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LOCATION SKETCH

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

GENERAL NOTES

UNLESS INDICATED OTHERWISE IN THE PLANS, SEE TRANSPORTATION MANAGEMENT PLANS FOR TYPICAL LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND LATEX MODIFIED CONCRETE-VERY EARLY STRENGTH 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 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.

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.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR ITEMS ASSOCIATED WITH THE CLEANING AND REPAINTING OF BRIDGE.

THE CONTRACTOR SHALL SCHEDULE CLEANING AND REPAINTING OPERATIONS SUCH THAT THE STEEL REPAIR IS PERFORMED AFTER THE STEEL HAS BEEN CLEANED AND PREPARED FOR PAINTING AND BEFORE THE PAINTING OPERATION. AFTER STEEL REPAIRS HAVE BEEN COMPLETED, THE REPAIRS SHALL BE BLAST-CLEANED ACCORDING TO THE SPECIAL PROVISIONS.

- FOR PAINTING CONTAINMENT AND POLLUTION CONTROL, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.
- FOR PAINTING EXISTING STRUCTURE, SEE SPECIAL PROVISIONS.
- FOR BEAM REPAIR CUT-OUT, SEE SPECIAL PROVISIONS.
- FOR CONCRETE DIAPHRAGM REPAIR, SEE SPECIAL PROVISIONS.
- FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.
- FOR OVERLAY OF BRIDGE WITH LATEX MODIFIED-VERY EARLY STRENGTH, SEE SPECIAL PROVISIONS.

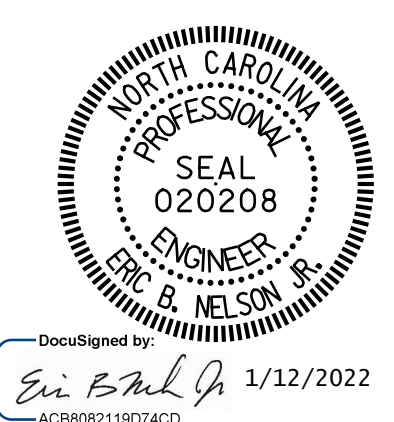
FOR LMC-VES OVERLAY SURFACE PREPARATION, SEE SPECIAL PROVISIONS.

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

- 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 BRIDGE JACKING, SEE SPECIAL PROVISIONS.
- FOR REPAIR OF EXISTING DECK DRAINS, SEE SPECIAL PROVISIONS.
- FOR PEDESTRIAN SAFETY FENCE REPAIR, SEE SPECIAL PROVISIONS.
- FOR FIELD MEASURING, SEE SPECIAL PROVISIONS.
- FOR VOLUMETRIC MIXER, SEE SPECIAL PROVISIONS.
- FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL PROVISIONS.
- FOR FINE MILLING, SEE SPECIAL PROVISIONS.
- FOR DIAMOND GRINDING, SEE SPECIAL PROVISIONS.
- FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

BRIDGE COORDINATES		
BRIDGE NO.	LATITUDE	LONGITUDE
910263	35°-50'-13.03"	78°-39'-42.67"
910264	35°-50'-13.77"	78°-39'-43.21"

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910263 & 910264
 SHEET 2 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**GENERAL DRAWING
 FOR BRIDGES ON I-440
 (CLIFF BENSON BELTLINE)
 OVER CRABTREE CREEK**

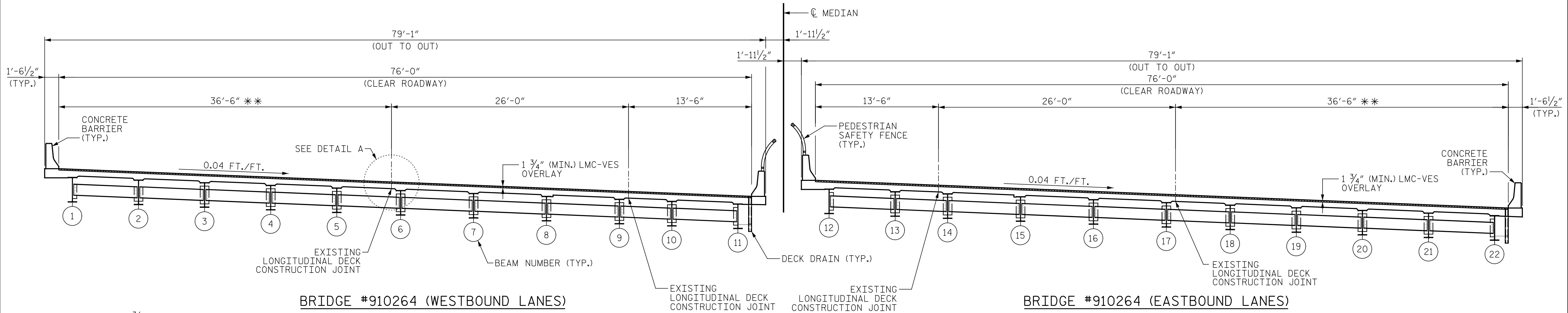
DRAWN BY : T. HARTLEY DATE : 09/2021
 CHECKED BY : J. YANACCONO DATE : 09/2021
 DESIGN ENGINEER OF RECORD : R. NELSON DATE : 09/2021

PLANS PREPARED BY:
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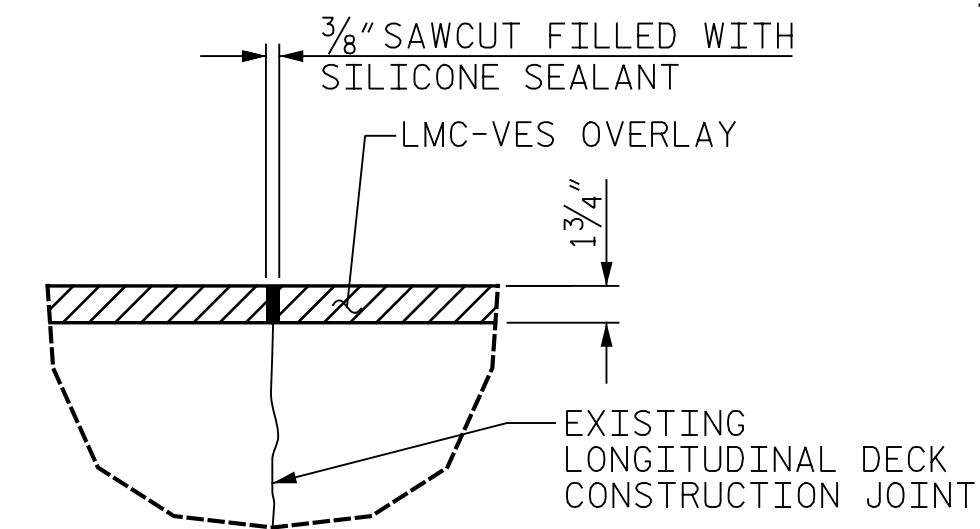
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BRIDGE #910264 (WESTBOUND LANES)

BRIDGE #910264 (EASTBOUND LANES)

TYPICAL SECTION (PROPOSED)



DETAIL A

(TYP. @ ALL EXISTING LONGITUDINAL DECK CONSTRUCTION JOINTS)

** FIELD VERIFY DIMENSION TO EXISTING LONGITUDINAL DECK CONSTRUCTION JOINT (SEE NOTES)

NOTES:

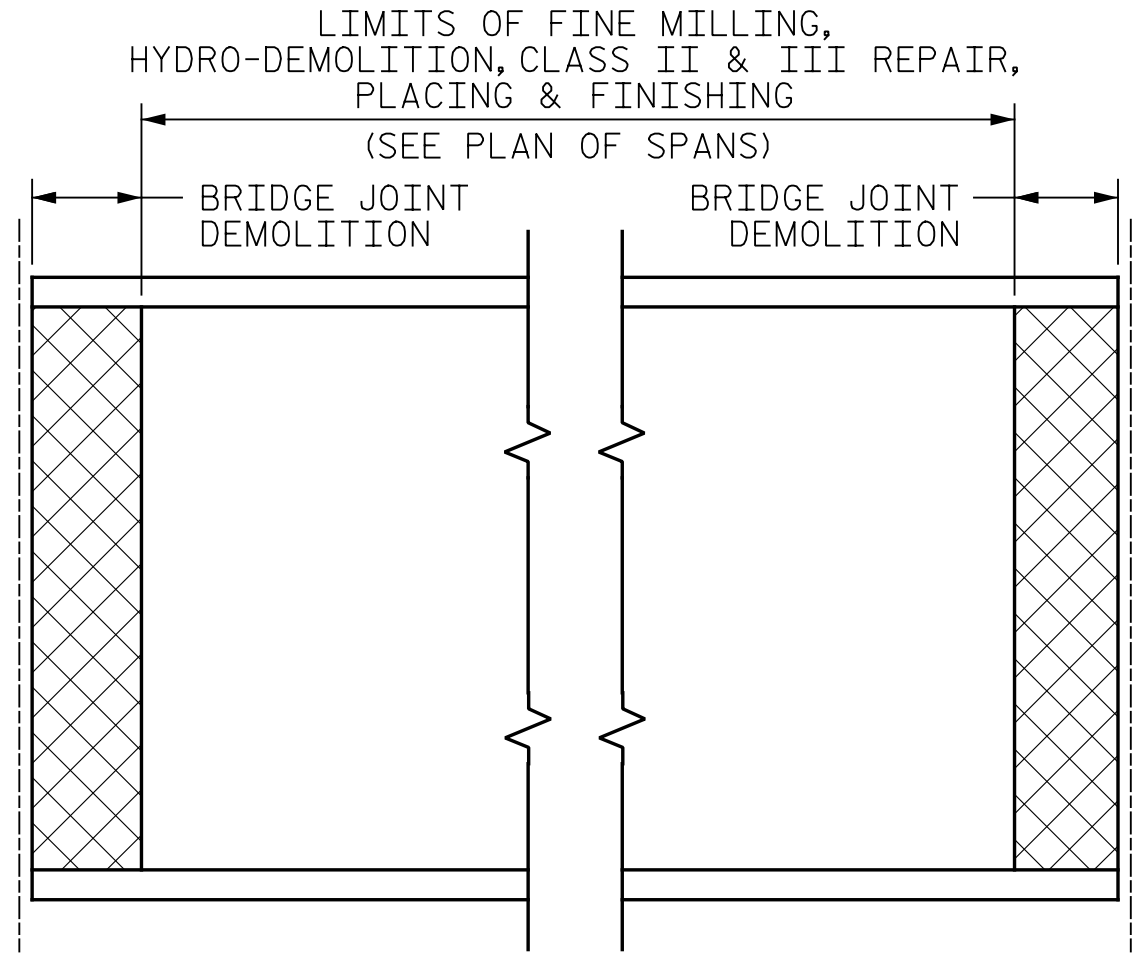
UNLESS INDICATED OTHERWISE IN THE PLANS, SEE TRAFFIC MANAGEMENT PLANS FOR TYPICAL LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND LMC-VES PLACEMENT.

WHEN PREPARING THE SURFACE FOR LMC-VES OVERLAY ADJACENT TO A PREVIOUSLY PLACED LMC-VES STAGE, THE PREVIOUSLY PLACED LMC-VES SHALL BE REMOVED FOR A DISTANCE OF 4 INCHES FROM THE LMC-VES EDGE. THE SURFACE OF THE NEW STAGE AREA, ALONG WITH THE 4 INCH OVERLAY AREA, SHALL BE PREPARED AS PER THE OVERLAY SURFACE PREPARATION SPECIAL PROVISIONS. NEW LMC-VES SHALL BE PLACED IN THE 4-INCH OVERLAP, AS PART OF THE NEW LMC-VES STAGE PLACEMENT.

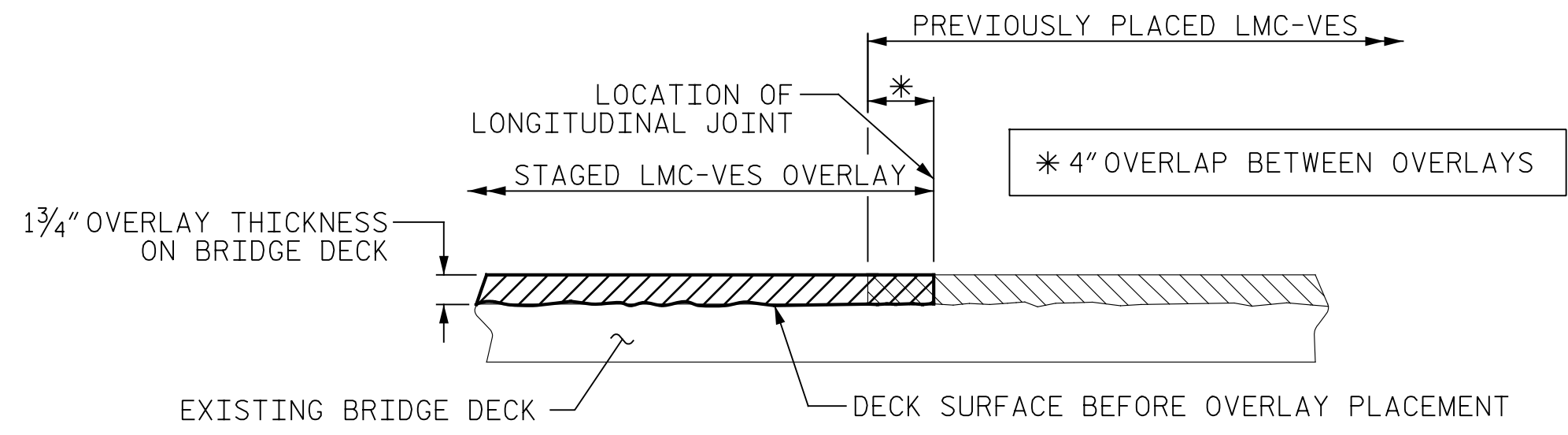
THE LONGITUDINAL JOINT IN THE NEWLY PLACED OVERLAY SHALL BE SAWED PRIOR TO TRAFFIC BEING PLACED ON THE OVERLAY. THE JOINT SHALL BE CLEANED OF ALL DEBRIS BEFORE THE SEALANT IS APPLIED. THE JOINT SEALER MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TYPE SL LOW MODULUS SILICONE SEALANT.

VERIFY HORIZONTAL DIMENSION FROM @ MEDIAN TO EXISTING LONGITUDINAL DECK CONSTRUCTION JOINT AT FILL FACE OF END BENTS AND @ JOINT AT BENTS.

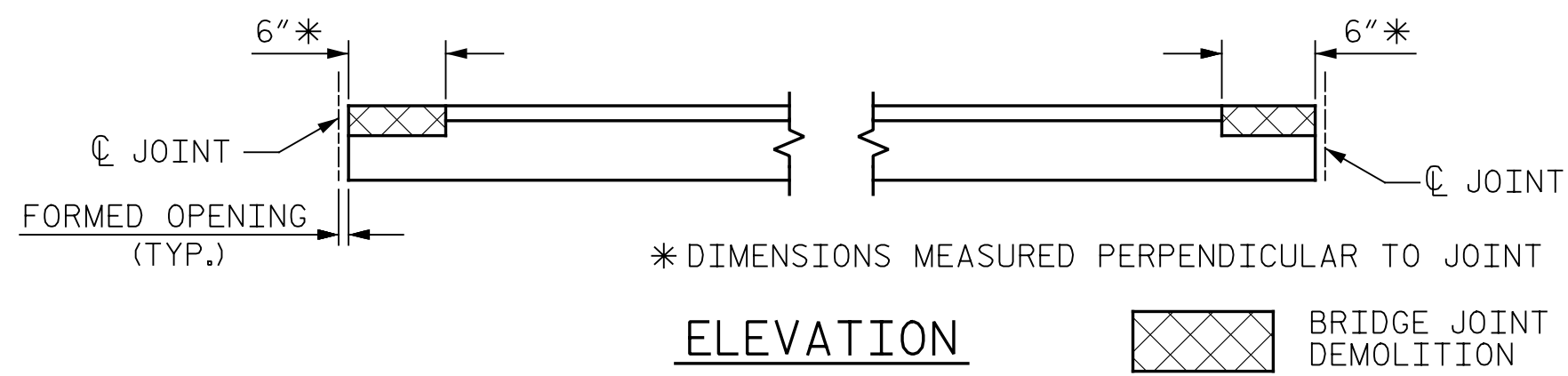
THE CONTRACTOR SHALL ENSURE THAT THE SAWCUT FOLLOWS THE LINE OF THE EXISTING LONGITUDINAL CONSTRUCTION JOINT.



PLAN

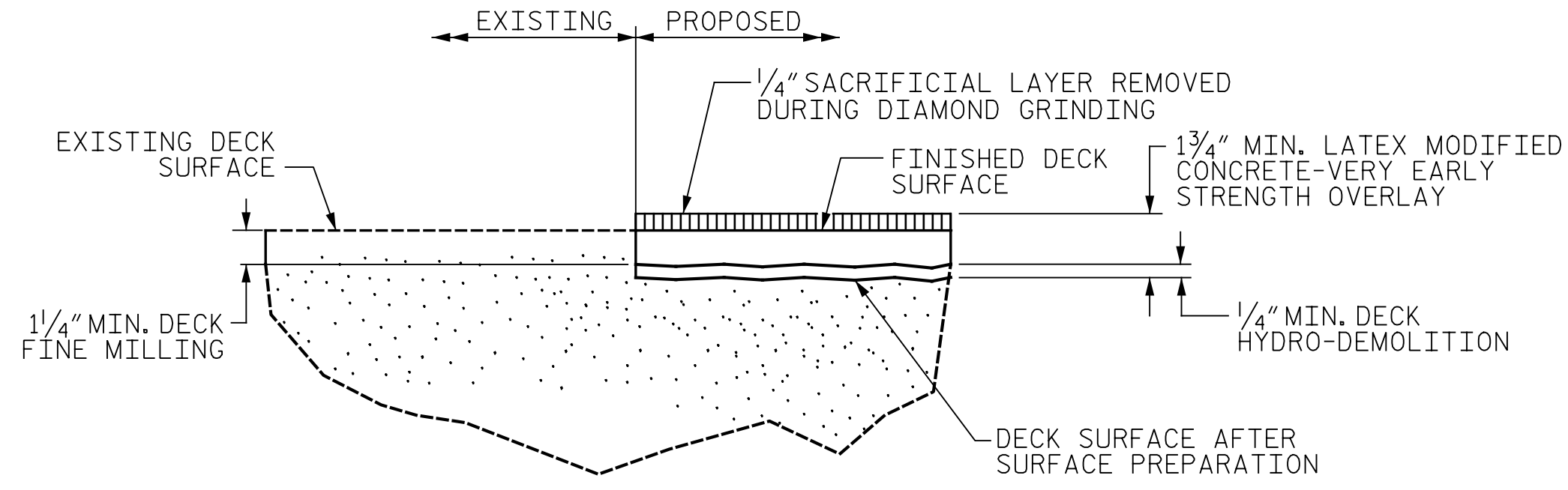


STAGED LMC-VES OVERLAY JOINT (AS NEEDED)



ELEVATION

* DIMENSIONS MEASURED PERPENDICULAR TO JOINT



DETAIL FOR LMC-VES OVERLAY

PAY LIMITS FOR OVERLAY BID ITEMS

PROJECT NO. I-5997
WAKE COUNTY
BRIDGE NO. 910263 & 910264

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



DocuSigned by:
Eric B. Nelson
1/12/2022
ACB808219D74CD

DRAWN BY: J. MYA DATE: 07/2021
CHECKED BY: J. YANACCONI DATE: 09/2021
DESIGN ENGINEER OF RECORD: R. NELSON DATE: 09/2021

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NC Lic. No. F-0270

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REPAIR QUANTITY TABLE

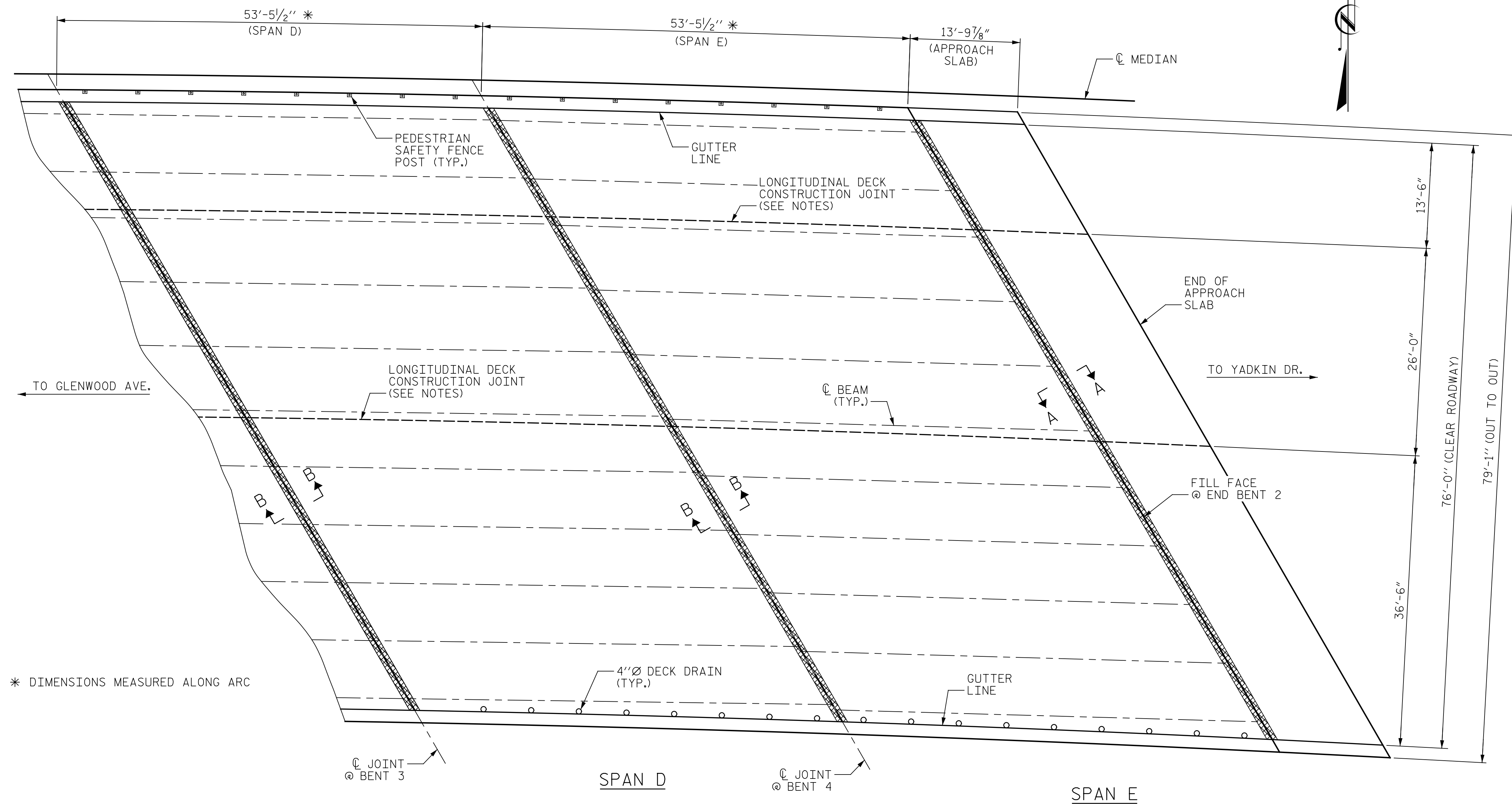
TOP OF DECK REPAIR				
	ESTIMATE		ACTUAL	
FINE MILLING **	2292	SY		
HYDRO-DEMOLITION OF BRIDGE DECK	1028	SY		
CLASS II SURFACE PREPARATION	0.0	SY		
CLASS III SURFACE PREPARATION	0.0	SY		
LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH	55.5	CY		
BRIDGE JOINT DEMOLITION	224	SF		
EPOXY RESIN INJECTION	0.0	LF		
CONCRETE FOR DECK REPAIR	0.0	CF		
DIAMOND GRINDING	1028	SY		
SILANE DECK TREATMENT	1028	SY		
UNDERSIDE OF DECK REPAIR				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
			ESTIMATE	ACTUAL
UNDERSIDE EPOXY RESIN INJECTION	0.0	LF		

VALUES IN CHART REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEAR TO SAW CUT. SEE REPAIR DETAILS.

PAYMENT FOR CLASS II AND CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

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

WHERE DECK DRAINS DISCHARGE DIRECTLY ONTO A BENT CAP, REMOVE DECK DRAIN PIPE AND FILL DRAIN OPENING IN THE DECK WITH GROUT. FOR REPAIRS OF EXISTING DECK DRAINS, SEE SPECIAL PROVISIONS.



PLAN

- BRIDGE JOINT DEMOLITION
- APPROX. CLASS II SURFACE PREPARATION
- APPROX. CLASS III SURFACE PREPARATION
- ERI EPOXY RESIN INJECTION

NOTES:

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

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

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

WHERE DECK DRAINS DISCHARGE DIRECTLY ONTO A BENT CAP, REMOVE DECK DRAIN PIPE AND FILL DRAIN OPENING IN THE DECK WITH GROUT. SEE "MISCELLANEOUS DETAILS" SHEET.

