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**PROJECT: HS-2004Q**

**CONTRACT NO: DD00430**



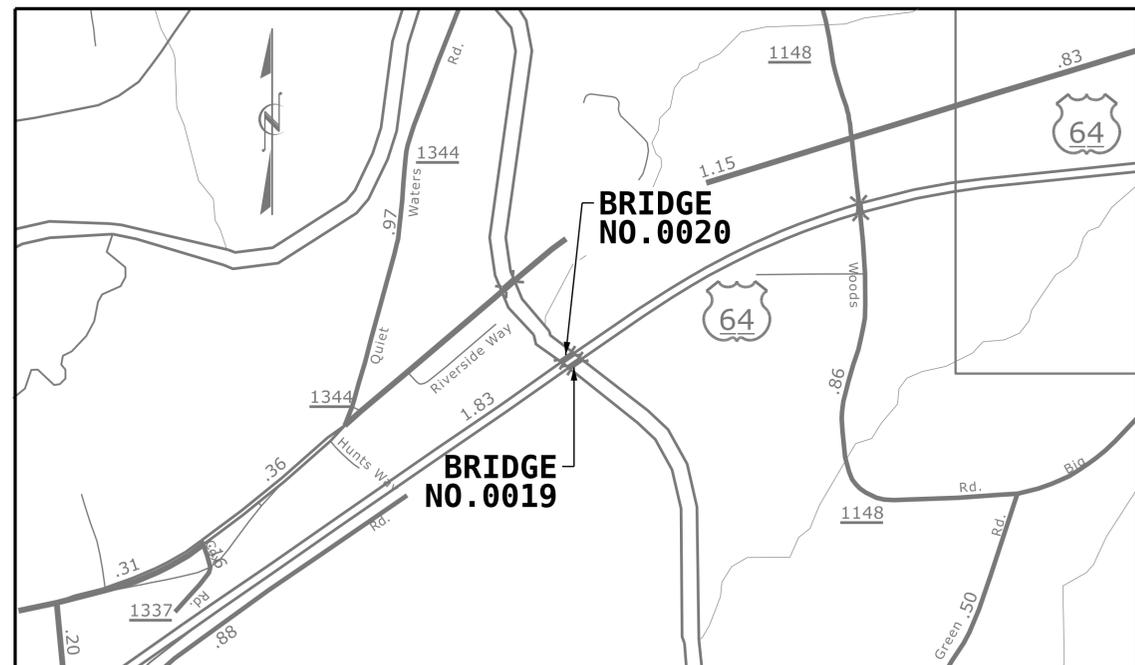
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**NASH COUNTY**

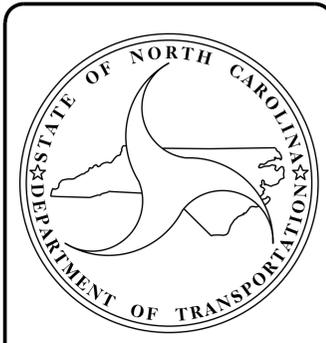
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HS-2004Q	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
49306.1.18		P.E.	
49306.3.18		CONST.	

**LOCATION:** BRIDGE #630019 ON US 64 E OVER THE TAR RIVER.  
BRIDGE #630020 ON US 64 W OVER THE TAR RIVER.

**TYPE OF WORK:** BRIDGE PRESERVATION - CONCRETE BRIDGE DECK SURFACE PREPARATION BY SHOTBLASTING AND PLACEMENT OF EPOXY OVERLAY; DEMOLITION AND RECONSTRUCTION OF BRIDGE DECK JOINTS & SEALS.



**VICINITY MAP**



**DESIGN DATA**

BRIDGE #630019 ADT (2018) = 12,000
BRIDGE #630020 ADT (2018) = 24,000

**PROJECT LENGTH**

BRIDGE # 630019 = 0.0678 MILES
BRIDGE # 630020 = 0.0678 MILES

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

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2018 STANDARD SPECIFICATIONS

LETTING DATE: JULY 25, 2023	<u>Kristy W. Alford, P.E., CPM</u> PROJECT ENGINEER  <u>Aster G. Abraha, P.E.</u> PROJECT DESIGN ENGINEER
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9/26/20

**PROJECT: HS-2004Q**

**CONTRACT NO: DD00430**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**NASH COUNTY**

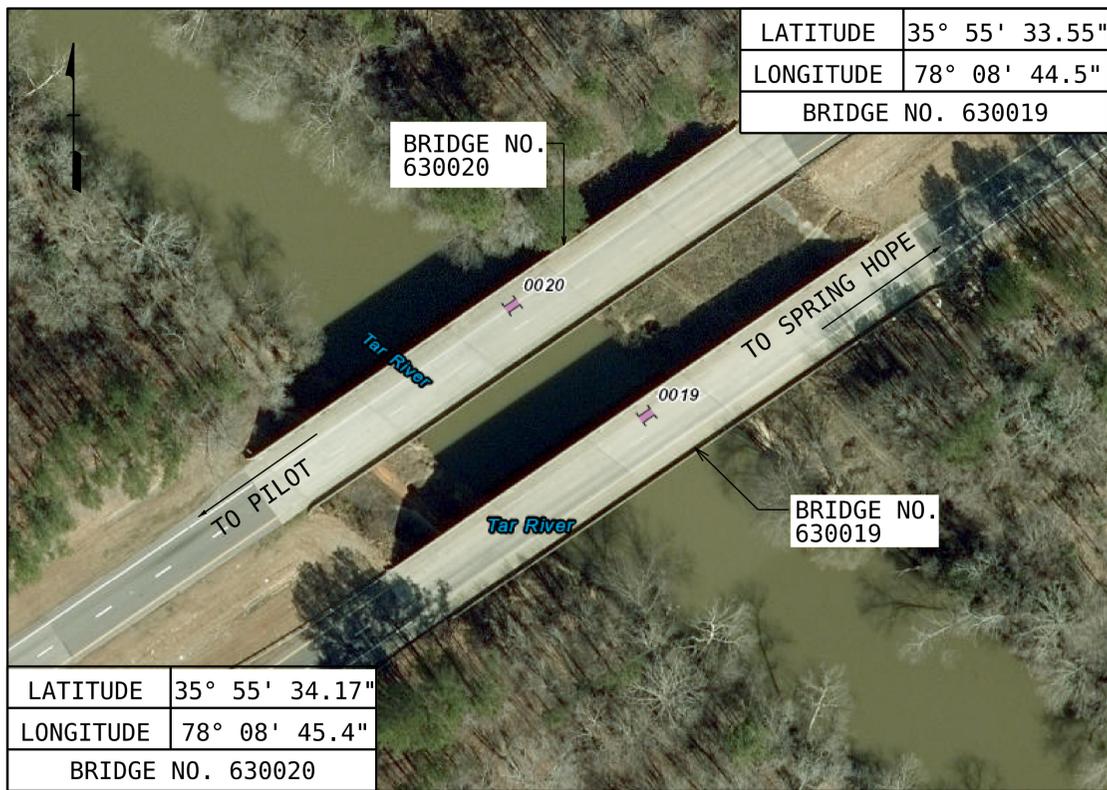
**LOCATION:** BRIDGE #630019 ON US 64 E OVER THE TAR RIVER.  
BRIDGE #630020 ON US 64 W OVER THE TAR RIVER.

**TYPE OF WORK:** BRIDGE PRESERVATION - CONCRETE BRIDGE DECK SURFACE PREPARATION  
BY SHOTBLASTING AND PLACEMENT OF EPOXY OVERLAY; DEMOLITION AND  
RECONSTRUCTION OF BRIDGE DECK JOINTS & SEALS.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HS-2004Q	1A	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
49306.1.18		P.E.	
49306.3.18		CONST.	

**INDEX OF STRUCTURES SHEETS**

<u>SHEET No.</u>	<u>DESCRIPTION</u>	<u>SHEET No.</u>	<u>DESCRIPTION</u>
1	TITLE SHEET	STRUCTURE No. 630020	
1A	INDEX OF SHEETS	S2-1	GENERAL DRAWING
S-1	LOCATION SKETCHES	S2-2	TYPICAL SECTION
	TOTAL BILL OF MATERIAL	S2-3 & S2-4	SURFACE PREPARATION
	& GENERAL NOTES	S2-5	JOINT REPAIR
		2A-1	ROADWAY TYPICAL SECTION
STRUCTURE No. 630019			
S1-1	GENERAL DRAWING		
S1-2	TYPICAL SECTION		
S1-3 & S1-4	SURFACE PREPARATION		
S1-5	JOINT REPAIR		
1A-1	ROADWAY TYPICAL SECTION		



**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, ROADWAYS, 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 OF 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(S) SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW, EXCEPT WHERE THE CONTRACTOR PLANS TO USE 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.

THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT THE EXISTING STRUCTURE WHICH IS TO REMAIN IN PLACE WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY PART OF THE EXISTING STRUCTURE WHICH IS TO REMAIN IN PLACE, THE DAMAGED AREA SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.

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.

ALL PAVEMENT MARKINGS WILL BE IN ACCORDANCE WITH THE TRAFFIC CONTROL 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 LANE(S) SHALL BE KEPT FREE AND CLEAR OF DEBRIS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR VOLUMETRIC MIXER, SEE SPECIAL PROVISIONS.

FOR SHOTBLASTING BRIDGE DECK AND EPOXY OVERLAY, SEE "EPOXY OVERLAY SYSTEM I" SPECIAL PROVISIONS.

