See Sheet 1A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

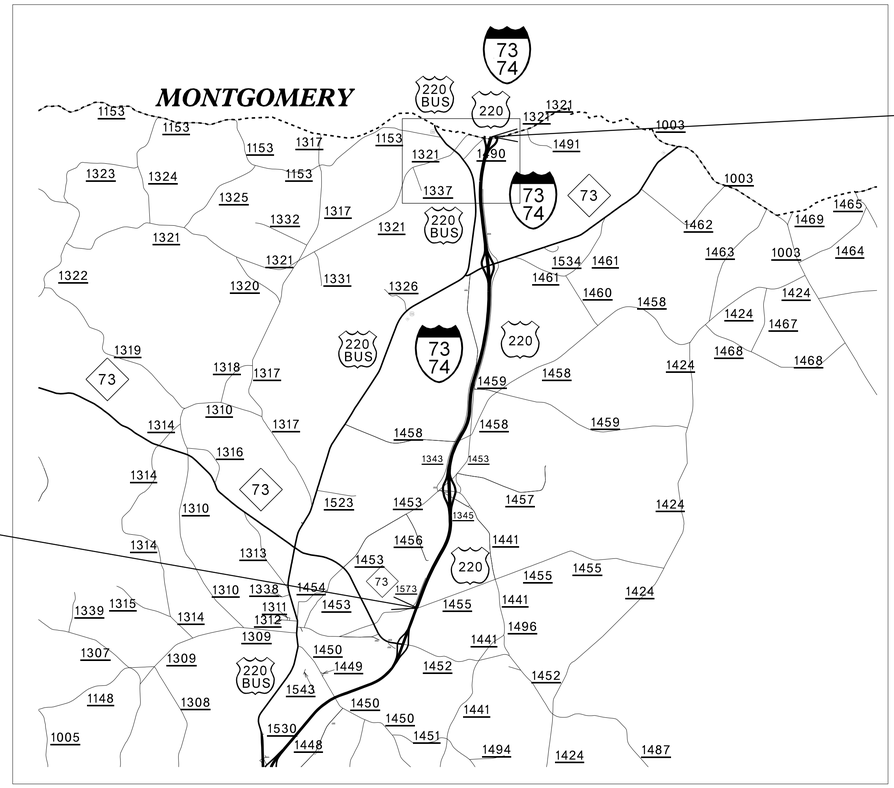
RICHMOND COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I–5946B	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
45892.1.1		PE
45892.3.3	NHPIM–0073(054)	CONST.

LOCATION: I–73/I–74 FROM BRIDGE AT SR 1455 (FIRE TOWER RD) TO THE MONTGOMERY COUNTY LINE.

TYPE OF WORK: PAVEMENT REHABILITATION AND BRIDGE REHABILITATION



END STATE PROJECT I–5946B

BEGIN STATE PROJECT I–5946B

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT:

TIP PROJECT: I–5946B

DESIGN DATA

ADT 2019 = 12,500

V = 70 MPH

FUNC CLASS = INTERSTATE

PROJECT LENGTH

TOTAL LENGTH OF TIP PROJECT I–5946B = 6.85 MI

Prepared in the Office of:

DIVISION OF HIGHWAYS

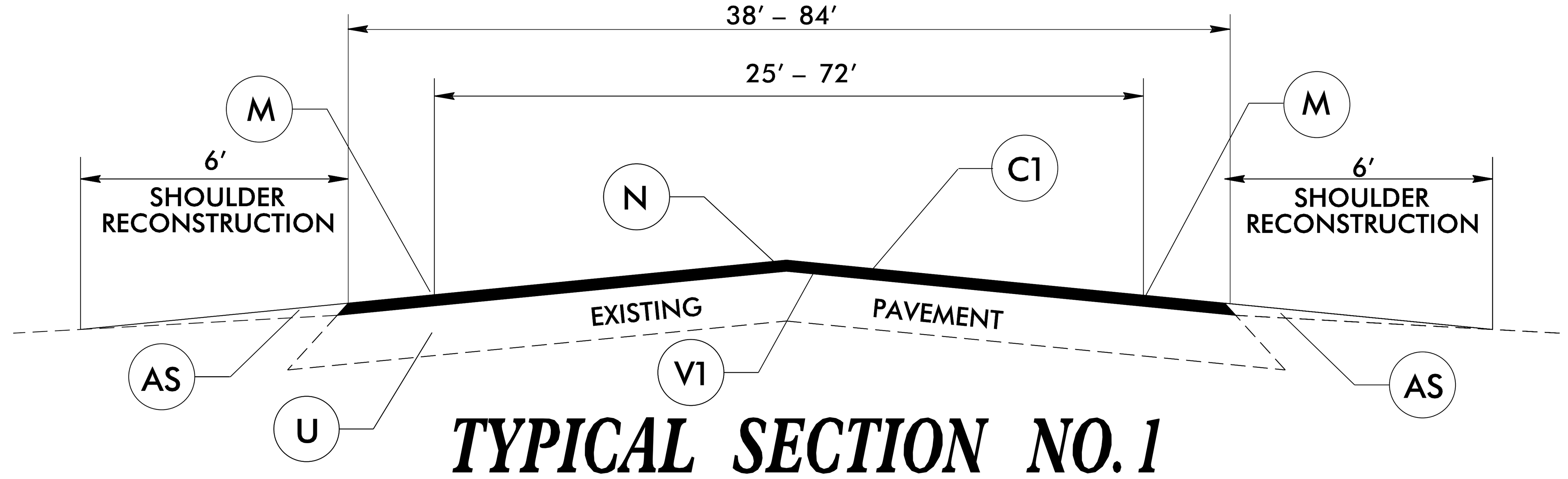
1000 Birch Ridge Dr., Raleigh NC, 27610

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NA

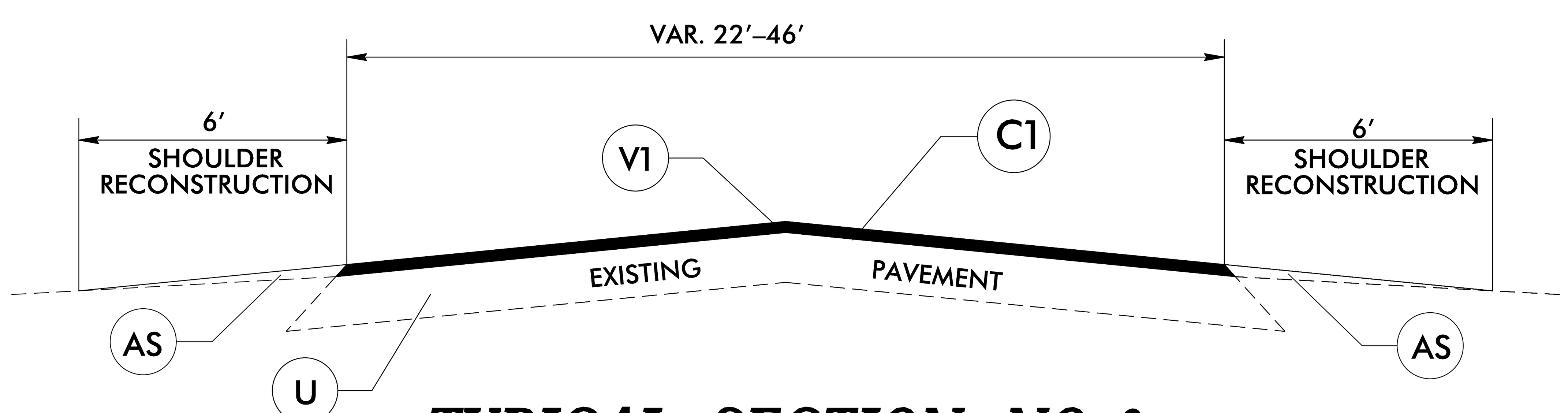
LETTING DATE:
NOVEMBER 16, 2021

WBS ELEMENT	SHEET NO.
45892.3.3 (I–5946B)	2A–1



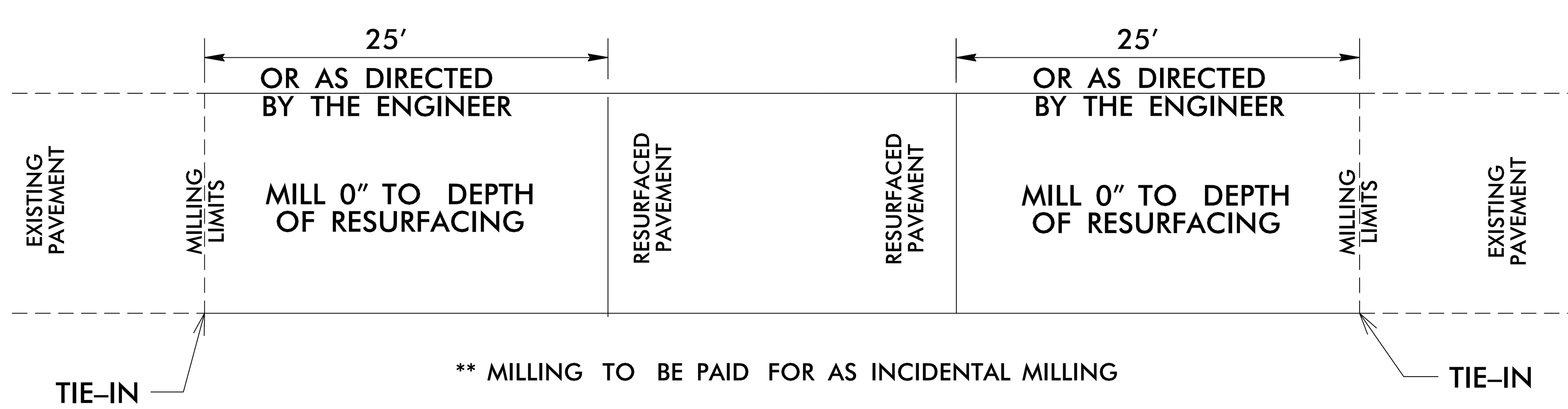
TYPICAL SECTION NO. 1

NOTE: ULTRATHIN BONDED WEARING COURSE TO BE PLACED BETWEEN MILLED RUMBLE STRIPS ONLY.



TYPICAL SECTION NO. 2

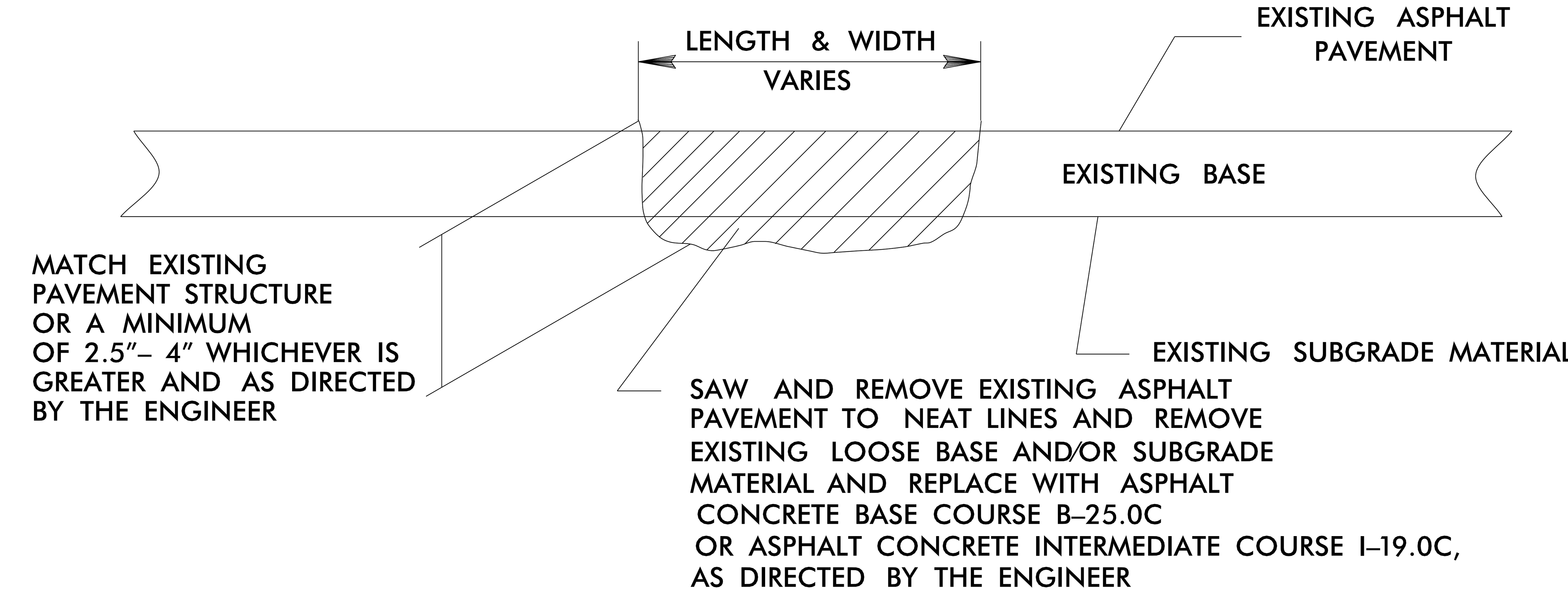
NOTE: TO BE USED ON RAMPS AT SR 1436 AND NC 73



