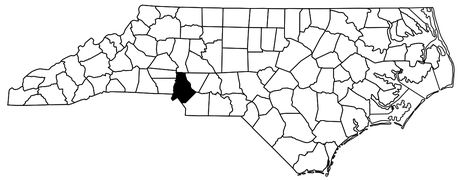
This electronic collection of documents is provided for the convenience of the user and is Not a Certified Document –

The documents contained herein were originally issued and sealed by the individuals whose names and license numbers appear on each page, on the dates appearing with their signature on that page.
This file or an individual page shall not be considered a certified document.

PROJECT: I-5825

CONTRACT: C204117



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

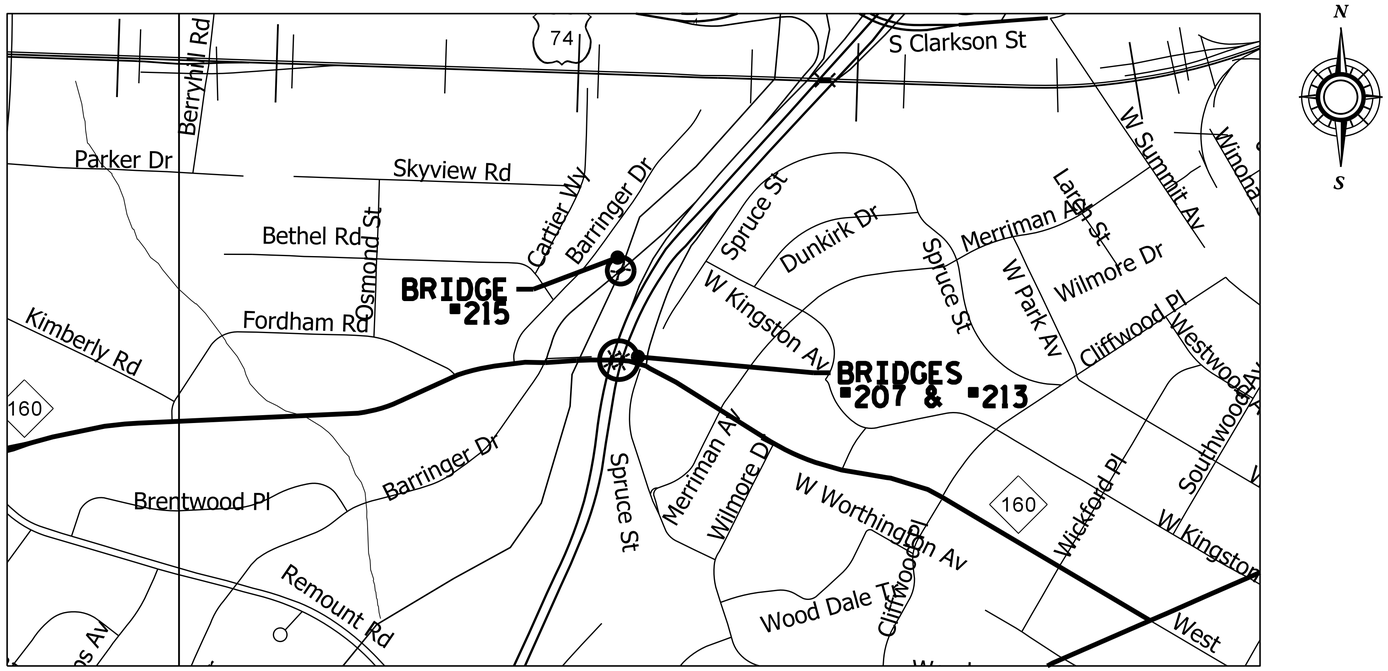
MECKLENBURG COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5825		

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
I-5825	–	P.E.
I-5825	–	CONST.

LOCATION: MECKLENGBURG COUNTY
BRIDGE #207 ON INTERSTATE 77NBL OVER NC-160 (WEST BLVD)
BRIDGE #213 ON INTERSTATE 77SBL OVER NC-160 (WEST BLVD)
BRIDGE #215 ON INTERSTATE 77RAMP TO NC-160 (WEST BLVD) OVER IRWIN CREEK

TYPE OF WORK: BRIDGE PRESERVATION – POLYESTER POLYMER CONCRETE OVERLAY, JOINT REPAIRS, AND SUBSTRUCTURE REPAIRS



VICINITY MAP – MECKLENBURG CO.

DESIGN DATA

MECKLENBURG COUNTY
#207 ADT 2015 = 76,500
#213 ADT 2015 = 79,250
#215 ADT 2012 = 39,750

PROJECT LENGTH

MECKLENBURG COUNTY
– #207 = 0.030 MILE
– #213 = 0.030 MILE
– #215 = 0.065 MILE

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

2018 STANDARD SPECIFICATIONS

LETTING DATE :

MAY 15, 2018

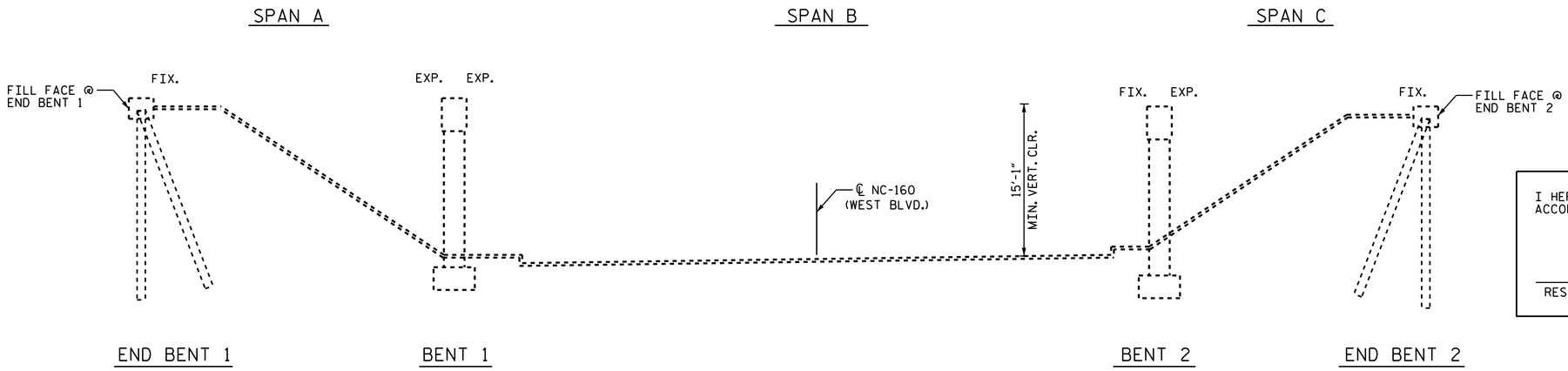
A. KEITH PASCHAL, P.E.
PROJECT ENGINEER

N. A. PIERCE, P.E.
PROJECT DESIGN ENGINEER

NOTES

PROFILE INFOMATION IS TAKEN FROM THE ORIGINAL PLANS, THE WIDENING PLANS AND THE ROUTINE INSPECTION REPORT DATED 10/25/2016.

BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.



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

RESIDENT ENGINEER DATE

SCOPE OF WORK

SURFACE PREPARATION AND PAINTING OF BEAMS.

REPAIR EXISTING END BENT AND BENT JOINTS.

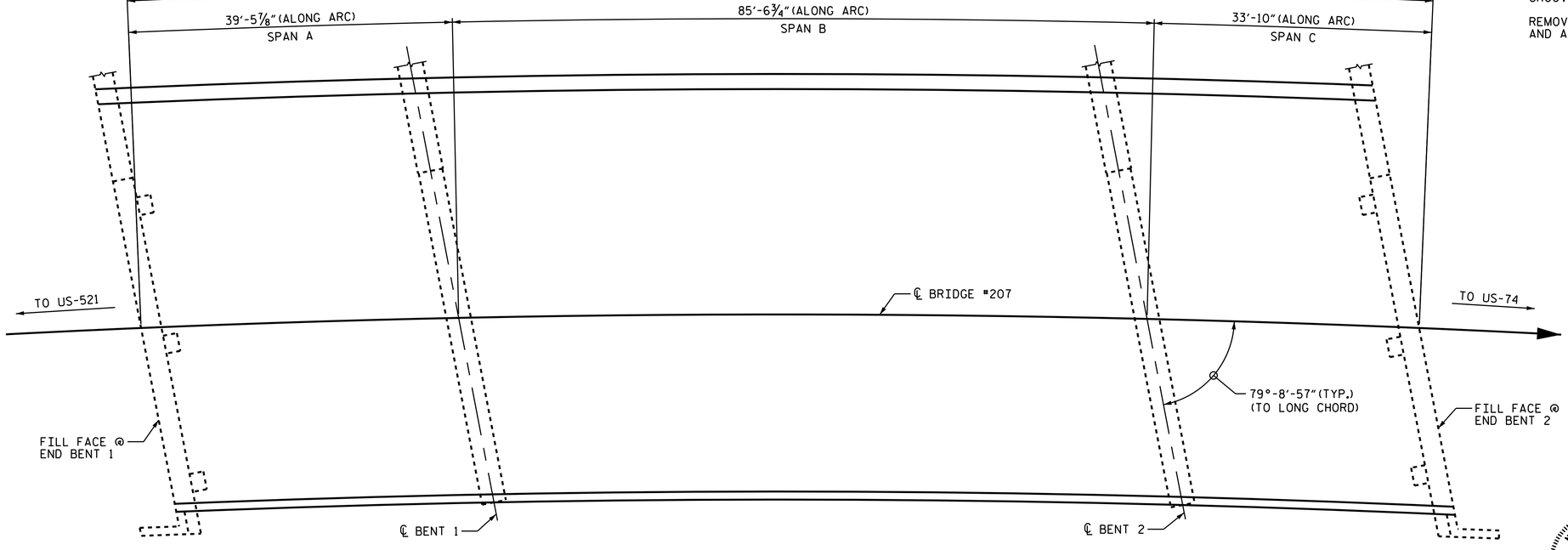
SCARIFY EXISTING CONCRETE DECK.

APPLY POLYESTER POLYMER CONCRETE OVERLAY.

INSTALL FOAM JOINT SEALS AT END BENTS AND BENTS.

GROOVE PPC BRIDGE DECK.

REMOVE DEPRIS FROM TOP OF END BENT AND BENT CAPS AND APPLY EPOXY COATING.



PLAN
NORTHBOUND LANE

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 15110B434D0B485... 3/2/2018

PROJECT NO. I-5825
MECKLENBURG COUNTY
BRIDGE NO. 207

SHEET 1 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

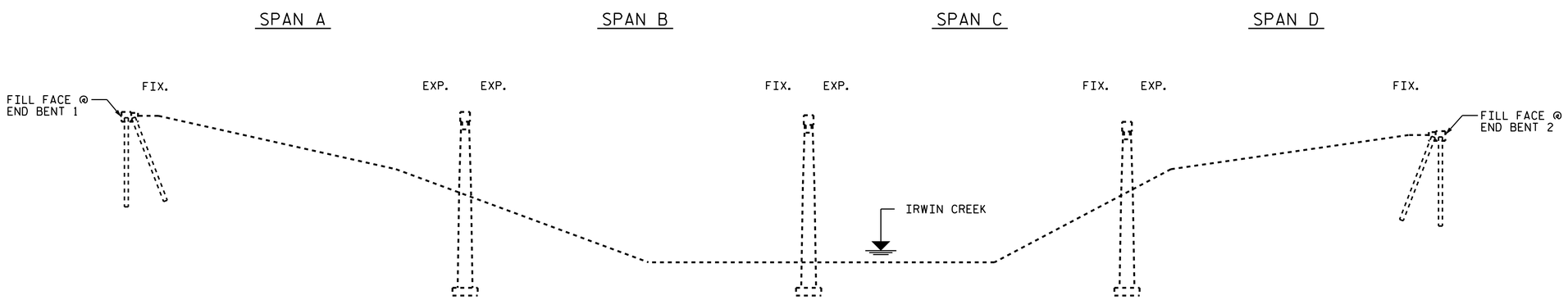
BRIDGE #207 ON I-77 NBL OVER NC-160 (WEST BLVD.)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			31

DRAWN BY : E. K. POPE DATE : 1/18
CHECKED BY : N. A. PIERCE DATE : 1/18

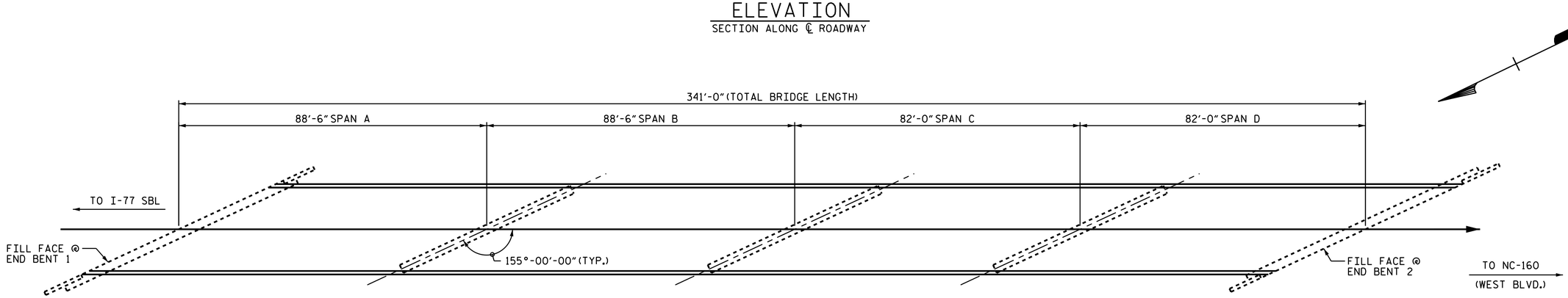
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

02-MAR-2018 13:34
B:\TIPProjects-1\I5825\Structures\Final Plans\400_003_I5825_SMU_GD01.dgn
napierce



ELEVATION

SECTION ALONG ℄ ROADWAY



PLAN

NOTES

PROFILE INFOMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 5/25/2017.

BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

SCOPE OF WORK

SURFACE PREPARATION AND CAP REPAIR.

REPAIR EXISTING END BENT AND BENT JOINTS.

SCARIFY EXISTING CONCRETE DECK.

APPLY POLYESTER POLYMER CONCRETE OVERLAY.

INSTALL FOAM JOINT SEALS AT END BENTS AND BENTS.

GROOVE PPC BRIDGE DECK.

REMOVE DEPRIS FROM TOP OF END BENT AND BENT CAPS, AND APPLY EPOXY COATING.

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

RESIDENT ENGINEER DATE

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 3/2/2018 15110B434D0B485...

PROJECT NO. I-5825

MECKLENBURG COUNTY

BRIDGE NO. 215

SHEET 3 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

BRIDGE #215
ON I-77 RAMP TO
NC-160 (WEST BLVD.)
OVER IRWIN CREEK

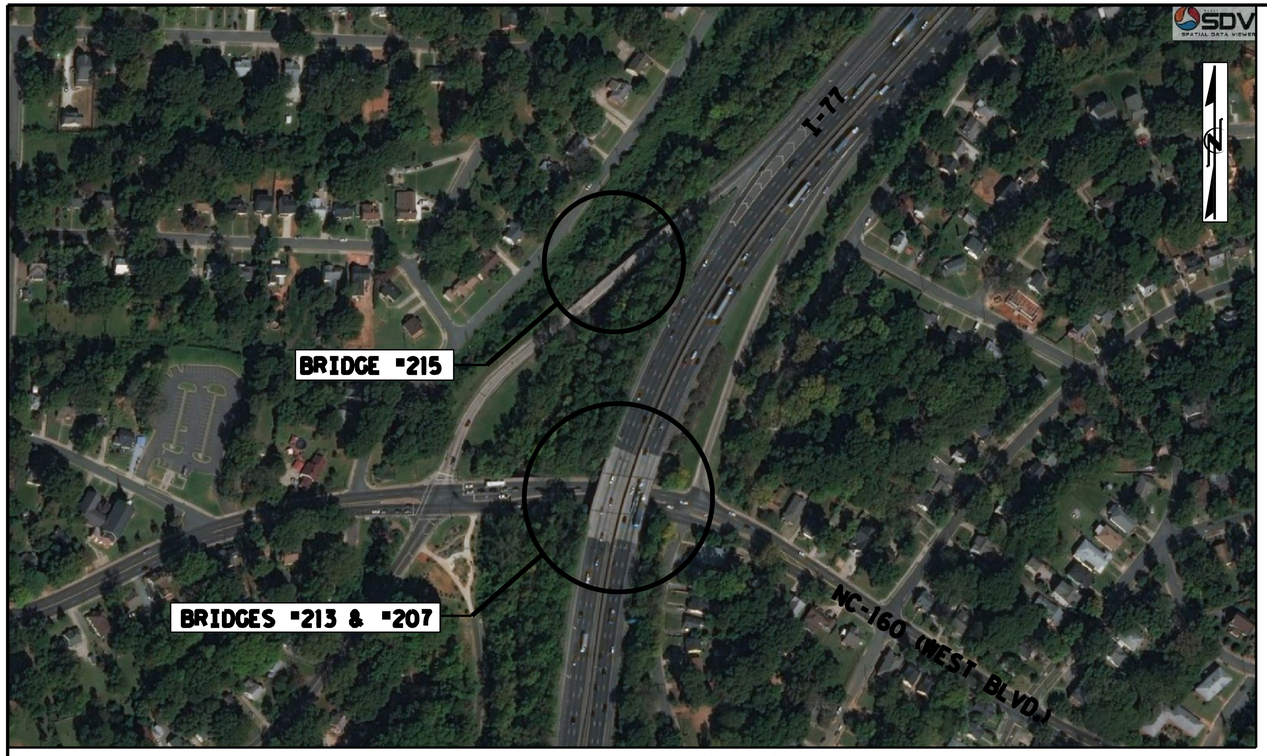
REVISIONS							SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:		S-3
1			3				TOTAL SHEETS
2			4				31

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : E. K. POPE DATE : 1/18

CHECKED BY : N. A. PIERCE DATE : 1/18

02-MAR-2018 13:34
B:\TIPProjects-I\I5825\Structures\Final Plans\400_007_I5825_SMU_GD03.dgn
naplerce



LOCATION SKETCH

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

NOTES

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

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATION OF BRIDGE DECKS.