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

TOTAL BILL OF MATERIAL						
BRIDGE NO.	VOLUMETRIC MIXER	POURABLE SILICONE JOINT SEALANT	ELASTOMERIC CONCRETE FOR PRESERVATION	BRIDGE JOINT DEMOLITION	CONCRETE DECK REPAIR FOR EPOXY OVERLAY	EPOXY OVERLAY SYSTEM I
	LUMP SUM	LN. FT.	CU. FT.	SQ. FT.	SQ. FT.	SQ. FT.
630019	LUMP SUM	251.7	43.3	230.7	0	14,057.6
630020	LUMP SUM	251.7	43.3	230.7	2.0	14,057.6
TOTAL	LUMP SUM	503.4	86.6	461.4	2.0	28,115.2

PROJECT NO. HS-2004Q  
NASH COUNTIES  
 BRIDGE NO.: 630019, 630020



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BILL OF MATERIAL,  
 LOCATION SKETCH,  
 AND GENERAL NOTES**

DRAWN BY : G. AYES DATE : 2/2023  
 CHECKED BY : A. G. ABRAHA DATE : 2/2023

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

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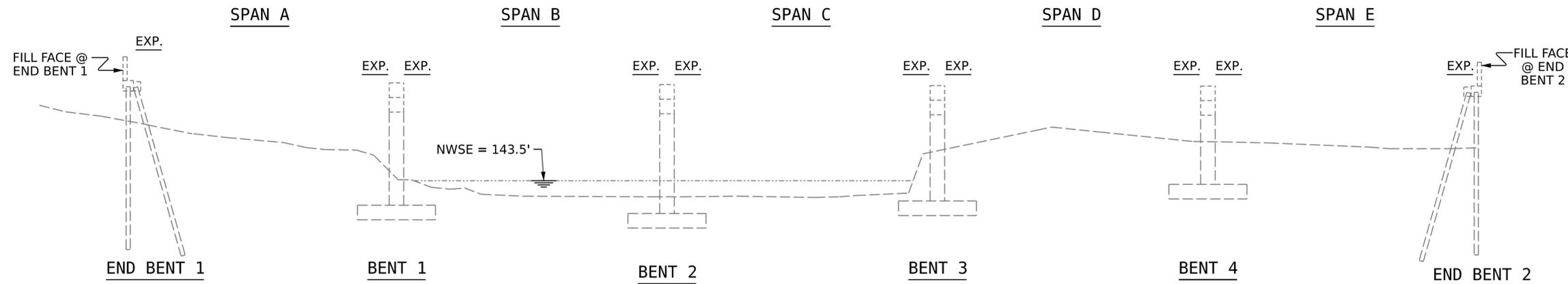


**NOTES**

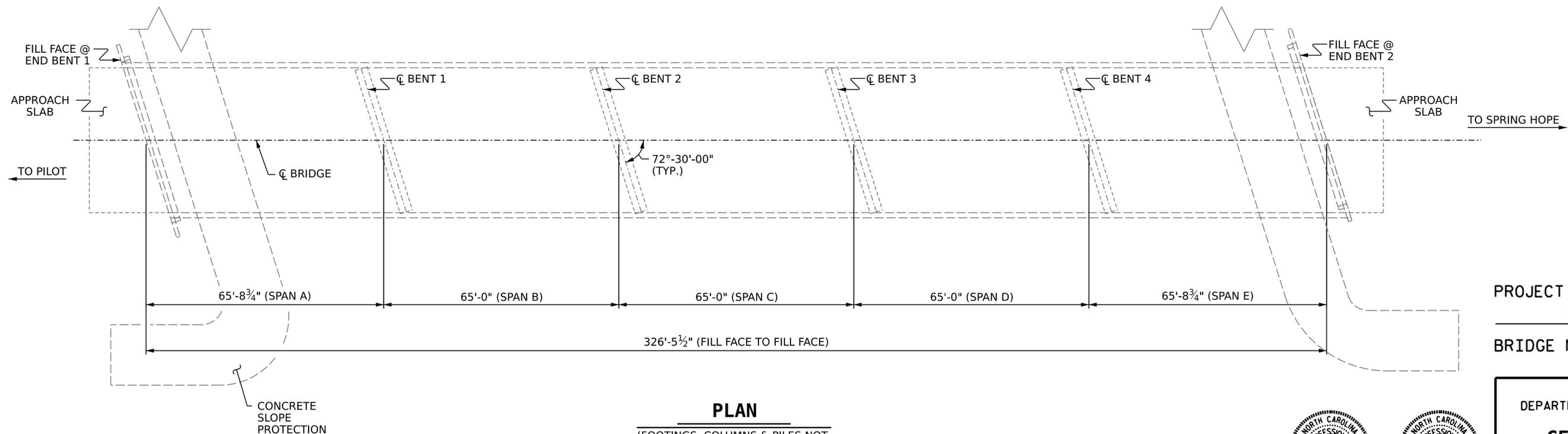
- PROFILE INFORMATION IS TAKEN FROM ORIGINAL PLANS AND INSPECTION REPORT DATED 03/11/2022.
- BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

**SCOPE OF WORK**

- PREPARE BRIDGE DECK BY SHOTBLASTING METHODS.
- PERFORM CONCRETE DECK REPAIRS IN PREPARED AREAS.
- OVERLAY PREPARED TOP OF BRIDGE DECK WITH EPOXY OVERLAY.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- RECONSTRUCT BRIDGE JOINTS WITH ELASTOMERIC CONCRETE, INSTALL BACKER ROD AND POURABLE SILICONE JOINT SEALANT.



**SECTION ALONG CL BRIDGE**



**PLAN**  
(FOOTINGS, COLUMNS & PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

PROJECT NO. **HS-2004Q**  
**NASH** COUNTY  
 BRIDGE NO. **630019**



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 FOR BRIDGE OVER TAR RIVER  
 ON US 64 EB BETWEEN  
 PILOT AND SPRING HOPE

DRAWN BY : A. G. ABRAHA DATE : 2/2023  
 CHECKED BY : G. AYES DATE : 3/2023  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

6/12/2023  
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 aabraha

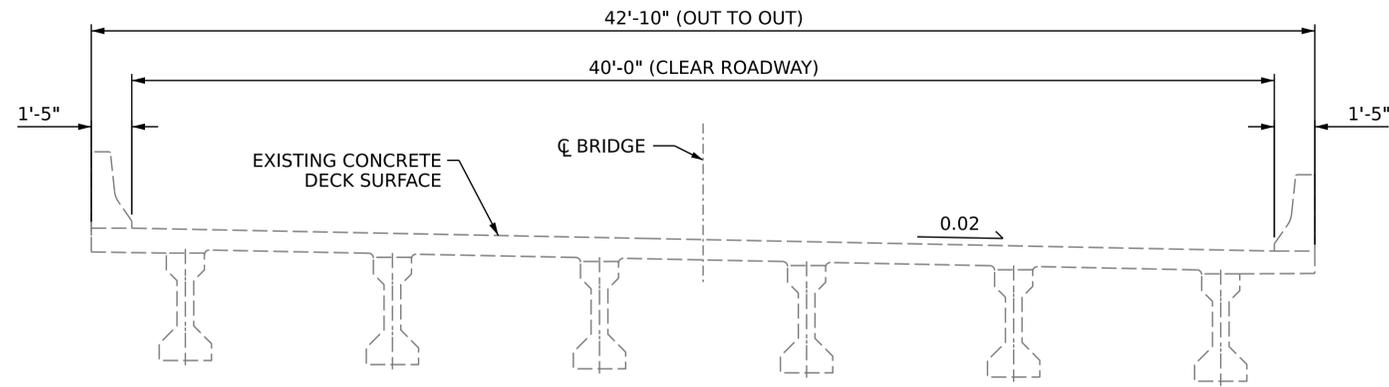
DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

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NO.	BY:	DATE:	NO.	BY:	DATE:	S1-1
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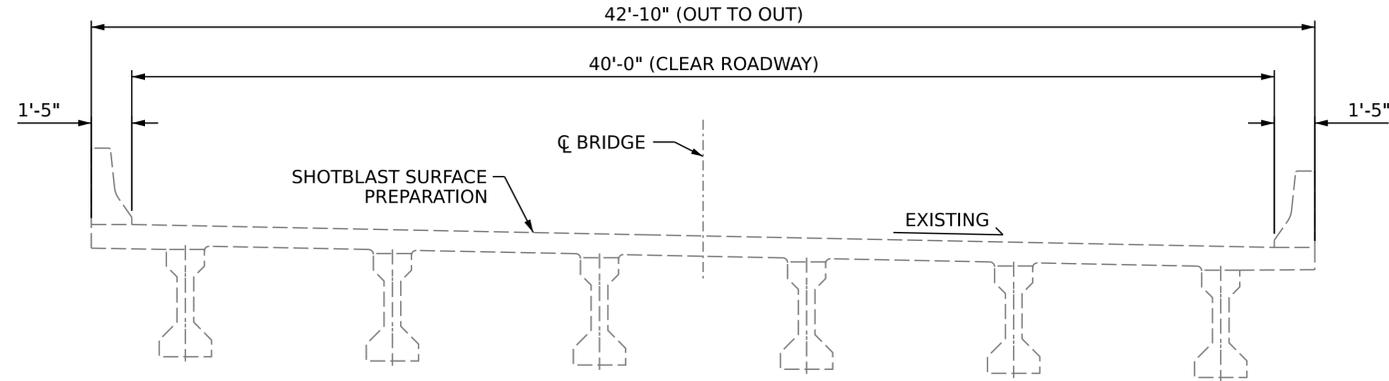
**NOTES**

SEE TRAFFIC PLANS FOR LANE WIDTH, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF SURFACE PREPARATION AND EPOXY OVERLAY.

