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NOTES

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

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

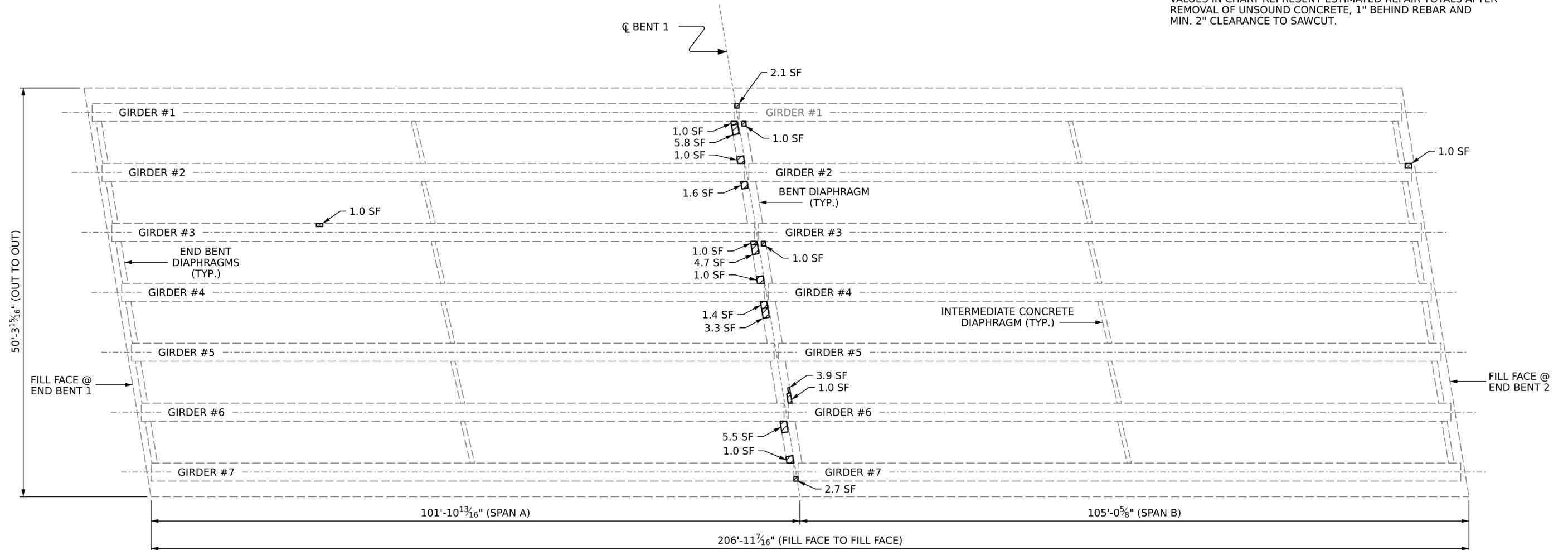
FOR CONCRETE GIRDER AND DIAPHRAGM REPAIR DETAILS, SEE PRESTRESSED CONCRETE GIRDER AND DIAPHRAGM REPAIR DETAILS SHEET S2-5.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

UNDERSIDE OF DECK	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK & OVERHANG	0	0		
BENT DIAPHRAGMS	39.0	13.0		
GIRDER REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
PC GIRDERS	2.0	0.5		

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



REPAIR KEY

- DIAPHRAGM REPAIR
- PRESTRESSED CONCRETE GIRDER REPAIR

PLAN OF SPANS - UNDERSIDE REPAIRS

PROJECT NO. **HI-0007**
WILSON COUNTY
 BRIDGE NO. **970244**



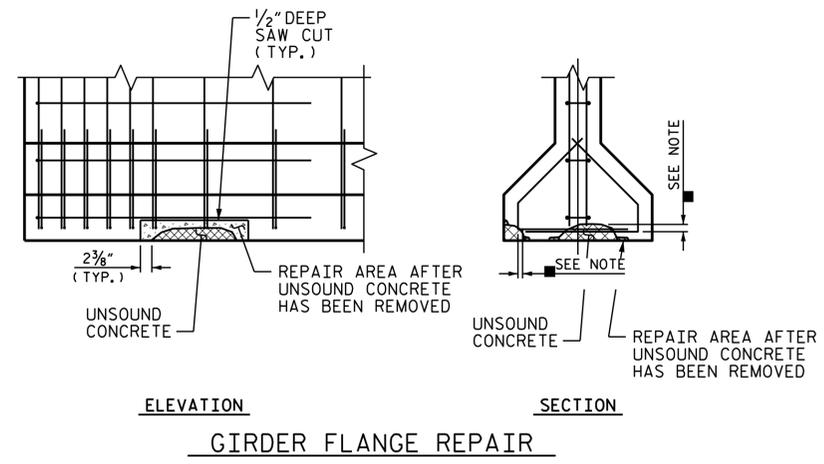
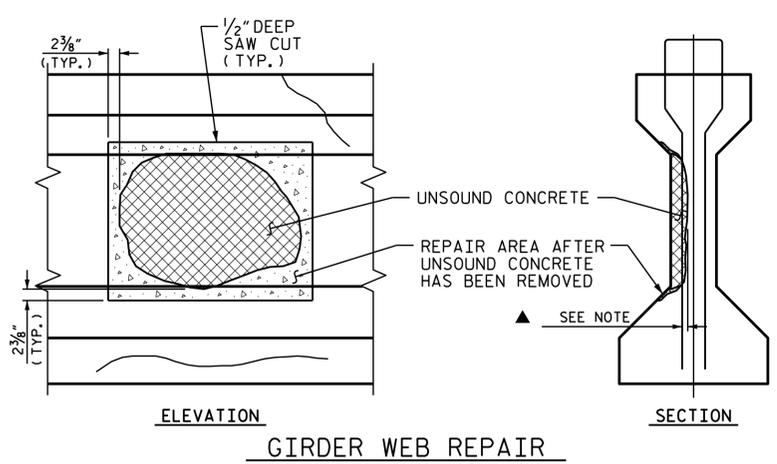
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUPERSTRUCTURE
 CONCRETE REPAIRS**

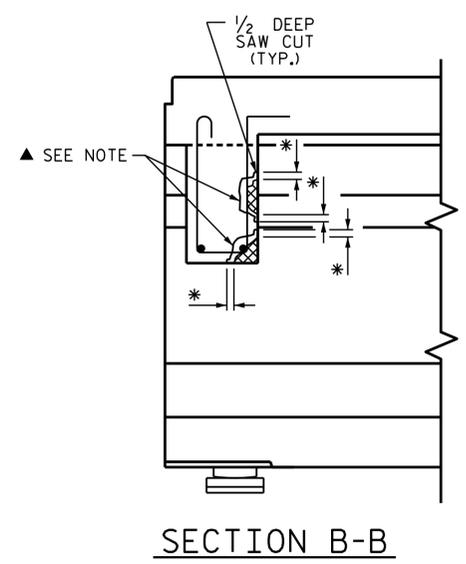
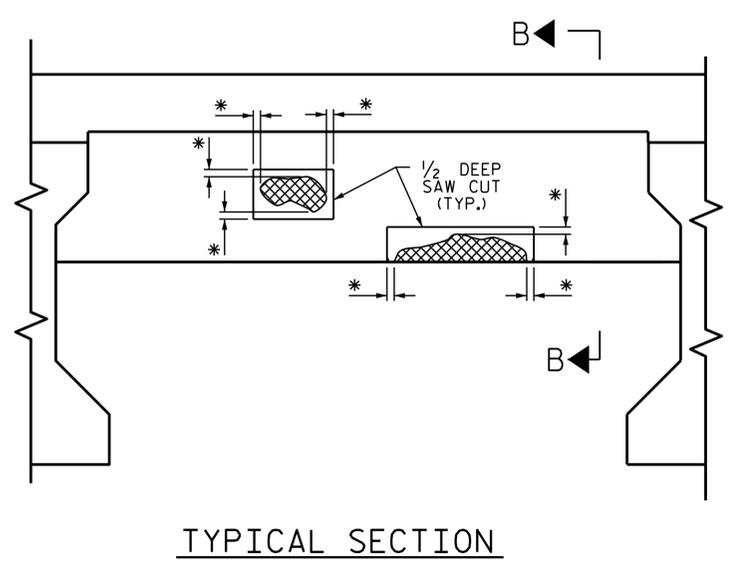
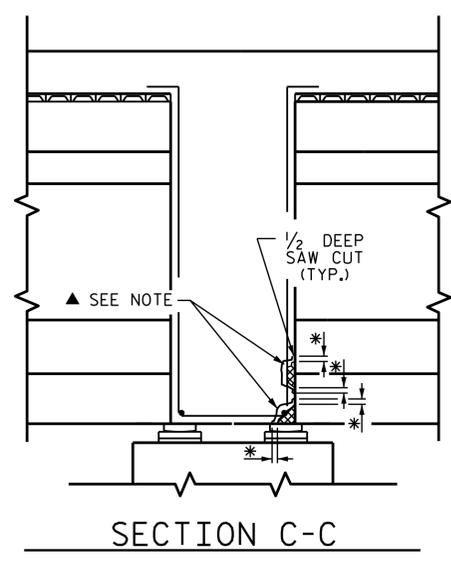
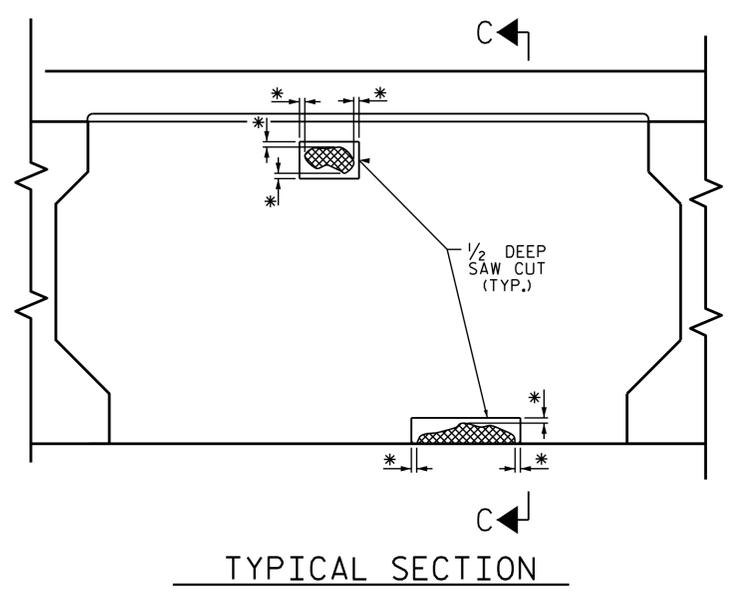
DRAWN BY : G. AYES DATE : 4/2022
 CHECKED BY : A. Y. GODFREY/A. G. ABRAHA DATE : 5/2022
 DESIGN ENGINEER OF RECORD: -- DATE : --

DOCUMENT NOT CONSIDERED
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-4
1			3			TOTAL SHEETS
2			4			7



PRESTRESSED GIRDER REPAIR



REPAIR KEY:



* 1/2" DEEP SAW CUT SHALL BE PLACED 2" INTO SOUND CONCRETE.

NOTES:

- PREPACKAGED MATERIAL IS REQUIRED.
- CONSULT WITH THE ENGINEER TO DETERMINE PRELOADING REQUIREMENTS WHEN REPAIR IS WITHIN THE CENTER REGION OF THE BEAM (0.25L TO 0.75L).
- FOR REPAIRS OVER TRAFFIC AND SHALLOW REPAIRS THAT DO NOT ENGAGE REINFORCEMENT, ANCHOR PATCH MATERIAL USING 1/4" GALVANIZED BOLTS, EPOXY ANCHORED WITH 2" EMBEDMENT. PLACE BOLTS IN A 6" GRID. USE A LATEX OR EPOXY PATCH MATERIAL FOR IMPROVED BOND. USE EXTREME CARE TO NOT DAMAGE STRANDS.
- FOR PRESTRESSED CONCRETE GIRDER REPAIRS, SEE SPECIAL PROVISIONS.

