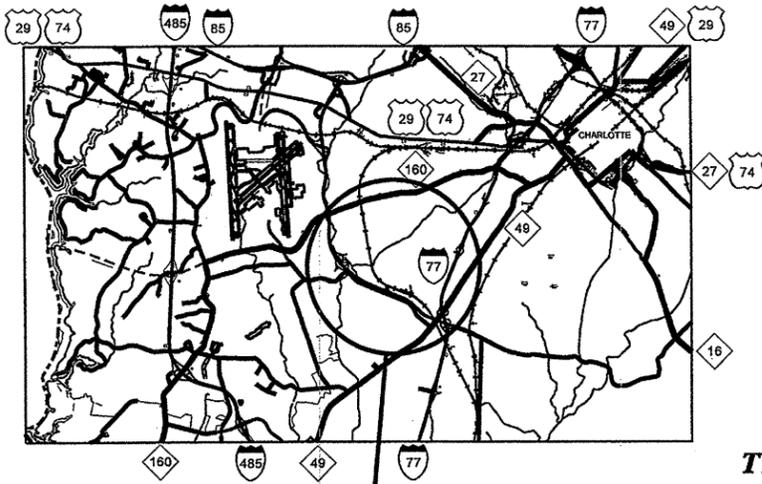
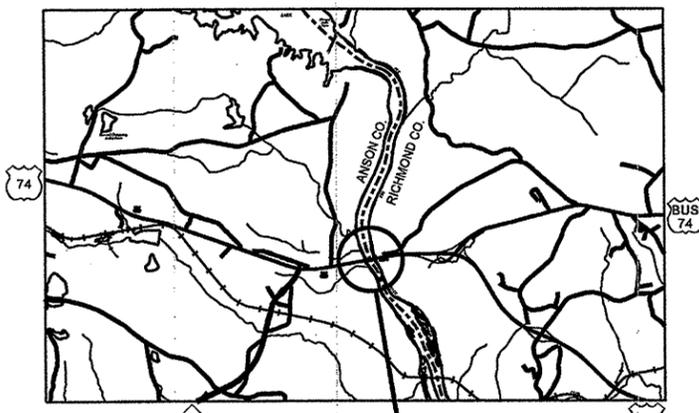


PROJECT: 17BP.10.H.1
CONTRACT: C203013



BRIDGES #54 & #88

VICINITY MAP MECKLENBURG COUNTY



BRIDGE #81

VICINITY MAP ANSON COUNTY

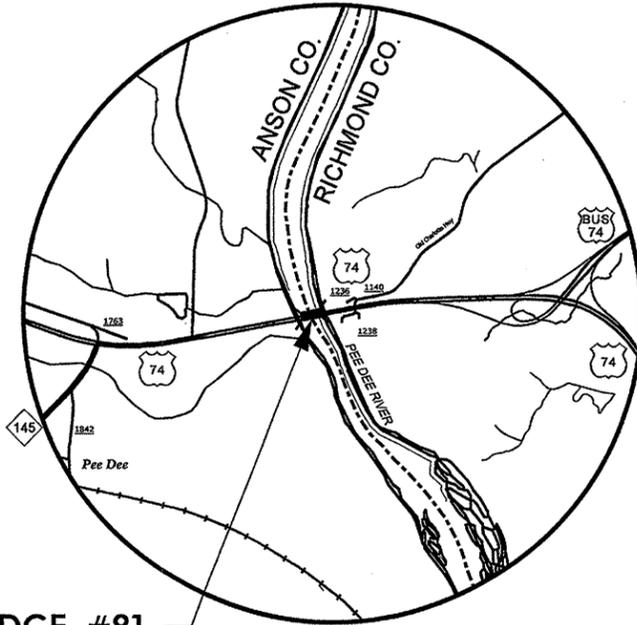
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

**MECKLENBURG COUNTY
 ANSON COUNTY**

LOCATION: BRIDGE #54 ON WEST BLVD OVER NSRR, MECKLENBURG COUNTY
BRIDGE #88 ON NC HWY 49 OVER NSRR, MECKLENBURG COUNTY
BRIDGE #81 OVER PEE DEE RIVER, ANSON COUNTY

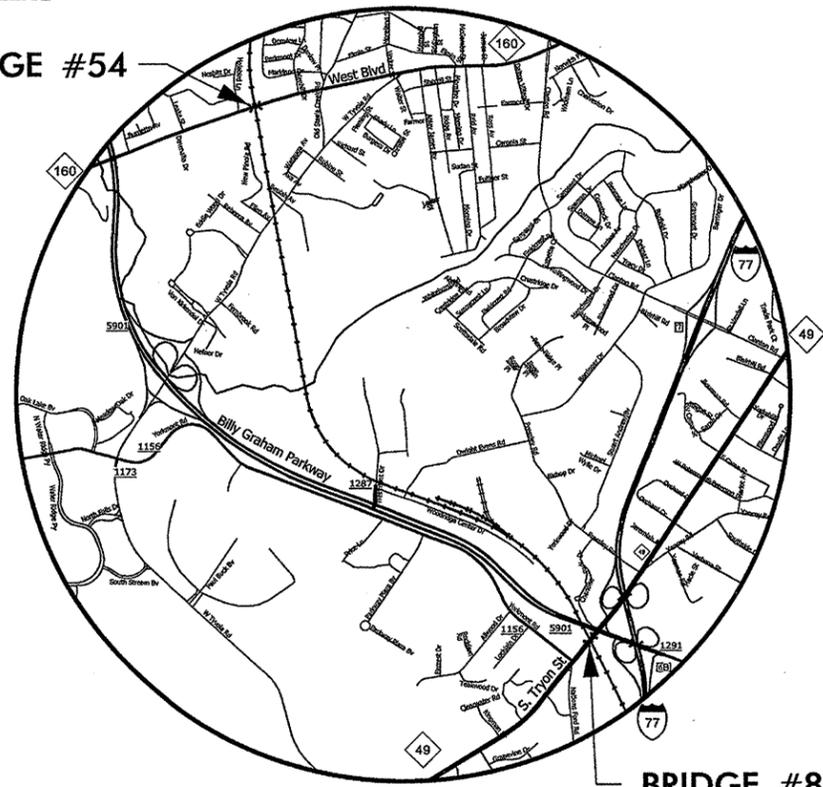
**TYPE OF WORK: BRIDGE PRESERVATION: HYDRODEMOLITION, LMC-VES
 OVERLAY AND SUBSTRUCTURE REPAIRS**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.10.H.1	1	27
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.10.H.1	NA	PE	
17BP.10.H.1	NA	CONSTR.	



BRIDGE #81

VICINITY MAP BRIDGE #81 (ANSON COUNTY)

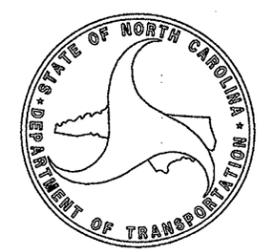


BRIDGE #54

BRIDGE #88

VICINITY MAP BRIDGES #54 & #88 (MECKLENBURG COUNTY)

STV / Ralph Whitehead Associates, Inc.
 1000 West Morehead St., Ste. 200
 Charlotte, NC 28208
 NC LICENSE NO. F-0991



TRAFFIC DATA

BRIDGE #54	ADT = 9,500
BRIDGE #88	ADT = 23,000
BRIDGE #81	ADT = 6,500

PROJECT LENGTH

BRIDGE	LENGTH	STRUCTURE	PROJECT
#81	.30	MILE	
#88	.02	MILE	
#54	.03	MILE	

Prepared For:
STRUCTURES MANAGEMENT UNIT
 1000 BIRCH RIDGE DR. RALEIGH, NC 27610

2012 STANDARD SPECIFICATIONS

LETTING DATE:
 MAY 15, 2012

PAUL KELLY, P.E.
 PROJECT ENGINEER

ERICK NELSON, P.E.
 NCDOT PROJECT ENGINEER

FARZIN ASEFNIA, P.E.
 PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.10.H.1	1A	27
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.10.H.1	NA	PE	
17BP.10.H.1	NA	CONSTR.	

**MECKLENBURG COUNTY
ANSON COUNTY**

LOCATION: BRIDGE #54 ON NC HWY 160 OVER NSRR, MECKLENBURG COUNTY
BRIDGE #88 ON NC HWY 49 OVER NSRR, MECKLENBURG COUNTY
BRIDGE #81 ON US 74 OVER PEE DEE RIVER, ANSON COUNTY

TYPE OF WORK: BRIDGE REHABILITATION: LATEX MODIFIED CONCRETE
OVERLAY, SUBSTRUCTURE REPAIRS AND PAINTING
STRUCTURAL STEEL.

