

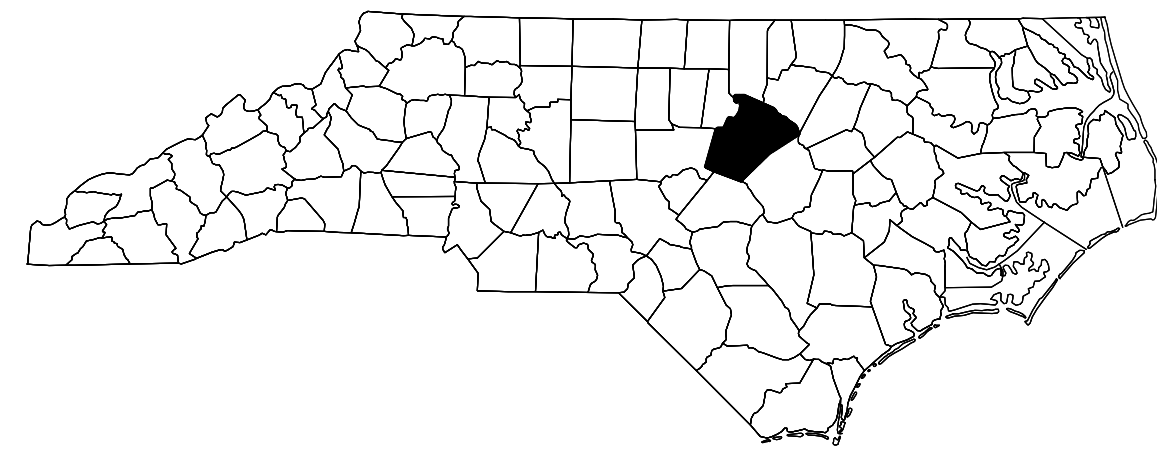
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PROJECT: I-5943

CONTRACT NO: C204694



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

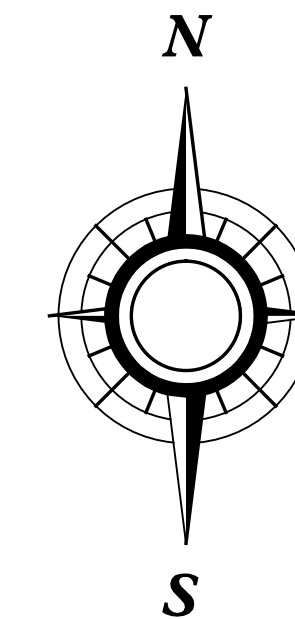
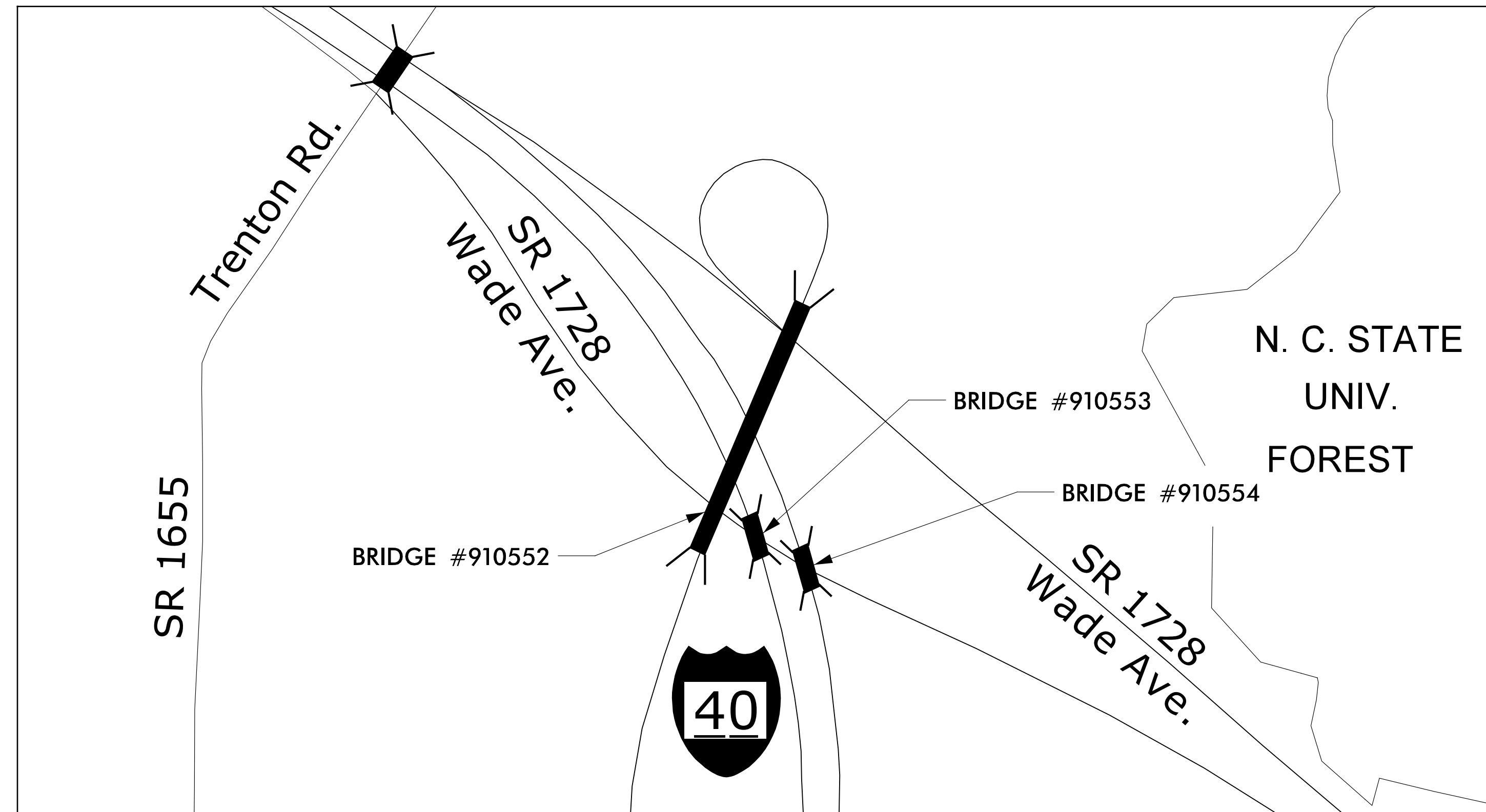
WAKE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5943	1	43
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45886.1.1	-	PE	
45886.3.1	NHPP-0040(107)	CONST	

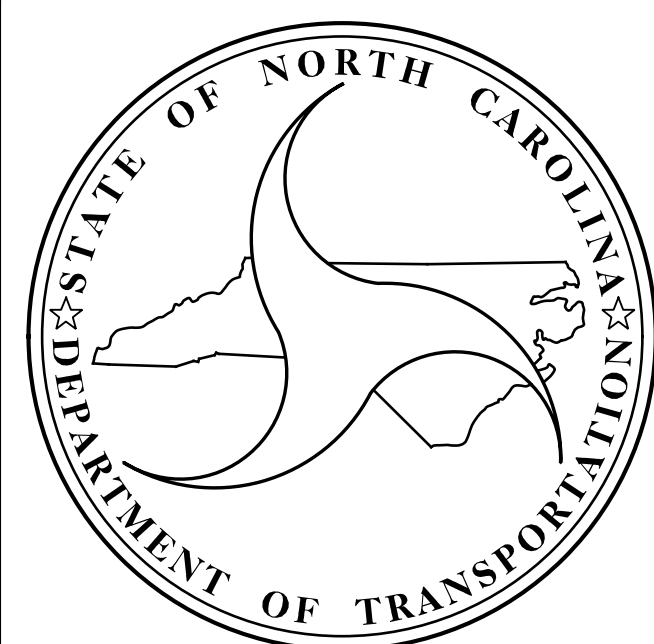
LOCATION: WAKE COUNTY:

BRIDGE #910552 ON I-40E RAMP OVER I-40 EBL & WBL, SR 1728 (WADE AVENUE) EBL & WBL
BRIDGE #910553 ON I-40EBL OVER SR 1728 (WADE AVENUE) EBL
BRIDGE #910554 ON I-40WBL OVER SR 1728 (WADE AVENUE) EBL

TYPE OF WORK: BRIDGE PRESERVATION: DECK SURFACE PREPARATION AND POLYMER CONCRETE OVERLAY, SILANE DECK TREATMENT, REPLACEMENT OF DECK EXPANSION JOINTS WITH FOAM SEALS AND SILICONE RUBBER EXPANSION JOINTS, PAINTING EXISTING WEATHERING STEEL AND ZONE PAINTING, REPLACEMENT OF EXPANSION BEARINGS, EPOXY COATING BENT CAPS, AND SHOTCRETE REPAIRS TO SUBSTRUCTURE.



VICINITY MAP - WAKE COUNTY



DESIGN DATA

WAKE COUNTY

#910552 ADT 2019 = 27,750
#910553 ADT 2015 = 56,000
#910554 ADT 2017 = 53,500

PROJECT LENGTH

WAKE COUNTY

#910552 = 0.162 MILES
#910553 = 0.051 MILES
#910554 = 0.050 MILES

PLANS PREPARED BY:



Gannett Fleming

Excellence Delivered **As Promised**

One Glenwood Avenue
Suite 900
Raleigh, NC 27603
(919) 420-7660
NC Lic. No. F-0270

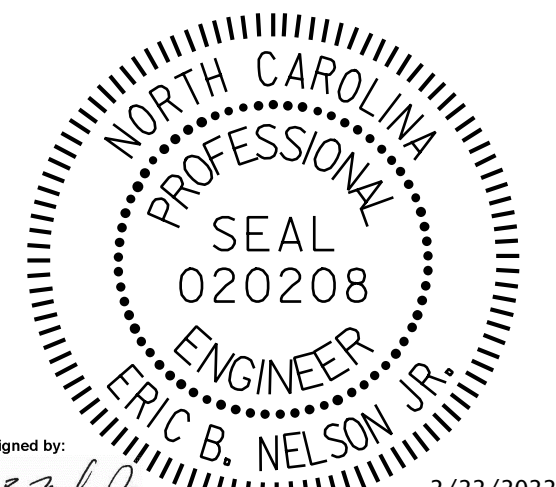
TIM SHERRILL, P.E.

PROJECT ENGINEER

2018 STANDARD SPECIFICATIONS

LETTING DATE:

APRIL 19, 2022



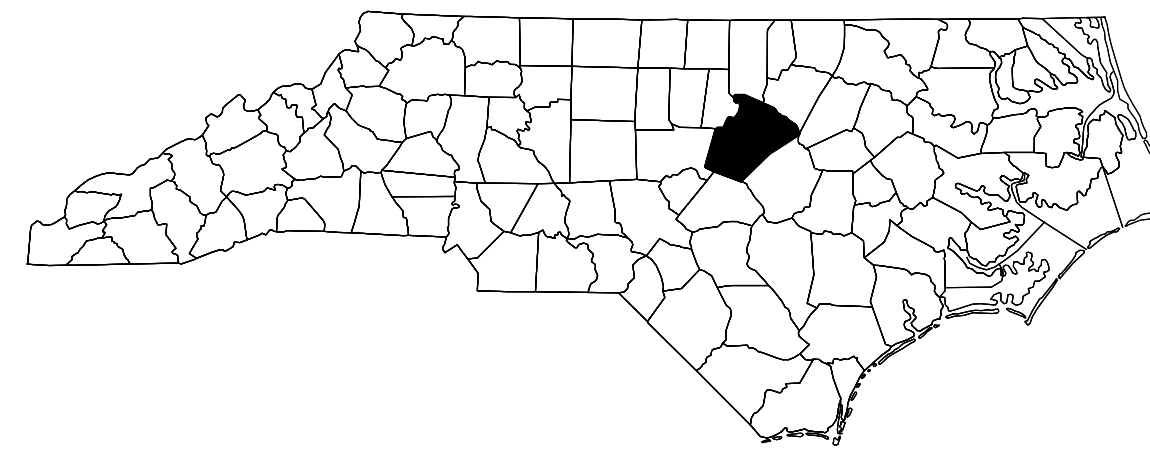
DocuSigned by:
Eric B. Nelson, Jr.
AC68082115074CD

2/22/2022

RICK NELSON, P.E.
PROJECT DESIGN ENGINEER

PROJECT: I-5943

CONTRACT NO: C204694



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5943	1A	43
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45886.1.1	-	PE	
45886.3.1	NHPP-0040(107)	CONST	

LOCATION: WAKE COUNTY:

BRIDGE #910552 ON I-40E RAMP OVER I-40 EBL & WBL, SR 1728 (WADE AVENUE) EBL & WBL
BRIDGE #910553 ON I-40EBL OVER SR 1728 (WADE AVENUE) EBL
BRIDGE #910554 ON I-40WBL OVER SR 1728 (WADE AVENUE) EBL

TYPE OF WORK: BRIDGE PRESERVATION: DECK SURFACE PREPARATION AND POLYMER CONCRETE OVERLAY, SILANE DECK TREATMENT, REPLACEMENT OF DECK EXPANSION JOINTS WITH FOAM SEALS AND SILICONE RUBBER EXPANSION JOINTS, PAINTING EXISTING WEATHERING STEEL AND ZONE PAINTING, REPLACEMENT OF EXPANSION BEARINGS, EPOXY COATING BENT CAPS, AND SHOTCRETE REPAIRS TO SUBSTRUCTURE.

INDEX OF STRUCTURES SHEETS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>	<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	TITLE SHEET		
1A	INDEX OF SHEETS		
S-1	TOTAL BILL OF MATERIALS		
<u>STRUCTURE No. 910552</u>			
SI-2 TO SI-4	GENERAL DRAWINGS		
SI-5	TYPICAL SECTION		
SI-6 TO SI-12	PLAN OF SPANS		
SI-13	FOAM JOINT DETAILS		
SI-14	PREFORMED SILICONE EXPANSION JOINT DETAILS		
SI-15	FRAMING PLAN		
SI-16 TO SI-18	BEARING REPLACEMENT DETAILS		
SI-19	JACKING DETAILS		
SI-20	END BENTS		
SI-21	BENT 1		
SI-22	BENT 2		
SI-23	BENT 3		
SI-24	BENT 4		
SI-25	BENT 5		
SI-26	BENT 6		
SI-27	BARRIER RAIL REPAIR DETAILS		
SI-28	APPROACH MILLING AND DETAILS		
		<u>STRUCTURE No. 910553</u>	
		S2-1 TO S2-2	GENERAL DRAWINGS
		S2-3	TYPICAL SECTION
		S2-4	PLAN OF SPANS
		S2-5	JOINT DETAILS
		S2-6	FRAMING PLAN
		S2-7	END BENTS
		<u>STRUCTURE No. 910554</u>	
		S3-1 TO S3-2	GENERAL DRAWINGS
		S3-3	TYPICAL SECTION
		S3-4	PLAN OF SPANS
		S3-5	JOINT DETAILS
		S3-6	FRAMING PLAN
		S3-7	END BENTS
		<u>STANDARD SHEETS</u>	
		SD-1	TYPICAL CAP AND COLUMN REPAIR
		SN	STANDARD NOTES

TOTAL BILL OF MATERIAL																			
BRIDGE NO.	INCIDENTAL MILLING	ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C	ASPHALT BINDER FOR PLANT MIX	8" X 12" CONCRETE CURB	STEEL BEAM GUARDRAIL	REMOVE EXISTING GUARDRAIL	GUARDRAIL END UNITS, TYPE TL-III	GUARDRAIL ANCHOR UNIT TYPE B-83	GROOVING BRIDGE FLOORS	CLASS II SURFACE PREPARATION	CONCRETE REPAIRS	SHOTCRETE REPAIRS	EPOXY RESIN INJECTION	FIELD MEASURING	CLEANING AND PAINTING EXISTING WEATHERING STEEL FOR BRIDGE #--	PAINTING CONTAINMENT FOR BRIDGE #--	POLLUTION CONTROL	REPAIR OF EXISTING DECK DRAINS	UNDERSTRUCTURE WORK PLATFORM
	SQ. YDS.	TONS	TONS	LIN. FT.	LIN. FT.	LIN. FT.	EA.	EA.	SQ. FT.	SQ. YDS.	CU. FT.	CU. FT.	LIN. FT.	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM
910552	309	35	2.8	5	300	400	2	2	23,577	29.2	3.5	15.0	5.8	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM		LUMP SUM
910553												36.3	68.2		LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	
910554												3.6	46.1		LUMP SUM	LUMP SUM	LUMP SUM		
TOTAL	309	35	2.8	5	300	400	2	2	23,577	29.2	3.5	54.9	120.1	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM

TOTAL BILL OF MATERIAL																		
BRIDGE NO.	FOAM JOINT SEALS FOR PRESERVATION	PREFORMED SILICONE EXPANSION JOINT SEALS	POLYESTER POLYMER CONCRETE MATERIALS	EPOXY POLYMER CONCRETE MATERIALS (ALTERNATE)	ELASTOMERIC CONCRETE FOR PRESERVATION	BRIDGE JOINT DEMOLITION	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	EPOXY COATING	SILANE BARRIER RAIL TREATMENT	SURFACE PREPARATION FOR CONCRETE BARRIER	CONCRETE DECK REPAIR FOR PC OVERLAY	SHOTBLASTING BRIDGE DECK	SILANE DECK TREATMENT	SCARIFYING BRIDGE DECK	PLACING AND FINISHING PC OVERLAY	ELASTOMERIC BEARING, MODIFIED TYPE V	TYPE I BRIDGE JACKING BRIDGE #--	
	LIN. FT.	LIN. FT.	CU. YDS.	CU. YDS.	CU. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. YDS.	SQ. YDS.	SQ. YDS.	SQ. YDS.	SQ. YDS.	EA.	EA.	
910552	227	66	105.6	105.6				785.1	6,286	6,286	29.2	2,942		2,942	2,942	28	28	
910553	484				60.4	240.5	25.5	982.7	2,044	2,044		2,507	2,507					
910554	429				57	227.1	6.3	876.9	1,985	1,985		2,451	2,451					
TOTAL	1,140	66	105.6	105.6	117.4	467.6	31.8	2,644.7	10,315	10,315	29.2	7,900	4,958	2,942	2,942	28	28	

NOTE:

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

UNANTICIPATED ITEMS:
 CLASS III SURFACE PREPARATION
 VOLUMETRIC MIXER
 CONCRETE FOR DECK REPAIR

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552, 910553 & 910554



DocuSigned by:
 Eric B. Nelson
 2/22/2022

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

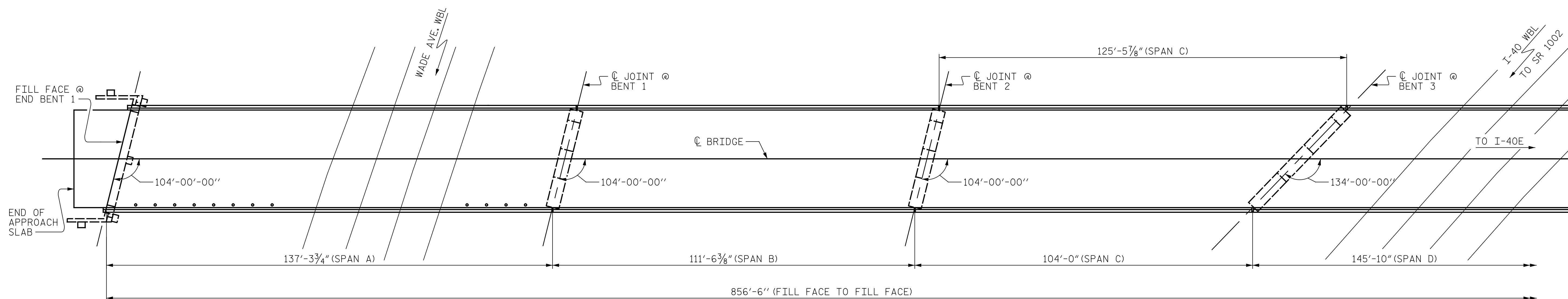
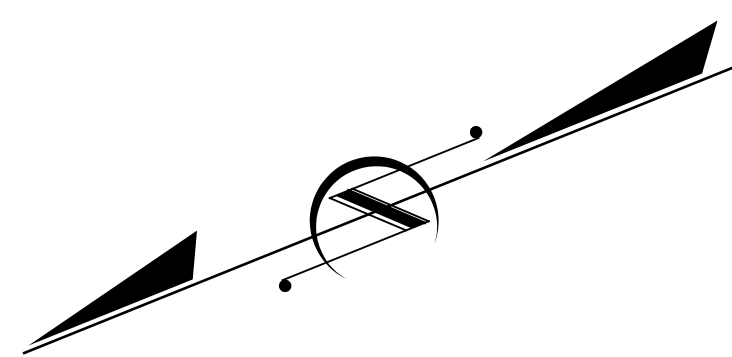
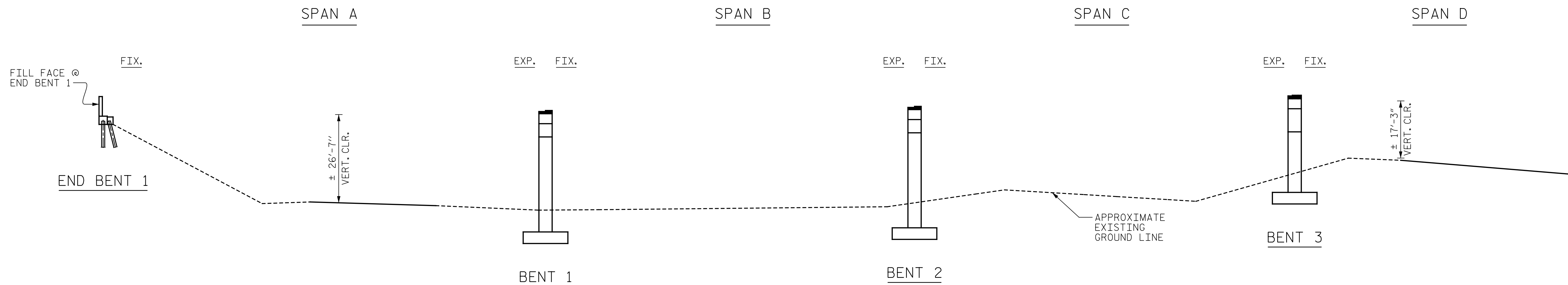
TOTAL BILL OF MATERIAL

DRAWN BY : J. MYA DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:
 Gannett Fleming
 Excellence Delivered As Promised
 One Glenwood Avenue
 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
 NC Lic. No. F-0270

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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



NOTES:

GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 06/08/2020.

BRIDGE ORIENTATION CONFORMS TO THE EXISTING BRIDGE PLANS.

SCOPE OF WORK

- BRIDGE JACKING
- REPLACEMENT OF EXPANSION BEARINGS
- POLYMER CONCRETE DECK OVERLAY
- JOINT REPLACEMENTS
- SUBSTRUCTURE CONCRETE REPAIRS
- CLEANING AND PAINTING OF WEATHERING STEEL STRUCTURE
- MILLING AND RESURFACING AT APPROACHES, GUARDRAIL REPLACEMENT
- INSTALL CONCRETE CURB

CONSTRUCTION SEQUENCE

- 1 REPLACEMENT OF EXPANSION BEARINGS SHALL BE PERFORMED PRIOR TO DECK OVERLAY AND JOINT REPLACEMENTS TO REDUCE DECK STRESSES FROM BRIDGE JACKING

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

RESIDENT ENGINEER _____ DATE _____

PROJECT NO. I-5943

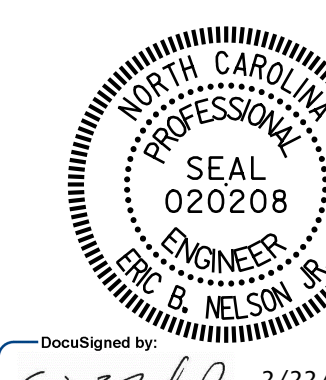
WAKE COUNTY

BRIDGE NO. 910552

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE ON I-40
EBL RAMP OVER WADE
AVENUE EBL AND WBL,
I-40 EBL AND WBL



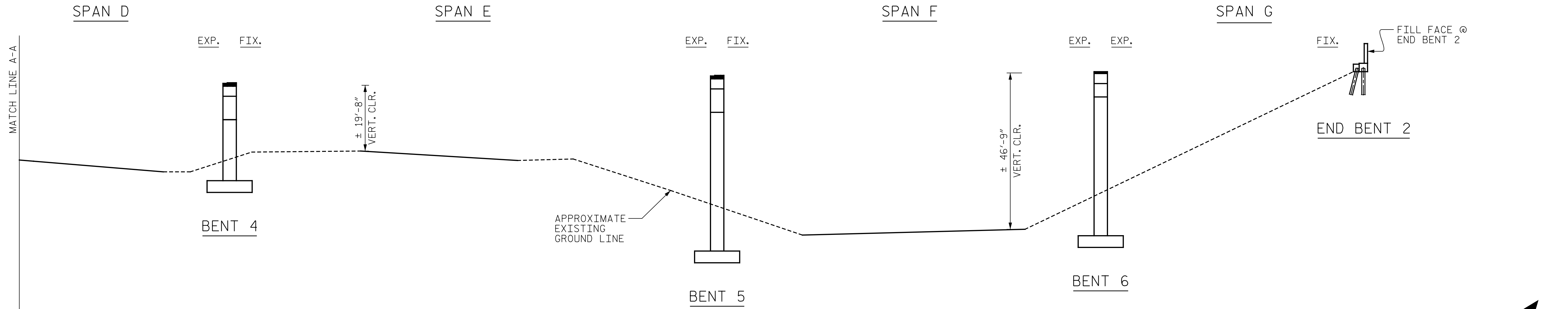
DocuSigned by:
Eric B. Nelson 2/22/2022
ACB8082118074C0D

DRAWN BY : T. HARTLEY DATE : 02/2022
CHECKED BY : R. FISHER DATE : 02/2022

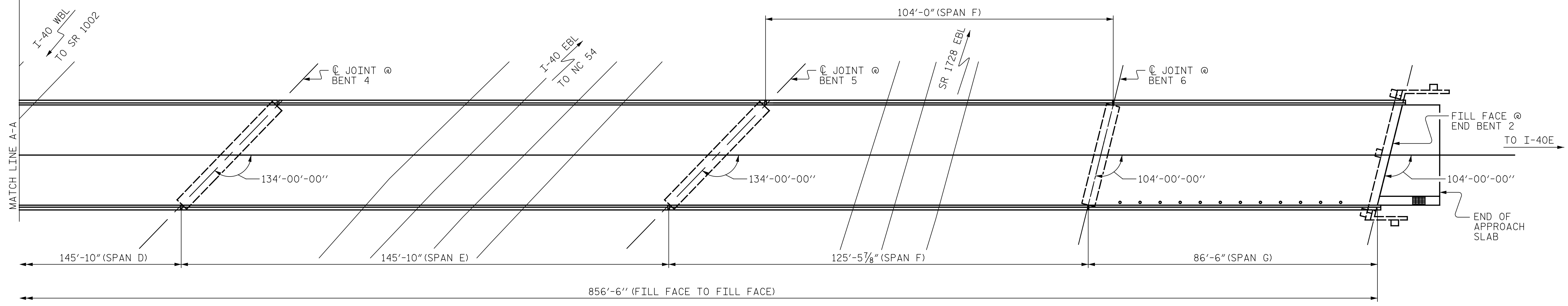
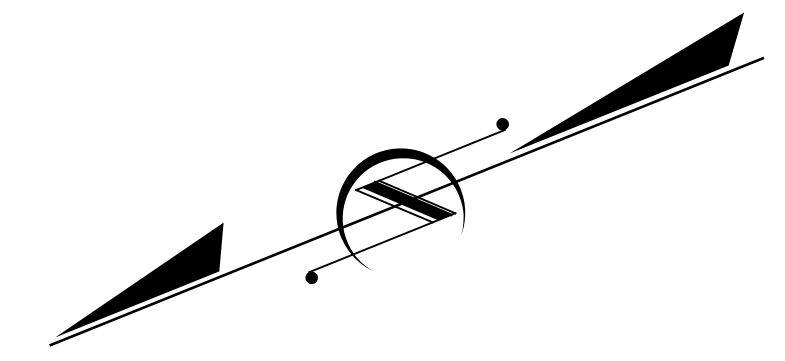
PLANS PREPARED BY:
Gannett Fleming
One Glenwood Avenue
Suite 900
Raleigh, NC 27603
(919) 420-7660
NC Lic. No. F-0270

DOCUMENT NOT CONSIDERED
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SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-2
1			3			TOTAL SHEETS
2			4			43



SECTION ALONG Q BRIDGE
 (SECTIONS AT BENTS AND END BENTS ARE TAKEN AT RIGHT ANGLES)



PLAN
 (FOOTINGS AND PILES NOT SHOWN FOR CLARITY)

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552

SHEET 2 OF 3



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE ON I-40
 EBL RAMP OVER WADE
 AVENUE EBL AND WBL,
 I-40 EBL AND WBL

DRAWN BY : T. HARTLEY DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised
 One Glenwood Avenue
 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-3
1			3			TOTAL SHEETS
2			4			43



LOCATION SKETCH

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

GENERAL NOTES

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

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT DUE TO THE NATURE OF PRESERVATION PROJECTS, THE EXTENT OF WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO COMMENCEMENT OF WORK. REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS.

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

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

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

WORK ON THE BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW, EXCEPT WHERE THE CONTRACTOR'S PLAN USES PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES TO CATCH THE MATERIAL. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS.

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

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

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

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THE ELEVATIONS AND CLEARANCES SHOWN ON THE PLANS AT THE POINTS OF MINIMUM VERTICAL CLEARANCE ARE FROM THE BEST INFORMATION AVAILABLE. PRIOR TO BEGINNING BRIDGE CONSTRUCTION, VERIFY THE ELEVATIONS ON THE EXISTING PAVEMENT AND CHECK THE CLEARANCE.

REPORT ANY VARIATIONS TO THE ENGINEER. ANY PLAN REVISIONS NECESSARY TO ACHIEVE THE REQUIRED MINIMUM VERTICAL CLEARANCE WILL BE PROVIDED BY THE DEPARTMENT.

FOR MAINTENANCE AND PROTECTION OF TRAFFIC BENEATH BRIDGES, SEE SPECIAL PROVISIONS.

ALL PAVEMENT MARKING WILL BE IN ACCORDANCE WITH THE TRANSPORTATION MANAGEMENT PLANS.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATIONS OF THE BRIDGE DECK. THE CONTRACTOR SHALL TAKE CARE THAT ANY CONSTRUCTION DEBRIS THAT COLLECTS IN THE DRAINS IS CONTAINED. DRAINS IN SHOULDERS OF ADJACENT TRAVEL LANES SHALL BE KEPT FREE AND CLEAR OF DEBRIS.

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

ALL STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED UP TO THE LIMITS SHOWN ON THE PLANS.

FOR PAINTING CONTAINMENT AND POLLUTION CONTROL, SEE PAINTING EXISTING WEATHERING STEEL STRUCTURE SPECIAL PROVISION.

FOR PAINTING EXISTING WEATHERING STEEL STRUCTURE, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

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

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR PREFORMED SILICONE EXPANSION JOINT SEAL, SEE SPECIAL PROVISIONS.

FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.

FOR MODIFIED ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

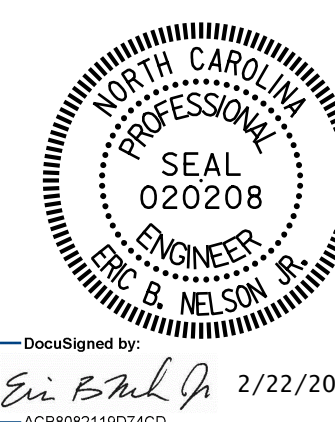
FOR SURFACE PREPARATION AND SILANE TREATMENT OF BARRIER RAILS, SEE SILANE BARRIER TREATMENT SPECIAL PROVISIONS.

BRIDGE COORDINATES

LATITUDE	LONGITUDE
35°-49'-00.57"	78°-44'-19.69"

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552

SHEET 3 OF 3



DocuSigned by:
Eric B. Nelson 2/22/2022
 AC2802116074CD...

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON I-40
 EBL RAMP OVER WADE
 AVENUE EBL AND WBL,
 I-40 EBL AND WBL

REVISIONS

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

SHEET NO.

S1-4
TOTAL SHEETS
43

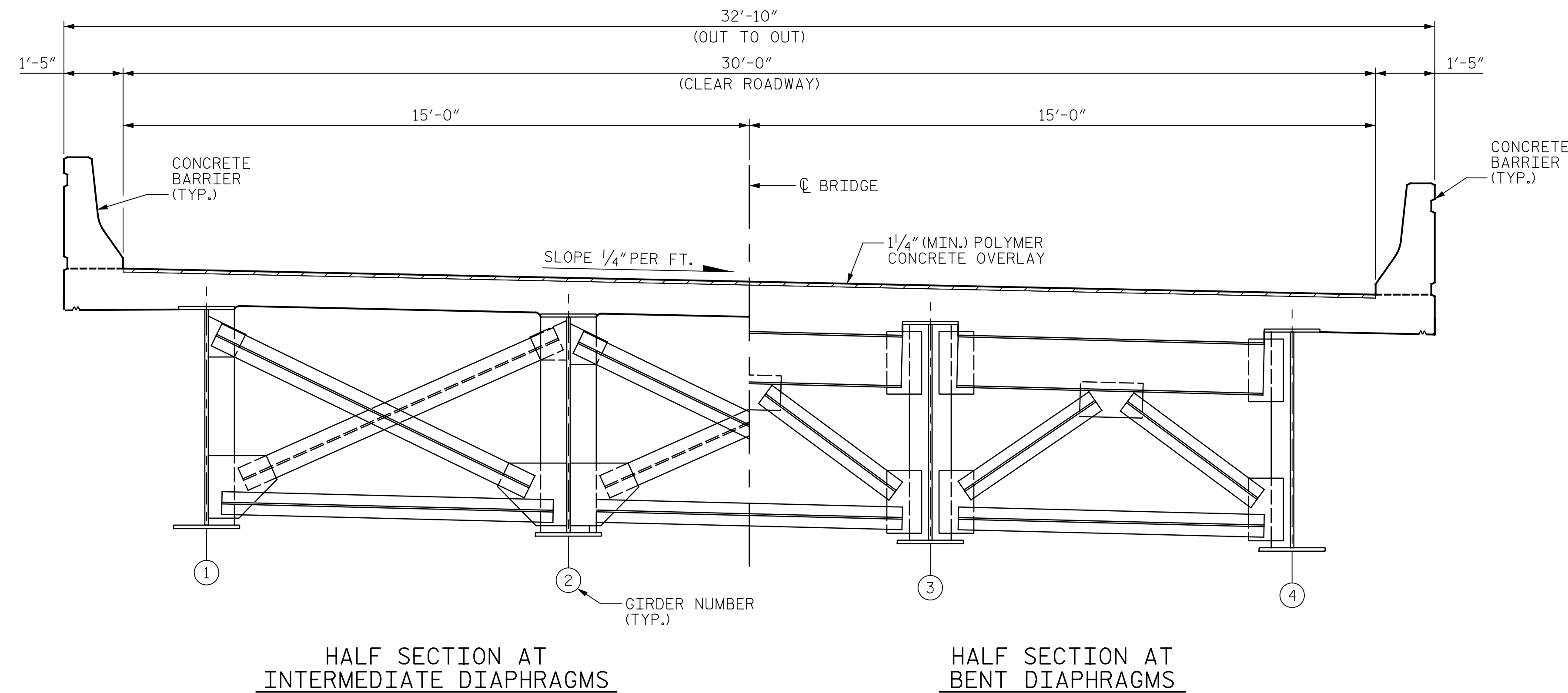
PLANS PREPARED BY:
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 One Glenwood Avenue
 Suite 900
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DRAWN BY : T. HARTLEY DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

NOTES

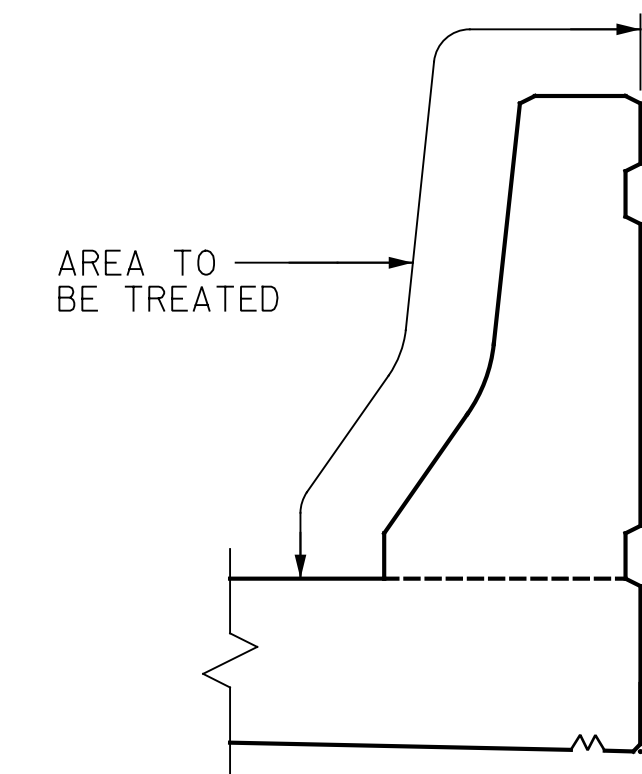
SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND PC PLACEMENT.



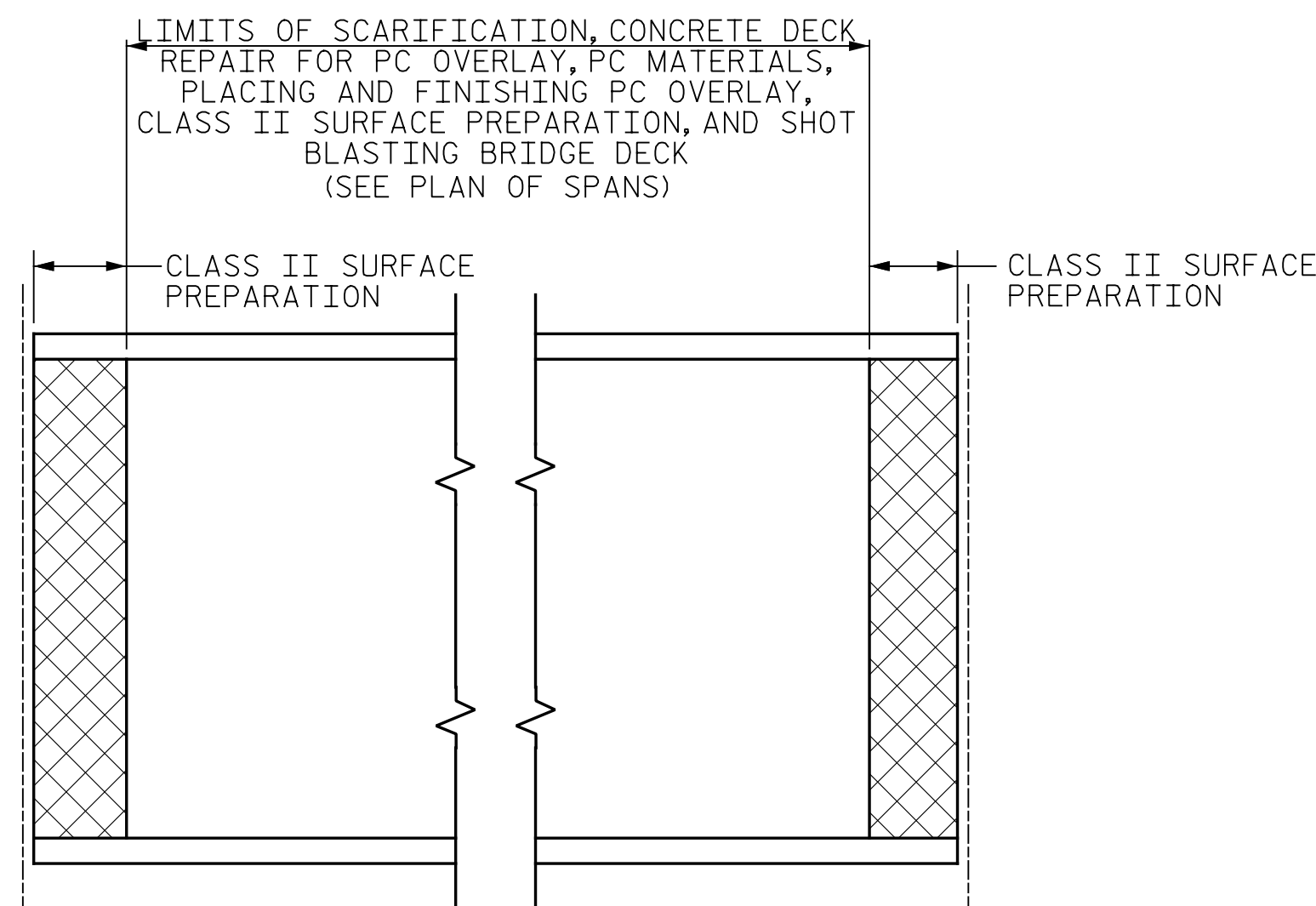
HALF SECTION AT INTERMEDIATE DIAPHRAGMS

HALF SECTION AT BENT DIAPHRAGMS

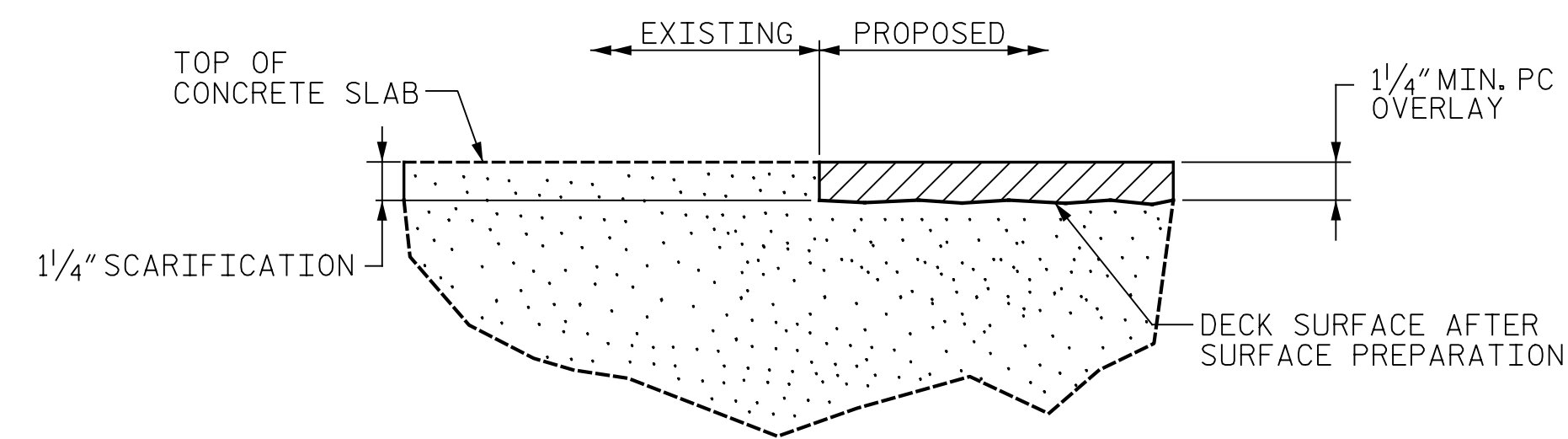
TYPICAL SECTION (PROPOSED)



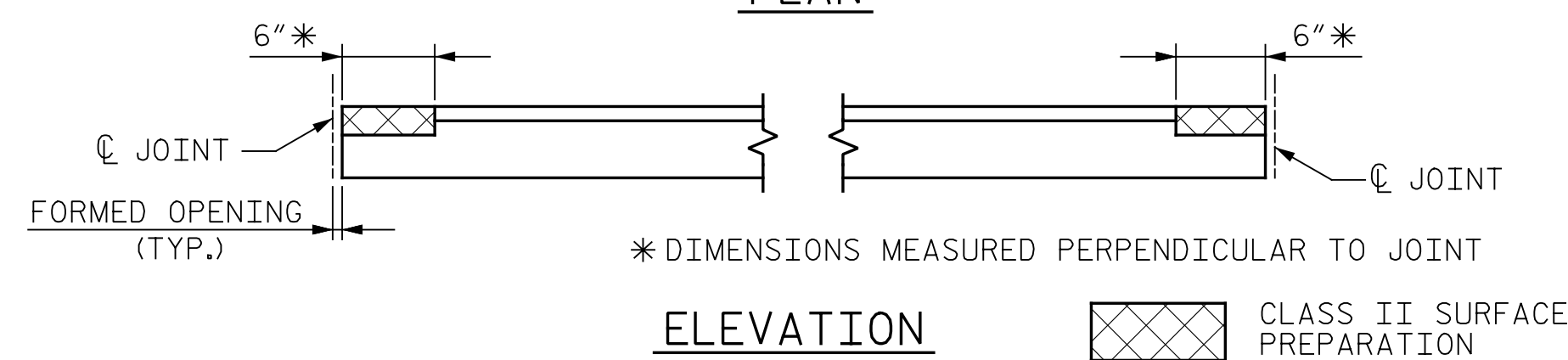
DETAIL OF SILANE BARRIER TREATMENT



PLAN

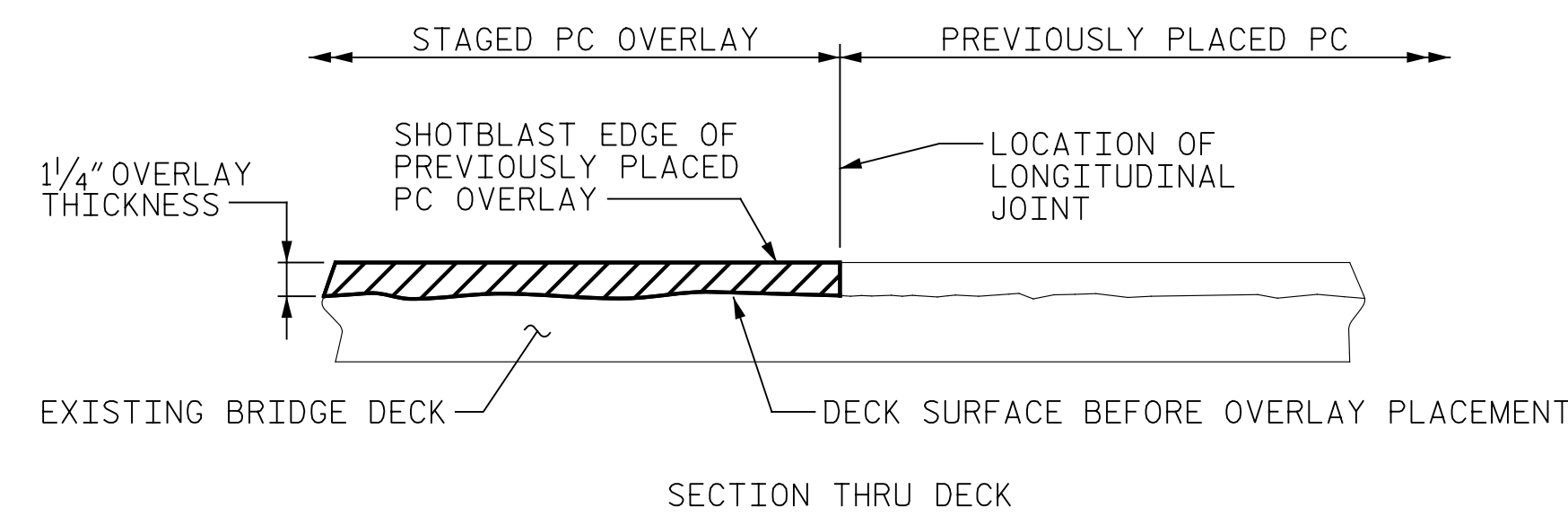


DETAIL FOR POLYMER CONCRETE OVERLAY



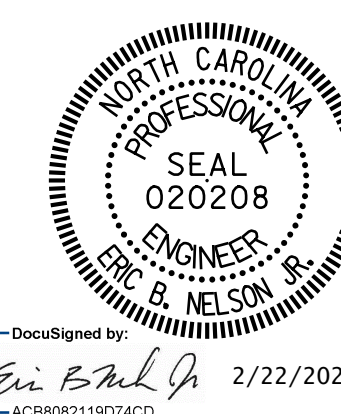
ELEVATION

* DIMENSIONS MEASURED PERPENDICULAR TO JOINT
 CLASS II SURFACE PREPARATION



STAGED PC OVERLAY CONSTRUCTION JOINT

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552



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

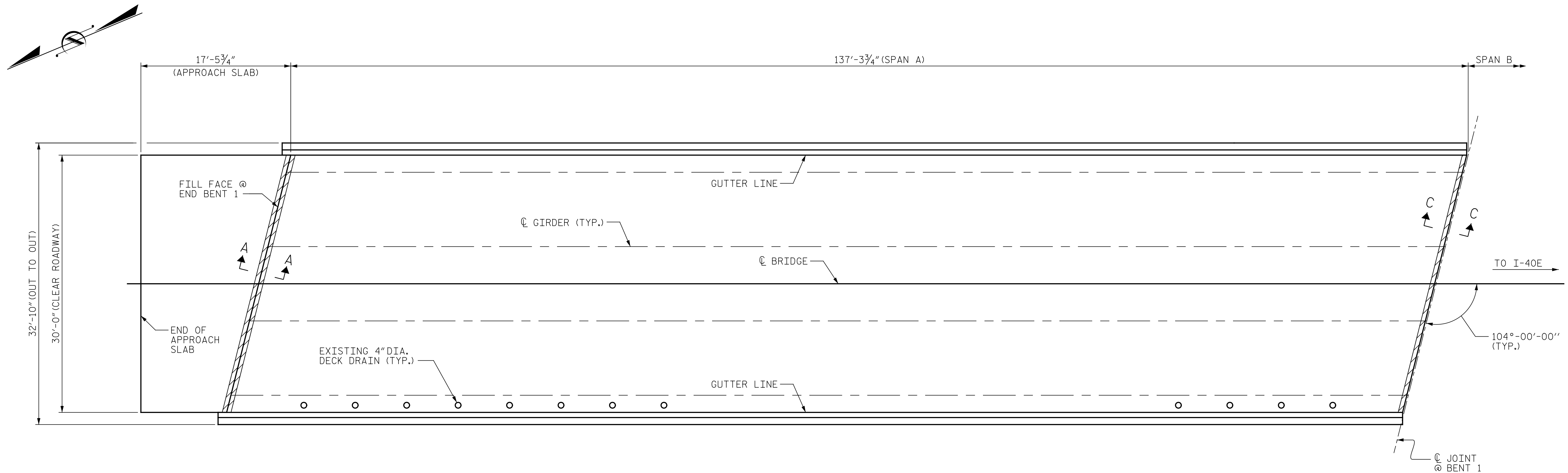
PAY LIMITS FOR OVERLAY BID ITEMS

DRAWN BY : L.GAYNOR/J.MYA DATE : 02/2022
 CHECKED BY : R.FISHER DATE : 02/2022

PLANS PREPARED BY:
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1			3			S1-5
2			4			43



PLAN OF SPAN A

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	503 SY	
SHOTBLASTING BRIDGE DECK	503 SY	
CLASS II SURFACE PREPARATION	5.2 SY	
CONCRETE DECK REPAIR FOR PC OVERLAY	5.2 SY	
PC MATERIALS	18.2 CY	
PLACING AND FINISHING PC OVERLAY	503 SY	
GROOVING BRIDGE FLOORS	4,015 SF	
SURFACE PREP. FOR SILANE BARRIER RAIL TREATMENT	1,008 SY	
SILANE BARRIER RAIL TREATMENT	1,008 SF	

NOTES:

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

PAYMENT FOR CLASS II SURFACE PREPARATION IS BASED UPON SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING SCARIFICATION OF BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE" SPECIAL PROVISION.

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

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

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

- SCARIFYING BRIDGE DECK
- CLASS II SURFACE PREPARATION

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552

SHEET 1 OF 7

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SURFACE PREPARATION
 SPAN A



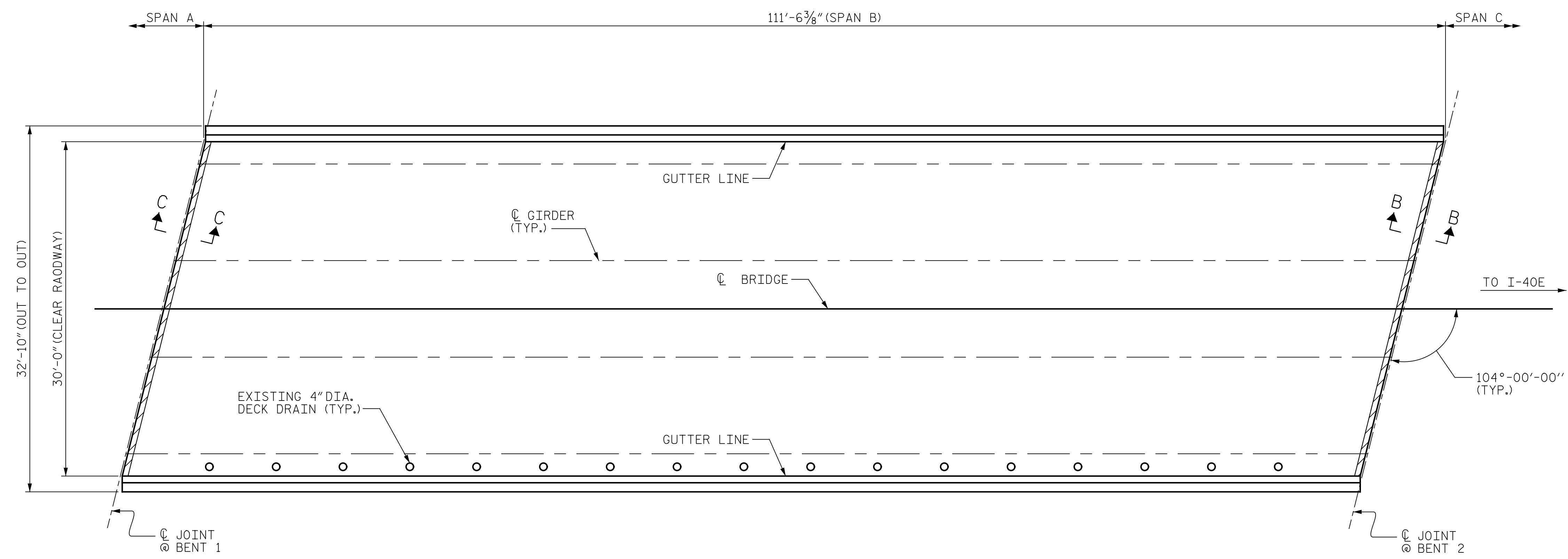
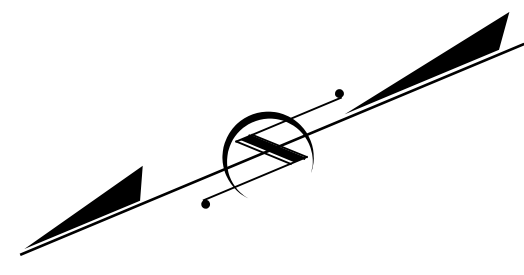
DocuSigned by:
 Eric B. Nelson
 2/22/2022
 AC89892119074C0

DRAWN BY: T. HARTLEY/J. MYA DATE: 02/2022
 CHECKED BY: R. FISHER DATE: 02/2022

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PLAN OF SPAN B

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	372 SY	
SHOTBLASTING BRIDGE DECK	372 SY	
CLASS II SURFACE PREPARATION	3.5 SY	
CONCRETE DECK REPAIR FOR PC OVERLAY	3.5 SY	
PC MATERIALS	13.4 CY	
PLACING AND FINISHING PC OVERLAY	372 SY	
GROOVING BRIDGE FLOORS	2,975 SF	
SURFACE PREP. FOR SILANE BARRIER RAIL TREATMENT	819 SY	
SILANE BARRIER RAIL TREATMENT	819 SF	

NOTES:

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

PAYMENT FOR CLASS II SURFACE PREPARATION IS BASED UPON SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING SCARIFICATION OF BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE" SPECIAL PROVISION.

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

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

FOR SECTION C-C, SEE "PREFORMED SILICONE EXPANSION JOINT SEAL DETAILS" SHEET.

- SCARIFYING BRIDGE DECK
- CLASS II SURFACE PREPARATION

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552

SHEET 2 OF 7



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SURFACE PREPARATION
 SPAN B

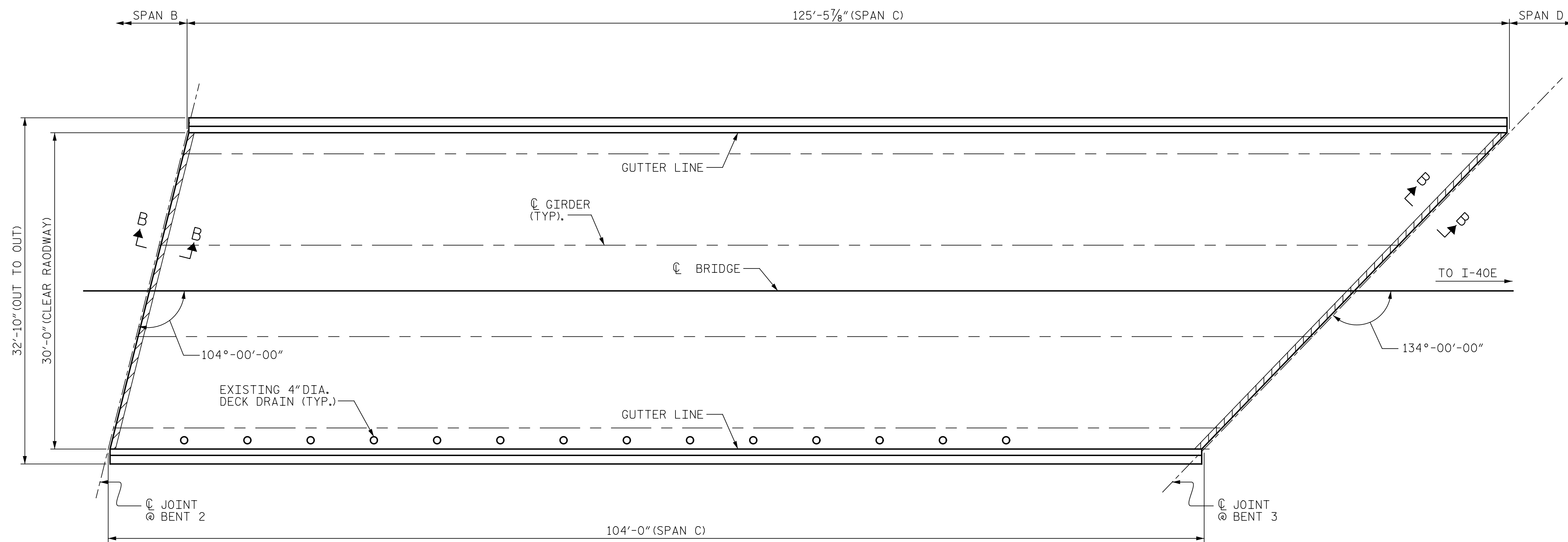
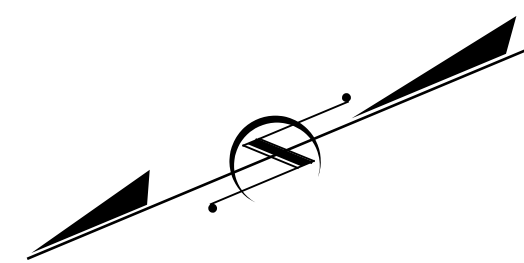
DRAWN BY : T. HARTLEY/J. MYA DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

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PLAN OF SPAN C

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	383 SY	
SHOTBLASTING BRIDGE DECK	383 SY	
CLASS II SURFACE PREPARATION	4.0 SY	
CONCRETE DECK REPAIR FOR PC OVERLAY	4.0 SY	
PC MATERIALS	13.4 CY	
PLACING AND FINISHING PC OVERLAY	383 SY	
GROOVING BRIDGE FLOORS	3,060 SF	
SURFACE PREP. FOR SILANE BARRIER RAIL TREATMENT	842 SY	
SILANE BARRIER RAIL TREATMENT	842 SF	

NOTES:

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

PAYMENT FOR CLASS II SURFACE PREPARATION IS BASED UPON SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING SCARIFICATION OF BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE" SPECIAL PROVISION.

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

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

- SCARIFYING BRIDGE DECK
- CLASS II SURFACE PREPARATION

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552

SHEET 3 OF 7



DocuSigned by:
Eric B. Nelson 2/22/2022
 NC808211074C0

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

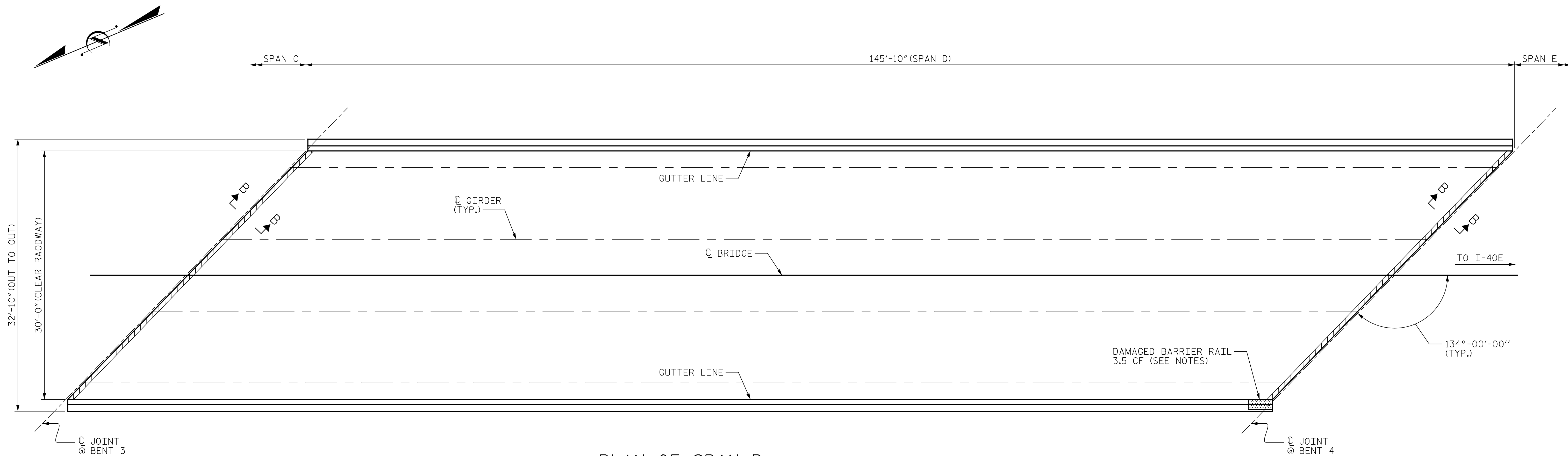
SURFACE PREPARATION
 SPAN C

DRAWN BY : T. HARTLEY/J. MYA DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:
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PLAN OF SPAN D

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	486 SY	
SHOTBLASTING BRIDGE DECK	486 SY	
CLASS II SURFACE PREPARATION	4.6 SY	
CONCRETE DECK REPAIR FOR PC OVERLAY	4.6 SY	
PC MATERIALS	17.6 CY	
PLACING AND FINISHING PC OVERLAY	486 SY	
GROOVING BRIDGE FLOORS	3,890 SF	
CONCRETE REPAIRS	3.5 CU. FT.	
SURFACE PREP. FOR SILANE BARRIER RAIL TREATMENT	1,070 SY	
SILANE BARRIER RAIL TREATMENT	1,070 SF	

NOTES:

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

PAYMENT FOR CLASS II SURFACE PREPARATION IS BASED UPON SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING SCARIFICATION OF BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE" SPECIAL PROVISION.

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

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

FOR REPAIR OF DAMAGED BARRIER RAIL, SEE "CONCRETE BARRIER RAIL REPAIR" SHEET. REPAIR OF THE BARRIER RAIL WILL BE PAID FOR AS PART OF THE CONTRACT UNIT PRICE BID FOR CONCRETE REPAIR.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

- SCARIFYING BRIDGE DECK
- CLASS II SURFACE PREPARATION

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552

SHEET 4 OF 7



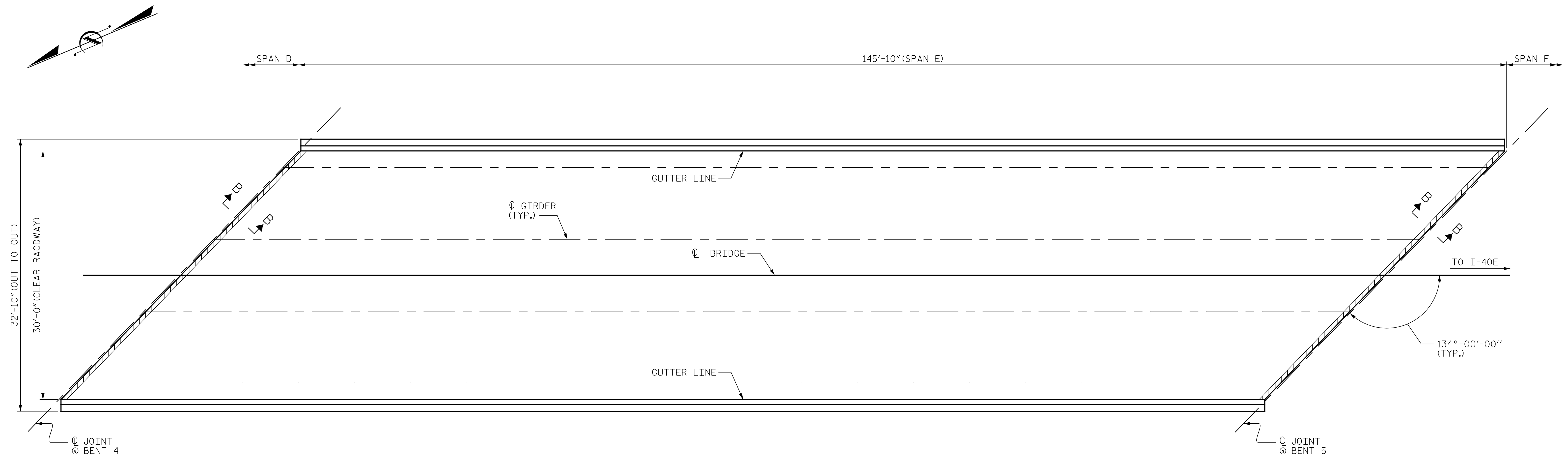
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SURFACE PREPARATION
 SPAN D

DRAWN BY: T. HARTLEY/J. MYA DATE: 02/2022
 CHECKED BY: R. FISHER DATE: 02/2022

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PLAN OF SPAN E

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	486 SY	
SHOTBLASTING BRIDGE DECK	486 SY	
CLASS II SURFACE PREPARATION	4.6 SY	
CONCRETE DECK REPAIR FOR PC OVERLAY	4.6 SY	
PC MATERIALS	17.6 CY	
PLACING AND FINISHING PC OVERLAY	486 SY	
GROOVING BRIDGE FLOORS	3,890 SF	
SURFACE PREP. FOR SILANE BARRIER RAIL TREATMENT	1,070 SY	
SILANE BARRIER RAIL TREATMENT	1,070 SF	

NOTES:

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

PAYMENT FOR CLASS II SURFACE PREPARATION IS BASED UPON SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING SCARIFICATION OF BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE" SPECIAL PROVISION.

