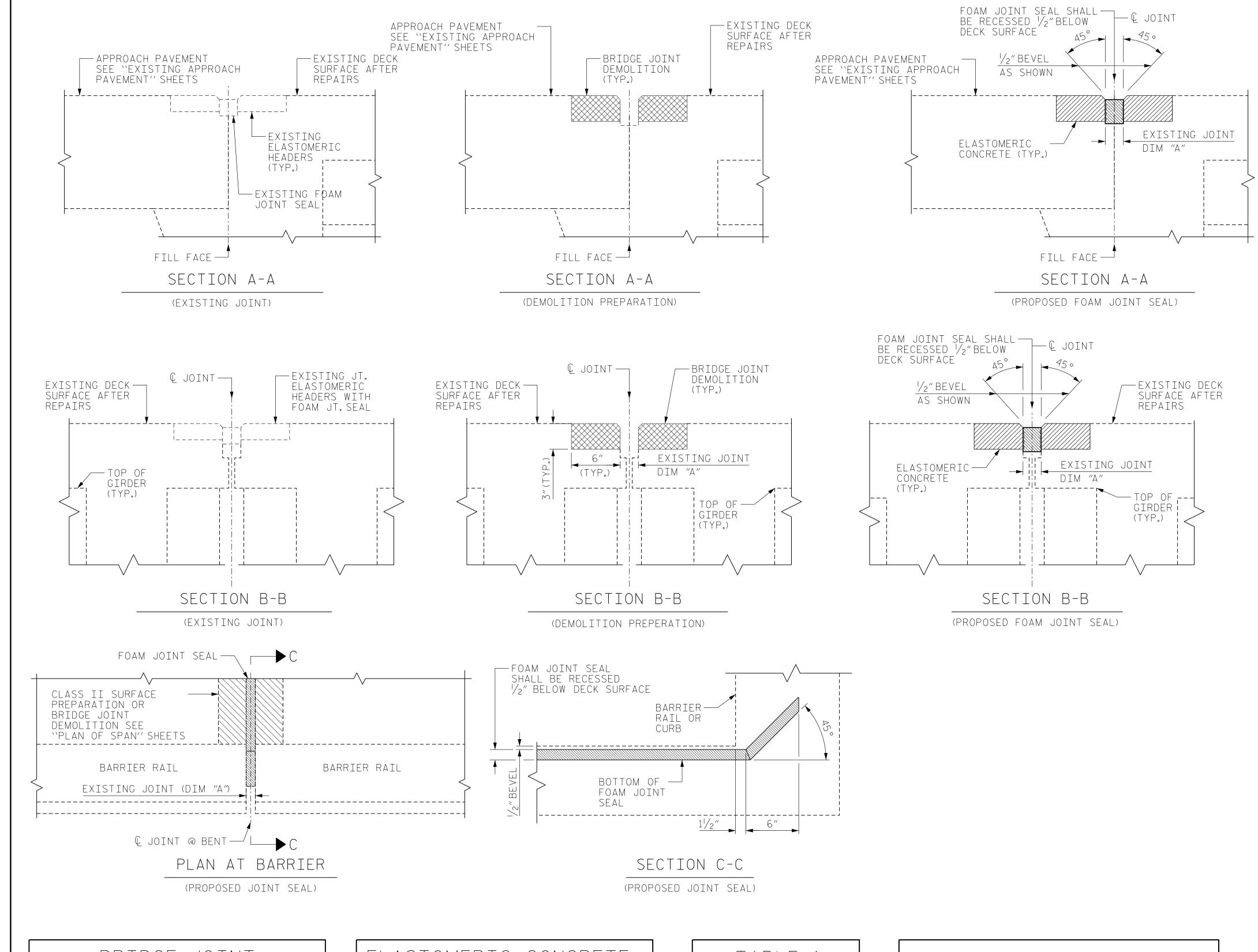
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