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

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

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

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.

FOR POLYESTER POLYMER CONCRETE OVERLAY, SEE SPECIAL PROVISIONS.

FOR CONCRETE DECK REPAIR FOR PPC, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR PAINTING EXISTING STRUCTURE, SEE SPECIAL PROVISIONS.

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

THE EXISTING BRIDGE DECK SHALL BE REPAIRED AS SHOWN ON THE PLANS OR AS DETERMINED BY THE ENGINEER AFTER SCARIFICATION AND PRIOR TO BRIDGE DECK SHOTBLAST AND APPLICATION OF THE PPC OVERLAY. UNLESS OTHERWISE APPROVED, SUCH LOCATIONS SHALL BE REPAIRED WITH PPC.

FOR CONCRETE DECK REPAIR FOR PPC OVERLAY, PPC MATERIALS, AND PLACING & FINISHING PPC OVERLAY, SEE POLYESTER POLYMER CONCRETE BRIDGE DECK OVERLAY SPECIAL PROVISION.

FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

FOR PAINTING CONTAINMENT, POLLUTION CONTROL, AND CLEANING & REPAINTING OF BRIDGE, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISION.

TOTAL BILL OF MATERIAL

MECKLENBURG COUNTY BRIDGE NO.	GROOVING BRIDGE FLOORS	POLLUTION CONTROL	CLASS II SURFACE PREPARATION	CONCRETE REPAIRS	FOAM JOINT SEALS	CLEANING AND REPAINTING OF BRIDGE #____	PAINTING CONTAINMENT FOR BRIDGE #____	PPC MATERIALS	EPOXY COATING	CONCRETE DECK REPAIR FOR PPC OVERLAY	PLACING & FINISHING PPC OVERLAY	SCARIFYING BRIDGE DECK	SHOTBLASTING BRIDGE DECK	TYPE I BRIDGE JACKING FOR BRIDGE #____
	SQ. FT.	LUMP SUM	SQ. YDS.	CU. FT.	LUMP SUM	LUMP SUM	LUMP SUM	CU. YDS.	SQ. FT.	SQ. YDS.	SQ. YDS.	SQ. YDS.	SQ. YDS.	EA.
207	9476	LUMP SUM	22.6	-	LUMP SUM	LUMP SUM	LUMP SUM	39.4	607	22.6	1133	1133	1133	-
213	11907	LUMP SUM	28.0	-	LUMP SUM	LUMP SUM	LUMP SUM	48.7	738	28.0	1404	1404	1404	-
215	8237	-	* 2.0	16.2	LUMP SUM	-	-	37.0	773	* 2.0	1063	1063	1063	3
TOTAL	29620	LUMP SUM	52.6	16.2	LUMP SUM	LUMP SUM	LUMP SUM	125.1	2118	52.6	3600	3600	3600	3

*CLASS II SURFACE PREPARATION AND CONCRETE REPAIR FOR PPC OVERLAY ARE NOT ANTICIPATED. A TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSES IN THE EVENT UNANTICIPATED CLASS II AREAS ARE ENCOUNTERED.

PROJECT NO. I-5825
MECKLENBURG COUNTY
BRIDGE NO. 207, 213, 215

SHEET 4 OF 4

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 3/2/2018
15110B434D0B485...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

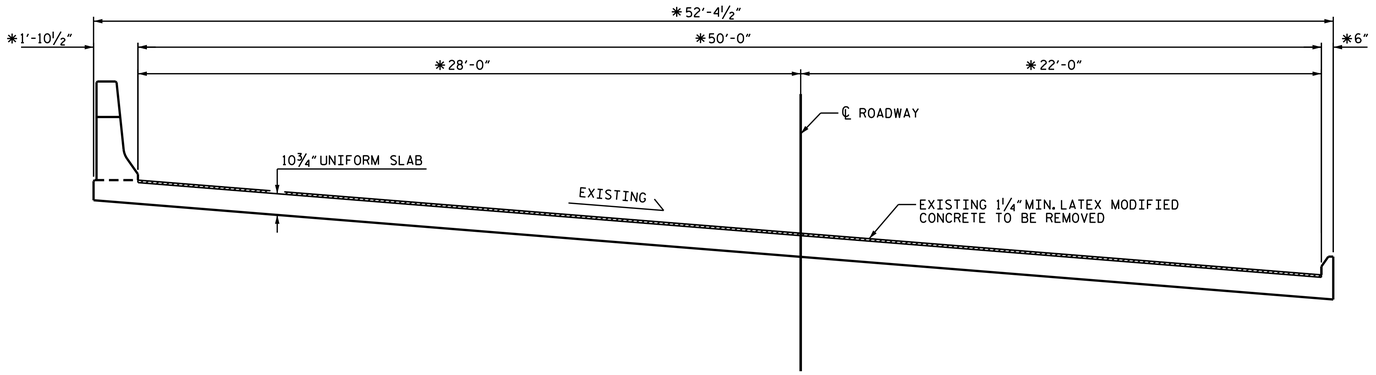
BRIDGE NO. 207, 213 AND 215 ON I-77

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			31

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

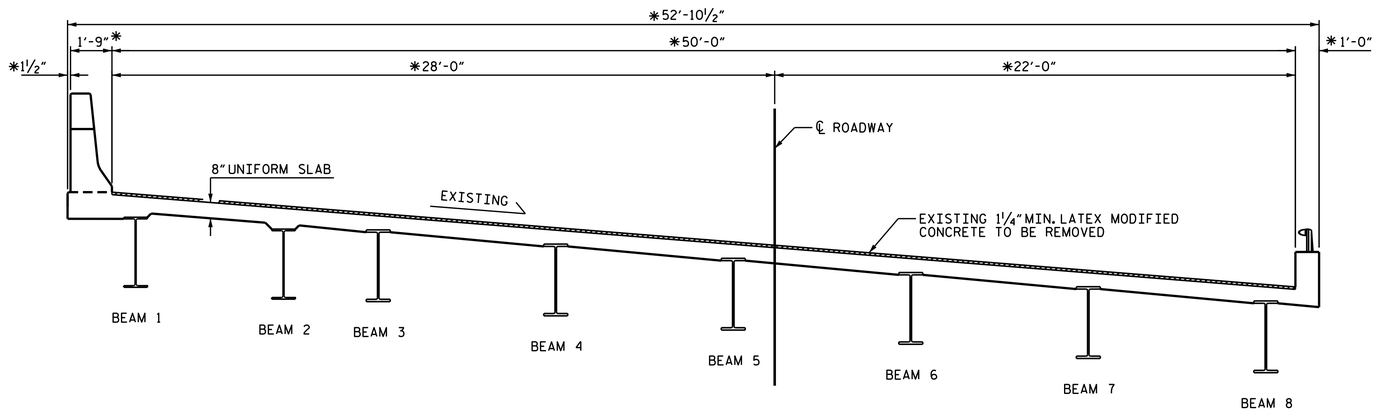
DRAWN BY : E. K. POPE DATE : 1/18
CHECKED BY : N. A. PIERCE DATE : 1/18

02-MAR-2018 13:34
B:\TIPProjects-I\I5825\Structures\FinalPlans\400_009_I5825_SMU_GD04.dgn
napierce



EXISTING APPROACH SLABS

*RADIAL DIMENSION



EXISTING TYPICAL SECTION

*RADIAL DIMENSION

PROJECT NO. I-5825

MECKLENBURG COUNTY

BRIDGE NO. 207

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION AND PPC OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

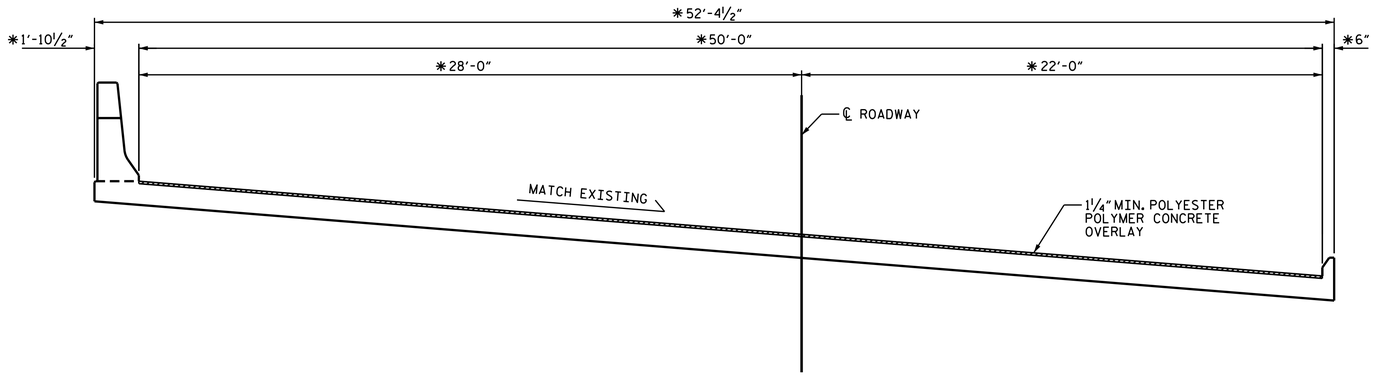
DocuSigned by: Nicholas Pierce 3/2/2018
15110B434D0B485...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			31

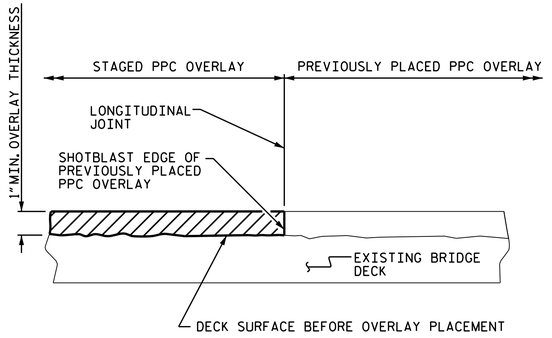
DRAWN BY : E.K. POPE DATE : 12/17
CHECKED BY : A. SORSENGINH DATE : 1/18

02-MAR-2018 13:34
B:\TIPProjects-I\I5825\Structures\FinalPlans\401_001_I5825_SMU_ TSI_005_590207.dgn
napierce



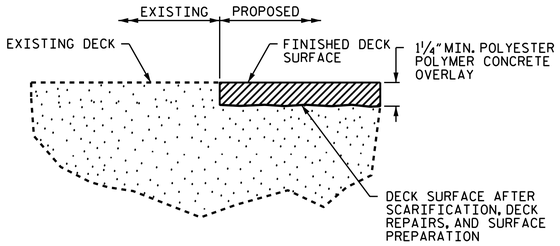
PROPOSED APPROACH SLABS

*RADIAL DIMENSION

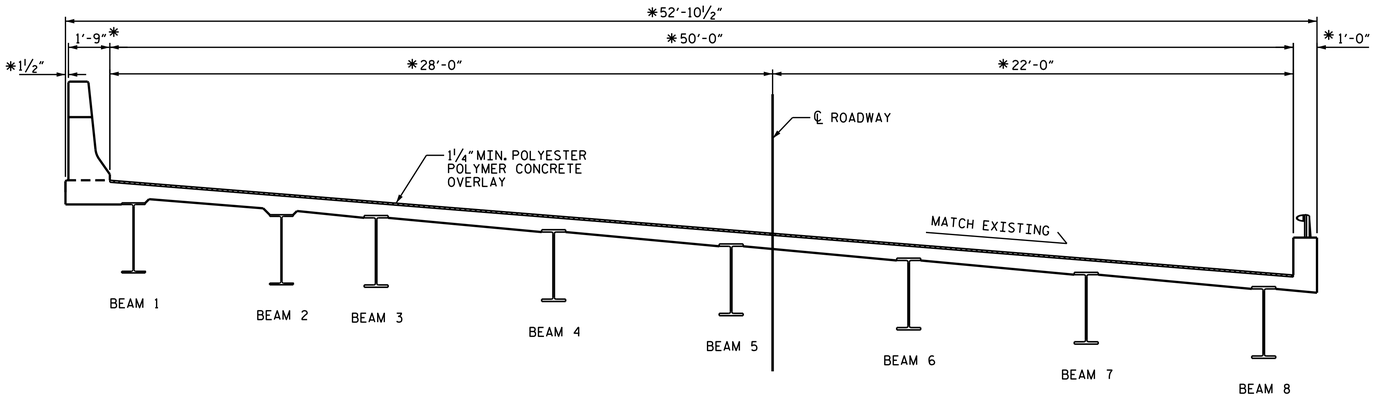


STAGED PPC OVERLAY JOINT

(AS NEEDED)



DETAIL FOR POLYESTER POLYMER CONCRETE OVERLAY



PROPOSED TYPICAL SECTION

*RADIAL DIMENSION

PROJECT NO. I-5825

MECKLENBURG COUNTY

BRIDGE NO. 207

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION AND PPC OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

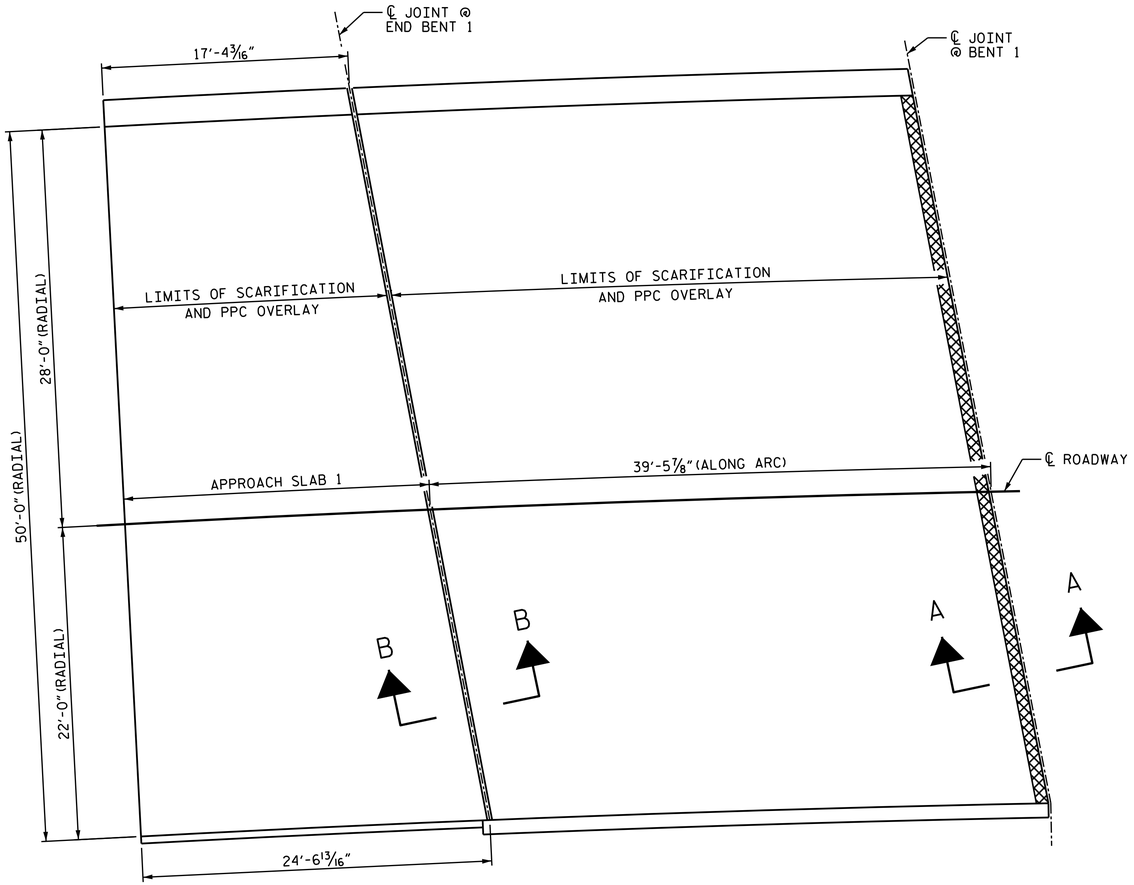
DocuSigned by: Nicholas Pierce 3/2/2018
15110B434D0B485...

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS
2			4			31

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : E.K. POPE DATE : 12/17
CHECKED BY : A. SORSENGINH DATE : 1/18

02-MAR-2018 13:34
B:\TIPProjects-I\I5825\Structures\FinalPlans\401_001_I5825_SMU_ TS2_006_590207.dgn
napierce



TO U.S. 521

PLAN

TO U.S. 74

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	336 SQ. YDS.	
CLASS II SURFACE PREPARATION	5.6 SQ. YDS.	
CONCRETE DECK REPAIR FOR PPC OVERLAY	5.6 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	336 SQ. YDS.	
PPC MATERIALS	11.7 CU. YDS.	
PLACING AND FINISHING PPC OVERLAY	336 SQ. YDS.	
GROOVING BRIDGE FLOORS	2805 SQ. FT.	

TOP OF DECK REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PPC OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAWCUT). SEE OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE SPECIAL PROVISION.