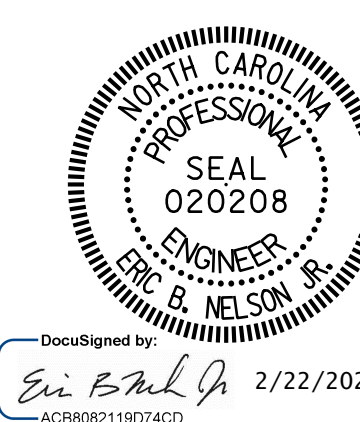
CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 2 1/2" PER THE EXISTING BRIDGE PLANS.

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

- SCARIFYING BRIDGE DECK
- CLASS II SURFACE PREPARATION

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552

SHEET 5 OF 7



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

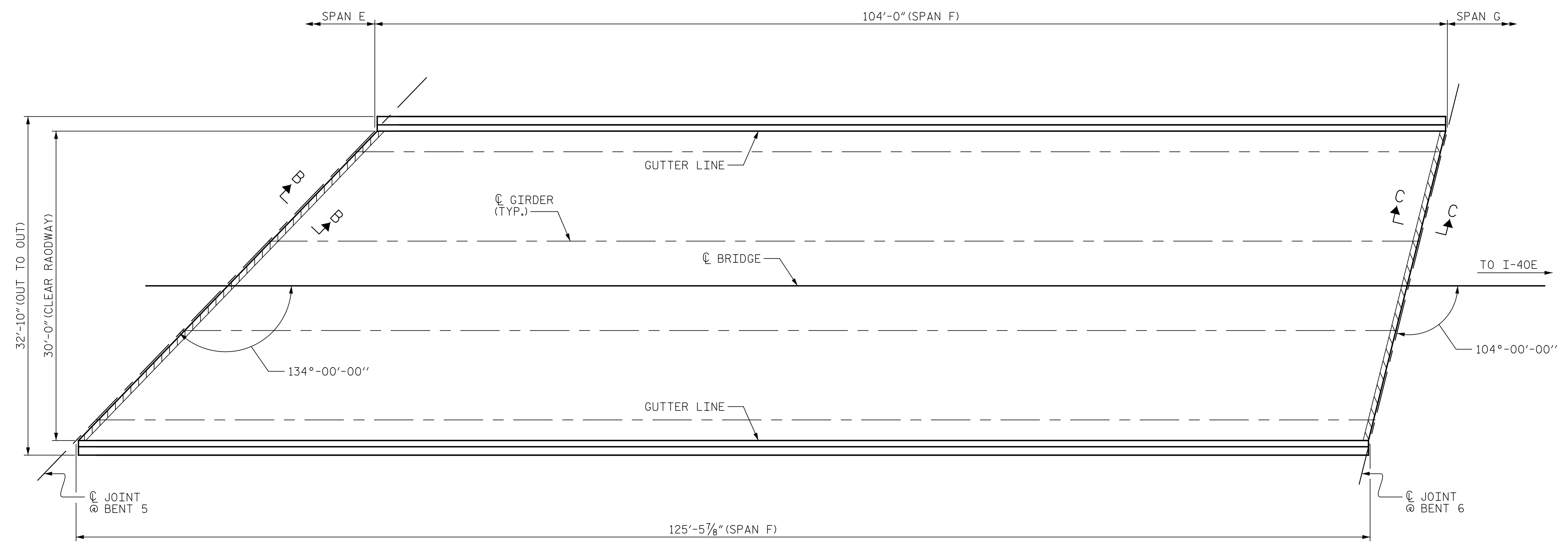
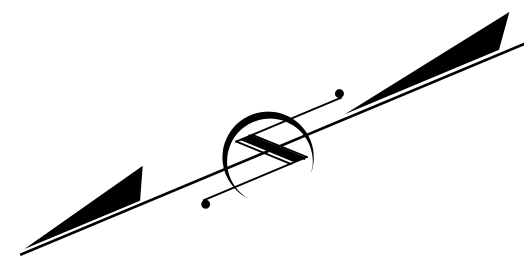
SURFACE PREPARATION
 SPAN E

DRAWN BY : T. HARTLEY DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

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PLAN OF SPAN F

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	383 SY	
SHOTBLASTING BRIDGE DECK	383 SY	
CLASS II SURFACE PREPARATION	4.0 SY	
CONCRETE DECK REPAIR FOR PC OVERLAY	4.0 SY	
PC MATERIALS	13.4 CY	
PLACING AND FINISHING PC OVERLAY	383 SY	
GROOVING BRIDGE FLOORS	3,060 SF	
SURFACE PREP. FOR SILANE BARRIER RAIL TREATMENT	842 SY	
SILANE BARRIER RAIL TREATMENT	842 SF	

NOTES:

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

PAYMENT FOR CLASS II SURFACE PREPARATION IS BASED UPON SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING SCARIFICATION OF BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE" SPECIAL PROVISION.

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

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

FOR SECTION C-C, SEE "PREFORMED SILICONE EXPANSION JOINT SEAL DETAILS" SHEET.

- SCARIFYING BRIDGE DECK
- CLASS II SURFACE PREPARATION

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552

SHEET 6 OF 7



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SURFACE PREPARATION
 SPAN F

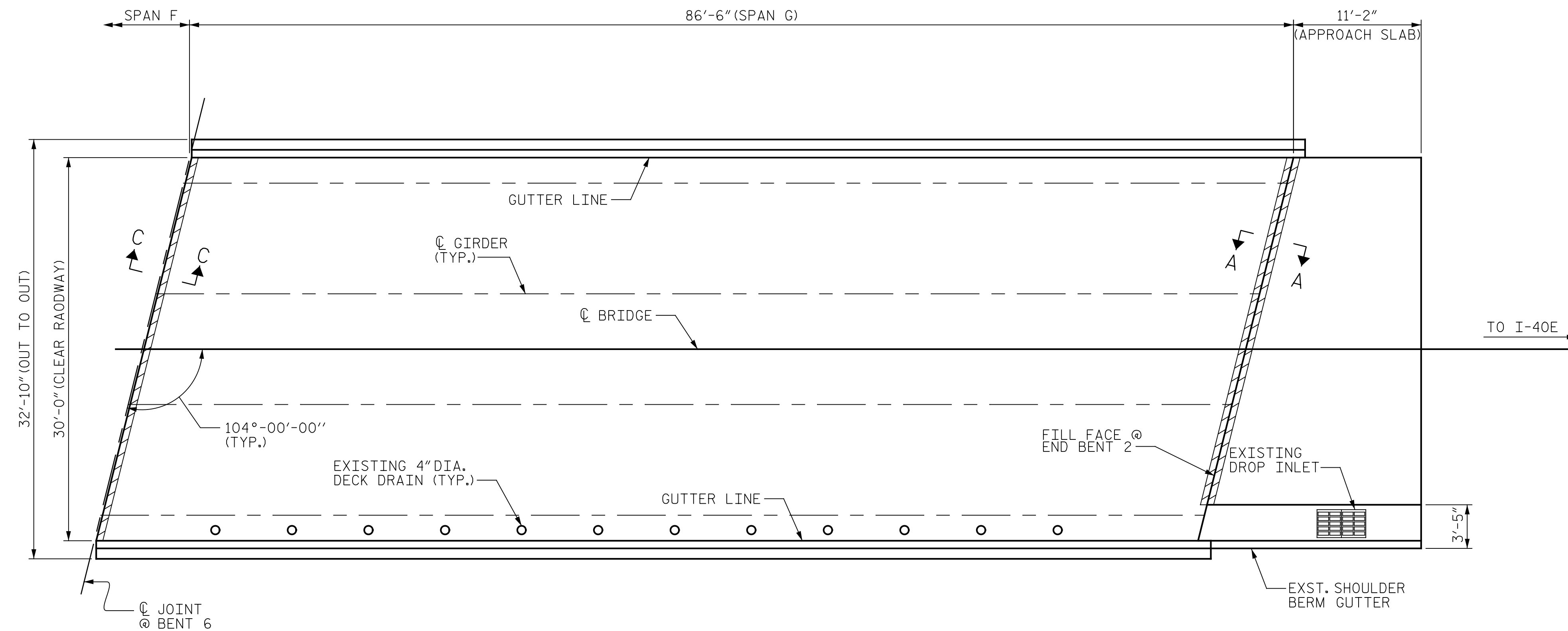
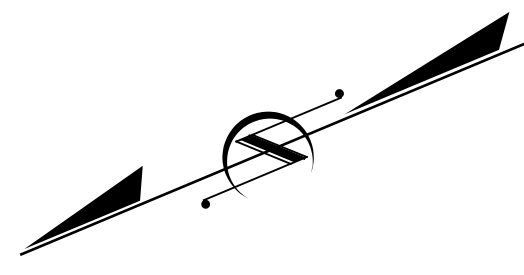
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PLAN OF SPAN G

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	329 SY	
SHOTBLASTING BRIDGE DECK	329 SY	
CLASS II SURFACE PREPARATION	3.3 SY	
CONCRETE DECK REPAIR FOR PC OVERLAY	3.3 SY	
PC MATERIALS	12.0 CY	
PLACING AND FINISHING PC OVERLAY	329 SY	
GROOVING BRIDGE FLOORS	2,687 SF	
SURFACE PREP. FOR SILANE BARRIER RAIL TREATMENT	635 SY	
SILANE BARRIER RAIL TREATMENT	635 SF	

NOTES:

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

PAYMENT FOR CLASS II SURFACE PREPARATION IS BASED UPON SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING SCARIFICATION OF BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE" SPECIAL PROVISION.

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

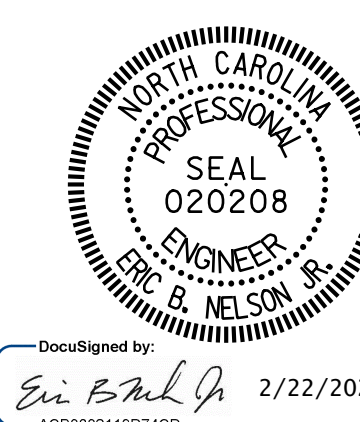
FOR SECTION A-A, SEE "JOINT DETAILS" SHEET.

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

- SCARIFYING BRIDGE DECK
- CLASS II SURFACE PREPARATION

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552

SHEET 7 OF 7



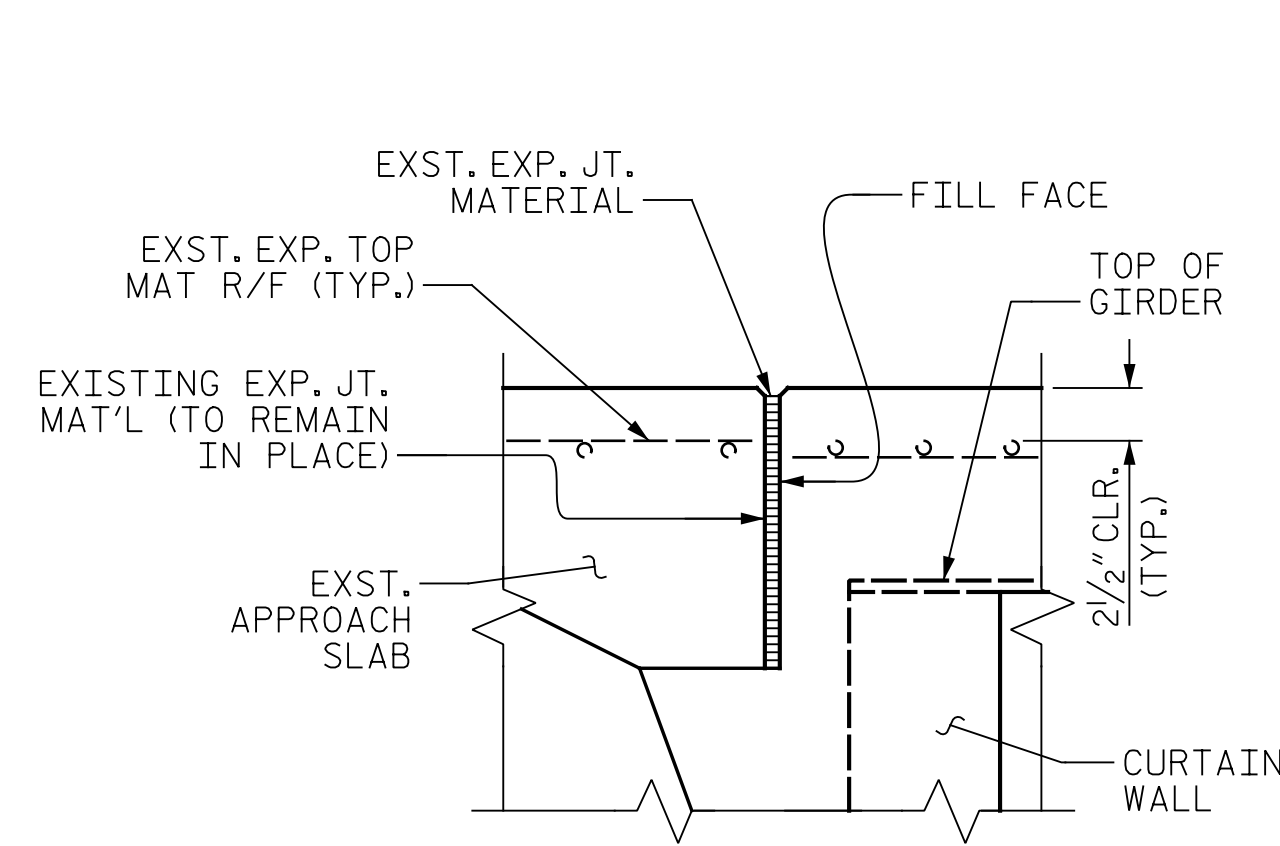
STATE OF NORTH CAROLINA
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 RALEIGH
 SURFACE PREPARATION
 SPAN G

DRAWN BY : T. HARTLEY DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

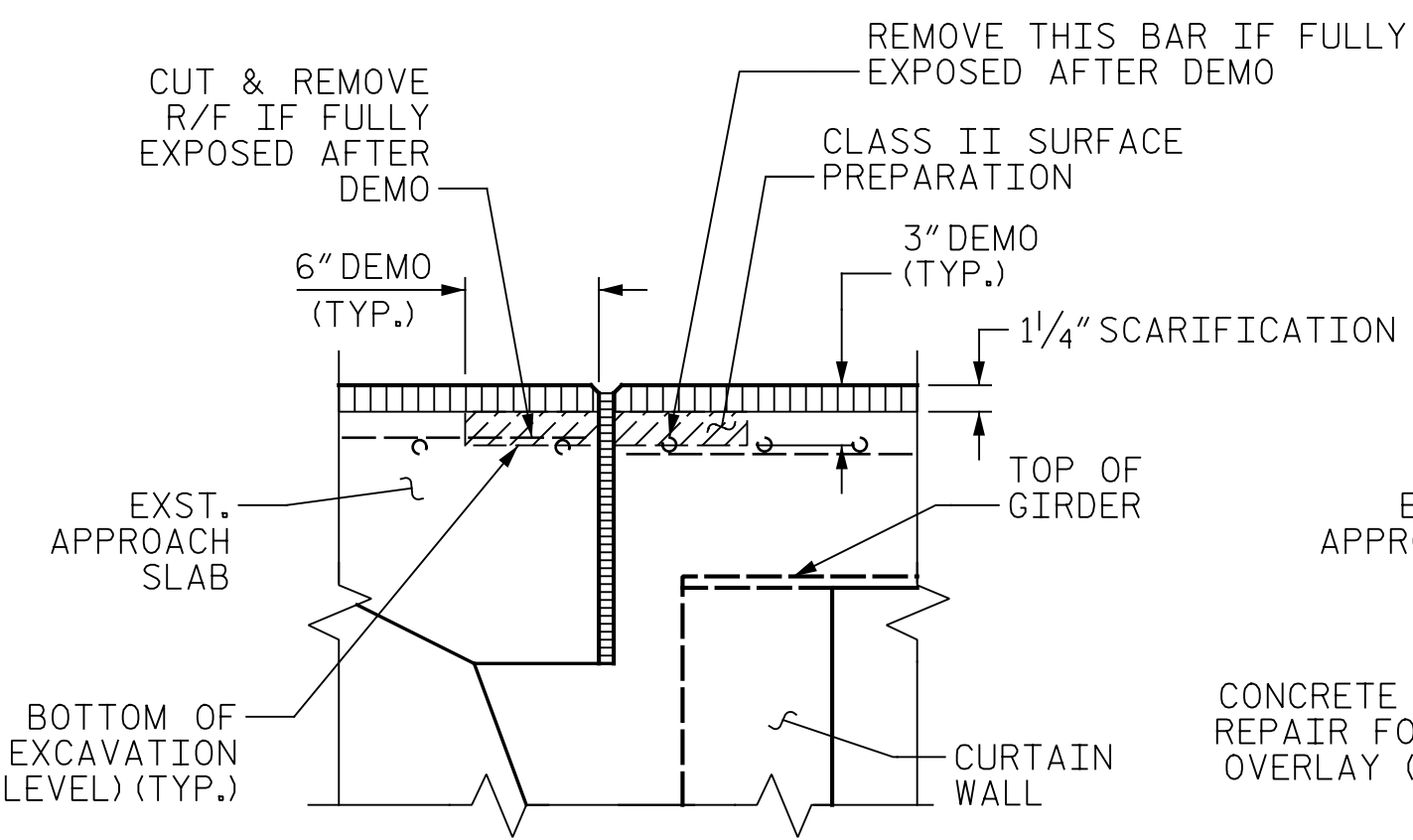
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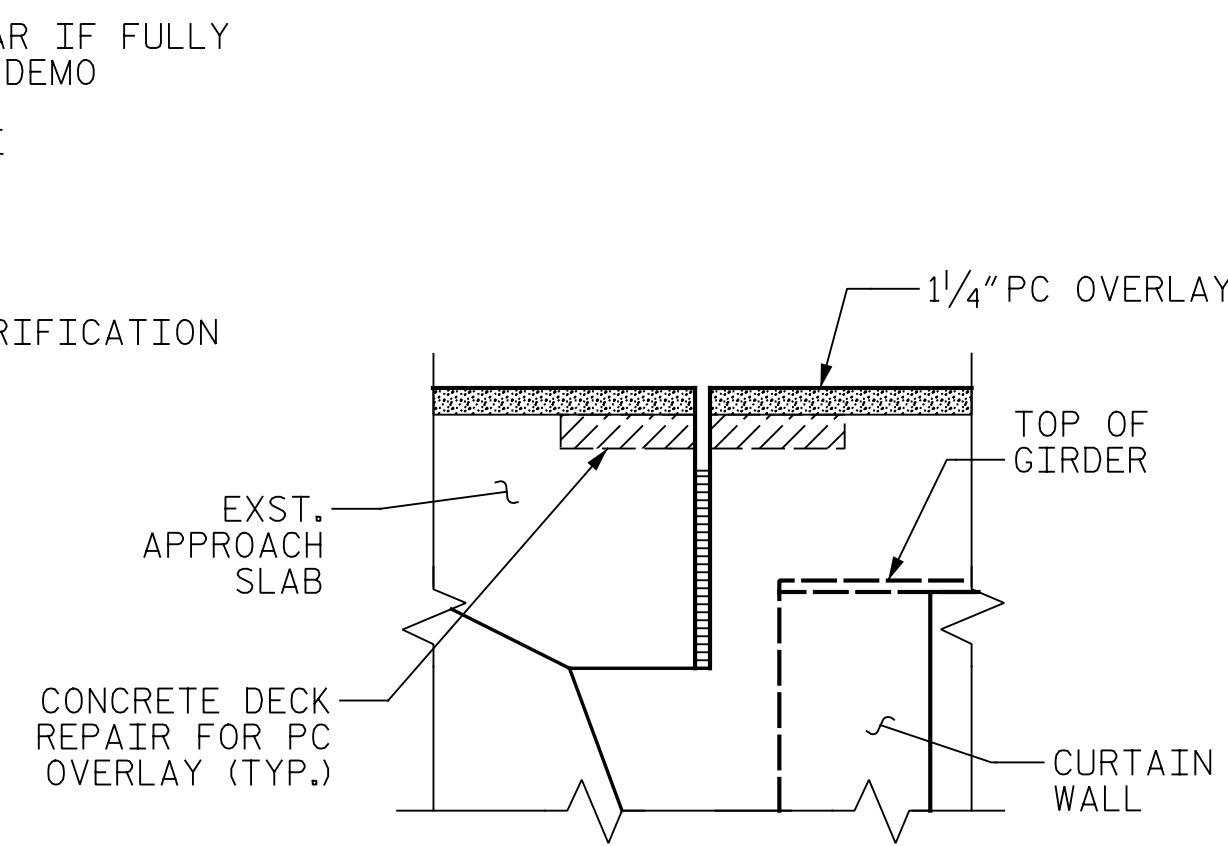
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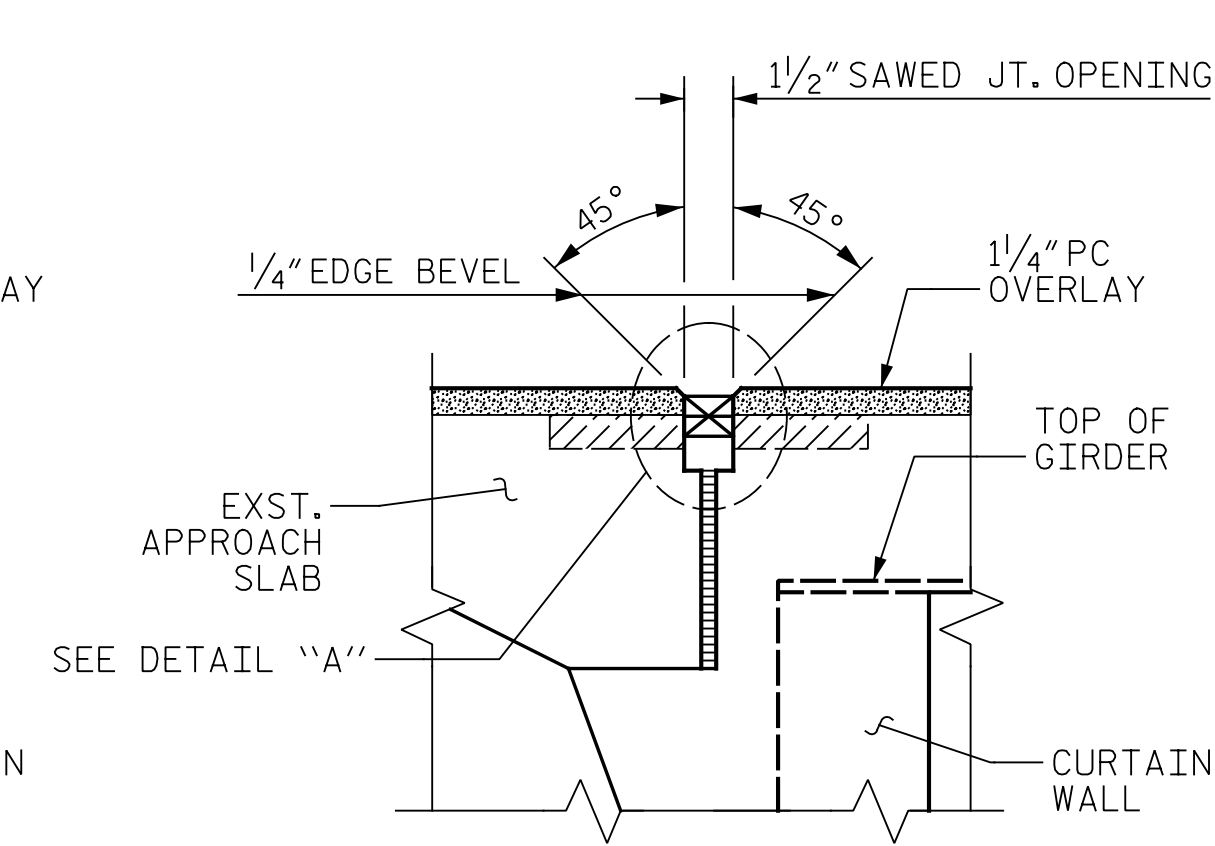
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION



PROPOSED JOINT- PRE-SAWED

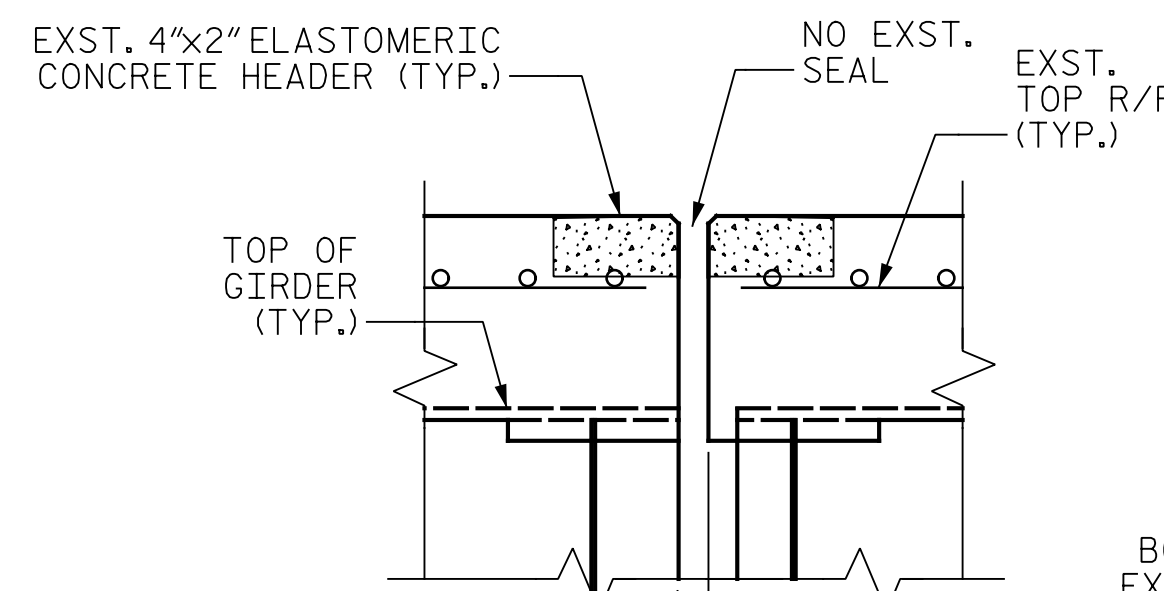


PROPOSED FOAM JOINT SEAL

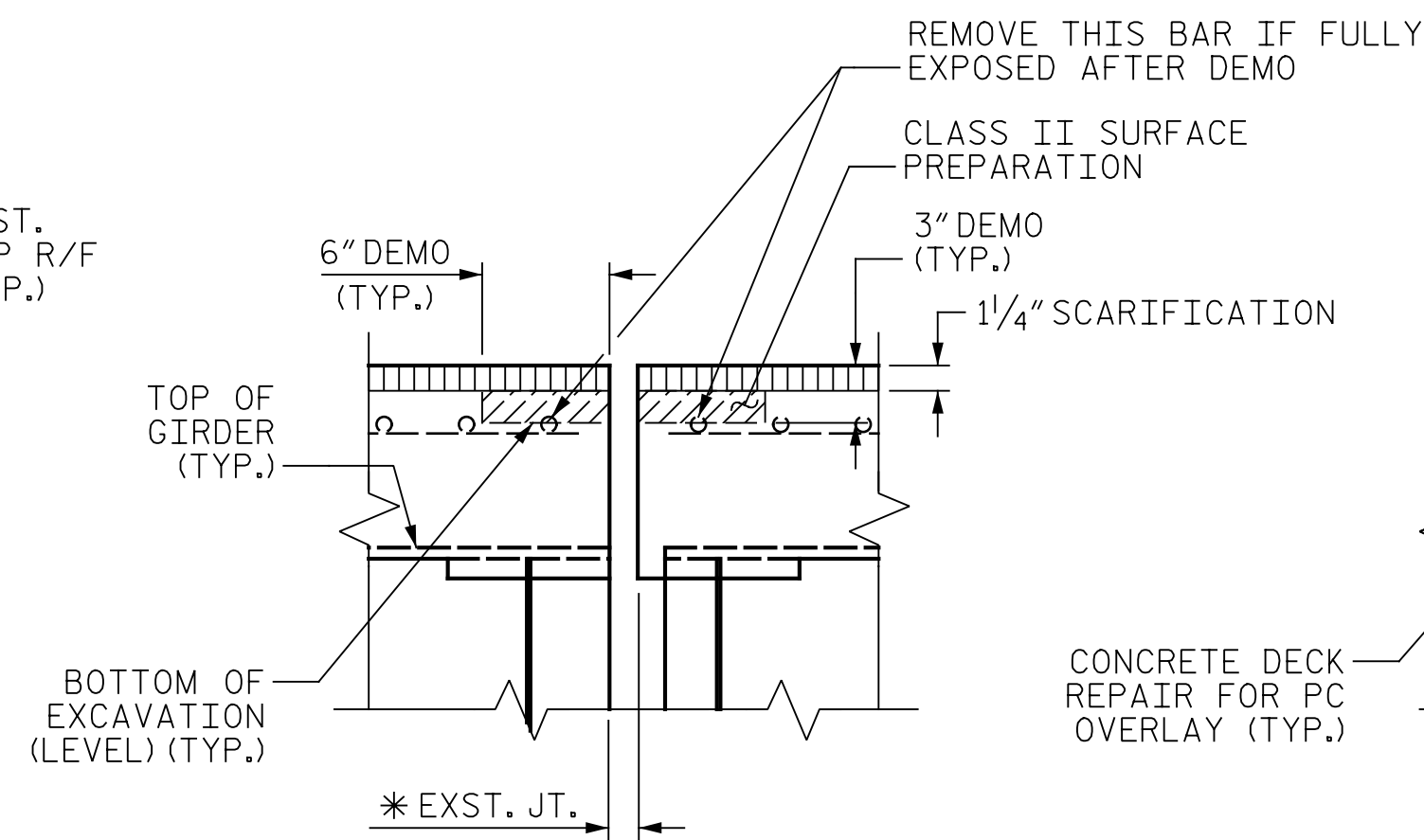
NOTES:
 FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY OR SEALANT WORK IS COMPLETE.
 THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT MATERIAL OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN THE DETAILS BY MORE THAN 1/4", NOTIFY THE ENGINEER.
 THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL FOR THE SIZE OF THE OPENING ON THE PLANS AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.
 FOAM JOINTS SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS.
 THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE WITHOUT PROTECTIVE DEVICES BELOW TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT THE PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.
 THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT IN LIEU OF SAWING THE JOINT.
 THE INSTALLED FOAM JOINTS SHALL BE WATERTIGHT.
 THE CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.
 FOR CLASS II SURFACE PREPARATION, SEE SPECIAL PROVISIONS.
 FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.
 FOR CONCRETE DECK REPAIR FOR PC OVERLAY, SEE SPECIAL PROVISIONS.

NOTE: RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS REQ'D. UNLESS OTHERWISE NOTED.

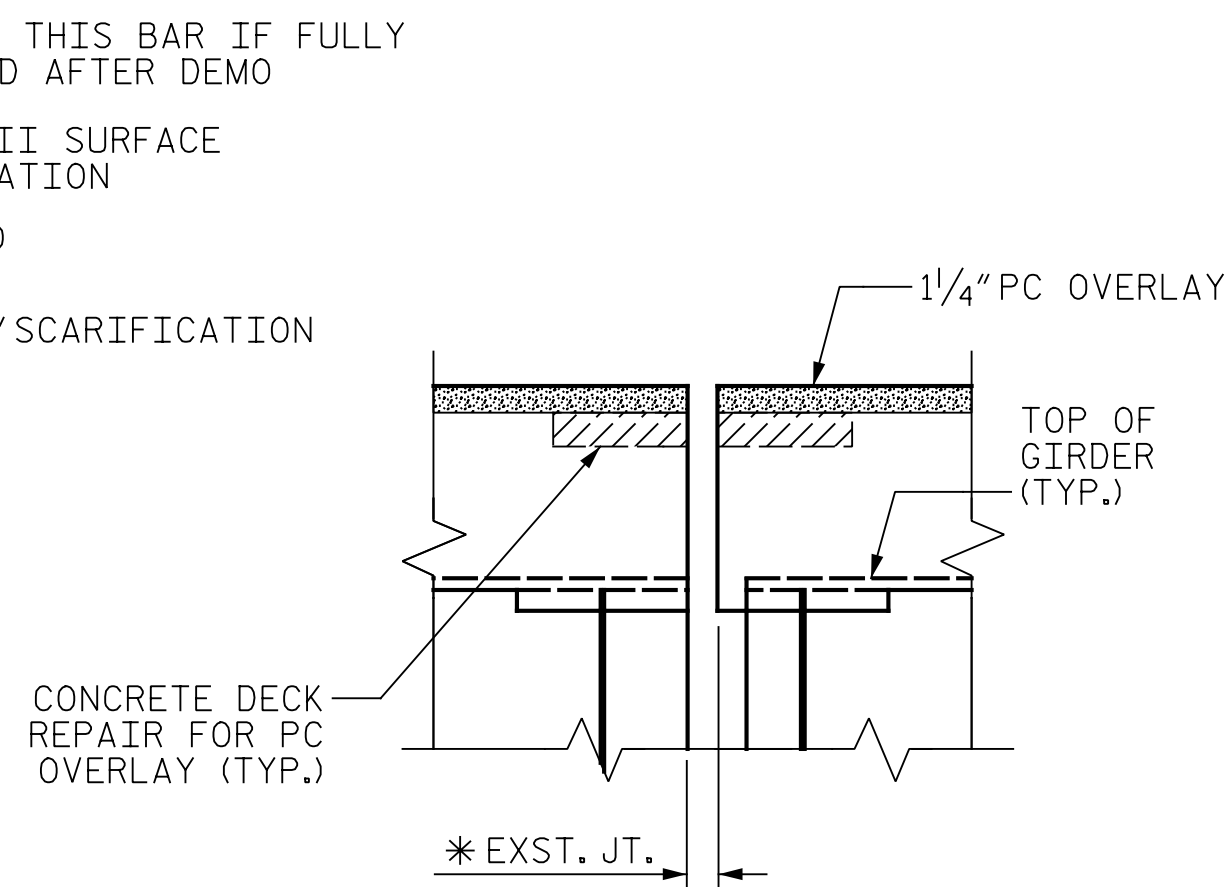
SECTION A-A



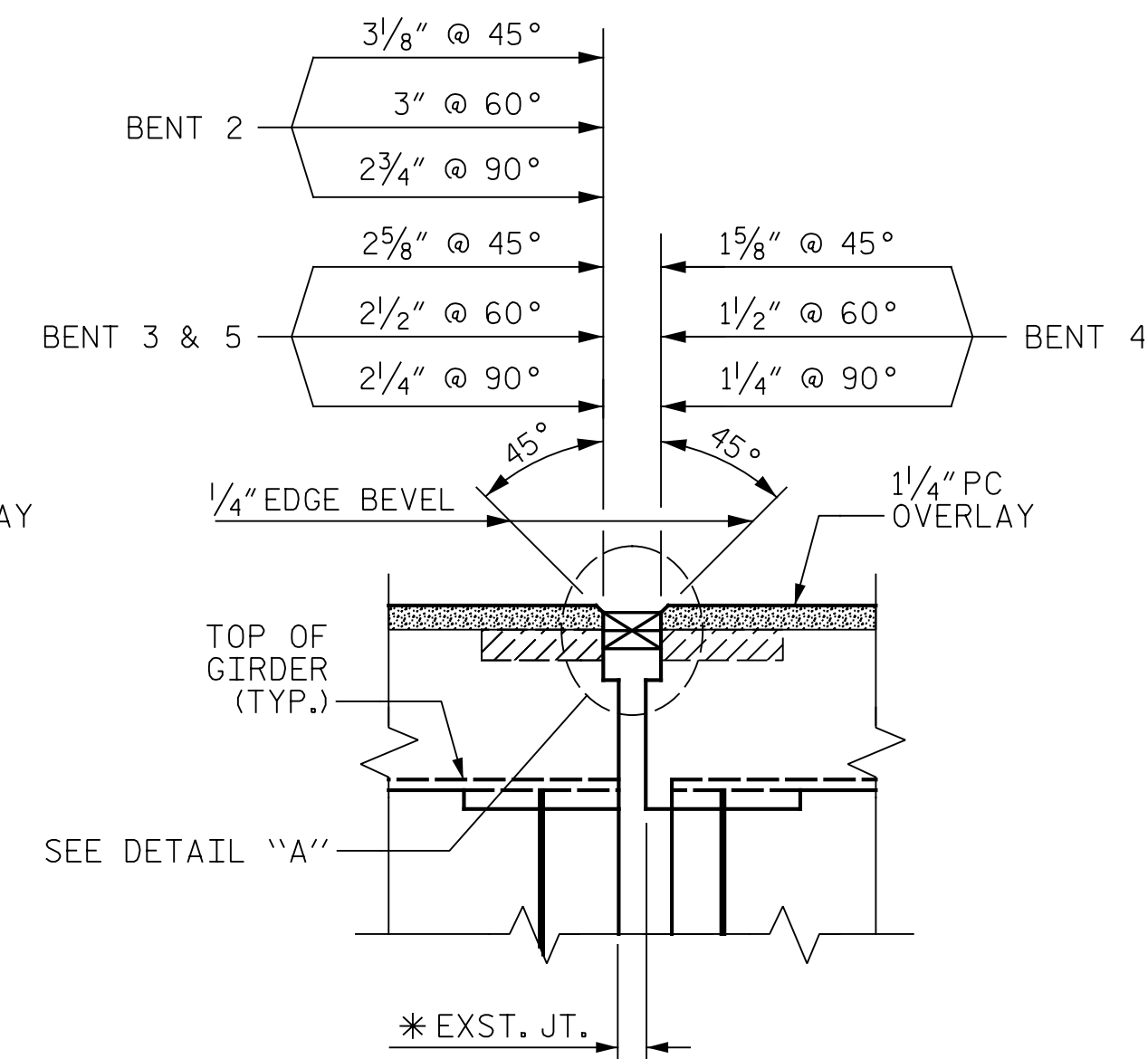
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION



PROPOSED JOINT - PRE-SAWED

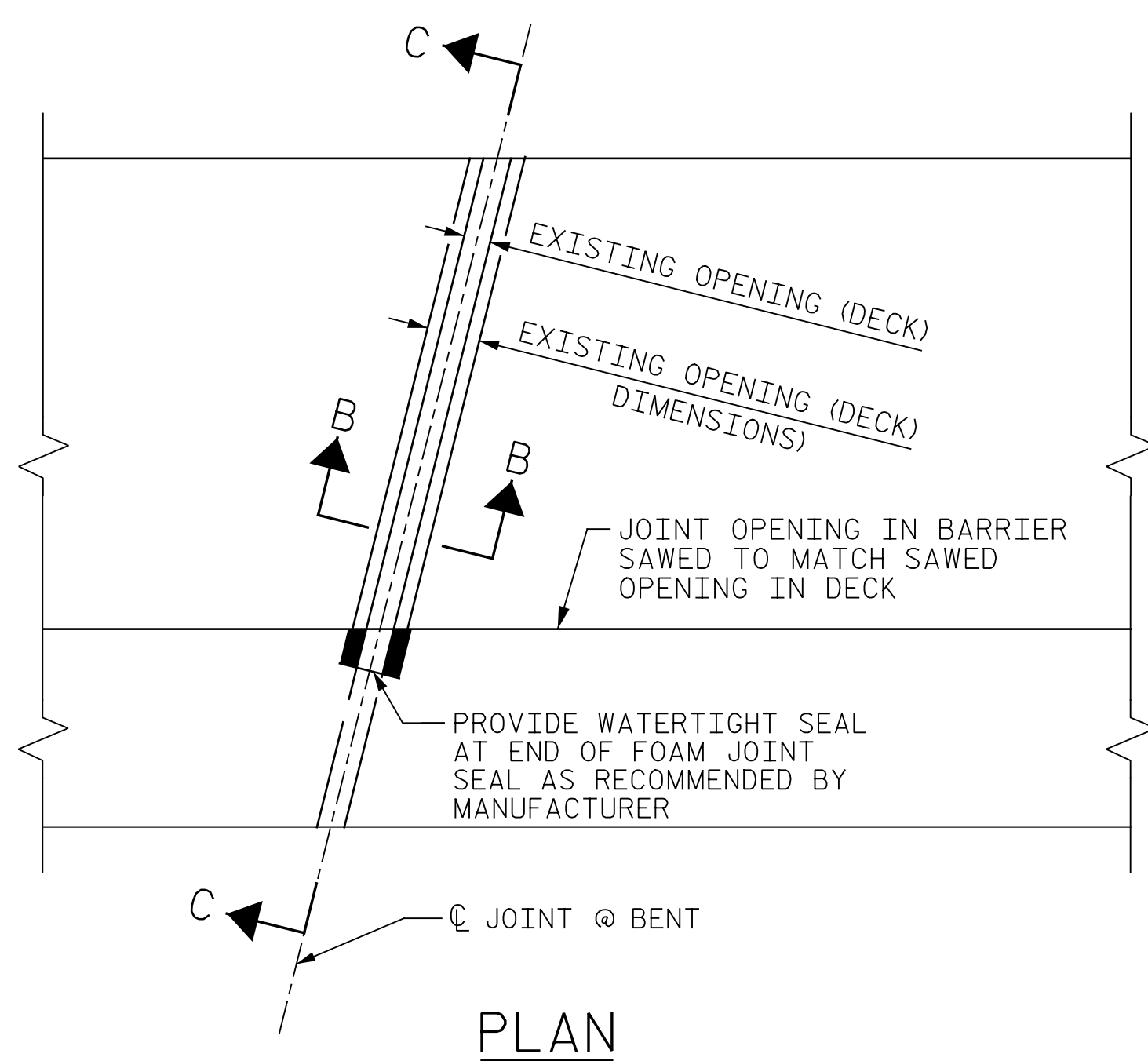


PROPOSED FOAM JOINT SEAL

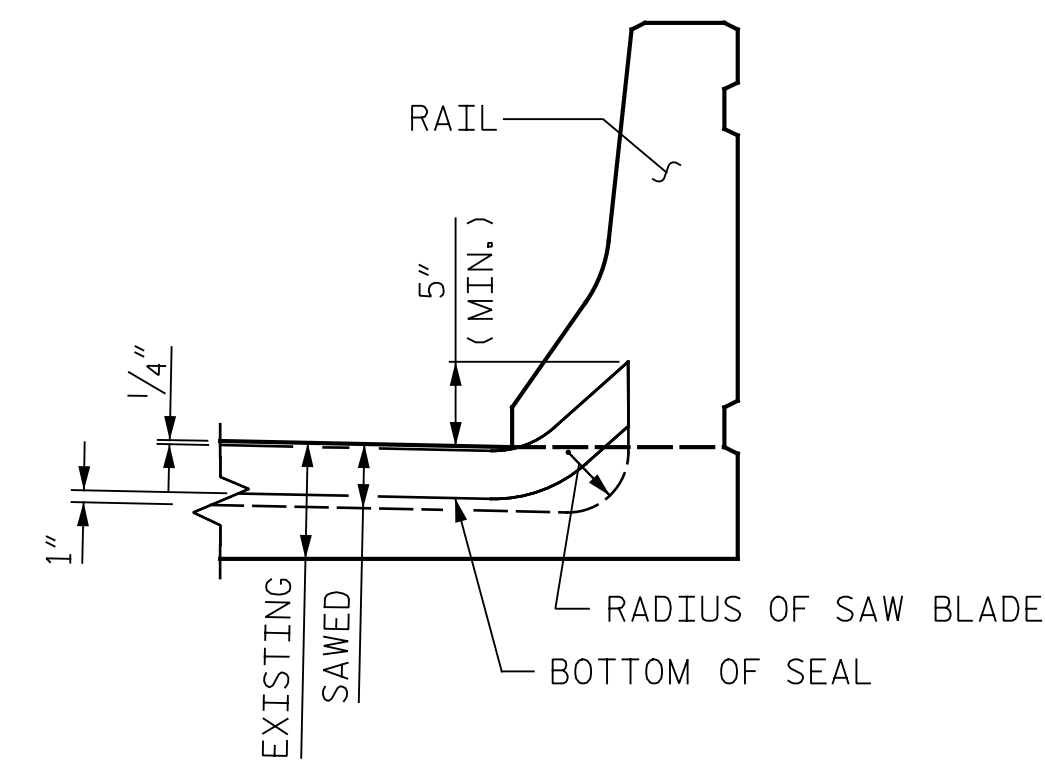
* FIELD MEASURE AND VERIFY EXISTING JOINT OPENING AFTER REPLACEMENT OF BEARINGS AND PRIOR TO ORDERING JOINTS (SEE NOTES)

* BENT 2 = 2 1/2"
 * BENT 3 = 2 1/2"
 * BENT 4 = 1"
 * BENT 5 = 2"

SECTION B-B



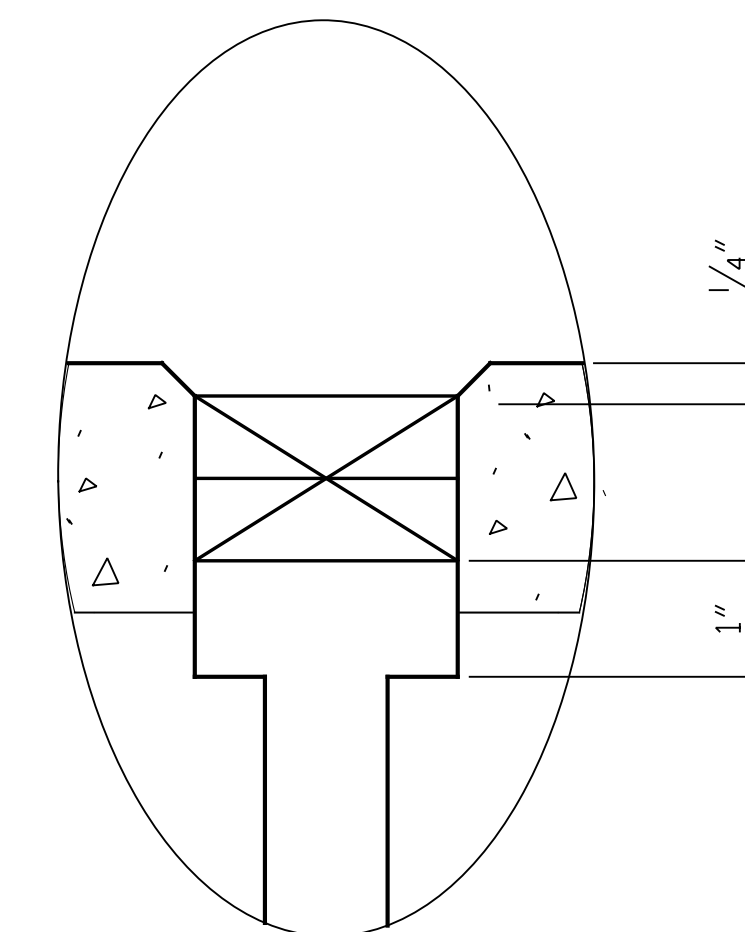
PLAN



SECTION C-C

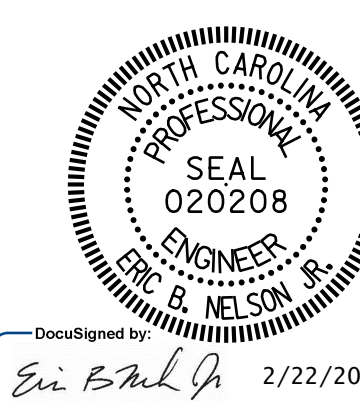
FOAM JOINT SEAL SHALL BE FACTORY FORMED OR CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF CURB.

LOCATION	FOAM JOINT SEALS FOR PRESERVATION
	LIN. FT.
END BENT 1	33
BENT 2	33
BENT 3	44
BENT 4	44
BENT 5	44
END BENT 2	29
* TOTAL	227



DETAIL "A"

PROJECT NO. I-5943
 WAKE COUNTY
 BRIDGE NO. 910552



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

JOINT DETAILS

DRAWN BY: J. MYA DATE: 02/2022
 CHECKED BY: R. FISHER DATE: 02/2022

PLANS PREPARED BY:
Gannett Fleming
 One Glenwood Avenue
 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
 Excellence Delivered As Promised NC Lic. No. F-0270

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S1-13
2			4			TOTAL SHEETS 43

NOTES:

FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY OR SEALANT WORK IS COMPLETE.

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN THE DETAILS BY MORE THAN 1/4", NOTIFY THE ENGINEER.

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

PREFORMED SILICONE EXPANSION JOINT SEAL SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS.

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

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

THE INSTALLED JOINT SEALS SHALL BE WATERTIGHT.

THE CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

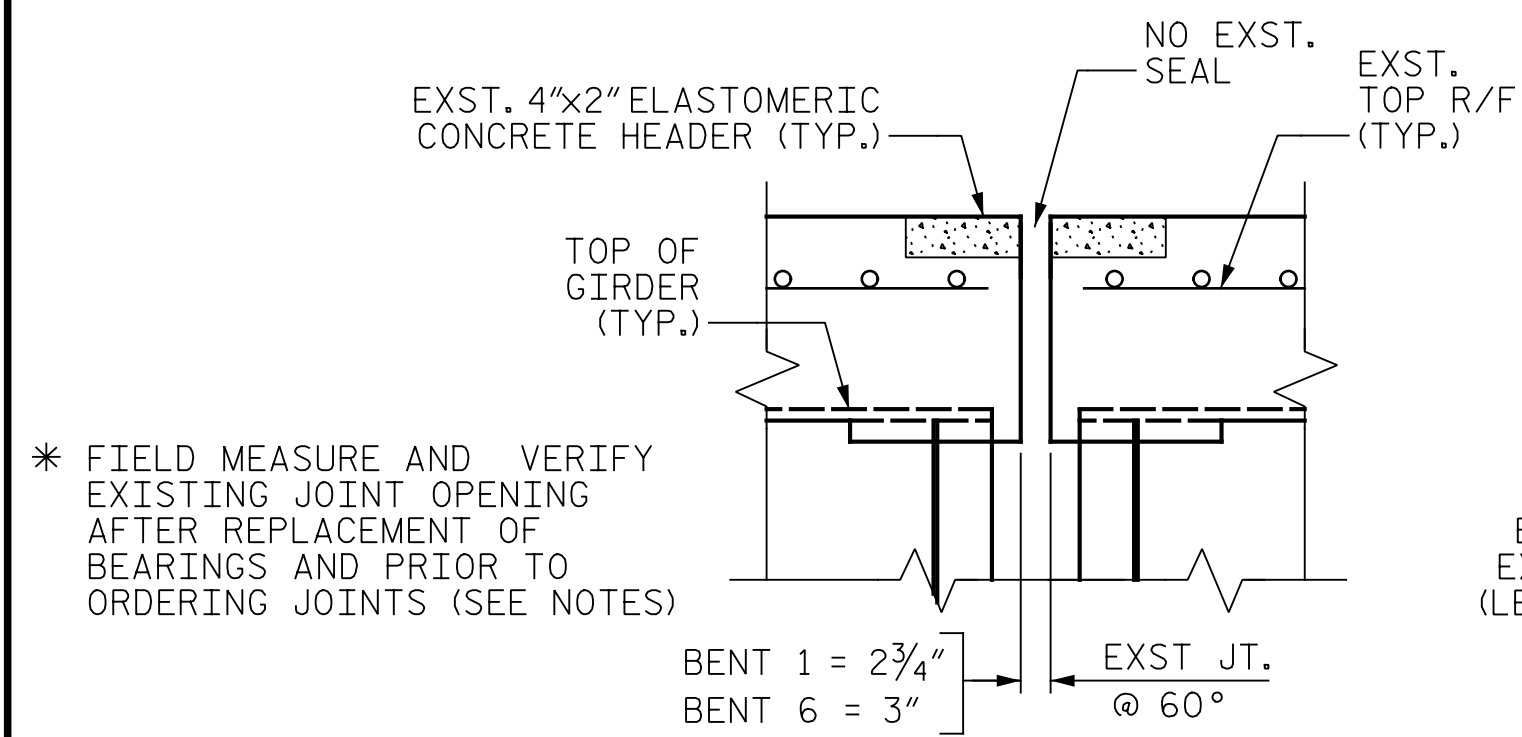
FOR CLASS II SURFACE PREPARATION, SEE SPECIAL PROVISIONS.

FOR PREFORMED SILICONE EXPANSION JOINT SEAL FOR PRESERVATION, SEE SPECIAL PROVISIONS.

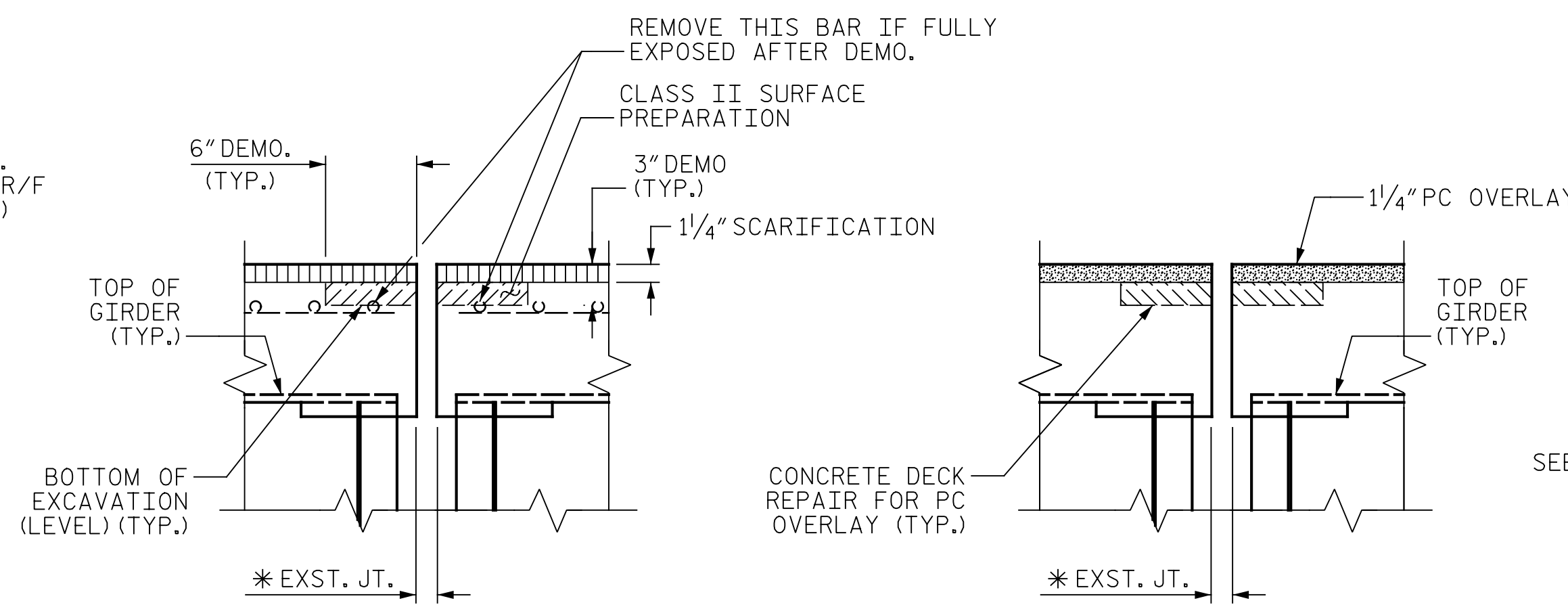
FOR CONCRETE DECK REPAIR FOR PC OVERLAY, SEE SPECIAL PROVISIONS.

PROVIDE JOINT SEALS AT BENTS 1 AND 6 WITH MOVEMENT RATINGS OF 4".

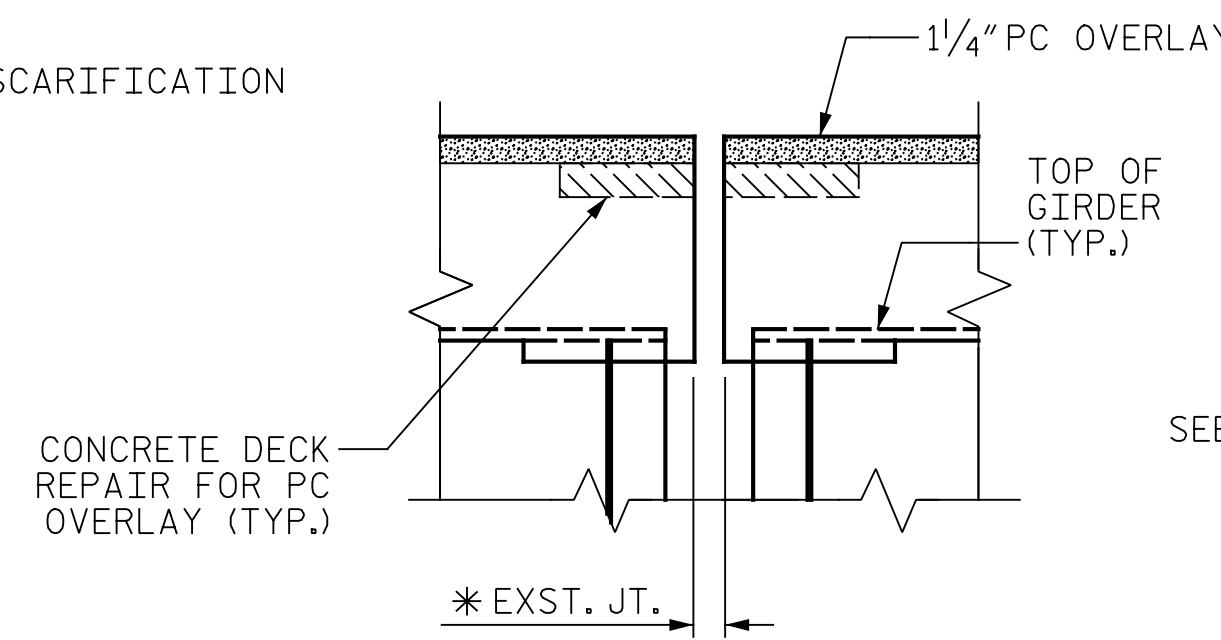
NOTE: RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS REQ'D. UNLESS OTHERWISE NOTED.



