

## LOCATION SKETCH

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

BRIDGE CO	ORDINATES
LATITUDE	LONGITUDE
34°-19'-21.22''	78°-28'-03.20''

### **GENERAL NOTES**

SEE CONTRACT DOCUMENTS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND POLYMER CONCRETE (PC) PLACEMENT. THE BRIDGE SURFACE AND/OR TRAFFIC.

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 REPAIR.

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 USED PLATFORMS, NETS, SCREEN 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 OF PHASING OF CONSTRUCTION, SEE CONTRACT DOCUMENTS.

PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A COMPLETE SEQUENCE OF TASKS FOR EACH OPERATION AFFECTING

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

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

ALL PAVEMENT MARKING WILL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

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.

FOR CLASS IB SURFACE PREPARATION, SEE BRIDGE DECK ASPHALT OVERLAY SPECIAL PROVISION.

FOR ASPHALT PLUG JOINTS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR PILE ENCAPSULATION, SEE SPECIAL PROVISIONS.

FOR BRIDGE DECK WATERPROOFING MEMBRANE-SPRAY APPLIED, SEE SPECIAL PROVISIONS.

> **HI-0018** PROJECT NO. \_ **COLUMBUS** COUNTY 230385

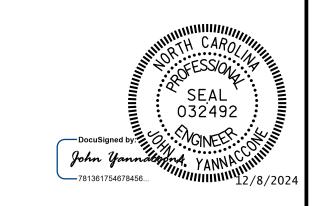
BRIDGE NO.\_

SHEET 2 OF 2

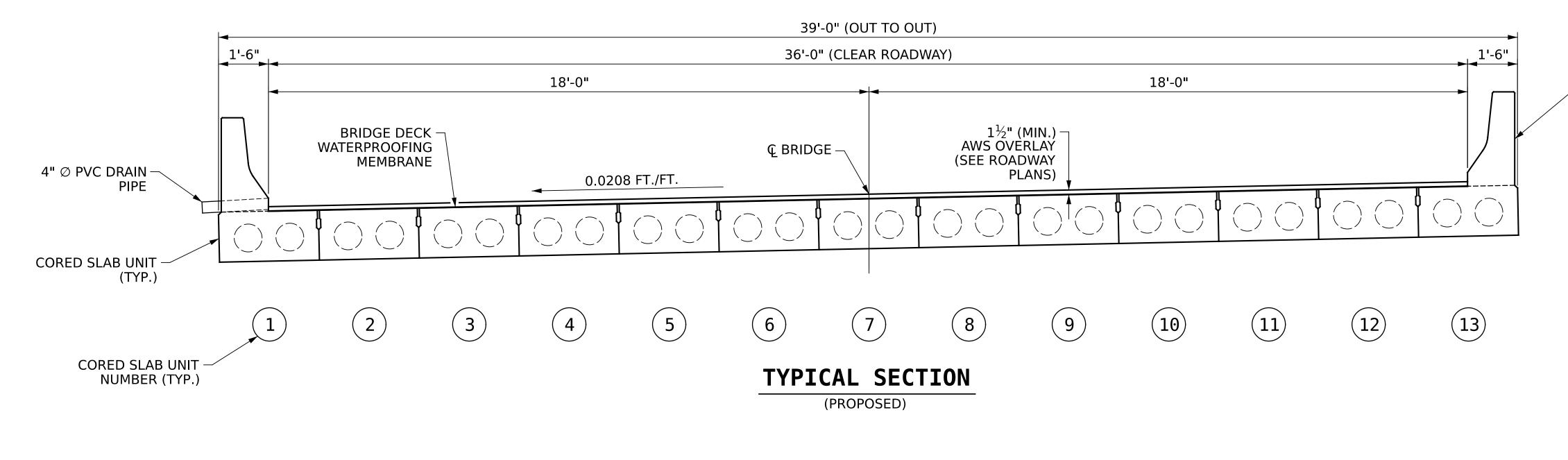
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

# GENERAL DRAWING

FOR BRIDGE ON US 74 - US 76 BYP WBL OVER FRIAR SWAMP







LIMITS OF CLASS IB SURFACE PREPARATION, CONCRETE DECK REPAIR FOR ASPHALT OVERLAY AND BRIDGE DECK WATERPROOFING MEMBRANE (SEE DECK REPAIR SHEETS) PLAN € JOINT

PAY LIMITS FOR OVERLAY BID ITEMS

ELEVATION

CONCRETE BARRIER RAIL (TYP.)