PAVEMENT TIE–IN DETAIL

DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING

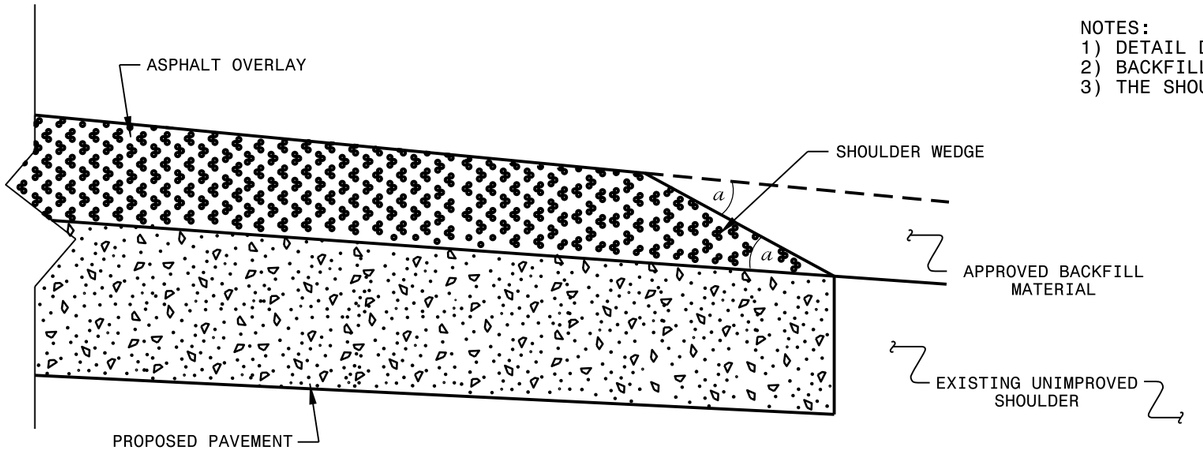
DETAIL



	PAVEMENT SCHEDULE
AS	AGGREGATE SHOULDER BORROW (ASB)
C1	PROP. APPROX. 1.5 " ASPHALT CONC. SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
N	PROP. APPROX. 5/8" ULTRATHIN BONDED WEARING COURSE (UBWC), AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.
M	MILLED RUMBLE STRIPS
U	EXISTING PAVEMENT
V1	1.5" MILLING

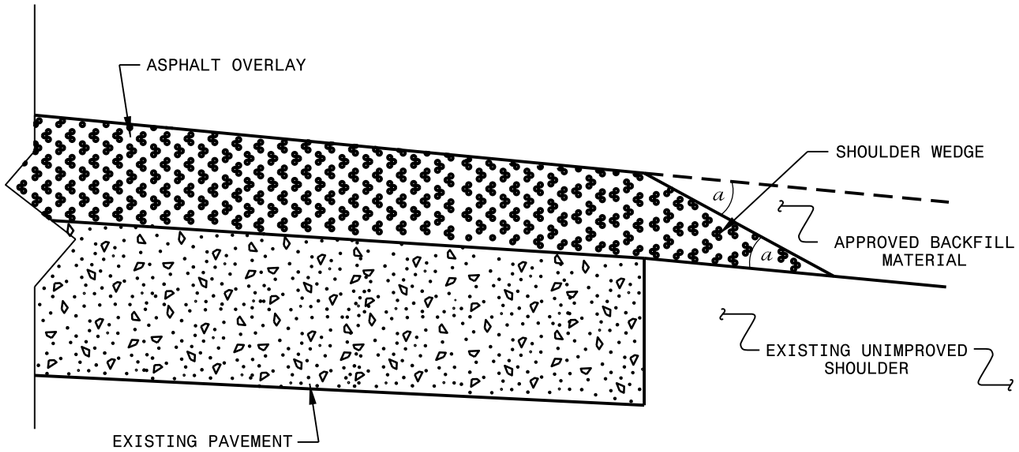
PROJECT REFERENCE NO.	SHEET NO.
45892.3.3 (I-5946B)	2B-1

NOTES:
1) DETAIL DOES NOT APPLY TO OGAFC AND ULTRA-THIN BONDED WEARING COURSE.
2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



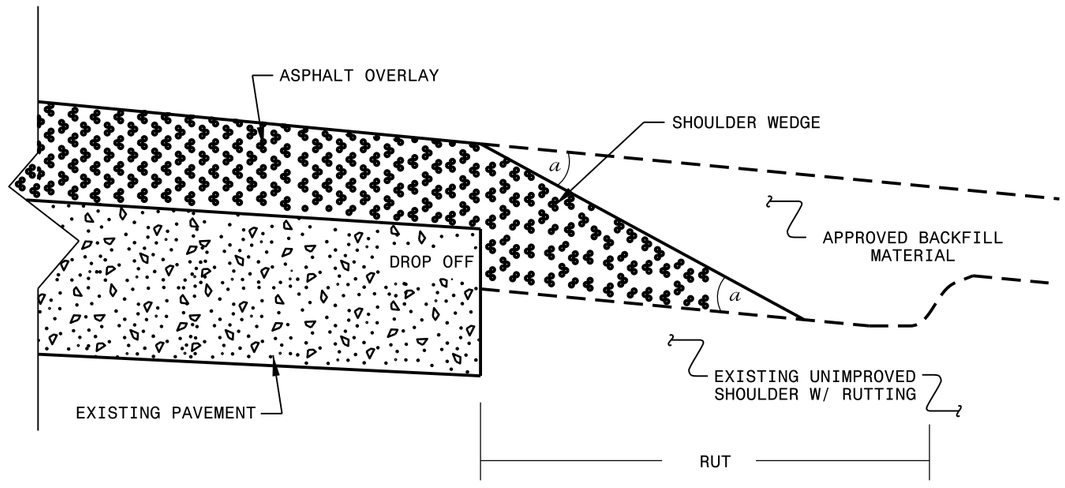
SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ Widening or with Existing Paved Shoulder having no dropoffs)



SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ NO Widening)



SHOULDER WEDGE DETAIL

(Resurfacing Adjacent to Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SHOULDER WEDGE DETAILS

ORIGINAL BY: T.SPELL DATE: 7-19-11
MODIFIED BY: _____ DATE: 10/16/12
CHECKED BY: _____ DATE: _____
FILE SPEC.: s:usr/details/stand/shoulderwedgedetail.dgn

$$$$$$SYSTIME$$$$$$
$$$$$$USERNAME$$$$$$

PROJECT NO.	SHEET NO.	TOTAL NO.
45892.3.3 (I-5946B)	**3A-1**	

SUMMARY OF QUANTITIES

											1245000000-E	**1260000000-E**	**1297000000-E**	**1330000000-E**	**1524200000-E**	**1577000000-E**	**1704000000-E**	**1839140000-E**	**1840000000-E**
PROJECT NO	**COUNTY**	**MAP NO**	**ROUTE**	**DESCRIPTION**	**TYP NO**	**LANES**	**LANE TYPE**	**FINAL SURFACE TESTING REQUIRED**	**WARM MIX ASPHALT REQUIRED**	**LENGTH**	**WIDTH**	**SHOULDER RECONSTRUCTION**	**AGGREGATE SHOULDER BORROW**	**1.5" MILLING**	**INCIDENTAL MILLING**	**ASPHALT CONC SURFACE COURSE, S9.5D**	**POLYMER MODIFIED ASPHALT BINDER FOR PLANT MIX**	**PATCHING EXISTING PAVEMENT**	**ULTRA-THIN BONDED WEARING COURSE**	**MILLED RUMBLE STRIPS**
										MI	**FT**	**SMI**	**TON**	**SY**	**SY**	**TON**	**TONS**	**TONS**	**TON**	**LF**
45892.3.3 (I-5946B)	Richmond	1	I-73/I-74 NB	FROM BRIDGE AT SR 1455 (FIRE TOWER RD) TO MONTGOMERY COUNTY LINE	1,2	2	MD	YES	NO	6.85	38-84	16.25	4,390	186,500	2,000	16,780	1,154	100	3,800.00	96,250
TOTAL FOR MAP NO. 1										**6.85**		**16.25**	**4,390**	**186,500**	**2,000**	**16,780**	**1,154**	**100**	**3,800.00**	**96,250**
45892.3.3 (I-5946B)	Richmond	2	I-73/I-74 SB	FROM MONTGOMERY COUNTY LINE TO BRIDGE AT SR 1455 (FIRE TOWER RD)	1,2	2	MD	YES	NO	6.85	38-84	16.05	4,335	192,560	2,000	17,325	1,173	100	3,570.00	96,425
TOTAL FOR MAP NO. 2										**6.85**		**16.05**	**4,335**	**192,560**	**2,000**	**17,325**	**1,173**	**100**	**3,570.00**	**96,425**
TOTAL FOR PROJ NO. 45892.3.3 (I-5946B)										**13.7**		**32.30**	**8,725**	**379,060**	**4,000**	**34,105**	**2,327**	**200**	**7,370.00**	**192,675**
GRAND TOTAL										**13.7**		**32.30**	**8,725**	**379,060**	**4,000**	**34,105**	**2,327**	**200**	**7,370.00**	**192,675**