INDEX OF SHEETS

1	TITLE SHEET
1A	INDEX OF SHEETS
2	SUMMARY OF QUANTITIES
S1-S19	STRUCTURES
TMP-1 - TMP-2	TRAFFIC MANAGEMENT PLANS

PROJECT: 17BP.10.H.1

CONTRACT: C203013



Prepared For:
STRUCTURES MANAGEMENT UNIT
1000 BIRCH RIDGE DR. RALEIGH, NC 27610

LETTING DATE:
MAY 15, 2012

ENGINEER

COMPUTED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____

PROJECT REFERENCE NO. SHEET NO.
 17BP.10.H.1 2

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203013

ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION	8860000000-N	SP	Lump Sum		GENERIC STRUCTURE ITEM CLEANING & REPAINTING BRIDGE # 88
1330000000-E	607	347	SY	INCIDENTAL MILLING	8860000000-N	SP	Lump Sum		GENERIC STRUCTURE ITEM RESET ROCKER BEARING
1519000000-E	610	20	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	8860000000-N	SP	Lump Sum		GENERIC STRUCTURE ITEM RUBBER EXPANSION JOINT SEALS
1575000000-E	620	2	TON	ASPHALT BINDER FOR PLANT MIX	8881000000-E	SP	351.7	CY	GENERIC STRUCTURE ITEM LATEX MODIFIED CONC OVERLAY VERY EARLY STRENGTH
4400000000-E	1110	80	SF	WORK ZONE SIGNS (STATIONARY)	8893000000-E	SP	8,838	SY	GENERIC STRUCTURE ITEM HYDRO-DEMOLITION OF BRIDGE DEC K
4405000000-E	1110	240	SF	WORK ZONE SIGNS (PORTABLE)	8893000000-E	SP	8,838	SY	GENERIC STRUCTURE ITEM PLACING AND FINISHING LATEX MO DIFIED CONCRETE VERY EARLY STRENGTH
4415000000-N	1115	4	EA	FLASHING ARROW BOARD	8893000000-E	SP	8,838	SY	GENERIC STRUCTURE ITEM SCARIFYING BRIDGE DECK
4420000000-N	1120	2	EA	PORTABLE CHANGEABLE MESSAGE SIGN					
4430000000-N	1130	60	EA	DRUMS					
4480000000-N	1165	2	EA	TMA					
4516000000-N	1180	20	EA	SKINNY DRUM					
4770000000-E	1205	685	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (II)					
4847000000-E	1205	4,920	LF	POLYUREA PAVEMENT MARKING LINES (4" *****) (STANDARD GLASS BEADS)					
4900000000-N	1251	40	EA	PERMANENT RAISED PAVEMENT MARKERS					
8161000000-E	420	70,493	SF	GROOVING BRIDGE FLOORS					
8217000000-E	425	1	LB	REINFORCING STEEL (BRIDGE)					
8296000000-N	442	Lump Sum		POLLUTION CONTROL					
8660000000-E	SP	59.4	CF	CONCRETE REPAIRS					
8678000000-E	SP	496	LF	EPOXY RESIN INJECTION					
8692000000-N	SP	Lump Sum		FOAM JOINT SEALS					
8860000000-N	SP	Lump Sum		GENERIC STRUCTURE ITEM BRIDGE JACKING					
8860000000-N	SP	Lump Sum		GENERIC STRUCTURE ITEM CLEANING & REPAINTING BRIDGE # 54					
8860000000-N	SP	Lump Sum		GENERIC STRUCTURE ITEM CLEANING & REPAINTING BRIDGE # 81					

GENERAL NOTES

EXISTING BRIDGE AND REPAIR DETAILS INDICATED ON THE PLANS ARE FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION OR THE ENGINEER FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE AND REPAIR DETAILS SHOWN ON THE PLANS AND THE ACTUAL CONDITION AT THE PROJECT SITE.

WORK ON BRIDGES SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW. CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION ACCESS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

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

DIMENSIONS IN THESE PLANS ARE BASED ON ORIGINAL PLANS. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

ALL VISUAL AND NON-DESTRUCTIVE TESTING WILL BE PERFORMED BY NCDOT.

FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

THE COST OF LABOR, MATERIALS, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY FOR REMOVAL AND DISPOSAL OF EXISTING STRUCTURE COMPONENTS SHALL BE INCLUDED IN THE BID PRICE FOR THE VARIOUS CONTRACT PAY ITEMS.

REINFORCING STEEL SHALL BE GRADE 60.

FOR INCIDENTAL ASPHALT MILLING, SEE STANDARD SPECIFICATIONS.

FOR ASPHALT CONCRETE SURFACE TYPES S9.5B, SEE STANDARD SPECIFICATIONS.

MILLING ASPHALT PAVEMENT LENGTH & QUANTITY IS APPROXIMATE. THE CONTRACTOR SHALL MILL AS REQUIRED TO PROVIDE A SMOOTH TRANSITION AT EACH END OF THE BRIDGE AS DIRECTED BY THE ENGINEER.

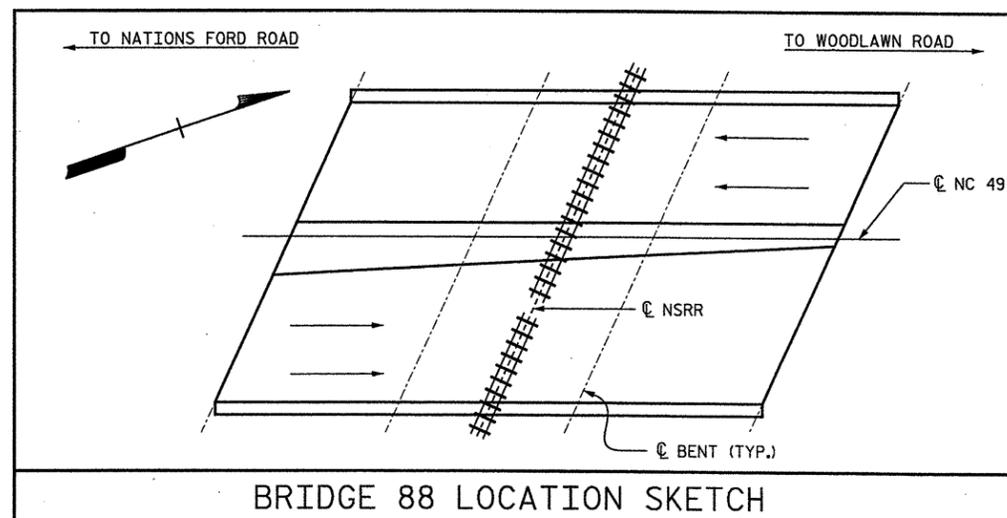
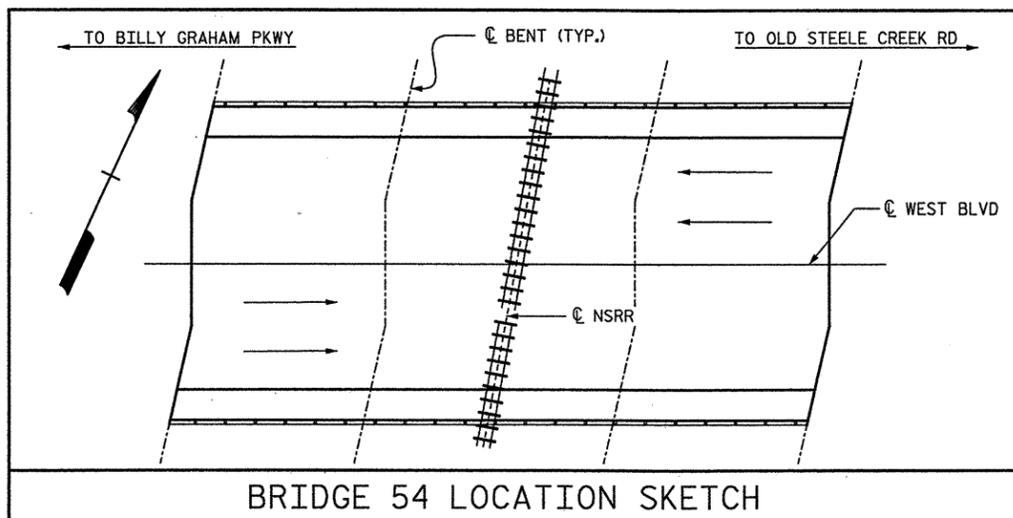
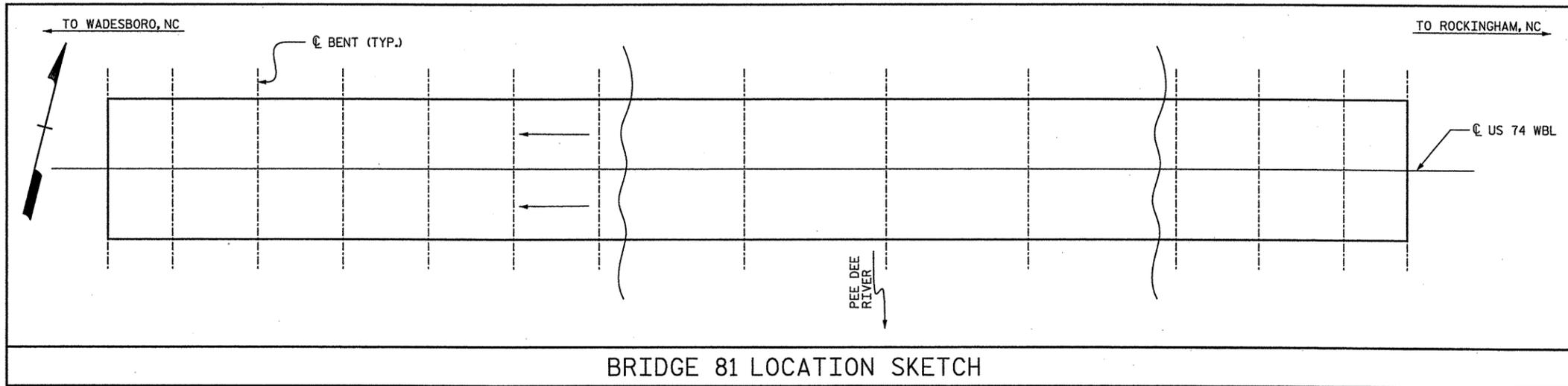
PAYMENT FOR INSTALLATION OF BACKER RODS BETWEEN APPROACH PAVEMENT & CURTAIN WALLS SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS CONTRACT PAY ITEMS. ALL COSTS INCLUDING LABOR, MATERIALS, TOOLS, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS. NO ADDITIONAL PAYMENT WILL BE MADE.