NOTES:

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

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

CLASS II SURFACE PREPARATION

PROJECT NO. I-5825

MECKLENBURG COUNTY

BRIDGE NO. 207

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPAN

APPROACH SLAB 1 AND SPAN A

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

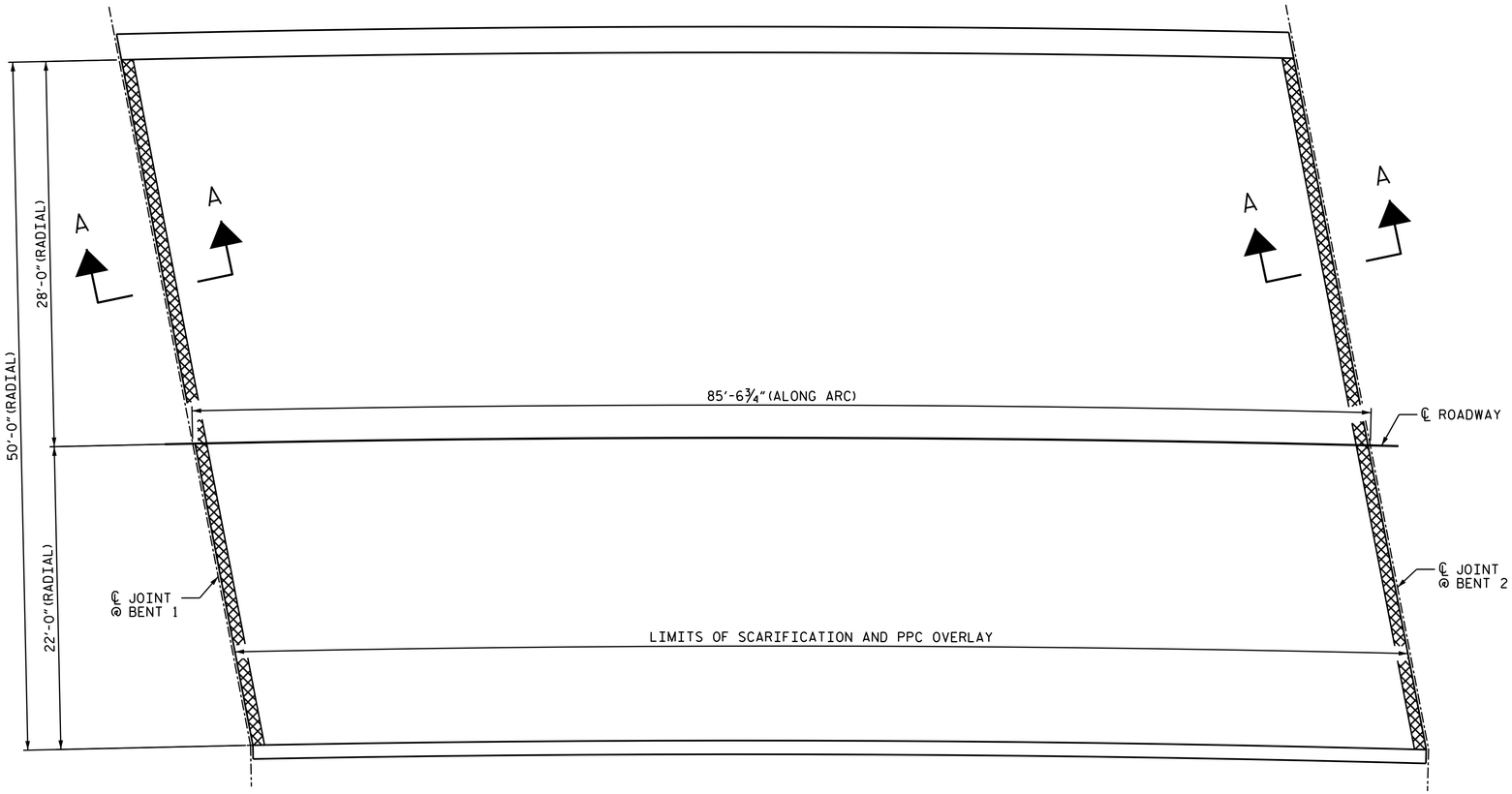
DocuSigned by: Nicholas Pierce 3/2/2018
151108434008485...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-7
1			3			TOTAL SHEETS
2			4			31

DRAWN BY : E.K. POPE DATE : 12/17
CHECKED BY : A. SORSENGINH DATE : 1/18

02-MAR-2018 13:34
B:\TIPProjects-I\I5825\Structures\FinalPlans\401_003_I5825_SMU_ SI_007_590207.dgn
napierce



PLAN

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	475 SQ. YDS.	
CLASS II SURFACE PREPARATION	11.3 SQ. YDS.	
CONCRETE DECK REPAIR FOR PPC OVERLAY	11.3 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	475 SQ. YDS.	
PPC MATERIALS	16.5 CU. YDS.	
PLACING AND FINISHING PPC OVERLAY	475 SQ. YDS.	
GROOVING BRIDGE FLOORS	3999 SQ. FT.	

TOP OF DECK REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PPC OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAWCUT). SEE OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE SPECIAL PROVISION.

NOTES:

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

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

CLASS II SURFACE PREPARATION

PROJECT NO. I-5825

MECKLENBURG COUNTY

BRIDGE NO. 207

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPAN

SPAN B

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

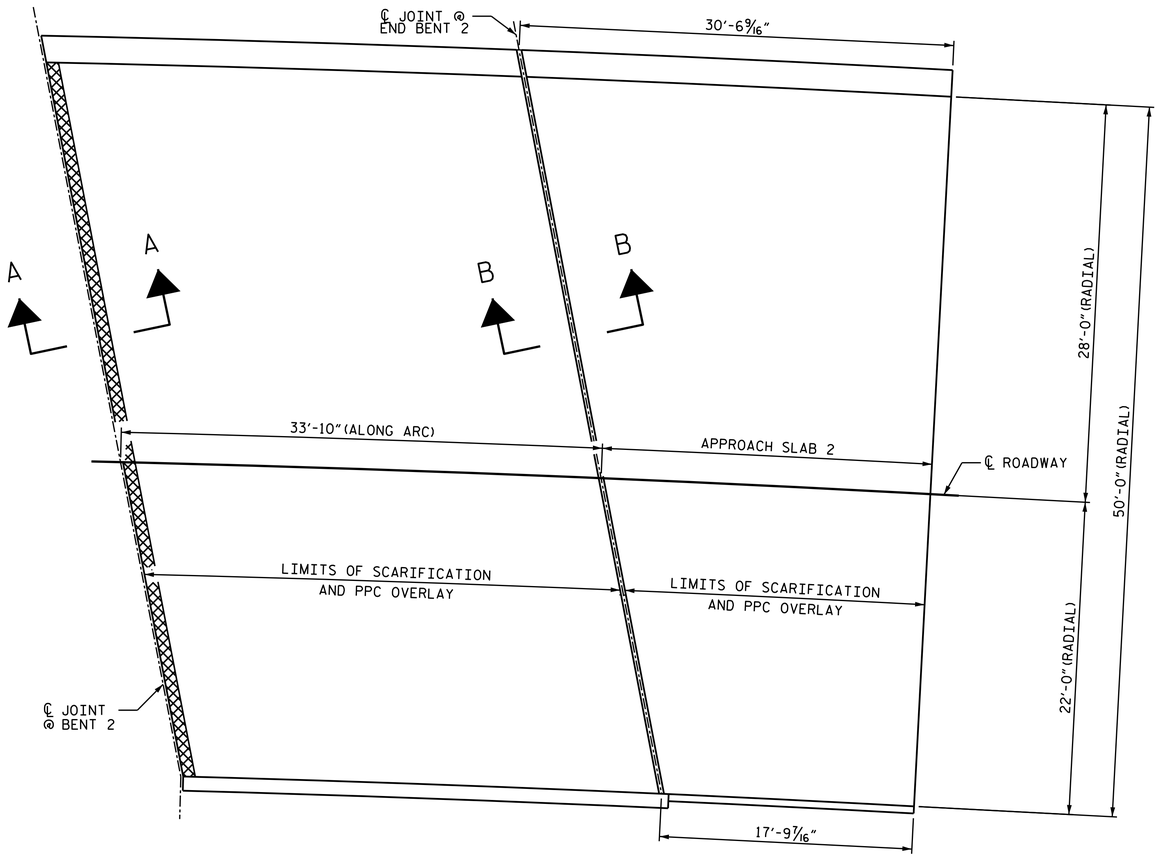
DocuSigned by: Nicholas Pierce 3/2/2018

DRAWN BY : E.K. POPE DATE : 12/17
CHECKED BY : A. SORSENGINH DATE : 1/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS
2			4			31

02-MAR-2018 13:34
B:\TIPProjects-I\I5825\Structures\FinalPlans\401_003_I5825_SMU_ S2_008_590207.dgn
napierce



TO U.S. 521

PLAN

TO U.S. 74

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	322 SQ. YDS.	
CLASS II SURFACE PREPARATION	5.7 SQ. YDS.	
CONCRETE DECK REPAIR FOR PPC OVERLAY	5.7 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	322 SQ. YDS.	
PPC MATERIALS	11.2 CU. YDS.	
PLACING AND FINISHING PPC OVERLAY	322 SQ. YDS.	
GROOVING BRIDGE FLOORS	2672 SQ. FT.	

TOP OF DECK REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PPC OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAWCUT). SEE OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE SPECIAL PROVISION.

NOTES:

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

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

CLASS II SURFACE PREPARATION

PROJECT NO. I-5825

MECKLENBURG COUNTY

BRIDGE NO. 207

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPAN

SPAN C
AND APPROACH SLAB 2

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

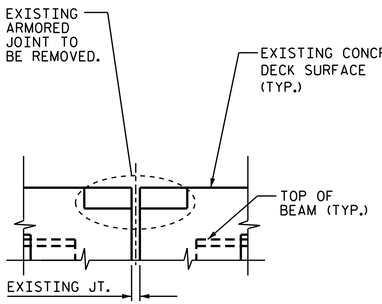
DocuSigned by: Nicholas Pierce 3/2/2018
15110B434D0B485...

DRAWN BY : E. K. POPE DATE : 12/17
CHECKED BY : A. SORSENGINH DATE : 1/18

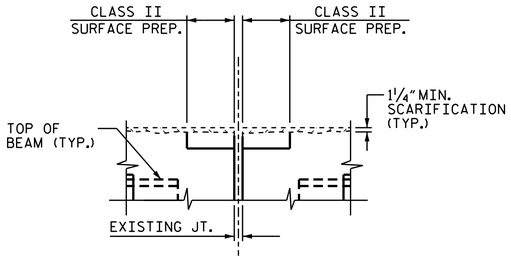
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS
2			4			31

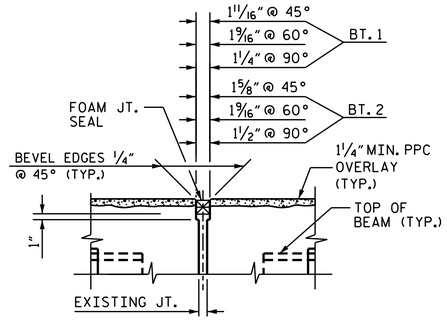
02-MAR-2018 13:34
B:\TIPProjects-I\I5825\Structures\Final Plans\401_003_I5825_SMU_ S3_009_590207.dgn
napierce



EXISTING JOINT

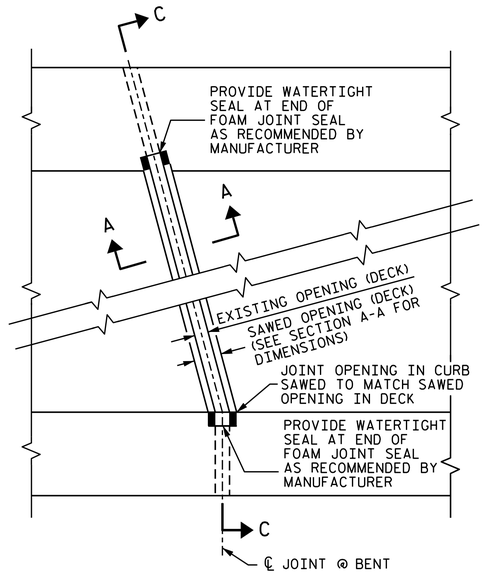


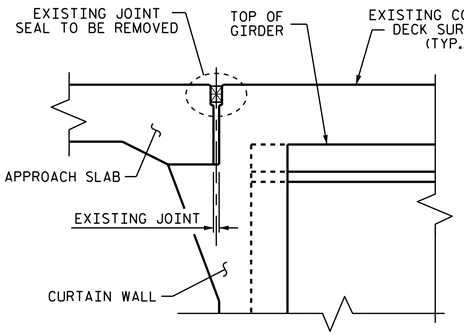
MINIMUM EXISTING JOINT DEMOLITION



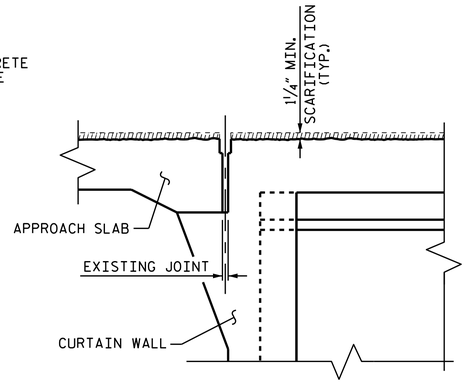
PROPOSED FOAM JOINT SEAL EXPANSION
ALL BENTS

JOINT INSTALLATION SEQUENCE AT BENTS
SECTION A-A

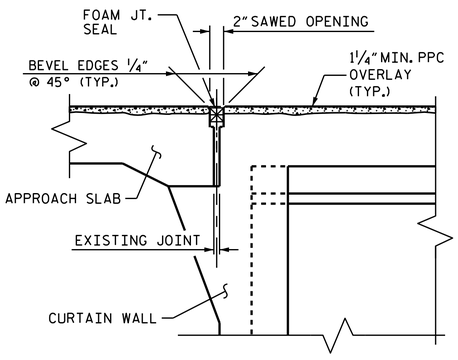




EXISTING JOINT

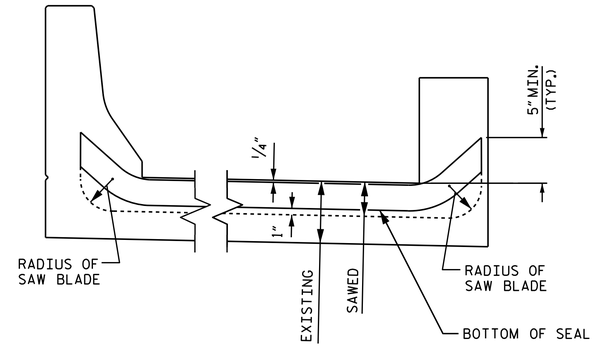


MINIMUM EXISTING JOINT DEMOLITION



PROPOSED FOAM JOINT SEAL

JOINT INSTALLATION SEQUENCE AT END BENTS
SECTION B-B



SECTION C-C

JOINT SEAL DETAILS AT BENTS

PROJECT NO. I-5825
MECKLENBURG COUNTY
BRIDGE NO. 207

NOTES:

CONTRACTOR SHALL FIELD VERIFY THE EXISTING SAWED OPENING PRIOR TO OBTAINING JOINT MATERIAL.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

THE WIDTH OF THE UNCOMPRESSED FOAM JOINT MATERIAL SHALL BE 2".

THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.

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

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 3/2/2018
15110B434D0B485...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

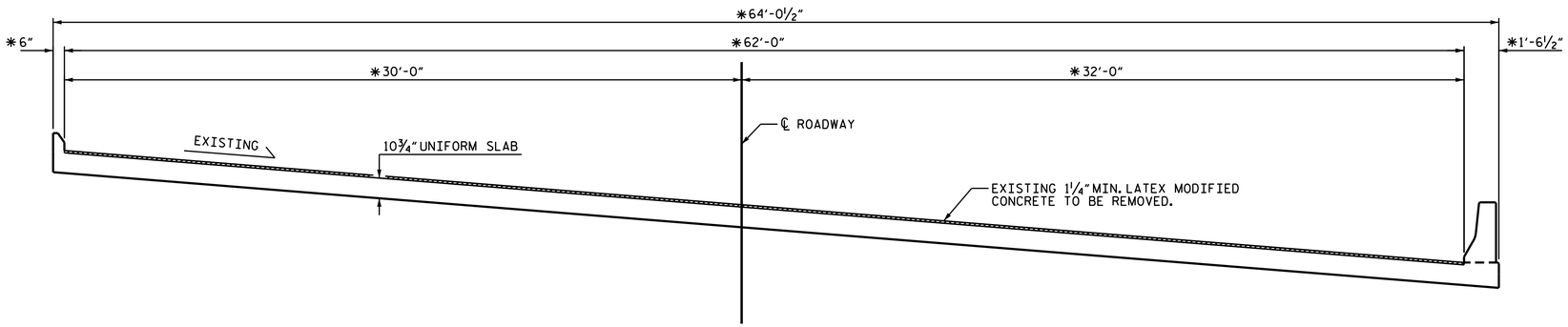
JOINT DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			TOTAL SHEETS
2			4			31

DRAWN BY : E. K. POPE DATE : 12/17
CHECKED BY : A. SORSENGINH DATE : 1/18

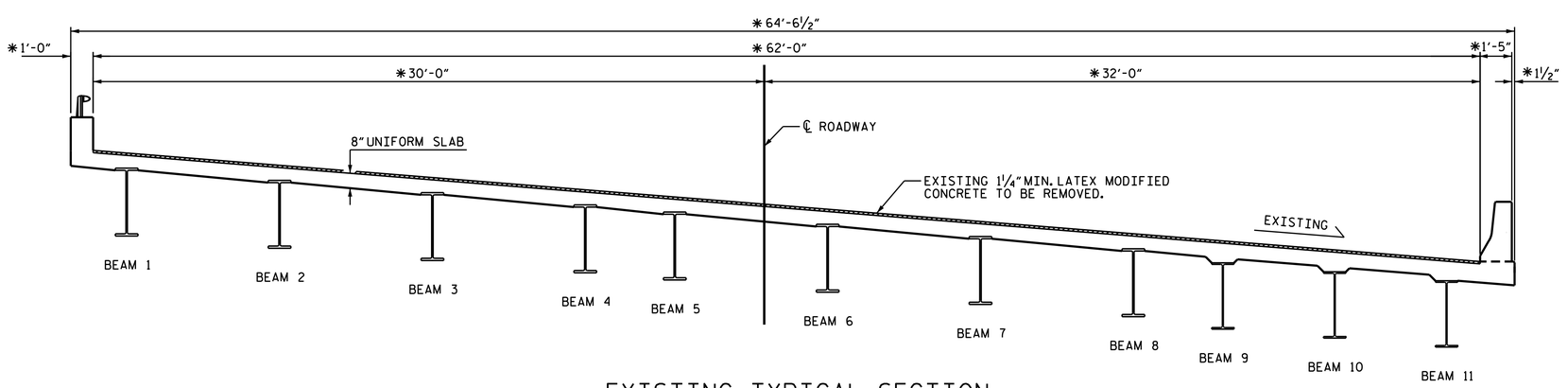
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

02-MAR-2018 13:34
B:\TIPProjects-I\I5825\Structures\FinalPlans\401_005_I5825_SMU_ JT_010_590207.dgn
naplerce