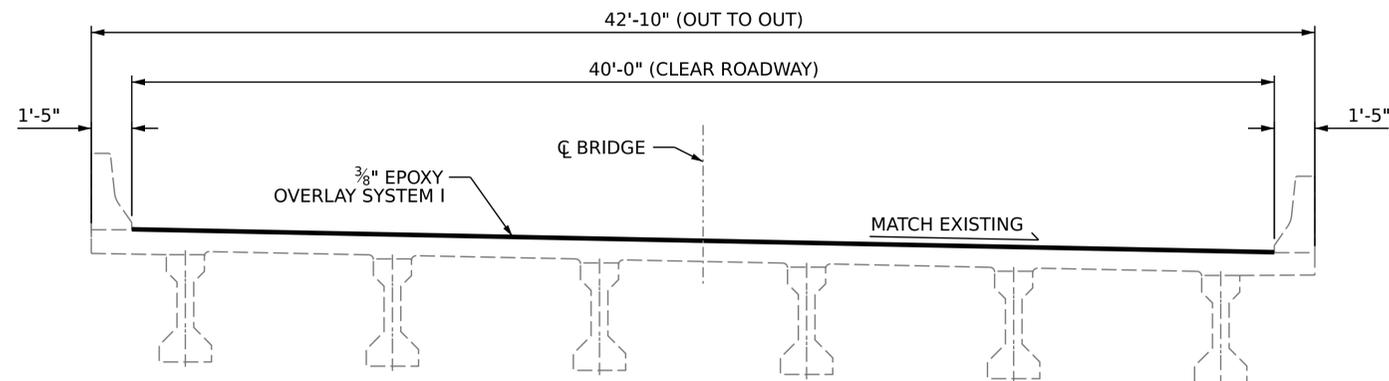
PROTECT TRAFFIC FROM REBOUND, DUST, OVERSPRAY, AND CONSTRUCTION ACTIVITIES, PROVIDE APPROPRIATE SHIELDING, AS REQUIRED AND/OR DIRECTED BY THE ENGINEER.



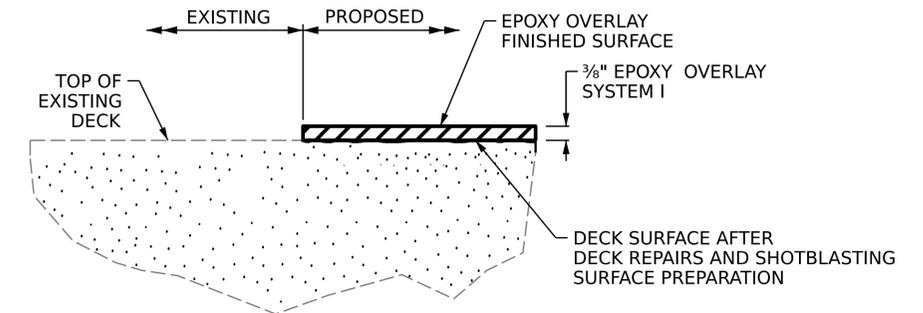
**TYPICAL SECTION**  
(EXISTING)



**TYPICAL SECTION**  
(DECK PREPARATION)



**TYPICAL SECTION**  
(PROPOSED)



**EPOXY OVERLAY DETAIL**

PROJECT NO. **HS-2004Q**  
**NASH** COUNTY  
 BRIDGE NO. **630019**



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**TYPICAL SECTION  
 AND SURFACE  
 PREPARATION DETAILS**

DRAWN BY : **A. G. ABRAHA** DATE : **2/2023**  
 CHECKED BY : **G. AYES** DATE : **3/2023**  
 DESIGN ENGINEER OF RECORD: DATE :

6/12/2023  
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 aabraha

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 SIGNATURES COMPLETED

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

## SUMMARY OF QUANTITIES FOR SPAN A, B, C AND APPROACH SLAB 1

	ESTIMATE	ACTUAL
CONCRETE DECK REPAIRS FOR EPOXY OVERLAY	0.0 SF	
EPOXY OVERLAY SYSTEM I	8307.4 SF	
BRIDGE JOINT DEMOLITION	134.6 SF	

### REPAIR KEY

- SHOTBLASTING AND EPOXY OVERLAY
- CONCRETE DECK REPAIR FOR EPOXY OVERLAY
- BRIDGE JOINT DEMOLITION

### NOTES

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

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

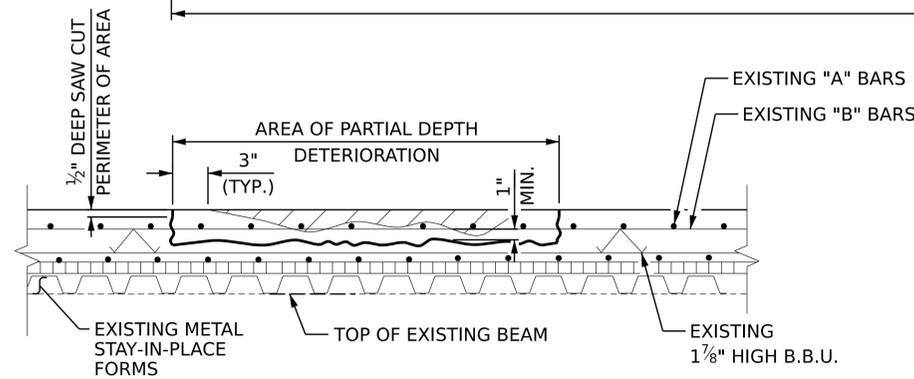
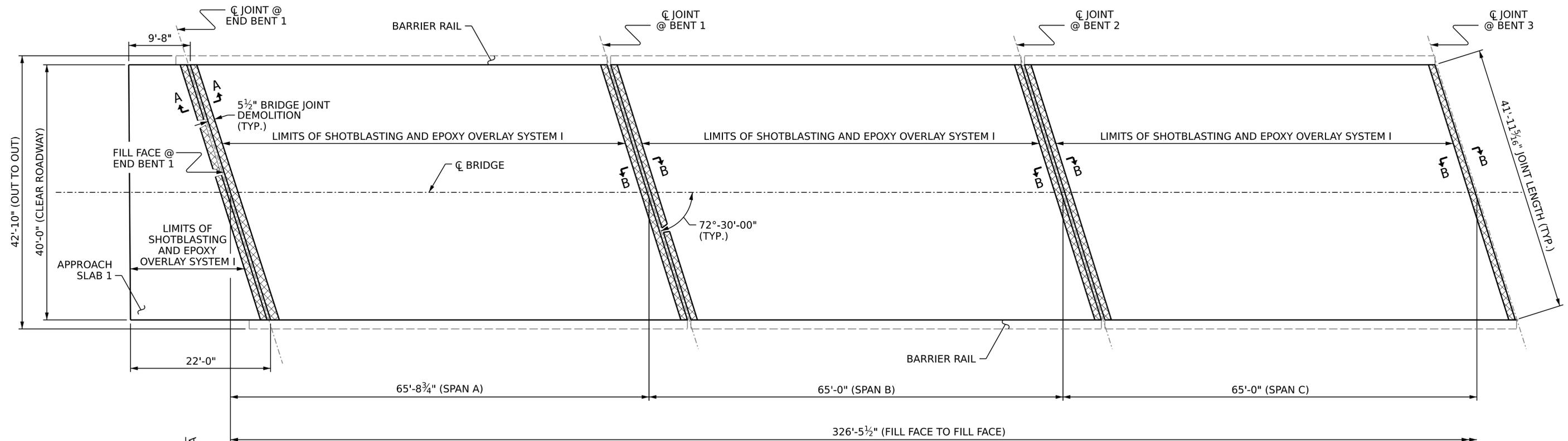
FOR EPOXY OVERLAY SYSTEM I, SEE SPECIAL PROVISIONS.

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

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR SECTION A-A AND B-B, SEE JOINT REPAIR DETAILS SHEET S1-5.



### CONCRETE DECK REPAIR FOR EPOXY OVERLAY

### PLAN OF SPANS A, B, C AND APPROACH SLAB 1

PROJECT NO. **HS-2004Q**

**NASH** COUNTY

BRIDGE NO. **630019**

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

### SURFACE PREPARATION

SPANS A, B, C AND  
APPROACH SLAB 1



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SIGNATURES COMPLETED

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

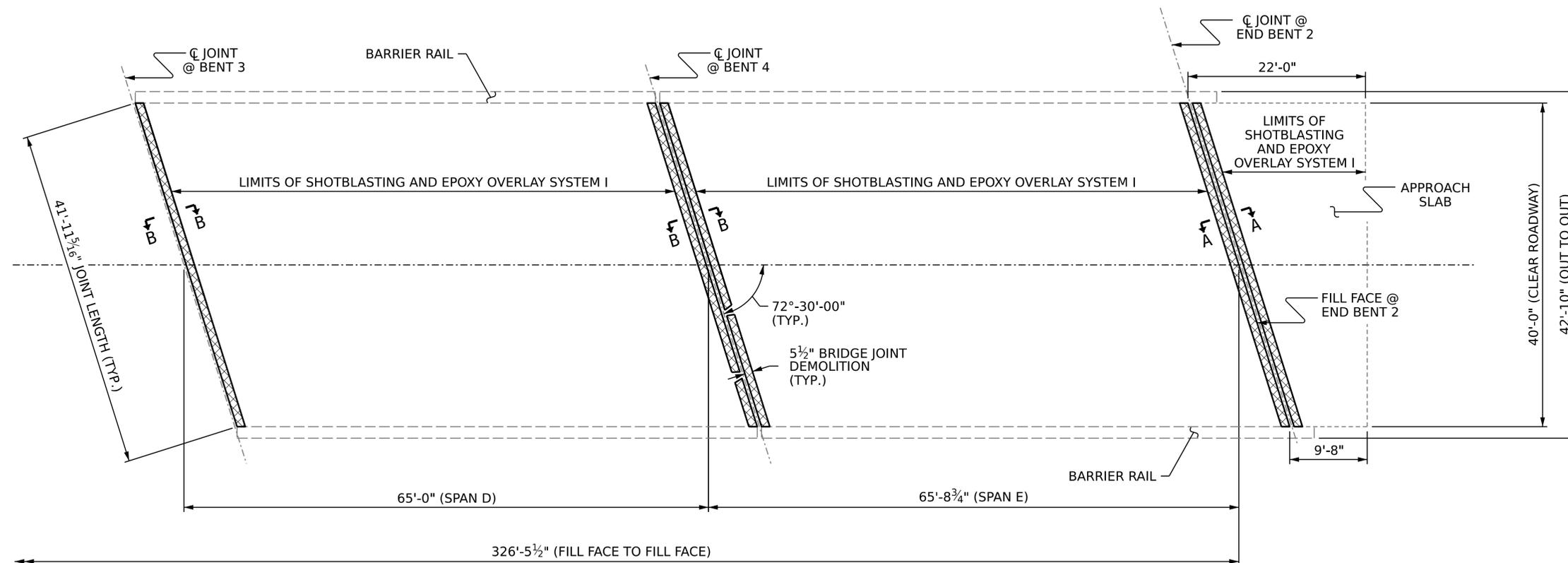
DRAWN BY : A. G. ABRAHA DATE : 2/2023  
 CHECKED BY : G. AYES/S. WANCE DATE : 3/2023  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