CONTRACTOR SHALL REVIEW DECK CONDITION WITH THE ENGINEER AFTER SCARIFICATION TO IDENTIFY ANY POTENTIAL CLASS III REPAIR AREAS.

IF ADDITIONAL CLASS III REPAIR AREAS ARE IDENTIFIED, THE CONTRACTOR SHALL INSTALL BLOW THROUGH CONTAINMENT.

IF DEMOLITION OPERATIONS IDENTIFY AREAS FOR POTENTIAL CLASS III REPAIRS, CONTRACTOR SHALL CEASE WORK AT THOSE LOCATIONS UNTIL SUCH TIME THAT BLOW THROUGH CONTAINMENT AND FORMWORK CAN BE INSTALLED.

FOR CLEANING AND PAINTING OF BRIDGE, SEE SPECIAL PROVISIONS.



PROJECT NO. 17BP.10.H.1
ANSON & MECKLENBURG COUNTY
 BRIDGE NO.: 54, 81, 88
 REHABILITATION OF ANSON AND MECKLENBURG COUNTY BRIDGES

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL NOTES AND LOCATION SKETCHES

STV / Ralph Whitehead Associates, Inc.
 1000 West Morehead St., Ste. 200
 Charlotte, NC 28208
 NC License No. F-0991

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

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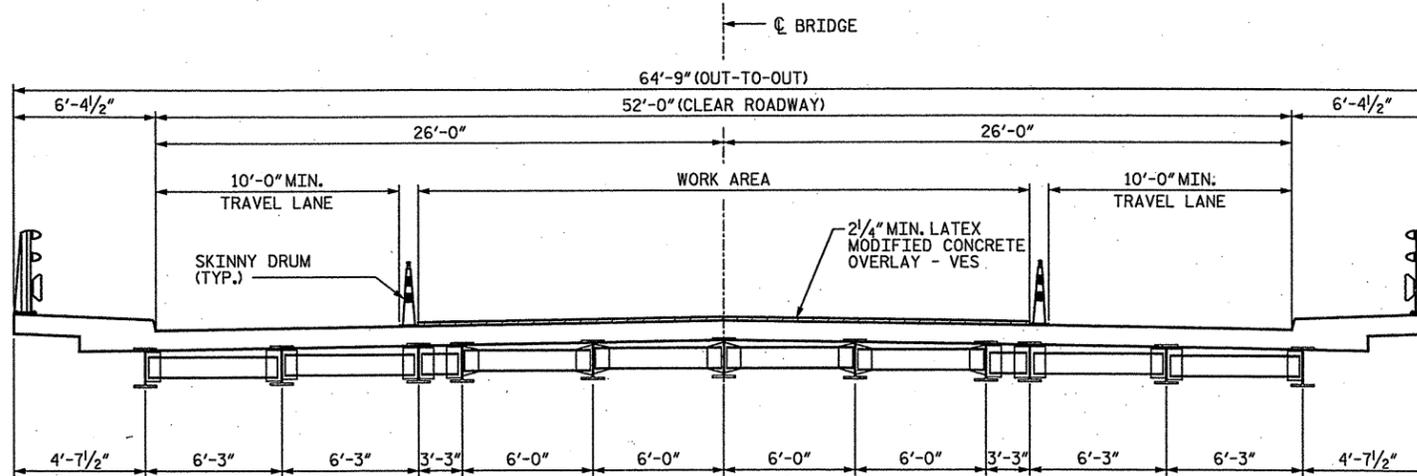
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 CHECKED BY : TRL DATE : 2-12

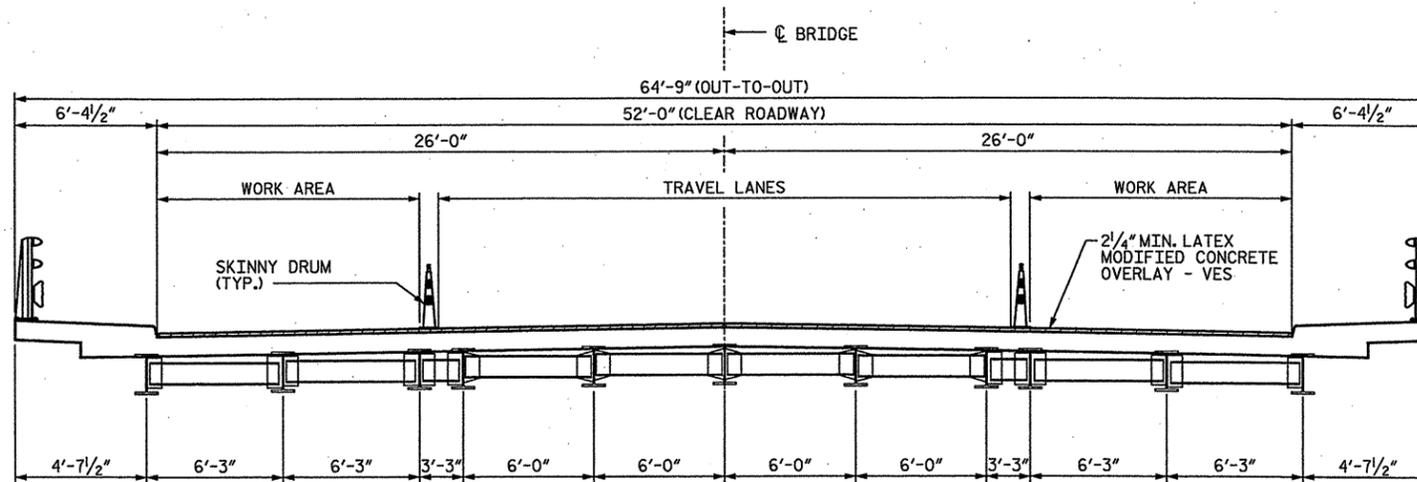
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3/12/2012



SECTION - STAGE I



SECTION - STAGE II

PROJECT NO. 17BP.10.H.1

MECKLENBURG COUNTY

BRIDGE NO.: 54

REHAB. OF BRIDGE NO. 54 SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CONSTRUCTION STAGING

BRIDGE ON WEST BOULEVARD
OVER NSRR

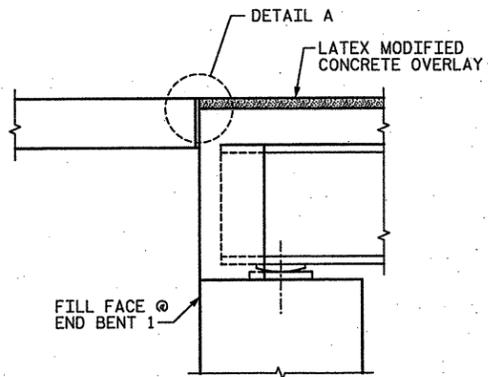


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NC License No. F-0991

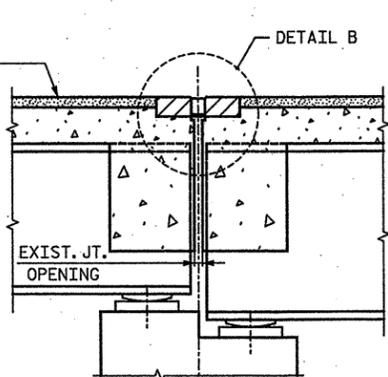
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CHECKED BY : TRL DATE : 01-12

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NO.	BY	DATE	NO.	BY	DATE	S-3
1			3			TOTAL SHEETS
2			4			S-19

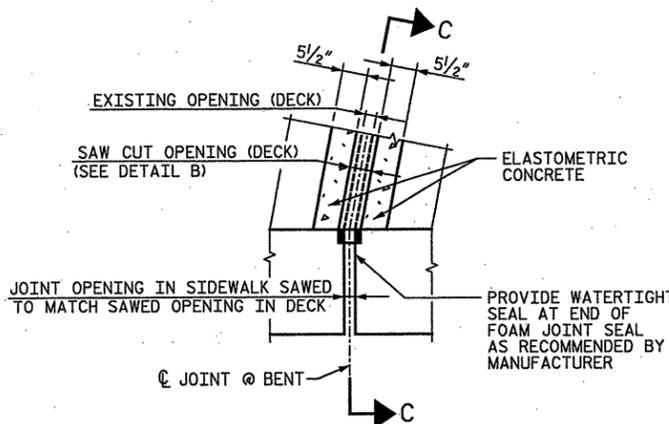
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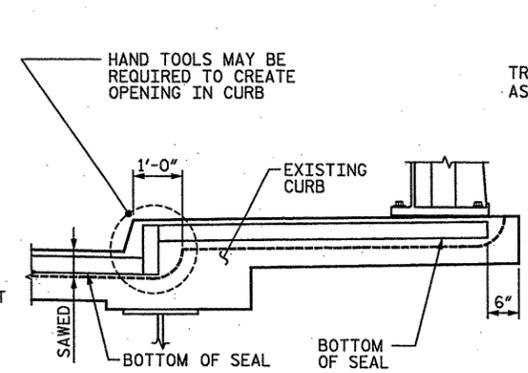
SECTION A-A
(PROPOSED JOINT @ END BENTS)