PROJECT NO.	SHEET NO.	TOTAL NO.
45892.3.3 (I-5946B)	**3A-2**	

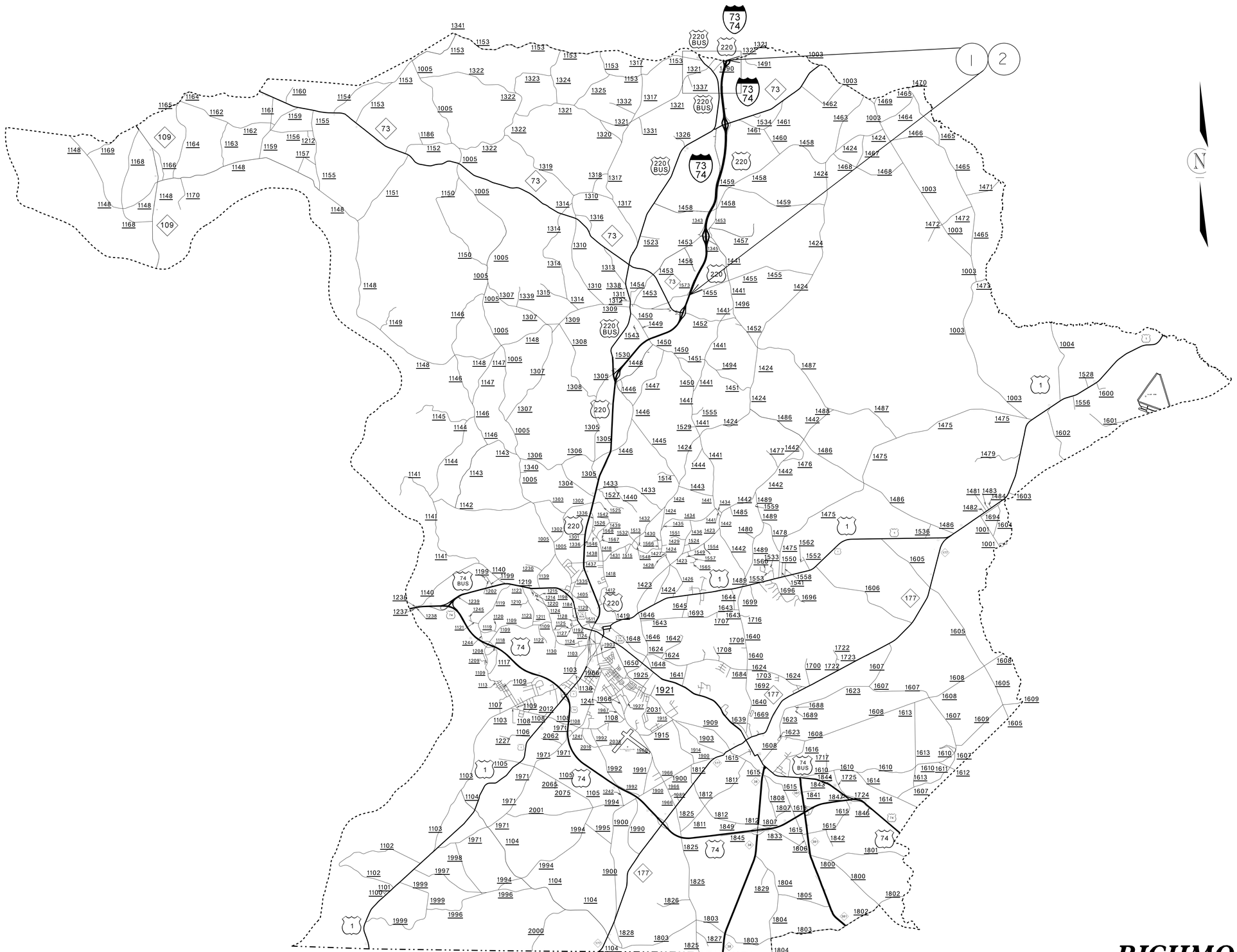
THERMOPLASTIC AND PAINT QUANTITIES

										4400000000-E	4423000000-E	4510000000-N	4600000000-N	4600000000-N	4600000000-N	4685000000-E		4688000000-E		4695000000-E	4700000000-E
PROJECT NO	**COUNTY**	**MAP NO**	**ROUTE**	**DESCRIPTION**	**TYP NO**	**LANES**	**LANE TYPE**	**LENGTH**	**WIDTH**	**WORK ZONE SIGNS (STATIONARY)**	**WORK ZONE DIGITAL SPEED LIMIT SIGNS**	**LAW ENFORCEMENT**	**GENERIC TRAFFIC CONTROL ITEM - SINGLE LANE CLOSURE**	**GENERIC TRAFFIC CONTROL ITEM - RAMP/LOOP CLOSURE**	**GENERIC TRAFFIC CONTROL ITEM - CONNECTED LANE CLOSURE DEVICE**	**4" X 90 M WHITE THERMO**	**4" X 90 M YELLOW THERMO**	**6" X 90 M WHITE THERMO**	**6" X 90 M YELLOW THERMO**	**8" X 90 M WHITE THERMO**	**12" X 90 M WHITE THERMO**
								MI	**FT**	**SF**	**EA**	**HR**	**EA**	**EA**	**EA**	**LF**	**LF**	**LF**	**LF**	**LF**	**LF**
45892.3.3 (I-5946B)	Richmond	1	I-73/I-74 NB	FROM BRIDGE AT SR 1455 (FIRE TOWER RD) TO MONTGOMERY COUNTY LINE	1,2	2	MD	6.85	38-84	152	5	734	74	4	2	6,925	6,260	46,000	36,150	110	3,455
TOTAL FOR MAP NO. 1								**6.85**		**152**	**5**	**734**	**74**	**4**	**2**	**6,925**	**6,260**	**46,000**	**36,150**	**110**	**3,455**
45892.3.3 (I-5946B)	Richmond	2	I-73/I-74 SB	FROM MONTGOMERY COUNTY LINE TO BRIDGE AT SR 1455 (FIRE TOWER RD)	1,2	2	MD	6.85	38-84	152	5	734	74	4	2	7,325	5,960	46,040	36,170		3,260
TOTAL FOR MAP NO. 2								**6.85**		**152**	**5**	**734**	**74**	**4**	**2**	**7,325**	**5,960**	**46,040**	**36,170**		**3,260**
TOTAL FOR PROJ NO. 45892.3.3 (I-5946B)								**13.7**		**304**	**10**	**1,468**	**148**	**8**	**4**	**14,250**	**12,220**	**92,040**	**72,320**	**110**	**6,715**
																26,470		**164,360**			
GRAND TOTAL								**13.7**		**304**	**10**	**1,468**	**148**	**8**	**4**	**14,250**	**12,220**	**92,040**	**72,320**	**110**	**6,715**
																26,470		**164,360**			

										4725000000-E				4775000000-E	4810000000-E		4820000000-E	4835000000-E	4845000000-N			4850000000-E	4891000000-E	4895000000-N
PROJECT NO	**COUNTY**	**MAP NO**	**ROUTE**	**DESCRIPTION**	**TYP NO**	**LANES**	**LANE TYPE**	**LENGTH**	**WIDTH**	**THERMO RT ARROW 90 M**	**THERMO MERGE ARROW 90 M**	**THERMO STR & LT ARROW 90 M**	**THERMO RAMP ARROW 90M**	**COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE II (6")**	**4" WHITE PAINT**	**4" YELLOW PAINT**	**8" WHITE PAINT**	**24" WHITE PAINT**	**PAINT RT ARROW**	**PAINT STR & LT ARROW**	**PAINT MERGE ARROW**	**4" LINE REMOVAL**	**GENERIC PAVEMENT MARKING ITEM - 24" X 90 M WHITE THERMO**	**GENERIC PAVEMENT MARKING ITEM - NON-CAST IRON SNOWPLOWABLE (C & R)**
								MI	**FT**	**EA**	**EA**	**EA**	**EA**	**LF**	**LF**	**LF**	**LF**	**LF**	**EA**	**EA**	**EA**	**LF**	**LF**	**EA**
45892.3.3 (I-5946B)	Richmond	1	I-73/I-74 NB	FROM BRIDGE AT SR 1455 (FIRE TOWER RD) TO MONTGOMERY COUNTY LINE	1,2	2	MD	6.85	38-84	4	6	4	1	285	43,825	42,410	3,565	170	4	4	6	285	170	800
TOTAL FOR MAP NO. 1								**6.85**		**4**	**6**	**4**	**1**	**285**	**43,825**	**42,410**	**3,565**	**170**	**4**	**4**	**6**	**285**	**170**	**800**
45892.3.3 (I-5946B)	Richmond	2	I-73/I-74 SB	FROM MONTGOMERY COUNTY LINE TO BRIDGE AT SR 1455 (FIRE TOWER RD)	1,2	2	MD	6.85	38-84	4	9	4		285	53,365	42,130	3,260	170	4	4	9	285	170	790
TOTAL FOR MAP NO. 2								**6.85**		**4**	**9**	**4**		**285**	**53,365**	**42,130**	**3,260**	**170**	**4**	**4**	**9**	**285**	**170**	**790**
TOTAL FOR PROJ NO. 45892.3.3 (I-5946B)								**13.7**		**8**	**15**	**8**	**1**	**570**	**97,190**	**84,540**	**6,825**	**340**	**8**	**8**	**15**	**570**	**340**	**1,590**
										32					**181,730**					**31**				
GRAND TOTAL								**13.7**		**8**	**15**	**8**	**1**	**570**	**97,190**	**84,540**	**6,825**	**340**	**8**	**8**	**15**	**570**	**340**	**1,590**
										32					**181,730**					**31**				

040397

WBS ELEMENT	SHEET NO.
45892.3.3 (I–5946B)	4



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Layers AI_DIG_31287IL

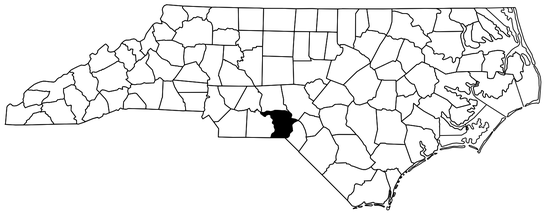
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5946B	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
45892.1.3	NHPIM-0073(054)	P.E.
45892.3.3	NHPIM-0073(054)	CONST.

TIP PROJECT: I-5946B

CONTRACT No. C204660

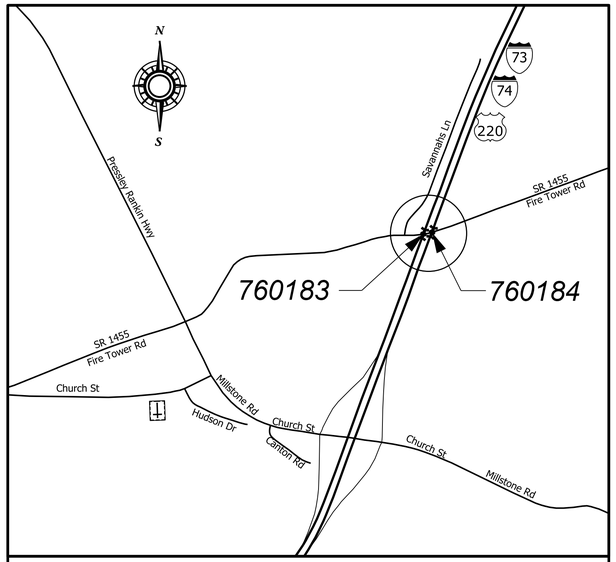
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS



RICHMOND COUNTY

LOCATION: ***BRIDGE No. 760183 ON I-73/74, US-220 SBL OVER SR-1455 (FIRE TOWER RD.)***
BRIDGE No. 760184 ON I-73/74, US-220 NBL OVER SR-1455 (FIRE TOWER RD.)

TYPE OF WORK: ***BRIDGE PRESERVATION – DECK REPAIR, SILANE DECK TREATMENT, JOINT REPLACEMENT AND SUBSTRUCTURE REPAIR***



VICINITY MAP – RICHMOND CO.

DESIGN DATA

RICHMOND COUNTY
BRIDGE No. 760183 – ADT 2019 – 6,250
BRIDGE No. 760184 – ADT 2019 – 6,250

PROJECT LENGTH

RICHMOND COUNTY
BRIDGE No. 760183 – 0.023 MILE
BRIDGE No. 760183 – 0.022 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 : NOVEMBER 16, 2021

A. KEITH PASCHAL, PE
PROJECT ENGINEER

K. P. SEDAI, PE
PROJECT DESIGN ENGINEER

TIP PROJECT: I-5946B

CONTRACT No. C204660

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5946B	1A	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
45892.1.3	NHPIM-0073(054)	P.E.
45892.3.3	NHPIM-0073(054)	CONST.

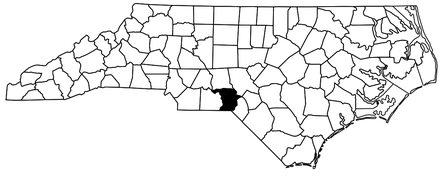
STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

RICHMOND COUNTY

LOCATION: BRIDGE No. 760183 ON I-73/74, US-220 SBL OVER SR-1455 (FIRE TOWER RD.)
BRIDGE No. 760184 ON I-73/74, US-220 NBL OVER SR-1455 (FIRE TOWER RD.)