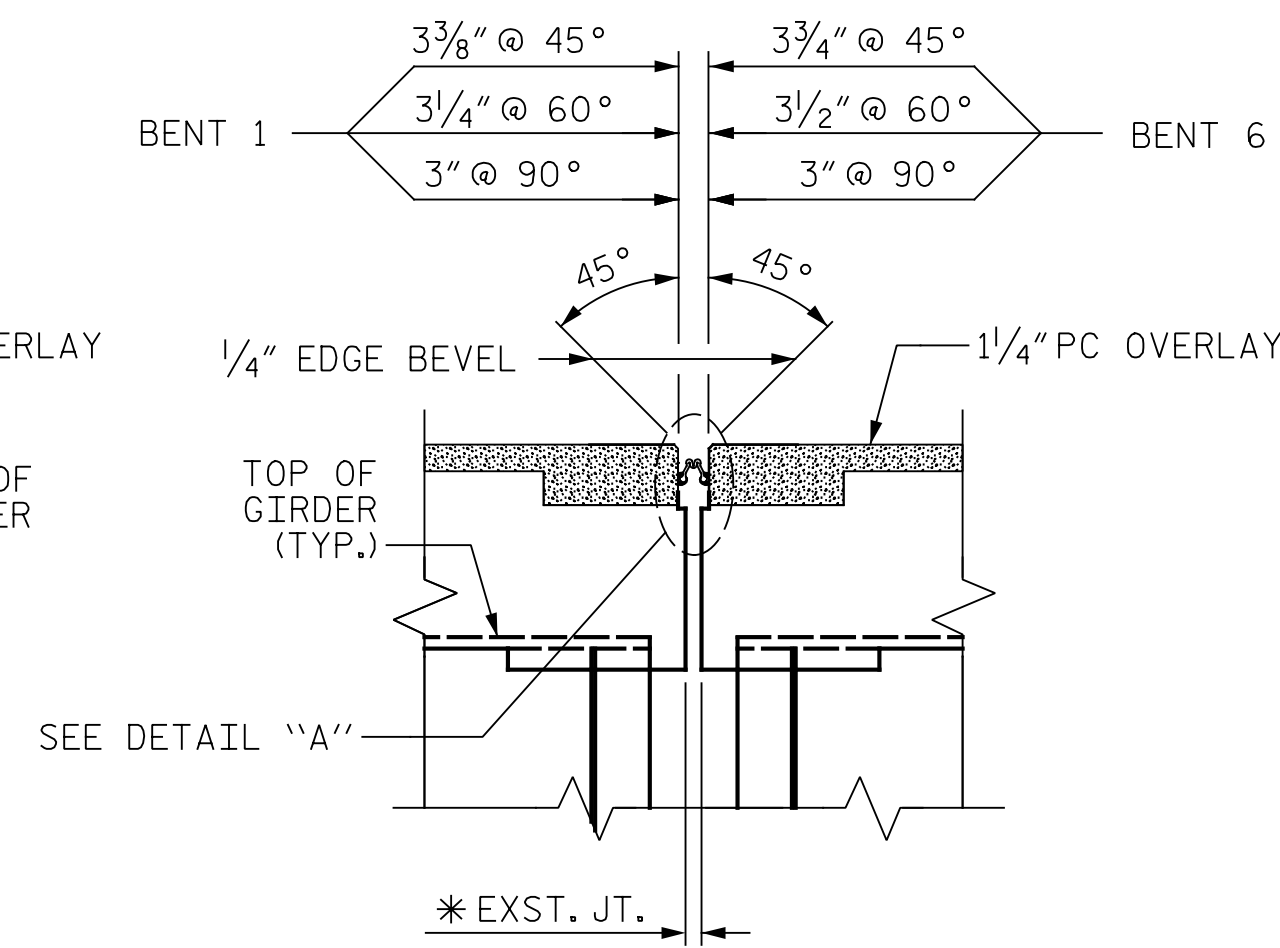
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION

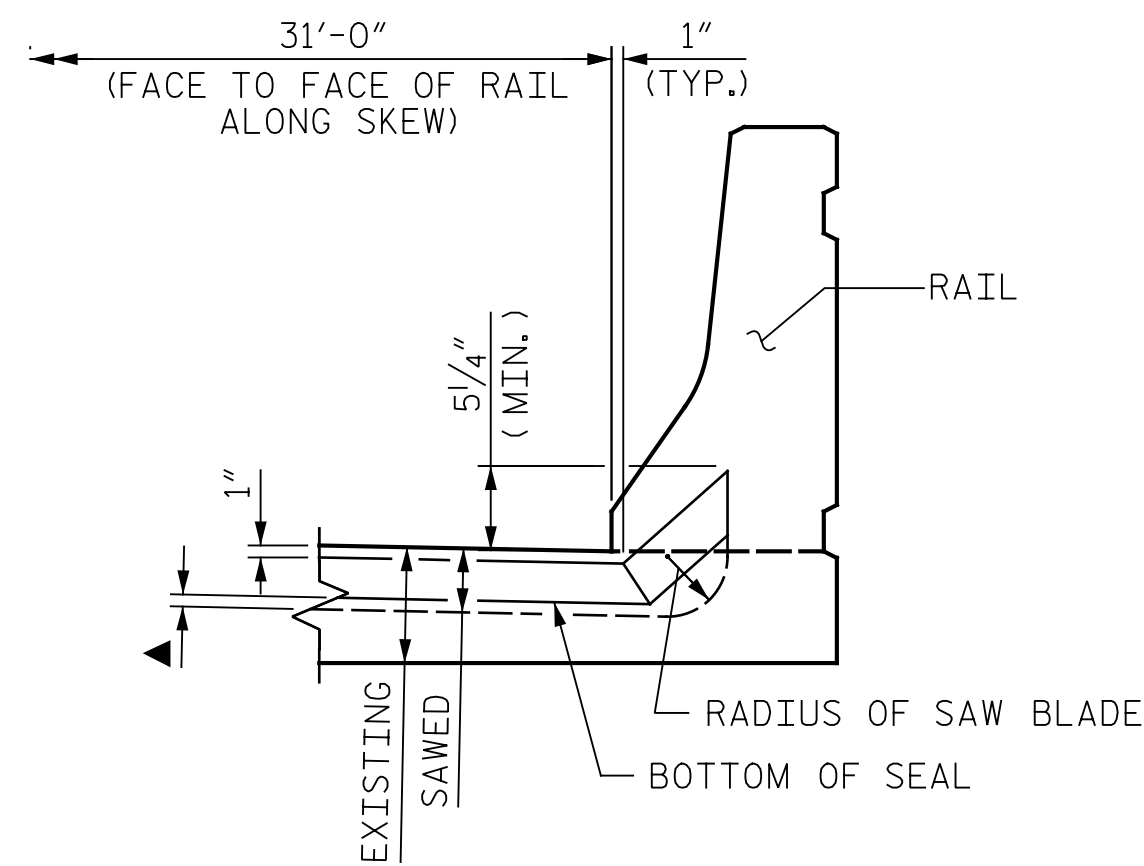
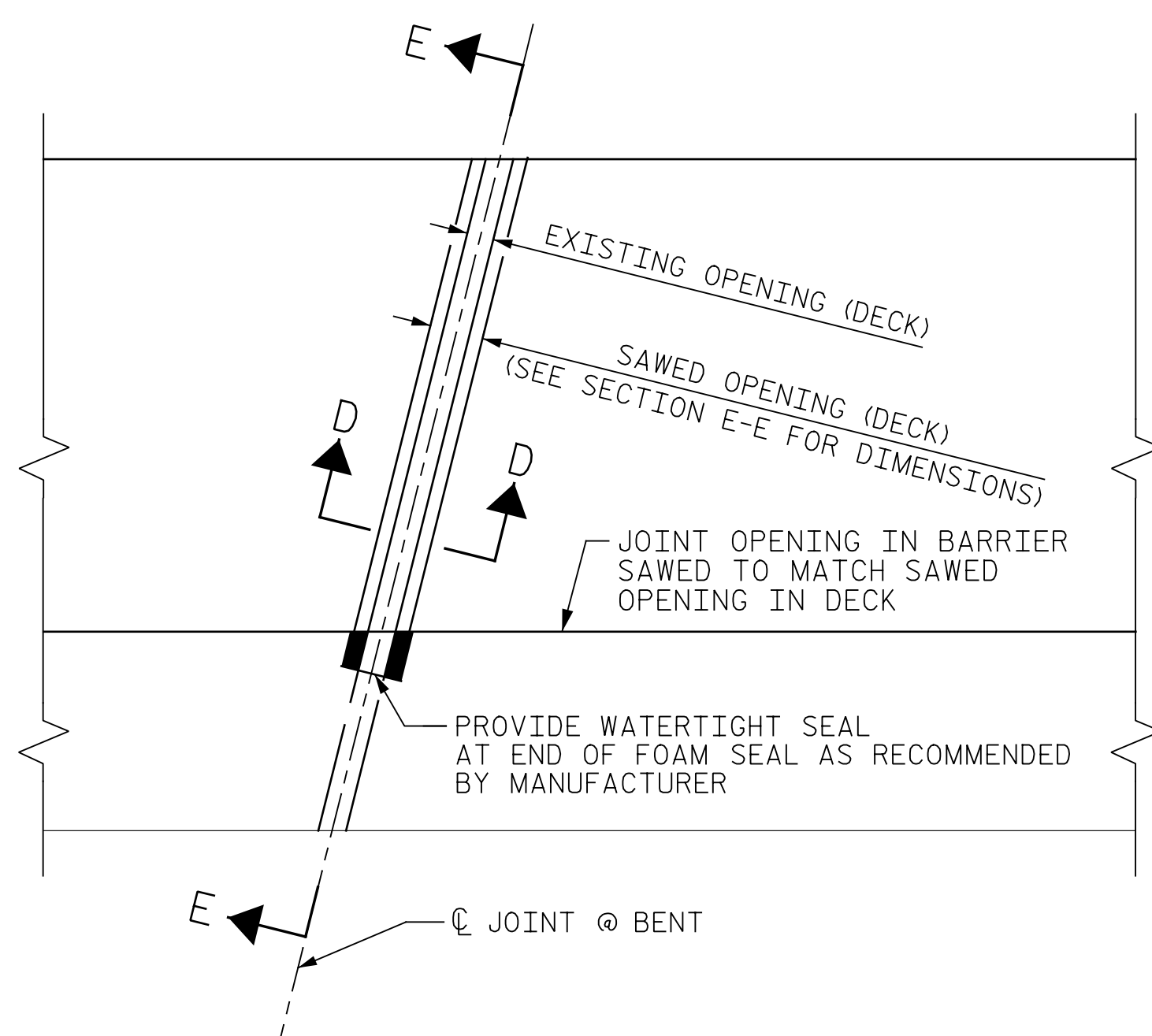


PROPOSED JOINT - PRE-SAWED



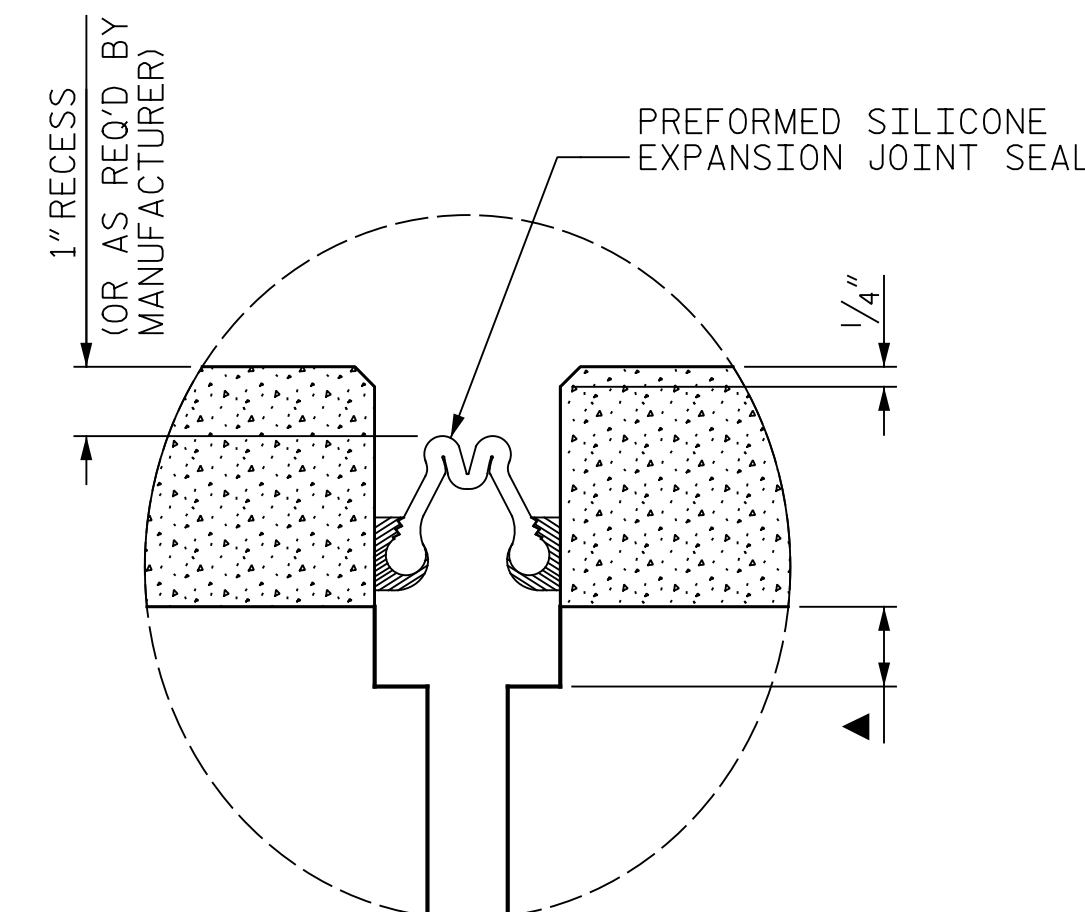
PROPOSED JOINT SEAL

SECTION C-C



SECTION E-E

PREFORMED SILICONE JOINT SEAL SHALL BE FACTORY FORMED AND SPLICED TO TURN UP PARALLEL TO SLOPED FACE OF BARRIER RAIL



DETAIL "A"

LOCATION	PREFORMED SILICONE EXPANSION JOINT SEAL
	LIN. FT.
BENT 1	33
BENT 6	33

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552



DocuSigned by:
 Eric B. Nelson 2/22/2022
 ACB892119074CD

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PREFORMED SILICONE EXPANSION JOINT SEAL DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S1-14
2			4			TOTAL SHEETS 43

DRAWN BY: J. MYA DATE: 02/2022
 CHECKED BY: R. FISHER DATE: 02/2022

PLANS PREPARED BY:
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 One Glenwood Avenue Suite 900
 Raleigh, NC 27603 (919) 420-7660
 Excellence Delivered As Promised NC Lic. No. F-0270

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NOTES

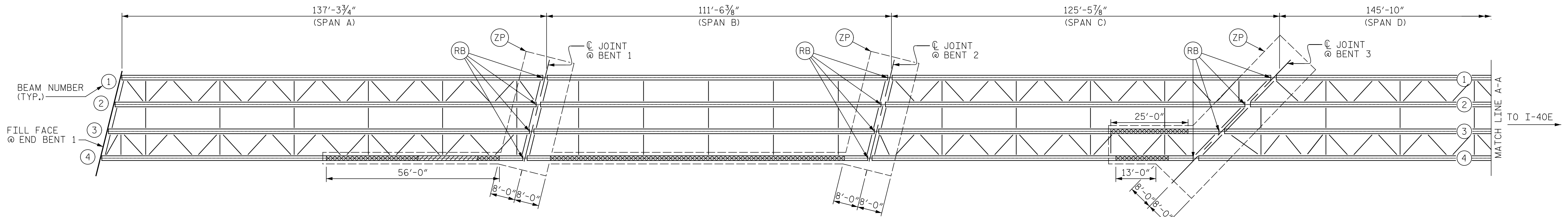
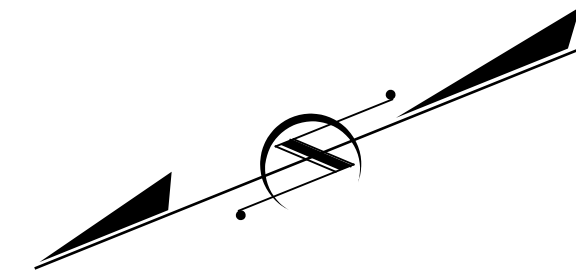
THE LOCATIONS AND DIMENSIONS OF THE ZONE PAINTING ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION, WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENT OF ZONE PAINTING AREAS PRIOR TO BEGINNING WORK.

FOR ZONE PAINTING, SEE PAINTING EXISTING WEATHERING STEEL STRUCTURE SPECIAL PROVISIONS.

HORIZONTAL LIMITS OF ZONE PAINTING SHALL EXTEND 12" BEYOND THE MAXIMUM HORIZONTAL EXTENT OF WEB/FLANGE CORROSION.

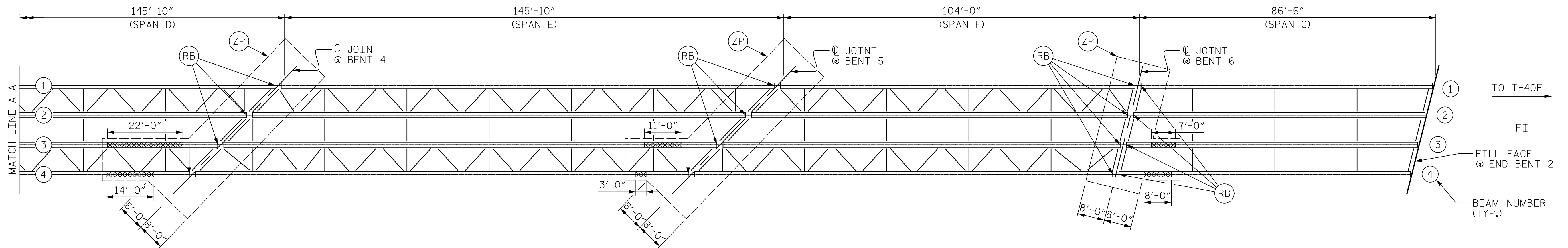
VERTICAL LIMITS OF ZONE PAINTING SHALL EXTEND 3" BEYOND THE MAXIMUM VERTICAL EXTENT OF WEB CORROSION OR 6" ABOVE THE TOP OF BOTTOM FLANGE, WHICHEVER IS GREATER.

-  ZONE PAINTING
-  REPLACE BEARING
-  ZONE PAINTING SINGLE BEAM LINES



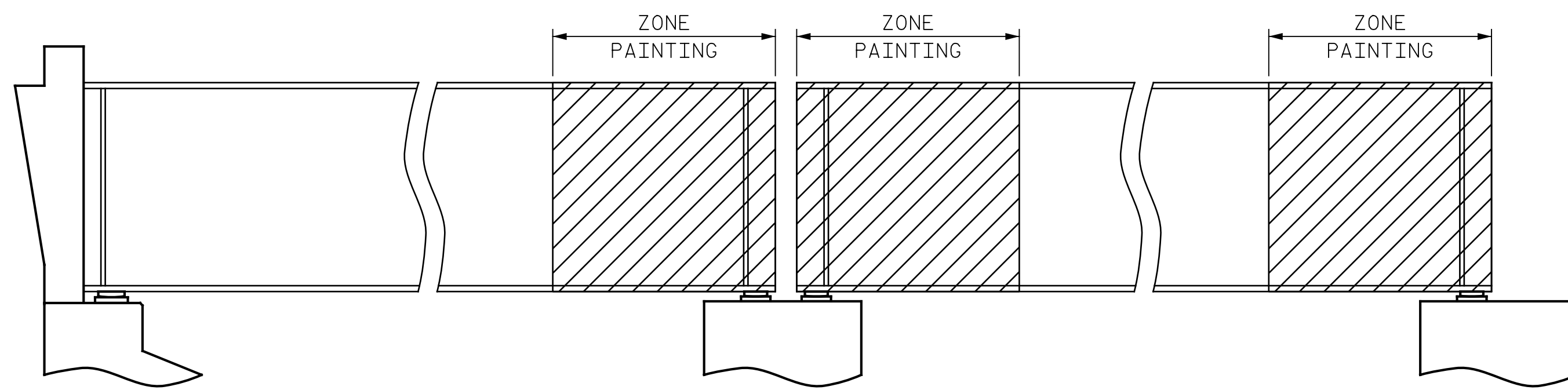
FRAMING PLAN

(OTHER LOCATIONS MAY EXIST, SEE NOTES)

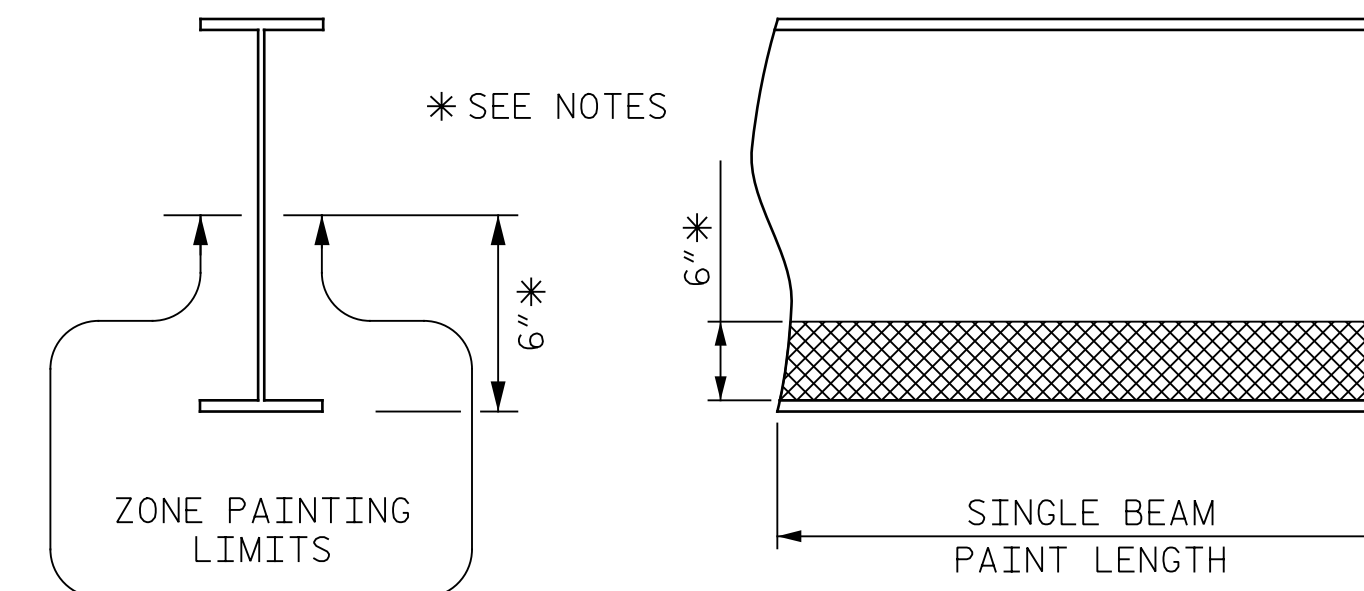


FRAMING PLAN

(OTHER LOCATIONS MAY EXIST, SEE NOTES)

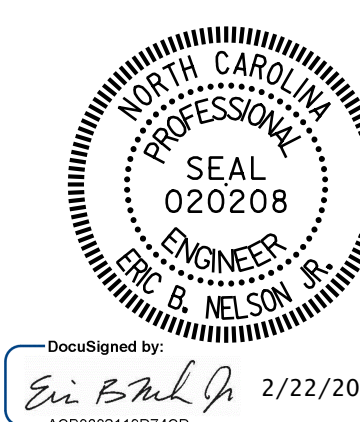


ZONE PAINTING AT BENTS



ZONE PAINTING FOR SINGLE BEAM LINES

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

FRAMING PLAN

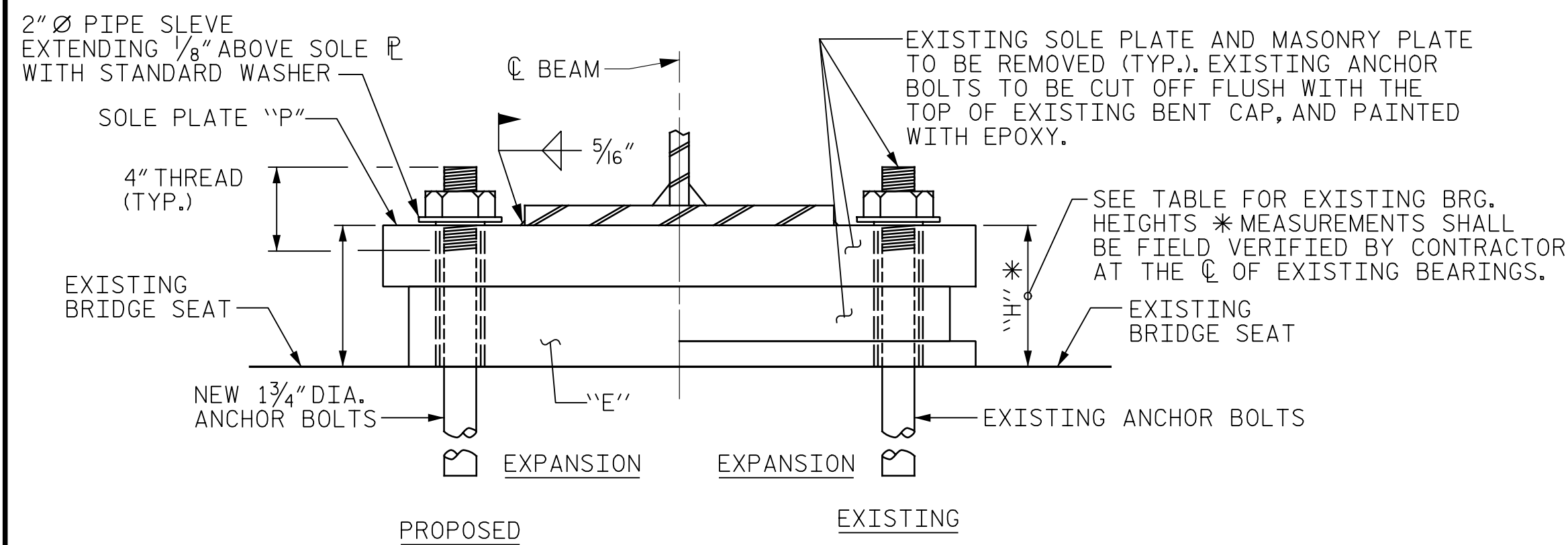
DRAWN BY: J. HARRIS/J. MYA DATE: 02/2022
 CHECKED BY: R. FISHER DATE: 02/2022

PLANS PREPARED BY:

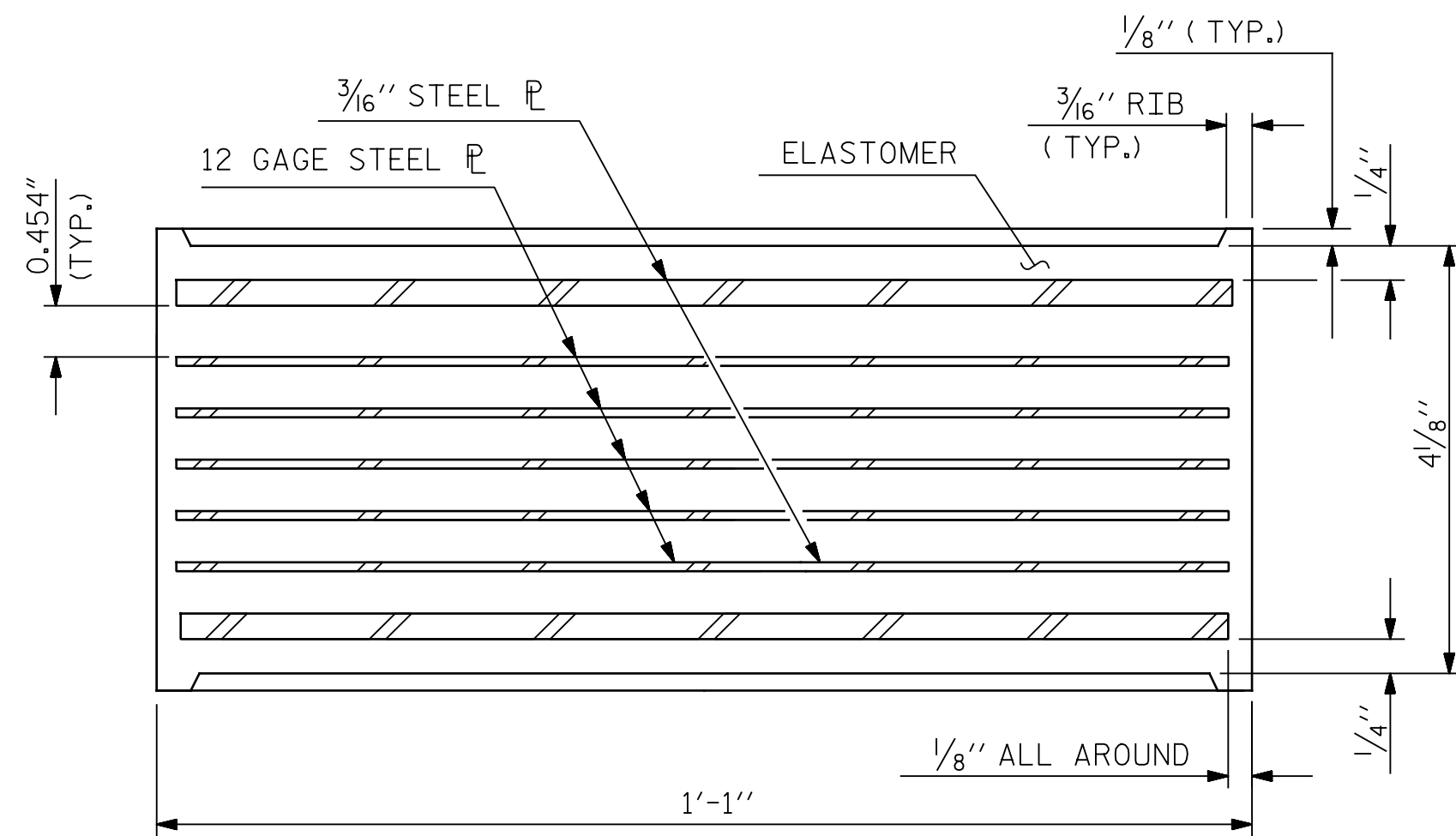
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 NC Lic. No. F-0270

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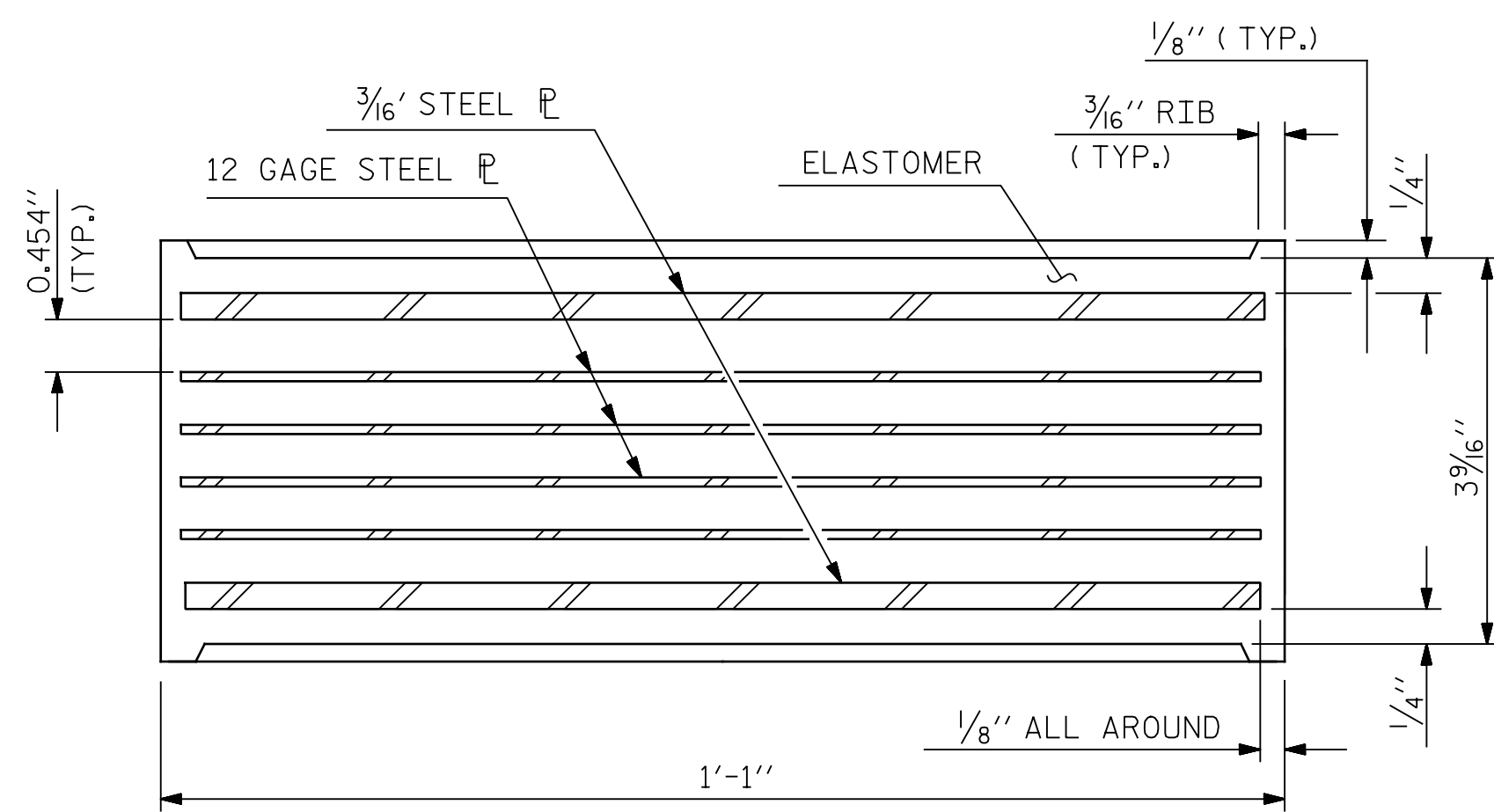
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S1-15
2			4			43



END VIEW (BEARING)

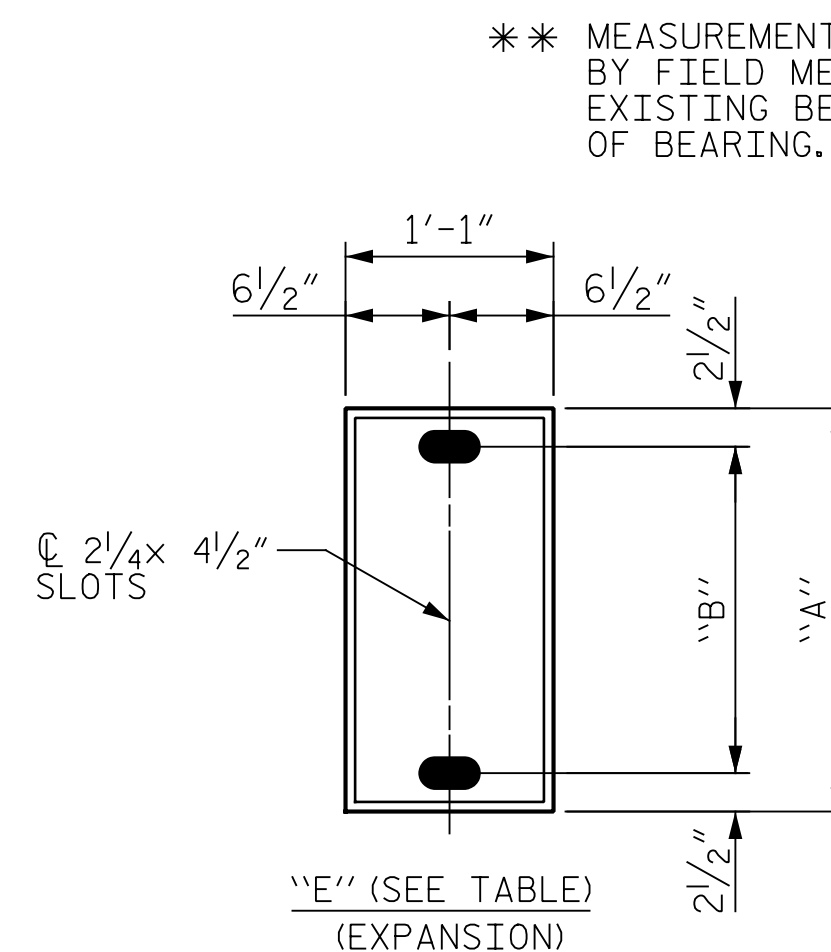


PAD E1 & E2 (EXPANSION)



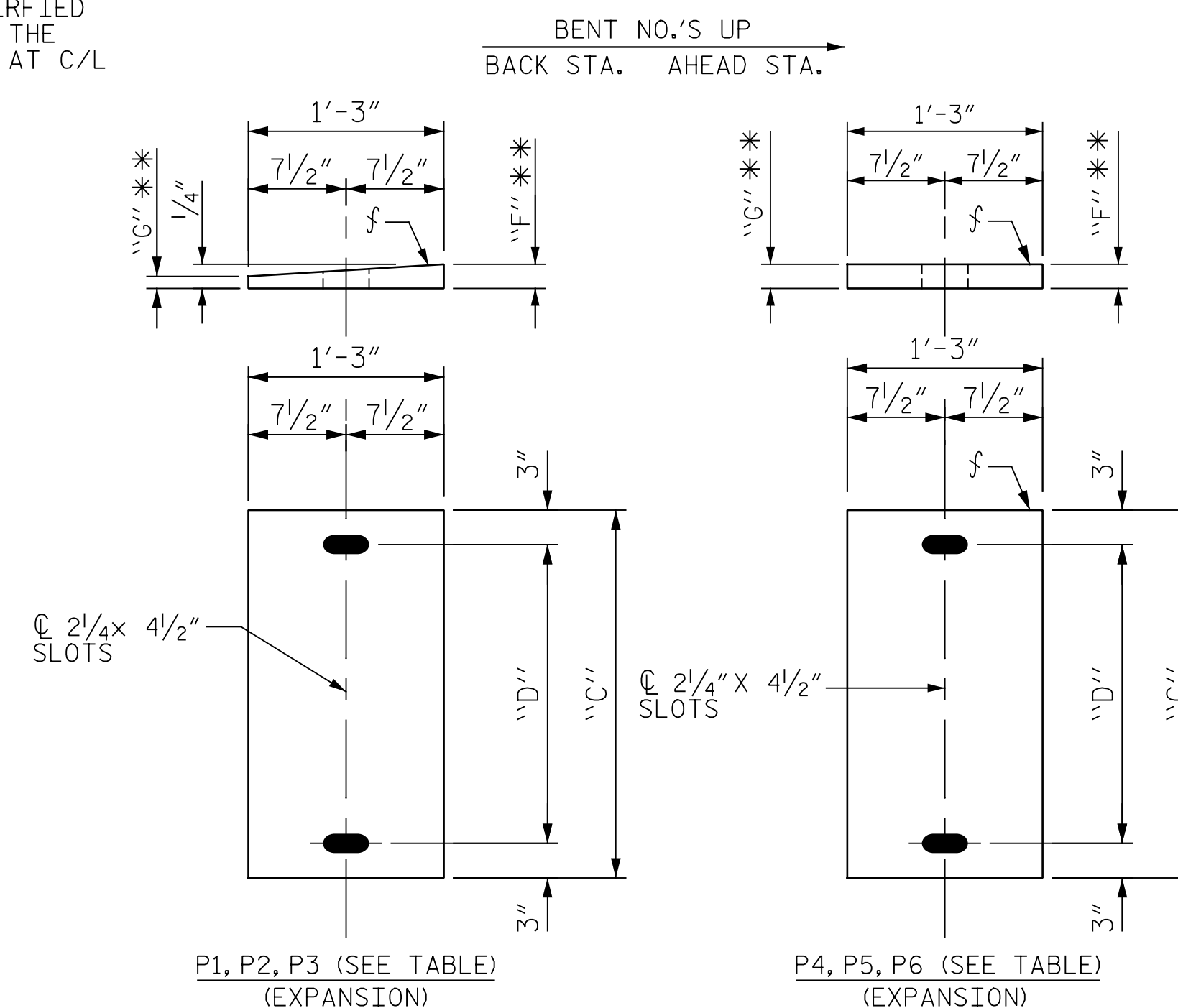
PAD E3, E4, & E5 (EXPANSION)

TYPICAL SECTION OF ELASTOMERIC BEARINGS



PLAN VIEW OF ELASTOMERIC BEARINGS

** MEASUREMENTS SHALL BE VERIFIED BY FIELD MEASUREMENT OF THE EXISTING BEARING HEIGHT AT C/L OF BEARING.



SOLE PLATE DETAILS

BENT #	BEAM #	LOCATION	ELASTOMERIC BEARING			SOLE PLATE					
			PAD	"A"	"B"	TYPE	"C"	"D"	"H" **	"G" **	"F" **
1	1	BACK. STA.	E1	2'-7"	2'-2"	P1	2'-8"	2'-2"	6 1/8"	1 7/8"	2 1/8"
1	2	BACK. STA.	E1	2'-7"	2'-2"	P1	2'-8"	2'-2"	6 1/8"	1 7/8"	2 1/8"
1	3	BACK. STA.	E1	2'-7"	2'-2"	P1	2'-8"	2'-2"	6 1/8"	1 7/8"	2 1/8"
1	4	BACK. STA.	E1	2'-7"	2'-2"	P1	2'-8"	2'-2"	6 1/8"	1 7/8"	2 1/8"
2	1	BACK. STA.	E2	2'-5"	2'-0"	P2	2'-6"	2'-0"	5 7/8"	1 1/16"	1 5/16"
2	2	BACK. STA.	E2	2'-5"	2'-0"	P2	2'-6"	2'-0"	5 7/8"	1 1/16"	1 5/16"
2	3	BACK. STA.	E2	2'-5"	2'-0"	P2	2'-6"	2'-0"	5 7/8"	1 1/16"	1 5/16"
2	4	BACK. STA.	E2	2'-5"	2'-0"	P2	2'-6"	2'-0"	5 7/8"	1 1/16"	1 5/16"
3	1	BACK. STA.	E2	2'-5"	2'-0"	P3	2'-6"	2'-0"	7"	2 3/4"	3"
3	2	BACK. STA.	E2	2'-5"	2'-0"	P3	2'-6"	2'-0"	7"	2 3/4"	3"
3	3	BACK. STA.	E2	2'-5"	2'-0"	P3	2'-6"	2'-0"	7"	2 3/4"	3"
3	4	BACK. STA.	E2	2'-5"	2'-0"	P3	2'-6"	2'-0"	7"	2 3/4"	3"
4	1	BACK. STA.	E1	2'-7"	2'-2"	P1	2'-8"	2'-2"	6 1/8"	1 7/8"	2 1/8"
4	2	BACK. STA.	E1	2'-7"	2'-2"	P1	2'-8"	2'-2"	6 1/8"	1 7/8"	2 1/8"
4	3	BACK. STA.	E1	2'-7"	2'-2"	P1	2'-8"	2'-2"	6 1/8"	1 7/8"	2 1/8"
4	4	BACK. STA.	E1	2'-7"	2'-2"	P1	2'-8"	2'-2"	6 1/8"	1 7/8"	2 1/8"
5	1	BACK. STA.	E3	2'-7"	2'-2"	P4	2'-8"	2'-2"	6 1/8"	2 1/2"	2 1/2"
5	2	BACK. STA.	E3	2'-7"	2'-2"	P4	2'-8"	2'-2"	6 1/8"	2 1/2"	2 1/2"
5	3	BACK. STA.	E3	2'-7"	2'-2"	P4	2'-8"	2'-2"	6 1/8"	2 1/2"	2 1/2"
5	4	BACK. STA.	E3	2'-7"	2'-2"	P4	2'-8"	2'-2"	6 1/8"	2 1/2"	2 1/2"
6	1	BACK. STA.	E4	2'-5"	2'-0"	P5	2'-6"	2'-0"	5 7/8"	2 1/4"	2 1/4"
6	2	BACK. STA.	E4	2'-5"	2'-0"	P5	2'-6"	2'-0"	5 7/8"	2 1/4"	2 1/4"
6	3	BACK. STA.	E4	2'-5"	2'-0"	P5	2'-6"	2'-0"	5 7/8"	2 1/4"	2 1/4"
6	4	BACK. STA.	E4	2'-5"	2'-0"	P5	2'-6"	2'-0"	5 7/8"	2 1/4"	2 1/4"
6	1	AHEAD STA.	E5	2'-6"	2'-1"	P6	2'-7"	2'-1"	5 5/8"	2"	2"
6	2	AHEAD STA.	E5	2'-6"	2'-1"	P6	2'-7"	2'-1"	5 5/8"	2"	2"
6	3	AHEAD STA.	E5	2'-6"	2'-1"	P6	2'-7"	2'-1"	5 5/8"	2"	2"
6	4	AHEAD STA.	E5	2'-6"	2'-1"	P6	2'-7"	2'-1"	5 5/8"	2"	2"

NOTES

- THE EXISTING BEARINGS SHALL BE REMOVED AND REPLACED AS SHOWN.
- CUT EXISTING ANCHOR BOLTS FLUSH TO THE TOP OF CONCRETE. BOLT ENDS SHALL BE COATED WITH AN APPROVED EPOXY PAINT.
- THE CONTRACTOR SHALL CORE INTO EXISTING BENT CAP TO INSTALL 1 3/4" Ø ANCHOR BOLTS. BOLTS SHALL BE ADHESIVELY ANCHORED BOLTS. ADHESIVE FOR NEW ANCHOR BOLTS SHALL BE AN NCDOT-APPROVED PRODUCT.
- EMBEDMENT DEPTH OF ANCHOR BOLT SHALL BE 1'-3/2" OR THE DEPTH RECOMMENDED BY THE ADHESIVE MANUFACTURER TO ATTAIN PULL-OUT STRENGTH OF THE TEST LOAD GIVEN BELOW, WHICHEVER DEPTH IS GREATER. FIELD TESTING IS NOT REQUIRED.
- DESIGN LOAD SHALL BE 30,000 LBS. TENSION FOR 1 3/4" ANCHOR BOLTS.
- AT ALL POINTS OF SUPPORT, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1 TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.
- ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO M292-2H. WASHERS SHALL MEET THE REQUIREMENTS OF AASHTO M293. SHOP DRAWINGS ARE NOT REQUIRED FOR ANCHOR BOLTS, NUTS AND WASHERS. SHOP INSPECTION IS REQUIRED.
- ALL WELDS SHALL BE IN ACCORDANCE WITH CURRENT APPLICABLE AWS AND NCDOT STANDARD SPECIFICATIONS.
- ALL WELDS SHALL BE INSPECTED AND TESTED BY THE NCDOT MATERIALS AND TESTS UNIT I ACCORDANCE WITH THE CURRENT AWS BRIDGE WELDING CODE AND STANDARD SPECIFICATIONS.
- ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT
- THE ELASTOMER IN THE STEEL REINFORCED BEARINGS SHALL HAVE A SHEAR MODULUS OF 0.160 KSI, IN ACCORDANCE WITH AASHTO M251.
- FOR FIELD MEASURING, SEE SPECIAL PROVISIONS.
- FOR STEEL REINFORCED ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.
- FOR MODIFIED ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.
- ALL SOLE PLATES SHALL BE AASHTO M270 GRADE 50W.
- WHEN FIELD WELDING THE SOLE PLATE TO THE GIRDER FLANGE, USE TEMPERATURE INDICATING WAX PENS, OR OTHER SUITABLE MEANS, TO ENSURE THAT THE TEMPERATURE OF THE SOLE PLATE DOES NOT EXCEED 300°F. TEMPERATURES ABOVE THIS MAY DAMAGE THE ELASTOMER.

MAXIMUM ALLOWABLE SERVICE LOADS	
D.L.+L.L. (NO IMPACT)	
E1, E3, E4, E5	217 k
E2	188 k

PROJECT NO. I-5943
 WAKE COUNTY
 BRIDGE NO. 910552

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 ELASTOMERIC BEARING
 DETAILS



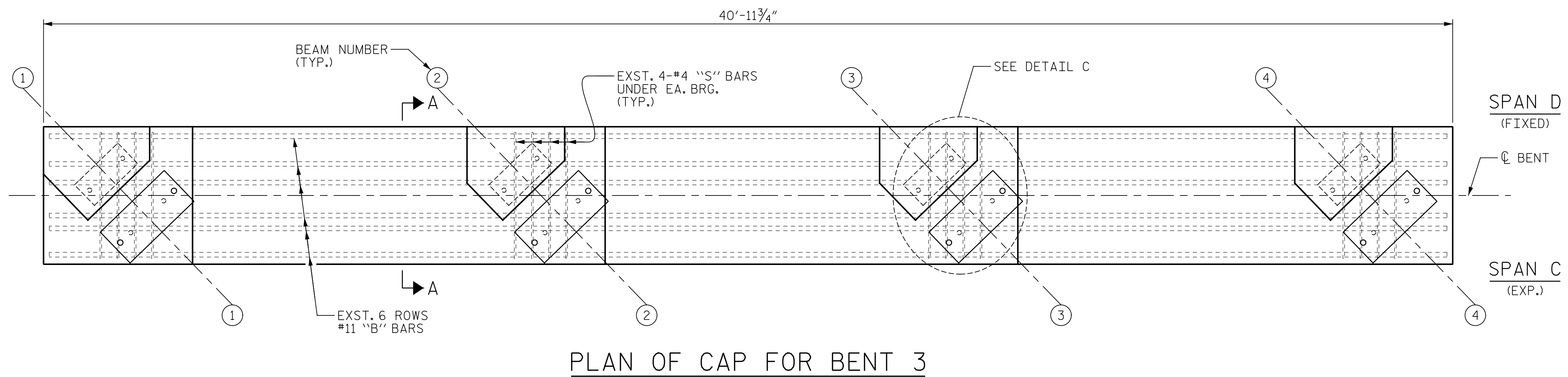
DocuSigned by:
 Eric B. Nelson
 2/22/2022

DRAWN BY: J. HARRIS/J. MYA DATE: 02/2022
 CHECKED BY: J. FARNHAM DATE: 02/2022

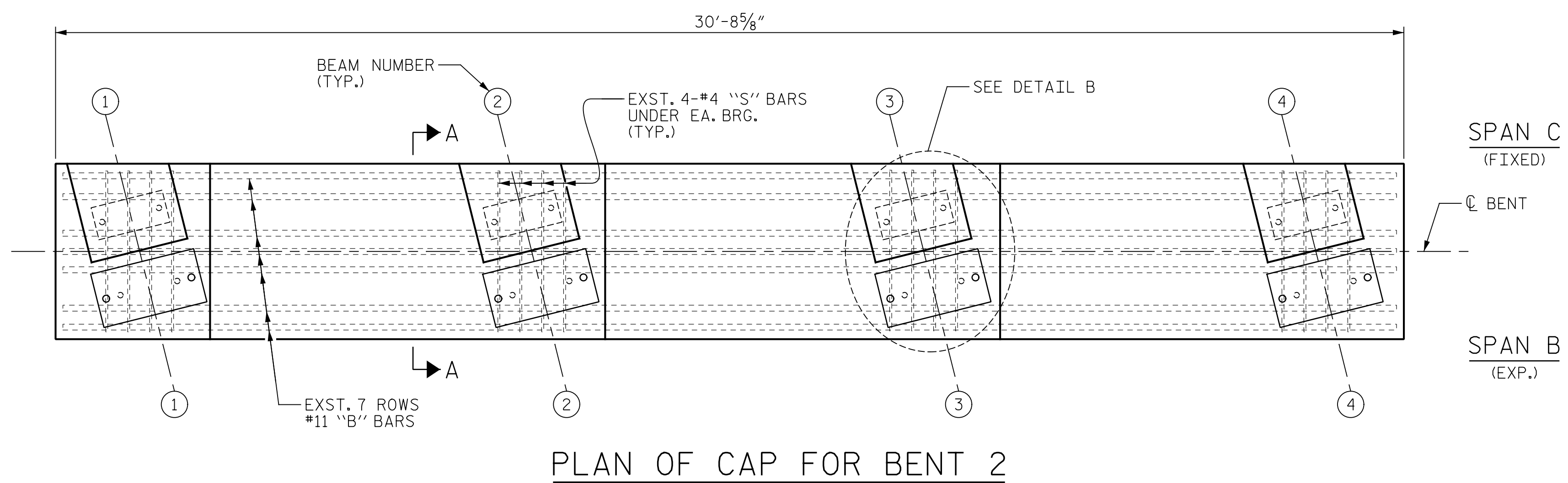
PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised
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 Raleigh, NC 27603
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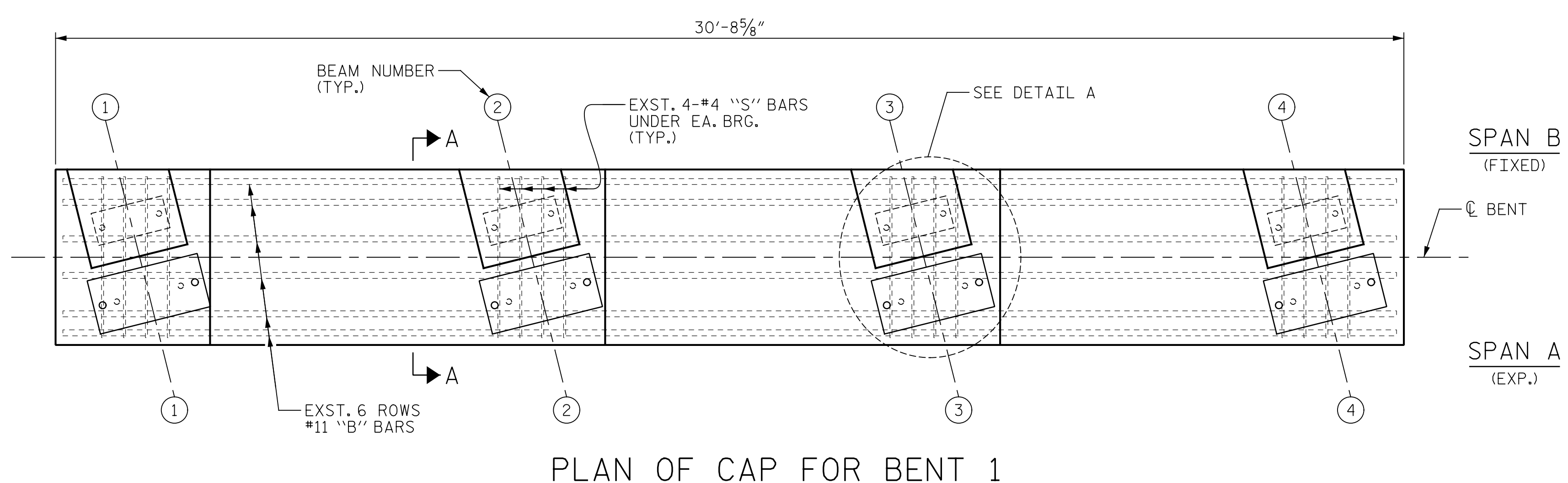
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-16
1			3			TOTAL SHEETS
2			4			43



PLAN OF CAP FOR BENT 3

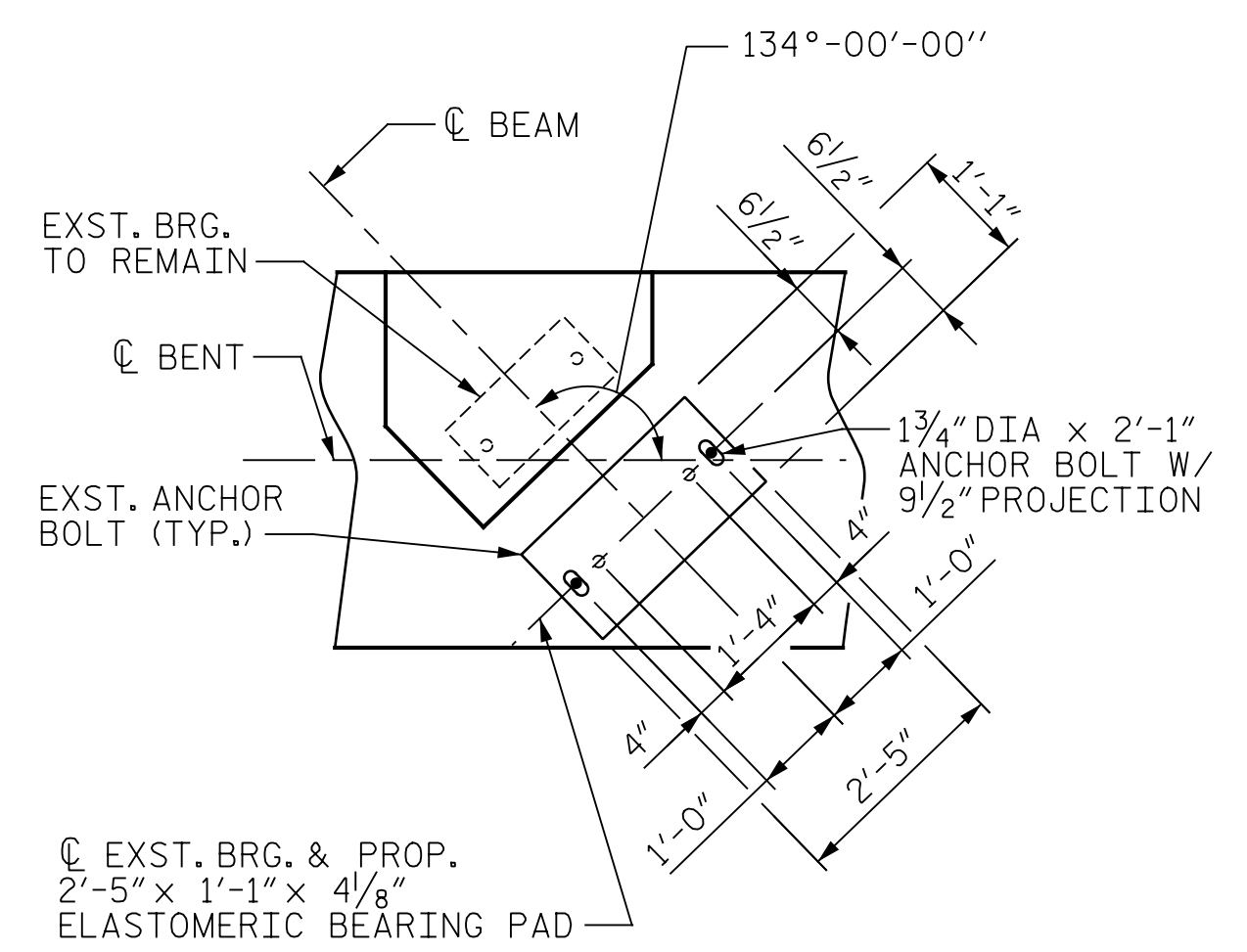


PLAN OF CAP FOR BENT 2

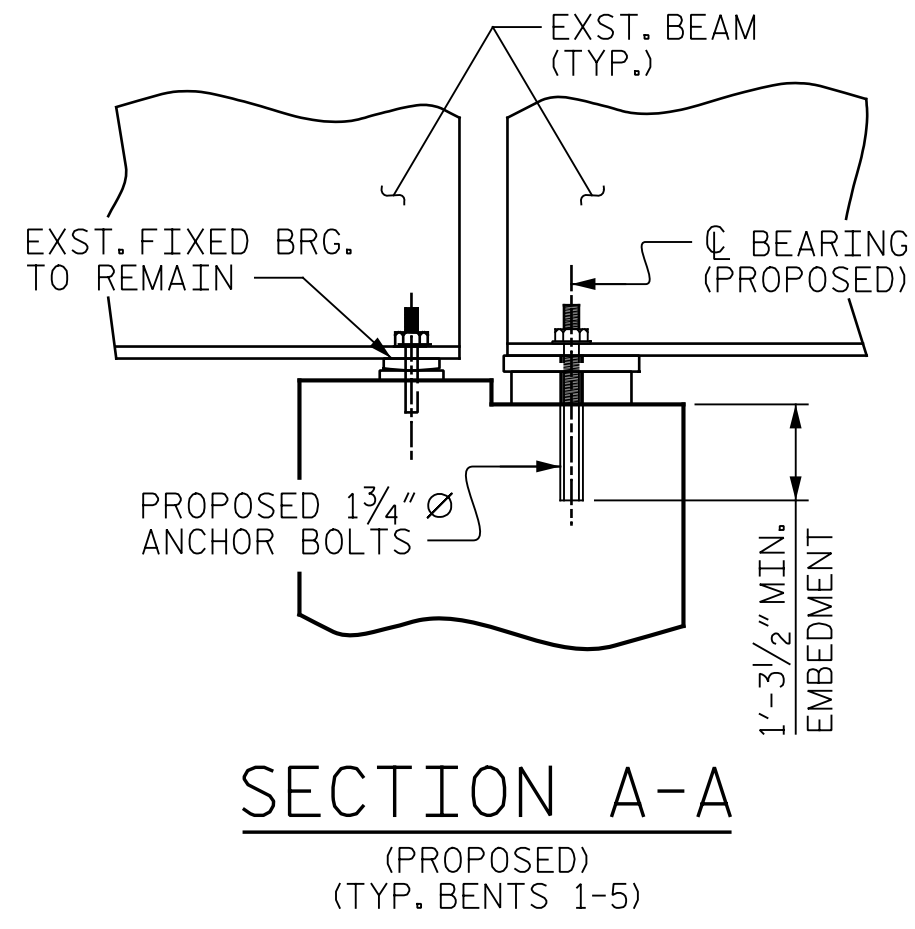


PLAN OF CAP FOR BENT 1

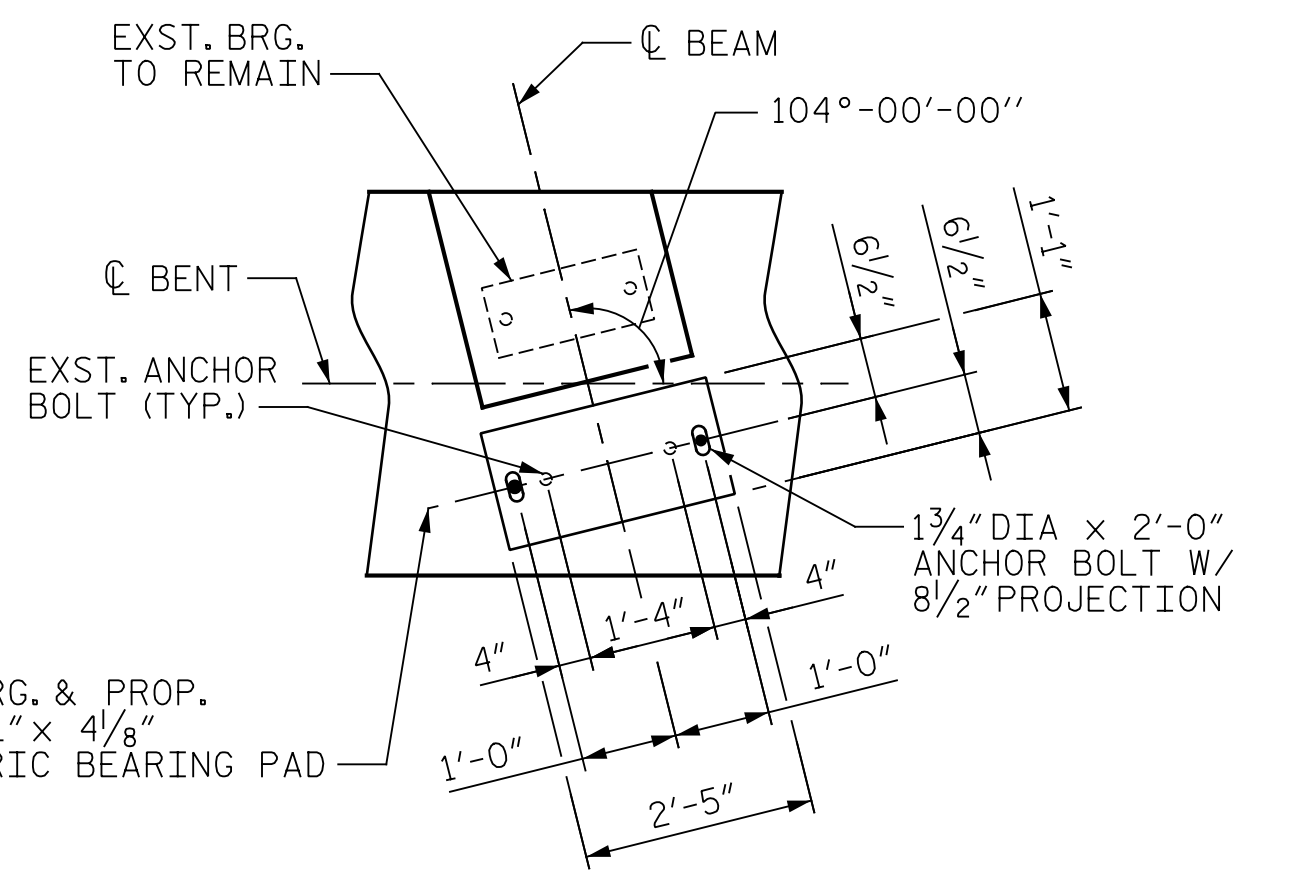
NOTE
 PROPOSED ANCHOR BOLTS ARE DETAILED TO CLEAR MAIN CAP BARS.
 EXISTING #4 'S' BARS MAY BE CUT AS REQUIRED TO INSTALL ANCHOR BOLTS.