PRESTRESSED GIRDER REPAIR SEQUENCE:

- SOUND CONCRETE TO DETERMINE EXTENTS OF REPAIR LOCATION.
- REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL. SAW CUT AROUND REPAIR AREA TO A MINIMUM DEPTH OF 1/2".
- REMOVE CONCRETE WITHIN SAW CUT AREA TO MINIMUM 1/2" DEPTH. IF CONCRETE IS DAMAGED BEYOND THE ORIGINAL SAW CUT, A NEW SAW CUT IS REQUIRED.
- IF MORE THAN HALF THE CIRCUMFERENCE OF A REINFORCING BAR IS EXPOSED DURING THIS PROCESS, REMOVE ADDITIONAL CONCRETE TO 1" BEHIND THE BAR. THIS DOES NOT APPLY TO PRESTRESSED STRANDS.
- ALL UNSOUND CONCRETE MUST BE REMOVED, HOWEVER, PRESTRESSED STRANDS SHOULD NOT BE DISTURBED UNLESS ABSOLUTELY NECESSARY. USE EXTREME CARE TO NOT DAMAGE STRANDS.
- CLEAN ALL EXPOSED REINFORCING BARS AND PRESTRESSED STRANDS IN ACCORDANCE WITH THE REPAIRS TO PRESTRESSED CONCRETE GIRDERS SPECIAL PROVISION. FOR BARS WITH MORE THAN 10% SECTION LOSS, SPLICE AND SECURELY TIE SUPPLEMENTAL REINFORCING BARS AS NEEDED. NOTE AND PROVIDE DETAILED DOCUMENTATION, INCLUDING LOCATION AND SEVERITY, OF ALL DAMAGE TO PRESTRESSED STRANDS THAT EXCEEDS 10% SECTION LOSS. IF FIVE OR MORE STRANDS ARE DAMAGED, NOTIFY THE ENGINEER PRIOR TO PLACEMENT OF REPAIR MATERIAL.
- REMOVE ALL LOOSE OR WEAKENED MATERIAL THEN CLEAN THE REPAIR AREA OF DIRT, GREASE, OIL, AND FOREIGN MATTER.
- PREPARE SURFACE AND PLACE APPROVED REPAIR MATERIAL ACCORDING TO PRESTRESSED CONCRETE GIRDER REPAIRS SPECIAL PROVISION. MAXIMUM AGGREGATE SIZE FOR REPAIR MATERIAL SHALL NOT EXCEED 2/3 THE MINIMUM REPAIR DEPTH.

PROJECT NO. HI-0007
WILSON COUNTY
 BRIDGE NO. 970244



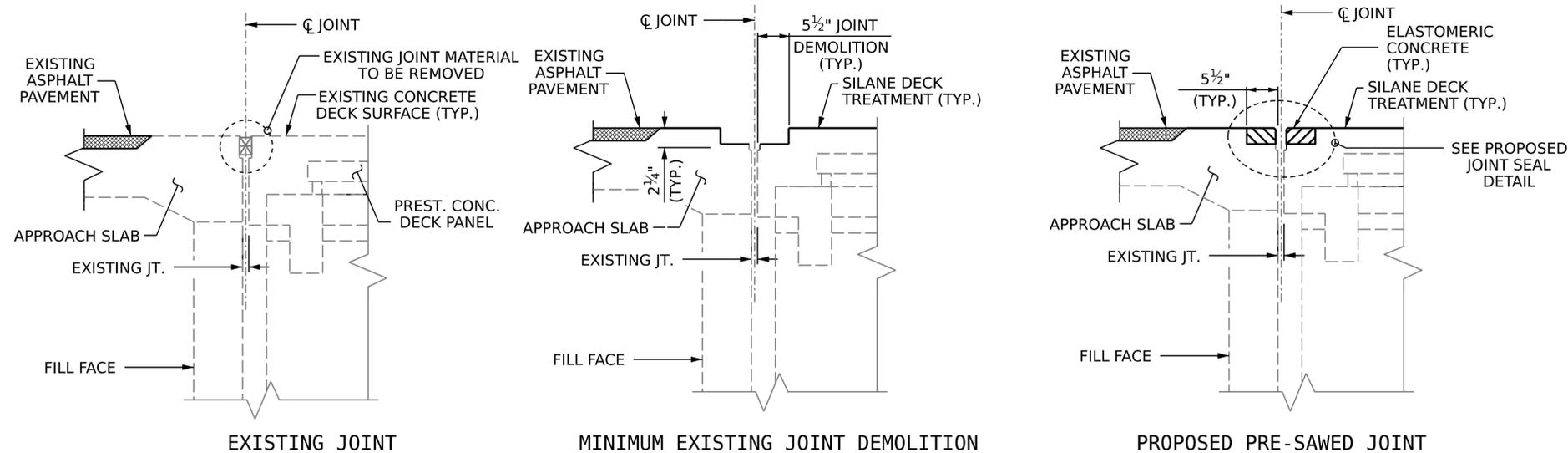
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**PRESTRESSED CONCRETE
 GIRDER AND DIAPHRAGM
 REPAIR DETAILS**

ASSEMBLED BY : G. A.	DATE : 5/2022
CHECKED BY : A. G. A.	DATE : 5/2022
DRAWN BY : NAP 08/18	
CHECKED BY :	

BENT DIAPHRAGM REPAIR DETAIL
 (EXAMPLE DETAILS ONLY. ACTUAL REBAR SIZE & LOCATION MAY VARY)

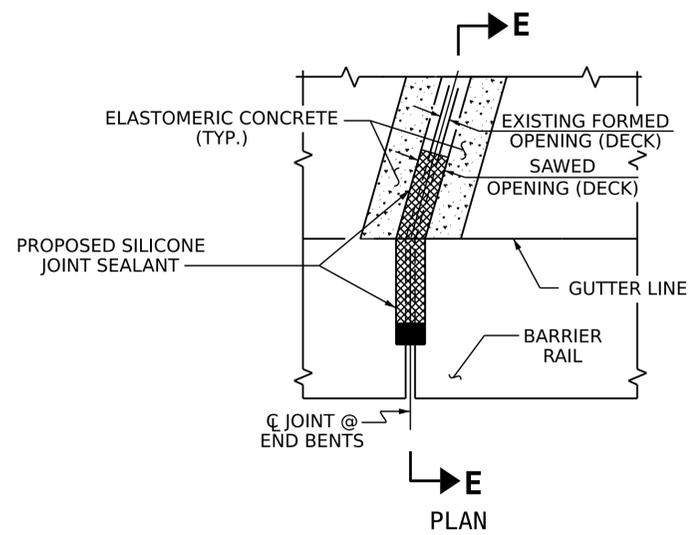
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-5
1			3			TOTAL SHEETS
2			4			7

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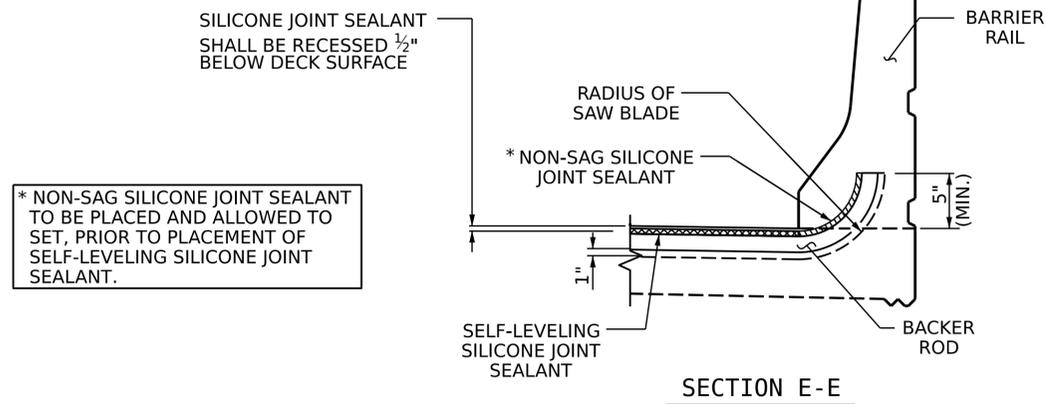


JOINT INSTALLATION SEQUENCE AT END BENTS
SECTION A-A

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
ELASTOMERIC CONCRETE FOR PRESERVATION	16.6 CF	
POURABLE SILICONE JOINT SEALANT	96.6 LF	



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.

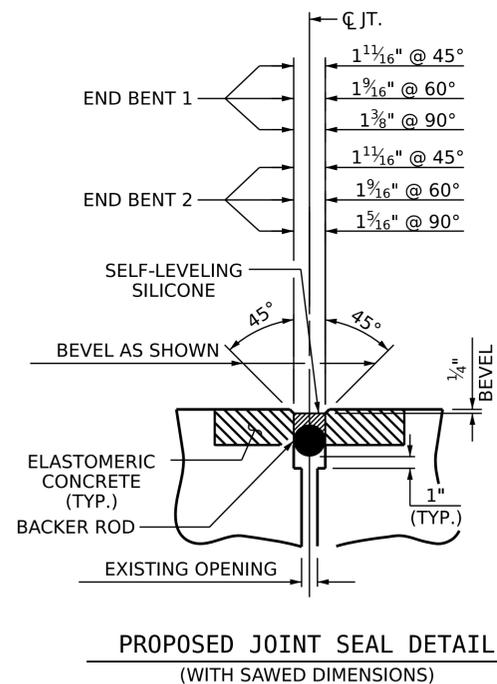
THE INSTALLATION OF JOINT SEAL SHALL BE WATERTIGHT.

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)

PROJECT NO. **HI-0007**
WILSON COUNTY
BRIDGE NO. **970244**



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**JOINT REPAIR
DETAILS**

DRAWN BY : G. AYES DATE : 4/2022
CHECKED BY : A. G. ABRAH/A. Y. GODFREY DATE : 5/2022
DESIGN ENGINEER OF RECORD: -- DATE : --

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

REVISIONS				SHEET NO.
NO.	BY:	DATE:	NO.	DATE:
1			3	
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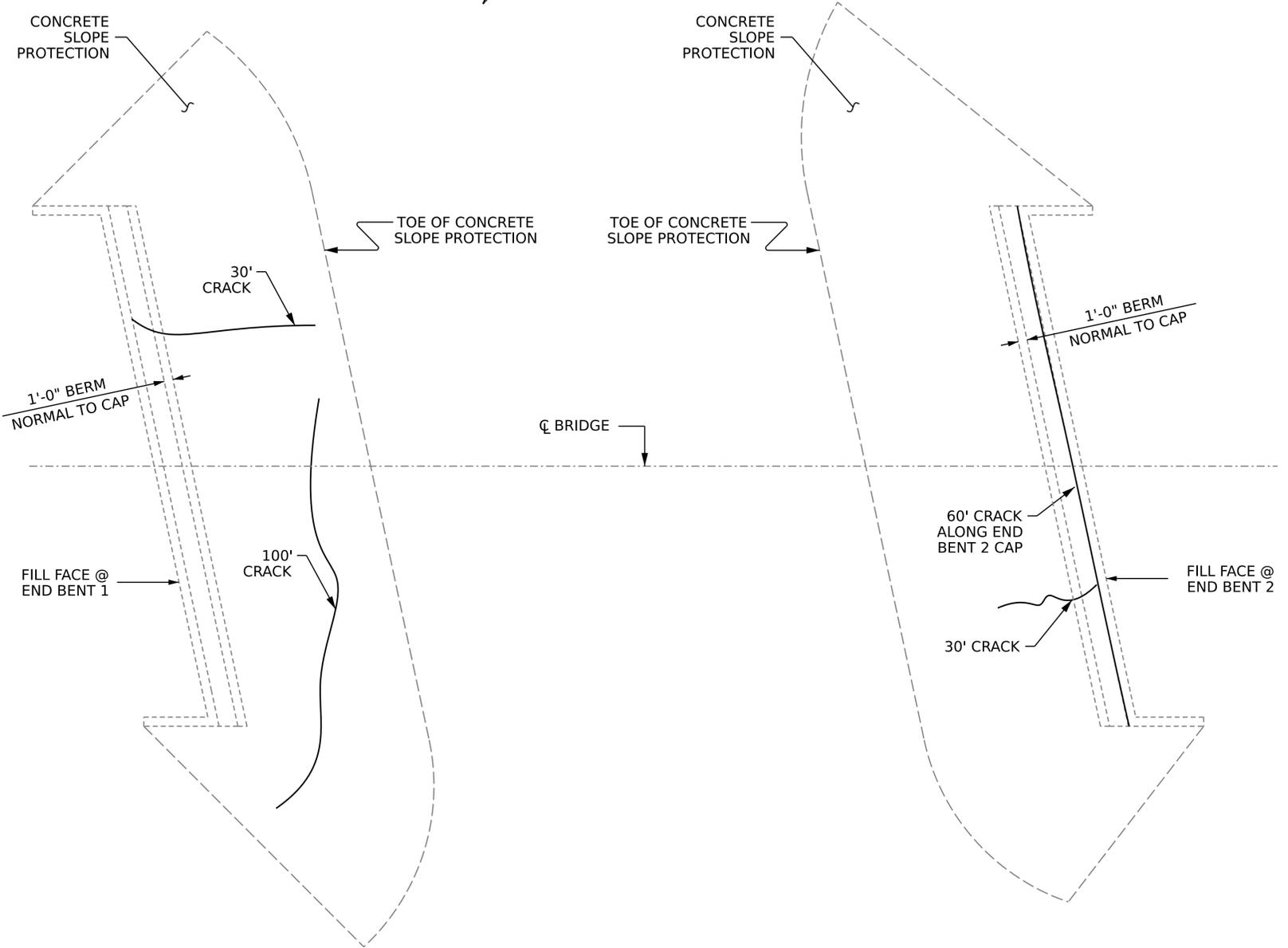
S2-6
TOTAL SHEETS
7

REPAIR QUANTITY TABLE		
SLOPE PROTECTION @ BRIDGE 970244	POURABLE SILICONE JOINT SEALANT	
	ESTIMATE	ACTUAL
END BENT 1	130.0	
END BENT 2	90.0	

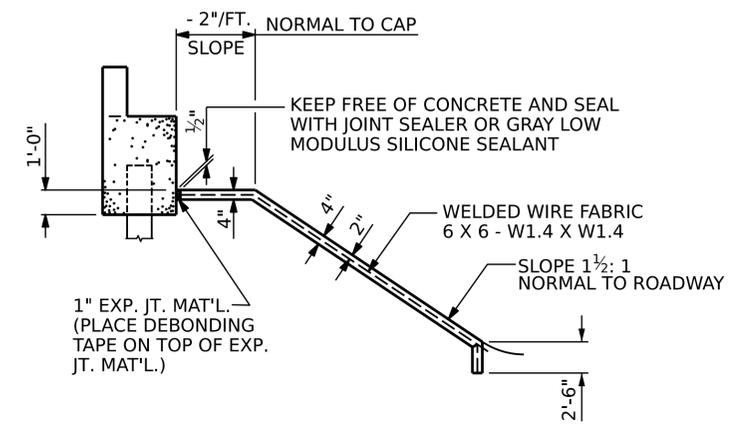
NOTES:

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SEAL CRACKS IDENTIFIED AND JOINTS ALONG THE TOP OF SLOPE PROTECTION AND BERM WITH POURABLE SILICONE JOINT SEALANT. FOR DETAILS SEE PROPOSED JOINT SEAL DETAILS, SHEET S2-6.