EXISTING APPROACH SLABS

✳ RADIAL DIMENSION



EXISTING TYPICAL SECTION

✳ RADIAL DIMENSION

PROJECT NO. I-5825

MECKLENBURG COUNTY

BRIDGE NO. 213

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION AND PPC OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

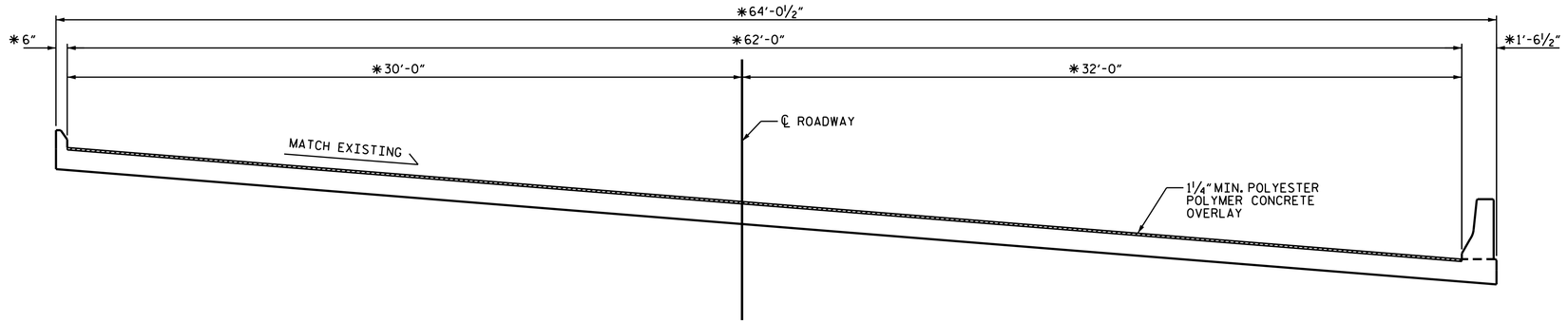
DocuSigned by: Nicholas Pierce 3/2/2018
15110B434D0B485...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			31

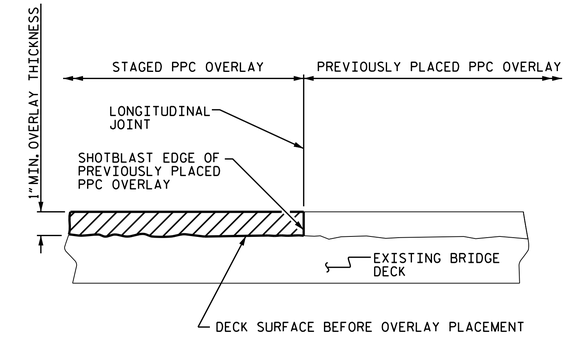
DRAWN BY : E.K. POPE DATE : 12/17
CHECKED BY : A. SORSENGINH DATE : 1/18

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\FinalPlans\402_001_I5825_SMU_ TS1_011_590213.dgn
napierce



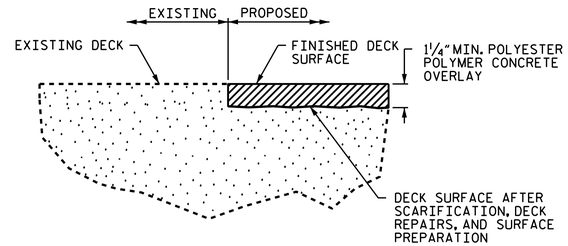
PROPOSED APPROACH SLABS

*RADIAL DIMENSION

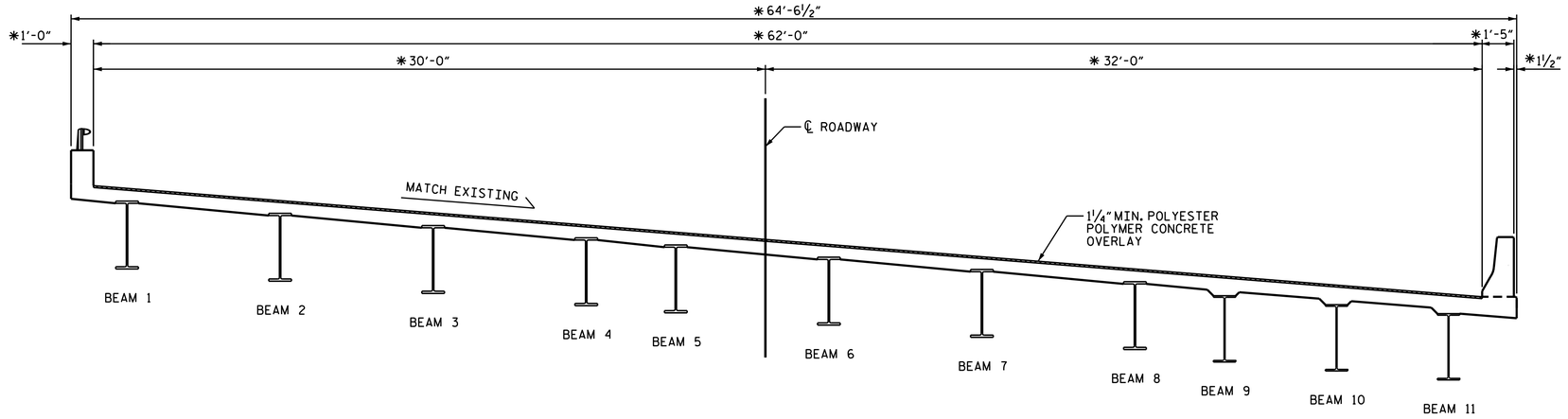


STAGED PPC OVERLAY JOINT

(AS NEEDED)



DETAIL FOR POLYESTER POLYMER CONCRETE OVERLAY



PROPOSED TYPICAL SECTION

*RADIAL DIMENSION

PROJECT NO. I-5825

MECKLENBURG COUNTY

BRIDGE NO. 213

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION AND PPC OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

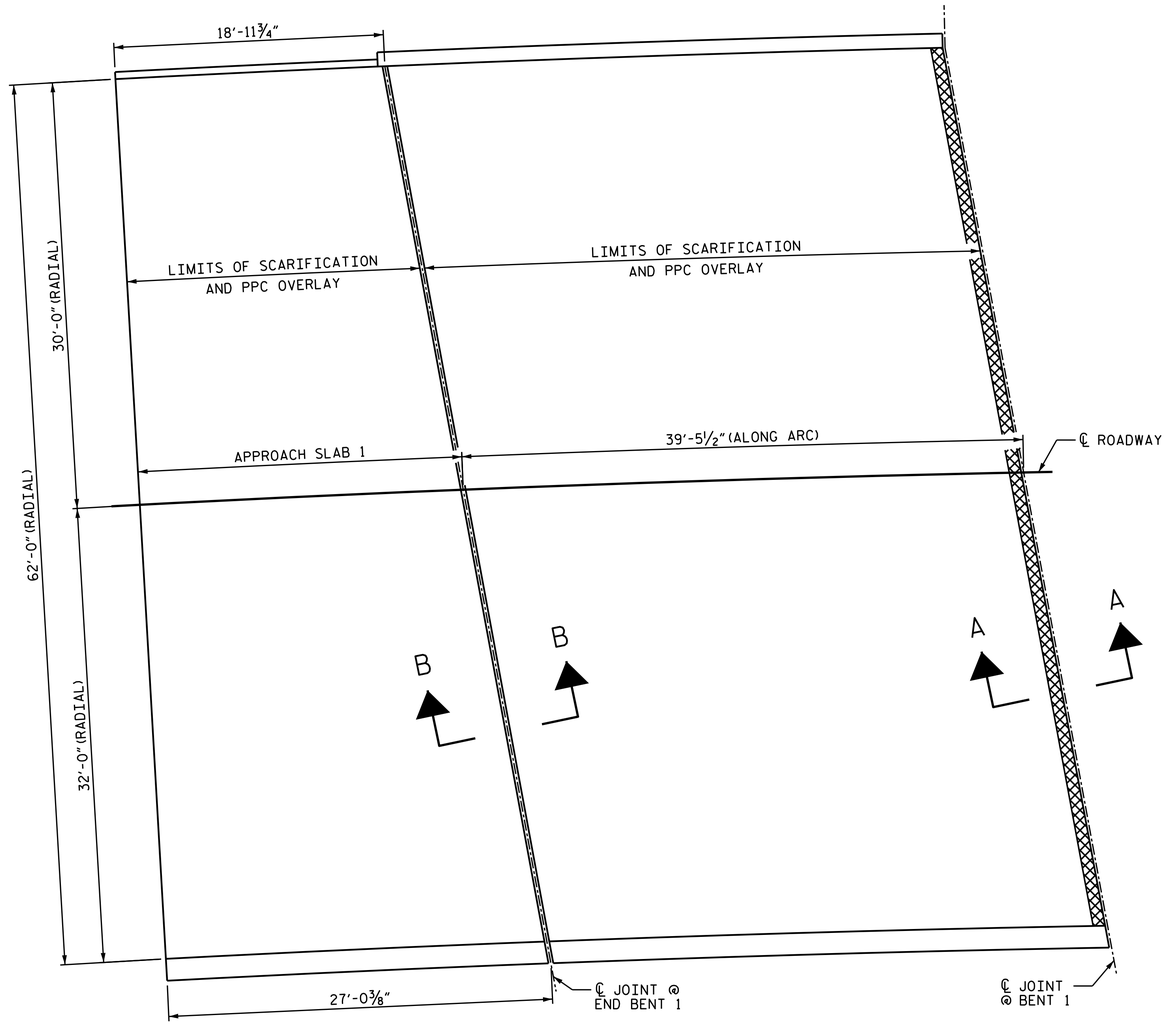
DocuSigned by: Nicholas Pierce 3/2/2018
15110B434D0B485...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-12
1			3			TOTAL SHEETS
2			4			31

DRAWN BY : E. K. POPE DATE : 12/17
CHECKED BY : A. SORSENGINH DATE : 1/18

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\FinalPlans\402_001_I5825_SMU_ TS2_012_590213.dgn
naplerce



TO U.S. 521

PLAN

TO U.S. 74

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	430 SQ. YDS.	
CLASS II SURFACE PREPARATION	7.0 SQ. YDS.	
CONCRETE DECK REPAIR FOR PPC OVERLAY	7.0 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	430 SQ. YDS.	
PPC MATERIALS	14.9 CU. YDS.	
PLACING AND FINISHING PPC OVERLAY	430 SQ. YDS.	
GROOVING BRIDGE FLOORS	3626 SQ. FT.	

TOP OF DECK REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PPC OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAWCUT). SEE OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE SPECIAL PROVISION.

NOTES:

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

FOR SECTIONS A-A AND B-B, SEE "JOINT DETAILS" SHEETS.

CLASS II SURFACE PREPARATION

PROJECT NO. I-5825

MECKLENBURG COUNTY

BRIDGE NO. 213

SHEET 1 OF 3

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 3/2/2018

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPAN

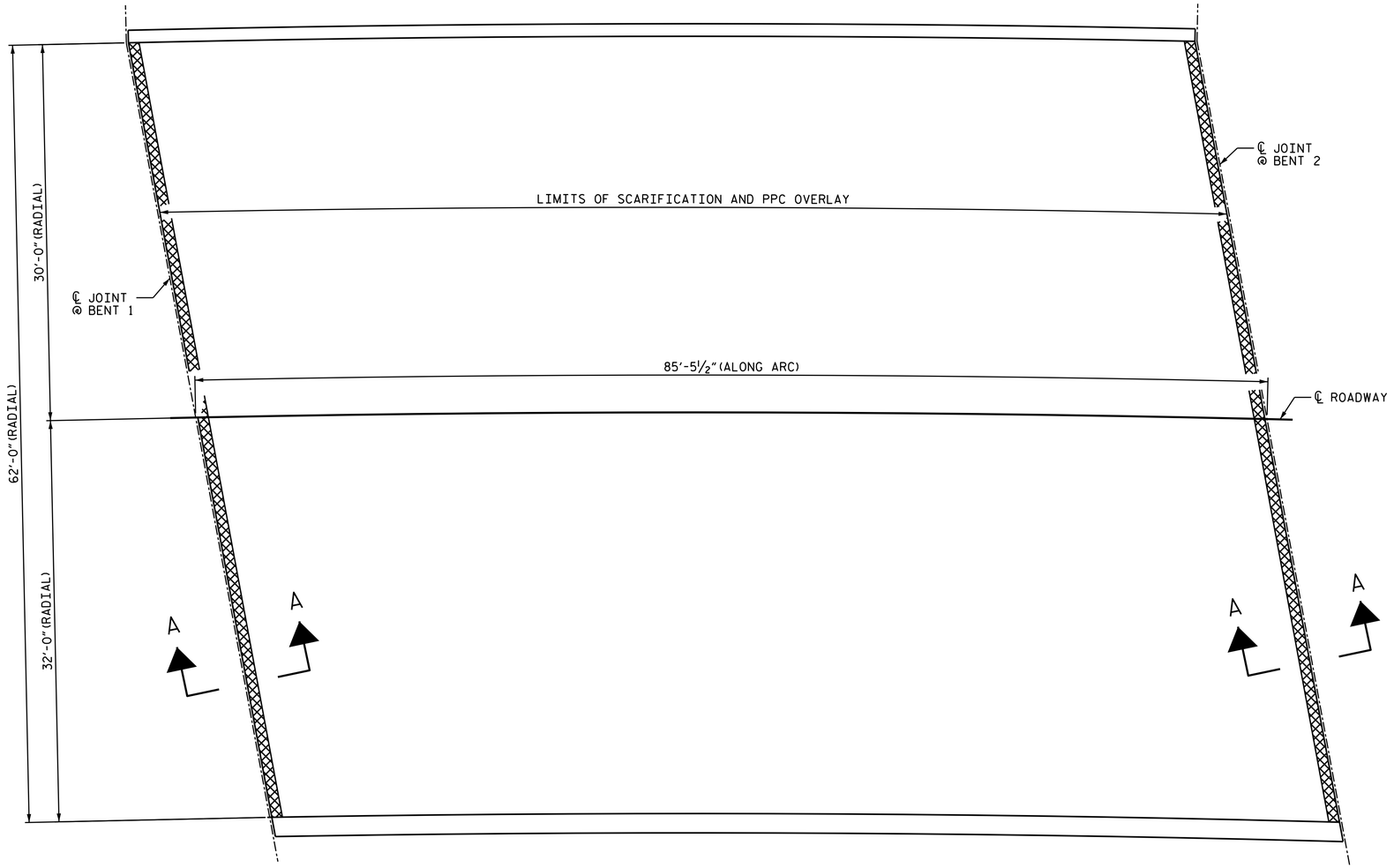
APPROACH SLAB 1 AND SPAN A

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-13
1			3			TOTAL SHEETS
2			4			31

DRAWN BY : E. K. POPE DATE : 12/17
CHECKED BY : A. SORSENGINH DATE : 1/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\Final Plans\402_003_I5825_SMU_ S1_013_590213.dgn
naplerce



TO U.S. 521

PLAN

TO U.S. 74

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	588 SQ. YDS.	
CLASS II SURFACE PREPARATION	14.0 SQ. YDS.	
CONCRETE DECK REPAIR FOR PPC OVERLAY	14.0 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	588 SQ. YDS.	
PPC MATERIALS	20.4 CU. YDS.	
PLACING AND FINISHING PPC OVERLAY	588 SQ. YDS.	
GROOVING BRIDGE FLOORS	5014 SQ. FT.	

TOP OF DECK REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PPC OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAWCUT). SEE OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE SPECIAL PROVISION.

NOTES:

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

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

CLASS II SURFACE PREPARATION

PROJECT NO. I-5825
MECKLENBURG COUNTY
BRIDGE NO. 213

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPAN

SPAN B

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 3/2/2018
15110B434D0B485...

DRAWN BY : E.K. POPE DATE : 12/17
CHECKED BY : A. SORSENGINH DATE : 1/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

SHEET NO. S-14
TOTAL SHEETS 31

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\FinalPlans\402_003_I5825_SMU_ S2_014_590213.dgn
naplerce

PLAN

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	386 SQ. YDS.	
CLASS II SURFACE PREPARATION	7.0 SQ. YDS.	
CONCRETE DECK REPAIR FOR PPC OVERLAY	7.0 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	386 SQ. YDS.	
PPC MATERIALS	13.4 CU. YDS.	
PLACING AND FINISHING PPC OVERLAY	386 SQ. YDS.	
GROOVING BRIDGE FLOORS	3267 SQ. FT.	

TOP OF DECK REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PPC OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAWCUT). SEE OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE SPECIAL PROVISION.

NOTES:

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

FOR SECTIONS A-A AND B-B, SEE "JOINT DETAILS" SHEETS.