FOR REPAIRS OF EXISTING DECK DRAINS, SEE SPECIAL PROVISIONS.

FOR DETAILS ON LONGITUDINAL DECK CONSTRUCTION JOINTS, SEE "TYPICAL SECTION AND SURFACE PREPARATION DETAILS" SHEET.

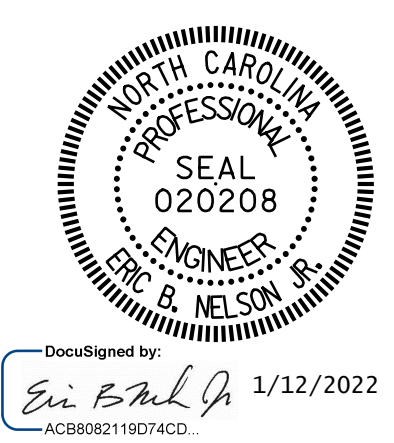
** THE QUANTITY OF FINE MILLING INCLUDES THE CONCRETE BRIDGE DECK, CONCRETE APPROACH SLABS, AND 150 FEET OF THE ASPHALT APPROACH PAVEMENT AT EACH END OF THE BRIDGE.

FOR FINE MILLING, SEE SPECIAL PROVISIONS.

IF THE SILANE DECK TREATMENT IS APPLIED WITHIN FIVE (5) DAYS AFTER DIAMOND GRINDING THE BRIDGE DECK AND APPROACH SLABS, SHOTBLASTING IS NOT REQUIRED. IF MORE THAN FIVE (5) DAYS HAVE ELAPSED SINCE DIAMOND GRINDING, THE CONTRACTOR SHALL SHOTBLAST THE BRIDGE DECK AND APPROACH SLABS AT NO ADDITIONAL COST TO THE DEPARTMENT.

FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910263 & 910264
 SHEET 2 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPANS
 EAST BOUND

DRAWN BY : J. MYA DATE : 08/2021
 CHECKED BY : J. YANACCONI DATE : 09/2021
 DESIGN ENGINEER OF RECORD : R. NELSON DATE : 09/2021

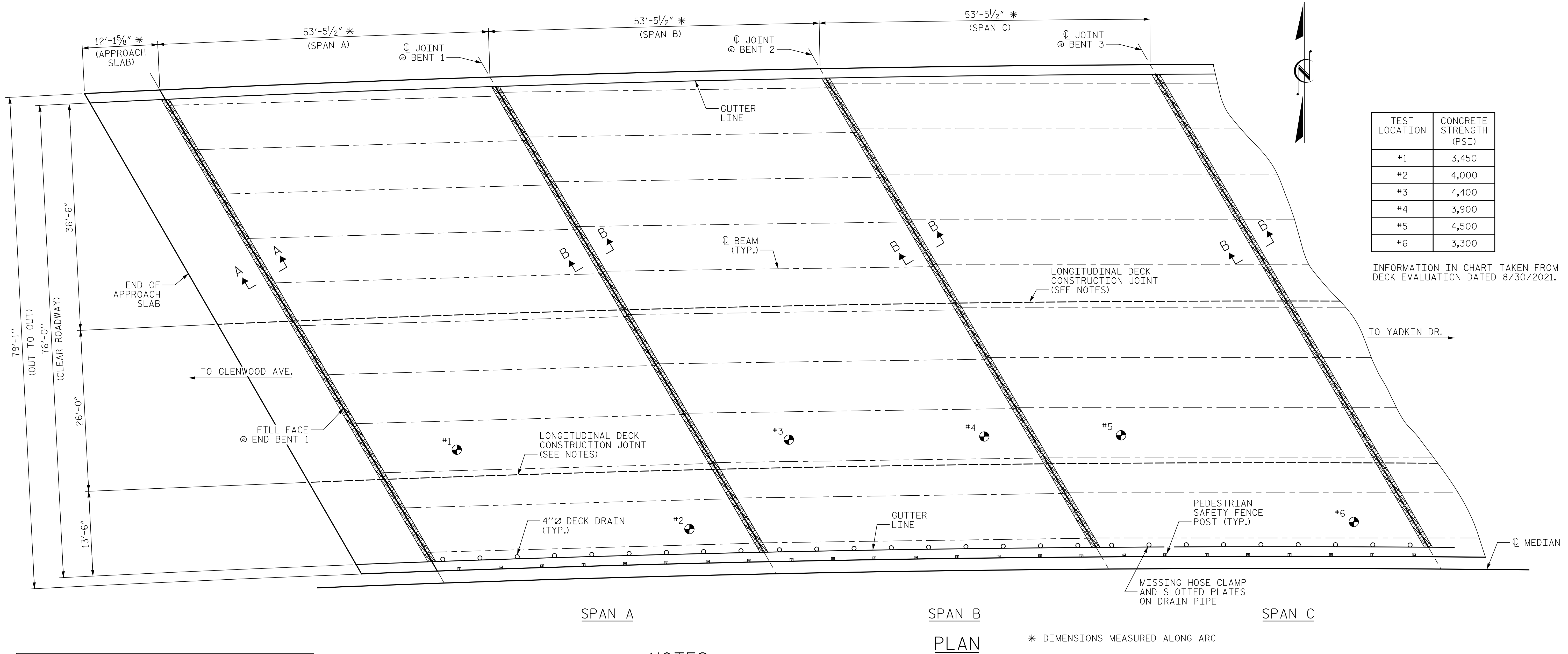
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TEST LOCATION	CONCRETE STRENGTH (PSI)
#1	3,450
#2	4,000
#3	4,400
#4	3,900
#5	4,500
#6	3,300

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 8/30/2021.

REPAIR QUANTITY TABLE		
TOP OF DECK REPAIR		
	ESTIMATE	ACTUAL
FINE MILLING **	2720 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	1453 SY	
CLASS II SURFACE PREPARATION	0.0 SY	
CLASS III SURFACE PREPARATION	0.0 SY	
LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH	78.6 CY	
BRIDGE JOINT DEMOLITION	303 SF	
EPOXY RESIN INJECTION	0.0 LF	
CONCRETE FOR DECK REPAIR	0.0 CF	
DIAMOND GRINDING	1453 SY	
SILANE DECK TREATMENT	1453 SY	

UNDERSIDE OF DECK REPAIR				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
			ESTIMATE	ACTUAL
UNDERSIDE EPOXY RESIN INJECTION		0.0 LF		

VALUES IN CHART REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEAR TO SAW CUT. SEE REPAIR DETAILS.

PAYMENT FOR CLASS II AND CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

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.

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

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

WHERE DECK DRAINS DISCHARGE DIRECTLY ONTO A BENT CAP, REMOVE DECK DRAIN PIPE AND FILL DRAIN OPENING IN THE DECK WITH GROUT. SEE "MISCELLANEOUS DETAILS" SHEET.

FOR REPAIRS OF EXISTING DECK DRAINS, SEE SPECIAL PROVISIONS.

FOR DETAILS ON LONGITUDINAL DECK CONSTRUCTION JOINT, SEE "TYPICAL SECTION AND SURFACE PREPARATION DETAILS" SHEET.

** THE QUANTITY OF FINE MILLING INCLUDES THE CONCRETE BRIDGE DECK, CONCRETE APPROACH SLABS, AND 150 FEET OF THE ASPHALT APPROACH PAVEMENT AT EACH END OF THE BRIDGE.

FOR FINE MILLING, SEE SPECIAL PROVISIONS.

IF THE SILANE DECK TREATMENT IS APPLIED WITHIN FIVE (5) DAYS AFTER DIAMOND GRINDING THE BRIDGE DECK AND APPROACH SLABS, SHOTBLASTING IS NOT REQUIRED. IF MORE THAN FIVE (5) DAYS HAVE ELAPSED SINCE DIAMOND GRINDING, THE CONTRACTOR SHALL SHOTBLAST THE BRIDGE DECK AND APPROACH SLABS AT NO ADDITIONAL COST TO THE DEPARTMENT.

FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

- BRIDGE JOINT DEMOLITION
- APPROX. CLASS II SURFACE PREPARATION
- APPROX. CLASS III SURFACE PREPARATION
- ERI EPOXY RESIN INJECTION
- #1 TEST LOCATION

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910263 & 910264
 SHEET 3 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPANS
 WEST BOUND

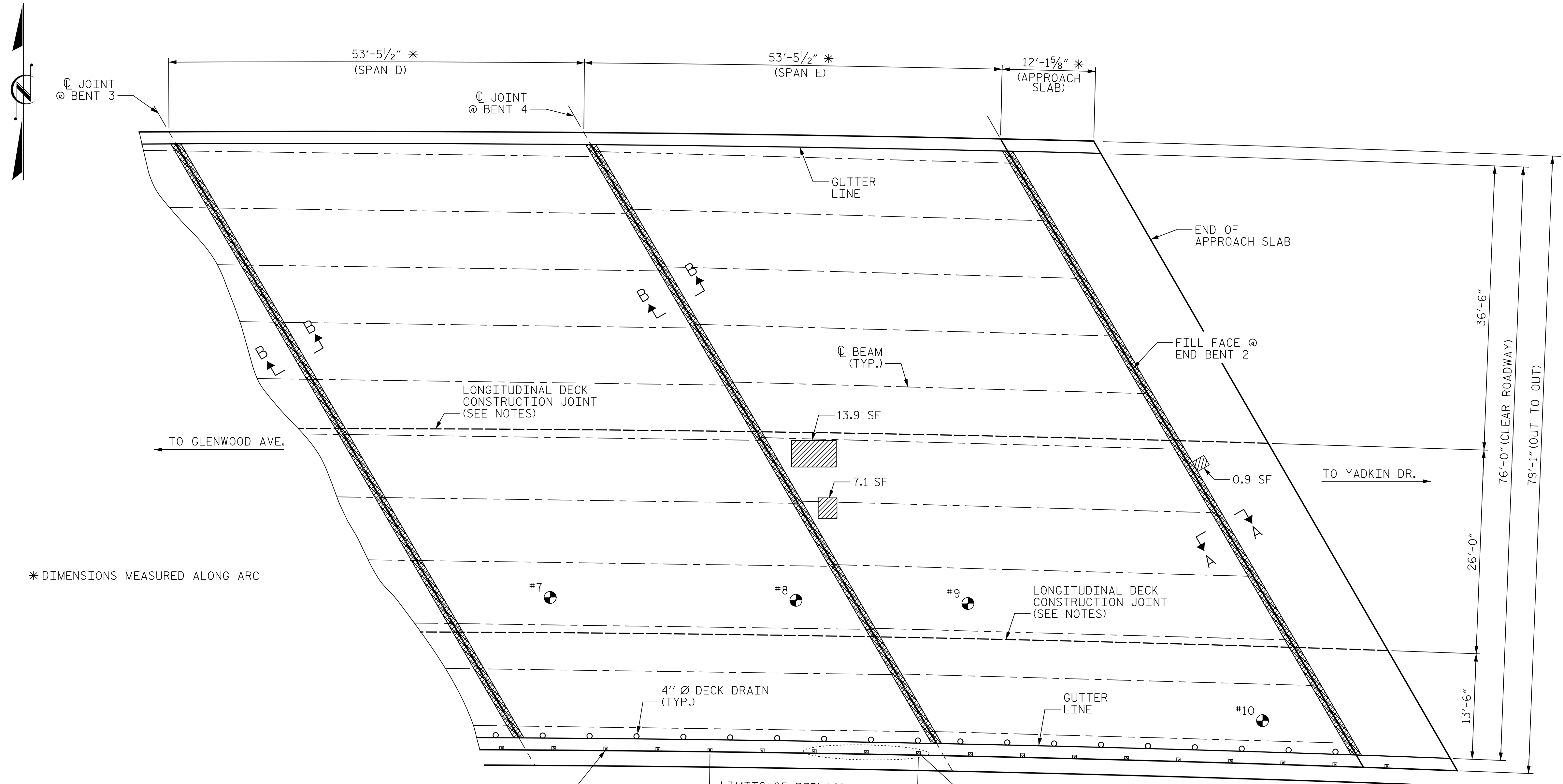
DRAWN BY : J. MYA DATE : 08/2021
 CHECKED BY : J. YANACCONI DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

PLANS PREPARED BY:
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TEST LOCATION	CONCRETE STRENGTH (PSI)
#7	4,750
#8	3,250
#9	4,250
#10	3,900

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 8/30/2021.

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.

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

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

FOR FENCE DETAILS, SEE "PEDESTRIAN SAFETY FENCE REPAIR DETAILS" SHEET.

FOR PEDESTRIAN SAFETY FENCE REPAIR, SEE SPECIAL PROVISIONS.

WHERE DECK DRAINS DISCHARGE DIRECTLY ONTO A BENT CAP, REMOVE DECK DRAIN PIPE AND FILL DRAIN OPENING IN THE DECK WITH GROUT. SEE "MISCELLANEOUS DETAILS" SHEET.

FOR REPAIRS OF EXISTING DECK DRAINS, SEE SPECIAL PROVISIONS.

FOR DETAILS ON LONGITUDINAL DECK CONSTRUCTION JOINT, SEE "TYPICAL SECTION AND SURFACE PREPARATION DETAILS" SHEET.

** THE QUANTITY OF FINE MILLING INCLUDES THE CONCRETE BRIDGE DECK, CONCRETE APPROACH SLABS, AND 150 FEET OF THE ASPHALT APPROACH PAVEMENT AT EACH END OF THE BRIDGE.

FOR FINE MILLING, SEE SPECIAL PROVISIONS.

IF THE SILANE DECK TREATMENT IS APPLIED WITHIN FIVE (5) DAYS AFTER DIAMOND GRINDING THE BRIDGE DECK AND APPROACH SLABS, SHOTBLASTING IS NOT REQUIRED. IF MORE THAN FIVE (5) DAYS HAVE ELAPSED SINCE DIAMOND GRINDING, THE CONTRACTOR SHALL SHOTBLAST THE BRIDGE DECK AND APPROACH SLABS AT NO ADDITIONAL COST TO THE DEPARTMENT.

FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

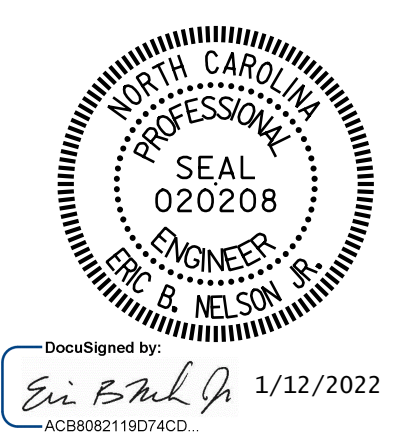
REPAIR QUANTITY TABLE		
TOP OF DECK REPAIR		
	ESTIMATE	ACTUAL
FINE MILLING **	2269 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	1003 SY	
CLASS II SURFACE PREPARATION	2.4 SY	
CLASS III SURFACE PREPARATION	0.0 SY	
LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH	54.2 CY	
BRIDGE JOINT DEMOLITION	222 SF	
EPOXY RESIN INJECTION	0.0 LF	
CONCRETE FOR DECK REPAIR	0.0 CF	
DIAMOND GRINDING	1003 SY	
SILANE DECK TREATMENT	1003 SY	
UNDERSIDE OF DECK REPAIR		
SHOTCRETE REPAIRS	ESTIMATE	ACTUAL
	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0
OVERHANG DIAPHRAGMS	0.0	0.0
UNDERSIDE OF OVERHANG	0.0	0.0
INTERIOR DIAPHRAGMS	0.0	0.0
		ESTIMATE
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF	

VALUES IN CHART REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEAR TO SAW CUT. SEE REPAIR DETAILS.

PAYMENT FOR CLASS II AND CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

- BRIDGE JOINT DEMOLITION
- APPROX. CLASS II SURFACE PREPARATION
- APPROX. CLASS III SURFACE PREPARATION
- ERI EPOXY RESIN INJECTION
- #1 TEST LOCATION

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE No. 910263&910264
 SHEET 4 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPANS
 WEST BOUND**

DRAWN BY : J. MYA DATE : 08/2021
 CHECKED BY : J. YANNACCONE DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

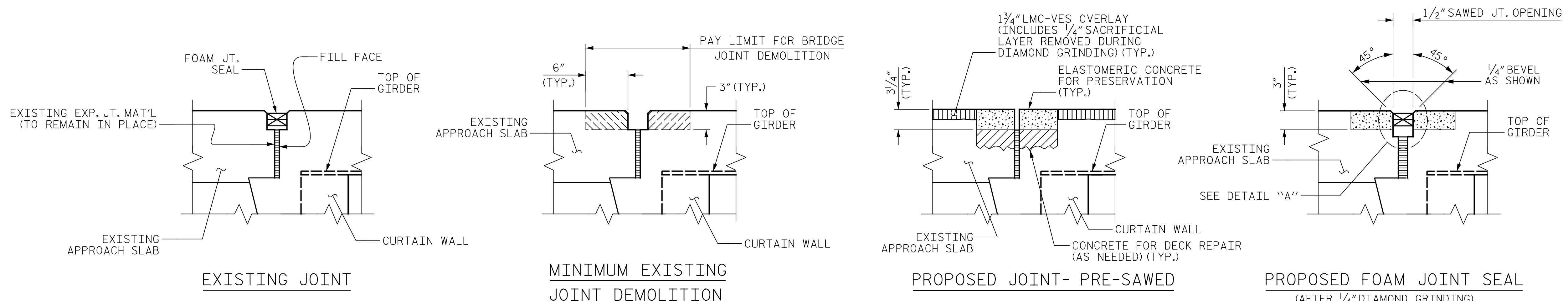
PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised

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

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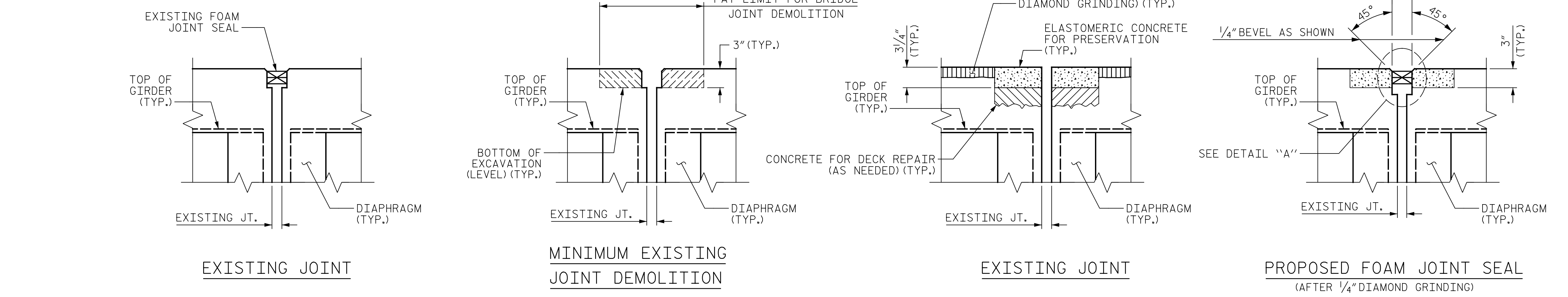
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-39
1			3			TOTAL SHEETS
2			4			82

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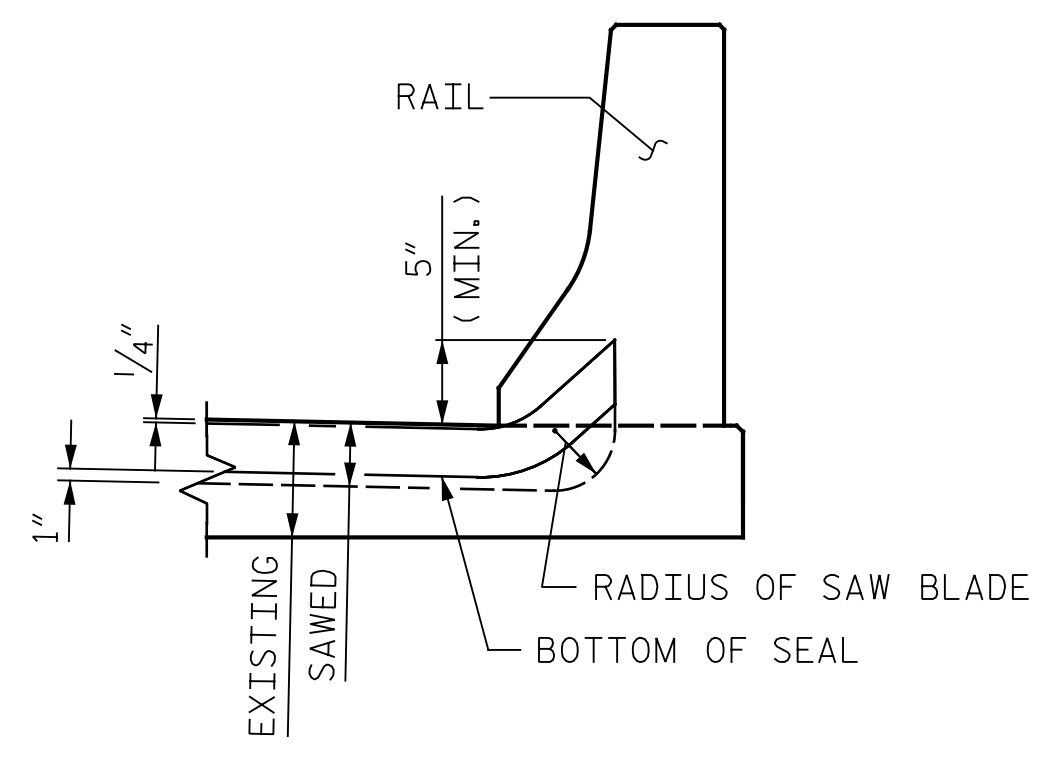
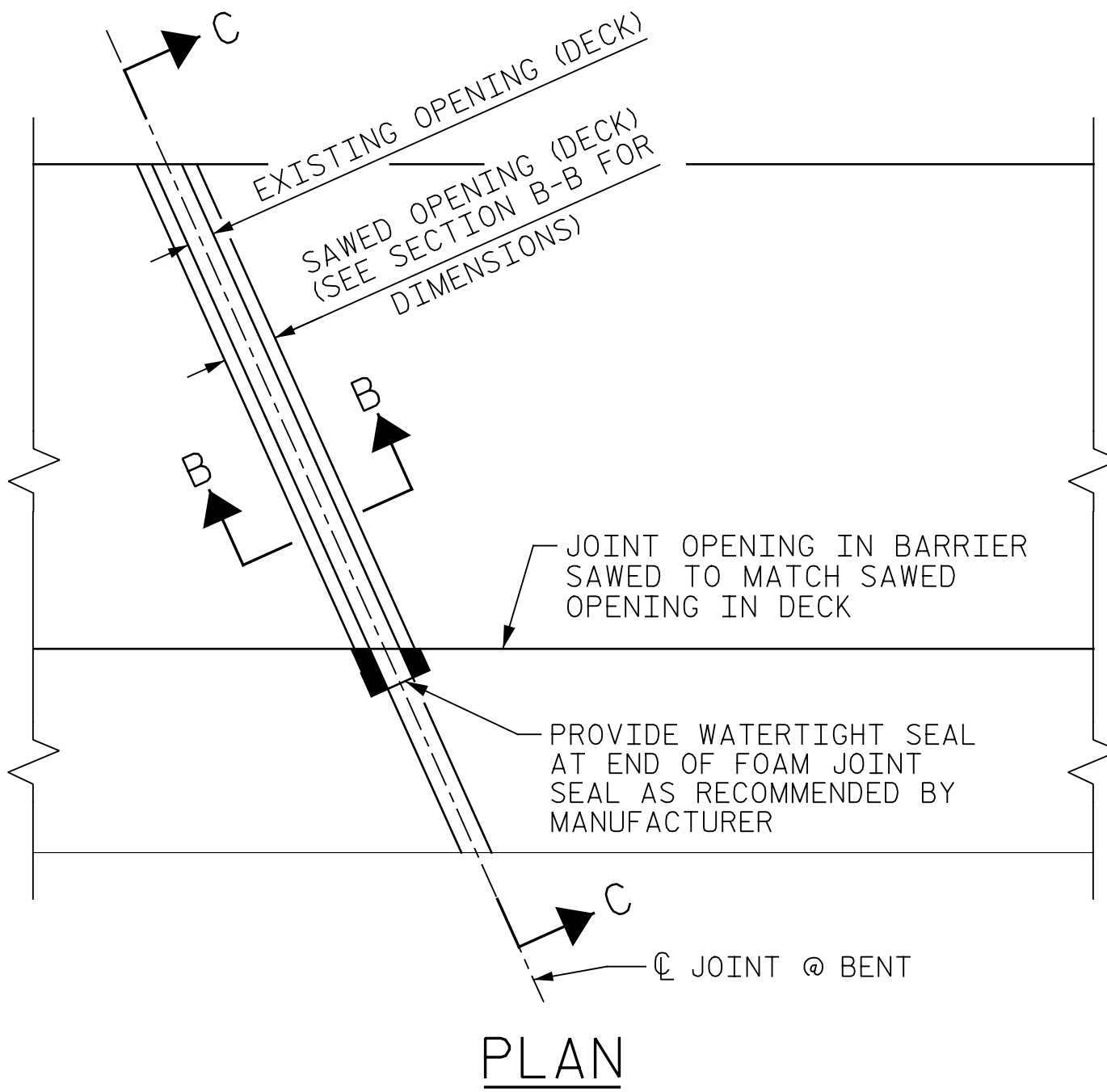