PLAN OF SPANS

DECK REPAIRS

OOCUMENT NOT CONSIDERED 301 FAYETTEVILLE ST., SUITE 1500 RALEIGH, NC 27601 (919) 882-7839 NC FIRM LICENSE: C-1506

SHEET NO. REVISIONS S18-3 BY: DATE: DATE: NO. BY:



BRIDGE JOINT DEMOLITION								
LOCATION	ESTIMATED (SQ.FT.)	ACTUAL (SQ.FT.)						
END BENTS	62.2							
BENT 1	31.1							
BENT 2	31.1							

DRAWN BY :	DIEGO A.AGUIRRE	DATE :	<u> 01/2022</u>
CHECKED BY :	JACOB H. DUKE	DATE :	01/2022
DESIGN ENGINEER	OF RECORD: <u>DIEGO A.AGUIRRE</u>	DATE :	01/2022

ELASTOMERIC CONCRETE FOR PRESERVATION								
LOCATION	ESTIMATED (CU.FT.)	ACTUAL (CU.FT.)						
END BENTS	15.6							
BENT 1	7.8							
BENT 2	7.8							

TABLE 1							
Table Date 02-2022							
BENT/ JOINTS	DIM "A" @ 40°F						
END BENT 1	13/4"						
1	13/4"						
2	13/4"						
END BENT 2	17/8"						

PROPOSED	JOINT QUA	NTITY
	ESTIMATED (LIN.FT.)	ACTUAL (LIN.FT.)
FOAM JOINT SEALS FOR PRESERVATION	131.0	

#### NOTES:

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

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

FOAM JOINTS SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS.

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

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

THE INSTALLED FOAM JOINT SEAL SHALL BE WATER TIGHT.

QUANTITIES SHOWN IN THE ELASTOMERIC CONCRETE FOR PRESERVATION TABLE BASED ON THE MINIMUM JOINT DEMOLITION SHOWN.

FOR EXCAVATION BELOW THE BOTTOM OF THE PLANNED JOINT DECK DEMOLITION, CONCRETE FOR DECK REPAIRS SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION AT BOTTOM OF THE PROPOSED ELASTOMERIC CONCRETE FOR PRESERVATION HEADERS SHOWN.

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

DEMOLISH BRIDGE JOINT AREA SUCH THAT THE BOTTOM OF THE EXCAVATION SHALL BE REASONABLY FLAT AND LEVEL AND TO THE NECESSARY DEPTH, SUCH THAT ELASTOMERIC CONCRETE SHALL BE FOUNDED ON CONCRETE OR REPAIR CONCRETE SUBSTRATE.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5915B

IREDELL COUNTY

BRIDGE NO. 480124



STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

JOINT DETAILS

KISINGER CAMPO & ASSOCIATES 301 FAYETTEVILLE ST., SUITE 1500 RALEIGH, NC 27601 (919) 882-7839 NC FIRM LICENSE: C-1506

ISINGER CAMPO

ASSOCIATES

NO BY:

DATE:

NO BY:

REVISIONS

NO. BY: DATE: NO. BY: DATE: S18-4

1 3 TOTAL SHEETS

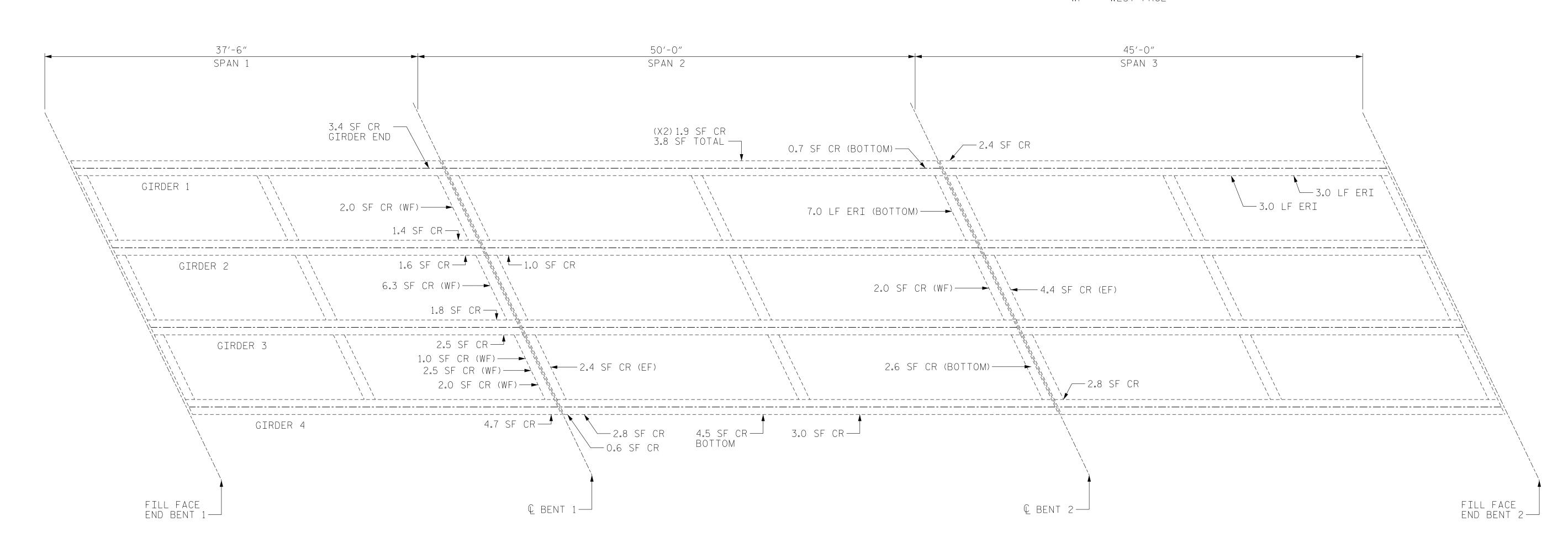
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	AS-BUILT	T RE	EPAIF	R QUA	ANTIT	Т ТА	BLE						
	S	SUPEF	RSTRUC	TURE R	REPAIRS	S							
		SPAN 1 SPAN 2 SPAN 3											
		ESTIM	ИАТЕ	ACT	UAL	ESTI	MATE	АСТ	TUAL	ESTI	MATE	ACT	TUAL
	AF	AREA	VOLUME	AREA	VOLUME	AREA	VOLUME	AREA	VOLUME	AREA	VOLUME	AREA	VOLUME
CONCRETE REPAIR AREA (CR)	29.	9.2 SF	10.6 CF			23.4 SF	8.5 CF			9.6 SF	3.3 CF		
SHOTCRETE REPAIR AREA (SCR)		SF	CF			SF	CF			SF	CF		
		ESTIM	ИАТЕ	ACT	UAL	ESTI	MATE	АСТ	TUAL	ESTI	MATE	ACT	TUAL
EPOXY RESIN INJECTION (ERI)		L	LF			7.0	LF			6.0	LF		

LEGEND:

- CR CONCRETE REPAIR AREA
- SCR SHOTCRETE REPAIR AREA
- ERI EPOXY RESIN INJECTION
- EF EAST FACE
- WF WEST FACE



PLAN

#### NOTES:

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DRAWN BY :	ALLEN	J. MCSWAIN	DATE:	<u> 01/2022</u>
CHECKED BY :	JACOB	H. DUKE	DATE:	<u>01/2022</u>
DESIGN ENGINEER	OF RECORD:	DIEGO A. AGUIRRE	DATE :	01/2022

I-5915B PROJECT NO.\_\_\_\_ IREDELL COUNTY

48Ø124 BRIDGE NO. \_



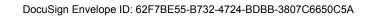
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