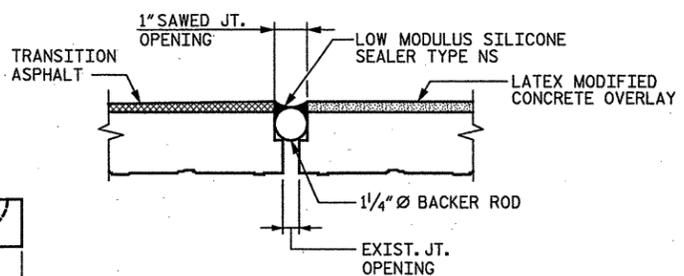
SECTION B-B
(PROPOSED JOINT @ INTERIOR BENTS)



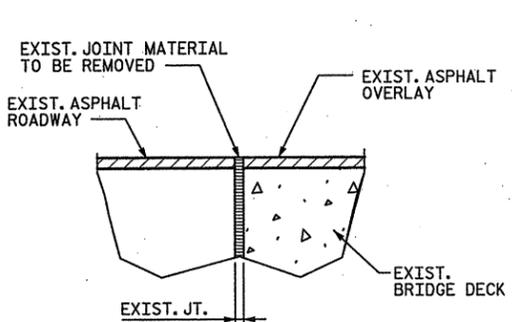
PLAN OF JOINT SEAL AT SIDEWALK



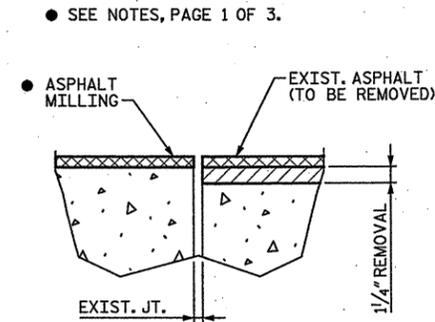
SECTION C-C



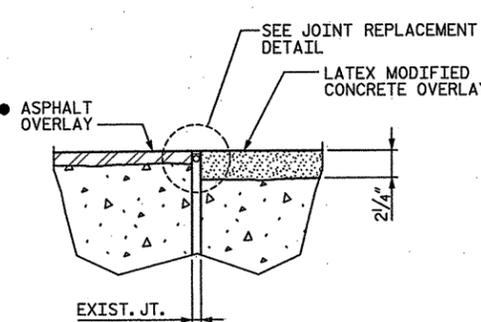
JOINT REPLACEMENT DETAIL



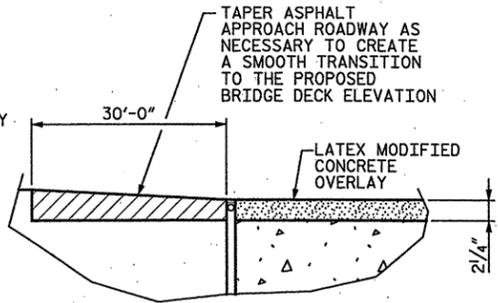
EXISTING JOINT



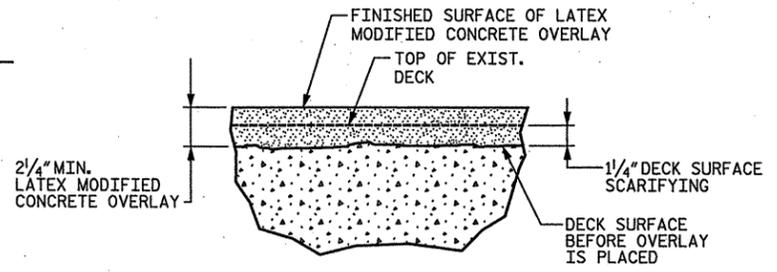
MIN. EXISTING JOINT DEMOLITION



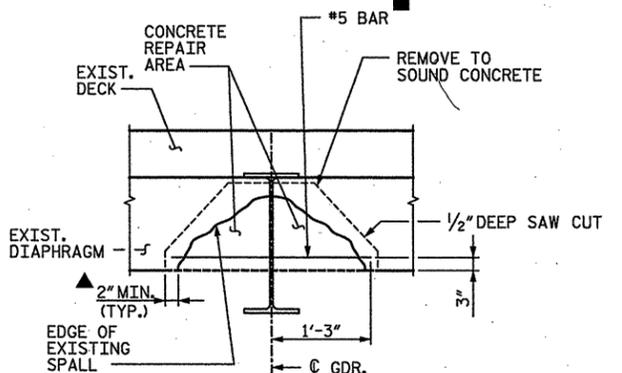
PROPOSED JOINT



PROPOSED JOINT TRANSITION
(LOCATION OF JOINT TO MATCH EXISTING JOINT LOCATION)

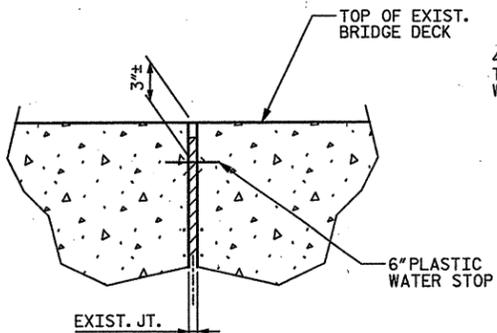


LATEX MODIFIED CONCRETE OVERLAY DETAIL

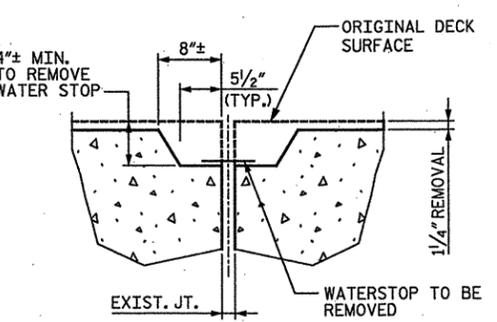


DIAPHRAGM REPAIR DETAIL
(SEE NOTES)

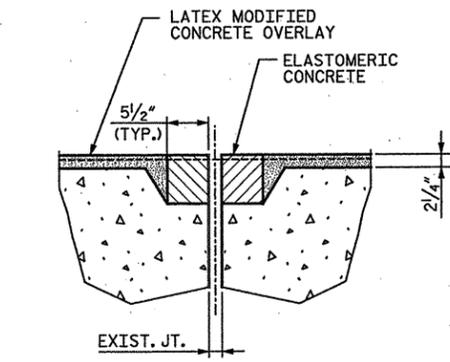
■ IF NO CONTINUITY REBAR IS PRESENT OR IF THERE IS SIGNIFICANT SECTION LOSS TO EXISTING REBAR, INSTALL #5 BAR AS SHOWN THROUGH EXISTING HOLE IN GIRDER PRIOR TO MAKING CONCRETE REPAIR
▲ INCREASE AS NECESSARY TO REACH SOUND CONCRETE.



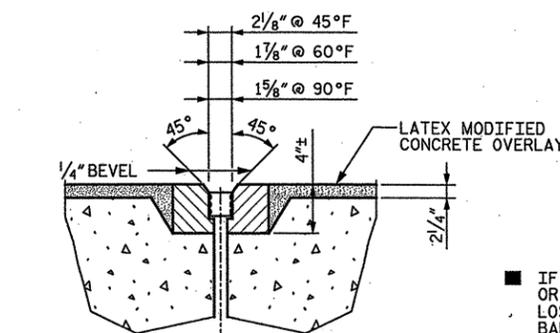
EXISTING JOINT



MINIMUM EXIST. JOINT DEMOLITION



PROPOSED JOINT PRE-SAWED



PROPOSED FOAM JOINT SEAL EXPANSION

ELASTOMERIC CONCRETE	
BENT NO.	ELASTOMERIC CONCRETE * (CU. FT.)
1	15.9
2	15.9
TOTAL	31.8

* QUANTITY FOR INFORMATION ONLY

FOAM JOINT NOTES:

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
THE INSTALLED FOAM JOINT SHALL BE WATERTIGHT.
THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2 1/2".
THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE FOAM JOINT SEAL IN LIEU OF SAWING THE JOINT.
FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.
THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT DAMAGING EXISTING BRIDGE DECK. ANY NECESSARY REPAIRS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

NOTES:

- SEE SHEET 1 OF 3 FOR ADDITIONAL NOTES.
- THE ENGINEER SHALL BE NOTIFIED OF ANY BARS DAMAGED DURING THE CONCRETE REMOVAL PROCESS DUE TO THE CONTRACTOR'S OPERATIONS. REPAIRS TO SUCH DAMAGED BARS SHALL BE AS DIRECTED BY THE ENGINEER AND COMPLETED AT NO ADDITIONAL COST TO THE DEPARTMENT.
- HEAVILY DETERIORATED OR DAMAGED REINFORCING STEEL SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER.
- DIAPHRAGM REPAIR NECESSARY AT FOLLOWING LOCATIONS:
-SPAN 1 BENT 1 BAY 3 GIRDER 4
-SPAN 1 BENT 1 BAY 5 GIRDER 8
-SPAN 1 BENT 1 BAY 8 GIRDER 8
-SPAN 3 BENT 2 BAY 7 & 8 GIRDER 8
ADDITIONAL REPAIRS MAY BE NECESSARY AS DIRECTED BY THE ENGINEER.