**SUMMARY OF QUANTITIES FOR  
SPAN D, E, AND APPROACH SLAB 2**

	ESTIMATE	ACTUAL
CONCRETE DECK REPAIRS FOR EPOXY OVERLAY	0.0 SF	
EPOXY OVERLAY SYSTEM I	5750.2 SF	
BRIDGE JOINT DEMOLITION	96.1 SF	

**REPAIR KEY**

-  - SHOTBLASTING AND EPOXY OVERLAY
-  - CONCRETE DECK REPAIR FOR EPOXY OVERLAY
-  - BRIDGE JOINT DEMOLITION



**PLAN OF SPANS D, E  
AND APPROACH SLAB 2**

PROJECT NO. **HS-2004Q**  
**NASH** COUNTY  
 BRIDGE NO. **630019**



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

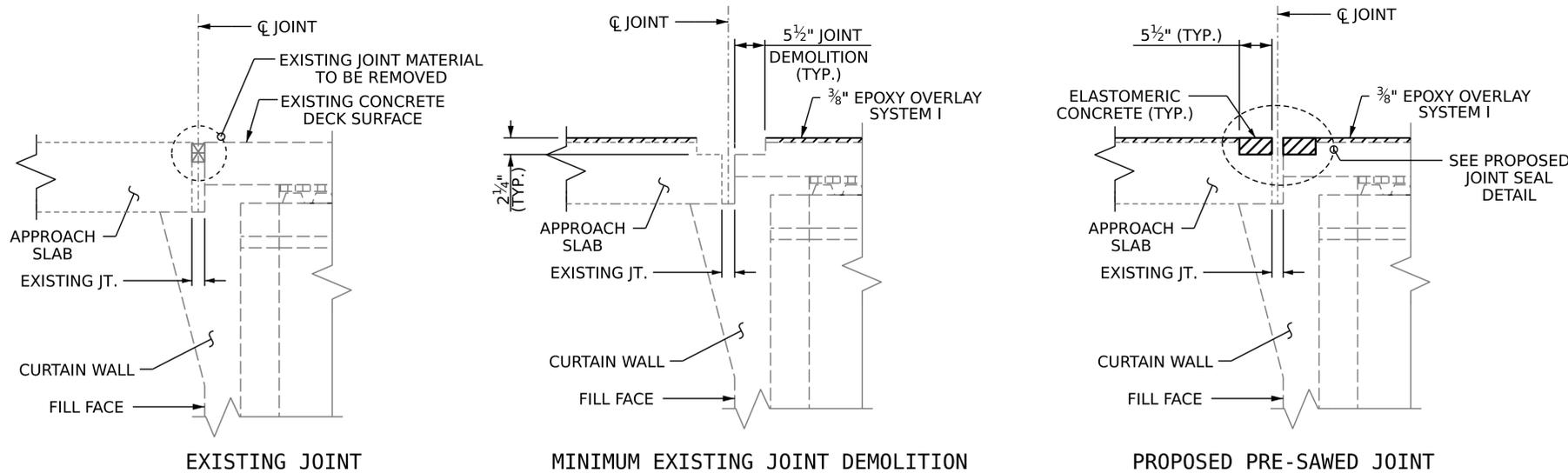
**SURFACE PREPARATION**

SPANS D, E, AND  
 APPROACH SLAB 2

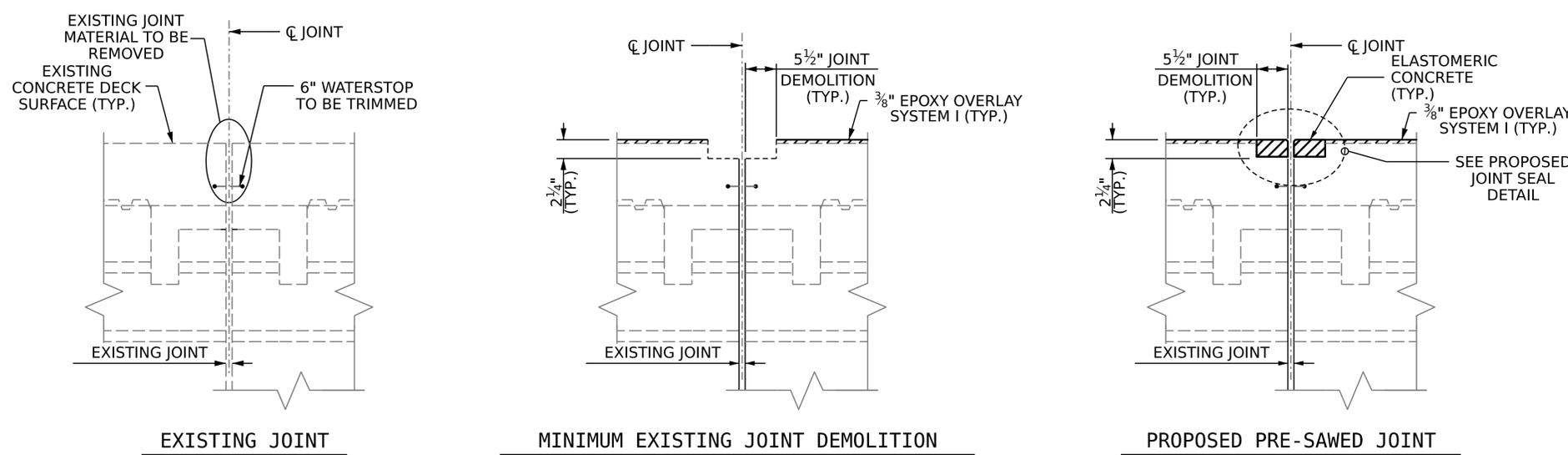
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 SIGNATURES COMPLETED

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DRAWN BY : A. G. ABRAHA DATE : 2/2023  
 CHECKED BY : G. AYEY/S. WANCE DATE : 3/2023  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

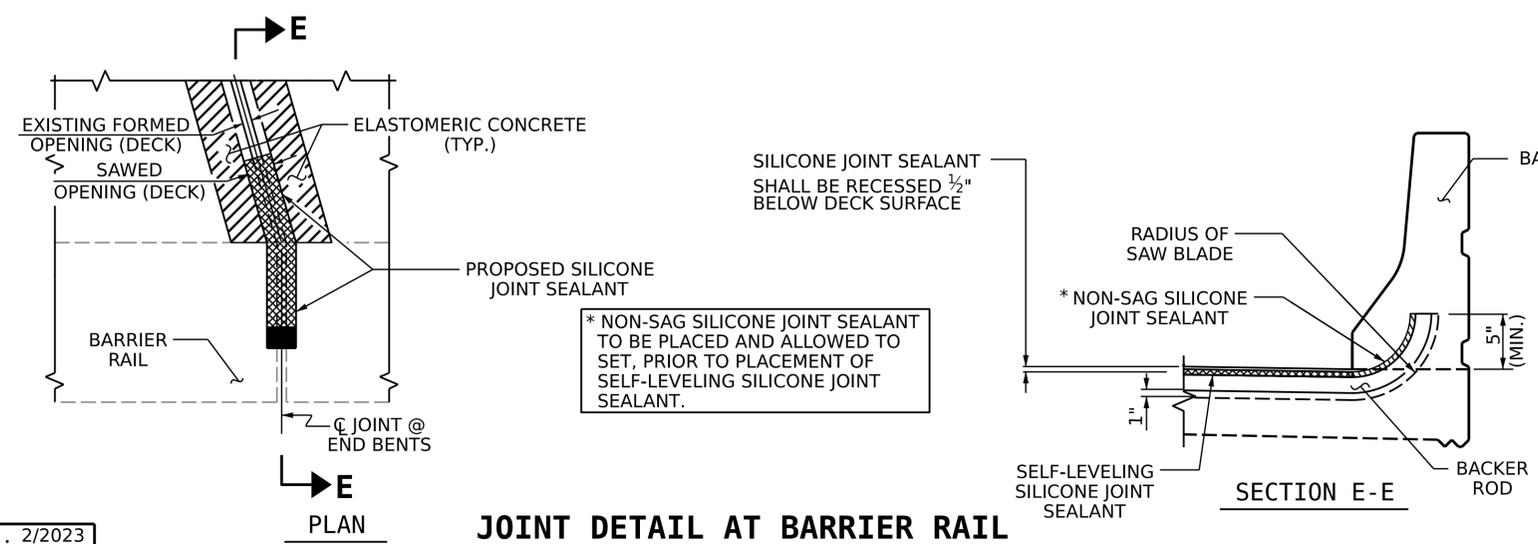


**JOINT INSTALLATION SEQUENCE AT END BENTS**  
**SECTION A-A**



**JOINT INSTALLATION SEQUENCE AT BENTS**  
**SECTION B-B**

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



**JOINT DETAIL AT BARRIER RAIL**

**NOTES**

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

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.

UNLESS NOTED OTHERWISE RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

ALL EXPOSED ENDS OF CUT BARS SHALL BE COATED WITH EPOXY PRIOR TO THE NEW JOINT MATERIAL INSTALLATION.

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

FOR POURABLE SILICONE EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.

SILICONE JOINT SEALANT AND BACKER ROD SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.