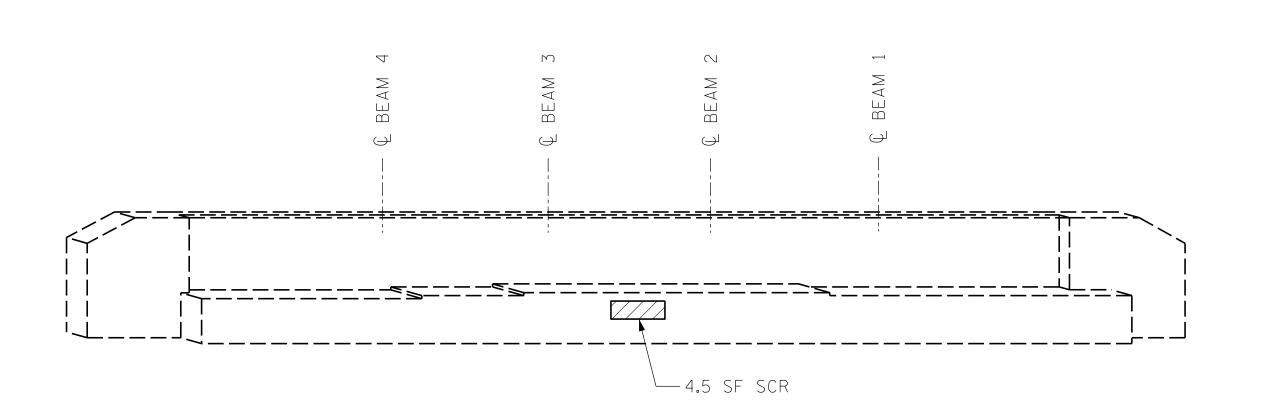
SUPERSTRUCTURE REPAIRS

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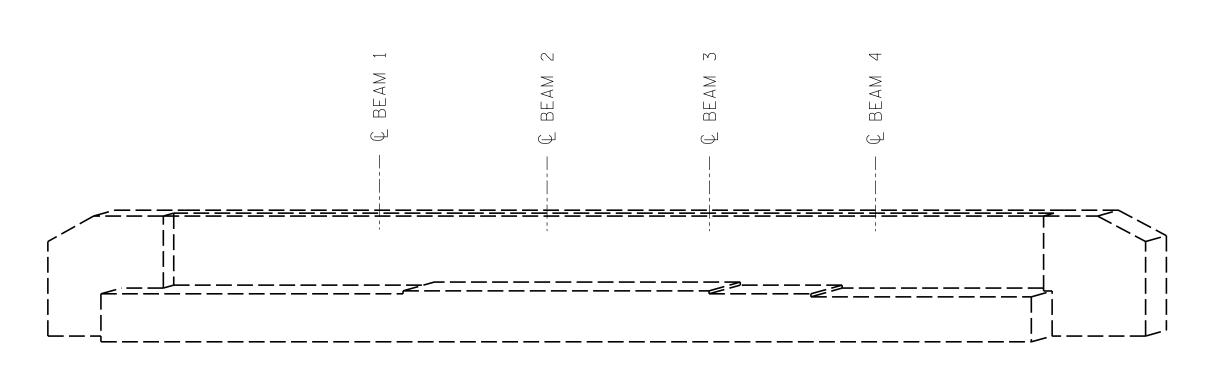
	KISINGER CAMPO	
<u> </u>	& ASSOCIATES 301 FAYETTEVILLE ST., SUITE 1500	NO.
_U	RALEIGH, NC 27601 (919) 882-7839	1
	NC FIRM LICENSE: C-1506	2

		SHEET NO.									
NO.	NO. BY: DATE:			BY:	DATE:	S18-5					
1				3				TOTAL SHEETS			
2			4			8					





END BENT 1 (EAST FACE)



END BENT 2 (WEST FACE)