SECTION A-A

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



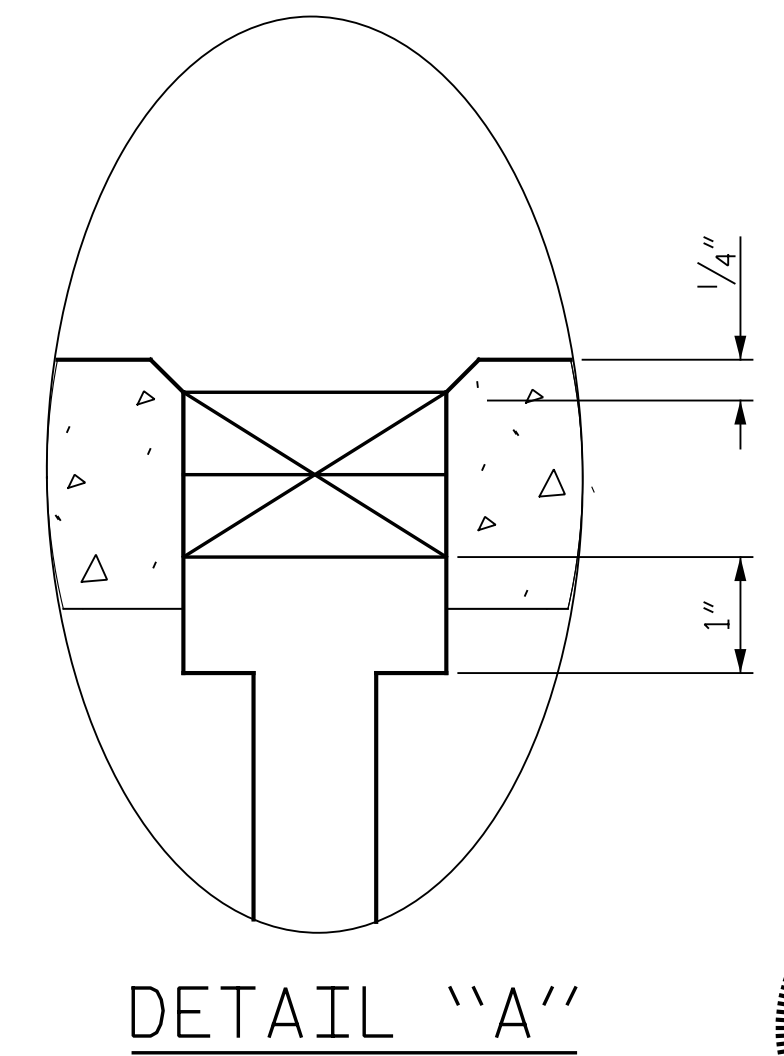
SECTION B-B



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

LOCATION	ELASTOMERIC CONCRETE FOR PRESERVATION	FOAM JOINT SEALS FOR PRESERVATION
	CU. FT.	LIN. FT.
END BENT 1	46.6	176.5
BENT 1	47.0	177.5
BENT 2	47.4	179.0
BENT 3	47.8	180.5
BENT 4	48.2	182.0
END BENT 2	48.6	183.5
* TOTAL	285.6	1079.0

* BASED ON MINIMUM BLOCKOUT SHOWN



NOTES:

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

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT SEAL MATERIAL. IF THE ACTUAL JOINT SEAL 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.

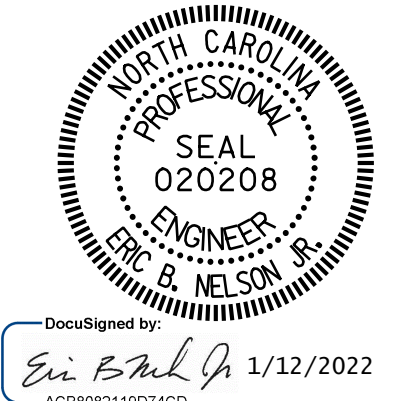
FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910263 & 910264



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

JOINT DETAILS

DocuSigned by:
 Eric B. Nelson
 1/12/2022

DRAWN BY: J. MYA DATE: 09/2021
 CHECKED BY: J. YANACCONI DATE: 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE: 09/2021

PLANS PREPARED BY:
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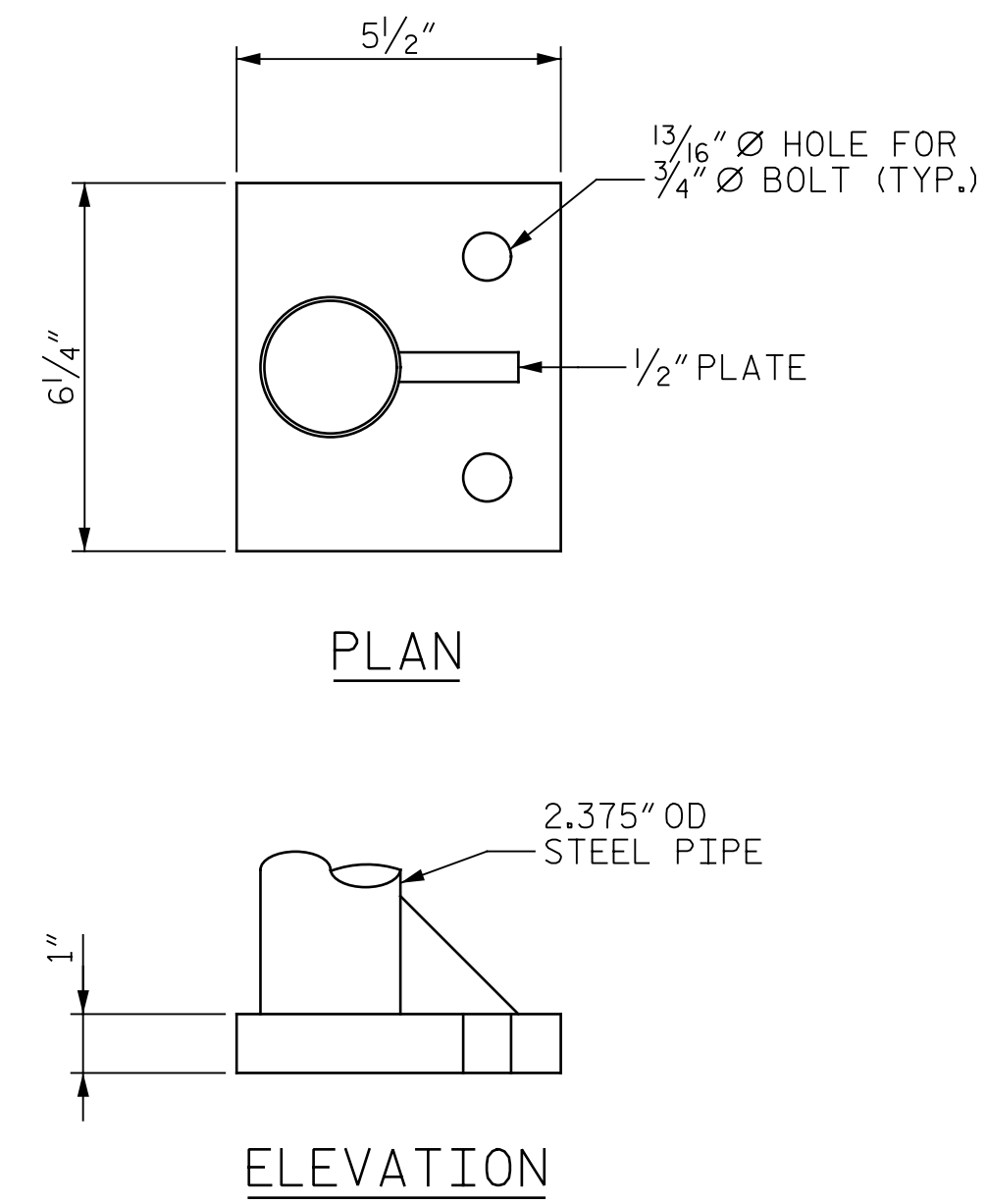
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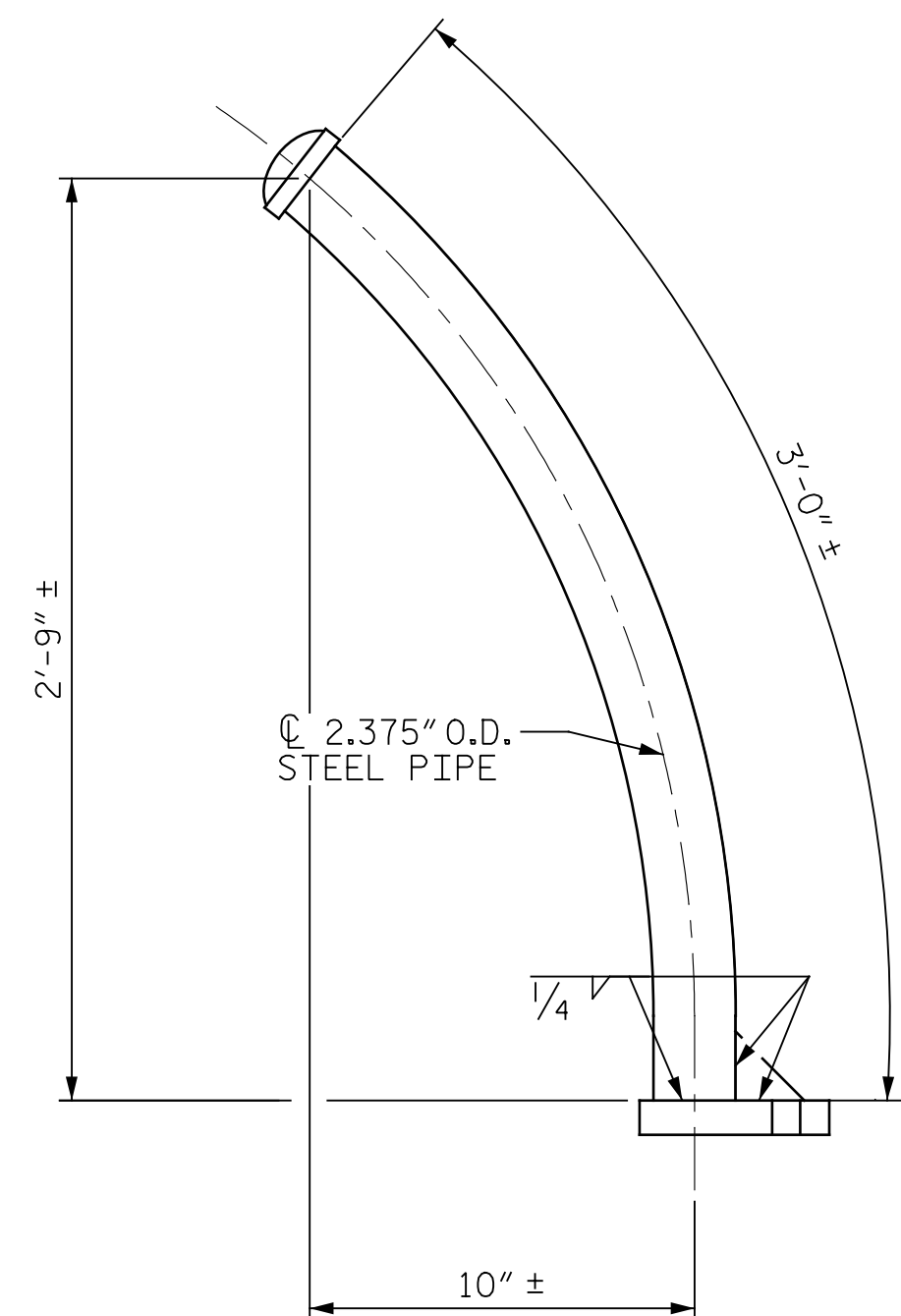
EXISTING FENCE DAMAGE



BASE PLATE DETAILS



NOTES:
 EXISTING DIMENSIONS FOR THE FENCE SYSTEM ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS PRIOR TO FABRICATING THE FENCE HARDWARE.
 CAPS ARE REQUIRED ON PIPE POSTS.
 FOR PEDESTRIAN SAFETY FENCE REPAIRS, SEE SPECIAL PROVISIONS.



PIPE POST DETAIL



6'-2" ± x 1.660" O.D. STEEL PIPE BRACE RAILS
 #6 GA. TIE WIRE @ 24" CTS. TO TIE FABRIC TO BRACE RAIL (TYP.)



WIRE CLIPS/TIES USED TO ATTACH FABRIC TO PIPE POST @ 12" CTS. (TYP.)

METHOD OF TYING FENCE TO PIPE POSTS AND BRACE RAILS

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910263 & 910264



DocuSigned by:
 Eric B. Nelson
 11/22/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 PEDESTRIAN SAFETY FENCE REPAIR DETAILS

DRAWN BY : E. TODD DATE : 09/2021
 CHECKED BY : J. YANACCONI DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

PLANS PREPARED BY:
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2			4			81

REPAIR QUANTITY TABLE

BEAM REPAIR		
	ESTIMATE	ACTUAL
BEAM END REPAIR	3262 LBS.	
CONNECTION PLATE REPAIR	132 LBS.	
TOTAL BEAM REPAIR	3394 LBS.	

(B) BEAM END / CONNECTION PLATE REPAIR

NOTES

ALL BEAMS ARE W33X118 PER EXISTING BRIDGE PLANS AND THE ROUTINE INSPECTION REPORT.

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.

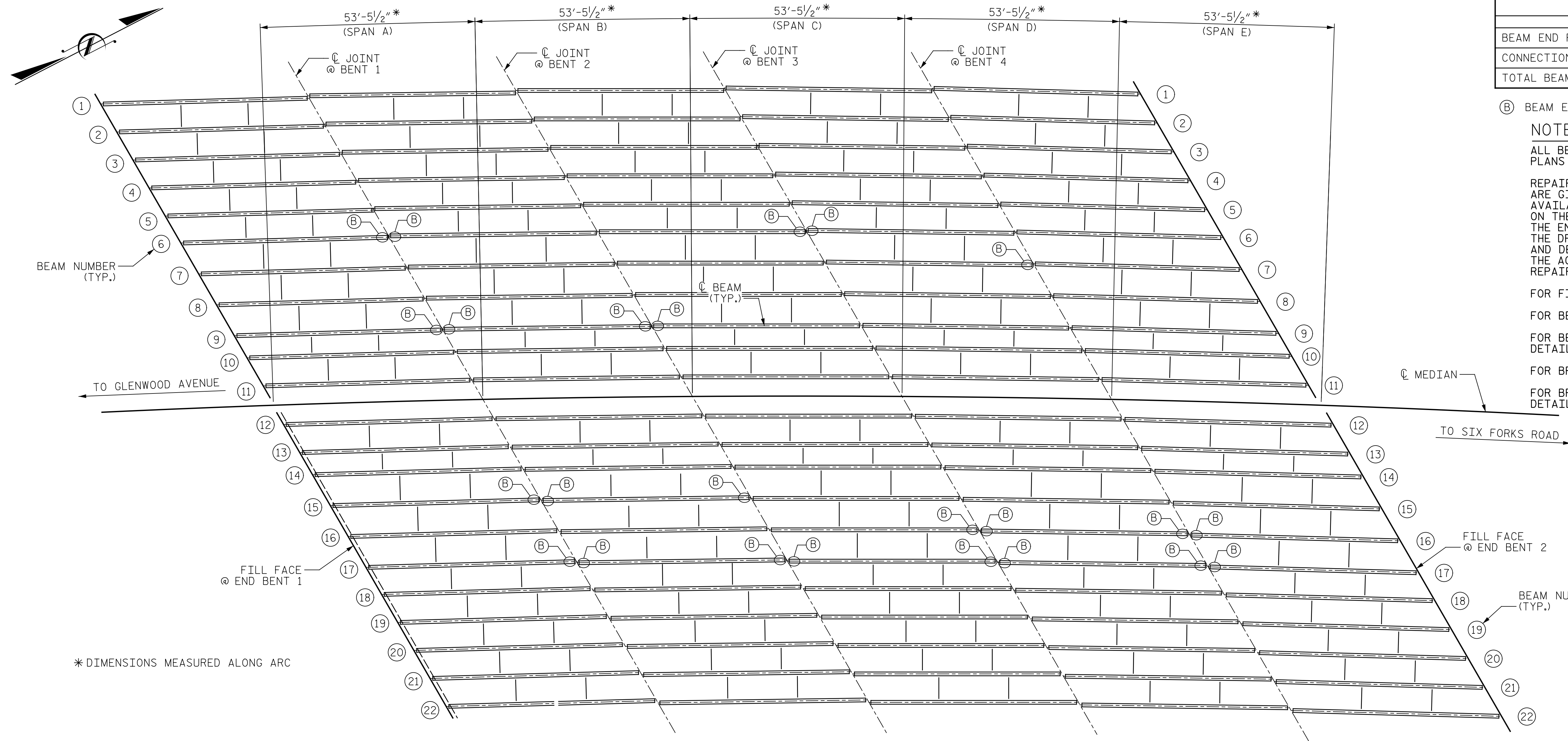
FOR FIELD MEASURING, SEE SPECIAL PROVISIONS.

FOR BEAM REPAIR, SEE SPECIAL PROVISIONS.

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

FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.

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



BEAM REPAIR LOCATIONS

(OTHER LOCATIONS MAY EXIST, SEE NOTES)

ANTICIPATED REPAIR LOCATIONS

SPAN	GIRDER	LOCATION	DIM "A"	DIM "B"	DIM "C"	DIM "D"
A	6	BENT 1	7"	-	-	49"
A	9	BENT 1	7"	-	-	49"
A	15	BENT 1	13"	-	-	37"
A	17	BENT 1	7"	-	-	49"
B	6	BENT 1	9"	-	-	43"
B	9	BENT 1	9"	-	-	73"
B	9	BENT 2	13"	-	-	90"
B	15	BENT 1	7"	-	-	17"
B	15	BENT 2	7"	-	-	21"
B	17	BENT 1	15"	8"	7"	37"
B	17	BENT 2	7"	-	-	49"

ANTICIPATED REPAIR LOCATIONS

SPAN	GIRDER	LOCATION	DIM "A"	DIM "B"	DIM "C"	DIM "D"
C	6	BENT 3	13"	9"	7"	15"
C	9	BENT 2	13"	-	-	25"
C	16	BENT 3	14"	-	-	13"
C	17	BENT 2	12"	-	-	12"
C	17	BENT 3	7"	-	-	85"
D	6	BENT 3	31"	9"	7"	15"
D	7	BENT 4	7"	-	-	14"
D	16	BENT 3	10"	-	-	17"
D	16	BENT 4	7"	-	-	8"
D	17	BENT 3	7"	-	-	15"
D	17	BENT 4	25"	8"	7"	73"
E	16	BENT 4	7"	-	-	11"
E	17	BENT 4	13"	-	-	49"

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910263 & 910264



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BEAM REPAIR LOCATIONS

DRAWN BY : J. MYA DATE : 08/2021
 CHECKED BY : J. YANACCONI DATE : 09/2021
 DESIGN ENGINEER OF RECORD : R. NELSON DATE : 09/2021

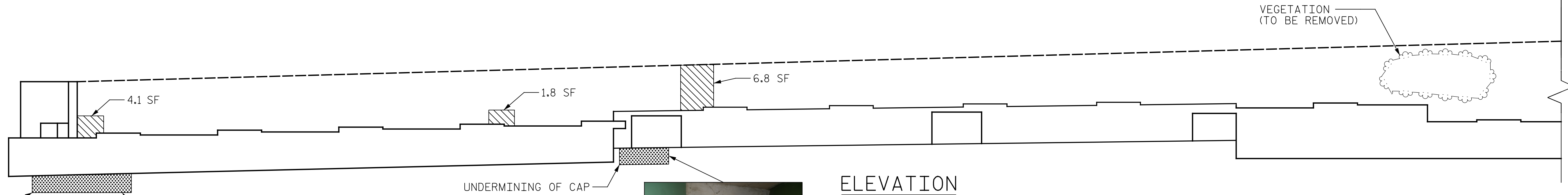
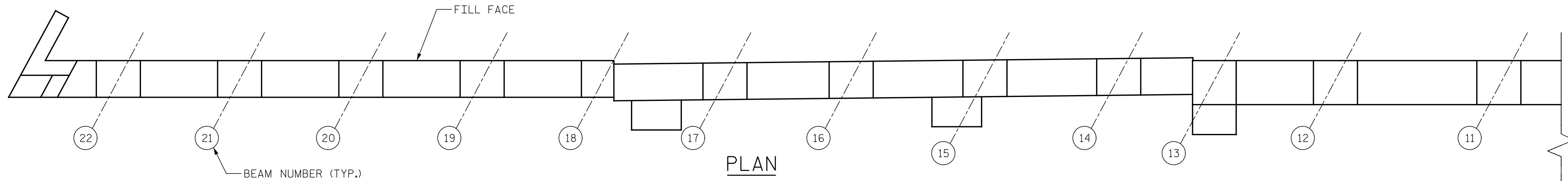
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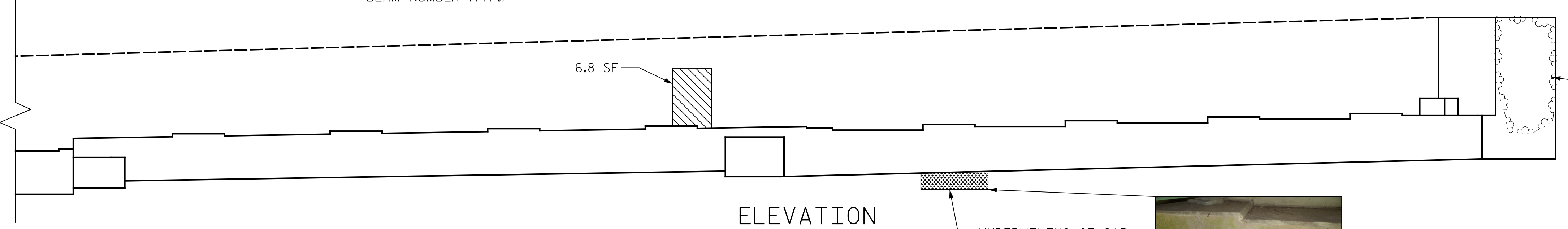
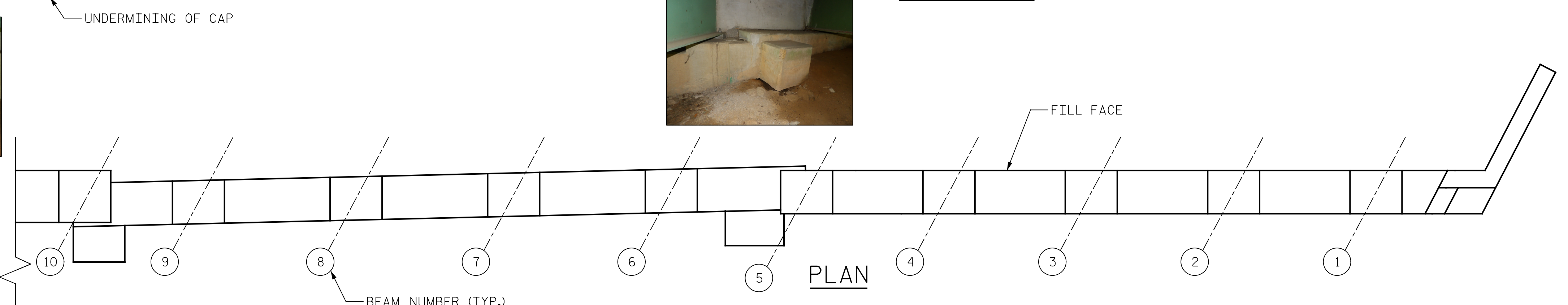
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- SHOTCRETE REPAIR
- CONCRETE REPAIRS (FORM & POUR)
- ERI - EPOXY RESIN INJECTION



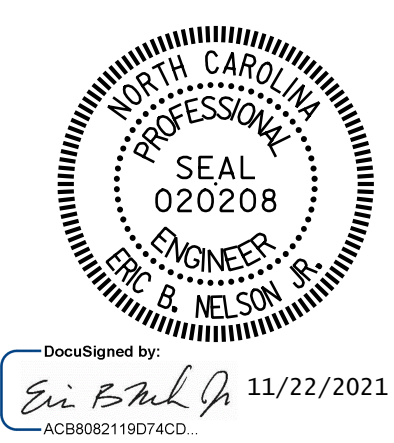
REPAIR QUANTITY TABLE				
END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	19.5	7.1		
CURTAIN WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
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 ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.
- FOR REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" 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.
- CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE "JACKING DETAILS" SHEET.
- FOR REMOVAL OF VEGETATION, SEE EPOXY COATING AND DEBRIS REMOVAL SPECIAL PROVISION.
- BACKFILL UNDERMINED AREAS UNDER END BENT CAP WITH FLOWABLE FILL TO MATCH THE GRADE OF THE ADJACENT BERM. FOR FLOWABLE FILL, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910263&910264