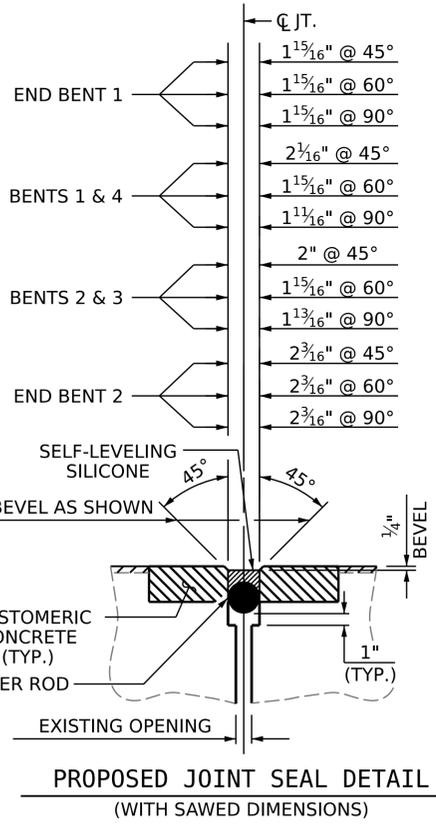
THE INSTALLATION OF JOINT SEAL SHALL BE WATERTIGHT.

DURING JOINT INSTALLATION PROCEDURE, THE JOINT AND SURROUNDING AREA SHALL BE KEPT CLEAN AND FREE OF DEBRIS.

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

FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL OR ELASTOMERIC CONCRETE SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF REPAIR CONCRETE OR ELASTOMERIC CONCRETE.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.



**PROPOSED JOINT SEAL DETAIL**  
(WITH SAWED DIMENSIONS)

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
ELASTOMERIC CONCRETE FOR PRESERVATION	43.3 CF	
POURABLE SILICONE JOINT SEALANT	251.7 LF	

PROJECT NO. **HS-2004Q**  
**NASH** COUNTY  
BRIDGE NO. **630019**

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**JOINT REPAIR DETAILS**



DRAWN BY: **G. AYES** DATE: **2/2023**  
CHECKED BY: **A. Abrahams/WANCE** DATE: **3/2023**

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS				SHEET NO.
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S1-5  
TOTAL SHEETS  
5

6/2/99

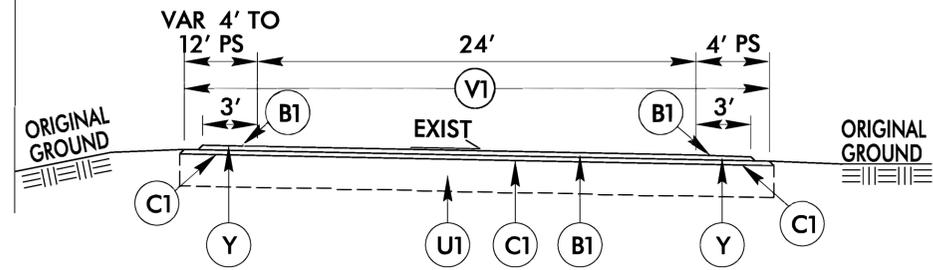
# PAVEMENT SCHEDULE

PROJECT REFERENCE NO.	SHEET NO.
HS-20040	1A-1

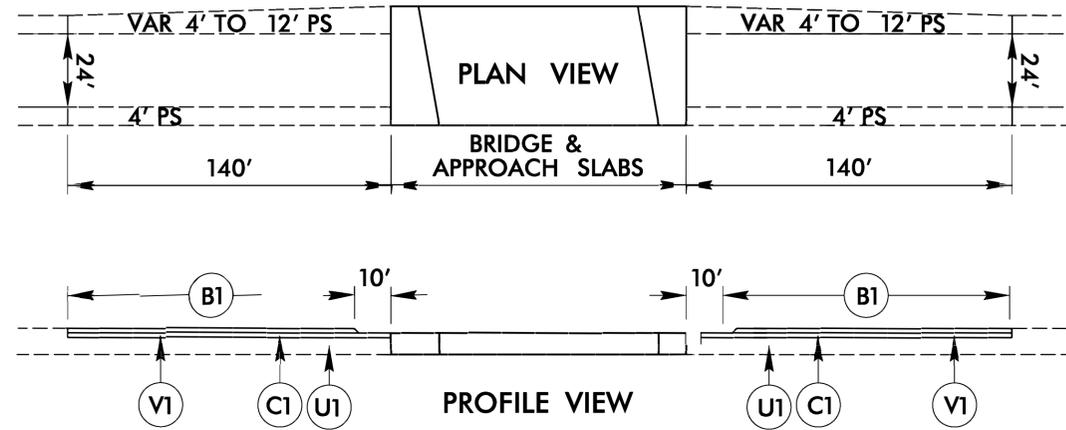
B1	PROP. OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-1 MOD, AT AN AVERAGE RATE OF 90 LBS. PER SQ. YARD.	U1	EXISTING PAVEMENT.	Y	MILLED RUMBLE STRIPS (ASPHALT CONCRETE)
C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YARD.	V1	INCIDENTAL MILLING		

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

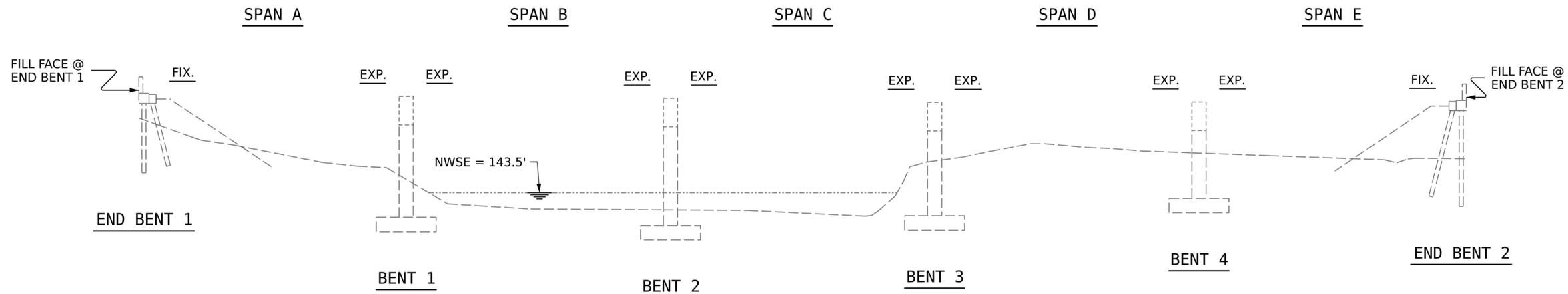
US-64 MEDIAN (MIRROR FOR WBL)



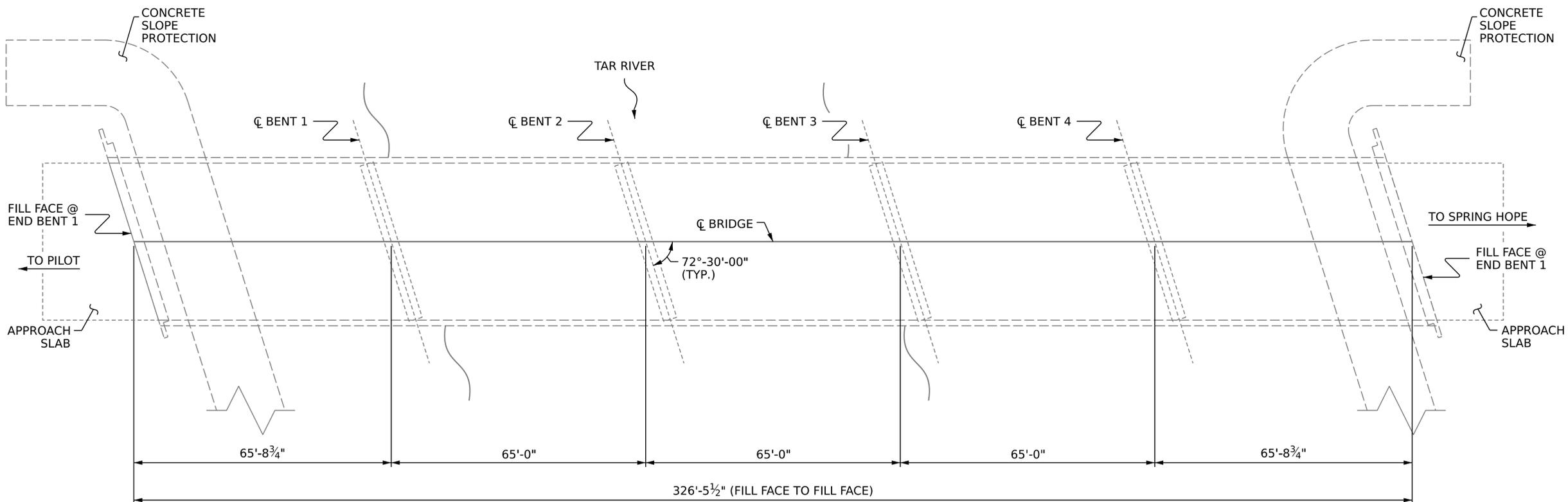
TYPICAL SECTION NO. 1  
US-64



19-JUN-2023 11:34  
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Division 4, DDG



**SECTION ALONG CL BRIDGE**



**PLAN**

(FOOTINGS, COLUMNS, AND PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

**NOTES**

- PROFILE INFORMATION IS TAKEN FROM ORIGINAL PLANS AND INSPECTION REPORT DATED 03/11/2022.
- BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

**SCOPE OF WORK**

- PREPARE BRIDGE DECK BY SHOTBLASTING METHODS.
- PERFORM CONCRETE DECK REPAIRS IN PREPARED AREAS.
- OVERLAY PREPARED TOP OF BRIDGE DECK WITH EPOXY OVERLAY.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- RECONSTRUCT BRIDGE JOINTS WITH ELASTOMERIC CONCRETE, INSTALL BACKER ROD AND POURABLE SILICONE JOINT SEALANT.