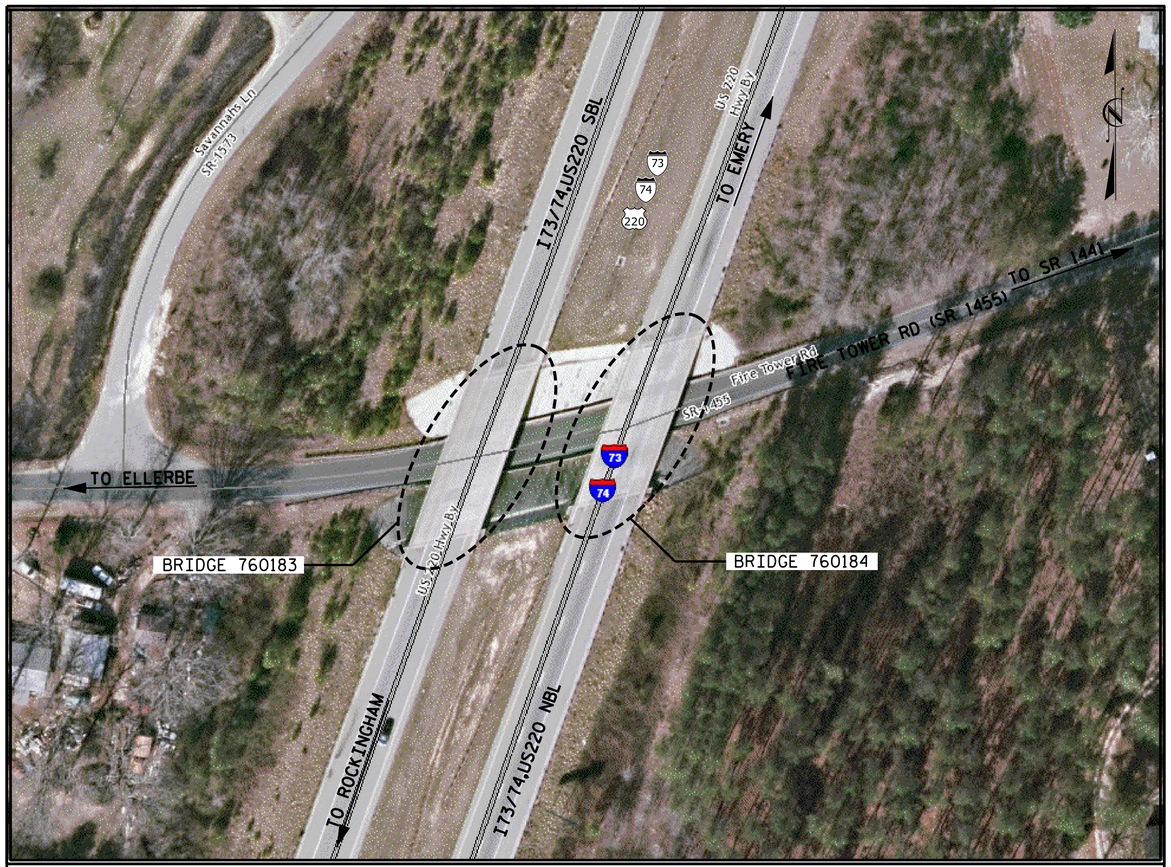
INDEX OF STRUCTURES SHEETS



TYPE OF WORK:

BRIDGE PRESERVATION: DECK REPAIR, SILANE DECK TREATMENT, JOINT REPLACEMENT AND SUBSTRUCTURE REPAIR

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



BRIDGES 760183 & 760184 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 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.

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 SPECIAL PROVISIONS.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATIONS OF THE BRIDGE DECK. THE CONTRACTOR SHALL TAKE CARE THAT ANY CONSTRUCTION DEBRIS THAT COLLECTS IN THE DRAINS IS CONTAINED. DRAINS IN SHOULDERS OF ADJACENT TRAVEL LANE(S) SHALL BE KEPT FREE AND CLEAR OF DEBRIS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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

FOR CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT ITEMS SHOWN BELOW WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THESE ITEMS, OR OTHER WORK WILL BE NECESSARY TO PROPERLY COMPLETE THE INTENDED BRIDGE PRESERVATION/REHABILITATION WORK. THE CONTRACTOR SHALL BE PREPARED TO PERFORM SUCH WORK IN A TIMELY MANNER, AS DETERMINED IN THE FIELD. SUCH WORK SHALL BE CONSIDERED EXTRA WORK AND SHALL BE ADDRESSED AS PER ARTICLE 104-7 OF THE STANDARD SPECIFICATIONS. PROJECT SPECIAL PROVISIONS THAT OUTLINE REQUIREMENTS FOR THESE POTENTIAL ADDITIONAL WORK ITEMS HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES, AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:

ITEM NO.	DESCRIPTION	UNIT
1	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	SQ. FT.
3	CONCRETE REPAIRS	CU. FT.

BRIDGE COORDINATES

BRIDGE No.	LATITUDE	LONGITUDE
760183	35°-04'-35.39"	79°-43'-53.91"
760184	35°-04'-35.58"	79°-43'-52.70"

TOTAL BILL OF MATERIAL

BRIDGE NO.	SHOTCRETE REPAIRS	FOAM JOINT SEALS FOR PRESERVATION	POURABLE SILICONE JOINT SEALANT	ELASTOMERIC CONCRETE FOR PRESERVATION	BRIDGE JOINT DEMOLITION	SHOTBLASTING BRIDGE DECK	SILANE DECK TREATMENT
	CU. FT.	LIN. FT.	LIN. FT.	CU. FT.	SQ.FT.	SQ. YDS.	SQ. YDS.
760183	0.5	94.0	72.0	23.6	94.0	661	661
760184	1.3	94.0	26.2	23.6	94.0	625	625
TOTALS	1.8	188.0	98.2	47.2	188.0	1286	1286

PROJECT NO. I-5946B

RICHMOND COUNTY

BRIDGE NO. 760183 & 760184

DocuSigned by: Krishna P Sedai
NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI
10/11/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

LOCATION SKETCH, GENERAL NOTES AND TOTAL BILL OF MATERIAL

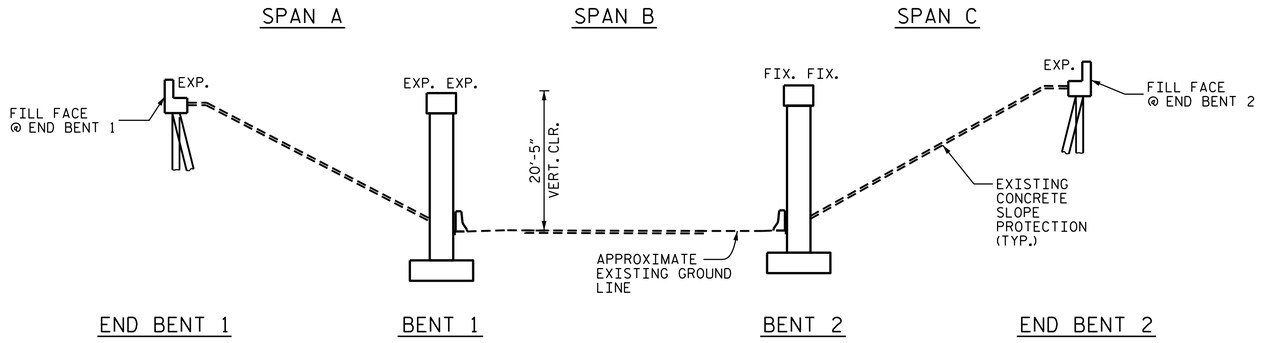
DRAWN BY : C. RUIZ DATE : 02/2020
CHECKED BY : A. SORSENGINH DATE : 05/2021

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

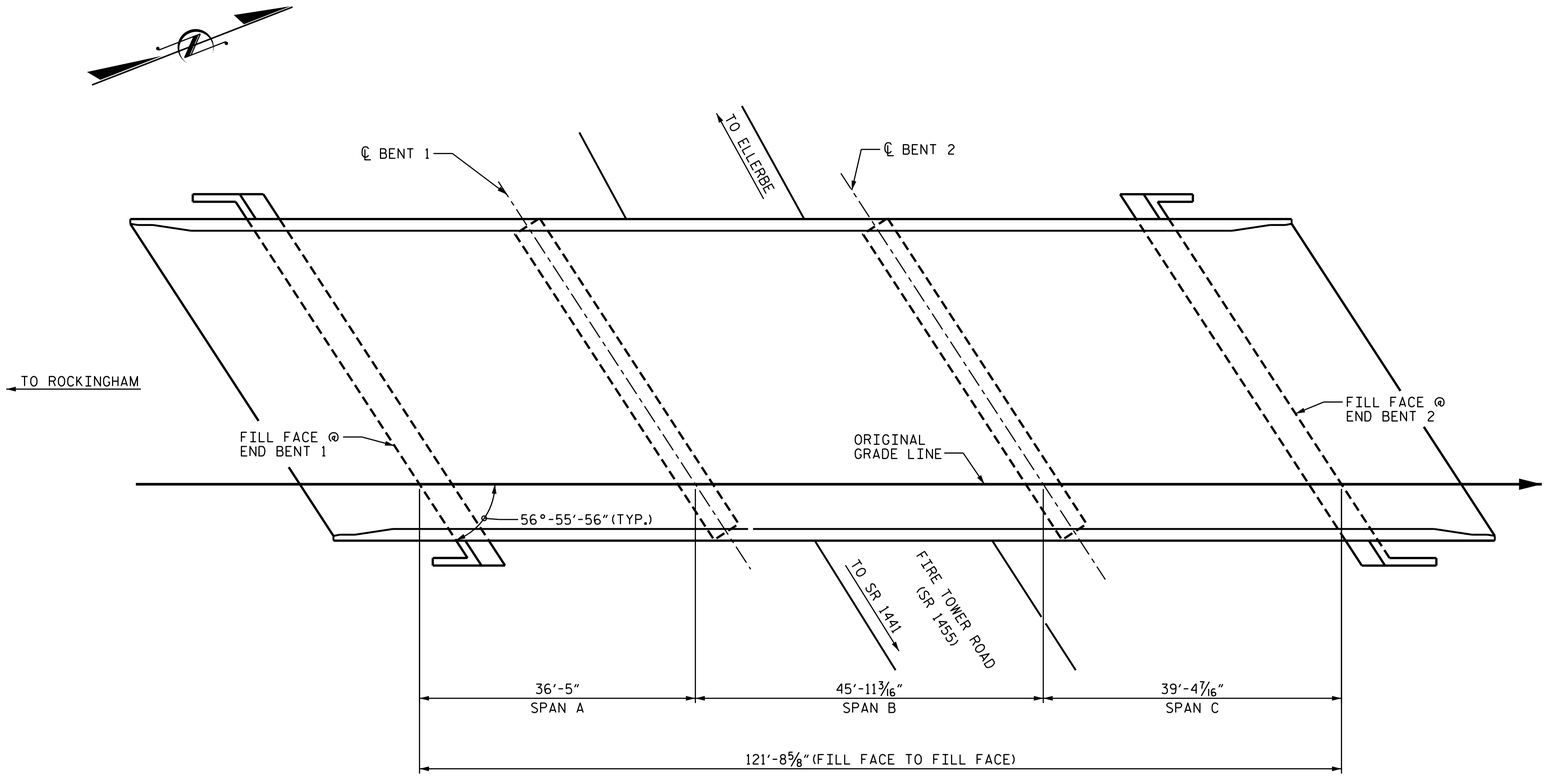
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			1

11-OCT-2021 10:22
S:\DPG3\I-5946B\Final Plans\400_007_I5946B_SMU_BM.dgn
ksedai

F.A. PROJECT NO.: NHPIM-0073(054)



SECTION ALONG ORIGINAL GRADE LINE



PLAN

NOTES

GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 3/4/2020.

BRIDGE ORIENTATION CONFORMS TO THE EXISTING BRIDGE PLANS/ROUTINE INSPECTION.

SCOPE OF WORK

PREPARE TOP OF BRIDGE DECK CONCRETE BY SHOTBLASTING METHODS.

CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT.

APPLY SILANE DECK TREATMENT.

REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINT SEALS FOR PRESERVATION.

REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AREAS AND PERFORM SHOTCRETE AND/OR CONCRETE REPAIRS.