#### NOTES:

SEE CONTRACT DOCUMENTS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND ASPHALT OVERLAY.

FOR BRIDGE DECK WATERPROOFING MEMBRANE-SPRAY APPLIED, SEE SPECIAL PROVISIONS.

230385

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

TYPICAL SECTION AND **SURFACE PREPARATION DETAILS** 

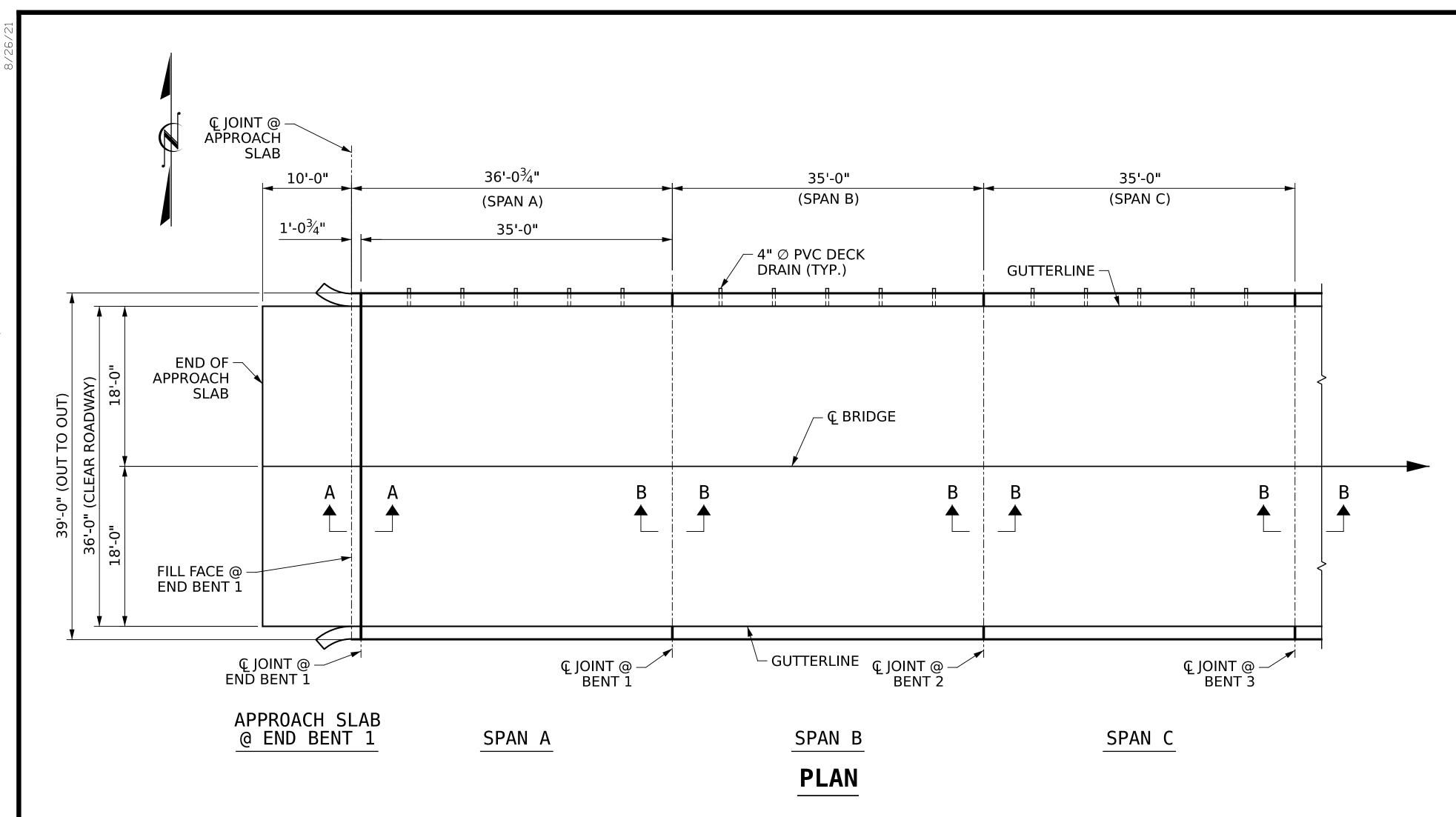
REVISIONS DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED DATE:

SHEET NO NO. BY: S7-03 TOTAL SHEETS **79** 

R.L.PUTEK J.A.YANNACCONE \_ DATE : 08/2024 \_ DATE : 08/2024 DRAWN BY : CHECKED BY :

PROJECT NO. HI-0018 **COLUMBUS** \_ COUNTY

BRIDGE NO.\_\_\_



#### **NOTES**

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

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

FOR CLASS IB SURFACE PREPARATION, SEE BRIDGE DECK ASPHALT OVERLAY SPECIAL PROVISION.