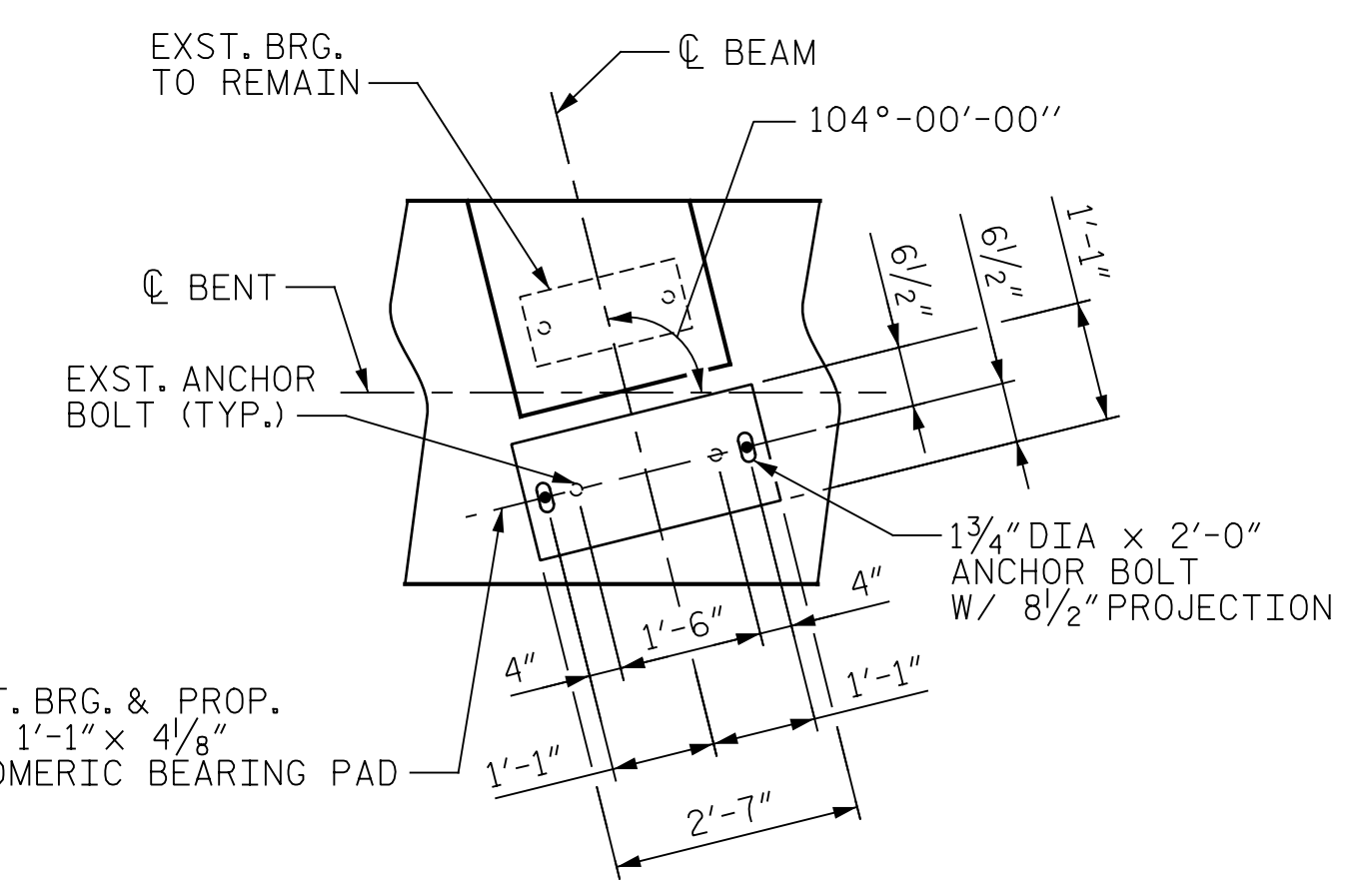
DETAIL C
(TYP. ALL EXP. BRG.)
(BENT 3)



SECTION A-A
(PROPOSED)
(TYP. BENTS 1-5)



DETAIL B
(TYP. ALL EXP. BRG.)
(BENT 2)



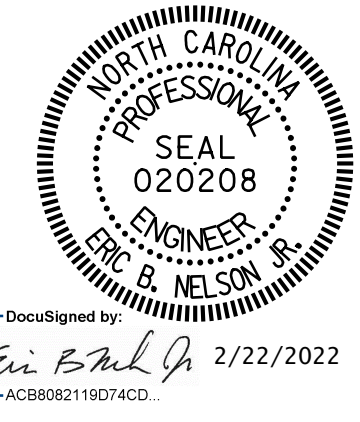
DETAIL A
(TYP. ALL EXP. BRG.)
(BENT 1)

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**BEARING LAYOUT
 DETAILS**



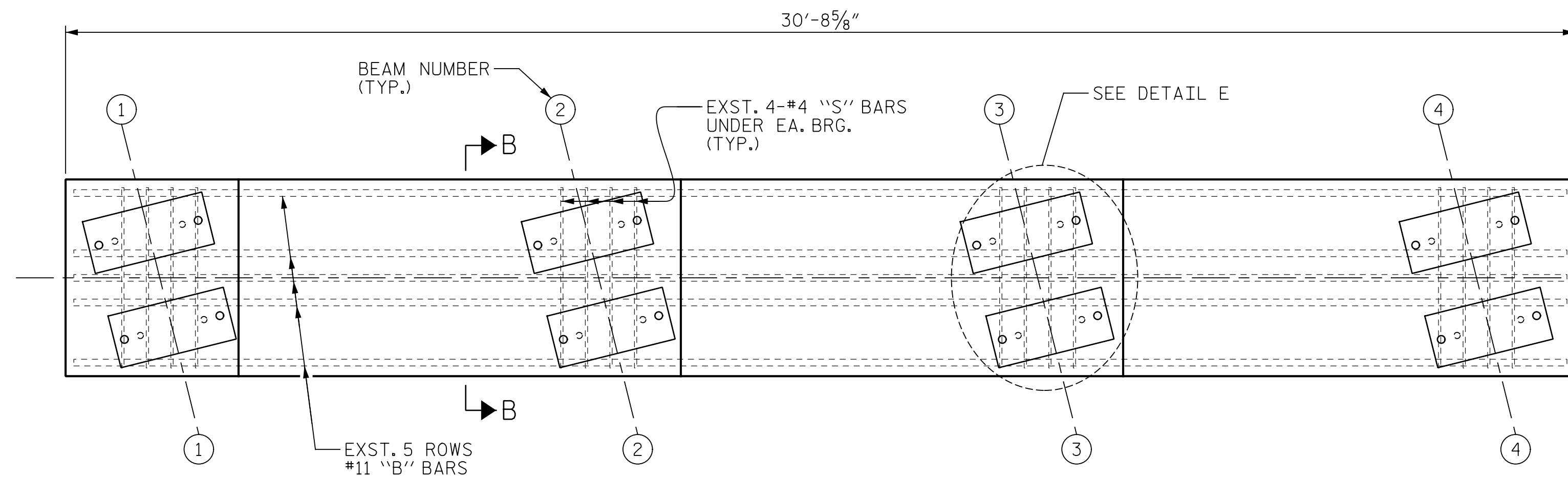
DRAWN BY: J. HARRIS/J. MYA DATE: 02/2022
 CHECKED BY: R. FISHER DATE: 02/2022

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised

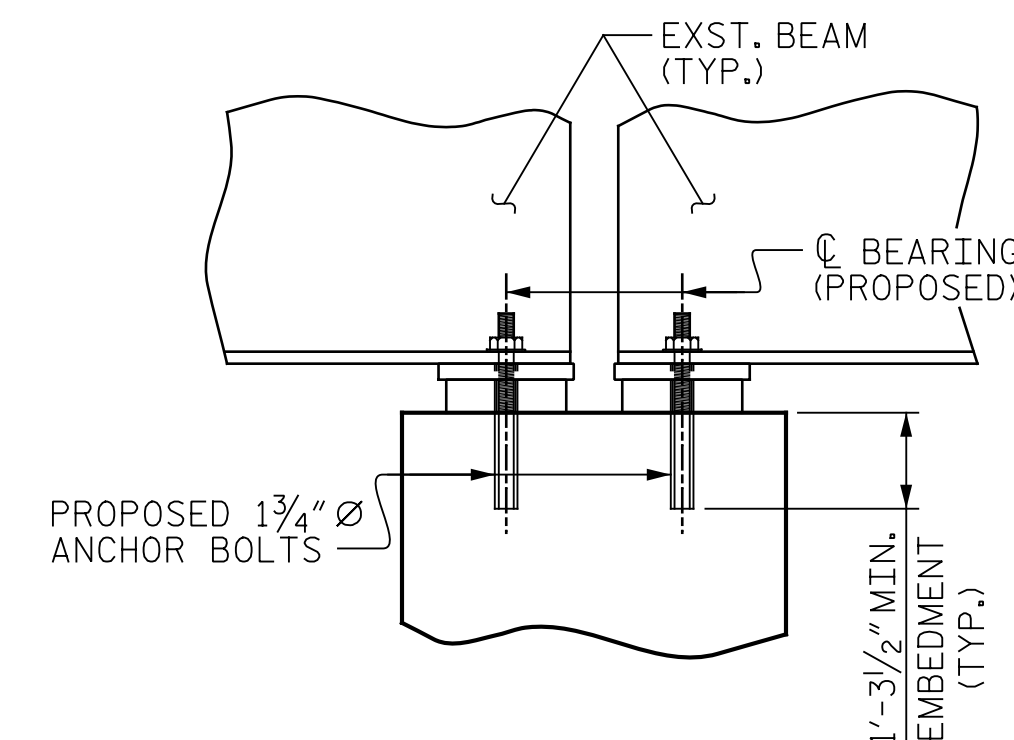
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 (919) 420-7660
 NC Lic. No. F-0270

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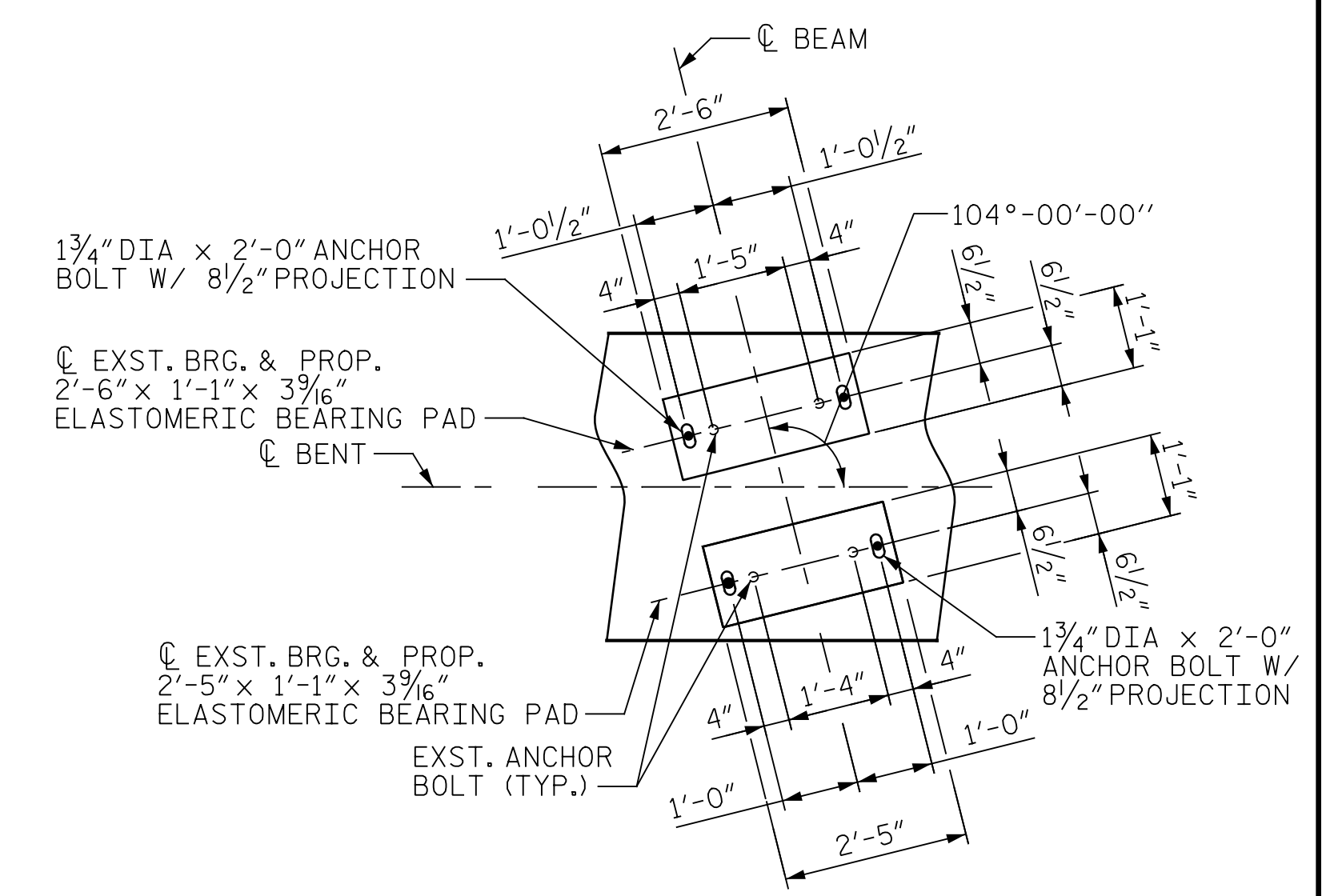
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S1-17
2			4			TOTAL SHEETS 43



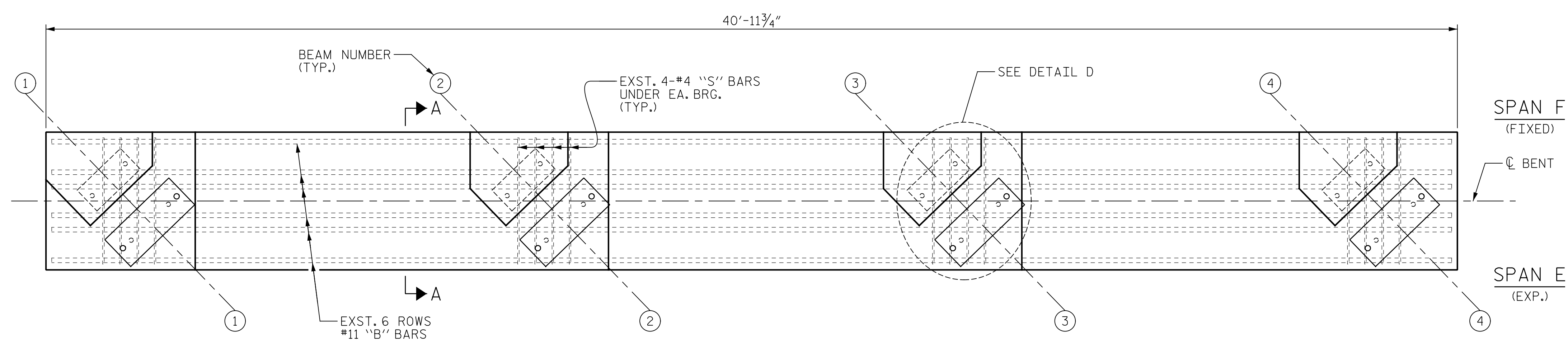
PLAN OF CAP FOR BENT 6



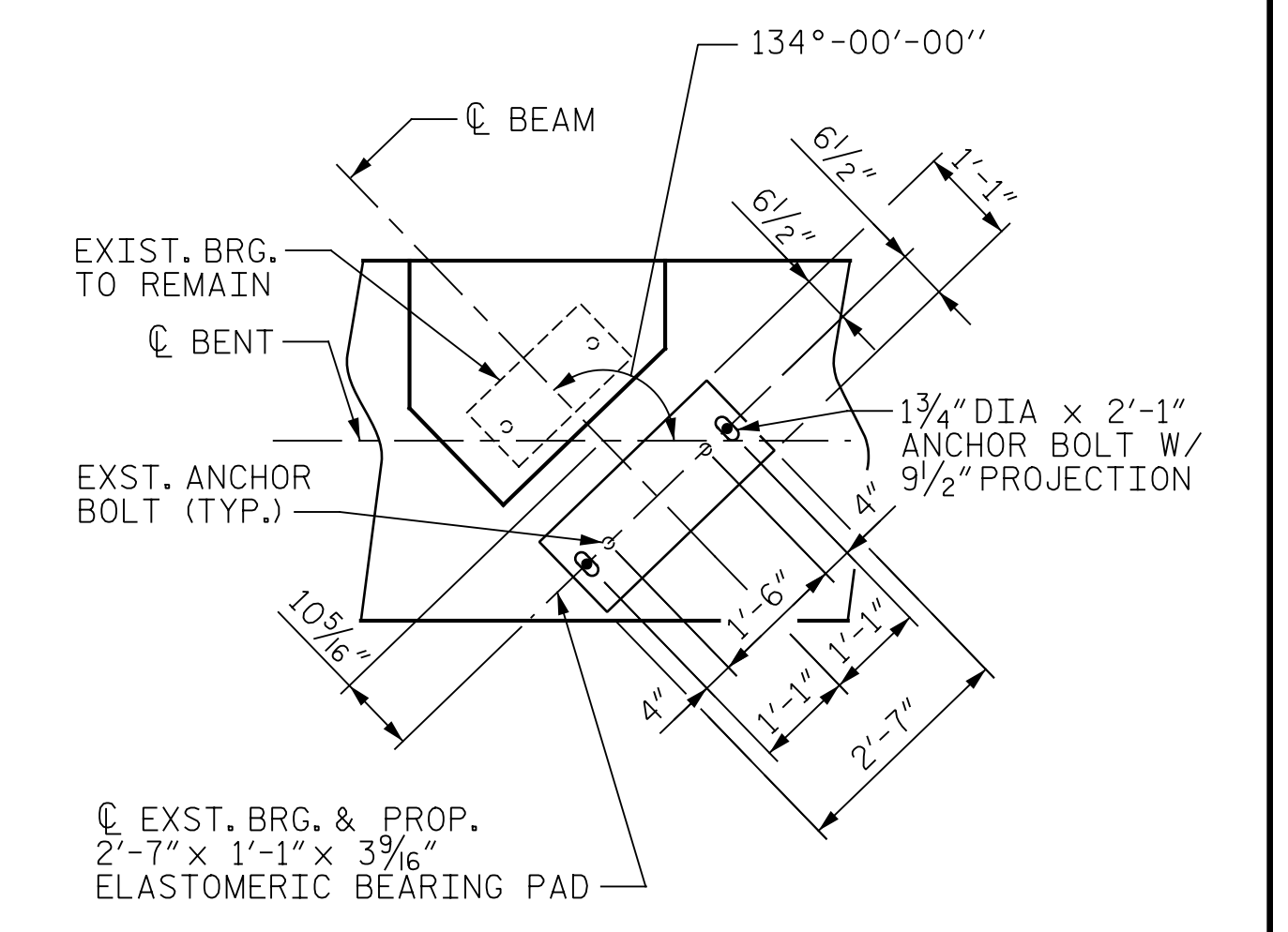
SECTION B-B
(PROPOSED)
(TYP. BENT 6)



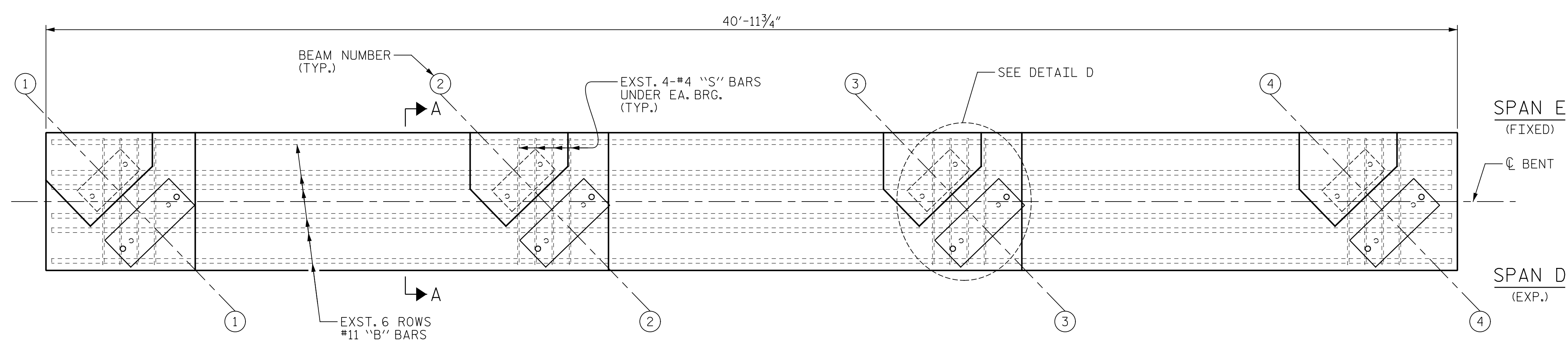
DETAIL E
(TYP. ALL EXP. BRG.)
(BENT 6)



PLAN OF CAP FOR BENT 5



DETAIL D
(TYP. ALL EXP. BRG.)
(BENT 4 & 5)



PLAN OF CAP FOR BENT 4

PROJECT NO. I-5943
 WAKE COUNTY
 BRIDGE NO. 910552
 SHEET 3 OF 3



STATE OF NORTH CAROLINA		SHEET NO.			
DEPARTMENT OF TRANSPORTATION		S1-18			
RALEIGH		TOTAL SHEETS			
BEARING LAYOUT DETAILS		43			
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

DRAWN BY: J. HARRIS/J. MYA DATE: 02/2022
 CHECKED BY: R. FISHER DATE: 02/2022

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised
 One Glenwood Avenue Suite 900
 Raleigh, NC 27603
 (919) 420-7660
 NC Lic. No. F-0270

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTES

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

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

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

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

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

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

THE MAXIMUM DIFFERENTIAL BETWEEN ADJACENT BEAMS THAT ARE BEING JACKED IS 1/8".

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

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

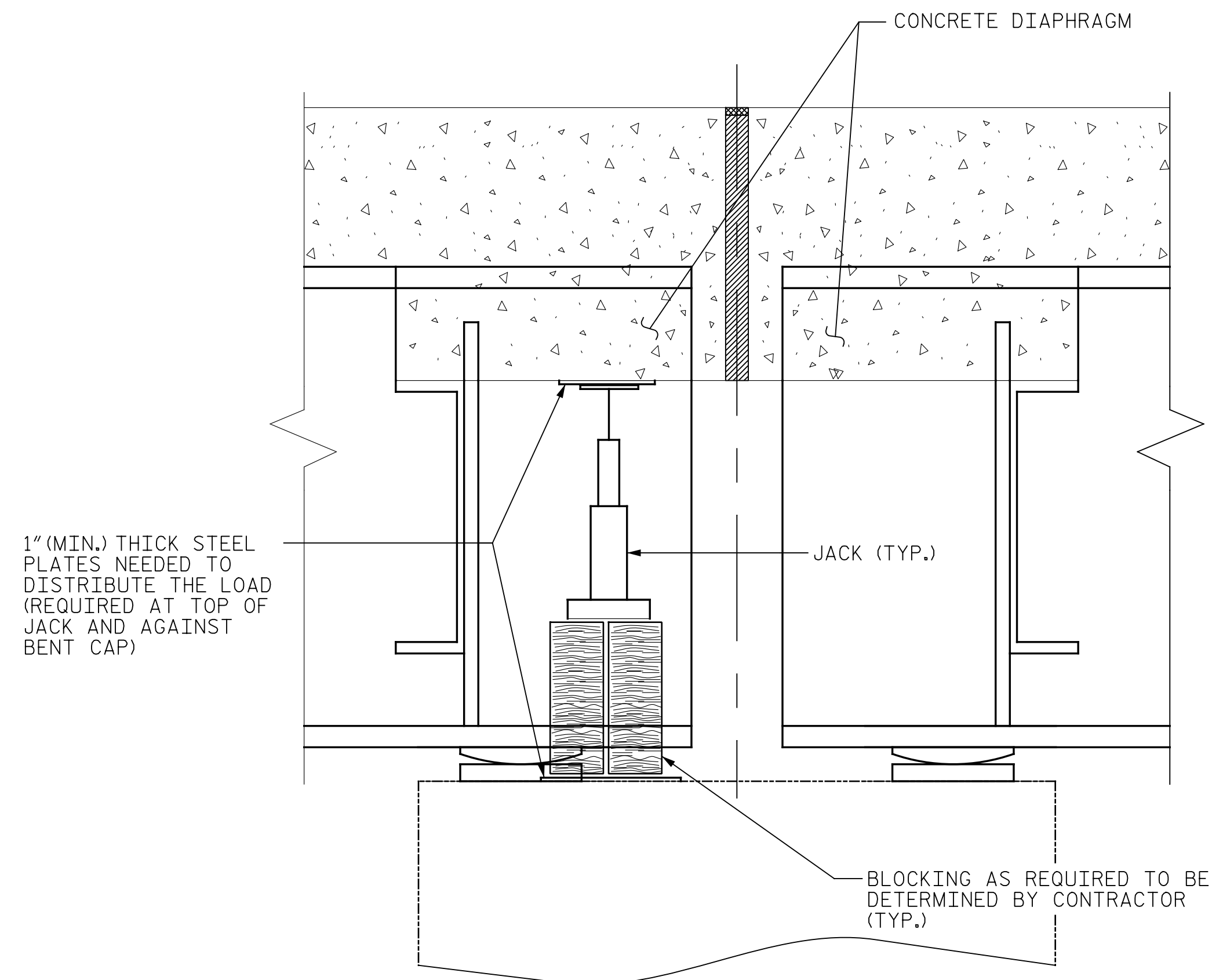
FOR TYPE I OR TYPE II BRIDGE JACKING, SEE SPECIAL PROVISIONS.

FOR WORKING DRAWING SUBMITTALS, SEE SPECIAL PROVISIONS.

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

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

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

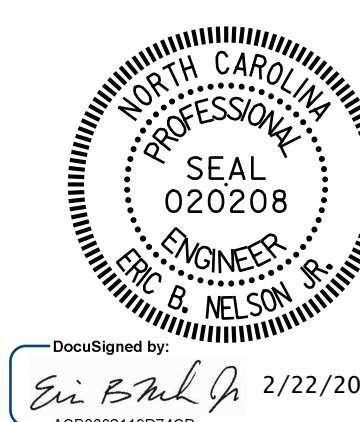


BRIDGE JACKING DETAIL

BRIDGE JACKING TABLE PRELIMINARY GIRDER REACTIONS (MAXIMUM)			
LOCATION	GIRDER	BRIDGE JACKING TYPE	DEAD LOAD (DC+DW) (KIPS)
BENT 1	1-4	I	105
BENT 2	1-4	I	80
BENT 3	1-4	I	75
BENT 4	1-4	I	110
BENT 5	1-4	I	110
BENT 6, SPAN F	1-4	I	90
BENT 6, SPAN G	1-4	I	60

NOTE: LOADS ARE UNFACTORED

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552



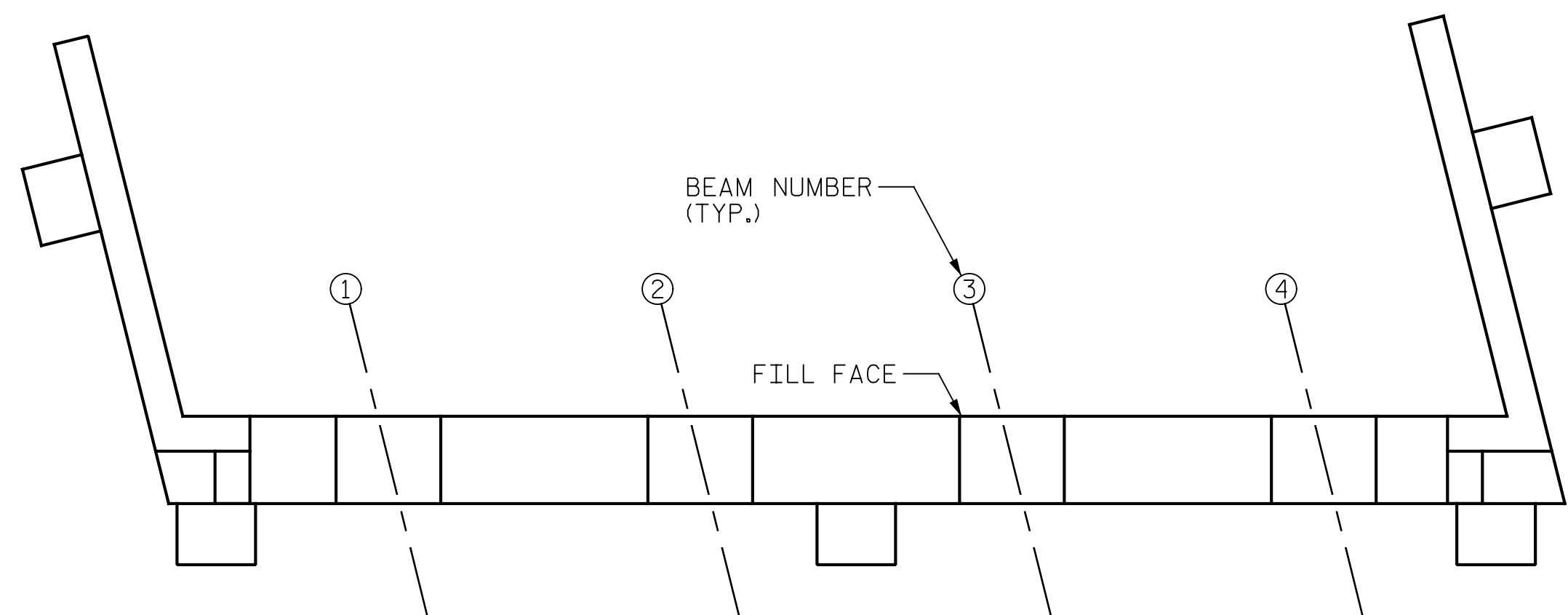
DocuSigned by:
 Eric B. Nelson
 2/22/2022

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
JACKING DETAILS					
SHEET NO. S1-19					
TOTAL SHEETS 43					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

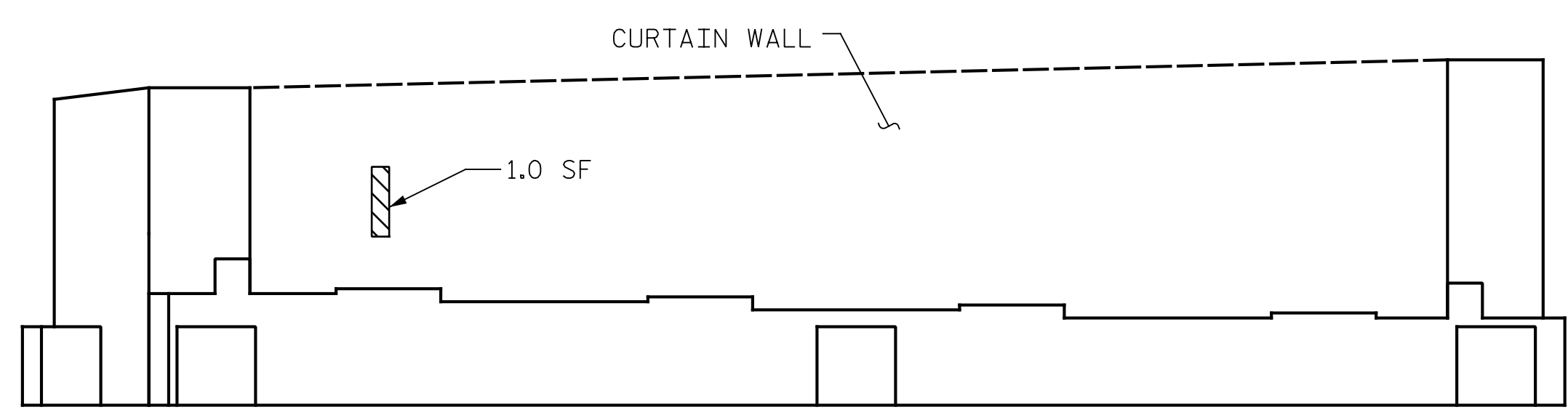
PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered **As Promised**
 One Glenwood Avenue
 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
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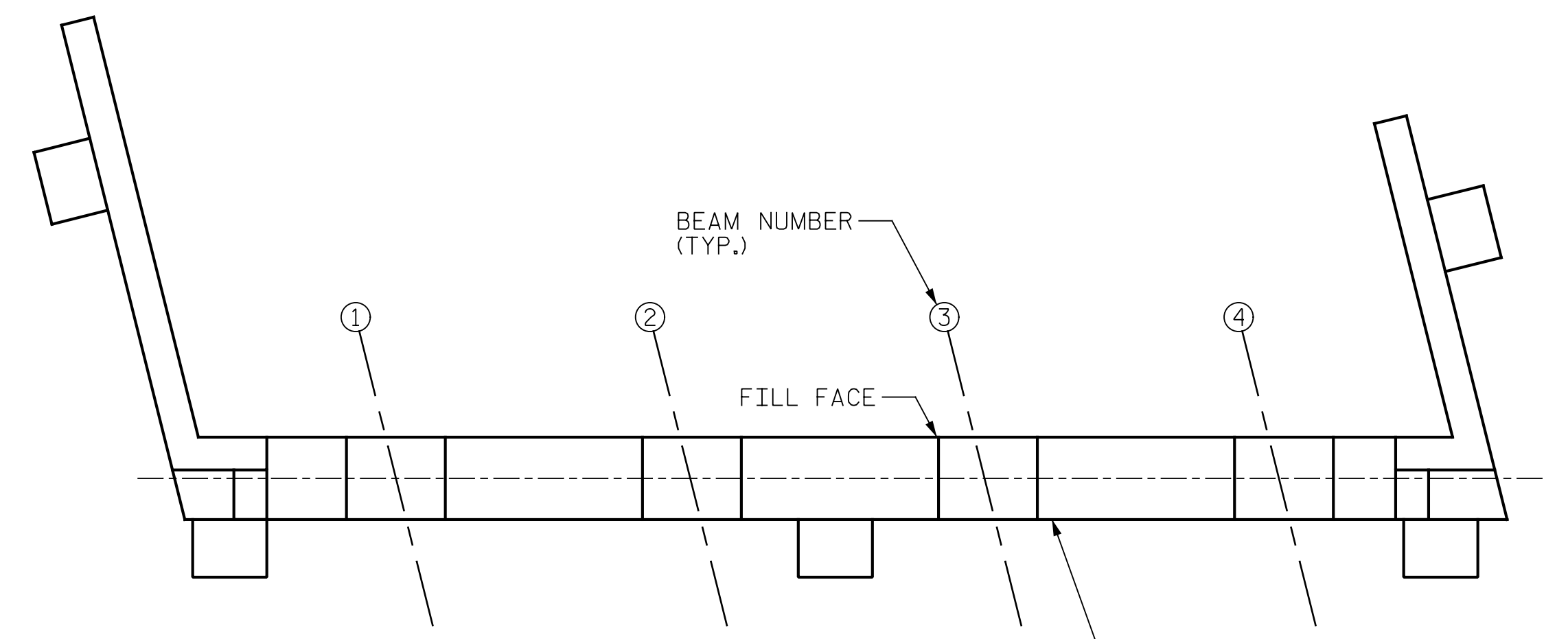
DRAWN BY : J. MYA DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022



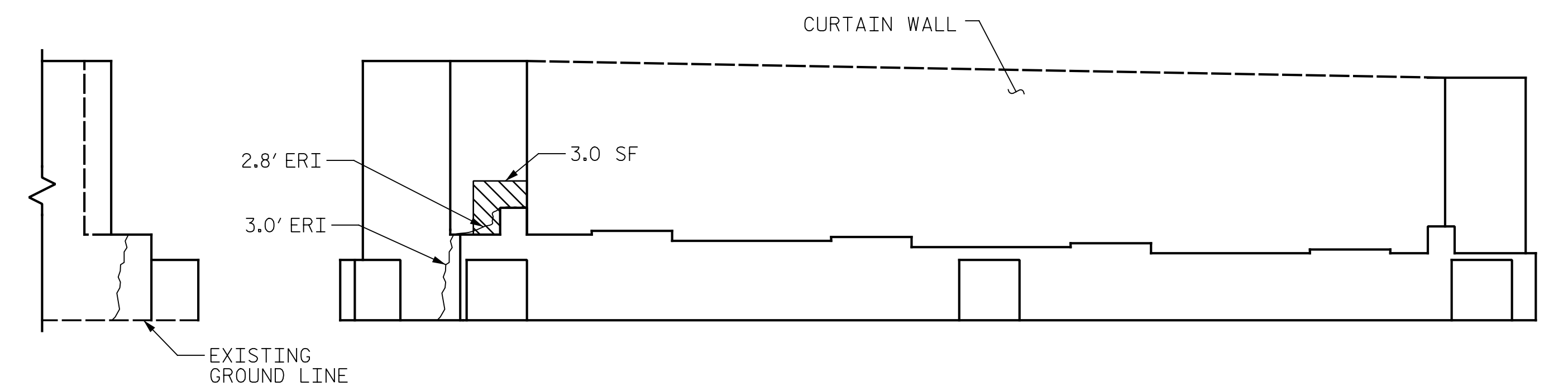
PLAN



ELEVATION
END BENT 1



PLAN



SIDE VIEW
ELEVATION
END BENT 2

AS-BUILT REPAIR QUANTITY TABLE					
END BENT 1 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	-	-			
CURTAIN WALL	1.0	0.3			
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.		
CAP	-				
WING WALL	-				

AS-BUILT REPAIR QUANTITY TABLE					
END BENT 2 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	-	-			
WINGWALL	3.0	1.0			
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.		
CAP	3.0				
CURTAIN WALL	2.8				

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

NOTES:

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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

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

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552



DocuSigned by:
Eric B. Nelson
2/22/2022

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 1 & 2

DRAWN BY : T. HARTLEY DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:

 One Glenwood Avenue
 Suite 900
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 (919) 420-7660
 NC Lic. No. F-0270

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 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S1-20
2			4			43

AS-BUILT REPAIR QUANTITY TABLE

BENT 1 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	2.3	0.9			
COLUMN	0.0	0.0			
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	-	-			
COLUMN	-	-			
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.		
CAP	-				
COLUMN	-				
EPOXY COATING	AREA SF		AREA SF		
TOP OF CAP	111.8				

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

NOTES:

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

CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.



CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

-  - SHOTCRETE REPAIR
-  - CONCRETE REPAIR (FORM & POUR)

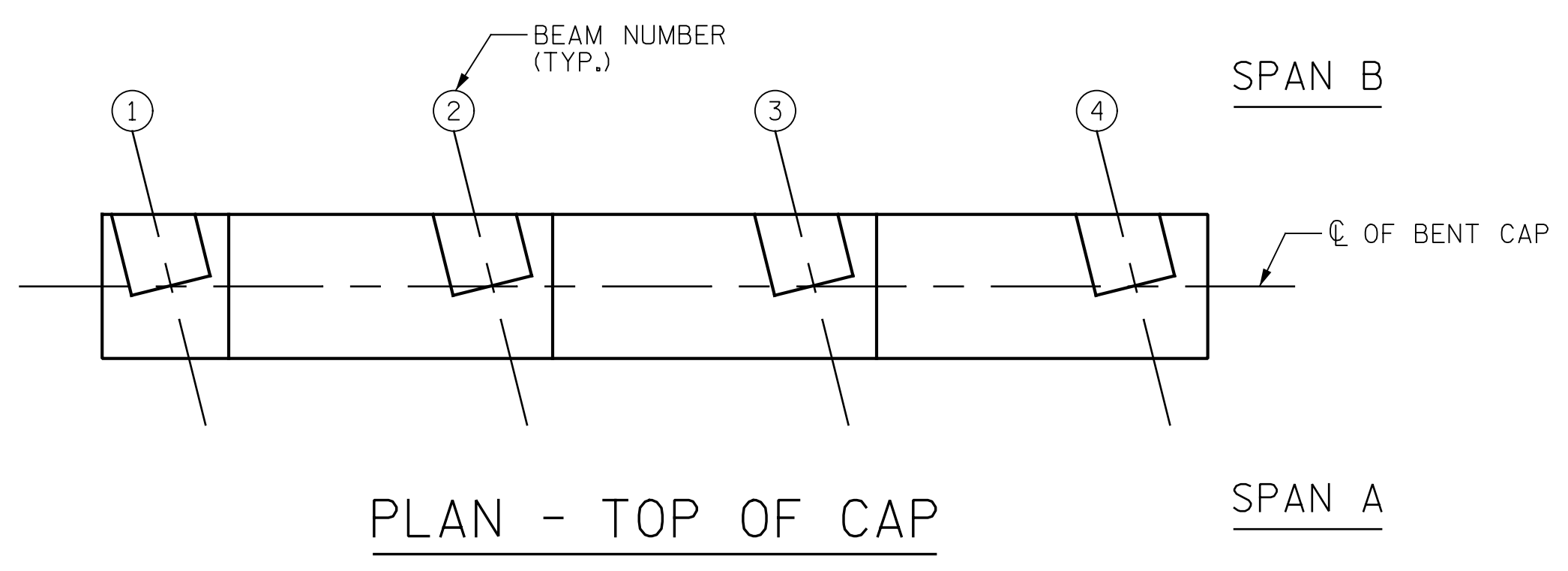
PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

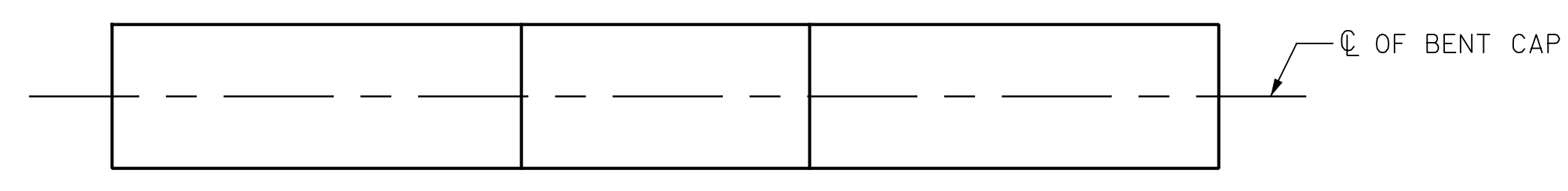
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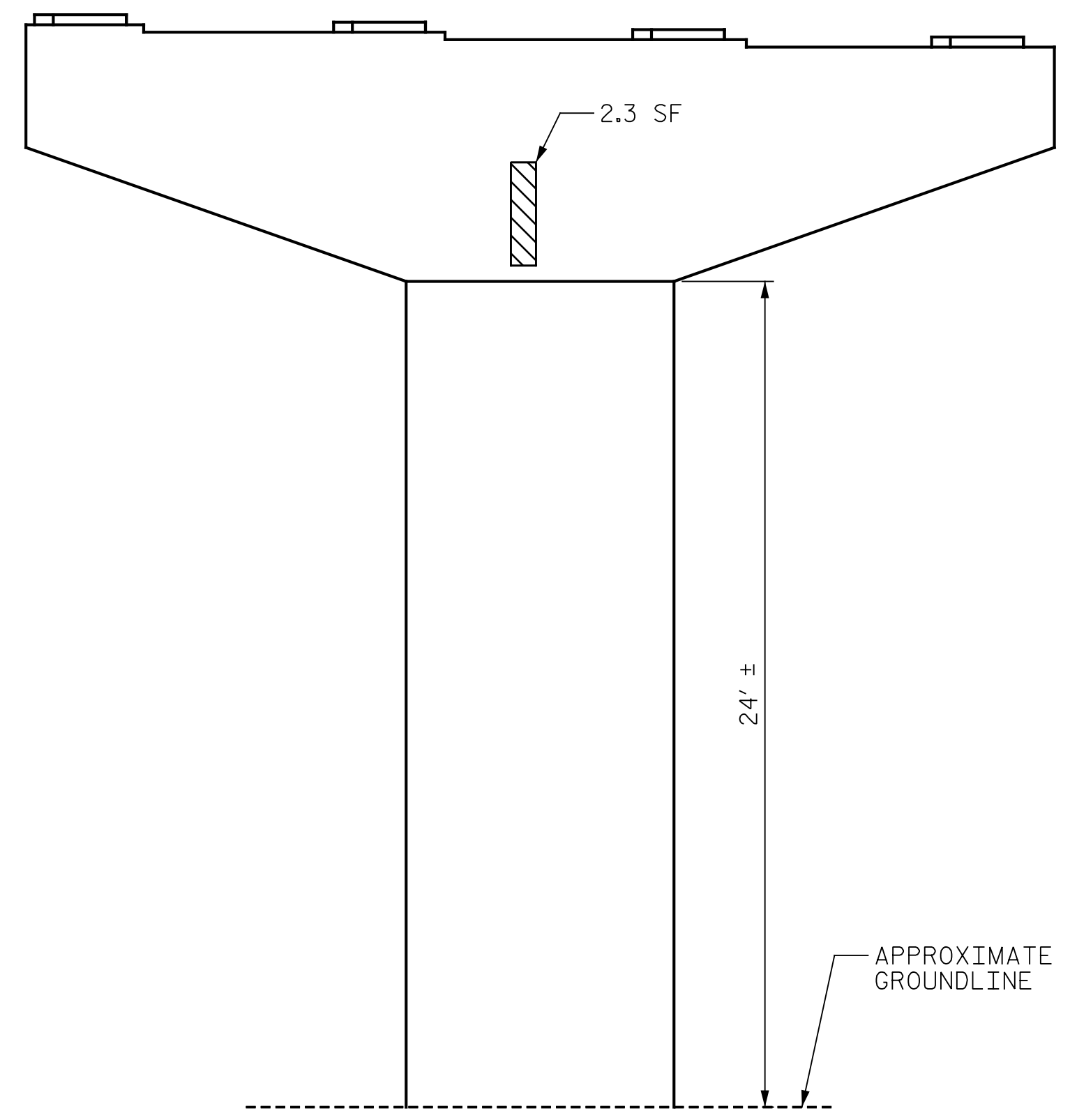
DocuSigned by:
Eric B. Nelson 2/22/2022
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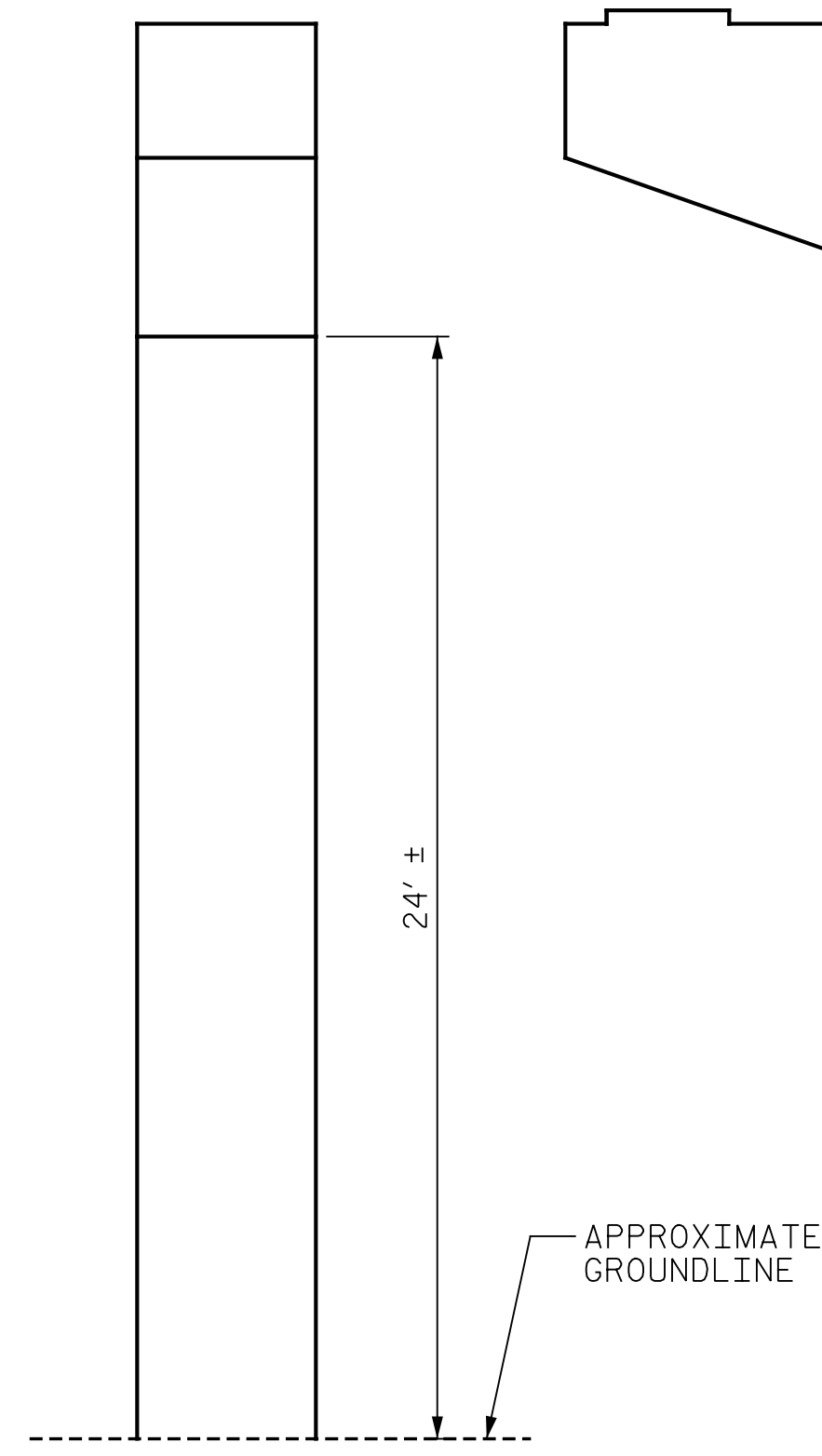
PLAN - TOP OF CAP



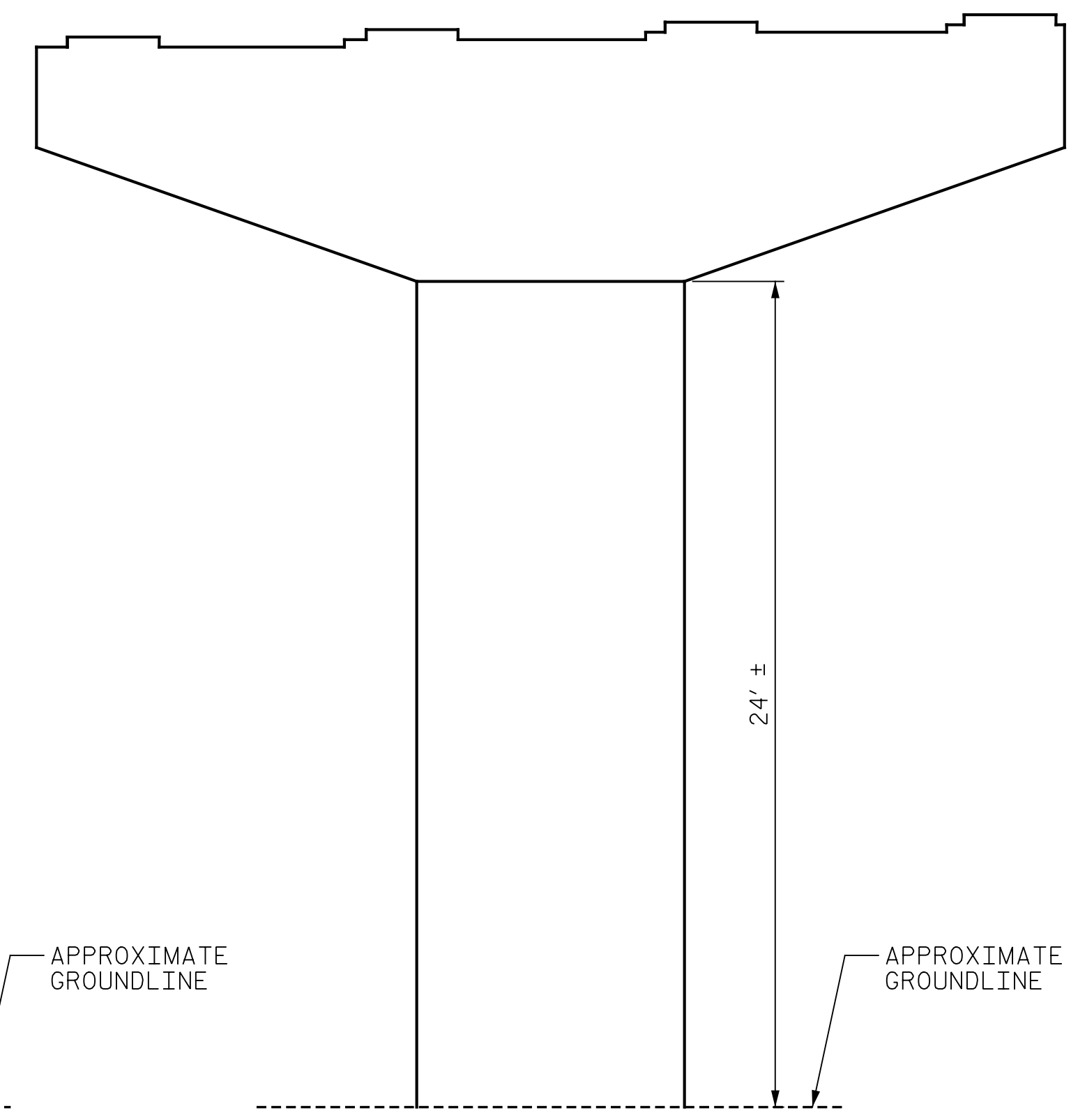
PLAN - BOTTOM OF CAP



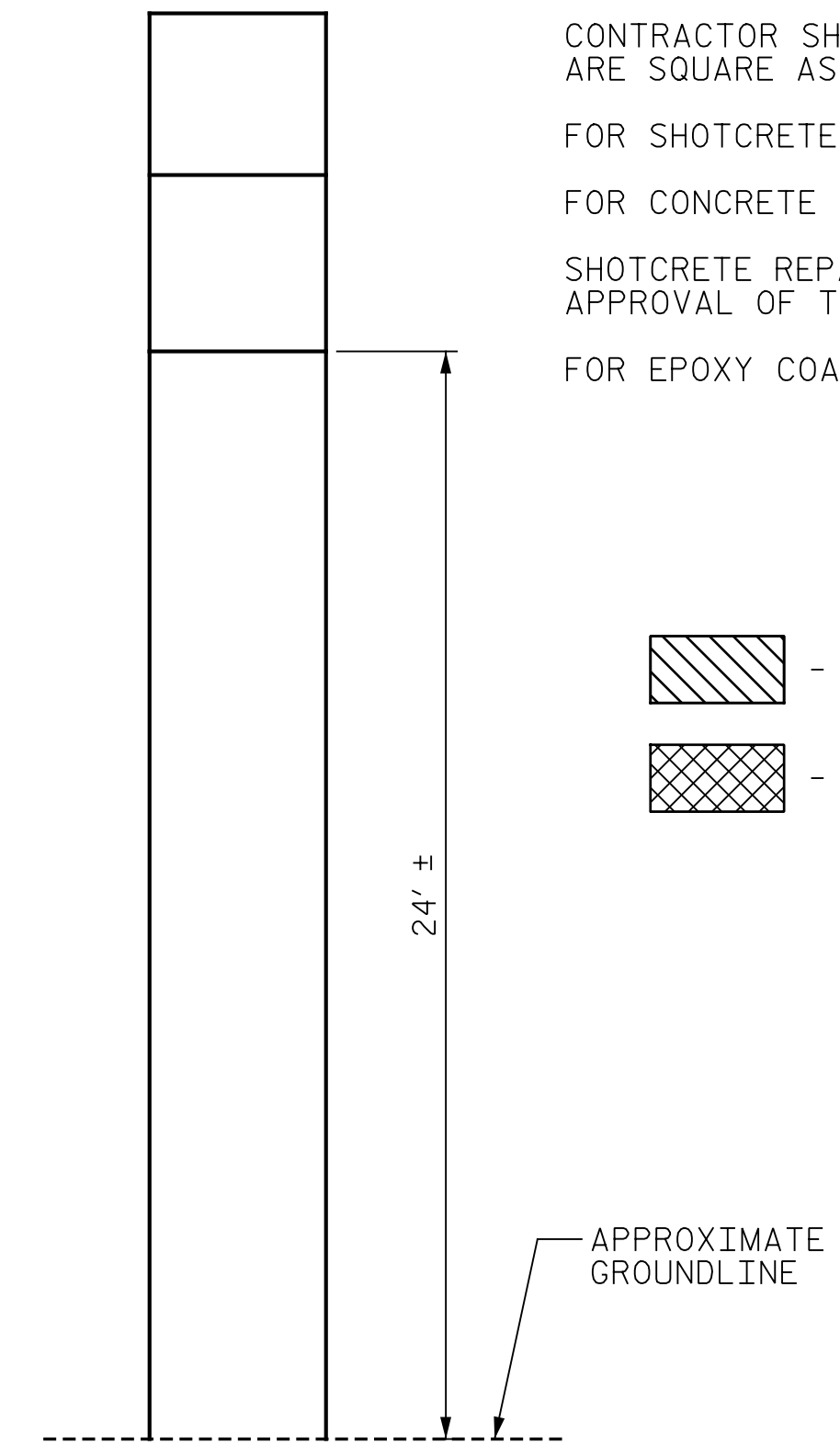
ELEVATION
(SPAN A FACE)



END VIEW
(EAST FACE)



ELEVATION
(SPAN B FACE)



END VIEW
(WEST FACE)

DRAWN BY : T. HARTLEY DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:

 One Glenwood Avenue
 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
 NC Lic. No. F-0270

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

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

AS-BUILT REPAIR QUANTITY TABLE

BENT 2 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	7.3	2.8			
COLUMN	0.0	0.0			
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	-	-			
COLUMN	-	-			
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.		
CAP	-				
COLUMN	-				
EPOXY COATING	AREA SF		AREA SF		
TOP OF CAP	112.5				

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

NOTES:

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

CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.


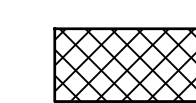
CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

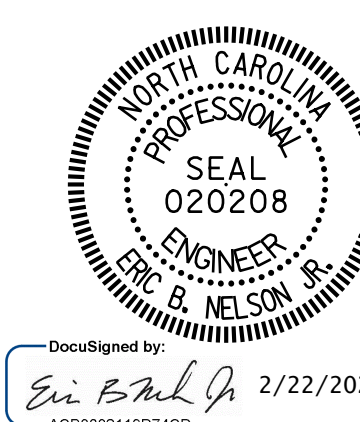
SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

-  - SHOTCRETE REPAIR
-  - CONCRETE REPAIR (FORM & POUR)

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 2



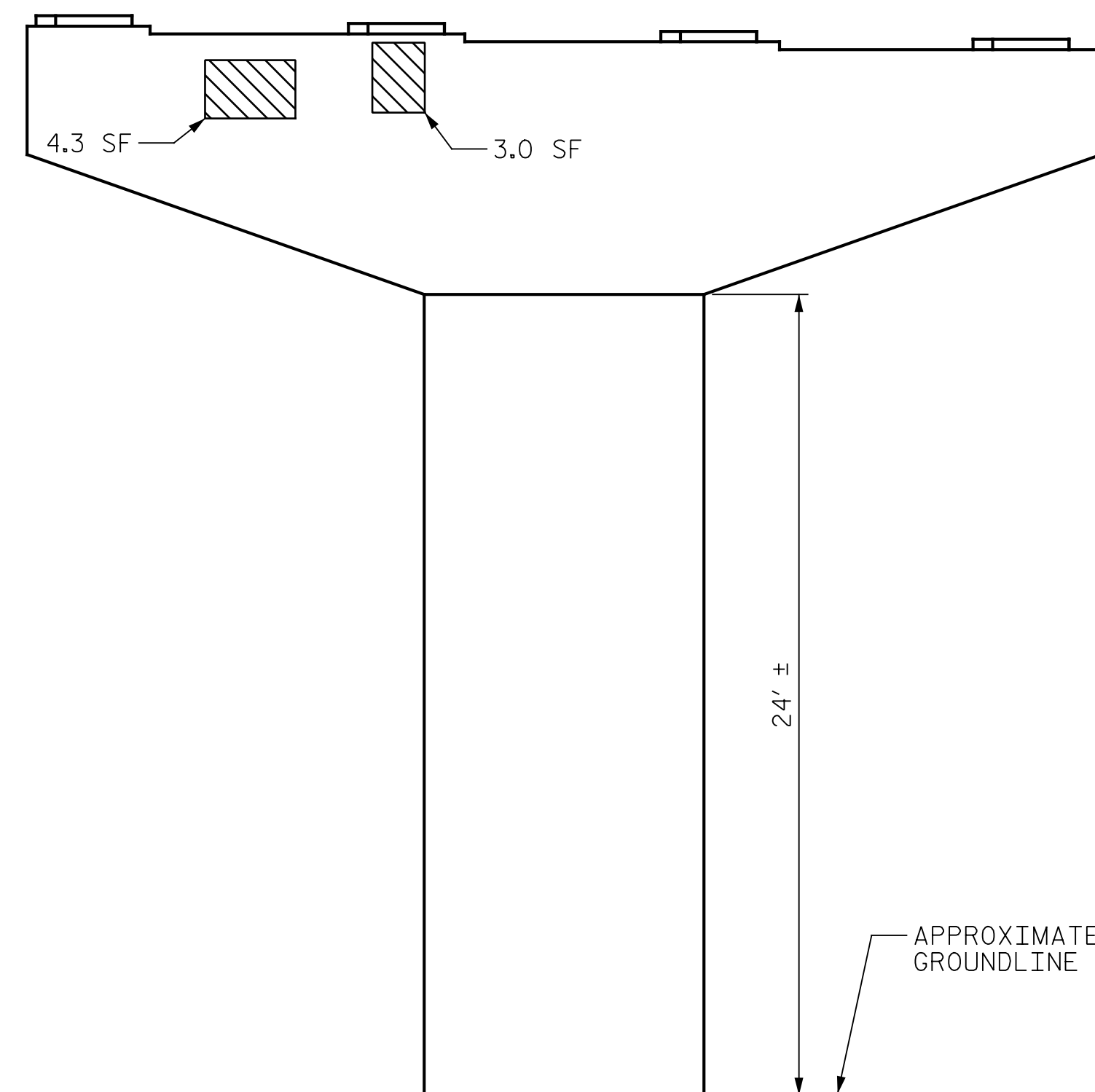
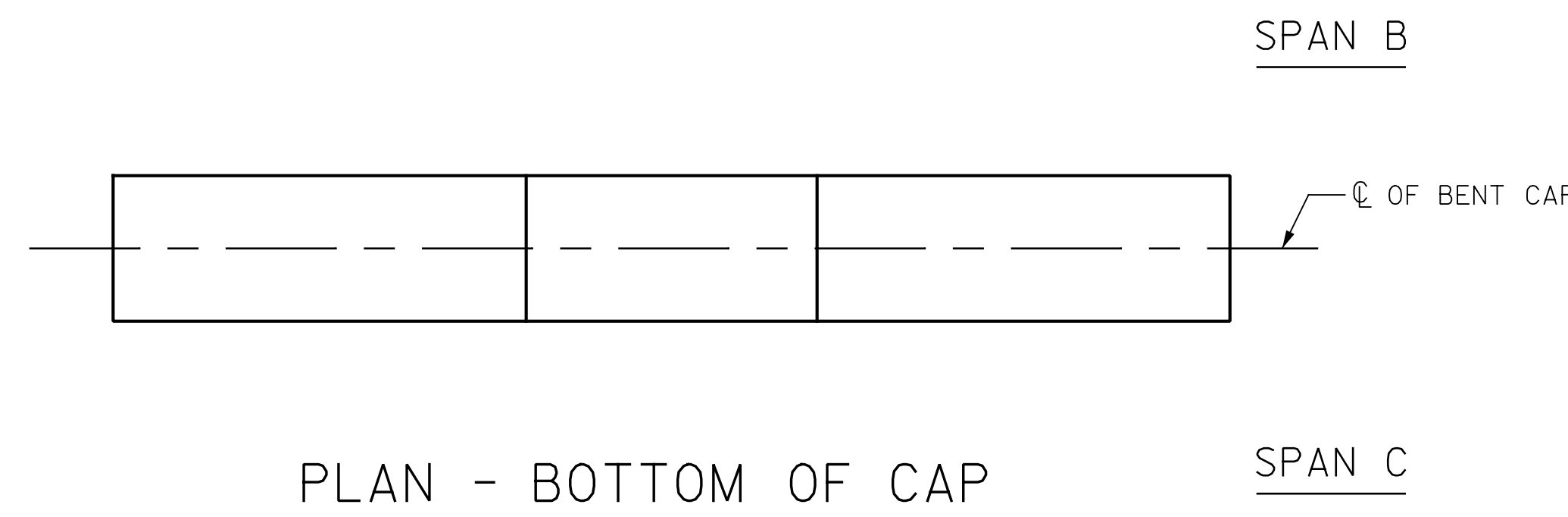
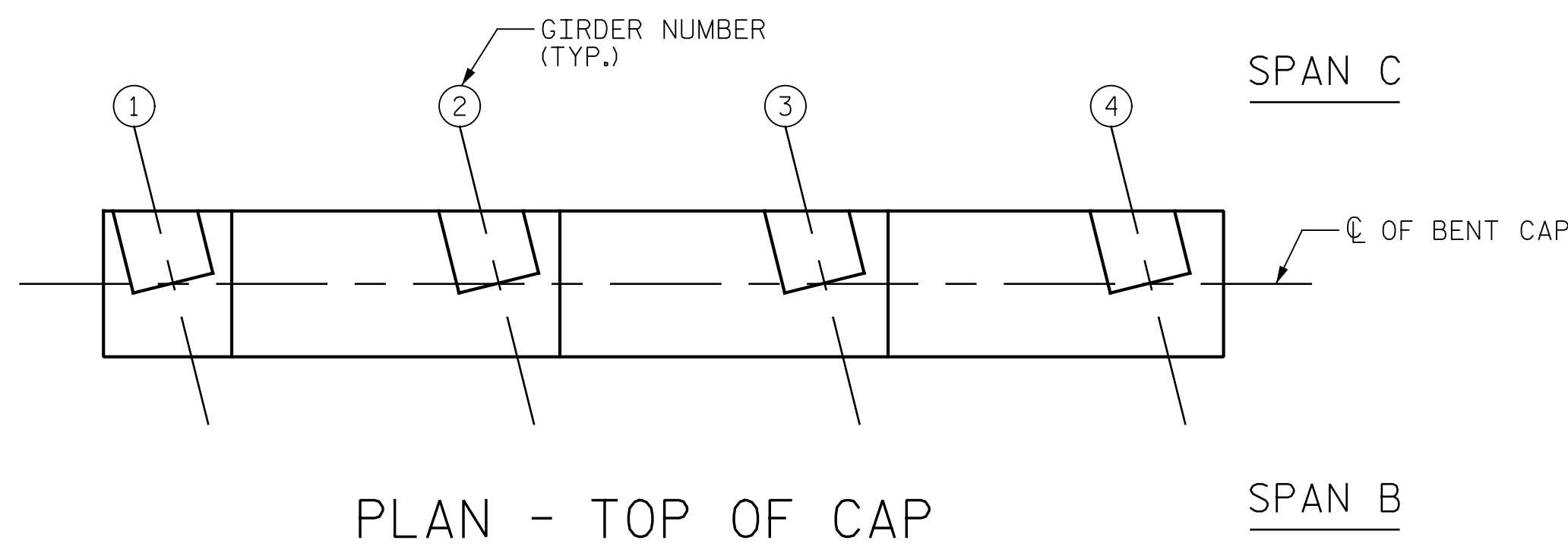
DocuSigned by:
 Eric B. Nelson
 2/22/2022

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

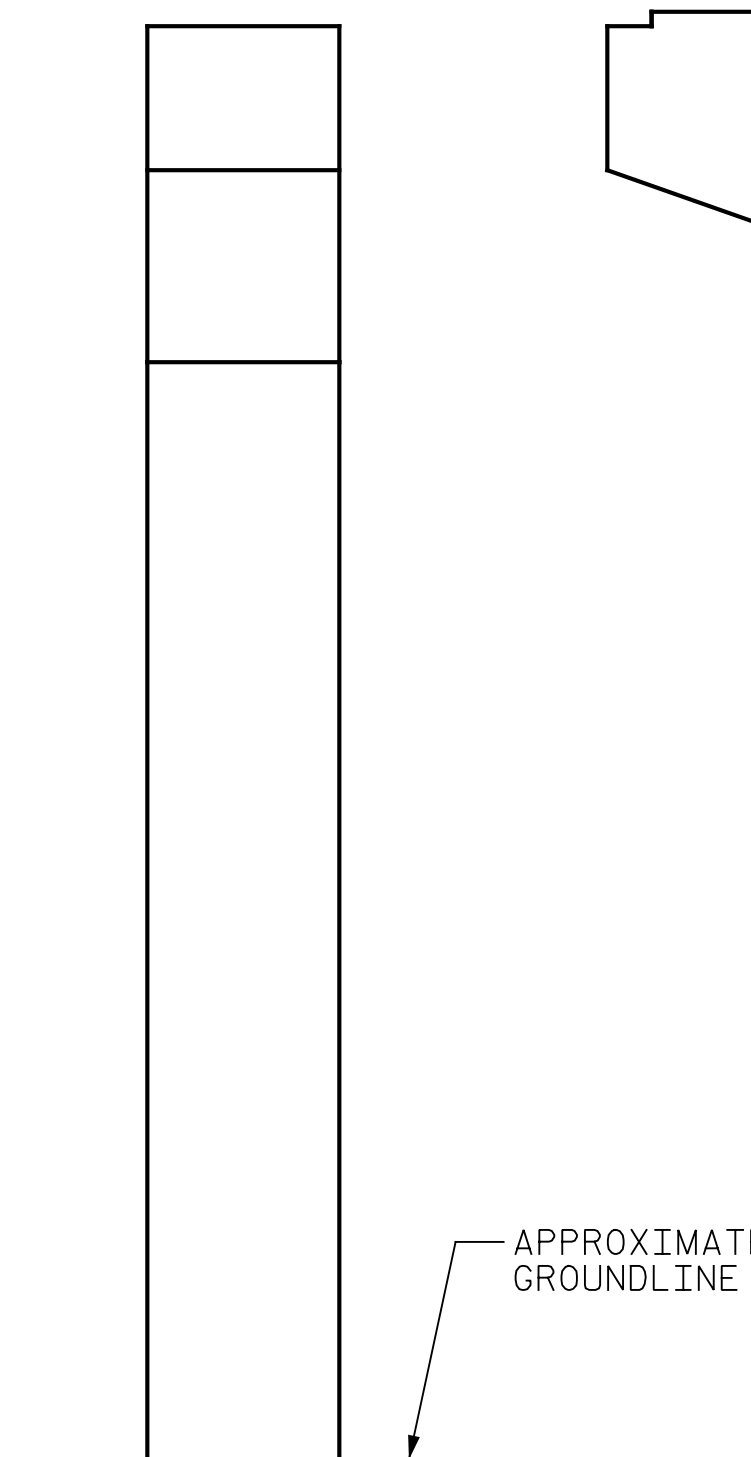
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:

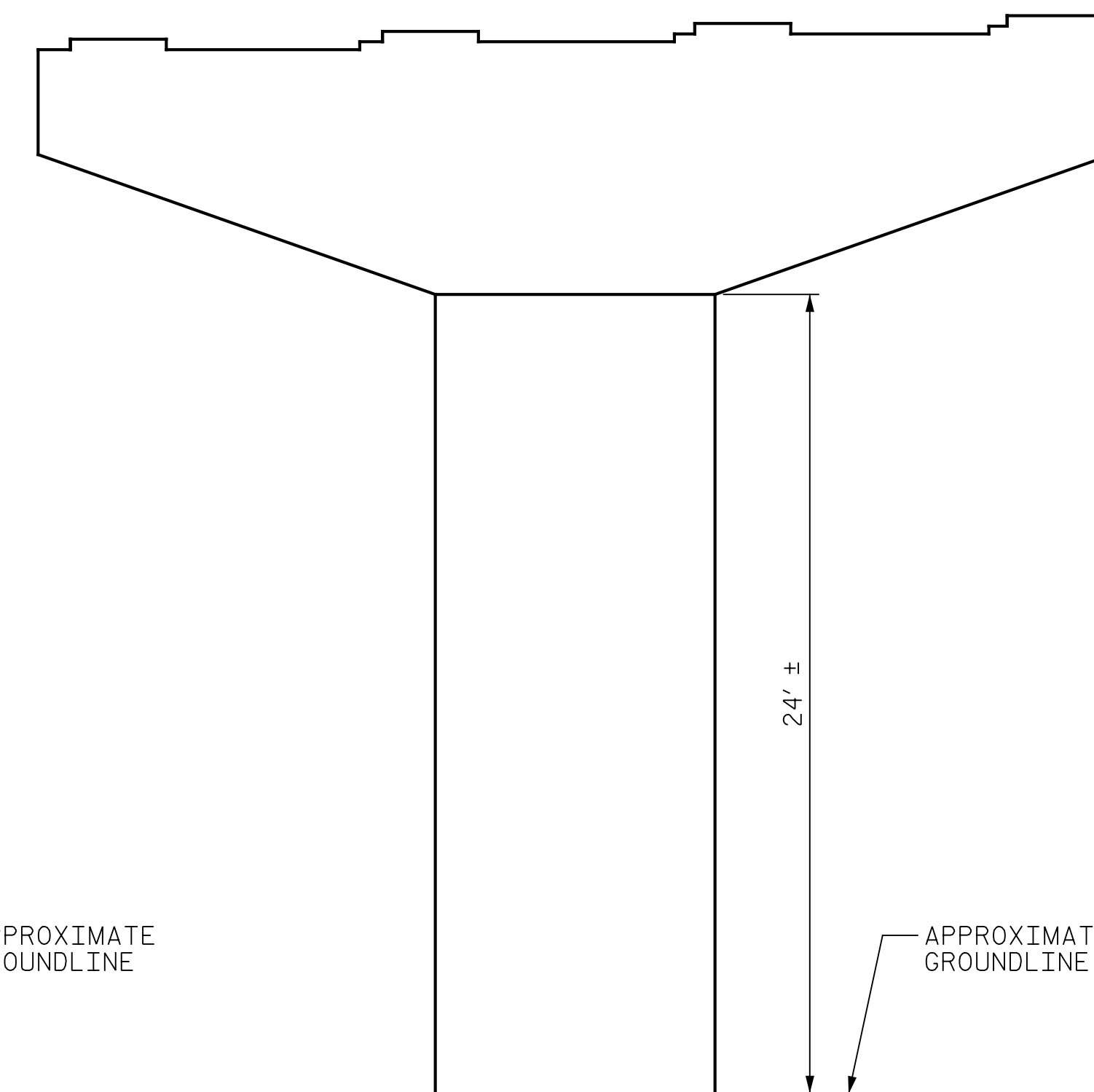
 One Glenwood Avenue
 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
 NC Lic. No. F-0270