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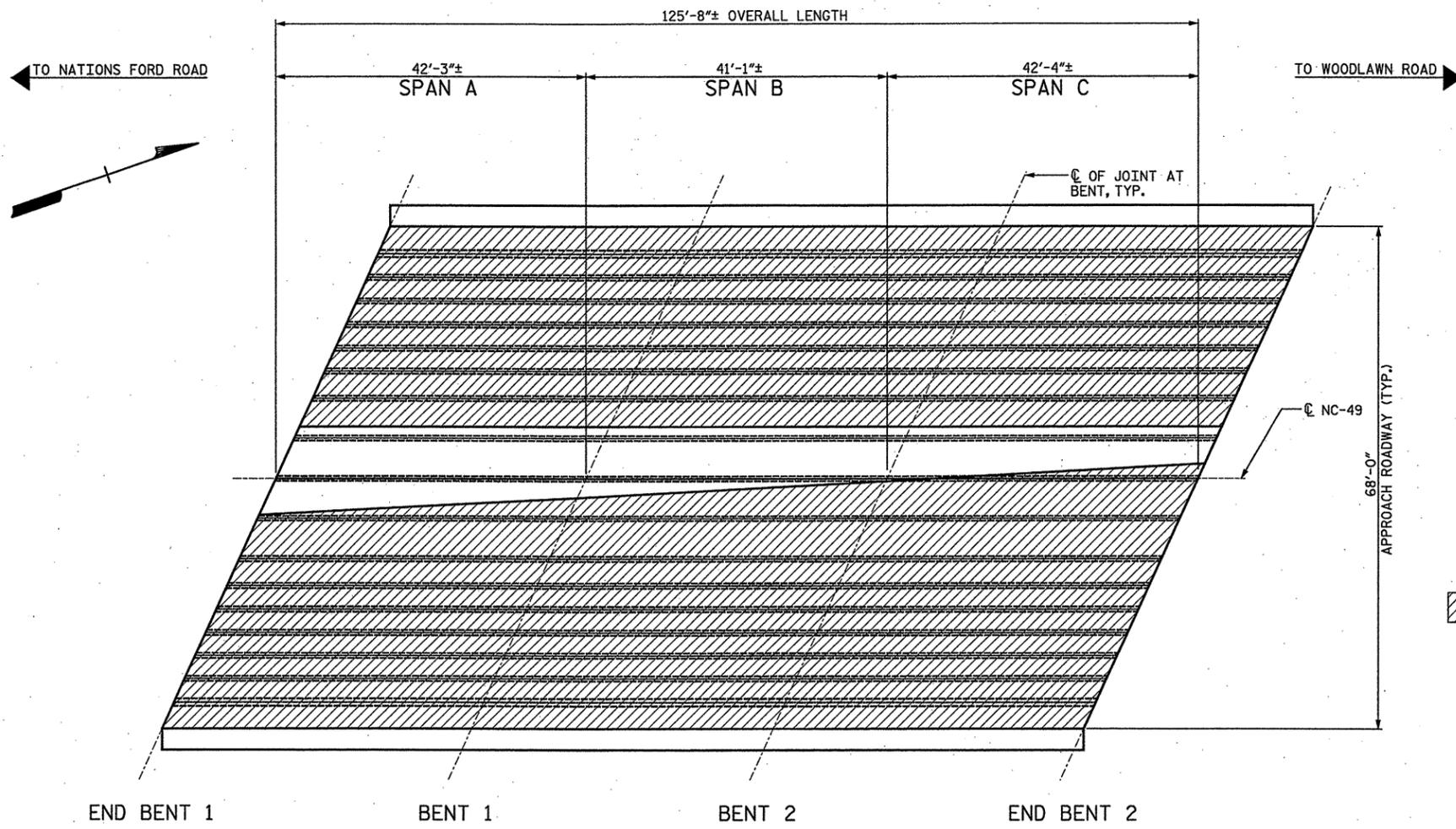


PROJECT NO. 17BP.10.H.1
MECKLENBURG COUNTY
BRIDGE NO.: 54

REHAB. OF BRIDGE NO. 54 SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
DECK REPAIR DETAILS
BRIDGE ON WEST BOULEVARD
OVER NC-NSRR

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

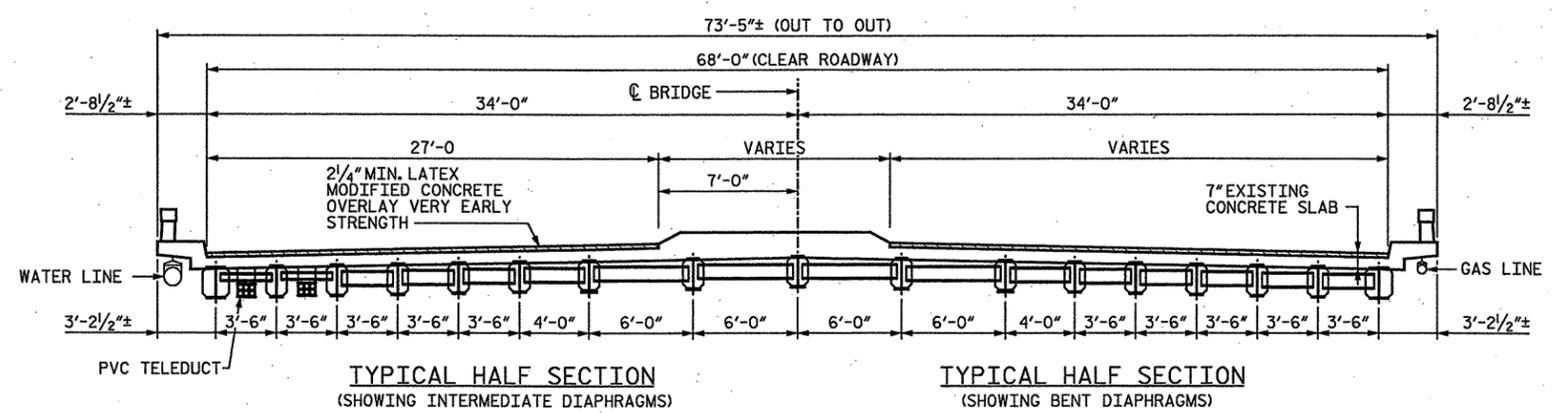


NOTES:

1. EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING REPAIR OF BRIDGE DECKS WITH LATEX MODIFIED CONCRETE. SEE SPECIAL PROVISIONS.
2. FOR HYDRO-DEMOLITION, SEE SPECIAL PROVISIONS.
3. THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS, SEE SPECIAL PROVISIONS.
4. FOR LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH, SEE SPECIAL PROVISIONS.
5. FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
6. FOR ADDITIONAL NOTES SEE "GENERAL NOTES AND LOCATION SKETCHES" SHEET.

BRIDGE DECK SCARIFICATION & HYDRO-DEMOLITION

PLAN OF SPANS - DECK SCARIFICATION & HYDRO-DEMOLITION



TYPICAL SECTION

PROJECT NO. **17BP.10.H.1**
MECKLENBURG COUNTY
 BRIDGE NO.: **88**
 REHAB. OF BRIDGE 88 SHEET 1 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
PLAN OF SPANS AND TYPICAL SECTION
 BRIDGE ON NC-49 OVER NSRR



BILL OF MATERIAL											
DECK SCARIFICATION	* CLASS III SURFACE PREPARATION	* CLASS AA CONCRETE	HYDRO-DEMOLITION OF BRIDGE DECK	LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH	PLACING AND FINISHING LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH	CONCRETE REPAIR	FOAM JOINT SEALS	GROOVING BRIDGE FLOORS	CLEANING AND PAINTING OF BRIDGE #88	POLLUTION CONTROL	
SQ. YDS.	SQ. YDS.	CU. YDS.	SQ. YDS.	CU. YDS.	SQ. YDS.	CU. FT.	LUMP SUM	SQ. FT.	LUMP SUM	LUMP SUM	
831	45	4.7	831	51.9	831	49.4	LUMP SUM	6599	LUMP SUM	LUMP SUM	