FOR BRIDGE DECK WATERPROOFING MEMBRANE-SPRAY APPLIED, SEE SPECIAL PROVISIONS.

FOR ASPHALT OVERLAY, SEE ROADWAY PLANS.

# AS-BUILT QUANTITY REPAIR TABLE

DECK SURFACE REPAIR & APPROACH SLAB REPAIR

		ESTIMATE	ACTUAL
	APPROACH SLAB @ END BENT 1	40.0 SQ. YDS.	
CLASS IB	SPAN A	144.3 SQ. YDS.	
SURFACE	SPAN B	140.0 SQ. YDS.	
PREPARATION	SPAN C	140.0 SQ. YDS.	
	APPROACH SLAB @ END BENT 1	6.0 SQ. YDS.	
BRIDGE DECK	SPAN A	144.3 SQ. YDS.	
WATERPROOFING MEMBRANE-SPRAY	SPAN B	140.0 SQ. YDS.	
APPLIED	SPAN C	140.0 SQ. YDS.	

CLASS IB SURFACE PREPARATION

**HI-0018** PROJECT NO.\_

**COLUMBUS** 

COUNTY 230385 BRIDGE NO.\_

SHEET 1 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

# **DECK REPAIRS**

SPAN A W/APPROACH SLAB, SPAN B & SPAN C



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\_ DATE : 08/2024 \_ DATE : 08/2024 R.L.PUTEK J.A.YANNACCONE



DRAWN BY :

CHECKED BY :

**NOTES** 

REPAIR QUANTITY TABLE.

SPECIAL PROVISION.

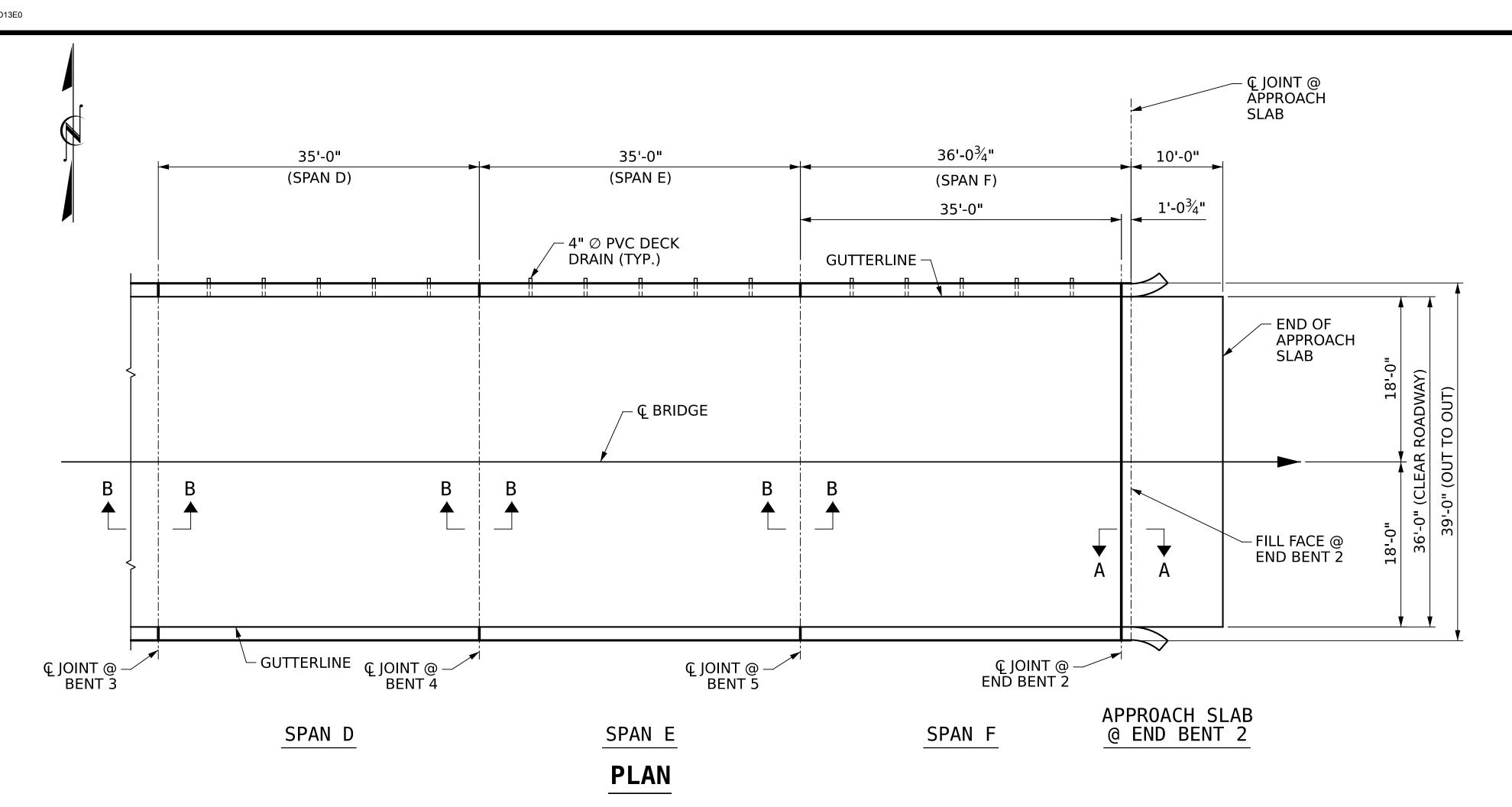
SPECIAL PROVISIONS.