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

RESIDENT ENGINEER DATE

PROJECT NO. I-5946B

RICHMOND COUNTY

BRIDGE NO. 760183

DocuSigned by: [signature] — NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL — 10/1/2021

DocuSigned by: [signature] — NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SIGDEL — 10/1/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE
ON I73/74, US220SBL OVER
FIRE TOWER RD.(SR 1455)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-01
1			3			TOTAL SHEETS
2			4			6

DRAWN BY : C. RUIZ DATE : 01/2020
CHECKED BY : A. SORSENGINH DATE : 06/2021

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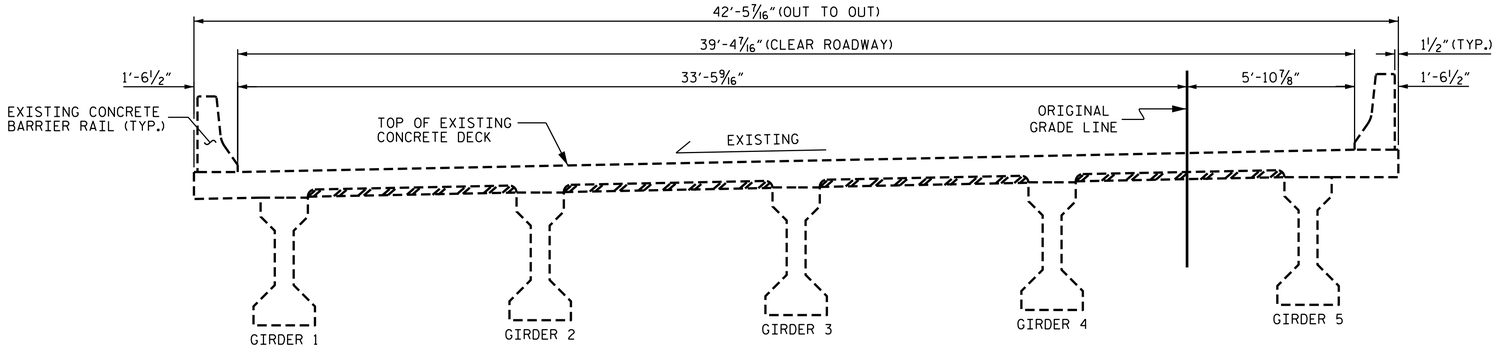
ksedal

NOTE:

SEE TRAFFIC MANAGEMENT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF SURFACE PREPARATION AND DECK SEAL PLACEMENT.



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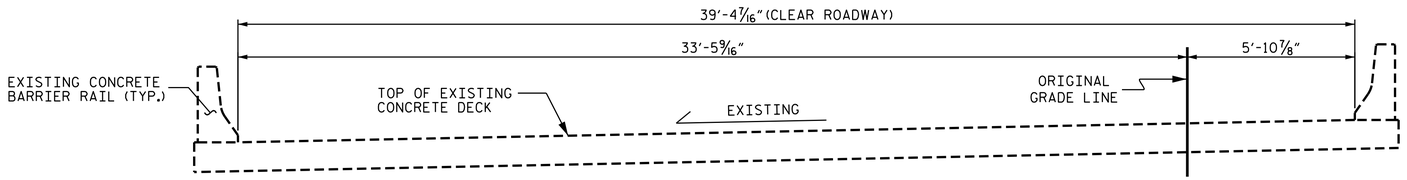
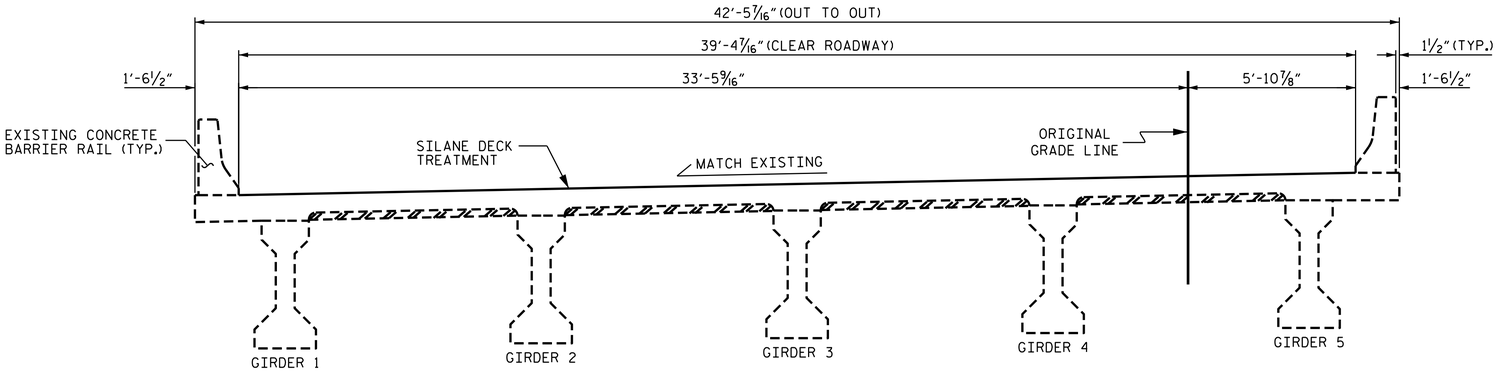
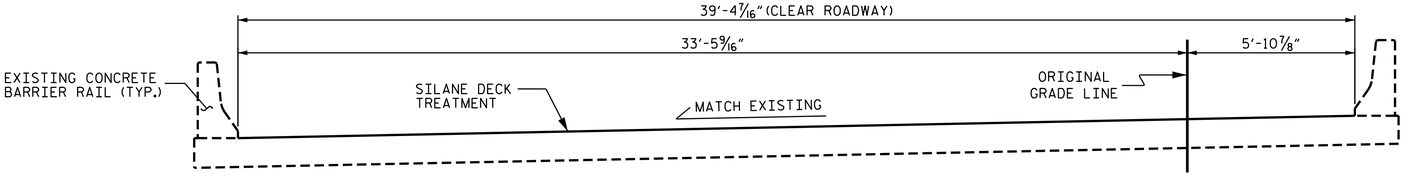


EXISTING TYPICAL SECTION - APPROACH SLAB



PROPOSED TYPICAL SECTION



PROPOSED TYPICAL SECTION - APPROACH SLAB

PROJECT NO. I-5946B

RICHMOND COUNTY

BRIDGE NO. 760183

DocuSigned by: Krishna P Sedai
Electronic Signature

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

10/1/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-02
1			3			TOTAL SHEETS
2			4			6

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CHECKED BY : A. SORSENGINH DATE : 06/2021

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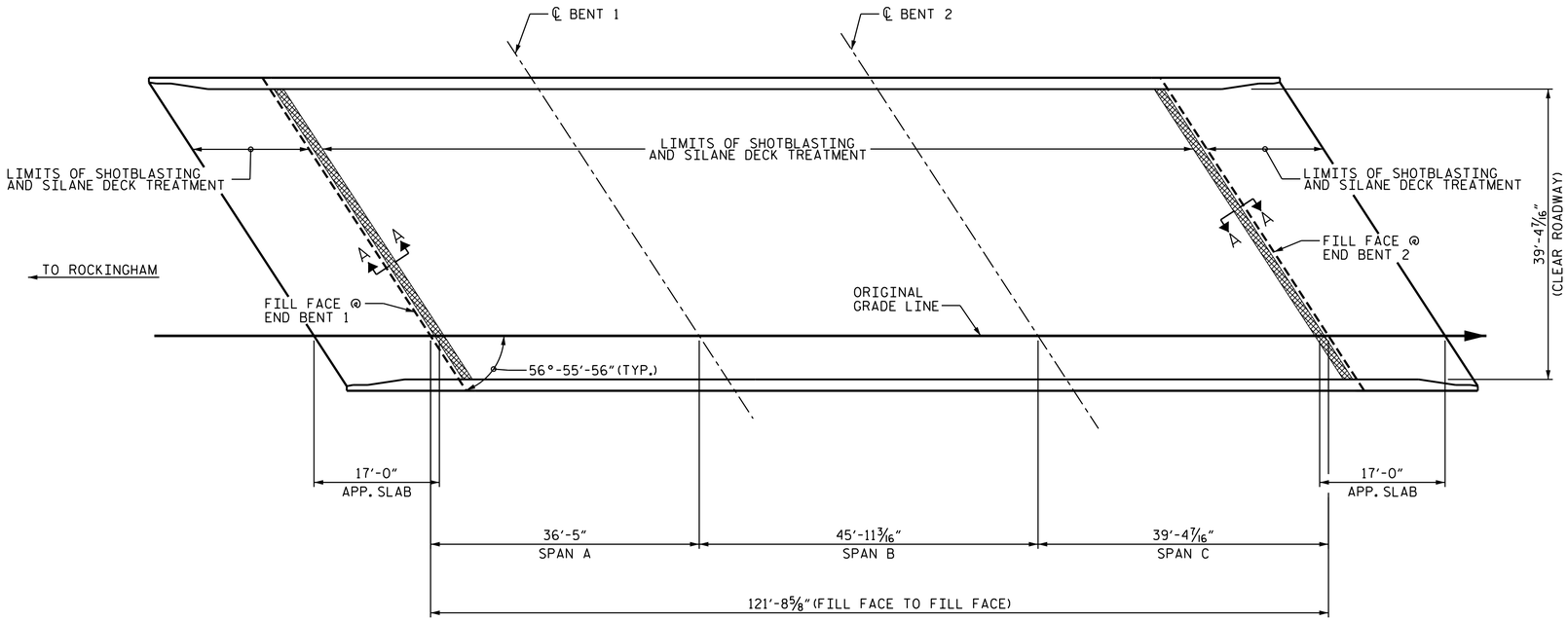

BRIDGE JOINT DEMOLITION

PLAN - SPANS A, B, & C

AS-BUILT REPAIR QUANTITY TABLE

	APPROACH SLAB 1		SPAN A		SPAN B		SPAN C		APPROACH SLAB 2	
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
SILANE DECK TREATMENT	72.0 SQ. YDS.		151.7 SQ. YDS.		200.9 SQ. YDS.		164.4 SQ. YDS.		72.0 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	72.0 SQ. YDS.		151.7 SQ. YDS.		200.9 SQ. YDS.		164.4 SQ. YDS.		72.0 SQ. YDS.	
BRIDGE JOINT DEMOLITION			47.0 SQ. FT.				47.0 SQ. FT.			

NOTES:

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

FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

FOR CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

FOR SECTION A-A, SEE JOINT DETAILS SHEET.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5946B

RICHMOND COUNTY

BRIDGE NO. 760183

DocuSigned by: Krishna P. Sedai

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

10/1/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DECK SURFACE REPAIR
SPANS A, B & C
WITH
APPROACH SLABS

DRAWN BY : C. RUIZ DATE : 01/2020

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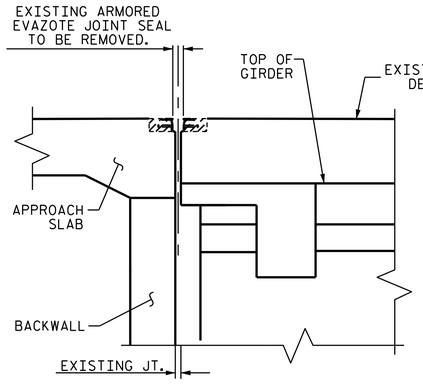
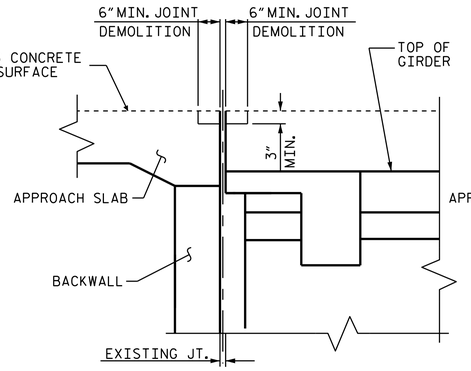
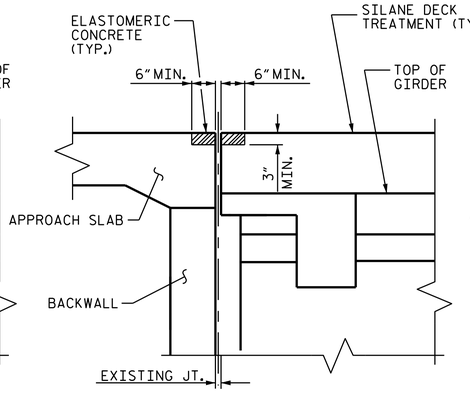


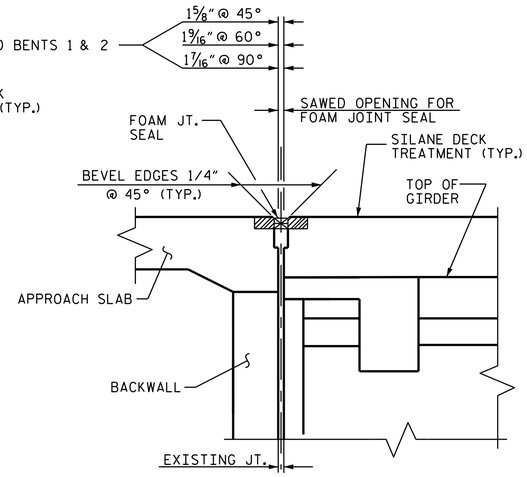
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION



PROPOSED JOINT PRE-SAWED DIMENSIONS



PROPOSED FOAM JOINT SEAL

NOTES

FOAM JOINTS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

THE INSTALLED FOAM JOINTS SHALL BE WATER TIGHT.