* QUANTITIES FOR INFORMATION ONLY

DRAWN BY : ACA DATE : 1-12
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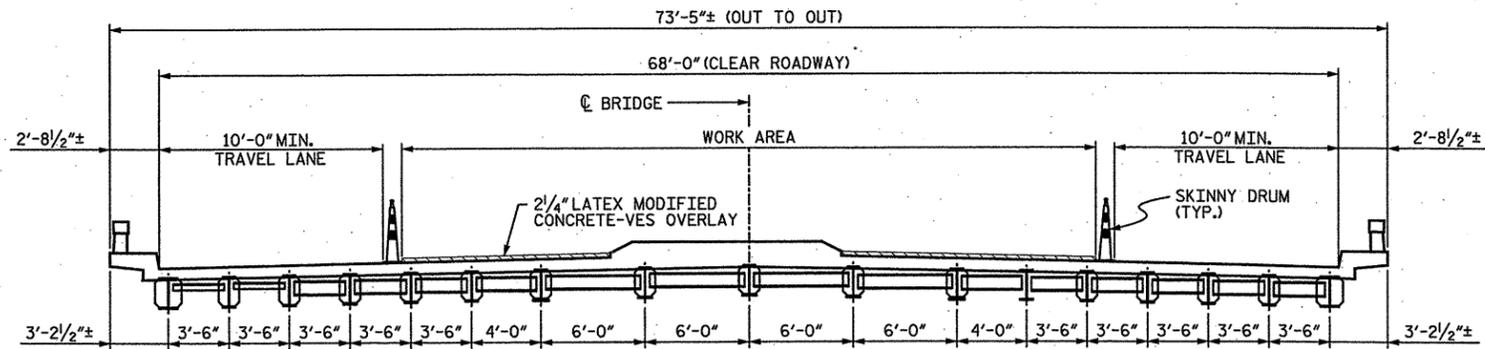
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 1000 West Morehead St., Ste. 200
 Charlotte, NC 28208
 NC License No. F-0391

REVISIONS						SHEET NO.
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1			3			TOTAL SHEETS S-19
2			4			

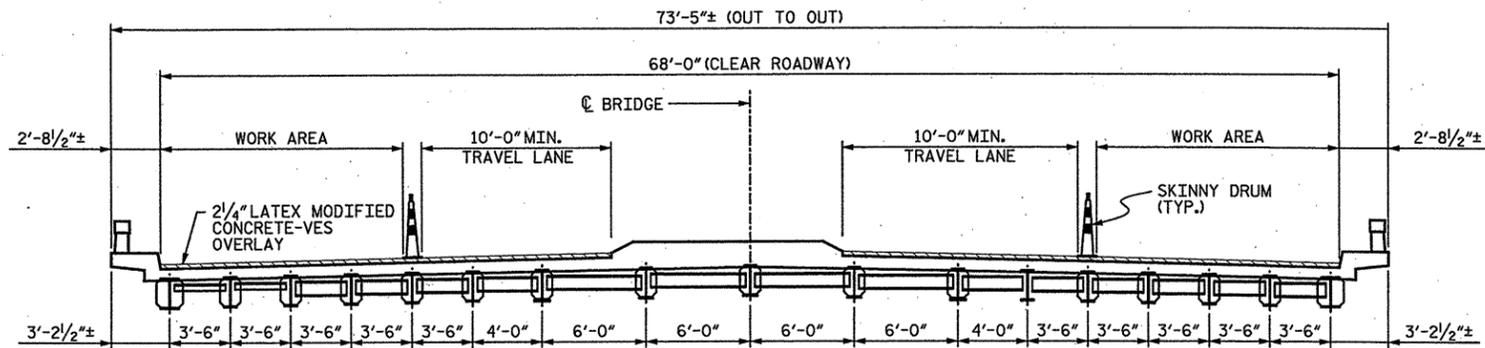
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SECTION - STAGE I



SECTION - STAGE II

PROJECT NO. 17BP.10.H.1

MECKLENBURG COUNTY

BRIDGE NO.: 88

REHAB OF BRIDGE 88 SHEET 2 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CONSTRUCTION
STAGING

BRIDGE ON NC-49
OVER NSRR

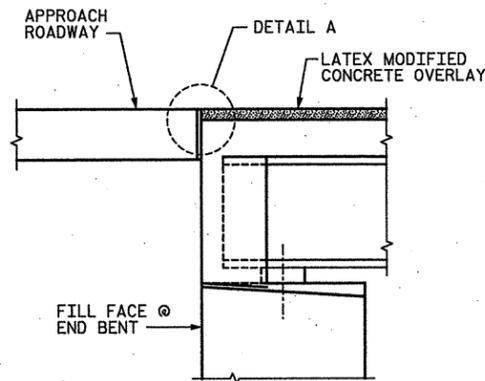


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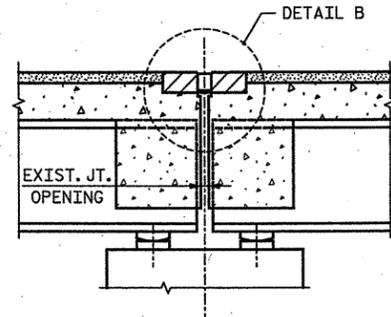
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CHECKED BY : TRL DATE : 1-12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS
2			4			S-19

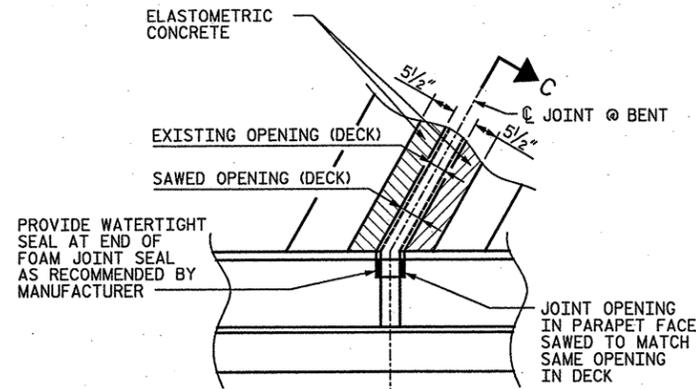
InProjects\2515387\2515387_0001\50.Deliverables & Submittals\17BP.10.H.1\Structure\USTATION\URIDDE-88\04_Detail.dgn



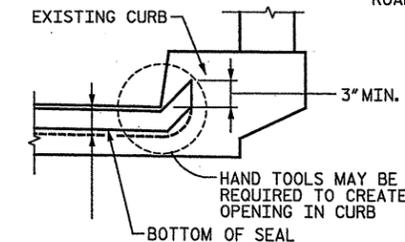
SECTION A-A
(PROPOSED JOINT @ END BENTS)



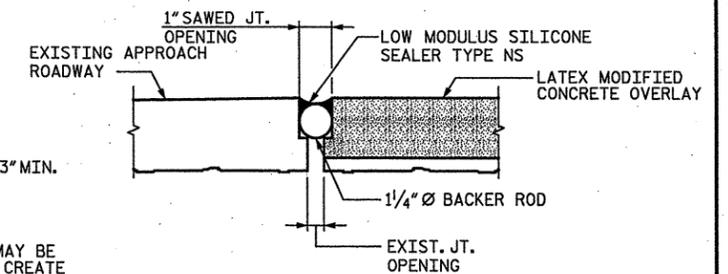
SECTION B-B
(PROPOSED JOINT @ INTERIOR BENTS)



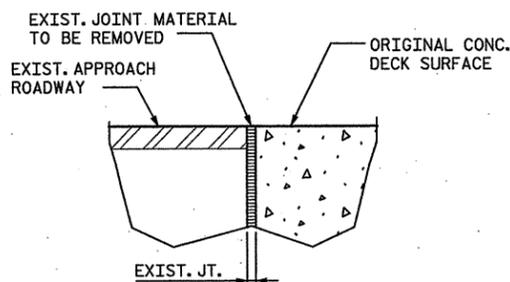
PLAN OF JOINT SEAL AT CURB



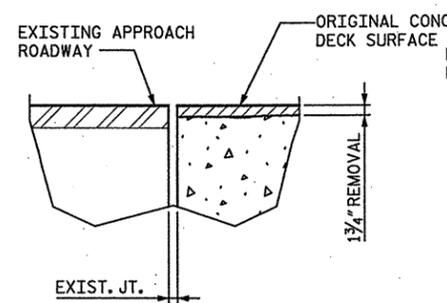
SECTION C-C



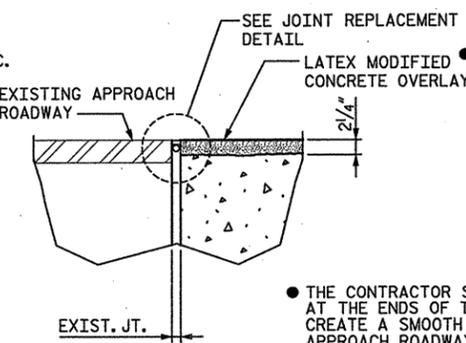
JOINT REPLACEMENT DETAIL



EXISTING JOINT



MIN. EXISTING JOINT DEMOLITION

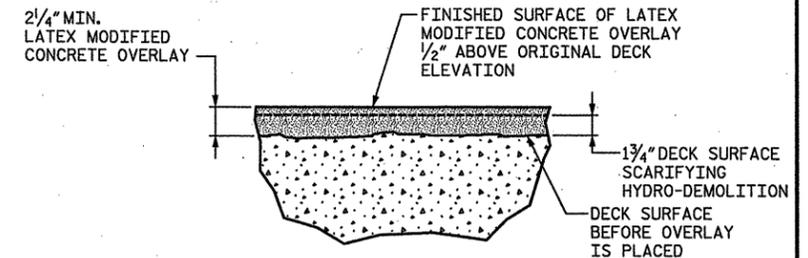


PROPOSED JOINT

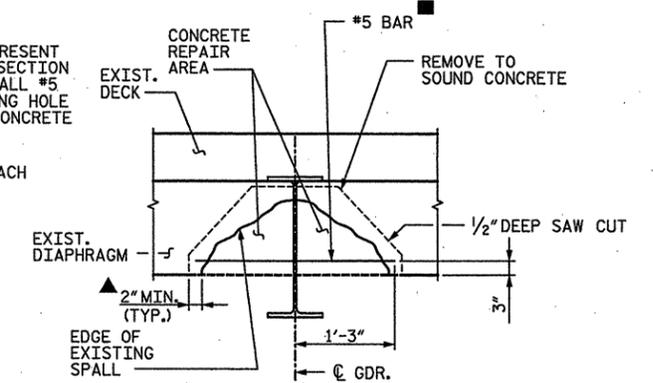
• THE CONTRACTOR SHALL TROWEL THE OVERLAY AT THE ENDS OF THE BRIDGE DECK TO CREATE A SMOOTH TRANSITION TO THE APPROACH ROADWAY TO THE SATISFACTION OF THE ENGINEER.