PROJECT NO. **HS-2004Q**  
**NASH** COUNTY  
 BRIDGE NO. **630020**

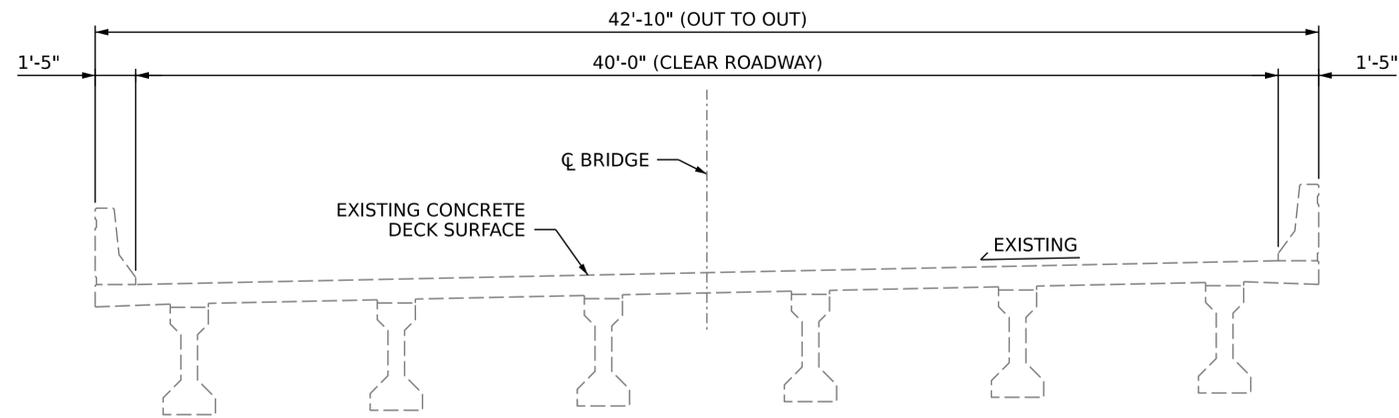
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 FOR BRIDGE OVER TAR RIVER  
 ON US 64 WB BETWEEN  
 PILOT AND SPRING HOPE



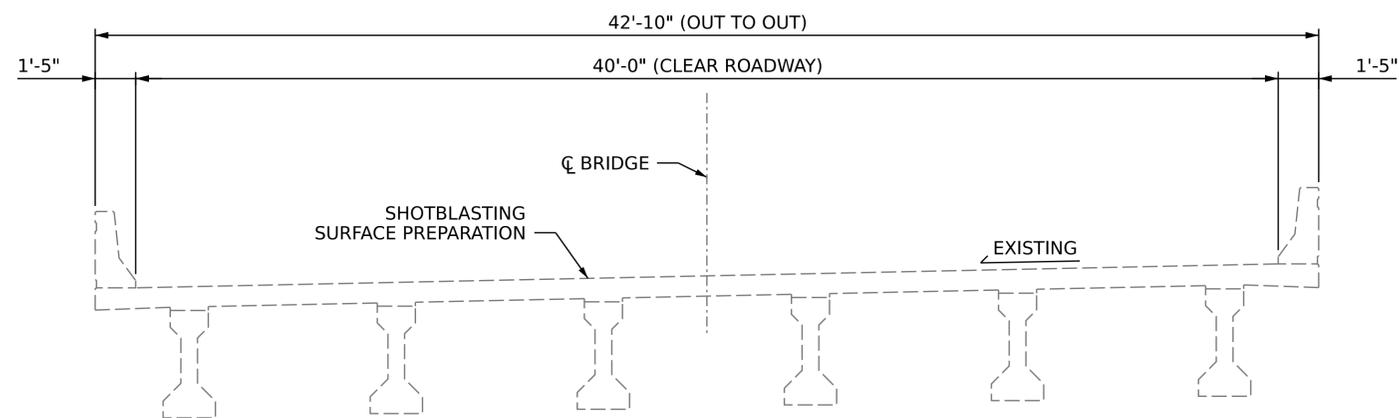
DRAWN BY : G. AYES DATE : 2/2023  
 CHECKED BY : A. G. ABRAHA DATE : 3/2023  
 DESIGN ENGINEER OF RECORD: DATE :

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

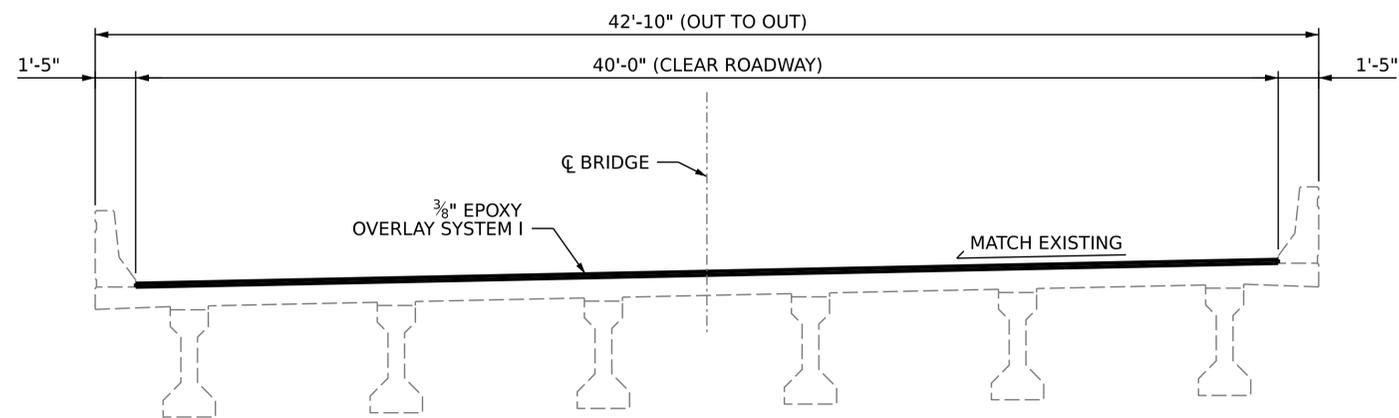
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-1
1			3			TOTAL SHEETS
2			4			5



**TYPICAL SECTION**  
(EXISTING)



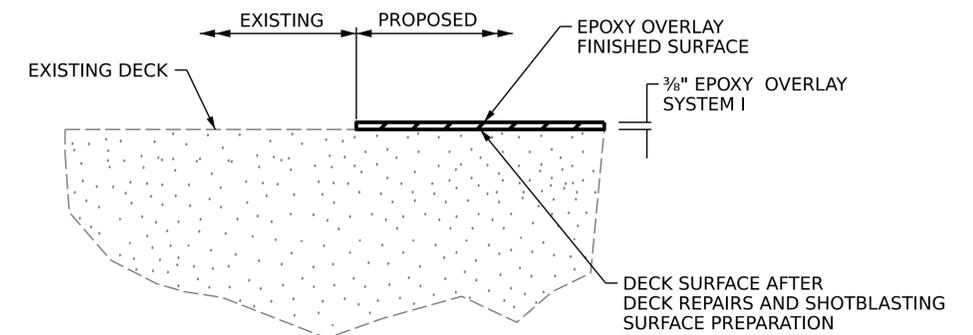
**TYPICAL SECTION**  
(DECK PREPARATION)



**TYPICAL SECTION**  
(PROPOSED)

**NOTES**

SEE TRAFFIC PLANS FOR LANE WIDTH, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF SURFACE PREPARATION AND EPOXY OVERLAY.  
PROTECT TRAFFIC FROM REBOUND, DUST, OVERSPRAY, AND CONSTRUCTION ACTIVITIES, PROVIDE APPROPRIATE SHIELDING, AS REQUIRED AND/OR DIRECTED BY THE ENGINEER.



**EPOXY OVERLAY DETAIL**

PROJECT NO. **HS-2004Q**  
**NASH** COUNTY  
BRIDGE NO. **630020**



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**TYPICAL SECTION AND SURFACE PREPARATION DETAILS**

DRAWN BY : G. AYES DATE : 2/2023  
CHECKED BY : A. G. ABRAHA DATE : 3/2023  
DESIGN ENGINEER OF RECORD: DATE :

6/12/2023  
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aabrah

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1			3			TOTAL SHEETS
2			4			5

**SUMMARY OF QUANTITIES FOR DECK REPAIR  
SPAN A, B, C, AND APPROACH SLAB 1**

	ESTIMATE	ACTUAL
CONCRETE DECK REPAIRS FOR EPOXY OVERLAY	0.0 SF	
EPOXY OVERLAY SYSTEM I	8,307.4 SF	
BRIDGE JOINT DEMOLITION	134.6 SF	

**REPAIR KEY**

-  - SHOTBLASTING AND EPOXY OVERLAY SYSTEM I
-  - CONCRETE DECK REPAIR FOR EPOXY OVERLAY
-  - BRIDGE JOINT DEMOLITION

**NOTES**

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

FOR CONCRETE DECK DETAIL REPAIR FOR EPOXY OVERLAY, SEE SPECIAL PROVISIONS.