LEGEND	AS-BUILT REPAIR QUANTITY TABLE						
CONCRETE REPAIR AREA (CR)		QUANTITIES					
		ESTI	MATE	ACTUAL			
SHOTCRETE REPAIR AREA (SCR)	SHOTCRETE REPAIRS	AREA SQ.FT.	VOLUME CU. FT.	AREA SQ.FT.	VOLUME CU. FT.		
EPOXY RESIN INJECTION (ERI) CAP/BACKWALL		4.5	1.5				
•	COLUMN/PILE	-	_				
	CONCRETE REPAIRS	AREA SQ.FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.		
	CAP	-	-				
	EPOXY RESIN INJECTION	LIN	.FT.	LIN	.FT.		
	CAP/BACKWALL		_				

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COLUMN/PILE

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> PROJECT NO. I-5915B IREDELL 48Ø124 BRIDGE NO. \_\_\_

SHEET 1 OF 3



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

> SUBSTRUCTURE REPAIRS

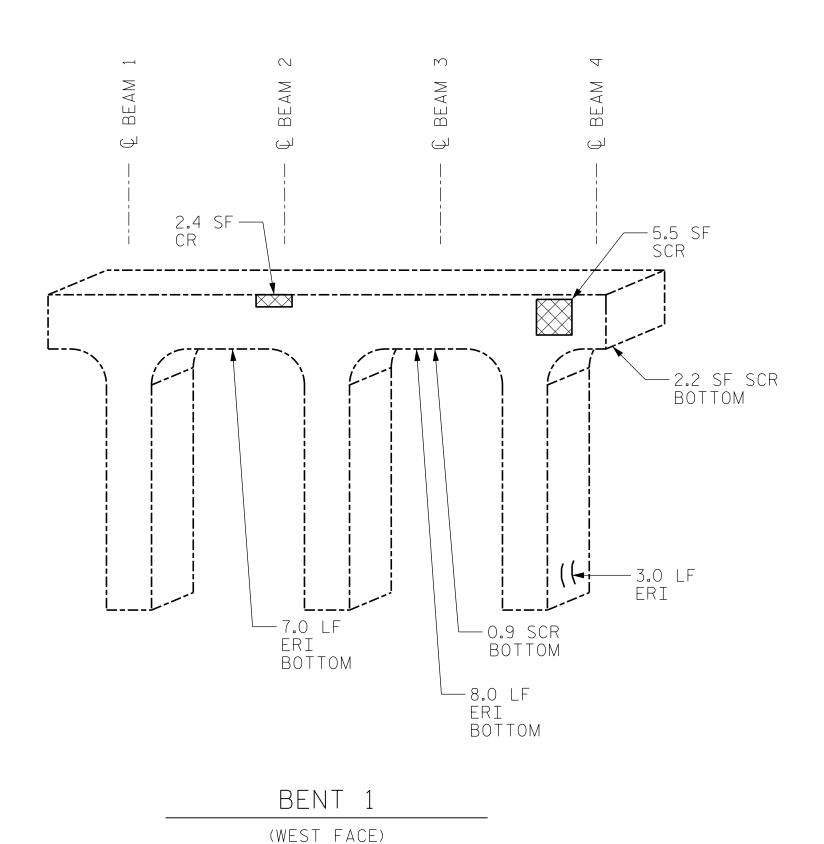
END BENTS 1 & 2

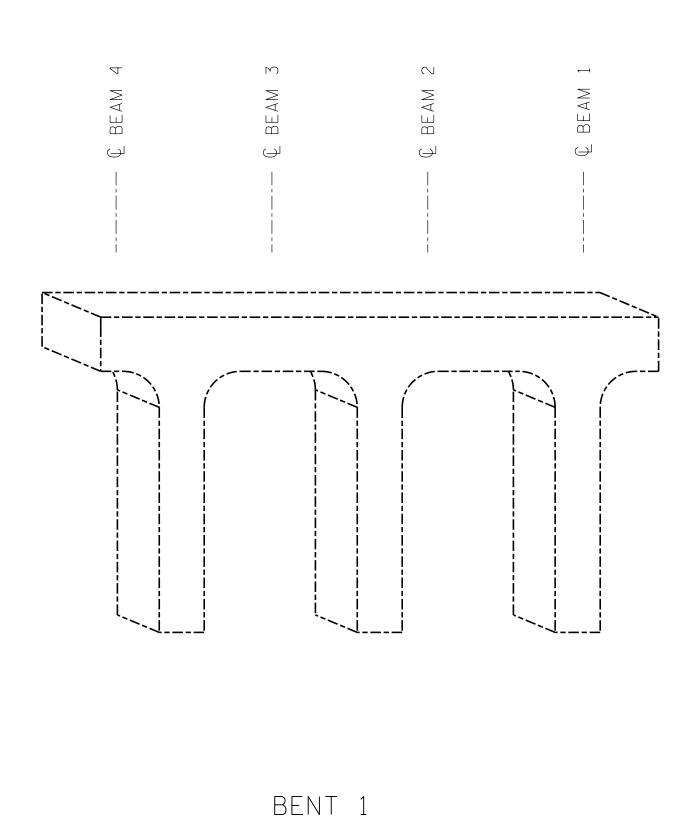
OCUMENT NOT CONSIDERED 301 FAYETTEVILLE ST., SUITE 150 FINAL UNLESS ALL

RALEIGH, NC 27601 (919) 882-783 SIGNATURES COMPLETED NC FIRM LICENSE: C-1506

0		SHEET NO						
S	NO.	BY:	DATE:	NO.	BY:	DATE:	S18-6	
i00 339	1			8			TOTAL SHEETS	
	2			<u> </u>			l 8	

ALLEN J. MCSWAIN \_ DATE : <u>0</u>1/2022 \_ DATE : <u>01/2022</u> CHECKED BY: \_\_\_\_\_FIDEL L.FLORES DESIGN ENGINEER OF RECORD: <u>DIEGO A.AGUIRRE</u> DATE: <u>01/2022</u>