SLOPE PROTECTION REPAIR LOCATIONS

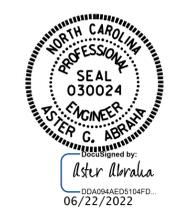


SLOPE PROTECTION TYPICAL SECTION ALONG \bar{C} BRIDGE

REPAIR KEY

~~~~~ SLOPE PROTECTION CRACKS

PROJECT NO. **HI-0007**  
**WILSON** COUNTY  
 BRIDGE NO. **970244**



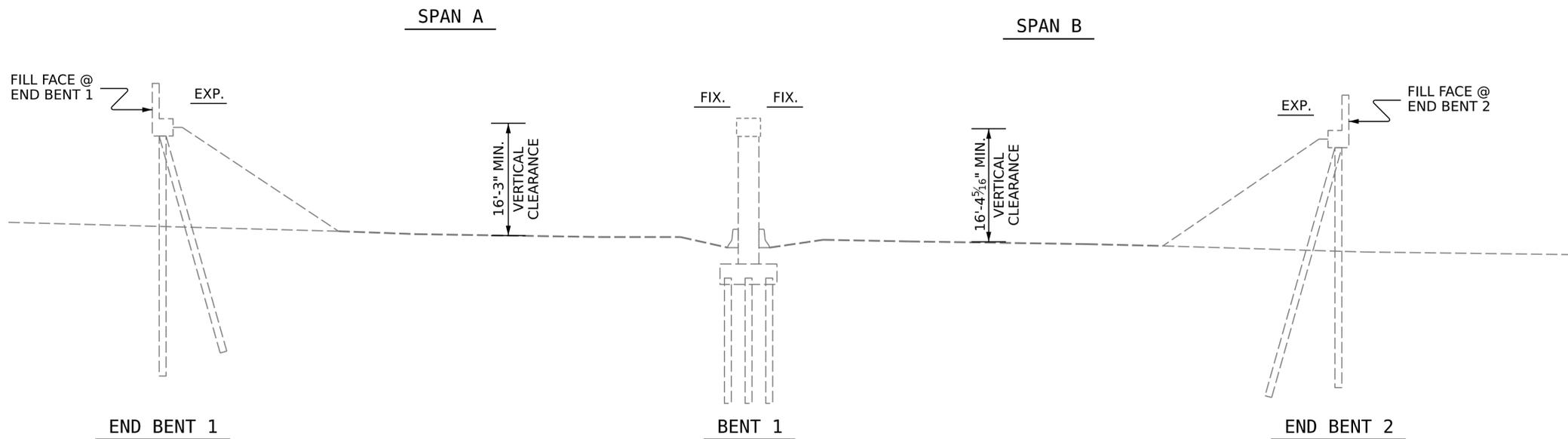
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**SLOPE PROTECTION  
 REPAIR DETAILS**

DRAWN BY : G. AYES DATE : 5/2022  
 CHECKED BY : A. G. ABRAHA DATE : 5/2022  
 DESIGN ENGINEER OF RECORD: \_\_\_\_\_ DATE : \_\_\_\_\_

DOCUMENT NOT CONSIDERED  
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| REVISIONS |     |       |     |       | SHEET NO.<br>S2-7 |
|-----------|-----|-------|-----|-------|-------------------|
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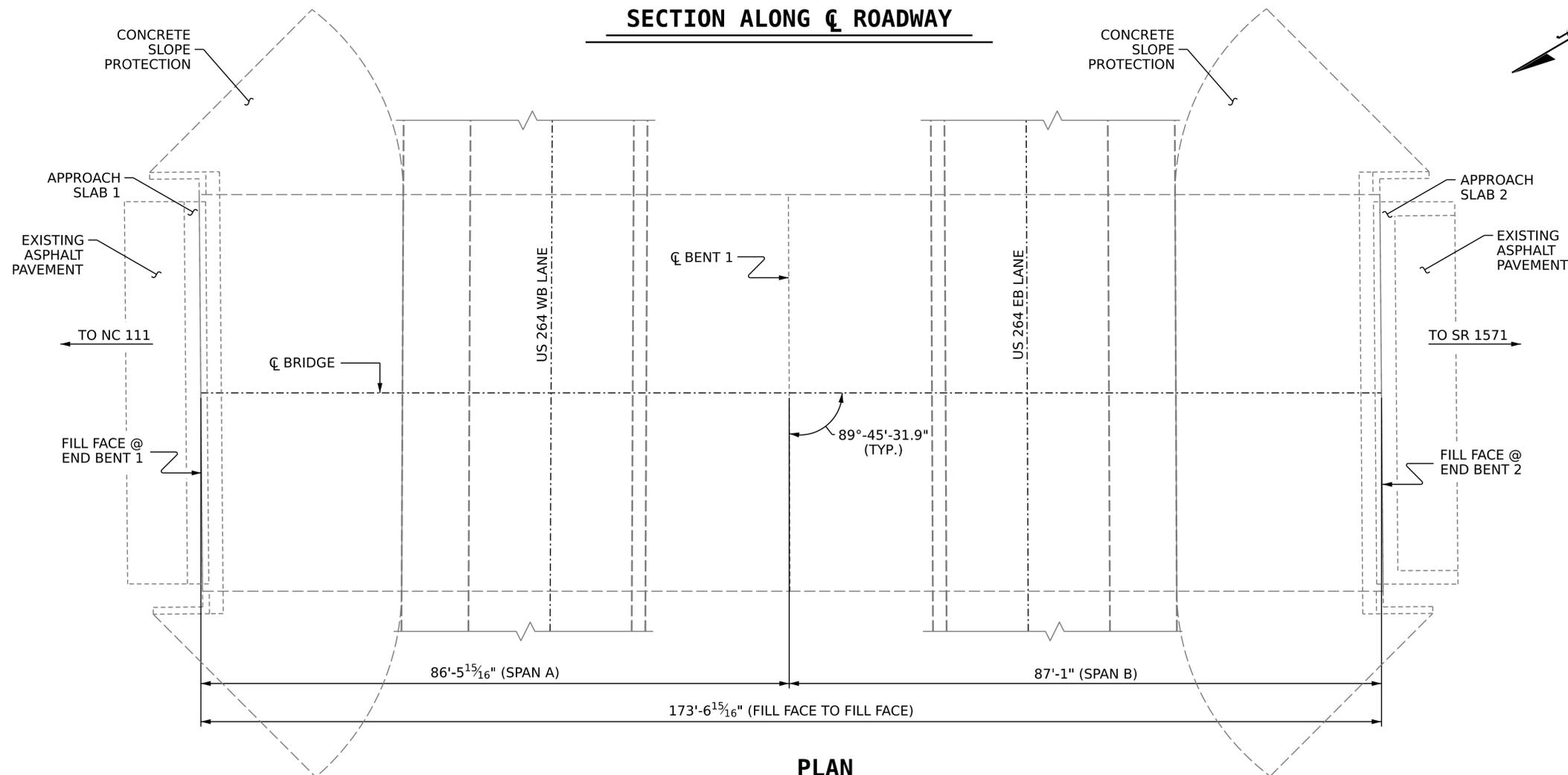
**NOTES**

- PROFILE INFORMATION IS TAKEN FROM ORIGINAL PLANS AND INSPECTION REPORT DATED 03/19/2020.
- BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

**SCOPE OF WORK**

- BRIDGE DECK SURFACE PREPARATION.
- PLACE SILANE DECK TREATMENT.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- RECONSTRUCT BRIDGE JOINTS WITH ELASTOMERIC CONCRETE, INSTALL BACKER ROD, AND POURABLE SILICONE JOINT SEALANT.

**SECTION ALONG  $\phi$  ROADWAY**



**PLAN**

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

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

RESIDENT ENGINEER \_\_\_\_\_

DATE \_\_\_\_\_

PROJECT NO. **HI-0007**  
**WILSON** COUNTY  
 BRIDGE NO. **970270**



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 FOR BRIDGE 270 ON NC 222/  
 NC 111 OVER US 264,  
 BETWEEN NC 111 AND SR 1571

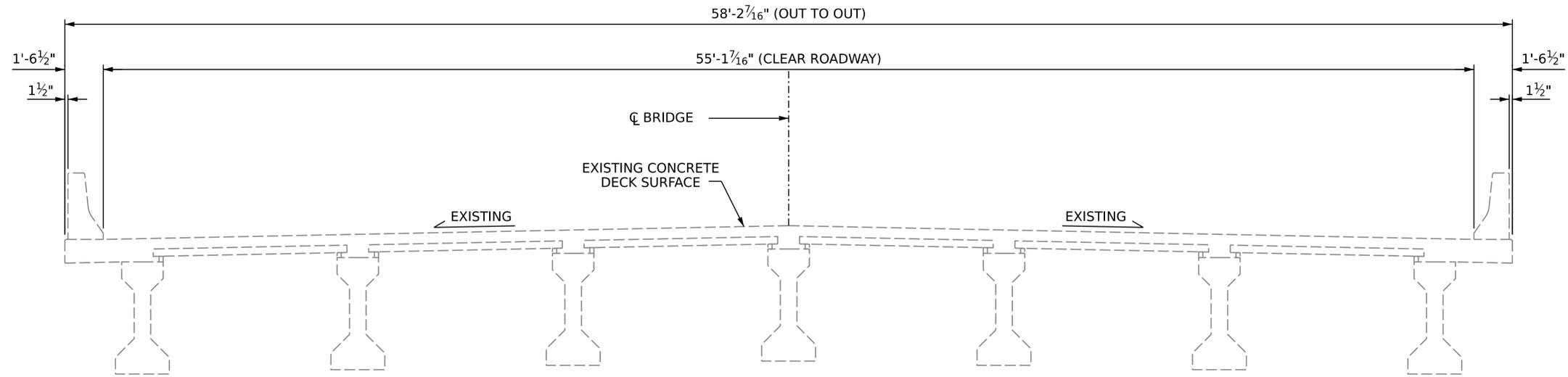
DRAWN BY : G. AYES      DATE : 3/2022  
 CHECKED BY : A. G. ABRAHA      DATE : 5/2022  
 DESIGN ENGINEER OF RECORD: --      DATE : --

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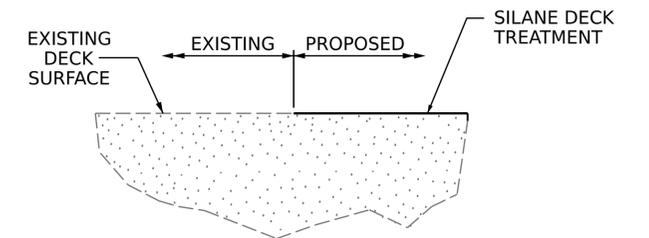
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**NOTES**

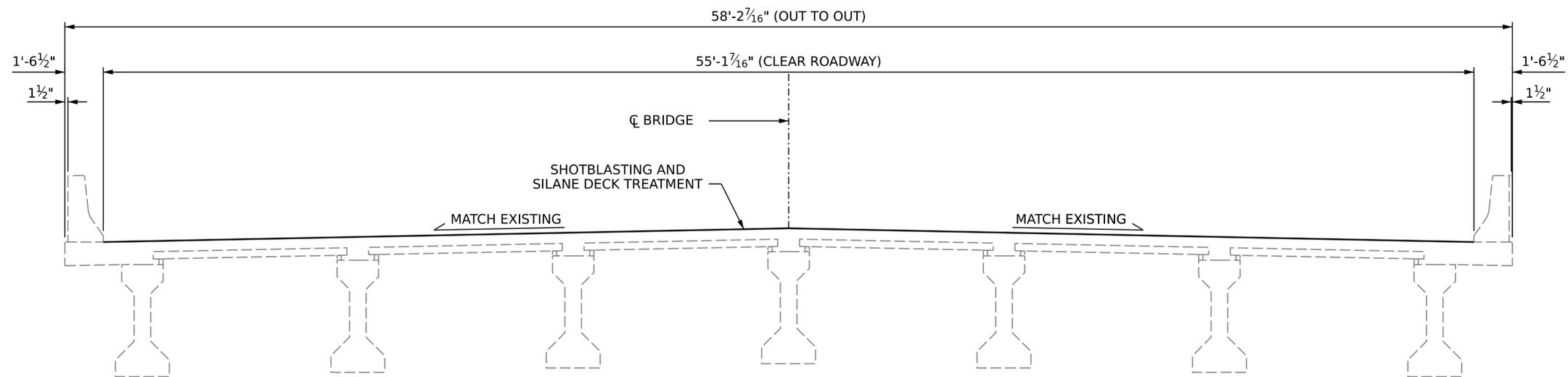
SEE TRAFFIC PLANS FOR LANE WIDTH, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF SURFACE PREPARATION AND SILANE DECK TREATMENT.



**TYPICAL SECTION**  
(EXISTING)



**SILANE DECK TREATMENT DETAIL**



**TYPICAL SECTION**  
(PROPOSED)

PROJECT NO. **HI-0007**  
**WILSON** COUNTY  
 BRIDGE NO. **970270**



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**SUPERSTRUCTURE**  
 TYPICAL SECTION  
 AND SILANE DECK  
 TREATMENT DETAILS

| REVISIONS |     |       |     |     |       | SHEET NO.    |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO.       | BY: | DATE: | NO. | BY: | DATE: | S3-2         |
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| 2         |     |       | 4   |     |       | 4            |

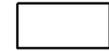
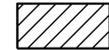
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

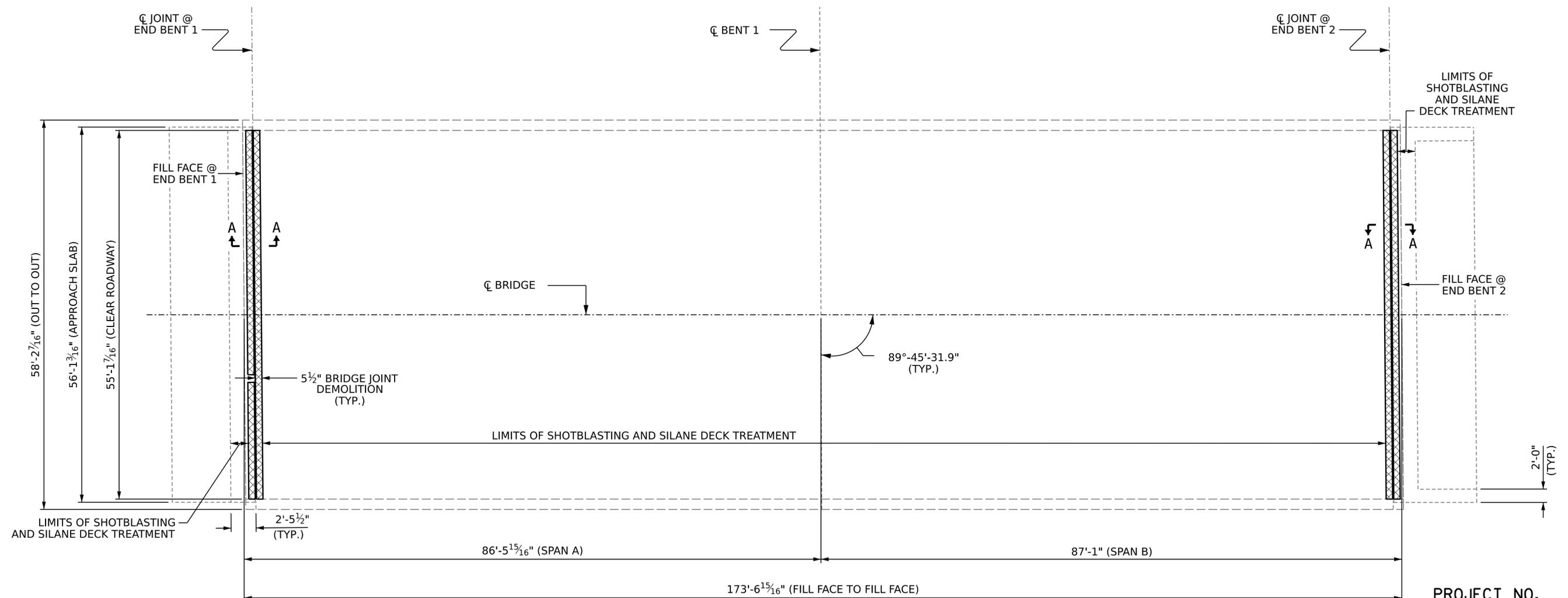
DRAWN BY : G. AYES DATE : 3/2022  
 CHECKED BY : A. G. ABRAHA DATE : 5/2022  
 DESIGN ENGINEER OF RECORD: -- DATE : --

### SUMMARY OF QUANTITIES FOR DECK AND APPROACH SLABS

|                                                | ESTIMATE   | ACTUAL |
|------------------------------------------------|------------|--------|
| SHOTBLASTING BRIDGE DECK                       | 1,069.2 SY |        |
| SILANE DECK TREATMENT                          | 1,069.2 SY |        |
| CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT | 0 SF       |        |
| BRIDGE JOINT DEMOLITION                        | 101.1 SF   |        |

### REPAIR KEY

-  - SHOTBLASTING AND SILANE DECK TREATMENT
