

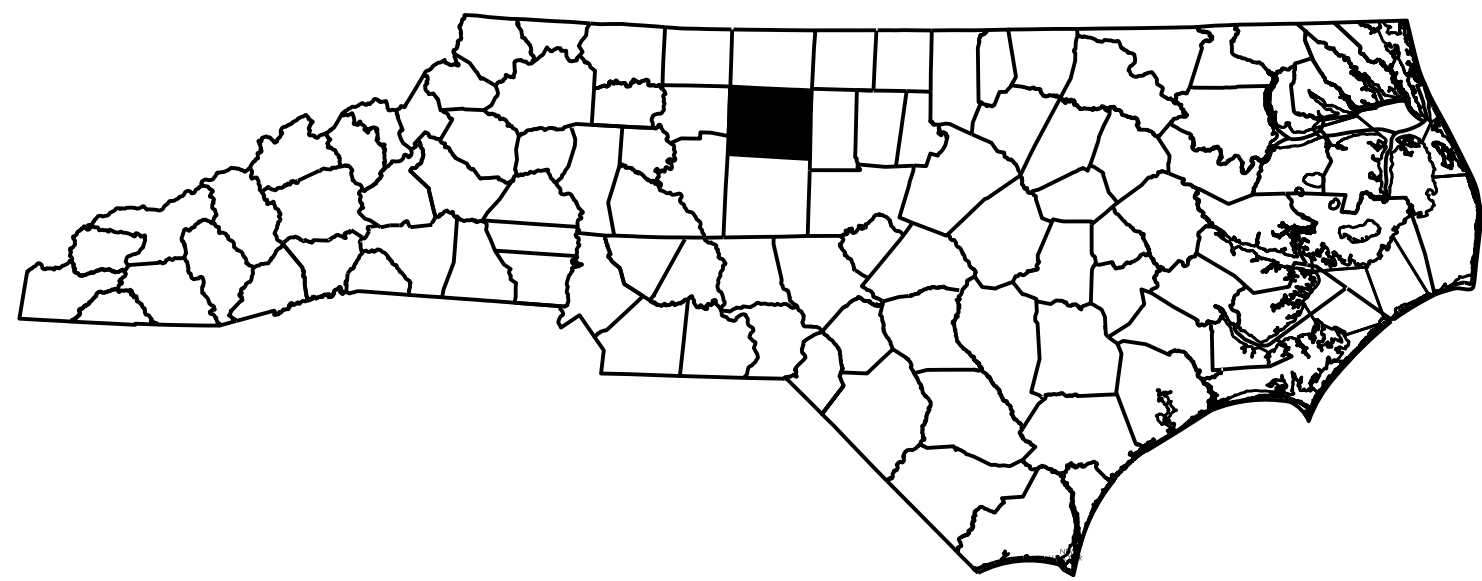
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and is Not a Certified Document –**

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numbers appear on each page, on the dates appearing
with their signature on that page.**

**This file or an individual page
shall not be considered a certified document.**

PROJECT: I-5852A

CONTRACT NO: C204174



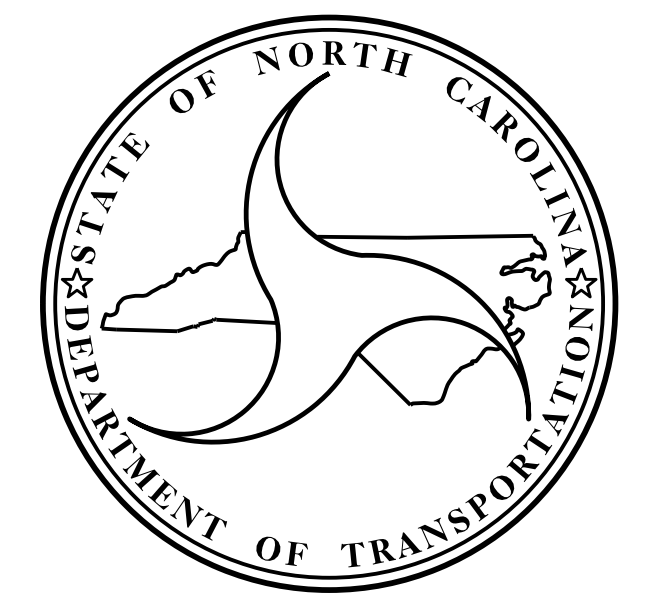
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5852A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
53056.3.2	NHPIM-0073(49)	CONST	

- LOCATION:** BRIDGE #820 ON I-73 & I-840 NORTHBOUND LOOP OVER I-40 EBL
 BRIDGE #821 ON I-73 & I-840 NORTHBOUND OVER I-40 WESTBOUND & I-73/I-840 RAMP
 BRIDGE #823 ON I-73 & I-840 SOUTHBOUND OVER I-40 EAST & US 421 SOUTH
 BRIDGE #824 ON I-73 & I-840 SOUTHBOUND RAMP OVER I-40 WESTBOUND
 BRIDGE #825 ON I-73 & I-840 SOUTHBOUND OVER I-73 & I-840 RAMP
 BRIDGE #827 ON I-73 & I-840 SOUTHBOUND RAMP OVER I-40
 BRIDGE #861 ON I-73 & US 421 SOUTHBOUND OVER SR 1424 (HILLTOP RD.)
 BRIDGE #862 ON I-73 & US 421 NORTHBOUND OVER SR 1424 (HILLTOP RD.)
 BRIDGE #864 ON I-73 & US 421 SOUTHBOUND & I-40 EASTBOUND OVER SR 1541 (W. WENDOVER AVE.)
 BRIDGE #865 ON I-73 & US 421 NORTHBOUND OVER SR 1541 (W. WENDOVER AVE.)
 BRIDGE #866 ON I-73 & US 421 SOUTHBOUND OVER SR 1546 (GUILFORD COLLEGE RD.)
 BRIDGE #867 ON I-73 & US 421 NORTHBOUND OVER SR 1546 (GUILFORD COLLEGE RD.)
 BRIDGE #869 ON I-73 & US 421 SOUTHBOUND OVER SR 1129 (GROOMETOWN RD.)
 BRIDGE #870 ON I-73 & US 421 NORTHBOUND OVER SR 1129 (GROOMETOWN RD.)
 BRIDGE #871 ON I-73 & US 421 SOUTHBOUND OVER SR 4205 (KINGS MILL RD.)
 BRIDGE #872 ON I-73 & US 421 NORTHBOUND OVER SR 4205 (KINGS MILL RD.)
 BRIDGE #879 ON I-85 OVER I-85 BUSINESS

TYPE OF WORK: BRIDGE PRESERVATION - SHOTBLASTING CONCRETE BRIDGE DECK, SILANE BRIDGE DECK TREATMENT AND JOINT DEMOLITION & REPLACEMENT.



DESIGN DATA

#820 ADT 2015 = 23,000	#864 ADT 2013 = 17,000
#821 ADT 2015 = 23,000	#865 ADT 2013 = 19,000
#823 ADT 2015 = 23,000	#866 ADT 2013 = 19,000
#824 ADT 2015 = 23,000	#867 ADT 2013 = 19,000
#825 ADT 2012 = 20,500	#869 ADT 2013 = 22,000
#827 ADT 2015 = 24,500	#870 ADT 2013 = 17,000
#861 ADT 2013 = 17,000	#871 ADT 2013 = 17,000
#862 ADT 2013 = 17,000	#872 ADT 2013 = 17,000
	#879 ADT 2013 = 19,500

PROJECT LENGTH

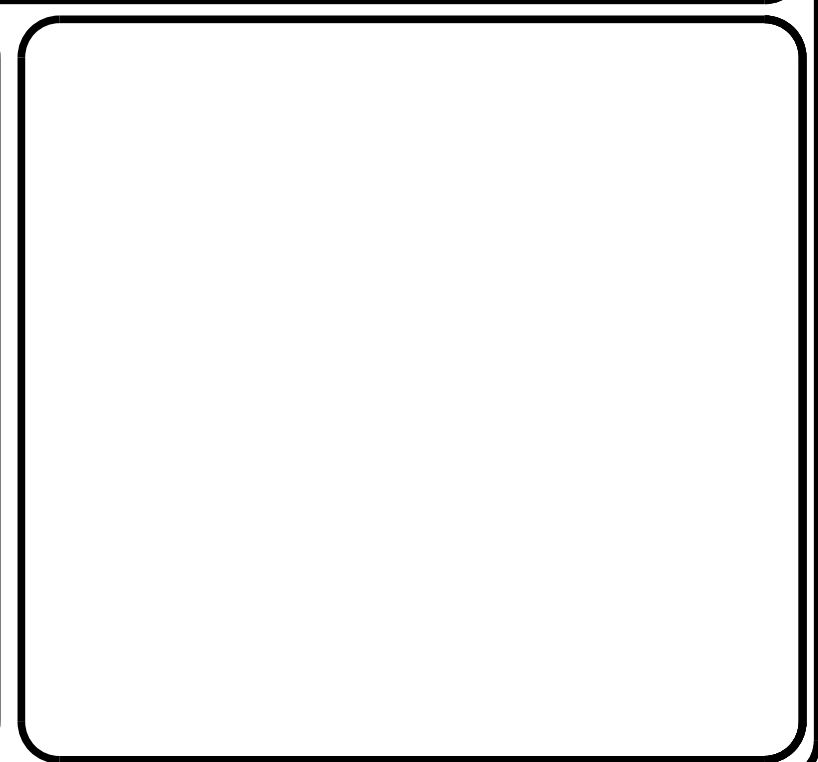
BRIDGE #820 = 0.03 MILE	BRIDGE #864 = 0.04 MILE
BRIDGE #821 = 0.08 MILE	BRIDGE #865 = 0.04 MILE
BRIDGE #823 = 0.11 MILE	BRIDGE #866 = 0.03 MILE
BRIDGE #824 = 0.05 MILE	BRIDGE #867 = 0.03 MILE
BRIDGE #825 = 0.03 MILE	BRIDGE #869 = 0.03 MILE
BRIDGE #827 = 0.12 MILE	BRIDGE #870 = 0.03 MILE
BRIDGE #861 = 0.05 MILE	BRIDGE #871 = 0.03 MILE
BRIDGE #862 = 0.05 MILE	BRIDGE #872 = 0.03 MILE
	BRIDGE #879 = 0.06 MILE

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

K.W. ALFORD, P.E.
 PROJECT ENGINEER

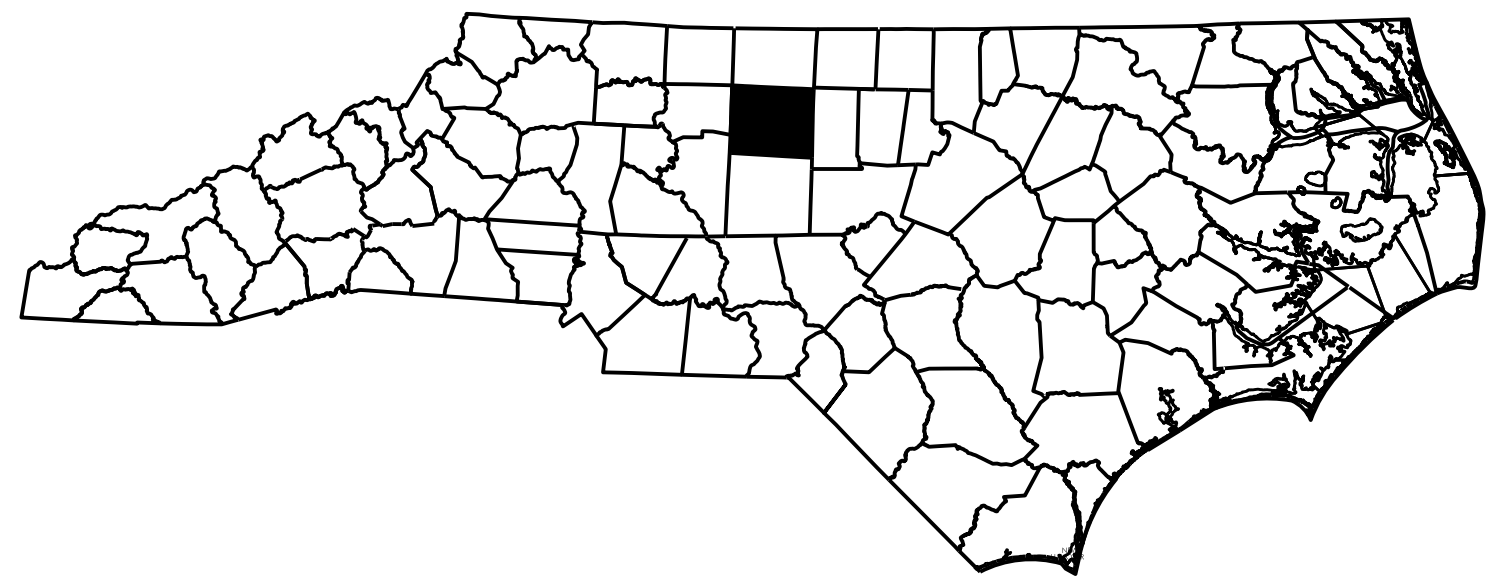
2018 STANDARD SPECIFICATIONS

LETTING DATE:
 OCTOBER 16, 2018



PROJECT: I-5852A

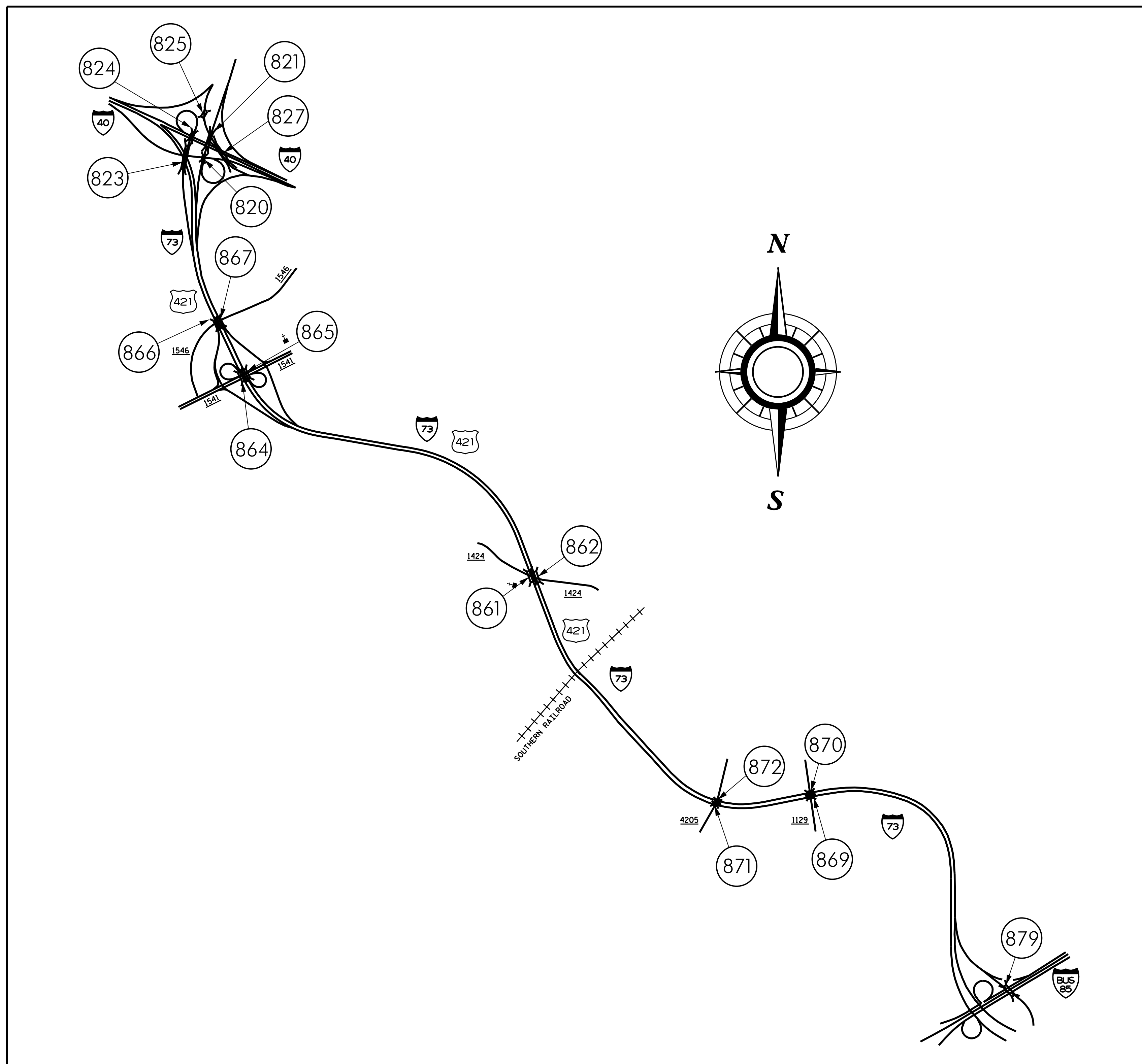
CONTRACT NO: C204174



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5852A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
53056.3.2	NHPIM-0073(49)	CONST	



INDEX OF SHEETS

SHEETS:

<i>S1 TOTAL BILL OF MATERIALS</i>		
<i>S1-1 THRU S1-4</i>	<i>BRIDGE</i>	<i>#820</i>
<i>S2-1 THRU S2-5</i>	<i>BRIDGE</i>	<i>#821</i>
<i>S3-1 THRU S3-3</i>	<i>BRIDGE</i>	<i>#823</i>
<i>S4-1 THRU S4-4</i>	<i>BRIDGE</i>	<i>#824</i>
<i>S5-1 THRU S5-4</i>	<i>BRIDGE</i>	<i>#825</i>
<i>S6-1 THRU S6-4</i>	<i>BRIDGE</i>	<i>#827</i>
<i>S7-1 THRU S7-4</i>	<i>BRIDGE</i>	<i>#861</i>
<i>S8-1 THRU S8-4</i>	<i>BRIDGE</i>	<i>#862</i>
<i>S9-1 THRU S9-4</i>	<i>BRIDGE</i>	<i>#864</i>
<i>S10-1 THRU S10-4</i>	<i>BRIDGE</i>	<i>#865</i>
<i>S11-1 THRU S11-4</i>	<i>BRIDGE</i>	<i>#866</i>
<i>S12-1 THRU S12-4</i>	<i>BRIDGE</i>	<i>#867</i>
<i>S13-1 THRU S13-4</i>	<i>BRIDGE</i>	<i>#869</i>
<i>S14-1 THRU S14-4</i>	<i>BRIDGE</i>	<i>#870</i>
<i>S15-1 THRU S15-4</i>	<i>BRIDGE</i>	<i>#871</i>
<i>S16-1 THRU S16-4</i>	<i>BRIDGE</i>	<i>#872</i>
<i>S17-1 THRU S17-4</i>	<i>BRIDGE</i>	<i>#879</i>

NOTES

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

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

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

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

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

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

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR VOLUMETRIC MIXER, SEE SPECIAL PROVISIONS.

FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

FOR EXPANSION JOINT SEAL REPAIR, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR CONCRETE DECK REPAIR, SEE SPECIAL PROVISIONS.

FOR SHOTBLASTING BRIDGE DECK, SEE SILANE DECK TREATMENT SPECIAL PROVISION.

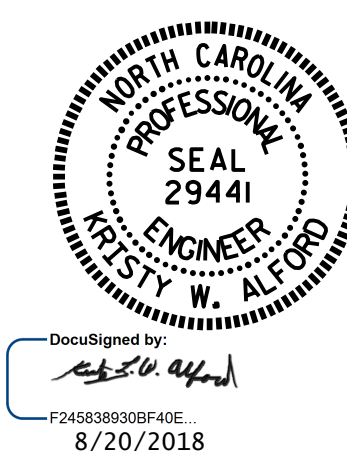
FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

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

TOTAL BILL OF MATERIALS

BRIDGE NO.	FOAM JOINT SEALS	VOLUMETRIC MIXER	EXPANSION JOINT SEAL REPAIR	BRIDGE JOINT DEMOLITION	CONCRETE DECK REPAIR	SHOTBLASTING BRIDGE DECK	SILANE DECK TREATMENT
	LUMP SUM	LUMP SUM	LIN. FT.	SO. FT.	CU. FT.	SO. YD.	SO. YD.
820	LUMP SUM	LUMP SUM	-	129	* 10	1,230	1,230
821	LUMP SUM	LUMP SUM	97	65	* 10	3,285	3,285
823	-	LUMP SUM	-	-	* 10	3,590	3,590
824	LUMP SUM	LUMP SUM	-	55	* 10	1,850	1,850
825	LUMP SUM	LUMP SUM	-	97	* 10	1,015	1,015
827	-	LUMP SUM	38	-	* 10	2,700	2,700
861	LUMP SUM	LUMP SUM	-	170	* 10	2,410	2,410
862	LUMP SUM	LUMP SUM	-	170	* 10	2,195	2,195
864	LUMP SUM	LUMP SUM	-	140	* 10	2,080	2,080
865	LUMP SUM	LUMP SUM	-	140	* 10	2,080	2,080
866	LUMP SUM	LUMP SUM	-	152	* 10	1,780	1,780
867	LUMP SUM	LUMP SUM	-	153	* 10	1,800	1,800
869	LUMP SUM	LUMP SUM	-	129	* 10	1,195	1,195
870	LUMP SUM	LUMP SUM	-	129	* 10	1,195	1,195
871	LUMP SUM	LUMP SUM	-	129	* 10	1,170	1,170
872	LUMP SUM	LUMP SUM	-	129	* 10	1,170	1,170
879	LUMP SUM	LUMP SUM	-	74	* 10	1,290	1,290
TOTAL	LUMP SUM	LUMP SUM	135	1861	* 170	32,035	32,035

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. _____



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

TOTAL BILL OF MATERIALS

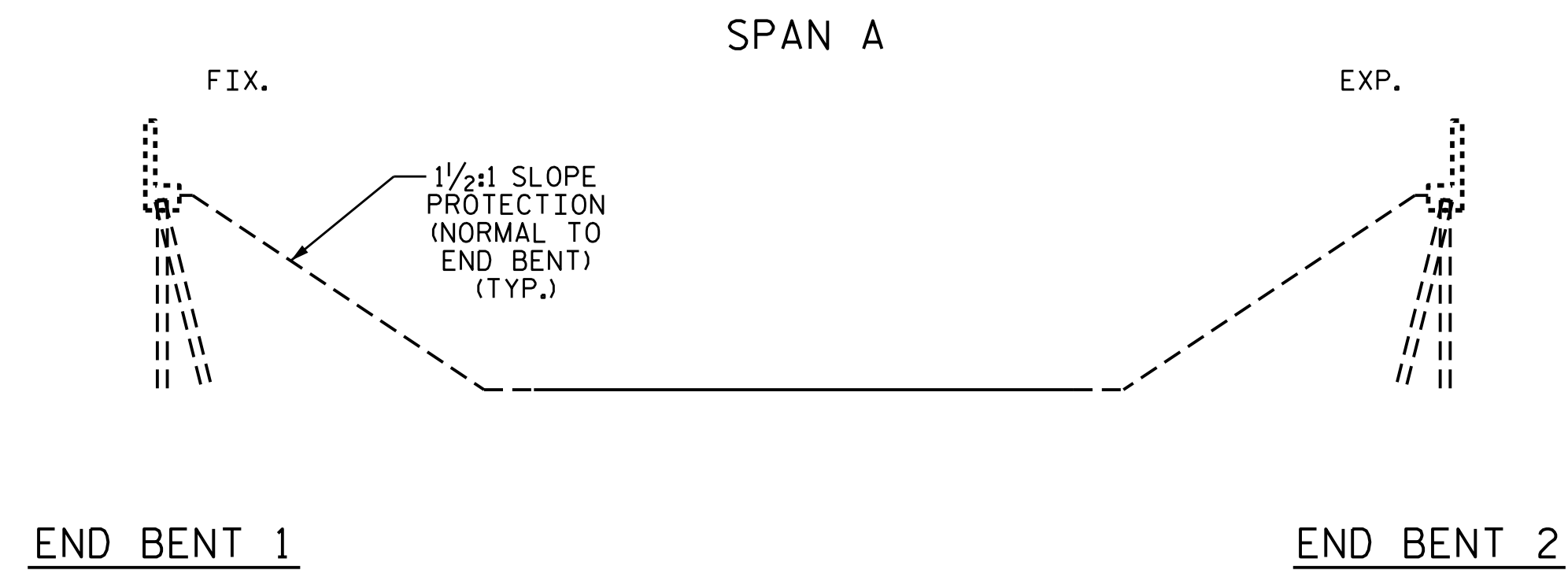
DRAWN BY : M.K. BEARD DATE : 7/3/18
 CHECKED BY : K.W. ALFORD DATE : 7/13/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

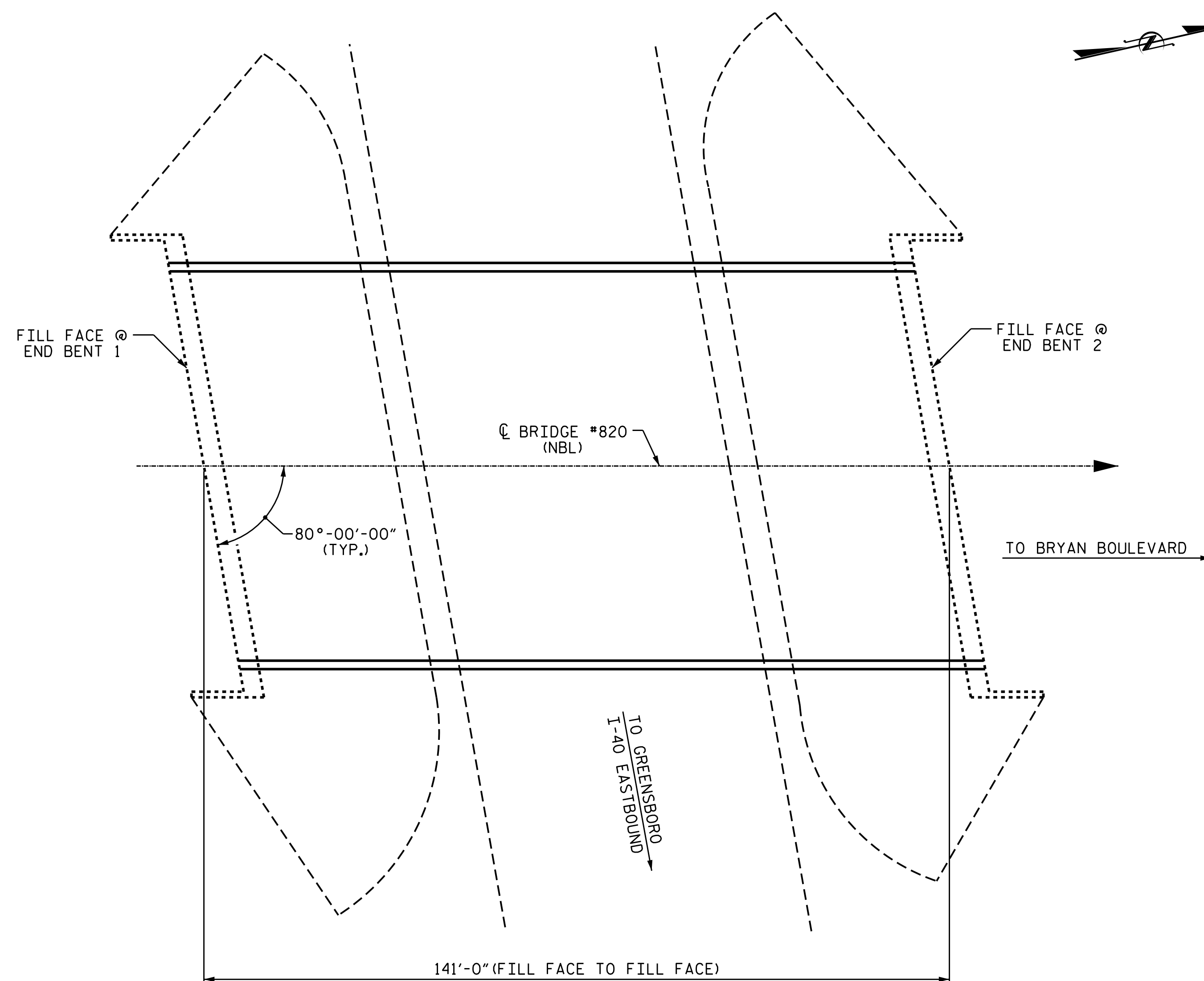
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			1

SCOPE OF WORK

- DEMOLISH EXISTING BRIDGE DECK JOINTS
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW JOINT SEALS
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



ELEVATION
(SECTION ALONG \bar{C} ROADWAY)



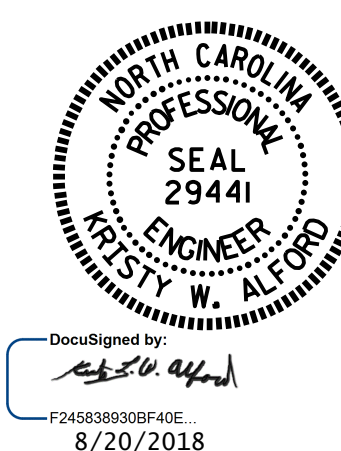
PLAN
(PILES NOT SHOWN FOR CLARITY)

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

Resident Engineer _____ Date _____

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 820

SHEET 1 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON I-73
 & I-840 NORTHBOUND LOOP
 OVER I-40 EASTBOUND

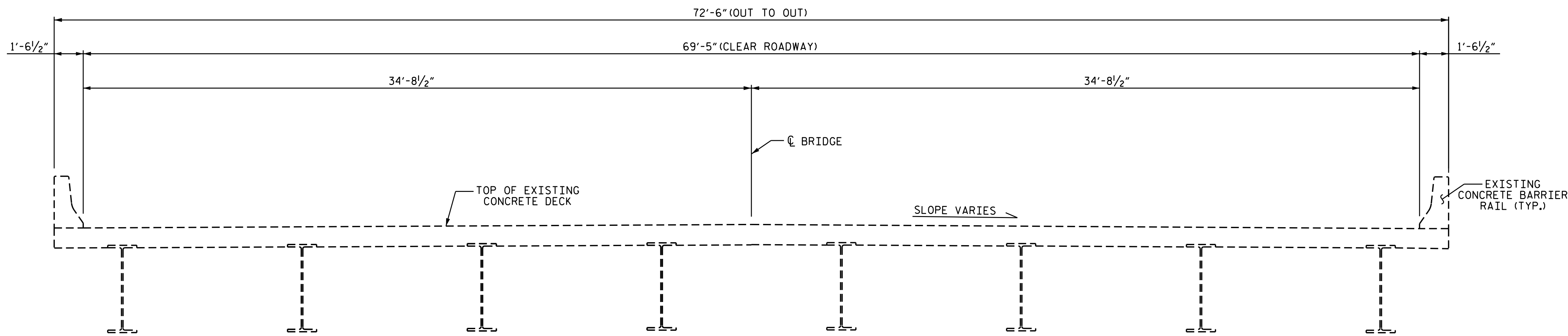
DRAWN BY : M.K. BEARD DATE : 3/16/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

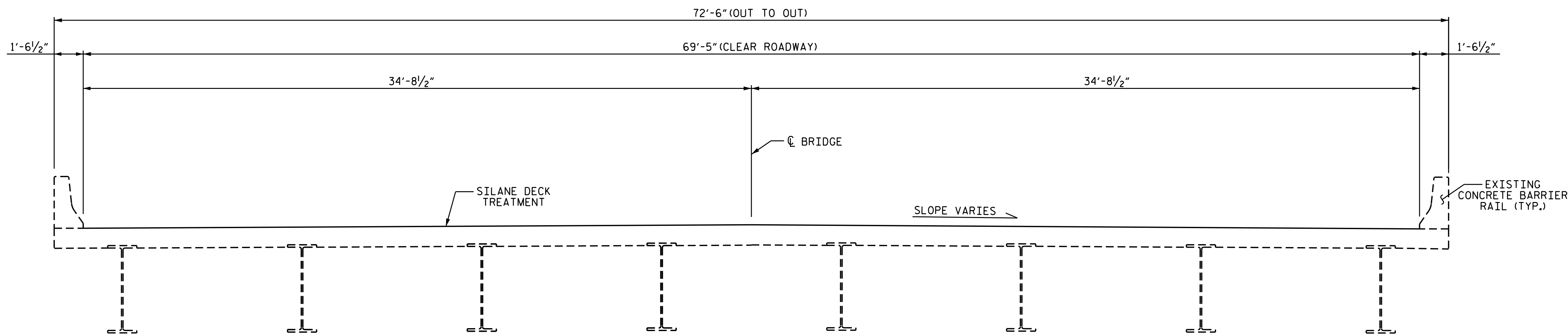
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-1
1			3			TOTAL SHEETS
2			4			4

NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



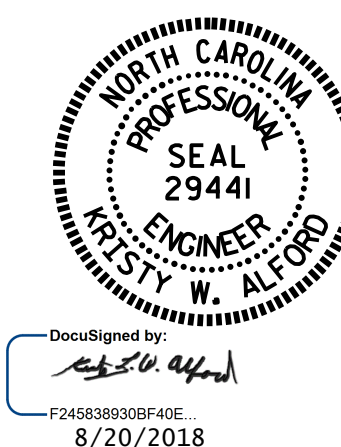
TYPICAL SECTION
(EXISTING)



TYPICAL SECTION
(PROPOSED)

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 820

SHEET 2 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
TYPICAL SECTIONS

DRAWN BY : M.K. BEARD DATE : 3/16/18
CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

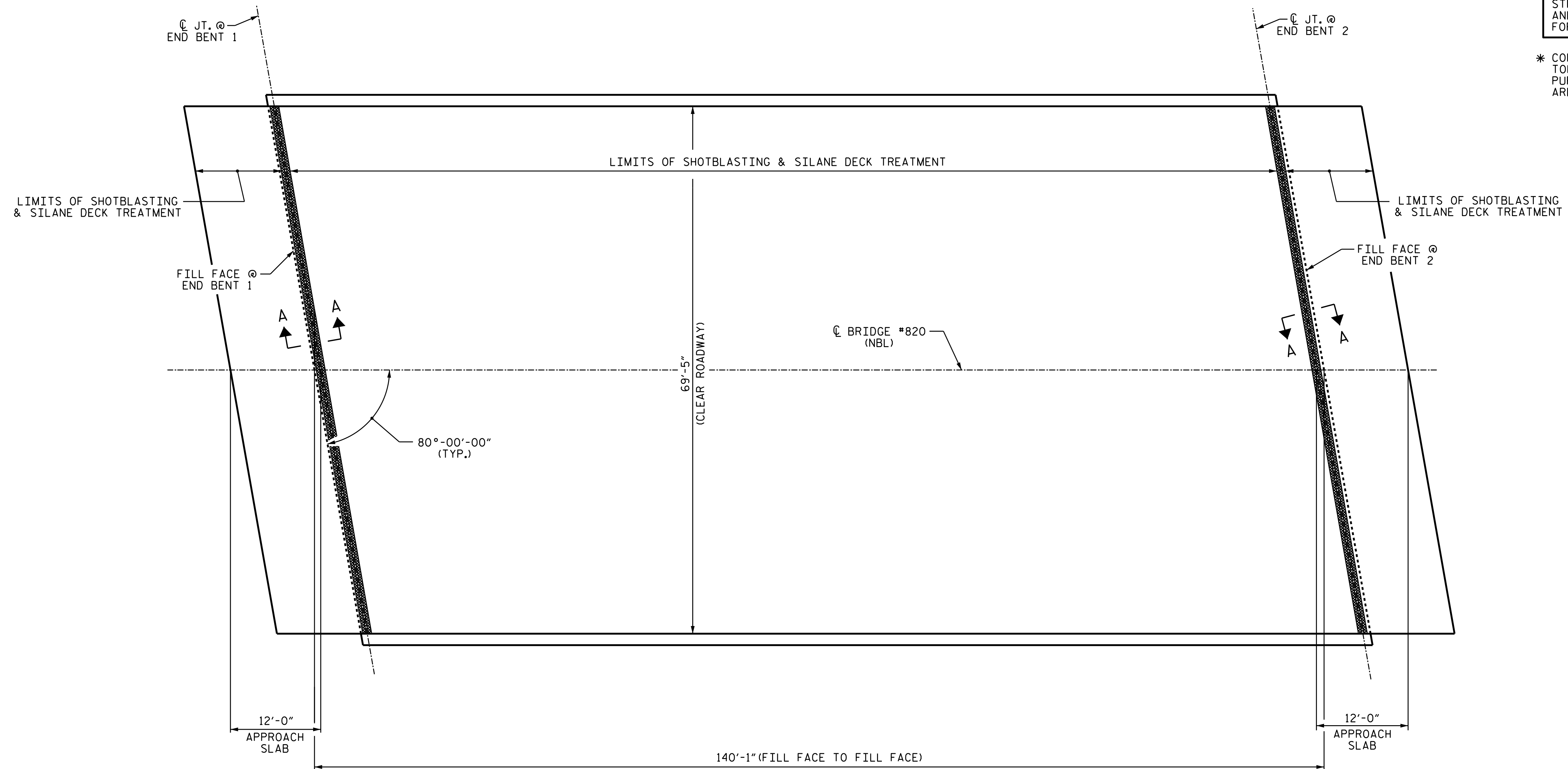
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S1-2
2			4			4

SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	129 SQ.FT.	
CONCRETE DECK REPAIR	* 10 CU.FT.	
SHOTBLASTING BRIDGE DECK	1,230 SQ.YDS.	
SILANE DECK TREATMENT	1,230 SQ.YDS.	

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.



PLAN OF SPAN

(FOR SECTION A-A, SEE JOINT DETAILS SHEET)

□ SILANE DECK TREATMENT

▨ BRIDGE JOINT DEMOLITION

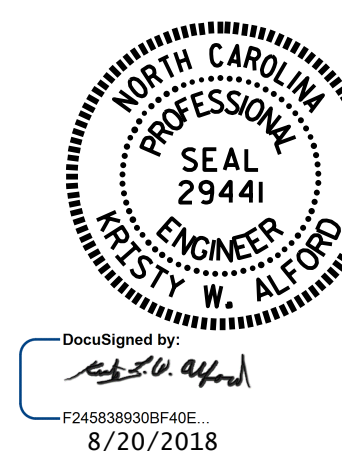
PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 820

SHEET 3 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE

SILANE DECK TREATMENT



DocuSigned by:
 W. ALFORD
 F245838908FA0E
 8/20/2018

DRAWN BY : M.K. BEARD DATE : 3/16/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

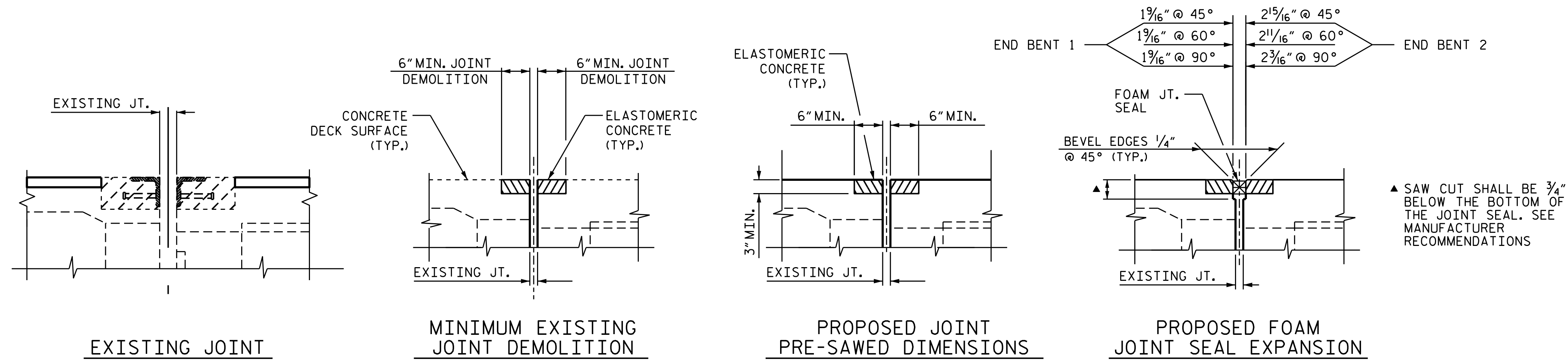
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NO.	BY:	DATE:	NO.	BY:	DATE:	S1-3
1			3			TOTAL SHEETS
2			4			4

NOTES:

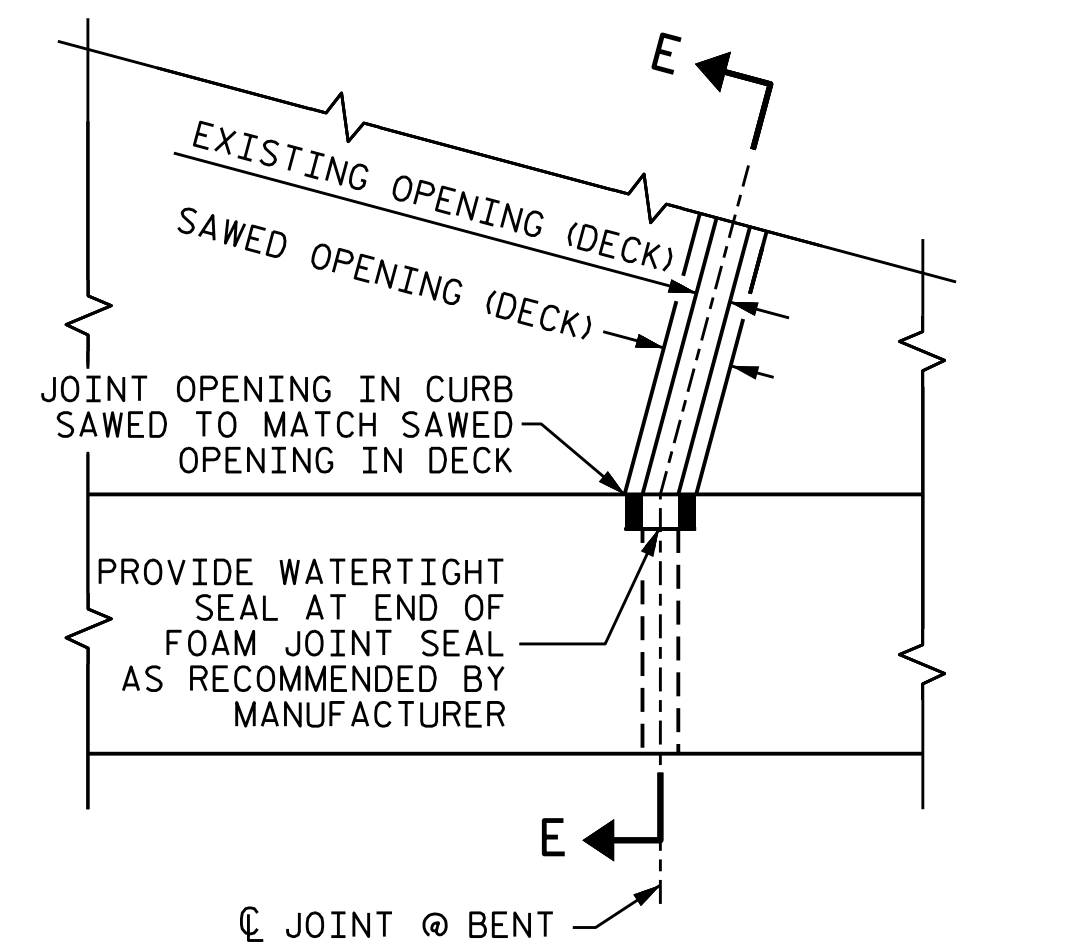
EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

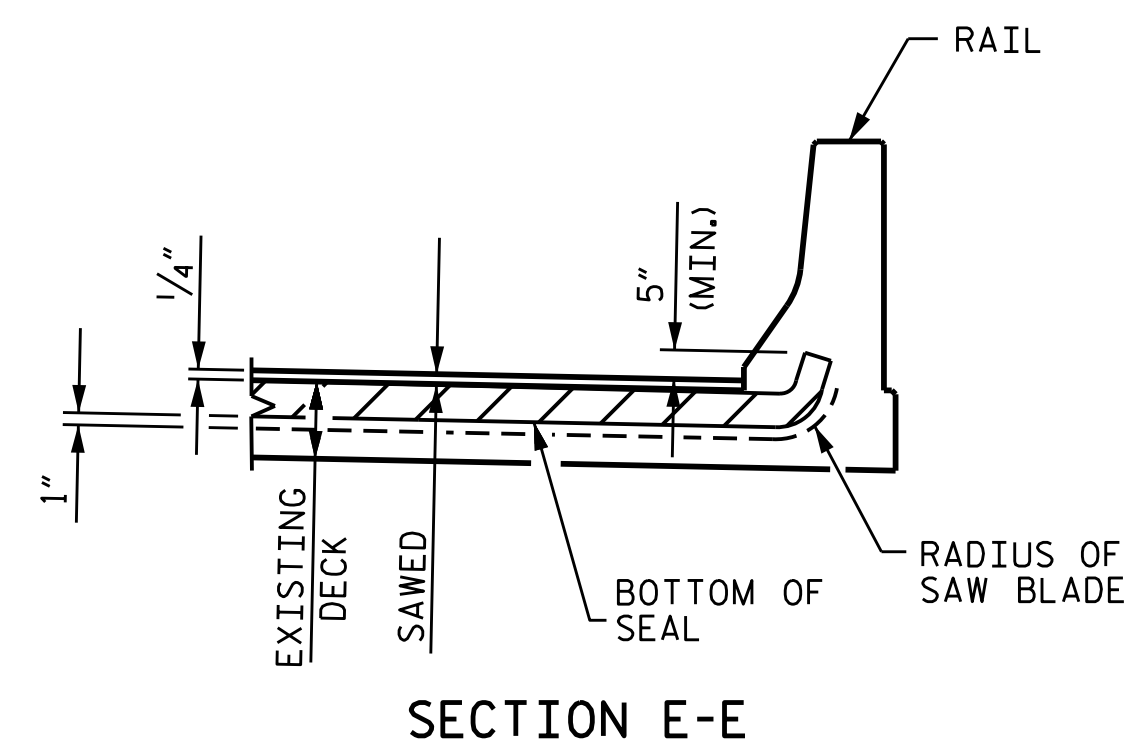
THE WIDTH OF THE UNCOMPRESSED SEAL MATERIAL SHALL BE 2" AT END BENT 1 AND 3 1/2" AT END BENT 2.



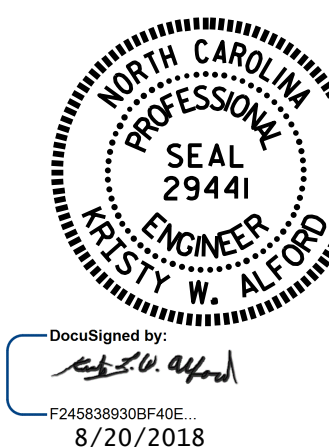
JOINT INSTALLATION SEQUENCE AT END BENT 1 AND END BENT 2
SECTION A-A



ELASTOMERIC CONCRETE	
END BENT 1	16.1 CU. FT.
END BENT 2	16.1 CU. FT.



PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 820
 SHEET 4 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUPERSTRUCTURE
 JOINT DETAILS**

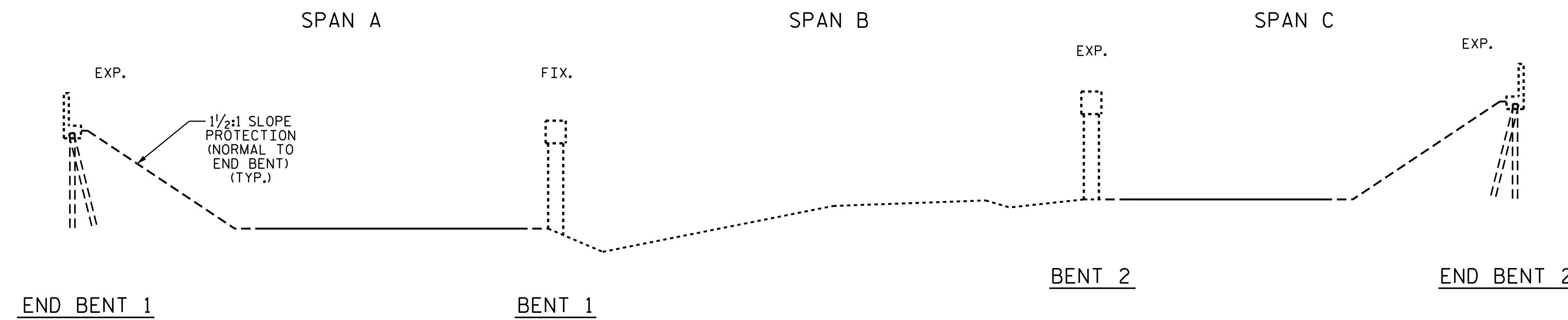
DRAWN BY : K.W. ALFORD DATE : 7/18
 CHECKED BY : M.K. BEARD DATE : 7/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

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

SCOPE OF WORK

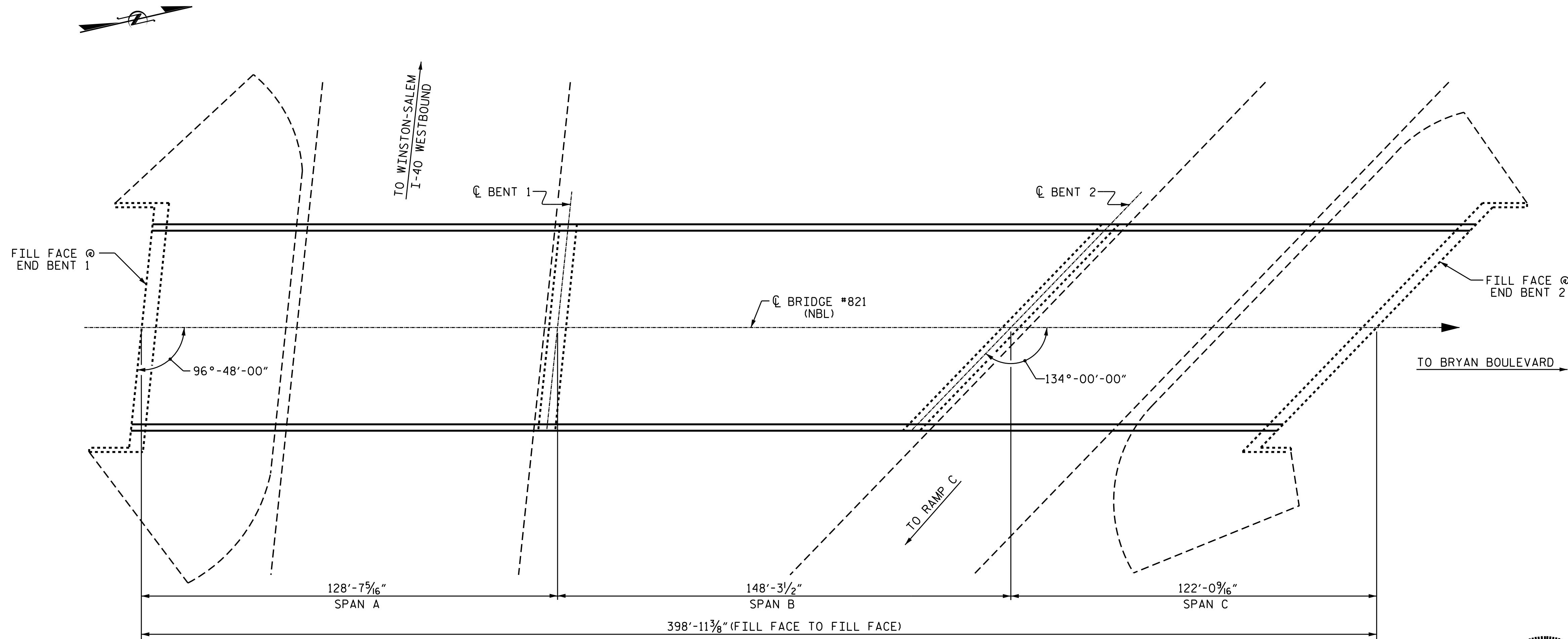
- DEMOLISH EXISTING BRIDGE DECK JOINTS
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW JOINT SEALS
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



ELEVATION

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

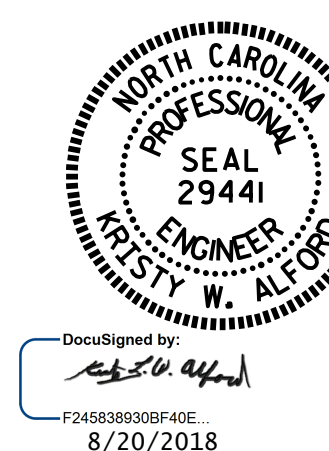
Resident Engineer _____ Date _____



PLAN
(COLUMNS & FOOTINGS NOT SHOWN FOR CLARITY)

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 821

SHEET 1 OF 5



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
FOR BRIDGE ON I-73 & I-840
NORTHBOUND OVER I-40
WESTBOUND & I-73/I-840
RAMP

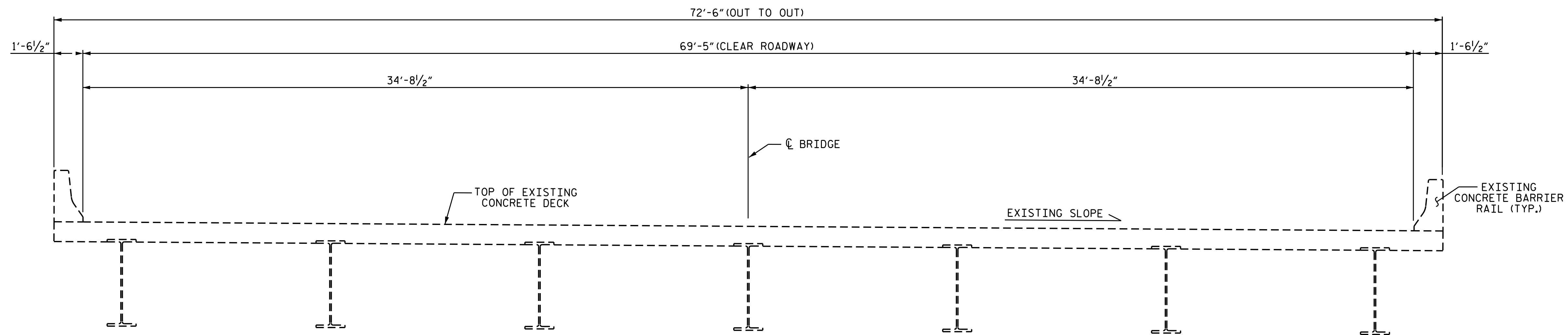
DRAWN BY : M.K. BEARD DATE : 4/5/18
CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

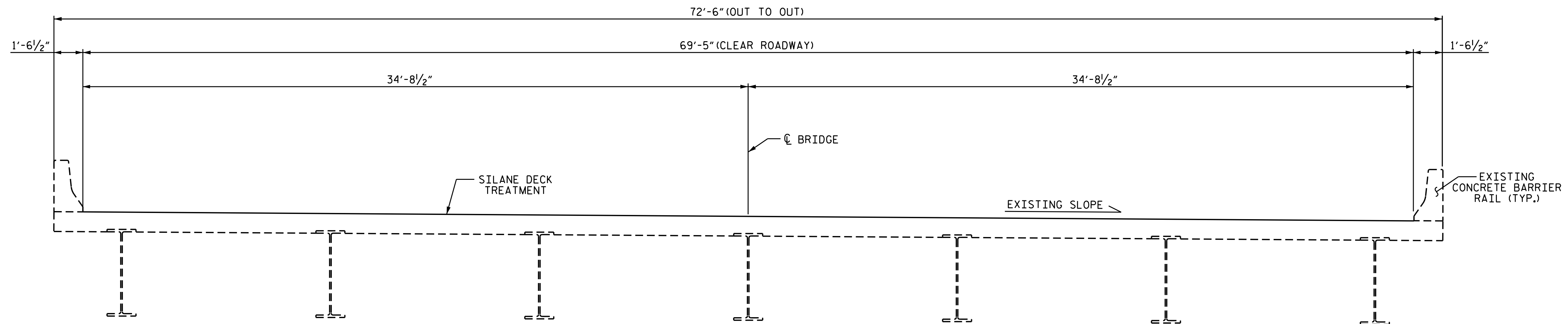
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-1
1			3			TOTAL SHEETS
2			4			5

NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



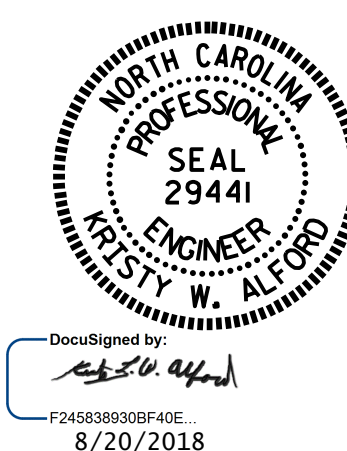
TYPICAL SECTION
(EXISTING)



TYPICAL SECTION
(PROPOSED)

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 821

SHEET 2 OF 5



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
TYPICAL SECTIONS

DRAWN BY : M.K. BEARD DATE : 4/5/18
CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

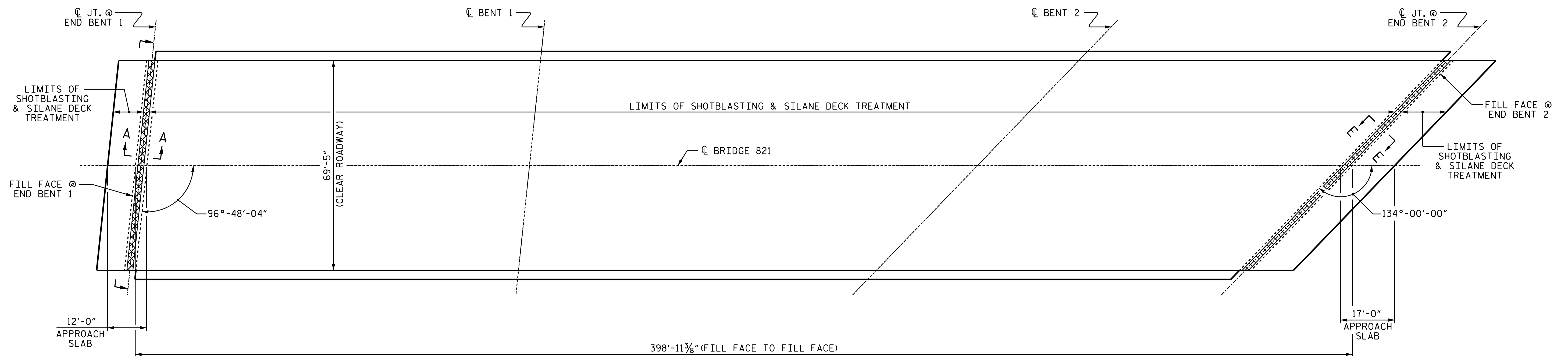
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-2
1			3			TOTAL SHEETS
2			4			5

SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	65.0 SQ.FT.	
CONCRETE DECK REPAIR	* 10 CU.FT.	
SHOTBLASTING BRIDGE DECK	3,285 SQ.YDS.	
SILANE DECK TREATMENT	3,285 SQ.YDS.	