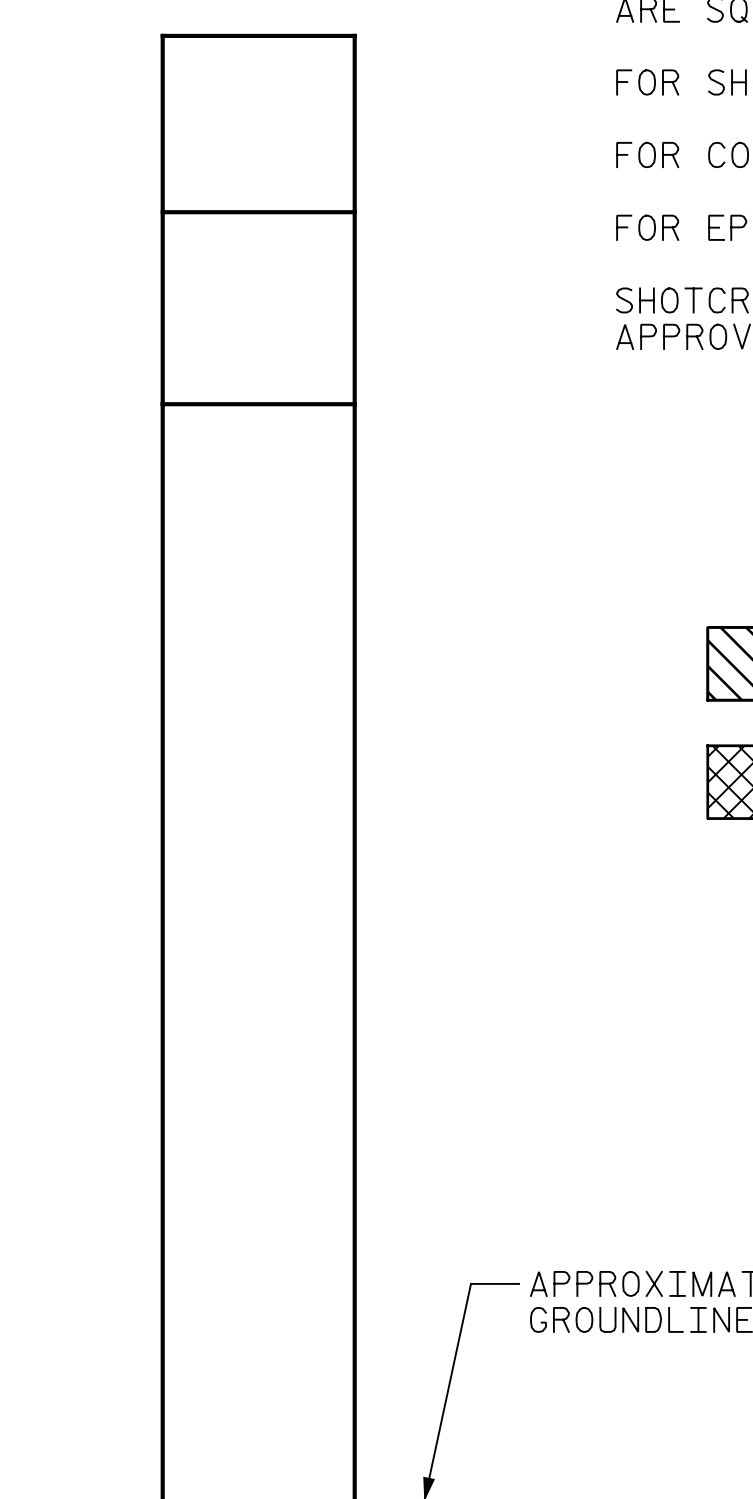
ELEVATION
 (SPAN B FACE)



END VIEW
 (EAST FACE)

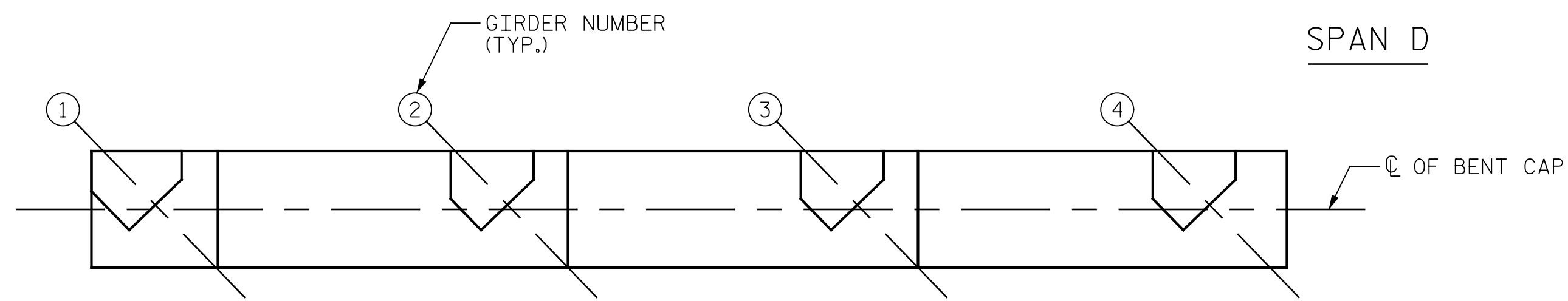


ELEVATION
 (SPAN C FACE)

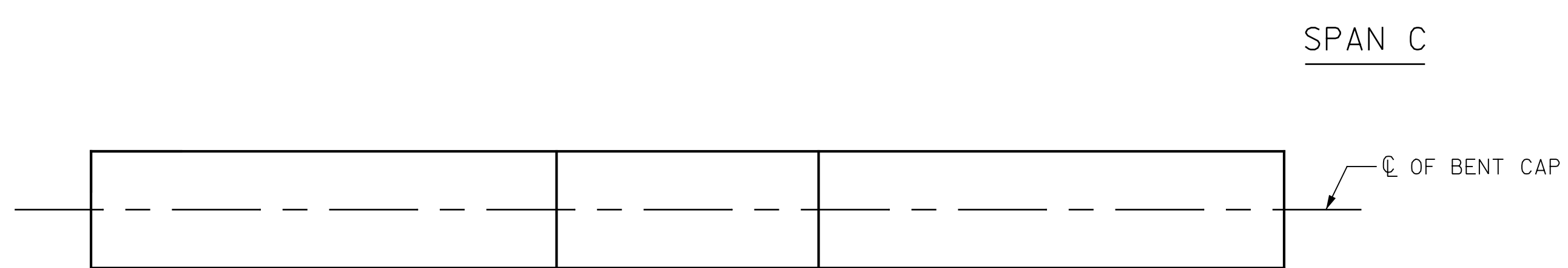


END VIEW
 (WEST FACE)

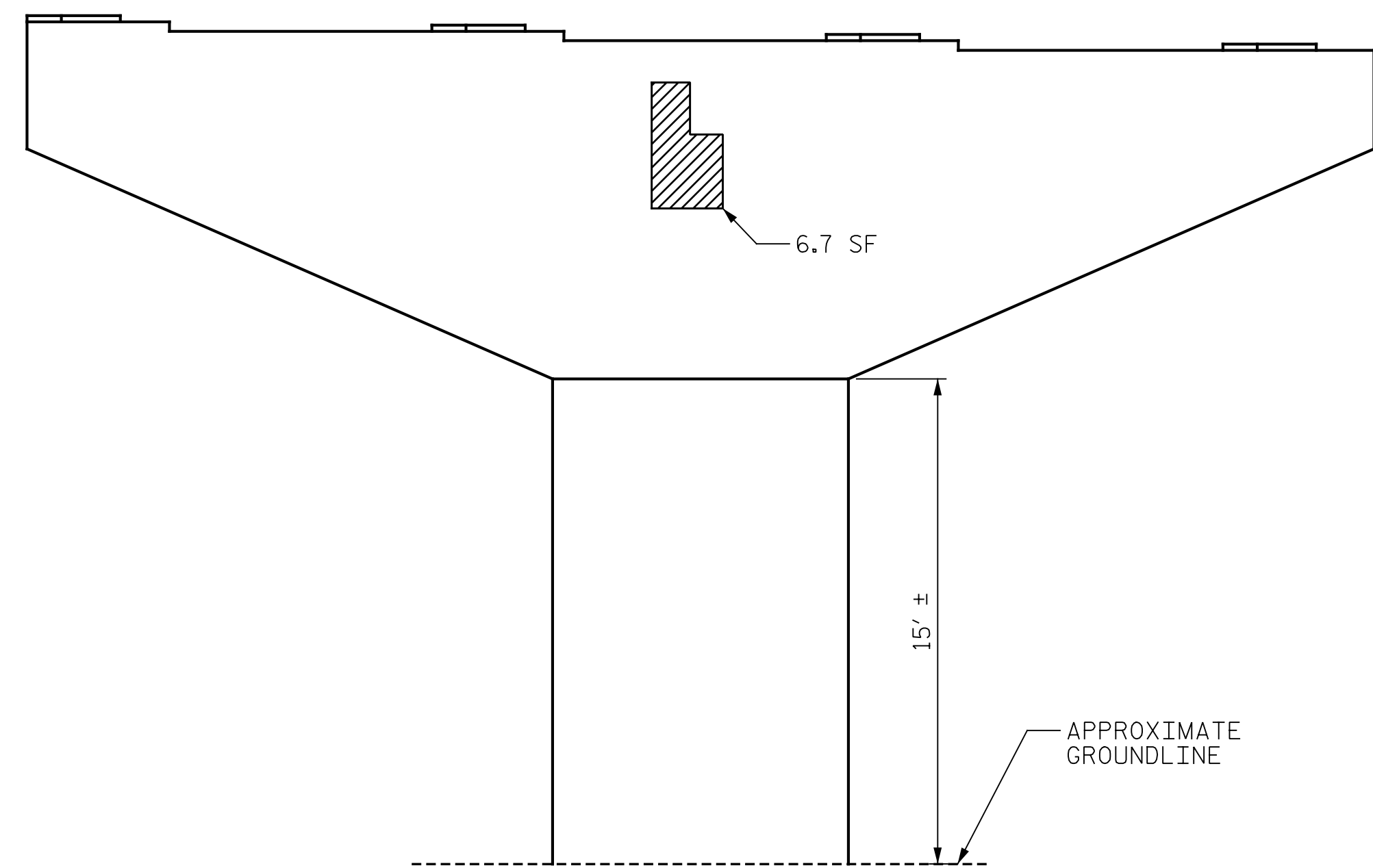
DRAWN BY: T. HARTLEY DATE: 02/2022
 CHECKED BY: R. FISHER DATE: 02/2022



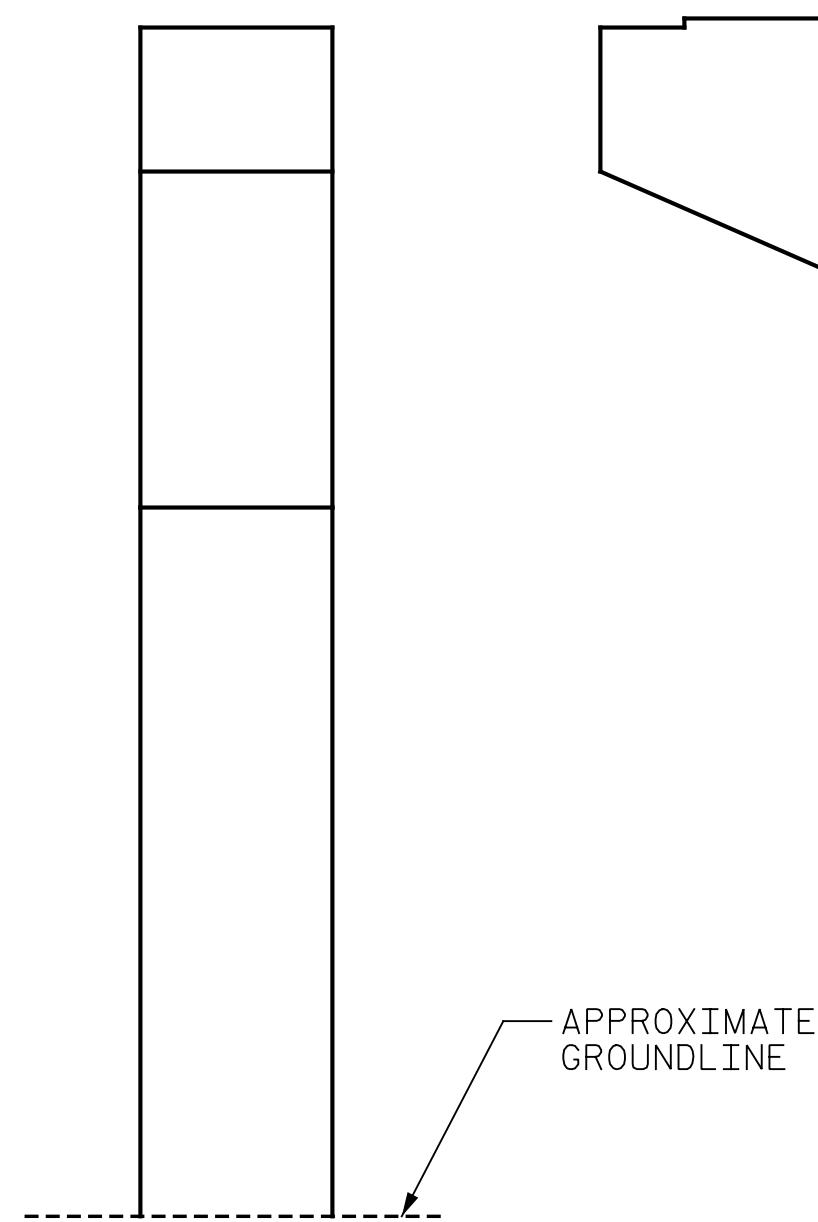
PLAN - TOP OF CAP



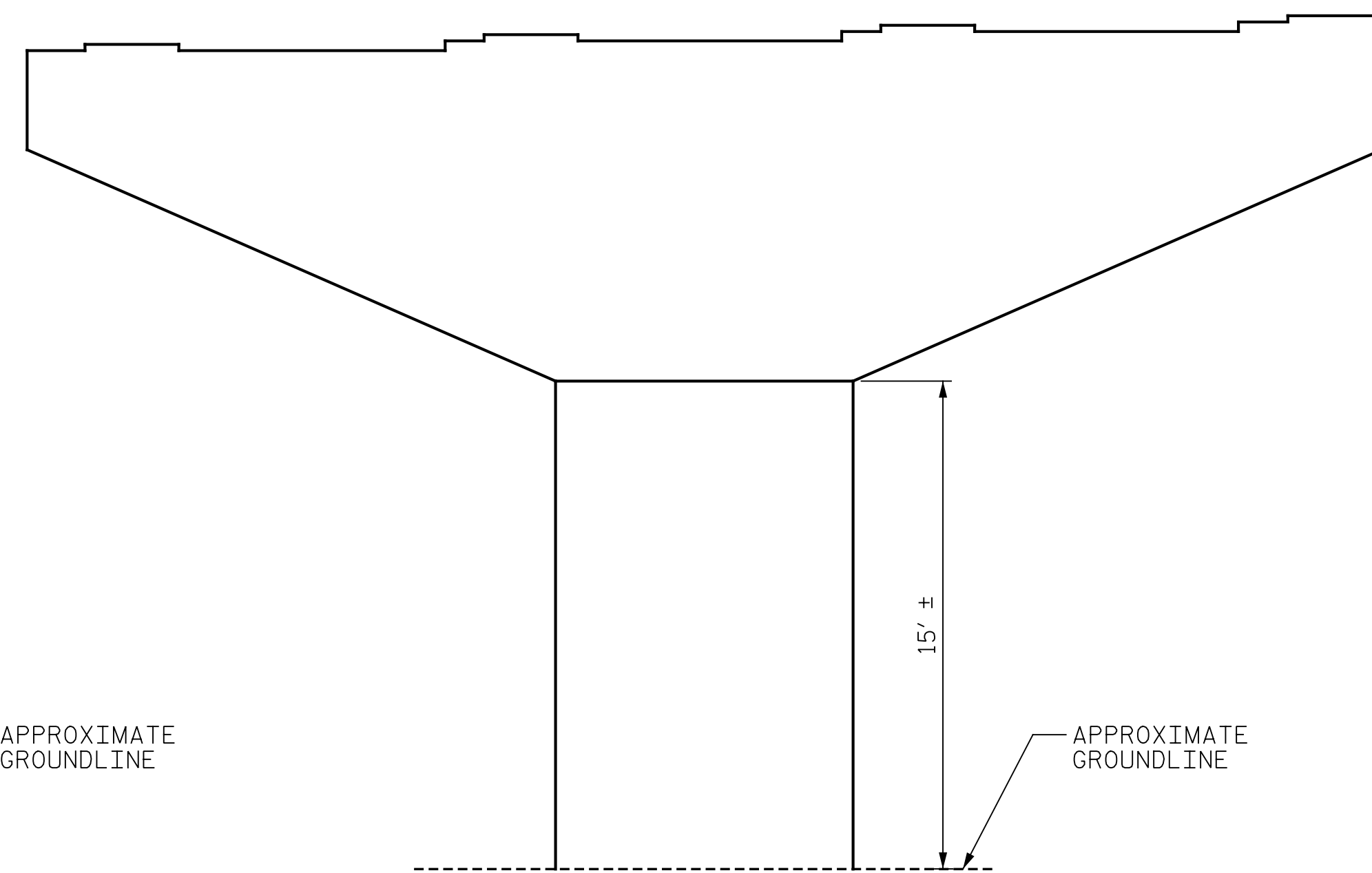
PLAN - BOTTOM OF CAP



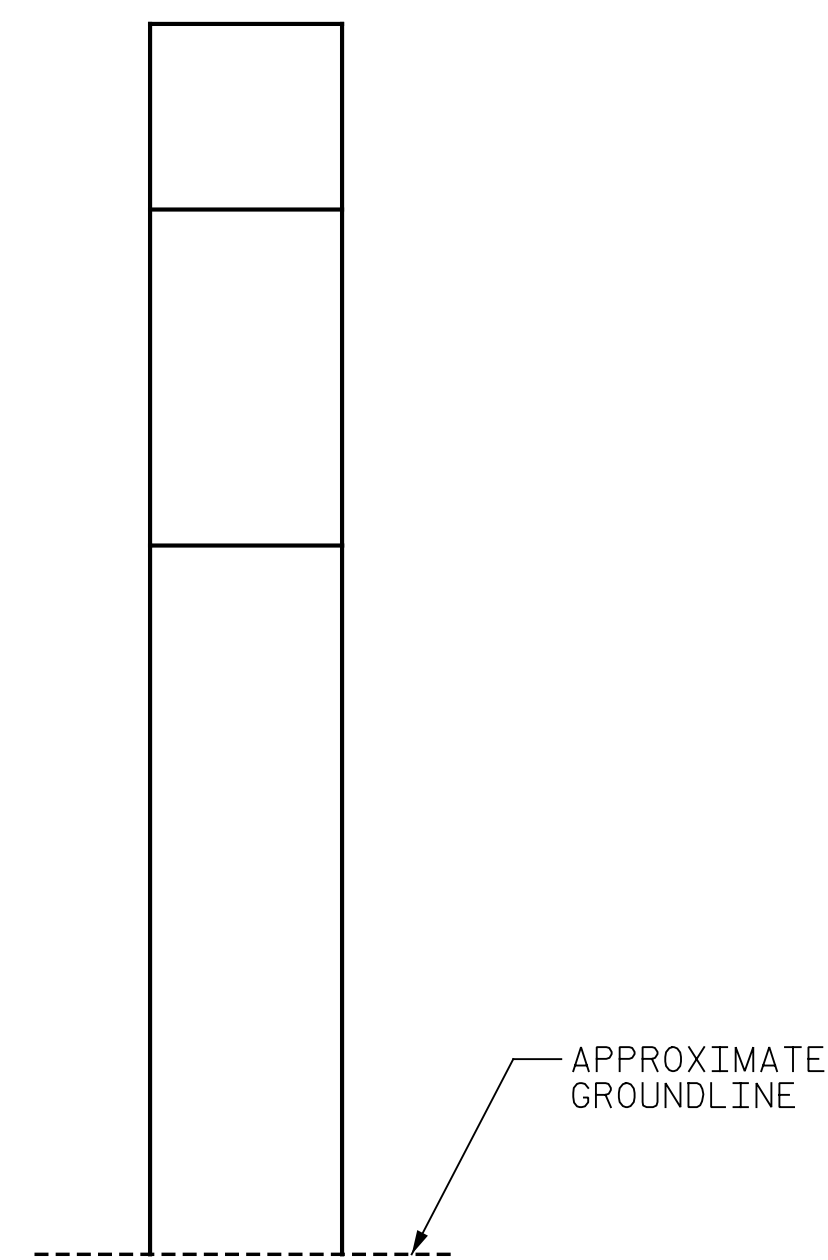
ELEVATION
(SPAN C FACE)



END VIEW
(EAST FACE)



ELEVATION
(SPAN D FACE)



END VIEW
(WEST FACE)

AS-BUILT REPAIR QUANTITY TABLE					
BENT 3 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	6.7	2.5			
COLUMN	0.0	0.0			
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	-	-			
COLUMN	-	-			
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.		
CAP	-				
COLUMN	-				
EPOXY COATING	AREA SF		AREA SF		
TOP OF CAP	153.5				

NOTES:

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

CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

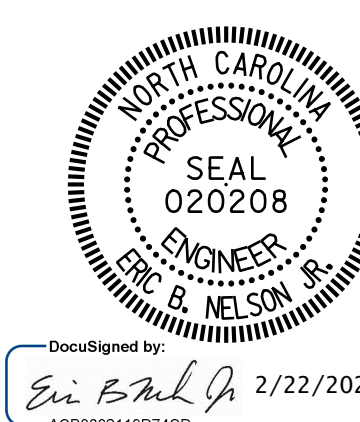
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 3

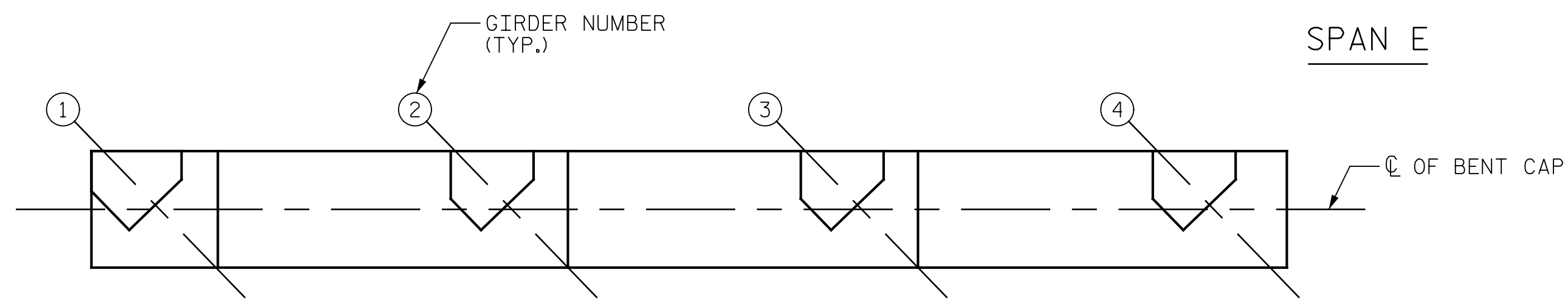
DRAWN BY : T. HARTLEY DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered *As Promised*

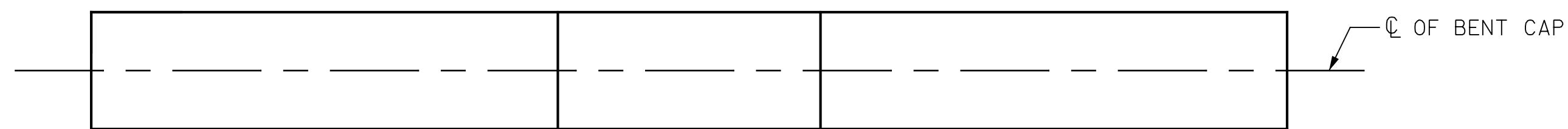
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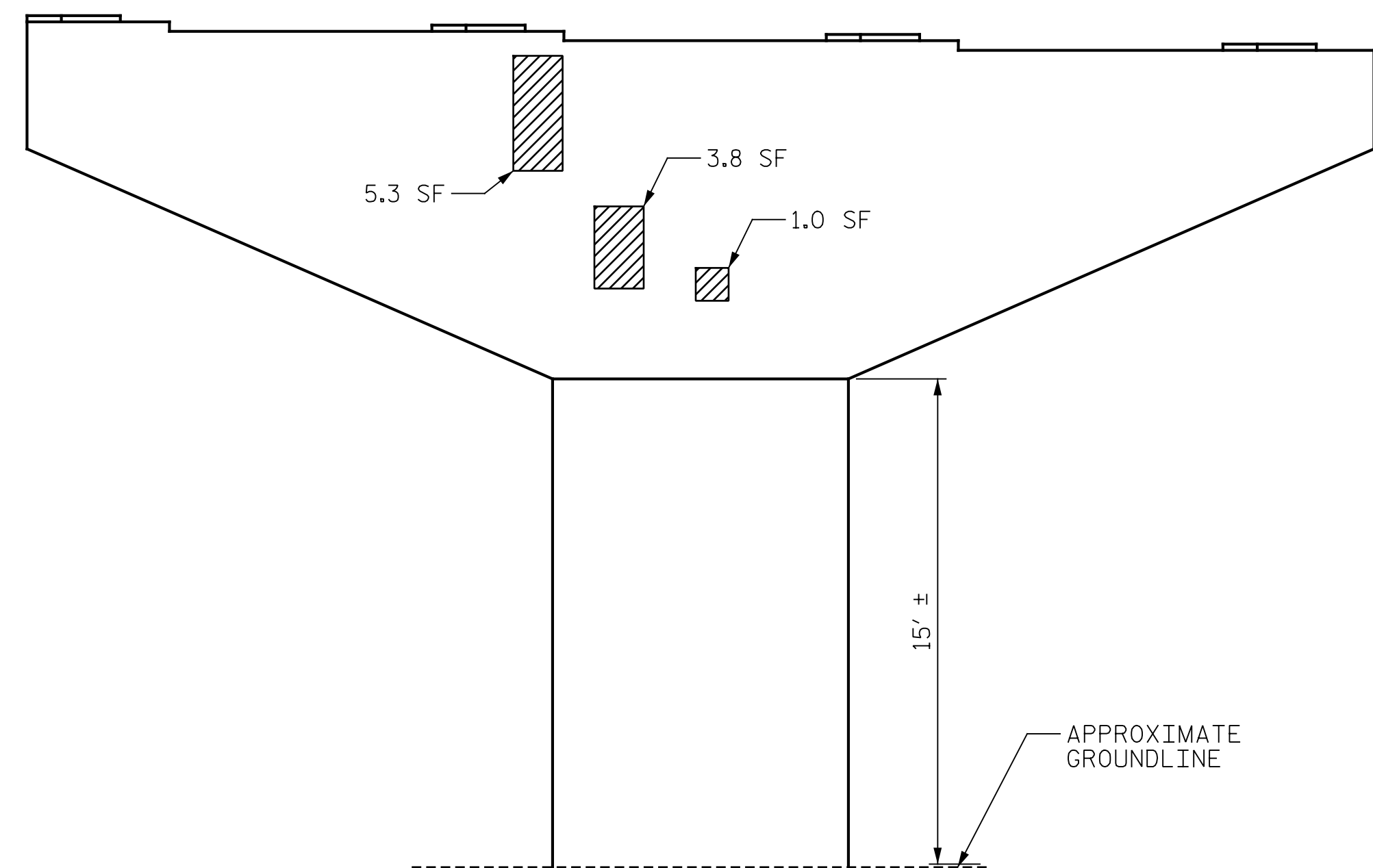
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S1-23
2			4			43



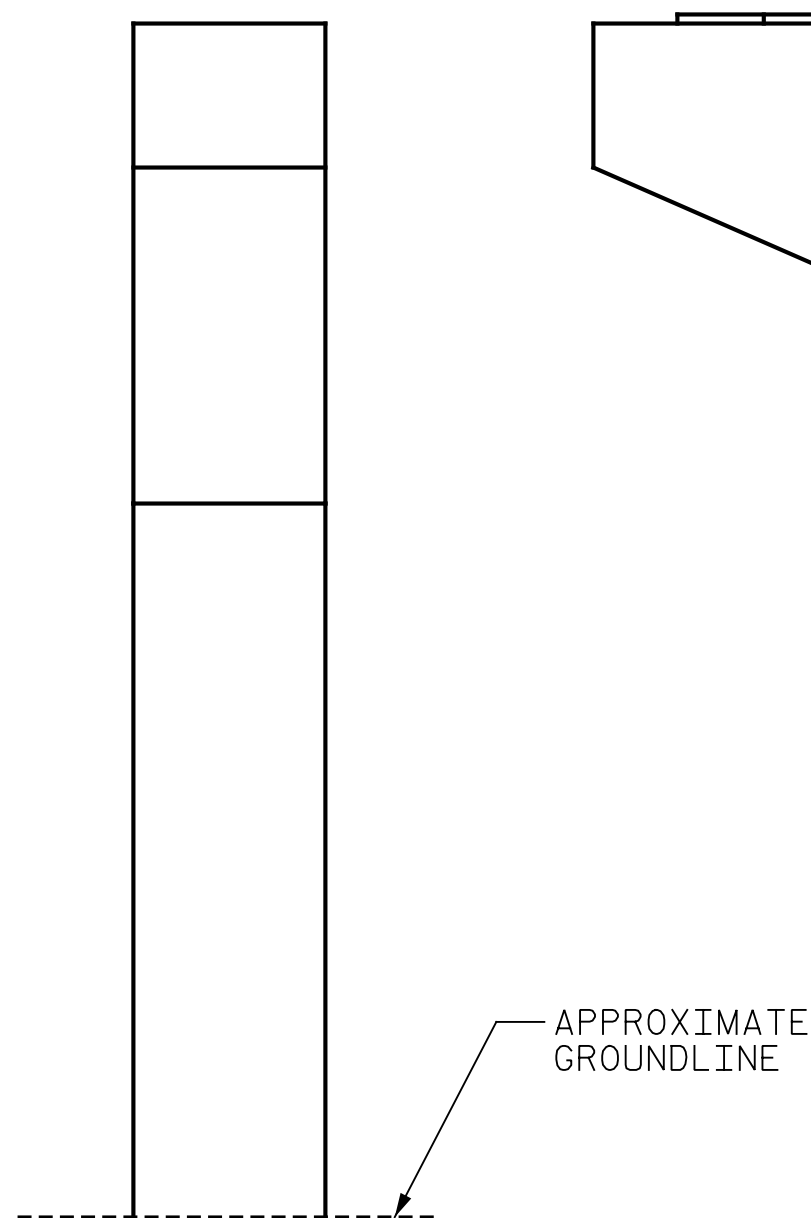
PLAN - TOP OF CAP



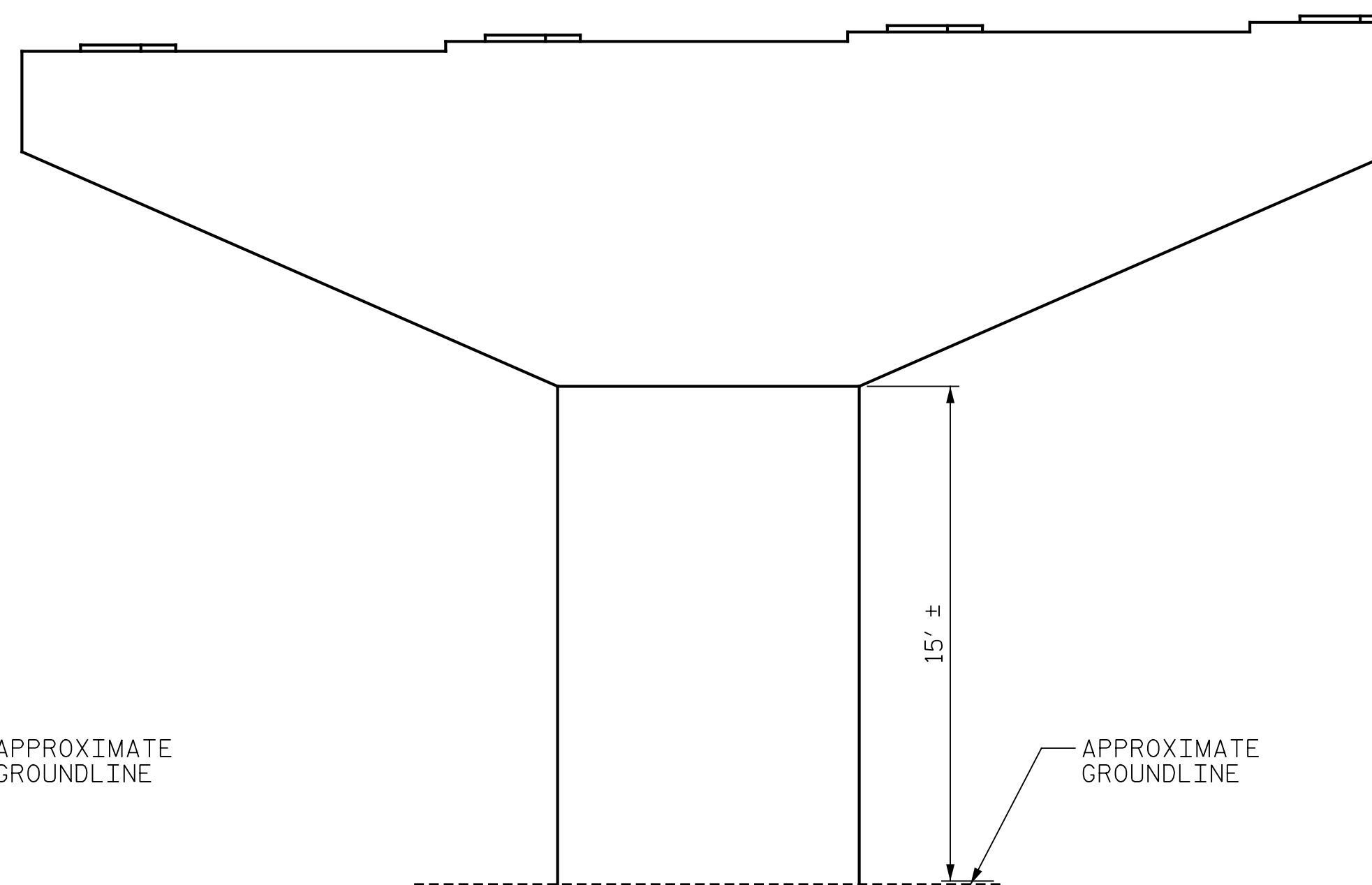
PLAN - BOTTOM OF CAP



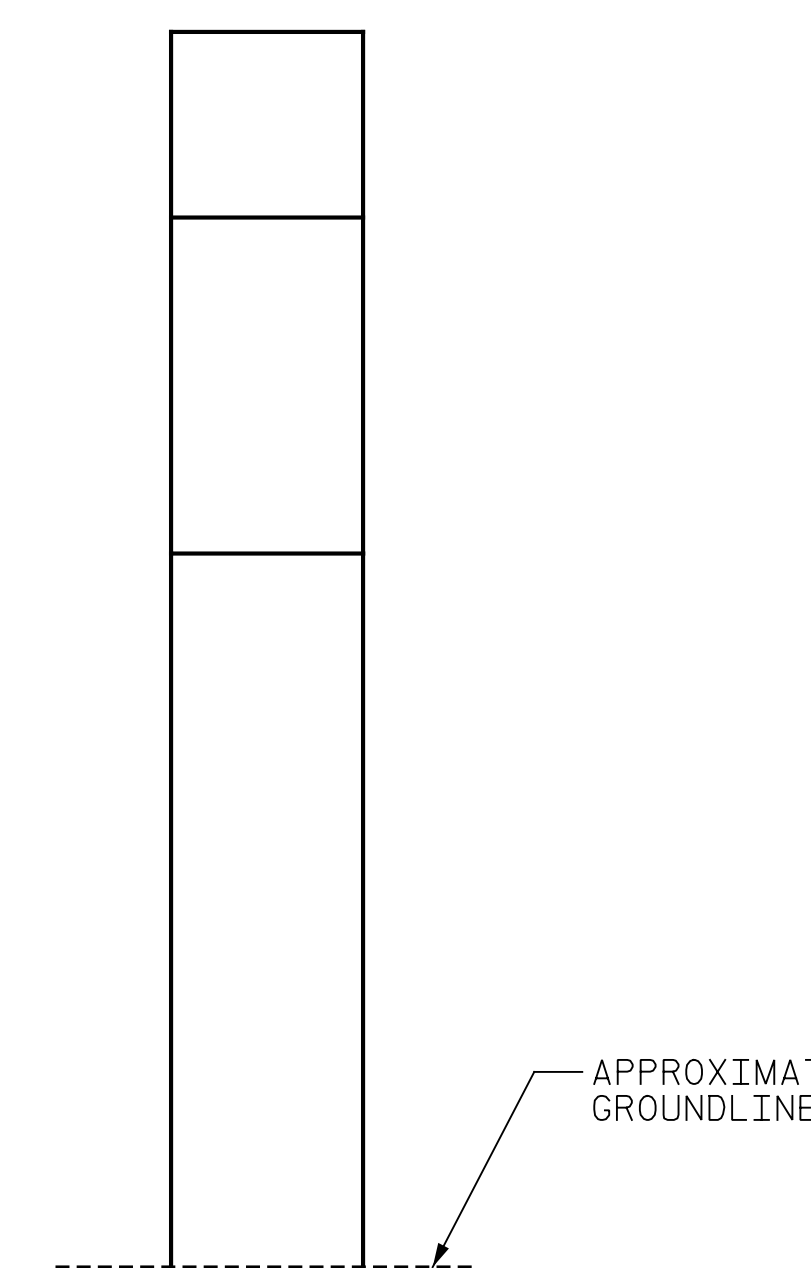
ELEVATION
(SPAN D FACE)



END VIEW
(EAST FACE)



ELEVATION
(SPAN E FACE)



END VIEW
(WEST FACE)

AS-BUILT REPAIR QUANTITY TABLE					
BENT 4 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	10.1	3.8			
COLUMN	0.0	0.0			
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	-	-			
COLUMN	-	-			
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.		
CAP	-				
COLUMN	-				
EPOXY COATING	AREA SF		AREA SF		
TOP OF CAP	152.8				

NOTES:

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

CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

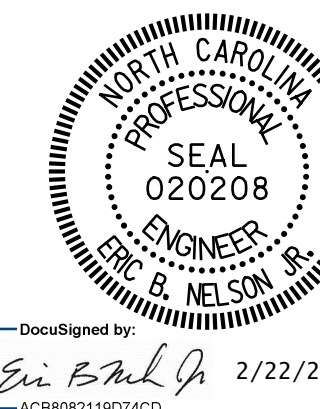
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 4

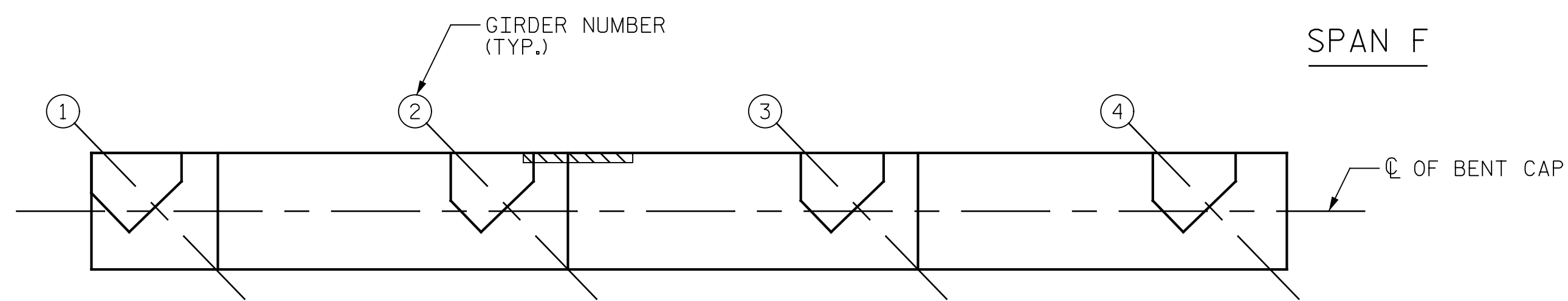
DRAWN BY : T. HARTLEY DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:

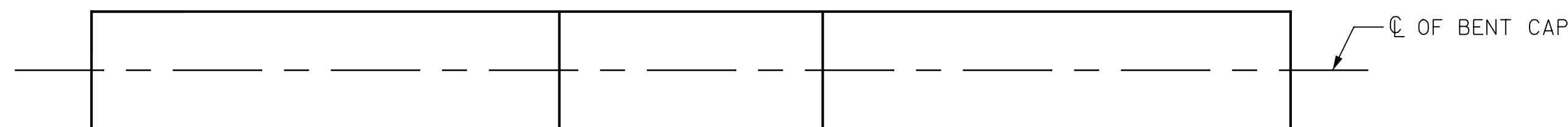
 One Glenwood Avenue
 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
 NC Lic. No. F-0270

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

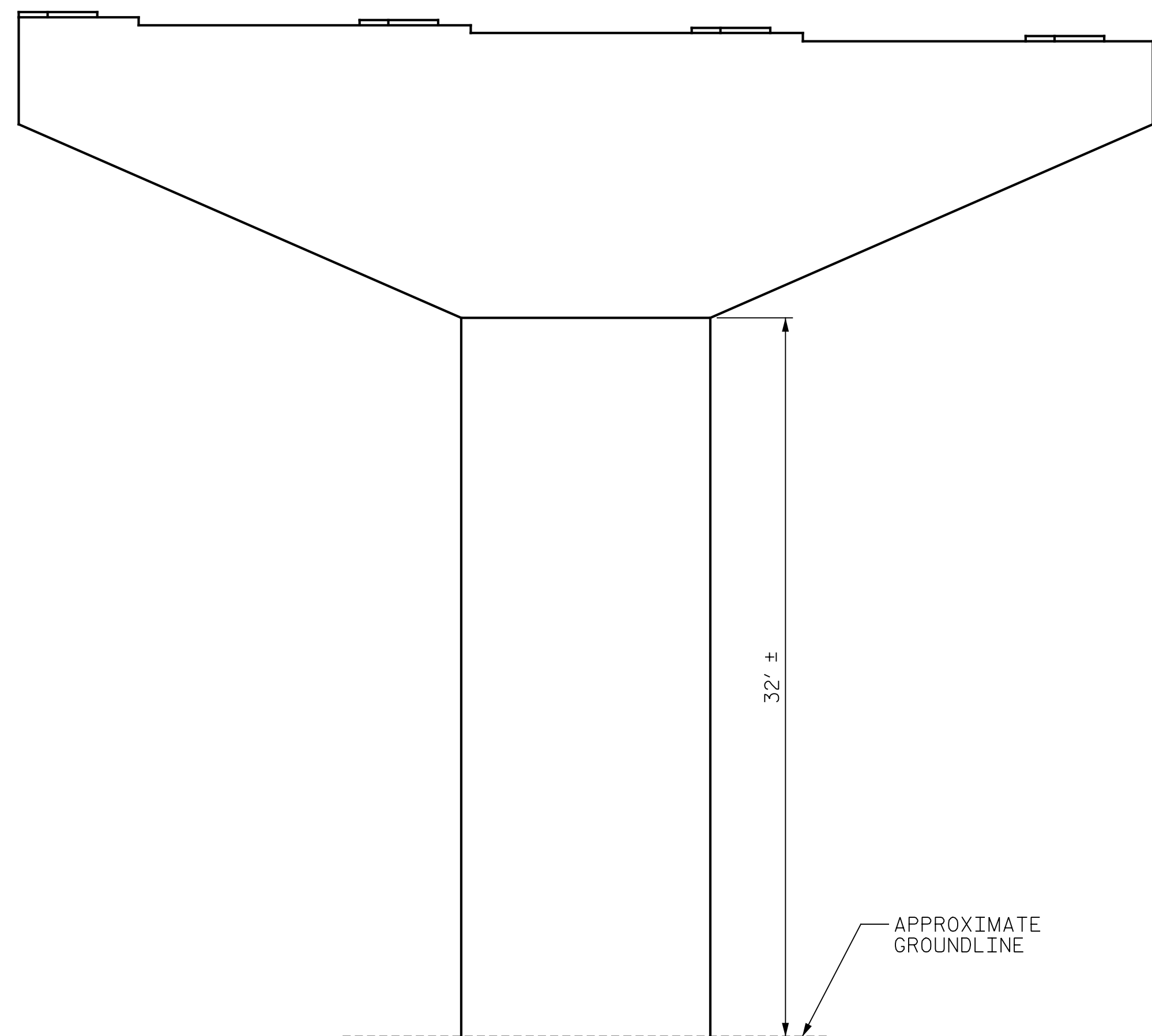
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S1-24
2			4			43



PLAN - TOP OF CAP

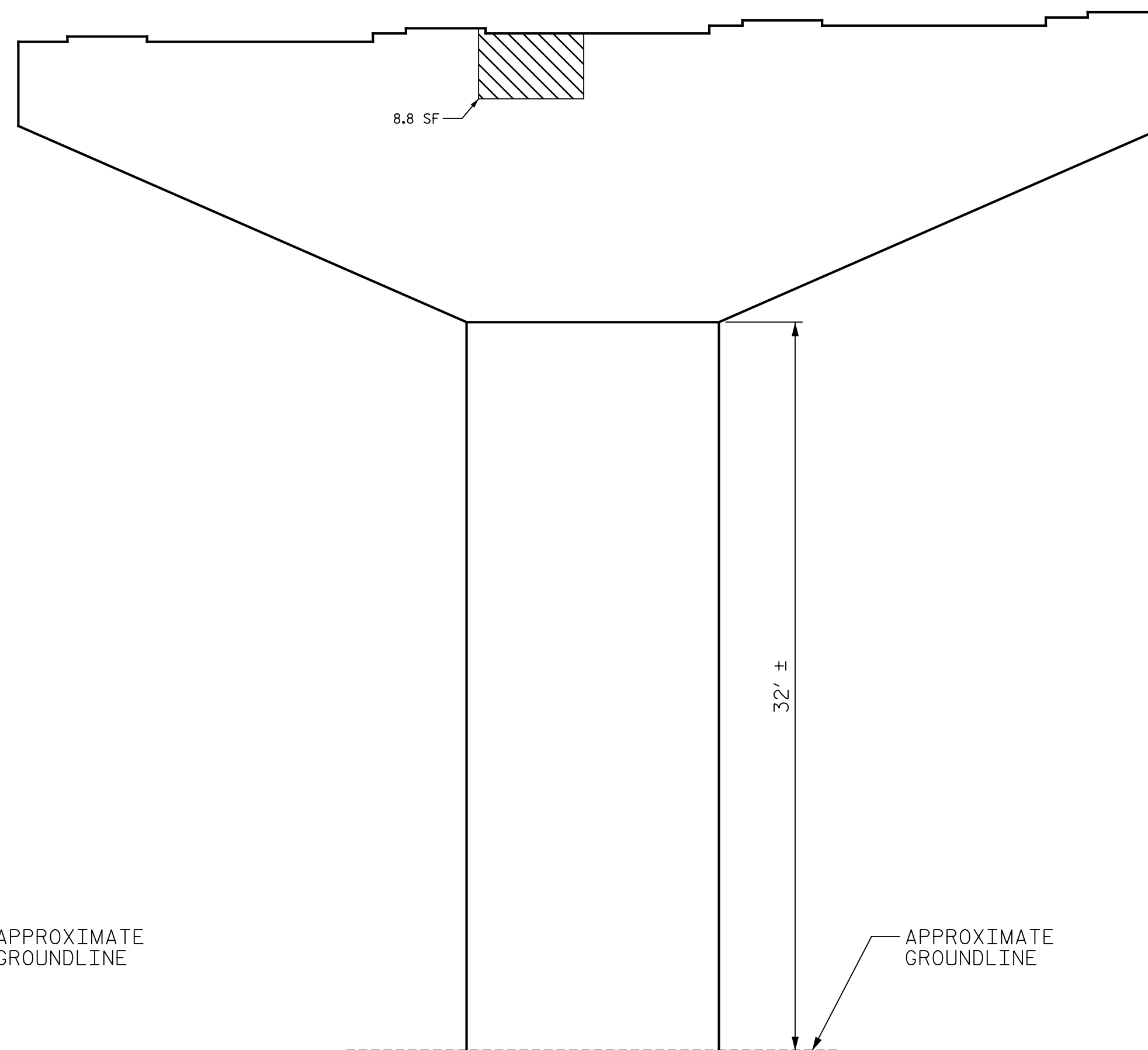


PLAN - BOTTOM OF CAP



ELEVATION
(SPAN E FACE)

END VIEW
(EAST FACE)



ELEVATION
(SPAN F FACE)

END VIEW
(WEST FACE)

AS-BUILT REPAIR QUANTITY TABLE					
BENT 5 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	8.8	3.3			
COLUMN	0.0	0.0			
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	-	-			
COLUMN	-	-			
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.		
CAP	-				
COLUMN	-				
EPOXY COATING	AREA SF		AREA SF		
TOP OF CAP	152.8				

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

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

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CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

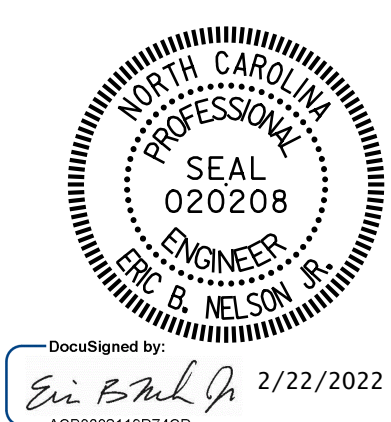
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 5

DRAWN BY : T. HARTLEY DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised
 One Glenwood Avenue
 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
 NC Lic. No. F-0270

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S1-25
2			4			43

AS-BUILT REPAIR QUANTITY TABLE

BENT 6 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	1.0	0.4			
COLUMN	0.0	0.0			
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	-	-			
COLUMN	-	-			
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.		
CAP	-				
COLUMN	-				
EPOXY COATING	AREA SF		AREA SF		
TOP OF CAP	101.7				

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

NOTES:

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

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CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

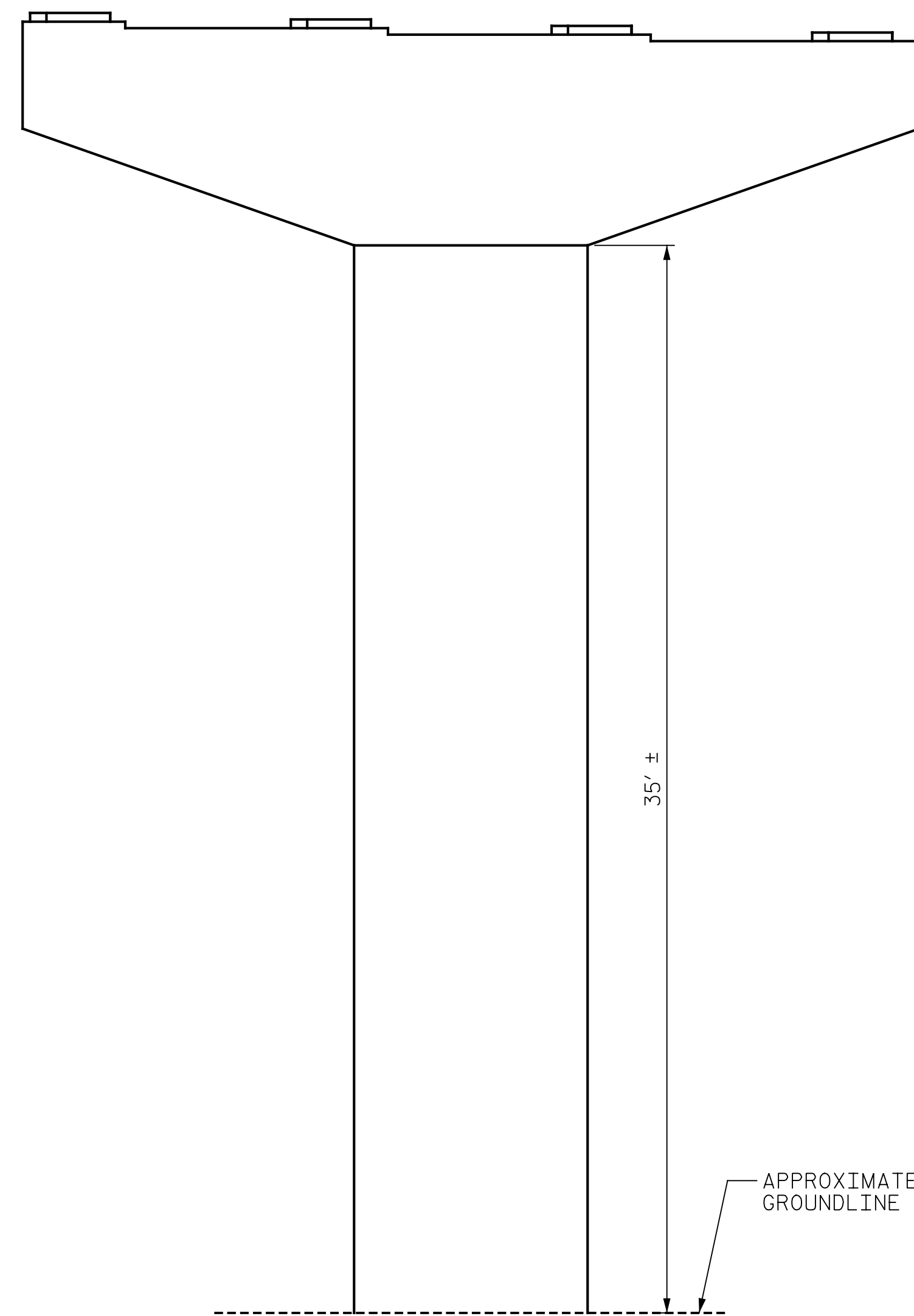
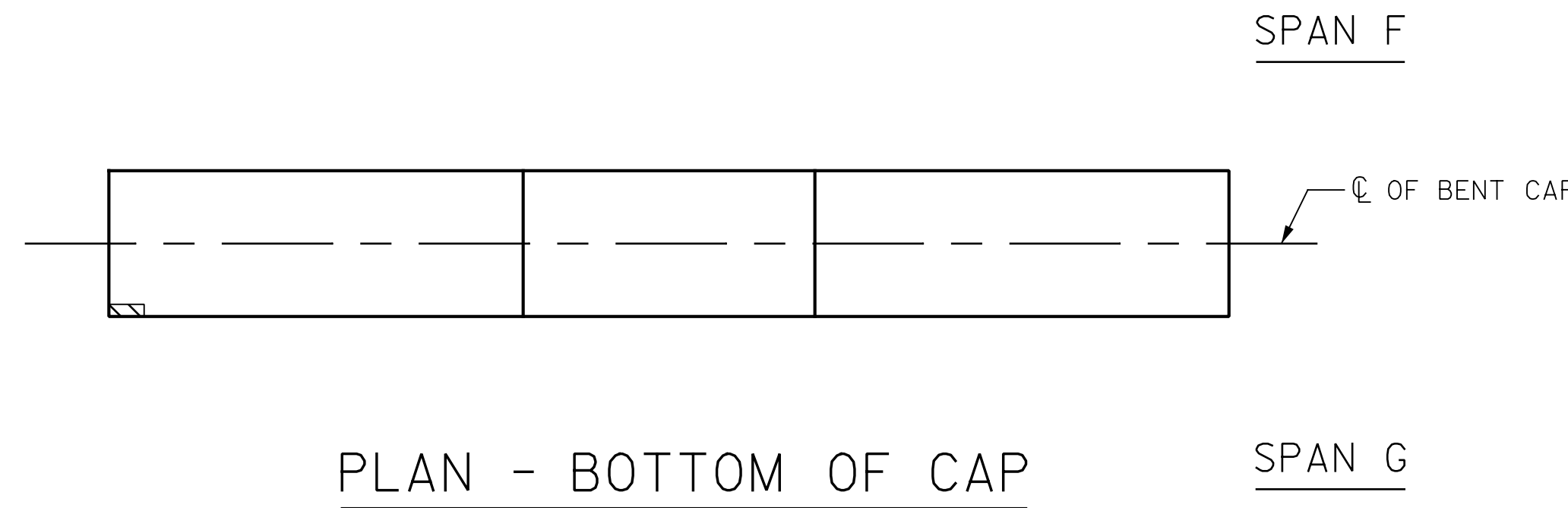
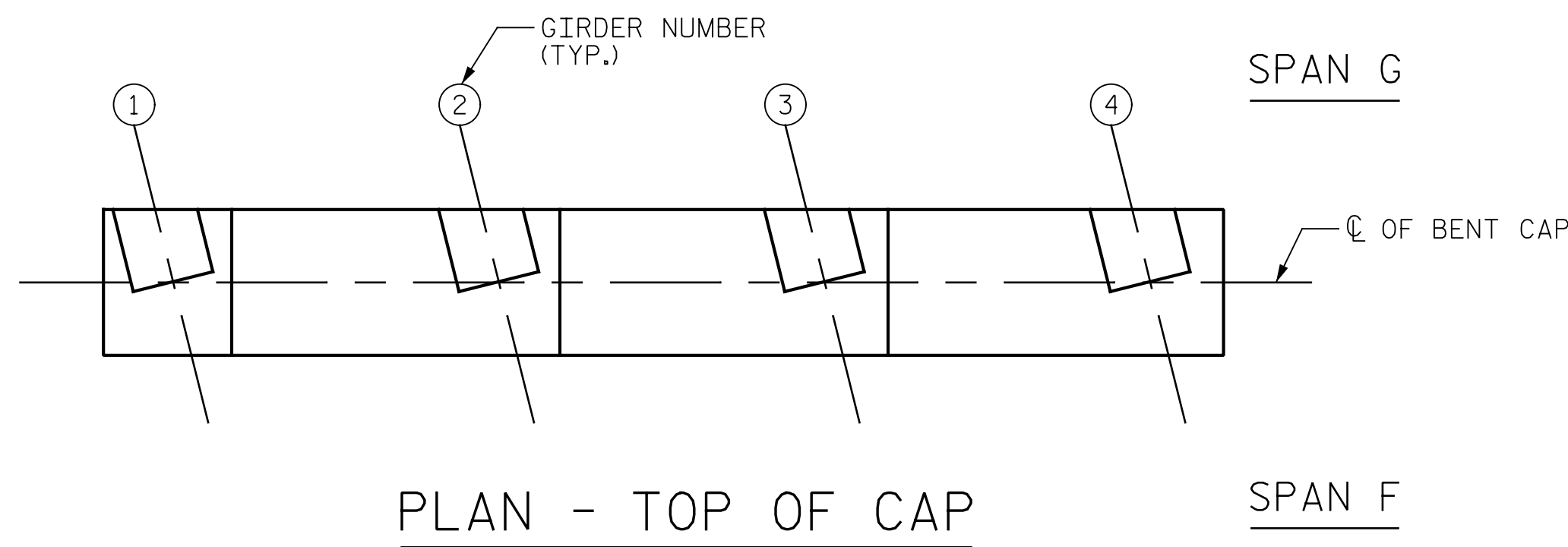
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

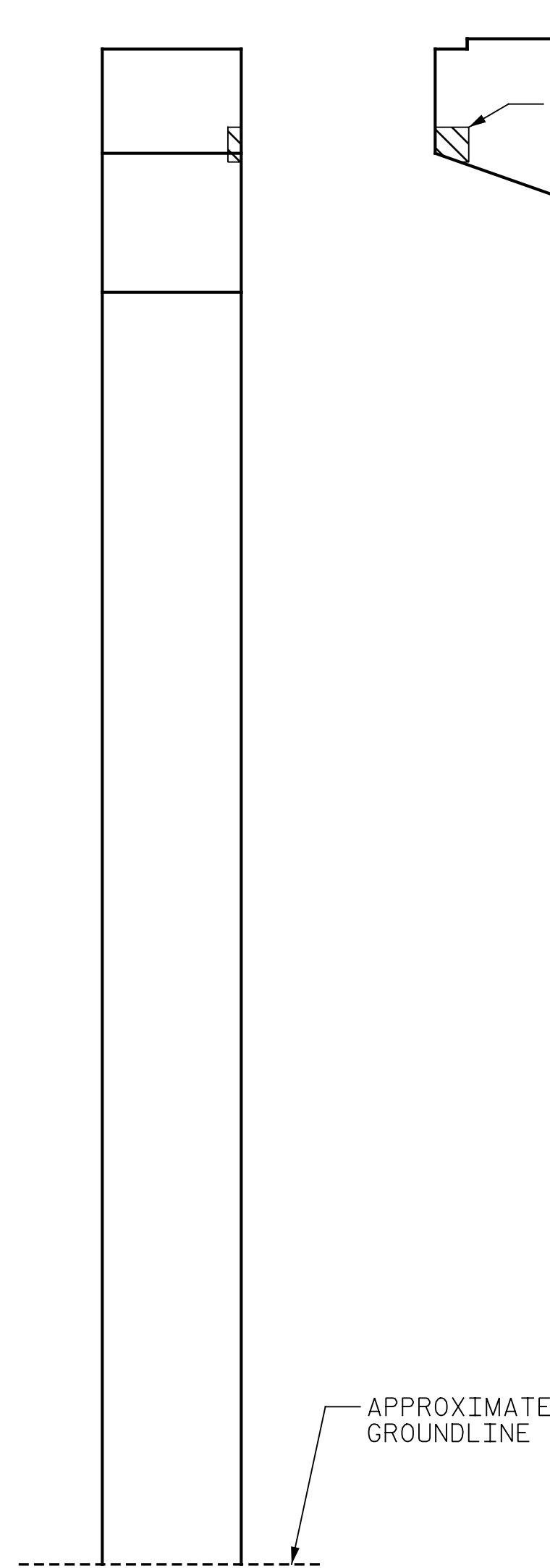
SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

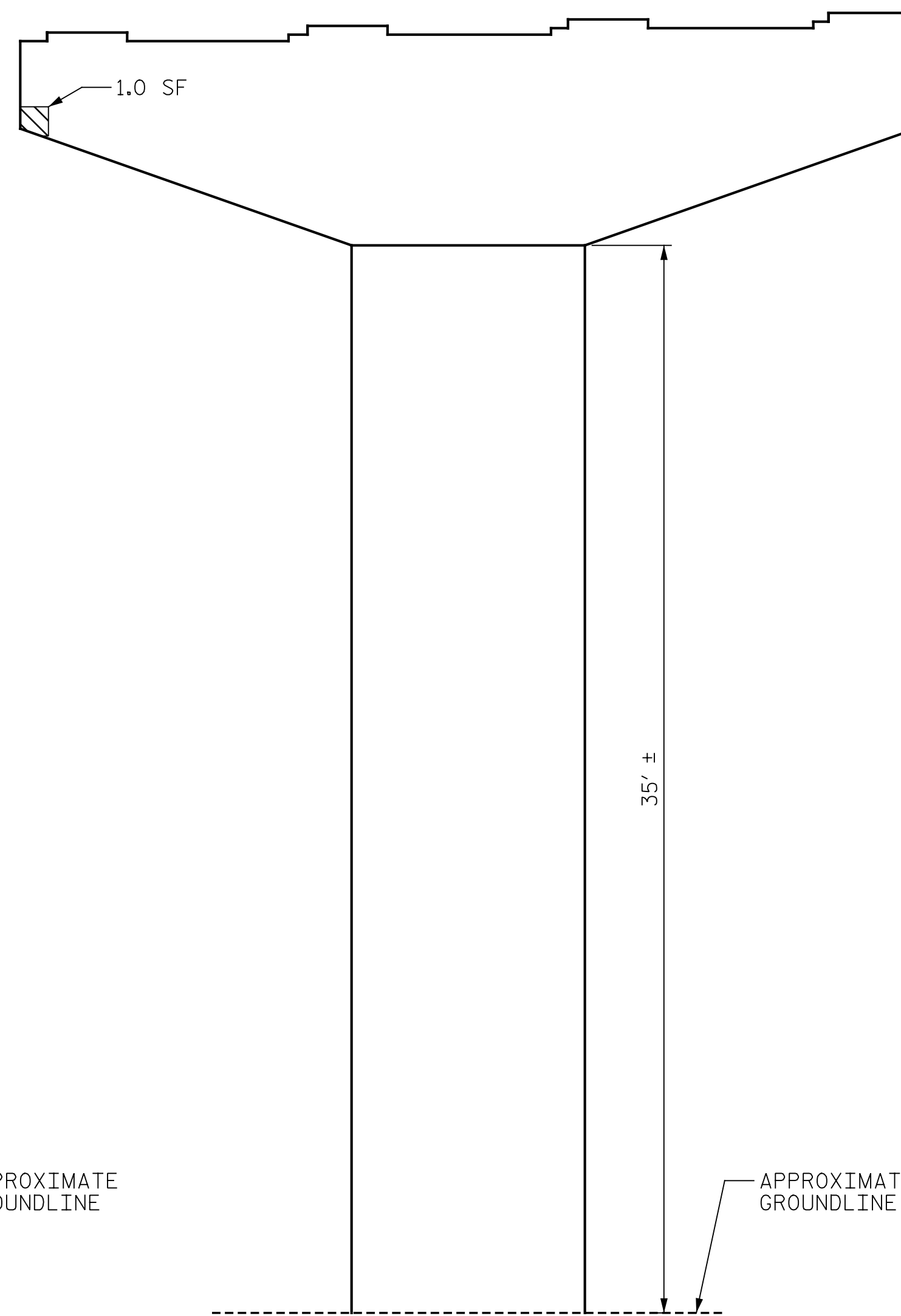
-  - SHOTCRETE REPAIR
-  - CONCRETE REPAIR (FORM & POUR)



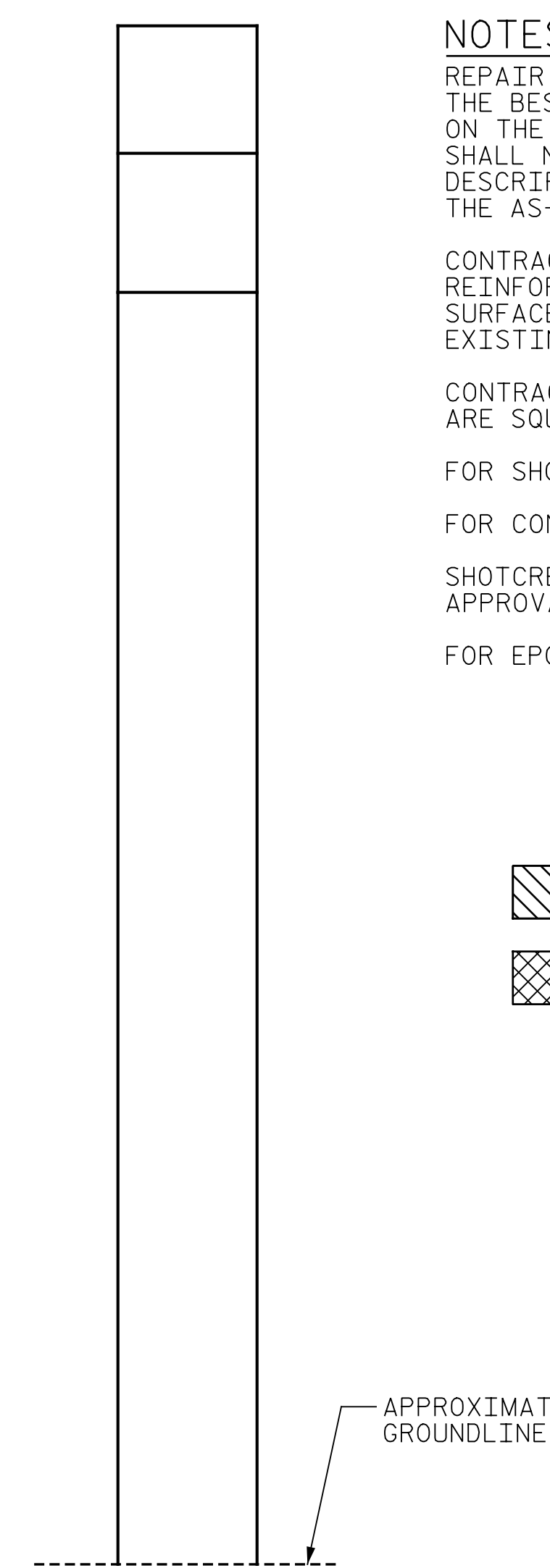
ELEVATION
(SPAN F FACE)



END VIEW
(EAST FACE)



ELEVATION
(SPAN G FACE)

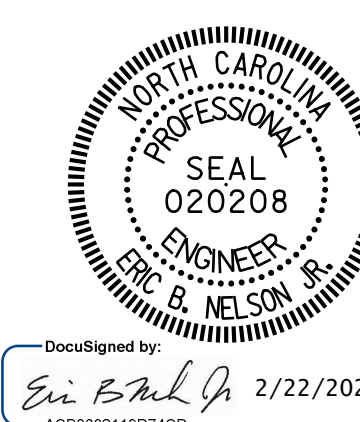


END VIEW
(WEST FACE)

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 6



DocuSigned by:
 Eric B. Nelson
 2/22/2022

DRAWN BY : T. HARTLEY DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:

 One Glenwood Avenue
 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
 NC Lic. No. F-0270

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

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

NOTES

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

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

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

SAW CUT 1/2" DEEP ALONG LAYOUT LINES INTO SOUND CONCRETE. CARE SHALL BE TAKEN NOT TO CUT OR DAMAGE REINFORCING STEEL DURING CONCRETE REMOVAL. ANY DAMAGED REINFORCING STEEL SHALL BE REPLACED WITH NEW REINFORCING STEEL AS DIRECTED BY THE ENGINEER.