-  - CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT
-  - BRIDGE JOINT DEMOLITION



### PLAN OF SPANS

PROJECT NO. **HI-0007**  
**WILSON** COUNTY  
 BRIDGE NO. **970270**



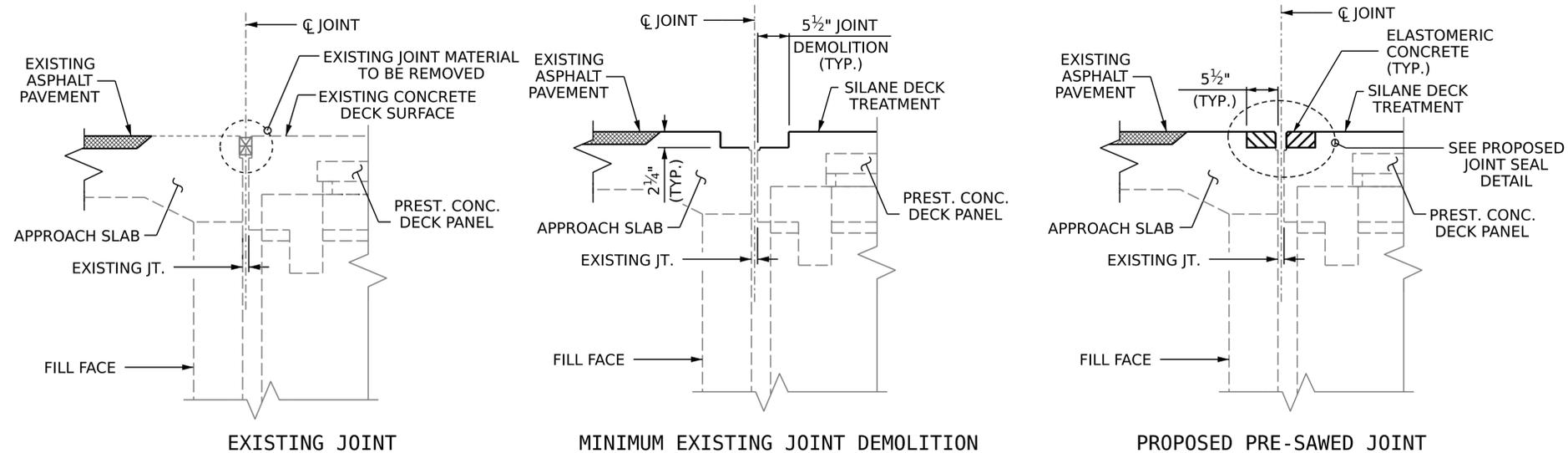
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

### SILANE DECK TREATMENT

DRAWN BY : G. AYES DATE : 3/2022  
 CHECKED BY : A. G. ABRAHA DATE : 5/2022  
 DESIGN ENGINEER OF RECORD: -- DATE : --

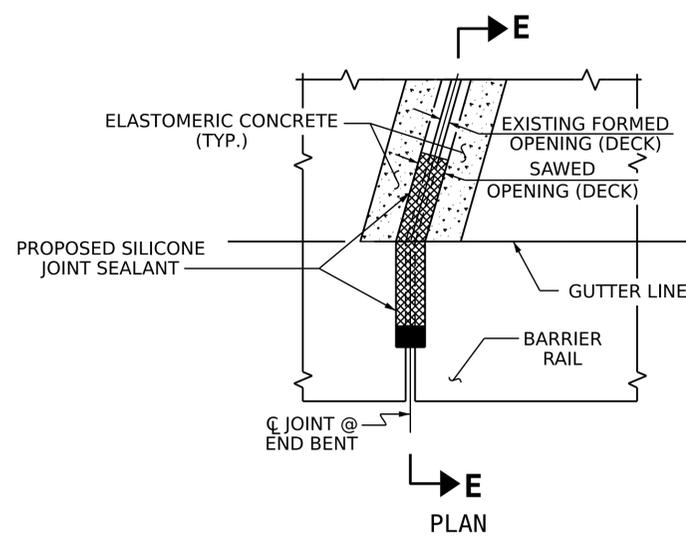
DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

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



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

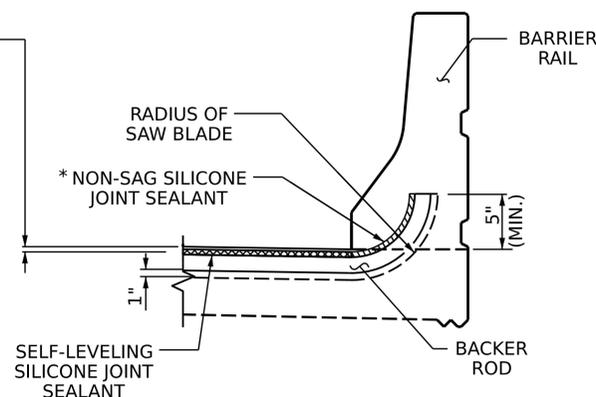
| SUMMARY OF QUANTITIES                 |          |        |
|---------------------------------------|----------|--------|
|                                       | ESTIMATE | ACTUAL |
| ELASTOMERIC CONCRETE FOR PRESERVATION | 18.9 CF  |        |
| POURABLE SILICONE JOINT SEALANT       | 110.2 LF |        |



**JOINT DETAIL AT BARRIER RAIL**

\* NON-SAG SILICONE JOINT SEALANT TO BE PLACED AND ALLOWED TO SET, PRIOR TO PLACEMENT OF SELF-LEVELING SILICONE JOINT SEALANT.

SILICONE JOINT SEALANT SHALL BE RECESSED 1/2" BELOW DECK SURFACE



**SECTION E-E**

**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.

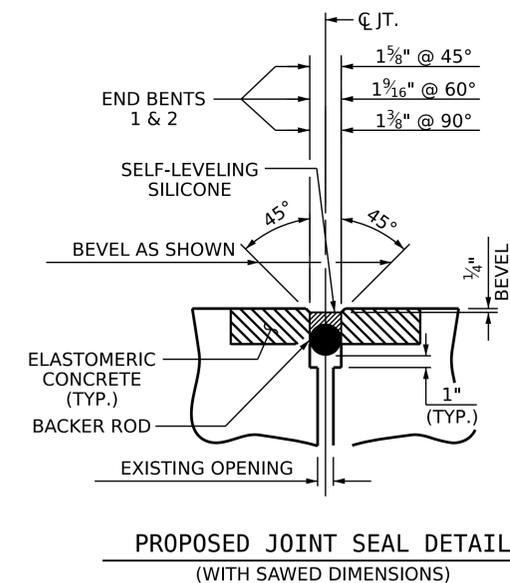
THE INSTALLATION OF JOINT SEAL SHALL BE WATERTIGHT.

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)

PROJECT NO. **HI-0007**  
**WILSON** COUNTY  
BRIDGE NO. **970270**



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**JOINT REPAIR DETAILS**

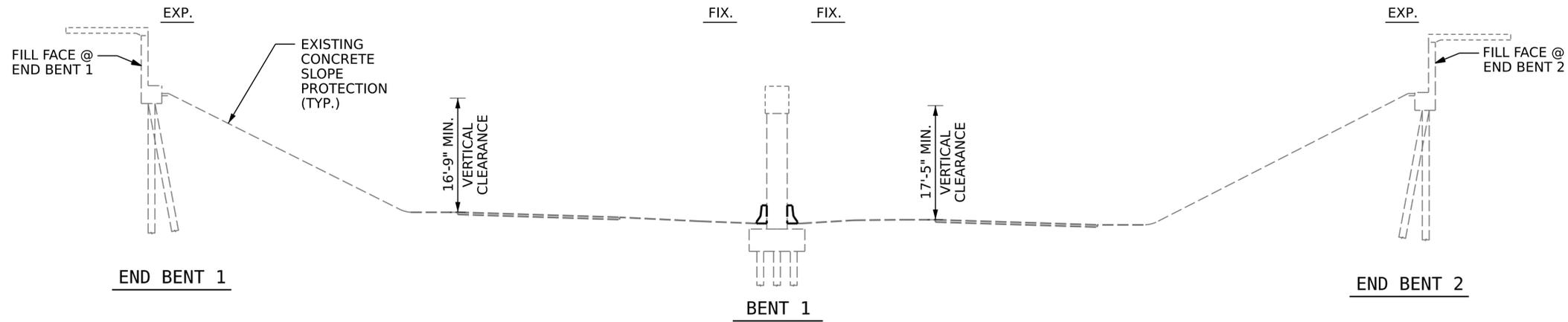
DRAWN BY : G. AYES DATE : 4/2022  
CHECKED BY : A. G. ABRAHAMA, A. Y. GODFREY DATE : 5/2022  
DESIGN ENGINEER OF RECORD: -- DATE : --

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

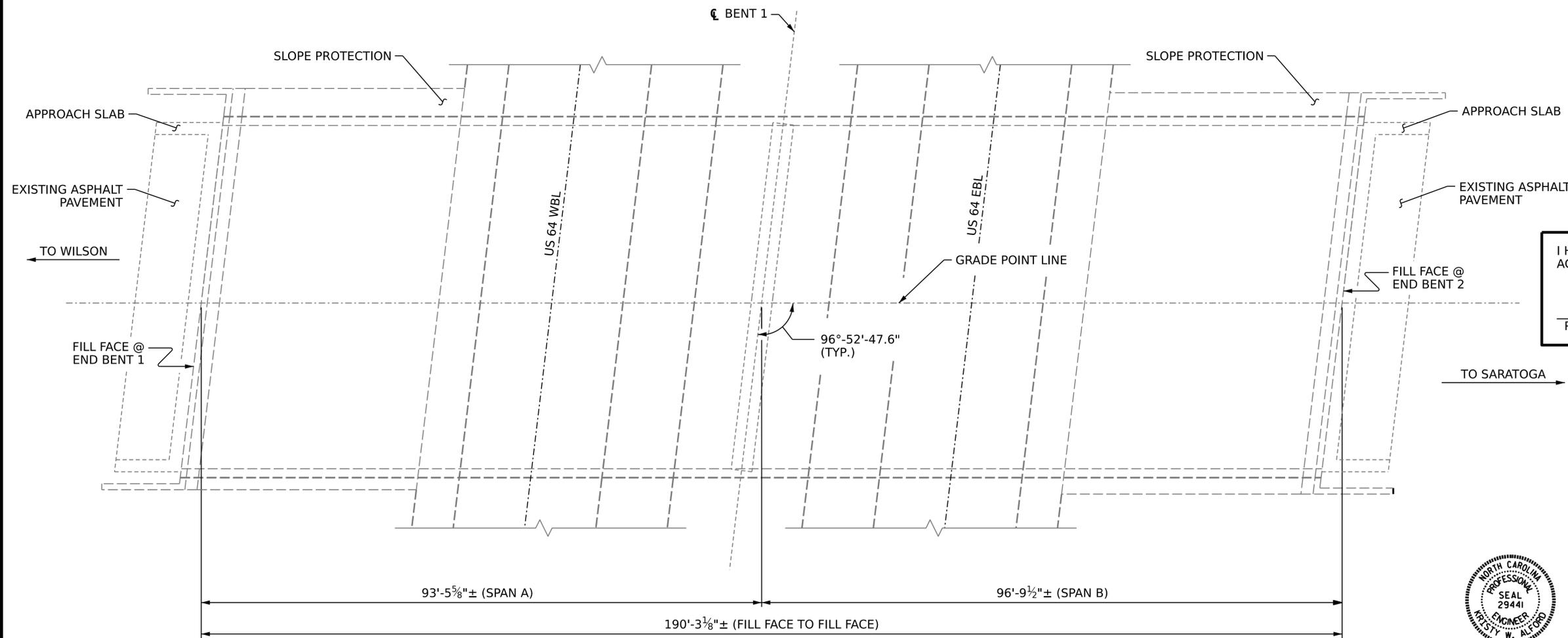
| REVISIONS |     |       |     |     |       | SHEET NO.    |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO.       | BY: | DATE: | NO. | BY: | DATE: | S3-4         |
| 1         |     |       | 3   |     |       | TOTAL SHEETS |
| 2         |     |       | 4   |     |       | 4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

SPAN A

SPAN B



SECTION ALONG  $\phi$  ROADWAY



PLAN

(COLUMN & PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

NOTES

- PROFILE INFORMATION IS TAKEN FROM ORIGINAL PLANS AND INSPECTION REPORT DATED 03/22/2022.
- BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.
- FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

SCOPE OF WORK

- BRIDGE DECK PREPARATION BY SHOTBLASTING METHODS.
- PLACE SILANE DECK TREATMENT.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- RECONSTRUCT BRIDGE JOINTS WITH ELASTOMERIC CONCRETE AND INSTALL BACKER ROD AND POURABLE SILICONE JOINT SEALANT.
- REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE AREAS FOR SHOTCRETE REPAIRS.
- PERFORM SHOTCRETE REPAIRS.
- PROPERLY PREPARE AND SEAL CRACKING IN SLOPE PROTECTION WITH SILICONE JOINT SEALANT.

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

RESIDENT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

PROJECT NO. **HI-0007**  
**WILSON** COUNTY  
 BRIDGE NO. **970287**



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**GENERAL DRAWING  
 BRIDGE ON US 264 ALT.  
 OVER US 264 BETWEEN  
 WILSON & SARATOGA**

DRAWN BY : A. Y. GODFREY / G. AYES DATE : 02/2022  
 CHECKED BY : A. G. ABRAHA DATE : 04/2022  
 DESIGN ENGINEER OF RECORD: -- DATE : --

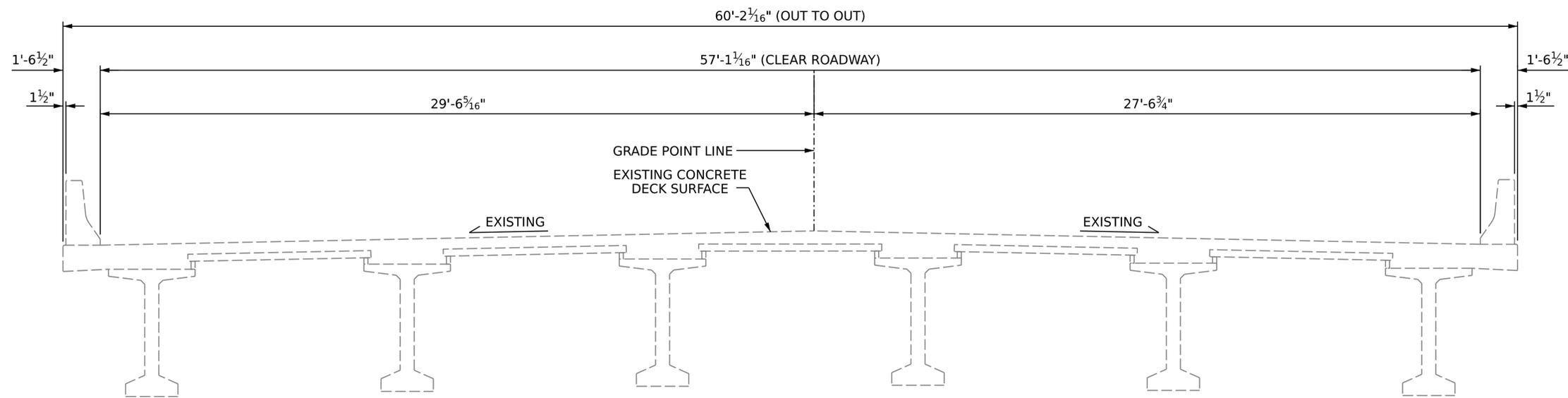
| REVISIONS |     |       |     | SHEET NO. |