R.L.PUTEK

J.A.YANNACCONE

DRAWN BY :

CHECKED BY :



# AS-BUILT QUANTITY REPAIR TABLE

DECK SURFACE REPAIR & APPROACH SLAB REPAIR

		ESTIMATE	ACTUAL
CLASS IB	SPAN D	140.0 SQ. YDS.	
SURFACE	SPAN E	140.0 SQ. YDS.	
PREPARATION	SPAN F	144.3 SQ. YDS.	
	APPROACH SLAB @ END BENT 2	40.0 SQ. YDS.	
BRIDGE DECK	SPAN D	140.0 SQ. YDS.	
WATERPROOFING MEMBRANE-SPRAY	SPAN E	140.0 SQ. YDS.	
APPLIED	SPAN F	144.3 SQ. YDS.	
	APPROACH SLAB @ END BENT 2	6.0 SQ. YDS.	

CLASS IB SURFACE PREPARATION

**HI-0018** PROJECT NO.\_

COLUMBUS

COUNTY

SHEET NO

S7-05

TOTAL SHEETS **79** 

DATE:

230385 BRIDGE NO. \_\_

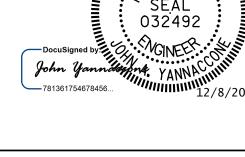
SHEET 2 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

## **DECK REPAIRS**

SPAN D, SPAN E & SPAN F W/APPROACH SLAB

BY:



SEAL 032492	
John Yannderfork, YANNACHINIA, 781361754678456	

781361754678456 12/8/2024	
	REVISIONS

\_ DATE : 08/2024 \_ DATE : 08/2024

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST

DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF

INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE

THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE

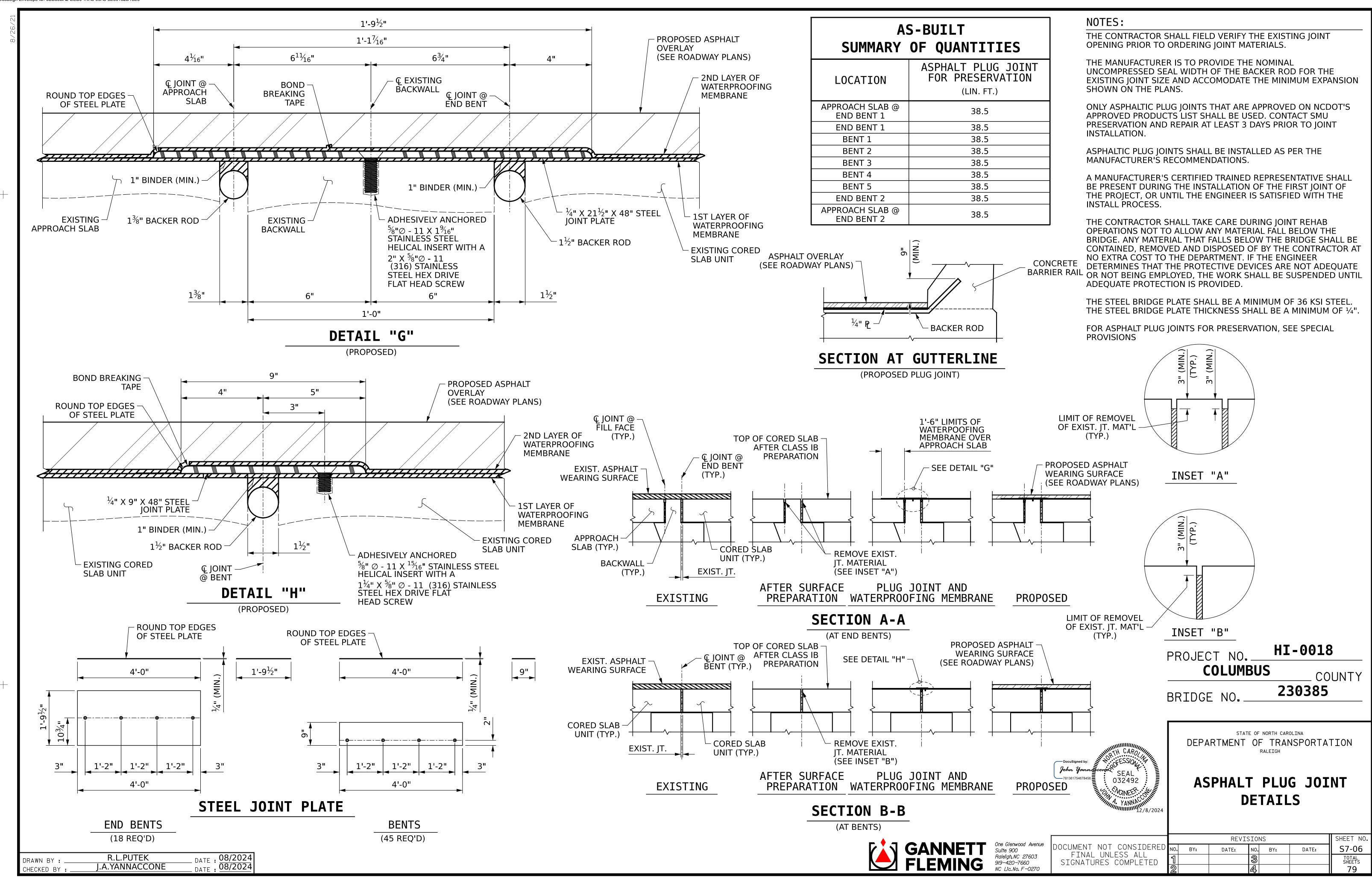
FOR SECTION A-A AND B-B. SEE "ASPHALT PLUG JOINT DETAILS" SHEET.

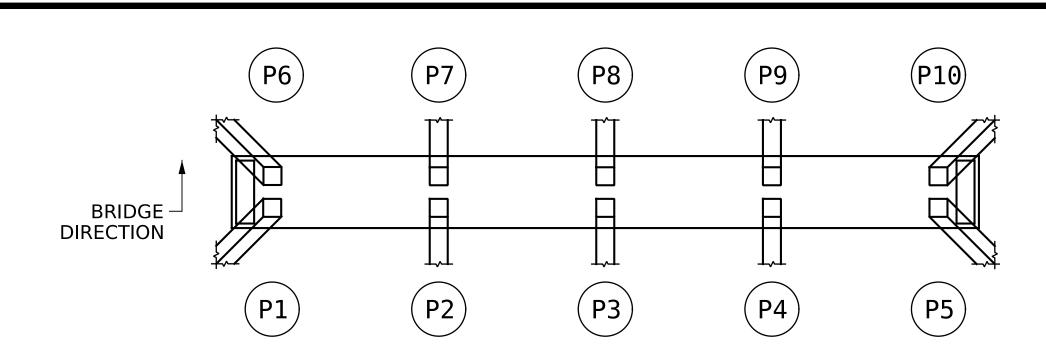
FOR BRIDGE DECK WATERPROOFING MEMBRANE-SPRAY APPLIED, SEE

FOR ASPHALT OVERLAY, SEE ROADWAY PLANS.