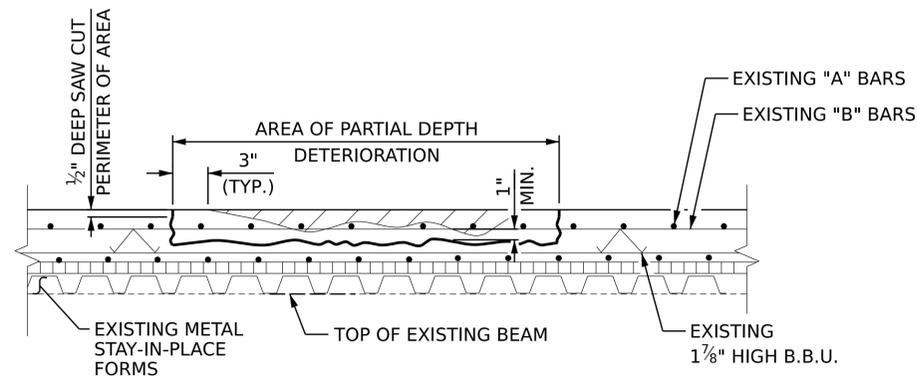
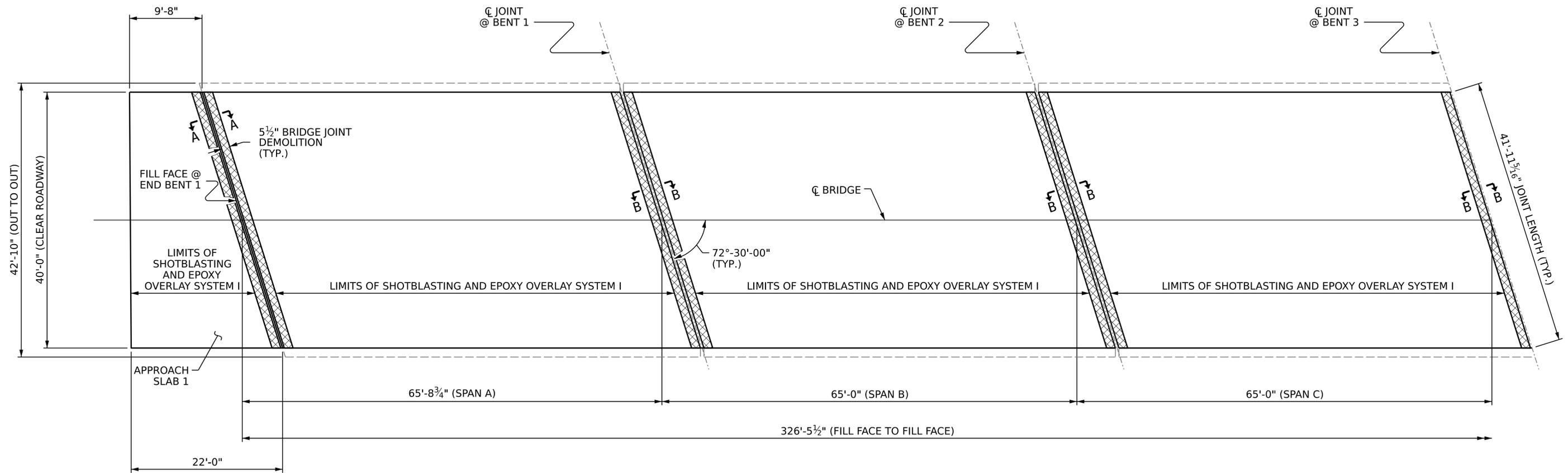
FOR EPOXY OVERLAY SYSTEM I, SEE SPECIAL PROVISIONS.

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

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR SECTION A-A AND B-B, SEE JOINT REPAIR DETAILS SHEET S2-5.



**PLAN OF SPAN A, B, C,  
AND APPROACH SLAB 1**

**CONCRETE DECK REPAIR FOR EPOXY OVERLAY**

PROJECT NO. **HS-2004Q**  
**NASH** COUNTY  
 BRIDGE NO. **630020**

SHEET 1 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**SURFACE PREPARATION  
 SPANS A, B, C, AND  
 APPROACH SLAB 1**

DRAWN BY : G. AYES DATE : 2/2023  
 CHECKED BY : A. G. ABRAHA DATE : 3/2023  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

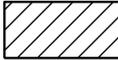
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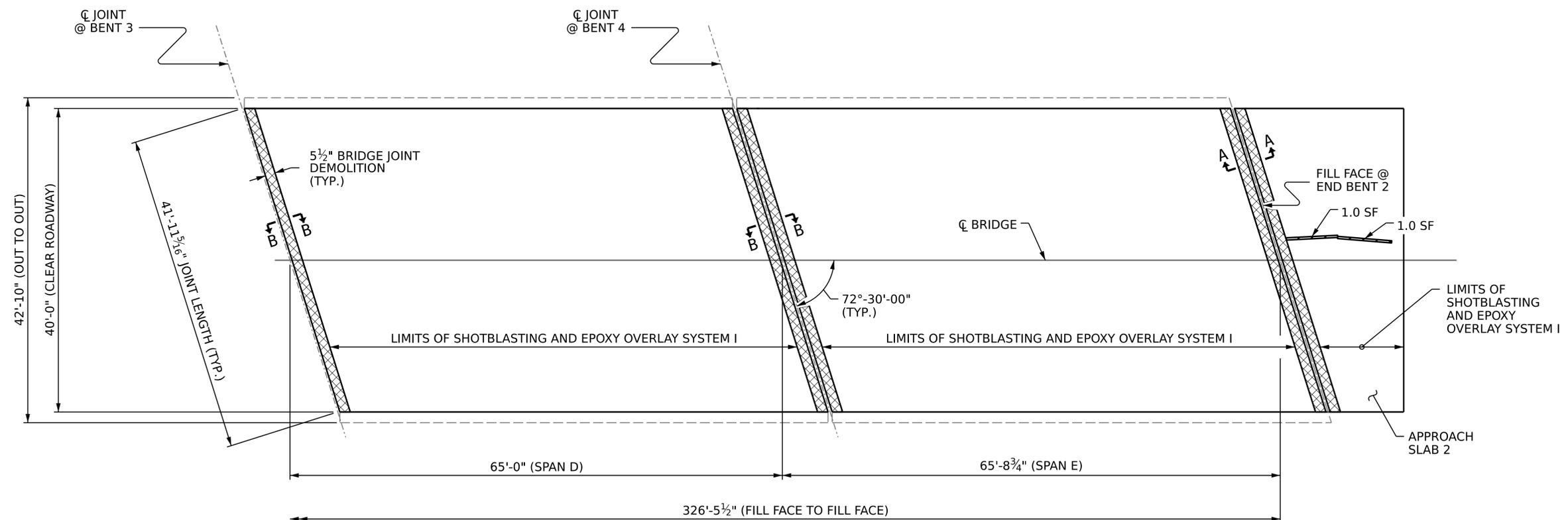
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1			3			TOTAL SHEETS
2			4			5

**SUMMARY OF QUANTITIES FOR DECK REPAIR  
SPAN D, E, AND APPROACH SLAB 2**

	ESTIMATE	ACTUAL
CONCRETE DECK REPAIRS FOR EPOXY OVERLAY	2.0 SF	
EPOXY OVERLAY SYSTEM I	5,750.2 SF	
BRIDGE JOINT DEMOLITION	96.1 SF	

**REPAIR KEY**

-  - SHOTBLASTING AND EPOXY OVERLAY SYSTEM I
-  - CONCRETE DECK REPAIR FOR EPOXY OVERLAY
-  - BRIDGE JOINT DEMOLITION



**PLAN OF SPAN D, E,  
AND APPROACH SLAB 2**

PROJECT NO. HS-2004Q  
NASH COUNTY  
 BRIDGE NO. 630020

SHEET 2 OF 2



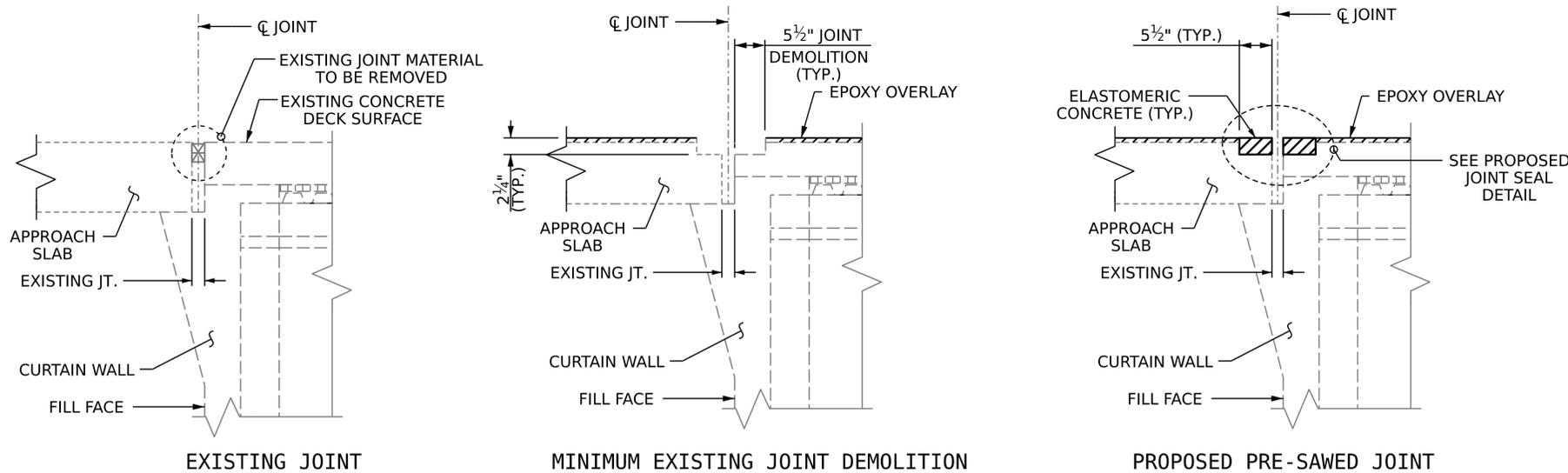
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**SURFACE PREPARATION  
 SPANS D, E, AND  
 APPROACH SLAB 2**