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 1

DRAWN BY : J. MYA / E. TODD DATE : 07/2021
 CHECKED BY : J. YANNAACONNE DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

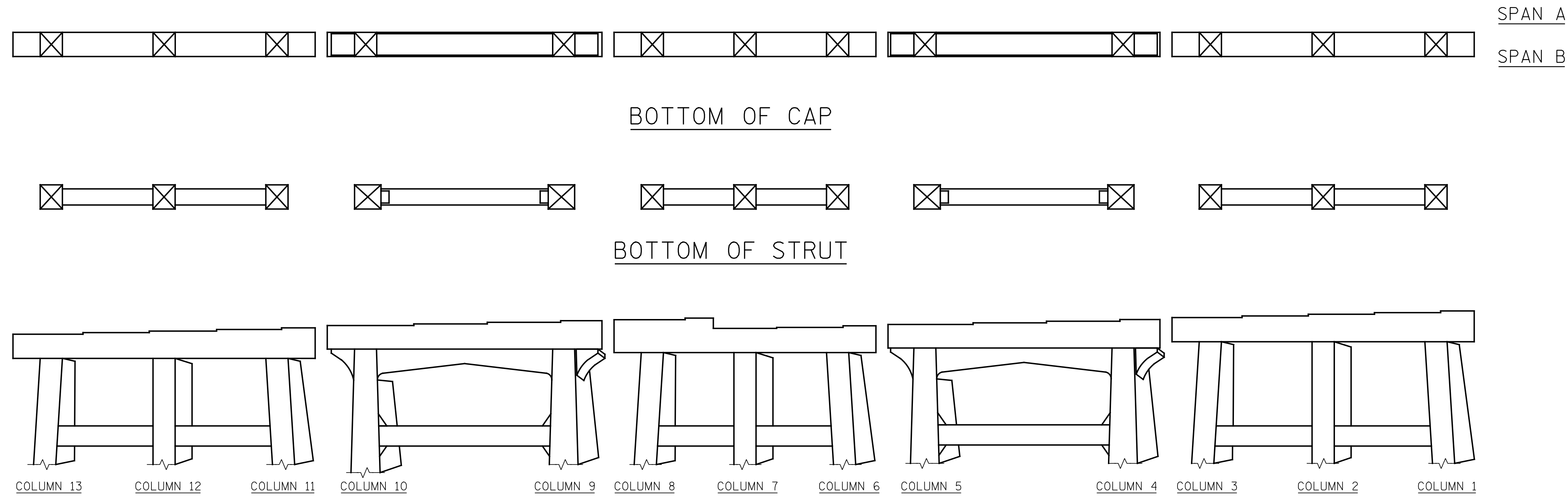
PLANS PREPARED BY:
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BOTTOM OF CAP

BOTTOM OF STRUT

ELEVATION

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

NOTES:

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

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

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

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE

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

SPAN A
SPAN B

COLUMN 13 COLUMN 12 COLUMN 11 COLUMN 10 COLUMN 9 COLUMN 8 COLUMN 7 COLUMN 6 COLUMN 5 COLUMN 4 COLUMN 3 COLUMN 2 COLUMN 1

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910263 & 910264

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 1
SPAN "B" SIDE



DRAWN BY : J. MYA/E. TODD DATE : 08/2021
 CHECKED BY : J. YANNAACONE DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

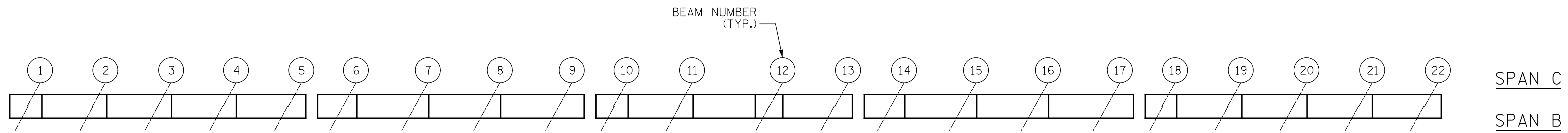
PLANS PREPARED BY:
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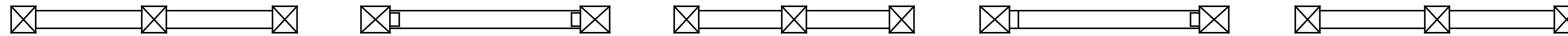
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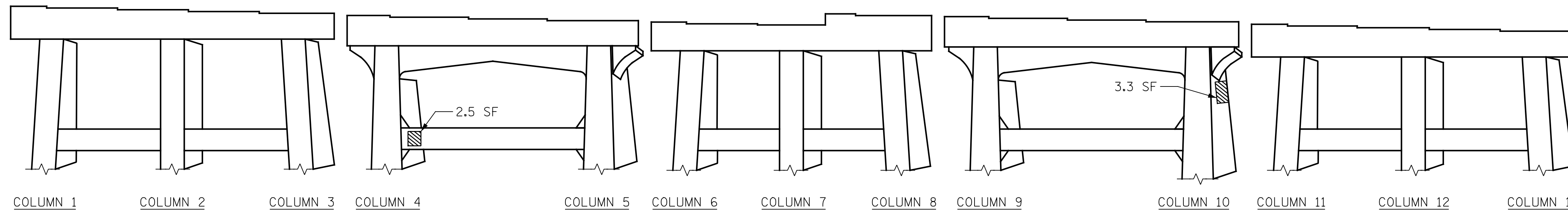
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TOP OF CAP



TOP OF STRUT



ELEVATION

AS BUILT REPAIR QUANTITY TABLE					
BENT 2 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP (VERTICAL)	0.0	0.0			
CAP (HORIZONTAL)	0.0	0.0			
COLUMN	5.8	2.4			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION		LENGTH LF		LENGTH LF	
CAP		0.0			
COLUMN		0.0			
EPOXY COATING		SQ. FT		SQ. FT	
TOP OF BENT CAP		514			

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

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

NOTES:

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

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

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

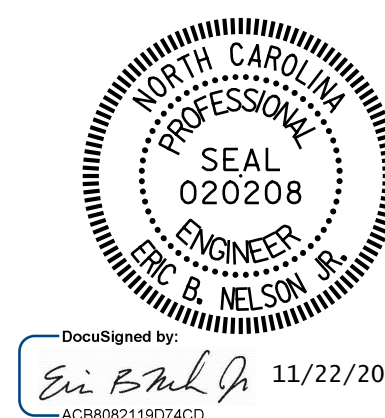
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910263 &
910264

SHEET 1 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 2
SPAN "B" SIDE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-46
1			3			TOTAL SHEETS
2			4			82

DRAWN BY : J. MYA/E. TODD DATE : 08/2021
 CHECKED BY : J. YANNAACONE DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

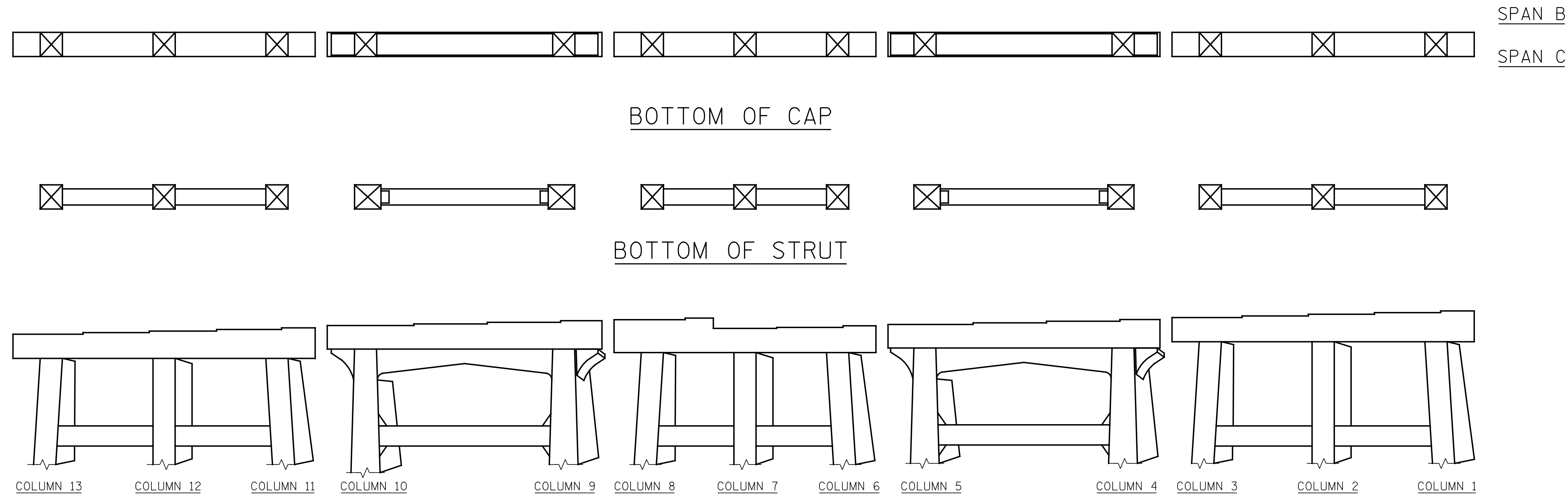
PLANS PREPARED BY:

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

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BOTTOM OF CAP

BOTTOM OF STRUT

ELEVATION

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

NOTES:

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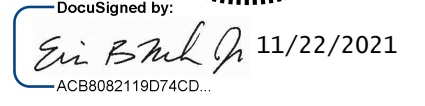
SPAN B
SPAN C

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910263 &
910264

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 2
SPAN "C" SIDE


 DocuSigned by:
 11/22/2021
ACB8062119D74CD

DRAWN BY : J. MYA/E. TODD DATE : 08/2021
 CHECKED BY : J. YANACCONO DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

PLANS PREPARED BY:

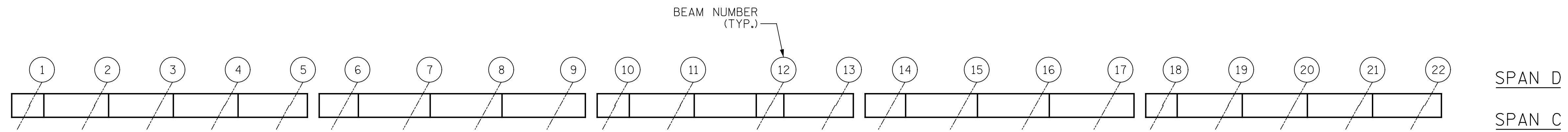
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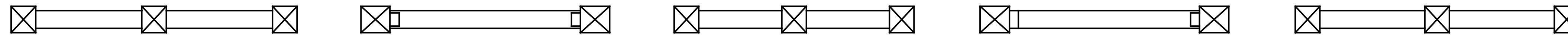
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2			4			82

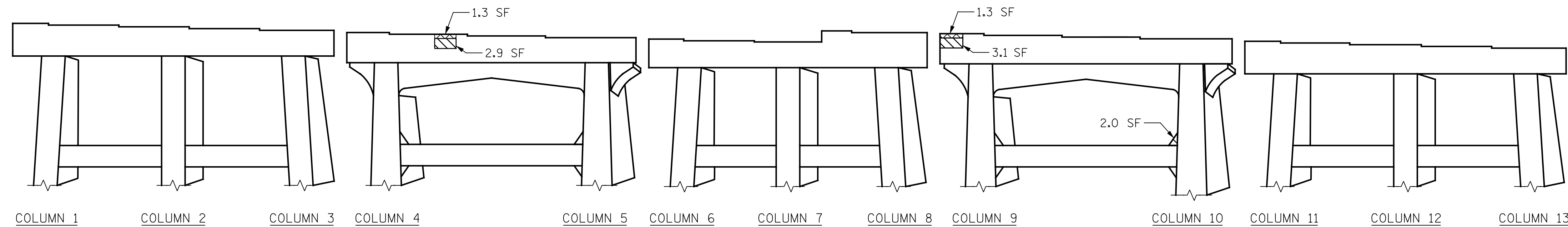
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TOP OF CAP



TOP OF STRUT



ELEVATION

AS BUILT REPAIR QUANTITY TABLE

BENT 3 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP (VERTICAL)	6.0	2.3			
CAP (HORIZONTAL)	0.0	0.0			
COLUMN	18.1	6.4			
CONCRETE REPAIRS	2.6	1.0			
EPOXY RESIN INJECTION		LENGTH LF		LENGTH LF	
CAP		0.0			
COLUMN		0.0			
EPOXY COATING		SQ. FT		SQ. FT	
TOP OF BENT CAP		514			

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

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

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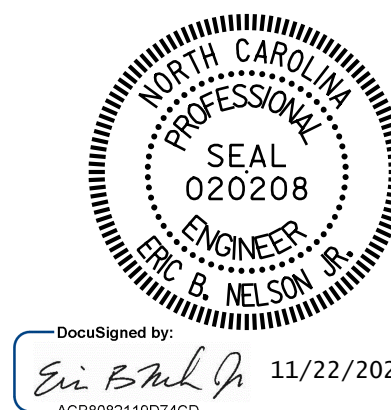
WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910263 &
910264

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 3
 SPAN "C" SIDE



DocuSigned by:
 Eric B. Nelson
 11/22/2021
 AC88062119D74CD

DRAWN BY : J. MYA/E. TODD DATE : 08/2021
 CHECKED BY : J. YANNACCONE DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

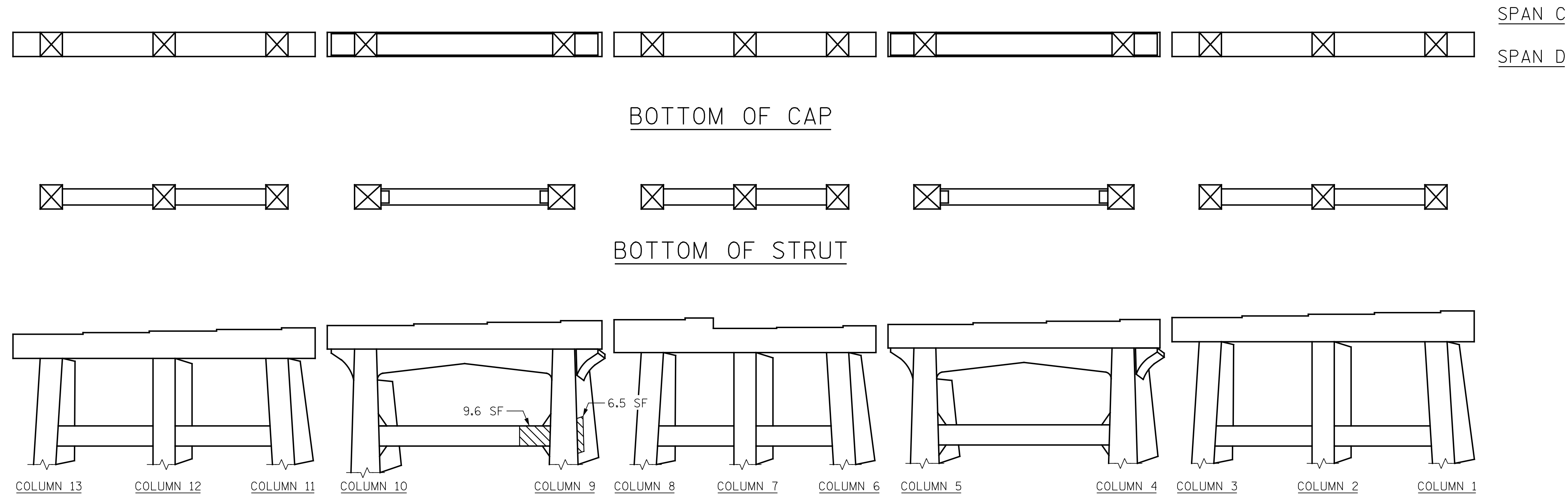
PLANS PREPARED BY:

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 Suite 900
 Raleigh, NC 27603
 (919) 420-7660
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2			4			82

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ELEVATION

NOTES:

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

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FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

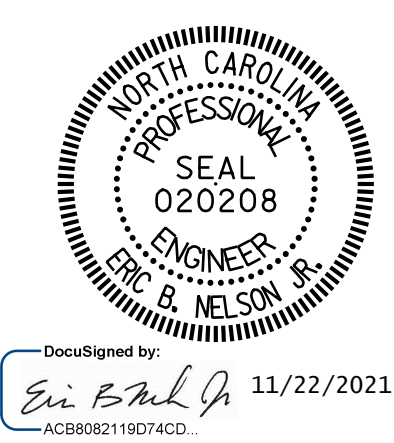
CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE "JACKING DETAILS" SHEET.

WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE

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

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910263 &
910264

SHEET 2 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**BENT 3
 SPAN "D" SIDE**

DRAWN BY : J. MYA/E. TODD DATE : 08/2021
 CHECKED BY : J. YANACCONI DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

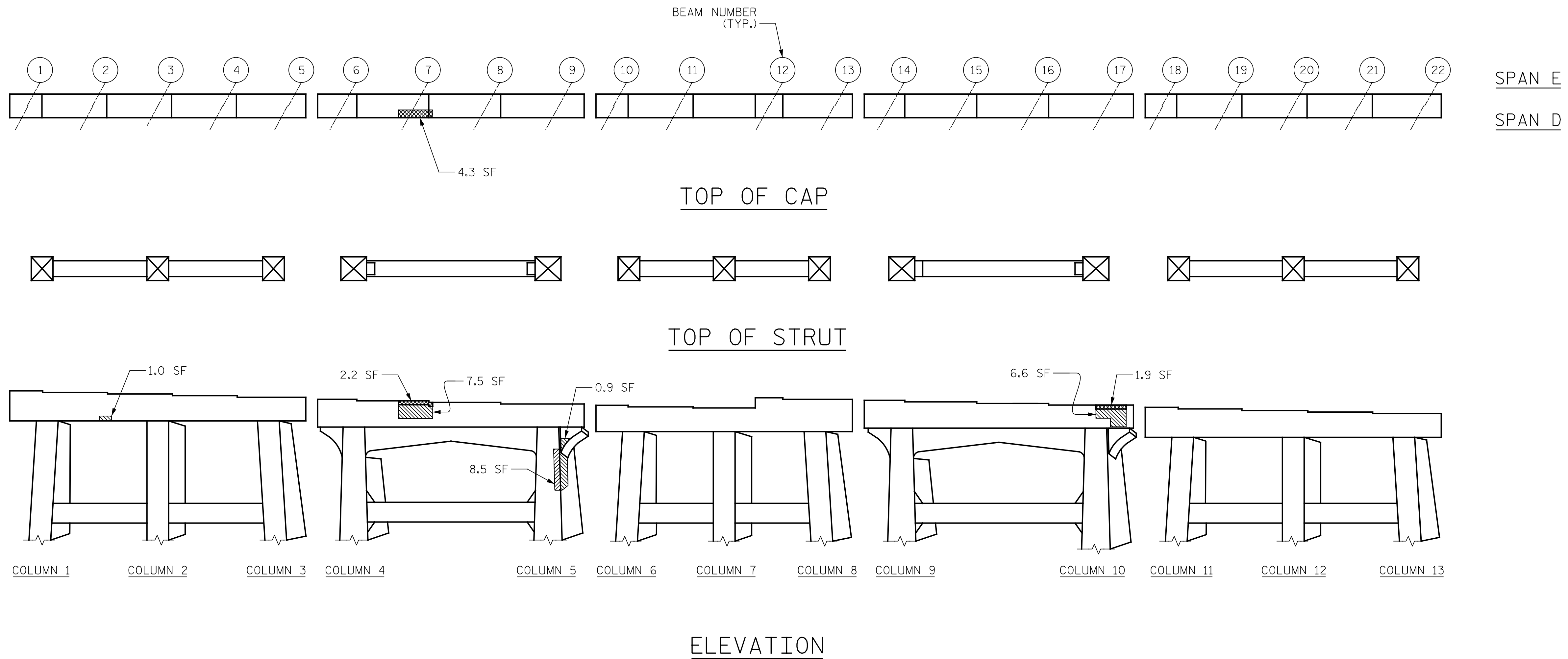
PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered *As Promised*

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

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AS BUILT REPAIR QUANTITY TABLE					
BENT 4 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP (VERTICAL)	15.1	5.8			
CAP (HORIZONTAL)	1.7	0.7			
COLUMN	12.2	5.7			
CONCRETE REPAIRS	8.4	3.2			
EPOXY RESIN INJECTION	LENGTH LF		LENGTH LF		
CAP	0.0				
COLUMN	0.0				
EPOXY COATING	SQ. FT		SQ. FT		
TOP OF BENT CAP	514				

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

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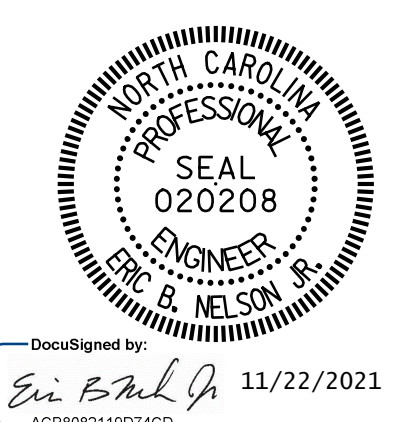
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PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910263 &
910264

SHEET 1 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**BENT 4
 SPAN "D" SIDE**

DRAWN BY : J. MYA/E. TODD DATE : 08/2021
 CHECKED BY : DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

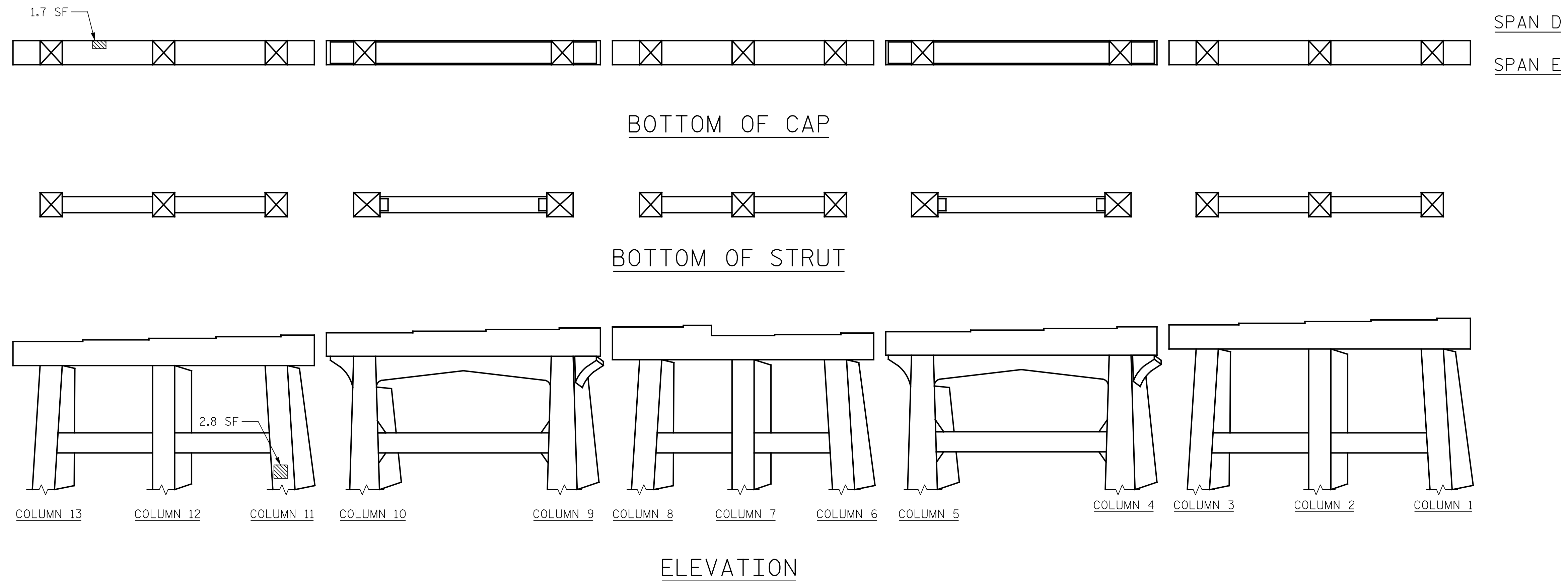
PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised

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

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1			3			TOTAL SHEETS
2			4			82

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

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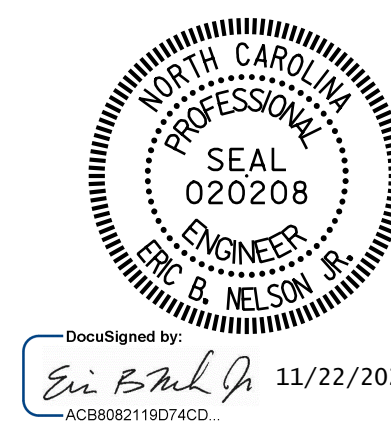
WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910263 &
910264