CLASS II SURFACE PREPARATION

PROJECT NO. I-5825

MECKLENBURG COUNTY

BRIDGE NO. 213

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPAN

SPAN C

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

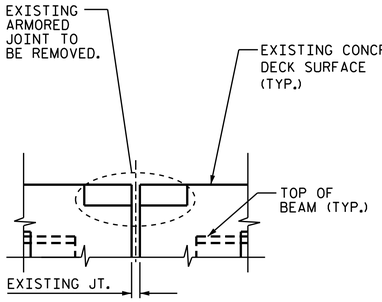
DocuSigned by: Nicholas Pierce 3/2/2018
15110B434D0B485...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

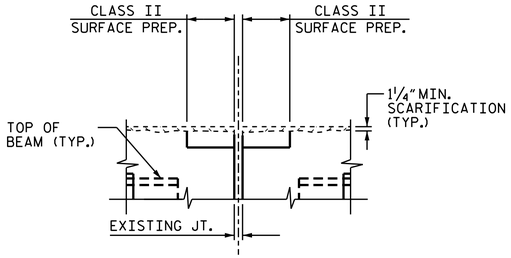
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-15
1			3			TOTAL SHEETS
2			4			31

DRAWN BY : E. K. POPE DATE : 12/17
CHECKED BY : A. SORSENGINH DATE : 1/18

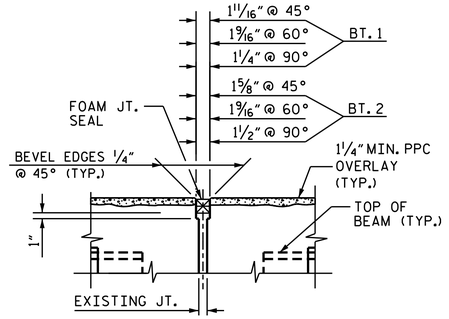
02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\Final Plans\402_003_I5825_SMU_ S3_015_590213.dgn
napierce



EXISTING JOINT

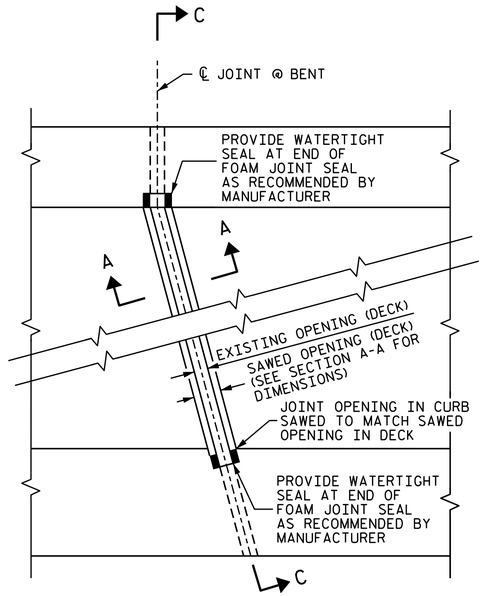


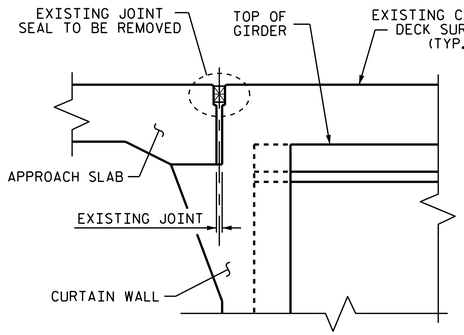
MINIMUM EXISTING JOINT DEMOLITION



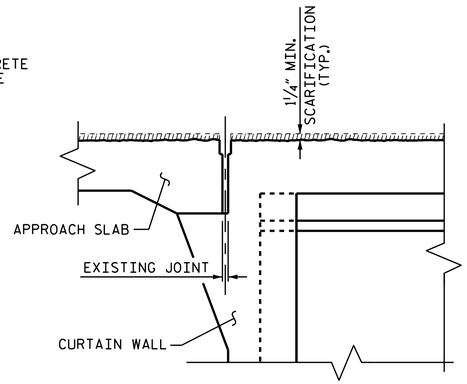
PROPOSED FOAM JOINT SEAL EXPANSION
ALL BENTS

JOINT INSTALLATION SEQUENCE AT BENTS
SECTION A-A

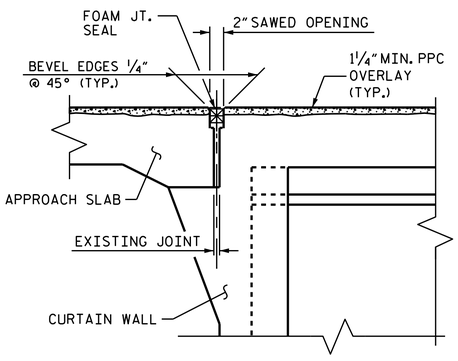




EXISTING JOINT

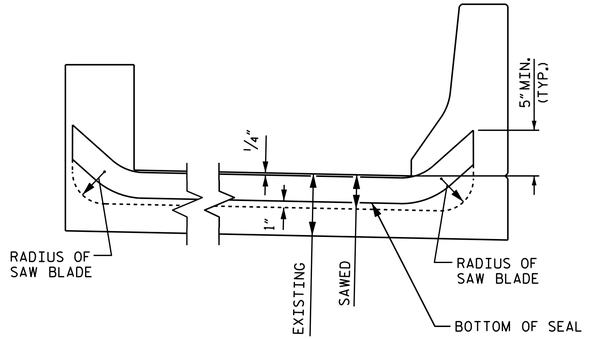


MINIMUM EXISTING JOINT DEMOLITION



PROPOSED FOAM JOINT SEAL

JOINT INSTALLATION SEQUENCE AT END BENTS
SECTION B-B



SECTION C-C

JOINT SEAL DETAILS

NOTES:

CONTRACTOR SHALL FIELD VERIFY THE EXISTING SAWED OPENING PRIOR TO OBTAINING JOINT MATERIAL.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL AT BENTS SHALL BE 2".

THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.

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

PROJECT NO. I-5825
MECKLENBURG COUNTY
BRIDGE NO. 213

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 3/2/2018
15110B434D0B485...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

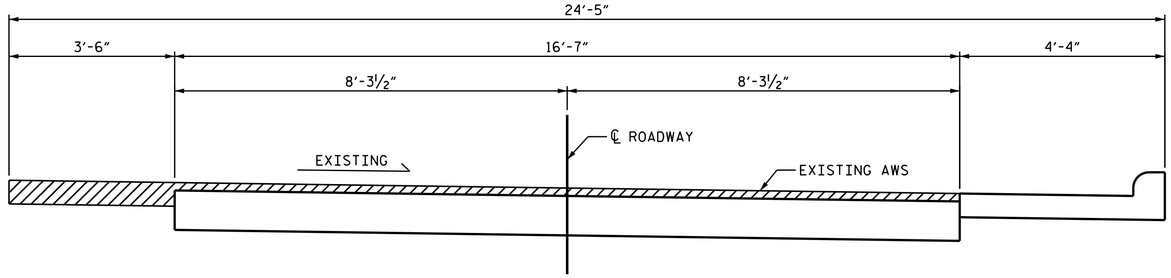
JOINT DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-16
1			3			TOTAL SHEETS
2			4			31

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

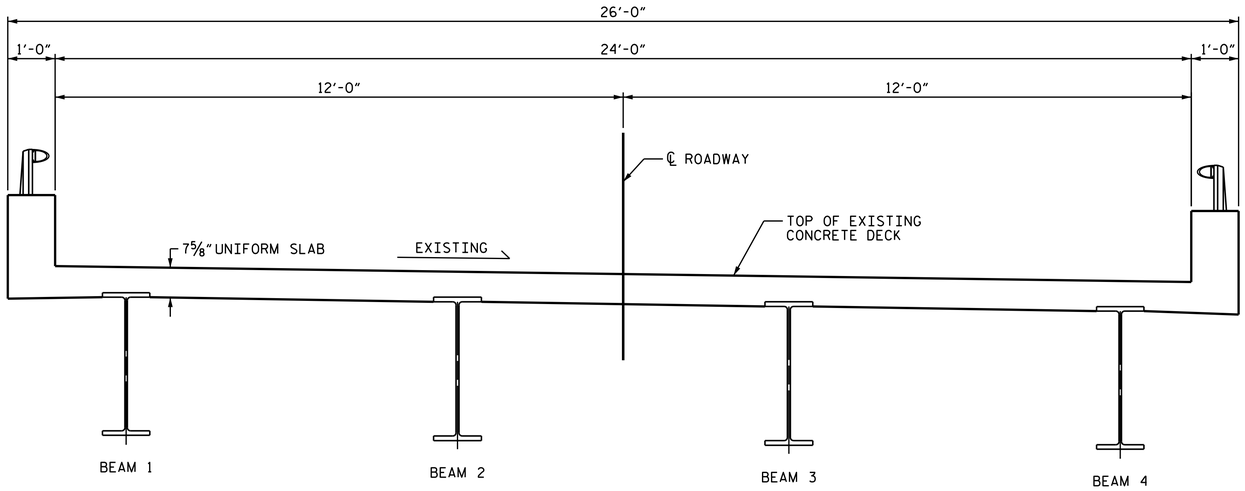
DRAWN BY : E. K. POPE DATE : 12/17
CHECKED BY : A. SORSENGINH DATE : 1/18

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\FinalPlans\402_005_I5825_SMU_ JT_016_590213.dgn
naplerce

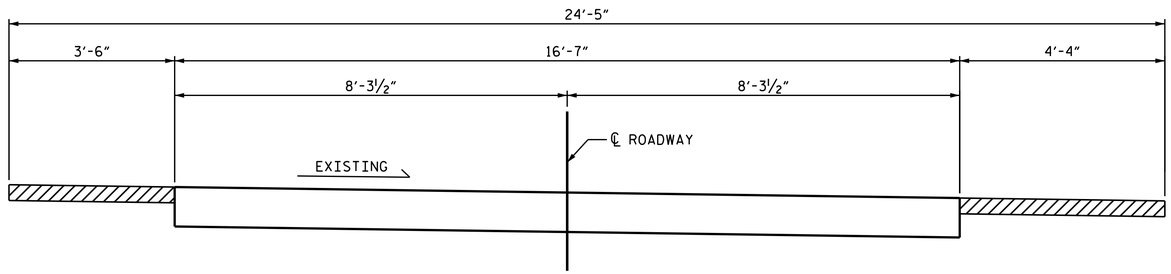


EXISTING APPROACH ROADWAY 1

NO PLANS AVAILABLE FOR APPROACH ROADWAY. DIMINSIONS ARE APPROXIMATE.



EXISTING TYPICAL SECTION



EXISTING APPROACH ROADWAY 2

NO PLANS AVAILABLE FOR APPROACH ROADWAY. DIMINSIONS ARE APPROXIMATE.

PROJECT NO. I-5825

MECKLENBURG COUNTY

BRIDGE NO. 215

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION AND PPC OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 3/2/2018
15110B434D0B485...

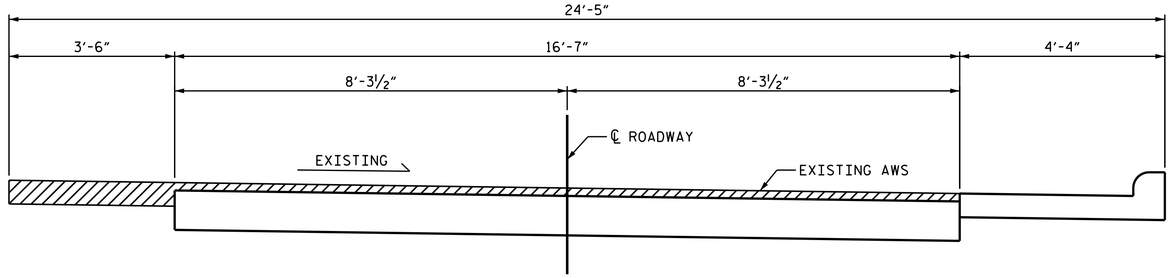
DRAWN BY : E. K. POPE DATE : 1/18

CHECKED BY : N. A. PIERCE DATE : 1/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

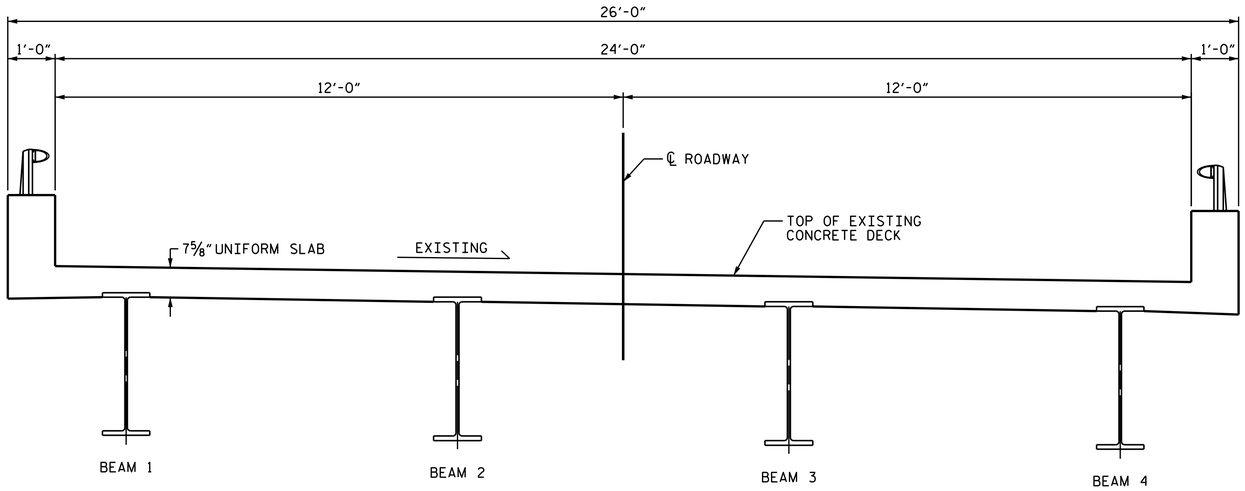
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-17
1			3			TOTAL SHEETS
2			4			31

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\Final Plans\403_001_I5825_SMU_ TS1_017_590215.dgn
napierce

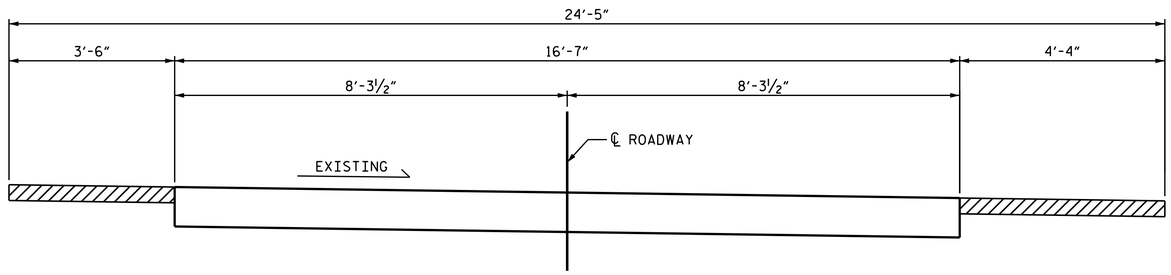


EXISTING APPROACH ROADWAY 1

NO PLANS AVAILABLE FOR APPROACH ROADWAY. DIMINSIONS ARE APPROXIMATE.



EXISTING TYPICAL SECTION



EXISTING APPROACH ROADWAY 2

NO PLANS AVAILABLE FOR APPROACH ROADWAY. DIMINSIONS ARE APPROXIMATE.

PROJECT NO. I-5825

MECKLENBURG COUNTY

BRIDGE NO. 215

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION AND PPC OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

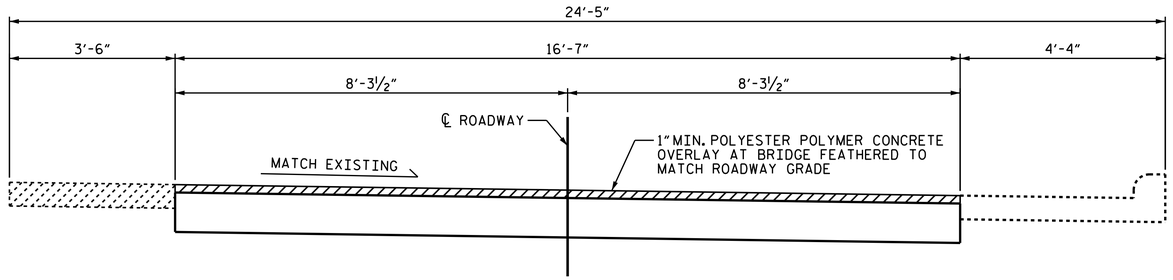
DocuSigned by: Nicholas Pierce 3/2/2018
15110B434D0B485...

DRAWN BY : E. K. POPE DATE : 1/18
CHECKED BY : N. A. PIERCE DATE : 1/18

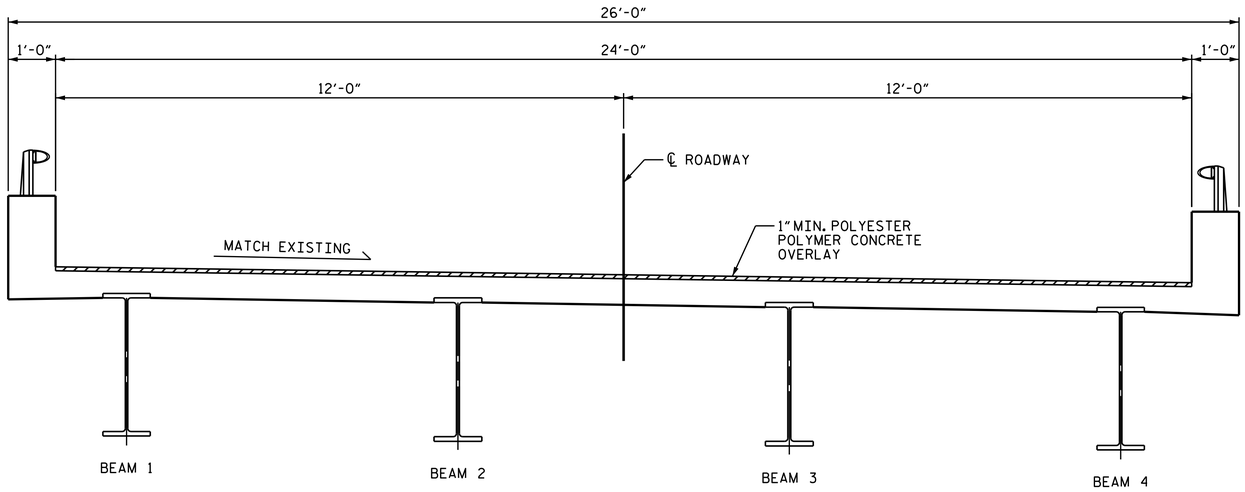
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-17
1			3			TOTAL SHEETS
2			4			31

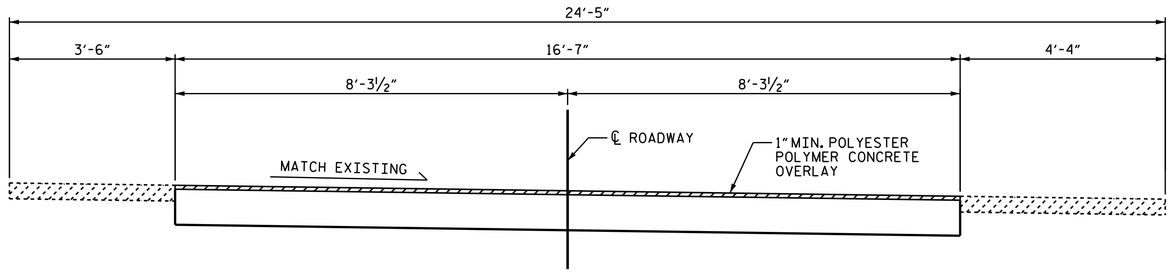
02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\Final Plans\403_001_I5825_SMU_ TS1_017_590215.dgn
napierce