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

ALL REINFORCING STEEL IN BARRIER RAILS SHALL MATCH EXISTING REINFORCING PLACEMENT, SIZE OR TYPE AND SHALL BE EPOXY COATED.

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

GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF BARRIER RAIL SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

THE #5 S1 AND S2 BARS SHALL BE INSTALLED USING AN ADHESIVE ANCHORING SYSTEM. THE YIELD LOAD FOR THE #5 S1 AND S2 BARS IS 18.6 KIPS. FIELD TESTING FOR THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.

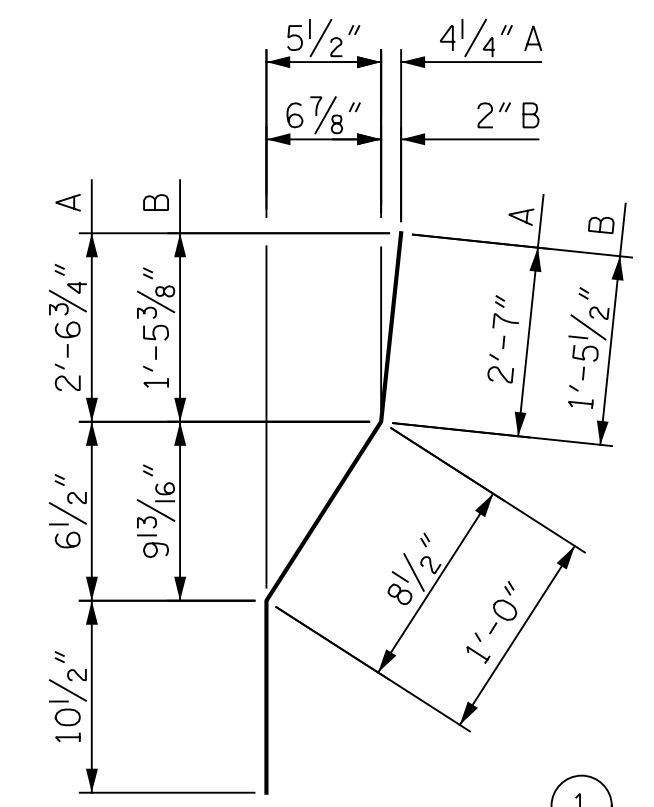
FOR CONCRETE BARRIER RAIL REPAIR QUANTITIES, SEE PLAN OF SPAN SHEETS.

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

BAR TYPES

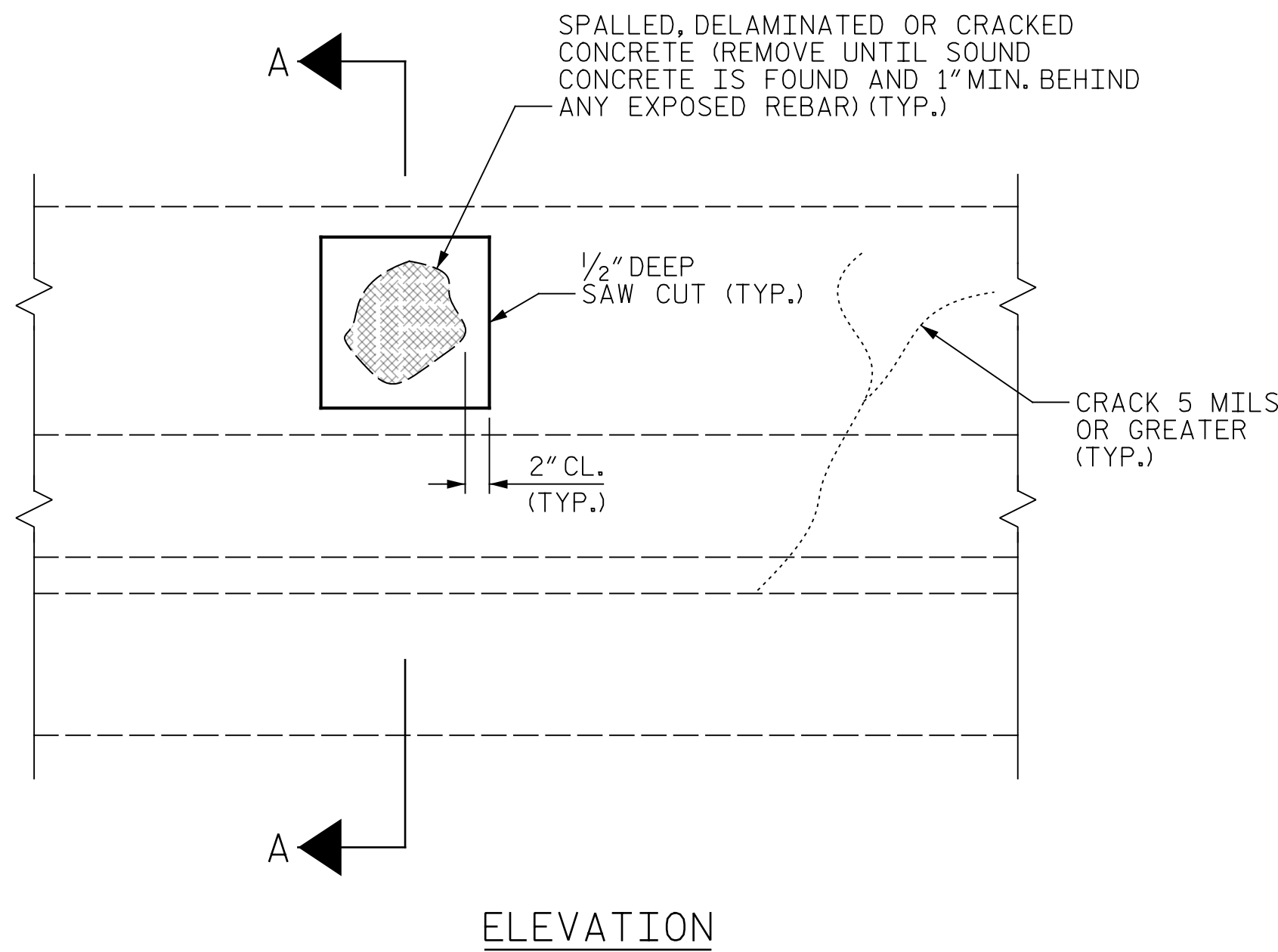


ALL BAR DIMENSIONS ARE OUT TO OUT

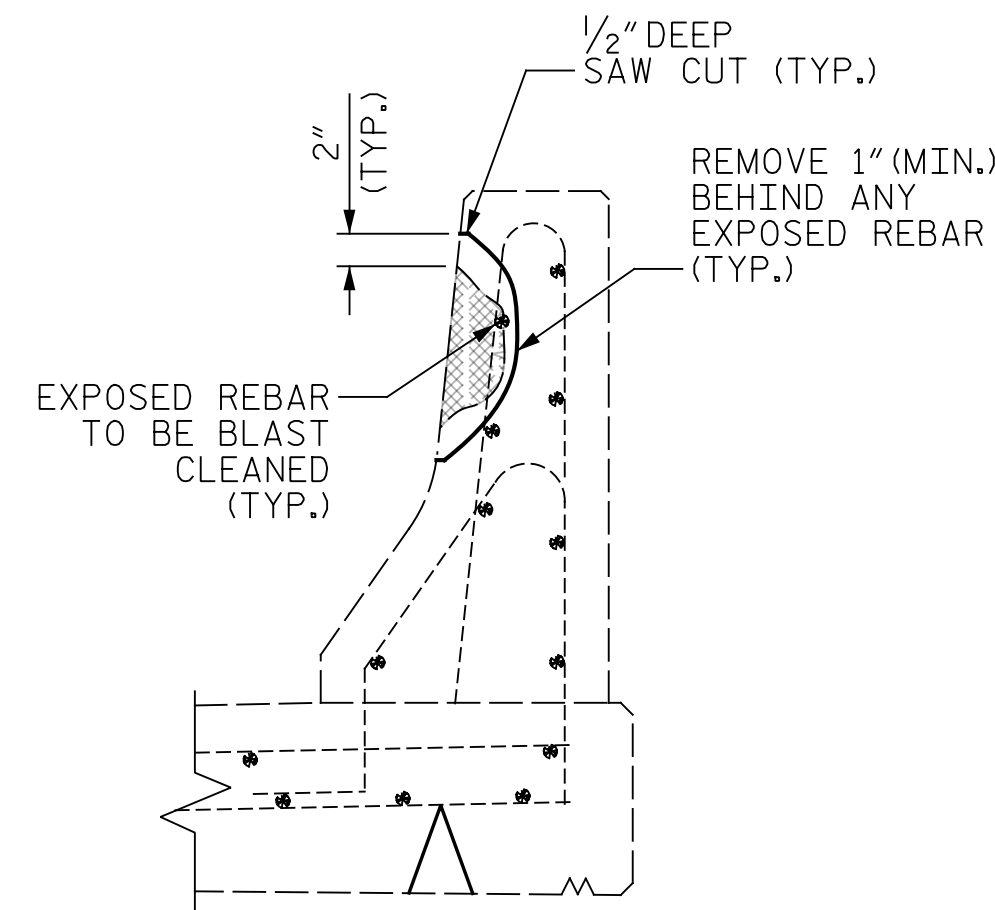
BILL OF MATERIAL

"A" DIMENSIONS FOR EXISTING 42" CONCRETE BARRIER RAIL					
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
*S1	1	#5	STR	4'-0"	4
*S2	1	#5	1	4'-2"	4
"B" DIMENSIONS FOR EXISTING 32" CONCRETE BARRIER RAIL					
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
*S1	1	#5	STR	3'-2"	3
*S2	1	#5	1	3'-4"	3

* EPOXY COATED REINFORCING STEEL



ELEVATION



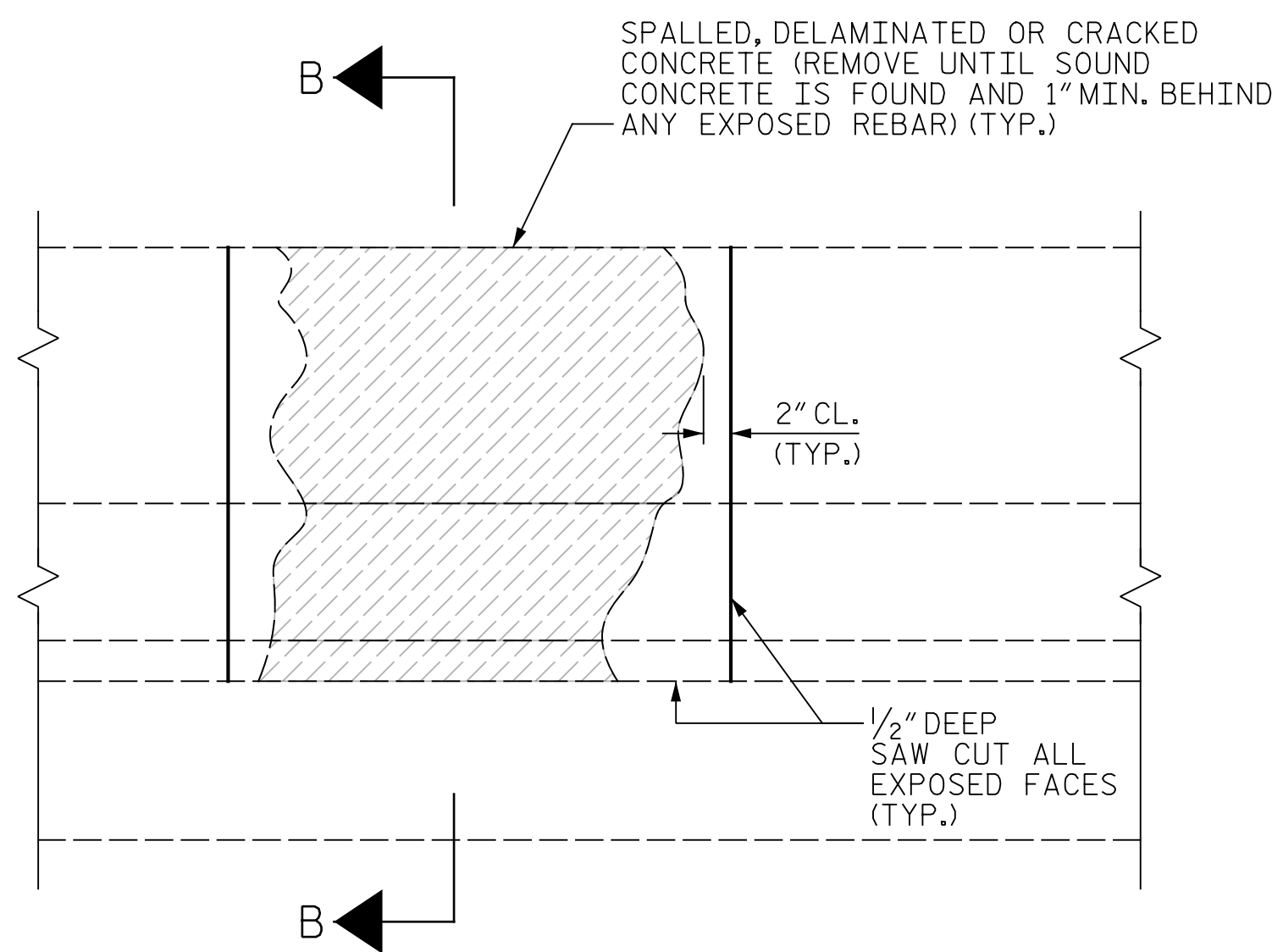
SECTION A-A

PARTIAL SECTION REPAIR

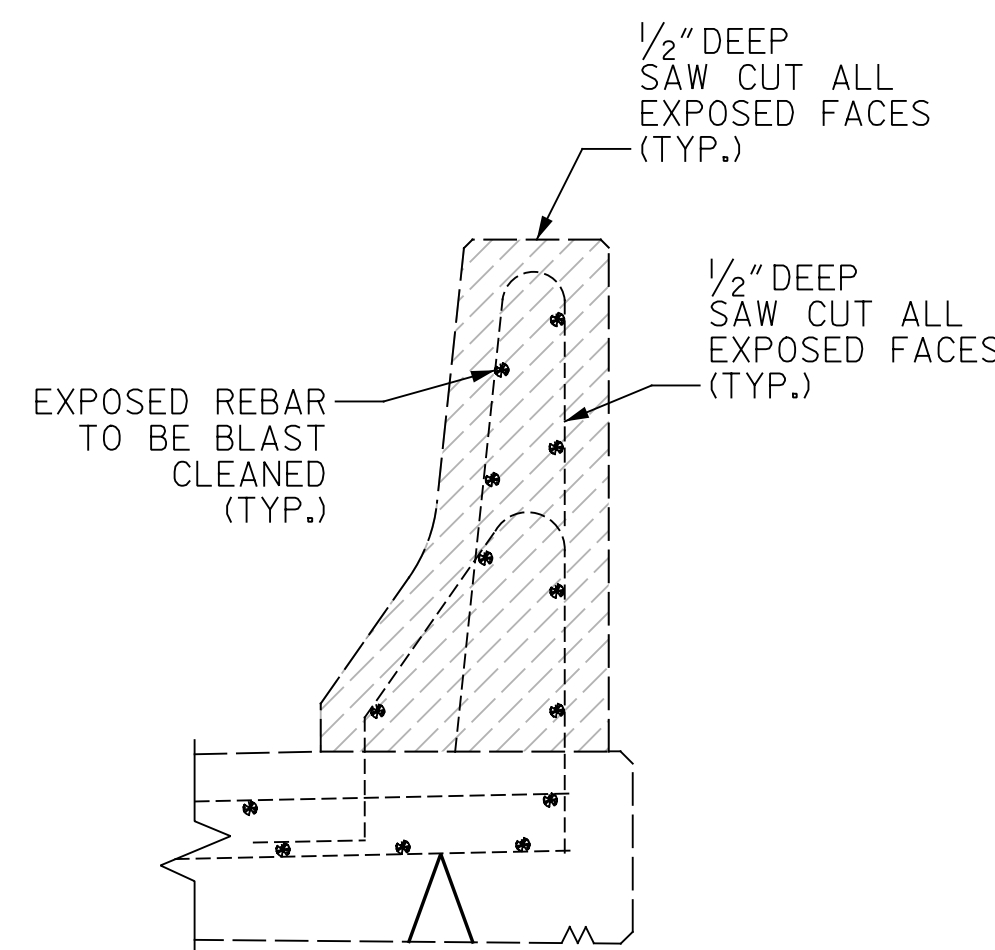
REPAIR KEY

- SHOTCRETE REPAIRS
- CONCRETE REPAIRS
- EPOXY RESIN INJECTION (ERI)

SPLICE LENGTH TABLE	
BAR SIZE	MIN. SPLICE LENGTH
#4	2'-9"
#5	3'-5"
#6	4'-4"

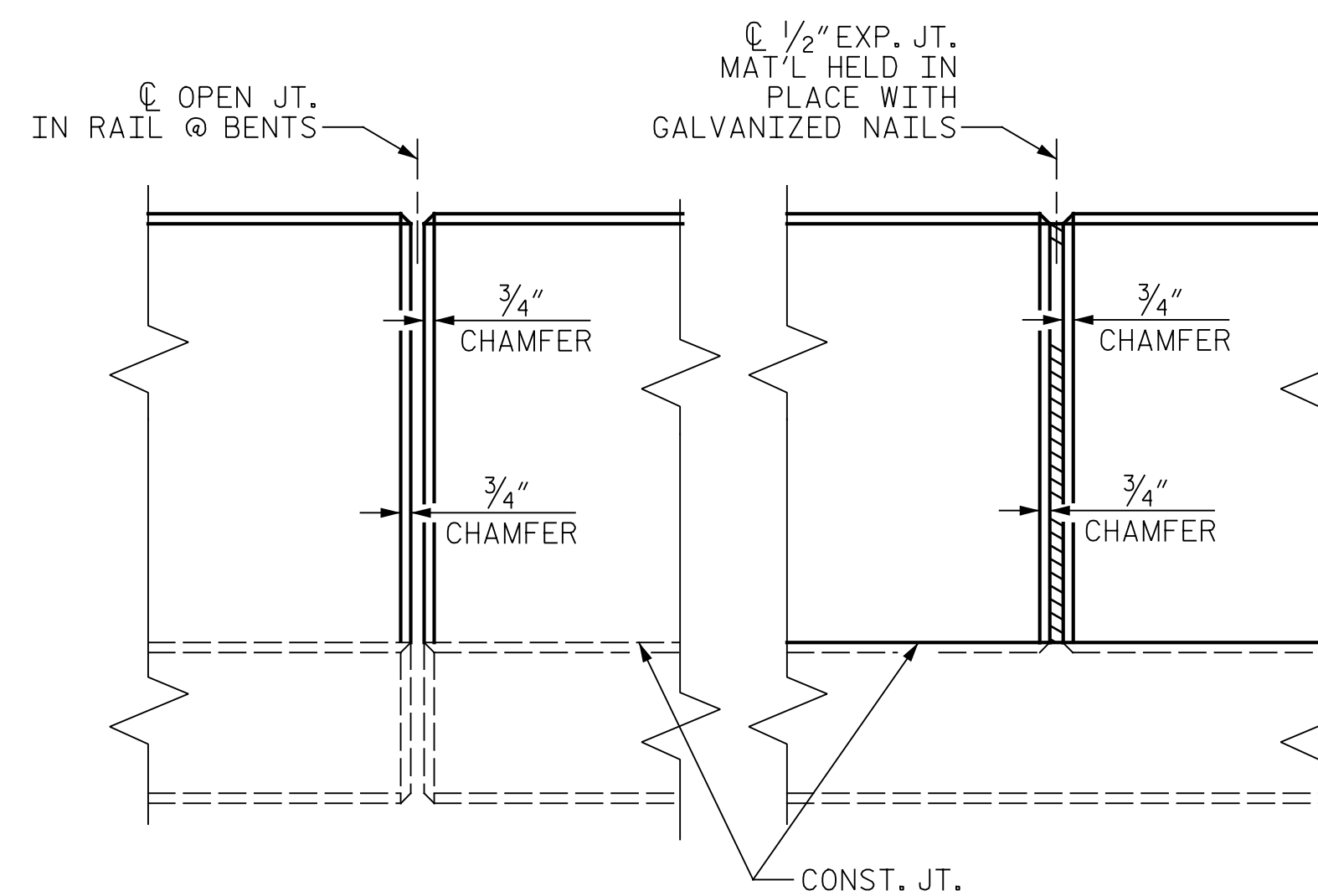


ELEVATION

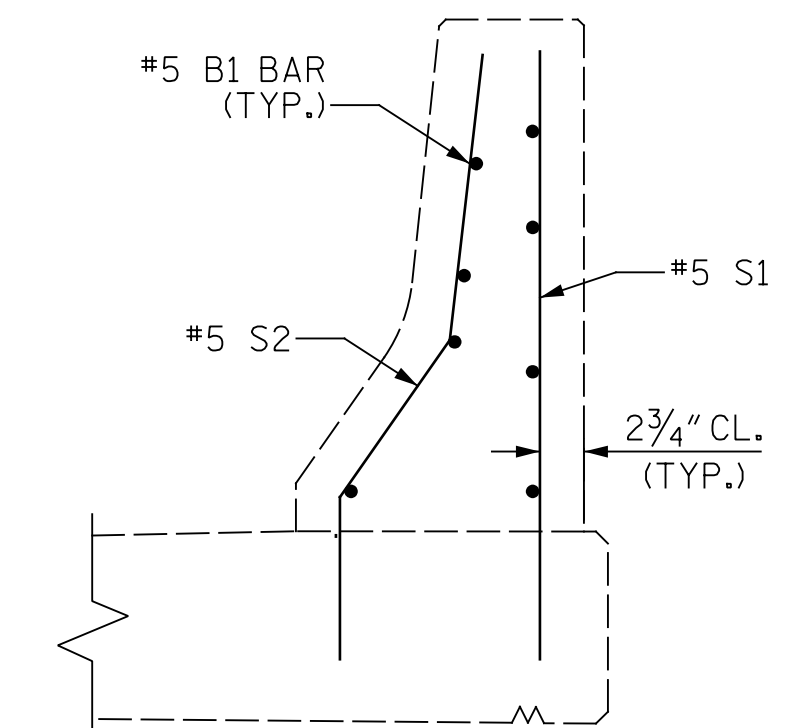


SECTION B-B

FULL SECTION REPAIR



ELEVATION AT EXPANSION JOINTS



PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552



DocuSigned by:
 Eric B. Nelson
 2/22/2022

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

CONCRETE BARRIER RAIL REPAIR

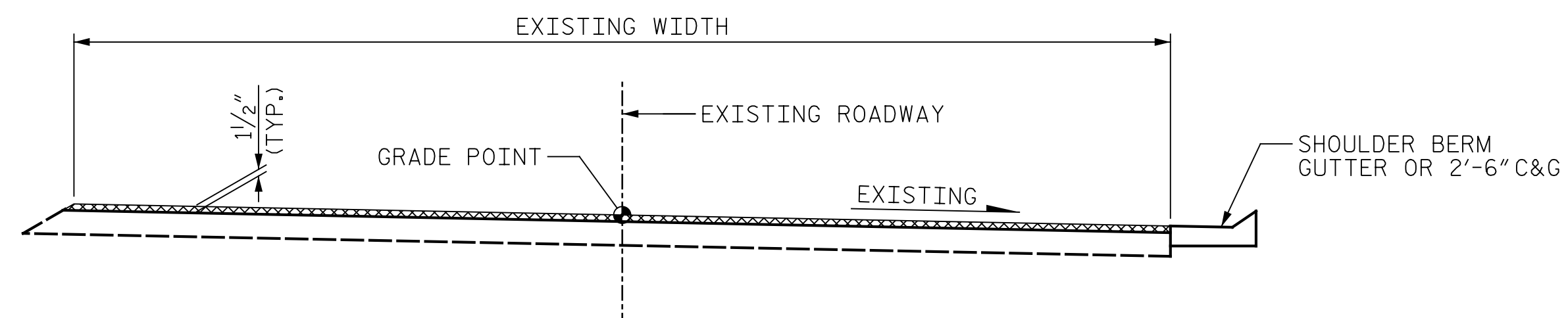
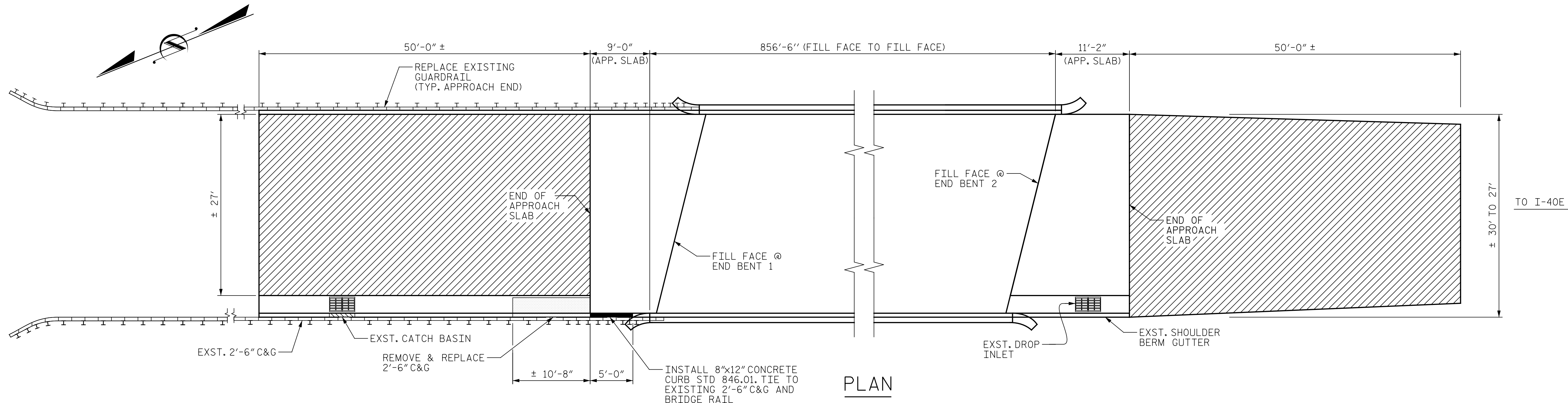
DRAWN BY: T. HARTLEY DATE: 02/2022
 CHECKED BY: R. FISHER DATE: 02/2022

PLANS PREPARED BY:

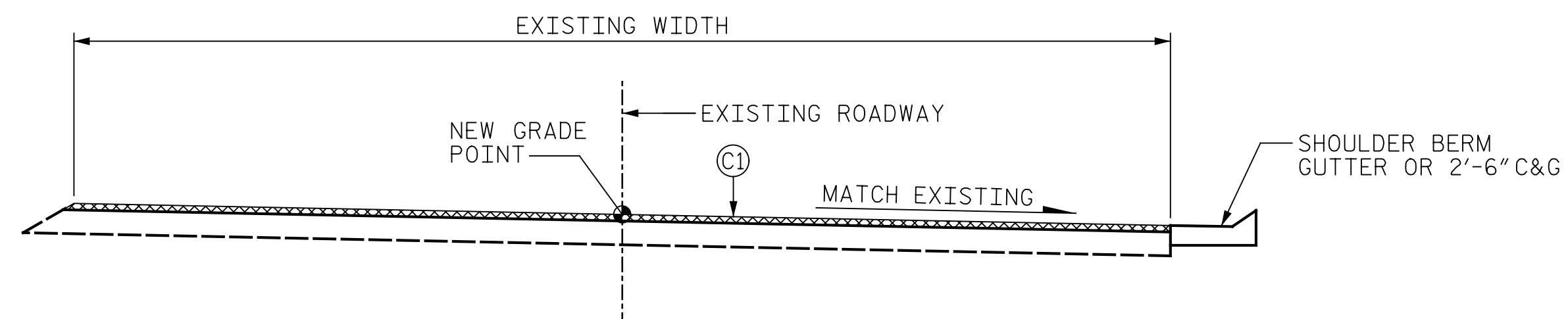
 One Glenwood Avenue
 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
 Excellence Delivered As Promised NC Lic. No. F-0270

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S1-27
2			4			TOTAL SHEETS 43



TYPICAL ROADWAY MILLING SECTION
(MILL TO APPROX. 1/2" DEPTH)



TYPICAL FINAL ROADWAY SECTION

NOTES:

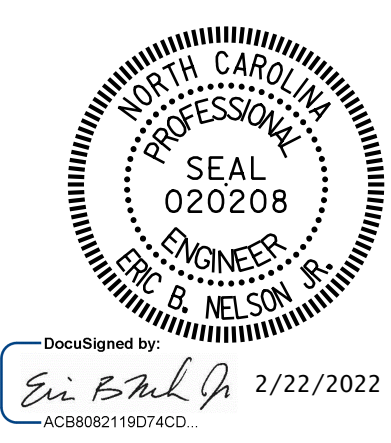
INCIDENTAL MILLING - EXISTING APPROACH ASPHALT PAVEMENT TO BE MILLED AS NECESSARY TO ATTAIN MINIMUM 1/2" DEPTH OF NEW ASPHALT PAVEMENT. NEW ASPHALT PAVEMENT SHALL BE OF THICKNESS NECESSARY TO CREATE A SMOOTH TRANSITION BETWEEN THE ROADWAY AND THE BRIDGE DECK. NEW ASPHALT PAVING THICKNESS MAY EXCEED 1/2" DUE TO SETTLEMENT OF THE EXISTING APPROACH.

- INCIDENTAL MILLING

C1 PROPOSED VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1/2" IN DEPTH OR GREATER THAN 2" IN DEPTH.

SUMMARY OF QUANTITIES		
DESCRIPTION	ESTIMATE	ACTUAL
INCIDENTAL MILLING	309 SY	
ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C	35 TONS	
ASPHALT BINDER FOR PLANT MIX	2.8 TONS	
STEEL BEAM GUARDRAIL	300 LF	
GUARDRAIL ANCHOR UNIT TYPE B-83	2 EA	
GUARDRAIL END UNIT TYPE TL-III	2 EA	
REMOVE EXISTING GUARDRAIL	400 LF	

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**APPROACH MILLING
 AND TYPICAL ROADWAY
 SECTIONS**

DRAWN BY : J. HARRIS DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:

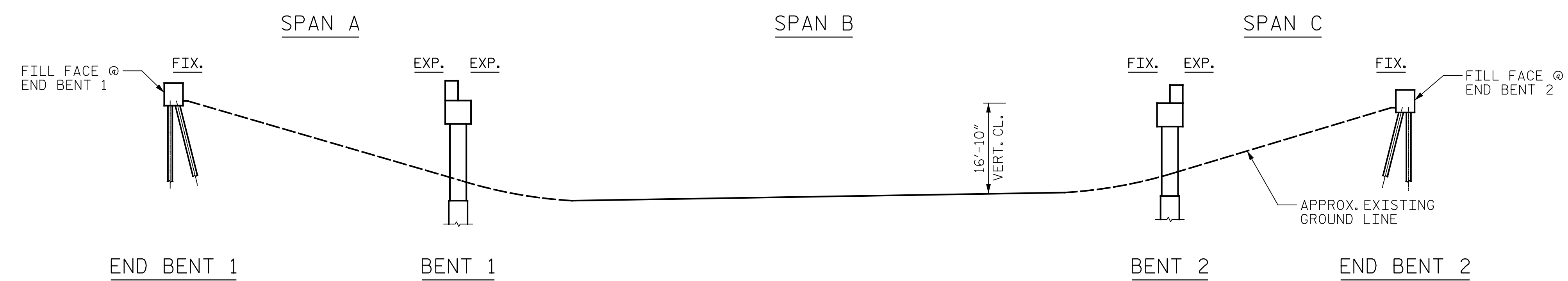
 One Glenwood Avenue
 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
 NC Lic. No. F-0270

DOCUMENT NOT CONSIDERED
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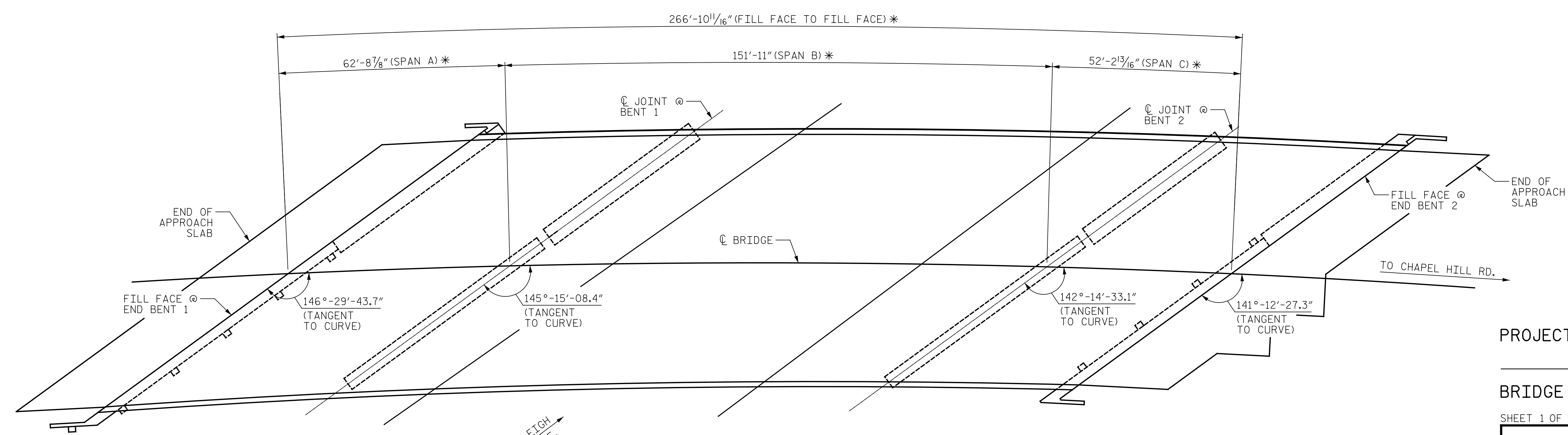
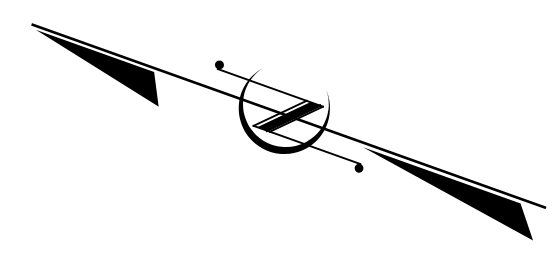
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S1-28
2			4			43

NOTES:
 GENERAL DRAWING INFORMATION IS TAKEN FROM THE WIDENING PLANS AND THE ROUTINE INSPECTION REPORT DATED 2/10/2021.
 BRIDGE ORIENTATION CONFORMS TO THE EXISTING BRIDGE PLANS AND ROUTINE INSPECTION REPORT.

SCOPE OF WORK
 SURFACE PREPARATION AND SEALING OF BRIDGE DECK WITH SILANE DECK TREATMENT.
 SURFACE PREPARATION AND SEALING OF BARRIER RAILS WITH SILANE.
 REPLACE EXISTING DECK JOINTS WITH ELASTOMERIC CONCRETE AND FOAM JOINT SEALS.
 EPOXY RESIN INJECTION OF EXISTING CRACKS.
 CONCRETE REPAIRS TO SUBSTRUCTURE.
 CLEAN AND PAINT EXISTING WEATHERING STEEL.



SECTION ALONG RIGHT LANE WORK LINE
 (SECTION AT BENTS AND END BENTS ARE AT RIGHT ANGLES)



PLAN
 (PILES NOT SHOWN FOR CLARITY)

* DIMENSIONS MEASURED ALONG ARC

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910553

SHEET 1 OF 2



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

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 BRIDGE #910553 ON I-40
 OVER EB WADE AVE.

DRAWN BY : T. FORD DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised
 One Glenwood Avenue Suite 900
 Raleigh, NC 27603
 (919) 420-7660
 NC Lic. No. F-0270

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S2-1
2			4			TOTAL SHEETS 43



LOCATION SKETCH

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

GENERAL NOTES

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT DUE TO THE NATURE OF PRESERVATION PROJECTS, THE EXTENT OF WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO COMMENCEMENT OF WORK. REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS.

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

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

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

WORK ON THE BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW, EXCEPT WHERE THE CONTRACTOR'S PLAN USES PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES TO CATCH THE MATERIAL. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS.

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

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

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

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THE ELEVATIONS AND CLEARANCES SHOWN ON THE PLANS AT THE POINTS OF MINIMUM VERTICAL CLEARANCE ARE FROM THE BEST INFORMATION AVAILABLE. PRIOR TO BEGINNING BRIDGE CONSTRUCTION, VERIFY THE ELEVATIONS ON THE EXISTING PAVEMENT AND CHECK THE CLEARANCE. REPORT ANY VARIATIONS TO THE ENGINEER. ANY PLAN REVISIONS NECESSARY TO ACHIEVE THE REQUIRED MINIMUM VERTICAL CLEARANCE WILL BE PROVIDED BY THE DEPARTMENT.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO AND DURING REPAIR OF BRIDGE DECKS. WHEN RAIN IS PREDICTED BETWEEN WORK PERIODS THE CONTRACTOR SHALL REMOVE DECK DRAIN SEAL DEVICES. REINSTALL DECK DRAIN DEVICES PRIOR TO RESUMING DECK REPAIR ACTIVITIES.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR VOLUMETRIC MIXER, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

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

FOR SURFACE PREPARATION AND SILANE TREATMENT OF BARRIER RAILS, SEE SILANE BARRIER RAIL TREATMENT SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

FOR MAINTENANCE AND PROTECTION OF TRAFFIC BENEATH BRIDGES, SEE SPECIAL PROVISIONS.

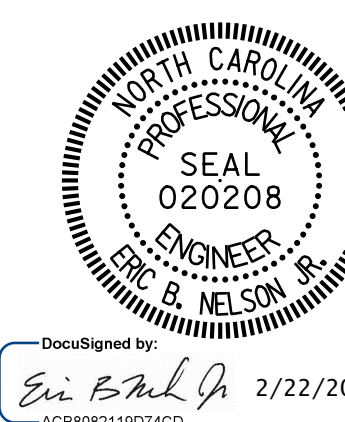
FOR PAINTING EXISTING WEATHERING STEEL STRUCTURE, SEE SPECIAL PROVISIONS.

FOR PAINTING CONTAINMENT AND POLLUTION CONTROL, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

BRIDGE COORDINATES	
LATITUDE	LONGITUDE
35°-48'-56.82"	78°-44'-19.52"

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910553

SHEET 2 OF 2



DocuSigned by:
 Eric B. Nelson
 2/22/2022

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 BRIDGE #910553 ON I-40
 OVER WADE AVE.
 EXTENSION RIGHT LANE

DRAWN BY : T. FORD DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

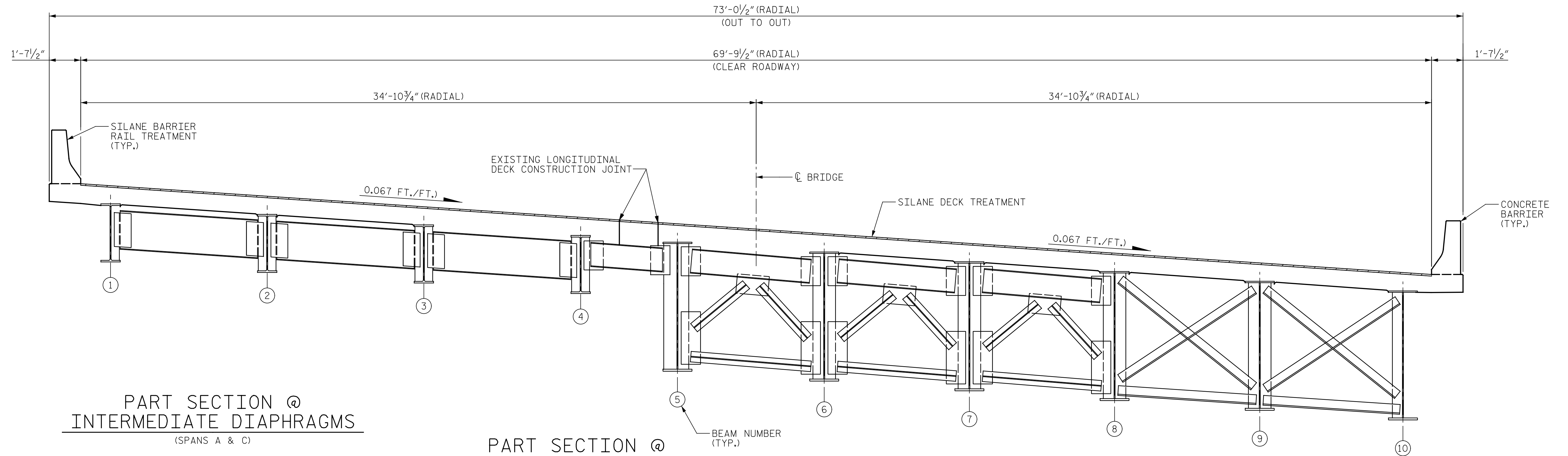
PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised
 One Glenwood Avenue
 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
 NC Lic. No. F-0270

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

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

NOTE:

SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR SURFACE PREPARATION AND SILANE DECK TREATMENT.

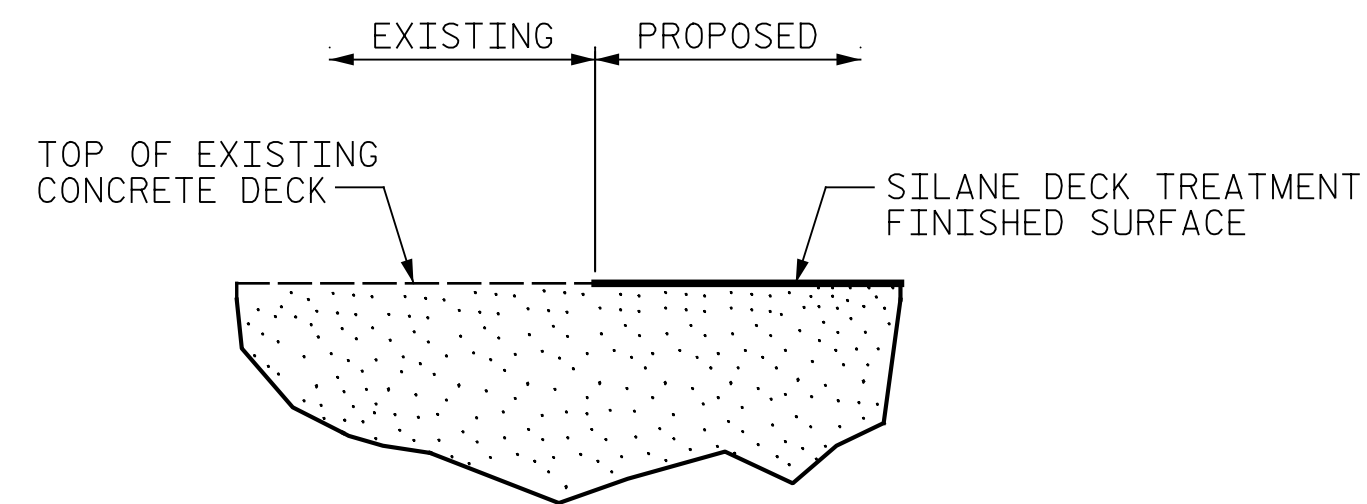


PART SECTION @ INTERMEDIATE DIAPHRAGMS
 (SPANS A & C)

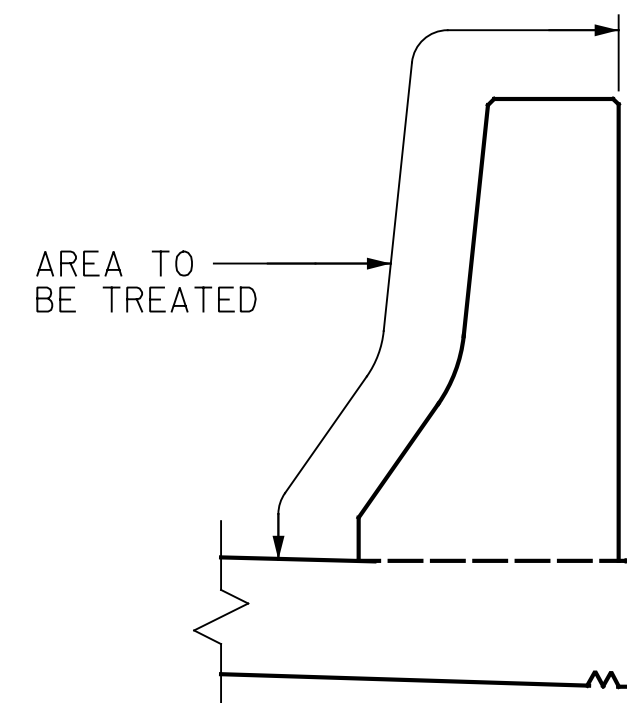
PART SECTION @ BENT DIAPHRAGMS
 (SPANS A & C)

PART SECTION @ BENT DIAPHRAGMS
 (SPANS B)

PART SECTION @ INTERMEDIATE DIAPHRAGMS
 (SPANS B)

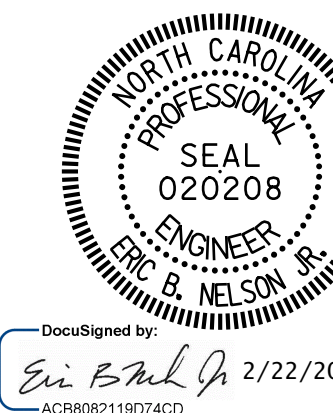


DETAIL OF SILANE DECK TREATMENT



DETAIL OF SILANE BARRIER TREATMENT

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910553



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

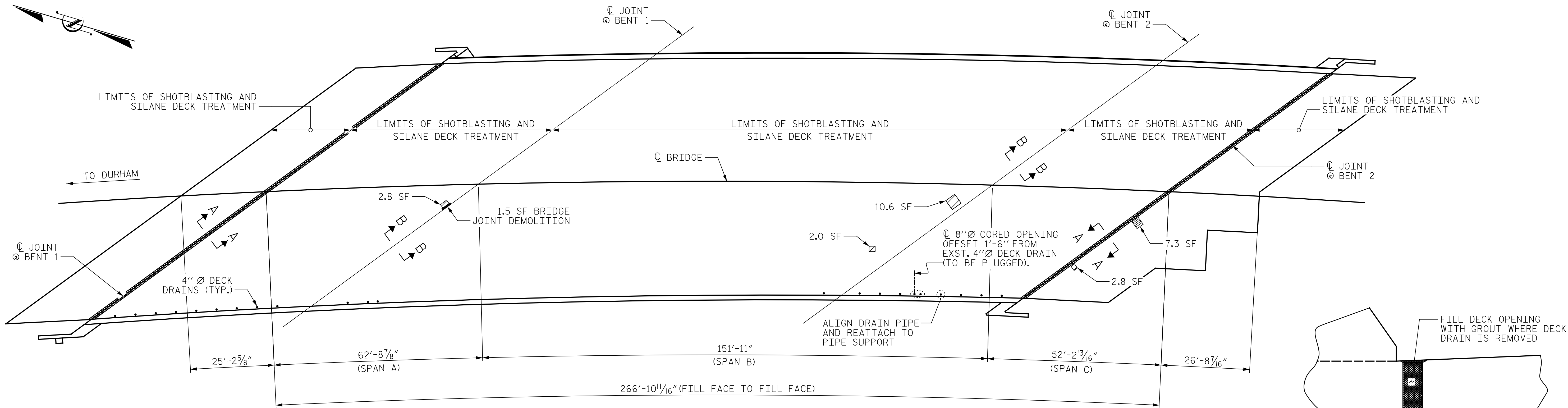
DRAWN BY : L.GAYNOR/J.MYA DATE : 02/2022
 CHECKED BY : R.FISHER DATE : 02/2022

PLANS PREPARED BY:

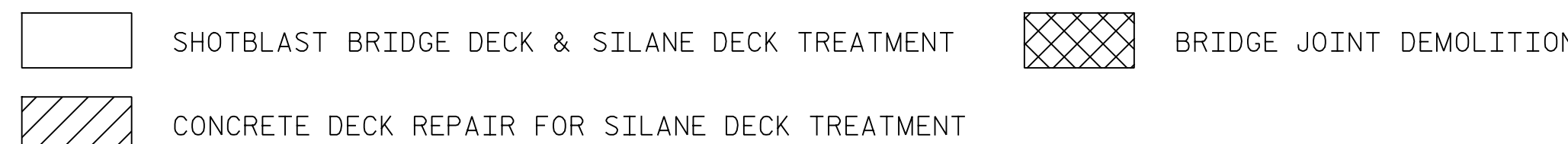
 One Glenwood Avenue
 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
 NC Lic. No. F-0270

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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S2-3
2			4			43



AS-BUILT REPAIR QUANTITY TABLE										
TOP OF DECK REPAIRS	APPROACH SLAB 1		SPAN A		SPAN B		SPAN C		APPROACH SLAB 2	
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	197 SY		493 SY		1190 SY		409 SY		218 SY	
SILANE DECK TREATMENT	197 SY		493 SY		1190 SY		409 SY		218 SY	
SURFACE PREP. FOR BARRIER RAIL TREATMENT	-		483 SF		1163 SF		398 SF		-	
SILANE BARRIER RAIL TREATMENT	-		483 SF		1163 SF		398 SF		-	
CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	-		2.8 SF		12.6 SF		-		10.1 SF	
EPOXY COATING	ESTIMATE	ACTUAL								
	AREA SF	AREA SF								
TOP OF CAP @ BENTS 1 & 2	982.7									



NOTES:

TYPICAL DECK DRAIN SHOWN. REPLACE OR REPAIR PORTIONS OF DECK DRAIN AS NOTED ON THIS SHEET OR AS DIRECTED BY THE ENGINEER.

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

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

DECK SURFACE REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT AFTER REMOVAL OF UNSOUND CONCRETE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF ALL BENT CAPS SUPPORTING SUPERSTRUCTURE UNITS WITH DECK EXPANSION JOINTS. FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

CLEAR THE DECK DRAINS OF OBSTRUCTIONS. DEBRIS MATERIAL FROM THE DRAINS SHALL BE CONTAINED AND DISPOSED OF AS DIRECTED BY THE ENGINEER.

WHERE NOTED ON THIS SHEET, THE EXISTING 4" Ø DECK DRAIN PIPE SHALL BE CUT AT THE BOTTOM OF THE DECK SLAB AND THE DECK OPENING FILLED WITH GROUT.

AN 8" Ø OPENING SHALL BE CORED THROUGH THE DECK WHERE NOTED ON THE PLANS. THE 6" Ø PVC PIPE SHALL BE CENTERED WITHIN THE CORED OPENING. THE ANNULAR SPACE BETWEEN THE PIPE AND CORED OPENING SHALL BE FILLED WITH GROUT.

TOP OF FLOOR DRAIN TO BE SET 3/8" BELOW SURFACE OF SLAB.

4- 1/2" SQUARE LUGS TO BE GLUED TO THE PVC PLASTIC PIPE AT EQUAL SPACES AROUND THE PIPE DRAIN APPROXIMATELY 4" FROM THE TOP OF THE PIPE.

PLATES SHALL CONFORM TO AASHTO M270 GRADE 36 STEEL OR APPROVED EQUAL. BOLT SIZE TO BE SAME AS DIAPHRAGMS AND CROSS FRAME CONNECTIONS. STAINLESS STEEL WORM DRIVE HOSE CLAMP SHALL BE COMMERCIAL QUALITY.

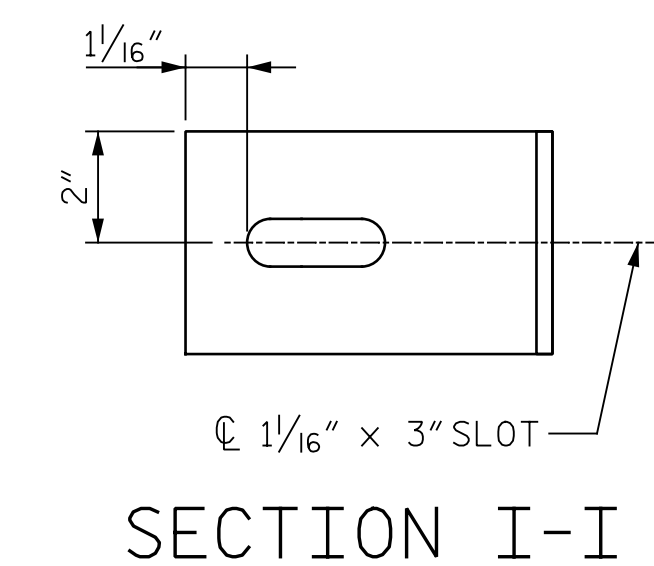
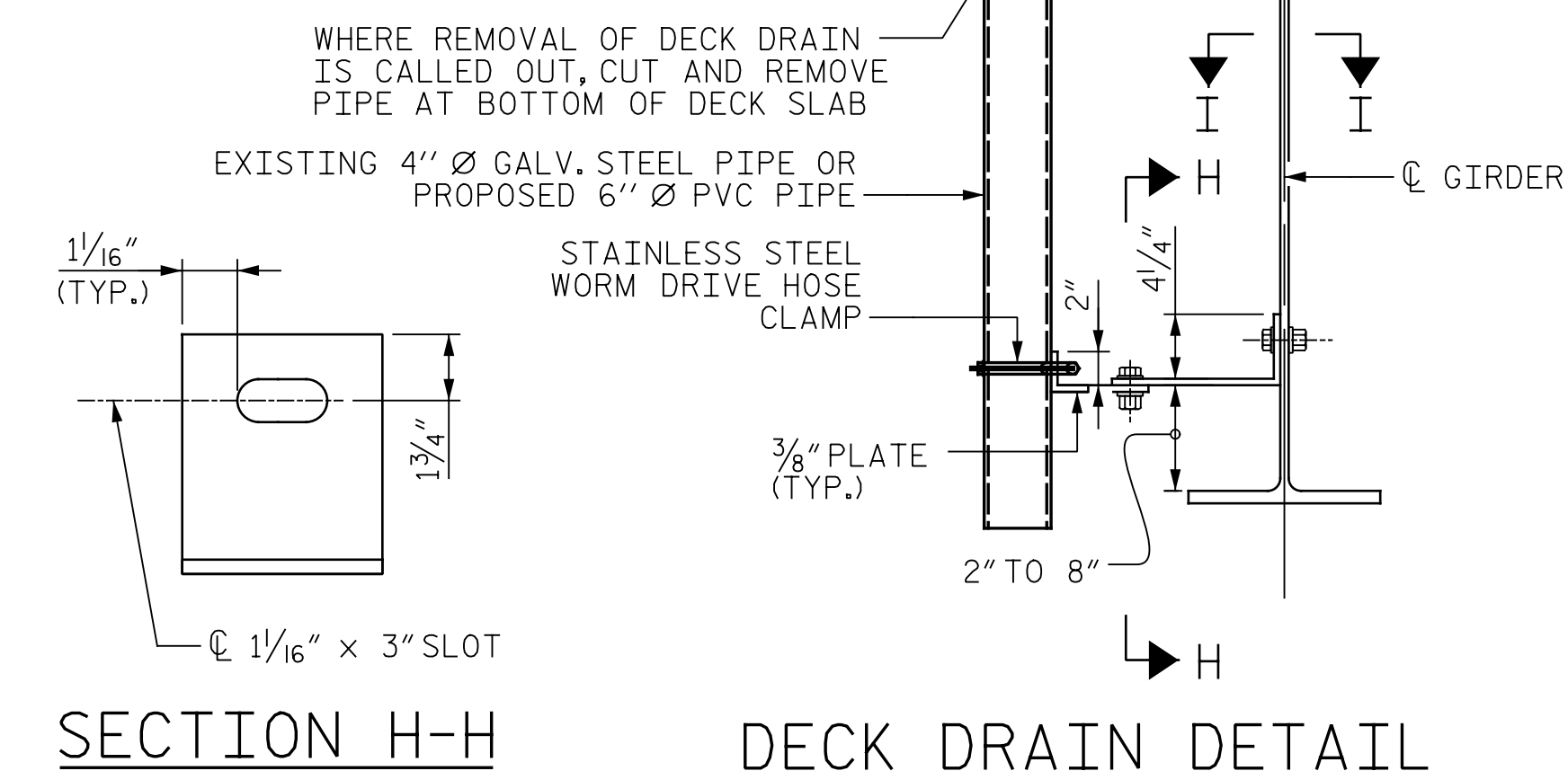
THE 6" Ø PVC PLASTIC PIPE FITTING SHALL BE SCHEDULE 40 AND CONFORM TO ASTM D1785 AND PAINTED TO MATCH THE EXISTING DECK DRAINS.

FOR REPAIR OF EXISTING DECK DRAINS, SEE SPECIAL PROVISIONS.

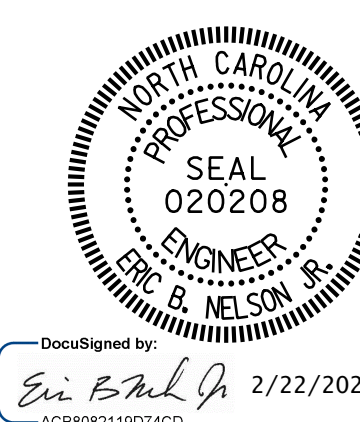
FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.