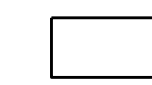


NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.



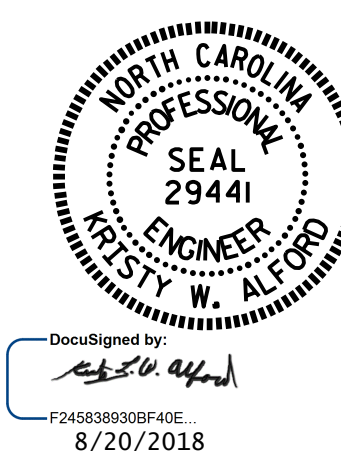
PLAN OF SPANS

(FOR SECTION A-A, SEE JOINT DETAILS SHEET)
(FOR SECTION E-E, SEE EXPANSION JOINT SEAL DETAILS SHEET)

-  SILANE DECK TREATMENT
-  BRIDGE JOINT DEMOLITION
-  EXPANSION JOINT SEAL REPAIR

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 821

SHEET 3 OF 5



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE

SILANE DECK TREATMENT

DRAWN BY : M.K. BEARD DATE : 4/5/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

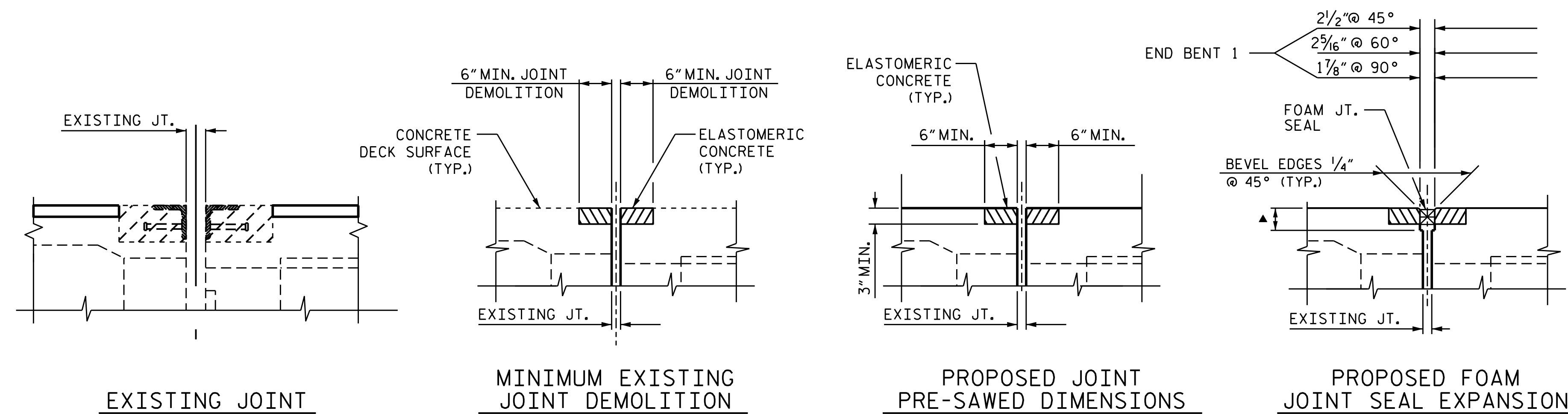
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-3
1			3			TOTAL SHEETS
2			4			5

NOTES:

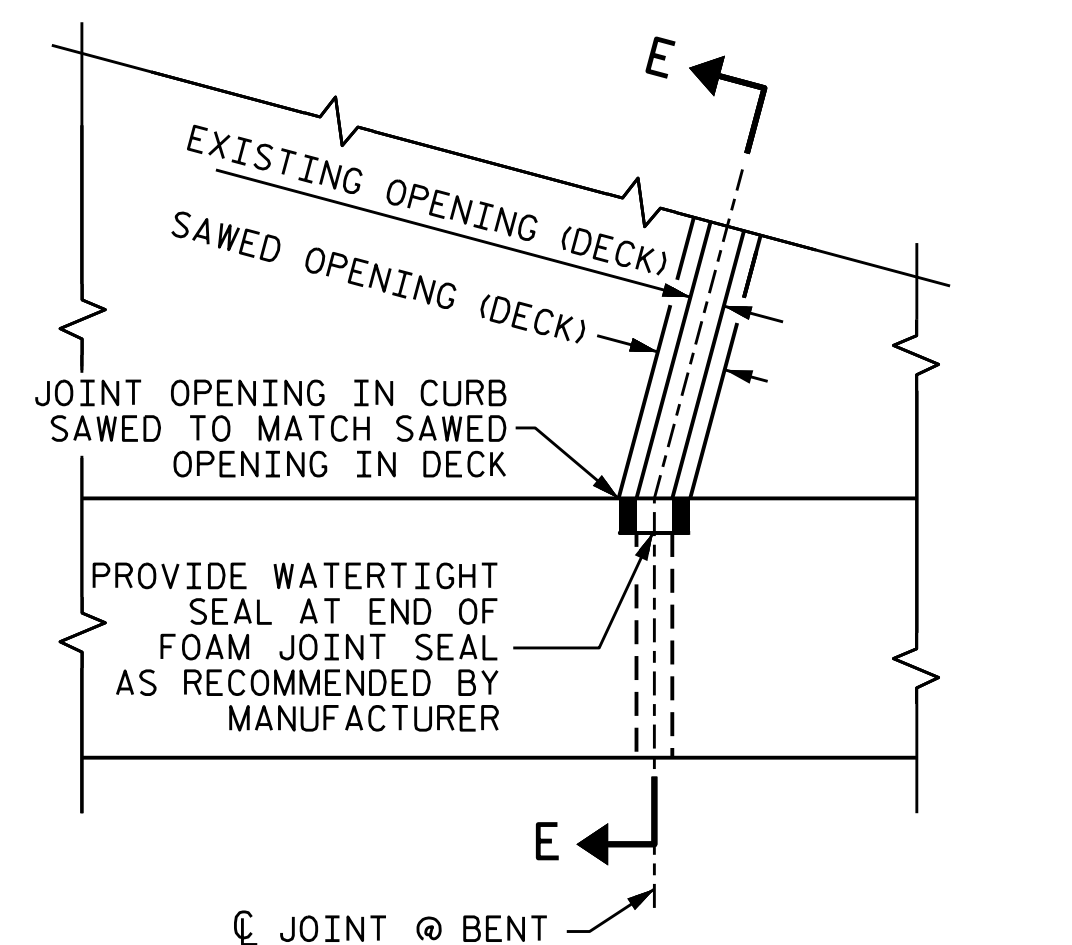
EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

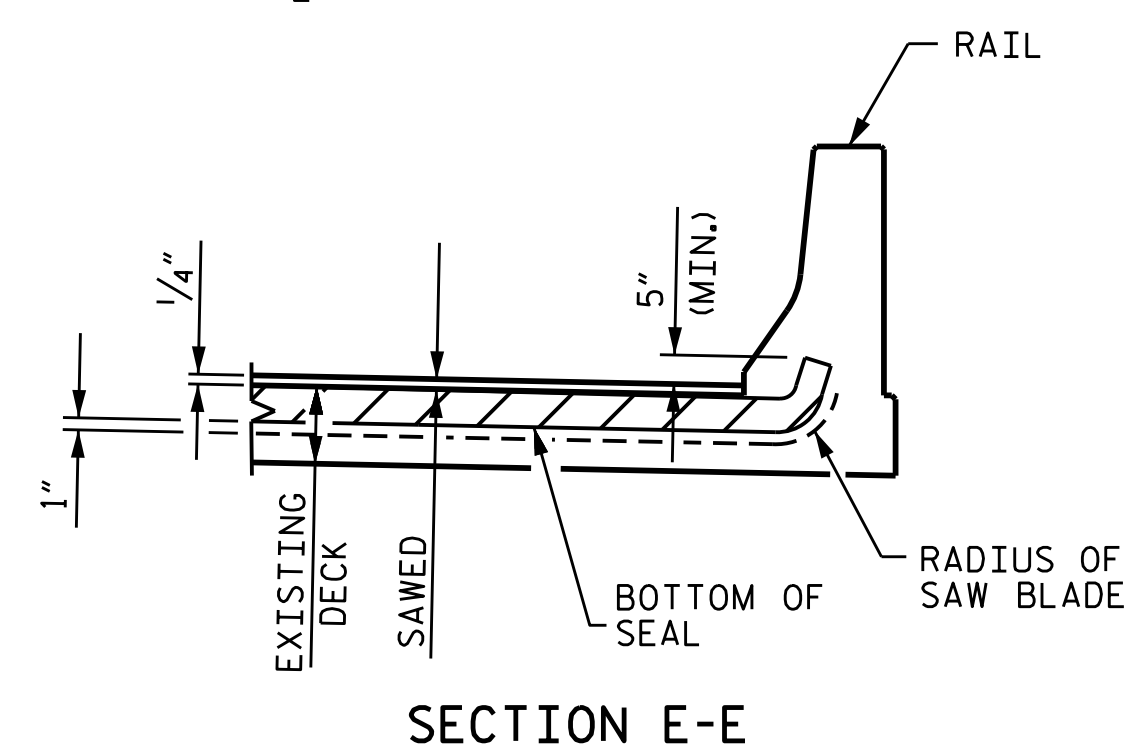
THE WIDTH OF THE UNCOMPRESSED SEAL MATERIAL SHALL BE 3".



JOINT INSTALLATION SEQUENCE AT END BENT 1
SECTION A-A

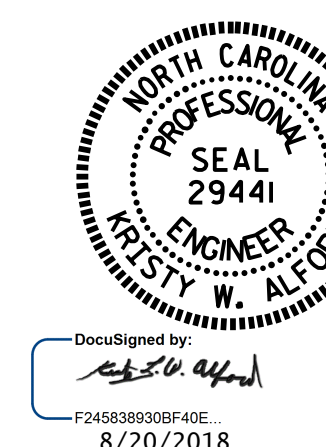


ELASTOMERIC CONCRETE	
END BENT 1	19.0 CU. FT.



SECTION E-E

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 821
 SHEET 4 OF 5



STATE OF NORTH CAROLINA					
DEPARTMENT OF TRANSPORTATION					
RALEIGH					
SUPERSTRUCTURE					
JOINT DETAILS					

DRAWN BY : K.W. ALFORD DATE : 7/18
 CHECKED BY : M.K. BEARD DATE : 7/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-4	
1			3			TOTAL SHEETS	
2			4			5	

REPAIR INSTALLATION PROCEDURE

LOOSEN THE EXISTING BOLTS AND HOLD DOWN PLATES TO REMOVE AND REPLACE THE EXISTING GLAND. REMOVE THE EXISTING NEOPRENE SEALANT AND CLEAN THE EXISTING BASE ANGLE OF OIL, GREASE AND OTHER LATENTS.

LAY THE NEW GLAND ON THE BASE ANGLE AND FIELD MARK THE NEW GLAND FOR THE BOLT HOLES. HOLES IN THE NEW GLAND SHALL BE PUNCHED $\frac{1}{8}$ " IN DIAMETER WITH A HAND PUNCH.

IN ORDER TO CHECK FOR PROPER ALIGNMENT, PLACE THE NEW GLAND AND HOLD-DOWN PLATES ON THE BASE ANGLE. DO NOT APPLY NEW NEOPRENE SEALANT. BOLT THE HOLD-DOWN PLATES TO THE BASE ANGLE, BUT DO NOT TIGHTEN. THE ENGINEER WILL INSPECT THE JOINT SEAL DEVICE FOR PROPER ALIGNMENT.

AFTER INSPECTION, REMOVE THE HOLD-DOWN PLATES AND NEW GLAND. APPLY NEW NEOPRENE SEALANT TO THE BASE ANGLE IN ACCORDANCE WITH THE "INSTALLATION SKETCH". PLACE NEW GLAND AND HOLD-DOWN PLATES ON THE BASE ANGLE. BOLT THE HOLD-DOWN PLATES TO THE BASE ANGLE ASSEMBLY AND TORQUE THE BOLTS TO 88 FT-LBS WITH A TORQUE WRENCH. CHECK THE TORQUE AFTER THREE (3) HOURS AND, IF NECESSARY, RETIGHTEN TO 88 FT-LBS. A FINAL CHECK SHALL BE MADE AT SEVEN (7) DAYS. TORQUE SHALL NOT BE LESS THAN 80 FT-LBS AFTER SEVEN (7) DAYS.

AFTER PROPER TORQUING, CLEAN THE BOLT HOLE RECESSES AND THE RECESS BETWEEN THE JOINT SEAL DEVICE AND CONCRETE. COMPLETELY FILL THESE RECESSES WITH NEW NEOPRENE SEALANT.

GENERAL NOTES

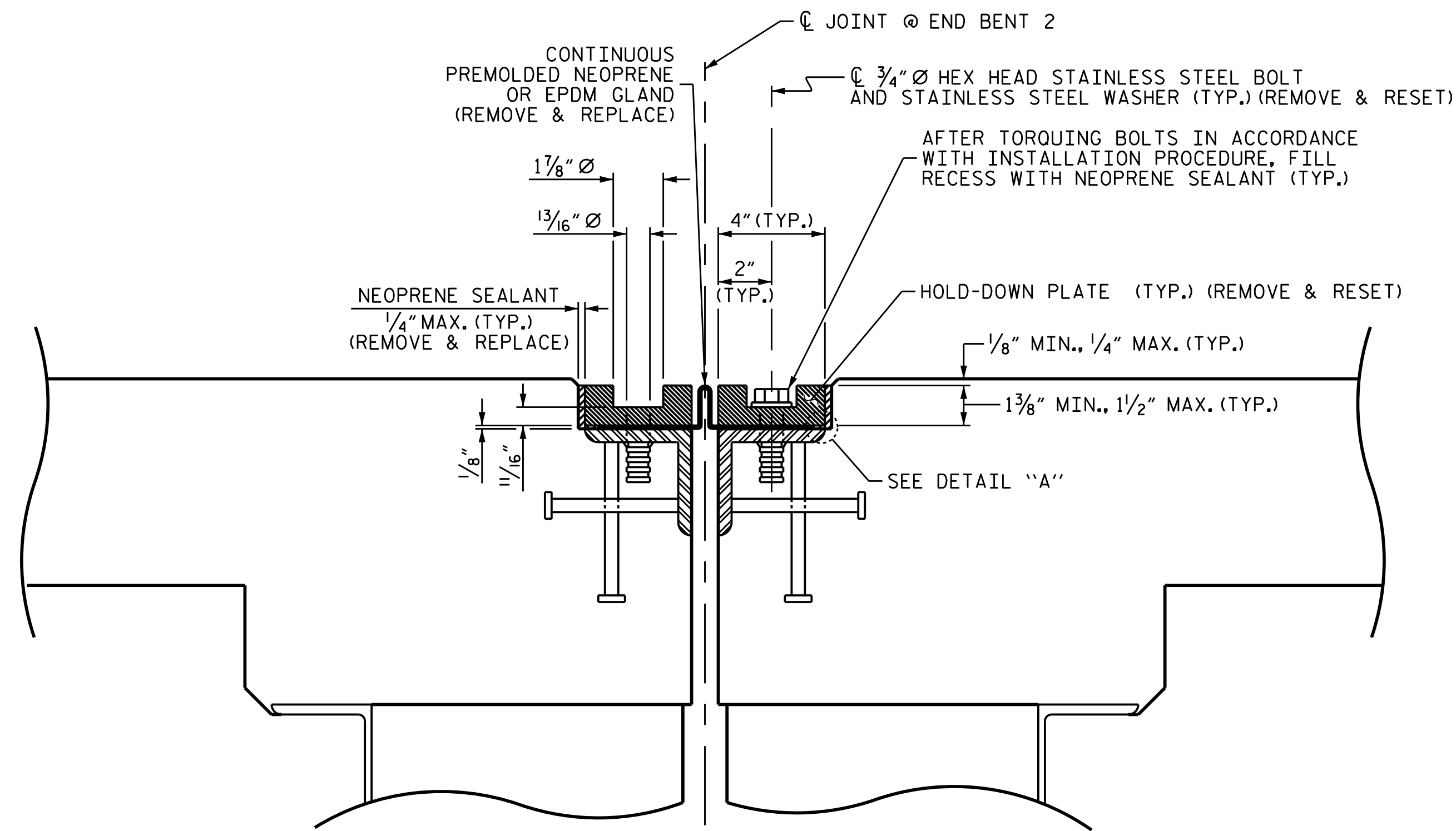
ALL HOLD-DOWN BOLTS SHALL CONFORM TO ASTM F593 ALLOY 304 STAINLESS STEEL AND WASHERS SHALL CONFORM TO ASTM F844 EXCEPT THEY SHALL BE MADE FROM ALLOY 304 STAINLESS STEEL.

A PREMOLDED CORRUGATED OR NON-CORRUGATED GLAND SHALL BE USED FOR JOINTS SKEWED BETWEEN 50° THRU 130° .

THE FINISHED EXPANSION SEAL DEVICE SHALL BE A MINIMUM $\frac{1}{8}$ " AND A MAXIMUM OF $\frac{1}{4}$ " BELOW THE TOP OF SLAB.

FOR EXPANSION JOINT SEAL REPAIR, SEE SPECIAL PROVISIONS.

NO SEPARATE PAYMENT WILL BE MADE FOR REMOVING AND REINSTALLING MEDIAN AND BARRIER RAIL COVER PLATES. THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR "EXPANSION JOINT SEAL REPAIR".

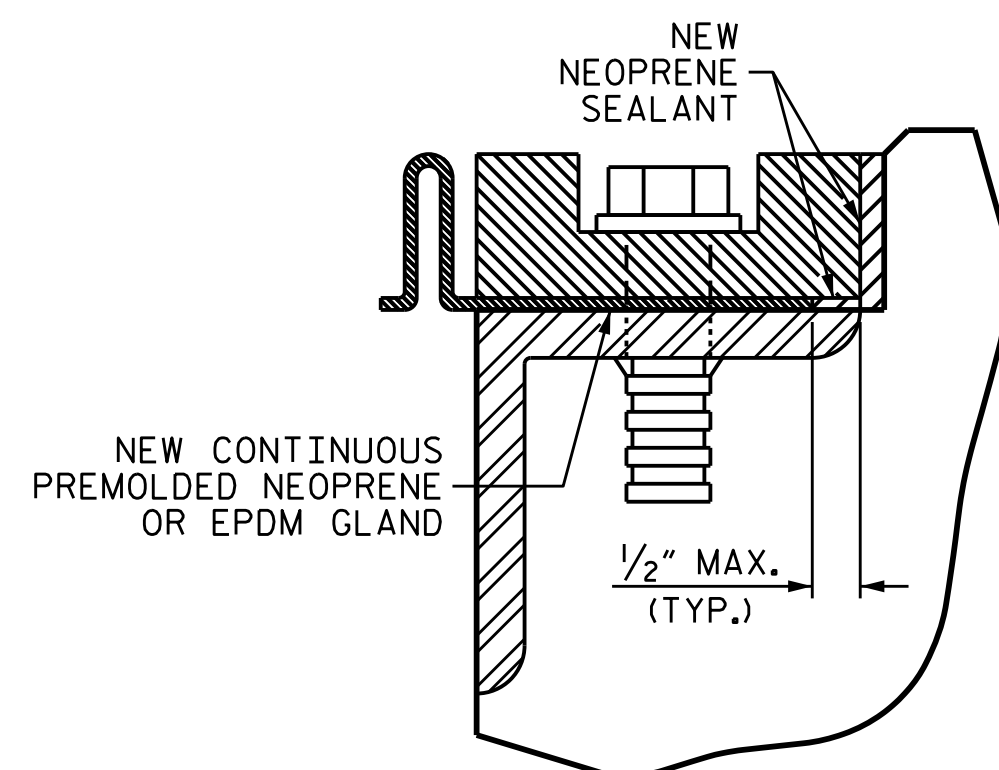


SECTION E-E

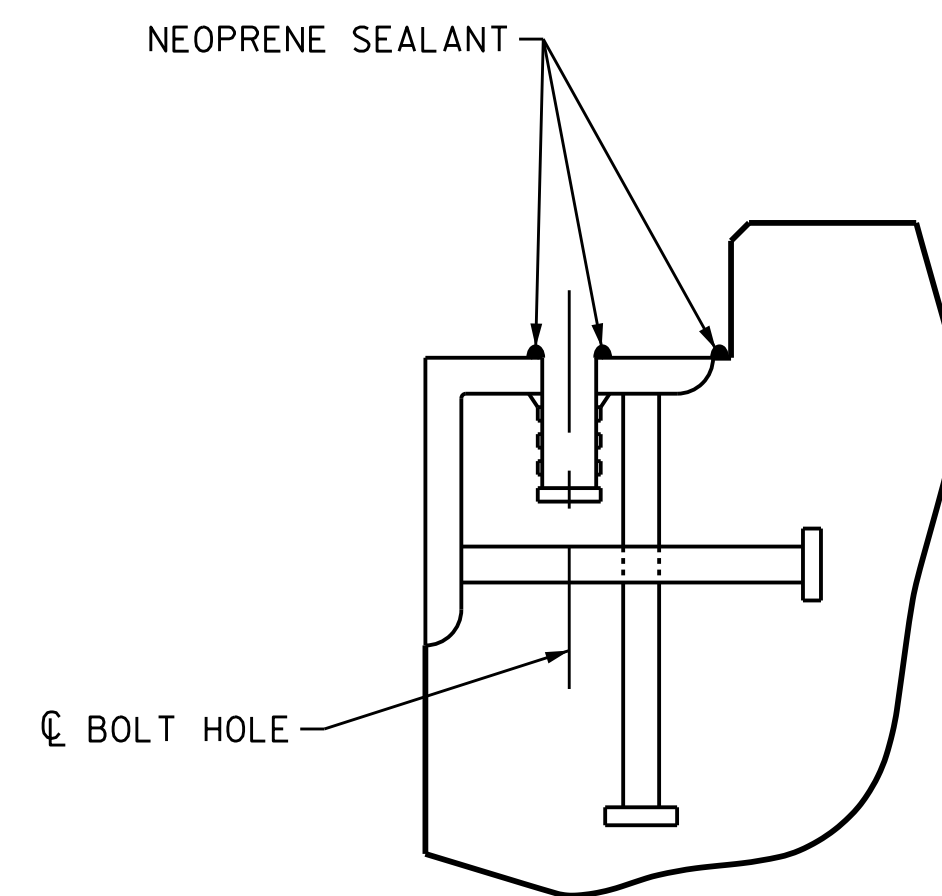
(SECTION NORMAL TO JOINT -- STEEL SUPERSTRUCTURE)

MOVEMENT AND SETTING AT JOINT

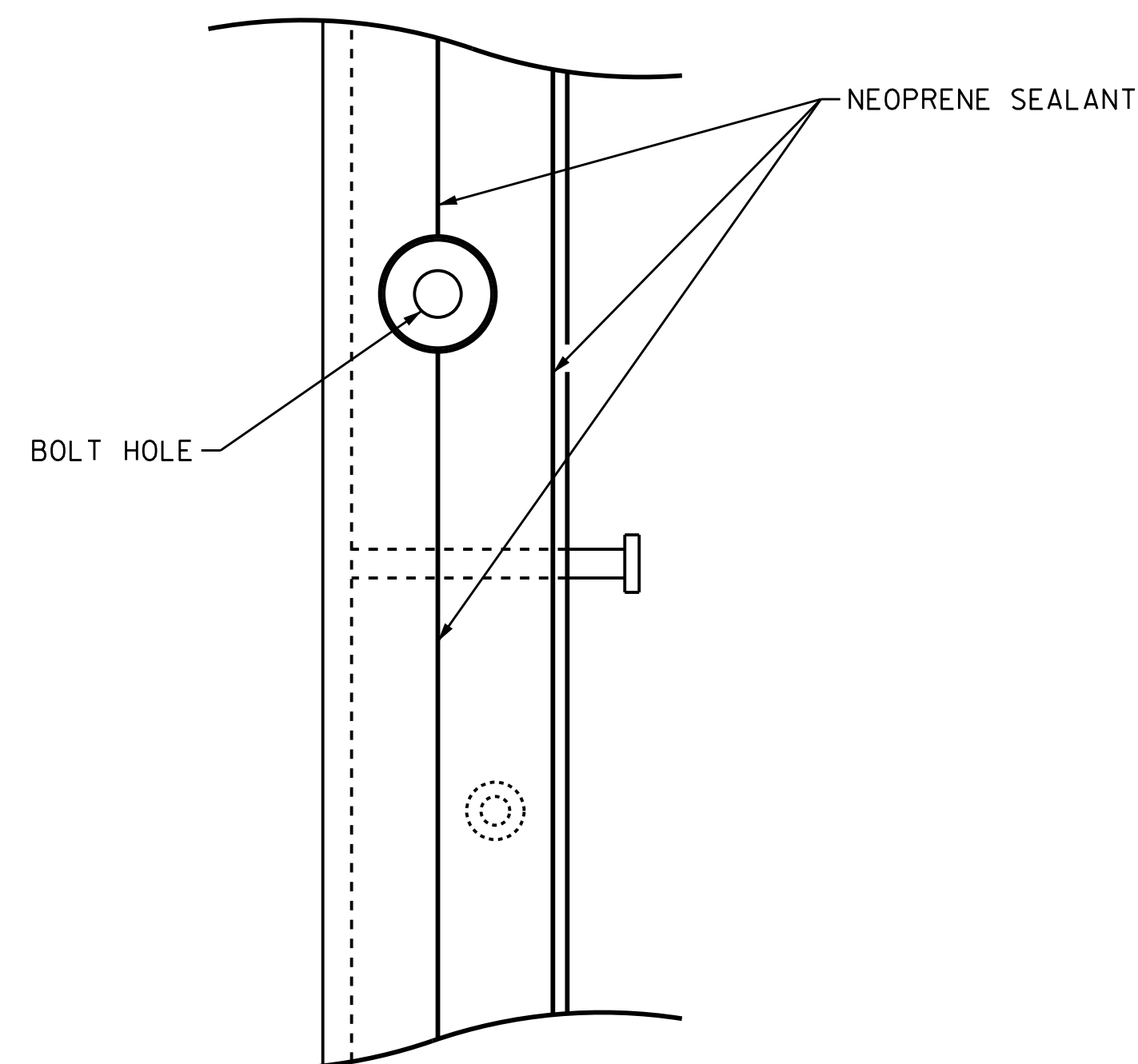
BRIDGE	LOCATION	SKEW ANGLE	TOTAL MOVEMENT (ALONG \bar{C} RDWY)	PERPENDICULAR JOINT OPENING AT 30° F	PERPENDICULAR JOINT OPENING AT 60° F	PERPENDICULAR JOINT OPENING AT 90° F
821	END BENT 2	$134^\circ 00' 00''$	$3/4$ "	$2 3/8$ "	2"	$1 1/2$ "



DETAIL "A"



CROSS SECTION



PLAN VIEW

INSTALLATION SKETCH

PROJECT NO. I-5852A

GUILFORD COUNTY

BRIDGE NO. 821

SHEET 5 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EXPANSION JOINT
SEAL DETAILS



DocuSigned by:
K.W. ALFORD
F245838908FA0E
8/20/2018

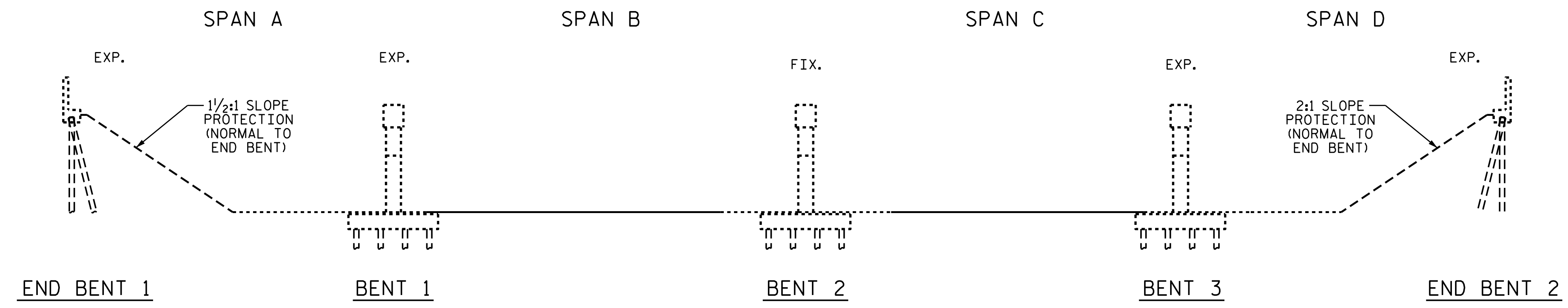
DRAWN BY : K.W. ALFORD DATE : 7/18
CHECKED BY : M.K. BEARD DATE : 7/18

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

NO.	REVISIONS		NO.	REVISIONS		SHEET NO.
	BY:	DATE:		BY:	DATE:	
1			3			S2-5
2			4			TOTAL SHEETS 5

SCOPE OF WORK

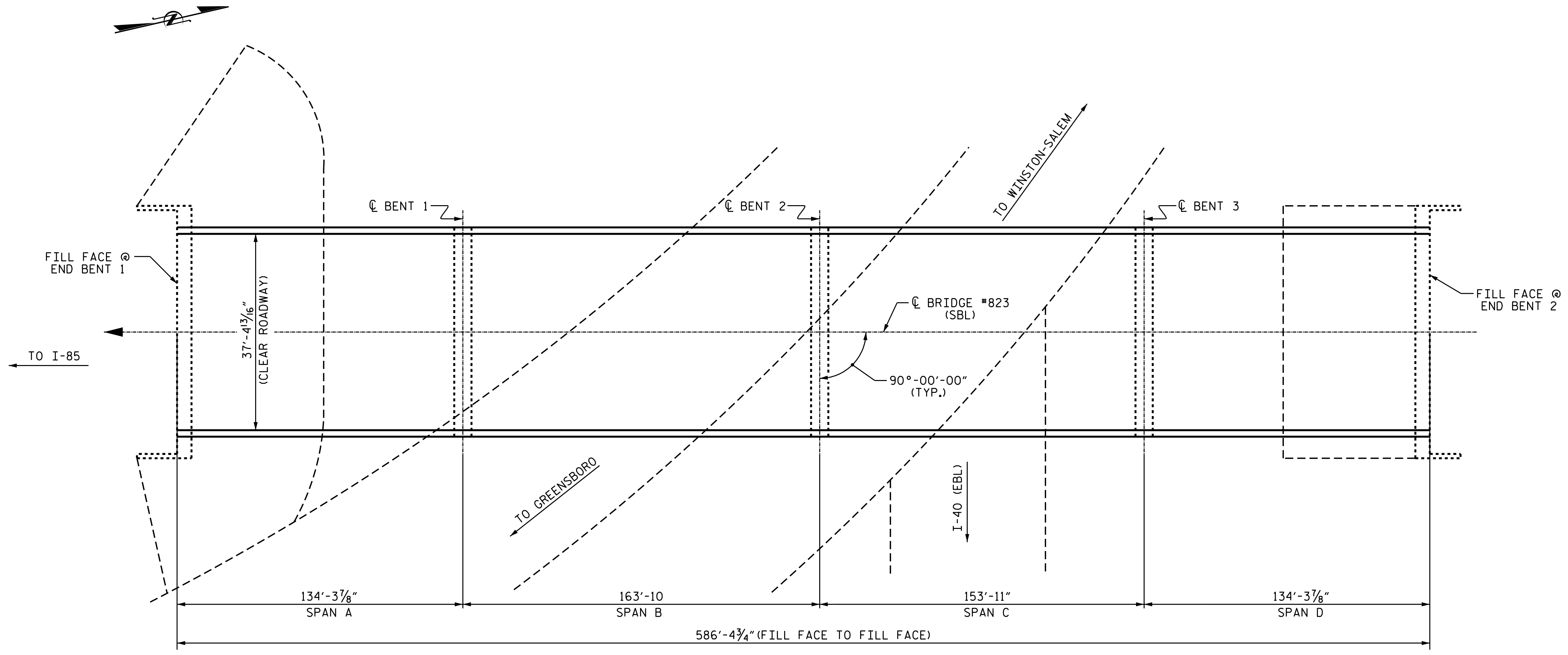
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



ELEVATION

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

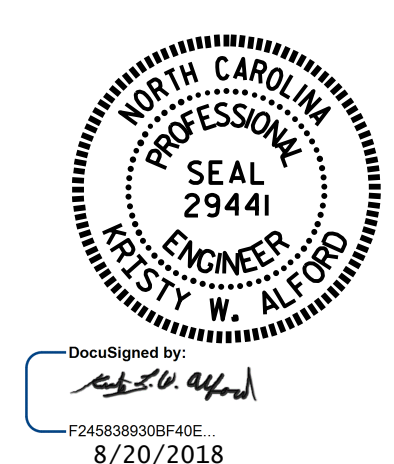
Resident Engineer Date



PLAN
(COLUMNS & FOOTINGS NOT SHOWN FOR CLARITY)

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 823

SHEET 1 OF 3



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING

FOR BRIDGE ON I-73 & I-840 SOUTHBOUND OVER I-40 EAST & US 421 SOUTH

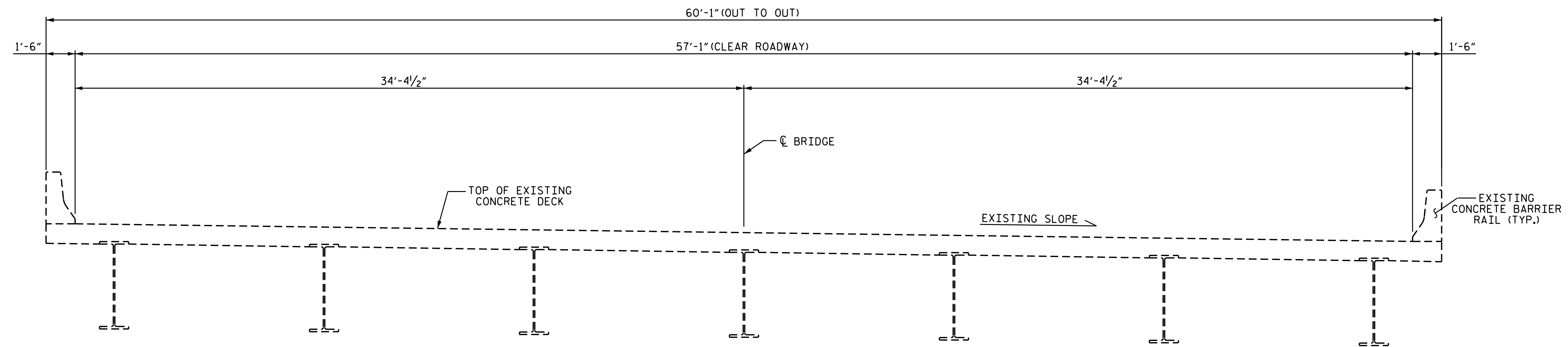
DRAWN BY : M.K. BEARD DATE : 4/3/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

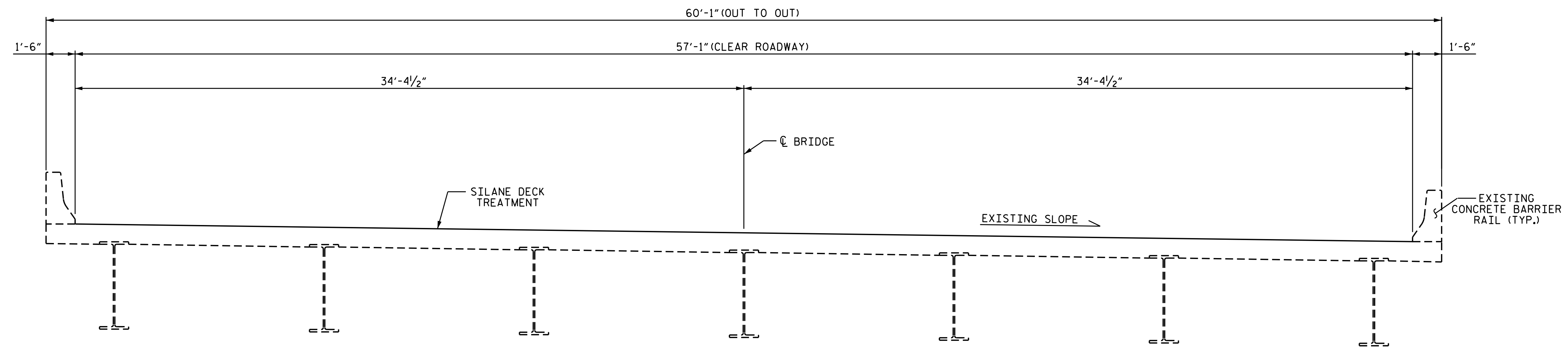
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S3-1
1			3			TOTAL SHEETS
2			4			3

NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



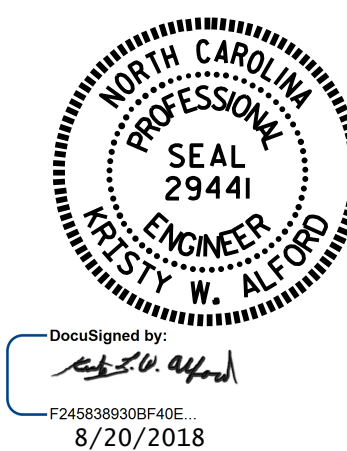
TYPICAL SECTION
 (EXISTING)



TYPICAL SECTION
 (PROPOSED)

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 823

SHEET 2 OF 3



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 TYPICAL SECTIONS

DRAWN BY : M.K. BEARD DATE : 4/3/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

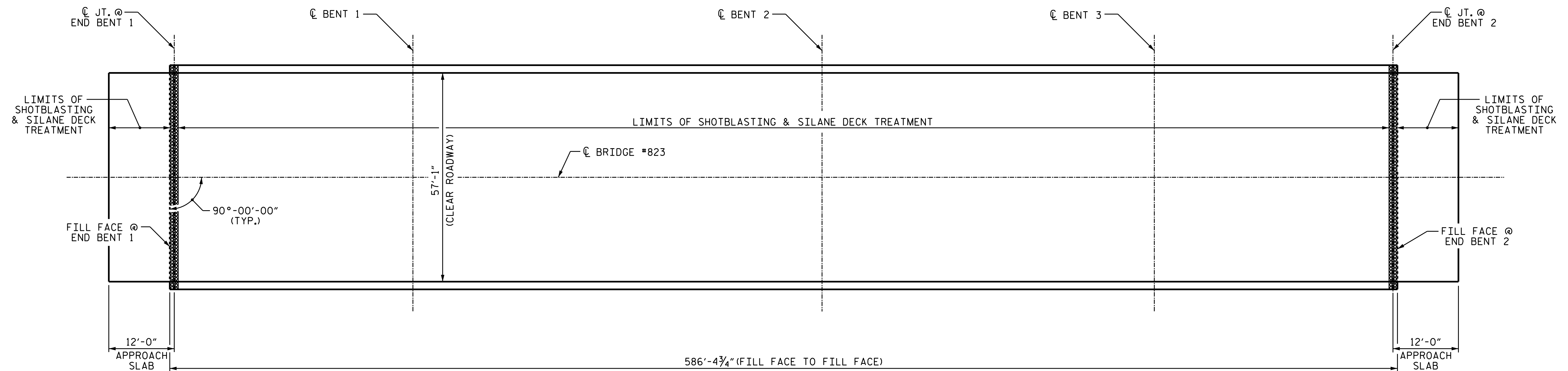
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			3
2			4			

SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
CONCRETE DECK REPAIR	* 10 CU.FT.	
SHOTBLASTING BRIDGE DECK	3,590 SQ.YDS.	
SILANE DECK TREATMENT	3,590 SQ.YDS.	

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.



PLAN OF SPANS

□ SILANE DECK TREATMENT

▨ BRIDGE JOINT TO REMAIN

PROJECT NO. I-5852A

GUILFORD COUNTY

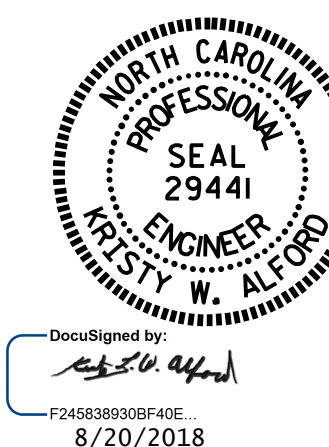
BRIDGE NO. 823

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

SILANE DECK
TREATMENT



DocuSigned by:
W. ALFORD
F245838908FA0E
8/20/2018

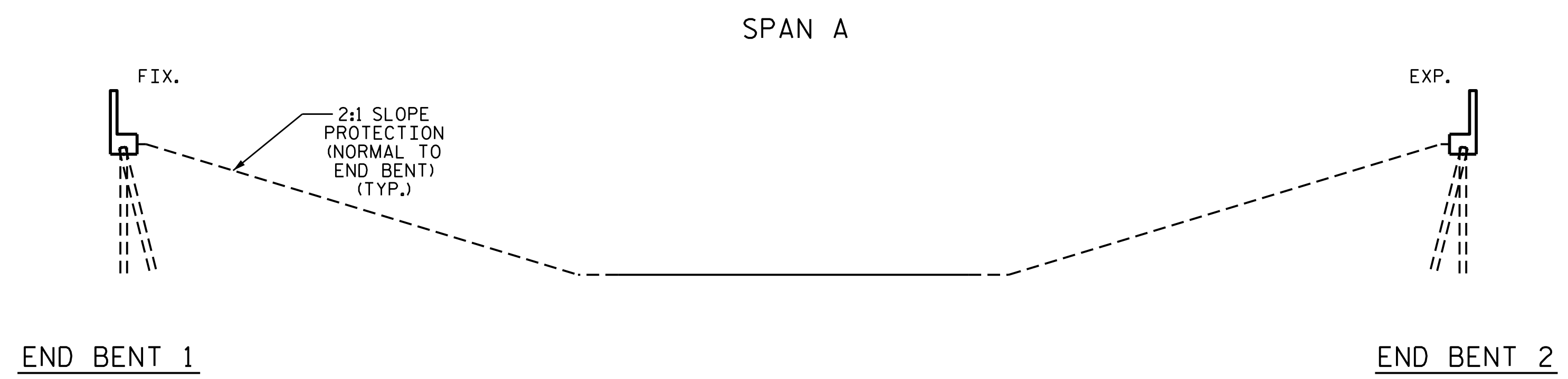
DRAWN BY : M.K. BEARD DATE : 3/22/18
CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

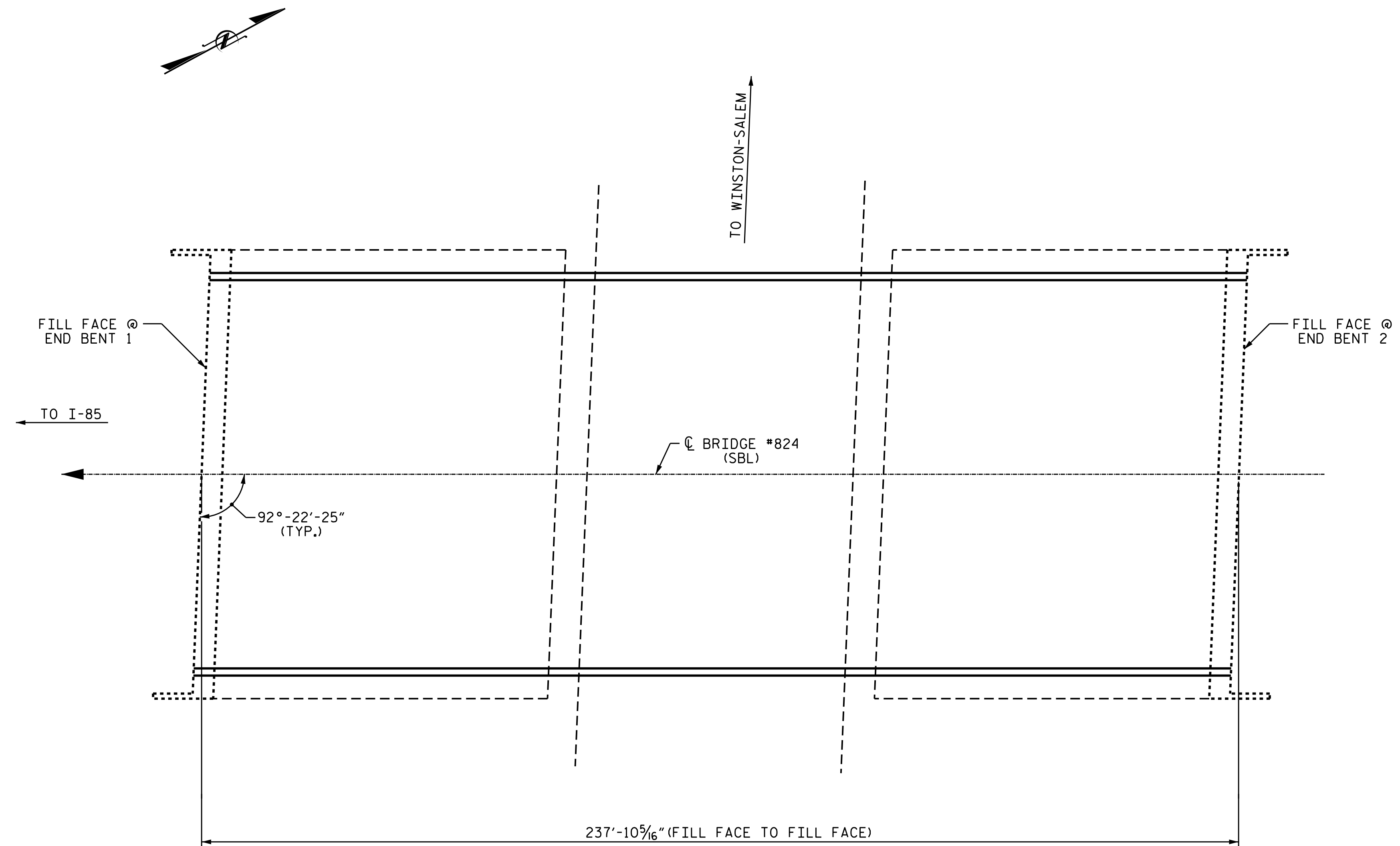
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S3-3
2			4			3

SCOPE OF WORK

- DEMOLISH EXISTING BRIDGE DECK JOINTS
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW JOINT SEALS
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



ELEVATION
(SECTION ABOUT ϕ ROADWAY)



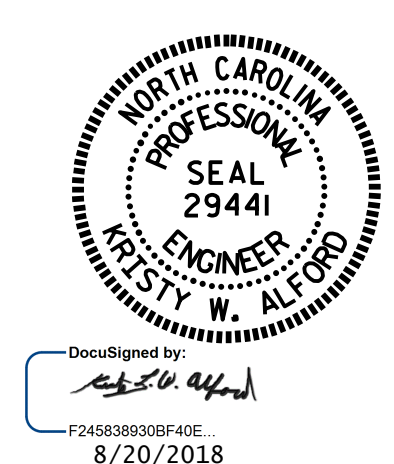
PLAN
(PILES NOT SHOWN FOR CLARITY)

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

Resident Engineer _____ Date _____

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 824

SHEET 1 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE ON I-73 &
 I-840 SOUTHBOUND RAMP
 OVER I-40 WESTBOUND

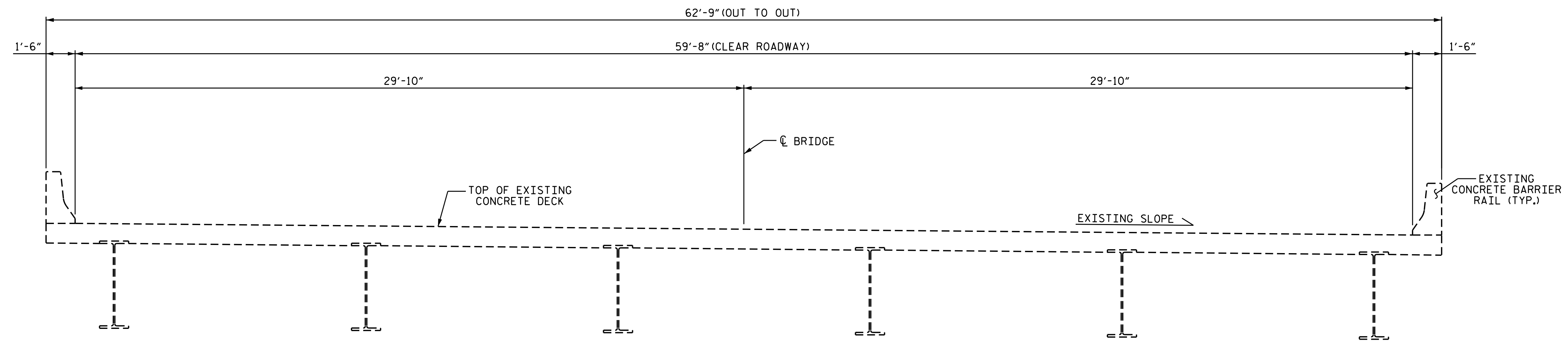
DRAWN BY : M.K. BEARD DATE : 4/6/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

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

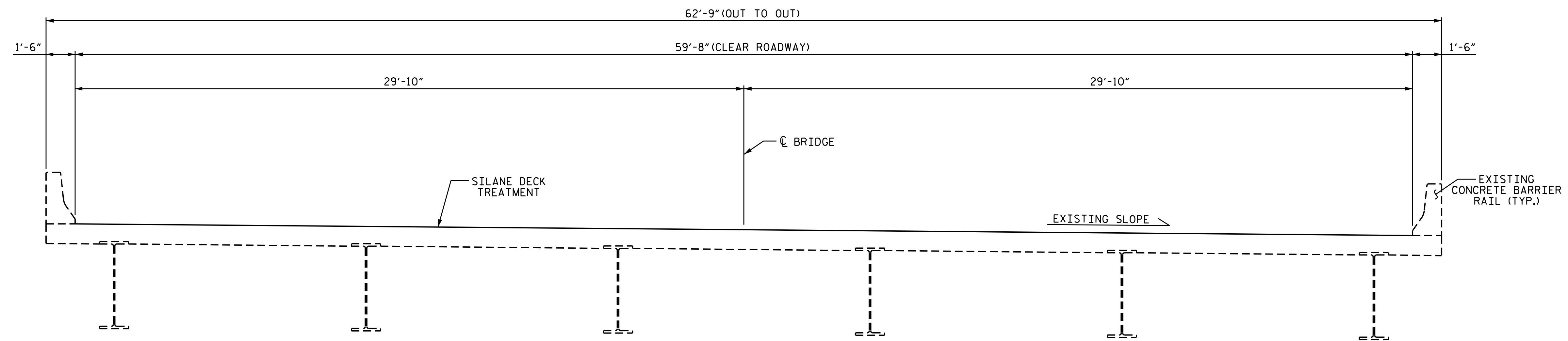
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



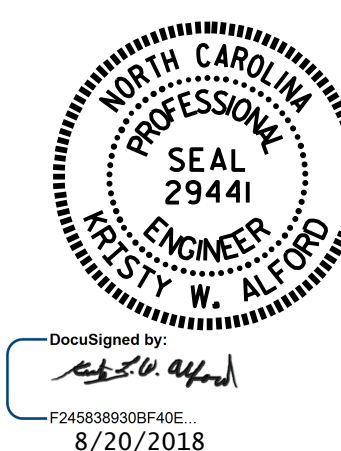
TYPICAL SECTION
 (EXISTING)



TYPICAL SECTION
 (PROPOSED)

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 824

SHEET 2 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 TYPICAL SECTIONS

DRAWN BY : M.K. BEARD DATE : 4/6/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

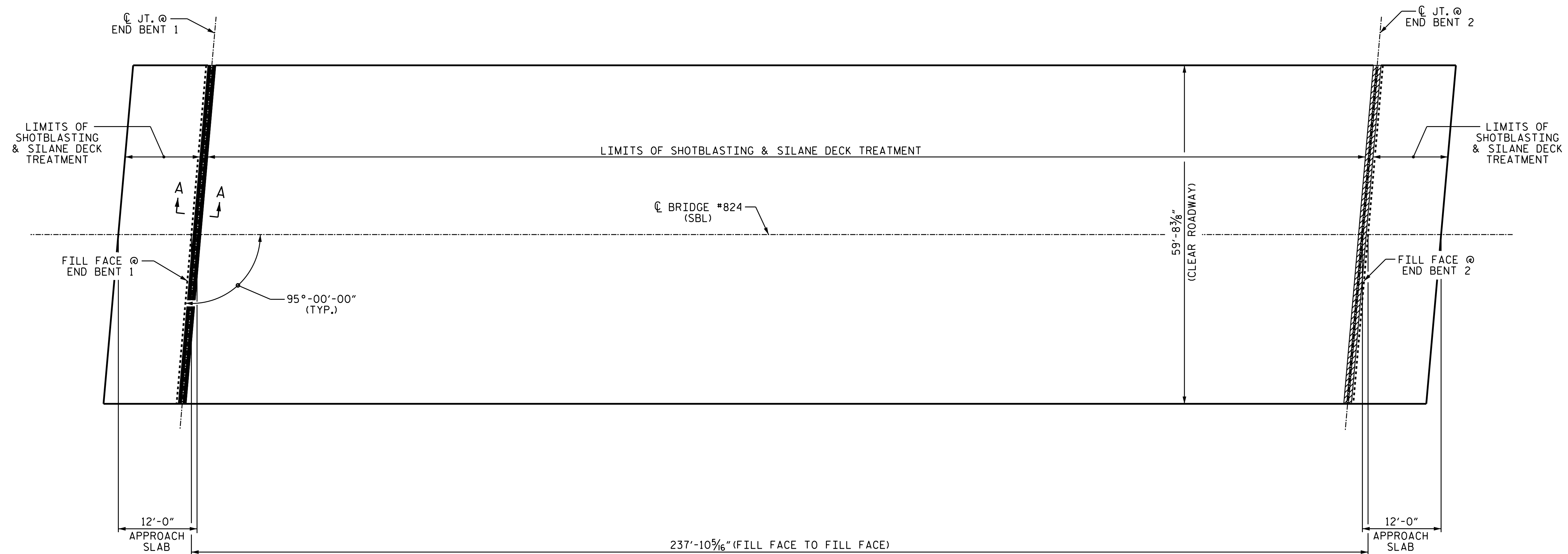
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S4-2
2			4			4

SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	55 SQ.FT.	
CONCRETE DECK REPAIR	* 10 CU.FT.	
SHOTBLASTING BRIDGE DECK	1,850 SQ.YDS.	
SILANE DECK TREATMENT	1,850 SQ.YDS.	