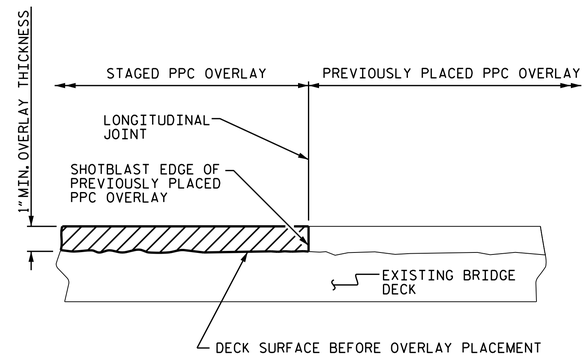
PROPOSED APPROACH ROADWAY 1



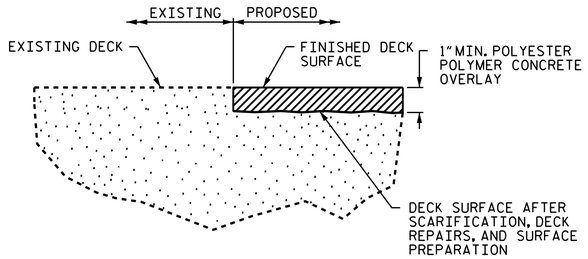
PROPOSED TYPICAL SECTION



PROPOSED APPROACH ROADWAY 2



STAGED PPC OVERLAY JOINT
(AS NEEDED)



DETAIL FOR POLYESTER POLYMER CONCRETE OVERLAY

PROJECT NO. I-5825
MECKLENBURG COUNTY
BRIDGE NO. 215
SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION AND PPC OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

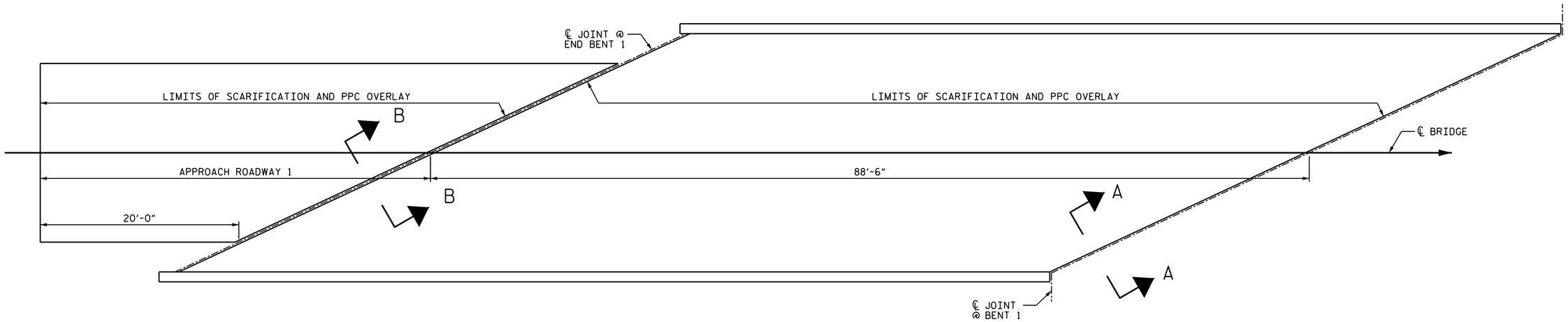
DocuSigned by: Nicholas Pierce 1511DB434D0B485... 3/2/2018

DRAWN BY : E. K. POPE DATE : 1/18
CHECKED BY : N. A. PIERCE DATE : 1/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-18
1			3			TOTAL SHEETS
2			4			31

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\FinalPlans\403_001_I5825_SMU_ TS2_018_590215.dgn
naplerce



PLAN

AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	313 SQ. YDS.	
CLASS II SURFACE PREPARATION	✱ 0.5 SQ. YDS.	
CONCRETE DECK REPAIR FOR PPC OVERLAY	✱ 0.5 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	313 SQ. YDS.	
PPC MATERIALS	10.9 CU. YDS.	
PLACING AND FINISHING PPC OVERLAY	313 SQ. YDS.	
GROOVING BRIDGE FLOORS	2418 SQ. FT.	

TOP OF DECK REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PPC OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAWCUT). SEE OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE SPECIAL PROVISION.

NOTES:

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

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

✱ CLASS II SURFACE PREPARATION AND CONCRETE REPAIR FOR PPC OVERLAY ARE NOT ANTICIPATED. A TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSES IN THE EVENT UNANTICIPATED CLASS II AREAS ARE ENCOUNTERED.

PROJECT NO. I-5825
MECKLENBURG COUNTY
BRIDGE NO. 215

SHEET 1 OF 4

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 15110B434D0B485... 3/2/2018

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPAN

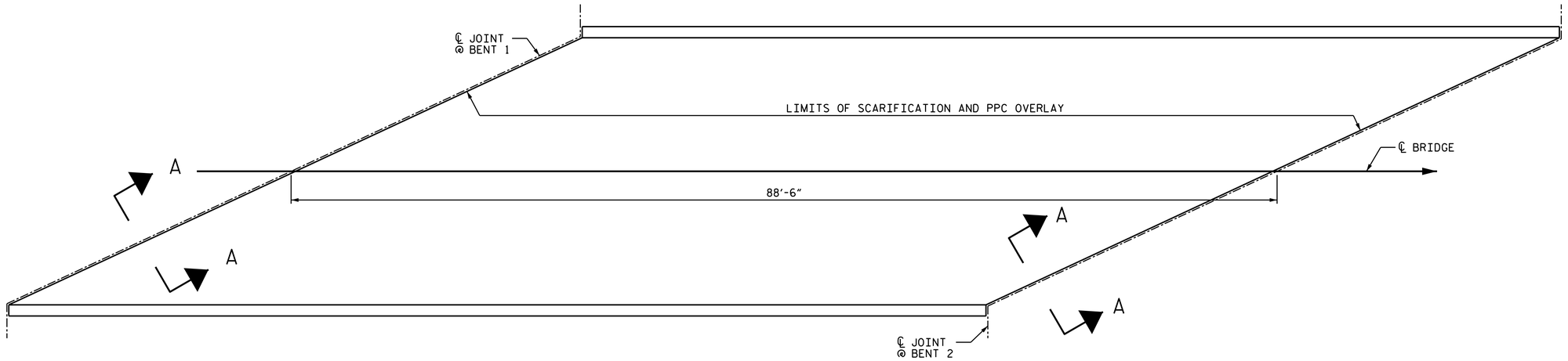
APPROACH ROADWAY 1
AND SPAN A

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-19
1			3			TOTAL SHEETS
2			4			31

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : E. K. POPE DATE : 1/18
CHECKED BY : N. A. PIERCE DATE : 1/18

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\FinalPlans\403.003_I5825_SMU_ S1_019_590215.dgn
napierce



PLAN

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	236 SQ. YDS.	
CLASS II SURFACE PREPARATION	✱ 0.5 SQ. YDS.	
CONCRETE DECK REPAIR FOR PPC OVERLAY	✱ 0.5 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	236 SQ. YDS.	
PPC MATERIALS	8.2 CU. YDS.	
PLACING AND FINISHING PPC OVERLAY	236 SQ. YDS.	
GROOVING BRIDGE FLOORS	1837 SQ. FT.	

TOP OF DECK REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PPC OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAWCUT). SEE OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE SPECIAL PROVISION.

NOTES:

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

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

✱ CLASS II SURFACE PREPARATION AND CONCRETE REPAIR FOR PPC OVERLAY ARE NOT ANTICIPATED. A TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSES IN THE EVENT UNANTICIPATED CLASS II AREAS ARE ENCOUNTERED.

PROJECT NO. I-5825
MECKLENBURG COUNTY
BRIDGE NO. 215

SHEET 2 OF 4

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 3/2/2018
15110B434D0B485...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPAN

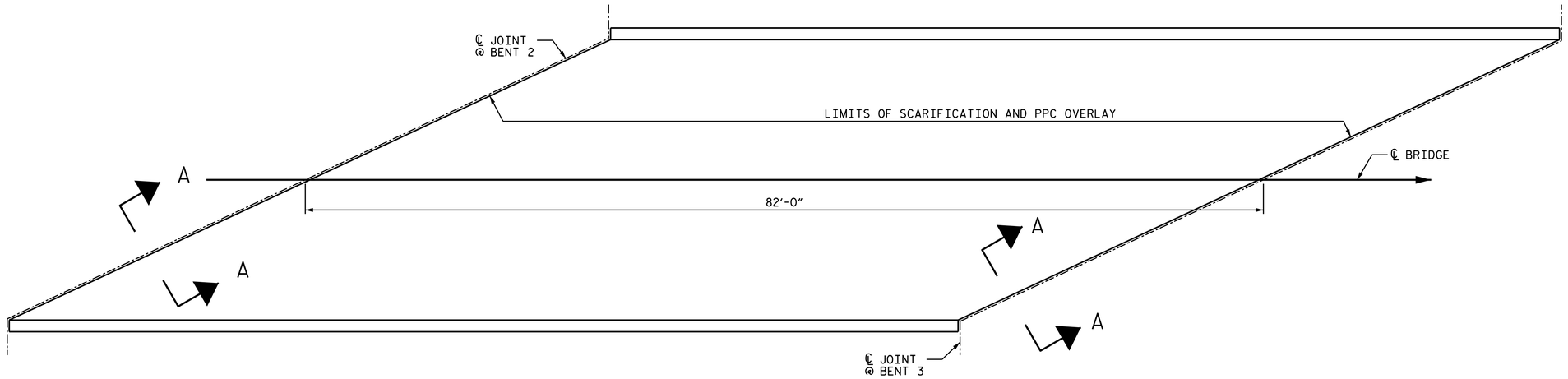
SPAN B

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-20
1			3			TOTAL SHEETS
2			4			31

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : E. K. POPE DATE : 1/18
CHECKED BY : N. A. PIERCE DATE : 1/18

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\FinalPlans\403.003.I5825.SMU. S2.020.590215.dgn
napierce



PLAN

AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	219 SQ. YDS.	
CLASS II SURFACE PREPARATION	* 0.5 SQ. YDS.	
CONCRETE DECK REPAIR FOR PPC OVERLAY	* 0.5 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	219 SQ. YDS.	
PPC MATERIALS	7.6 CU. YDS.	
PLACING AND FINISHING PPC OVERLAY	219 SQ. YDS.	
GROOVING BRIDGE FLOORS	1699 SQ. FT.	

TOP OF DECK REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PPC OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAWCUT). SEE OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE SPECIAL PROVISION.

NOTES:

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

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

* CLASS II SURFACE PREPARATION AND CONCRETE REPAIR FOR PPC OVERLAY ARE NOT ANTICIPATED. A TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSES IN THE EVENT UNANTICIPATED CLASS II AREAS ARE ENCOUNTERED.

PROJECT NO. I-5825
MECKLENBURG COUNTY
BRIDGE NO. 215

SHEET 3 OF 4

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 3/2/2018

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPAN

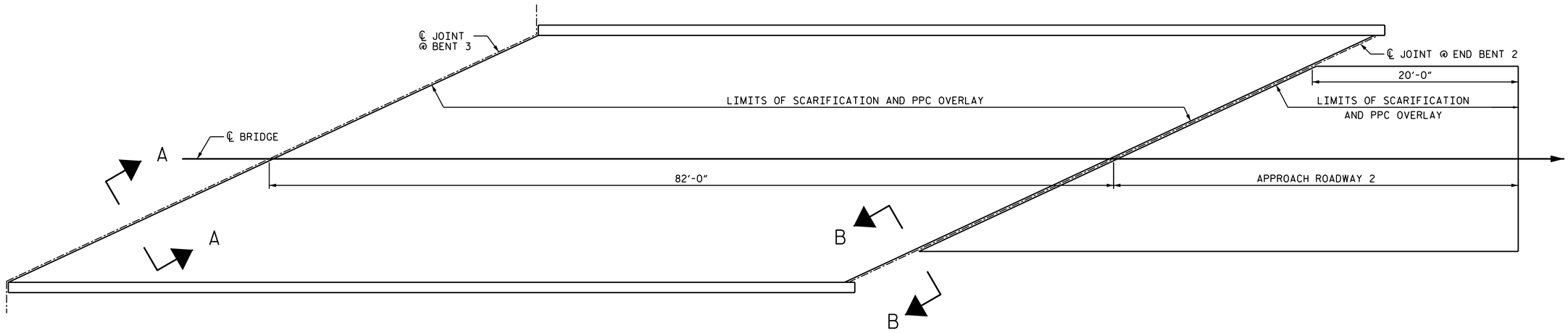
SPAN C

DRAWN BY : E. K. POPE DATE : 1/18
CHECKED BY : N. A. PIERCE DATE : 1/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-21
1			3			TOTAL SHEETS
2			4			31

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\FinalPlans\403.003_I5825_SMU_ S3.021_590215.dgn
napierce



PLAN

AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	295 SQ. YDS.	
CLASS II SURFACE PREPARATION	✱0.5 SQ. YDS.	
CONCRETE DECK REPAIR FOR PPC OVERLAY	✱0.5 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	295 SQ. YDS.	
PPC MATERIALS	10.3 CU. YDS.	
PLACING AND FINISHING PPC OVERLAY	295 SQ. YDS.	
GROOVING BRIDGE FLOORS	2283 SQ. FT.	

TOP OF DECK REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PPC OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAWCUT). SEE OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE SPECIAL PROVISION.

NOTES:

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

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

✱CLASS II SURFACE PREPARATION AND CONCRETE REPAIR FOR PPC OVERLAY ARE NOT ANTICIPATED. A TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSES IN THE EVENT UNANTICIPATED CLASS II AREAS ARE ENCOUNTERED.

PROJECT NO. I-5825
MECKLENBURG COUNTY
BRIDGE NO. 215

SHEET 4 OF 4

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 151108434D08485... 3/2/2018

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPAN
SPAN D AND
APPROACH ROADWAY 2

DRAWN BY : E. K. POPE DATE : 1/18
CHECKED BY : N. A. PIERCE DATE : 1/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-22
1			3			TOTAL SHEETS
2			4			31

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\FinalPlans\403.003.I5825.SMU. S4.022.590215.dgn
napierce

NOTES:

CONTRACTOR SHALL FIELD VERIFY THE EXISTING SAWED OPENING PRIOR TO OBTAINING JOINT MATERIAL.

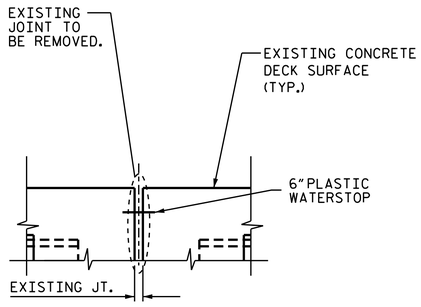
FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

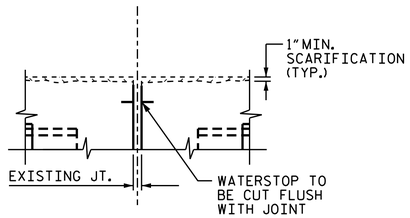
NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 2".

THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.

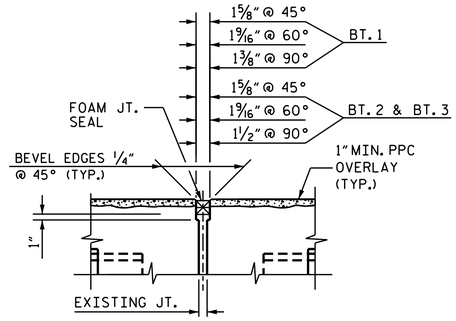
THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE FOAM JOINT SEAL IN LIEU OF SAWING THE JOINT.