SPAN C - 2 DAMAGED DRAIN PIPES



PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910553

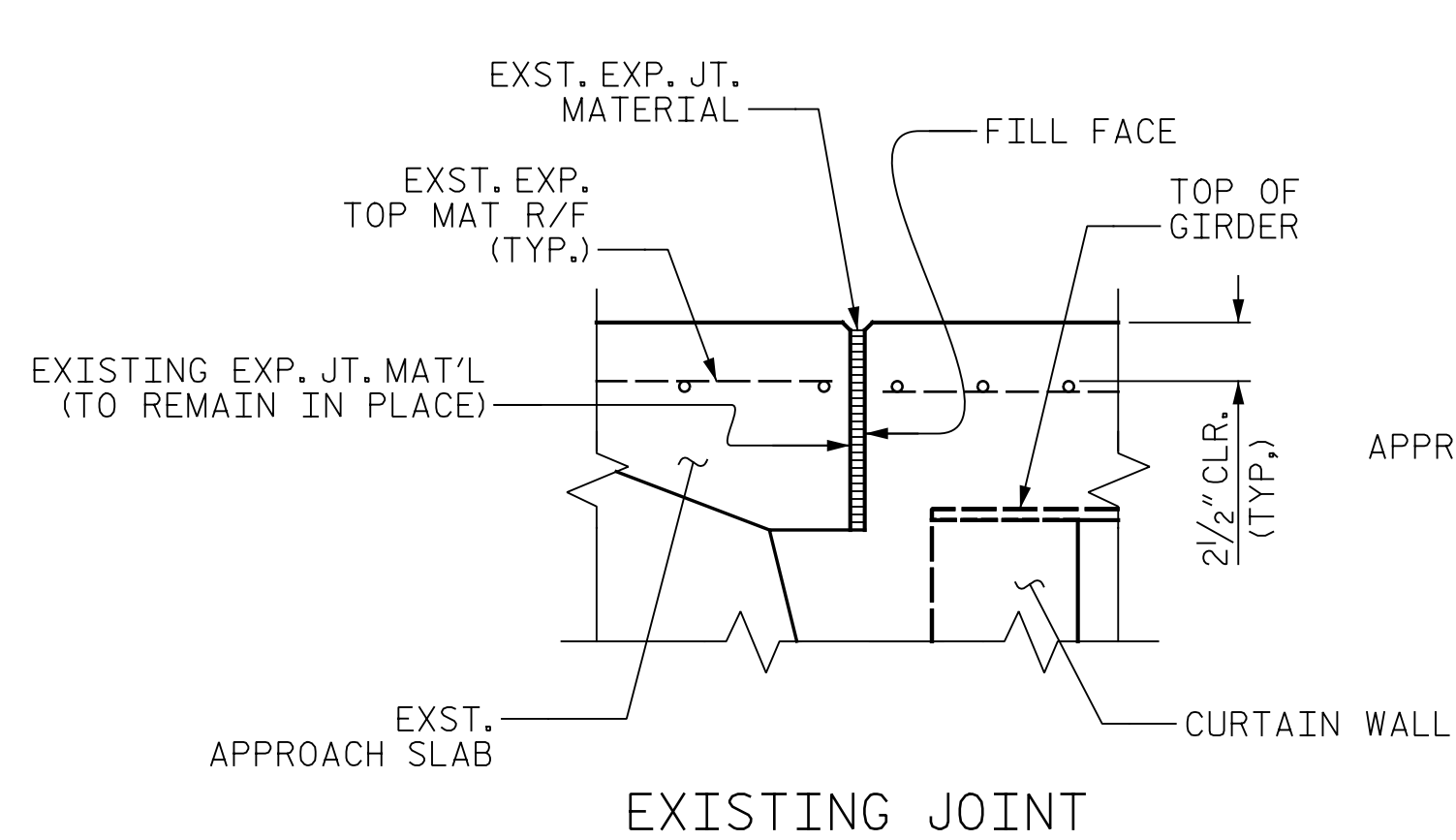


STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SURFACE PREPARATION AND SILANE TREATMENT					
SHEET NO. S2-4					
TOTAL SHEETS 43					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

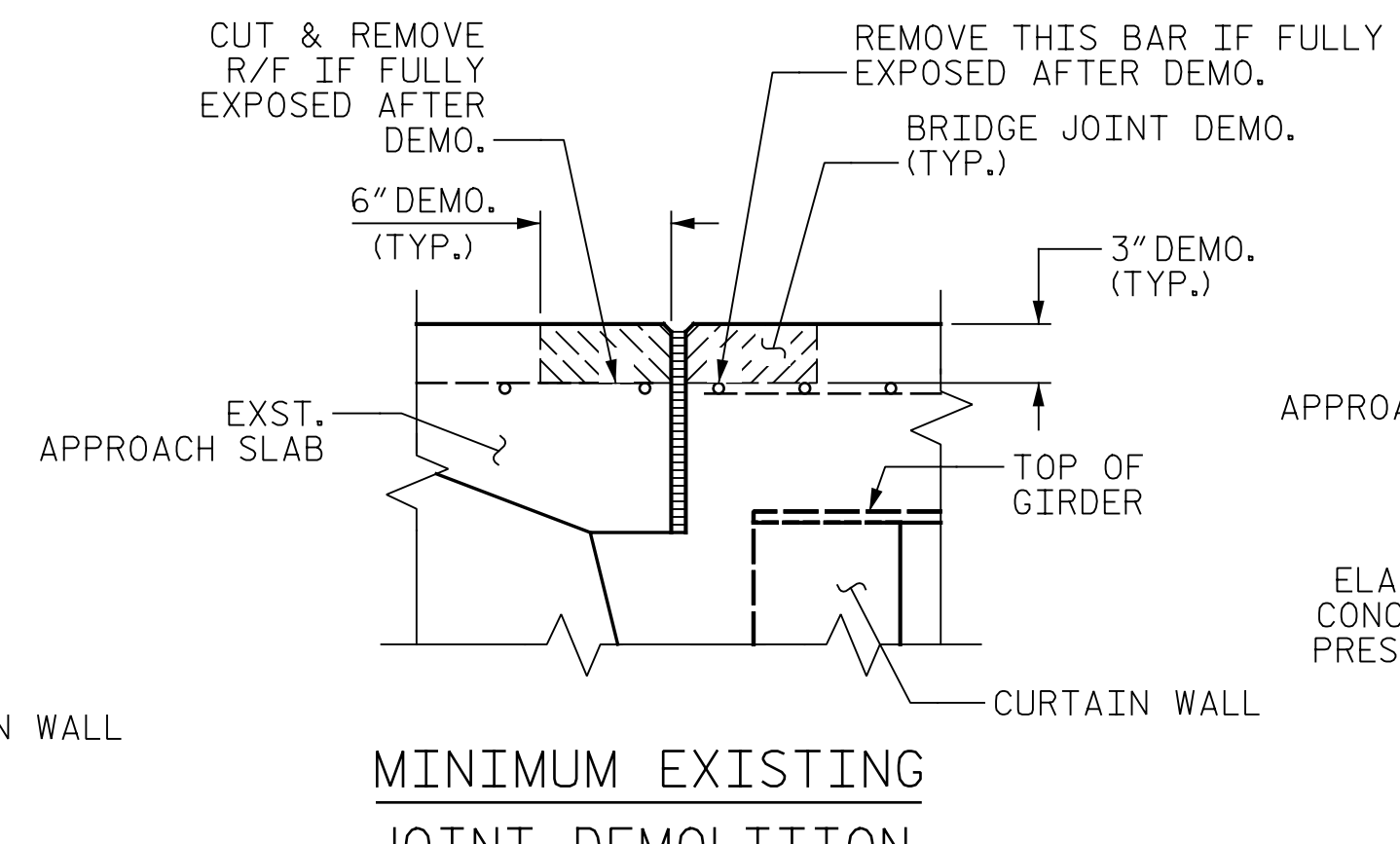
DRAWN BY: J. MYA DATE: 02/2022
 CHECKED BY: R. FISHER DATE: 02/2022

PLANS PREPARED BY:
Gannett Fleming
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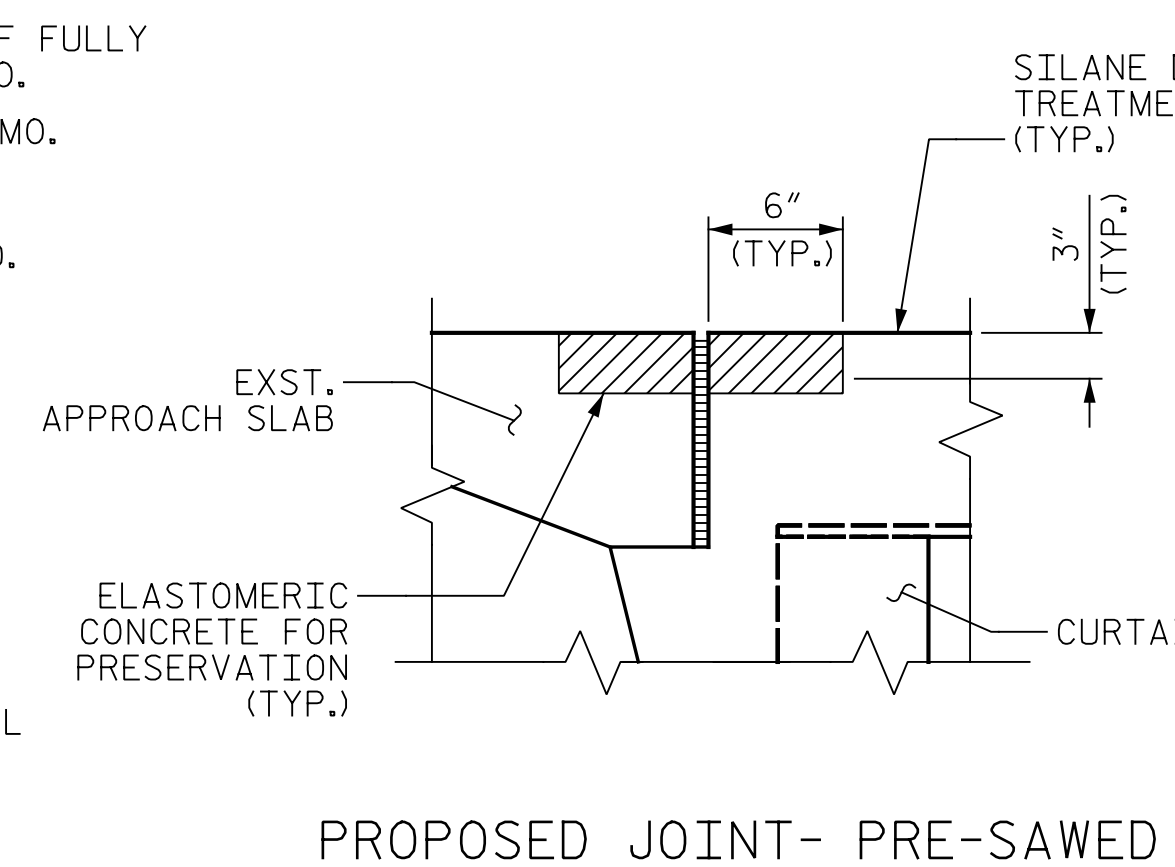
DOCUMENT NOT CONSIDERED
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 SIGNATURES COMPLETED



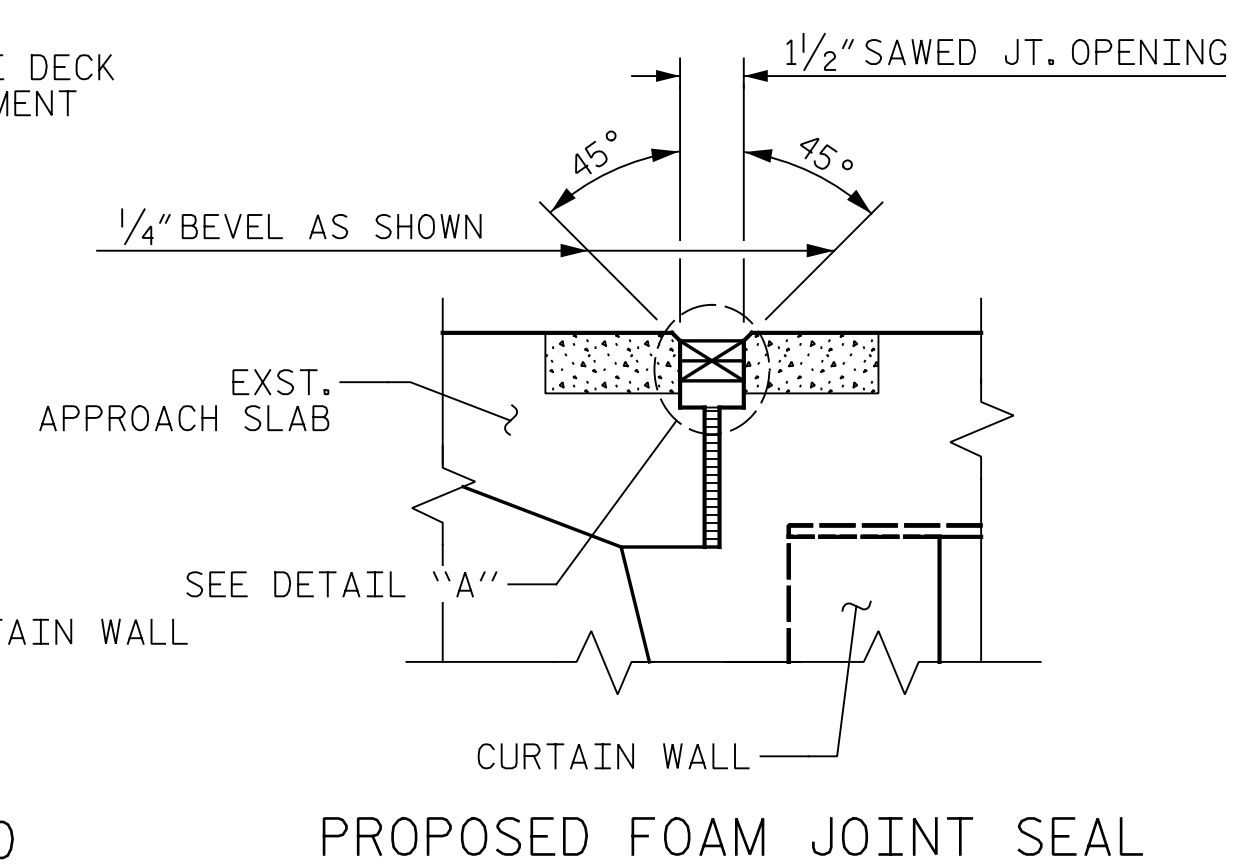
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION



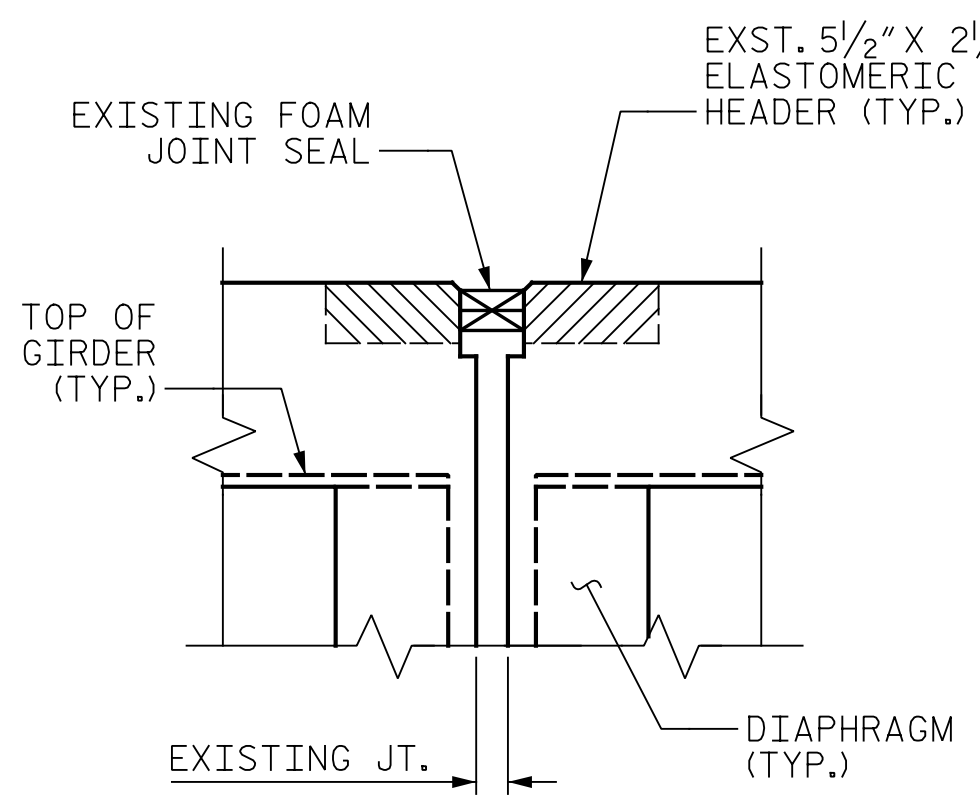
PROPOSED JOINT- PRE-SAWED



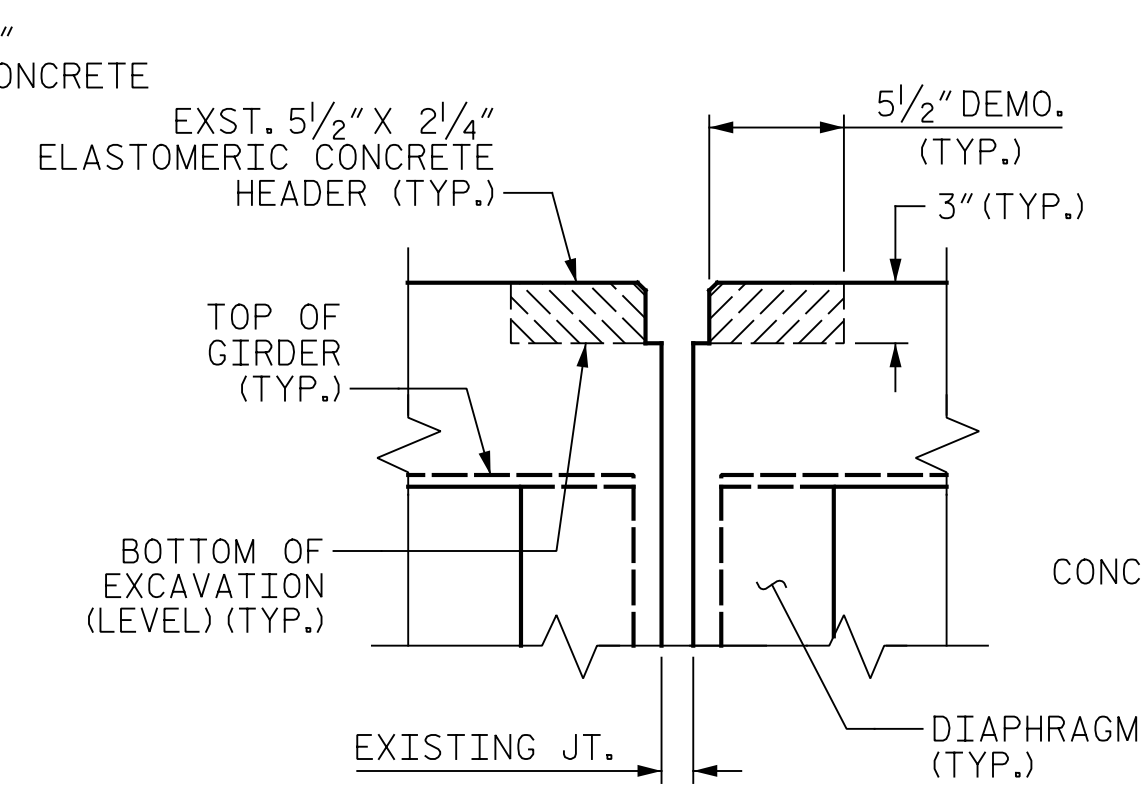
PROPOSED FOAM JOINT SEAL

SECTION A-A

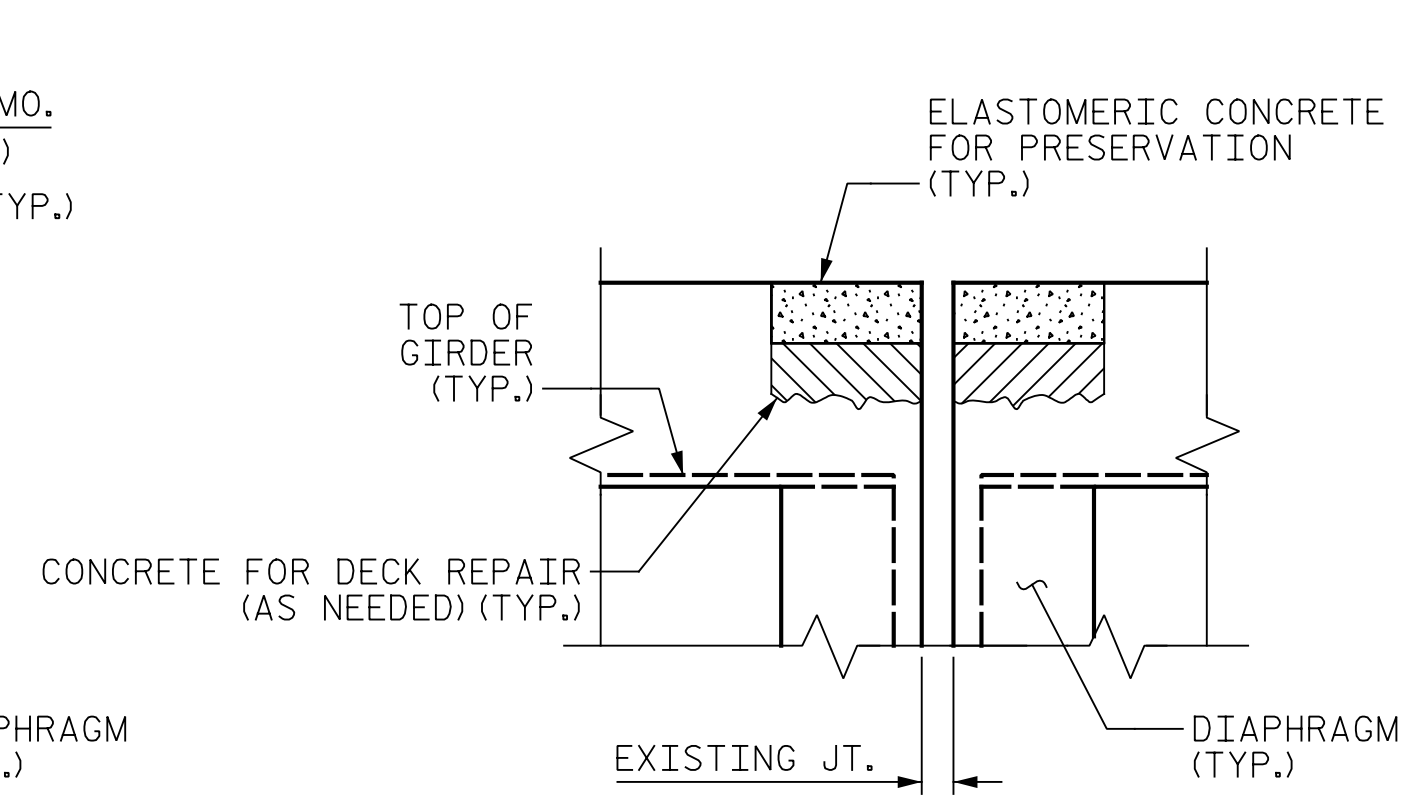
NOTE: RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS REQ'D. UNLESS OTHERWISE NOTED.



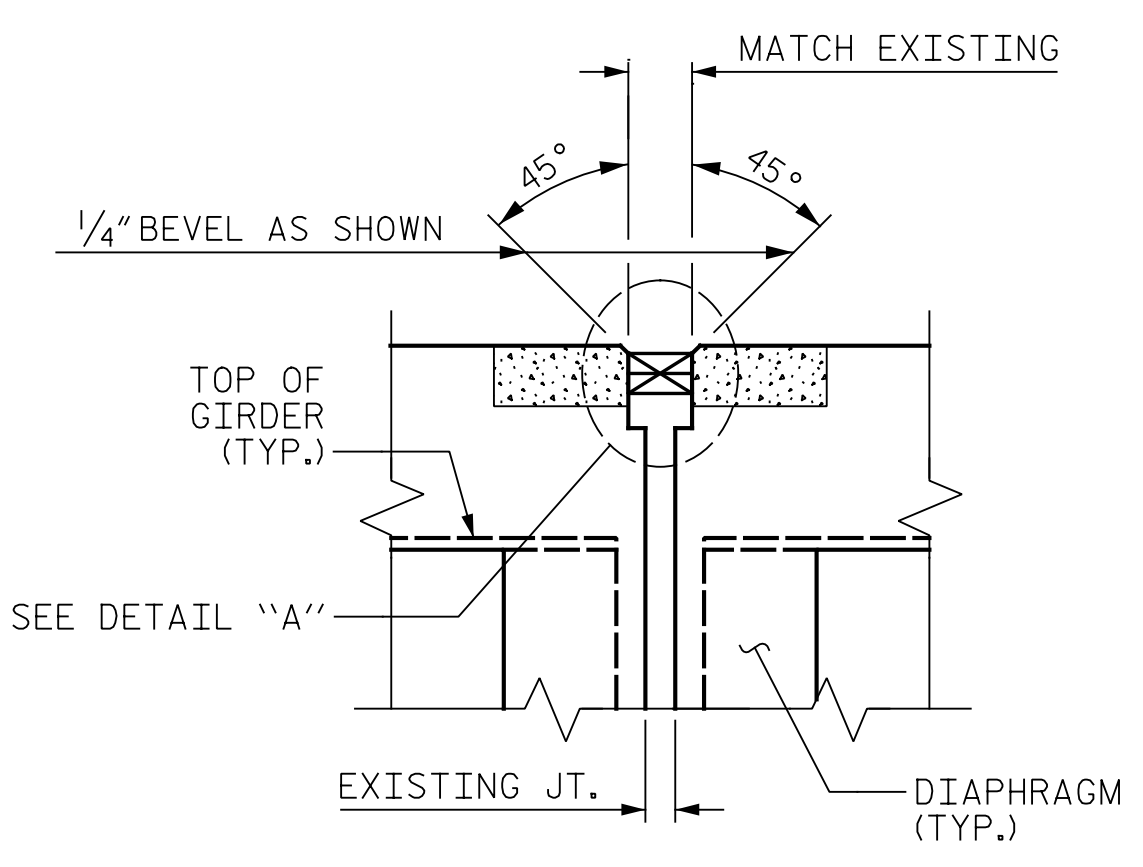
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION (FOR REPAIR TO EXISTING JOINTS)



EXISTING JOINT



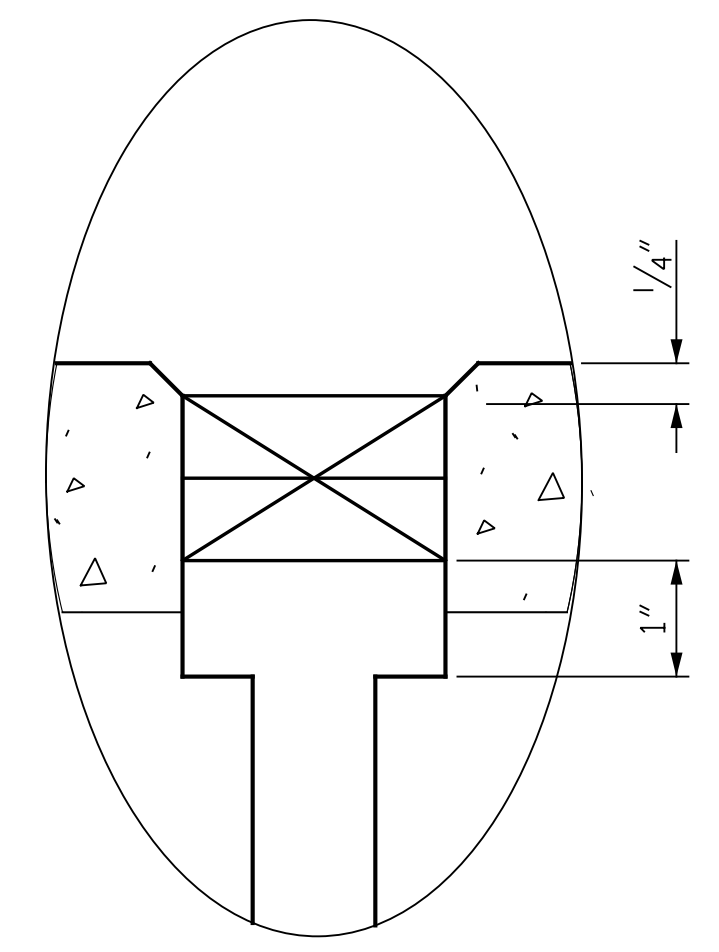
PROPOSED FOAM JOINT SEAL

SECTION B-B

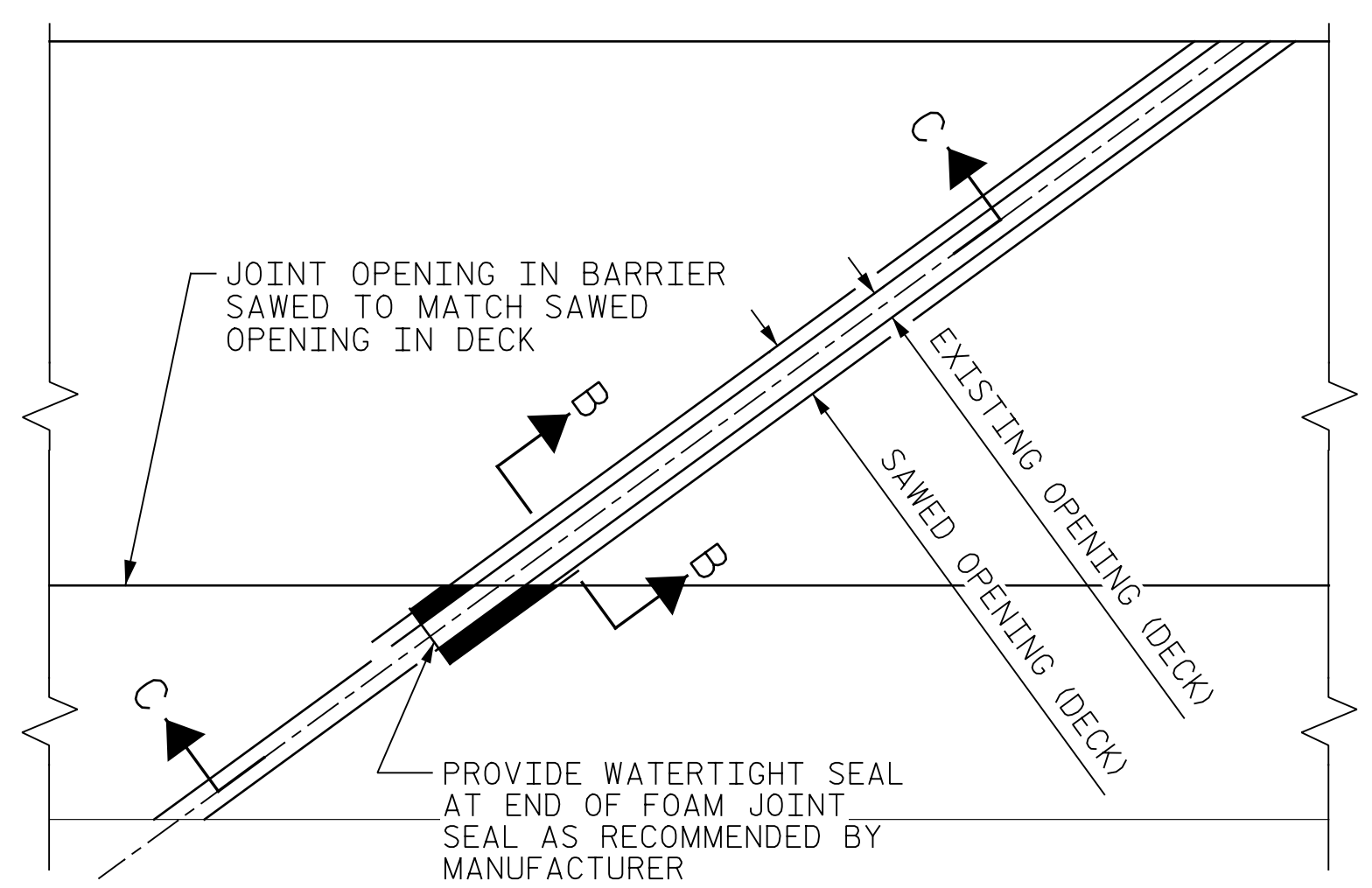
EXISTING JOINT MOVEMENT TABLE					
BRIDGE NO.	BENT NO.	TOT. MOVEMENT (ALONG C/L RDWY)	PERP. JOINT OPENING AT 45° F	PERP. JOINT OPENING AT 60° F	PERP. JOINT OPENING AT 90° F
910553	1	2 1/8"	2 3/16"	2 3/8"	2"
	2	1/2"	1 5/16"	1 7/8"	1 3/4"

FROM EXISTING PLANS.

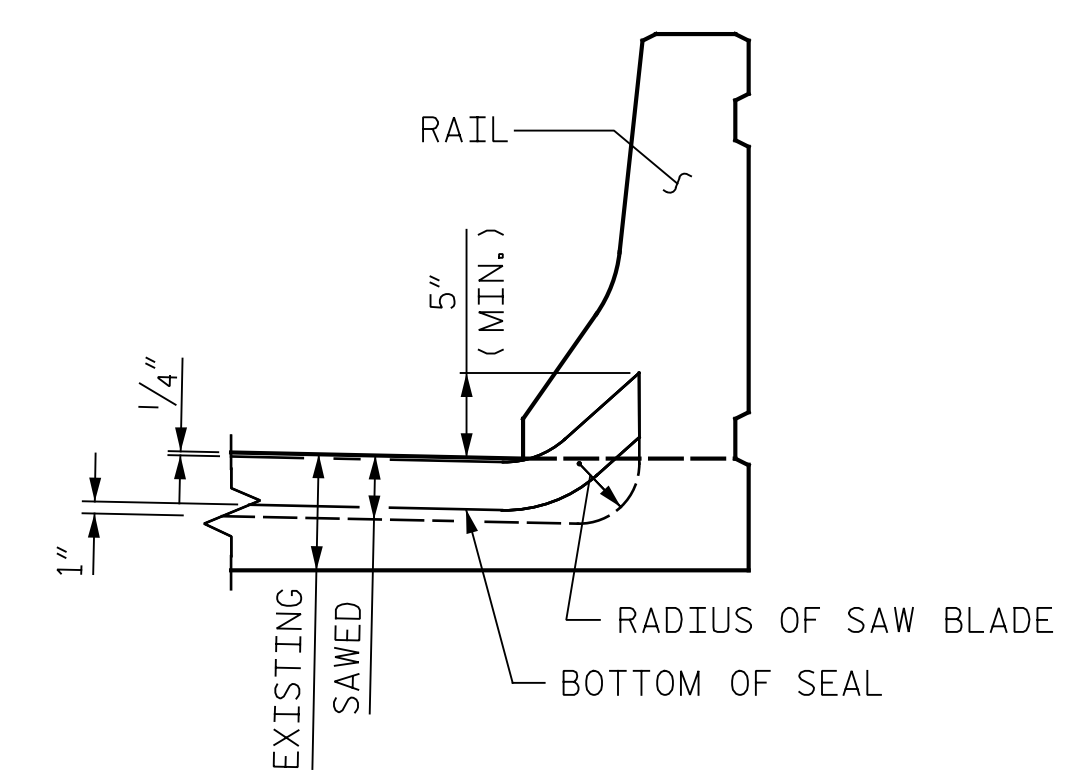
LOCATION	BRIDGE DEMOLITION SQ. FT.	ELASTOMERIC CONCRETE FOR PRESERVATION CU. FT.	FOAM JOINT SEALS FOR PRESERVATION LIN. FT.
END BENT 1	127	32	129
BENT 1	1.5	0.4	125
BENT 2	-	-	116
END BENT 2	112	28	114



DETAIL "A"



PLAN



SECTION C-C

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

NOTES:
 FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY OR SEALANT WORK IS COMPLETE.
 THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN THE DETAILS BY MORE THAN 1/4", NOTIFY THE ENGINEER.
 THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL FOR THE SIZE OF THE OPENING ON THE PLANS AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.
 FOAM JOINTS SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS.

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

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

THE INSTALLED FOAM JOINTS SHALL BE WATERTIGHT.

THE CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

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

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

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL PROVISIONS.

FOR VOLUMETRIC MIXER, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5943
 WAKE COUNTY
 BRIDGE NO. 910553

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

JOINT DETAILS



DocuSigned by:
 Eric B. Nelson
 2/22/2022

DRAWN BY: J. MYA DATE: 02/2022
 CHECKED BY: R. FISHER DATE: 02/2022

PLANS PREPARED BY:
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 One Glenwood Avenue
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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S2-5
2			4			TOTAL SHEETS 43

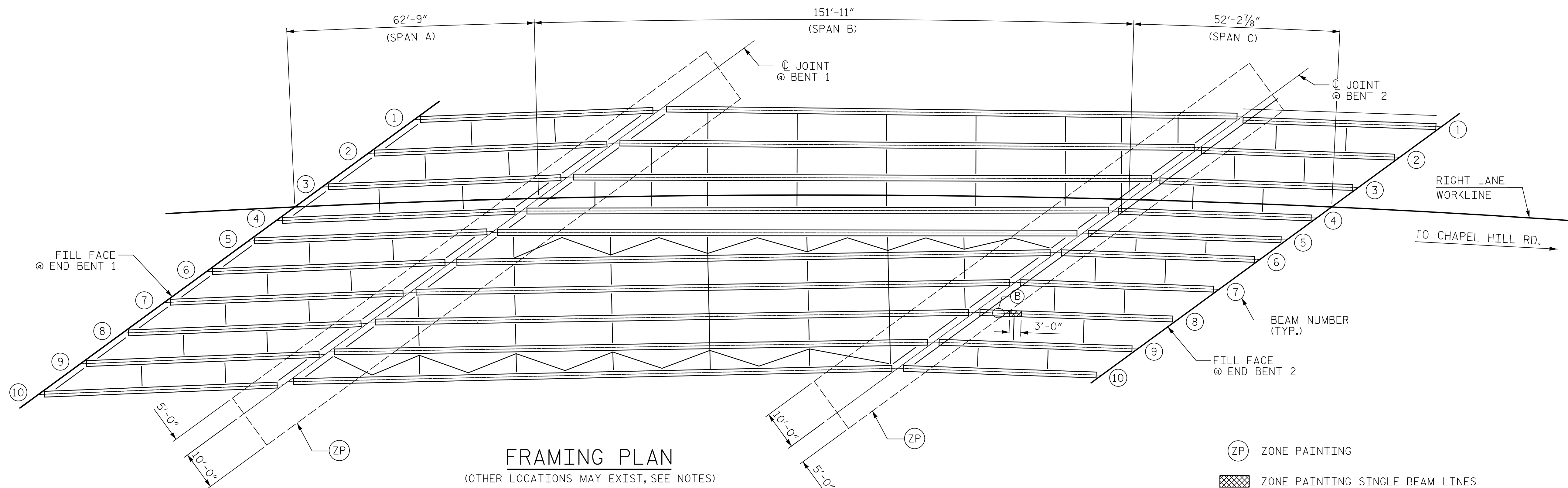
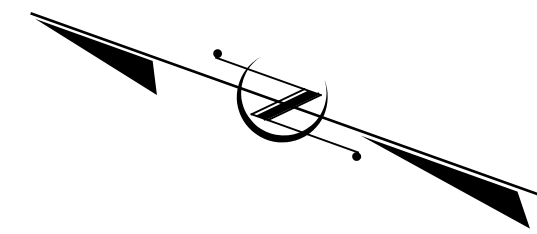
NOTES

THE LOCATIONS AND DIMENSIONS OF THE ZONE PAINTING ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION, WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENT OF ZONE PAINTING AREAS PRIOR TO BEGINNING WORK.

FOR ZONE PAINTING, SEE PAINTING EXISTING WEATHERING STEEL STRUCTURE SPECIAL PROVISIONS.

HORIZONTAL LIMITS OF ZONE PAINTING SHALL EXTEND 12" BEYOND THE MAXIMUM HORIZONTAL EXTENT OF WEB/FLANGE CORROSION.

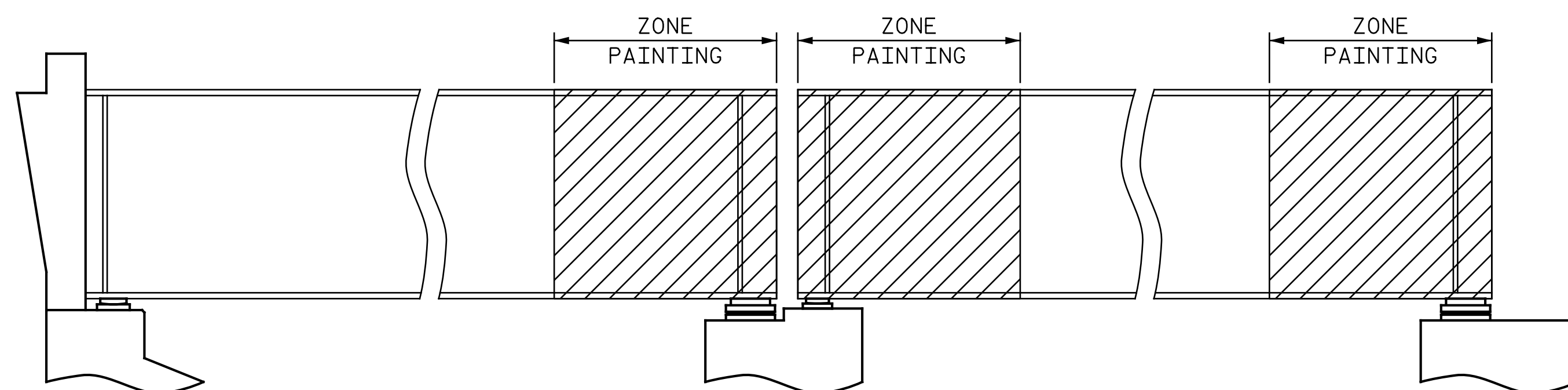
*VERTICAL LIMITS OF ZONE PAINTING SHALL EXTEND 3" BEYOND THE MAXIMUM VERTICAL EXTENT OF WEB CORROSION OR 6" ABOVE THE TOP OF BOTTOM FLANGE, WHICHEVER IS GREATER.



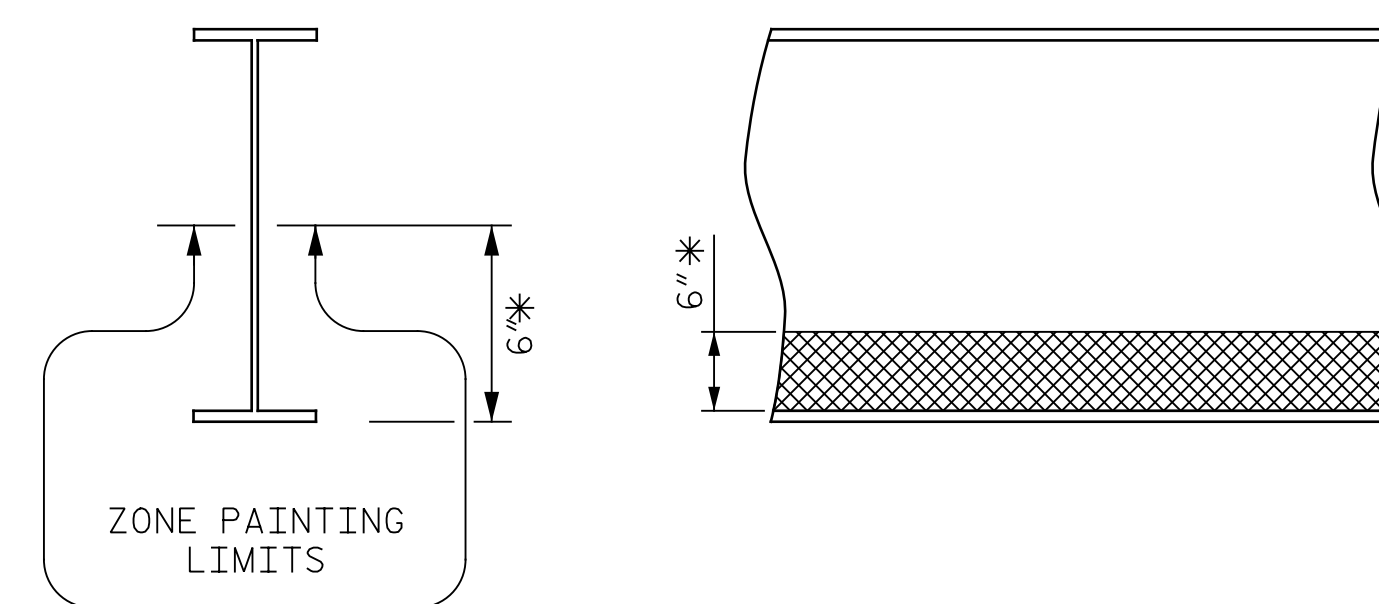
FRAMING PLAN
(OTHER LOCATIONS MAY EXIST, SEE NOTES)

- (ZP) ZONE PAINTING
- [Hatched Box] ZONE PAINTING SINGLE BEAM LINES

* DIMENSIONS MEASURED ALONG ARC



ZONE PAINTING AT BENTS



ZONE PAINTING FOR SINGLE BEAM LINES

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910553



DocuSigned by:
Eric B. Nelson 2/22/2022
 ACB802119D74CD

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

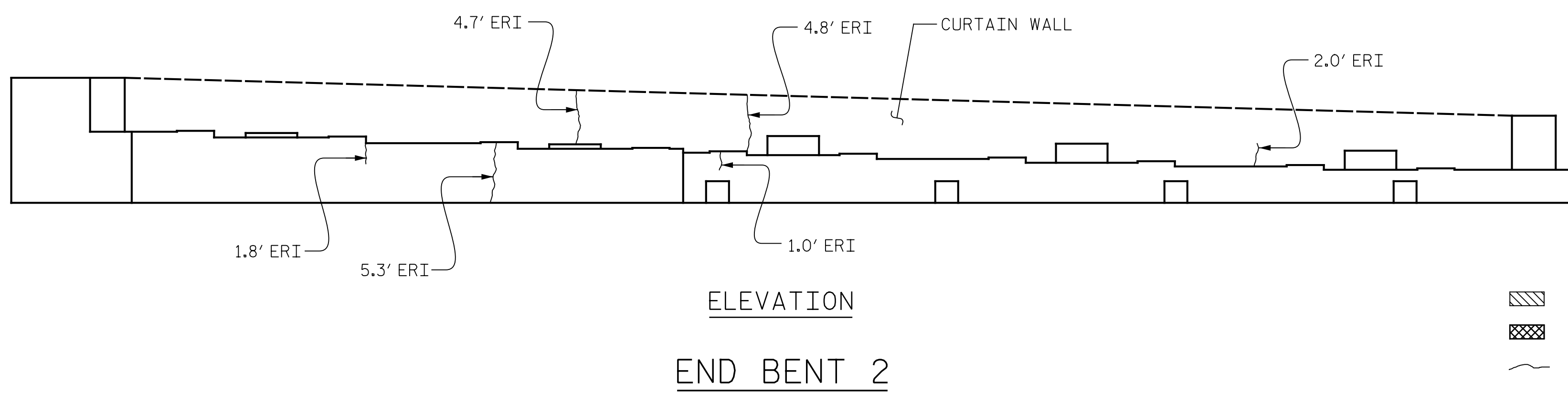
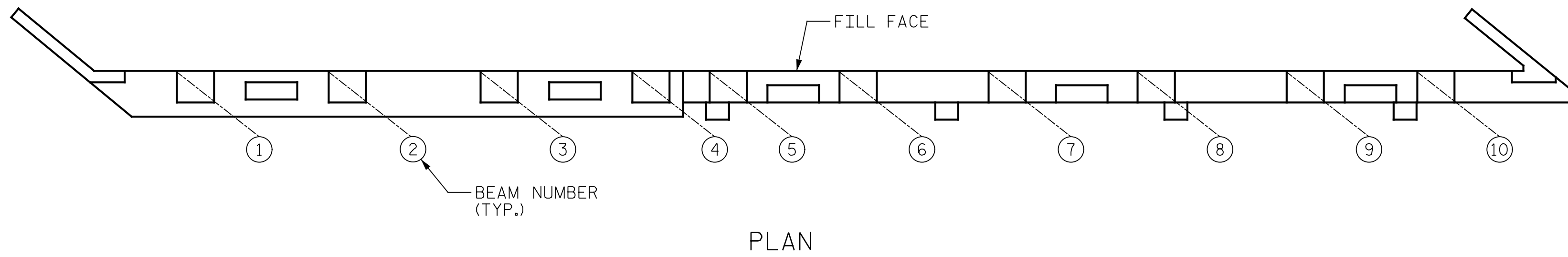
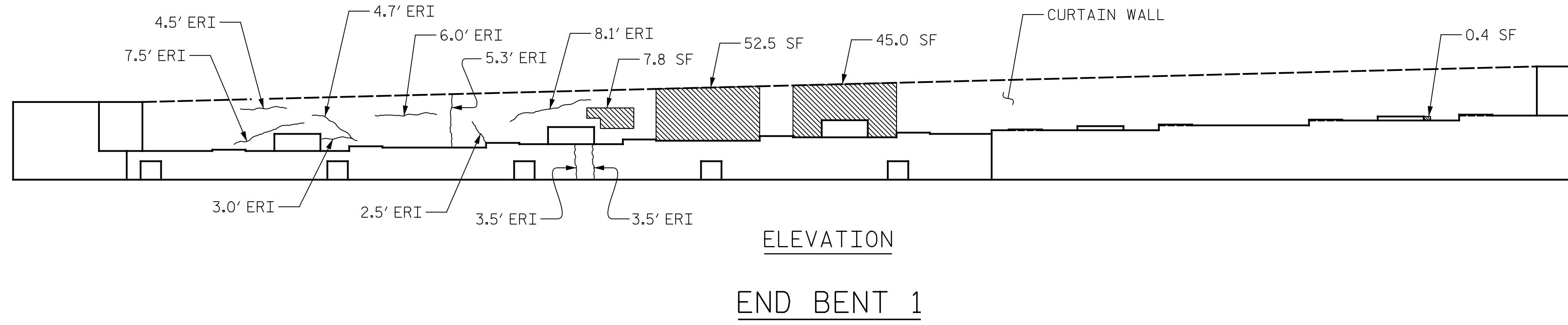
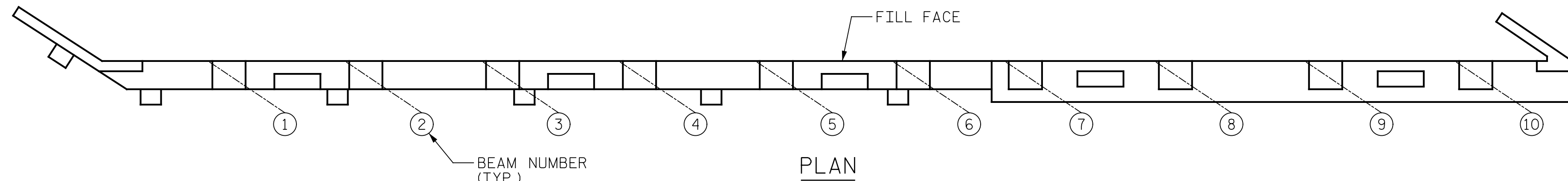
FRAMING PLAN

DRAWN BY : J. MYA DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered *As Promised*
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1			3			S2-6
2			4			43



- SHOTCRETE REPAIR
- CONCRETE REPAIRS (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

NO DEFECTS IN BENTS 1&2? IF NOT WE NEED TO NOTE AS SUCH ON THE FIELD SKETCHES AND PUT THAT IN THE FIELD SCOPE FOLDER FOR DOCUMENTATION.

REPAIR QUANTITY TABLE				
END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
CURTAIN WALL	105.7	36.3		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
EPOXY RESIN INJECTION		LF		LF
CAP		7.0		
CURTAIN WALL		41.6		

REPAIR QUANTITY TABLE				
END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
EPOXY RESIN INJECTION		LF		LF
CAP		8.1		
CURTAIN WALL		11.5		

VALUES IN CHARTS REPRESENT ESTIMATED REPAIRS TOTALS AFTER REMOVAL OF SOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CLEAR TO SAW CUT. SEE REPAIR DETAILS.

NOTES:
 REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.
 FOR REPAIRS, SEE "CONCRETE REPAIR DETAIL" SHEET.
 FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
 FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.
 SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.
 FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
 CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE "JACKING DETAILS" SHEET.

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910553

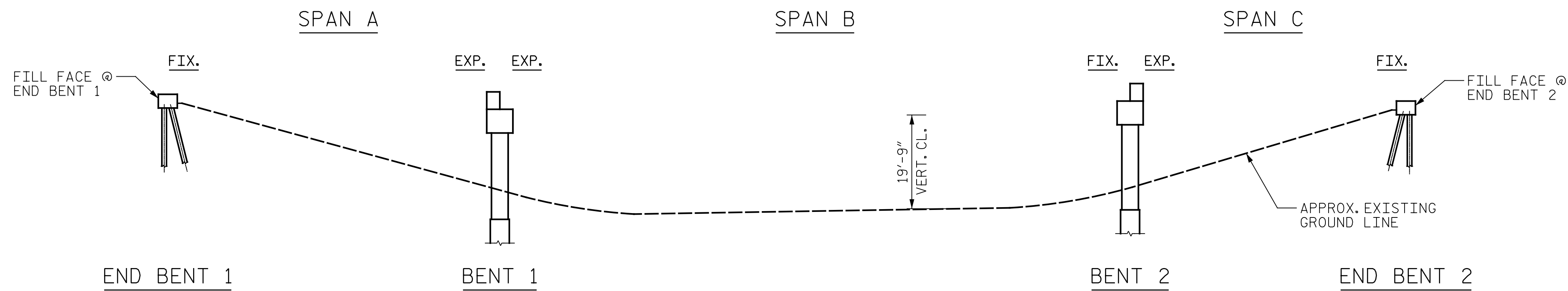


STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
END BENTS 1 & 2					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS 43

DRAWN BY : T. FORD/J. MYA DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:
 One Glenwood Avenue
 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
 NC Lic. No. F-0270

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SECTION ALONG LEFT LANE WORK LINE

(SECTION AT BENTS AND END BENTS ARE AT RIGHT ANGLES)

NOTES:

GENERAL DRAWING INFORMATION IS TAKEN FROM THE WIDENING PLANS AND THE ROUTINE INSPECTION REPORT DATED 2/10/2021.

BRIDGE ORIENTATION CONFORMS TO THE EXISTING BRIDGE PLANS AND ROUTINE INSPECTION REPORT.

SCOPE OF WORK

SURFACE PREPARATION AND SEALING OF BRIDGE DECK WITH SILANE DECK TREATMENT

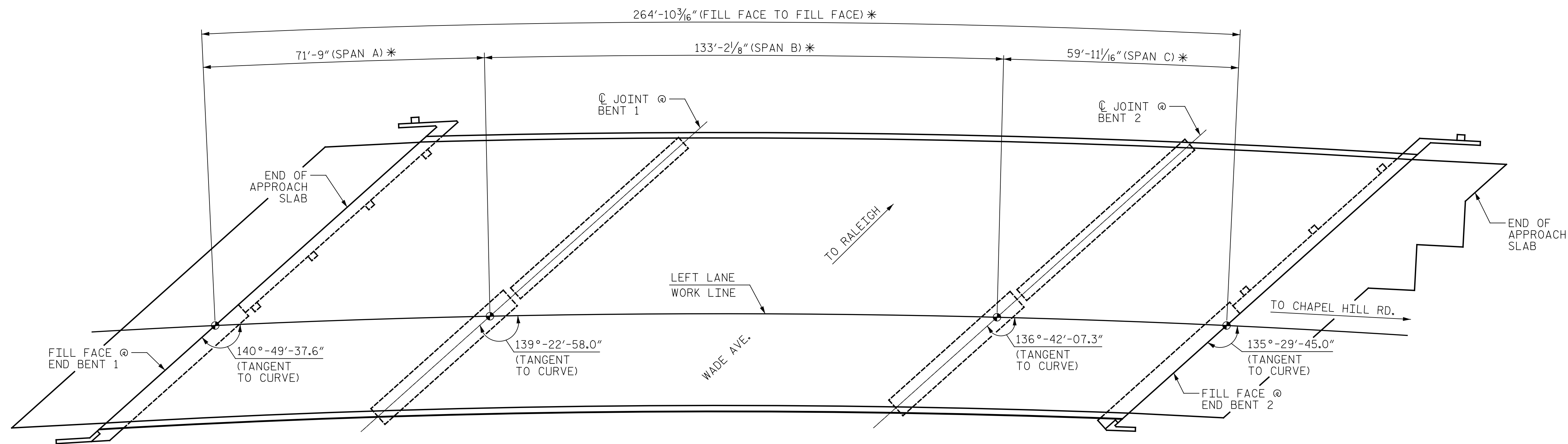
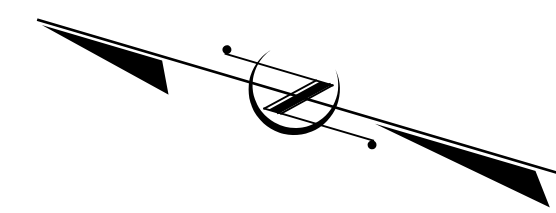
SURFACE PREPARATION AND SEALING OF BARRIER RAILS WITH SILANE

REPLACE EXISTING DECK JOINTS WITH ELASTOMERIC CONCRETE AND FOAM JOINT SEALS

EPOXY RESIN INJECTION OF EXISTING CRACKS

CONCRETE REPAIRS TO SUBSTRUCTURE

CLEAN AND PAINT EXISTING WEATHERING STEEL



PLAN

(PILES NOT SHOWN FOR CLARITY)

* DIMENSIONS MEASURED ALONG ARC

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

RESIDENT ENGINEER _____ DATE _____

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910554

SHEET 1 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 BRIDGE #910554 ON I-40
 OVER WADE AVE.
 EXTENSION LEFT LANE

DRAWN BY : T. FORD DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised
 One Glenwood Avenue
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 (919) 420-7660
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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S3-1
2			4			TOTAL SHEETS 43

GENERAL NOTES



LOCATION SKETCH

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

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT DUE TO THE NATURE OF PRESERVATION PROJECTS, THE EXTENT OF WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO COMMENCEMENT OF WORK. REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS.

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

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

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

WORK ON THE BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW, EXCEPT WHERE THE CONTRACTOR'S PLAN USES PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES TO CATCH THE MATERIAL. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS.

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

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

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

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THE ELEVATIONS AND CLEARANCES SHOWN ON THE PLANS AT THE POINTS OF MINIMUM VERTICAL CLEARANCE ARE FROM THE BEST INFORMATION AVAILABLE. PRIOR TO BEGINNING BRIDGE CONSTRUCTION, VERIFY THE ELEVATIONS ON THE EXISTING PAVEMENT AND CHECK THE CLEARANCE. REPORT ANY VARIATIONS TO THE ENGINEER. ANY PLAN REVISIONS NECESSARY TO ACHIEVE THE REQUIRED MINIMUM VERTICAL CLEARANCE WILL BE PROVIDED BY THE DEPARTMENT.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO AND DURING REPAIR OF BRIDGE DECKS. WHEN RAIN IS PREDICTED BETWEEN WORK PERIODS THE CONTRACTOR SHALL REMOVE DECK DRAIN SEAL DEVICES. REINSTALL DECK DRAIN DEVICES PRIOR TO RESUMING DECK REPAIR ACTIVITIES.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR VOLUMETRIC MIXER, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

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

FOR SURFACE PREPARATION AND SILANE TREATMENT OF BARRIER RAILS, SEE SILANE BARRIER RAIL TREATMENT SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

FOR MAINTENANCE AND PROTECTION OF TRAFFIC BENEATH BRIDGES, SEE SPECIAL PROVISIONS.

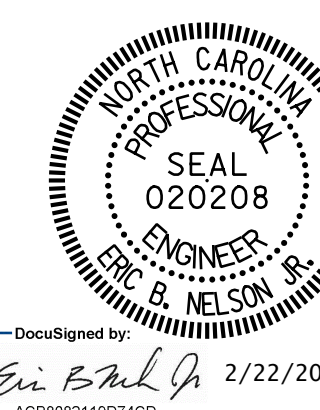
FOR PAINTING EXISTING WEATHERING STEEL STRUCTURE, SEE SPECIAL PROVISIONS.

FOR PAINTING CONTAINMENT AND POLLUTION CONTROL, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

BRIDGE COORDINATES	
LATITUDE	LONGITUDE
35°-48'-55.70"	78°-44'-17.39"

PROJECT NO. I-5943
 WAKE COUNTY
 BRIDGE NO. 910554

SHEET 2 OF 2



DocuSigned by:
 Eric B. Nelson
 2/22/2022
 ACB8082119074CD

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 BRIDGE #910554 ON I-40
 OVER WADE AVE.
 EXTENSION LEFT LANE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S3-2
2			4			TOTAL SHEETS 43

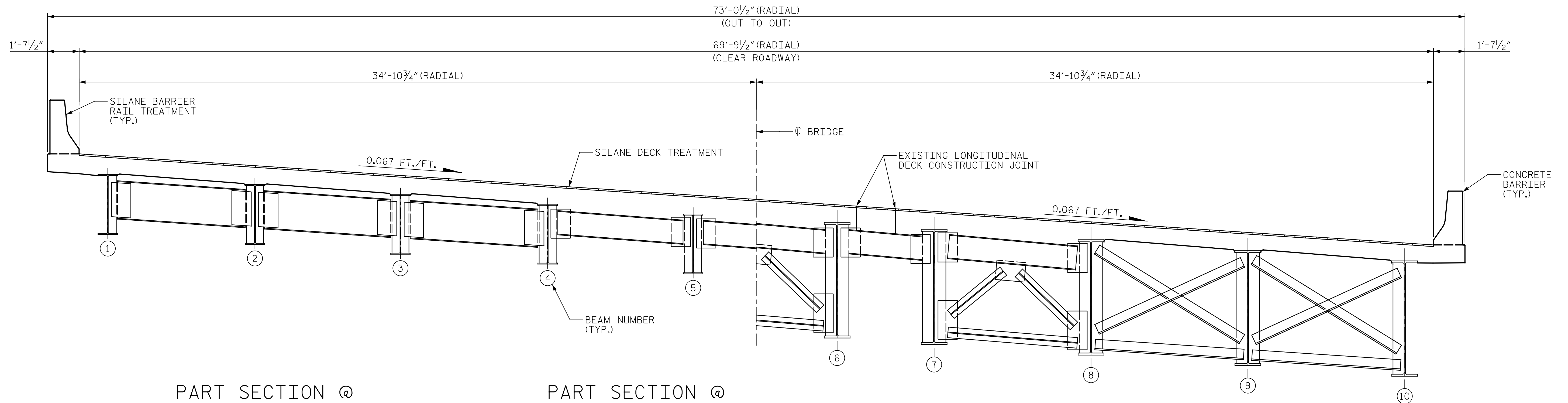
DRAWN BY : T. FORD DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:
 Gannett Fleming
 Excellence Delivered As Promised
 One Glenwood Avenue
 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
 NC Lic. No. F-0270

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 FINAL UNLESS ALL
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NOTE:

SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF SURFACE PREPARATION AND SILANE TREATMENT OF DECK AND BARRIER RAILS, AND PAINTING OF EXISTING STRUCTURE.

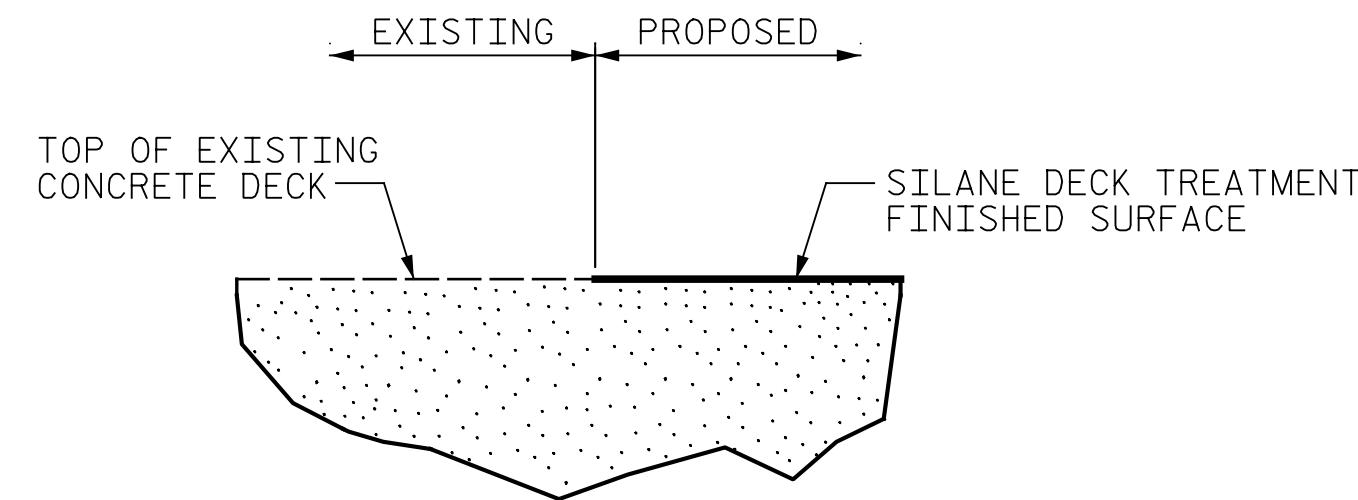


**PART SECTION @
INTERMEDIATE DIAPHRAGMS**
(SPANS A & C)

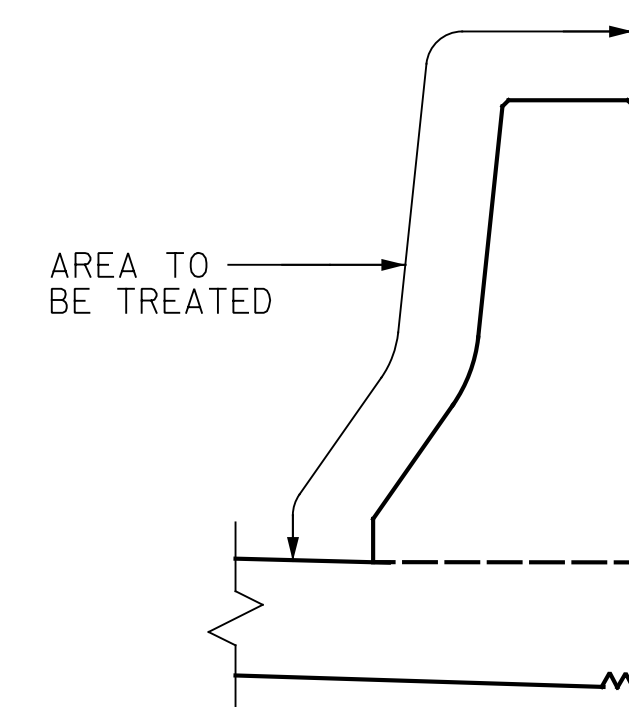
**PART SECTION @
BENT DIAPHRAGMS**
(SPANS A & C)

**PART SECTION @
BENT DIAPHRAGMS**
(SPANS B)

**PART SECTION @
INTERMEDIATE DIAPHRAGMS**
(SPANS B)



**DETAIL OF SILANE
DECK TREATMENT**



**DETAIL OF SILANE
BARRIER TREATMENT**

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910554



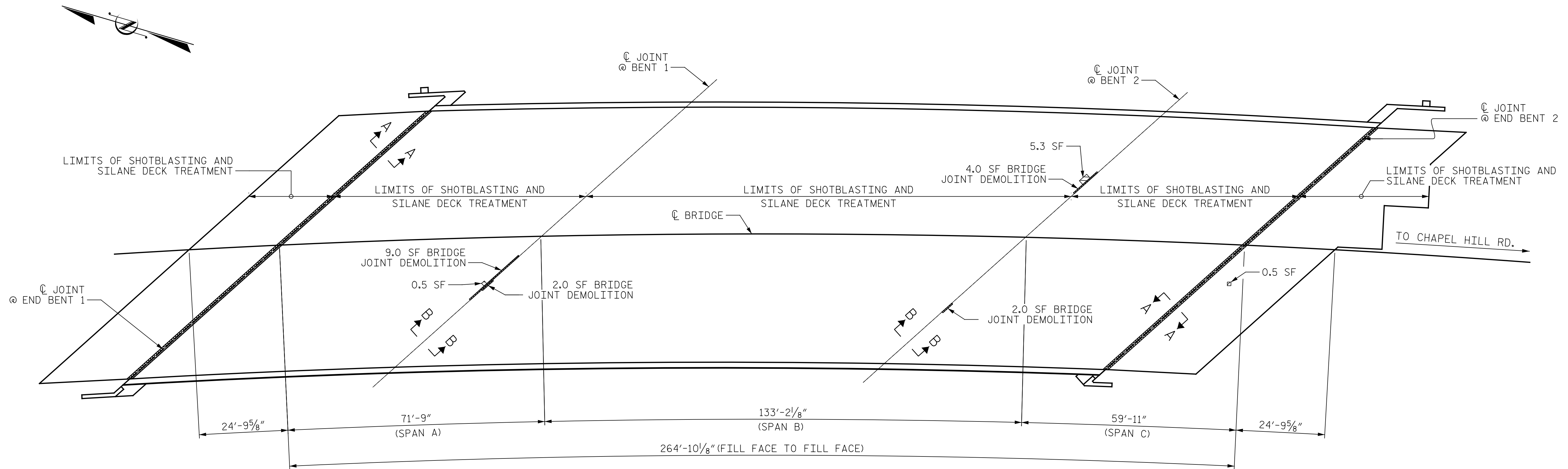
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**TYPICAL SECTION AND
 SURFACE PREPARATION
 DETAILS**

DRAWN BY : J. MYA DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:
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PLAN OF SPANS

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS	APPROACH SLAB 1		SPAN A		SPAN B		SPAN C		APPROACH SLAB 2	
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	191 SY		557 SY		1028 SY		466 SY		209 SY	
SILANE DECK TREATMENT	191 SY		557 SY		1028 SY		466 SY		209 SY	
SURFACE PREP. FOR BARRIER RAIL TREATMENT	-		540 SF		995 SF		450 SF		-	
SILANE BARRIER RAIL TREATMENT	-		540 SF		995 SF		450 SF		-	
CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	-		0.5 SF		5.3 SF		-		0.5 SF	
EPOXY COATING	ESTIMATE	ACTUAL								
	AREA SF	AREA SF								
TOP OF CAP @ BENTS 1 & 2	876.9									

NOTES:

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

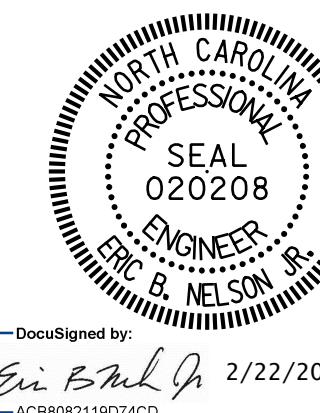
FOR SECTION A-A AND B-B, SEE "JOINT DETAILS" SHEET.