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 4
 SPAN "E" SIDE



DocuSigned by:
Eric B. Nelson
 11/22/2021

DRAWN BY : J. MYA/E. TODD DATE : 08/2021
 CHECKED BY : J. YANNAACONE DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

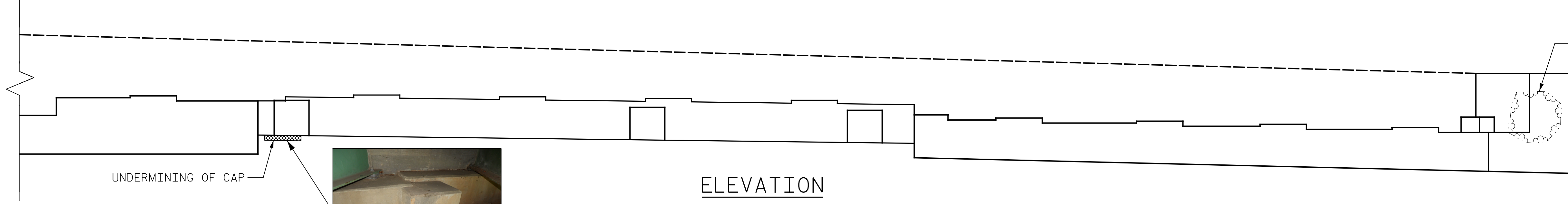
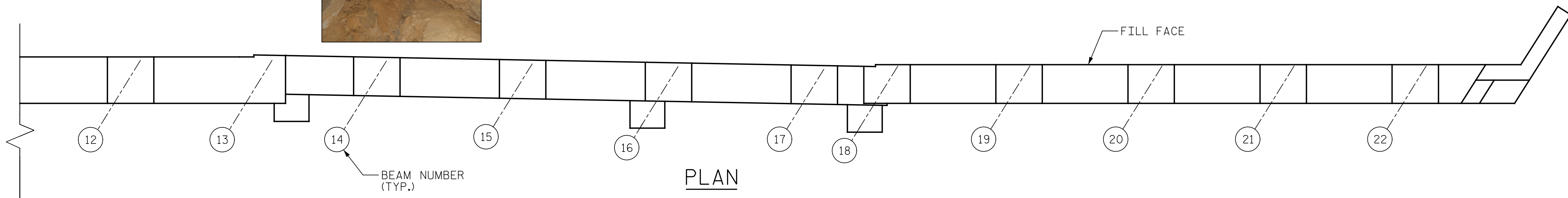
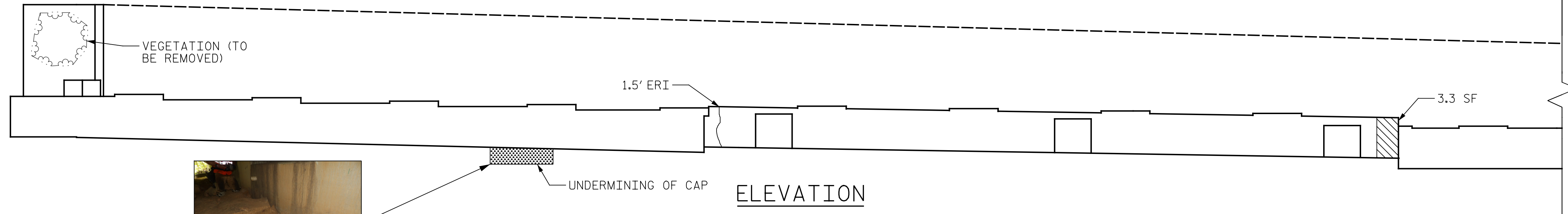
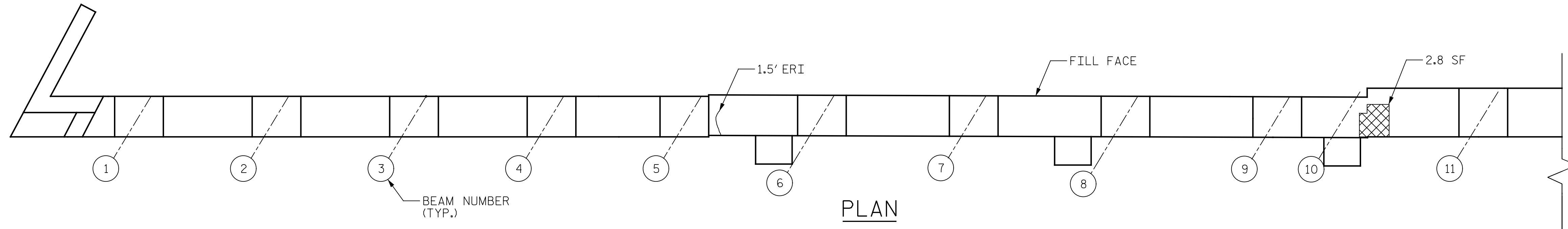
PLANS PREPARED BY:

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2			4			82

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- SHOTCRETE REPAIR
- CONCRETE REPAIRS (FORM & POUR)
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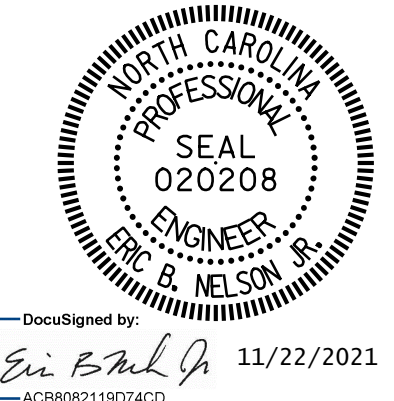
FOR REMOVAL OF VEGETATION, SEE EPOXY COATING AND DEBRIS REMOVAL SPECIAL PROVISION.

BACKFILL UNDERMINED AREAS UNDER END BENT CAP WITH FLOWABLE FILL TO MATCH THE GRADE OF THE ADJACENT BERM. FOR FLOWABLE FILL, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE				
END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	3.3	1.2		
CURTAIN WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	2.8	1.0		
CURTAIN WALL	0.0	0.0		
EPOXY RESIN INJECTION	LN. FT		LN. FT	
CAP	3.0			
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.

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910263 & 910264



STATE OF NORTH CAROLINA
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 RALEIGH

END BENT 2

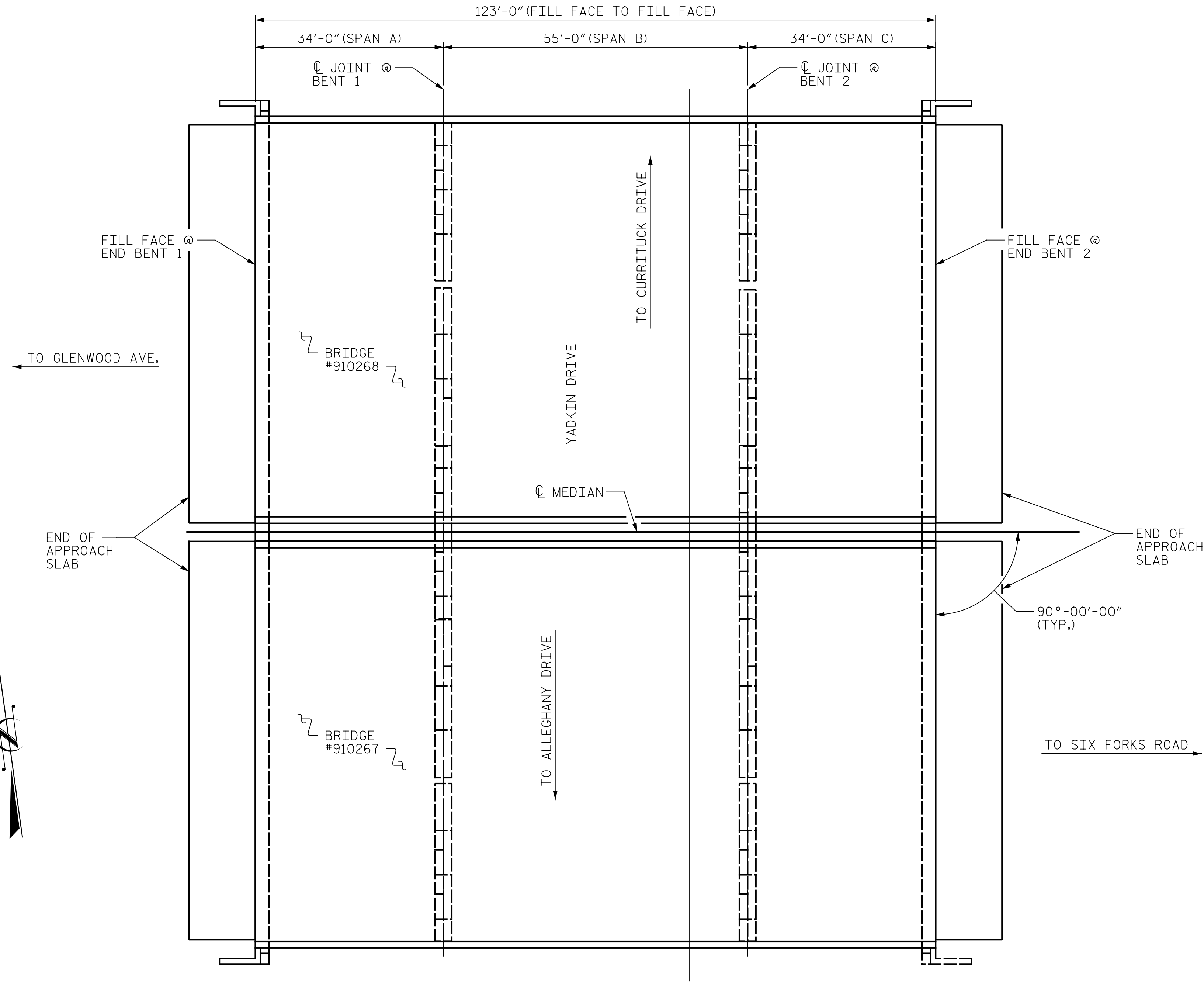
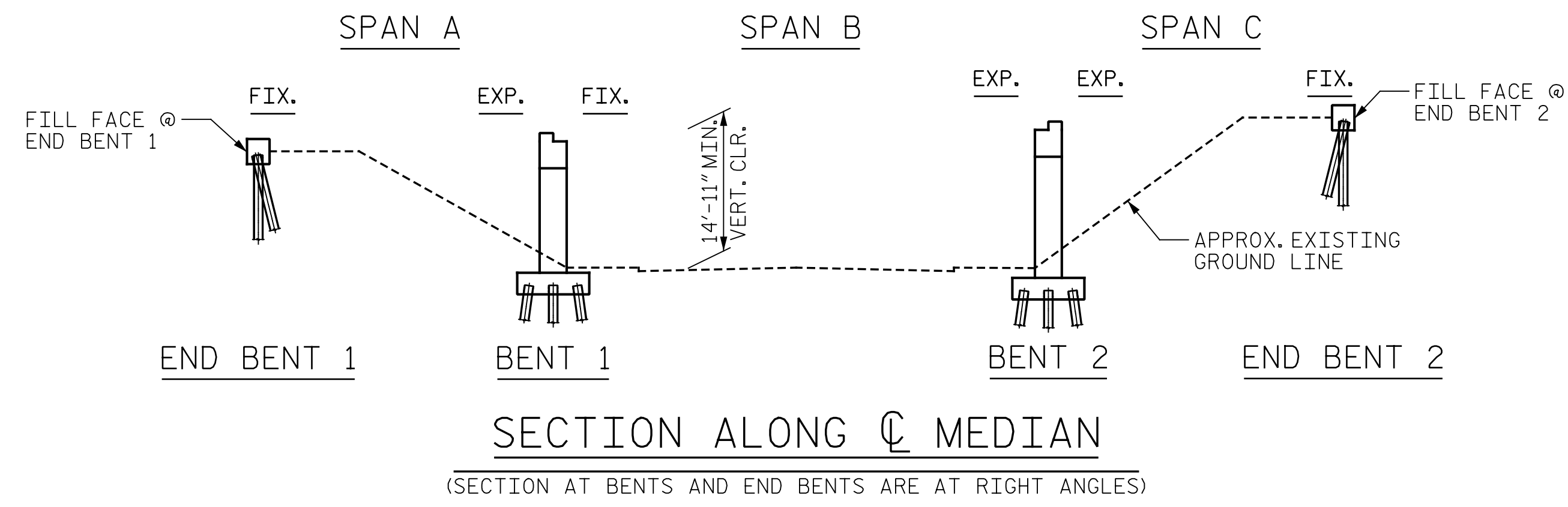
DRAWN BY : J. MYA / E. TODD DATE : 07/2021
 CHECKED BY : J. YANNAACONNE DATE : 09/2021
 DESIGN ENGINEER OF RECORD : R. NELSON DATE : 09/2021

PLANS PREPARED BY:
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 NC Lic. No. F-0270

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PLAN
(PILES NOT SHOWN FOR CLARITY)

NOTES:

- GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 2/20/2020.
- BRIDGE ORIENTATION CONFORMS TO THE EXISTING BRIDGE PLANS AND ROUTINE INSPECTION REPORT.
- SCOPE OF WORK**
- PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE BY FINE MILLING AND HYDRO-DEMOLITION.
 - OVERLAY PREPARED TOP OF BRIDGE DECK WITH VERY EARLY STRENGTH LATEX MODIFIED CONCRETE (LMC-VES).
 - REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINTS.
 - DIAMOND GRIND AND APPLY SILANE DECK TREATMENT TO LMC-VES BRIDGE DECK.
 - CLEAN AND PAINT EXISTING STEEL BEARINGS.
 - REPAIR PRESTRESSED CONCRETE GIRDERS.
 - CLEAN AND EPOXY COAT EXISTING PRESTRESSED CONCRETE GIRDER ENDS.
 - REMOVE DEBRIS FROM TOP OF EXISTING END BENTS AND BENT CAPS AND APPLY EPOXY COATING.
 - EPOXY RESIN INJECTION OF CONCRETE CRACKS.
 - REMOVE UNSOUND AND SPALLED CONCRETE AND PROPERLY PREPARE EXISTING END BENT AND BENT AREAS FOR SHOTCRETE AND CONCRETE REPAIRS.
 - CUT EXCESS LENGTH OF PRESTRESSING STRANDS AND EPOXY COAT ENDS OF GIRDERS

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

RESIDENT ENGINEER _____ DATE _____

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910267 & 910268



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**GENERAL DRAWING
 FOR BRIDGES ON I-440
 (CLIFF BENSON BELTLINE)
 OVER YADKIN DRIVE**

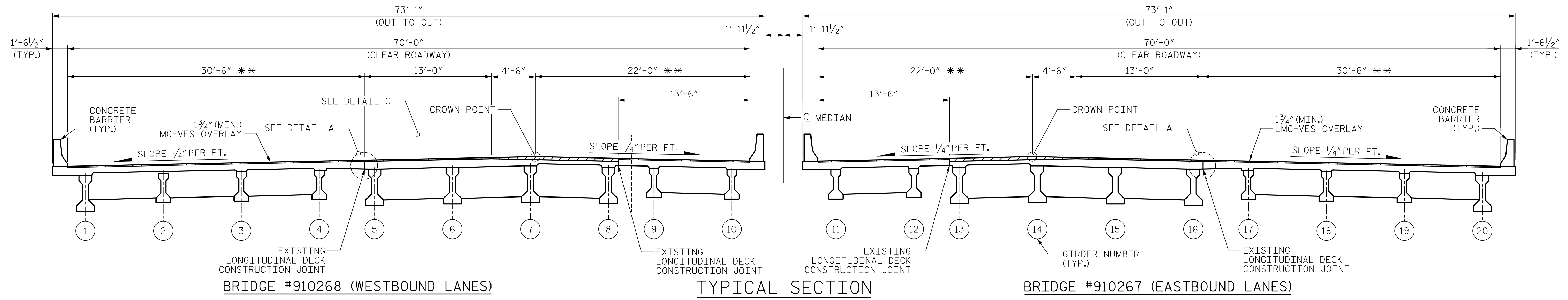
DRAWN BY : T. HARTLEY DATE : 09/2021
 CHECKED BY : J. YANACCONO DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

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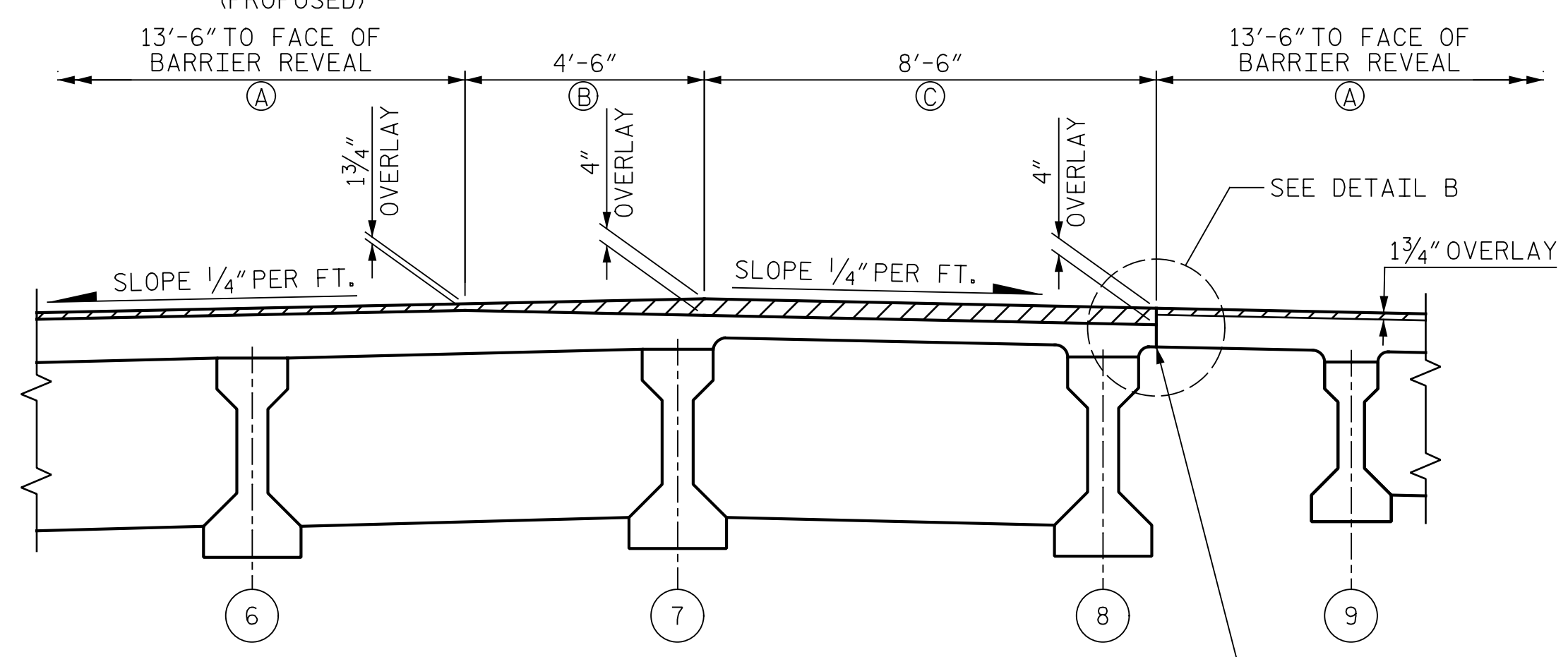
BRIDGE #910268 (WESTBOUND LANES)

TYPICAL SECTION

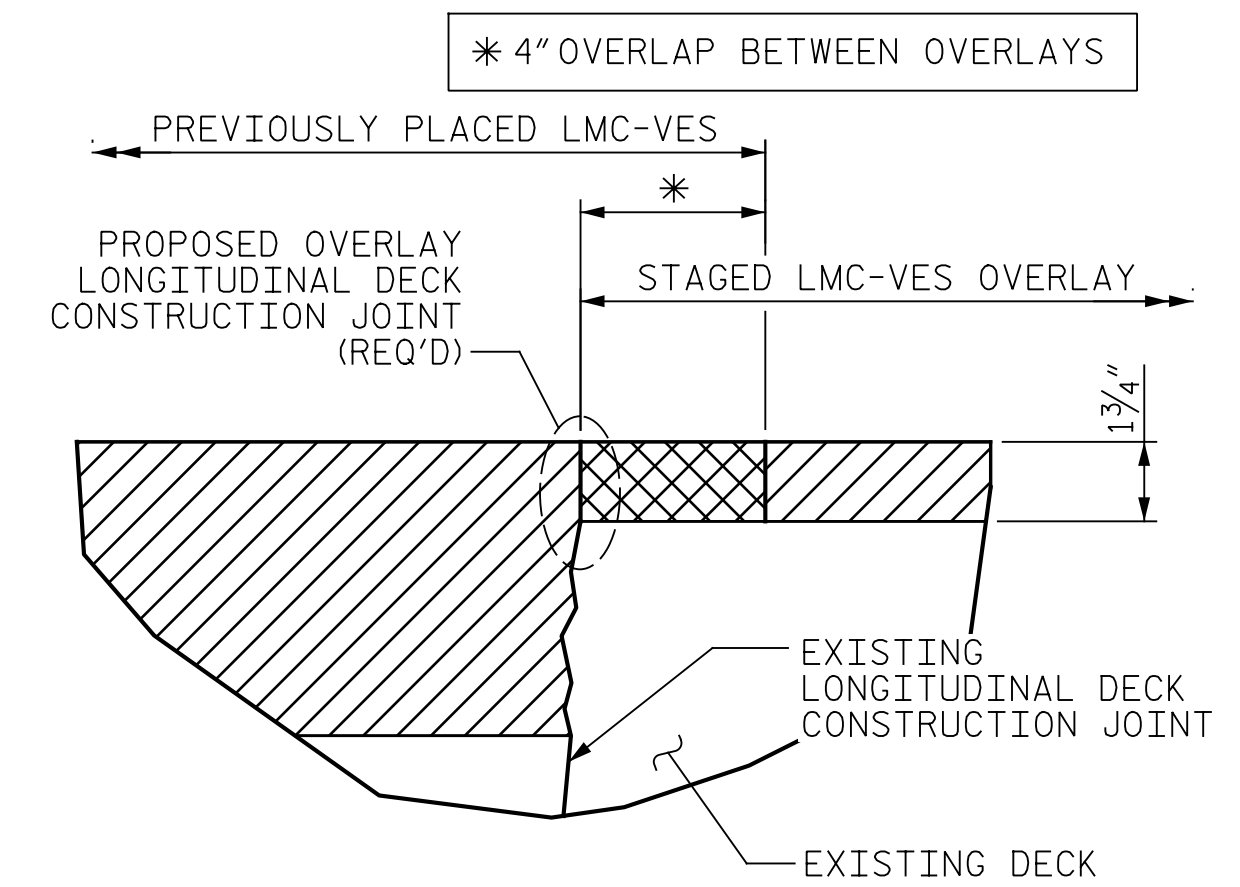
BRIDGE #910267 (EASTBOUND LANES)

** FIELD VERIFY DIMENSION TO EXISTING LONGITUDINAL DECK CONSTRUCTION JOINT (SEE NOTES)

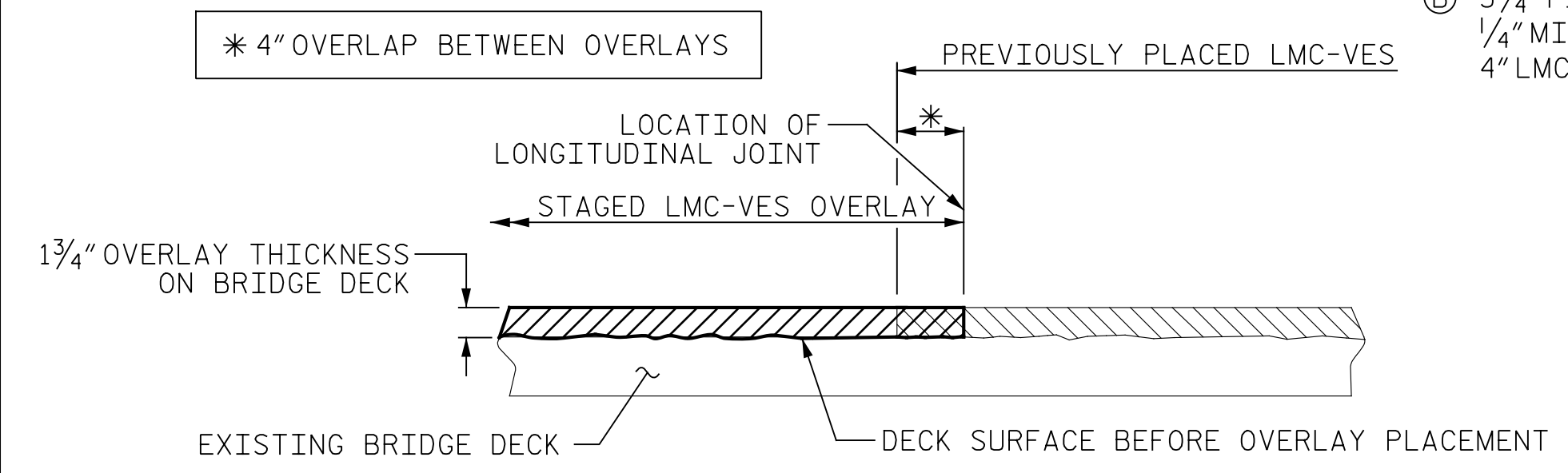
- Ⓐ 1/4" FINE MILLING
1/4" MIN. DECK HYDRO-DEMOLITION
1 3/4" LMC-VES OVERLAY
- Ⓑ FINE MILLING VARIES 1/4" TO 3/2"
1/4" MIN. DECK HYDRO-DEMOLITION
LMC-VES OVERLAY VARIES 1 3/4" TO 4"
- Ⓒ 3 3/4" FINE MILLING
1/4" MIN. DECK HYDRO-DEMOLITION
4" LMC-VES OVERLAY



DETAIL C



DETAIL B



STAGED LMC-VES OVERLAY JOINT
(AS NEEDED)

NOTES:

UNLESS INDICATED OTHERWISE IN THE PLANS, SEE TRAFFIC MANAGEMENT PLANS FOR TYPICAL LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND LMC-VES PLACEMENT.