■ IF NO CONTINUITY REBAR IS PRESENT OR IF THERE IS SIGNIFICANT SECTION LOSS TO EXISTING REBAR, INSTALL #5 BAR AS SHOWN THROUGH EXISTING HOLE IN GIRDER PRIOR TO MAKING CONCRETE REPAIR

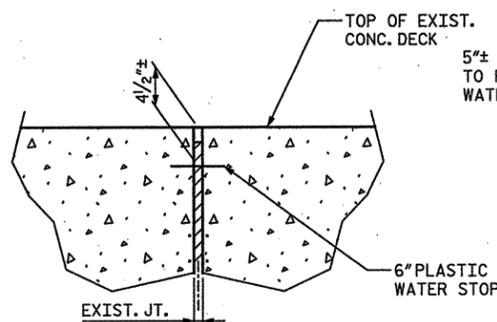
▲ INCREASE AS NECESSARY TO REACH SOUND CONCRETE.



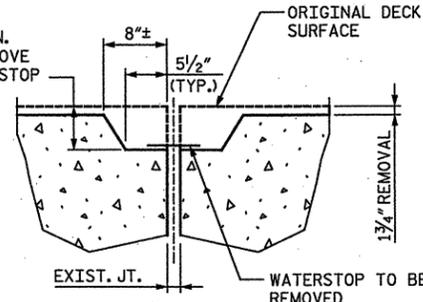
LATEX MODIFIED CONCRETE OVERLAY DETAIL



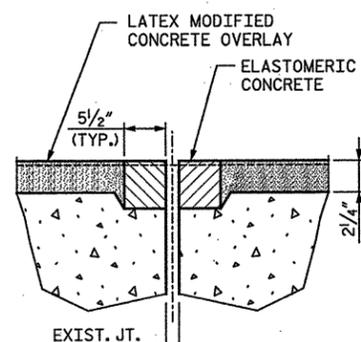
DIAPHRAGM REPAIR DETAIL



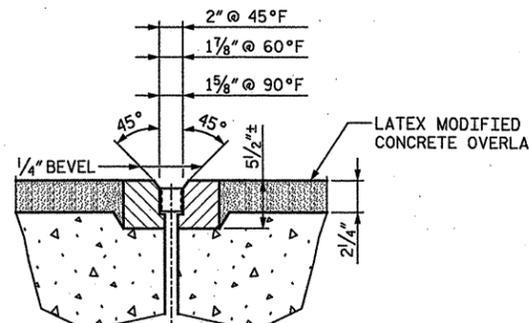
EXISTING JOINT



MINIMUM EXIST. JOINT DEMOLITION



PROPOSED JOINT PRE-SAWED



PROPOSED FOAM JOINT SEAL EXPANSION

FOAM JOINT NOTES:

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
 THE INSTALLED FOAM JOINT SHALL BE WATERTIGHT.
 THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2 1/2".
 THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE FOAM JOINT SEAL IN LIEU OF SAWING THE JOINT.
 FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.
 THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT DAMAGING EXISTING BRIDGE DECK, ANY NECESSARY REPAIRS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE COMPLETED TO THE SATISFACTION OF THE ENGINEER.

NOTES:

- SEE SHEET 1 OF 4 FOR ADDITIONAL NOTES.
- THE ENGINEER SHALL BE NOTIFIED OF ANY BARS DAMAGED DURING THE CONCRETE REMOVAL PROCESS DUE TO THE CONTRACTOR'S OPERATIONS. REPAIRS TO SUCH DAMAGED BARS SHALL BE AS DIRECTED BY THE ENGINEER AND COMPLETED AT NO ADDITIONAL COST TO THE DEPARTMENT.
- HEAVILY DETERIORATED OR DAMAGED REINFORCING STEEL SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER.
- DIAPHRAGM REPAIR NECESSARY AT APPROXIMATELY 20 LOCATIONS.

ELASTOMERIC CONCRETE	
BENT NO.	ELASTOMERIC CONCRETE * (CU. FT.)
1	31.5
2	31.5
TOTAL	63

* QUANTITY FOR INFORMATION ONLY

DRAWN BY: ACA DATE: 1-12
 CHECKED BY: TRL DATE: 1-12

PROJECT NO. 17BP.10.H.1
MECKLENBURG COUNTY
 BRIDGE NO.: 88
 REHAB. OF BRIDGE 88 SHEET 4 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

DECK REPAIR DETAILS

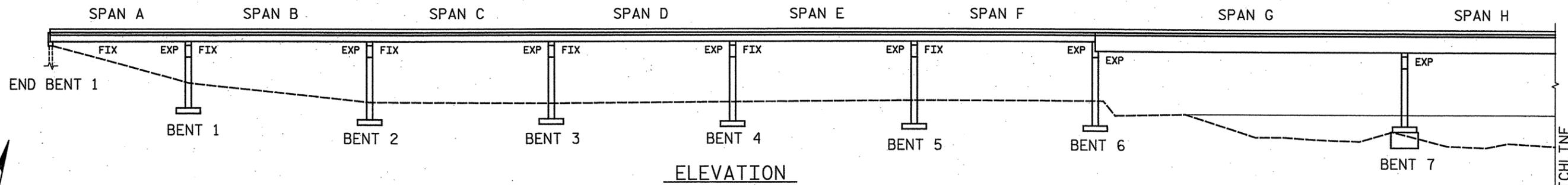
BRIDGE ON NC-49
 OVER NSRR



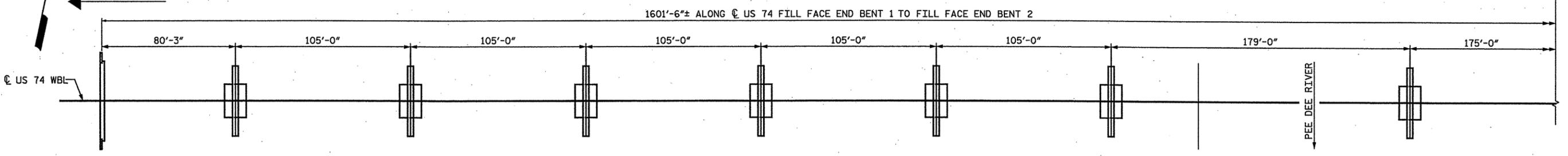
STV/Ralph Whitehead Associates, Inc.
 1000 West Morehead St., Ste. 200
 Charlotte, NC 28208
 NC License No. F-0991

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-8
1			3			TOTAL SHEETS
2			4			S-19

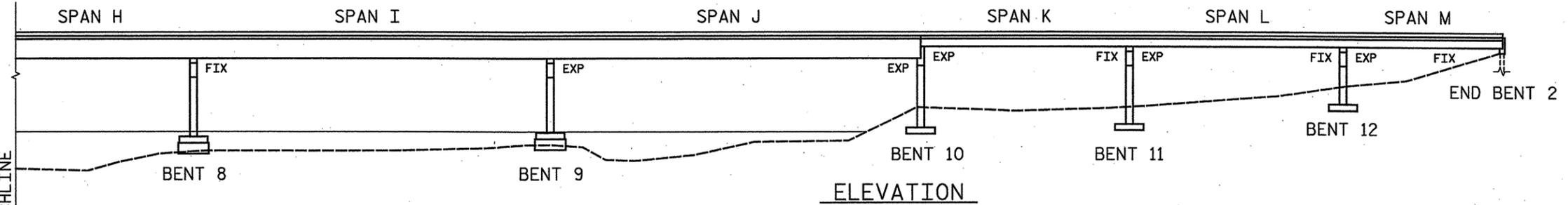
3/12/2012 guldoo



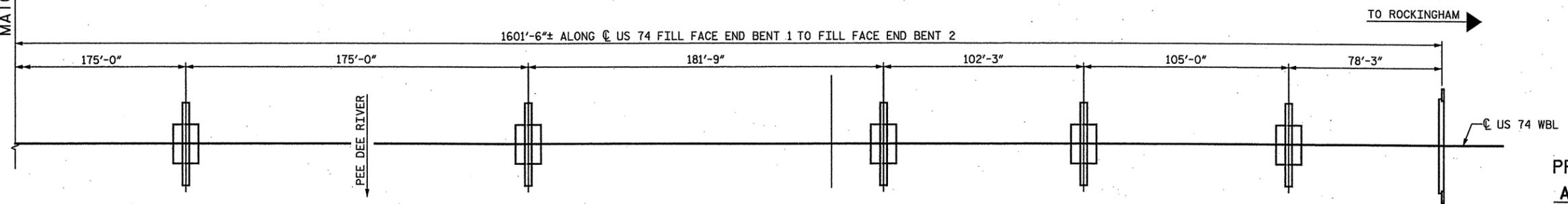
ELEVATION



PLAN



ELEVATION



PLAN

- GENERAL NOTES:**
- SEE SHEET 3 OF 11 FOR ADDITIONAL NOTES.
 - BEAM ENDS SHALL BE PAINTED FOR A DISTANCE EQUAL TO 1.5 TIMES THE BEAM HEIGHT BEGINNING FROM THE BEAM END. SEE PAINTING EXISTING STRUCTURES SPECIAL PROVISION.