EXISTING JOINT



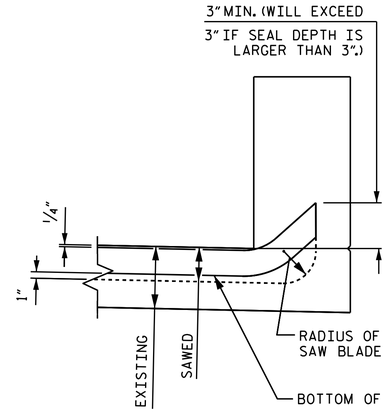
MINIMUM EXISTING JOINT DEMOLITION



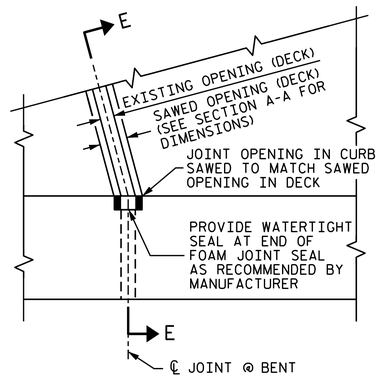
PROPOSED FOAM JOINT SEAL EXPANSION

ALL BENTS

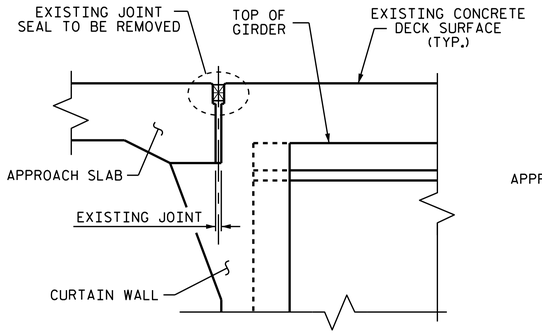
JOINT INSTALLATION SEQUENCE AT BENTS
SECTION A-A



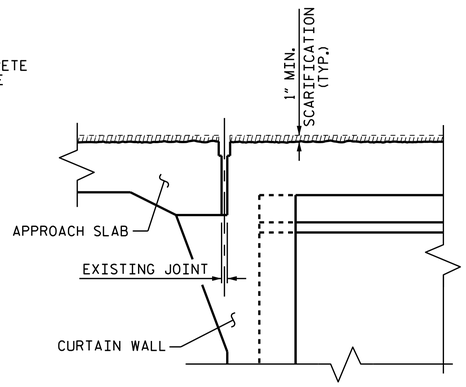
SECTION E-E



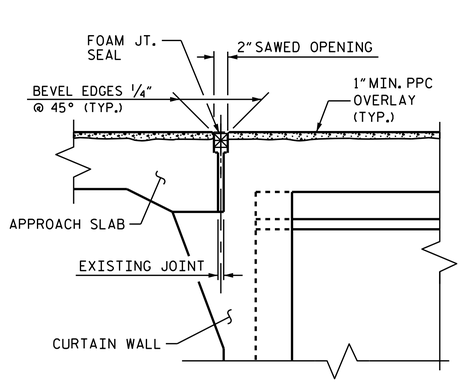
JOINT SEAL DETAILS



EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION



PROPOSED FOAM JOINT SEAL

JOINT INSTALLATION SEQUENCE AT END BENTS
SECTION B-B

PROJECT NO. I-5825

MECKLENBURG COUNTY

BRIDGE NO. 215

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 3/2/2018

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

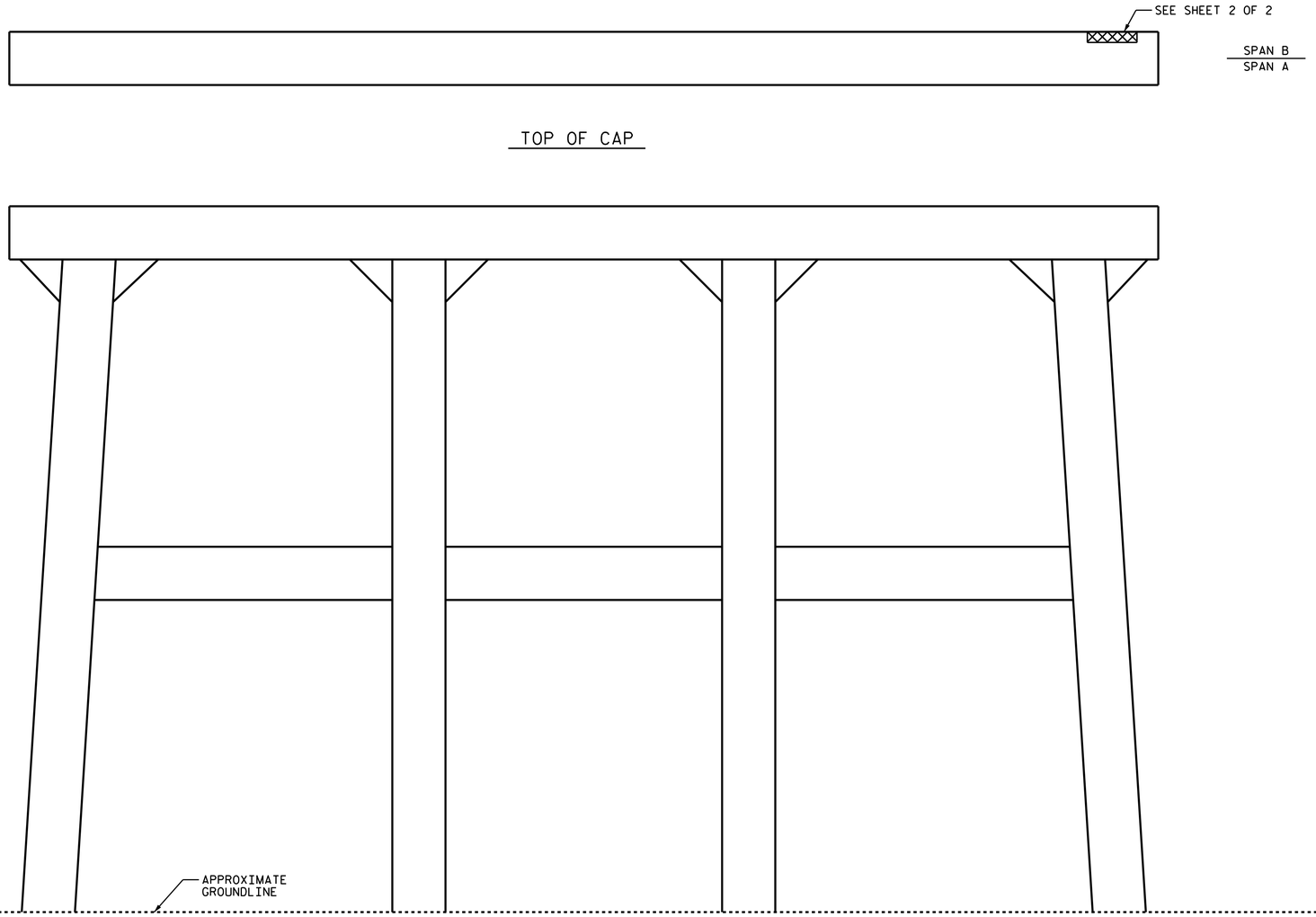
JOINT DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-23
1			3			TOTAL SHEETS
2			4			31

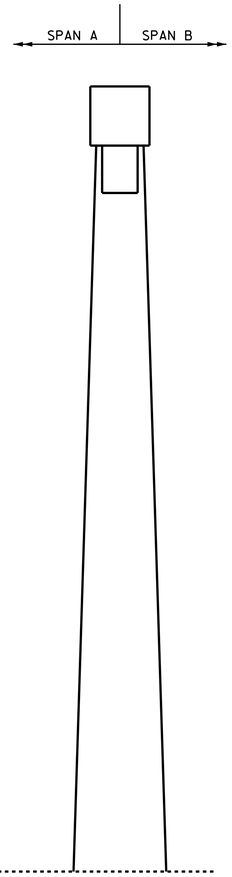
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : E. K. POPE DATE : 12/17
CHECKED BY : N. A. PIERCE DATE : 1/18

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\FinalPlans\403_005_I5825_SMU_JT_023_590215.dgn
napierce



ELEVATION



END VIEW

CONCRETE REPAIR AREA

AS-BUILT REPAIR QUANTITY TABLE

BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	4.0	2.0		
COLUMNS	2.8	1.4		
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP	135			

NOTES:

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER 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.

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

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

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 15110B434D0B485... 3/2/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO. I-5825

MECKLENBURG COUNTY

BRIDGE NO. 215

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 1

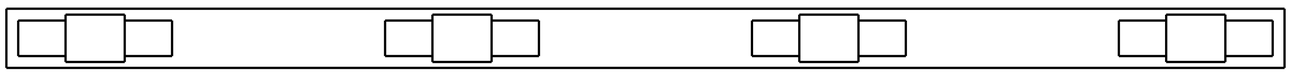
SPAN A FACE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-24
1			3			TOTAL SHEETS
2			4			31

DRAWN BY : E. K. POPE DATE : 1/18

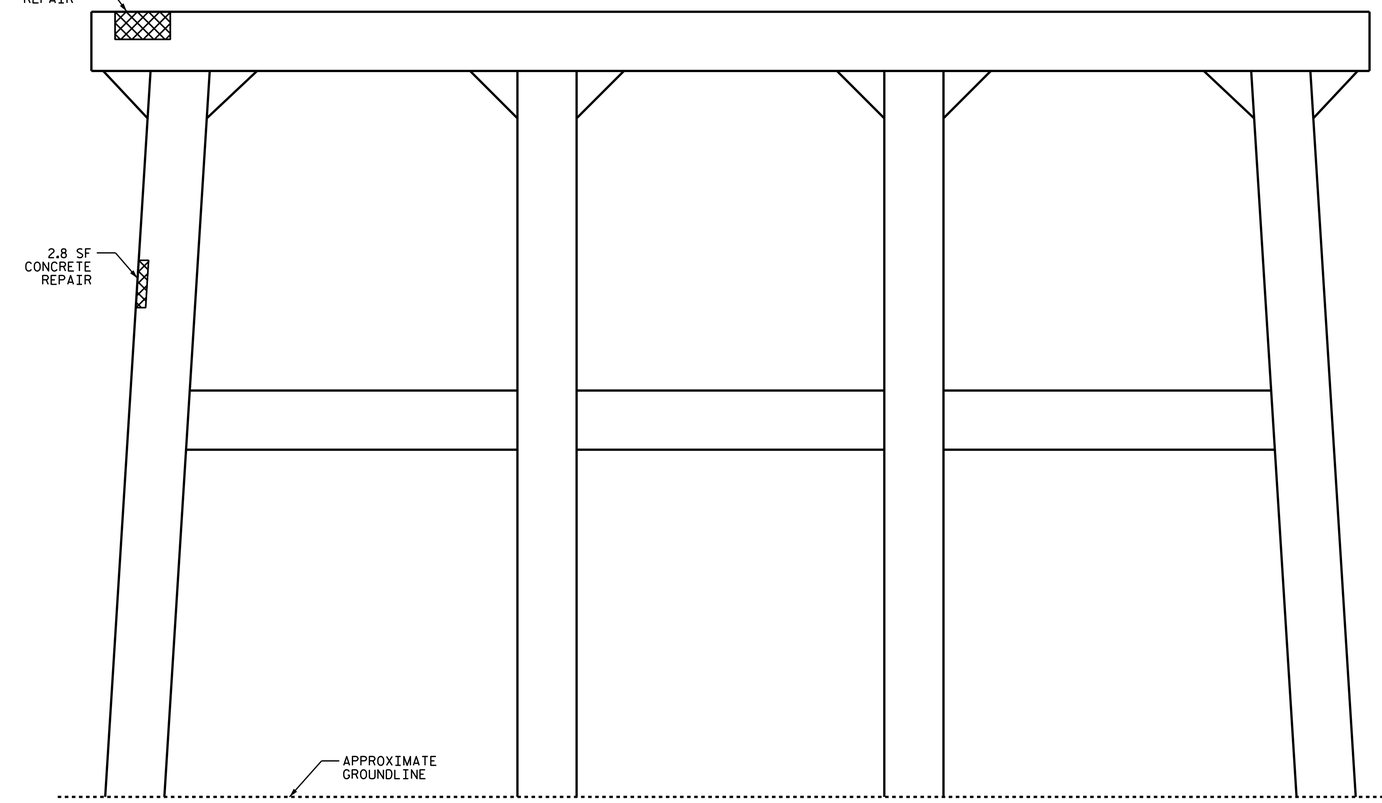
CHECKED BY : N. A. PIERCE DATE : 1/18

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\Final Plans\403_007_I5825_SMU_ BIA_024_590215.dgn
napierce

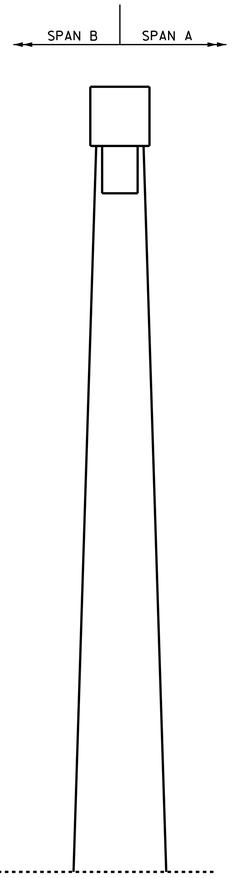


SPAN A
SPAN B

BOTTOM OF CAP



ELEVATION



END VIEW

CONCRETE REPAIR AREA

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER 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.

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

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

PROJECT NO. I-5825
MECKLENBURG COUNTY
BRIDGE NO. 215

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 1

SPAN B FACE

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

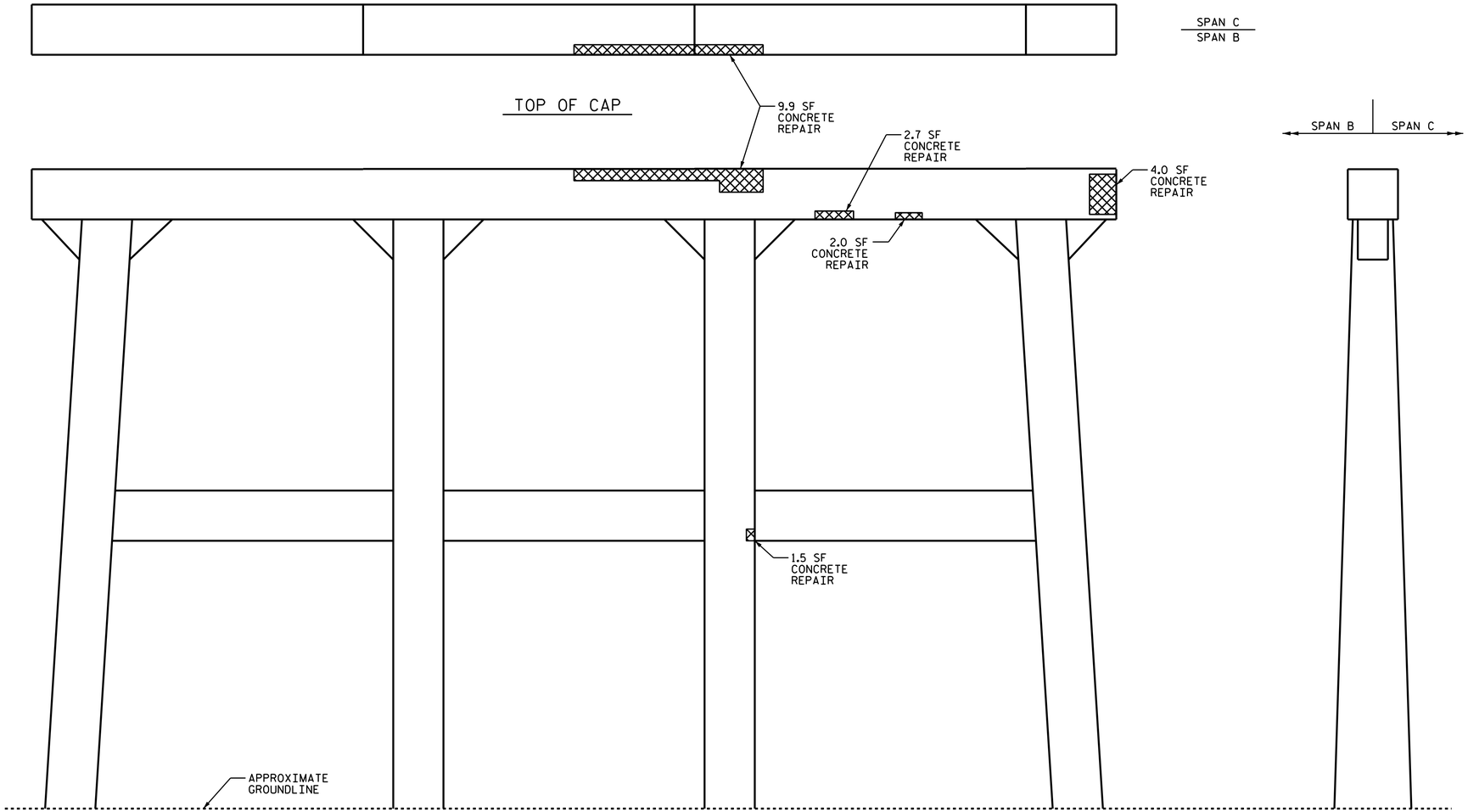
DocuSigned by: Nicholas Pierce 3/2/2018
15110B434D0B485...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-25
1			3			TOTAL SHEETS
2			4			31

DRAWN BY : E. K. POPE DATE : 1/18
CHECKED BY : N. A. PIERCE DATE : 1/18

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\Final Plans\403_007_I5825_SMU_ BIB_025_590215.dgn
napierce



ELEVATION

END VIEW

CONCRETE REPAIR AREA

AS-BUILT REPAIR QUANTITY TABLE

BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	18.6	9.3		
COLUMNS	1.5	0.8		
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP	135			

NOTES:

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER 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.