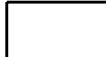


NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.



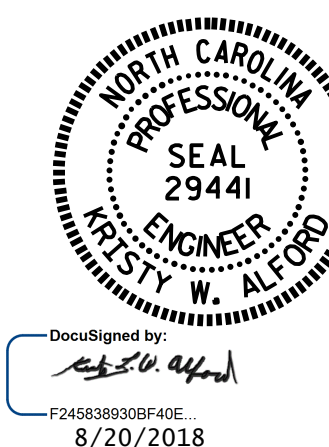
PLAN OF SPAN

(FOR SECTION A-A, SEE JOINT DETAIL SHEET)

-  SILANE DECK TREATMENT
-  BRIDGE JOINT DEMOLITION
-  BRIDGE JOINT TO BE RETAINED

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 824

SHEET 3 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 SILANE DECK TREATMENT

DRAWN BY : M.K. BEARD DATE : 3/22/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

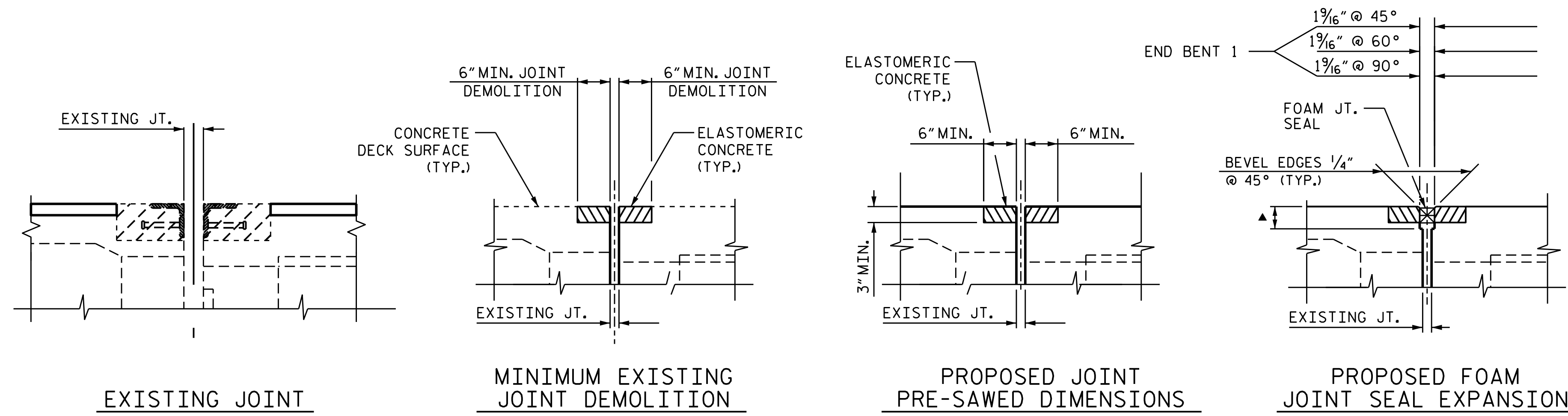
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S4-3
2			4			TOTAL SHEETS 4

NOTES:

EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

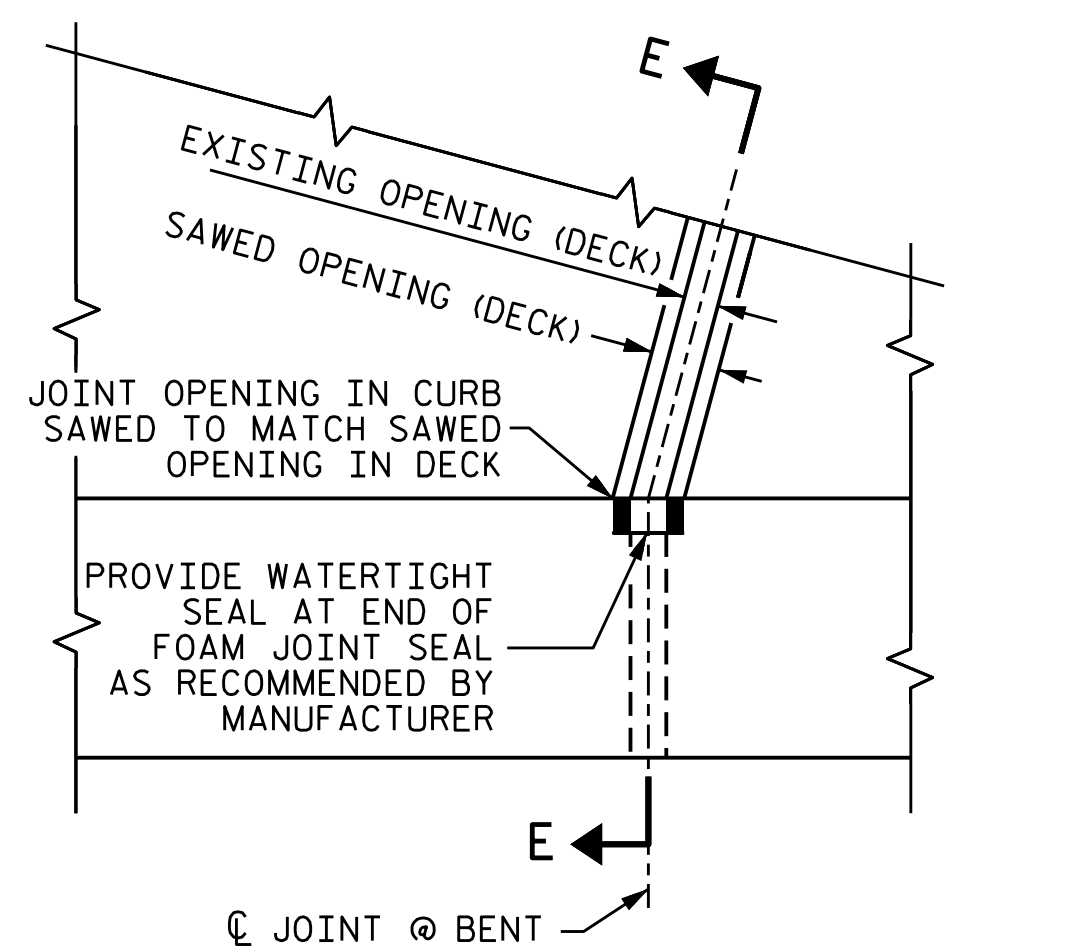
RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

THE WIDTH OF THE UNCOMPRESSED SEAL MATERIAL SHALL BE 2".

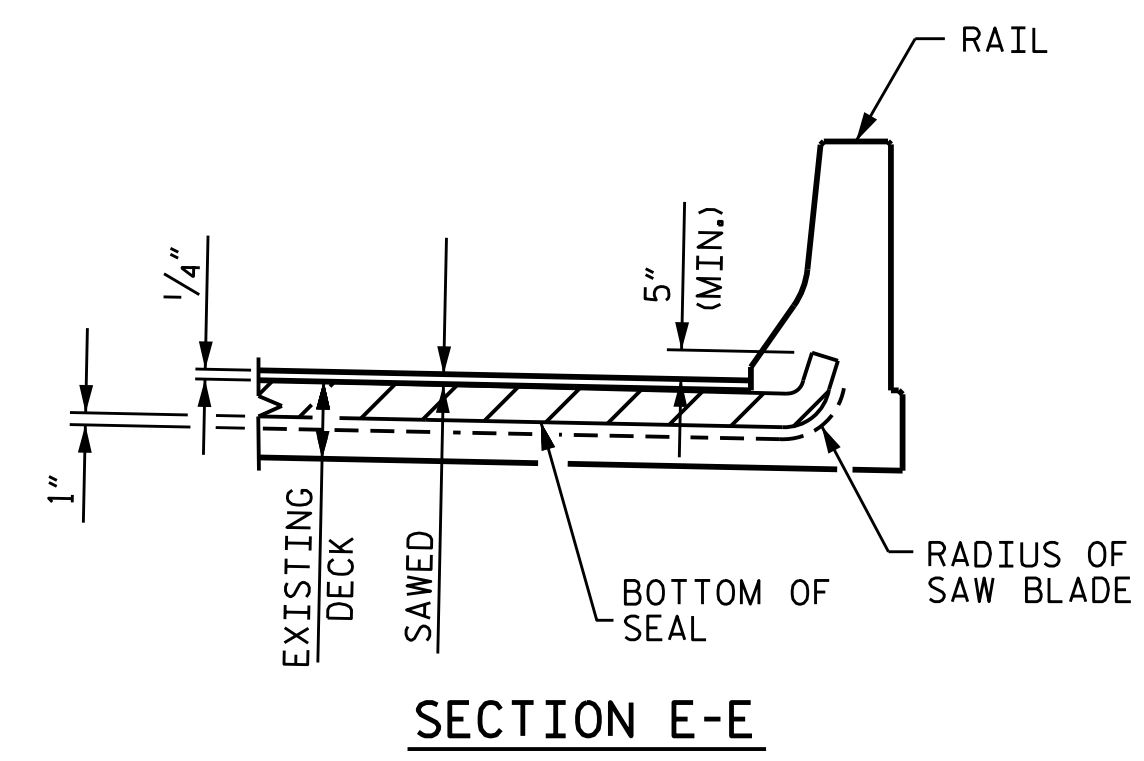


▲ SAW CUT SHALL BE 3/4" BELOW THE BOTTOM OF THE JOINT SEAL. SEE MANUFACTURER RECOMMENDATIONS

JOINT INSTALLATION SEQUENCE AT END BENT 1
SECTION A-A



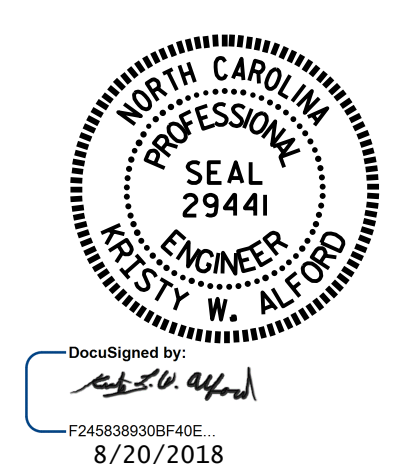
ELASTOMERIC CONCRETE	
END BENT 1	13.7 CU. FT.



SECTION E-E

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 824

SHEET 4 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUPERSTRUCTURE
JOINT DETAILS**

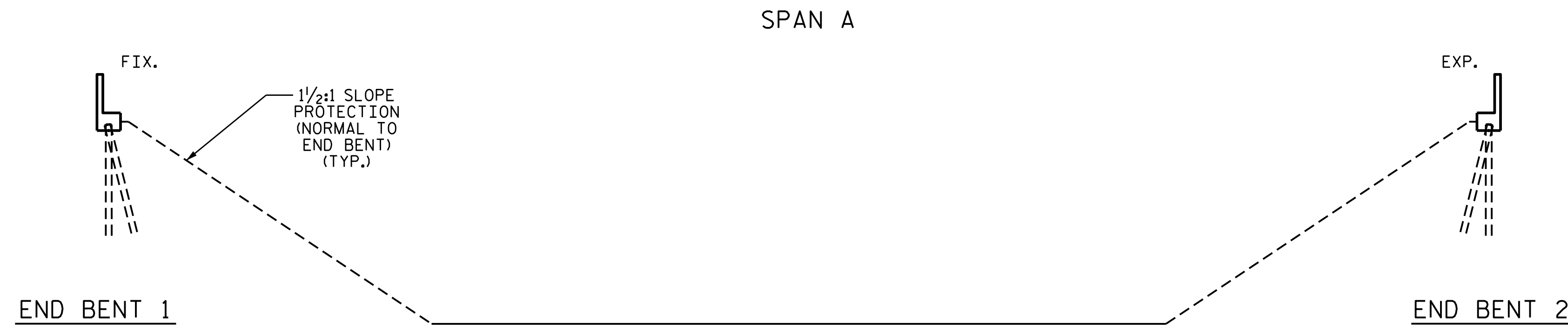
DRAWN BY : K.W. ALFORD DATE : 7/18
CHECKED BY : M.K. BEARD DATE : 7/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

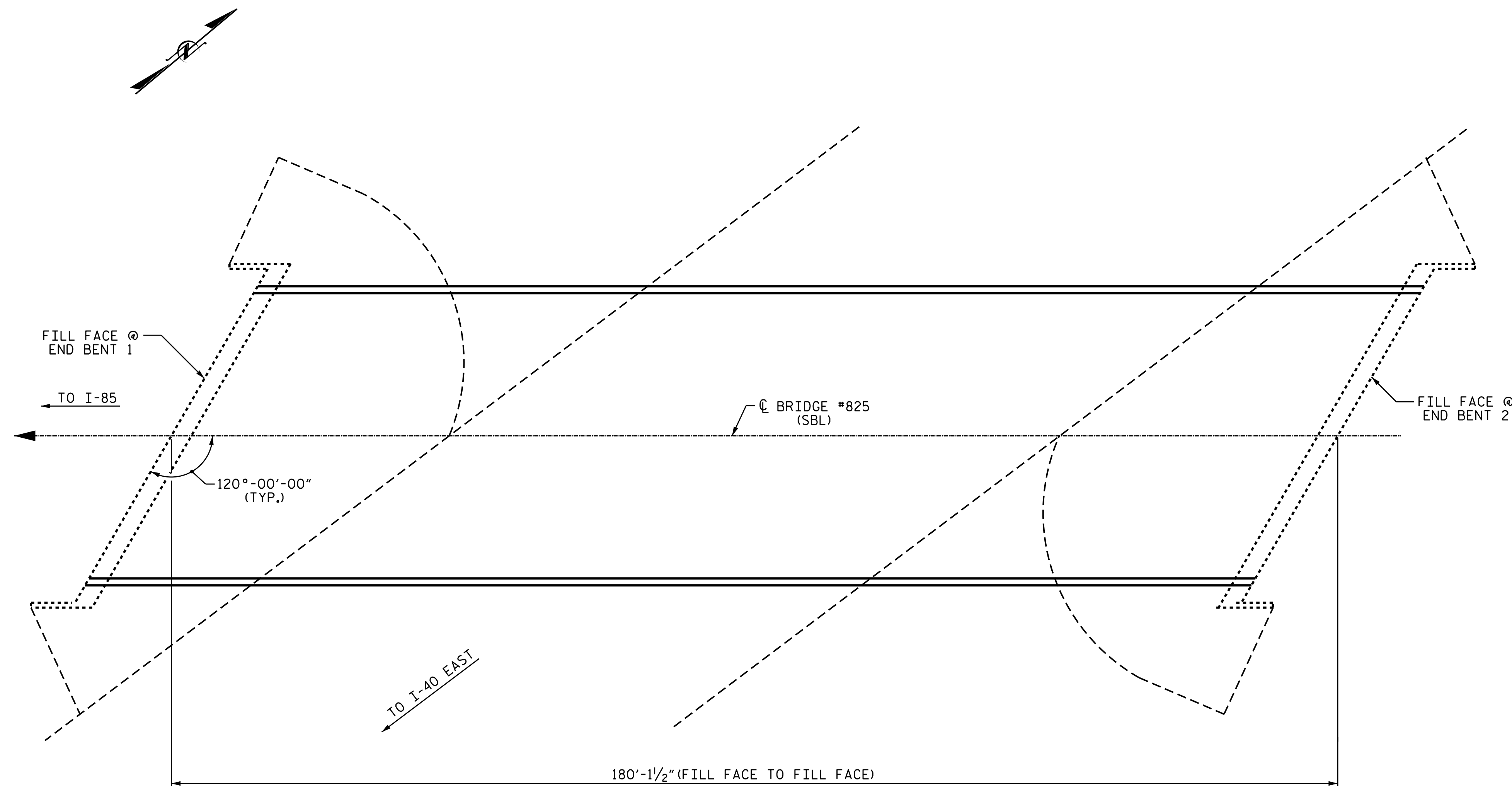
SCOPE OF WORK

- DEMOLISH EXISTING BRIDGE DECK JOINTS
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW JOINT SEALS
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



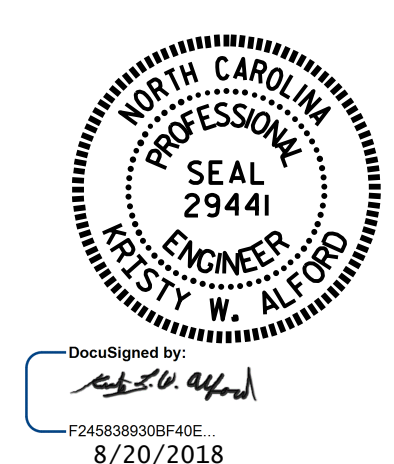
I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

Resident Engineer _____ Date _____



PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 825

SHEET 1 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON I-73 &
 I-840 SOUTHBOUND
 OVER I-73 & I-840 RAMP

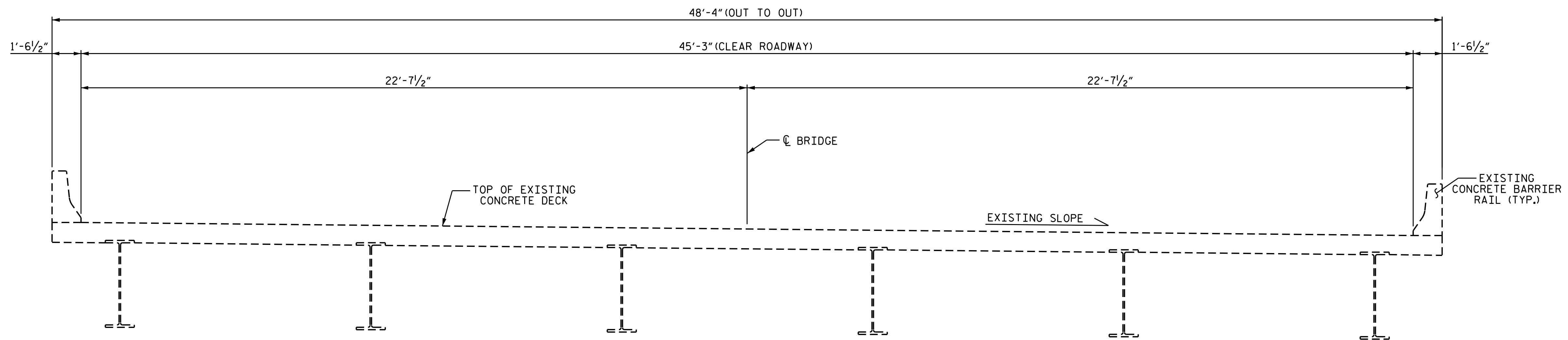
DRAWN BY : M.K. BEARD DATE : 4/10/18
 CHECKED BY : W.C. SMITH DATE : 4/10/18

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

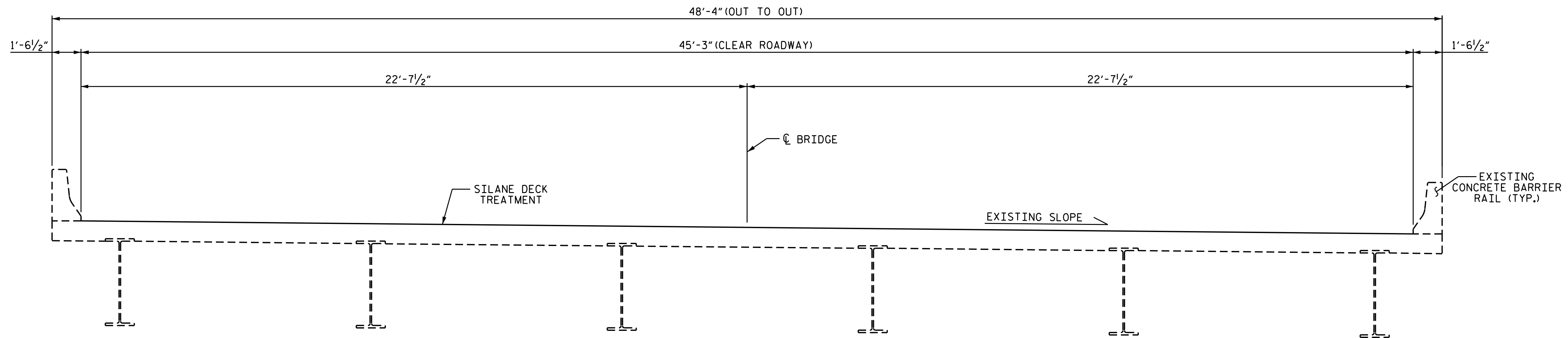
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



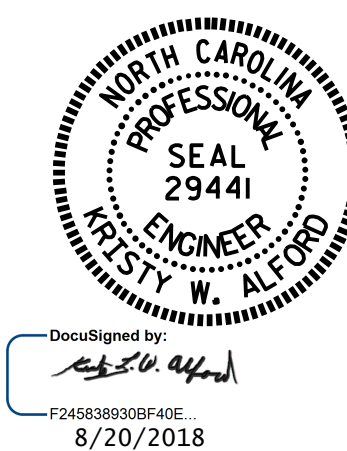
TYPICAL SECTION
(EXISTING)



TYPICAL SECTION
(PROPOSED)

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 825

SHEET 2 OF 4

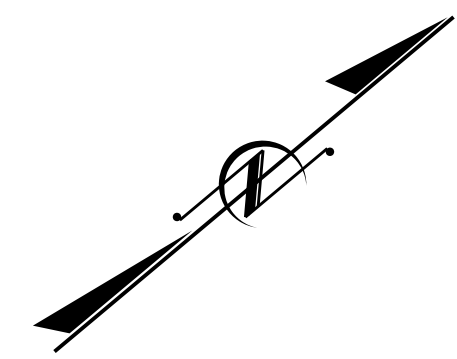


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 TYPICAL SECTIONS

DRAWN BY : M.K. BEARD DATE : 4/10/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

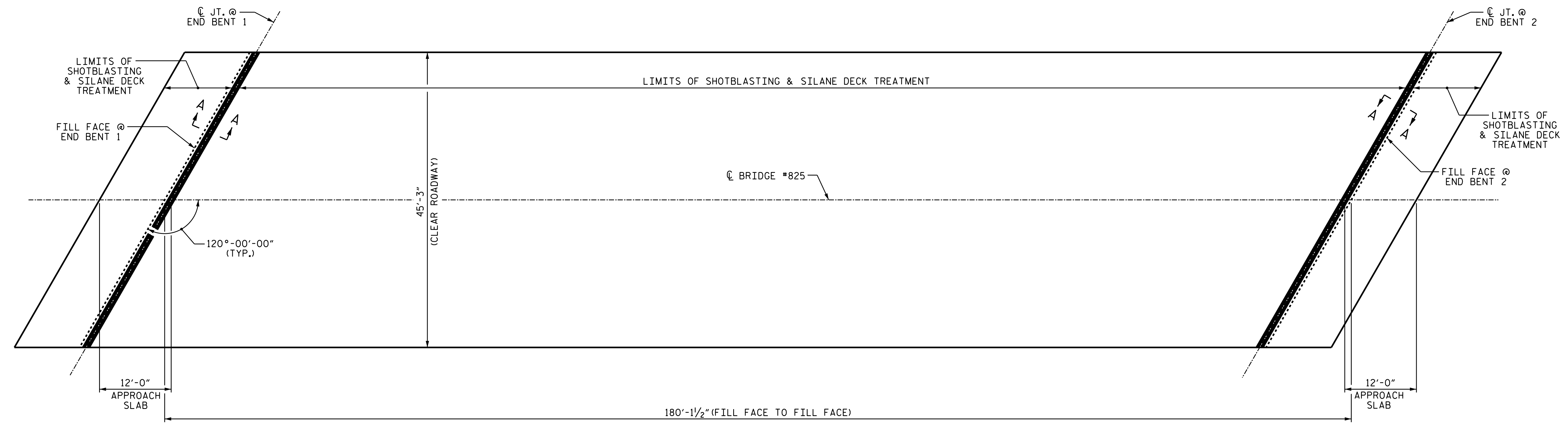
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S5-2
2			4			4



SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	97 SQ.FT.	
CONCRETE DECK REPAIR	* 10 CU.FT.	
SHOTBLASTING BRIDGE DECK	1,015 SQ.YDS.	
SILANE DECK TREATMENT	1,015 SQ.YDS.	

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.

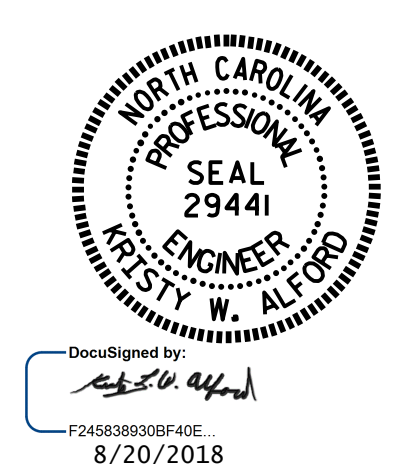


PLAN OF SPAN
(FOR SECTIONS A-A, SEE JOINT
DETAIL SHEET)

- SILANE DECK TREATMENT
- BRIDGE JOINT DEMOLITION

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 825

SHEET 3 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

SILANE DECK
TREATMENT

DRAWN BY : M.K. BEARD DATE : 4/10/18
CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

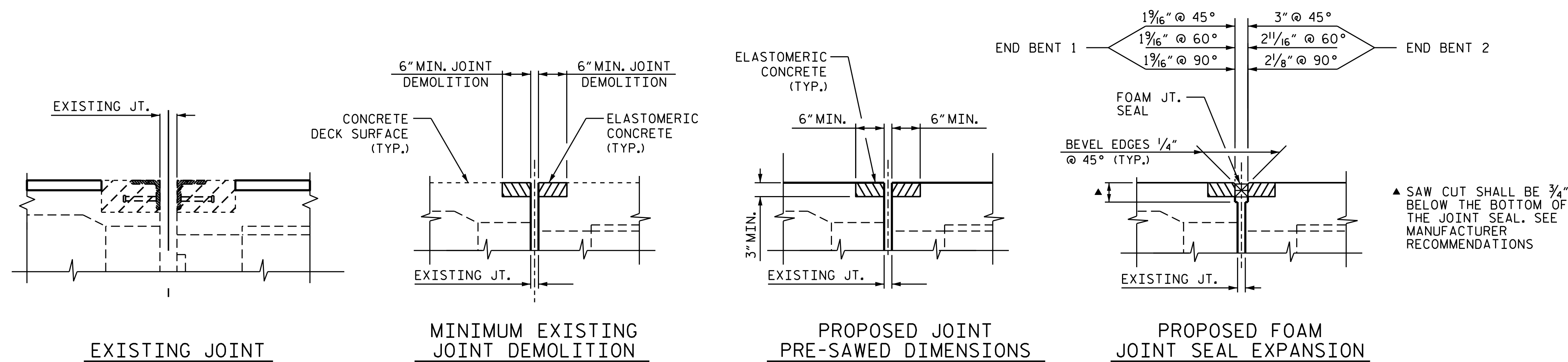
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S5-3
2			4			TOTAL SHEETS 4

NOTES:

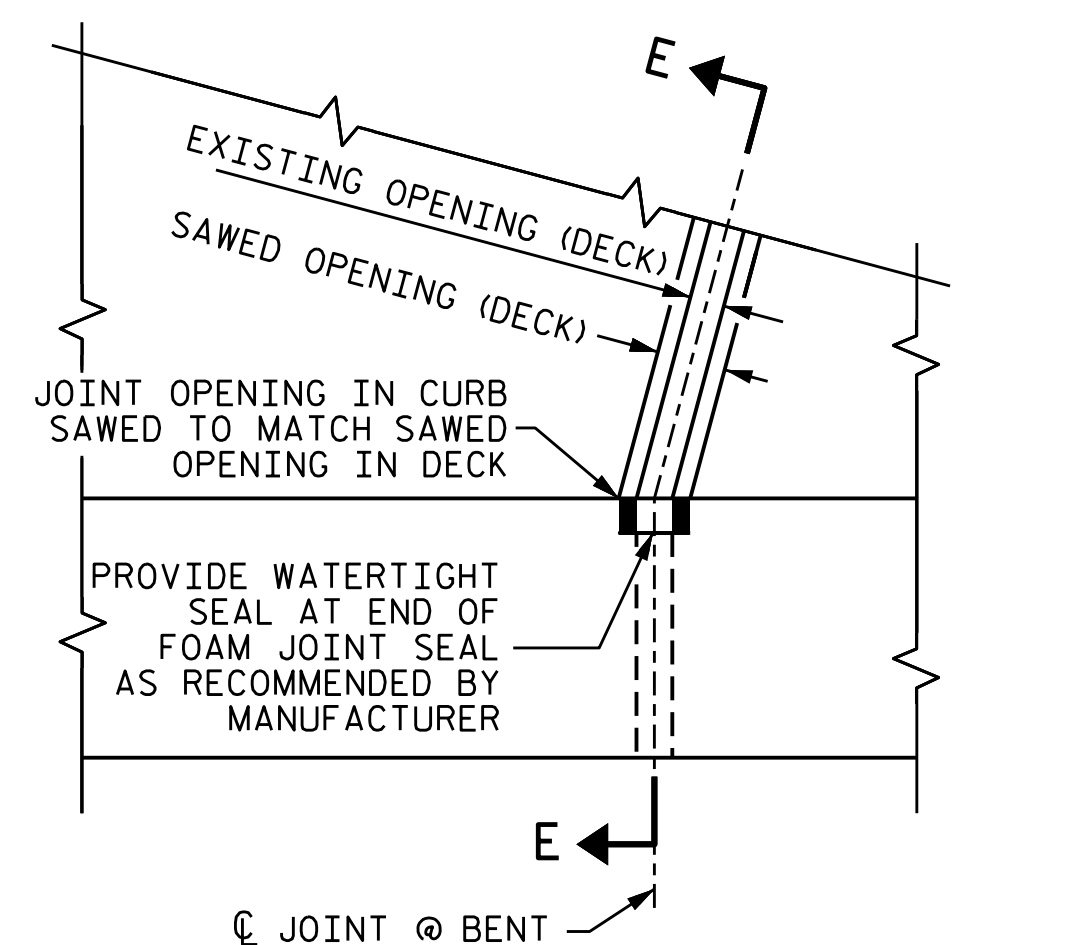
EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

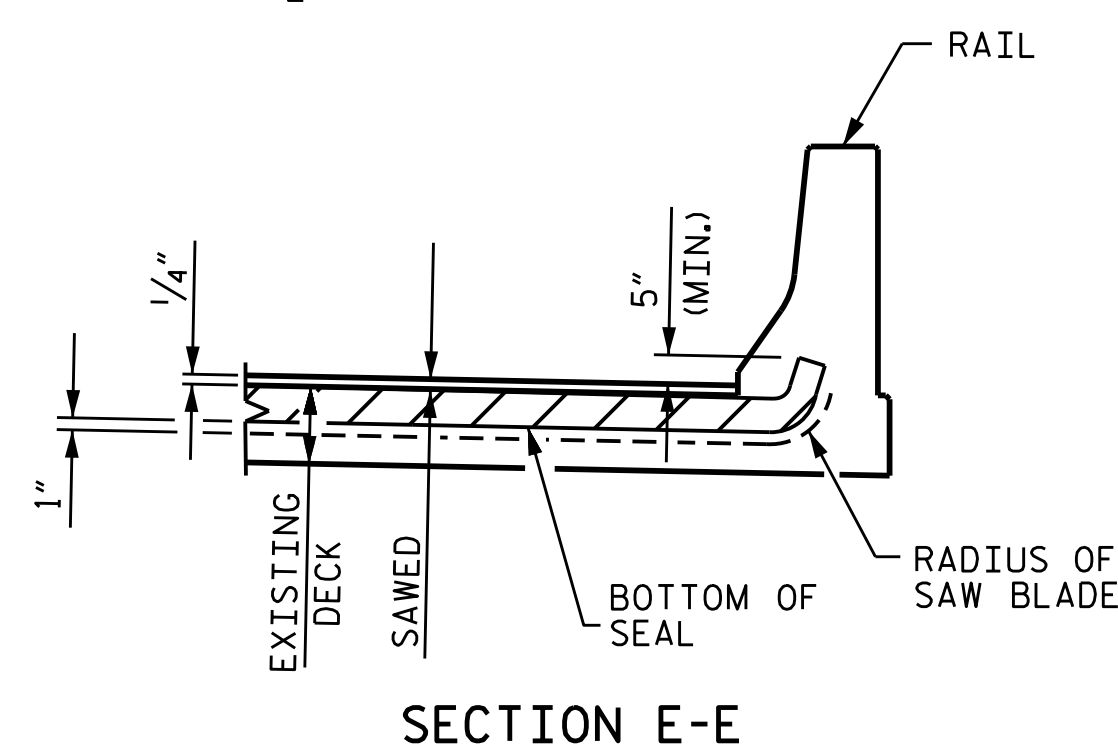
THE WIDTH OF THE UNCOMPRESSED SEAL MATERIAL SHALL BE 2" AT END BENT 1 AND 3/2" AT END BENT 2.



JOINT INSTALLATION SEQUENCE AT END BENT 1 AND END BENT 2
SECTION A-A



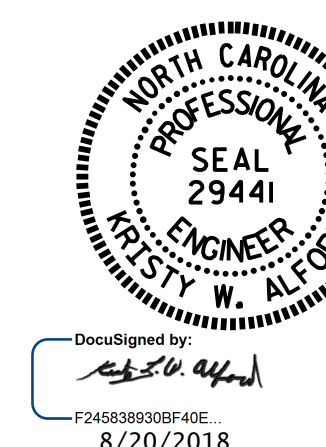
ELASTOMERIC CONCRETE	
END BENT 1	12.0 CU. FT.
END BENT 2	12.0 CU. FT.



SECTION E-E

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 825

SHEET 4 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUPERSTRUCTURE
JOINT DETAILS**

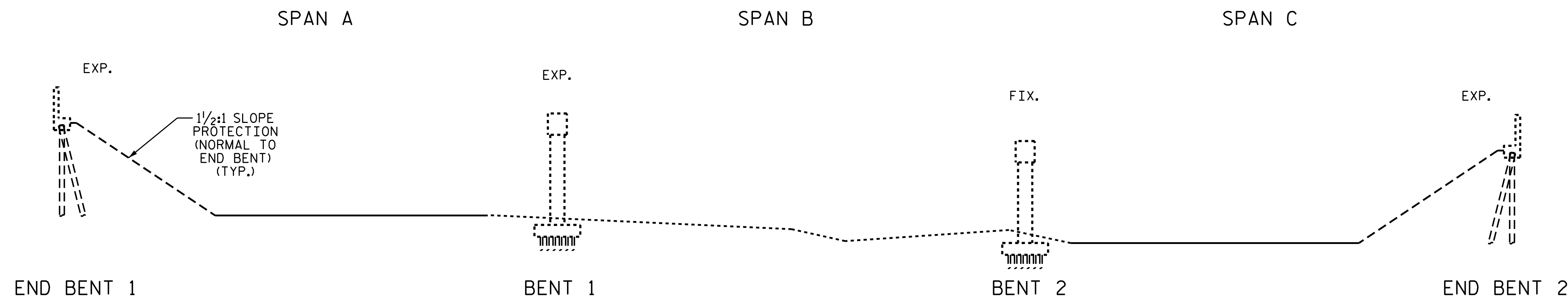
DRAWN BY : K.W. ALFORD DATE : 7/18
CHECKED BY : M.K. BEARD DATE : 7/18

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

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

SCOPE OF WORK

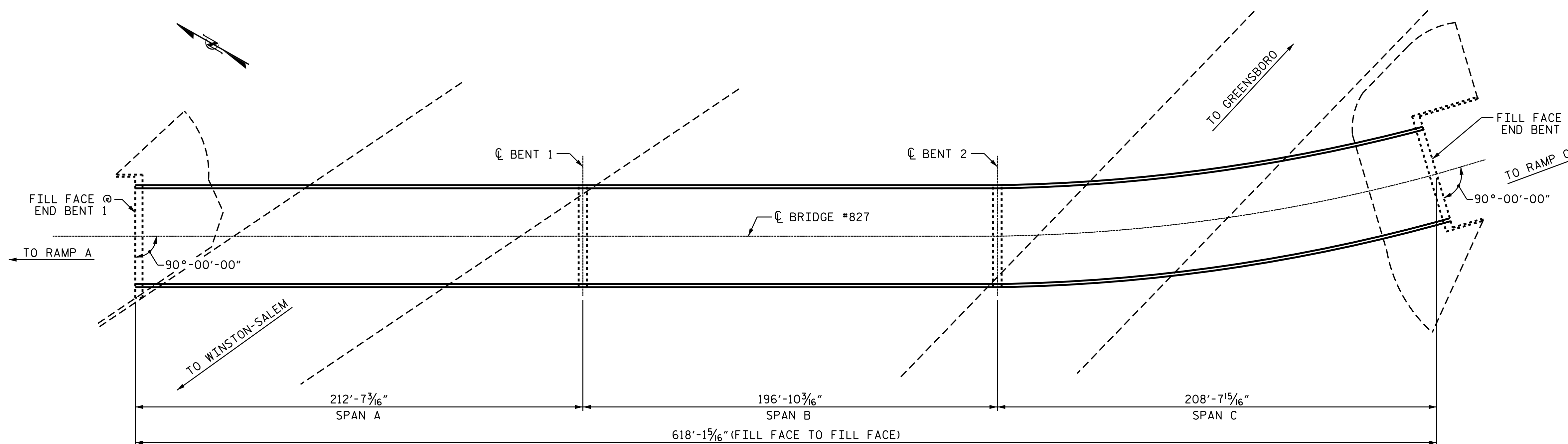
- INSTALL NEW JOINT SEALS
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



ELEVATION
(SECTION ALONG CL ROADWAY)

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

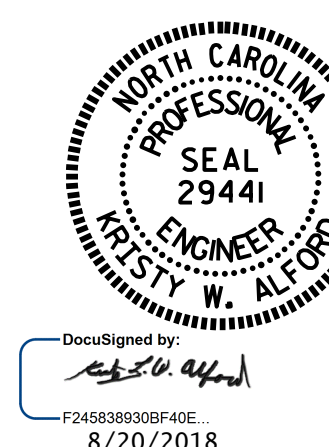
Resident Engineer Date



PLAN
(COLUMNS & FOOTINGS NOT SHOWN FOR CLARITY)

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 827

SHEET 1 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON I-73 &
 I-840 SOUTHBOUND
 RAMP OVER I-40

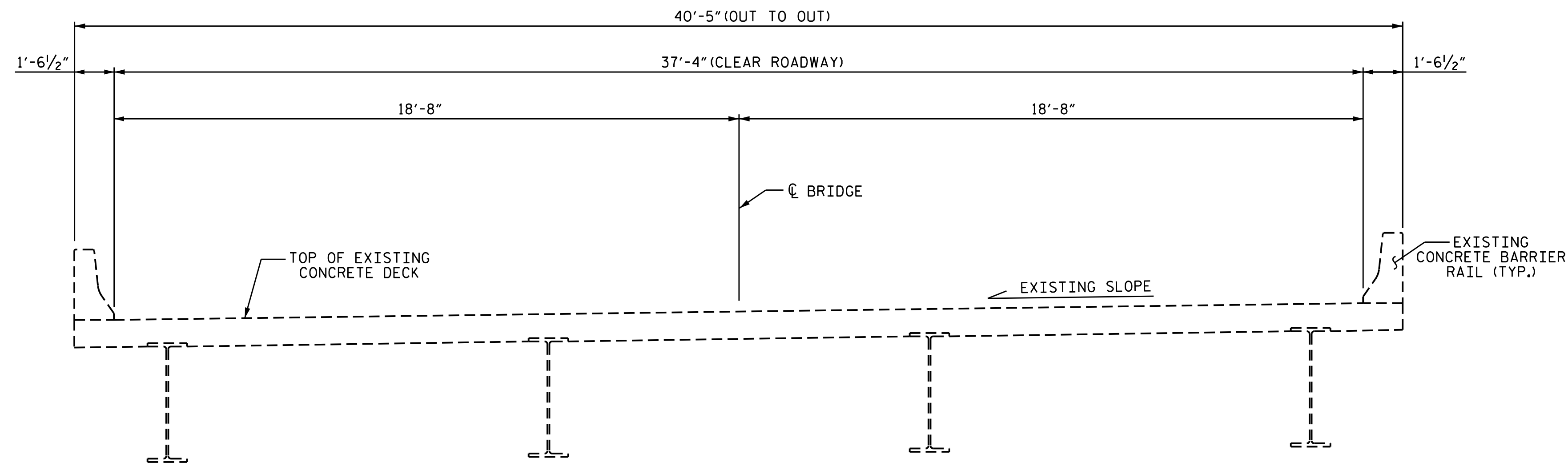
DRAWN BY : M.K. BEARD DATE : 4/12/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S6-1
1			3			TOTAL SHEETS
2			4			4

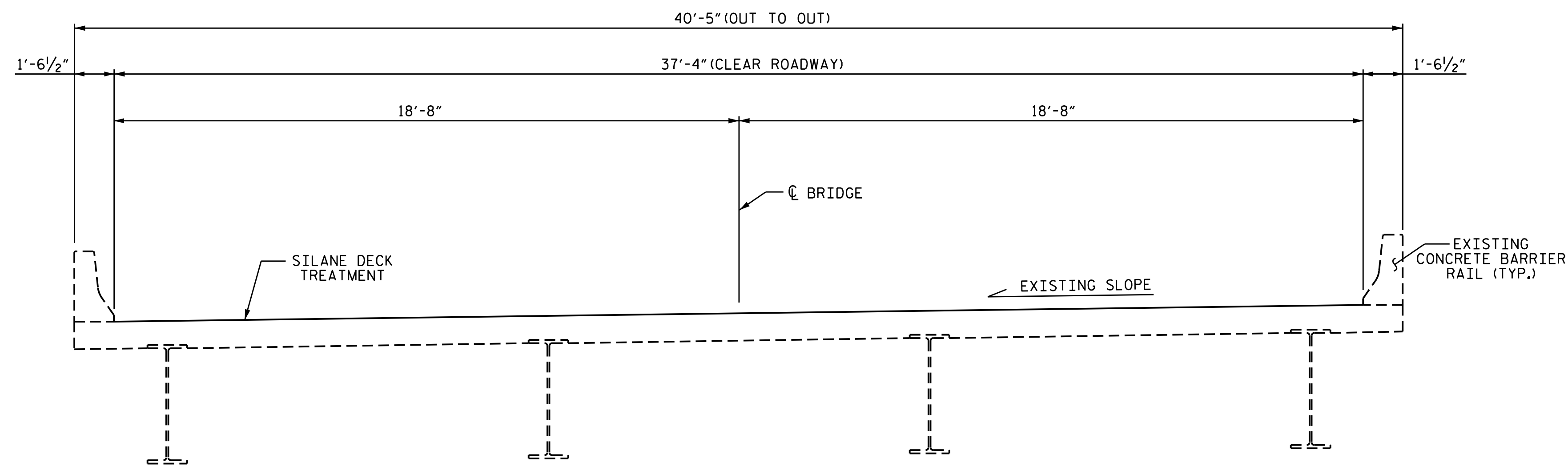
NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



TYPICAL SECTION

(EXISTING)



TYPICAL SECTION

(PROPOSED)

PROJECT NO. I-5852A

GUILFORD COUNTY

BRIDGE NO. 827

SHEET 2 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
TYPICAL SECTIONS



DocuSigned by:
Kelly W. Alford
F245838908FA0E
8/20/2018

DRAWN BY : M.K. BEARD DATE : 4/12/18
CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

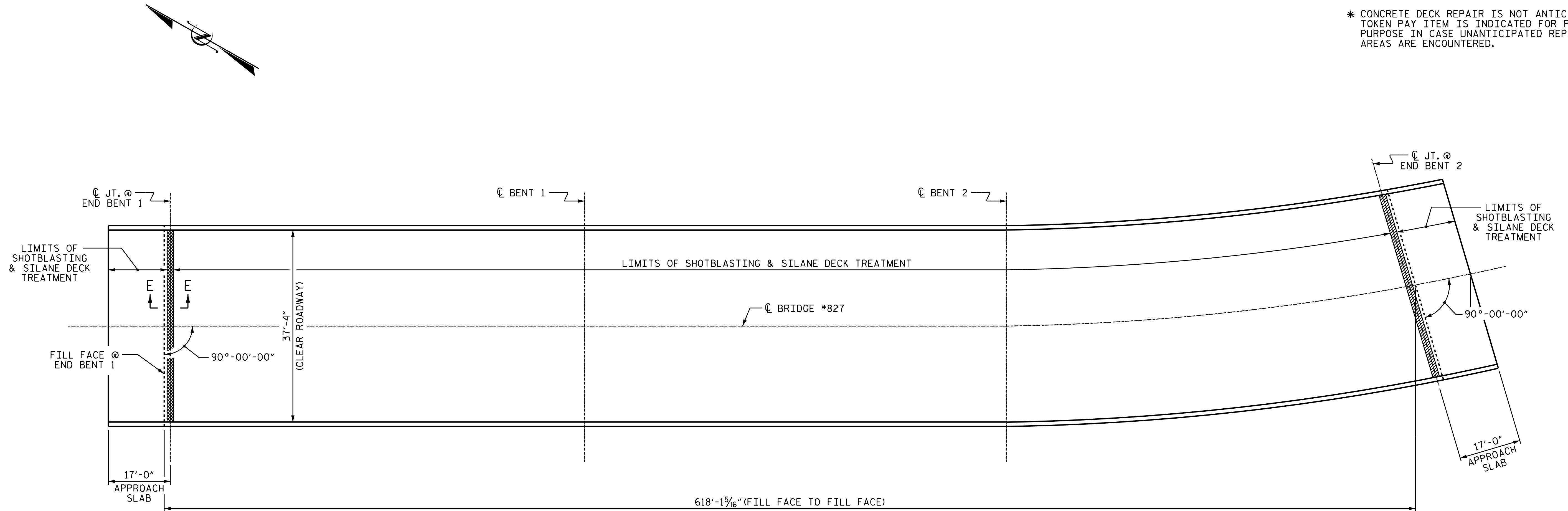
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S6-2
2			4			4

SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
CONCRETE DECK REPAIR	* 10 CU.FT.	
SHOTBLASTING BRIDGE DECK	2,700 SQ.YDS.	
SILANE DECK TREATMENT	2,700 SQ.YDS.	

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.

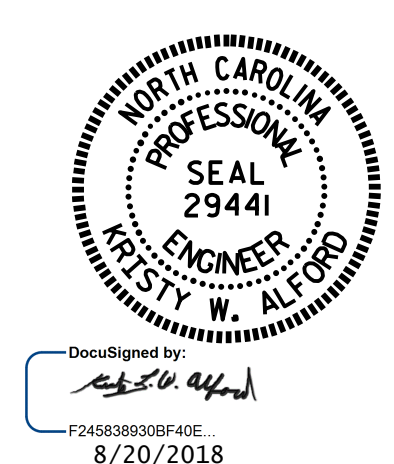


- SILANE DECK TREATMENT
- EXPANSION JOINT SEAL REPAIR
- BRIDGE JOINT TO REMAIN

PLAN OF SPANS
(FOR SECTION E-E, SEE EXPANSION JOINT SEAL DETAILS SHEET)

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 827

SHEET 3 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
SILANE DECK
TREATMENT

DRAWN BY : M.K. BEARD DATE : 4/13/18
CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S6-3
2			4			TOTAL SHEETS 4

REPAIR INSTALLATION PROCEDURE

LOOSEN THE EXISTING BOLTS AND HOLD DOWN PLATES TO REMOVE AND REPLACE THE EXISTING GLAND. REMOVE THE EXISTING NEOPRENE SEALANT AND CLEAN THE EXISTING BASE ANGLE OF OIL, GREASE AND OTHER LATENTS.

LAY THE NEW GLAND ON THE BASE ANGLE AND FIELD MARK THE NEW GLAND FOR THE BOLT HOLES. HOLES IN THE NEW GLAND SHALL BE PUNCHED $\frac{1}{8}$ " IN DIAMETER WITH A HAND PUNCH.

IN ORDER TO CHECK FOR PROPER ALIGNMENT, PLACE THE NEW GLAND AND HOLD-DOWN PLATES ON THE BASE ANGLE. DO NOT APPLY NEW NEOPRENE SEALANT. BOLT THE HOLD-DOWN PLATES TO THE BASE ANGLE, BUT DO NOT TIGHTEN. THE ENGINEER WILL INSPECT THE JOINT SEAL DEVICE FOR PROPER ALIGNMENT.

AFTER INSPECTION, REMOVE THE HOLD-DOWN PLATES AND NEW GLAND. APPLY NEW NEOPRENE SEALANT TO THE BASE ANGLE IN ACCORDANCE WITH THE "INSTALLATION SKETCH". PLACE NEW GLAND AND HOLD-DOWN PLATES ON THE BASE ANGLE. BOLT THE HOLD-DOWN PLATES TO THE BASE ANGLE ASSEMBLY AND TORQUE THE BOLTS TO 88 FT-LBS WITH A TORQUE WRENCH. CHECK THE TORQUE AFTER THREE (3) HOURS AND, IF NECESSARY, RETIGHTEN TO 88 FT-LBS. A FINAL CHECK SHALL BE MADE AT SEVEN (7) DAYS. TORQUE SHALL NOT BE LESS THAN 80 FT-LBS AFTER SEVEN (7) DAYS.

AFTER PROPER TORQUING, CLEAN THE BOLT HOLE RECESSES AND THE RECESS BETWEEN THE JOINT SEAL DEVICE AND CONCRETE. COMPLETELY FILL THESE RECESSES WITH NEW NEOPRENE SEALANT.

GENERAL NOTES

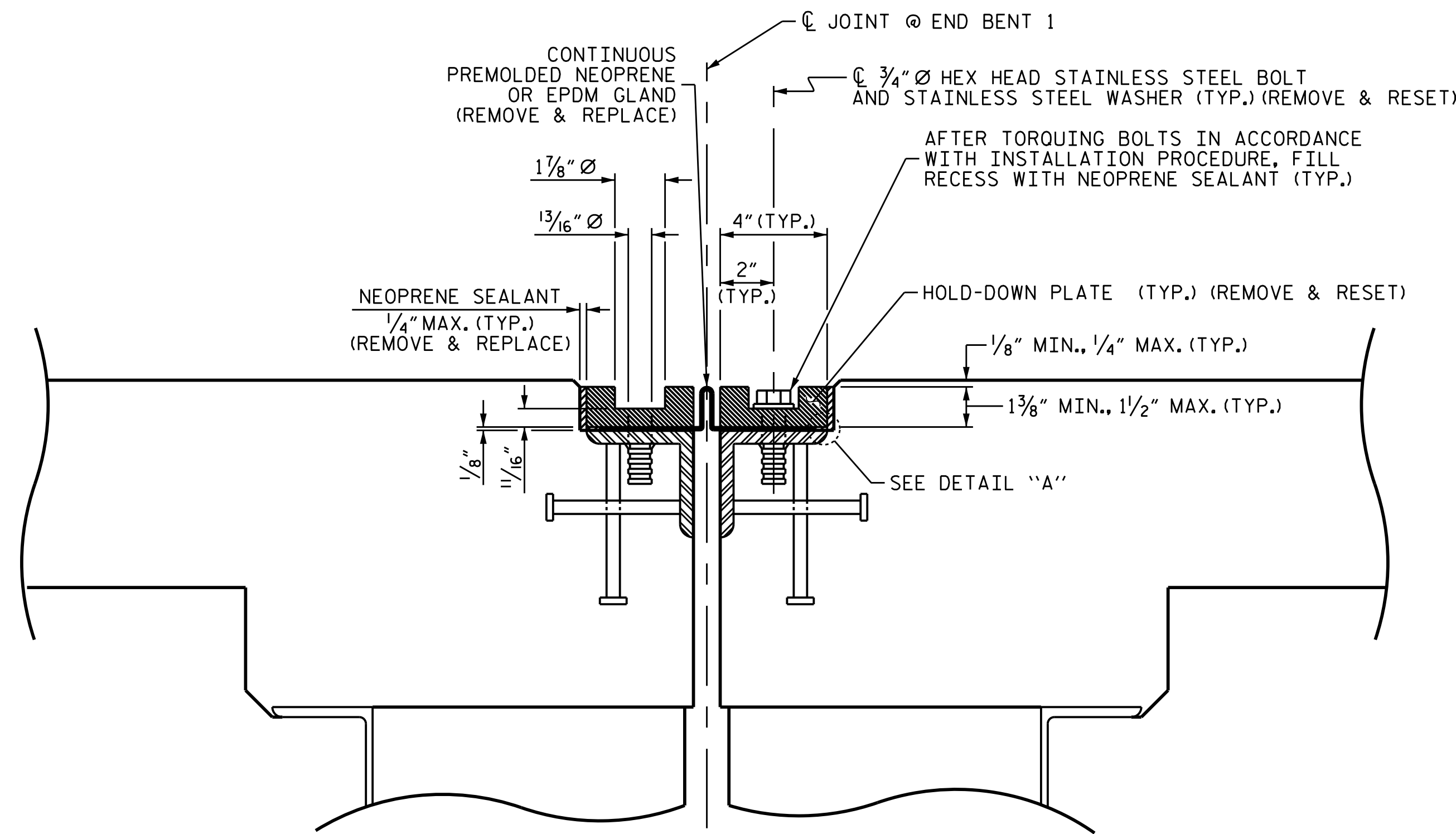
ALL HOLD-DOWN BOLTS SHALL CONFORM TO ASTM F593 ALLOY 304 STAINLESS STEEL AND WASHERS SHALL CONFORM TO ASTM F844 EXCEPT THEY SHALL BE MADE FROM ALLOY 304 STAINLESS STEEL.

A PREMOLDED CORRUGATED OR NON-CORRUGATED GLAND SHALL BE USED FOR JOINTS SKEWED BETWEEN 50° THRU 130° .

THE FINISHED EXPANSION SEAL DEVICE SHALL BE A MINIMUM $\frac{1}{8}$ " AND A MAXIMUM OF $\frac{1}{4}$ " BELOW THE TOP OF SLAB.

FOR EXPANSION JOINT SEAL REPAIR, SEE SPECIAL PROVISIONS.