FOR CLASS IB SURFACE PREPARATION, SEE BRIDGE DECK ASPHALT OVERLAY

DOCUMENT NOT CONSIDERED NO. SIGNATURES COMPLETED DATE:





**DETAIL A** 

(SEAM DETAIL)

THREADED

ADHERE POLYMER

IN FIELD USING HOT

**DETAIL B** 

**FACE OF** 

PILE

EXIST. CONC

MELT GLUE

STAND-OFF TO JACKET

POLYMER BOSS

**VARIES** 

FACE OF

PILE

STAND-OFF

EXIST. CONC

THREADED POLYMER

(VARIABLE LENGTH)

+

# **PLAN**

APPLY MARINE EPOXY ADHESIVE TO SEAMS

FACE OF -

PILE

EXIST. CONC.

INJECTION PORT -

MOLDED POLYMER

INJECTION PORT

15°-0'-0" (MIN.)

INSIDE THREAD -

**BODY** 

1" N.P.T.

ADHERED IN FIELD

USING HOT MELT GLUE

FIXED 5/8" POLYMER

STAND-OFF

FRP JACKET

CAP ENCAPSULATION

WITH MARINE EPOXY

PASTE

GROUT

# AS-BUILT SUMMARY OF QUANTITIES

# CONCRETE PILE ENCAPSULATION LOCATION TABLE

	FIBERO	GLASS	REINFO	RCED	PLASTIC	(FRP)	JACKET	LENGT	HS (LI	N.FT.)	ESTIMATE	ACTUAL
LOCATION	P1	P2	Р3	P4	P5	P6	P7	P8	P9	P10	LIN. FT.	LIN. FT.
BENT 1	10.1	9.7	9.3	8.9	8.4	10.1	9.7	9.3	8.9	8.4	92.8	
BENT 2	8.4	7.3	6.1	5.0	3.8	8.4	7.3	6.1	5.0	3.8	61.2	
BENT 3	8.0	8.8	9.5	10.3	11.1	8.0	8.8	9.5	10.3	11.1	95.4	
BENT 4	5.8	6.2	6.7	7.2	7.6	5.8	6.2	6.7	7.2	7.6	67.0	
BENT 5	10.9	9.3	7.7	6.1	4.5	10.9	9.3	7.7	6.1	4.5	77.0	
TOTAL					-						393.4	

PILE ENCAPSULATION EXTENDS FROM 1'-0" BELOW BOTTOM OF BENT CAP TO 1'-0" BELOW MUDLINE.

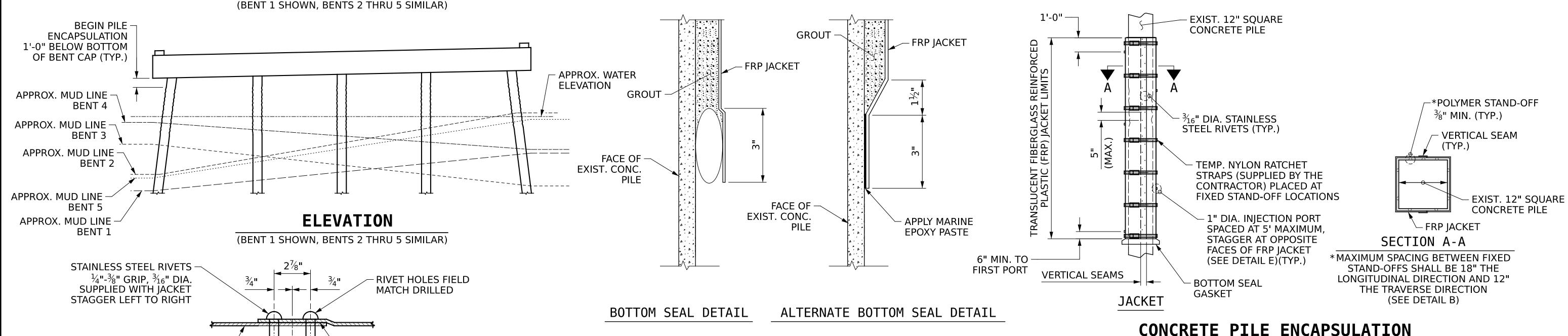
QUANTITIES ARE BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY MUD LINE ELEVATION PRIOR TO INSTALLATION OF JACKETS.

#### NOTE:

THE FLOATING TURBIDITY CURTAIN QUANTITY SHOWN ON THE TOTAL BILL OF MATERIAL IS BASED ON A 4.0' WATER DEPTH AND THE LENGTH NECESSARY TO FULLY ENCOMPASS ONE INTERIOR BENT.

FOR FLOATING TURBIDITY CURTAIN, SEE SPECIAL PROVISIONS.