(EAST FACE)

		LEGEND	AS-BUILT REPAIR QUANTITY TABLE						
	CONCRETE REPAIR AREA (CR)			QUANTITIES					
-				ESTIMATE		ACTUAL			
-		SHOTCRETE REPAIR AREA (SCR)	SHOTCRETE REPAIRS	AREA SQ.FT.	VOLUME CU. FT.	AREA SQ.FT.	VOLUME CU. FT.		
		EPOXY RESIN INJECTION (ERI)	CAP/BACKWALL	8.6	3.0				
•		•	COLUMN/PILE	_	_				
			CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ.FT.	VOLUME CU. FT.		
			CAP	2.4	0.8				
			EPOXY RESIN INJECTION	LIN.FT. LI		LIN	.FT.		
			CAP/BACKWALL	15.0					

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

3.0

#### NOTES:

COLUMN/PILE

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

CRACKING LOCATIONS AND QUANTITIES FOR LOCATIONS DESCRIBED AS "SCATTERED THROUGHOUT" IN THE INSPECTION REPORT ARE BASED ON THE BEST INFORMATION AVAILABLE. THE ENGINEER AND CONTRACTOR SHALL IDENTIFY AND REPAIR ALL CRACKS >= 1/16" AS DESCRIBED IN THE SPECIAL PROVISIONS AT EACH BENT.

AVERAGE CONCRETE COVER IS EXPECTED TO BE FROM 2"TO 3"ON THE CAP AND FROM  $1\frac{1}{2}$ " TO 2" ON THE PILES. ACTUAL CONCRETE COVER SHALL BE DETERMINED BY THE CONTRACTOR AND PRESENTED TO THE ENGINEER PRIOR TO BEGINNING EXCAVATION/ DEMOLITION.