NO SEPARATE PAYMENT WILL BE MADE FOR REMOVING AND REINSTALLING MEDIAN AND BARRIER RAIL COVER PLATES. THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR "EXPANSION JOINT SEAL REPAIR".

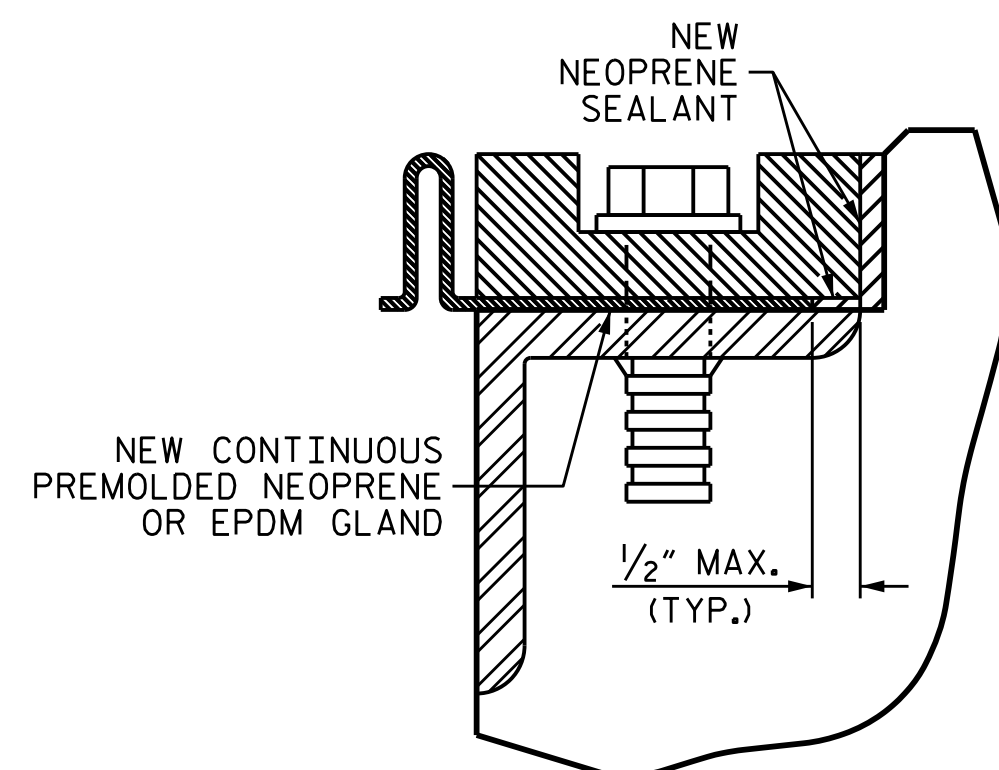


SECTION E-E

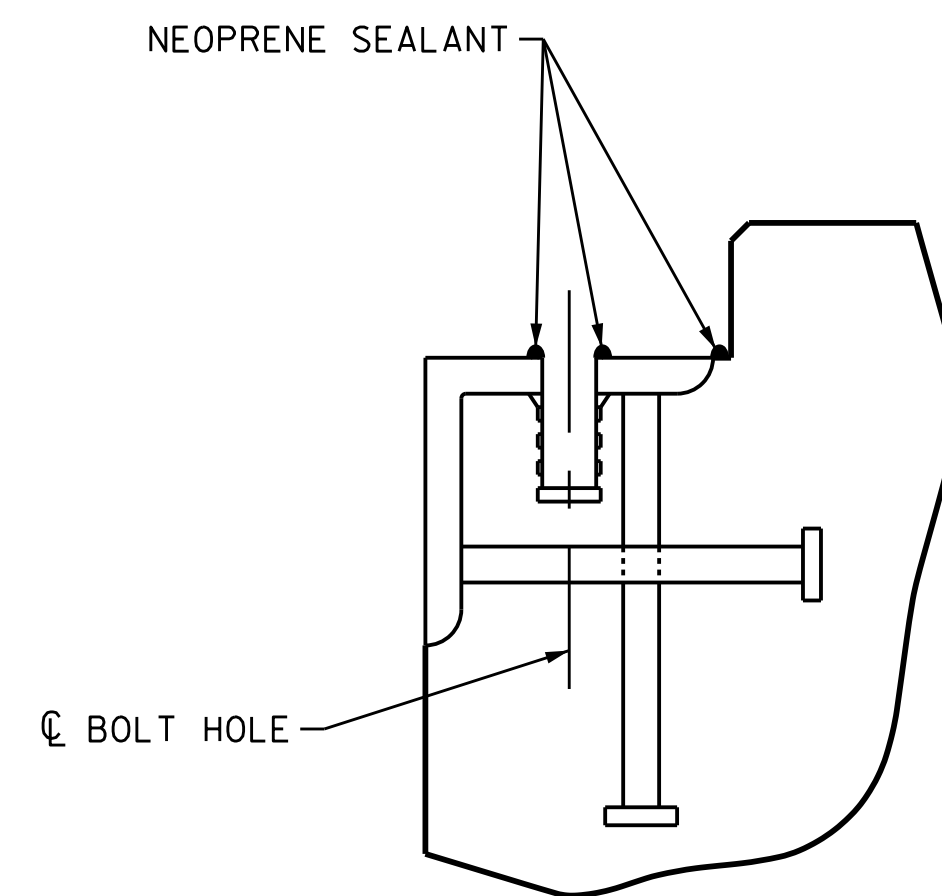
(SECTION NORMAL TO JOINT -- STEEL SUPERSTRUCTURE)

MOVEMENT AND SETTING AT JOINT

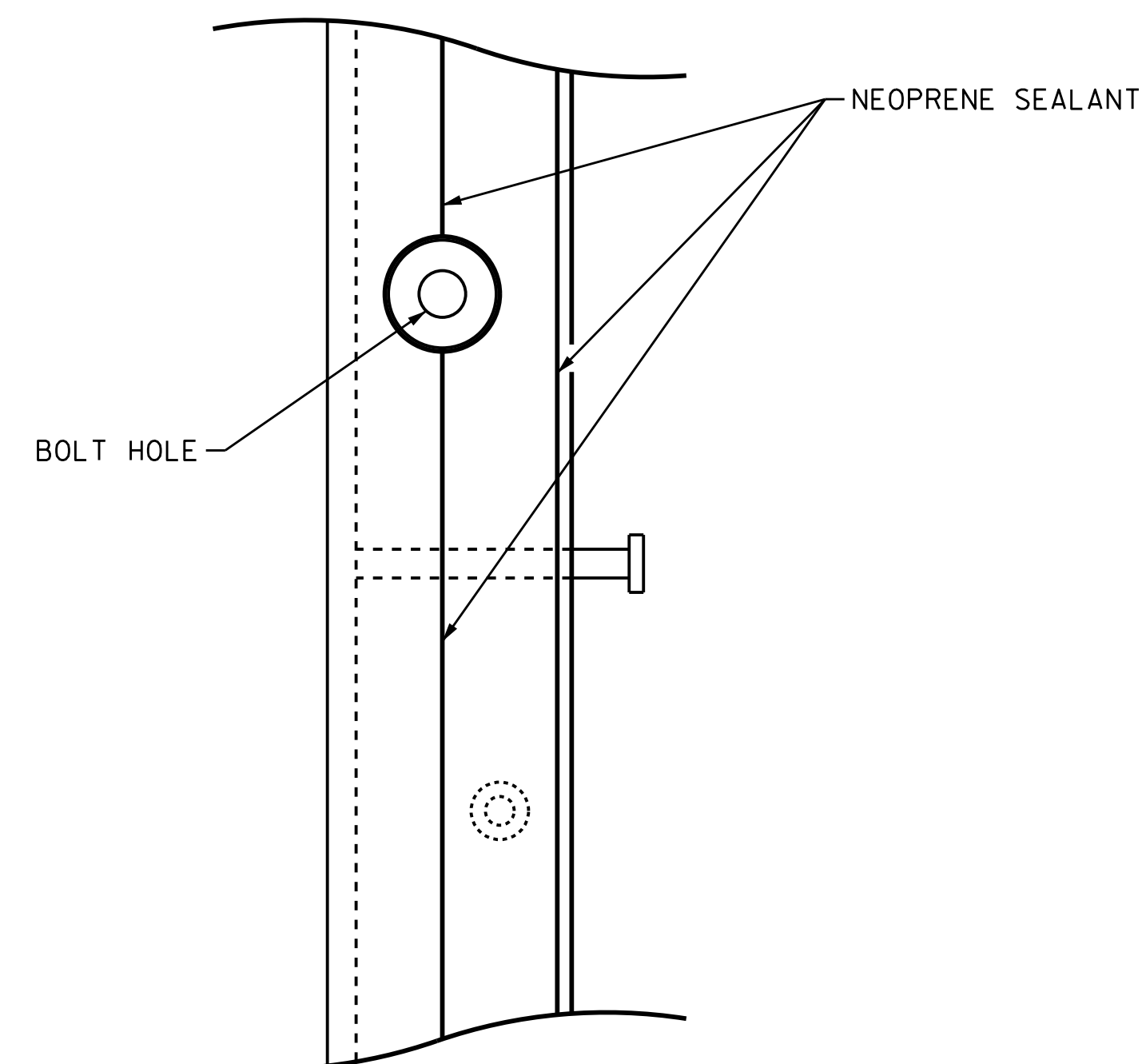
BRIDGE	LOCATION	SKEW ANGLE	TOTAL MOVEMENT (ALONG \bar{C} RDWY)	PERPENDICULAR JOINT OPENING AT 30° F	PERPENDICULAR JOINT OPENING AT 60° F	PERPENDICULAR JOINT OPENING AT 90° F
827	END BENT 1	$90^\circ 00' 00''$	$2\frac{1}{2}$ "	$2\frac{3}{4}$ "	$2\frac{1}{4}$ "	$1\frac{5}{8}$ "



DETAIL "A"



CROSS SECTION



PLAN VIEW

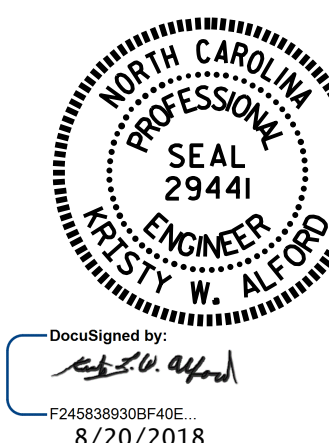
INSTALLATION SKETCH

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 827

SHEET 4 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

EXPANSION JOINT
 SEAL DETAILS



DocuSigned by:
 K. W. ALFORD
 F245838908FA0E
 8/20/2018

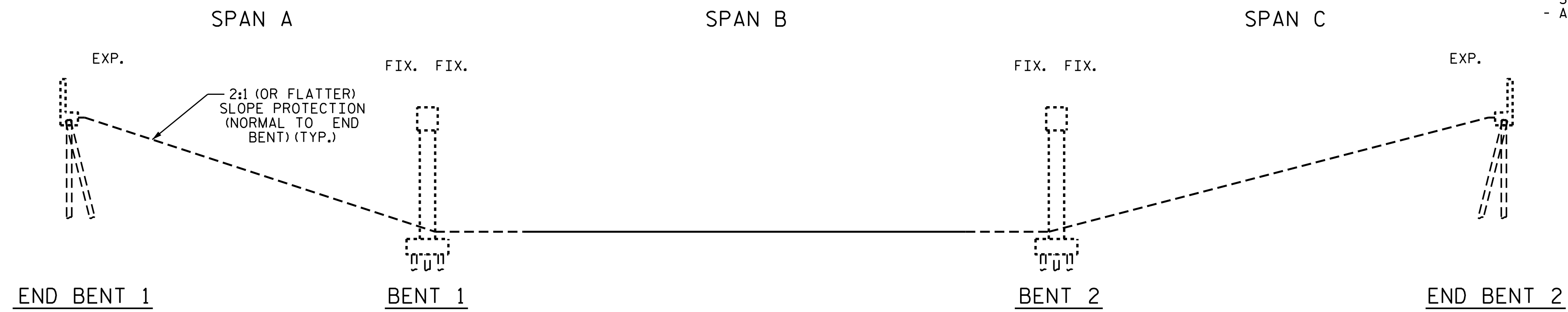
DRAWN BY : K.W. ALFORD DATE : 7/18
 CHECKED BY : M.K. BEARD DATE : 7/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

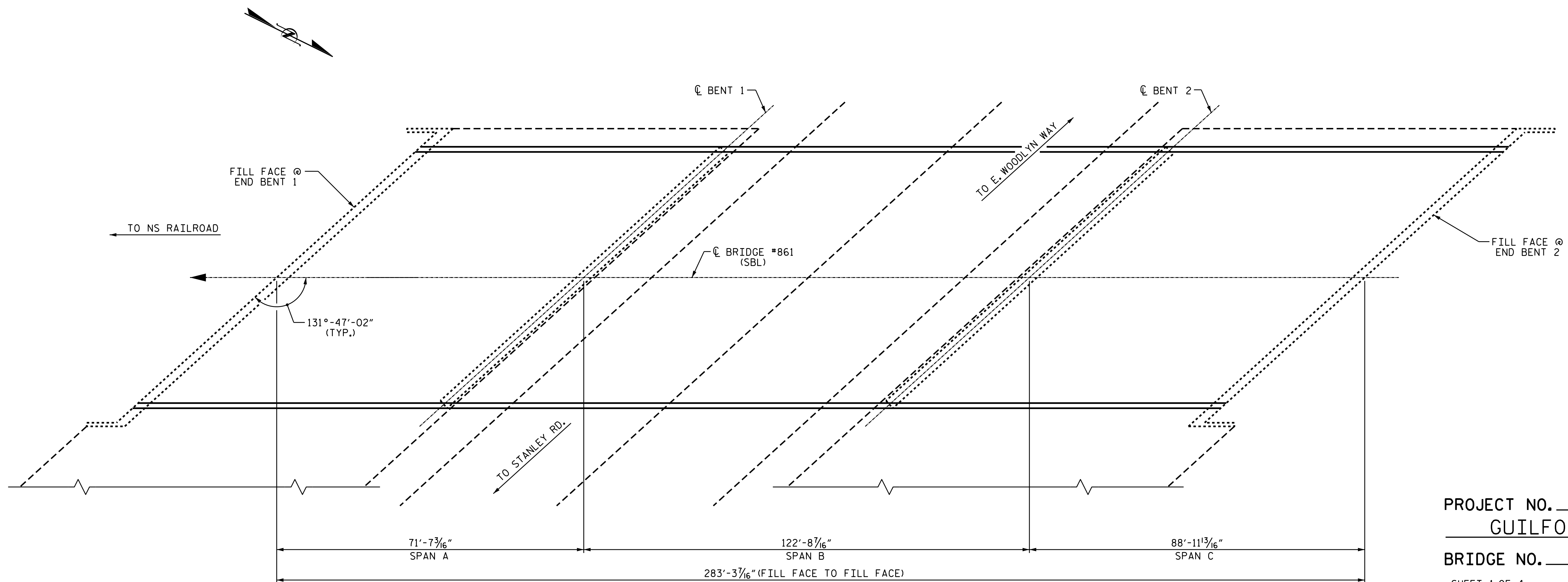
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S6-4
1			3			TOTAL SHEETS
2			4			4

SCOPE OF WORK

- DEMOLISH EXISTING BRIDGE DECK JOINTS
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW JOINT SEALS
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



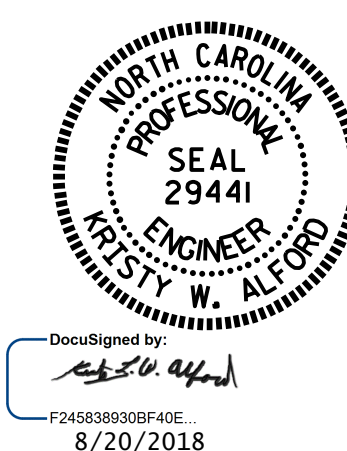
ELEVATION
(SECTION ALONG C ROADWAY)



PLAN
(COLUMNS & FOOTINGS NOT SHOWN FOR CLARITY)

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 861

SHEET 1 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE ON I-73 &
 US 421 SOUTHBOUND OVER
 SR 1424 (HILLTOP RD.)

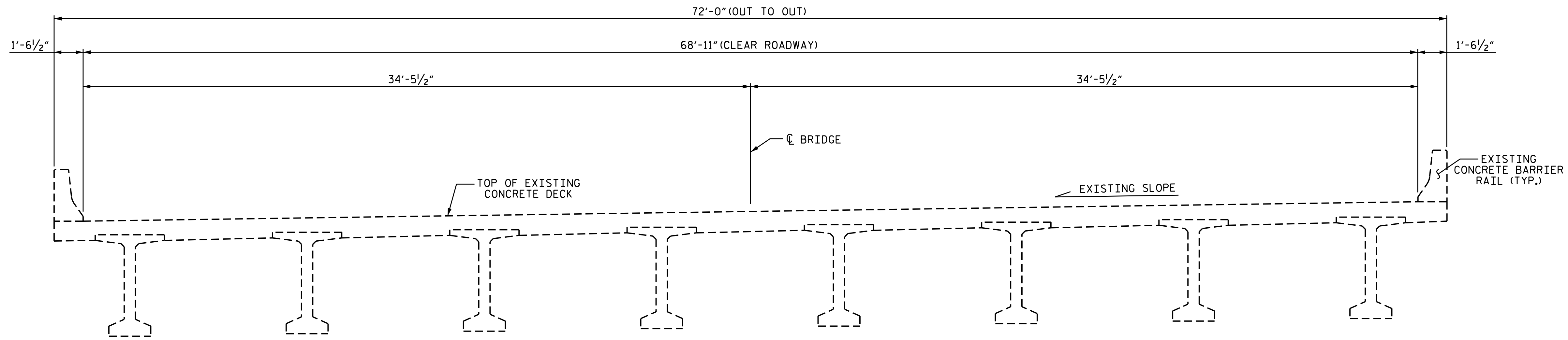
DRAWN BY : M.K. BEARD DATE : 3/19/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

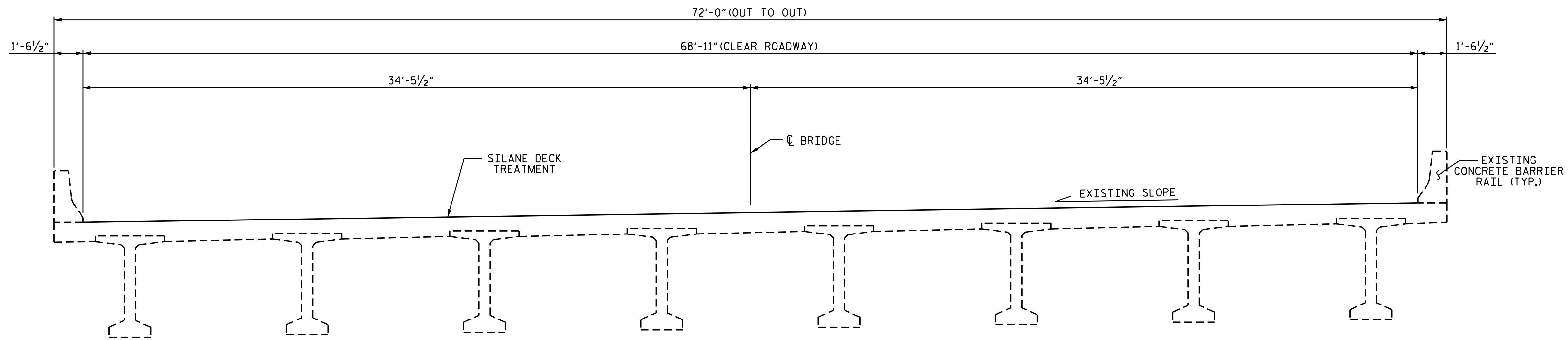
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S7-1
1			3			TOTAL SHEETS
2			4			4

NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



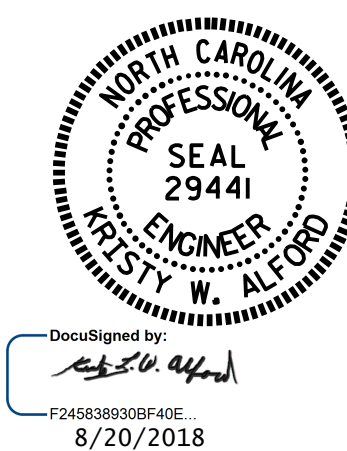
TYPICAL SECTION
(EXISTING)



TYPICAL SECTION
(PROPOSED)

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 861

SHEET 2 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
TYPICAL SECTIONS

DRAWN BY : M.K. BEARD DATE : 3/19/18
CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
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SIGNATURES COMPLETED

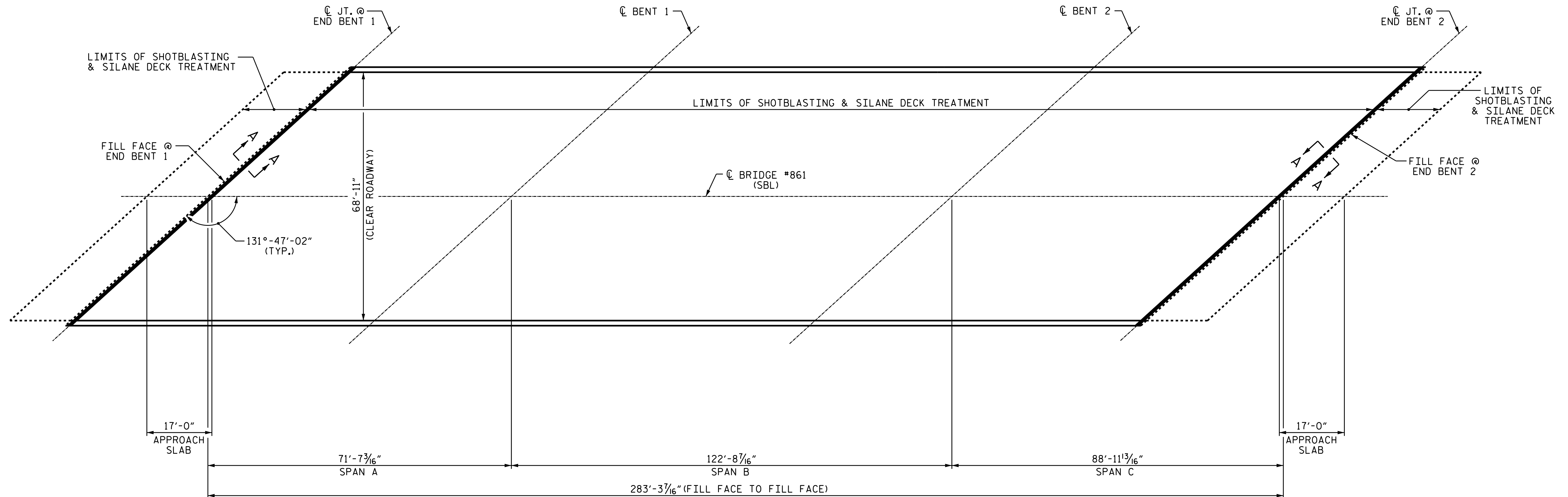
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S7-2
2			4			4

SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	170 SQ.FT.	
CONCRETE DECK REPAIR	* 10 CU.FT.	
SHOTBLASTING BRIDGE DECK	2,410 SQ.YDS.	
SILANE DECK TREATMENT	2,410 SQ.YDS.	

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.



PLAN OF SPANS

(FOR SECTIONS A-A, SEE JOINT DETAIL SHEET)

□ SILANE DECK TREATMENT

▨ BRIDGE JOINT DEMOLITION

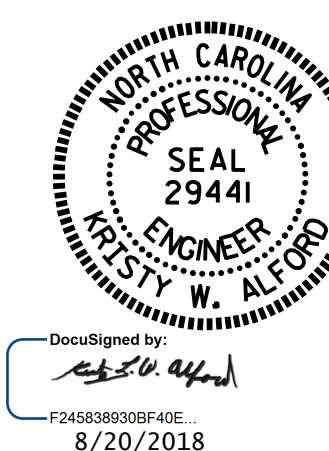
PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 861

SHEET 3 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE

SILANE DECK TREATMENT



DocuSigned by:
 W. ALFORD
 F245838908FA0E
 8/20/2018

DRAWN BY : M.K. BEARD DATE : 3/19/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

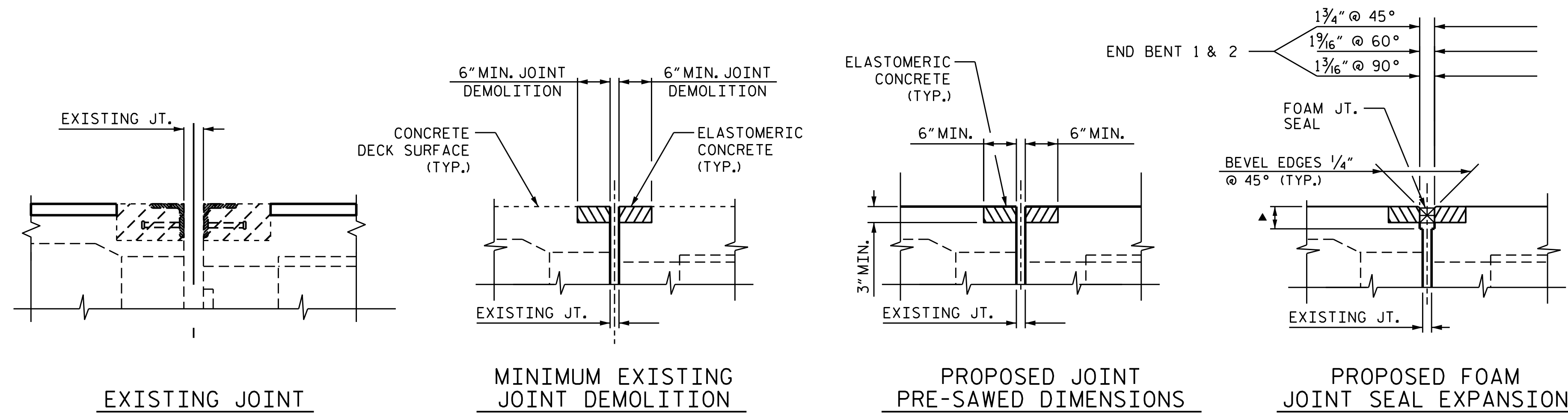
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NO.	BY:	DATE:	NO.	BY:	DATE:	ST-3
1			3			TOTAL SHEETS
2			4			4

NOTES:

EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

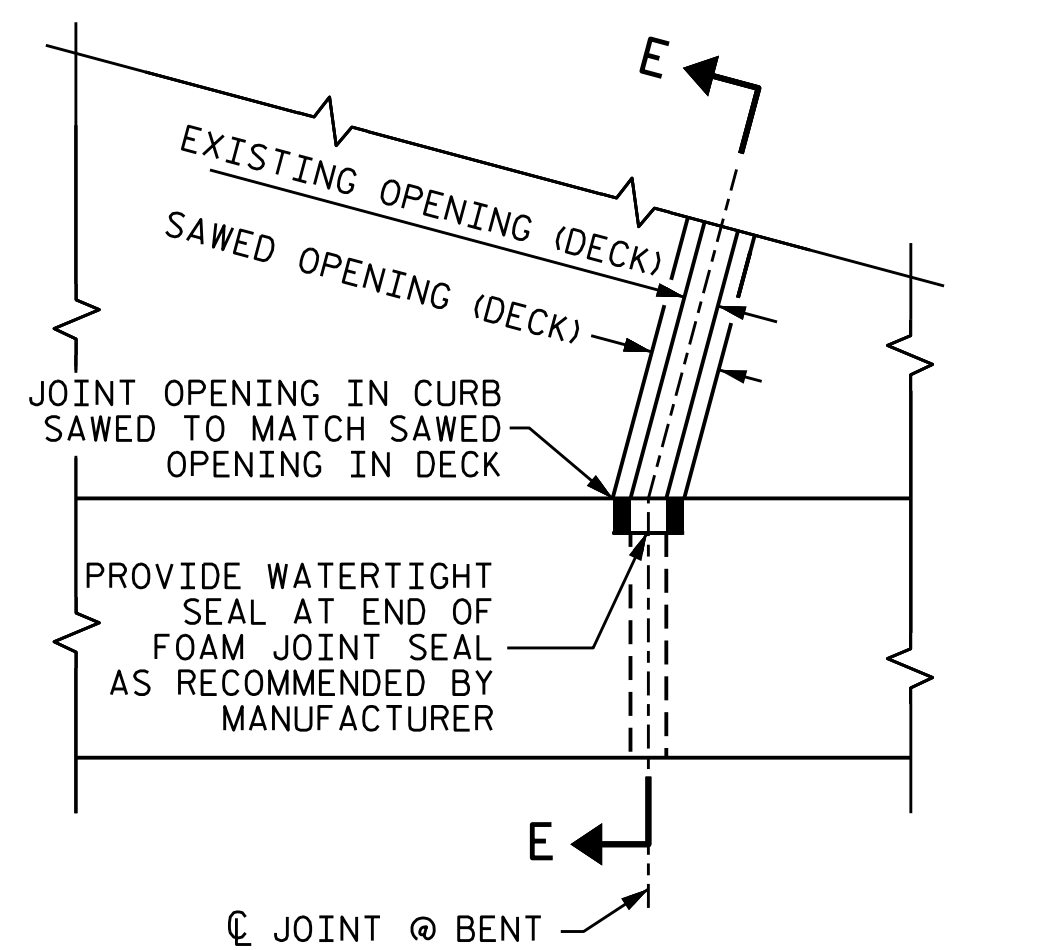
RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

THE WIDTH OF THE UNCOMPRESSED SEAL MATERIAL SHALL BE 2".

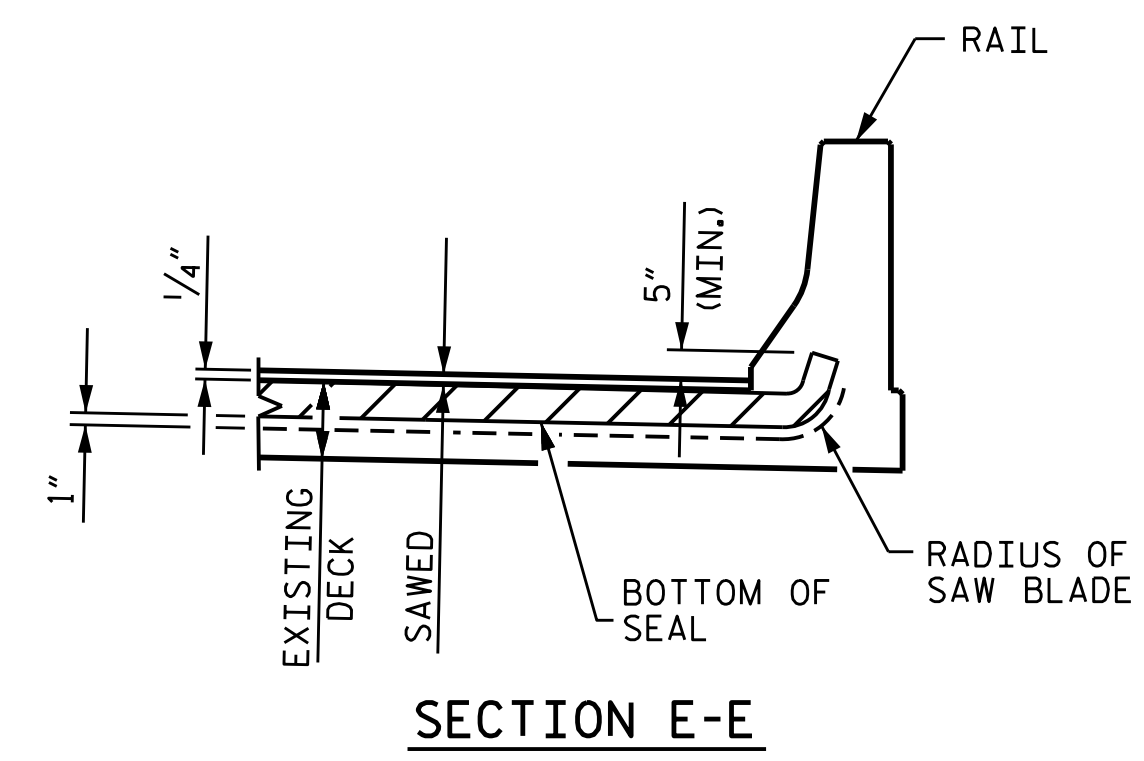


▲ SAW CUT SHALL BE 3/4" BELOW THE BOTTOM OF THE JOINT SEAL. SEE MANUFACTURER RECOMMENDATIONS

**JOINT INSTALLATION SEQUENCE AT END BENT 1 AND END BENT 2
SECTION A-A**



ELASTOMERIC CONCRETE	
END BENT 1	21.2 CU. FT.
END BENT 2	21.2 CU. FT.



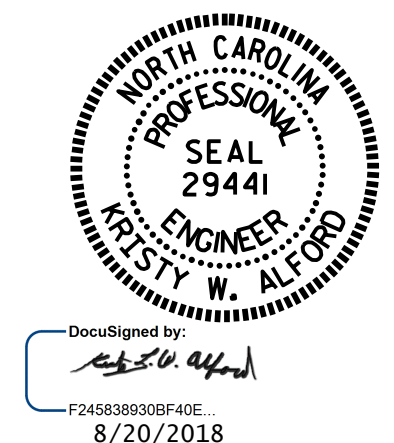
SECTION E-E

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 861

SHEET 4 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUPERSTRUCTURE
 JOINT DETAILS**



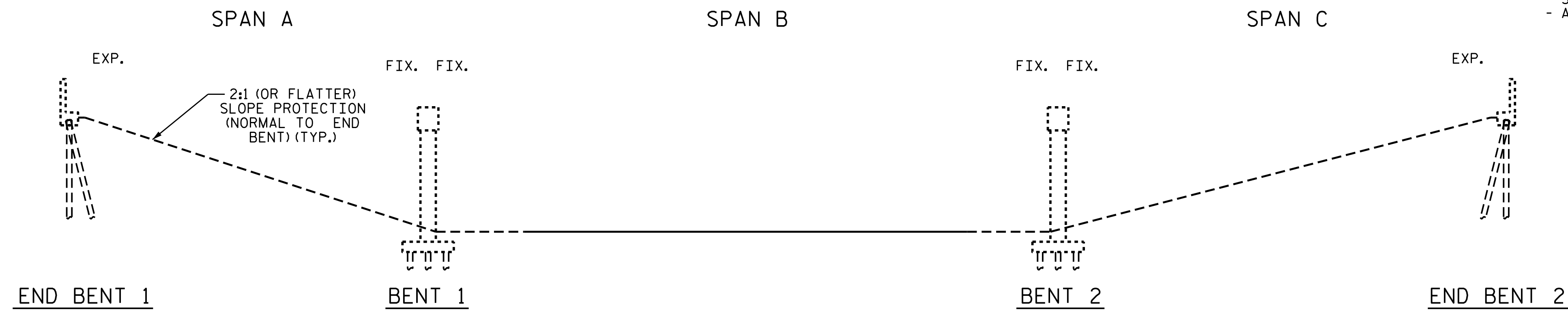
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NO.	BY:	DATE:	NO.	BY:	DATE:	S7-4	
1			3			TOTAL SHEETS	
2			4			4	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : K.W. ALFORD DATE : 7/18
 CHECKED BY : M.K. BEARD DATE : 7/18

SCOPE OF WORK

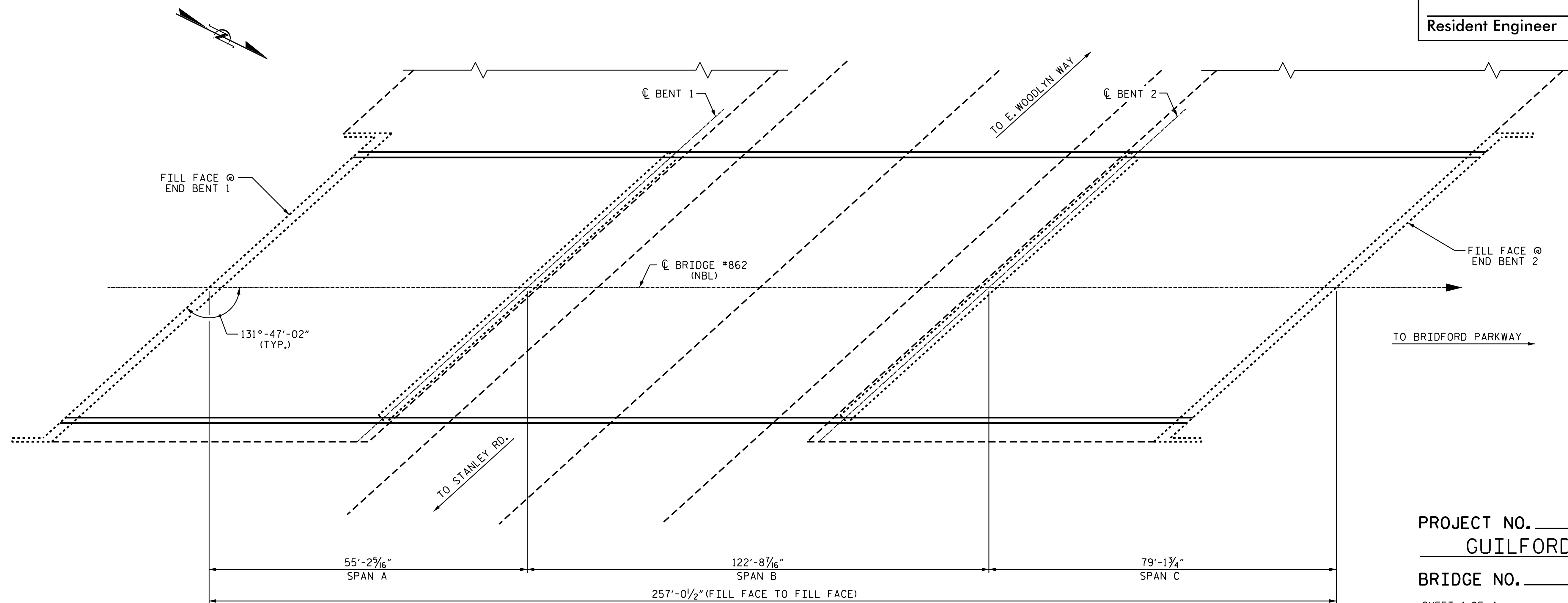
- DEMOLISH EXISTING BRIDGE DECK JOINTS
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW JOINT SEALS
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



ELEVATION
(SECTION ALONG CL ROADWAY)

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

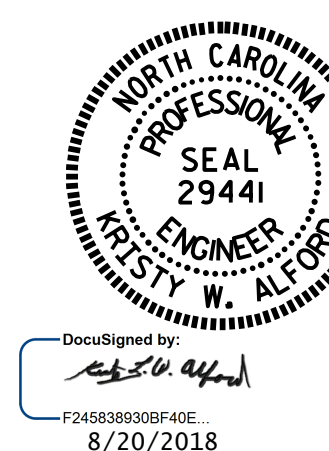
Resident Engineer _____ Date _____



PLAN
(COLUMNS & FOOTINGS NOT SHOWN FOR CLARITY)

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 862

SHEET 1 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE ON I-73 &
 US 421 NORTHBOUND OVER
 SR 1424 (HILLTOP RD.)

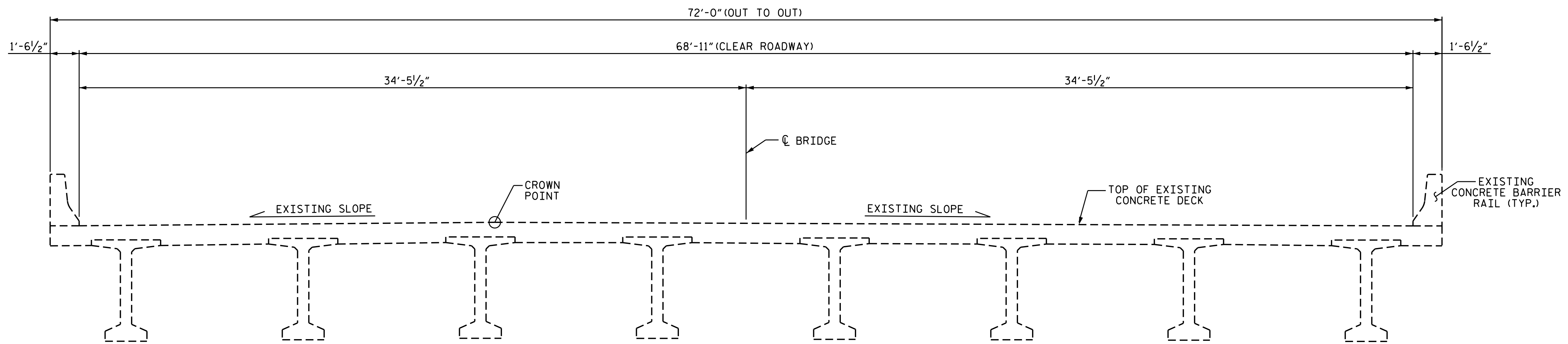
DRAWN BY : M.K. BEARD DATE : 3/19/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

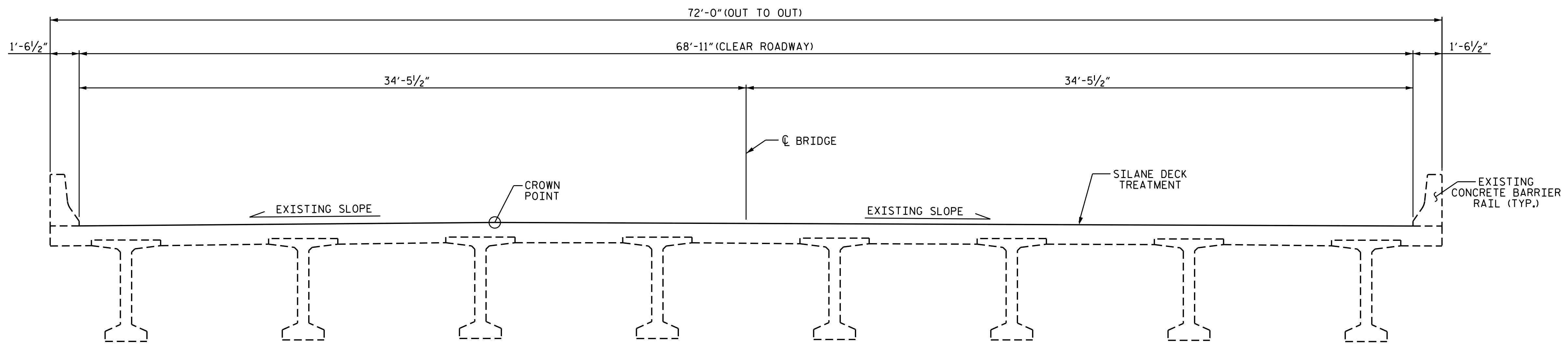
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S8-1
1			3			TOTAL SHEETS
2			4			4

NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



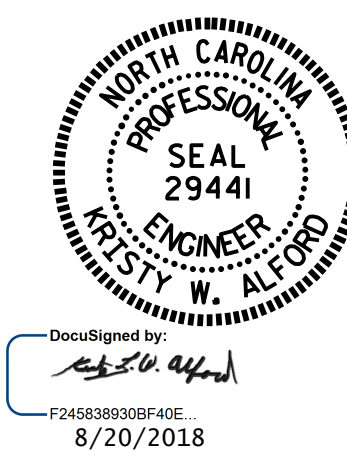
TYPICAL SECTION
(EXISTING)



TYPICAL SECTION
(PROPOSED)

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 862

SHEET 2 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
TYPICAL SECTIONS

DRAWN BY : M.K. BEARD DATE : 3/19/18
CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
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SIGNATURES COMPLETED

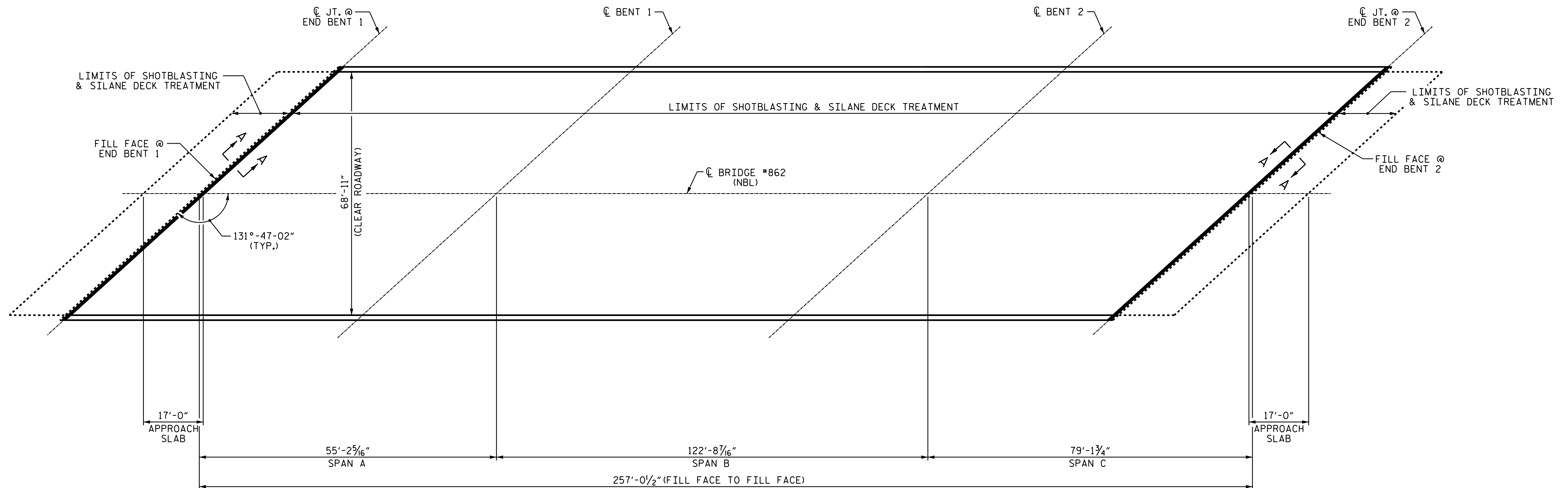
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S8-2
1			3			TOTAL SHEETS
2			4			4

SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	170 SQ.FT.	
CONCRETE DECK REPAIR	*10 CU.FT.	
SHOTBLASTING BRIDGE DECK	2,410 SQ.YDS.	
SILANE DECK TREATMENT	2,410 SQ.YDS.	

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.

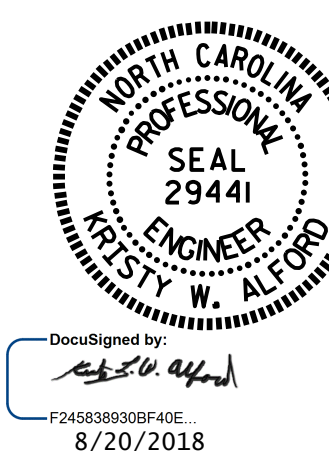


- SILANE DECK TREATMENT
- BRIDGE JOINT DEMOLITION

PLAN OF SPANS
(FOR SECTIONS A-A, SEE JOINT DETAILS SHEET)

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 862

SHEET 3 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE

SILANE DECK
 TREATMENT

DRAWN BY : M.K. BEARD DATE : 3/19/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

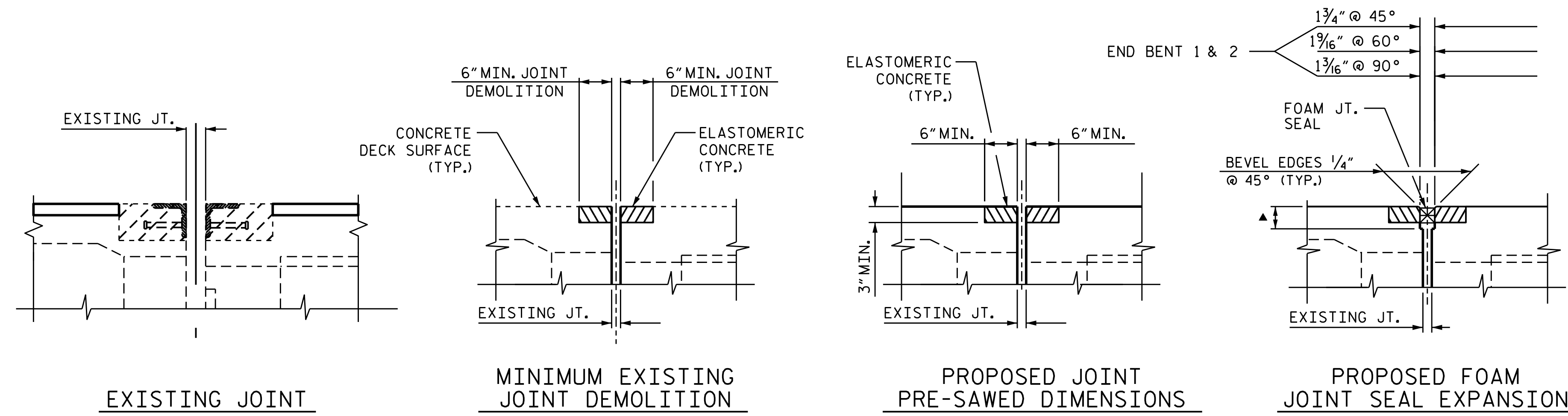
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S8-3
1			3			TOTAL SHEETS
2			4			4

NOTES:

EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

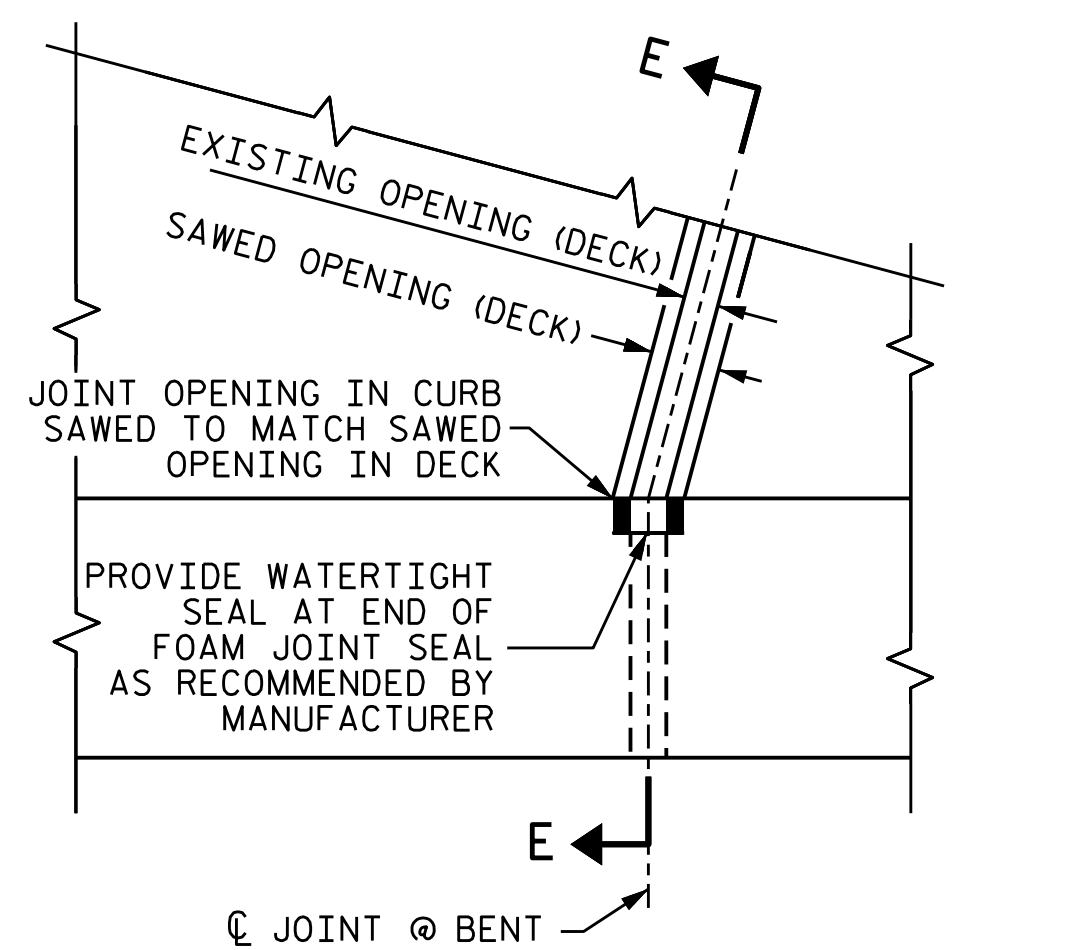
RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

THE WIDTH OF THE UNCOMPRESSED SEAL MATERIAL SHALL BE 2".

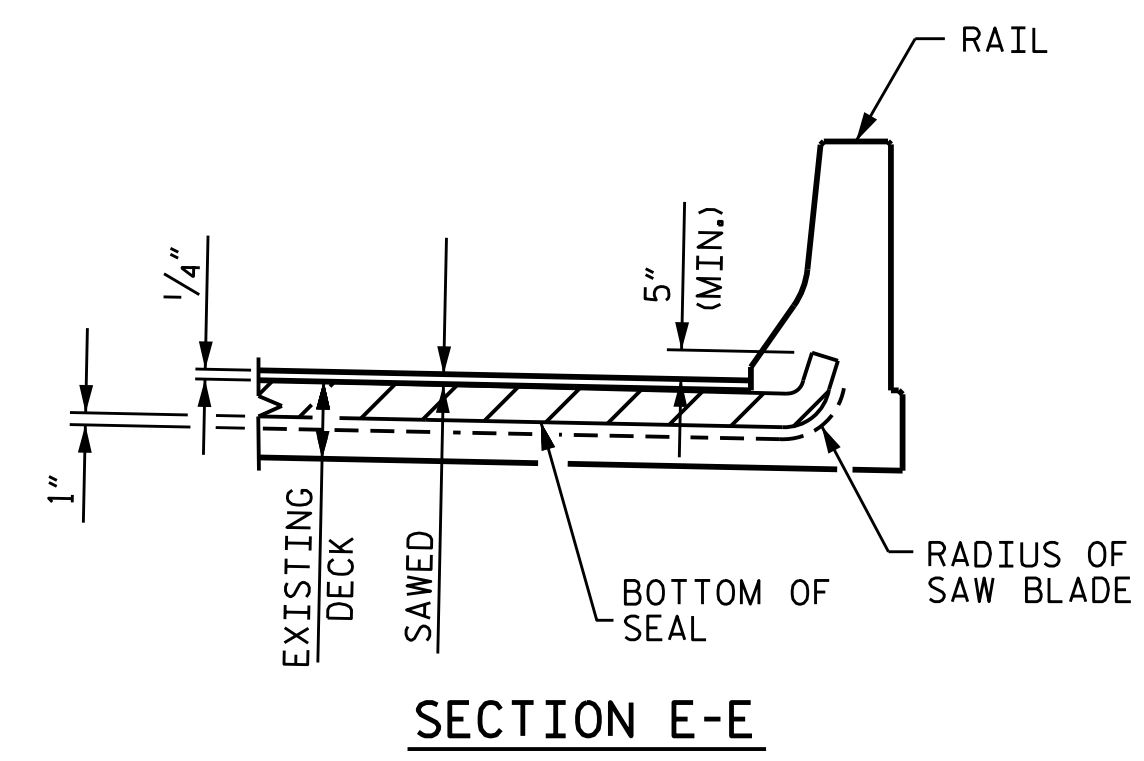


▲ SAW CUT SHALL BE 3/4" BELOW THE BOTTOM OF THE JOINT SEAL. SEE MANUFACTURER RECOMMENDATIONS

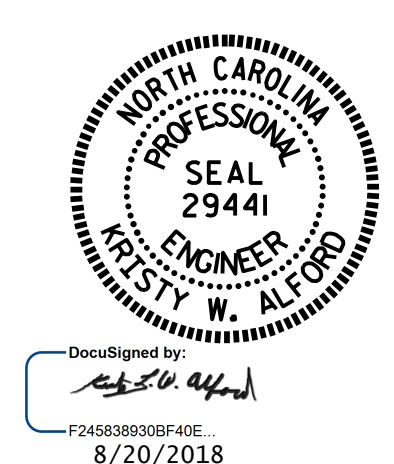
JOINT INSTALLATION SEQUENCE AT END BENT 1 AND END BENT 2
SECTION A-A



ELASTOMERIC CONCRETE	
END BENT 1	21.2 CU. FT.
END BENT 2	21.2 CU. FT.



PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 862
 SHEET 4 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

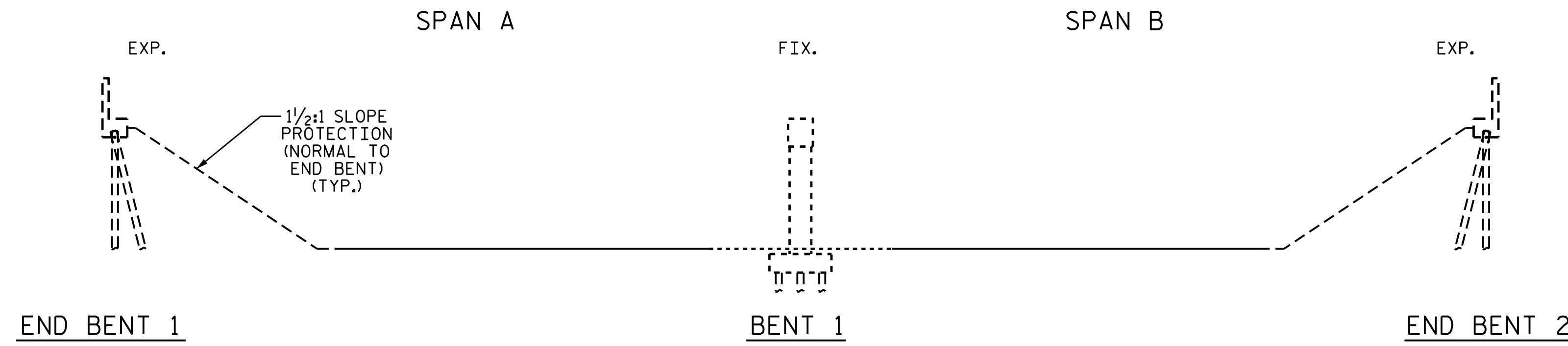
**SUPERSTRUCTURE
 JOINT DETAILS**

DRAWN BY : K.W. ALFORD DATE : 7/18
 CHECKED BY : M.K. BEARD DATE : 7/18

NO.	REVISIONS		NO.	REVISIONS		SHEET NO. S8-4
	BY:	DATE:		BY:	DATE:	
1			3			TOTAL SHEETS 4
2			4			

SCOPE OF WORK

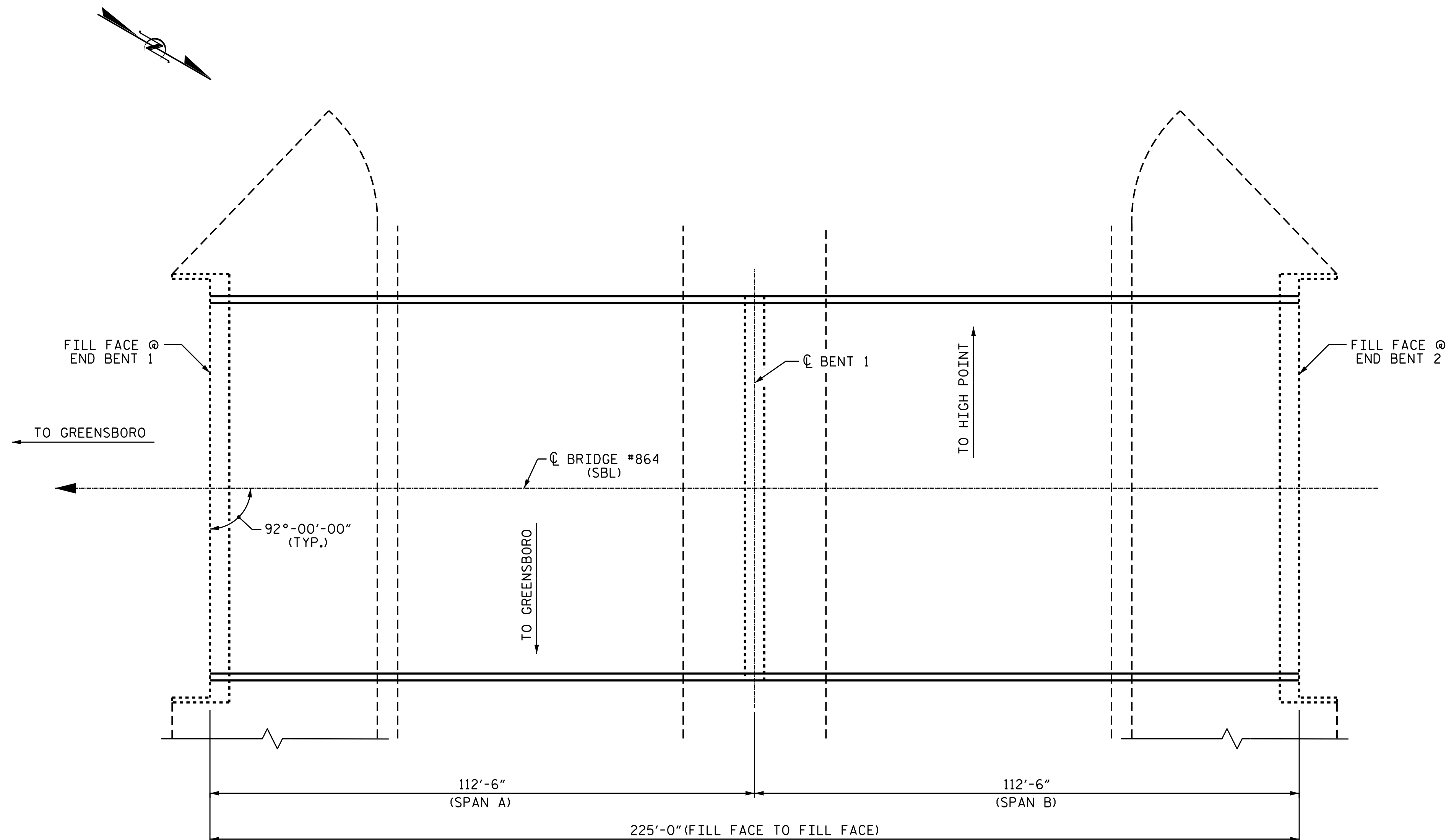
- DEMOLISH EXISTING BRIDGE DECK JOINTS
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW JOINT SEALS
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



ELEVATION
(SECTION ALONG \bar{C} ROADWAY)

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

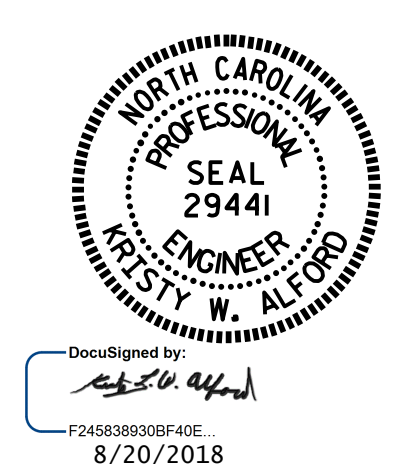
Resident Engineer _____ Date _____



PLAN
(COLUMNS & FOOTINGS NOT SHOWN FOR CLARITY)

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 864

SHEET 1 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
FOR BRIDGE ON I-73
SOUTHBOUND, I-40 EASTBOUND
& US 421 SOUTHBOUND OVER
SR 1541 (W. WENDOVER AVE.)

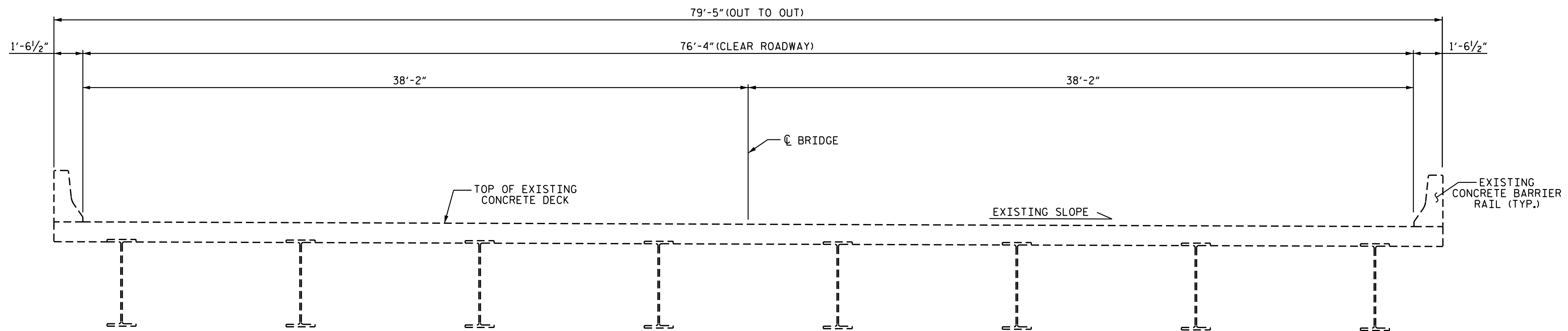
DRAWN BY : M.K. BEARD DATE : 3/22/18
CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

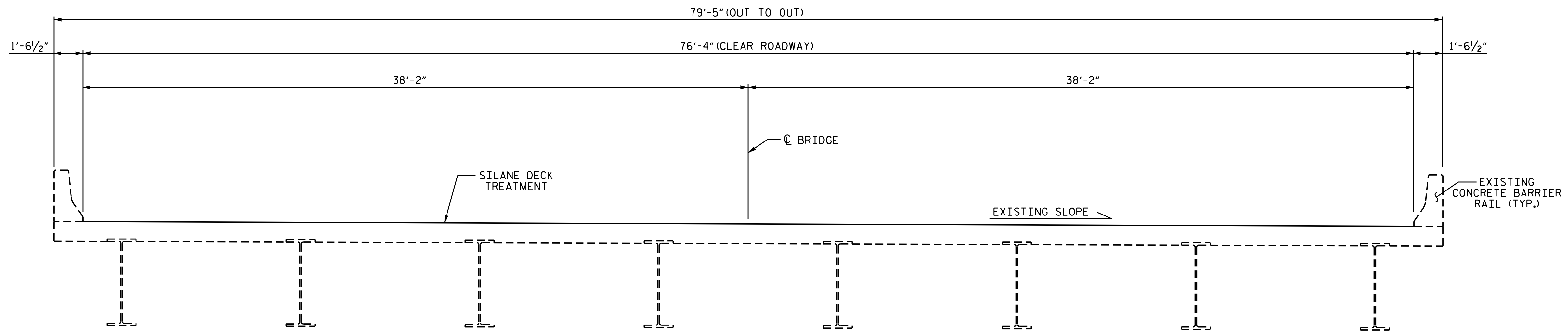
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S9-1
1			3			TOTAL SHEETS
2			4			4

NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



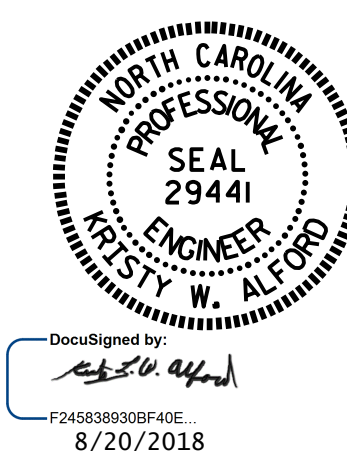
TYPICAL SECTION
 (EXISTING)



TYPICAL SECTION
 (PROPOSED)

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 864

SHEET 2 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 TYPICAL SECTIONS

DRAWN BY : M.K. BEARD DATE : 3/22/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

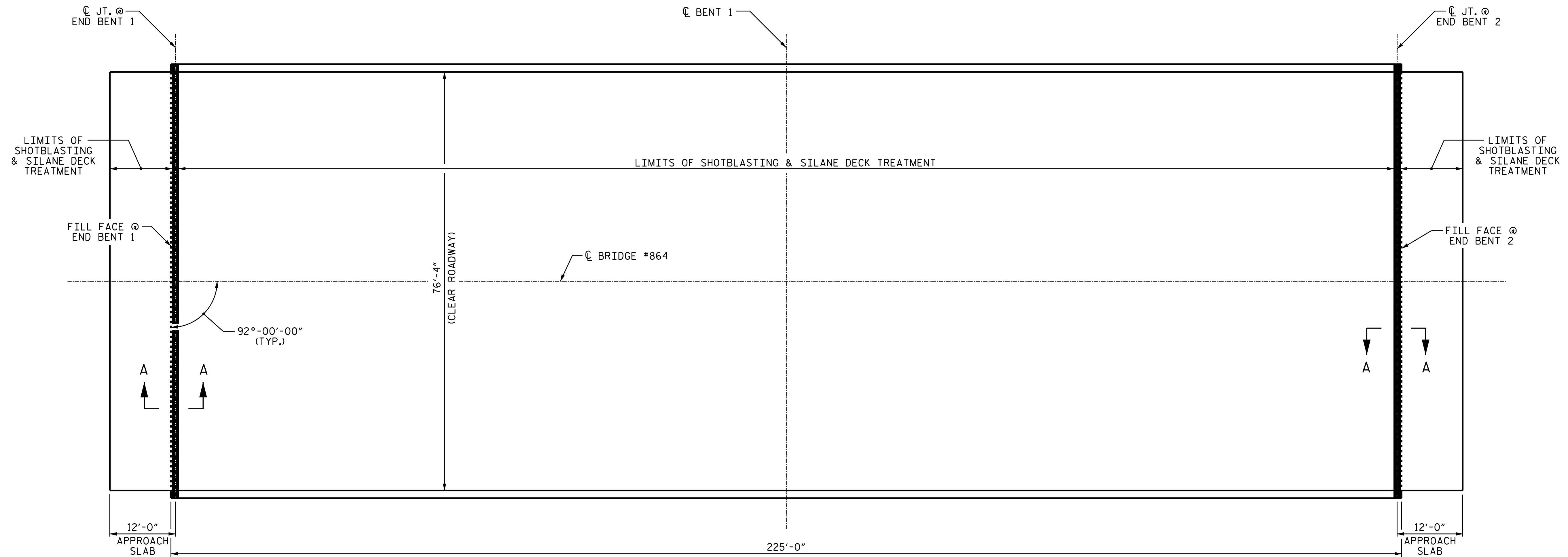
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			99-2
2			4			4

SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	140 SQ.FT.	
CONCRETE DECK REPAIR	* 10 CU.FT.	
SHOTBLASTING BRIDGE DECK	2,080 SQ.YDS.	
SILANE DECK TREATMENT	2,080 SQ.YDS.	

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.



PLAN OF SPANS

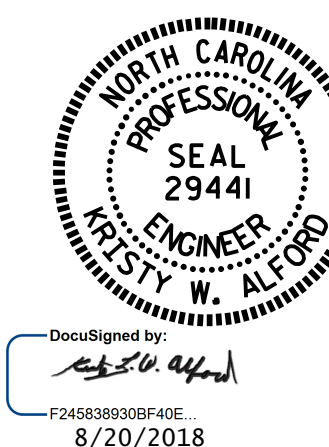
(FOR SECTIONS A-A, SEE JOINT DETAILS SHEET)

□ SILANE DECK TREATMENT

▨ BRIDGE JOINT DEMOLITION

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 864

SHEET 3 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE

SILANE DECK TREATMENT

DRAWN BY : M.K. BEARD DATE : 3/22/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

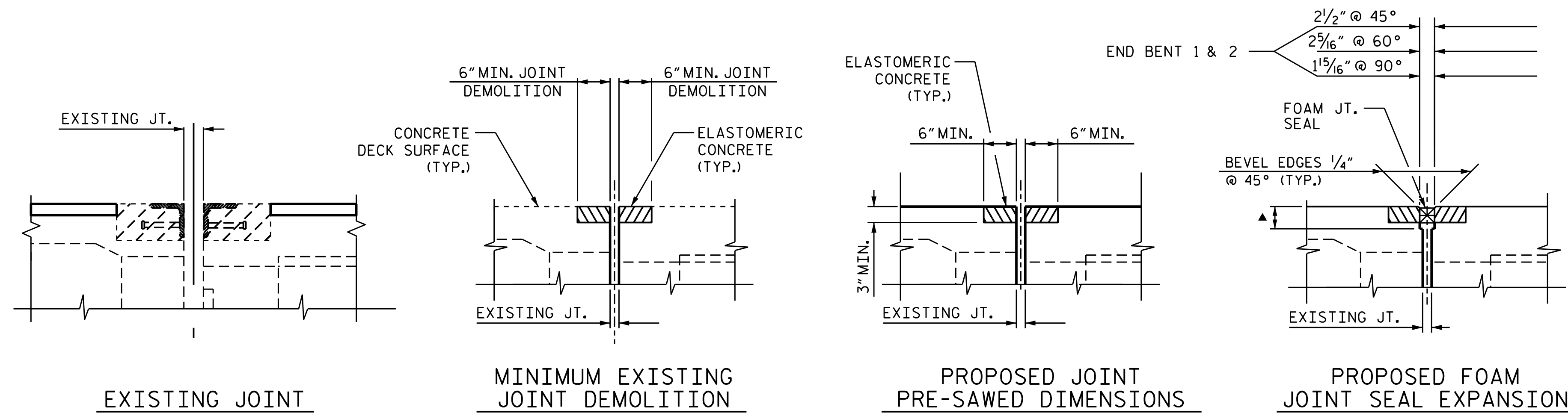
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S9-3
2			4			TOTAL SHEETS 4

NOTES:

EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

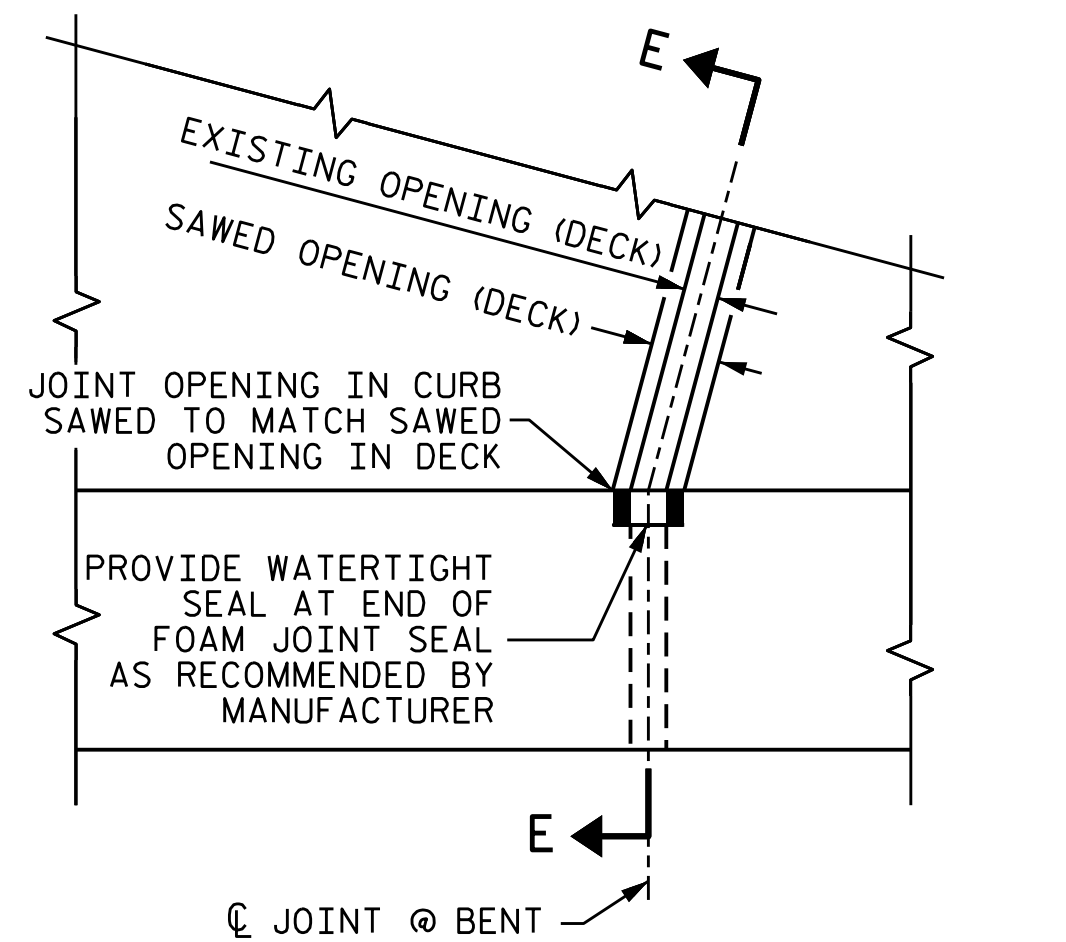
RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

THE WIDTH OF THE UNCOMPRESSED SEAL MATERIAL SHALL BE 3".

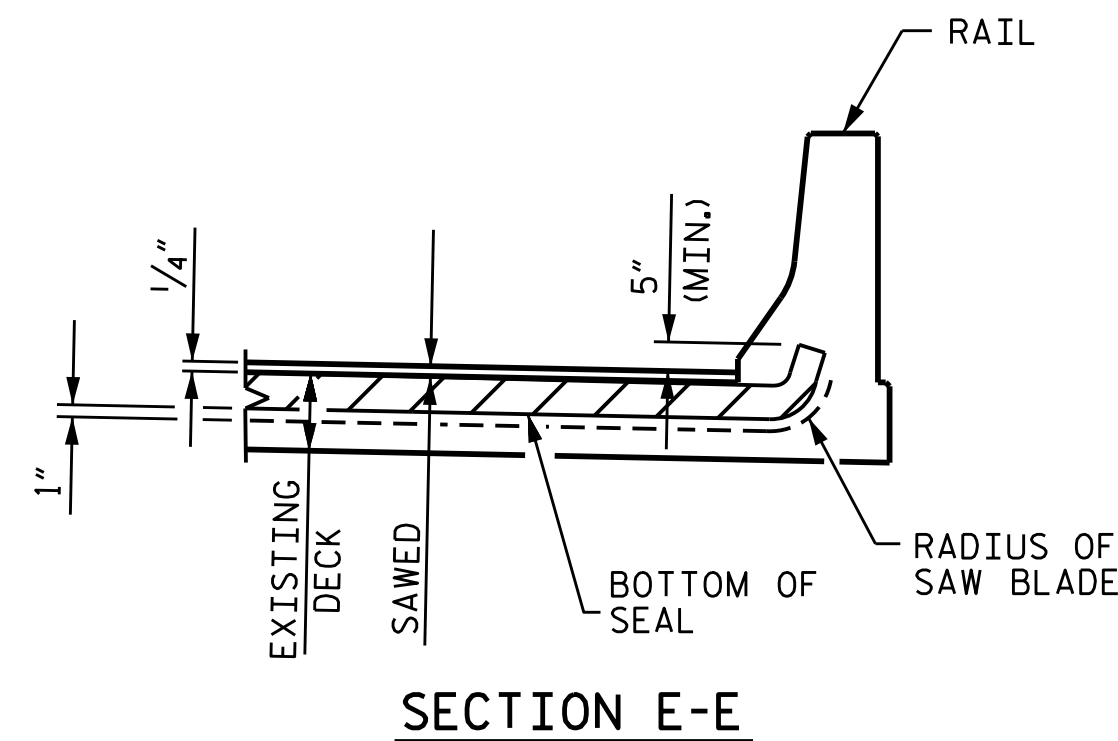


▲ SAW CUT SHALL BE 3/4" BELOW THE BOTTOM OF THE JOINT SEAL. SEE MANUFACTURER RECOMMENDATIONS

**JOINT INSTALLATION SEQUENCE AT END BENT 1 AND END BENT 2
SECTION A-A**



ELASTOMERIC CONCRETE	
END BENT 1	17.5 CU. FT.
END BENT 2	17.5 CU. FT.

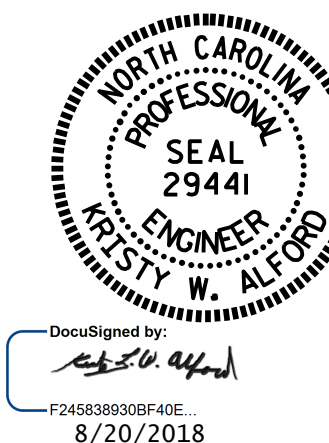


PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 864

SHEET 4 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 JOINT DETAILS



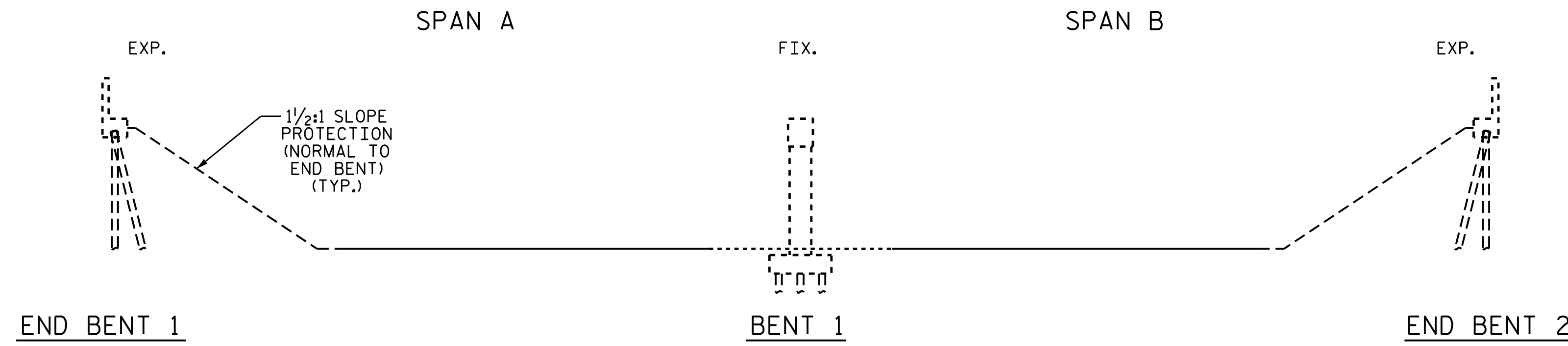
DRAWN BY : K.W. ALFORD DATE : 7/18
 CHECKED BY : M.K. BEARD DATE : 7/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S9-4	
1			3			TOTAL SHEETS	
2			4			4	

SCOPE OF WORK

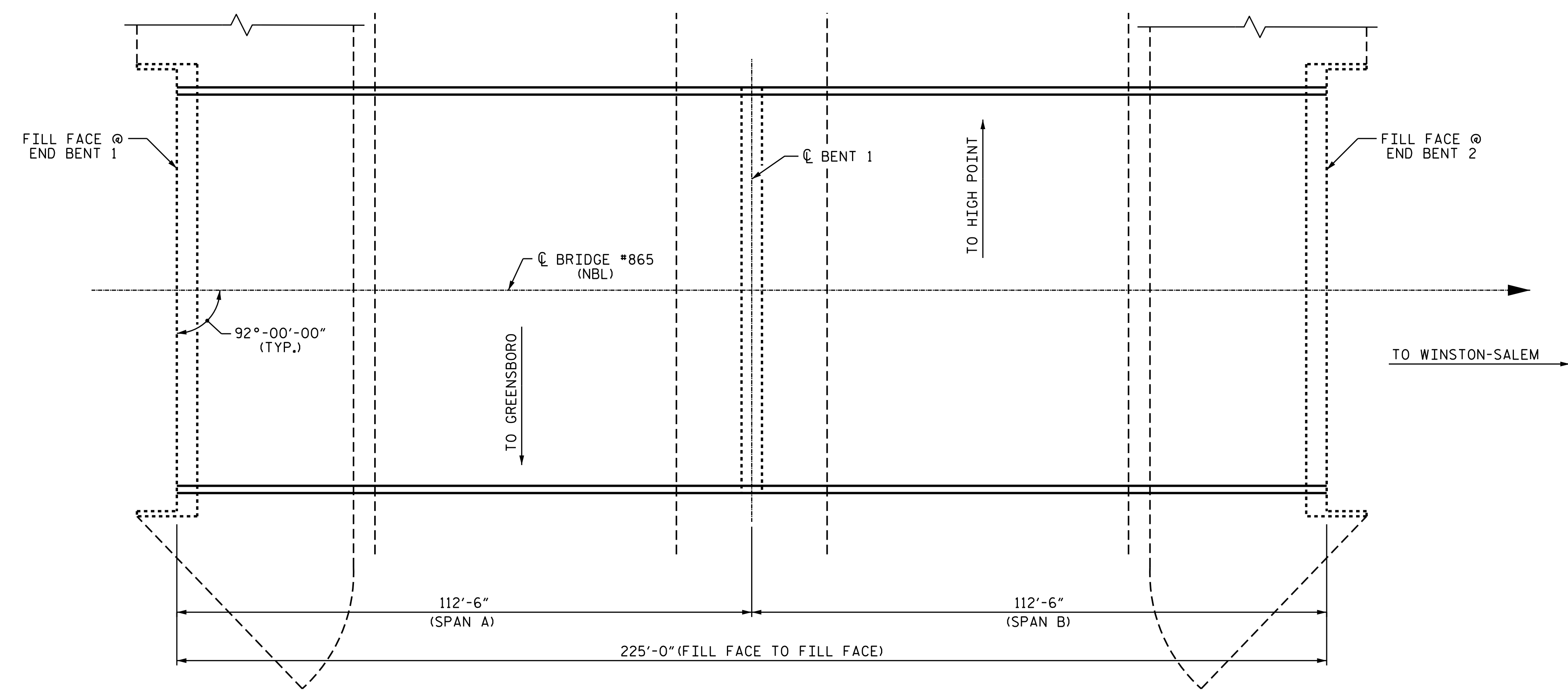
- DEMOLISH EXISTING BRIDGE DECK JOINTS
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW JOINT SEALS
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



ELEVATION
(SECTION ALONG \bar{C} ROADWAY)

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

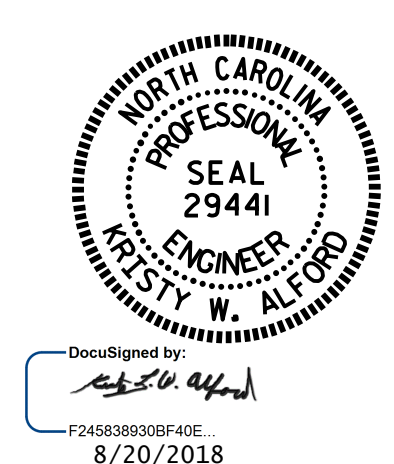
Resident Engineer _____ Date _____



PLAN
(COLUMNS & FOOTINGS NOT SHOWN FOR CLARITY)

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 865

SHEET 1 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE ON I-73
 NORTHBOUND & US 421
 NORTHBOUND OVER SR 1541
 (W. WENDOVER AVE.)

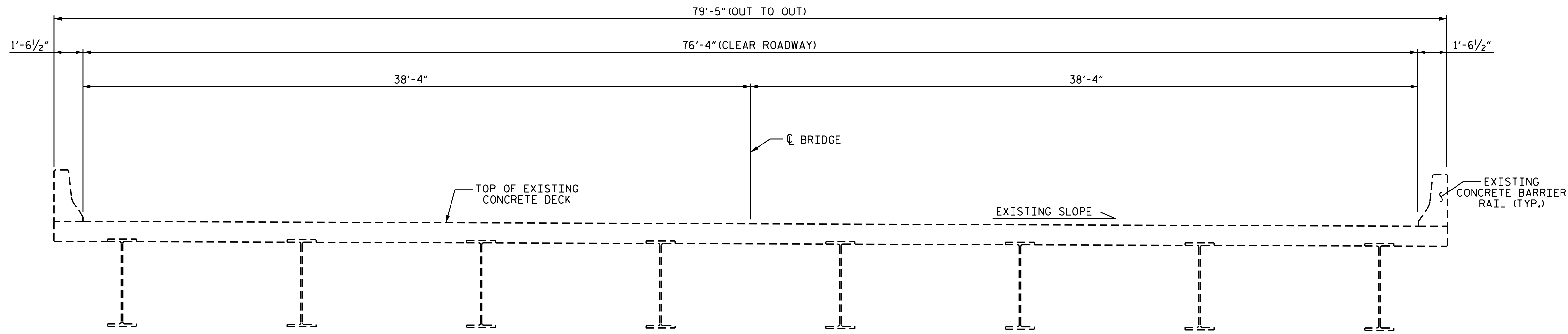
DRAWN BY : M.K. BEARD DATE : 3/22/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

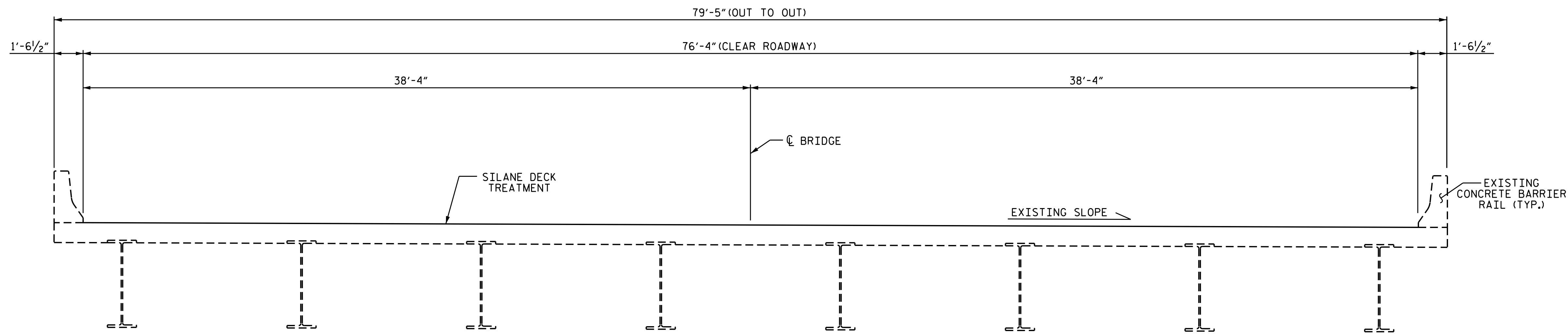
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S10-1
1			3			TOTAL SHEETS
2			4			4

NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



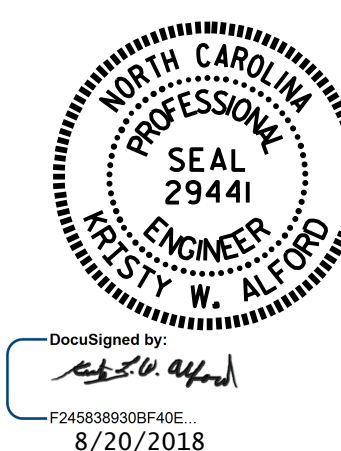
TYPICAL SECTION
 (EXISTING)



TYPICAL SECTION
 (PROPOSED)

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 865

SHEET 2 OF 4



DocuSigned by:
 W. ALFORD
 F24583800BF40E
 8/20/2018

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 TYPICAL SECTIONS

DRAWN BY : M.K. BEARD DATE : 3/22/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

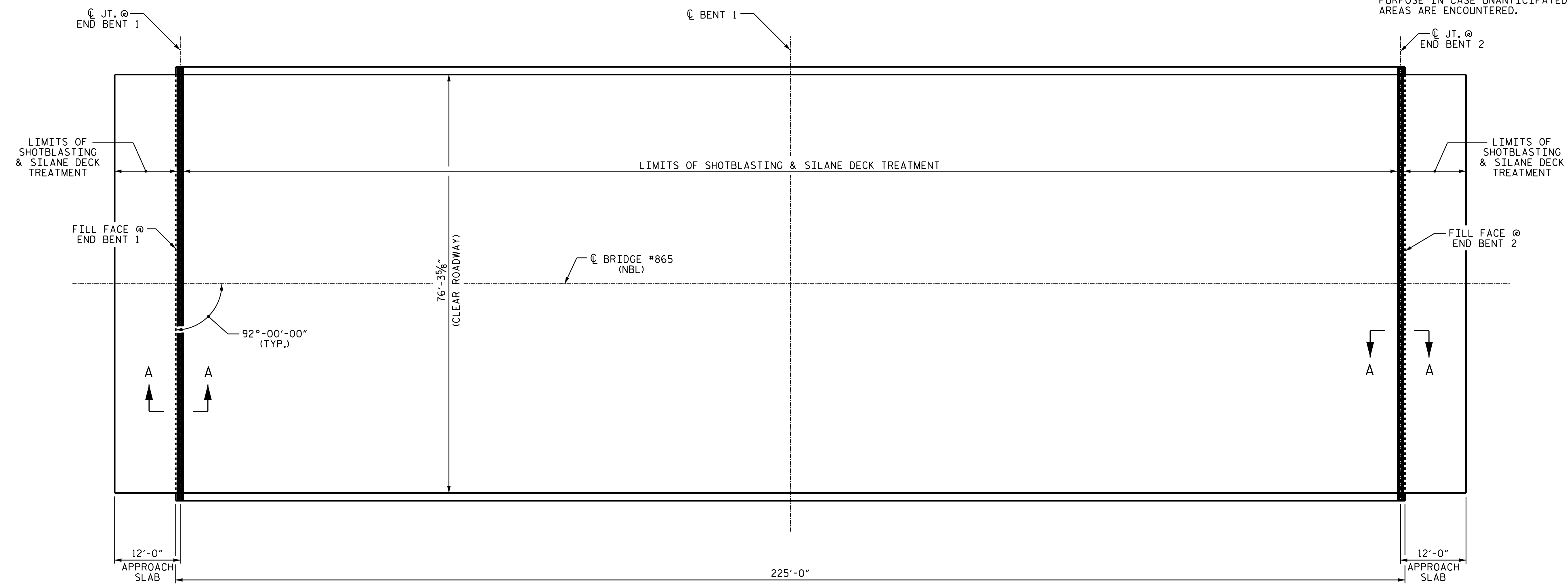
DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

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

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	140 SQ.FT.	
CONCRETE DECK REPAIR	* 10 CU.FT.	
SHOTBLASTING BRIDGE DECK	2,080 SQ.YDS.	
SILANE DECK TREATMENT	2,080 SQ.YDS.	

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.

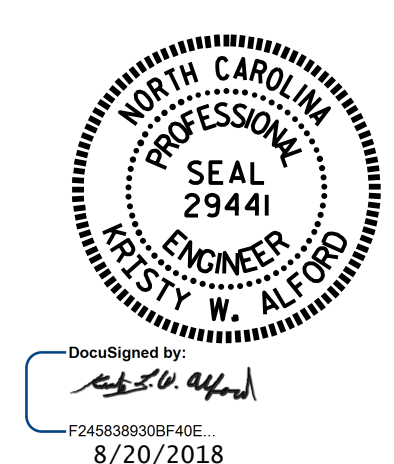


PLAN OF SPANS
(FOR SECTIONS A-A, SEE JOINT DETAILS SHEET)

- SILANE DECK TREATMENT
- BRIDGE JOINT DEMOLITION

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 865

SHEET 3 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE

SILANE DECK TREATMENT

DRAWN BY : M.K. BEARD DATE : 3/22/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

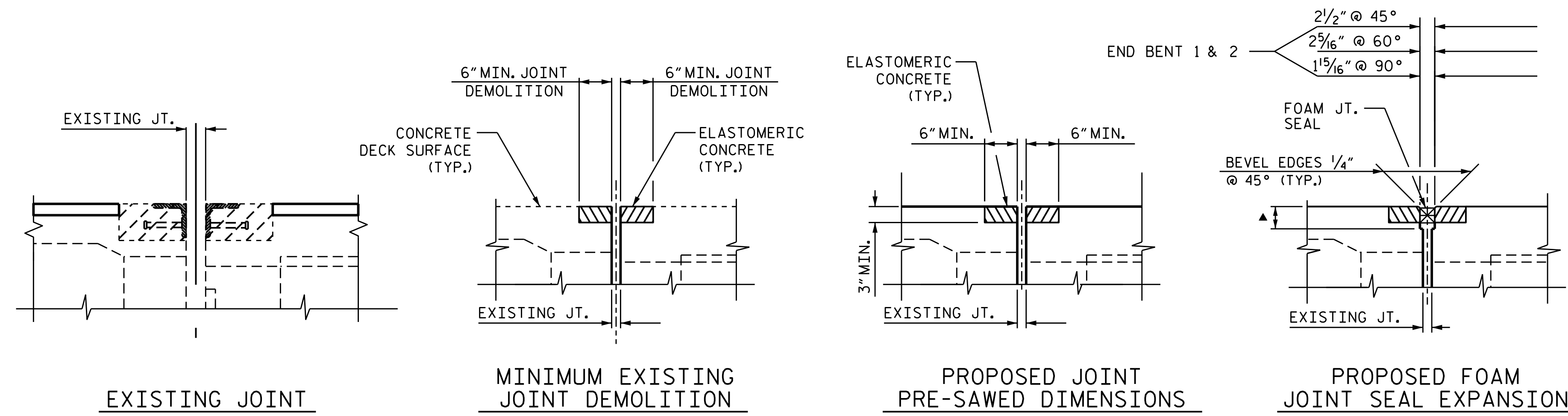
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S10-3
1			3			TOTAL SHEETS
2			4			4

NOTES:

EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

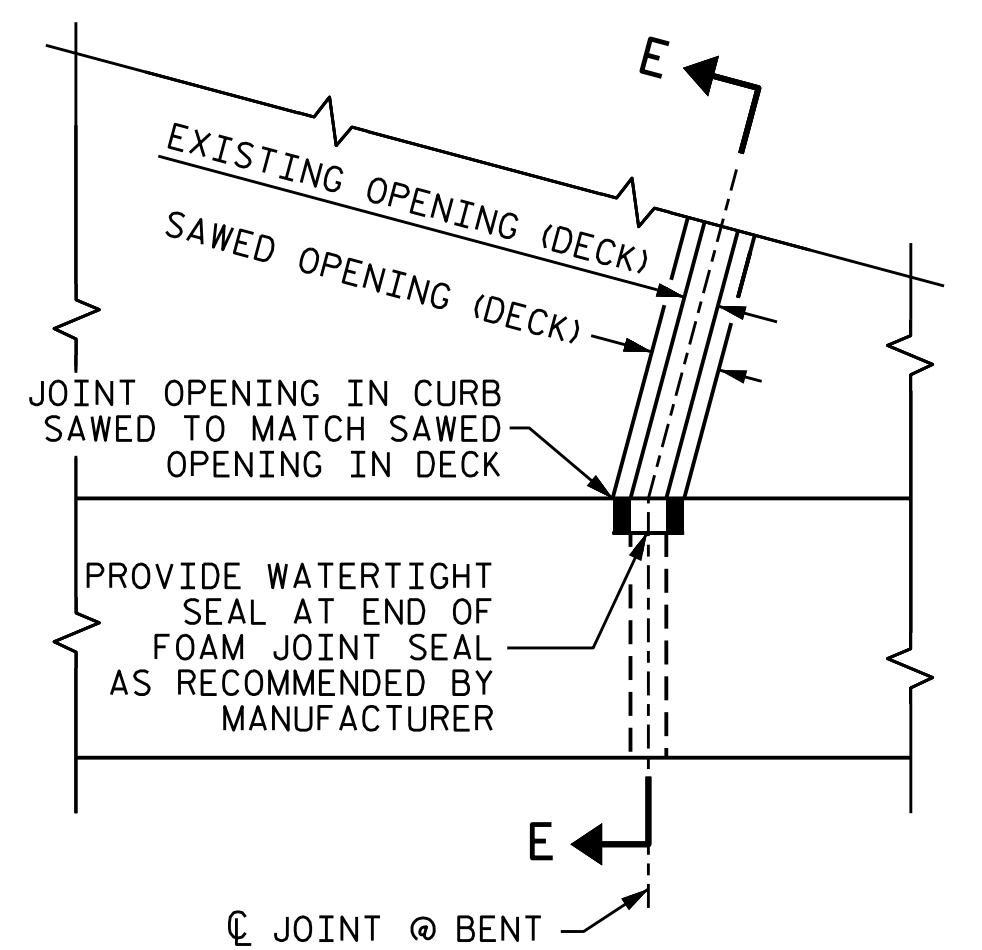
RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

THE WIDTH OF THE UNCOMPRESSED SEAL MATERIAL SHALL BE 3".

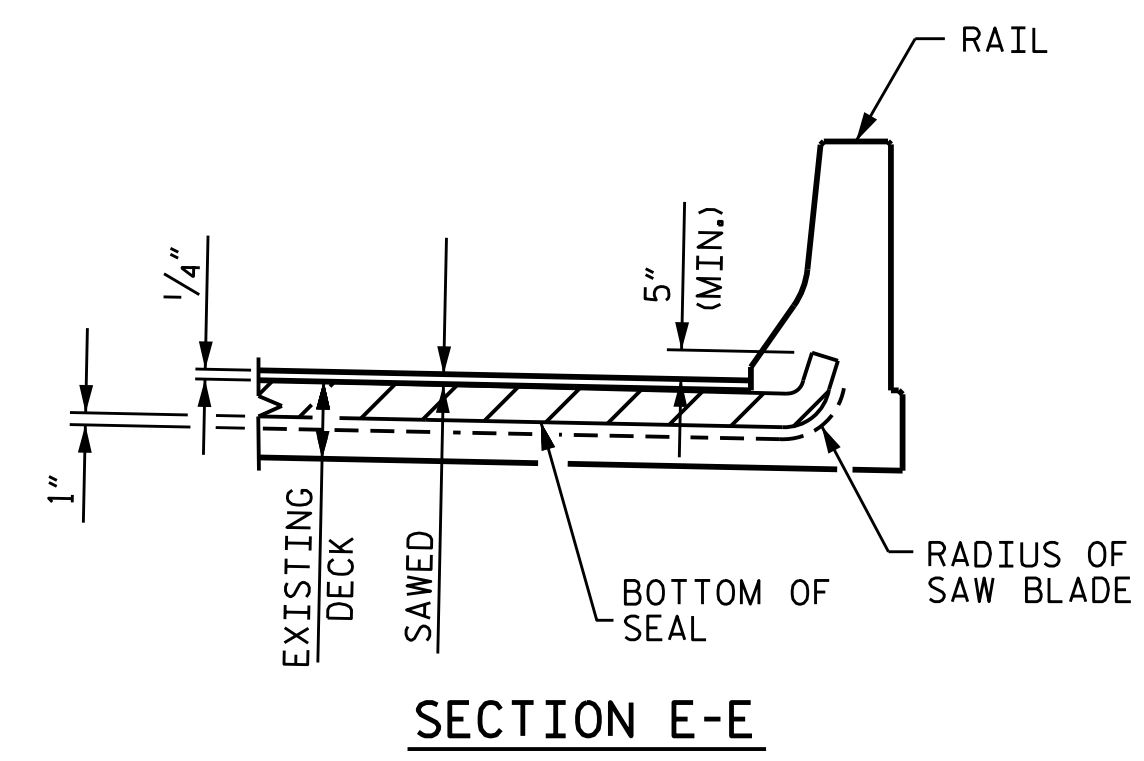


▲ SAW CUT SHALL BE 3/4" BELOW THE BOTTOM OF THE JOINT SEAL. SEE MANUFACTURER RECOMMENDATIONS

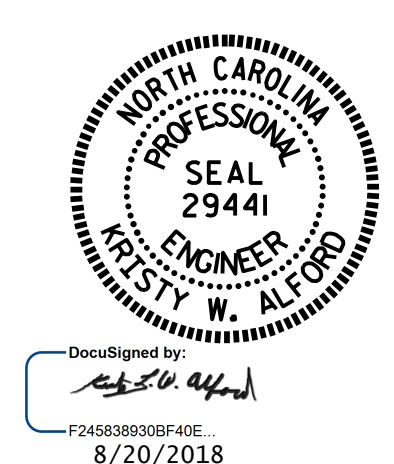
**JOINT INSTALLATION SEQUENCE AT END BENT 1 AND END BENT 2
SECTION A-A**



ELASTOMERIC CONCRETE	
END BENT 1	17.5 CU. FT.
END BENT 2	17.5 CU. FT.



PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 865
 SHEET 4 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUPERSTRUCTURE
 JOINT DETAILS**

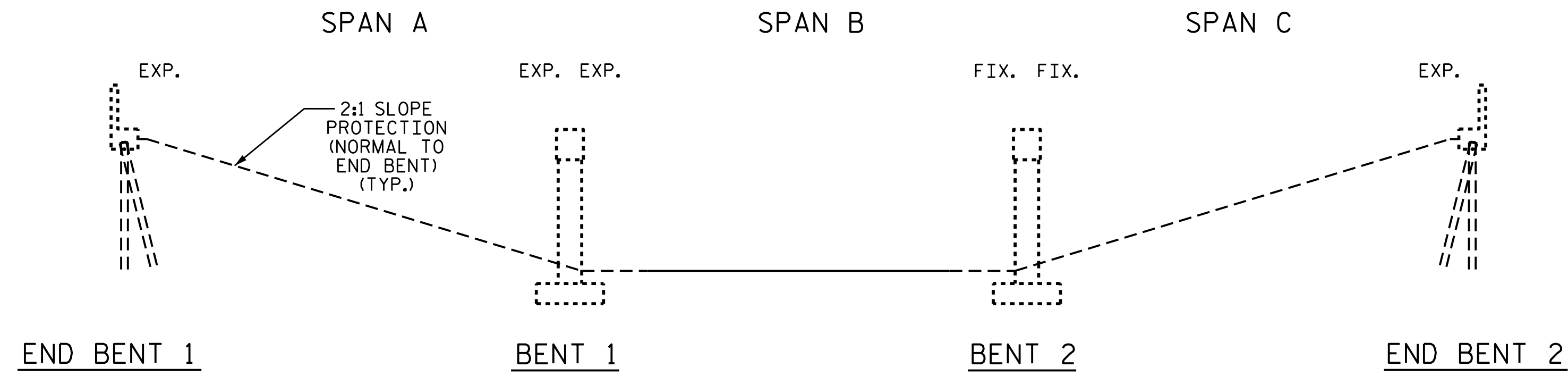
DRAWN BY : K.W. ALFORD DATE : 7/18
 CHECKED BY : M.K. BEARD DATE : 7/18

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SCOPE OF WORK

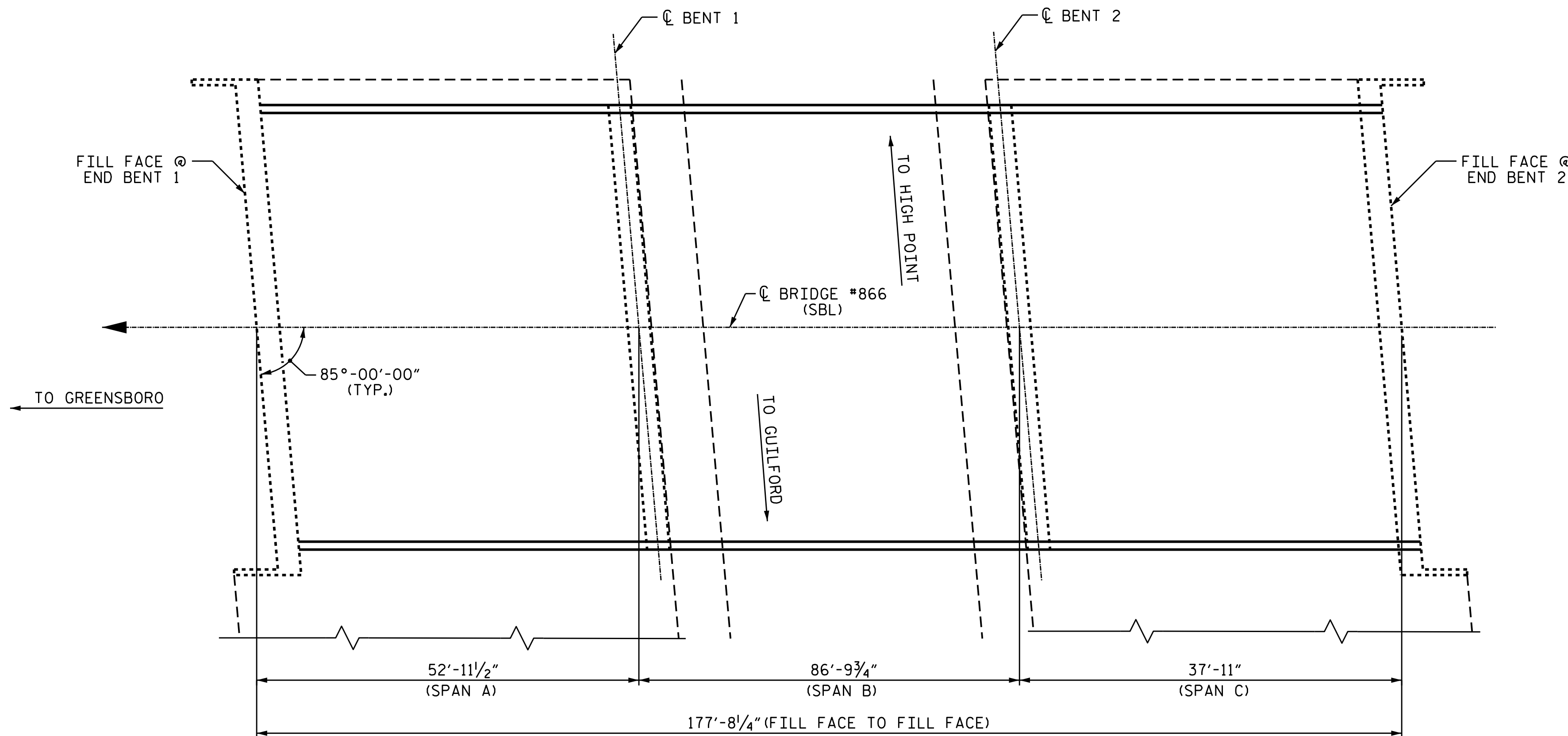
- DEMOLISH EXISTING BRIDGE DECK JOINTS
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW JOINT SEALS
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



ELEVATION
(SECTION ALONG ϕ ROADWAY)

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

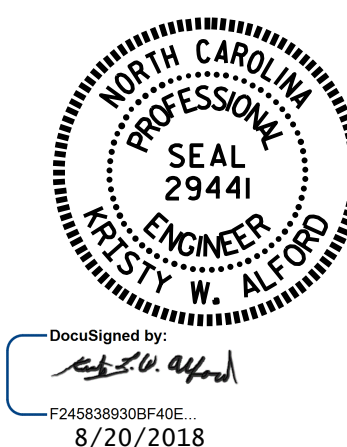
Resident Engineer _____ Date _____



PLAN
(COLUMNS & FOOTINGS NOT SHOWN FOR CLARITY)

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 866

SHEET 1 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
FOR BRIDGE ON I-73
SOUTHBOUND & US 421
SOUTHBOUND OVER SR 1546
(GUILFORD COLLEGE RD.)