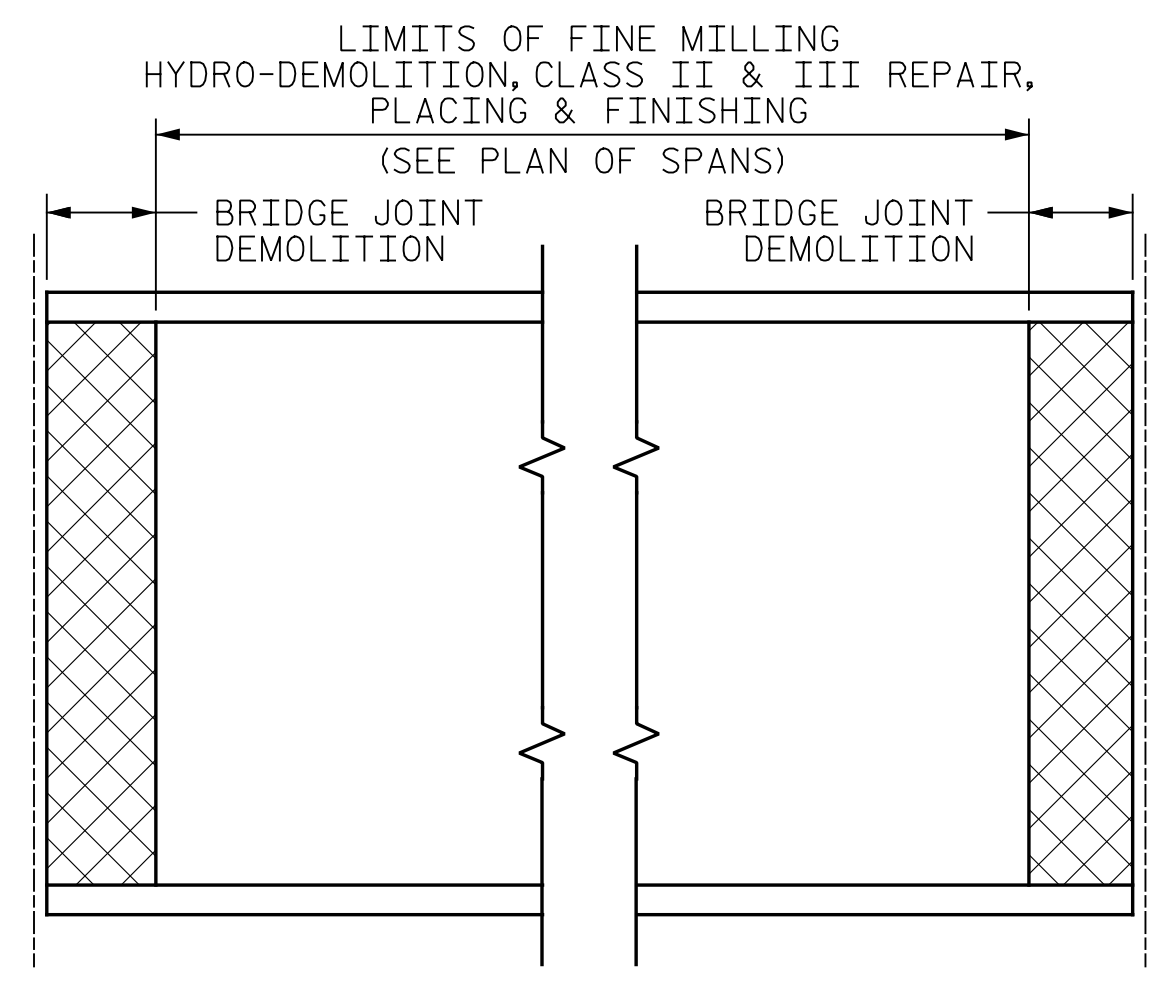
WHEN PREPARING THE SURFACE FOR LMC-VES OVERLAY ADJACENT TO A PREVIOUSLY PLACED LMC-VES STAGE, THE PREVIOUSLY PLACED LMC-VES SHALL BE REMOVED FOR A DISTANCE OF 4 INCHES FROM THE LMC-VES EDGE. THE SURFACE OF THE NEW STAGE AREA, ALONG WITH THE 4 INCH OVERLAY AREA, SHALL BE PREPARED AS PER THE OVERLAY SURFACE PREPARATION SPECIAL PROVISIONS. NEW LMC-VES SHALL BE PLACED IN THE 4-INCH OVERLAP, AS PART OF THE NEW LMC-VES STAGE PLACEMENT.

CONTRACTOR SHALL VERIFY THE PLAN DIMENSIONS TO THE DECK CONSTRUCTION JOINT AND USE THIS VERIFIED DIMENSION FOR SAWING THE LONGITUDINAL JOINT AFTER PLACEMENT OF THE OVERLAY.

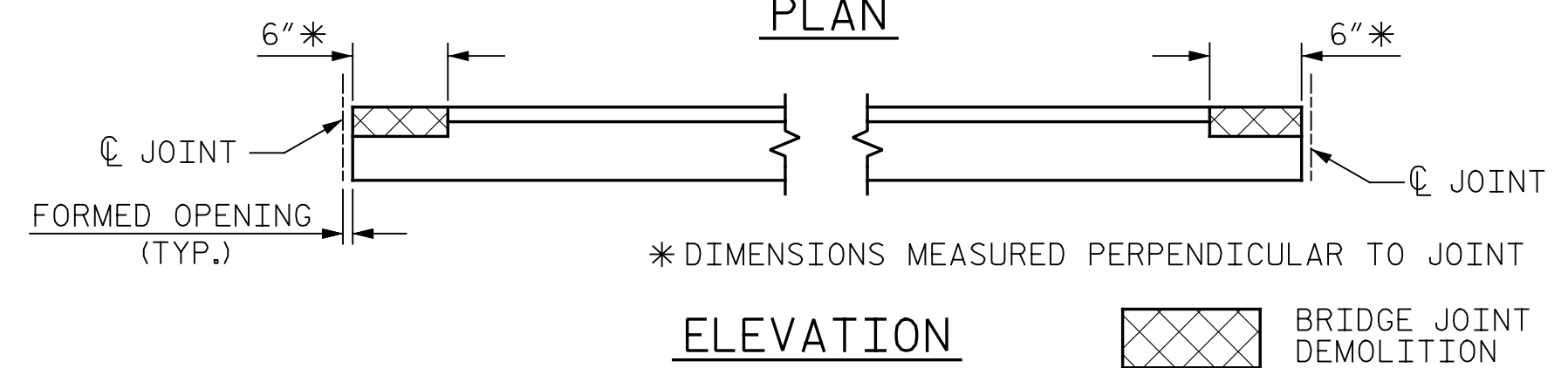
THE LONGITUDINAL JOINT IN THE NEWLY PLACED OVERLAY SHALL BE SAWED PRIOR TO TRAFFIC BEING PLACED ON THE OVERLAY. THE JOINT SHALL BE CLEANED OF ALL DEBRIS BEFORE THE SEALANT IS APPLIED. THE JOINT SEALER MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TYPE SL LOW MODULUS SILICONE SEALANT.

VERIFY HORIZONTAL DIMENSION FROM C MEDIAN TO EXISTING LONGITUDINAL DECK CONSTRUCTION JOINT AT FILL FACE OF END BENTS AND C JOINT AT BENTS.

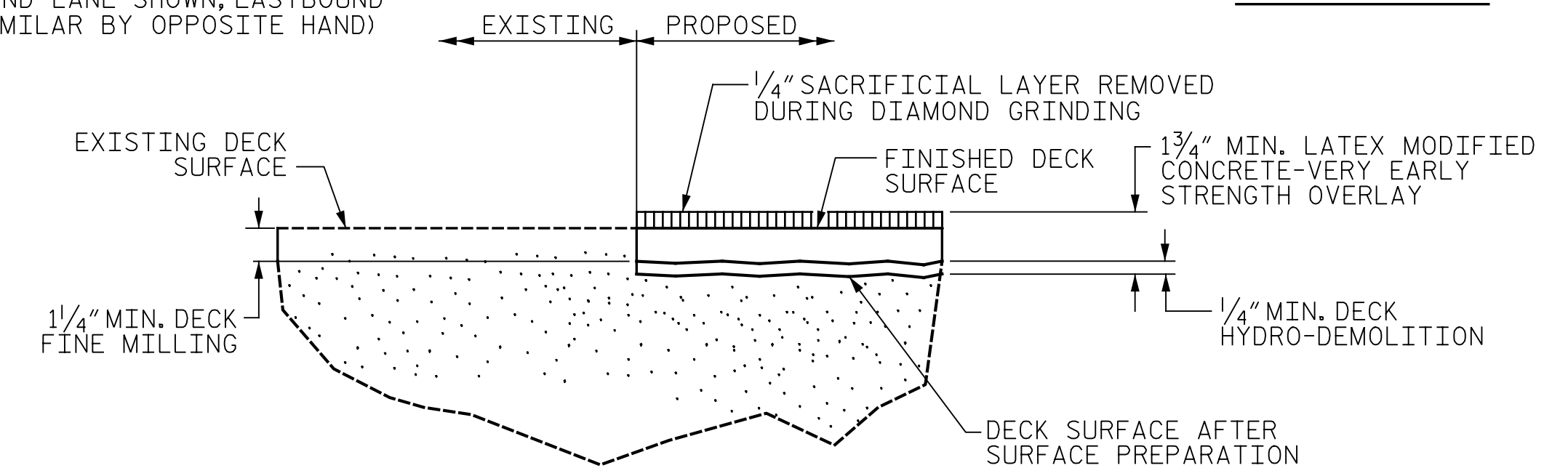
THE CONTRACTOR SHALL ENSURE THAT THE SAWCUT FOLLOWS THE LINE OF THE EXISTING LONGITUDINAL CONSTRUCTION JOINT.



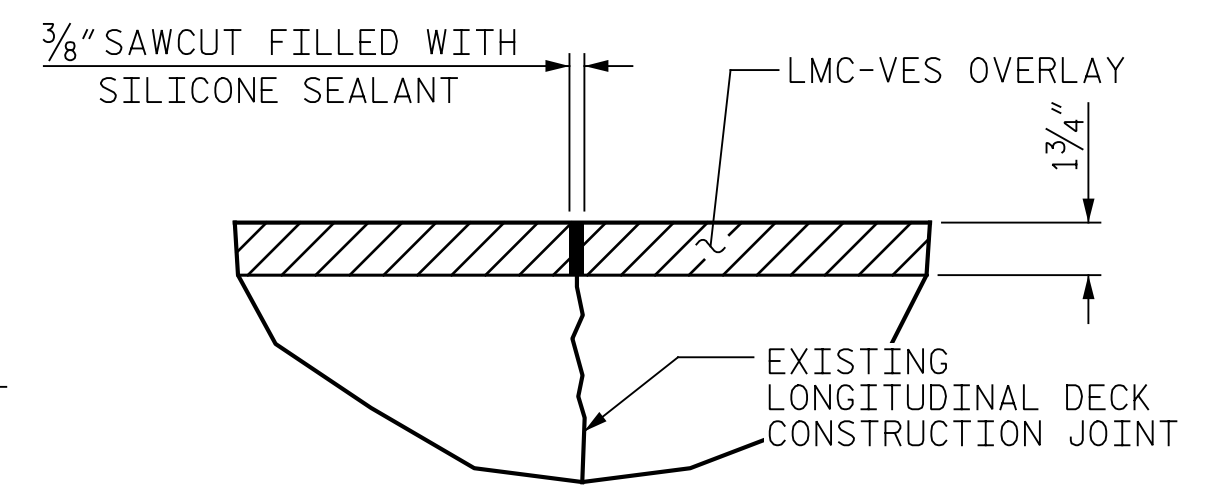
PLAN



ELEVATION



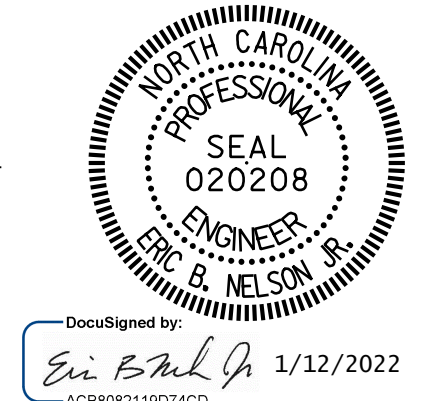
DETAIL FOR LMC-VES OVERLAY



DETAIL A

PAY LIMITS FOR OVERLAY BID ITEMS

PROJECT NO. I-5997
 WAKE COUNTY
 BRIDGE NO. 910267 & 910268



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

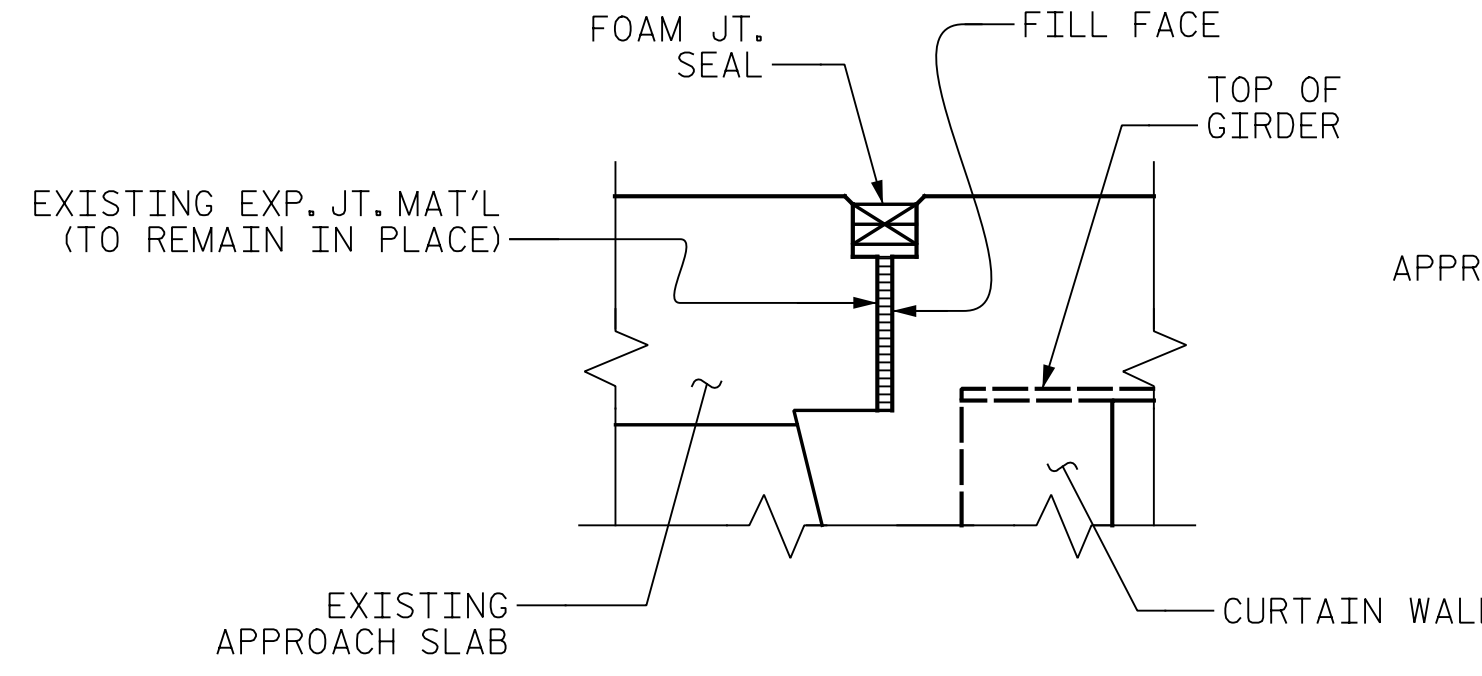
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 CHECKED BY: J. YANACCONI DATE: 09/2021
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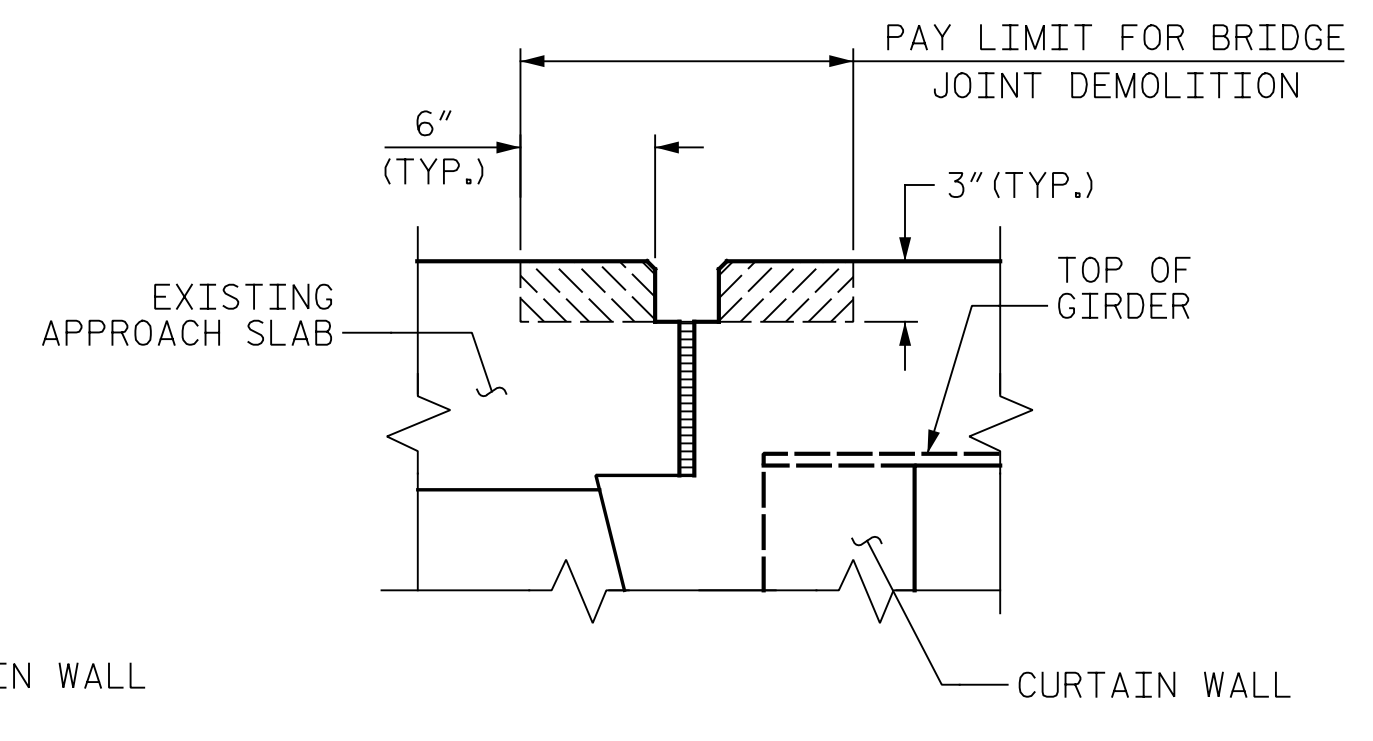
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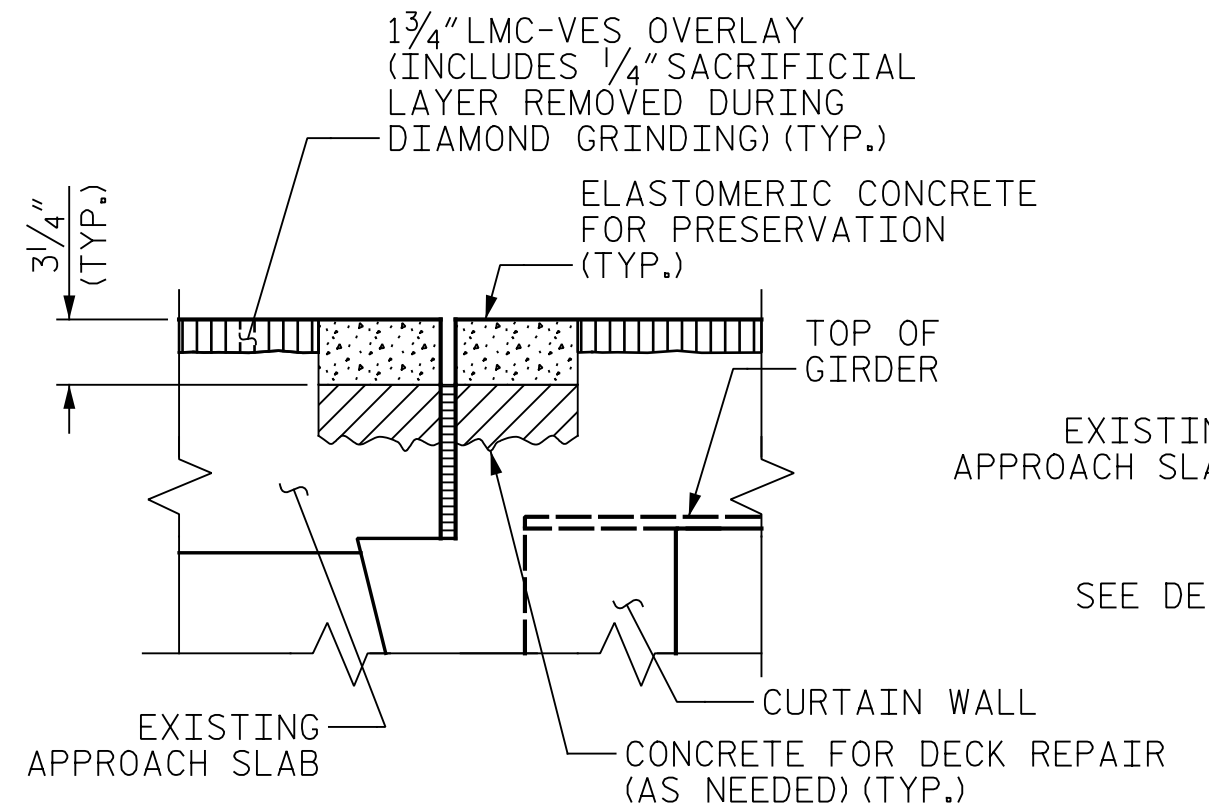
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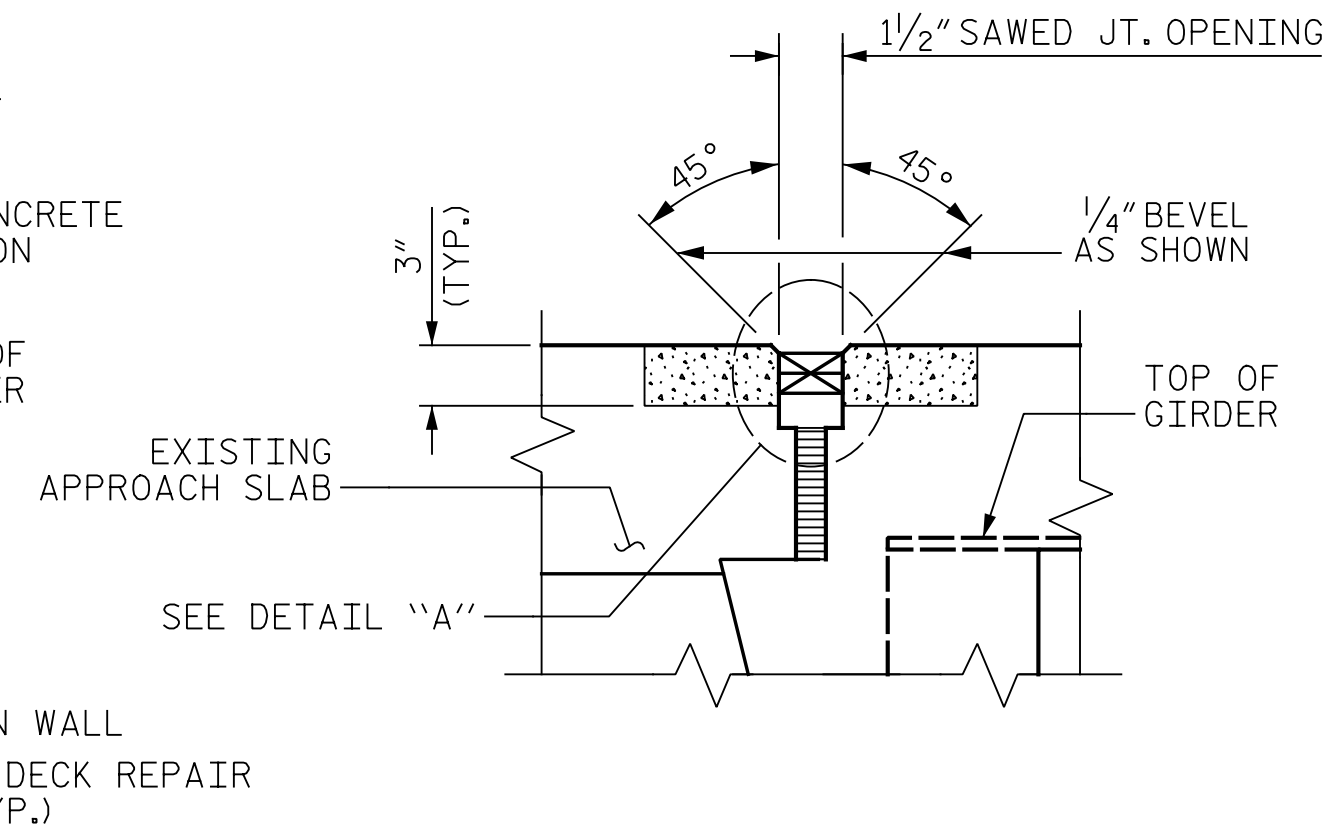
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION



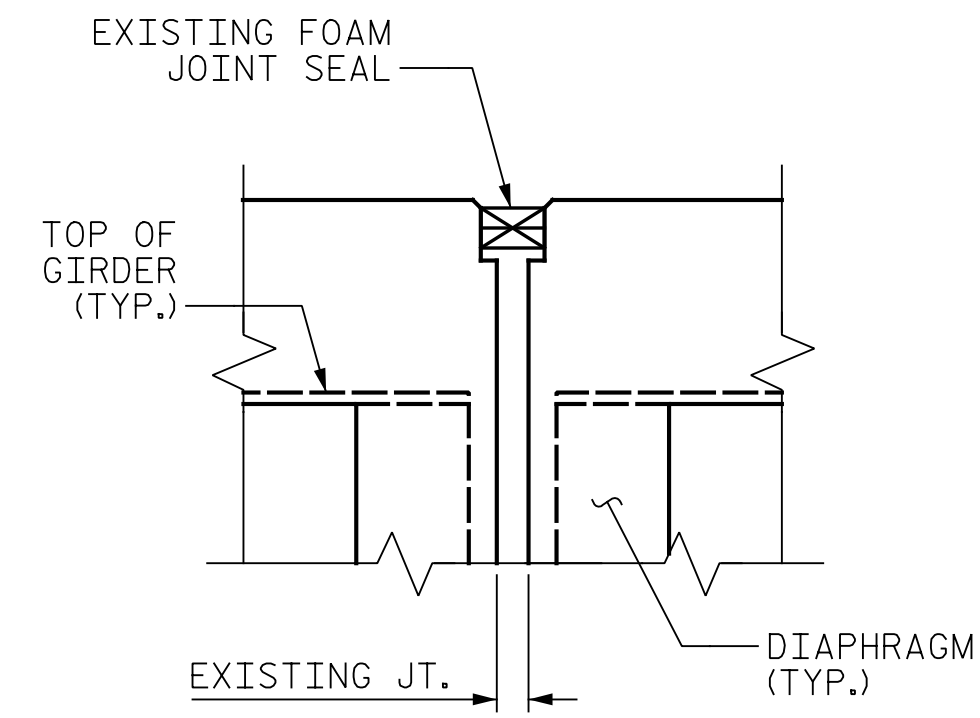
PROPOSED JOINT- PRE-SAWED



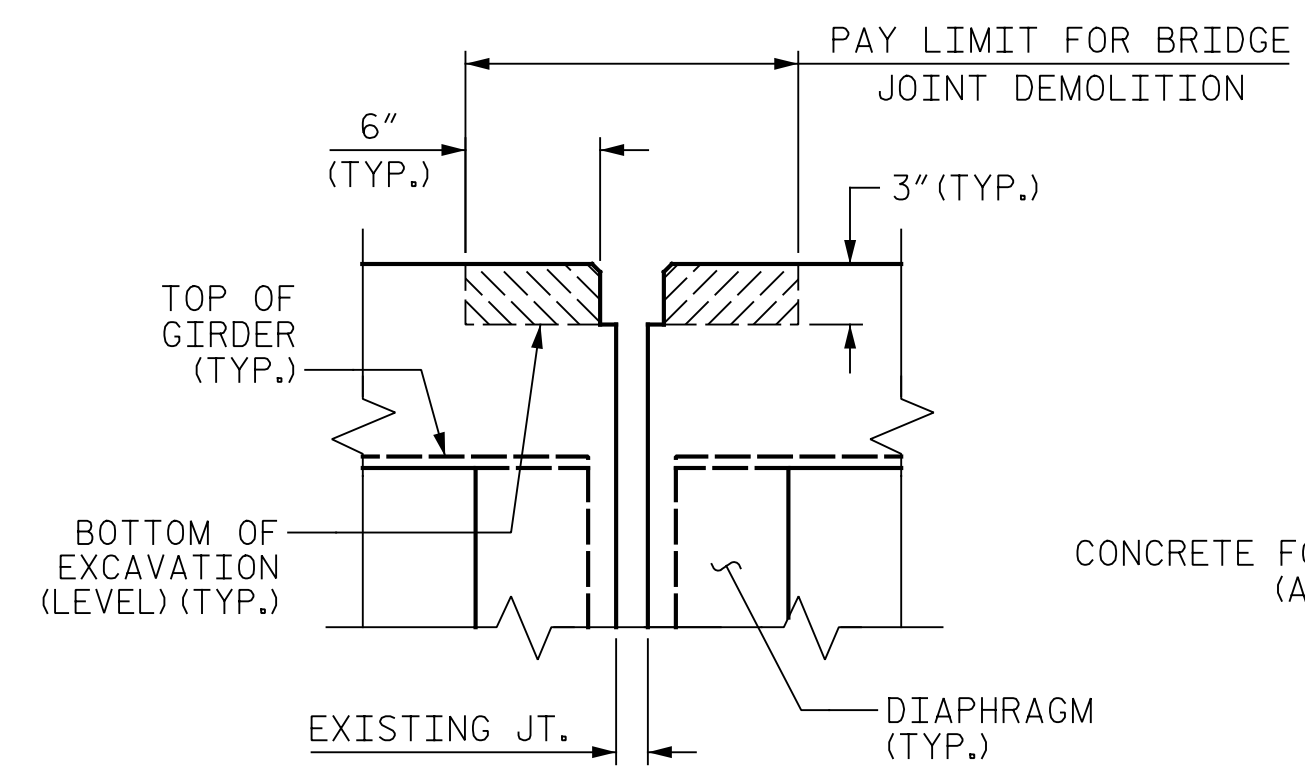
PROPOSED FOAM JOINT SEAL (AFTER 1/4" DIAMOND GRINDING)

SECTION A-A

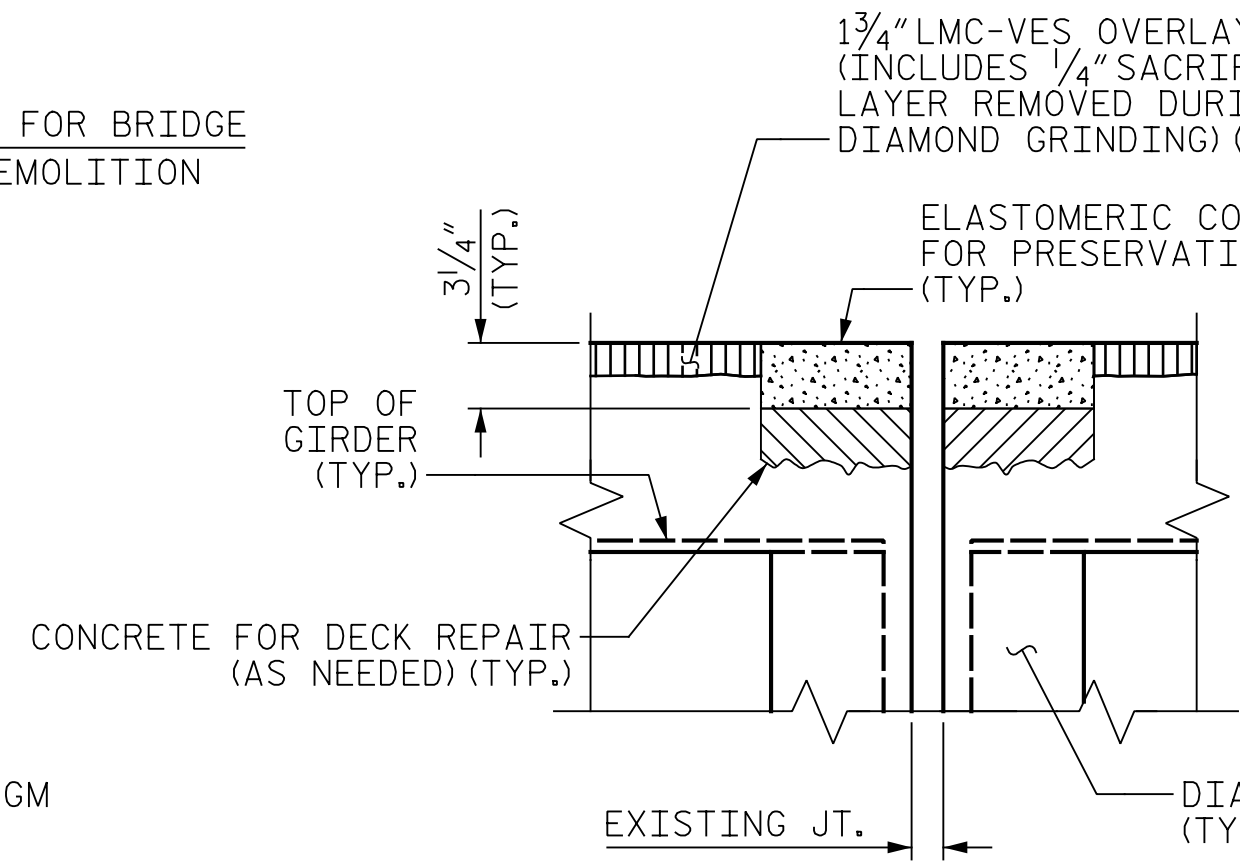
NOTE: RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS REQ'D.



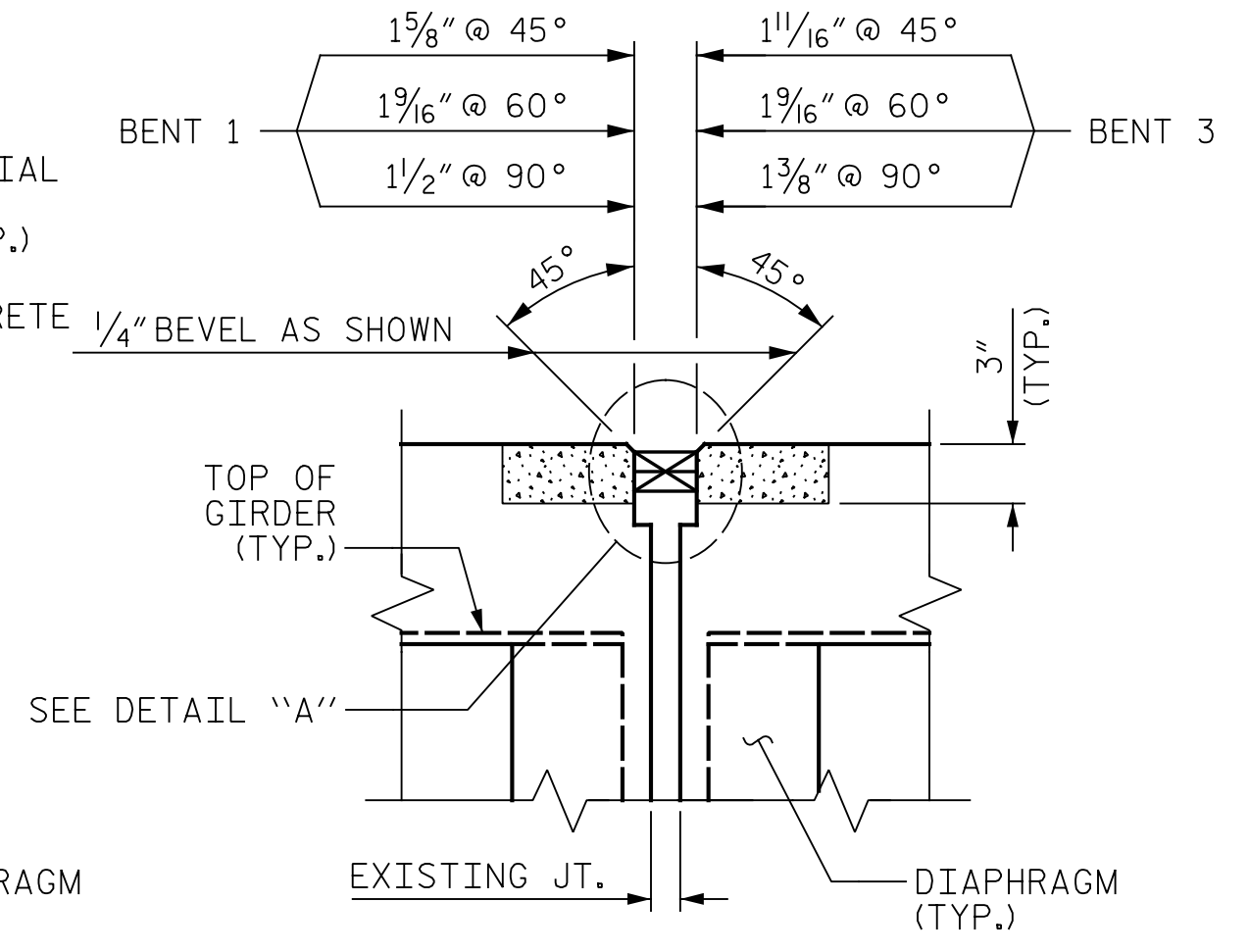
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION

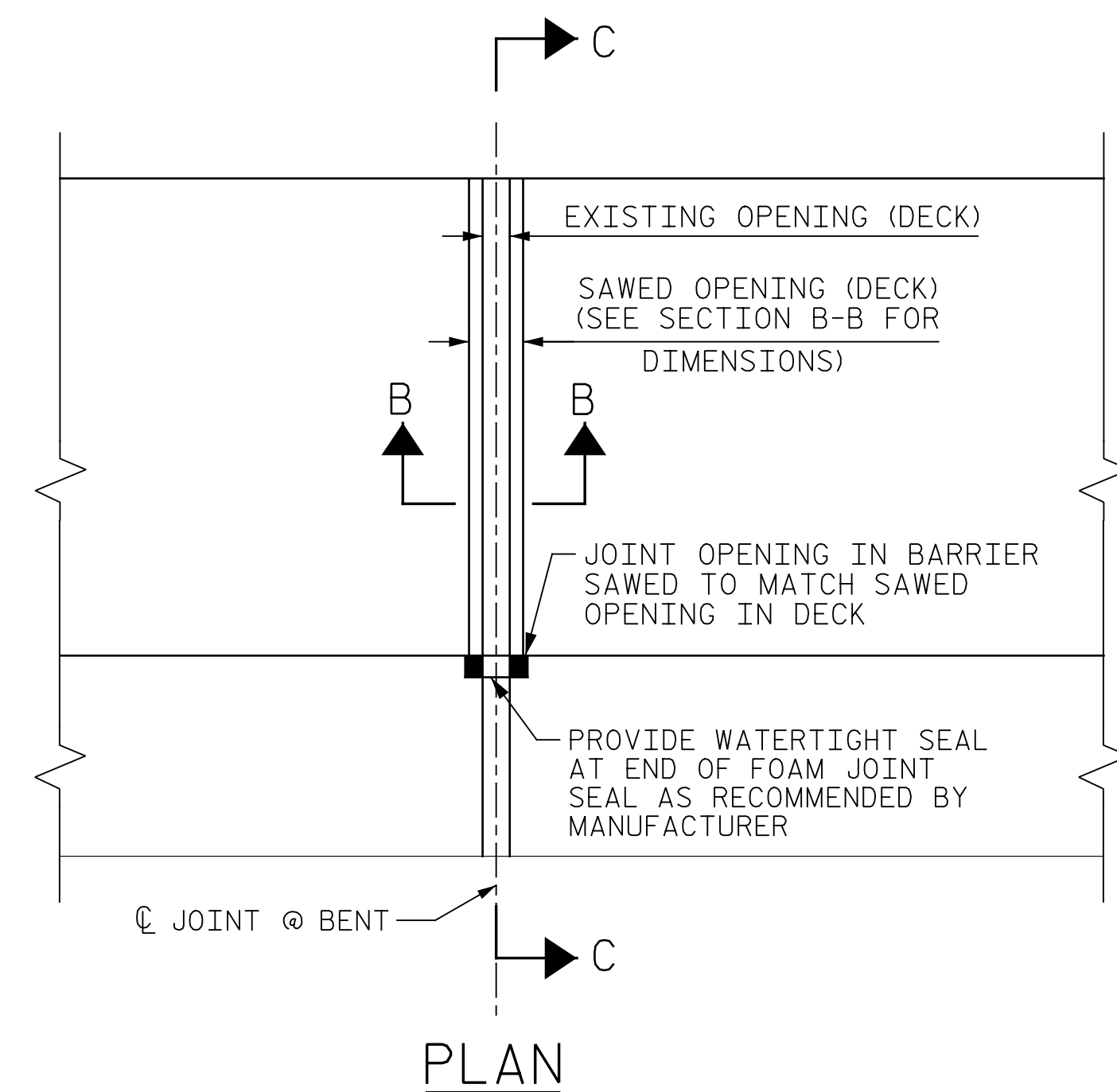


EXISTING JOINT

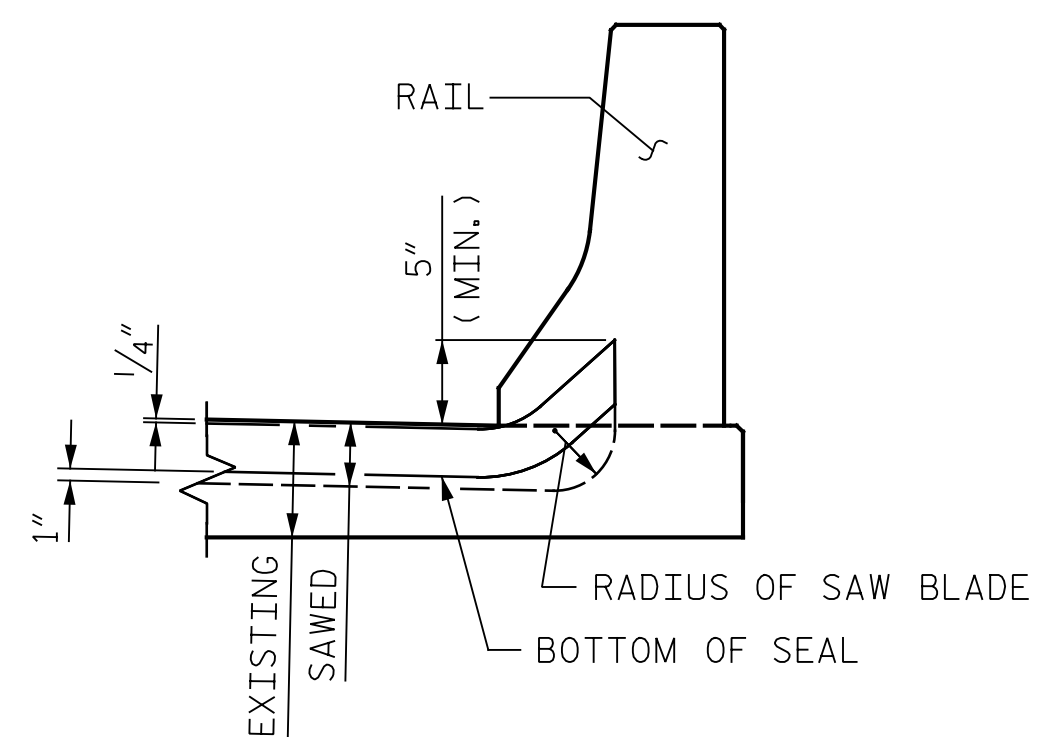


PROPOSED FOAM JOINT SEAL (AFTER 1/4" DIAMOND GRINDING)

SECTION B-B



PLAN

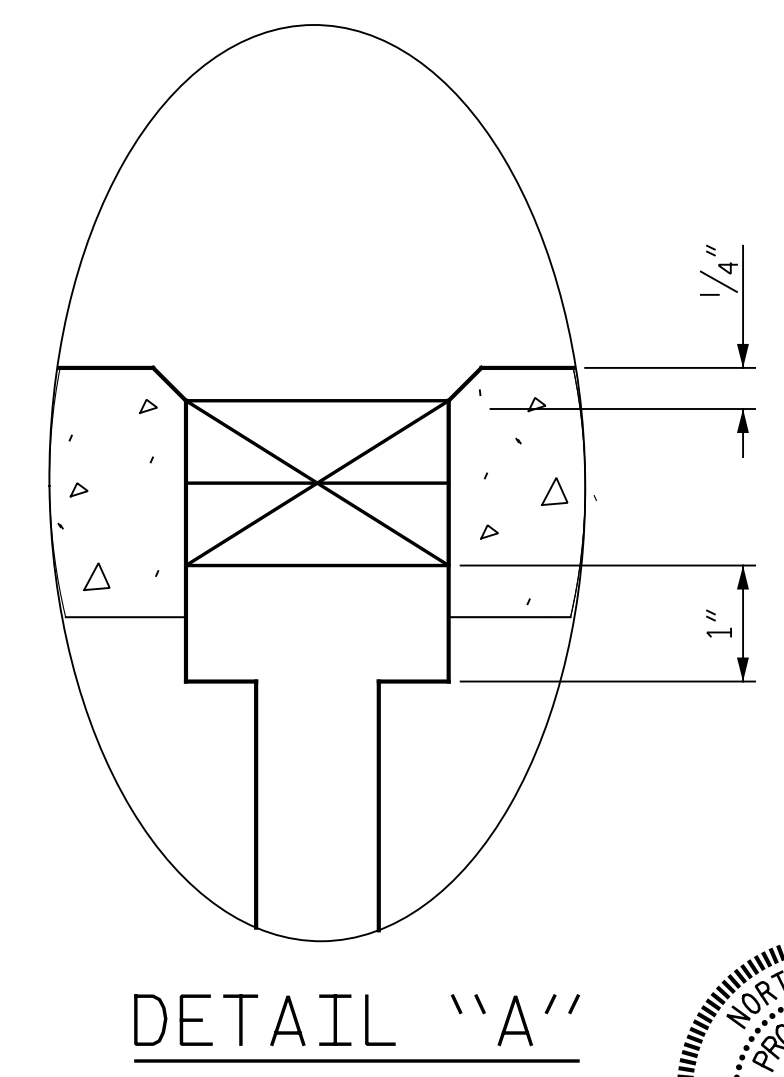


SECTION C-C

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

LOCATION	ELASTOMERIC CONCRETE FOR PRESERVATION	FOAM JOINT SEALS FOR PRESERVATION
	CU. FT.	LIN. FT.
END BENT 1	37.9	144.0
BENT 1	37.9	144.0
BENT 2	37.9	144.0
END BENT 2	37.9	144.0
* TOTAL	151.6	576.0

* BASED ON MINIMUM BLOCKOUT SHOWN



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 SEAL MATERIAL. IF THE ACTUAL JOINT SEAL 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 ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.
 FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910267 & 910268



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

JOINT DETAILS

DRAWN BY : J. MYA DATE : 09/2021
 CHECKED BY : J. YANACCONI DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

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REPAIR QUANTITY TABLE

GIRDER REPAIR		
	ESTIMATE	ACTUAL
REPAIR TO PRESTRESSED CONCRETE GIRDERS	3.3 CF	
CLEANING AND PAINTING EXISTING BEARING PLATES	32 EA	
EPOXY COATING CONCRETE GIRDER ENDS	420 SF	

- ⓐ PRESTRESSED CONCRETE GIRDER REPAIR
- ⓑ CLEANING AND PAINTING EXISTING BEARING PLATES
- ⓒ BEAM END EPOXY COATING

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.