CONTRACTOR SHALL MAKE ALL REASONABLE EFFORTS TO LIMIT CONTAMINATION OF THE WATER DURING EXCAVATION FOR THE PILE ENCAPSULATION, PUMPING OF EPOXY GROUT, AND ALL OTHER WORK TO INSTALL THE PILE ENCAPSULATION.



## **DETAIL D**

**HEX NUT** 

- 1" PVC PLUG SUPPLIED BY

CONTRACTOR USED TO SEAL

PORT AFTER GROUT INJECTION

# REPAIR SEQUENCE

- POLYMER

**HEX NUT** 

– FRP JACKET

ISOMETRIC VIEW

- INSTALL FLOATING TURBIDITY CURTAIN TO ENCOMPASS ENTIRE INTERIOR BENT. ALLOW ENOUGH SPACE FOR PILE ENCAPSULATION WORK.
- AFTER SURFACE PREPARATION, PLACE JACKET IN PROPER LOCATION AROUND PILE AND SEAL LONGITUDINAL SEAMS (SEE DETAIL A). INSTALL TEMPORARY BRACING.
- CONFIRM SPACING BETWEEN JACKET AND PILE. INSTALL BOTTOM SEAL (SEE DETAIL D). ALLOW BOTTOM SEAL TO CURE APPROX. 4 HOURS.
- ATTACH GROUT HOSE TO LOWERMOST INJECTION PORT AND PUMP EPOXY GROUT FOR 30-SEC. CHECK FOR LEAKS ALONG SEAM AND BOTTOM SEAL. (OPTIONALLY ALLOW THIS GROUT TO CURE AND PROCEED WITH GROUT INJECTION FROM 2ND PORT.)
- PLUG UPPER INJECTION PORTS AND PUMP GROUT INTO LOWER PORT UNTIL GROUT REACHES TOP OF JACKET. ONLY USE UPPER PORTS IF INJECTION BECOME DIFFICULT.
- REPEAT STEPS 2 THRU 5 FOR EACH PILE WITHIN ONE
- WHEN PILE ENCAPSULATION WORK AT THE BENT IS COMPLETE, REMOVE FLOATING TURBIDITY CURTAIN AND REINSTALL THE CURTAIN FOR THE PILE ENCAPSULATION WORK AT THE NEXT INTERIOR BENT.

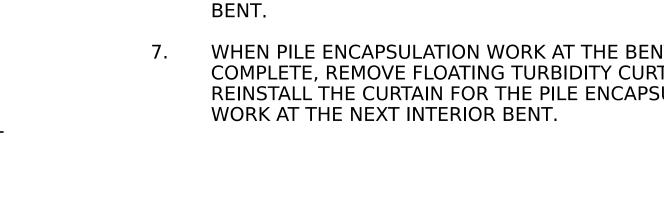
**HI-0018** PROJECT NO. **COLUMBUS** 

COUNTY 230385 BRIDGE NO.

> STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

SUBSTRUCTURE REPAIR

CONCRETE PILE ENCAPSULATION





OCUMENT NOT CONSIDERE FINAL UNLESS ALL SIGNATURES COMPLETED

12/8/2024

SOFESSION A

SEAL 032492

A. YANNA

MIGHT NGINEER ...

	REVISIONS									
ΞD	NO.	BY:	DATE:	NO.	BY:	DATE:	S7-0			
	1			<b>®</b>			TOTAL SHEET:			
	2			4			79			

DATE : 08/2024 R.L,PUTEK DRAWN BY : DATE 08/2024 J.A.YANNACCONE CHECKED BY :