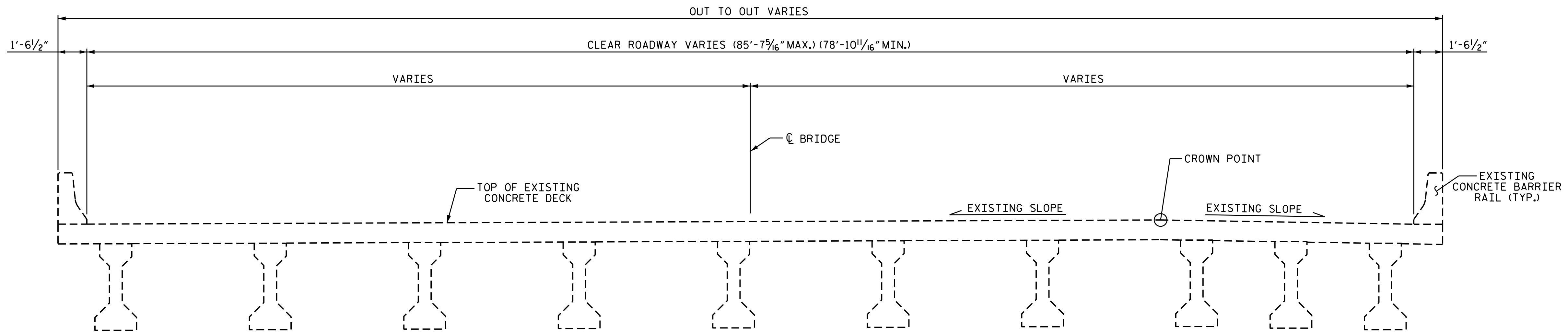
DRAWN BY : M.K. BEARD DATE : 3/27/18
CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

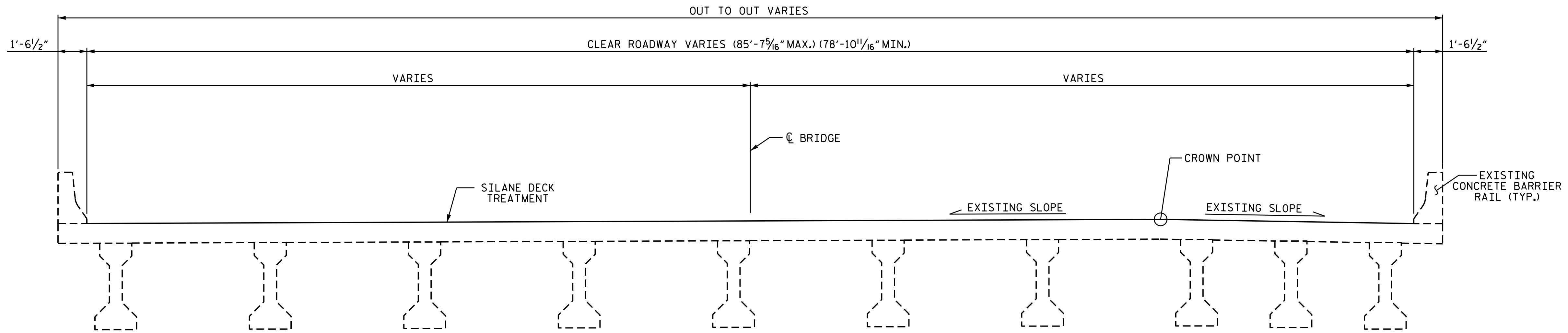
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S11-1
1			3			TOTAL SHEETS
2			4			4

NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



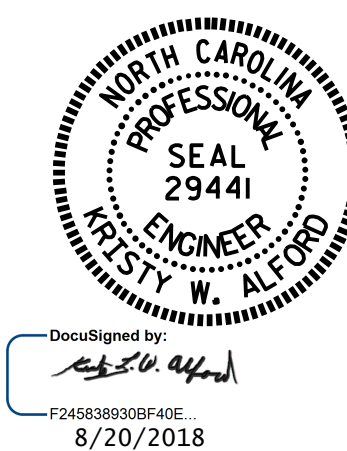
TYPICAL SECTION
(EXISTING)



TYPICAL SECTION
(PROPOSED)

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 866

SHEET 2 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 TYPICAL SECTIONS

DRAWN BY : M.K. BEARD DATE : 3/27/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

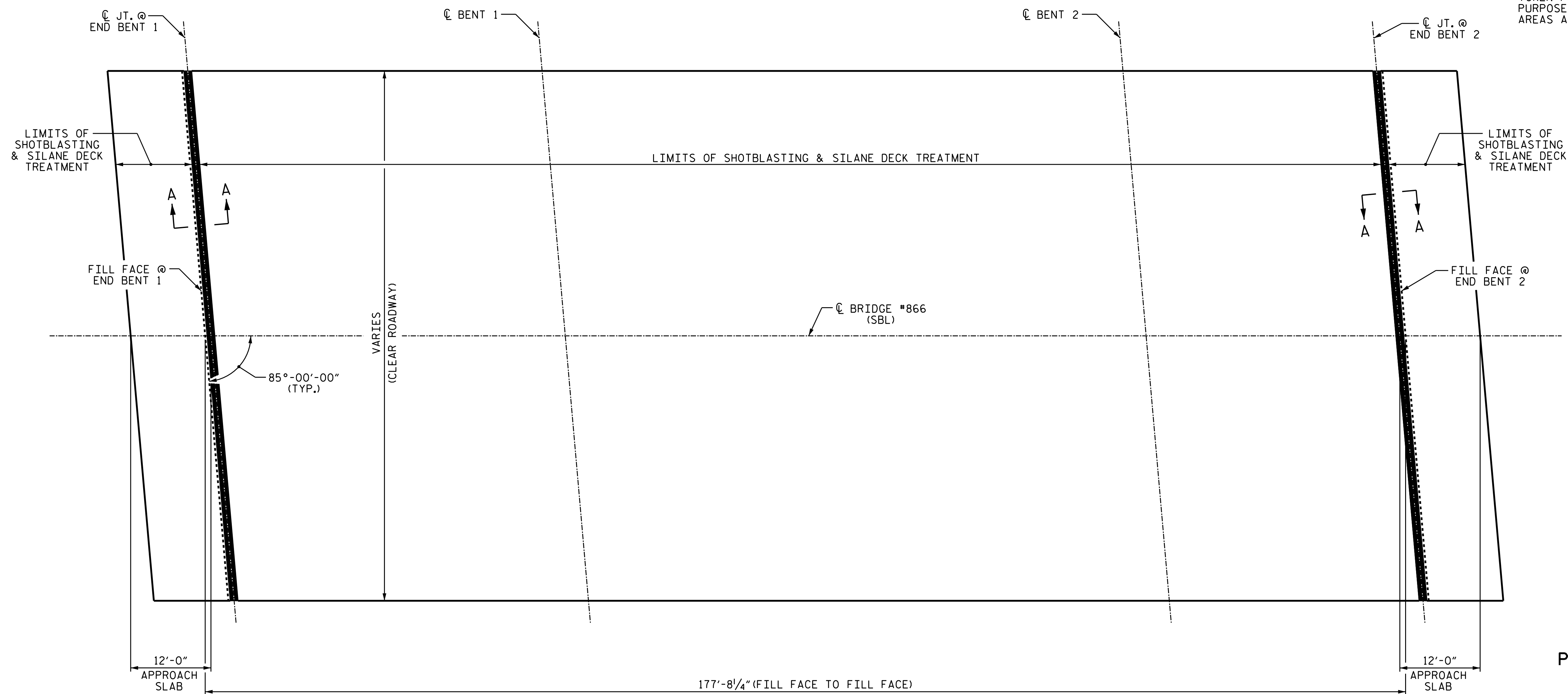
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S11-2
1			3			TOTAL SHEETS
2			4			4

SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	152 SQ.FT.	
CONCRETE DECK REPAIR	* 10 CU.FT.	
SHOTBLASTING BRIDGE DECK	1,780 SQ.YDS.	
SILANE DECK TREATMENT	1,780 SQ.YDS.	

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.



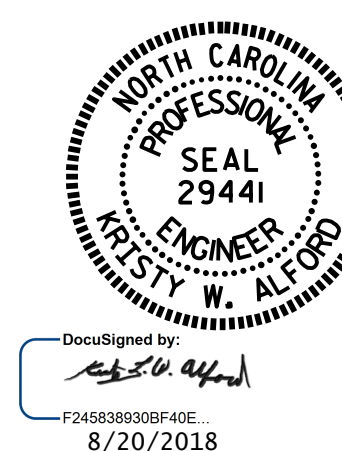
PLAN OF SPANS

(FOR SECTIONS A-A, SEE JOINT DETAILS SHEET)

- SILANE DECK TREATMENT
- BRIDGE JOINT DEMOLITION

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 866

SHEET 3 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 SILANE DECK
 TREATMENT

DRAWN BY : M.K. BEARD DATE : 3/22/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

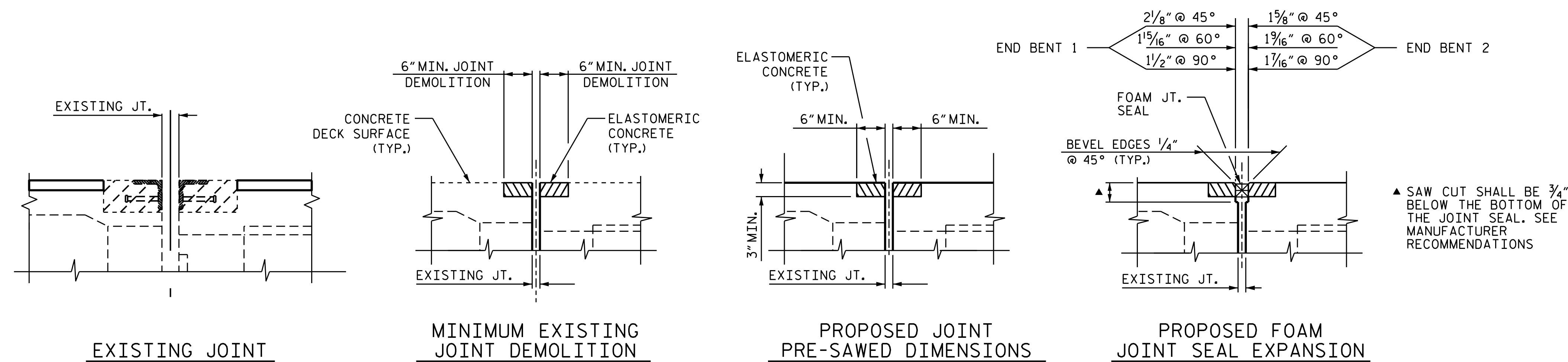
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S11-3
1			3			TOTAL SHEETS
2			4			4

NOTES:

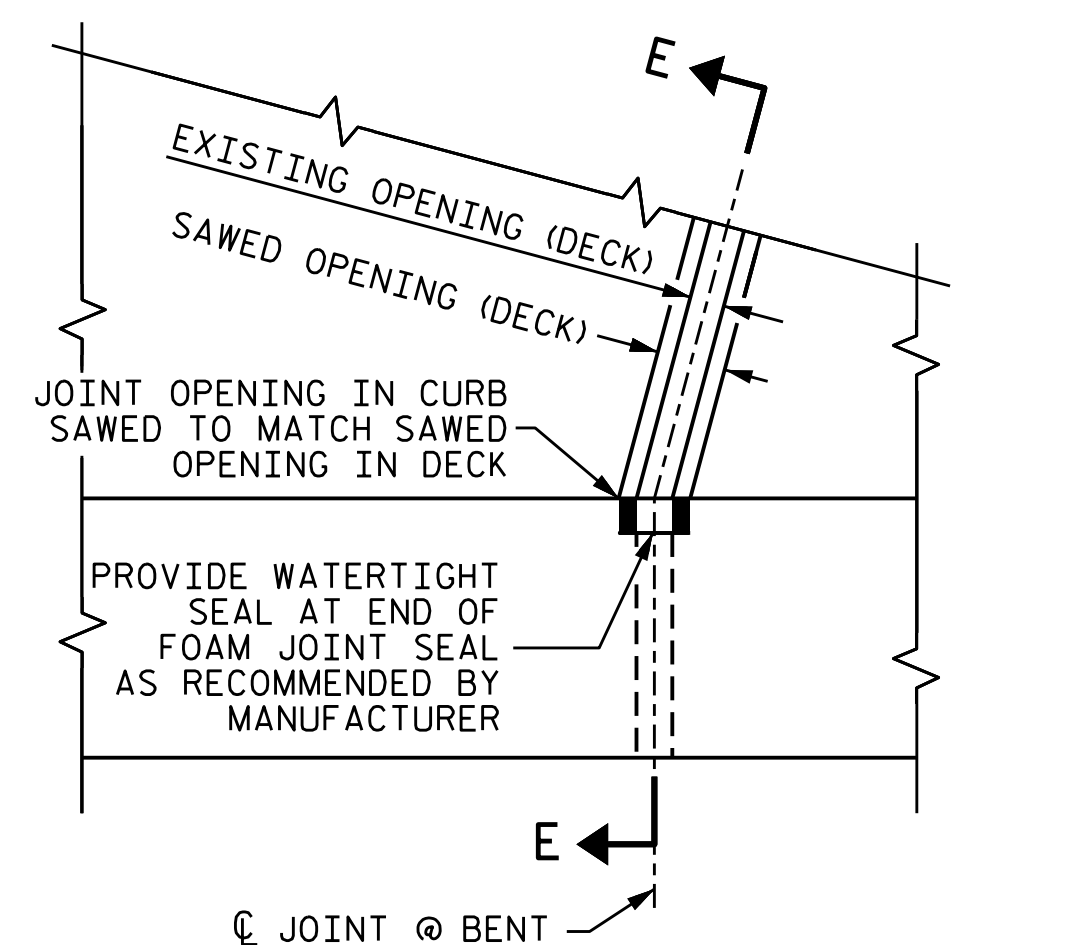
EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

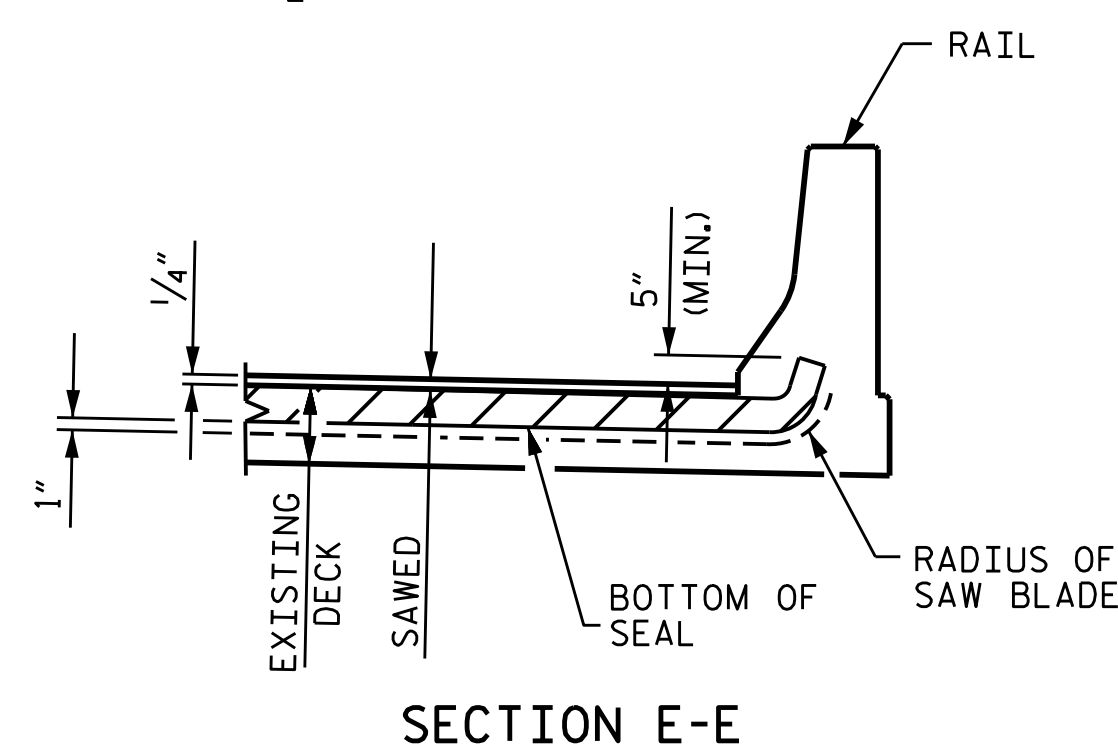
THE WIDTH OF THE UNCOMPRESSED SEAL MATERIAL SHALL BE 2 1/2" AT END BENT 1 AND 2" AT END BENT 2.



JOINT INSTALLATION SEQUENCE AT END BENT 1 AND END BENT 2
SECTION A-A



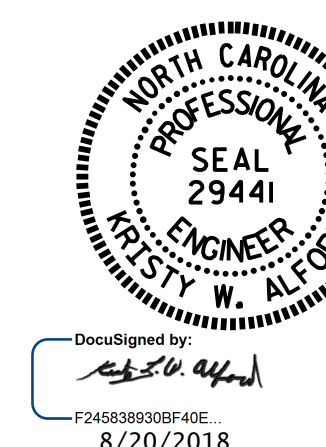
ELASTOMERIC CONCRETE	
END BENT 1	19.7 CU. FT.
END BENT 2	18.2 CU. FT.



SECTION E-E

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 866

SHEET 4 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUPERSTRUCTURE
JOINT DETAILS**

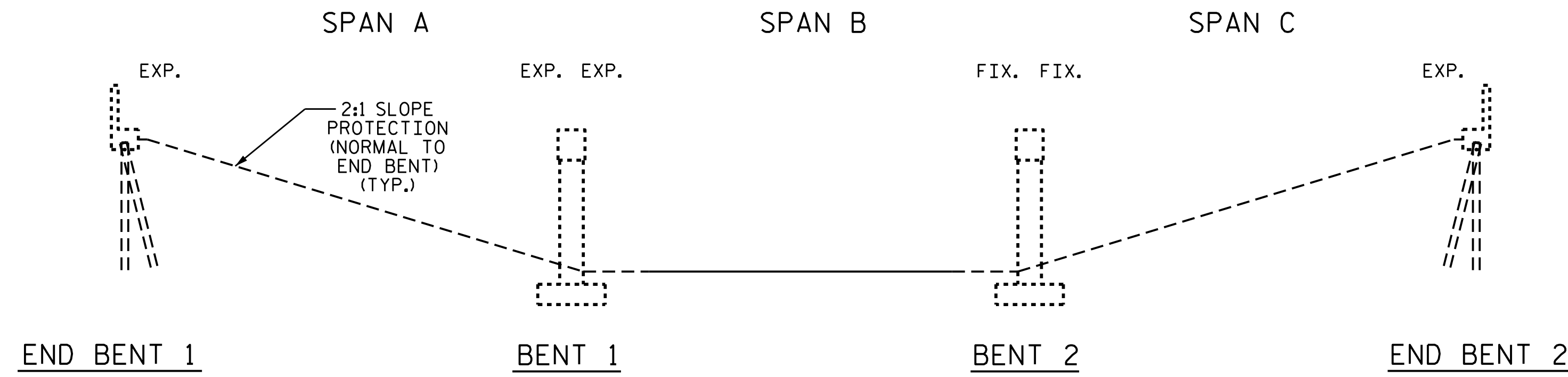
DRAWN BY : K.W. ALFORD DATE : 7/18
CHECKED BY : M.K. BEARD DATE : 7/18

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S11-4	
1			3			TOTAL SHEETS	4
2			4				

SCOPE OF WORK

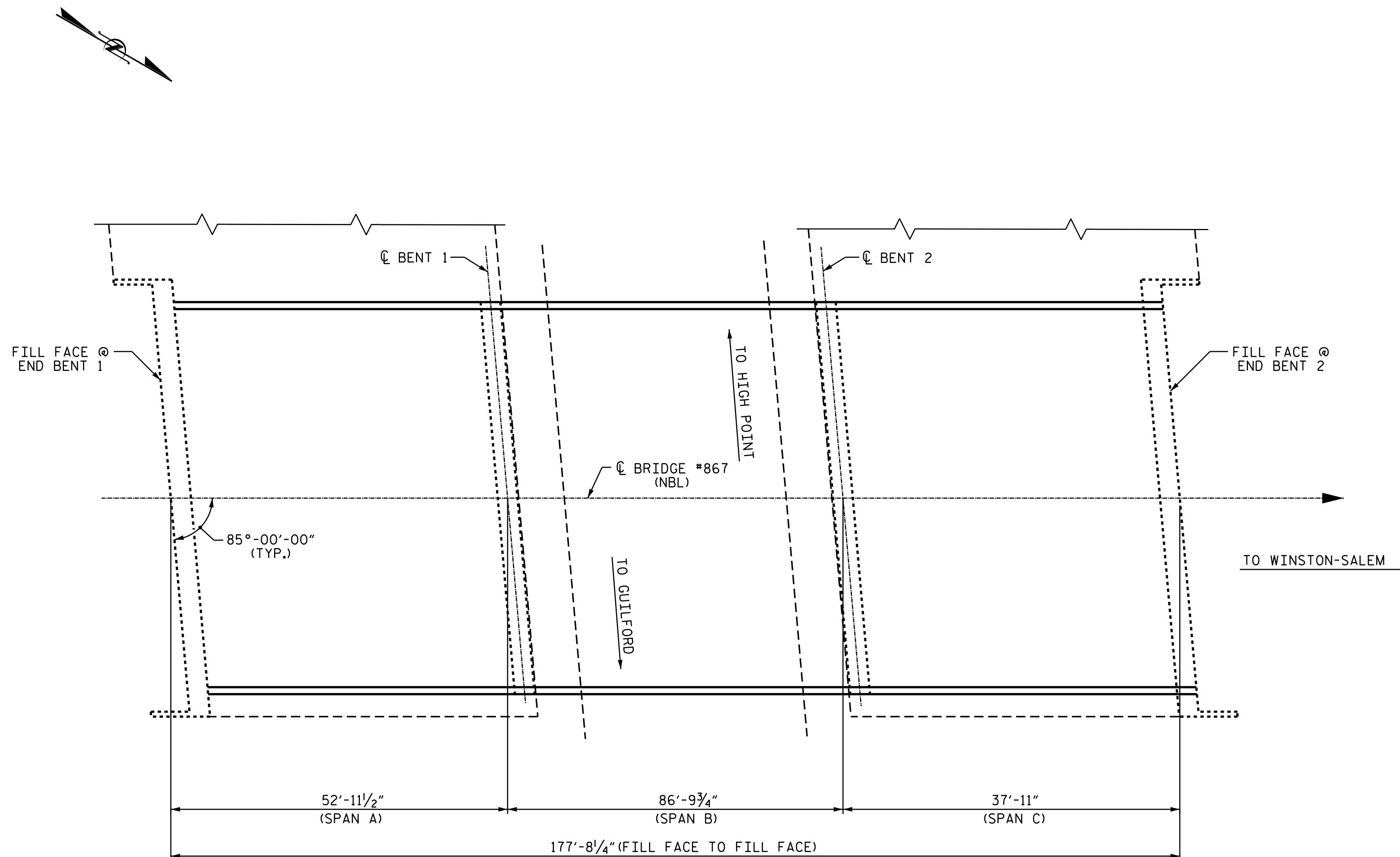
- DEMOLISH EXISTING BRIDGE DECK JOINTS
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW JOINT SEALS
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



ELEVATION
(SECTION ALONG CL ROADWAY)

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

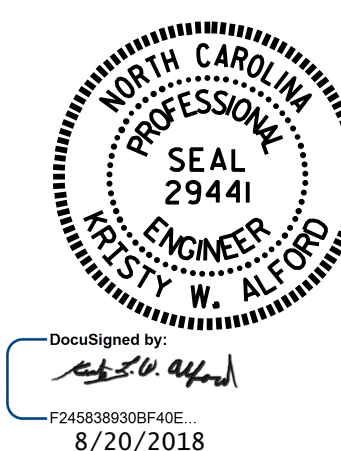
Resident Engineer _____ Date _____



PLAN
(COLUMNS & FOOTINGS NOT SHOWN FOR CLARITY)

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 867

SHEET 1 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
FOR BRIDGE ON I-73
NORTHBOUND & US 421
NORTHBOUND OVER SR 1546
(GUILFORD COLLEGE RD.)

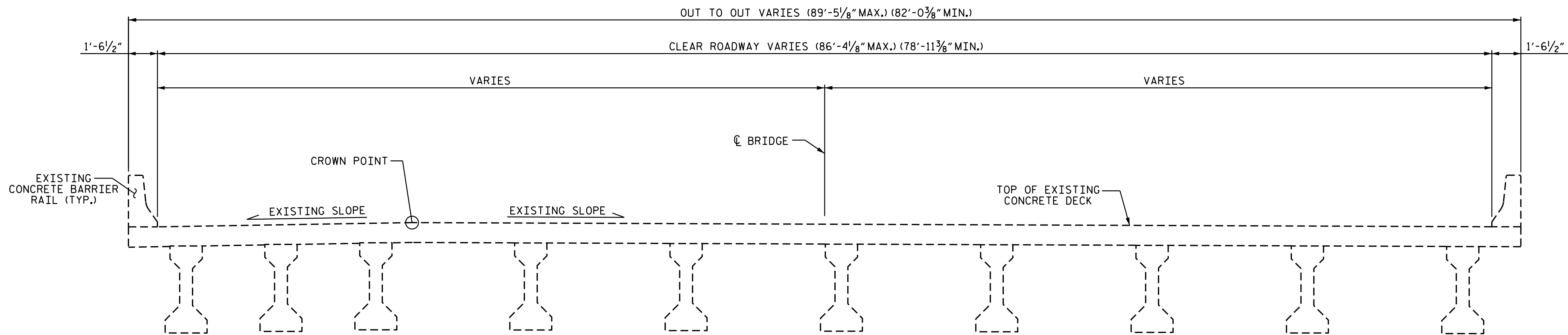
DRAWN BY : M.K. BEARD DATE : 3/27/18
CHECKED BY : _____ DATE : _____

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

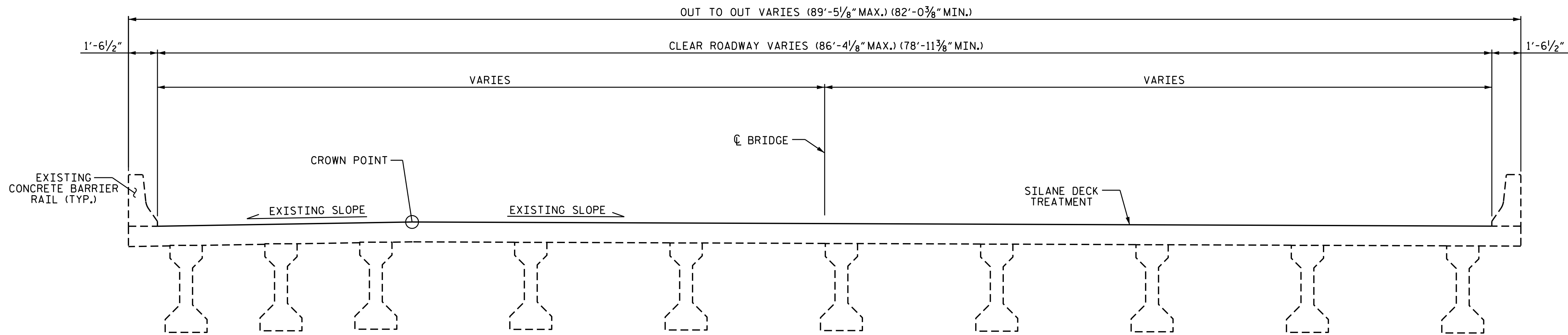
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S12-1
1			3			TOTAL SHEETS
2			4			4

NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



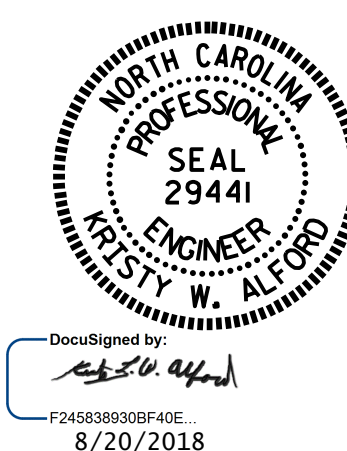
TYPICAL SECTION
(EXISTING)



TYPICAL SECTION
(PROPOSED)

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 867

SHEET 2 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 TYPICAL SECTIONS

DRAWN BY : M.K. BEARD DATE : 3/27/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

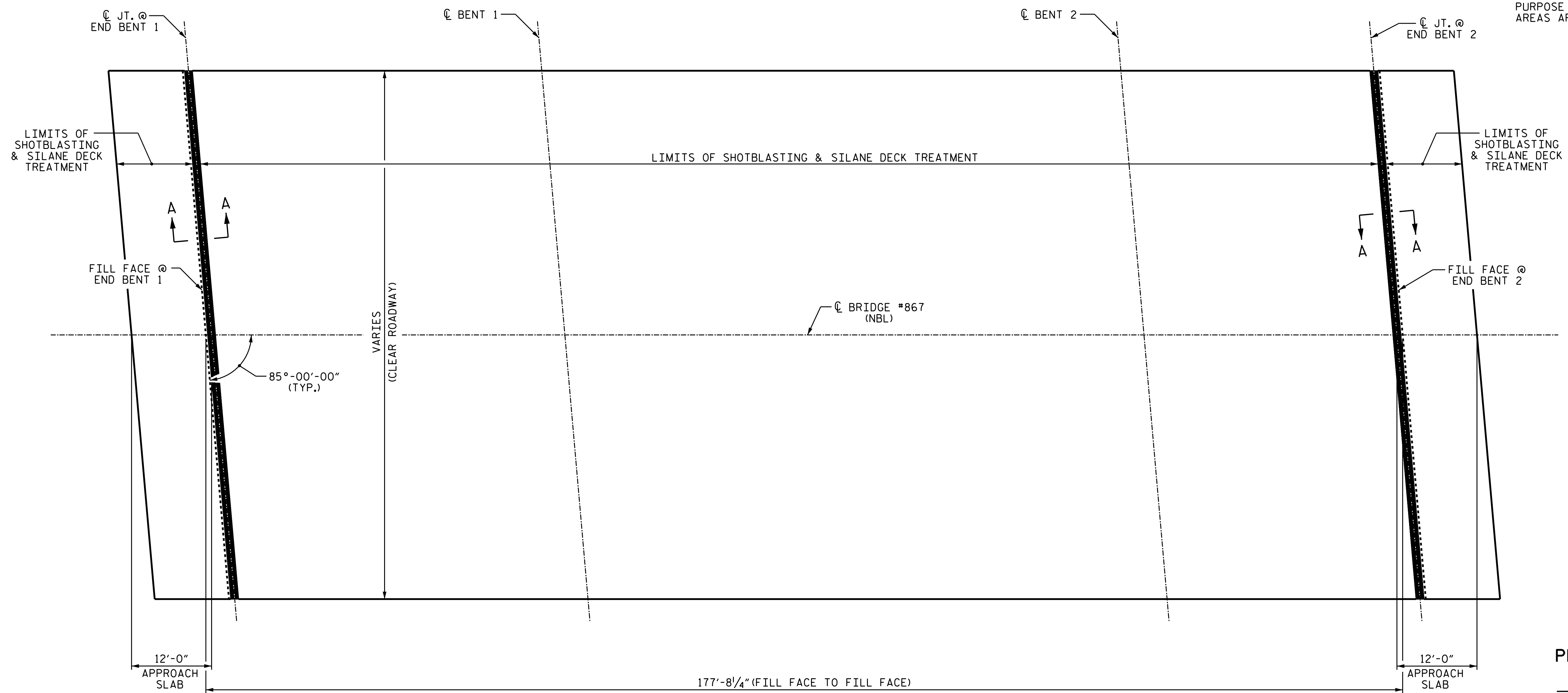
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S12-2
2			4			4

SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	153 SQ.FT.	
CONCRETE DECK REPAIR	* 10 CU.FT.	
SHOTBLASTING BRIDGE DECK	1,800 SQ.YDS.	
SILANE DECK TREATMENT	1,800 SQ.YDS.	

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.



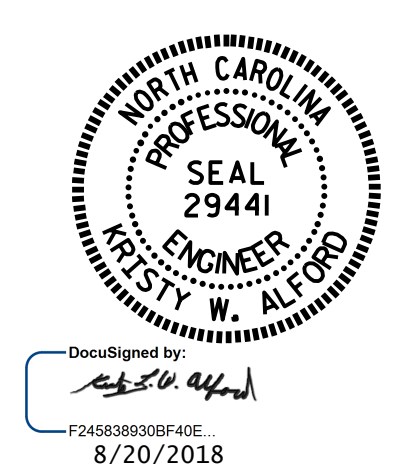
PLAN OF SPANS

(FOR SECTIONS A-A, SEE JOINT DETAILS SHEET)

- SILANE DECK TREATMENT
- BRIDGE JOINT DEMOLITION

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 867

SHEET 3 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE

SILANE DECK
 TREATMENT

DRAWN BY : M.K. BEARD DATE : 3/22/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

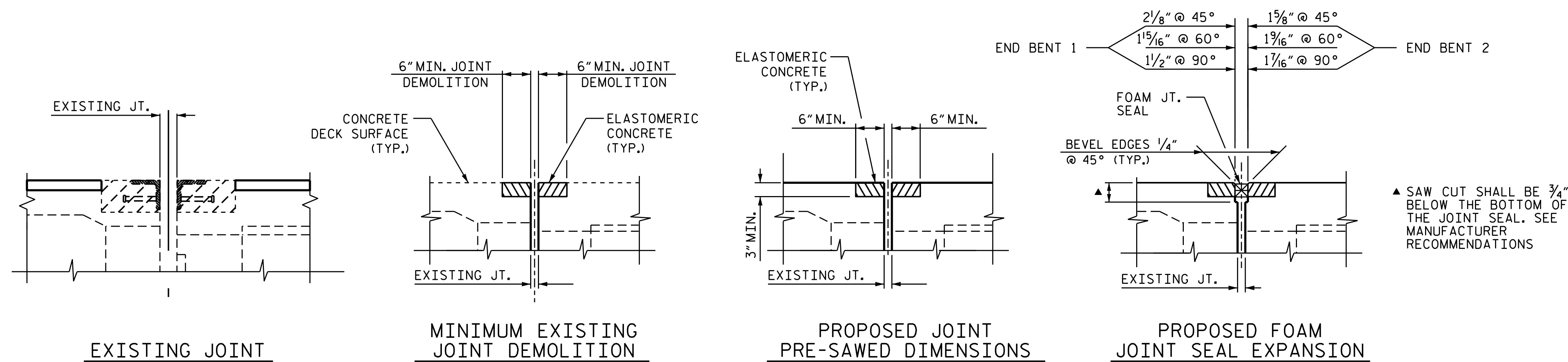
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S12-3
2			4			4

NOTES:

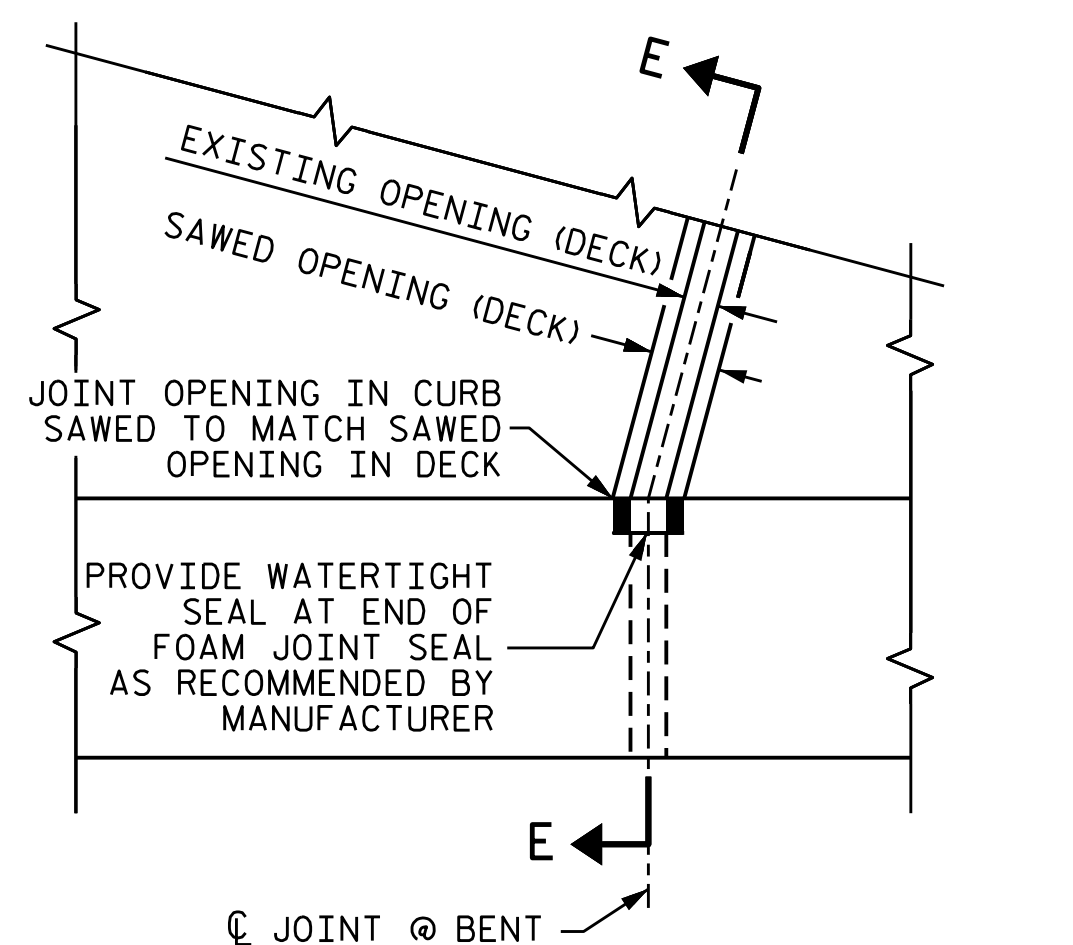
EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

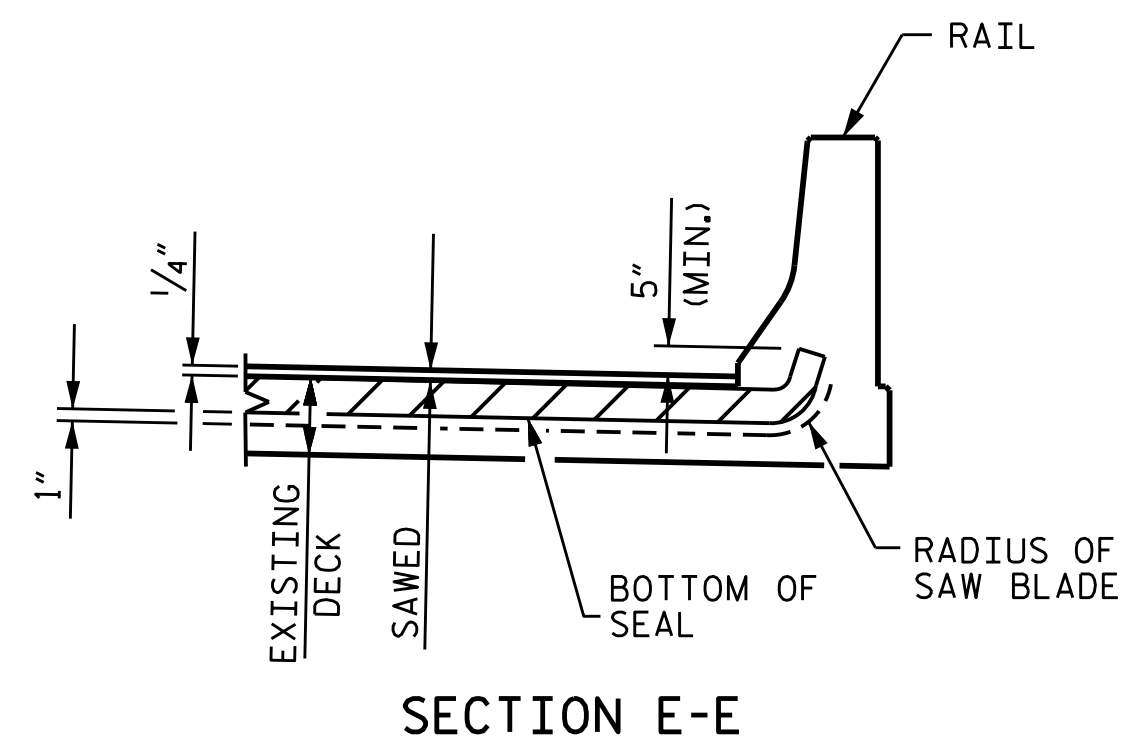
THE WIDTH OF THE UNCOMPRESSED SEAL MATERIAL SHALL BE 2 1/2" AT END BENT 1 AND 2" AT END BENT 2.



JOINT INSTALLATION SEQUENCE AT END BENT 1 AND END BENT 2
SECTION A-A

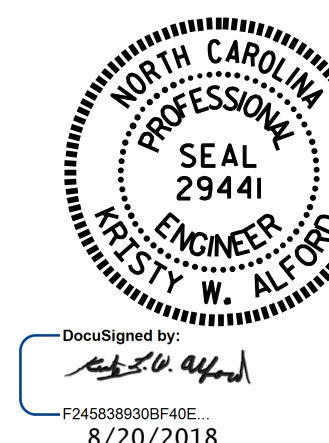


ELASTOMERIC CONCRETE	
END BENT 1	19.9 CU. FT.
END BENT 2	18.2 CU. FT.



PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 867

SHEET 4 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUPERSTRUCTURE
JOINT DETAILS**

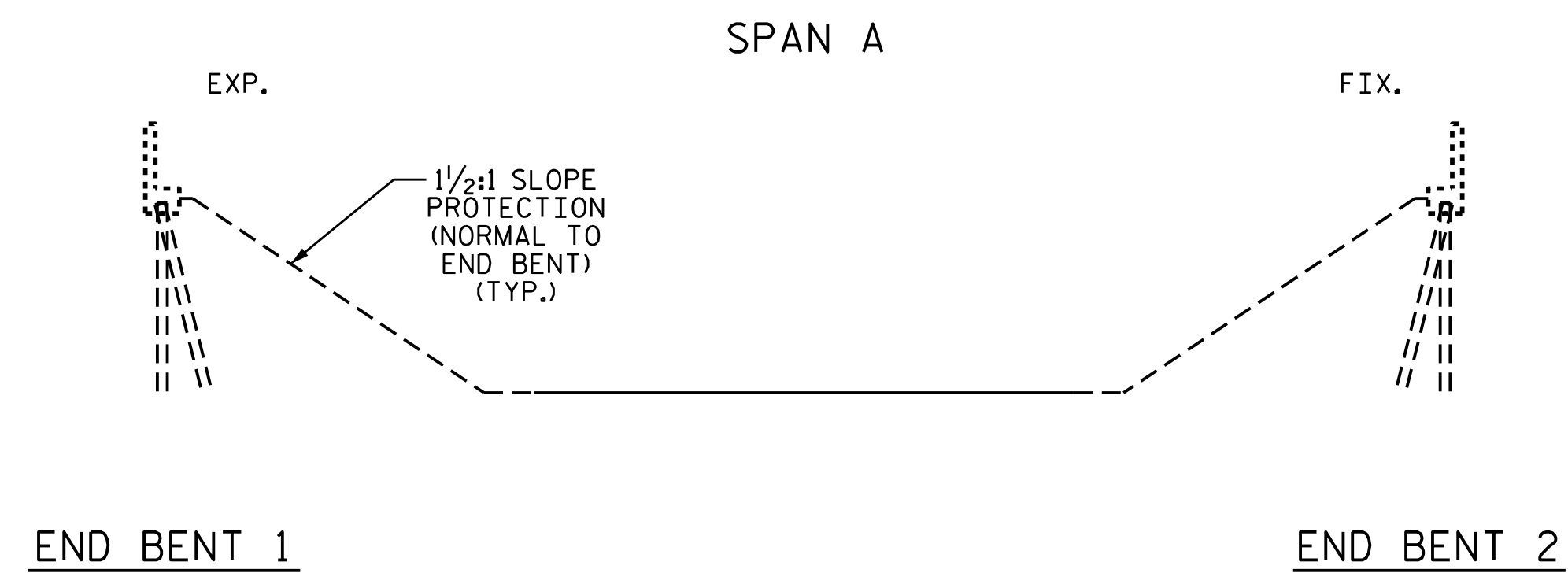
DRAWN BY : K.W. ALFORD DATE : 7/18
CHECKED BY : M.K. BEARD DATE : 7/18

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

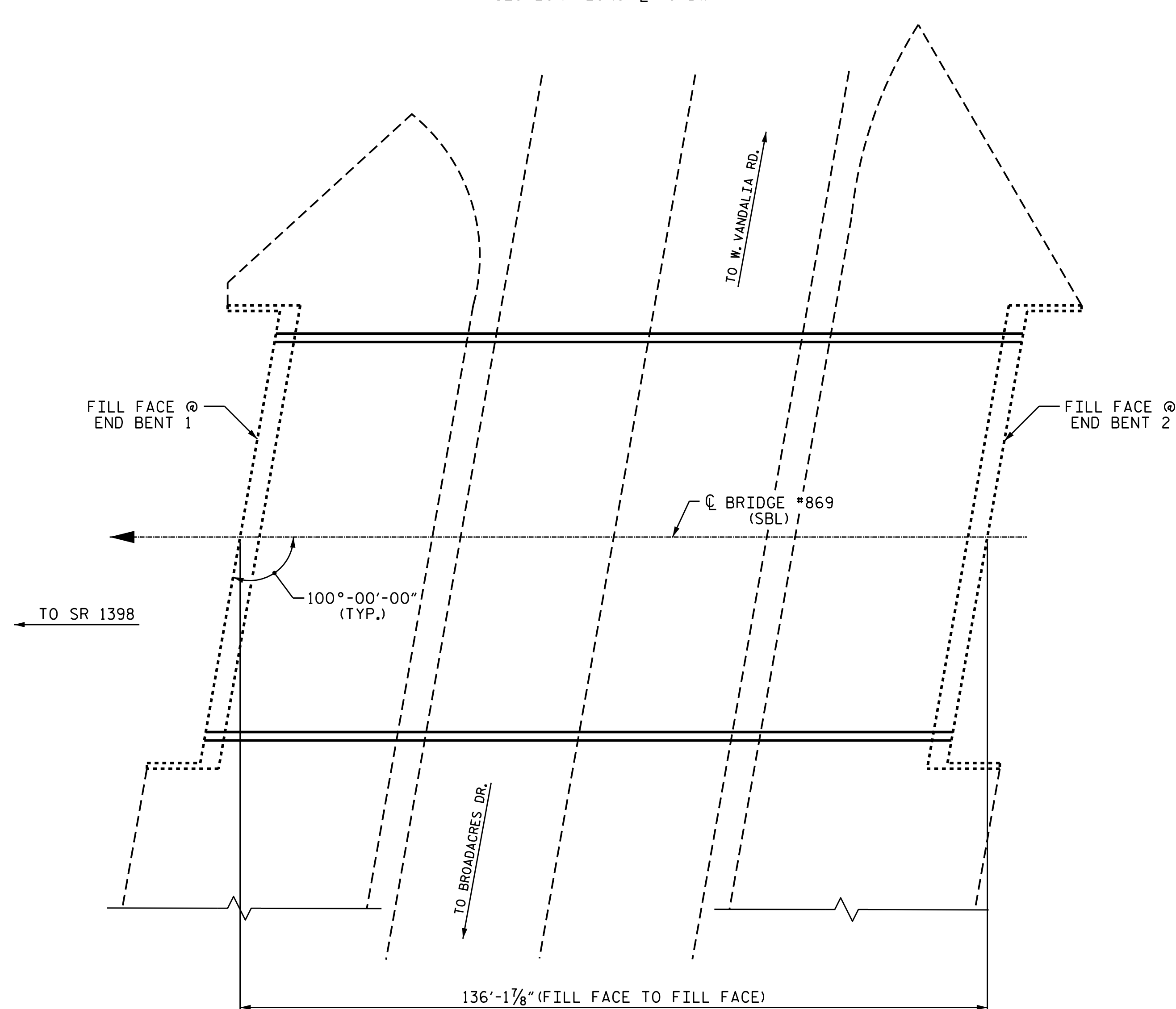
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S12-4	
1			3			TOTAL SHEETS	4
2			4				

SCOPE OF WORK

- DEMOLISH EXISTING BRIDGE DECK JOINTS
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW JOINT SEALS
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



ELEVATION
(SECTION ALONG \bar{C} ROADWAY)



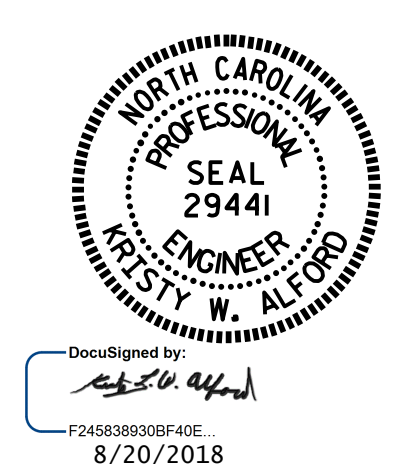
PLAN
(PILES NOT SHOWN FOR CLARITY)

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

Resident Engineer _____ Date _____

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 869

SHEET 1 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON I-73
 & US 421 SOUTHBOUND
 OVER SR 1129
 (GROOMETOWN RD.)

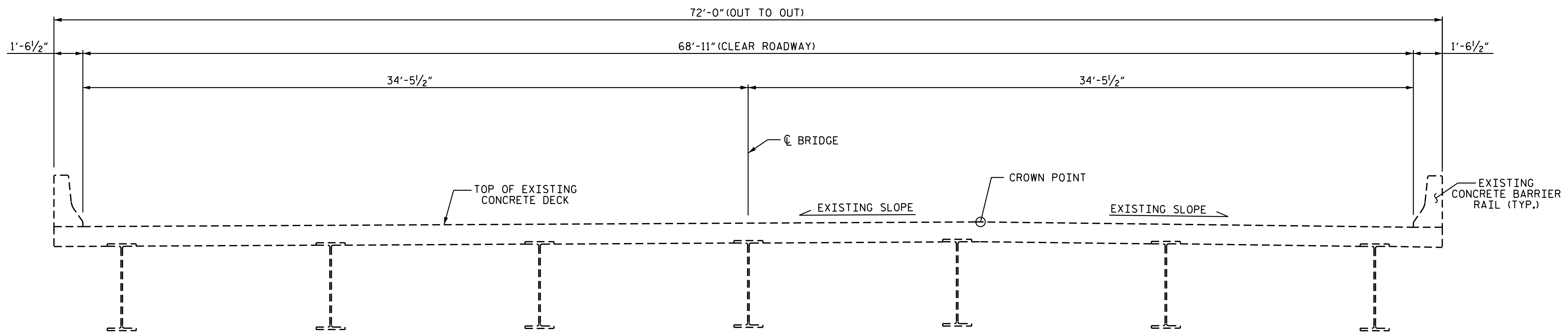
DRAWN BY : M.K. BEARD DATE : 3/16/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

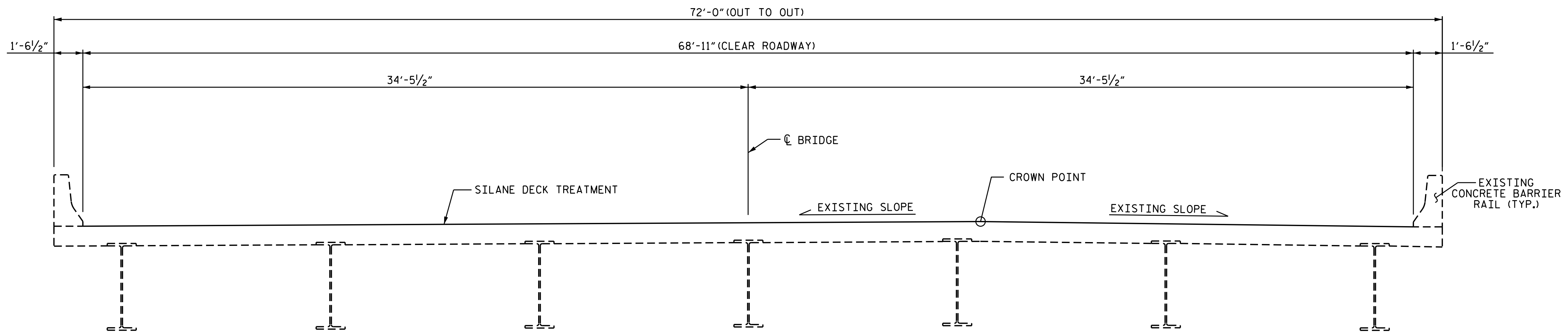
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S13-1
2			4			4

NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



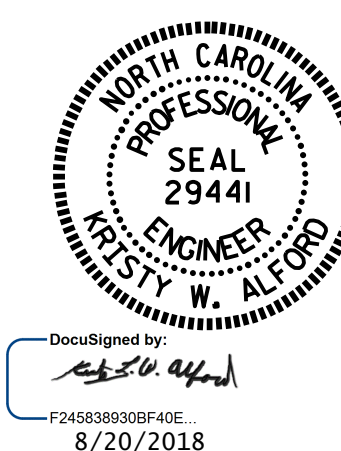
TYPICAL SECTION
(EXISTING)



TYPICAL SECTION
(PROPOSED)

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 869

SHEET 2 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
TYPICAL SECTIONS

DRAWN BY : M.K. BEARD DATE : 3/16/18
CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

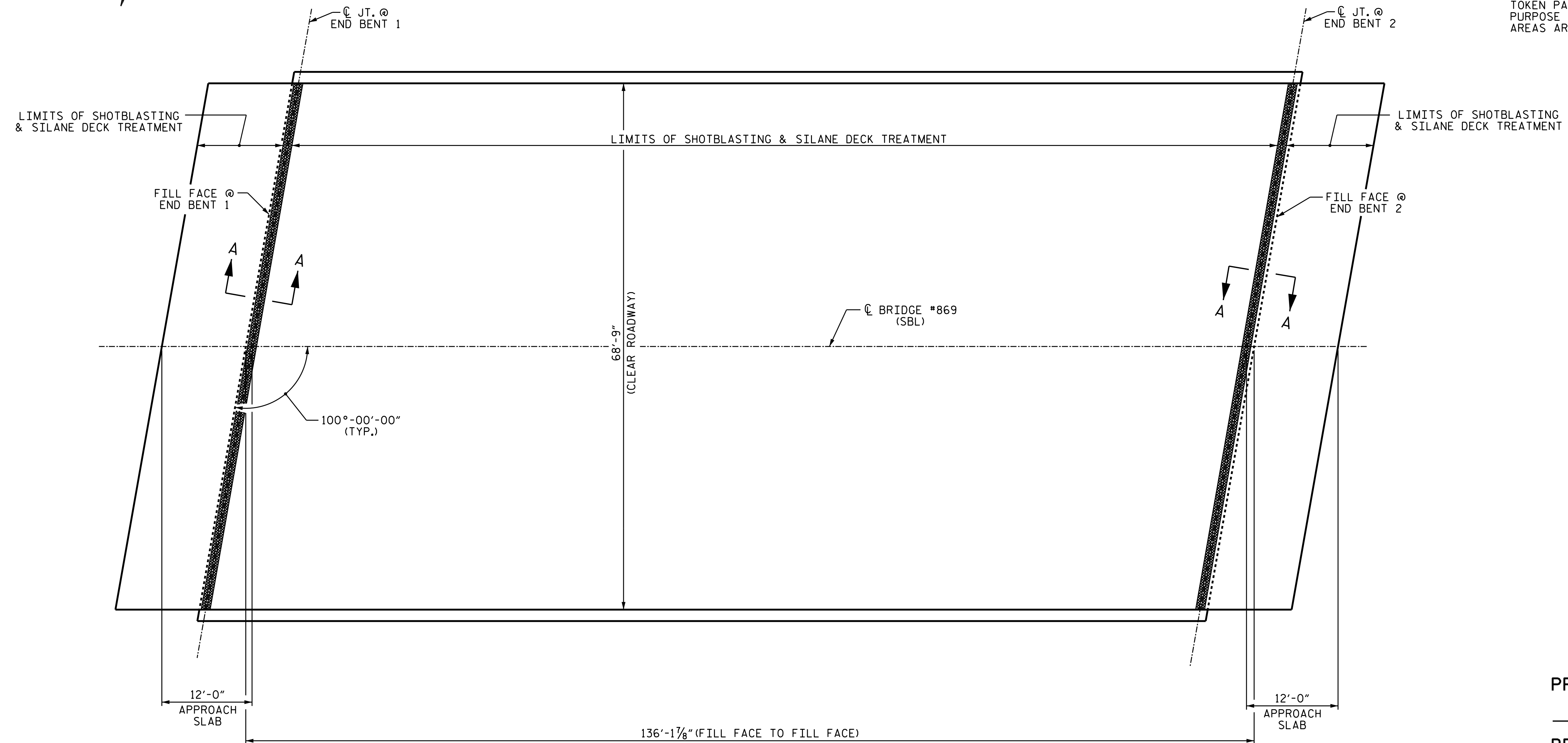
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S13-2
2			4			4

SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	129 SQ.FT.	
CONCRETE DECK REPAIR	* 10 CU.FT.	
SHOTBLASTING BRIDGE DECK	1,195 SQ.YDS.	
SILANE DECK TREATMENT	1,195 SQ.YDS.	