|-----------|-----|-------|-----|-----------|
| NO.       | BY: | DATE: | NO. | DATE:     |
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| 2         |     |       | 4   |           |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

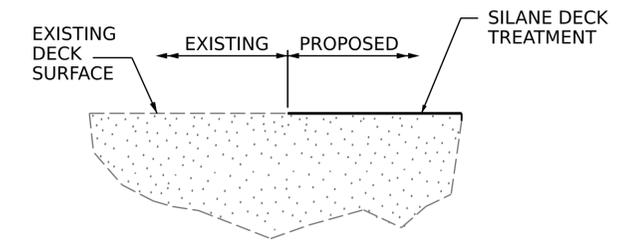
TOTAL SHEETS: 8

**NOTES**

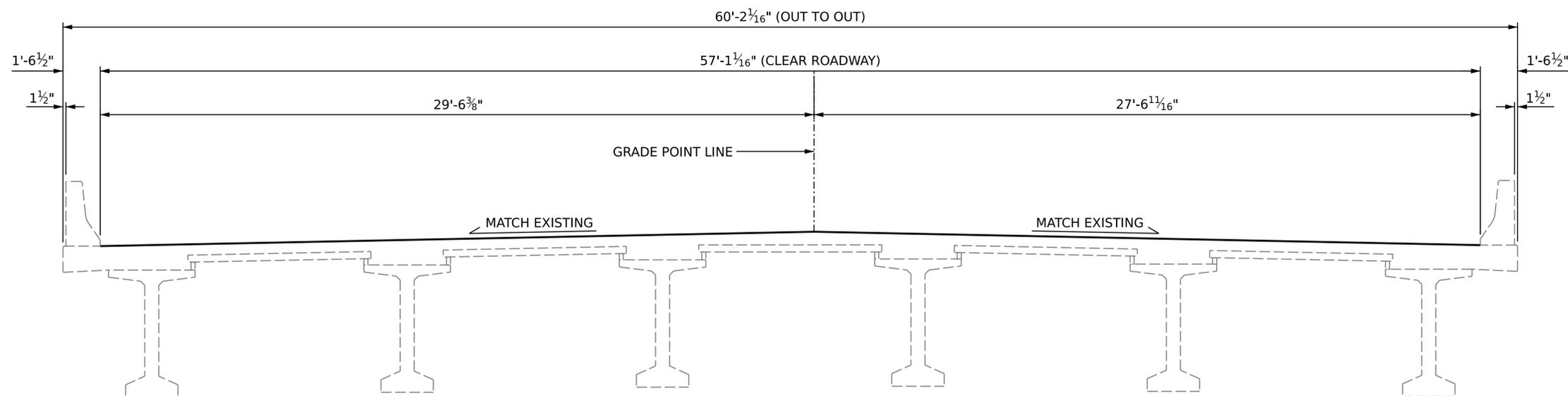
SEE TRAFFIC PLANS FOR LANE WIDTH, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF SURFACE PREPARATION AND SILANE DECK TREATMENT.



**TYPICAL SECTION**  
(EXISTING)



**SILANE DECK TREATMENT DETAIL**



**TYPICAL SECTION**  
(PROPOSED)

PROJECT NO. **HI-0007**  
**WILSON** COUNTY  
 BRIDGE NO. **970287**



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**SUPERSTRUCTURE**  
 TYPICAL SECTION  
 AND SILANE DECK  
 TREATMENT DETAILS

DRAWN BY : G. AYES DATE : 4/2022  
 CHECKED BY : A. G. ABRAHA DATE : 4/2022  
 DESIGN ENGINEER OF RECORD: -- DATE : --

6/22/2022  
 S:\DPG\Division4\HI-0007\Plans\970287\404.003.HI-0007.SMU.TS.S4-2.970287.dgn  
 aabraha

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

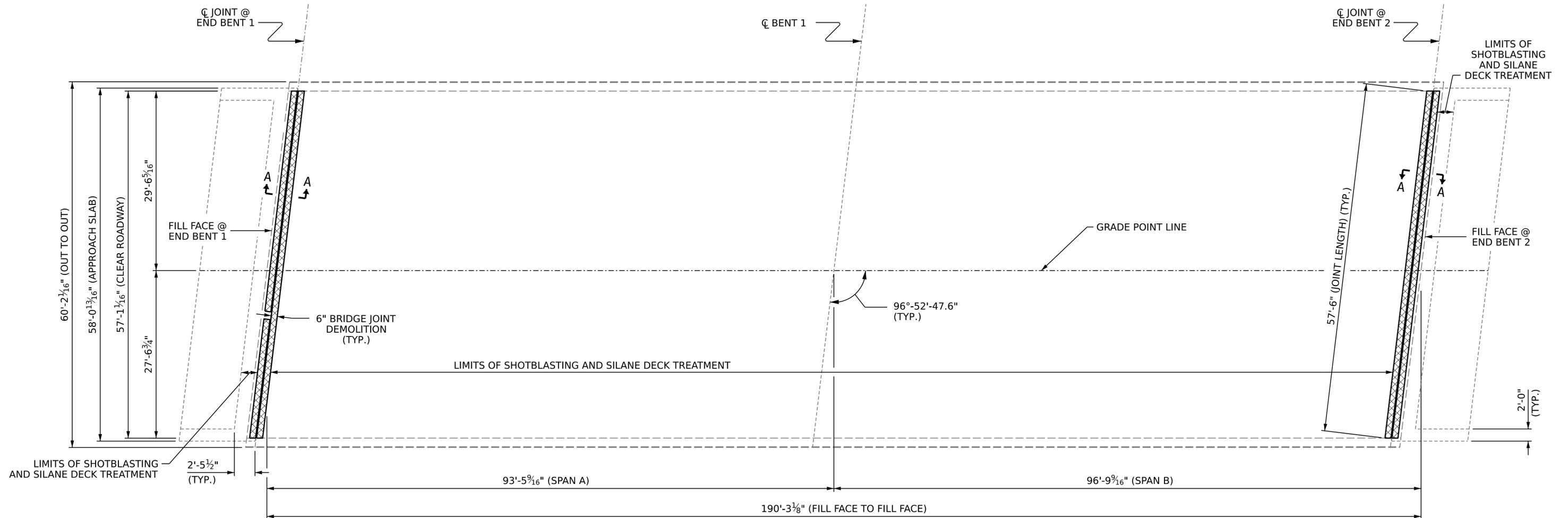
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|-----------|-----|-------|-----|-----|-------|--------------|
| NO.       | BY: | DATE: | NO. | BY: | DATE: | S4-2         |
| 1         |     |       | 3   |     |       | TOTAL SHEETS |
| 2         |     |       | 4   |     |       | 8            |

### SUMMARY OF QUANTITIES FOR DECK AND APPROACH SLABS

|                                                | ESTIMATE   | ACTUAL |
|------------------------------------------------|------------|--------|
| SHOTBLASTING BRIDGE DECK                       | 1,211.6 SY |        |
| SILANE DECK TREATMENT                          | 1,211.6 SY |        |
| CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT | 0 SF       |        |
| BRIDGE JOINT DEMOLITION                        | 115.0 SF   |        |

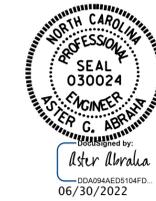
### REPAIR KEY

-  - SHOTBLASTING AND SILANE DECK TREATMENT
-  - CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT
-  - BRIDGE JOINT DEMOLITION



### PLAN OF SPANS

PROJECT NO. **HI-0007**  
**WILSON** COUNTY  
 BRIDGE NO. **970287**



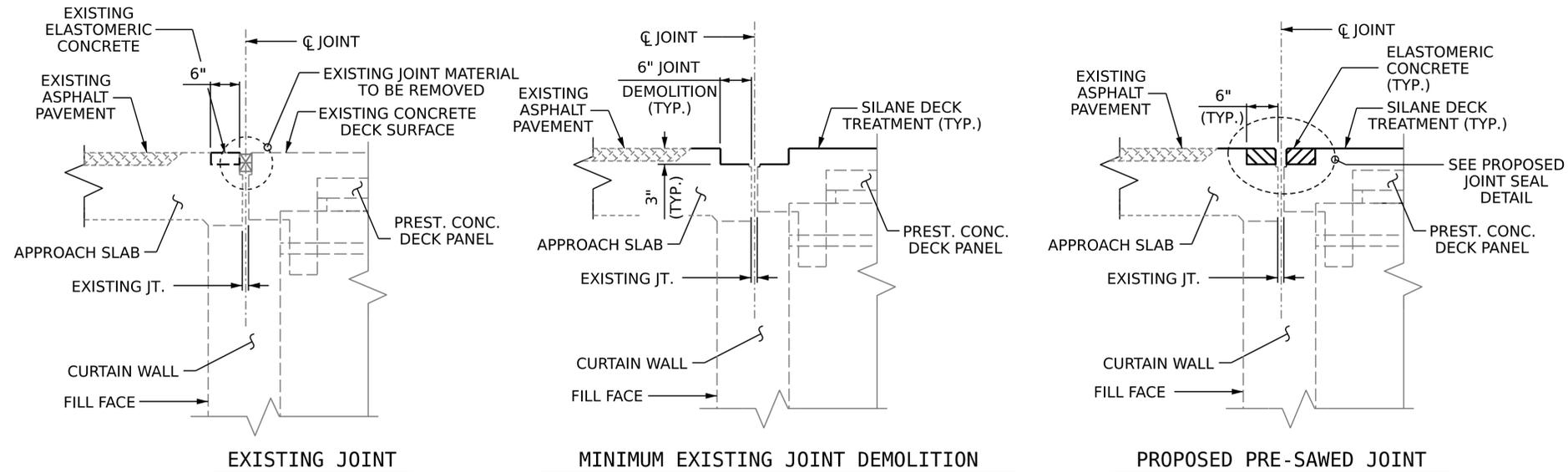
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

## SILANE DECK TREATMENT

DRAWN BY : G. AYES DATE : 4/2022  
 CHECKED BY : A. G. ABRAHA DATE : 4/2022  
 DESIGN ENGINEER OF RECORD : -- DATE : --

| REVISIONS |     |       |     |     |       | SHEET NO.      |
|-----------|-----|-------|-----|-----|-------|----------------|
| NO.       | BY: | DATE: | NO. | BY: | DATE: |                |
| 1         |     |       | 3   |     |       | S4-3           |
| 2         |     |       | 4   |     |       | TOTAL SHEETS 8 |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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

**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.

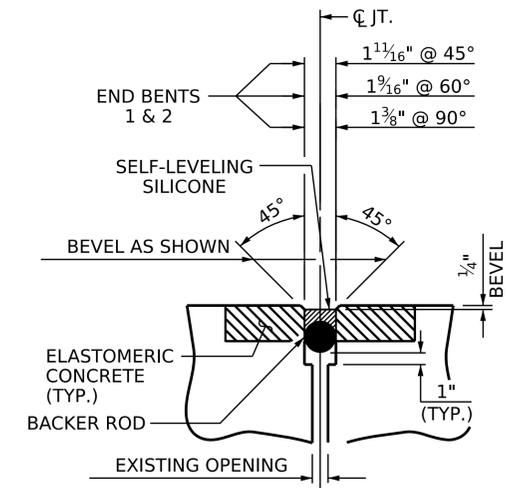
DURING JOINT INSTALLATION PROCEDURE, THE JOINT AND SURROUNDING AREA SHALL BE KEPT CLEAN AND FREE OF DEBRIS.

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.

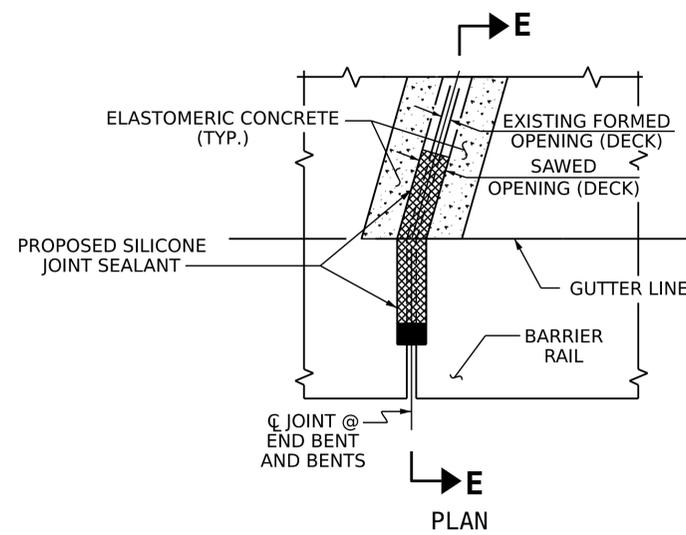
FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL OR ELASTOMERIC CONCRETE SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF REPAIR CONCRETE OR ELASTOMERIC CONCRETE.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

| SUMMARY OF QUANTITIES                 |          |        |
|---------------------------------------|----------|--------|