MINIMUM CONCRETE COVER FOR PRESTRESSING STRANDS IN THE GIRDERS IS 1 3/4" PER THE EXISTING BRIDGE PLANS.

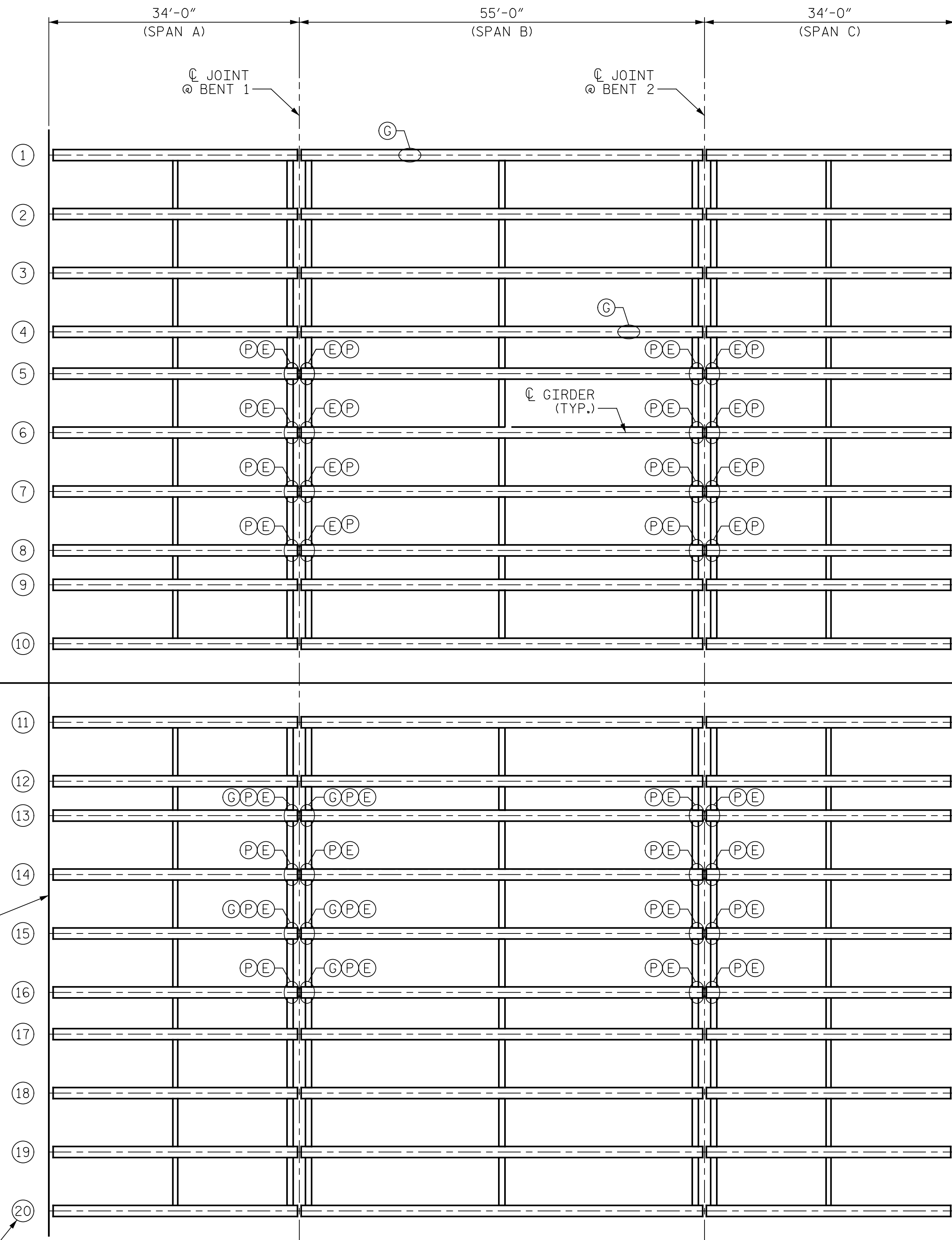
AT THE LOCATIONS NOTED, GIRDER ENDS SHALL BE EPOXY COATED AFTER GIRDER REPAIRS ARE COMPLETED. FOR EPOXY PROTECTIVE COATING SEE SPECIAL PROVISIONS.

FOR GIRDER REPAIRS AND LIMITS OF EPOXY PROTECTIVE COATING, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

FOR CLEANING AND PAINTING EXISTING BEARING PLATES, SEE SPECIAL PROVISIONS.

ANTICIPATED REPAIR LOCATIONS

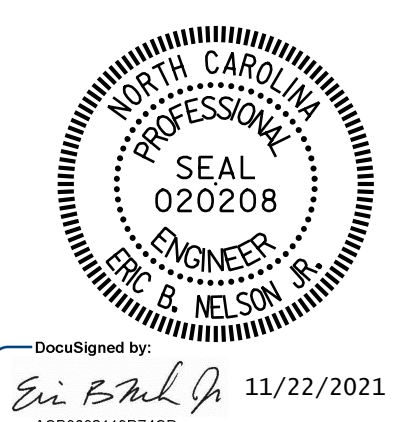
SPAN	GIRDER	LOCATION	DESCRIPTION
A	5-8	BENT 1	CUT EXCESS STRANDS/EPOXY COATING/CLEAN & PAINT BEARING
A	13	BENT 1	WEB 8" X 4" X 1" SPALL
A	13-16	BENT 1	CUT EXCESS STRANDS/EPOXY COATING/CLEAN & PAINT BEARING
A	15	BENT 1	BOTTOM FLANGE 3" X 3" X 3" SPALL
B	1	MID-SPAN	BOTTOM FLANGE 6" X 2" X 1/2" SPALL
B	4	MID-SPAN	BOTT. FLANGE 8'-0" X 1'-0" X 2 1/2" SPALL WITH EXPOSED STRANDS
B	5-8	BENT 2	CUT EXCESS STRANDS/EPOXY COATING/CLEAN & PAINT BEARING
B	5-8	BENT 3	CUT EXCESS STRANDS/EPOXY COATING/CLEAN & PAINT BEARING
B	13	BENT 1	BOTT. FLANGE 1'-0" X 1'-0" X 3" SPALL WITH EXPOSED STRANDS
B	13-16	BENT 2	CUT EXCESS STRANDS/EPOXY COATING/CLEAN & PAINT BEARING
B	13-16	BENT 3	CUT EXCESS STRANDS/EPOXY COATING/CLEAN & PAINT BEARING
B	15	BENT 1	BOTTOM FLANGE 8" X 8" DELAMINATION
B	16	BENT 1	BOTTOM FLANGE 9" X 10" DELAMINATION
C	5-8	BENT 2	CUT EXCESS STRANDS/EPOXY COATING/CLEAN & PAINT BEARING
C	13-16	BENT 2	CUT EXCESS STRANDS/EPOXY COATING/CLEAN & PAINT BEARING



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

DRAWN BY : J. MYA DATE : 08/2021
 CHECKED BY : J. YANACCONI DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

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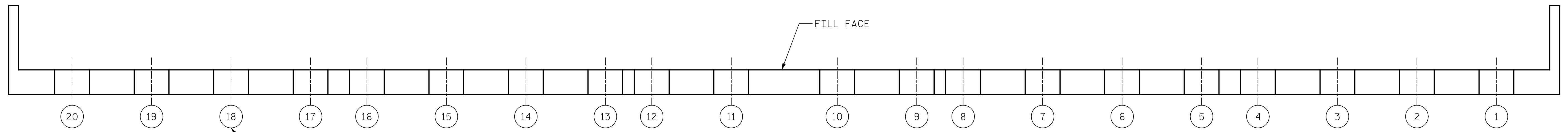


PROJECT NO. I-5997
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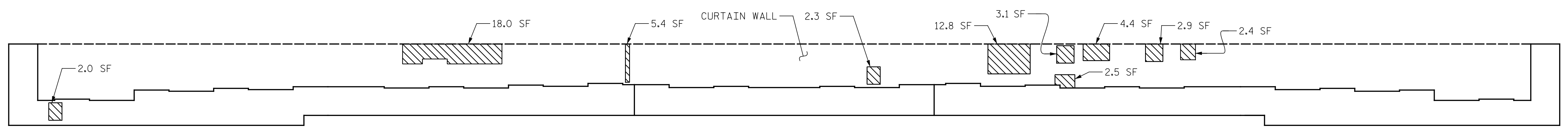
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PLAN



ELEVATION

REPAIR QUANTITY TABLE				
END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	2.0	0.8		
CURTAIN WALL	53.8	21.9		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
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

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

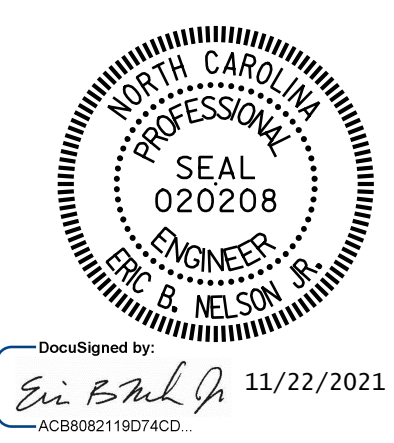
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

THE CONTRACTOR SHALL REMOVE VEGETATION GROWING ON THE END BENTS TO THE GROUND LINE. NO SEPARATE PAYMENT WILL BE MADE FOR REMOVAL OF VEGETATION, AS PAYMENT IS INCLUDED IN THE CONTRACT UNIT PRICE BID FOR "EPOXY COATING AND DEBRIS REMOVAL".

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

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910267 & 910268



STATE OF NORTH CAROLINA
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 RALEIGH

END BENT 1

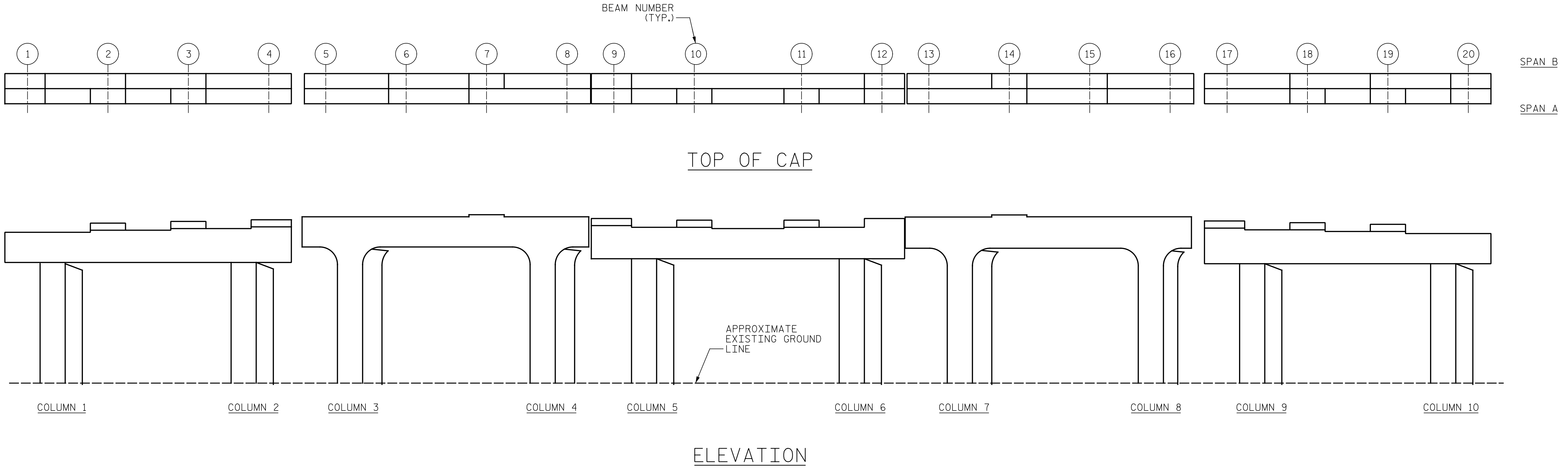
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1			3			TOTAL SHEETS
2			4			82

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AS BUILT REPAIR QUANTITY TABLE					
BENT 1 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP (VERTICAL)	0.0	0.0			
CAP (HORIZONTAL)	0.0	0.0			
COLUMN	7.3	2.8			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION	LENGTH LF	LENGTH LF			
CAP	0.0				
COLUMN	0.0				
EPOXY COATING	SQ. FT	SQ. FT			
TOP OF BENT CAP	435				

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

NOTES:

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

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

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

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

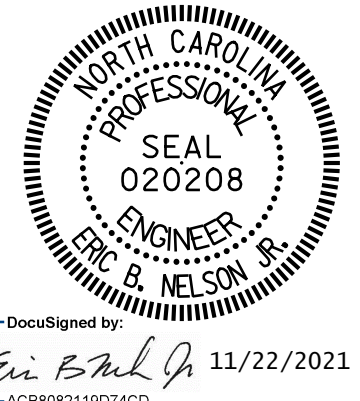
CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE "JACKING DETAILS" SHEET.

WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE.

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

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE No. 910267&910268

SHEET 1 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 1
 SPAN "A" SIDE

DRAWN BY : J. MYA DATE : 08/2021
 CHECKED BY : J. YANNAACONE DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

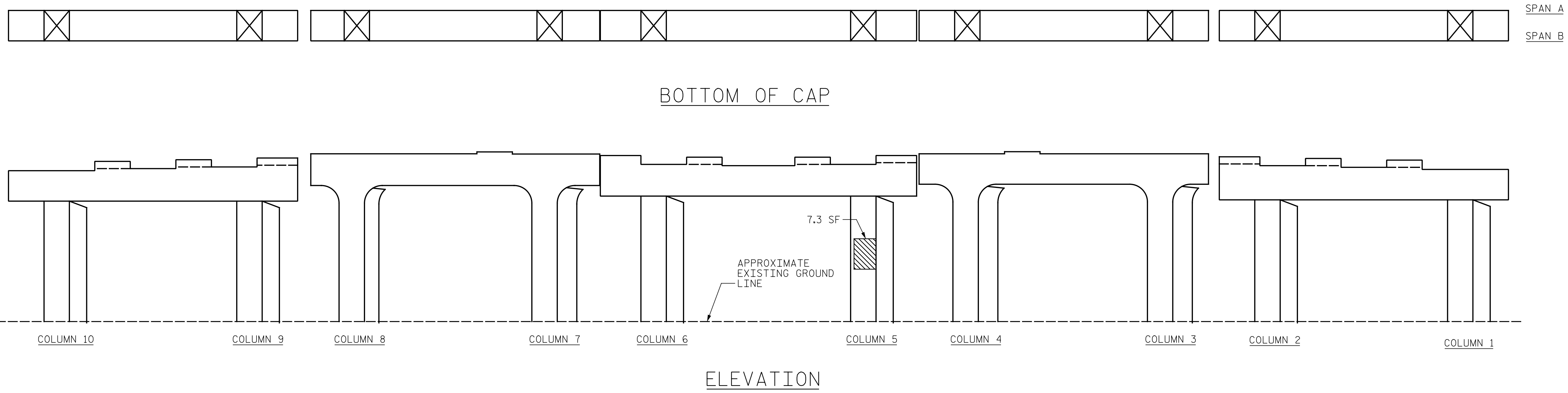
PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised

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

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-61
1			3			TOTAL SHEETS
2			4			82

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NOTES:

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

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

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

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

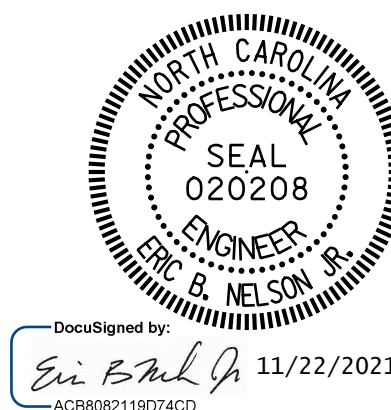
CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE "JACKING DETAILS" SHEET.

WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE.

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

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE No. 910267&910268

SHEET 2 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 1
 SPAN "B" SIDE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-62
1			3			TOTAL SHEETS
2			4			82

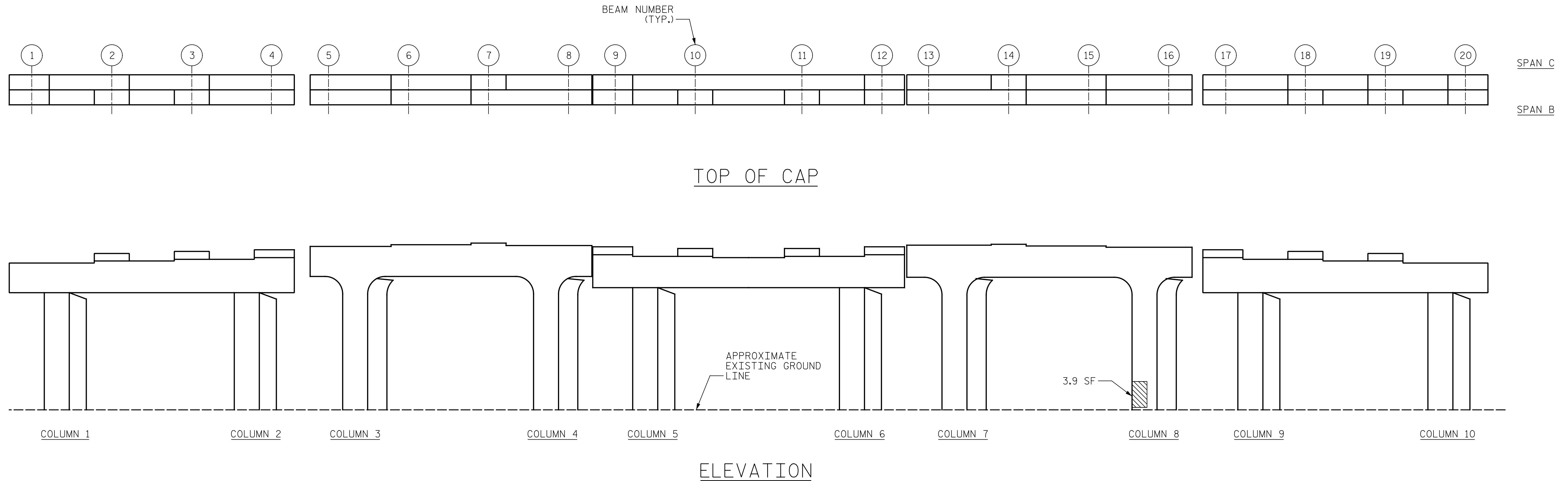
DRAWN BY : J. MYA DATE : 08/2021
 CHECKED BY : J. YANNAACONE DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

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

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

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AS BUILT REPAIR QUANTITY TABLE					
BENT 2 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP (VERTICAL)	3.2	1.2			
CAP (HORIZONTAL)	0.0	0.0			
COLUMN	3.9	2.0			
CONCRETE REPAIRS	0.6	0.2			
EPOXY RESIN INJECTION	LENGTH LF		LENGTH LF		
CAP	0.0				
COLUMN	0.0				
EPOXY COATING	SQ. FT		SQ. FT		
TOP OF BENT CAP	444				

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

NOTES:

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

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

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

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

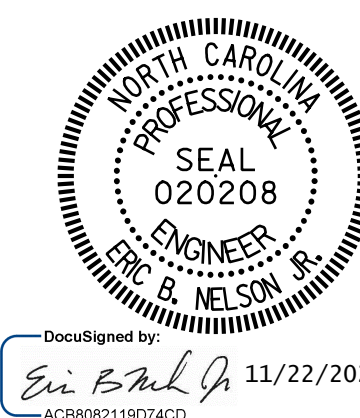
CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE "JACKING DETAILS" SHEET.

WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE.

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

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE No. 910267&910268

SHEET 1 OF 2



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Eric B. Nelson 11/22/2021
 AC8808219074CD

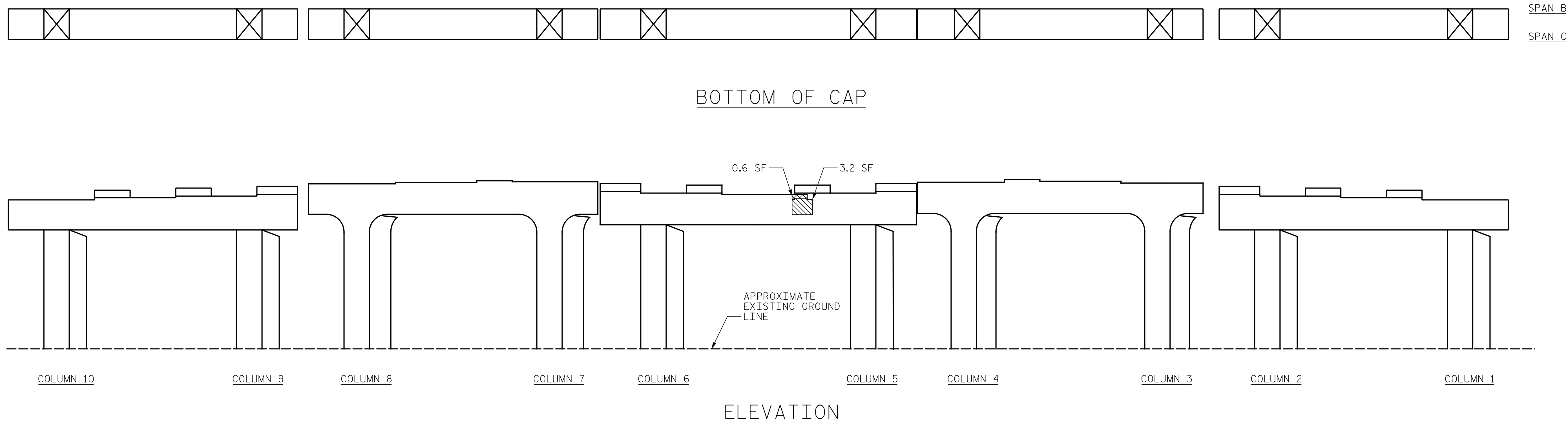
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BENT 2 SPAN "B" SIDE					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					S-63
					TOTAL SHEETS
					82

DRAWN BY : J. MYA / E. TODD DATE : 08/2021
 CHECKED BY : J. YANNACCONE DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

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

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NOTES:

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

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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.

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

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

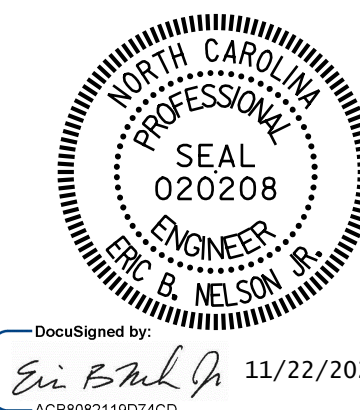
CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE "JACKING DETAILS" SHEET.

WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE.

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

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910267&910268

SHEET 2 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 2
 SPAN "C" SIDE

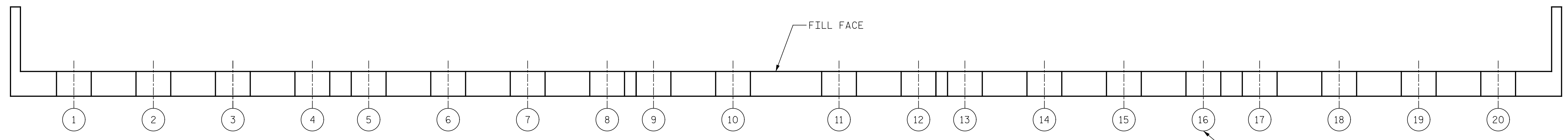
DRAWN BY : J. MYA / E. TODD DATE : 08/2021
 CHECKED BY : J. YANACCONO DATE : 09/2021
 DESIGN ENGINEER OF RECORD : R. NELSON DATE : 09/2021

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

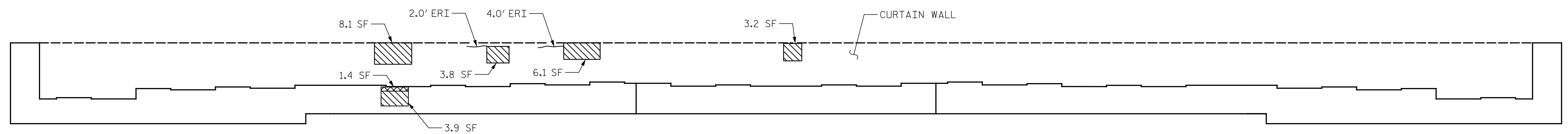
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PLAN



ELEVATION

REPAIR QUANTITY TABLE				
END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	3.9	1.5		
CURTAIN WALL	21.2	8.6		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	1.4	1.4		
CURTAIN WALL	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
CURTAIN WALL		6.0		

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 REPAIR DETAILS" SHEET.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

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

PROJECT NO. I-5997
WAKE COUNTY
 BRIDGE NO. 910267 & 910268



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 2

DRAWN BY : J. MYA DATE : 08/2021
 CHECKED BY : J. YANACCONI DATE : 09/2021
 DESIGN ENGINEER OF RECORD: R. NELSON DATE : 09/2021

PLANS PREPARED BY:
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-65
1			3			TOTAL SHEETS
2			4			82