THE FOAM JOINTS SHALL MEET THE MANUFACTURER'S RECOMMENDATION FOR THE SIZE OF OPENING ON THE PLANS, AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

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

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL BASED ON JOINT OPENINGS AT THE END BENTS 1 AND 2.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

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

DEMOLISH BRIDGE JOINT AREA TO THE NECESSARY DEPTH, SUCH THAT ELASTOMERIC CONCRETE SHALL BE FOUNDED ON SOUND CONCRETE OR REPAIR CONCRETE SUBSTRATE. IF SUCH EXCAVATION EXTENDS MORE THAN 2" BELOW THE BOTTOM OF THE PLANNED ELASTOMERIC CONCRETE HEADER, AS SHOWN, APPROVED CONCRETE REPAIR MATERIAL SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION AT THE BOTTOM OF THE ELASTOMERIC CONCRETE.

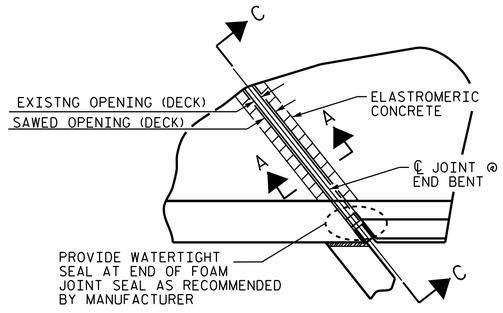
FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF ELASTOMERIC CONCRETE AND/ OR REPAIR CONCRETE SHALL BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF ELASTOMERIC CONCRETE OR CONCRETE REPAIR MATERIAL.

JOINT INSTALLATION SEQUENCE AT END BENTS

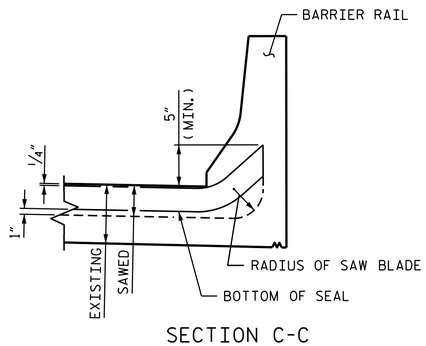
SECTION A-A

JOINT REPAIR QUANTITY TABLE						
	BRIDGE JOINT DEMOLITION		ELASTOMERIC CONCRETE FOR PRESERVATION		FOAM JOINT SEALS FOR PRESERVATION	
	ESTIMATED	ACTUAL	ESTIMATED	ACTUAL	ESTIMATED	ACTUAL
END BENT 1	47.0 SF		11.8 CF		47.0 LF	
END BENT 2	47.0 SF		11.8 CF		47.0 LF	
✳ TOTAL	94.0 SF		23.6 CF		94.0 LF	

✳ BASED ON THE MINIMUM BLOCKOUT SHOWN.



PLAN
(@ END BENT)



SECTION C-C

JOINT SEAL DETAILS AT END BENTS

PROJECT NO. I-5946B

RICHMOND COUNTY

BRIDGE NO. 760183

DocuSigned by: Krishna P. Sedai
Estimated
NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI
10/1/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

JOINT DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-04
1			3			TOTAL SHEETS
2			4			6

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CHECKED BY : A. SORSENGINH DATE : 06/2021

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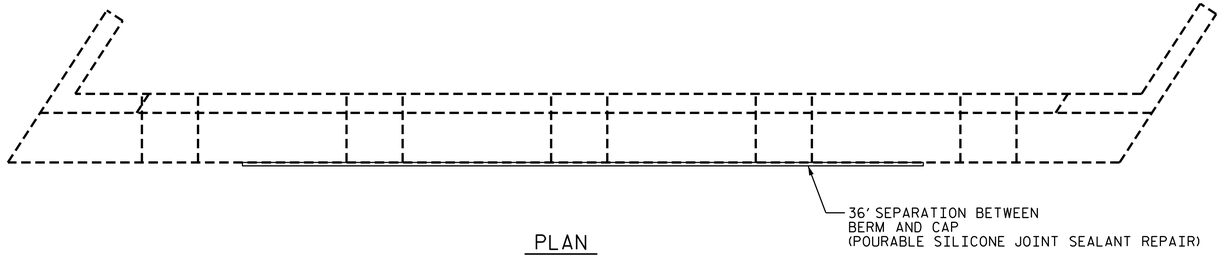
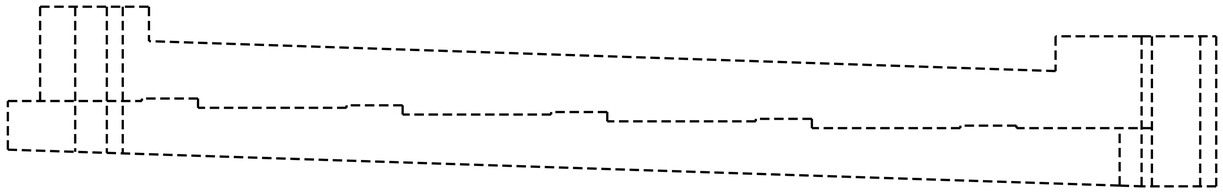


PLAN



ELEVATION

END BENT 1

AS-BUILT REPAIR QUANTITY TABLE

END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
BACKWALL	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
BACKWALL	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
BACKWALL		0.0		
CAP		0.0		
EPOXY COATING	AREA SQ. FT.		AREA SQ. FT.	
TOP OF CAP	0.0			
SILICONE JOINT	LIN. FT.		LIN. FT.	
POURABLE SILICONE JOINT SEALANT	36.0			

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

NOTES:

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

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE.

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FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

CONCRETE REPAIR AREA CLASS A

CONCRETE REPAIR AREA CLASS B

SHOTCRETE REPAIR AREA

EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5946B

RICHMOND COUNTY

BRIDGE NO. 760183

DocuSigned by:
Krishna P. Sirdar
Engineer

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SIRDAR

10/1/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

END BENT 1

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-05
1			3			TOTAL SHEETS
2			4			6

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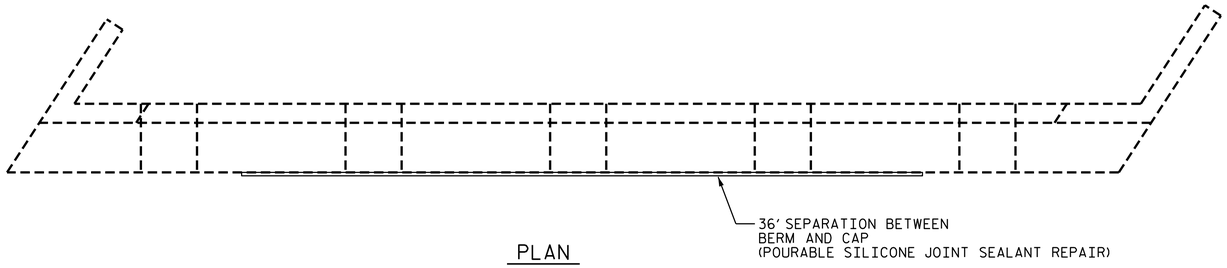
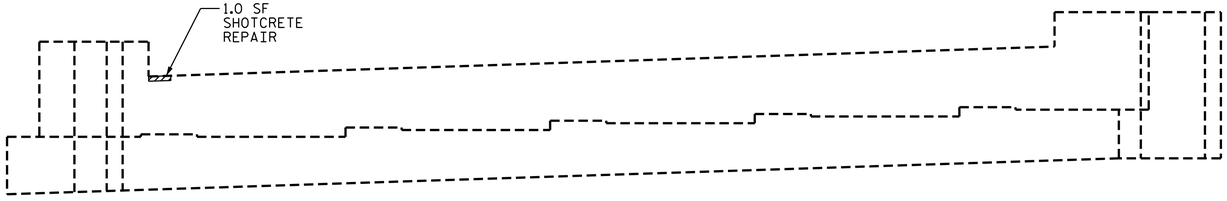


PLAN



ELEVATION

END BENT 2

AS-BUILT REPAIR QUANTITY TABLE				
END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
BACKWALL	1.0	0.5		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
BACKWALL	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
BACKWALL		0.0		
CAP		0.0		
EPOXY COATING	AREA SQ. FT.		AREA SQ. FT.	
TOP OF CAP	0.0			
SILICONE JOINT	LIN. FT.		LIN. FT.	
POURABLE SILICONE JOINT SEALANT	36.0			

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

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FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

CONCRETE REPAIR AREA CLASS A

CONCRETE REPAIR AREA CLASS B

SHOTCRETE REPAIR AREA

EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5946B

RICHMOND COUNTY

BRIDGE NO. 760183

DocuSigned by: Krishna P. Sistla
Engineer

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SISTLA

10/1/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

END BENT 2

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-06
1			3			TOTAL SHEETS
2			4			6

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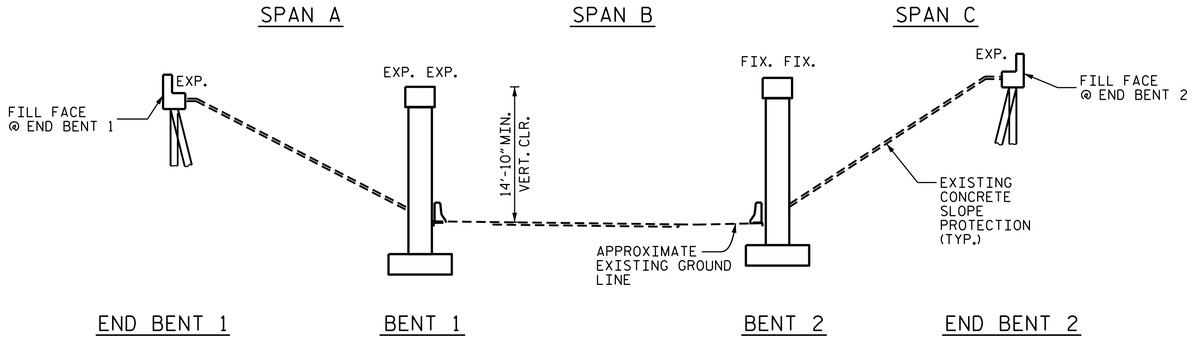
F.A. PROJECT NO.: NHPIM-0073(054)