|                                       | ESTIMATE | ACTUAL |
| ELASTOMERIC CONCRETE FOR PRESERVATION | 28.8 CF  |        |
| POURABLE SILICONE JOINT SEALANT       | 115.0 LF |        |



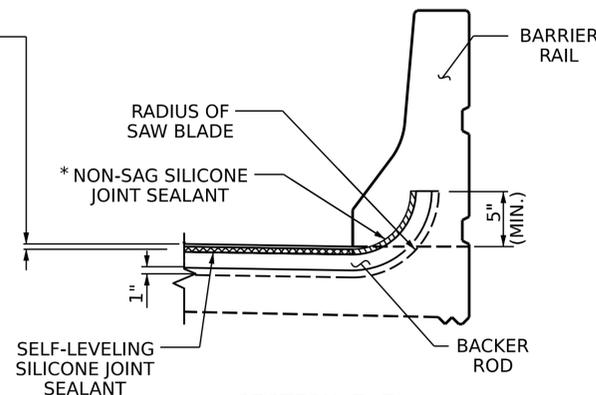
**PROPOSED JOINT SEAL DETAIL**  
(WITH SAWED DIMENSIONS)



**PLAN**

SILICONE JOINT SEALANT SHALL BE RECESSED 1/2" BELOW DECK SURFACE

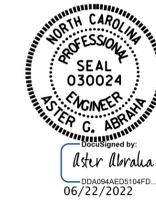
\* NON-SAG SILICONE JOINT SEALANT TO BE PLACED AND ALLOWED TO SET, PRIOR TO PLACEMENT OF SELF-LEVELING SILICONE JOINT SEALANT.



**SECTION E-E**

**JOINT DETAIL AT BARRIER RAIL**

PROJECT NO. **HI-0007**  
**WILSON** COUNTY  
BRIDGE NO. **970287**



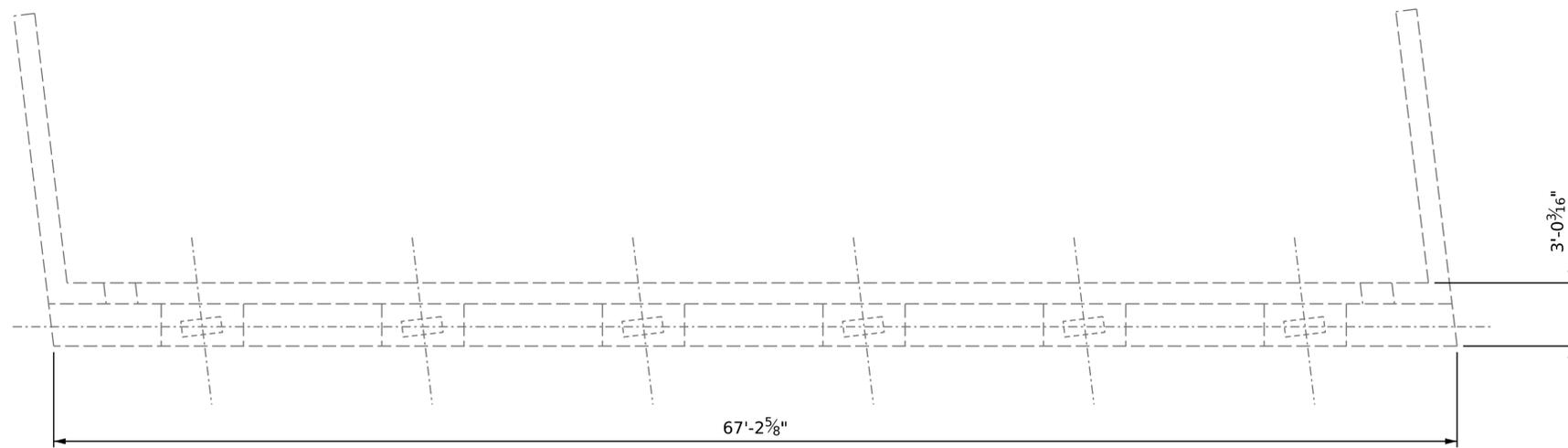
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**JOINT REPAIR DETAILS**

DRAWN BY : G. AYES DATE : 4/2022  
CHECKED BY : A. G. ABRAH/A. Y. GODFREY DATE : 4/2022  
DESIGN ENGINEER OF RECORD: -- DATE : --

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS |     |       |     |     |       | SHEET NO.<br>S4-4 |
|-----------|-----|-------|-----|-----|-------|-------------------|
| NO.       | BY: | DATE: | NO. | BY: | DATE: |                   |
| 1         |     |       | 3   |     |       | TOTAL SHEETS      |
| 2         |     |       | 4   |     |       | 8                 |

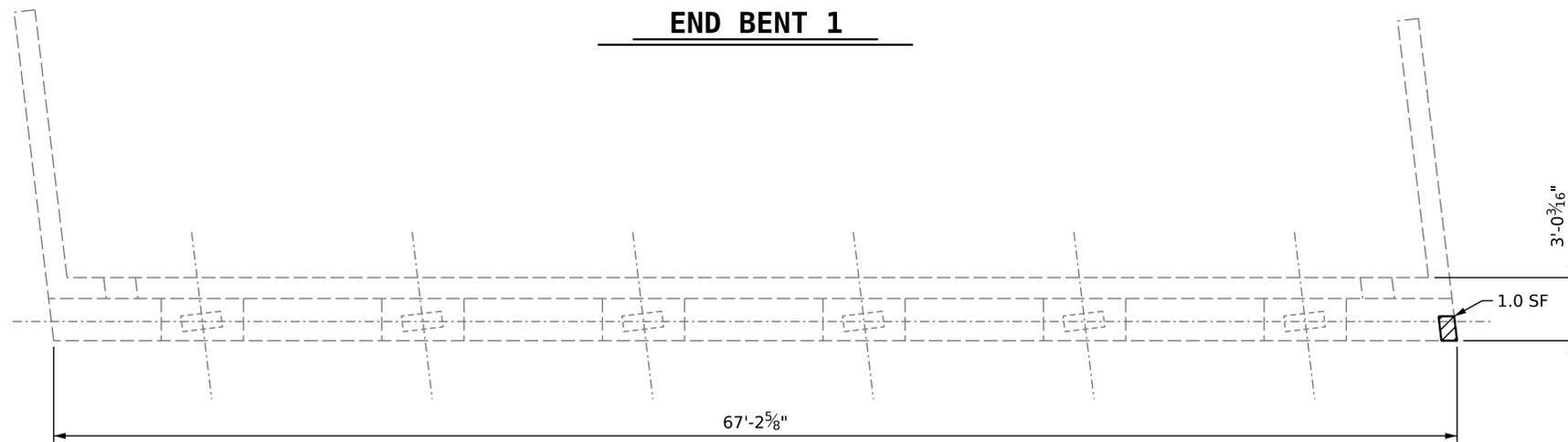


**PLAN**  
(TOP OF CAP)



**ELEVATION**  
(LOOKING NORTH)

**END BENT 1**



**PLAN**  
(TOP OF CAP)



**ELEVATION**  
(LOOKING SOUTH)

**END BENT 2**

**REPAIR QUANTITY TABLE**

| REPAIRS - END BENTS      | QUANTITIES |           |         |           |
|--------------------------|------------|-----------|---------|-----------|
|                          | ESTIMATE   |           | ACTUAL  |           |
|                          | AREA SF    | VOLUME CF | AREA SF | VOLUME CF |
| <b>SHOTCRETE REPAIRS</b> |            |           |         |           |
| CAP                      | 1.0        | 0.5       |         |           |
| CURTAIN WALL             | 0          | 0         |         |           |
| WINGWALL                 |            |           |         |           |
| <b>CONCRETE REPAIRS</b>  |            |           |         |           |
| CAP                      | 0          | 0         |         |           |
| CURTAIN WALL             | 0          | 0         |         |           |
| WINGWALL                 |            |           |         |           |

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

**NOTES**

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

CONCRETE REPAIRS MAYBE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

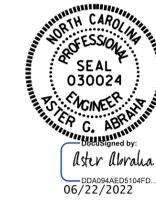
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CAP AND COLUMN REPAIR DETAILS, SEE TYPICAL CAP & COLUMN REPAIR DETAILS SHEET.

**REPAIR KEY**

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA

PROJECT NO. **HI-0007**  
**WILSON** COUNTY  
 BRIDGE NO. **970287**



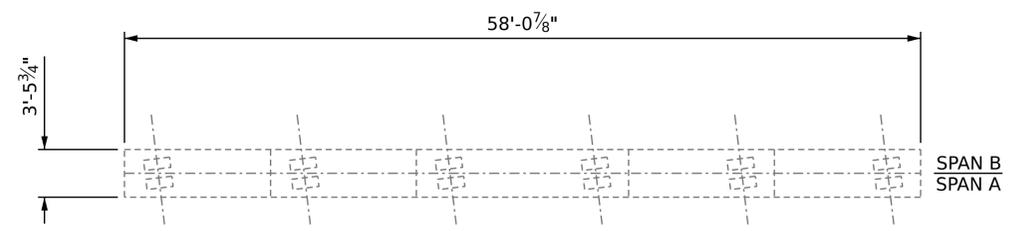
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**SUBSTRUCTURE REPAIR  
 END BENT 1 &  
 END BENT 2**

DRAWN BY : G. AYES DATE : 4/2022  
 CHECKED BY : A. G. ABRAHA DATE : 4/2022  
 DESIGN ENGINEER OF RECORD: --- DATE : ---

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS |     |       |     |     |       | SHEET NO.<br>S4-5<br>TOTAL SHEETS<br>8 |
|-----------|-----|-------|-----|-----|-------|----------------------------------------|
| NO.       | BY: | DATE: | NO. | BY: | DATE: |                                        |
| 1         |     |       | 3   |     |       |                                        |