ADJUSTABLE STAND-OFF DETAIL

**DETAIL C** (TOP OF JACKET)

FIXED STAND-OFF DETAIL

AND CAM LOCK TO FIT 1" N.P.T. INJECTION PORT **DETAIL E** 

TEMPORARY GROUT FITTING SUPPLIED

BY CONTRACTOR TO BE PVC BALL VALVE

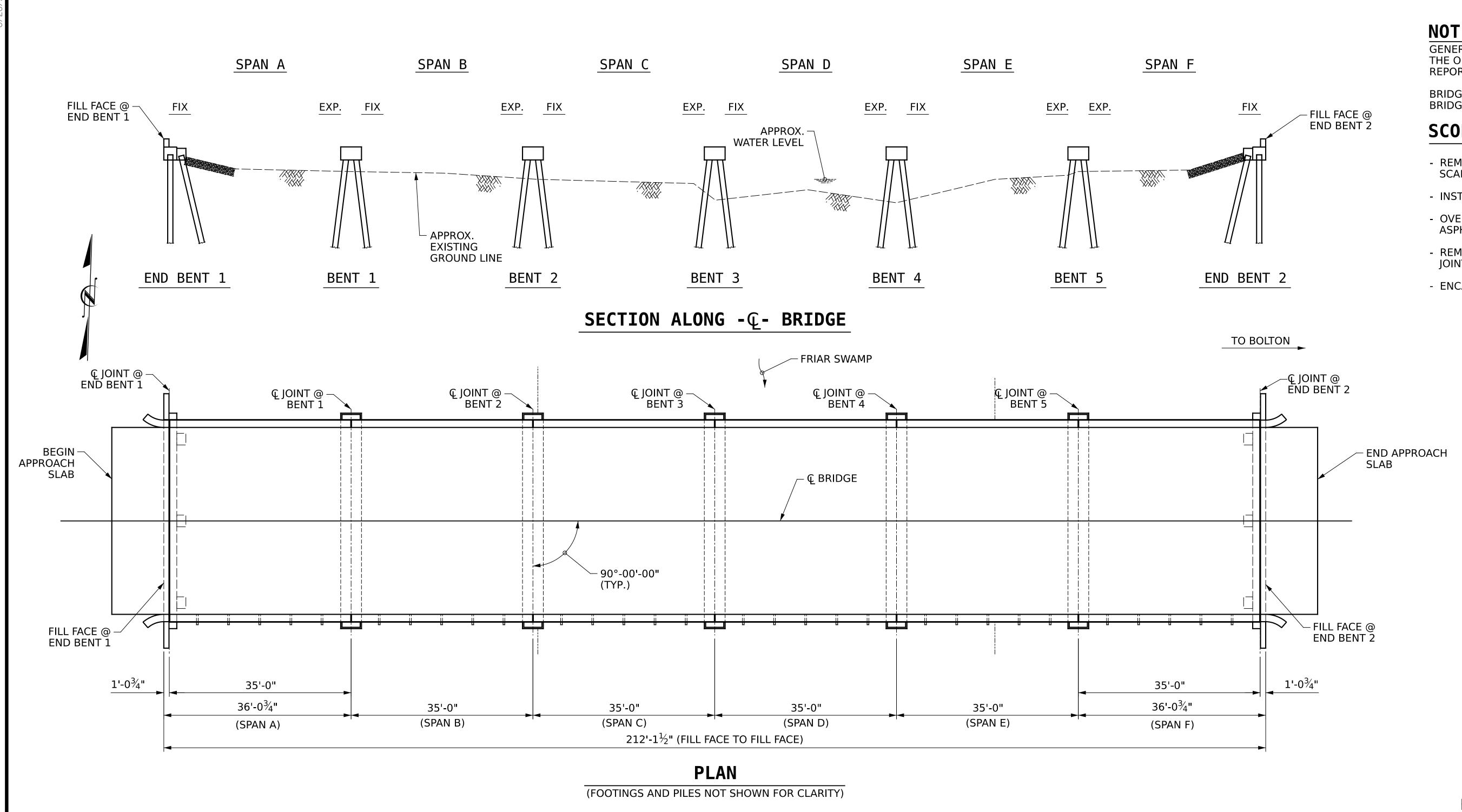
1" PVC PLUG

- FRP JACKET

SECTION THRU PORT

R.L.PUTEK J.A.YANNACCONE

DRAWN BY : CHECKED BY : \_ DATE : 08/2024 \_ DATE : 08/2024



NOTES:

GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 07/15/2024.

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

## **SCOPE OF WORK:**

- REMOVE ASPHALT WEARING SURFACE BY SCARIFICATION.
- INSTALL WATERPROOFING MEMBRANE.
- OVERLAY PREPARED TOP OF CORED SLABS WITH ASPHALT OVERLAY.
- REMOVE EXISTING JOINT AND INSTALL ASPHALT PLUG JOINTS.
- ENCAPSULATE CONCRETE PILES WITH FRP JACKETS.

**HI-0018** PROJECT NO.\_

COLUMBUS

COUNTY 230386

BRIDGE NO.\_

SHEET 1 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

## GENERAL DRAWING

FOR BRIDGE ON US 74 - US 76 BYP EBL OVER FRIAR SWAMP

SHEET NO REVISIONS DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED NO. BY: S8-01 DATE: DATE: TOTAL SHEETS **79** 

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

DATE RESIDENT ENGINEER

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