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.



PLAN OF SPAN

(FOR SECTIONS A-A, SEE JOINT DETAILS SHEET)

□ SILANE DECK TREATMENT

▨ BRIDGE JOINT DEMOLITION

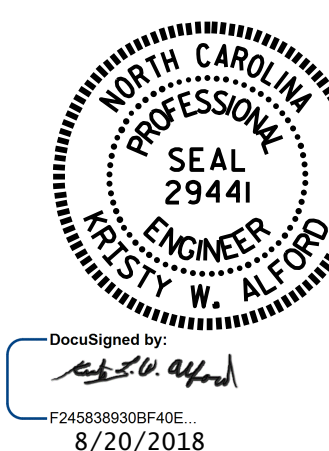
PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 869

SHEET 3 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE

SILANE DECK TREATMENT



DocuSigned by:
 W. ALFORD
 F245838908FA0E
 8/20/2018

DRAWN BY : M.K. BEARD DATE : 3/16/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

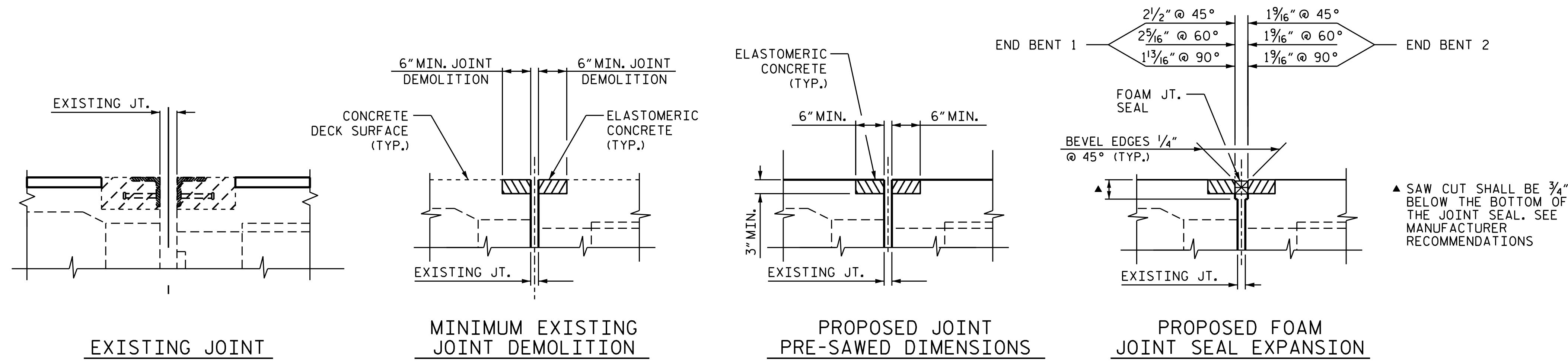
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S13-3
2			4			4

NOTES:

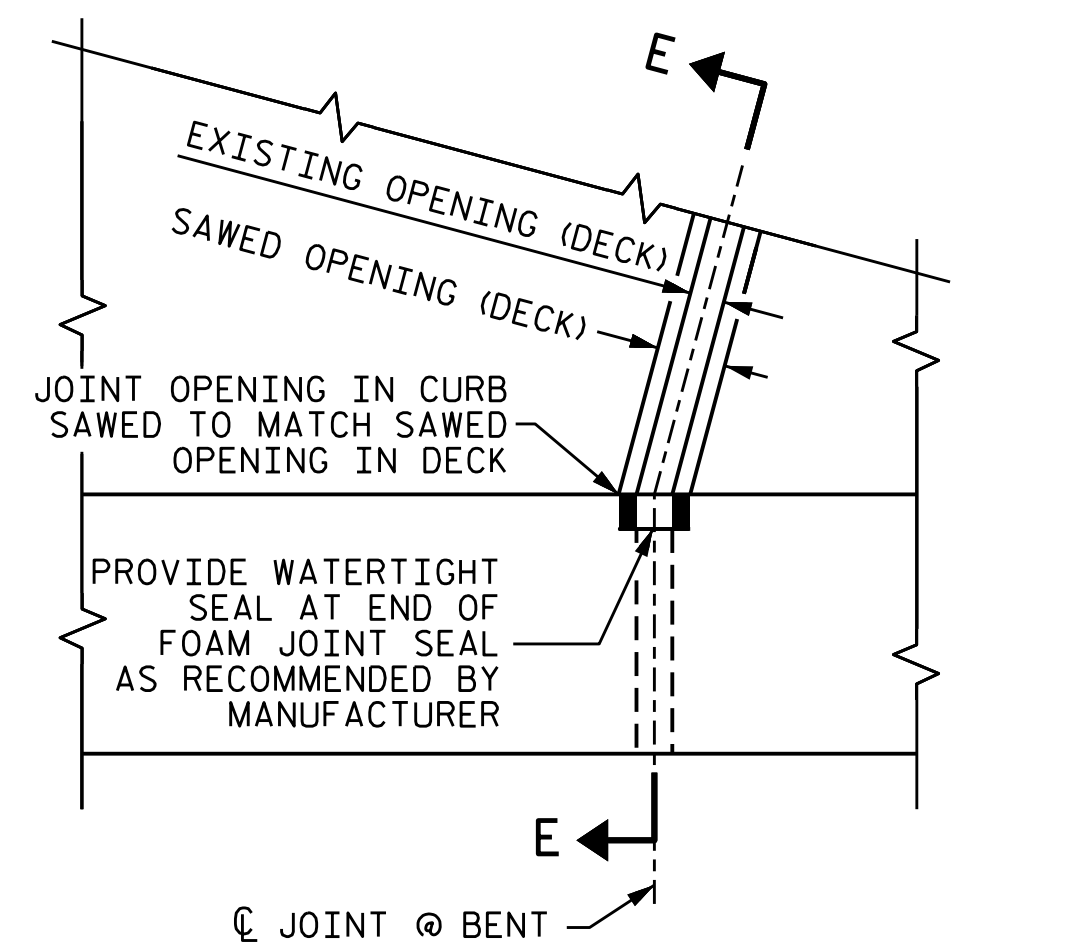
EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

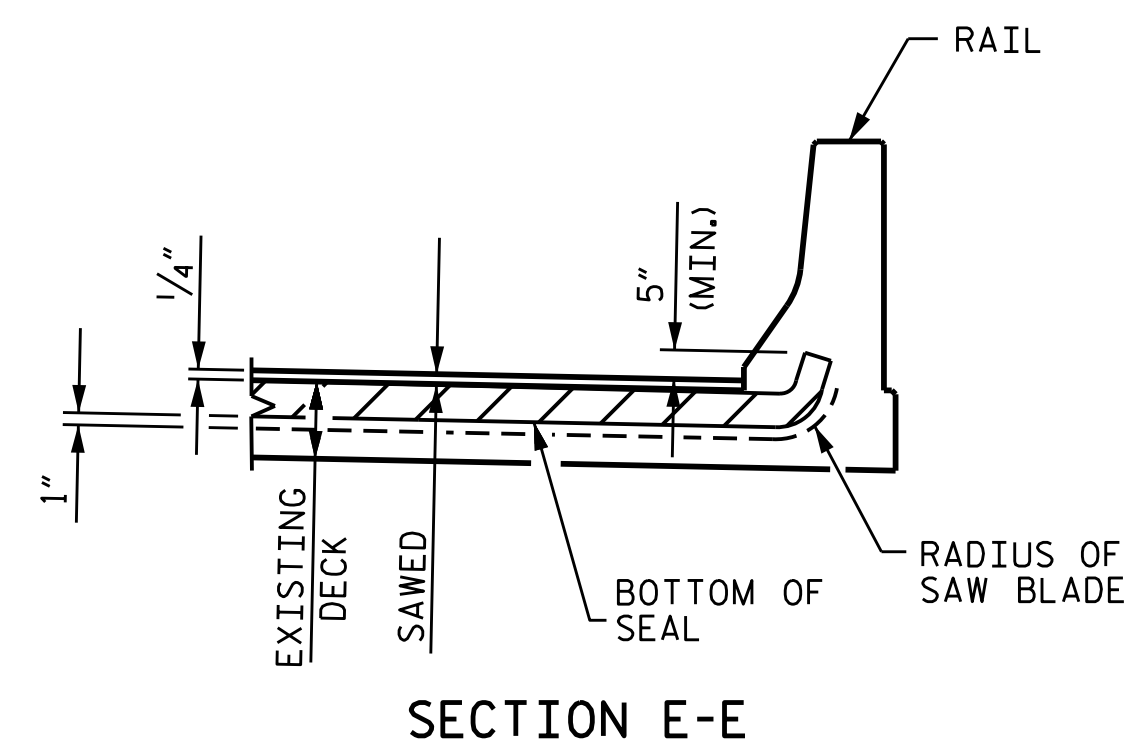
THE WIDTH OF THE UNCOMPRESSED SEAL MATERIAL SHALL BE 3/2" AT END BENT 1 AND 2" AT END BENT 2.



JOINT INSTALLATION SEQUENCE AT END BENT 1 AND END BENT 2
SECTION A-A

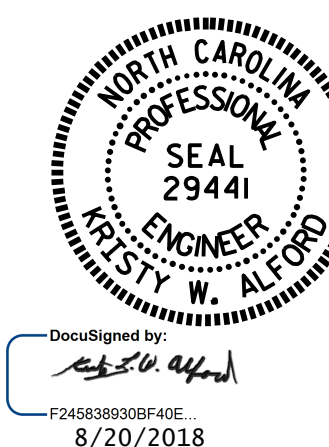


ELASTOMERIC CONCRETE	
END BENT 1	16.0 CU. FT.
END BENT 2	16.0 CU. FT.



SECTION E-E

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 869
 SHEET 4 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUPERSTRUCTURE
 JOINT DETAILS**

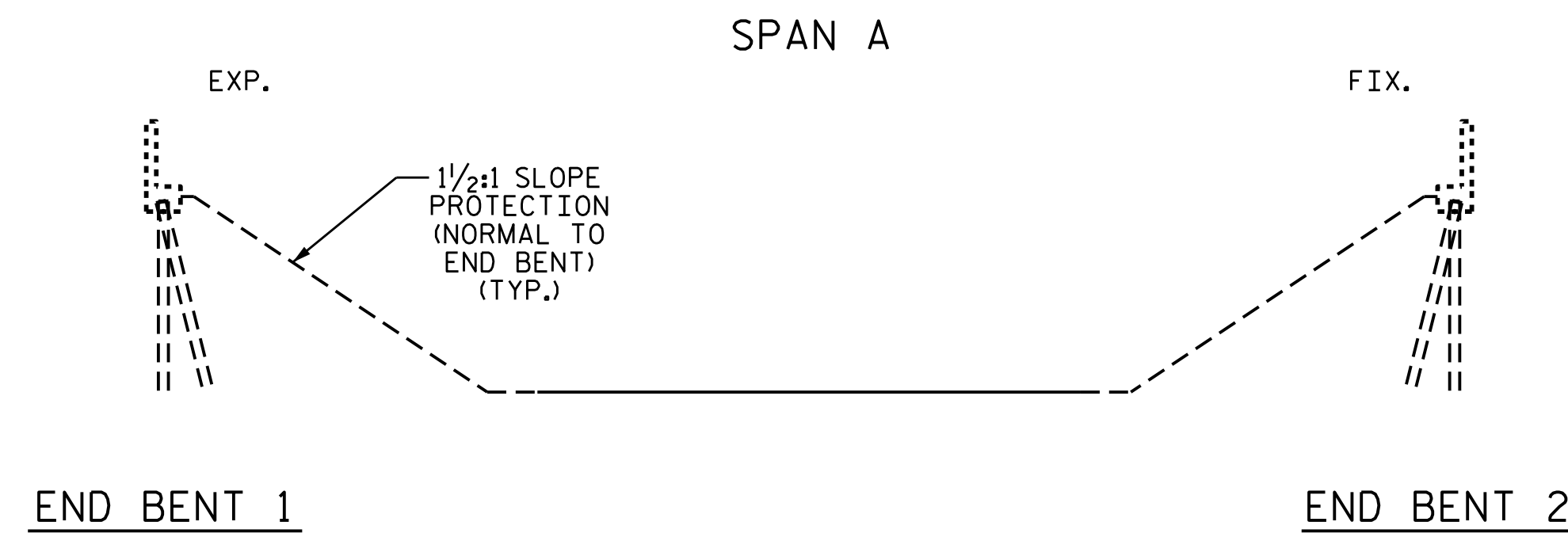
DRAWN BY : K.W. ALFORD DATE : 7/18
 CHECKED BY : M.K. BEARD DATE : 7/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

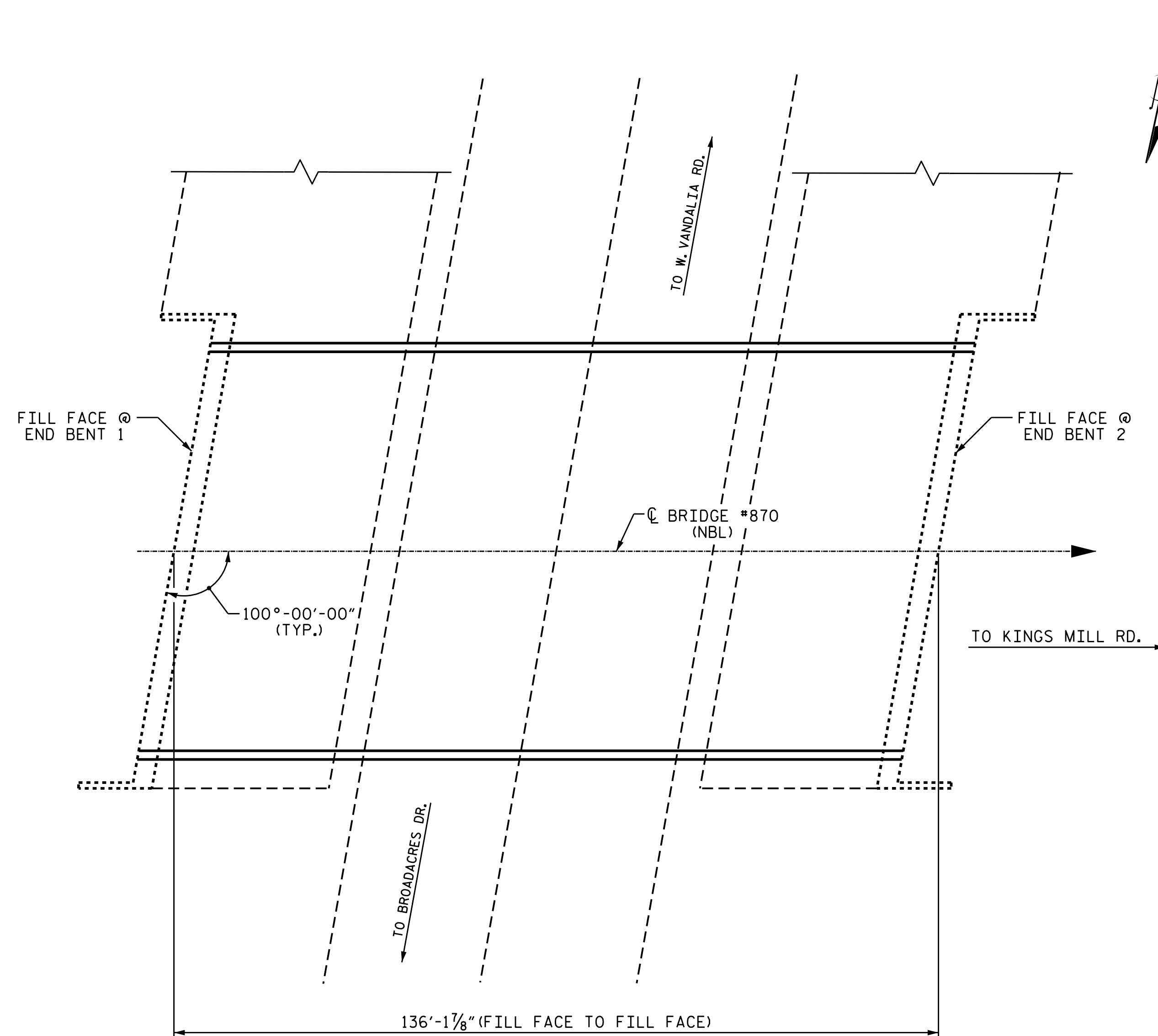
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S13-4	
1			3			TOTAL SHEETS	4
2			4				

SCOPE OF WORK

- DEMOLISH EXISTING BRIDGE DECK JOINTS
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW JOINT SEALS
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



ELEVATION
(SECTION ALONG \bar{C} ROADWAY)



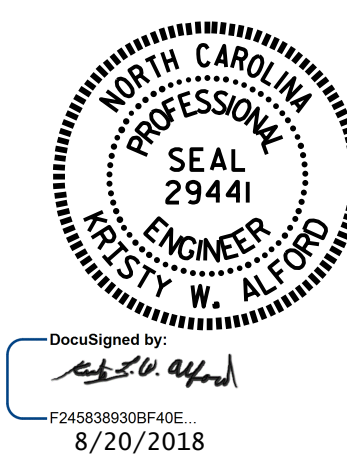
PLAN
(PILES NOT SHOWN FOR CLARITY)

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

Resident Engineer _____ Date _____

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 870

SHEET 1 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON I-73
 & US 421 NORTHBOUND
 OVER SR 1129
 (GROOMETOWN RD.)

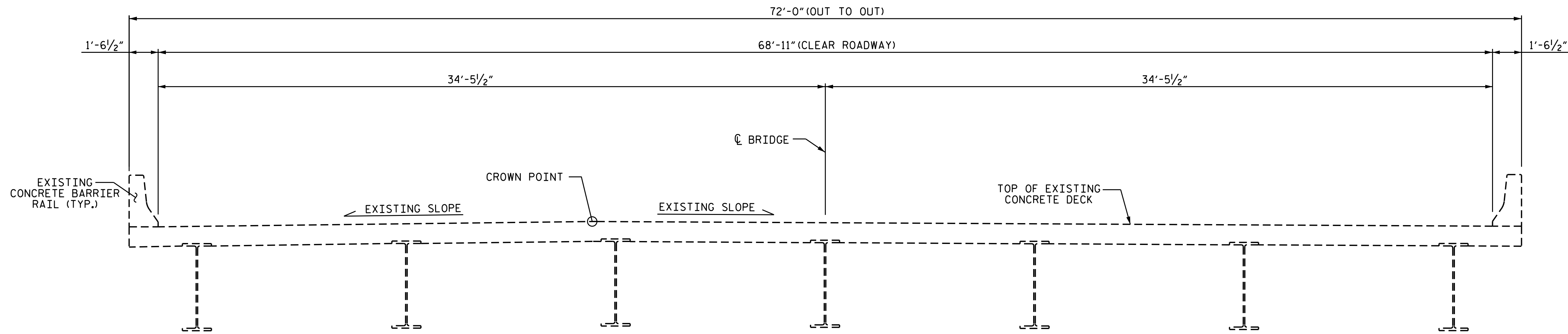
DRAWN BY : M.K. BEARD DATE : 3/16/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

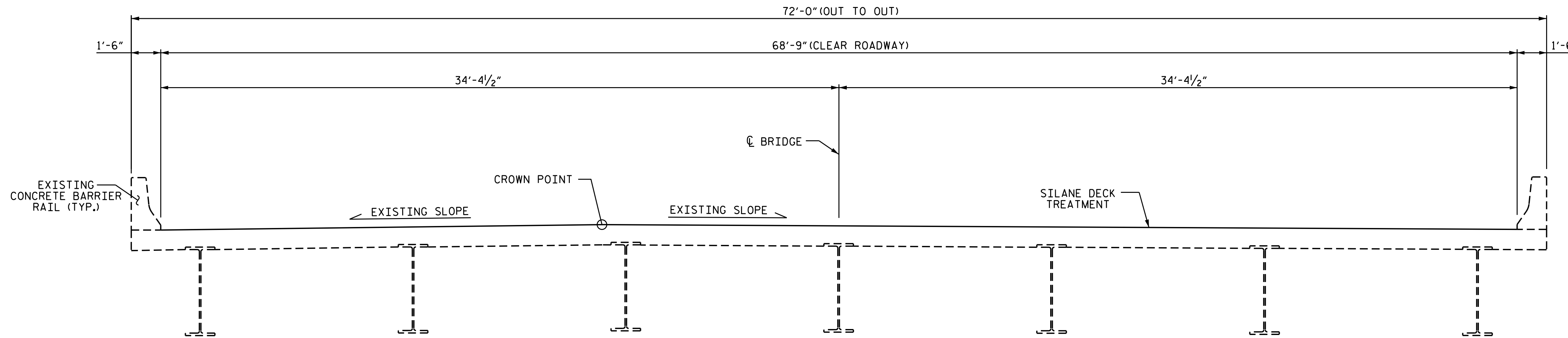
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S14-1
1			3			TOTAL SHEETS
2			4			4

NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



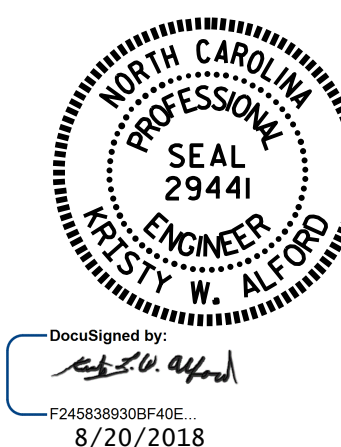
TYPICAL SECTION
(EXISTING)



TYPICAL SECTION
(PROPOSED)

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 870

SHEET 2 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
TYPICAL SECTIONS

DRAWN BY : M.K. BEARD DATE : 3/16/18
CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
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SIGNATURES COMPLETED

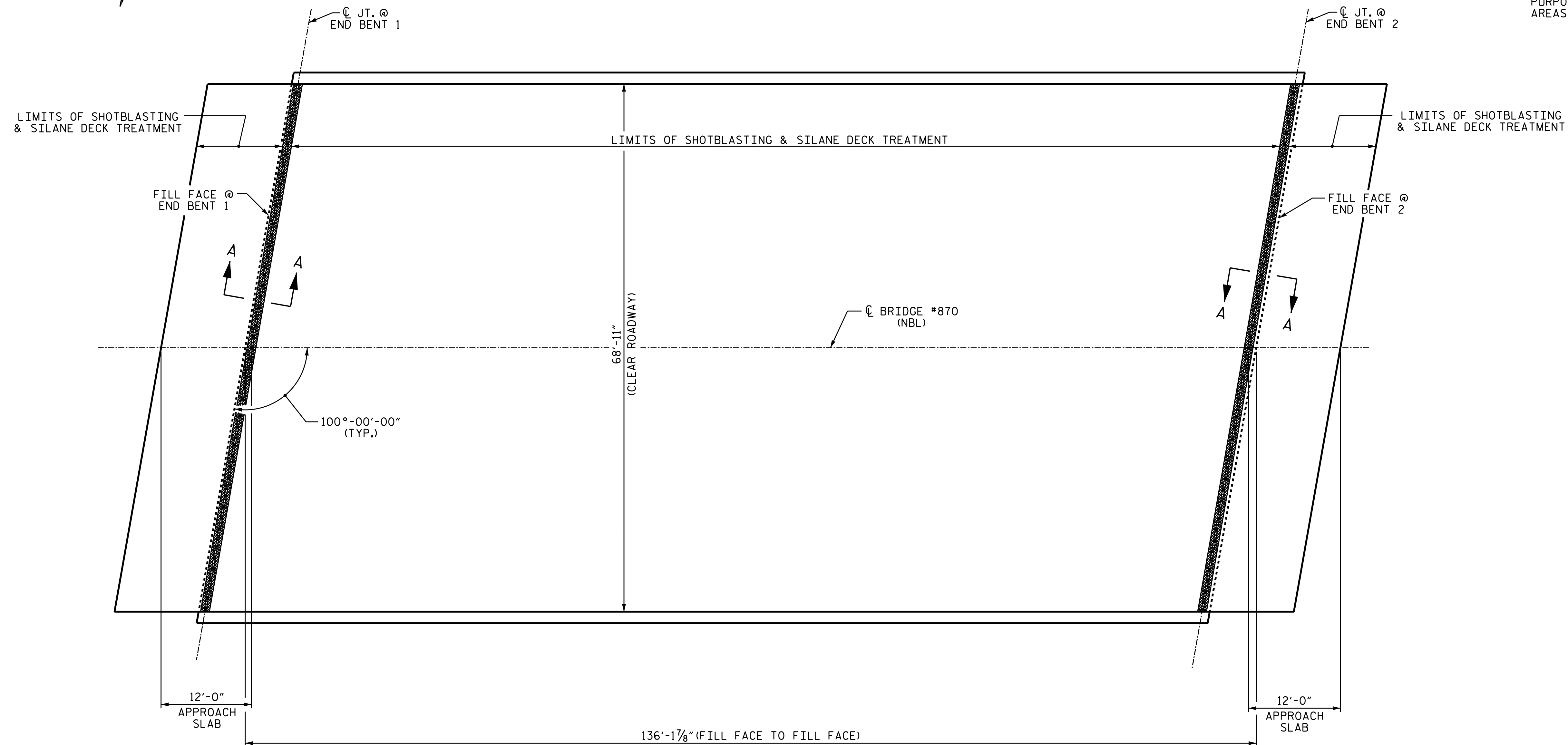
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S14-2
2			4			4

SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	129 SQ.FT.	
CONCRETE DECK REPAIR	* 10 CU.FT.	
SHOTBLASTING BRIDGE DECK	1,195 SQ.YDS.	
SILANE DECK TREATMENT	1,195 SQ.YDS.	

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.



□ SILANE DECK TREATMENT

▨ BRIDGE JOINT DEMOLITION

PLAN OF SPAN
(FOR SECTIONS A-A, SEE JOINT DETAILS SHEET)

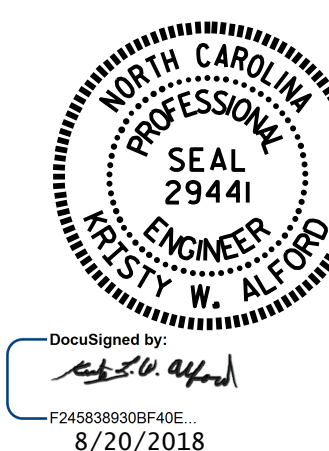
PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 870

SHEET 3 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

SILANE DECK TREATMENT



DocuSigned by:
W. ALFORD
8/20/2018

DRAWN BY : M.K. BEARD DATE : 3/16/18
CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

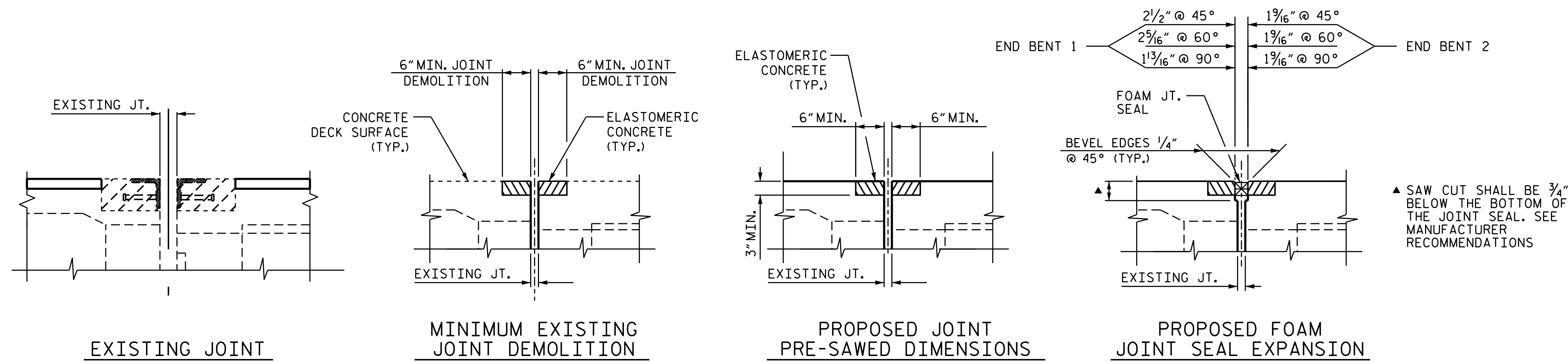
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S14-3
2			4			4

NOTES:

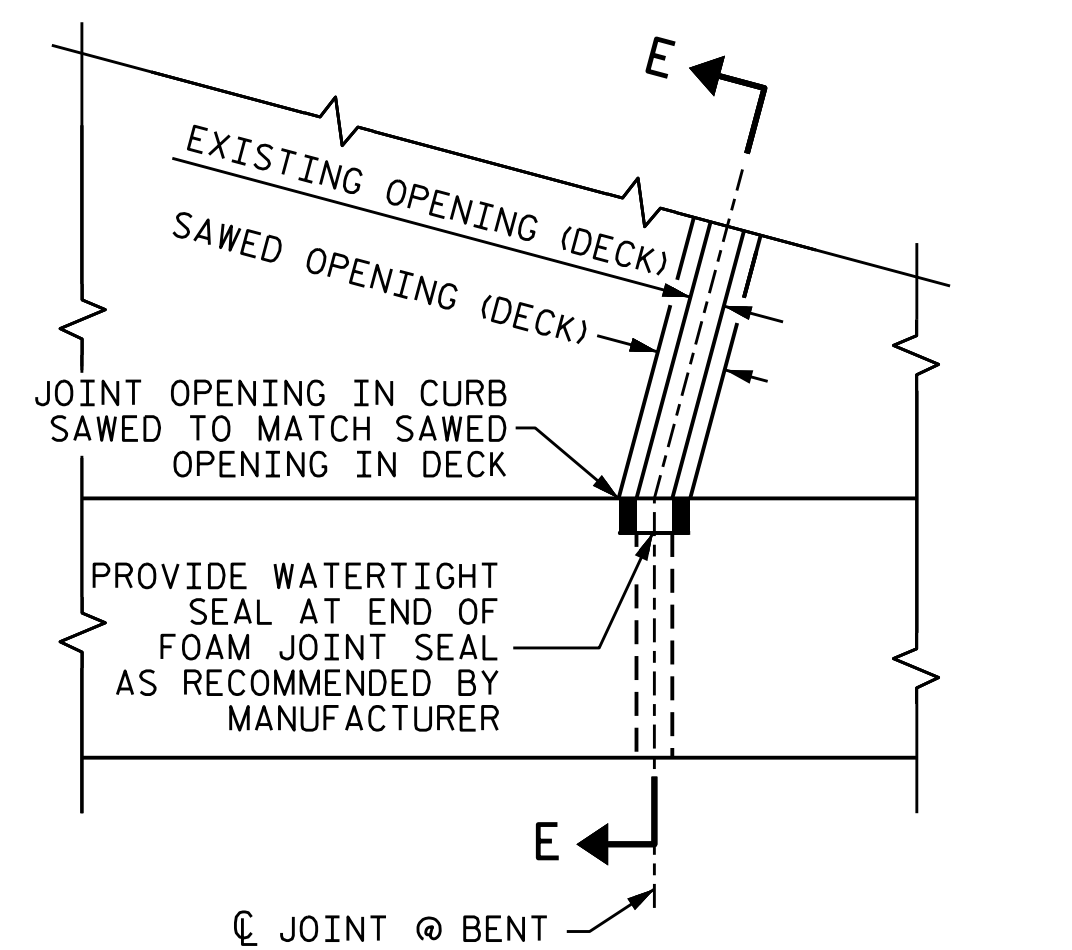
EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

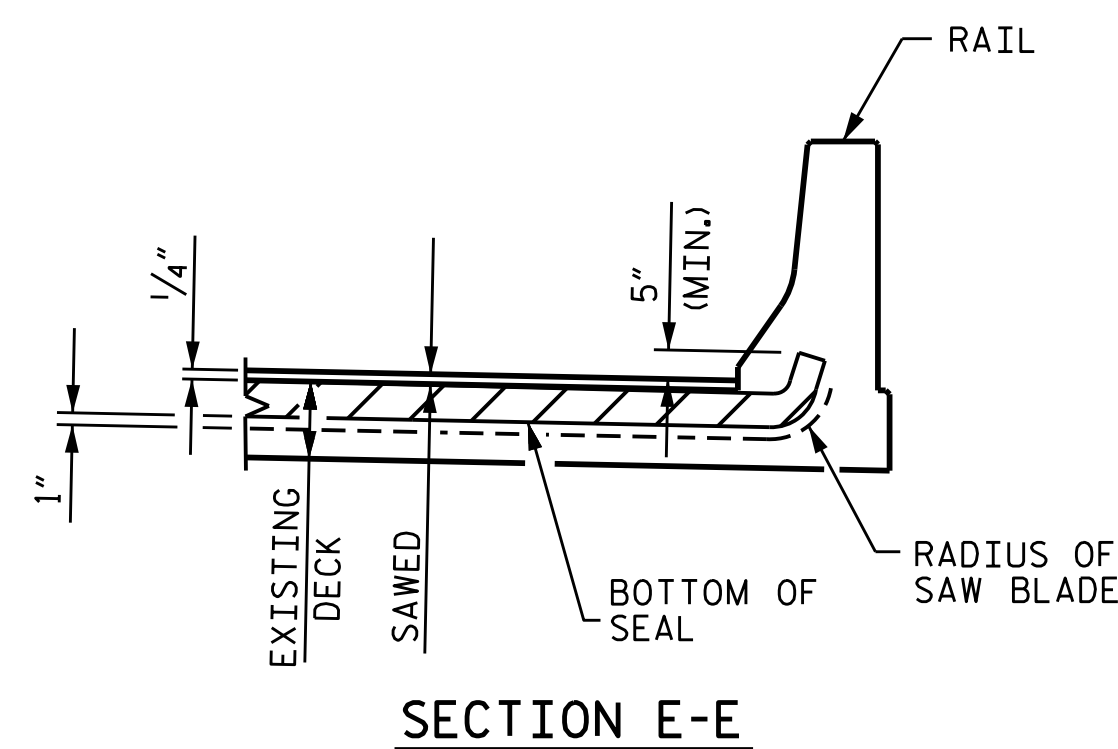
THE WIDTH OF THE UNCOMPRESSED SEAL MATERIAL SHALL BE 3/2" AT END BENT 1 AND 2" AT END BENT 2.



**JOINT INSTALLATION SEQUENCE AT END BENT 1 AND END BENT 2
SECTION A-A**



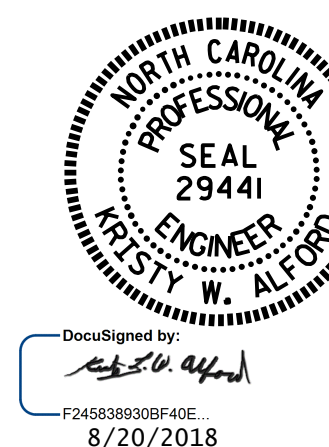
ELASTOMERIC CONCRETE	
END BENT 1	16.0 CU. FT.
END BENT 2	16.0 CU. FT.



SECTION E-E

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 870

SHEET 4 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUPERSTRUCTURE
 JOINT DETAILS**

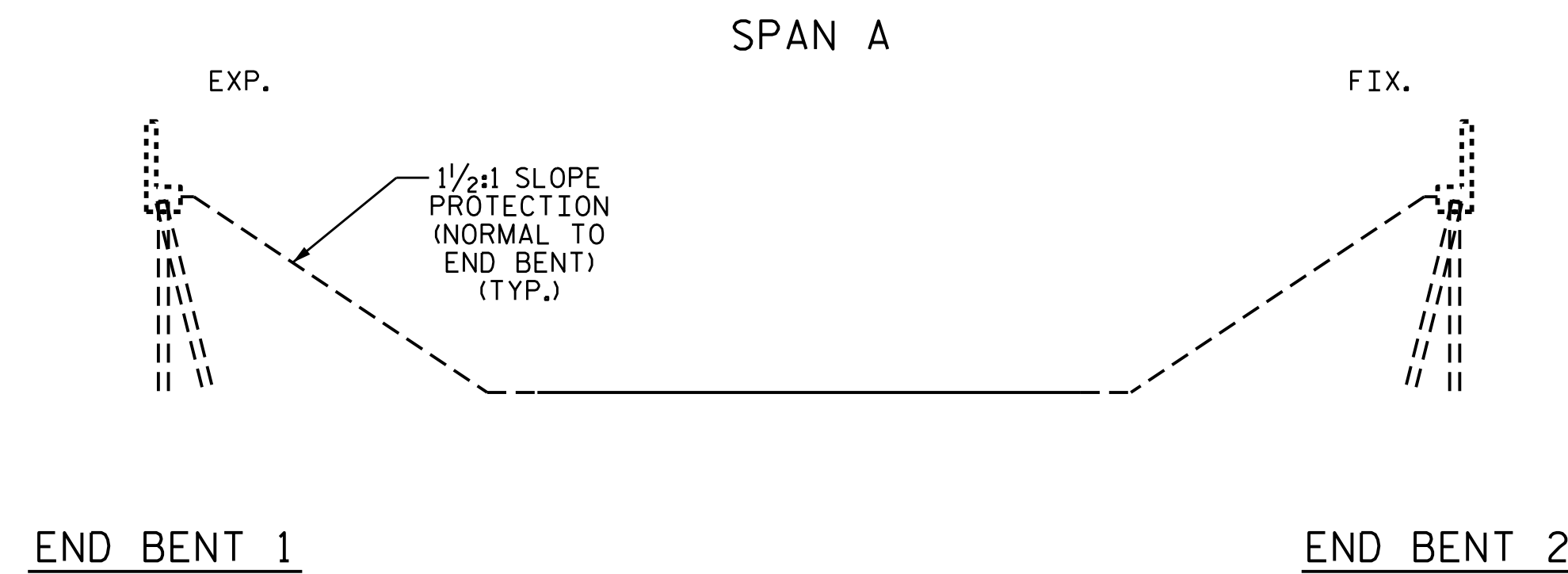
DRAWN BY : K.W. ALFORD DATE : 7/18
 CHECKED BY : M.K. BEARD DATE : 7/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

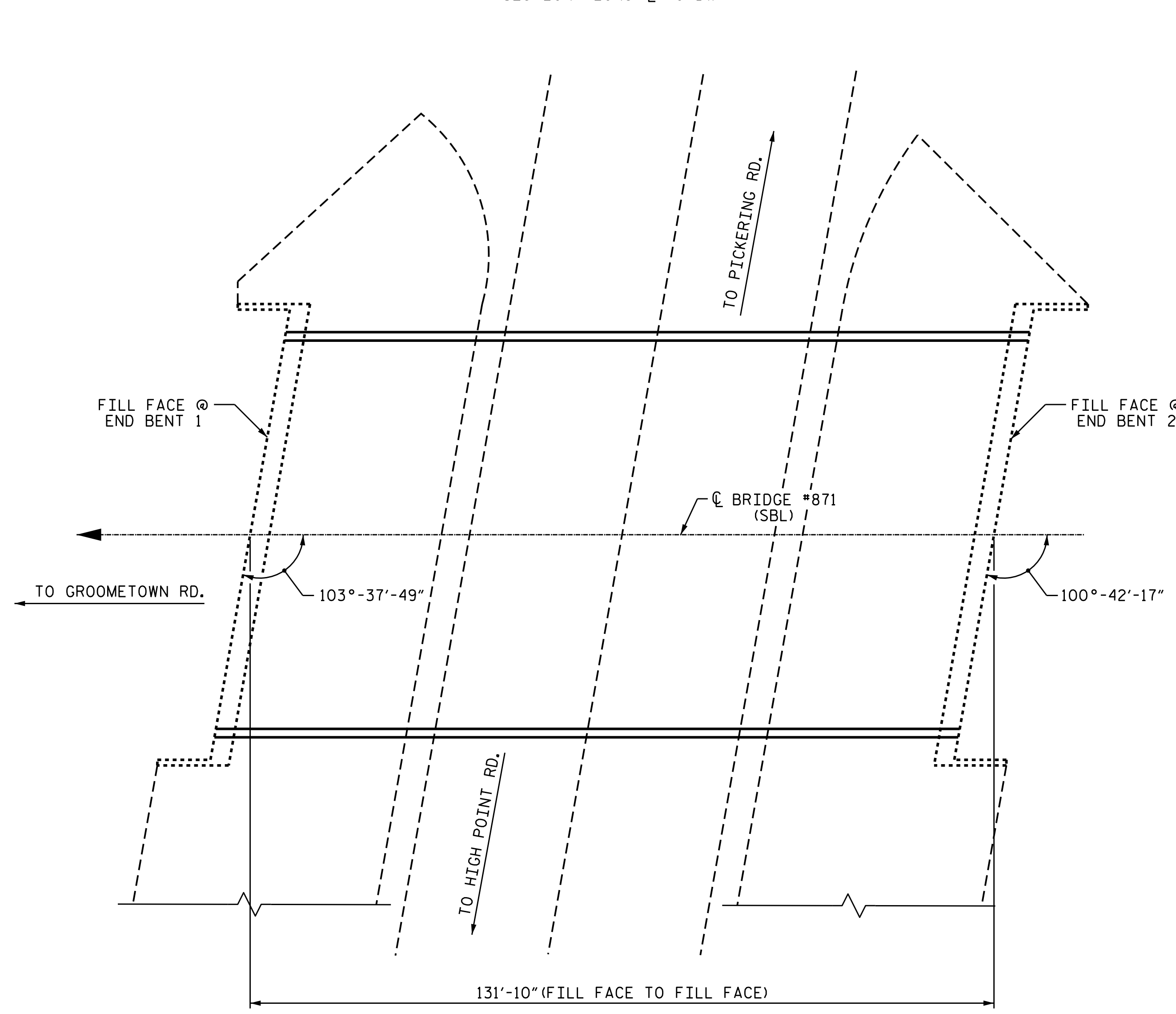
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S14-4	
1			3			TOTAL SHEETS	4
2			4				

SCOPE OF WORK

- DEMOLISH EXISTING BRIDGE DECK JOINTS
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW JOINT SEALS
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



ELEVATION
(SECTION ALONG \bar{C} ROADWAY)



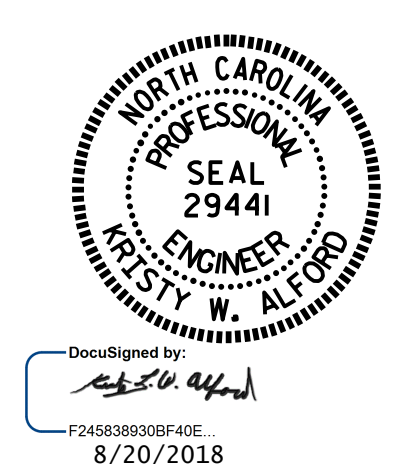
PLAN
(PILES NOT SHOWN FOR CLARITY)

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

Resident Engineer _____ Date _____

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 871

SHEET 1 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON I-73
 & US 421 SOUTHBOUND
 OVER SR 4205
 (KINGS MILL RD.)

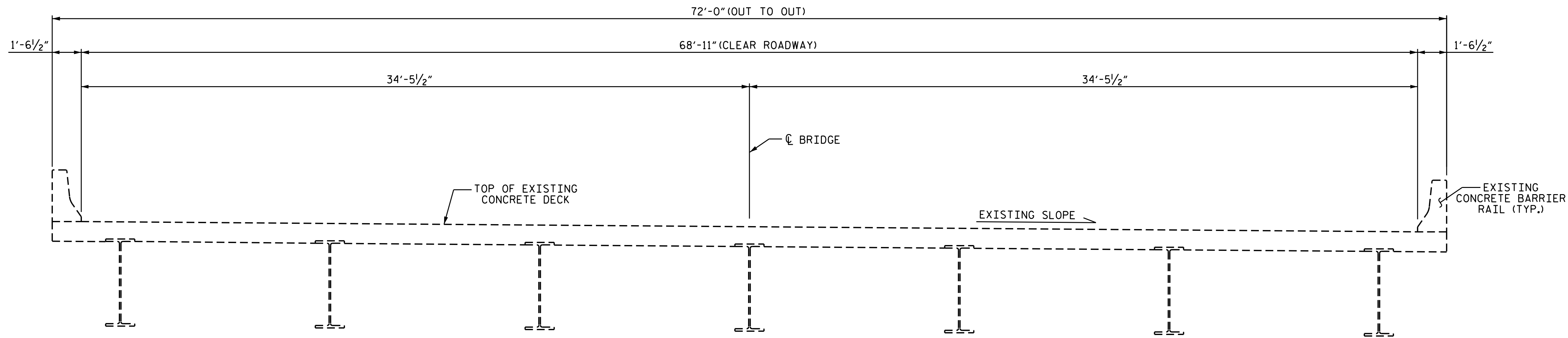
DRAWN BY : M.K. BEARD DATE : 3/16/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

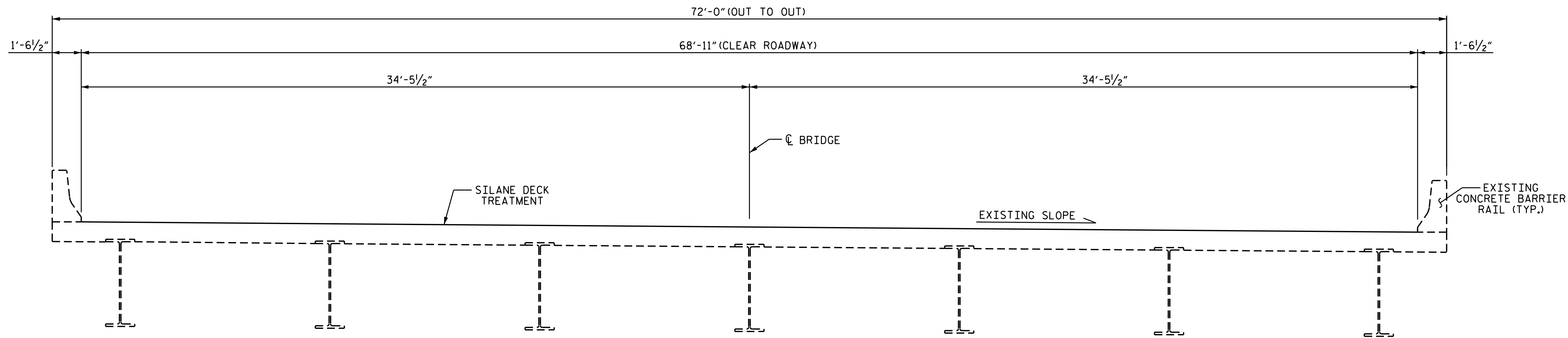
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S15-1
2			4			4

NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



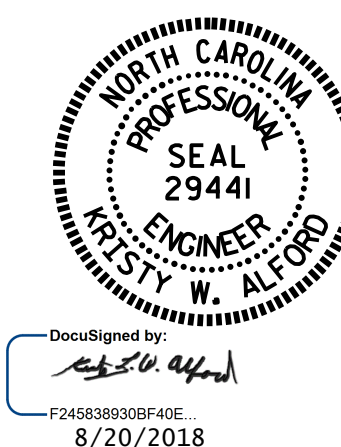
TYPICAL SECTION
(EXISTING)



TYPICAL SECTION
(PROPOSED)

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 871

SHEET 2 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
TYPICAL SECTIONS

DRAWN BY : M.K. BEARD DATE : 3/16/18
CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

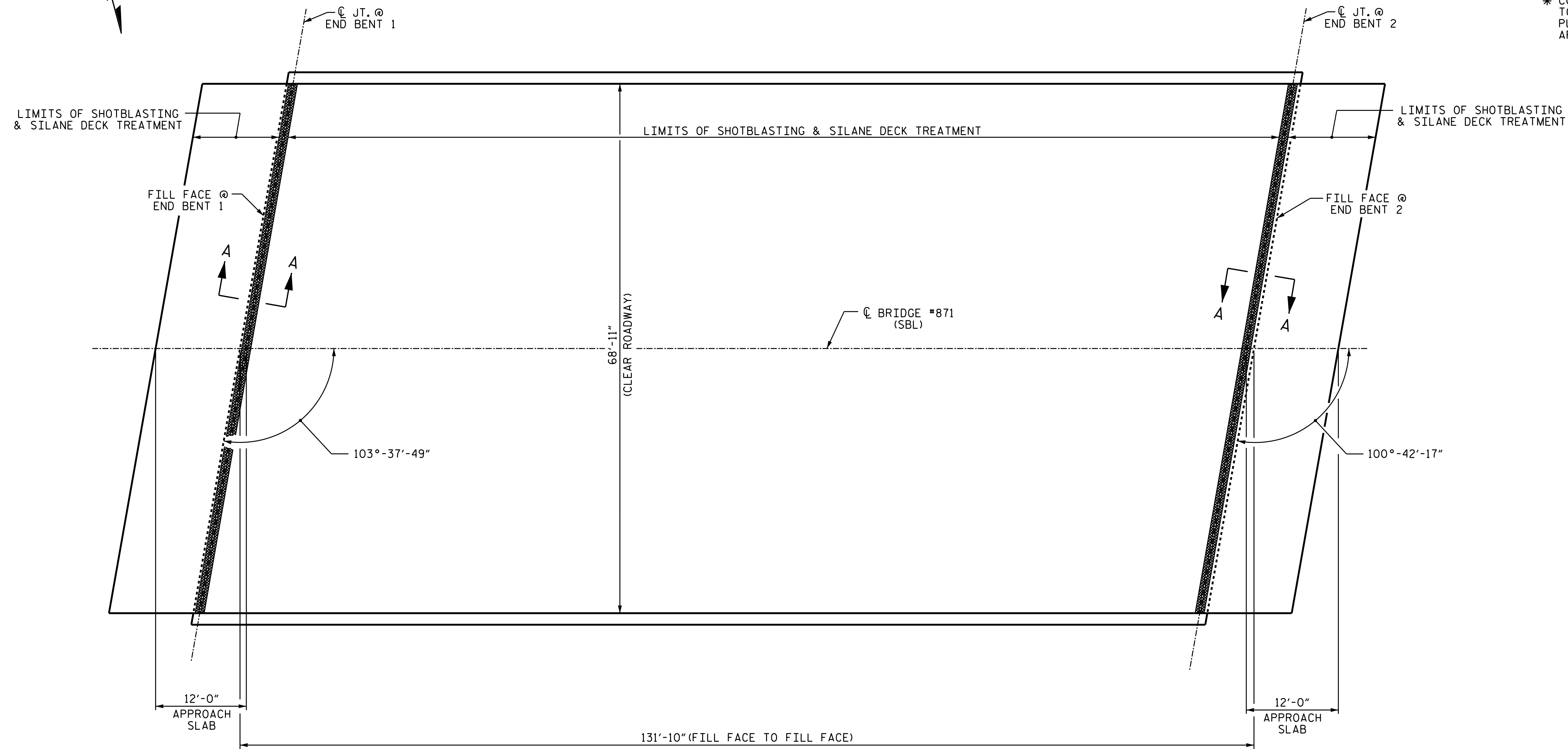
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S15-2
2			4			4

SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	129 SQ.FT.	
CONCRETE DECK REPAIR	* 10 CU.FT.	
SHOTBLASTING BRIDGE DECK	1,170 SQ.YDS.	
SILANE DECK TREATMENT	1,170 SQ.YDS.	

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.