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

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

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 3/2/2018
15110B4340DB485...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO. I-5825
MECKLENBURG COUNTY
BRIDGE NO. 215

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

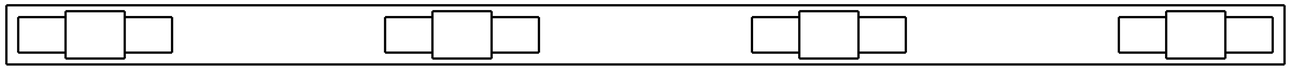
BENT 2

SPAN B FACE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-26
1			3			TOTAL SHEETS
2			4			31

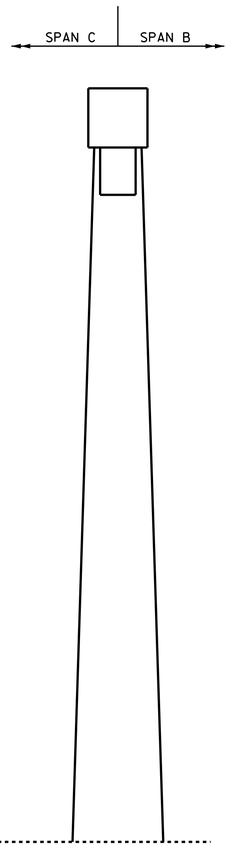
DRAWN BY : E. K. POPE DATE : 1/18
CHECKED BY : N. A. PIERCE DATE : 1/18

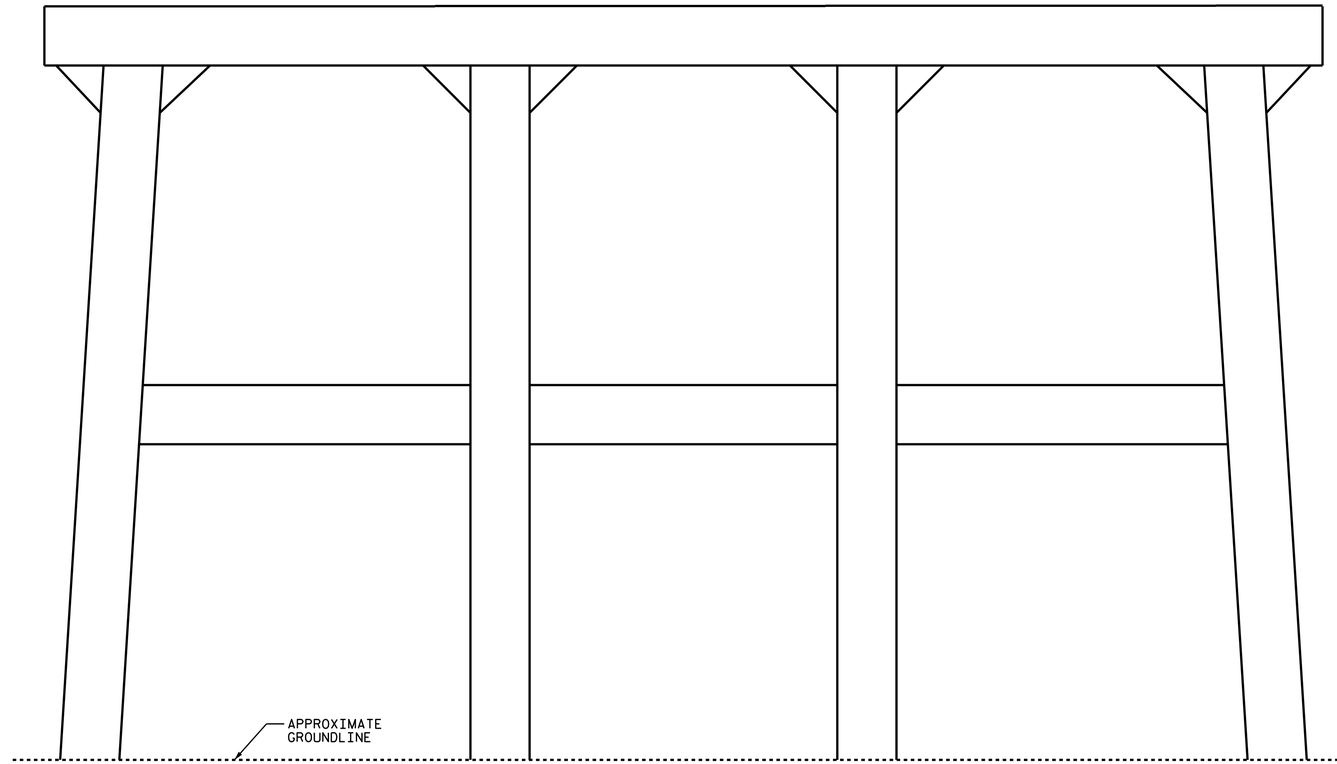
02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\Final Plans\403_007_I5825_SMU_ B2A_026_590215.dgn
napierce



SPAN B
SPAN C

BOTTOM OF CAP





ELEVATION

END VIEW

CONCRETE REPAIR AREA

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER 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.

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

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

PROJECT NO. I-5825
MECKLENBURG COUNTY
BRIDGE NO. 215

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 2

SPAN C FACE

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

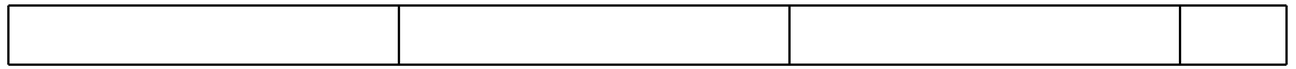
DocuSigned by: Nicholas Pierce 3/2/2018
15110B434D0B485...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-27
1			3			TOTAL SHEETS
2			4			31

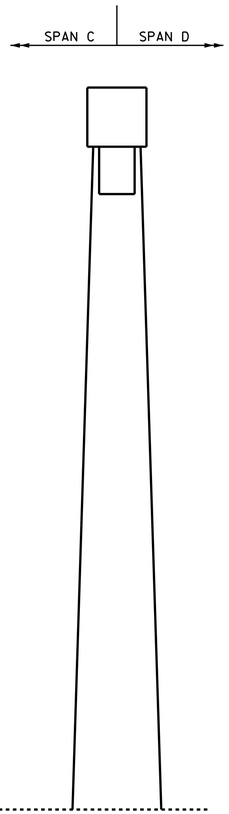
DRAWN BY : E. K. POPE DATE : 1/18
CHECKED BY : N. A. PIERCE DATE : 1/18

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\FinalPlans\403_007_I5825_SMU_ B2B_027_590215.dgn
napierce



SPAN D
SPAN C

TOP OF CAP



ELEVATION

END VIEW

CONCRETE REPAIR AREA

AS-BUILT REPAIR QUANTITY TABLE				
BENT 3	QUANTITIES			
	ESTIMATE		ACTUAL	
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	5.3	2.7		
COLUMNS	0.0	0.0		
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF BENT CAP	135			

NOTES:

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER 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.

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

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

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 3/2/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO. I-5825
MECKLENBURG COUNTY
BRIDGE NO. 215

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

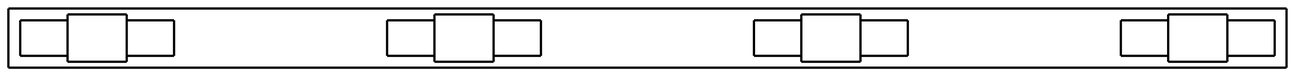
BENT 3

SPAN C FACE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-28
1			3			TOTAL SHEETS
2			4			31

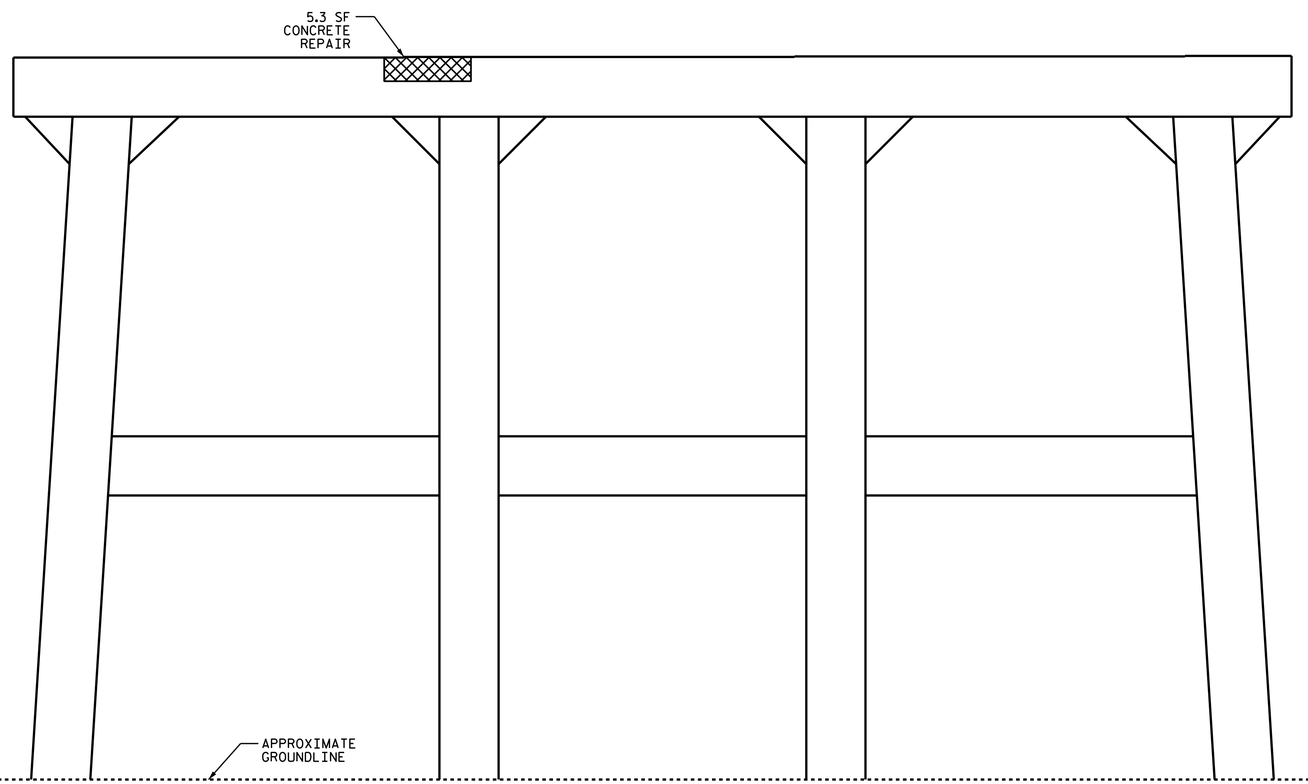
DRAWN BY : E. K. POPE DATE : 1/18
CHECKED BY : N. A. PIERCE DATE : 1/18

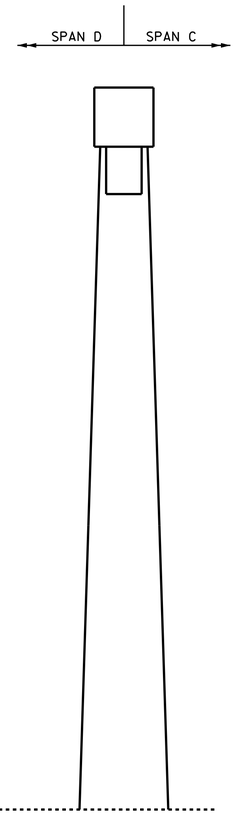
02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\Final Plans\403_007_I5825_SMU_ B3A_028_590215.dgn
napierce



SPAN C
SPAN D

BOTTOM OF CAP





ELEVATION

END VIEW

CONCRETE REPAIR AREA

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER 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.

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

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

PROJECT NO. I-5825
MECKLENBURG COUNTY
BRIDGE NO. 215

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 3

SPAN D FACE

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

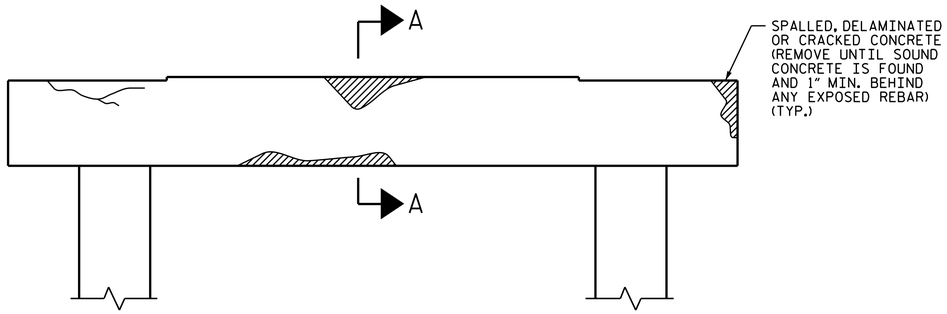
DocuSigned by:
Nicholas Pierce 3/2/2018
151108434D0B485...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

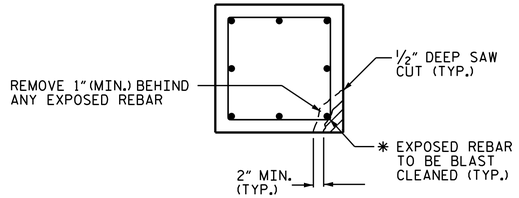
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-29
1			3			TOTAL SHEETS
2			4			31

DRAWN BY : E. K. POPE DATE : 1/18
CHECKED BY : N. A. PIERCE DATE : 1/18

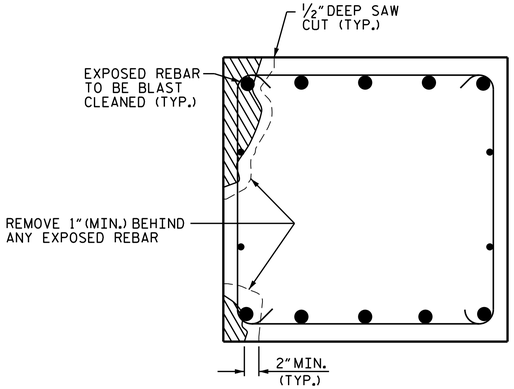
02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\Final Plans\403_007_I5825_SMU_ B3B_029_590215.dgn
napierce



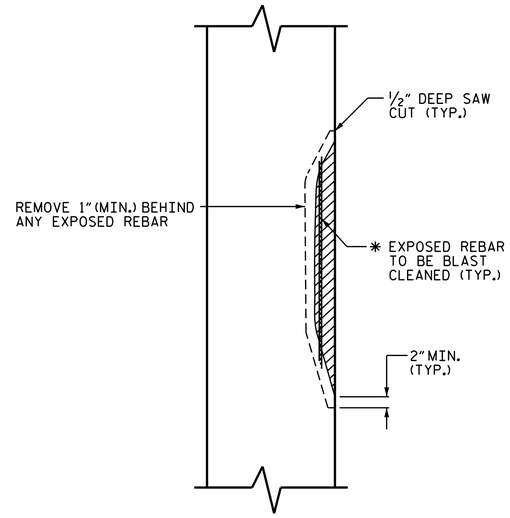
BENT CAP REPAIRS



PLAN OF COLUMN



SECTION A-A



* REPAIR LENGTH SHALL NOT EXCEED 10 FEET.

ELEVATION OF COLUMN

CAP REPAIR

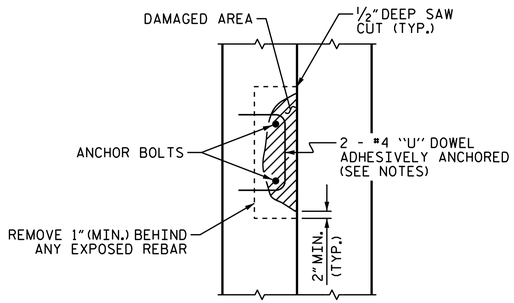
COLUMN REPAIR

NOTES

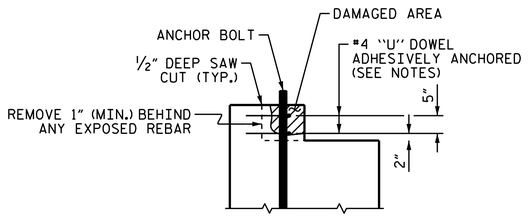
TYPICAL BENT CAP REPAIRS ARE SHOWN. REPAIR DETAILS SIMILAR FOR END BENT CAPS AND STRUTS.

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.



PLAN



ELEVATION

PEDESTAL WALL REPAIR

PROJ. NO. I-5825

MECKLENBURG COUNTY

BRIDGE NO. 215

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL CAP AND COLUMN REPAIR DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

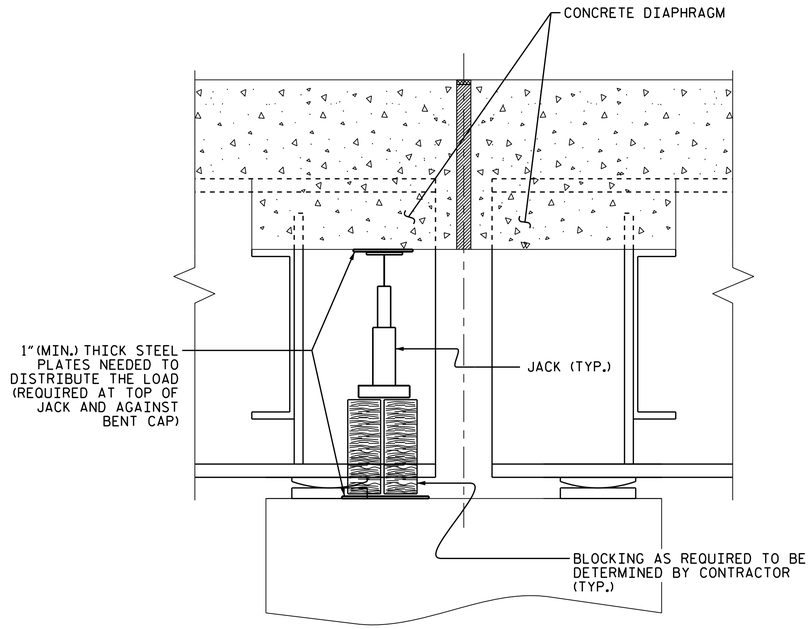
DocuSigned by: Nicholas Pierce 3/2/2018
151108434D08485...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-30
1			3			TOTAL SHEETS
2			4			31

DRAWN BY : E. K. POPE DATE : 1/18
CHECKED BY : N. A. PIERCE DATE : 1/18

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\FinalPlans\403_009_I5825_SMU_CCRD_030_590215.dgn



SECTION THRU DIAPHRAGM

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

JACKING NOTES:

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

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

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

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

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

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

PROJ. NO. I-5825

MECKLENBURG COUNTY

BRIDGE NO. 215

NORTH CAROLINA PROFESSIONAL SEAL 037479 ENGINEER NICHOLAS A. PIERCE

DocuSigned by: Nicholas Pierce 3/2/2018
15110B434D0B485...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JACKING DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-31
1			3			TOTAL SHEETS
2			4			31

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : E. K. POPE DATE : 1/18
CHECKED BY : N. A. PIERCE DATE : 1/18

02-MAR-2018 13:35
B:\TIPProjects-I\I5825\Structures\FinalPlans\403_009_I5825_SMU_JCK_031_590215.dgn

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS - - - - - - - - - - - - - - - - -	A.A.S.H.T.O. (CURRENT)
LIVE LOAD -	SEE PLANS
IMPACT ALLOWANCE - - - - - - - - - - - - - - - -	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36 - -	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W - -	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50 - -	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60 - - -	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION - - - - - - - - - - - -	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR - - - - - - - - - - - - - - -	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS - - -	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER - - - - -	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH - - - - -	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

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

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

CONCRETE:

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

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED ¾" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1½" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A ¼" 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 ¼" 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 ⅞" Ø SHEAR STUDS FOR THE ¾" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - ⅞" Ø STUDS FOR 4 - ¾" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF ⅞" Ø STUDS ALONG THE BEAM AS SHOWN FOR ¾" Ø STUDS BASED ON THE RATIO OF 3 - ⅞" Ø STUDS FOR 4 - ¾" Ø 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 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 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

REV. 6-16-95 EEM (/) RGW REV. 5-7-03 RWW (/) JTE REV. 10-1-11 MAA (/) GM
REV. 8-16-99 RWW (/) LES REV. 5-1-06 TLA (/) GM REV. 12-17 MAA (/) THC
08-FEB-2018 11:24
S:\DPG3\Low Impact Projects\17BP\Submitted\17BP12R53\Plans\401_09_BD5112W_SN_S15.DGN
naplerce