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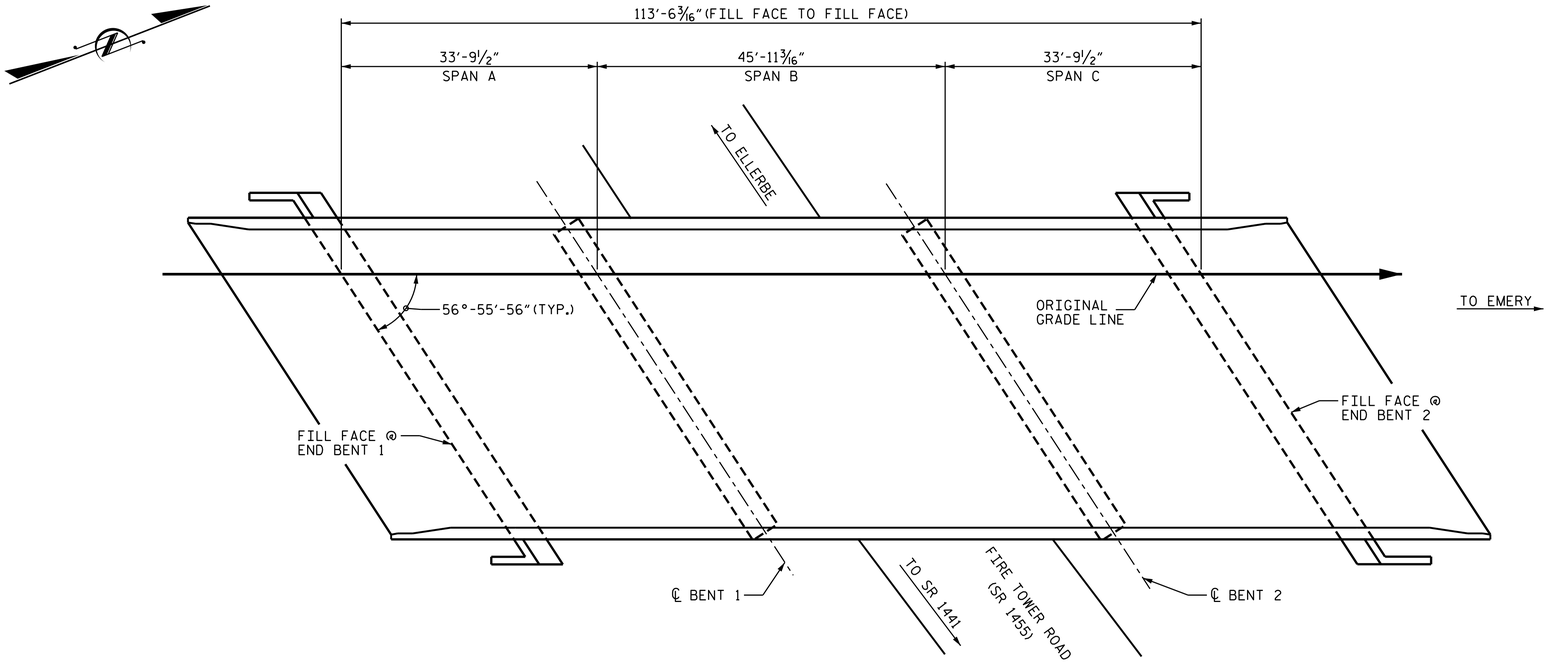

PLAN

NOTES

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BRIDGE ORIENTATION CONFORMS TO THE EXISTING BRIDGE PLANS/ROUTINE INSPECTION.

SCOPE OF WORK

PREPARE TOP OF BRIDGE DECK CONCRETE BY SHOTBLASTING METHODS.

CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT.

APPLY SILANE DECK TREATMENT.

REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINT SEALS FOR PRESERVATION.

REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AREAS AND PERFORM SHOTCRETE AND/OR CONCRETE REPAIRS.

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

RESIDENT ENGINEER DATE

PROJECT NO. I-5946B

RICHMOND COUNTY

BRIDGE NO. 760184

DocuSigned by: Timothy M. Sherrill — NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL — 10/1/2021

DocuSigned by: Krishna P. Sistu — NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SISTU — 10/1/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWINGS

FOR BRIDGE ON I73/74, US 220NBL OVER FIRE TOWER RD.(SR 1455)

DRAWN BY : C. RUIZ DATE : 01/2020
CHECKED BY : A. SORSENGINH DATE : 06/2021

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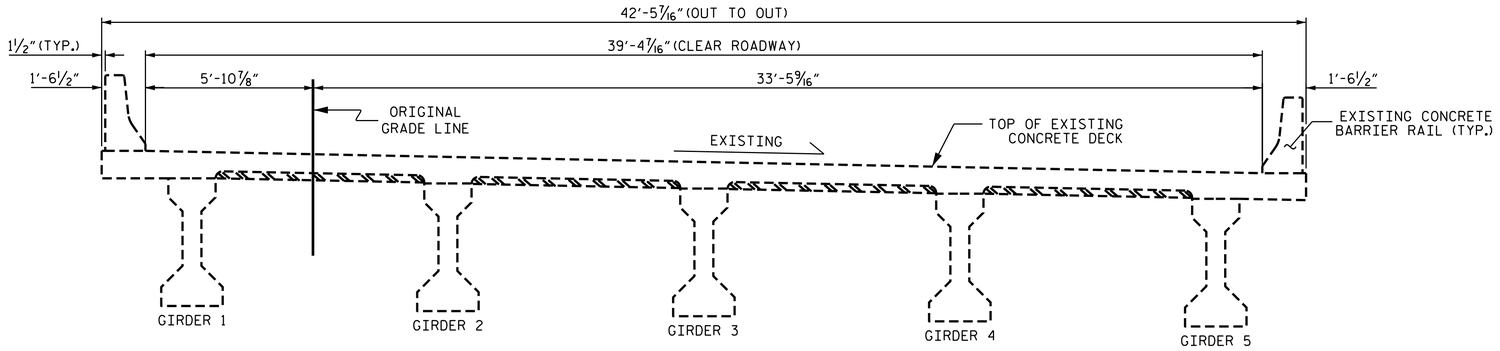
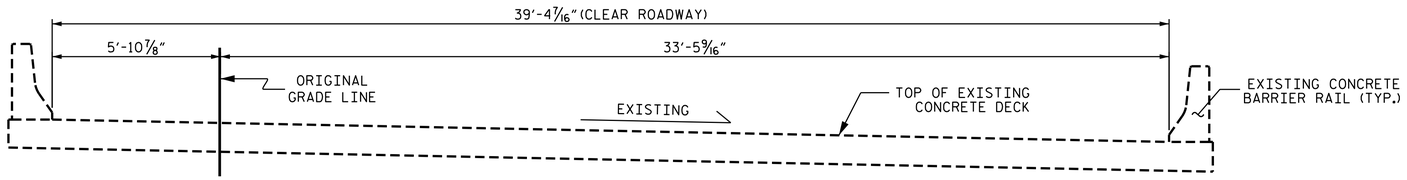
NOTE:

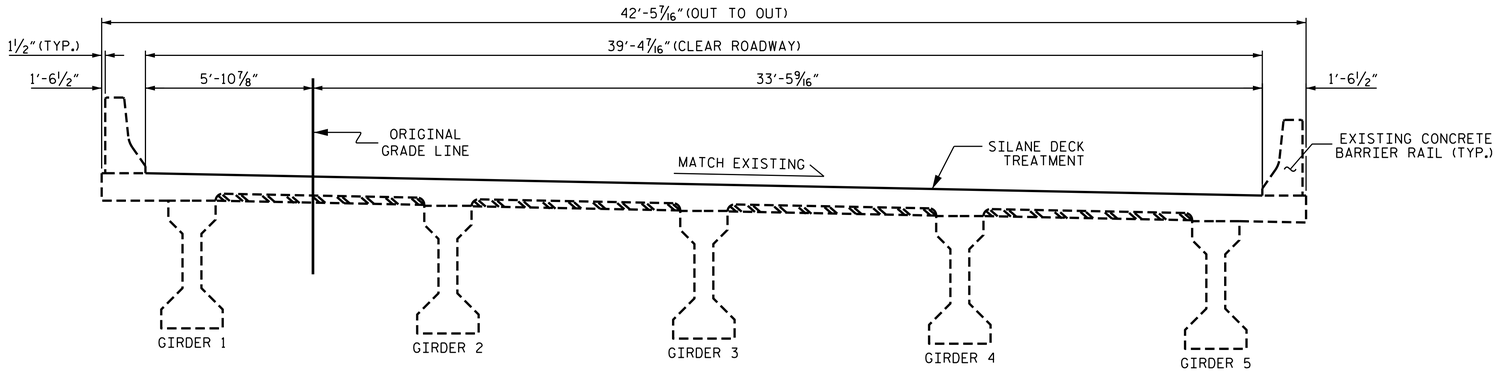
SEE TRAFFIC MANAGEMENT SPECIAL PROVISIONS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF SURFACE PREPARATION AND DECK SEAL PLACEMENT.



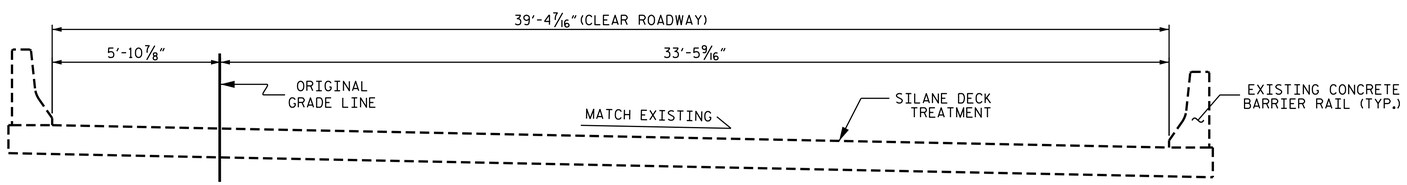
EXISTING TYPICAL SECTION



EXISTING TYPICAL SECTION - APPROACH SLAB



PROPOSED TYPICAL SECTION



PROPOSED TYPICAL SECTION - APPROACH SLAB

PROJECT NO. I-5946B

RICHMOND COUNTY

BRIDGE NO. 760184

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NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

10/1/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION

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DRAWN BY : C. RUIZ DATE : 01/2020

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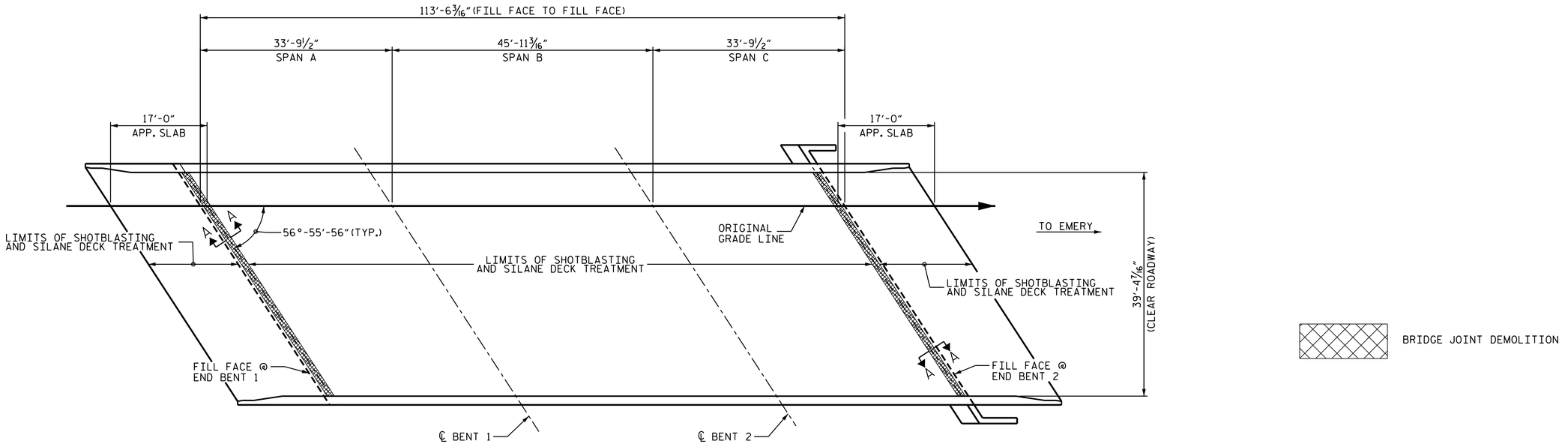

PLAN - SPANS A, B, & C

AS-BUILT REPAIR QUANTITY TABLE

	APPROACH SLAB 1		SPAN A		SPAN B		SPAN C		APPROACH SLAB 2	
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
SILANE DECK TREATMENT	72.0 SQ. YDS.		140.0 SQ. YDS.		201.0 SQ. YDS.		140.0 SQ. YDS.		72.0 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	72.0 SQ. YDS.		140.0 SQ. YDS.		201.0 SQ. YDS.		140.0 SQ. YDS.		72.0 SQ. YDS.	
BRIDGE JOINT DEMOLITION			47.0 SQ. FT.				47.0 SQ. FT.			