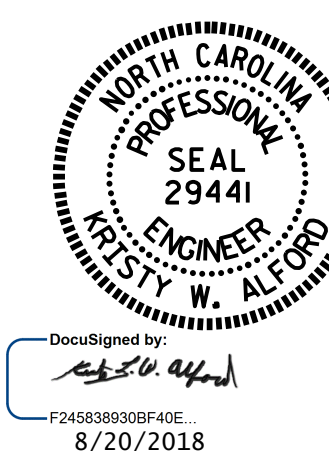


- SILANE DECK TREATMENT
- BRIDGE JOINT DEMOLITION

PLAN OF SPAN
(FOR SECTIONS A-A, SEE JOINT DETAILS SHEET)

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 871

SHEET 3 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 SILANE DECK TREATMENT

DRAWN BY : M.K. BEARD DATE : 3/16/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

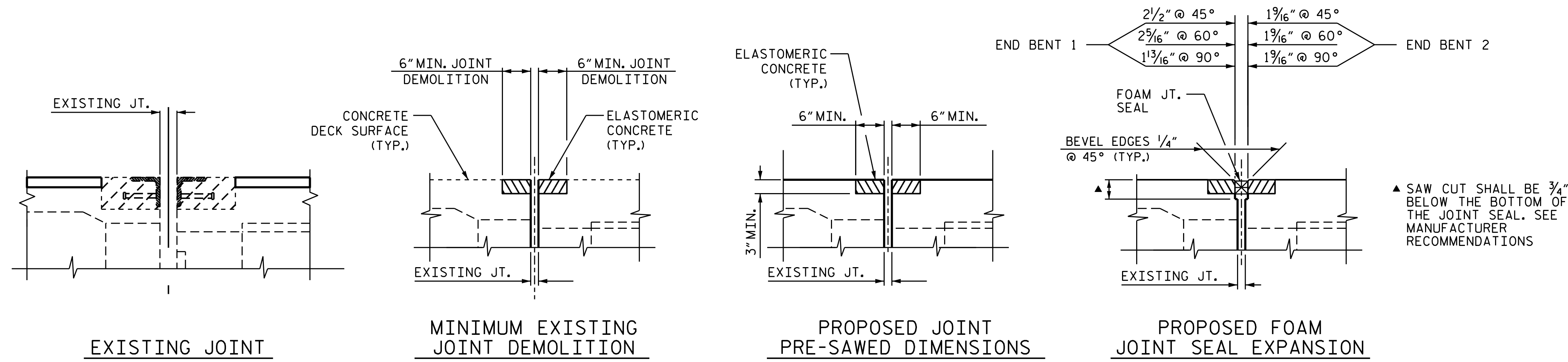
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S15-3
2			4			4

NOTES:

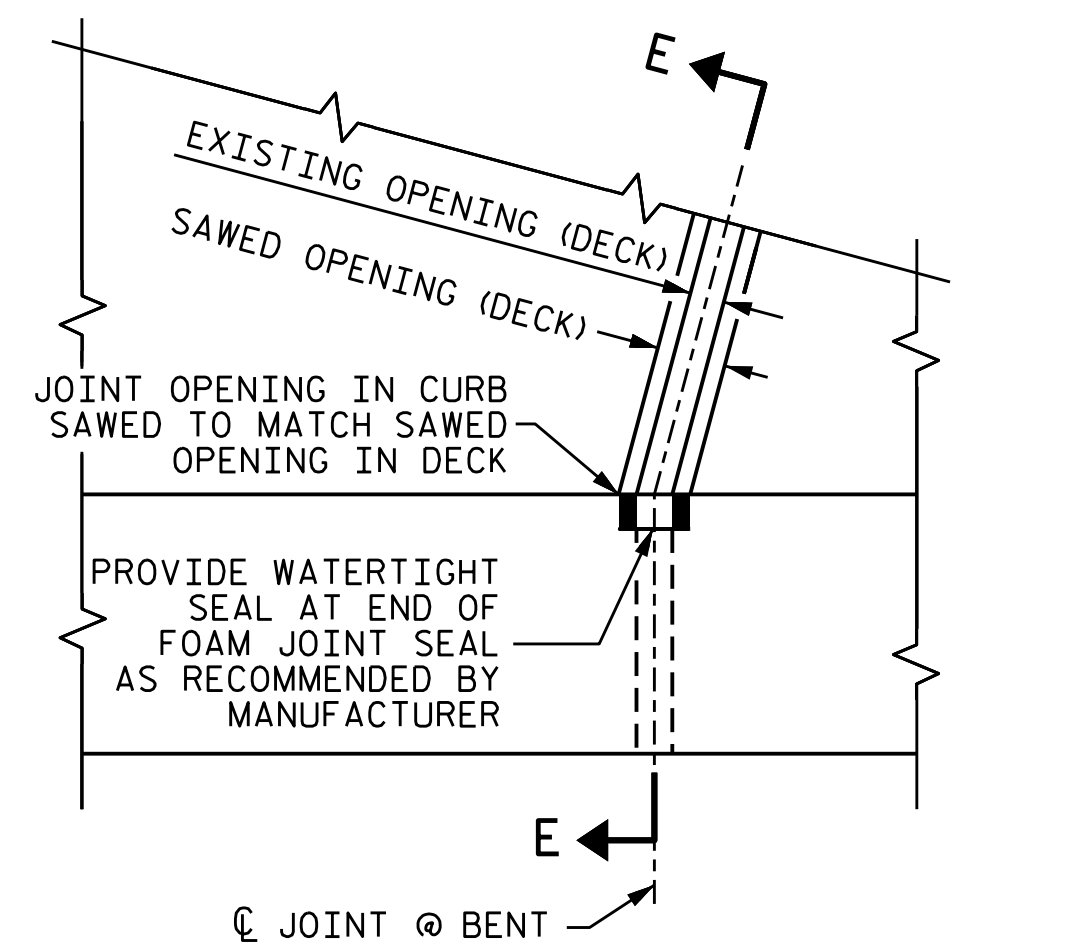
EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

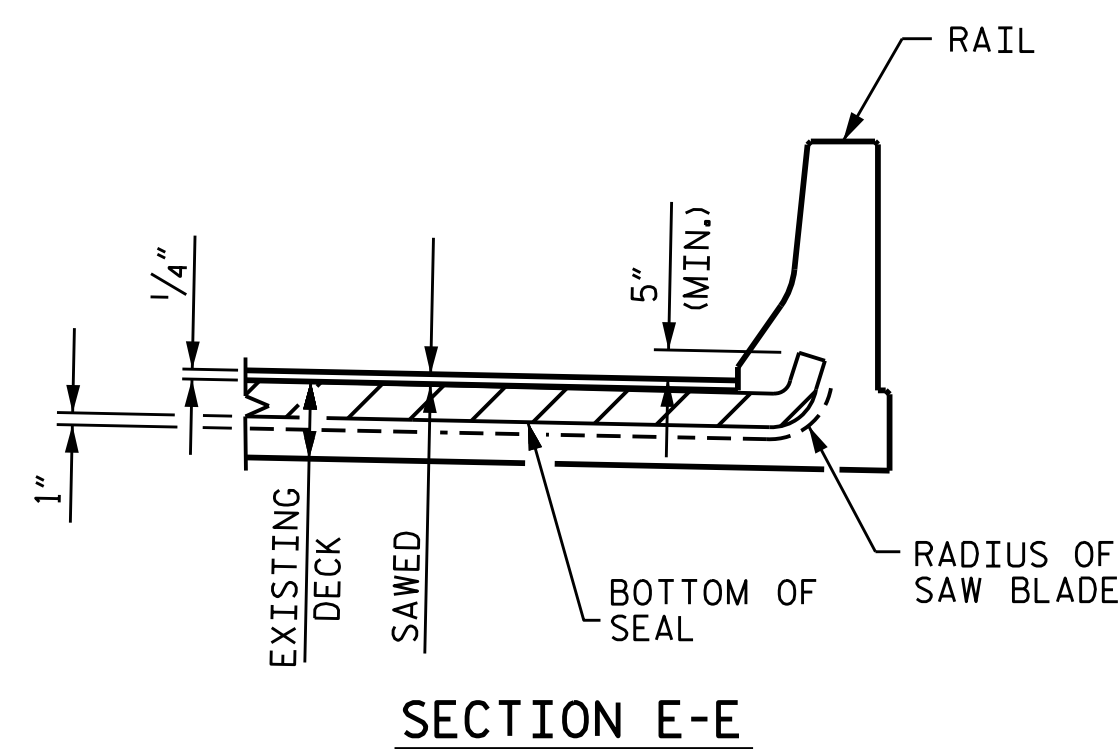
THE WIDTH OF THE UNCOMPRESSED SEAL MATERIAL SHALL BE 3/2" AT END BENT 1 AND 2" AT END BENT 2.



JOINT INSTALLATION SEQUENCE AT END BENT 1 AND END BENT 2
SECTION A-A

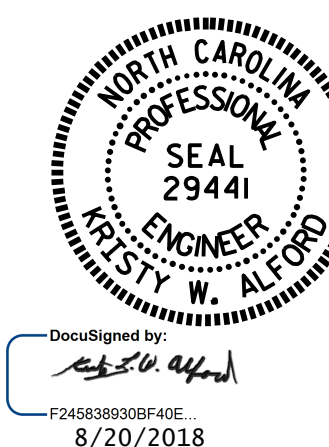


ELASTOMERIC CONCRETE	
END BENT 1	16.0 CU. FT.
END BENT 2	16.0 CU. FT.



PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 871

SHEET 4 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUPERSTRUCTURE
JOINT DETAILS**

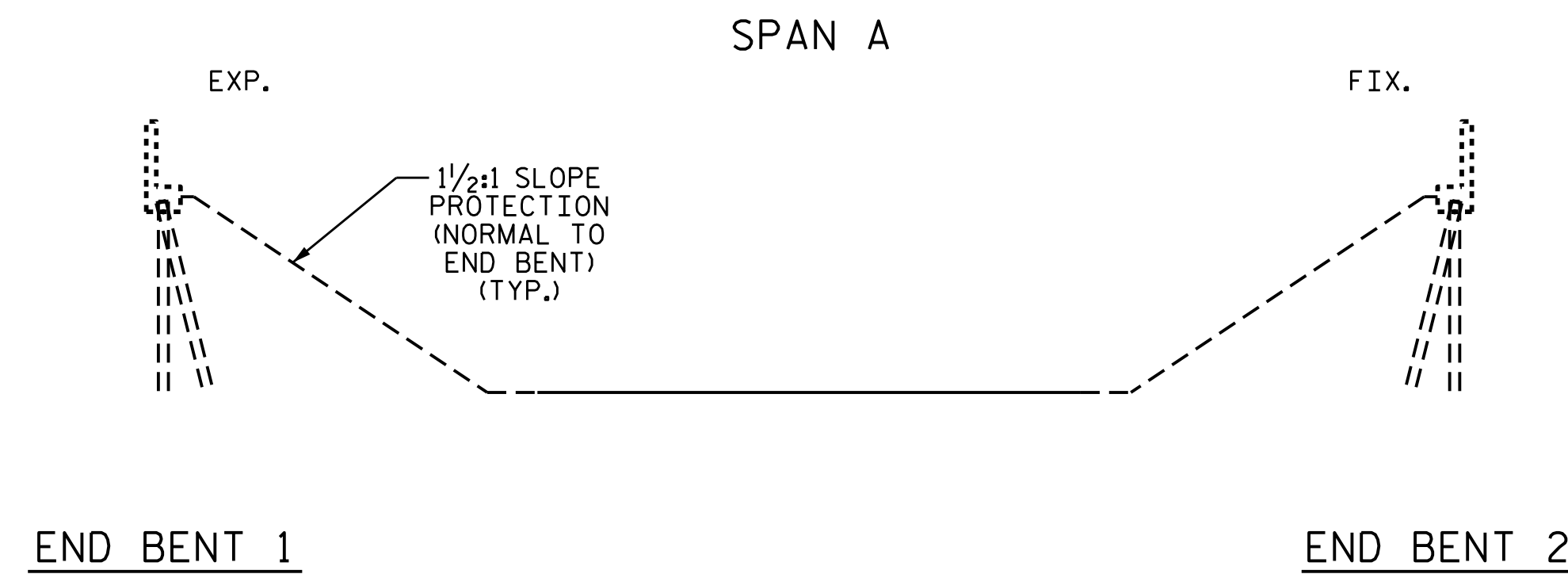
DRAWN BY : K.W. ALFORD DATE : 7/18
CHECKED BY : M.K. BEARD DATE : 7/18

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

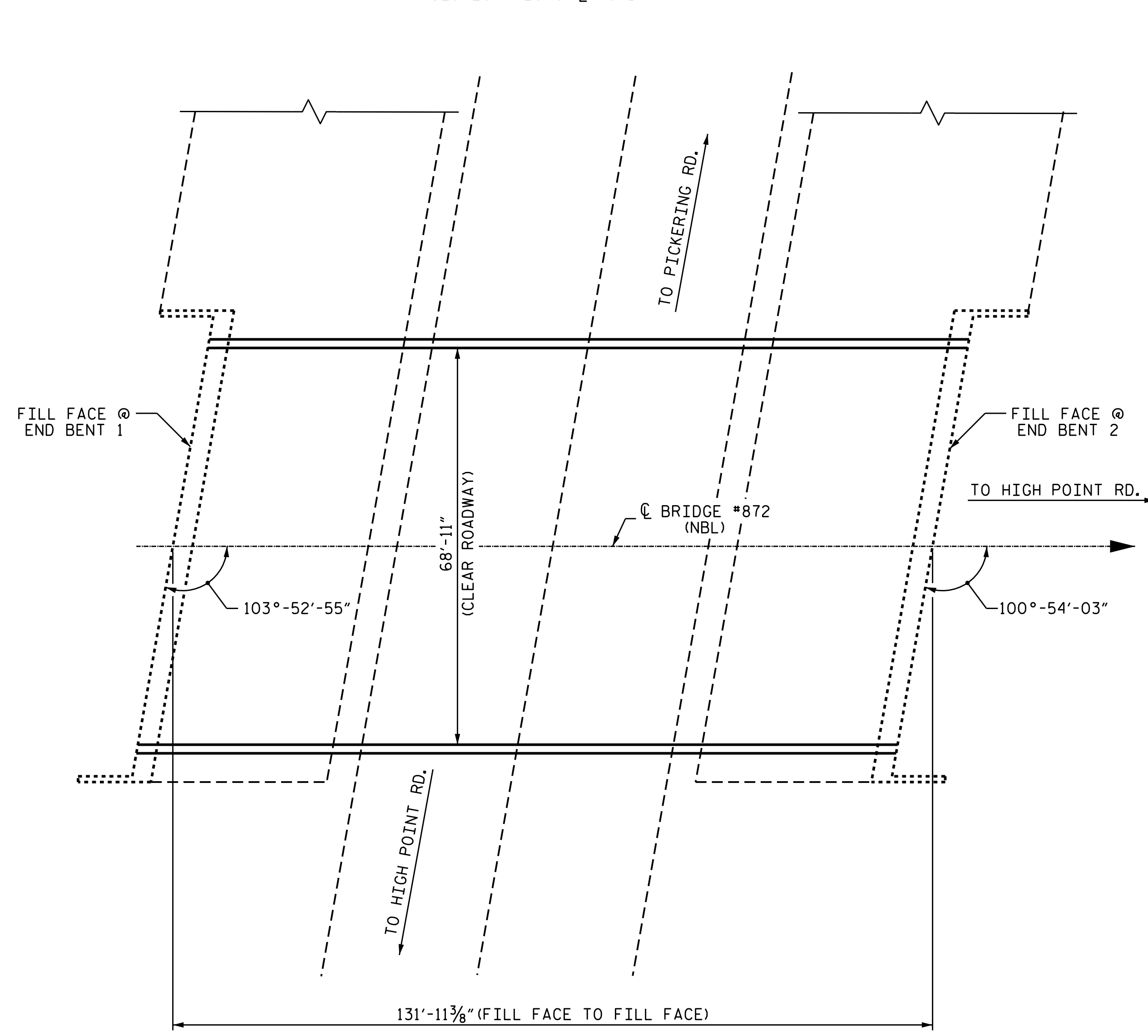
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S15-4	
1			3			TOTAL SHEETS	4
2			4				

SCOPE OF WORK

- DEMOLISH EXISTING BRIDGE DECK JOINTS
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW JOINT SEALS
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



ELEVATION
(SECTION ALONG \bar{C} ROADWAY)



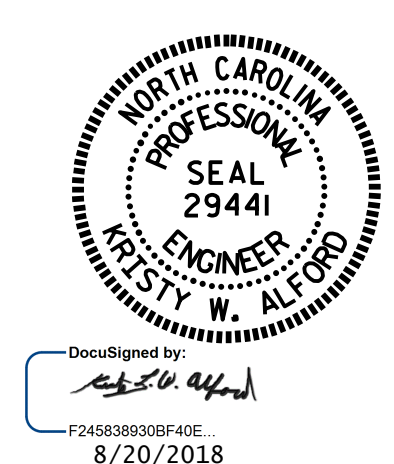
PLAN
(PILES NOT SHOWN FOR CLARITY)

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

Resident Engineer _____ Date _____

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 872

SHEET 1 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON I-73
 & US 421 NORTHBOUND
 OVER SR 4205
 (KINGS MILL RD.)

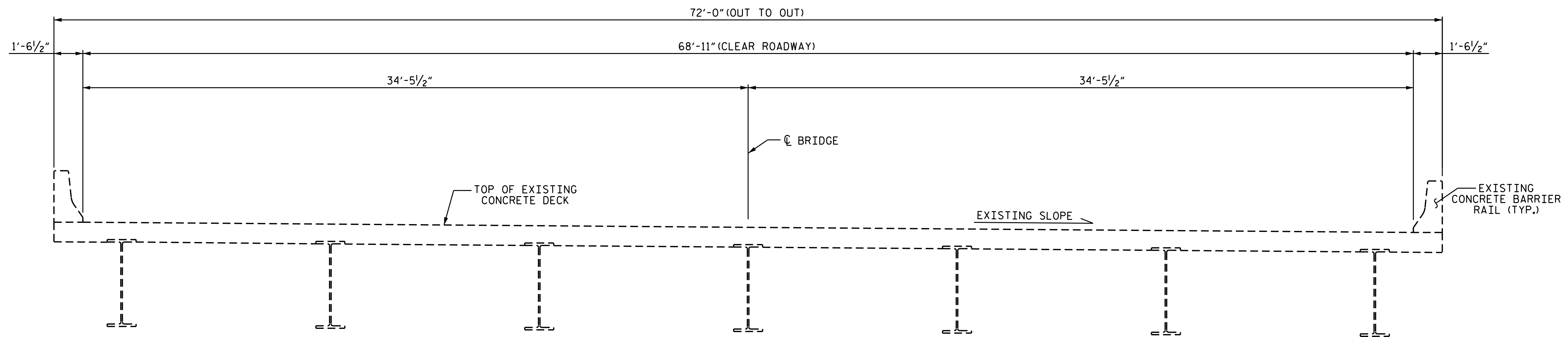
DRAWN BY : M.K. BEARD DATE : 3/16/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

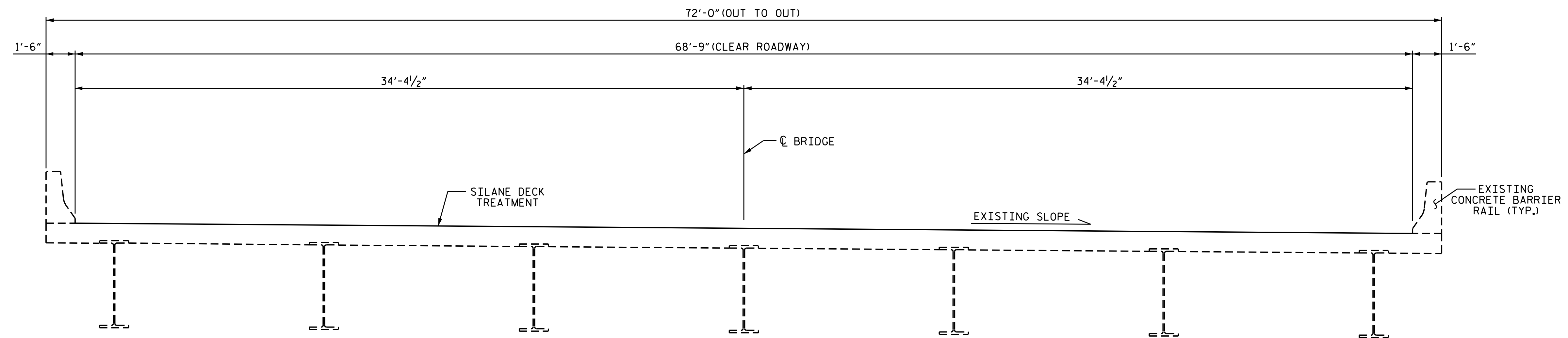
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S16-1
2			4			4

NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



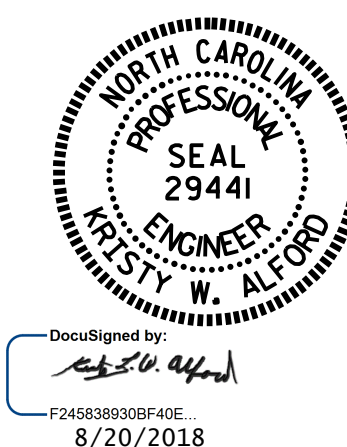
TYPICAL SECTION
(EXISTING)



TYPICAL SECTION
(PROPOSED)

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 872

SHEET 2 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
TYPICAL SECTIONS

DRAWN BY : M.K. BEARD DATE : 3/16/18
CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

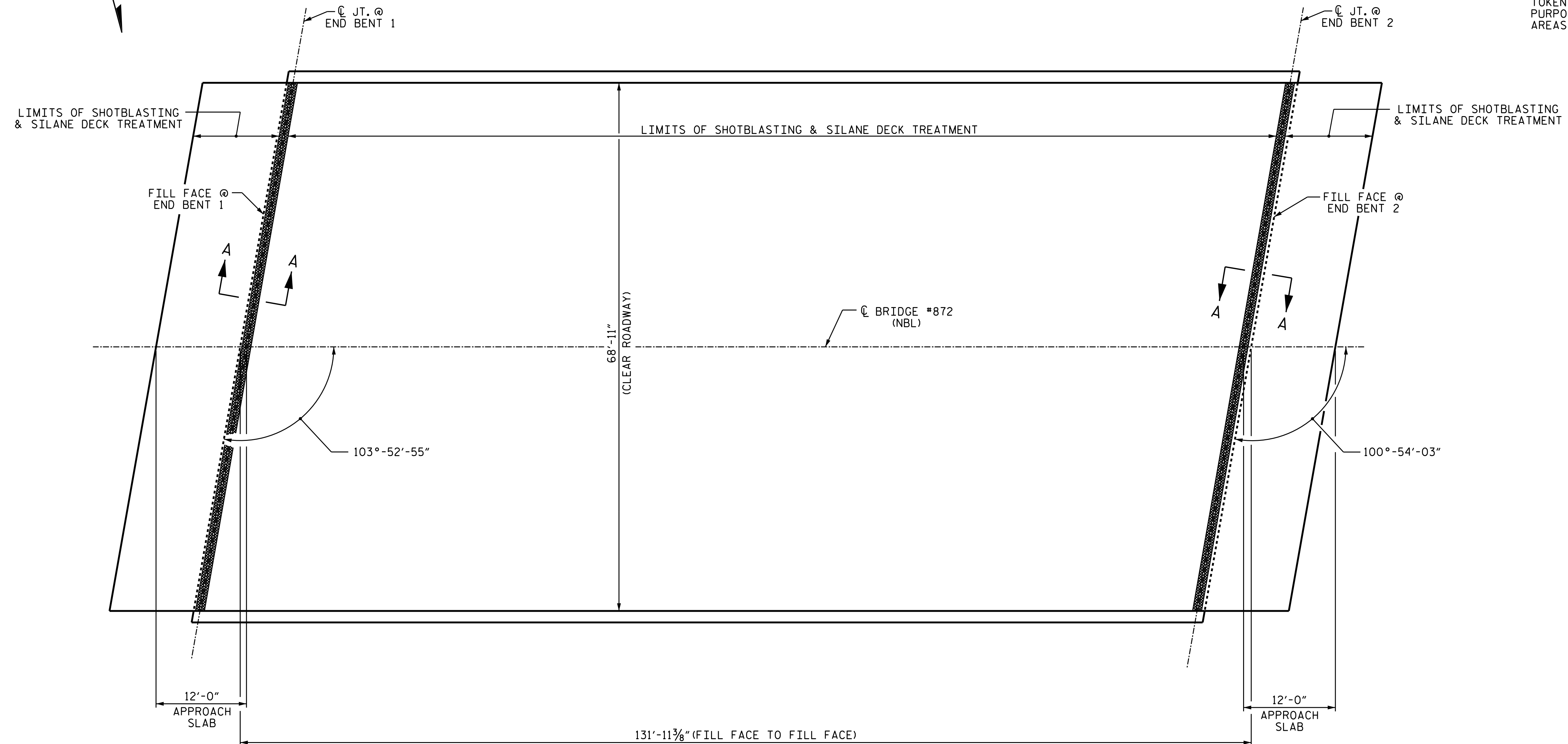
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S16-2
2			4			4

SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	129 SQ.FT.	
CONCRETE DECK REPAIR	* 10 CU.FT.	
SHOTBLASTING BRIDGE DECK	1,170 SQ.YDS.	
SILANE DECK TREATMENT	1,170 SQ.YDS.	

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.

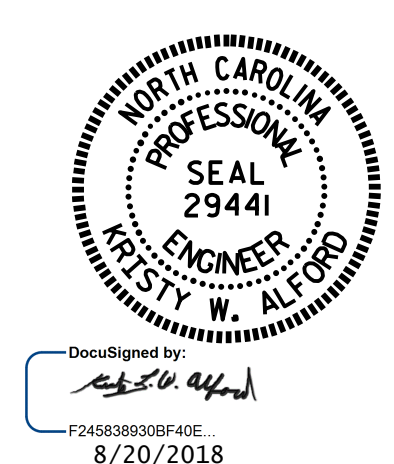


PLAN OF SPAN
(FOR SECTIONS A-A, SEE JOINT DETAILS SHEET)

- SILANE DECK TREATMENT
- BRIDGE JOINT DEMOLITION

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 872

SHEET 3 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE

SILANE DECK TREATMENT

DRAWN BY : M.K. BEARD DATE : 3/16/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

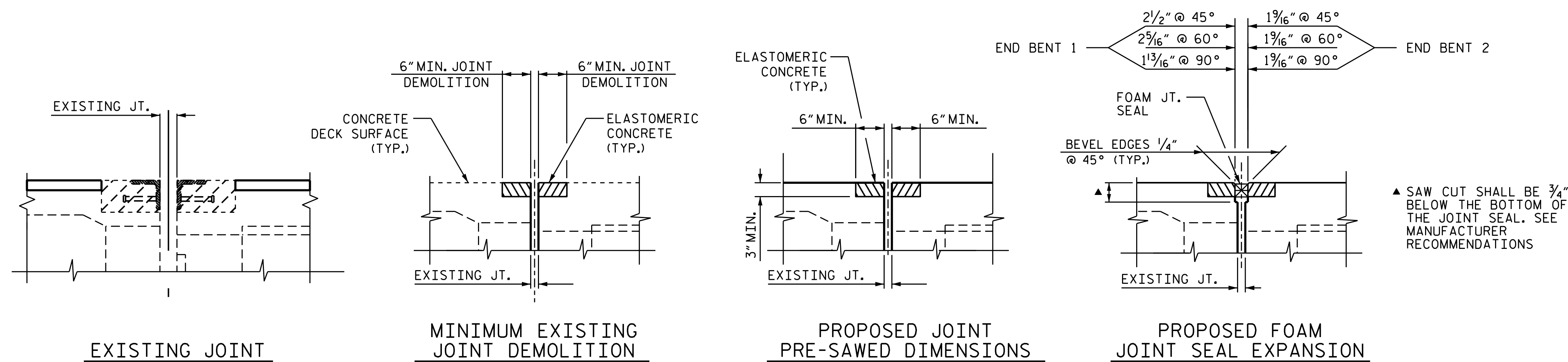
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S16-3
2			4			4

NOTES:

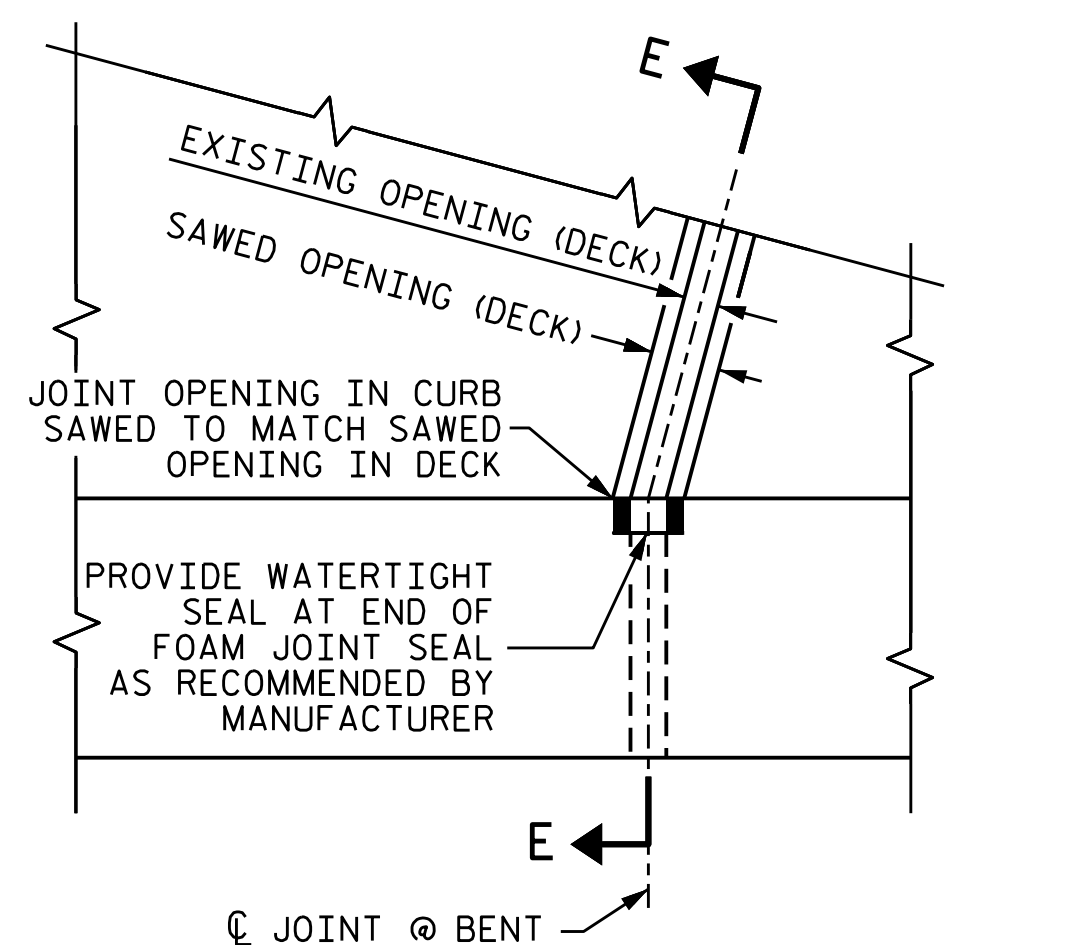
EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

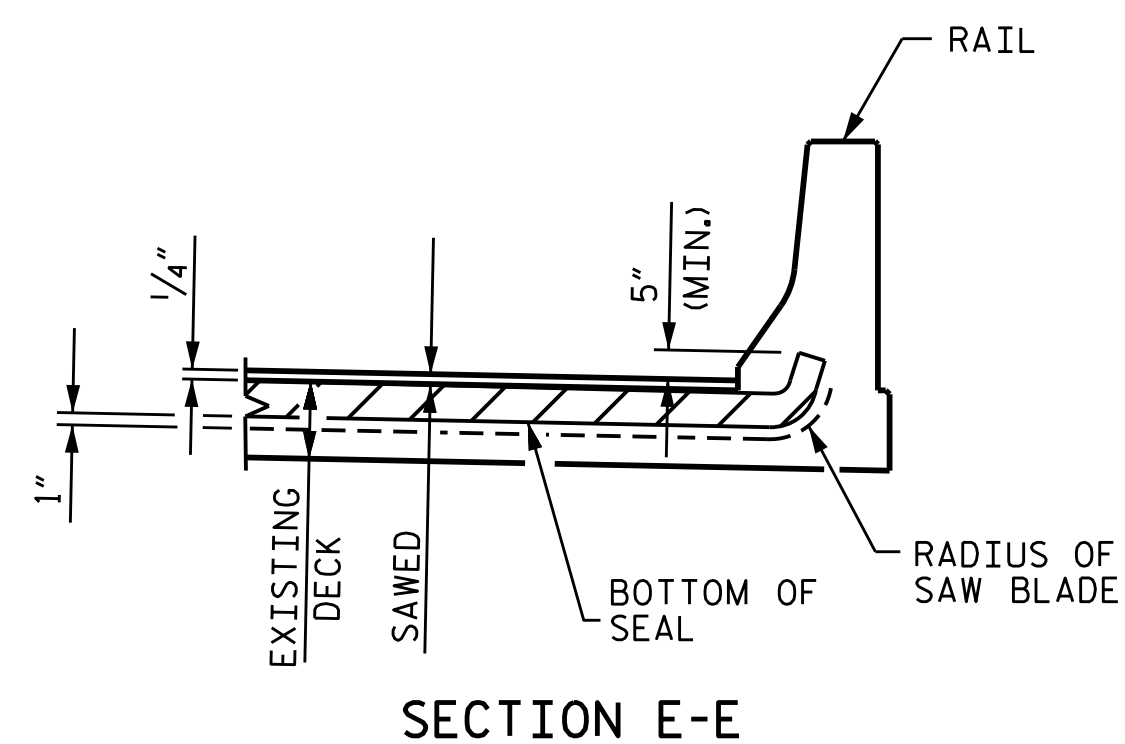
THE WIDTH OF THE UNCOMPRESSED SEAL MATERIAL SHALL BE 3/2" AT END BENT 1 AND 2" AT END BENT 2.



JOINT INSTALLATION SEQUENCE AT END BENT 1 AND END BENT 2
SECTION A-A



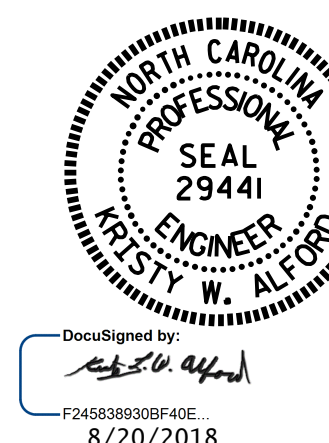
ELASTOMERIC CONCRETE	
END BENT 1	16.0 CU. FT.
END BENT 2	16.0 CU. FT.



SECTION E-E

PROJECT NO. I-5852A
GUILFORD COUNTY
BRIDGE NO. 872

SHEET 4 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUPERSTRUCTURE
JOINT DETAILS**

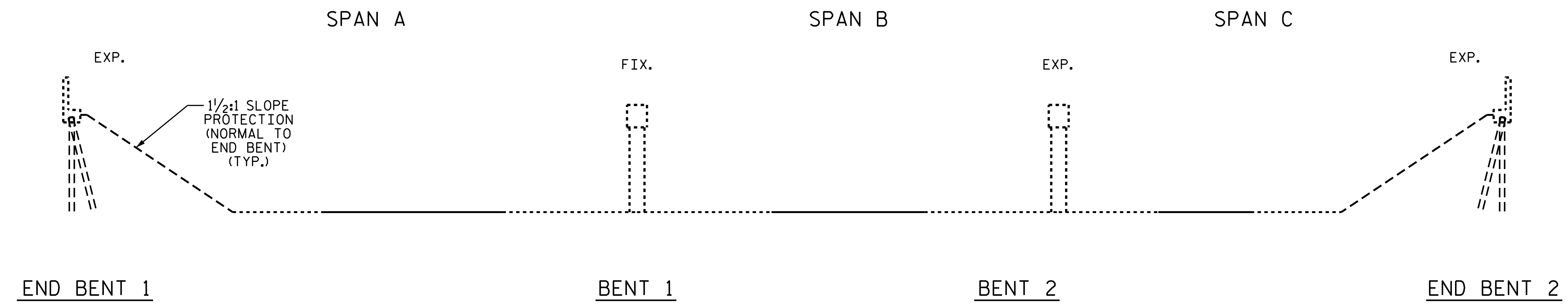
DRAWN BY : K.W. ALFORD DATE : 7/18
CHECKED BY : M.K. BEARD DATE : 7/18

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S16-4	
1			3			TOTAL SHEETS	4
2			4				

SCOPE OF WORK

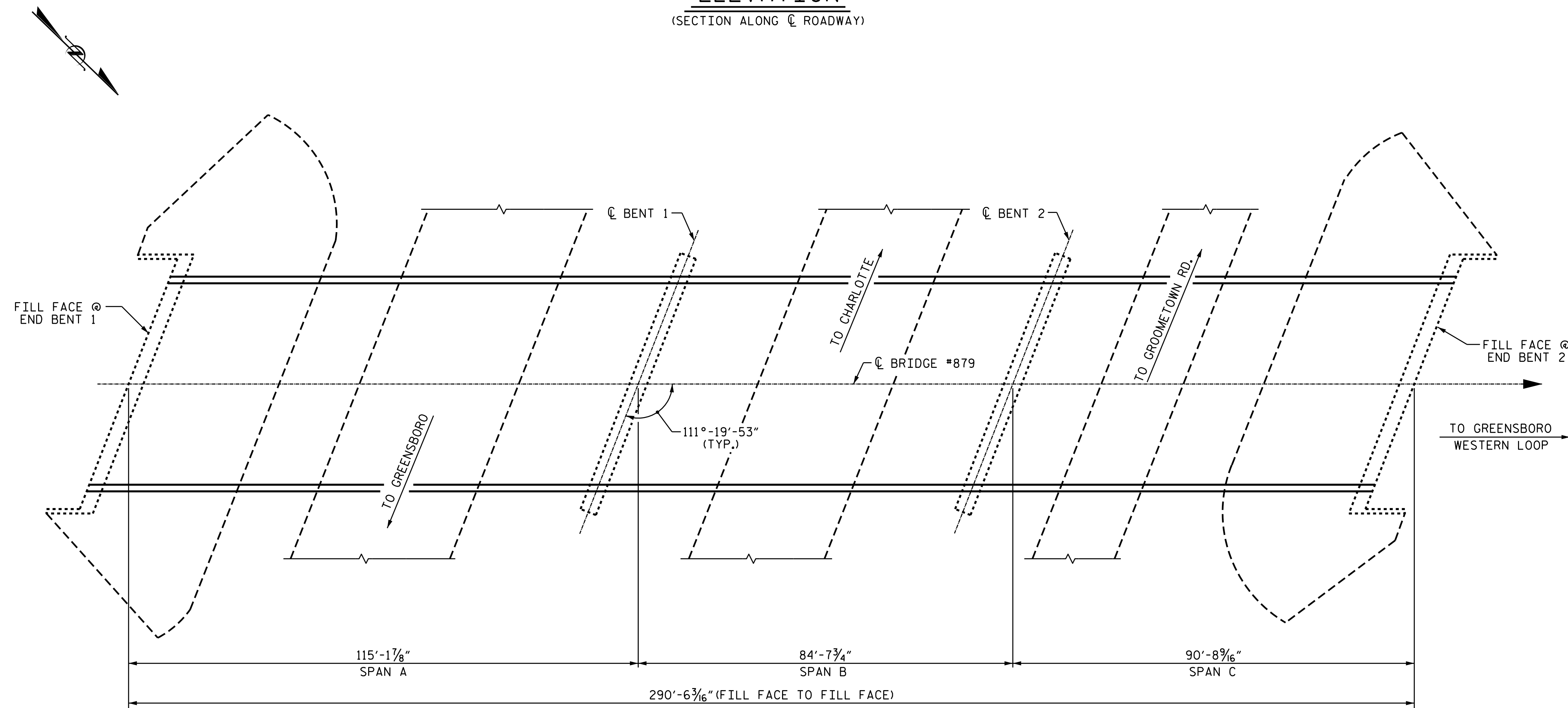
- DEMOLISH EXISTING BRIDGE DECK JOINTS
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW JOINT SEALS
- SHOTBLAST EXISTING CONCRETE DECK
- APPLY SILANE DECK TREATMENT



ELEVATION
(SECTION ALONG CL ROADWAY)

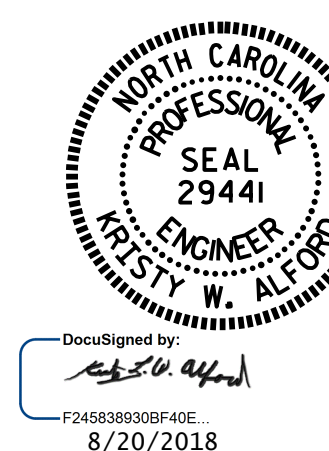
I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

Resident Engineer _____ Date _____



PLAN
(COLUMNS & FOOTINGS NOT SHOWN FOR CLARITY)

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 879
 SHEET 1 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE ON I-85 RAMP
 OVER I-85 BUSINESS

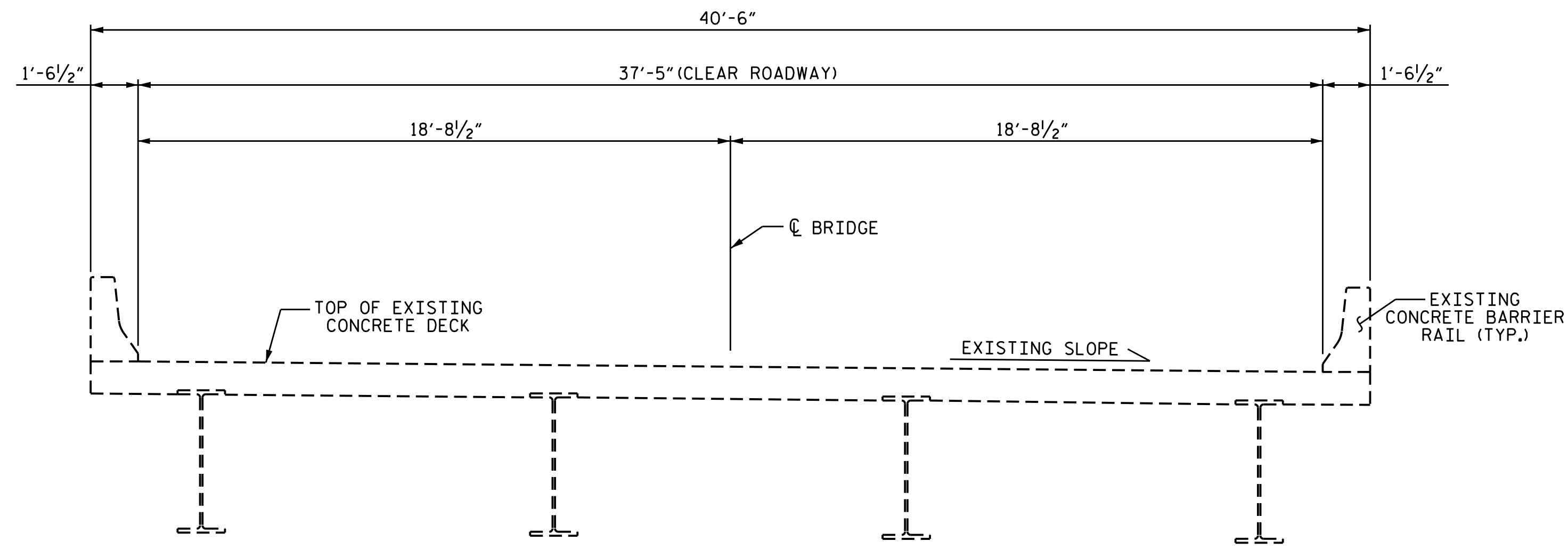
DRAWN BY : M.K. BEARD DATE : 3/15/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

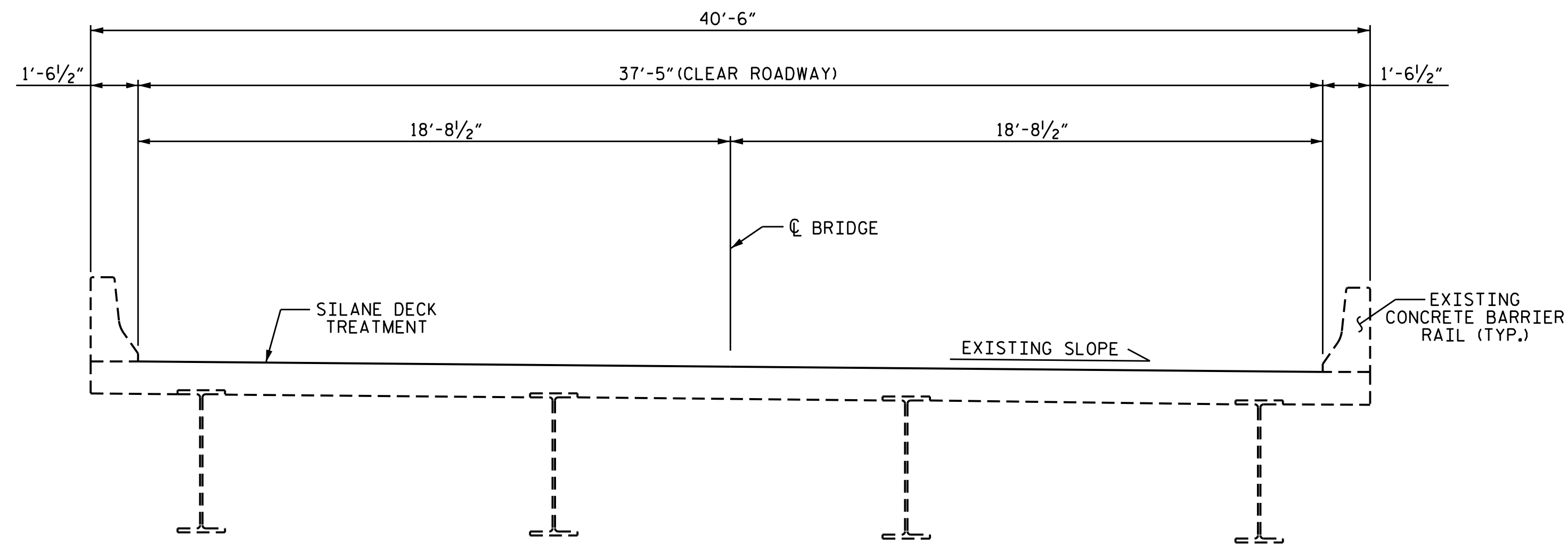
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S17-1
1			3			TOTAL SHEETS
2			4			4

NOTES

SEE WORK ZONE TRAFFIC CONTROL PROJECT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCE AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



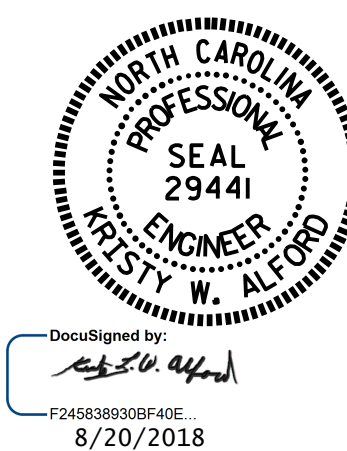
TYPICAL SECTION
(EXISTING)



TYPICAL SECTION
(PROPOSED)

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 879

SHEET 2 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 TYPICAL SECTIONS

DRAWN BY : M.K. BEARD DATE : 3/15/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

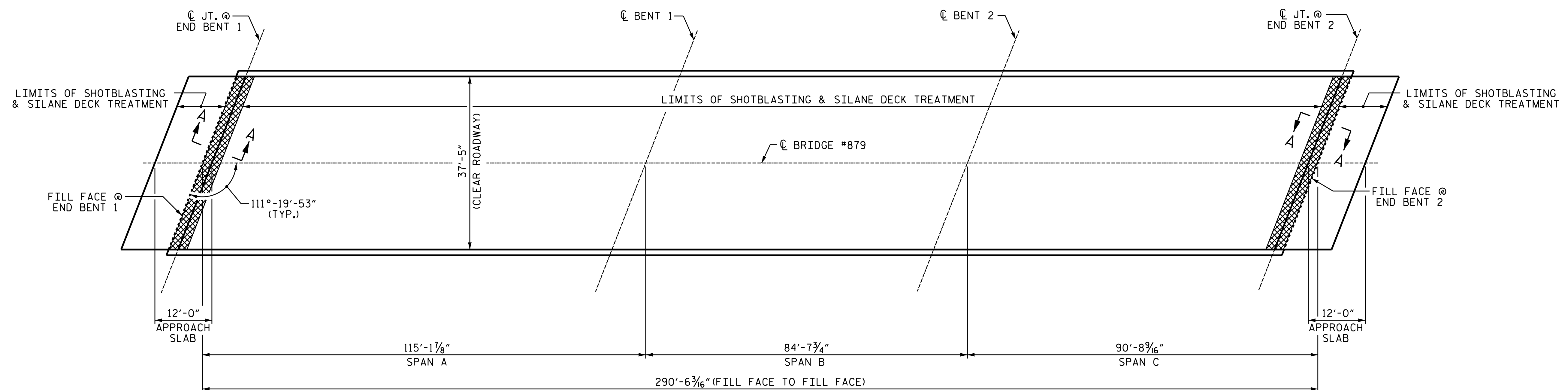
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S17-2
1			3			TOTAL SHEETS
2			4			4

SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	74 SQ.FT.	
CONCRETE DECK REPAIR	* 10 CU.FT.	
SHOTBLASTING BRIDGE DECK	1,290 SQ.YDS.	
SILANE DECK TREATMENT	1,290 SQ.YDS.	

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE FOR POTENTIAL CLASS II REPAIRS.

* CONCRETE DECK REPAIR IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.



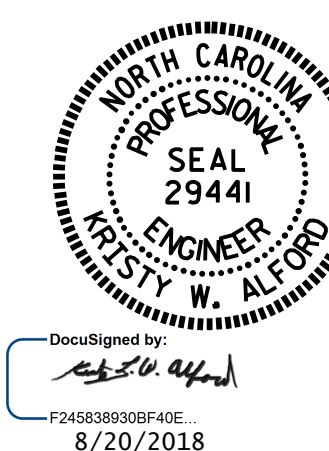
PLAN OF SPANS
(FOR SECTIONS A-A, SEE JOINT DETAILS SHEET)

□ SILANE DECK TREATMENT

▨ BRIDGE JOINT DEMOLITION

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 879

SHEET 3 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 SILANE DECK TREATMENT

DRAWN BY : M.K. BEARD DATE : 3/15/18
 CHECKED BY : W.C. SMITH DATE : 6/11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

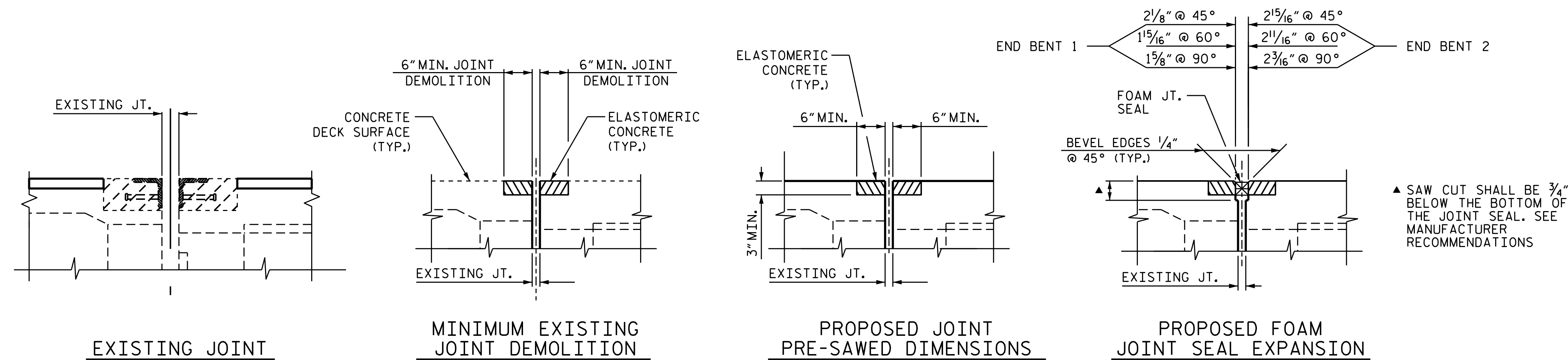
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S17-3
1			3			TOTAL SHEETS
2			4			4

NOTES:

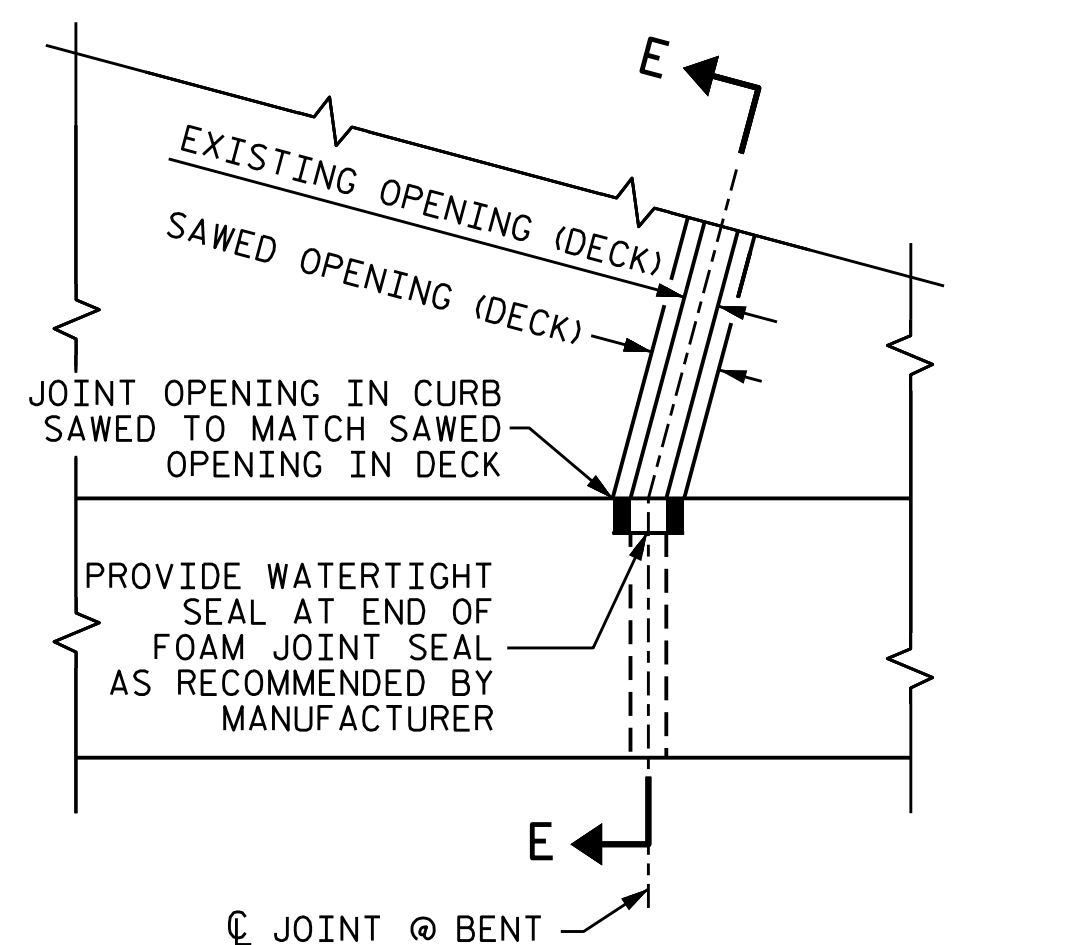
EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

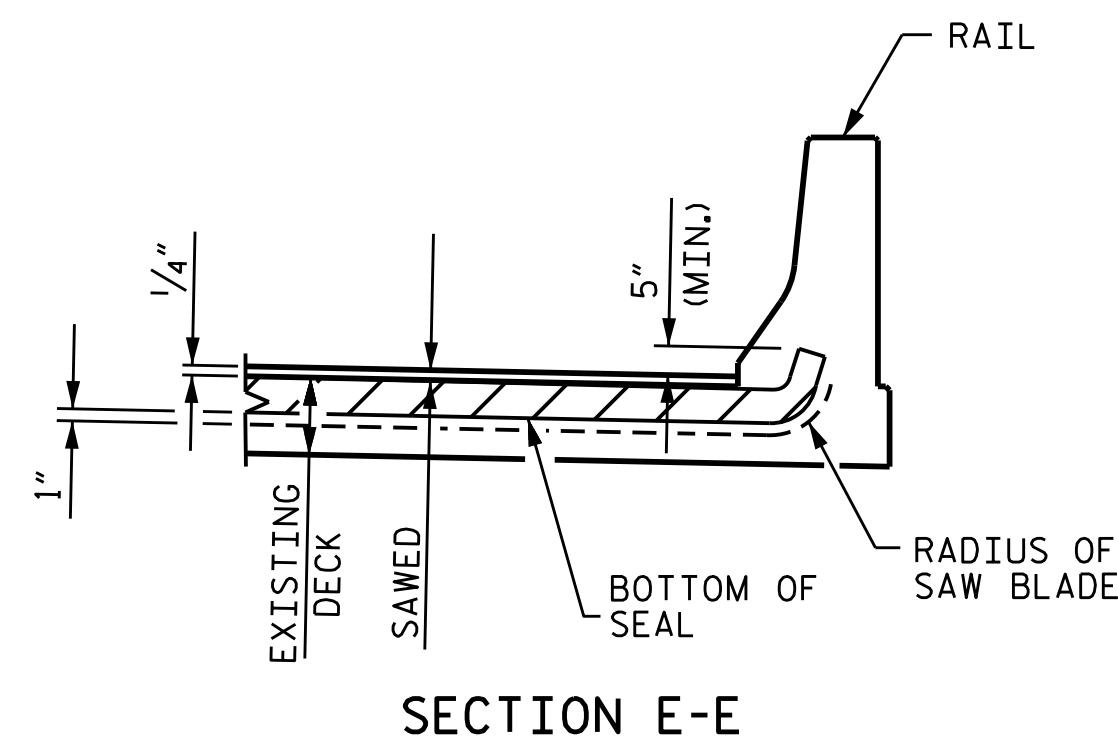
THE WIDTH OF THE UNCOMPRESSED SEAL MATERIAL SHALL BE 2 1/2" AT END BENT 1 AND 3 1/2" AT END BENT 2.



JOINT INSTALLATION SEQUENCE AT END BENT 1 AND END BENT 2
SECTION A-A

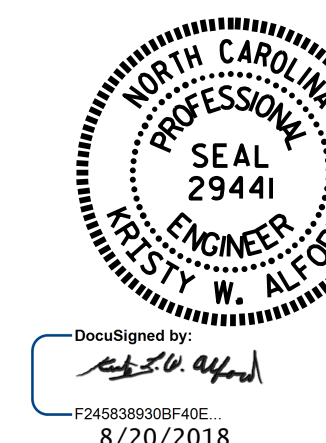


ELASTOMERIC CONCRETE	
END BENT 1	9.2 CU. FT.
END BENT 2	9.2 CU. FT.



SECTION E-E

PROJECT NO. I-5852A
GUILFORD COUNTY
 BRIDGE NO. 879
 SHEET 4 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUPERSTRUCTURE
 JOINT DETAILS**

DRAWN BY : K.W. ALFORD DATE : 7/18
 CHECKED BY : M.K. BEARD DATE : 7/18

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S17-4	
1			3			TOTAL SHEETS	4
2			4				

STANDARD NOTES

DESIGN DATA:

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

MATERIAL AND WORKMANSHIP:

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

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

CONCRETE:

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

CONCRETE CHAMFERS:

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

DOWELS:

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

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

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

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

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

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

REINFORCING STEEL:

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

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

STRUCTURAL STEEL:

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

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

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

HANDRAILS AND POSTS:

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

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

SPECIAL NOTES:

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

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