FOR CONCRETE AND SHOTCRETE REPAIRS, SEE "CONCRETE RESTORATION DETAILS" SHEETS.

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

REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.

> PROJECT NO.\_ 48Ø124 BRIDGE NO. \_\_\_

SHEET 2 OF 3



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS

BENT 1

SHEET NO

S18-7

DATE:

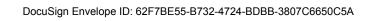
RALEIGH, NC 27601 (919) 882-7839 NC FIRM LICENSE: C-1506

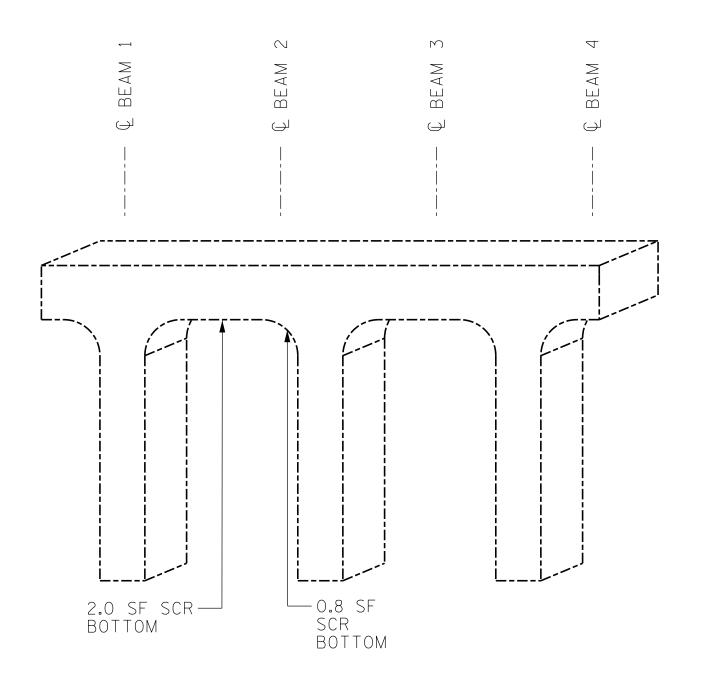
CONSIDERED SOLUTION SOLUTION SIDERED KISINGER CAMPO & ASSOCIATES 301 FAYETTEVILLE ST., SUITE 1500 SIGNATURES COMPLETED

FINAL UNLESS ALL

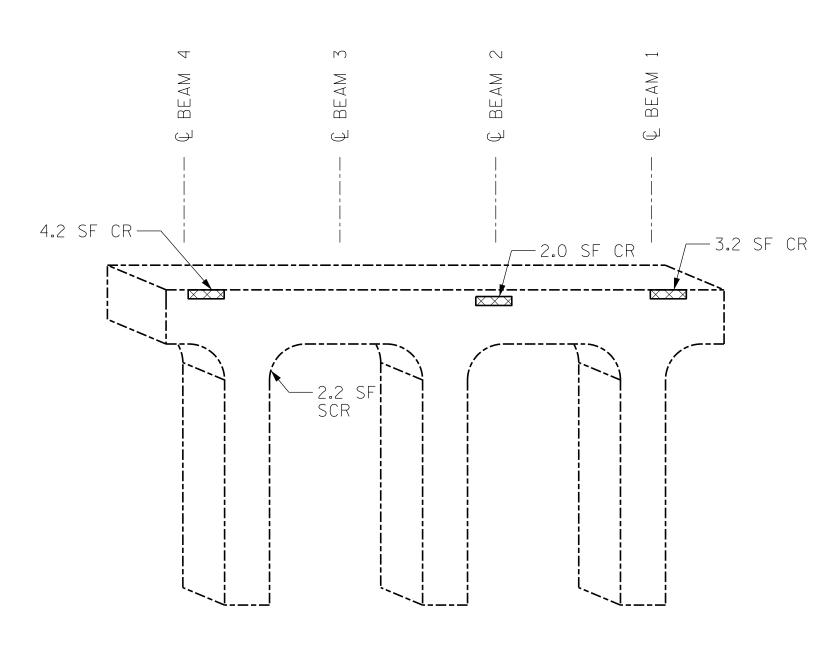
REVISIONS DATE: NO. BY:

ALLEN J.MCSWAIN \_ DATE : <u>0</u>1/2022 \_ DATE : <u>01/2022</u> FIDEL L.FLORES DESIGN ENGINEER OF RECORD: <u>DIEGO A.AGUIRRE</u> DATE: <u>01/2022</u>





BENT 2 (WEST FACE)



BENT 2 (EAST FACE)

ALLEN J. MCSWAIN \_DATE : <u>0</u>1/2022 DRAWN BY : \_\_\_ CHECKED BY: \_\_\_\_\_FIDEL L.FLORES DATE : <u>01/2022</u> DESIGN ENGINEER OF RECORD: <u>DIEGO A.AGUIRRE</u> DATE: <u>01/2022</u>

FINAL UNLESS ALL SIGNATURES COMPLETED

AS-BUILT REPAIR QUANTITY TABLE QUANTITIES CONCRETE REPAIR AREA (CR) ACTUAL ESTIMATE SHOTCRETE REPAIR AREA (SCR) SHOTCRETE REPAIRS EPOXY RESIN INJECTION (ERI) CAP/BACKWALL 2.8 1.0 2.2 COLUMN/PILE 0.8 VOLUME CU.FT. CONCRETE REPAIRS CAP 9.4 EPOXY RESIN INJECTION LIN.FT. LIN.FT. CAP/BACKWALL

> VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE. MINIMUM OF 1"BEHIND REBAR AND MINIMUM 2"CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "CONCRETE RESTORATION DETAILS" SHEETS.

#### NOTES:

COLUMN/PILE

LEGEND

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

CRACKING LOCATIONS AND QUANTITIES FOR LOCATIONS DESCRIBED AS "SCATTERED THROUGHOUT" IN THE INSPECTION REPORT ARE BASED ON THE BEST INFORMATION AVAILABLE. THE ENGINEER AND CONTRACTOR SHALL IDENTIFY AND REPAIR ALL CRACKS >= $\frac{1}{16}$  AS DESCRIBED IN THE SPECIAL PROVISIONS AT EACH BENT.

AVERAGE CONCRETE COVER IS EXPECTED TO BE FROM 2"TO 3"ON THE CAP AND FROM  $1\frac{1}{2}$ " TO 2" ON THE PILES. ACTUAL CONCRETE COVER SHALL BE DETERMINED BY THE CONTRACTOR AND PRESENTED TO THE ENGINEER PRIOR TO BEGINNING EXCAVATION/ DEMOLITION.

FOR CONCRETE AND SHOTCRETE REPAIRS, SEE "CONCRETE RESTORATION DETAILS" SHEETS.

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

REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.

> I-5915B PROJECT NO.\_ IREDELL COUNTY

48Ø124 BRIDGE NO. \_

SHEET 3 OF 3



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS

BENT 2

CONSIDERED SOLUTION SOLUTION SIDERED KISINGER CAMPO & ASSOCIATES 301 FAYETTEVILLE ST., SUITE 1500 DATE: RALEIGH, NC 27601 (919) 882-7839 NC FIRM LICENSE: C-1506

SHEET NO REVISIONS S18-8 DATE: NO. BY: TOTAL SHEETS

4/21/2022 I5915B\_SMU\_SBR02\_480124.dgn daguirre

## STANDARD NOTES

#### DESIGN DATA:

#### MATERIAL AND WORKMANSHIP:

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

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

#### CONCRETE:

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

#### CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 11/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

### DOWELS:

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

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

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

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

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

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

#### REINFORCING STEEL:

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

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

#### STRUCTURAL STEEL:

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

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST \( \frac{1}{6}'' \) 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