NOTES:

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

FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

FOR CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

FOR SECTION A-A, SEE JOINT DETAILS SHEET.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5946B

RICHMOND COUNTY

BRIDGE NO. 760184

DocuSigned by: Krishna P Sedai
Engineer's Signature

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

10/1/2021

STATE OF NORTH CAROLINA
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RALEIGH

DECK SURFACE REPAIR
SPANS A, B & C
WITH
APPROACH SLABS

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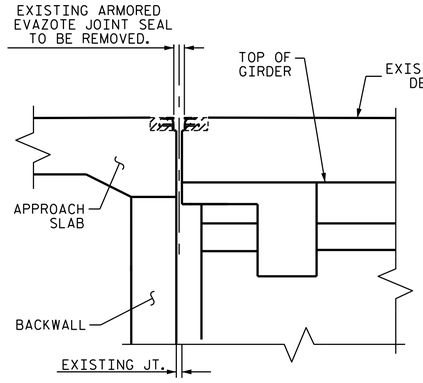
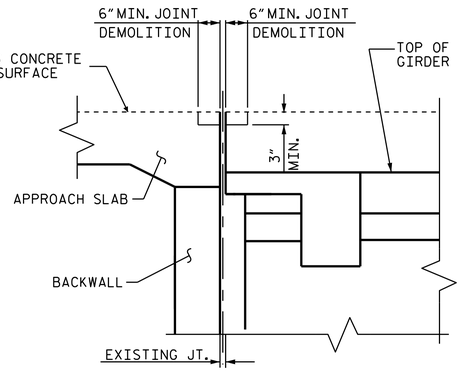
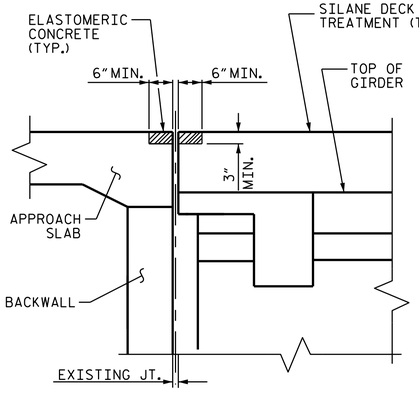


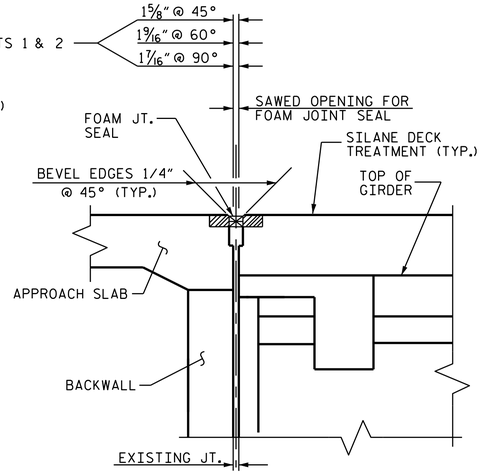
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION



PROPOSED JOINT PRE-SAWED DIMENSIONS



PROPOSED FOAM JOINT SEAL

NOTES

FOAM JOINTS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

THE INSTALLED FOAM JOINTS SHALL BE WATER TIGHT.

THE FOAM JOINTS SHALL MEET THE MANUFACTURER'S RECOMMENDATION FOR THE SIZE OF OPENING ON THE PLANS, AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

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

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL BASED ON JOINT OPENINGS AT THE END BENTS 1 AND 2.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

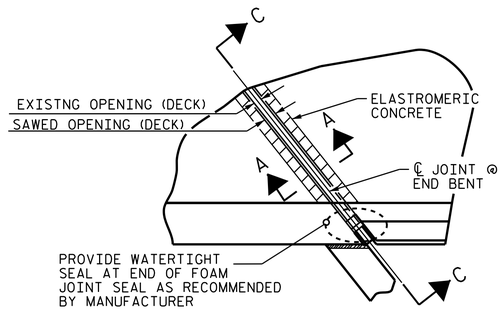
CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF ACTUAL JOINT OPENING VARIES FROM OPENING INDICATED IN DETAIL BY MORE THAN ¼", NOTIFY ENGINEER REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.

DEMOLISH BRIDGE JOINT AREA TO THE NECESSARY DEPTH, SUCH THAT ELASTOMERIC CONCRETE SHALL BE FOUNDED ON SOUND CONCRETE OR REPAIR CONCRETE SUBSTRATE. IF SUCH EXCAVATION EXTENDS MORE THAN 2" BELOW THE BOTTOM OF THE PLANNED ELASTOMERIC CONCRETE HEADER, AS SHOWN, APPROVED CONCRETE REPAIR MATERIAL SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION AT THE BOTTOM OF THE ELASTOMERIC CONCRETE.

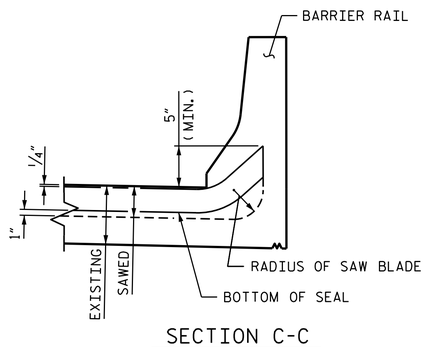
FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF ELASTOMERIC CONCRETE AND/ OR REPAIR CONCRETE SHALL BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF ELASTOMERIC CONCRETE OR CONCRETE REPAIR MATERIAL.

JOINT INSTALLATION SEQUENCE AT END BENTS

SECTION A-A



PLAN
(@ END BENT)



SECTION C-C

JOINT REPAIR QUANTITY TABLE

	BRIDGE JOINT DEMOLITION		ELASTOMERIC CONCRETE FOR PRESERVATION		FOAM JOINT SEALS FOR PRESERVATION	
	ESTIMATED	ACTUAL	ESTIMATED	ACTUAL	ESTIMATED	ACTUAL
END BENT 1	47.0 SF		11.8 CF		47.0 LF	
END BENT 2	47.0 SF		11.8 CF		47.0 LF	
✳ TOTAL	94.0 SF		23.6 CF		94.0 LF	

✳ BASED ON THE MINIMUM BLOCKOUT SHOWN.

JOINT SEAL DETAILS AT END BENTS

PROJECT NO. I-5946B
RICHMOND COUNTY
BRIDGE NO. 760184

DocuSigned by: Krishna P. Sedai
ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI
10/1/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

JOINT DETAILS

DRAWN BY : C. RUIZ DATE : 01/2020
CHECKED BY : A. SORSENGINH DATE : 06/2021

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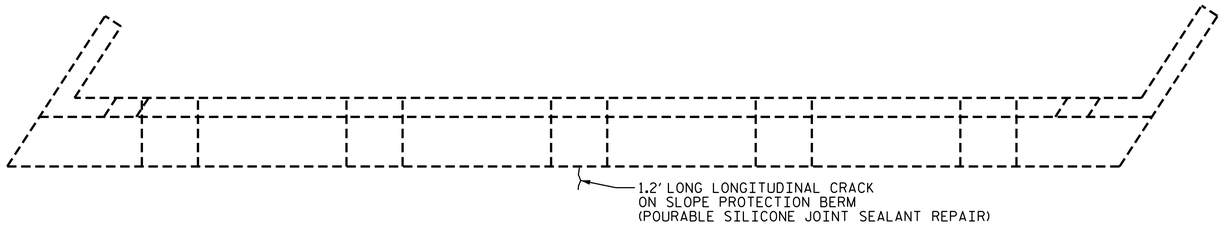

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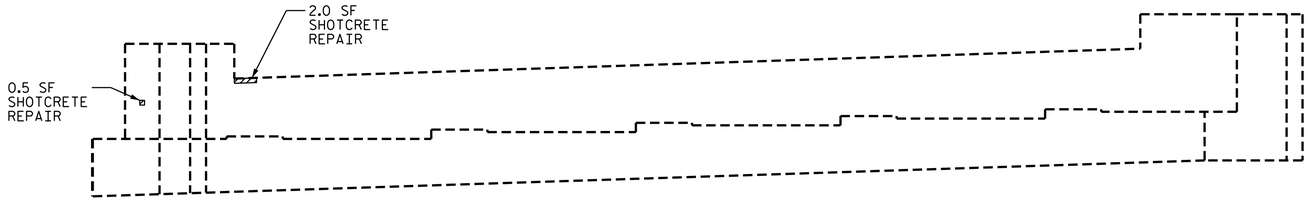

ELEVATION

END BENT 1

AS-BUILT REPAIR QUANTITY TABLE				
END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
BACKWALL	2.5	1.3		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
BACKWALL	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
BACKWALL		0.0		
CAP		0.0		
EPOXY COATING	AREA SQ. FT.		AREA SQ. FT.	
TOP OF CAP	0.0			
SILICONE JOINT	LIN. FT.		LIN. FT.	
POURABLE SILICONE JOINT SEALANT	1.2			

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

NOTES:

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

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE.

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

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

CONCRETE REPAIR AREA CLASS A

CONCRETE REPAIR AREA CLASS B

SHOTCRETE REPAIR AREA

EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5946B

RICHMOND COUNTY

BRIDGE NO. 760184

DocuSigned by: Krishna Prasad Sedai
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NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

10/1/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

END BENT 1

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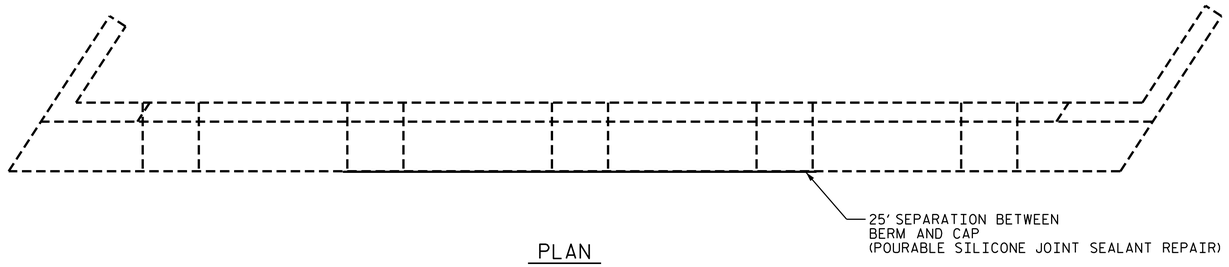

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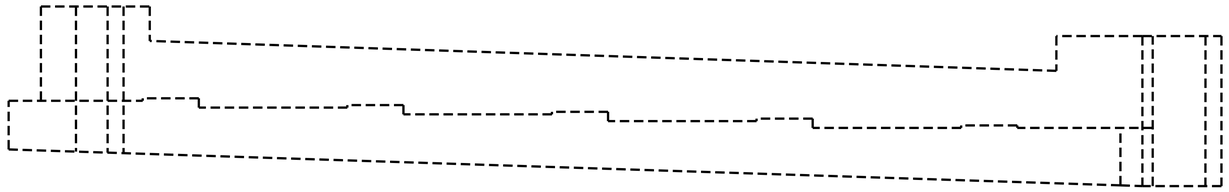

ELEVATION

END BENT 2

AS-BUILT REPAIR QUANTITY TABLE

END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
BACKWALL	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
BACKWALL	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
BACKWALL		0.0		
CAP		0.0		
EPOXY COATING	AREA SQ. FT.		AREA SQ. FT.	
TOP OF CAP	0.0			
SILICONE JOINT	LIN. FT.		LIN. FT.	
POURABLE SILICONE JOINT SEALANT	25.0			

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

NOTES:

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

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FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

CONCRETE REPAIR AREA CLASS A

CONCRETE REPAIR AREA CLASS B

SHOTCRETE REPAIR AREA

EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5946B

RICHMOND COUNTY

BRIDGE NO. 760184

DocuSigned by: Krishna Prasad Sedai
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NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

10/1/2021

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END BENT 2

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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