DECK SURFACE REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT AFTER REMOVAL OF UNSOUND CONCRETE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF ALL BENT CAPS SUPPORTING SUPERSTRUCTURE UNITS WITH DECK EXPANSION JOINTS. FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

-  SHOTBLAST BRIDGE DECK & SILANE DECK TREATMENT
-  BRIDGE JOINT DEMOLITION
-  CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910554



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SURFACE PREPARATION
 AND SILANE TREATMENT

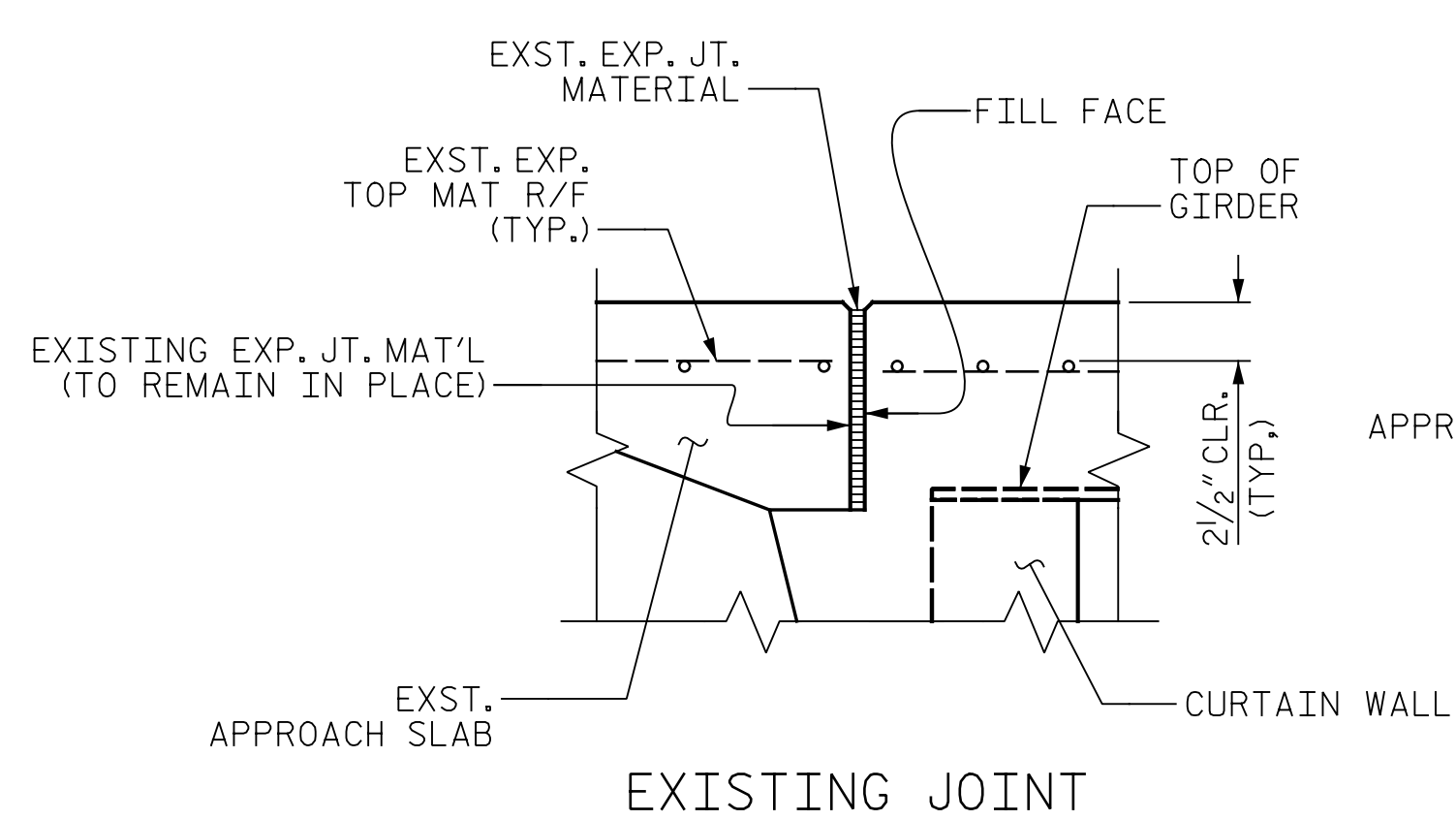
DRAWN BY: J. MYA DATE: 02/2022
 CHECKED BY: R. FISHER DATE: 02/2022

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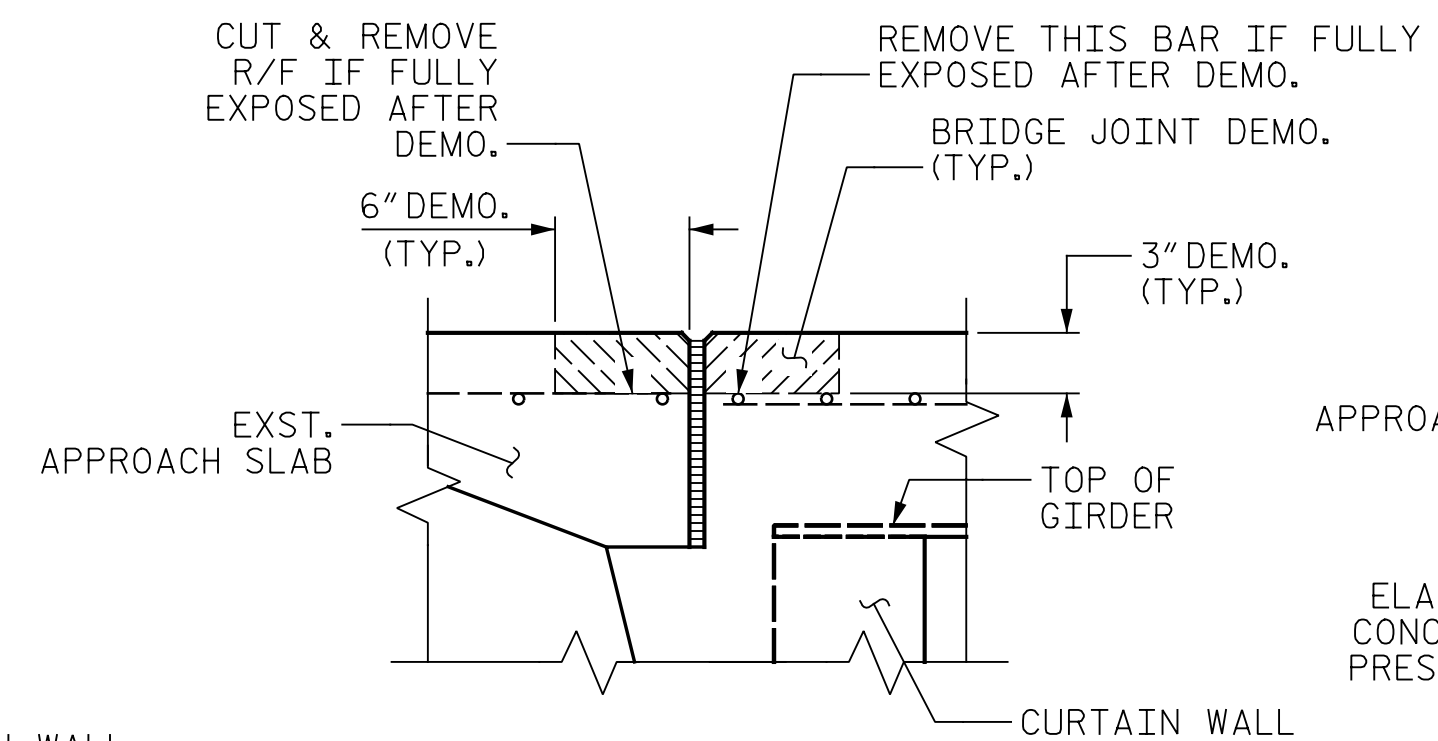
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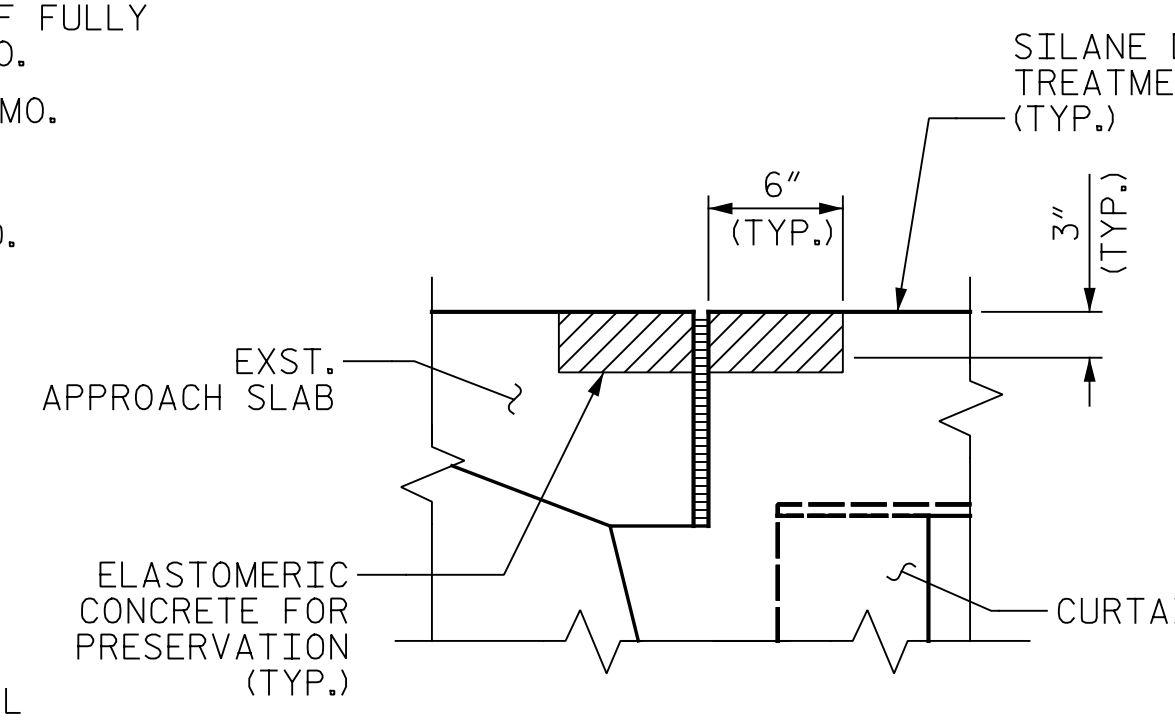
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S3-4
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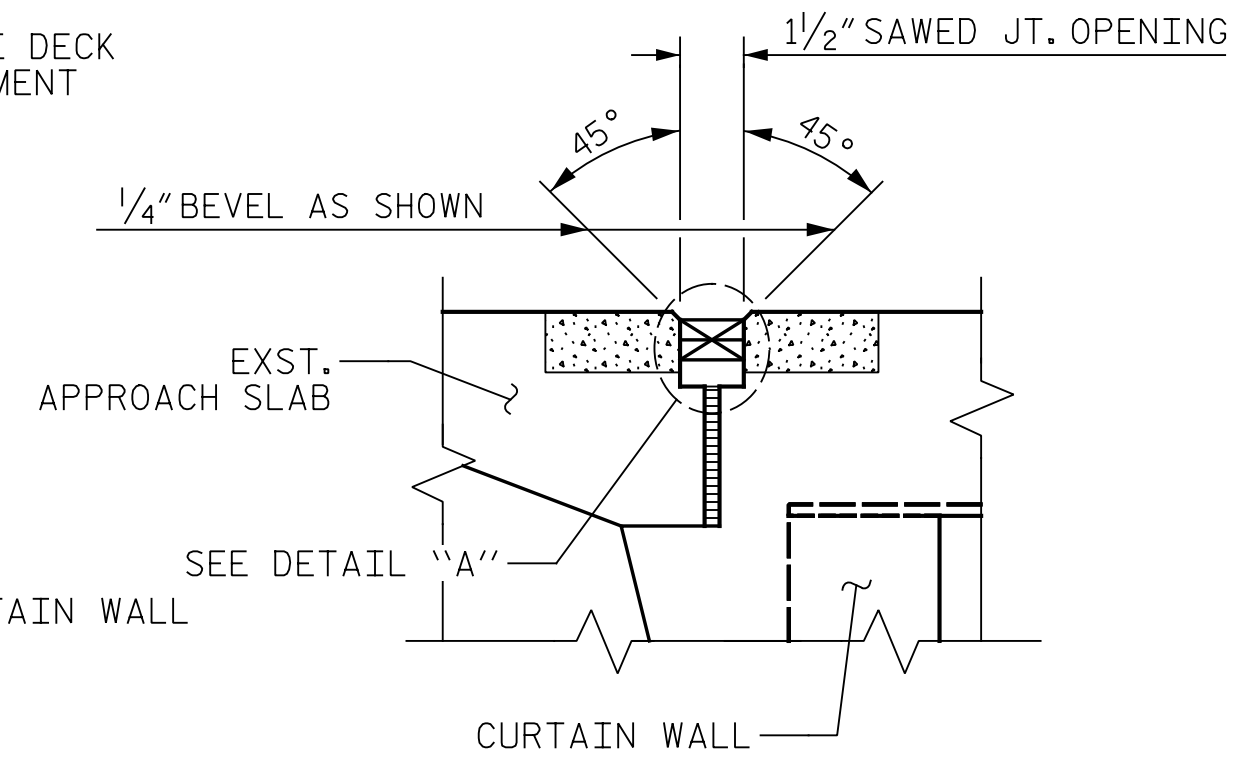
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION



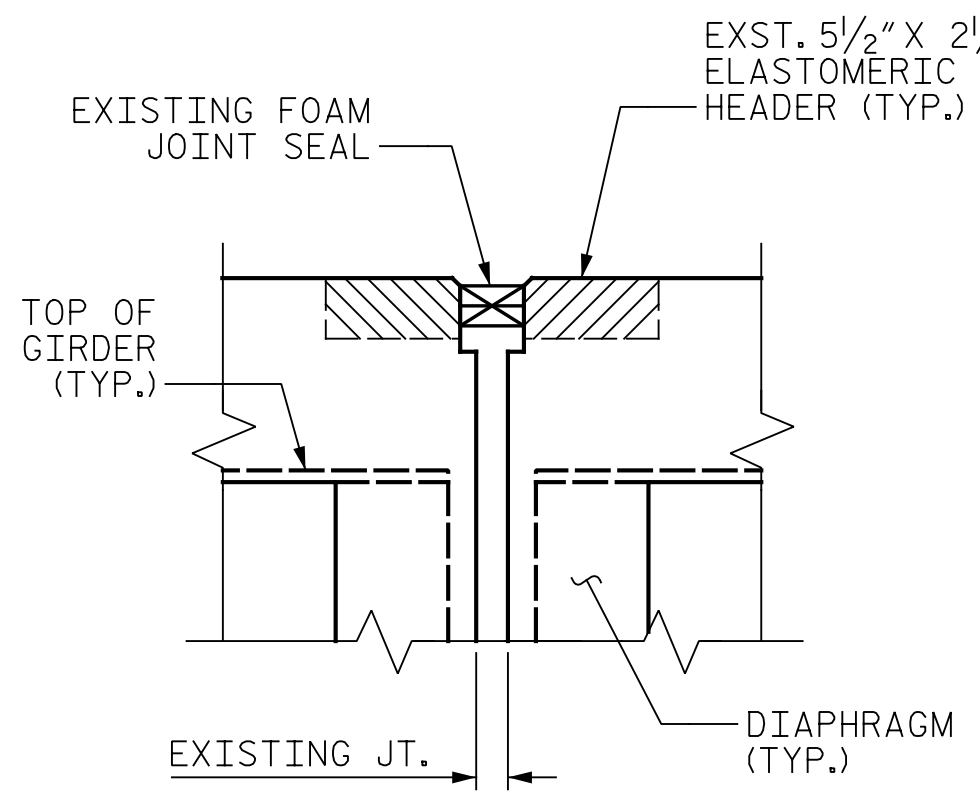
PROPOSED JOINT- PRE-SAWED



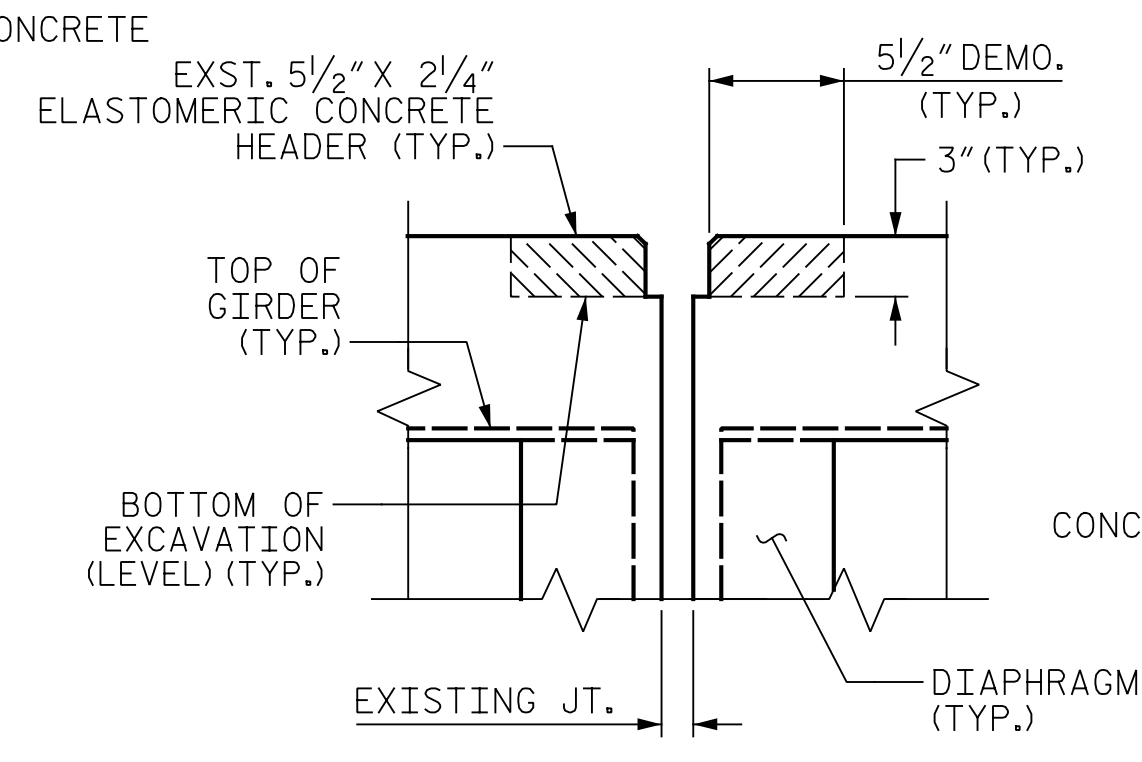
PROPOSED FOAM JOINT SEAL

SECTION A-A

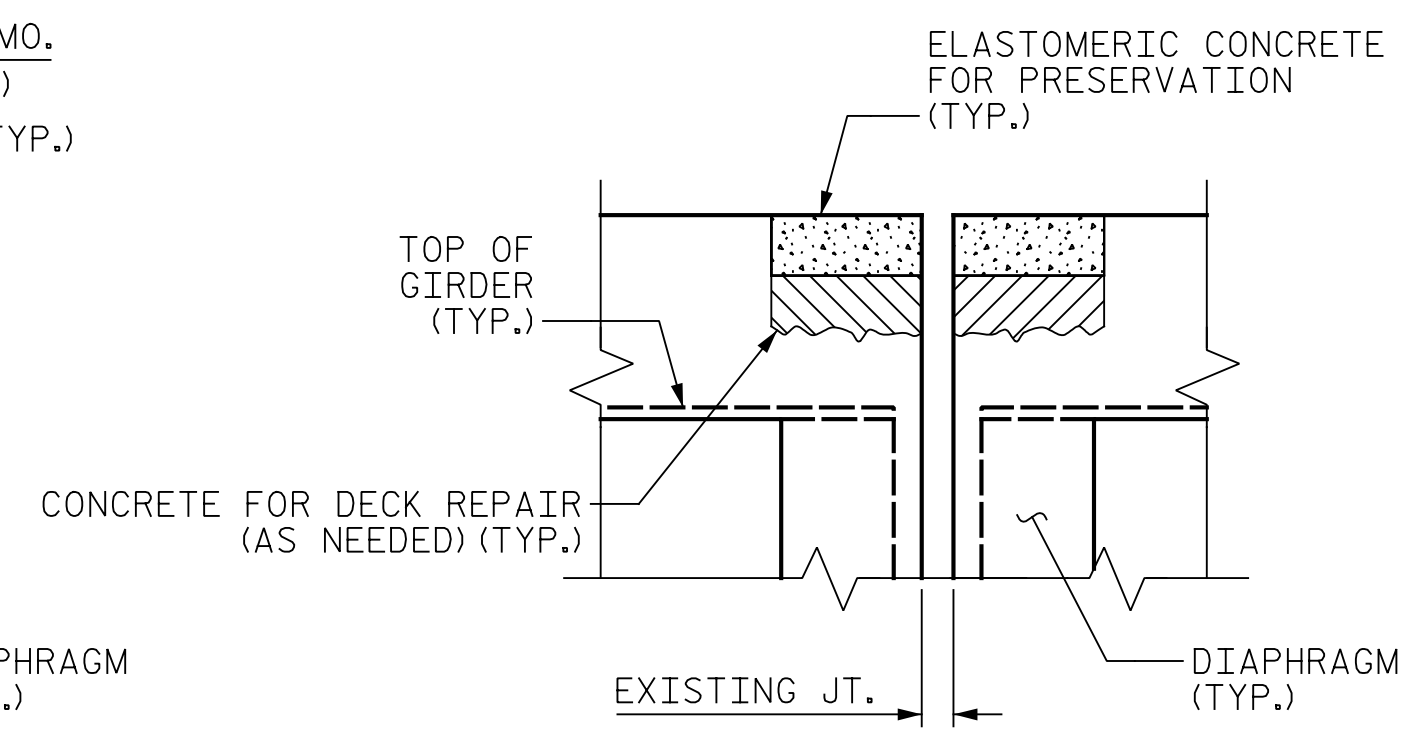
NOTE: RETAIN ALL EXISTING REINFORCING STEEL, CLEAN AND REPAIR AS REQ'D. UNLESS OTHERWISE NOTED.



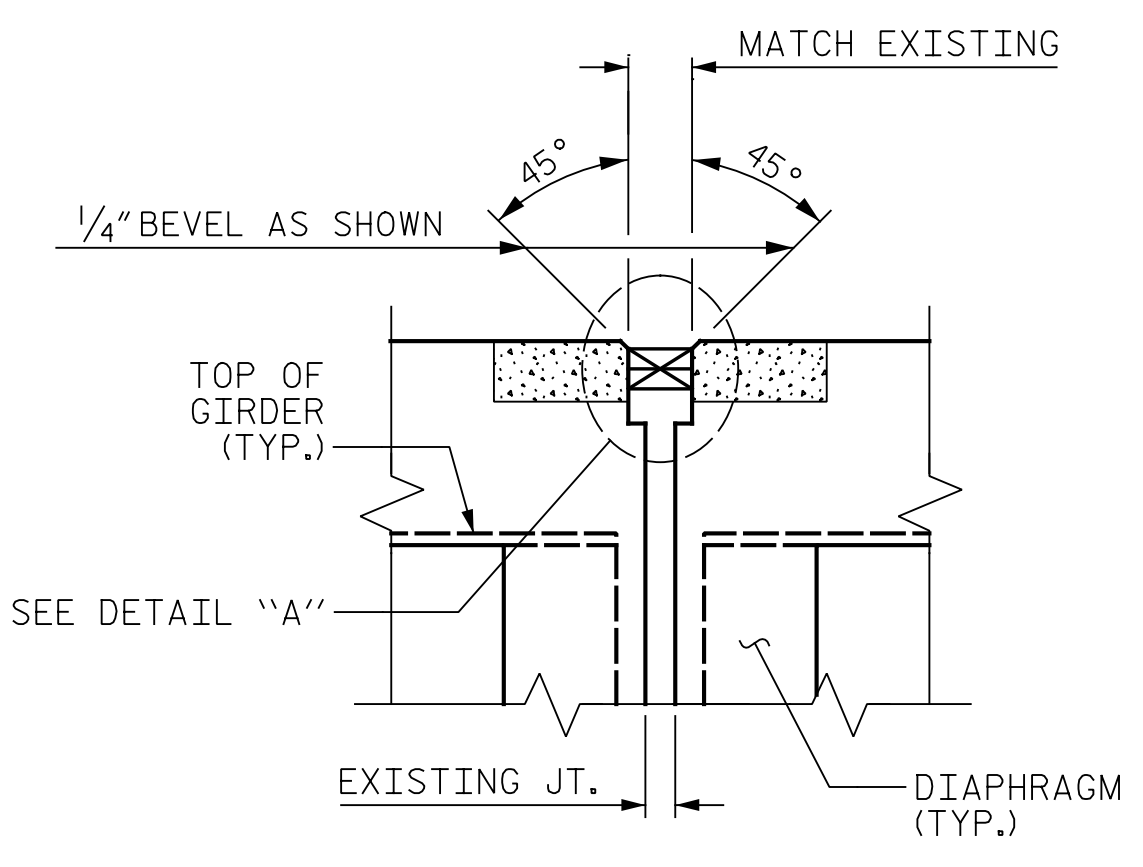
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION (FOR REPAIR TO EXISTING JOINTS)



EXISTING JOINT



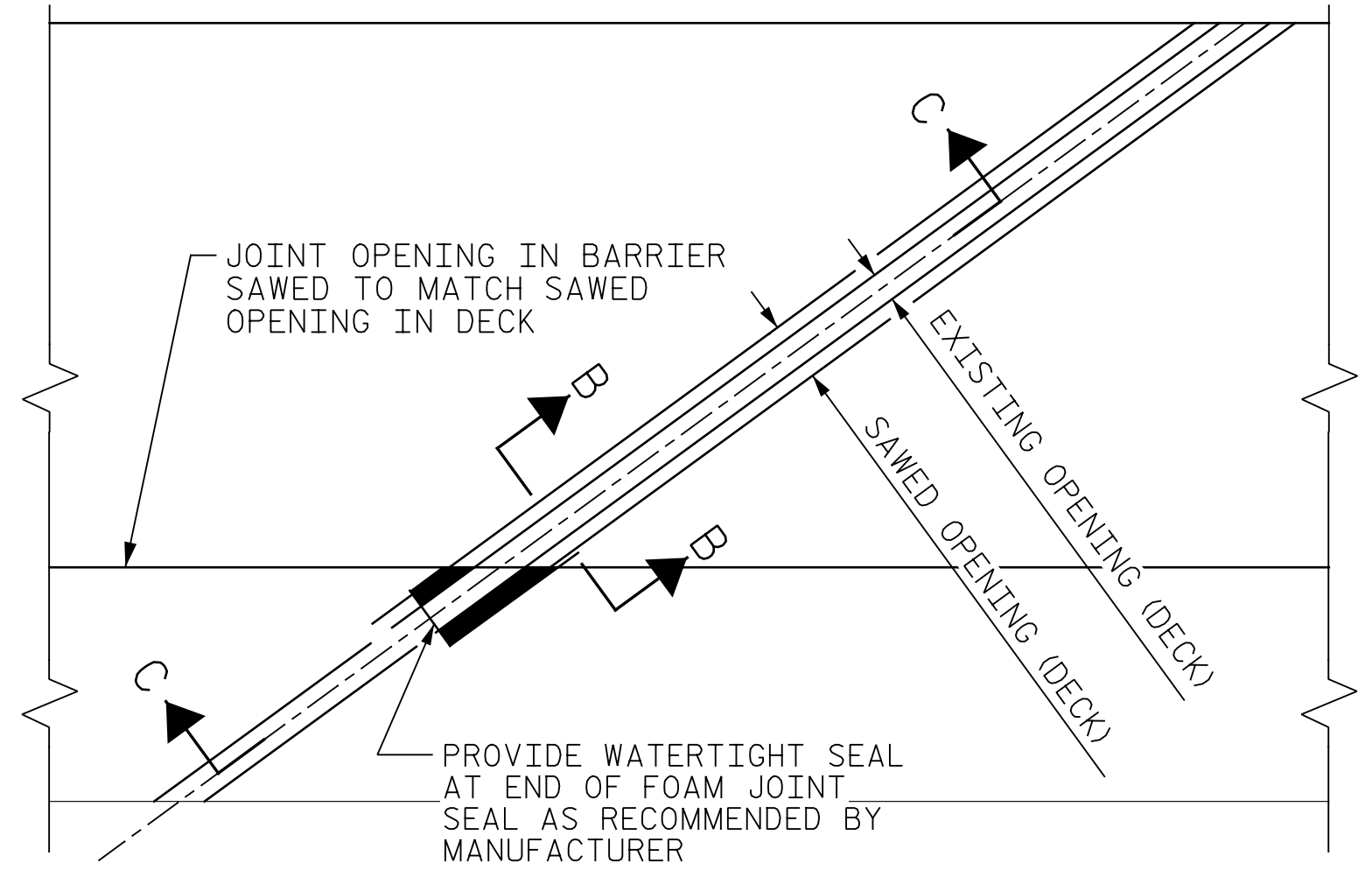
PROPOSED FOAM JOINT SEAL

SECTION B-B

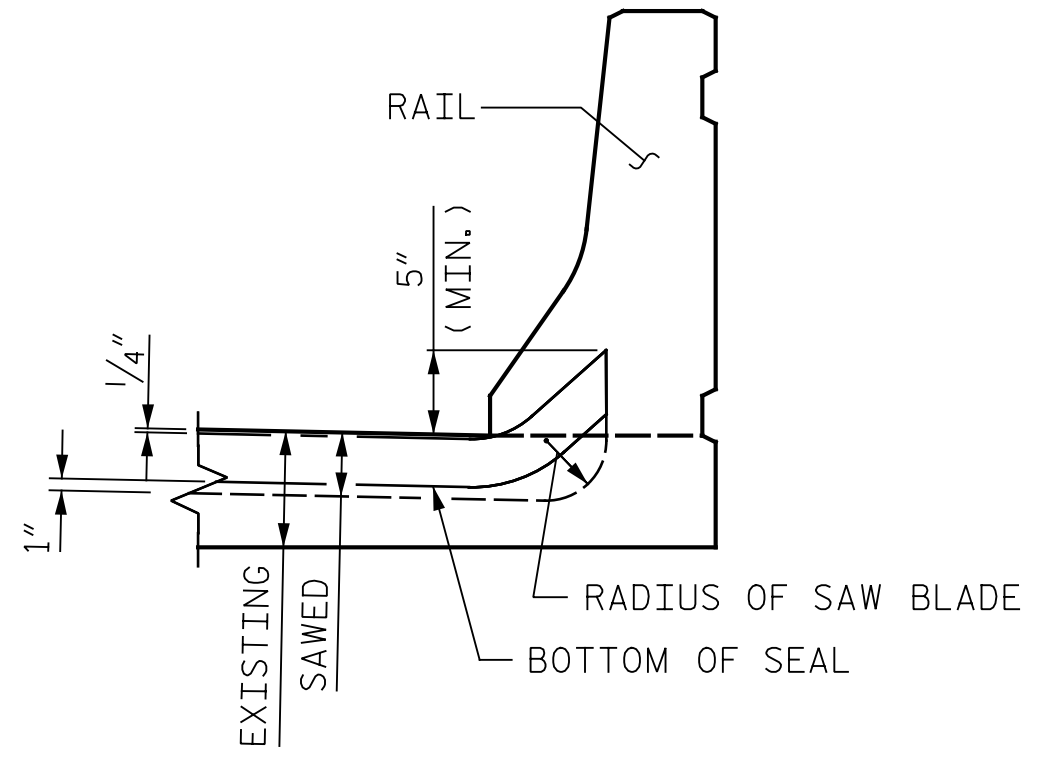
EXISTING JOINT MOVEMENT TABLE					
BRIDGE NO.	BENT NO.	TOT. MOVEMENT (ALONG C/L RDWY)	PERP. JOINT OPENING AT 45° F	PERP. JOINT OPENING AT 60° F	PERP. JOINT OPENING AT 90° F
910554	1	2 1/8"	2 9/16"	2 3/8"	2"
	2	1/2"	1 5/16"	1 7/8"	1 3/4"

FROM EXISTING PLANS

LOCATION	BRIDGE DEMOLITION SQ. FT.	ELASTOMERIC CONCRETE FOR PRESERVATION CU. FT.	FOAM JOINT SEALS FOR PRESERVATION LIN. FT.
END BENT 1	111	28	113
BENT 1	11.5	2.8	110
BENT 2	4.6	1.2	104
END BENT 2	100	25	102

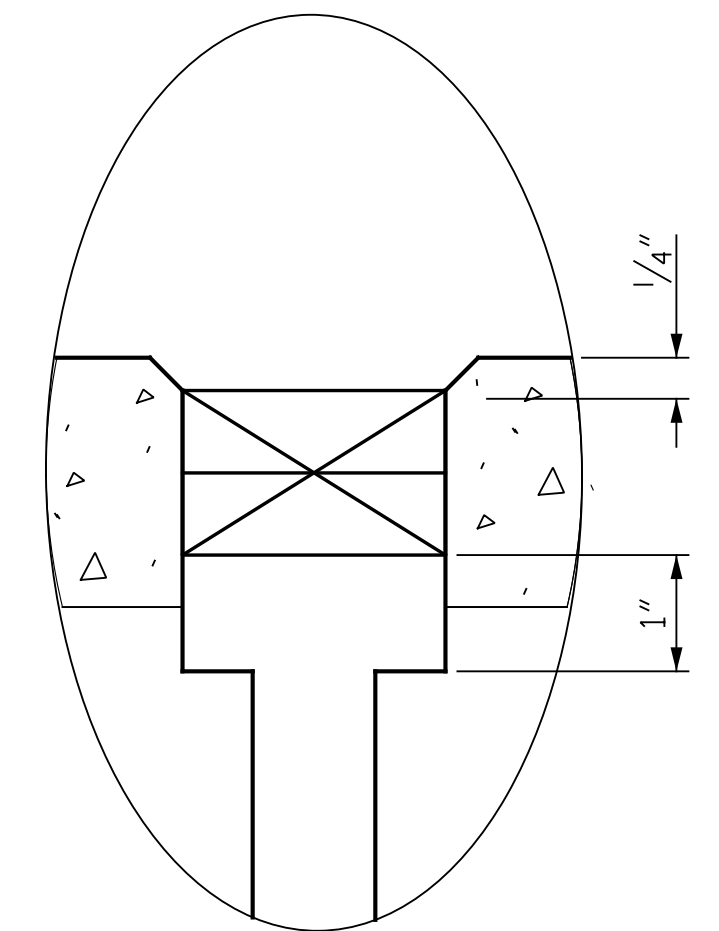


PLAN



SECTION C-C

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



DETAIL "A"

NOTES:
FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY OR SEALANT WORK IS COMPLETE.
THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN THE DETAILS BY MORE THAN 1/4", NOTIFY THE ENGINEER.
THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL FOR THE SIZE OF THE OPENING ON THE PLANS AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.
FOAM JOINTS SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS.
THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE WITHOUT PROTECTIVE DEVICES BELOW TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT THE PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.
THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT IN LIEU OF SAWING THE JOINT.
THE INSTALLED FOAM JOINTS SHALL BE WATERTIGHT.
THE CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.
QUANTITIES SHOWN IN THE ELASTOMERIC CONCRETE FOR PRESERVATION TABLE ARE BASED ON THE MINIMUM JOINT DEMOLITION SHOWN.
FOR EXCAVATION BELOW THE BOTTOM OF PLANNED JOINT DEMOLITION, CONCRETE FOR DECK REPAIR SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION AT THE BOTTOM OF THE PROPOSED ELASTOMERIC CONCRETE FOR PRESERVATION HEADERS SHOWN.
FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.
FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL PROVISIONS.
FOR VOLUMETRIC MIXER, SEE SPECIAL PROVISIONS.
FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.
FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5943
WAKE COUNTY
BRIDGE NO. 910554

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JOINT DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S3-5
2			4			TOTAL SHEETS 43

DRAWN BY: J. MYA DATE: 02/2022
CHECKED BY: R. FISHER DATE: 02/2022

PLANS PREPARED BY:
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(919) 420-7660
NC Lic. No. F-0270

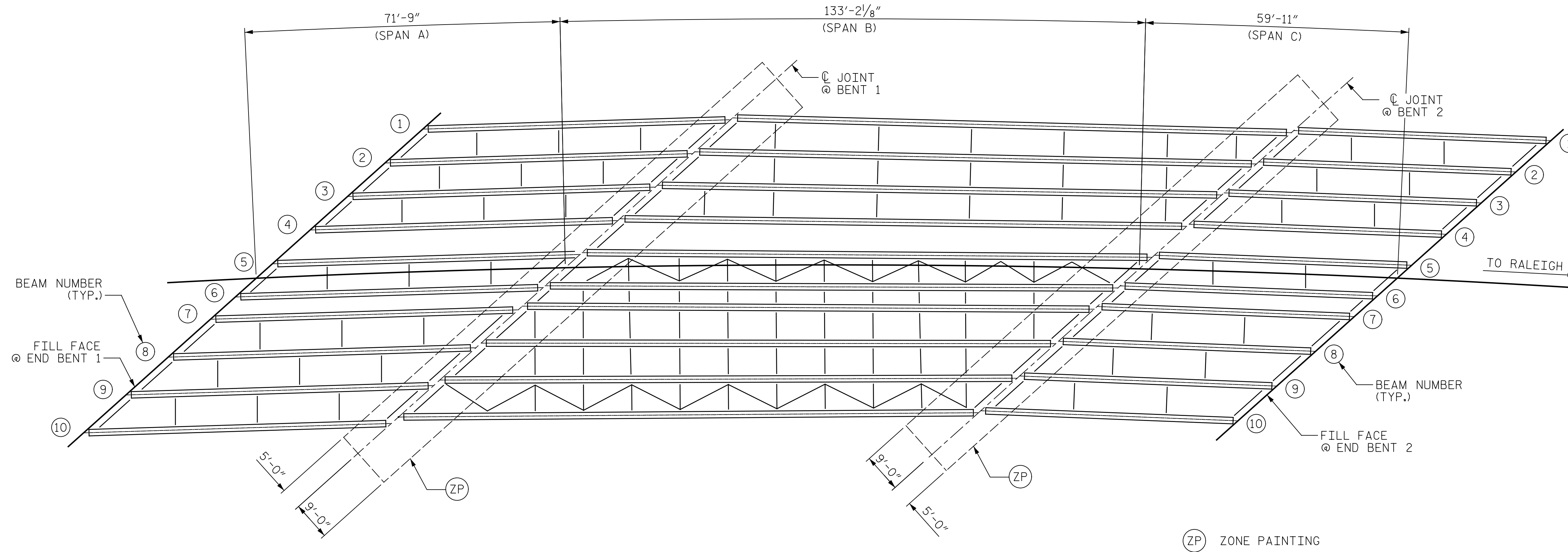
DocuSigned by:
Eric B. Nelson
2/22/2022
ACB892118D7ACD

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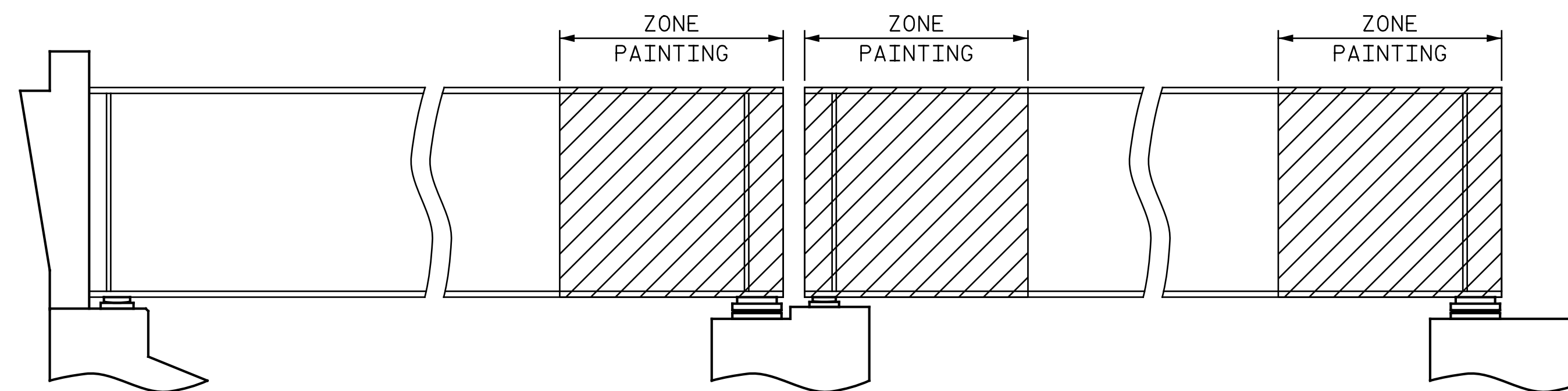
NOTES

THE LOCATIONS AND DIMENSIONS OF THE ZONE PAINTING ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION, WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENT OF ZONE PAINTING AREAS PRIOR TO BEGINNING WORK.

FOR ZONE PAINTING, SEE PAINTING EXISTING WEATHERING STEEL STRUCTURE SPECIAL PROVISIONS.



FRAMING PLAN
(OTHER LOCATIONS MAY EXIST, SEE NOTES)



ZONE PAINTING AT BENTS

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910554



DocuSigned by:
Eric B. Nelson 2/22/2022
 AC8802119714C0...

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

FRAMING PLAN

DRAWN BY : J. MYA DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered **As Promised**
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1			3			S3-6
2			4			43

- SHOTCRETE REPAIR
- CONCRETE REPAIRS (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

REPAIR QUANTITY TABLE

END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
EPOXY RESIN INJECTION		LF		LF
CAP		0.0		
CURTAIN WALL		9.4		

REPAIR QUANTITY TABLE

END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
CURTAIN WALL	10.6	3.6		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
EPOXY RESIN INJECTION		LF		LF
CAP		36.7		
CURTAIN WALL		0.0		

VALUES IN CHARTS REPRESENT ESTIMATED REPAIRS TOTALS AFTER REMOVAL OF SOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CLEAR TO SAW CUT. SEE REPAIR DETAILS.

NOTES:

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

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

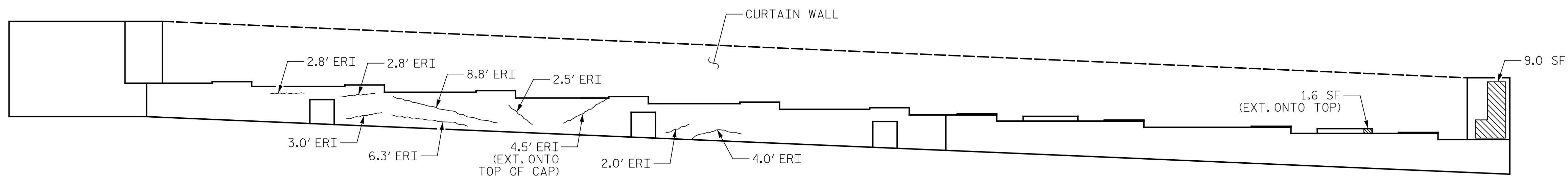
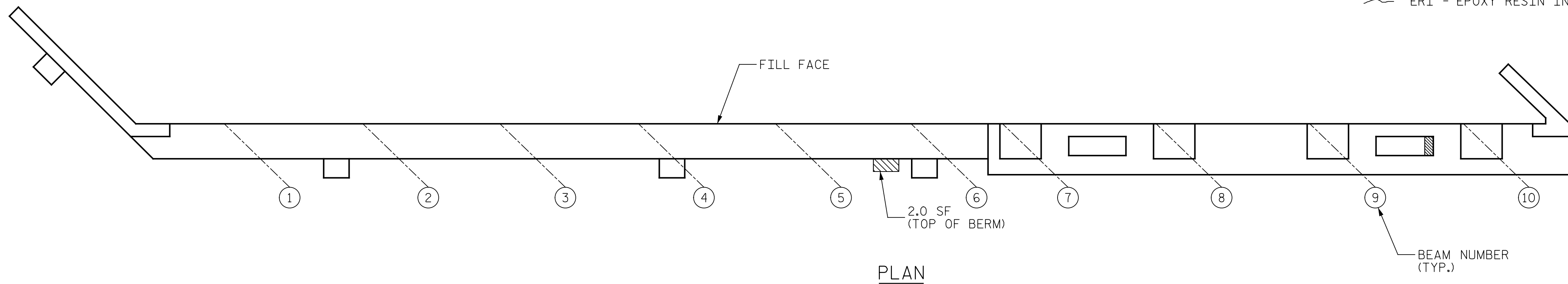
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

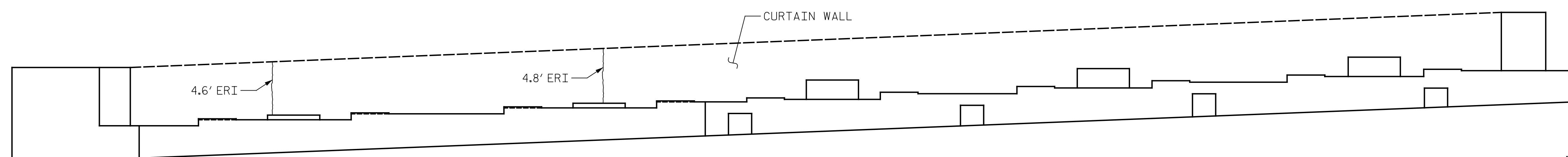
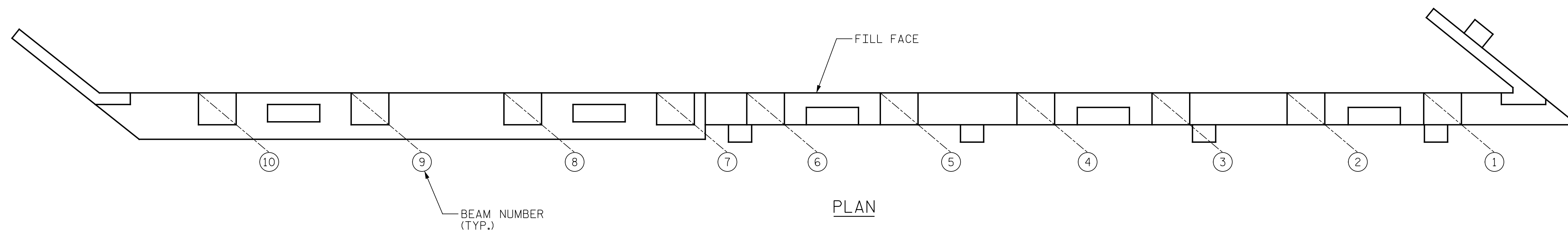
SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE "JACKING DETAILS" SHEET.

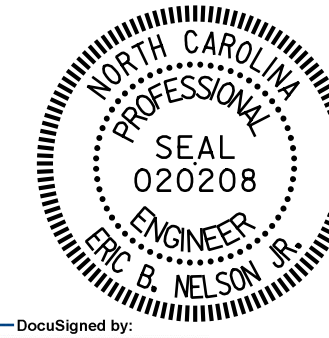


END BENT 2



END BENT 1

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910554



DocuSigned by:
 Eric B. Nelson
 2/22/2022

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENTS 1 & 2

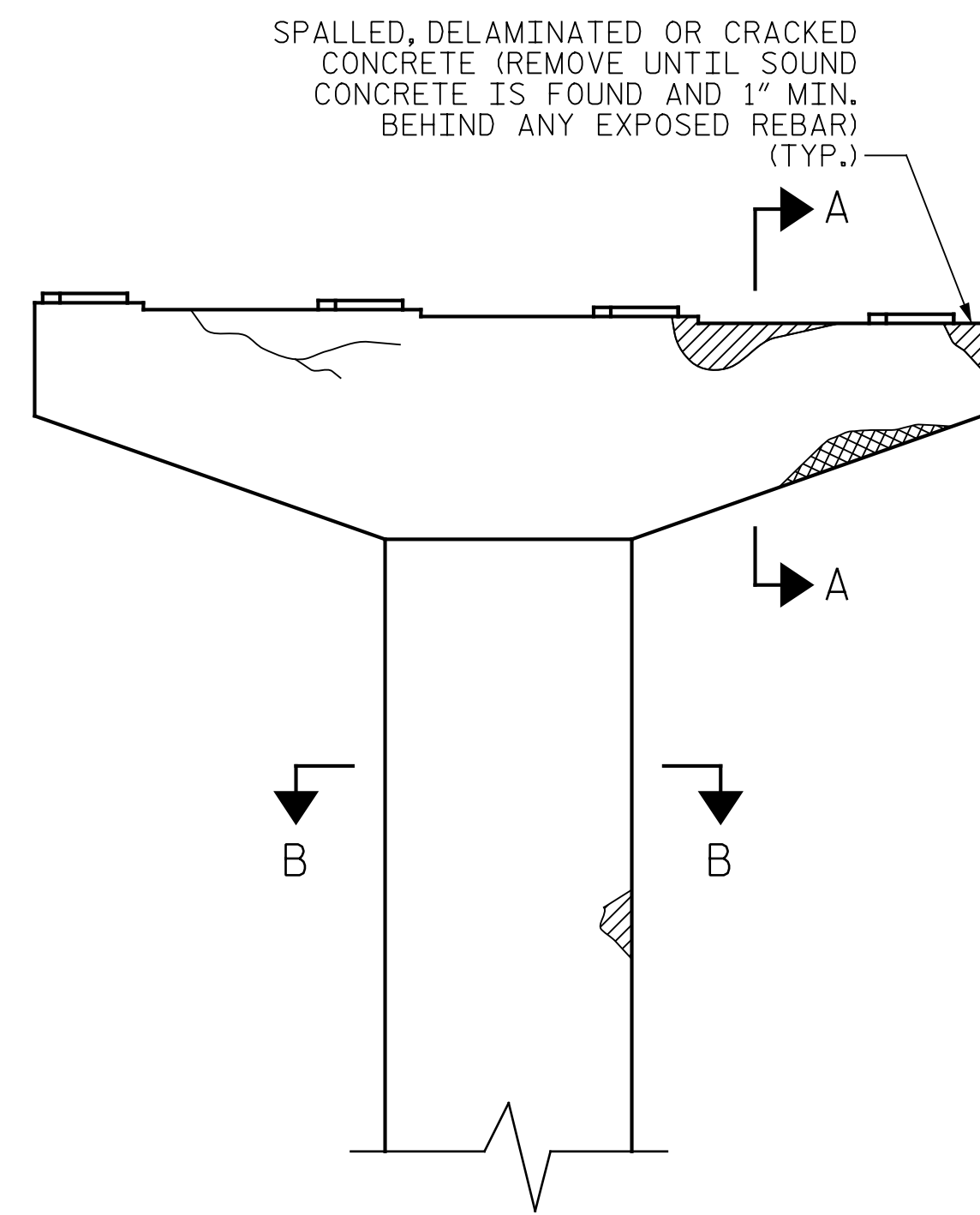
DRAWN BY : T. FORD/J. MYA DATE : 02/2022
 CHECKED BY : R. FISHER DATE : 02/2022

PLANS PREPARED BY:

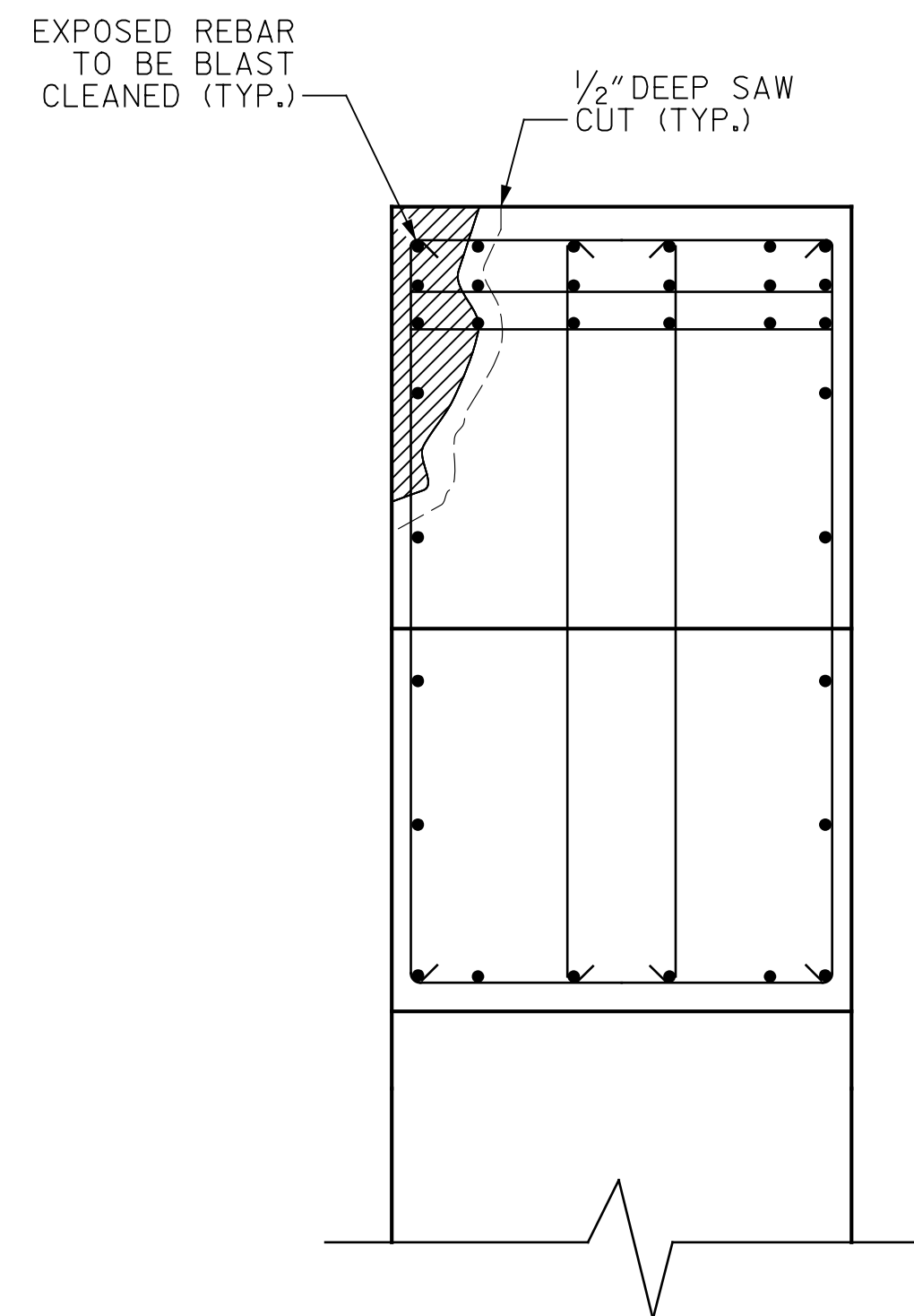
 One Glenwood Avenue
 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
 NC Lic. No. F-0270

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

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

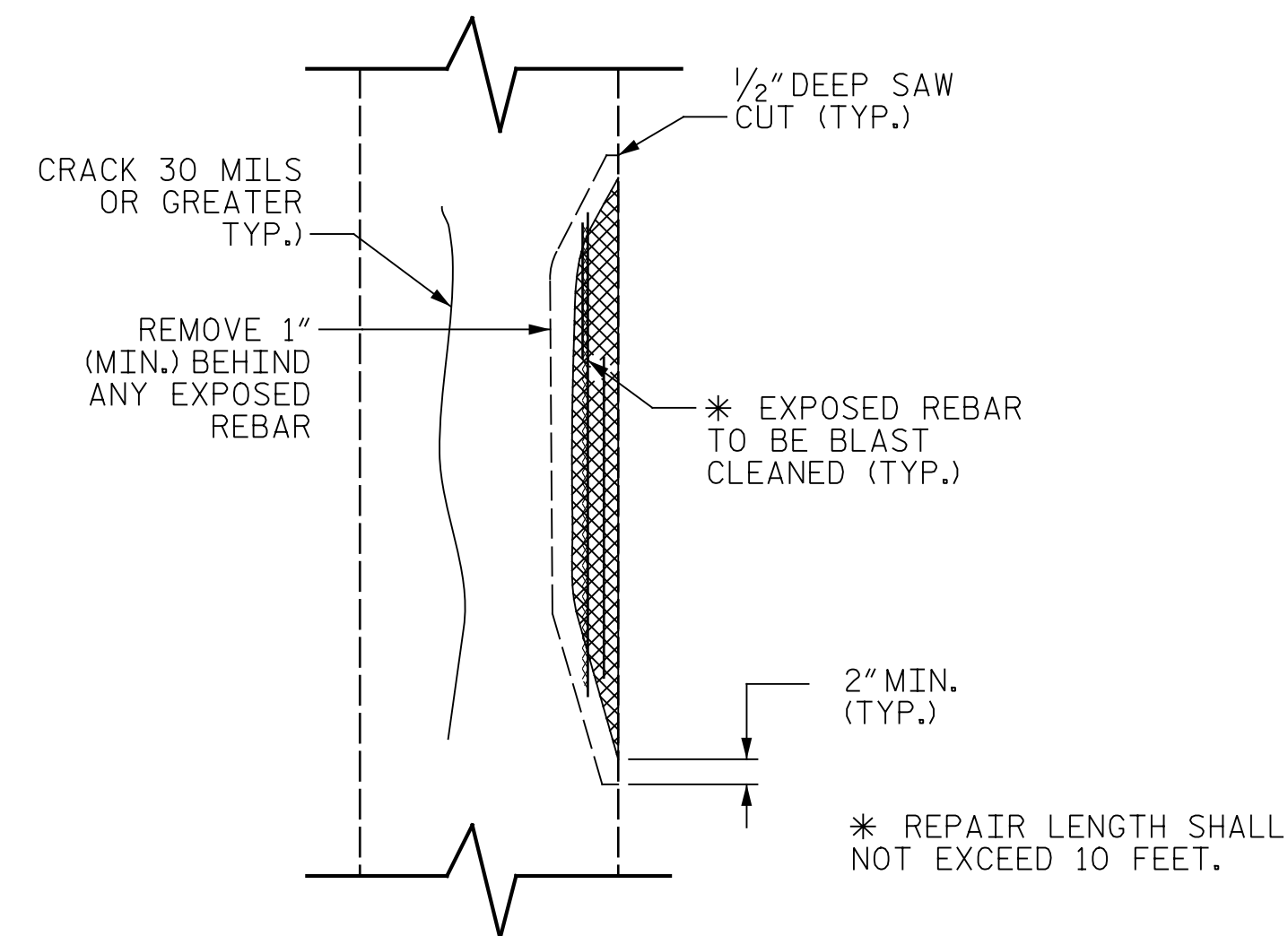


BENT CAP REPAIRS

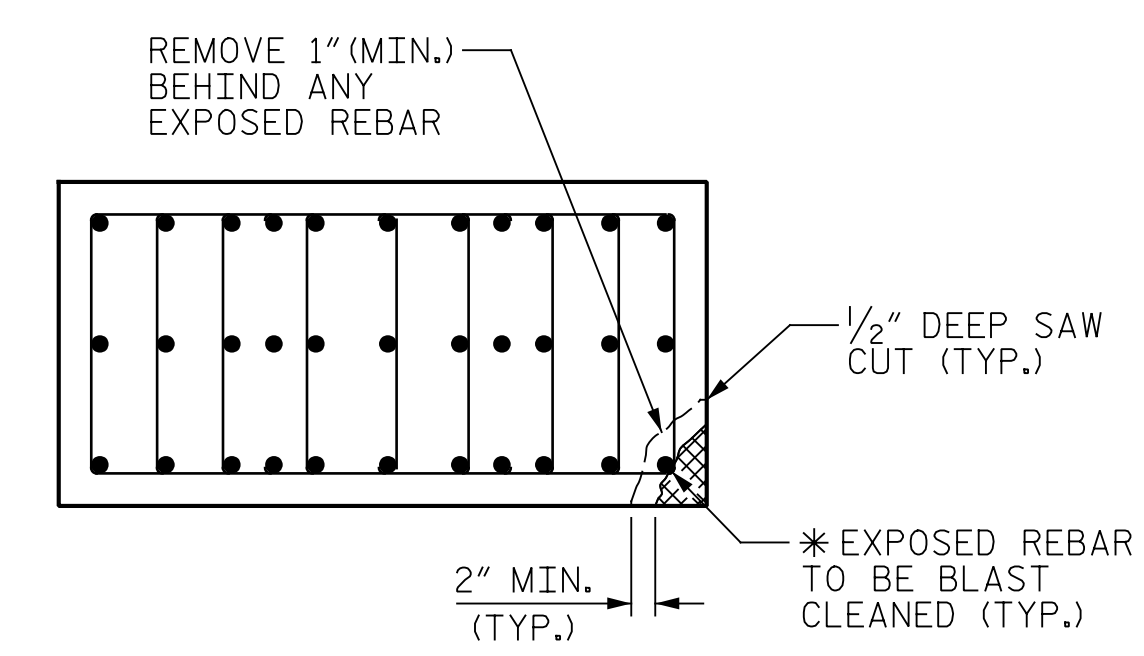


SECTION A-A

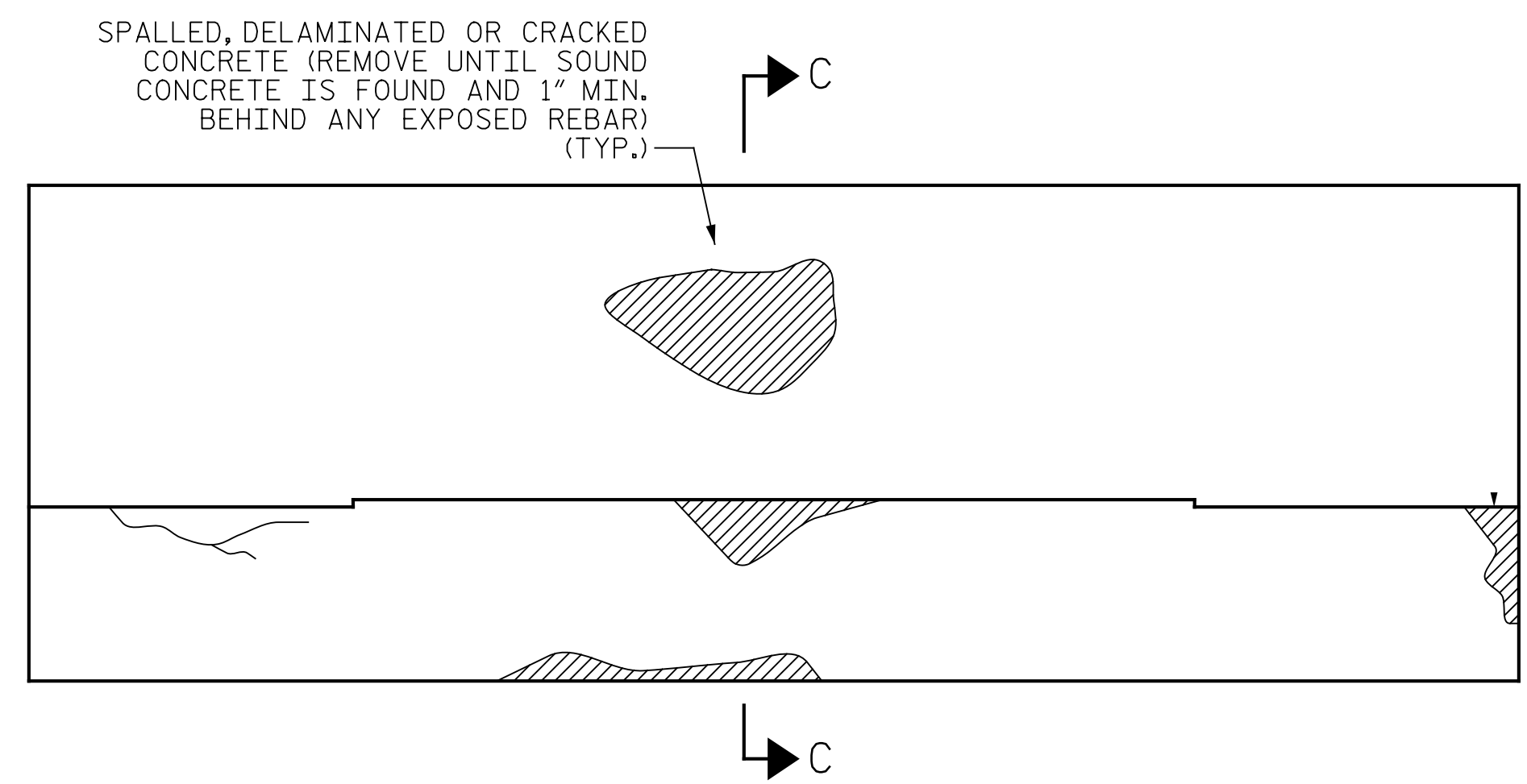
CAP REPAIR



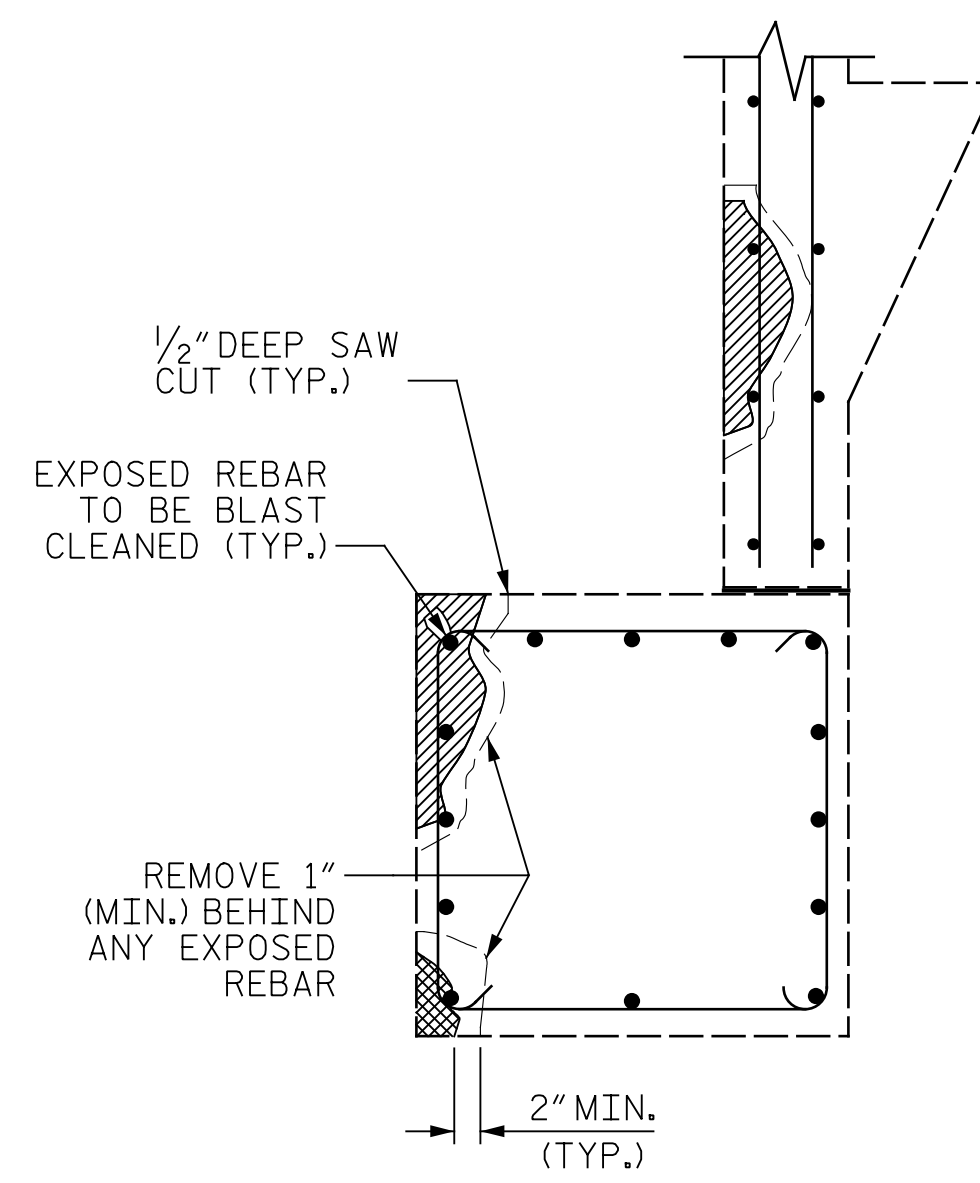
ELEVATION OF COLUMN
COLUMN REPAIR



PLAN OF COLUMN
SECTION B-B



END BENT REPAIRS



SECTION C-C

END BENT REPAIR

REPAIR KEY

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

NOTES:

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

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

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

REMOVE UNSOUND CONCRETE TO THE EXTENT NECESSARY, MINIMUM OF 1" BEHIND RE BAR AND MINIMUM OF 2" CLEARANCE TO SAW CUT.

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

SIMULTANEOUS REMOVAL OF UNSOUND CONCRETE MAY BE PERMITTED ON MORE THAN ONE FACE OF A CAP AND/OR COLUMN, IF THE AREAS OF REMOVAL ARE NOT ADJACENT TO OR DIRECTLY OPPOSITE ONE ANOTHER. IF REMOVAL EXTENDS MORE THAN 1 1/2" BEHIND THE MAIN REINFORCING BARS, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

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

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

FOR SHOT CRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

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

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

PROJECT NO. I-5943
WAKE COUNTY
 BRIDGE NO. 910552, 910553
 & 510554



DocuSigned by:
 Eric B. Nelson
 2/22/2022

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

TYPICAL CAP
 AND COLUMN
 REPAIR DETAILS

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

DRAWN BY: J. MYA DATE: 02/2022
 CHECKED BY: R. FISHER DATE: 02/2022

PLANS PREPARED BY:

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 Raleigh, NC 27603
 (919) 420-7660
 NC Lic. No. F-0270

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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 $\frac{7}{8}$ " \emptyset SHEAR STUDS FOR THE $\frac{3}{4}$ " \emptyset STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - $\frac{7}{8}$ " \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 $\frac{7}{8}$ " \emptyset STUDS ALONG THE BEAM AS SHOWN FOR $\frac{3}{4}$ " \emptyset STUDS BASED ON THE RATIO OF 3 - $\frac{7}{8}$ " \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 $\frac{5}{16}$ " IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY $\frac{1}{16}$ 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. FINISHES AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

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

ENGLISH

JANUARY, 1990