| 2         |     |       | 4   |     |       |                                        |



**PLAN**  
TOP OF CAP

**NOTES**

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

CONCRETE REPAIRS MAYBE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

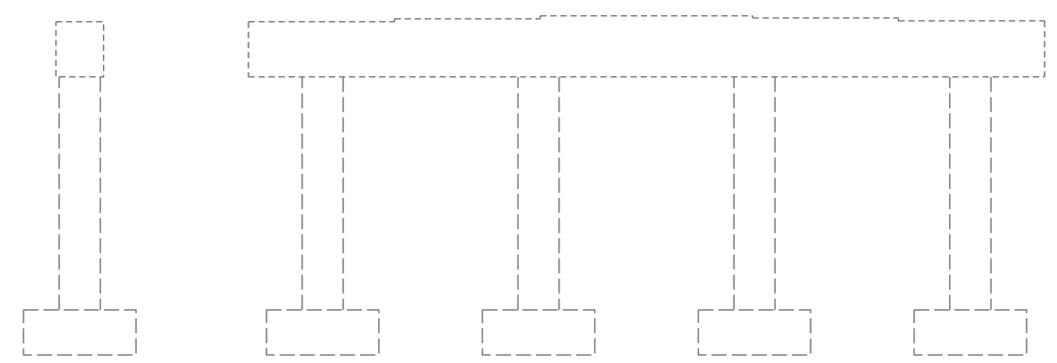
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

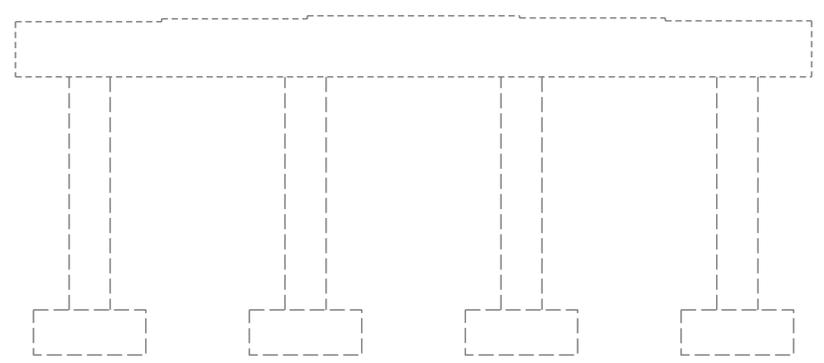
FOR CAP & COLUMN REPAIR DETAILS, SEE TYPICAL CAP & COLUMN REPAIR DETAILS SHEET.

| REPAIR QUANTITY TABLE |            |           |         |           |
|-----------------------|------------|-----------|---------|-----------|
| REPAIRS - BENT 1      | QUANTITIES |           |         |           |
|                       | ESTIMATE   |           | ACTUAL  |           |
| SHOTCRETE REPAIRS     | AREA SF    | VOLUME CF | AREA SF | VOLUME CF |
| CAP                   | 0          | 0         |         |           |
| COLUMN                | 13.4       | 6.7       |         |           |
|                       |            |           |         |           |
| CONCRETE REPAIRS      | AREA SF    | VOLUME CF | AREA SF | VOLUME CF |
| CAP                   | 0          | 0         |         |           |
| COLUMN                | 0          | 0         |         |           |
|                       |            |           |         |           |

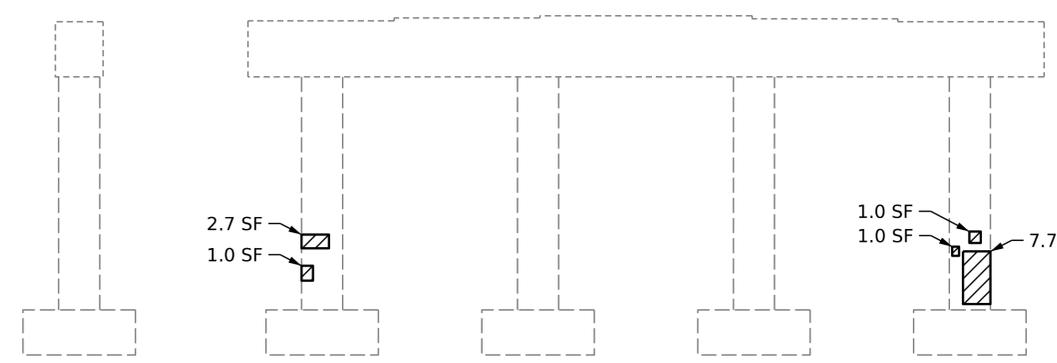
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, 1" BEHIND REBAR AND MIN. 2" CLEARANCE TO SAWCUT.



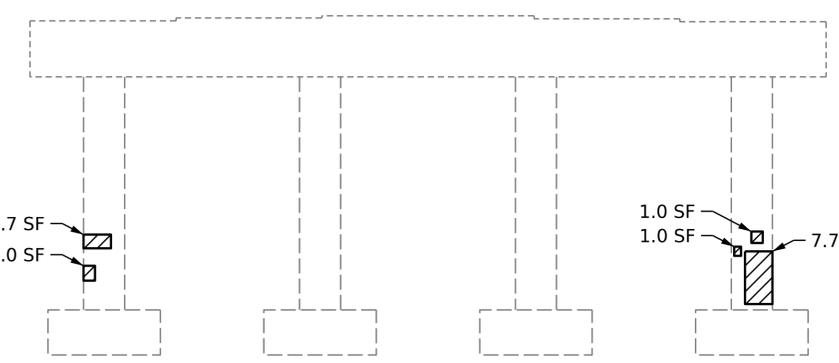
**END VIEW**  
EAST END



**ELEVATION**  
NORTH SIDE  
(LOOKING SOUTH)



**END VIEW**  
WEST END



**ELEVATION**  
SOUTH SIDE  
(LOOKING NORTH)

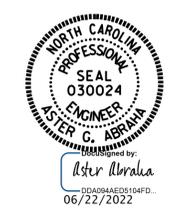
**REPAIR KEY**

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA



**PLAN**  
BOTTOM OF CAP

PROJECT NO. HI-0007  
WILSON COUNTY  
 BRIDGE NO. 970287



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**SUBSTRUCTURE  
 REPAIR  
 BENT 1**

DRAWN BY : G. AYES DATE : 4/2022  
 CHECKED BY : A. G. ABRAHA/A. Y. GODFREY DATE : 4/2022  
 DESIGN ENGINEER OF RECORD: -- DATE : --

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

| REVISIONS |     |       |     |     | SHEET NO. |
|-----------|-----|-------|-----|-----|-----------|
| NO.       | BY: | DATE: | NO. | BY: | DATE:     |
| 1         |     |       | 3   |     |           |
| 2         |     |       | 4   |     |           |

S4-6  
TOTAL SHEETS  
8

**NOTES**

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

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

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

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

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

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

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

THE #4 "U" DOWELS ARE REQUIRED ONLY AROUND THE ANCHOR BOLTS. THE EXISTING REINFORCING STEEL IN THE PEDESTAL WALL SHALL BE CLEANED, STRAIGHTENED AND REMAIN IN PLACE.

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

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

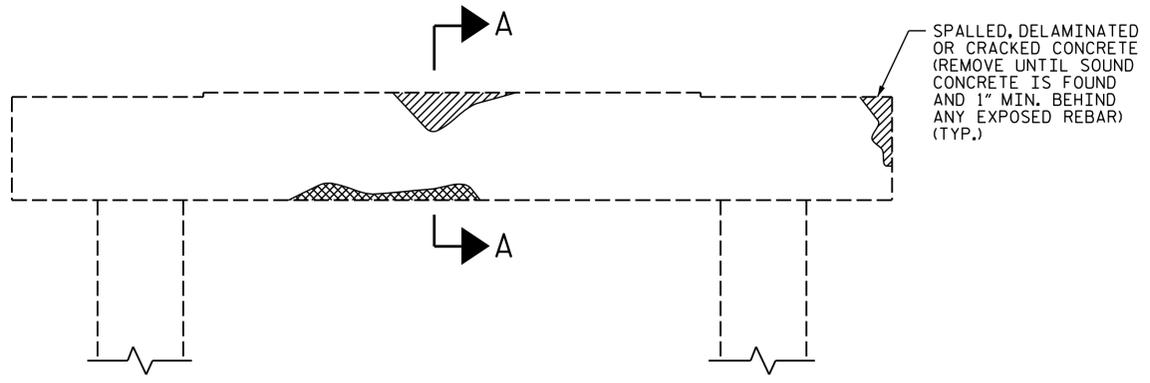
PROJ. NO. HI-0007  
WILSON COUNTY  
 BRIDGE NO. 970287

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 TYPICAL CAP  
 AND COLUMN  
 REPAIR DETAILS

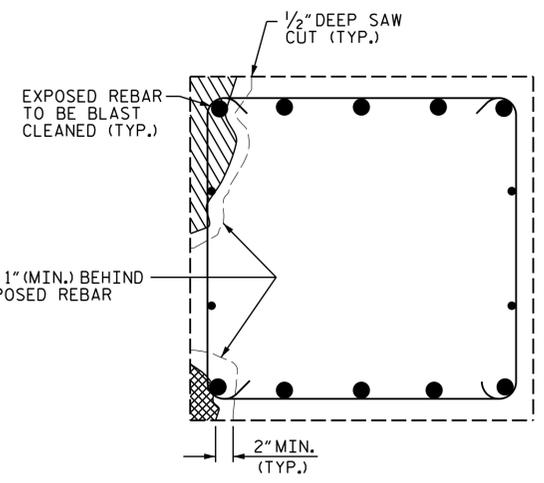


| REVISIONS |     |       |     |     |       | SHEET NO.    |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO.       | BY: | DATE: | NO. | BY: | DATE: | S4-7         |