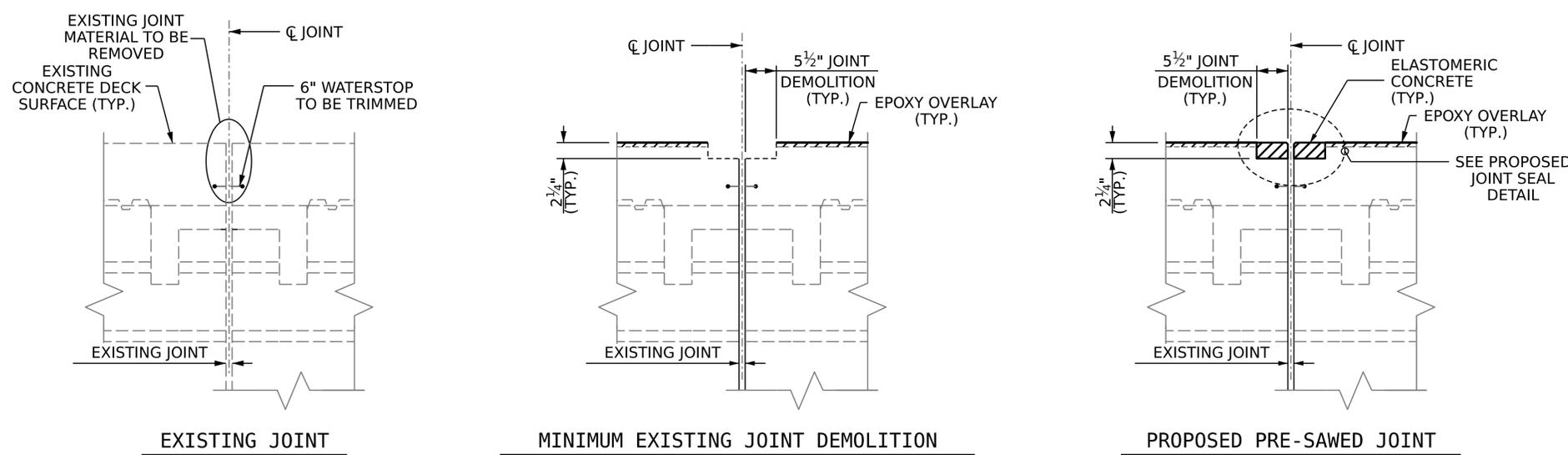
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DRAWN BY : G. AYES DATE : 2/2023  
 CHECKED BY : A. G. ABRAHA DATE : 3/2023  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

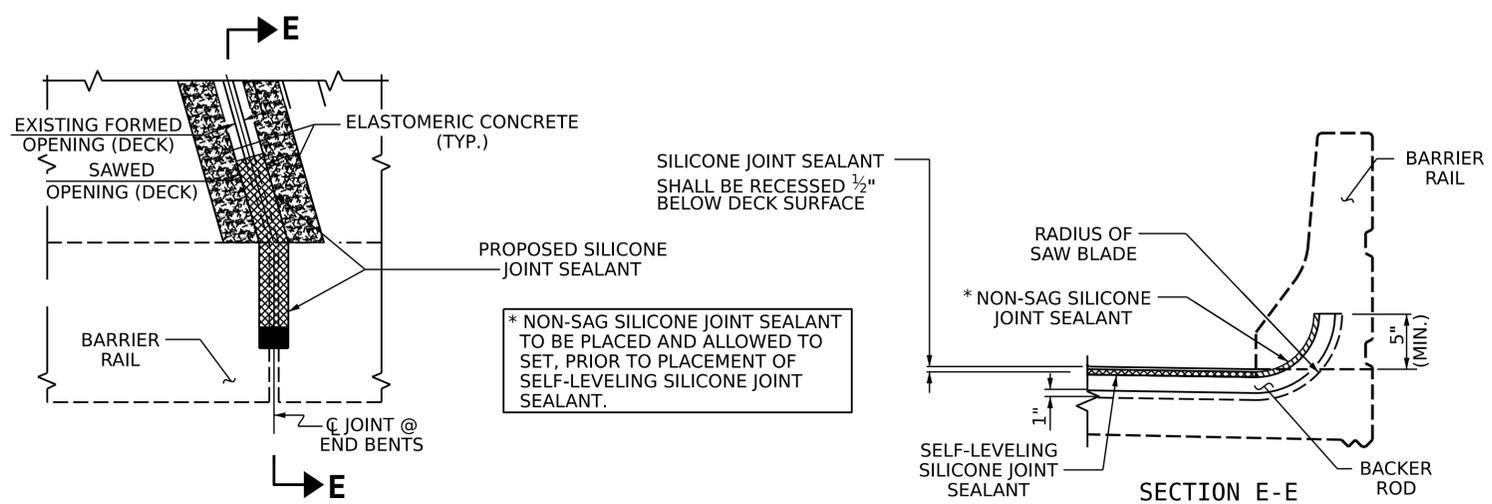


**JOINT INSTALLATION SEQUENCE AT END BENTS**  
**SECTION A-A**



**JOINT INSTALLATION SEQUENCE AT BENTS**  
**SECTION B-B**

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



**JOINT DETAIL AT BARRIER RAIL**

**NOTES**

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

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.

UNLESS NOTED OTHERWISE RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

ALL EXPOSED ENDS OF CUT BARS SHALL BE COATED WITH EPOXY PRIOR TO THE NEW JOINT MATERIAL INSTALLATION.

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

FOR POURABLE SILICONE EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.

SILICONE JOINT SEALANT AND BACKER ROD SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.

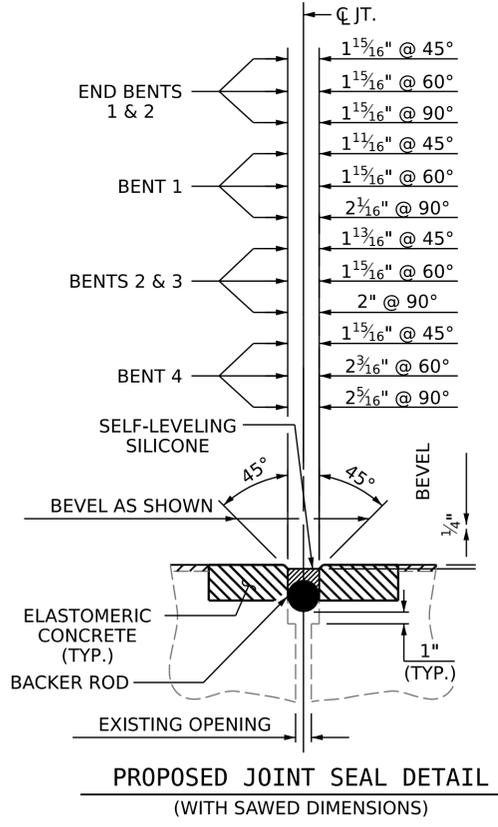
THE INSTALLATION OF JOINT SEAL SHALL BE WATERTIGHT.

DURING JOINT INSTALLATION PROCEDURE, THE JOINT AND SURROUNDING AREA SHALL BE KEPT CLEAN AND FREE OF DEBRIS.

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

FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL OR ELASTOMERIC CONCRETE SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF REPAIR CONCRETE OR ELASTOMERIC CONCRETE.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.



**PROPOSED JOINT SEAL DETAIL**  
(WITH SAWED DIMENSIONS)

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
ELASTOMERIC CONCRETE FOR PRESERVATION	43.3 CF	
POURABLE SILICONE JOINT SEALANT	251.7 LF	

PROJECT NO. **HS-2004Q**  
**NASH** COUNTY  
BRIDGE NO. **630020**

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**JOINT REPAIR DETAILS**



DRAWN BY: **G. AYES** DATE: **2/2023**  
CHECKED BY: **A. G. ABRAHA** DATE: **2/2023**

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2			4	

TOTAL SHEETS: **5**

# PAVEMENT SCHEDULE

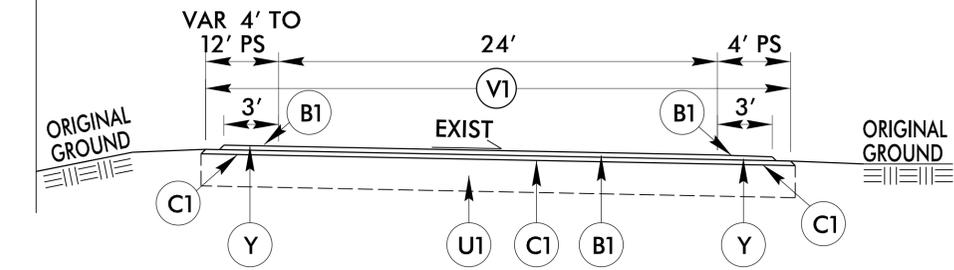
PROJECT REFERENCE NO.	SHEET NO.
HS-2004Q	2A-1

6/2/99

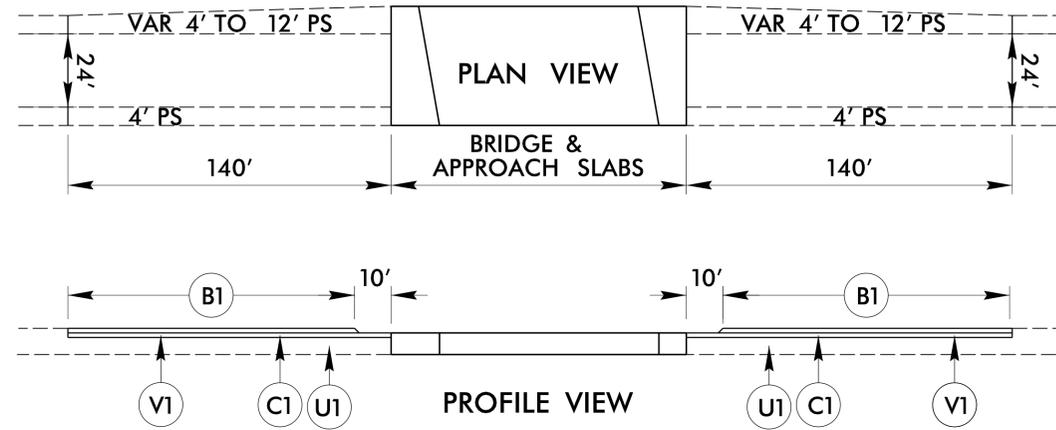
B1	PROP. OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-1 MOD, AT AN AVERAGE RATE OF 90 LBS. PER SQ. YARD.	U1	EXISTING PAVEMENT.	Y	MILLED RUMBLE STRIPS (ASPHALT CONCRETE)
C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YARD.	V1	INCIDENTAL MILLING		

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

☒ US-64 MEDIAN (MIRROR FOR WBL)



**TYPICAL SECTION NO. 1**  
US-64



19-JUN-2023 11:34  
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Division 4 DDC