| 1         |     |       | 3   |     |       | TOTAL SHEETS |
| 2         |     |       | 4   |     |       | 8            |

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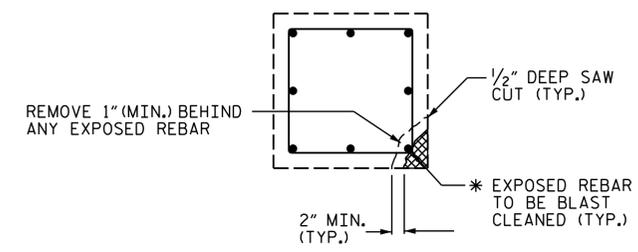


**BENT CAP REPAIRS**



**SECTION A-A**

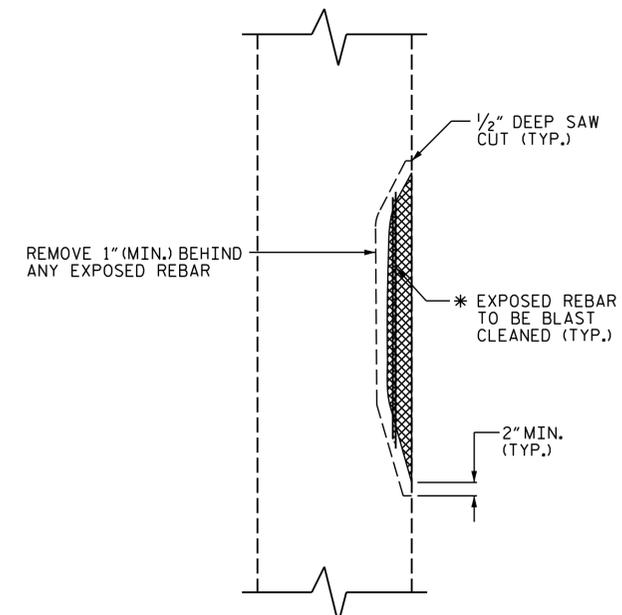
**CAP REPAIR**



**PLAN OF COLUMN**



**REPAIR KEY**

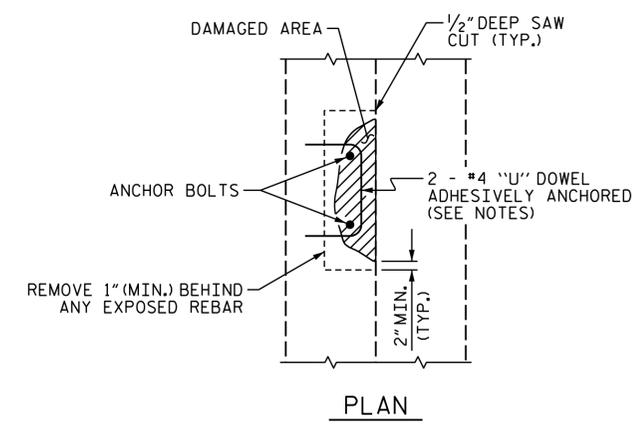


**ELEVATION OF COLUMN**

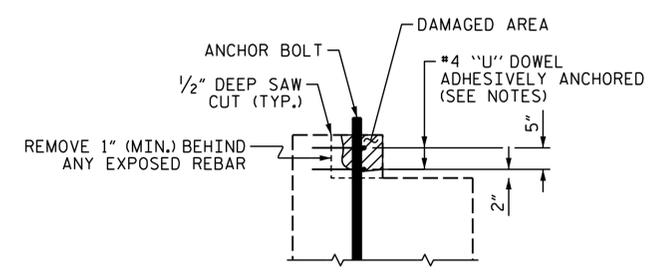
**COLUMN REPAIR**

\* REPAIR LENGTH SHALL NOT EXCEED 10 FEET.

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



**PLAN**



**ELEVATION**

**PEDESTAL WALL REPAIR**

|                           |               |
|---------------------------|---------------|
| ASSEMBLED BY : G. AYES    | DATE : 5/2022 |
| CHECKED BY : A. G. ABRAHA | DATE : 5/2022 |
| DRAWN BY : NAP 8/18       |               |
| CHECKED BY :              |               |

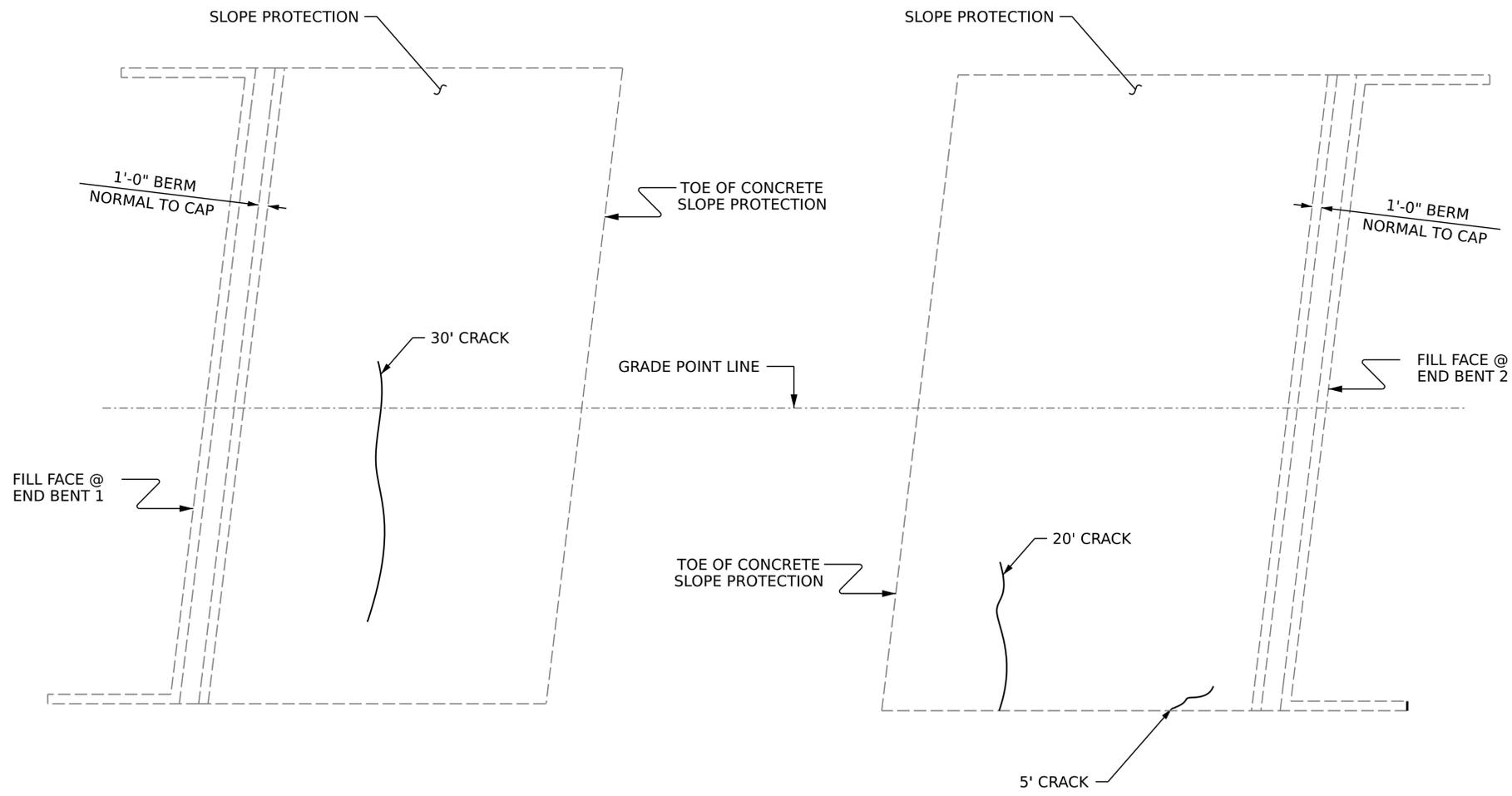
**NOTES:**

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

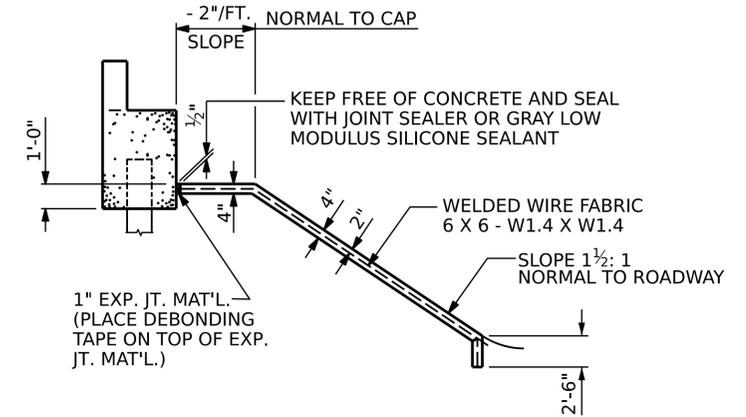
SEAL CRACKS IDENTIFIED AND JOINTS ALONG THE TOP OF SLOPE PROTECTION AND BERM WITH POURABLE SILICONE JOINT SEALANT. FOR DETAILS SEE PROPOSED JOINT SEAL DETAILS, SHEET S2-6.

**REPAIR QUANTITY TABLE**

| SLOPE PROTECTION<br>@ BRIDGE 970287 | POURABLE SILICONE<br>JOINT SEALANT |        |
|-------------------------------------|------------------------------------|--------|
|                                     | ESTIMATE                           | ACTUAL |
| END BENT 1                          | 30.0                               |        |
| END BENT 2                          | 25.0                               |        |



**SLOPE PROTECTION REPAIR LOCATIONS**

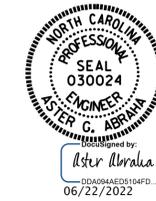


**SLOPE PROTECTION TYPICAL SECTION ALONG C<sub>L</sub> BRIDGE**

**REPAIR KEY**

~~~~~ SLOPE PROTECTION CRACKS

PROJECT NO. **HI-0007**
WILSON COUNTY
 BRIDGE NO. **970287**



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SLOPE PROTECTION
 REPAIR DETAILS**

DRAWN BY : G. AYES DATE : 5/2022
 CHECKED BY : A. G. ABRAHA DATE : 5/2022
 DESIGN ENGINEER OF RECORD: _____ DATE : _____

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|-------------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | |
| 1 | | | 3 | | | S4-8 |
| 2 | | | 4 | | | TOTAL SHEETS
8 |

STANDARD NOTES

DESIGN DATA:

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

MATERIAL AND WORKMANSHIP:

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

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

CONCRETE:

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

CONCRETE CHAMFERS:

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

DOWELS:

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

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

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

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

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

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

REINFORCING STEEL:

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

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

STRUCTURAL STEEL:

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

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

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

HANDRAILS AND POSTS:

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

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

SPECIAL NOTES:

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

ENGLISH

JANUARY, 1990

STD. NO. SN