PROJECT NO. **17BP.10.H.1**
ANSON COUNTY
 BRIDGE NO.: **81**
 REHAB. OF BRIDGE NO. 81 SHEET 1 OF 11

TOTAL BILL OF MATERIAL

DECK SCARIFICATION	*CLASS II SURFACE PREPARATION	HYDRO-DEMOLITION OF BRIDGE DECK	LATEX MODIFIED CONCRETE OVERLAY VERY EARLY STRENGTH	PLACING & FINISHING LATEX MODIFIED CONCRETE OVERLAY VERY EARLY STRENGTH	GROOVING BRIDGE FLOORS	EPOXY RESIN INJECTION	BRIDGE JACKING	RESET ROCKER BEARING	** CONCRETE REPAIR	SYNTHETIC RUBBER EXPANSION JOINT SEALS	FOAM JOINT SEALS	CLEANING AND PAINTING OF BRIDGE #81	POLLUTION CONTROL	** REINFORCING STEEL
SQ. YDS.	SQ. YDS.	SQ. YDS.	CU. YDS.	SQ. YDS.	SQ. FT.	LN. FT.	LUMP SUM	LUMP SUM	CU. FT.	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LBS
7,224	54	7,224	250.9	7,224	57,332	496	LUMP SUM	LUMP SUM	1	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	1

*QUANTITIES FOR INFORMATION ONLY.
 **CONCRETE REPAIRS ARE NOT PROPOSED FOR THIS BRIDGE. THE CONCRETE REPAIR ITEM IS PRESENT TO PROVIDE UNIT PRICING IN THE EVENT THAT AN EPOXY RESIN INJECTION SOUNDING PROVES THAT A CONCRETE REPAIR IS NECESSARY.

DRAWN BY : MTC DATE : 02-12
 CHECKED BY : JAS DATE : 02-12

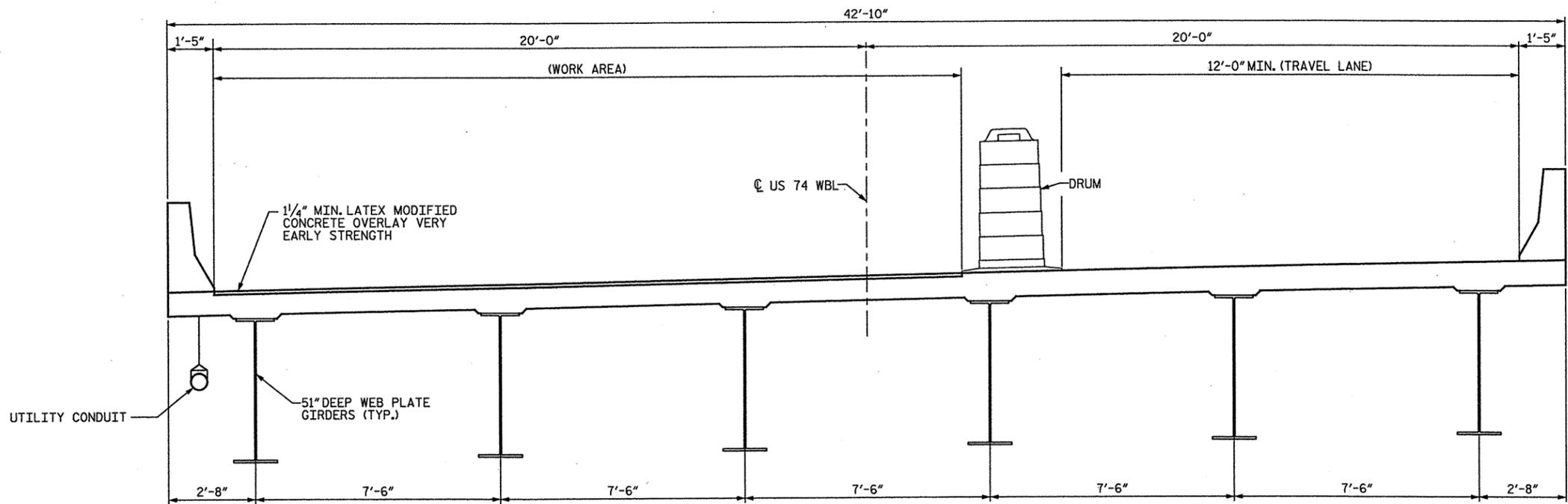
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 Charlotte, NC 28208
 NC License No. F-0991

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS S-19
2			4			

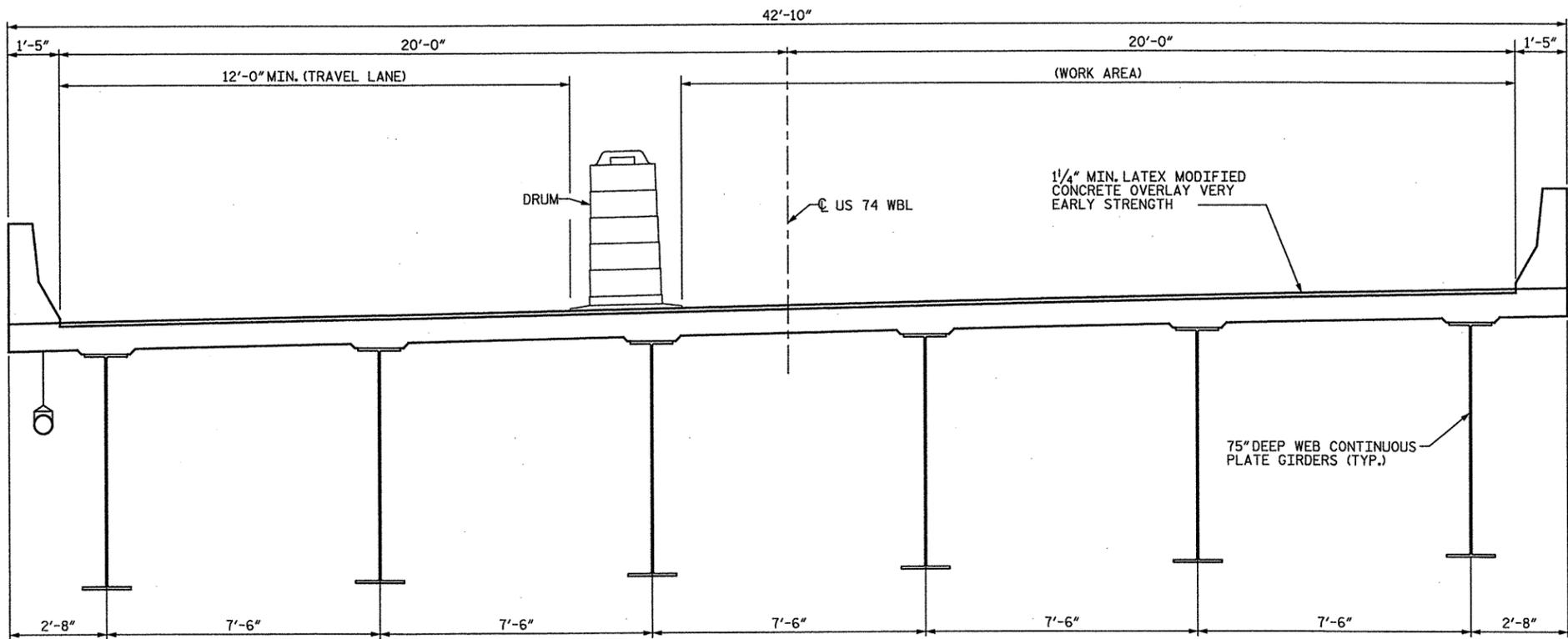
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I:\Projects\2515387\2515387_0001\50_Deliverables & Submittals\17BP.10.H1\Structures\STATION\BRIDGE-81\01 Bridge 81 Plan.Elev.dgn
 wlv
 3/8/2012



TYPICAL SECTION - STAGE I
 (SPANS A-F & K-M SHOWN, SPANS G-J SIMILAR)



TYPICAL SECTION - STAGE II
 (SPANS G-J SHOWN, SPANS A-F & K-M SIMILAR)

PROJECT NO. 17BP.10.H.1
ANSON COUNTY
 BRIDGE NO.: 81
 REHAB. OF BRIDGE NO. 81 SHEET 2 OF 11

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
TYPICAL SECTIONS
 BRIDGE ON US 74 WBL
 OVER PEE DEE RIVER

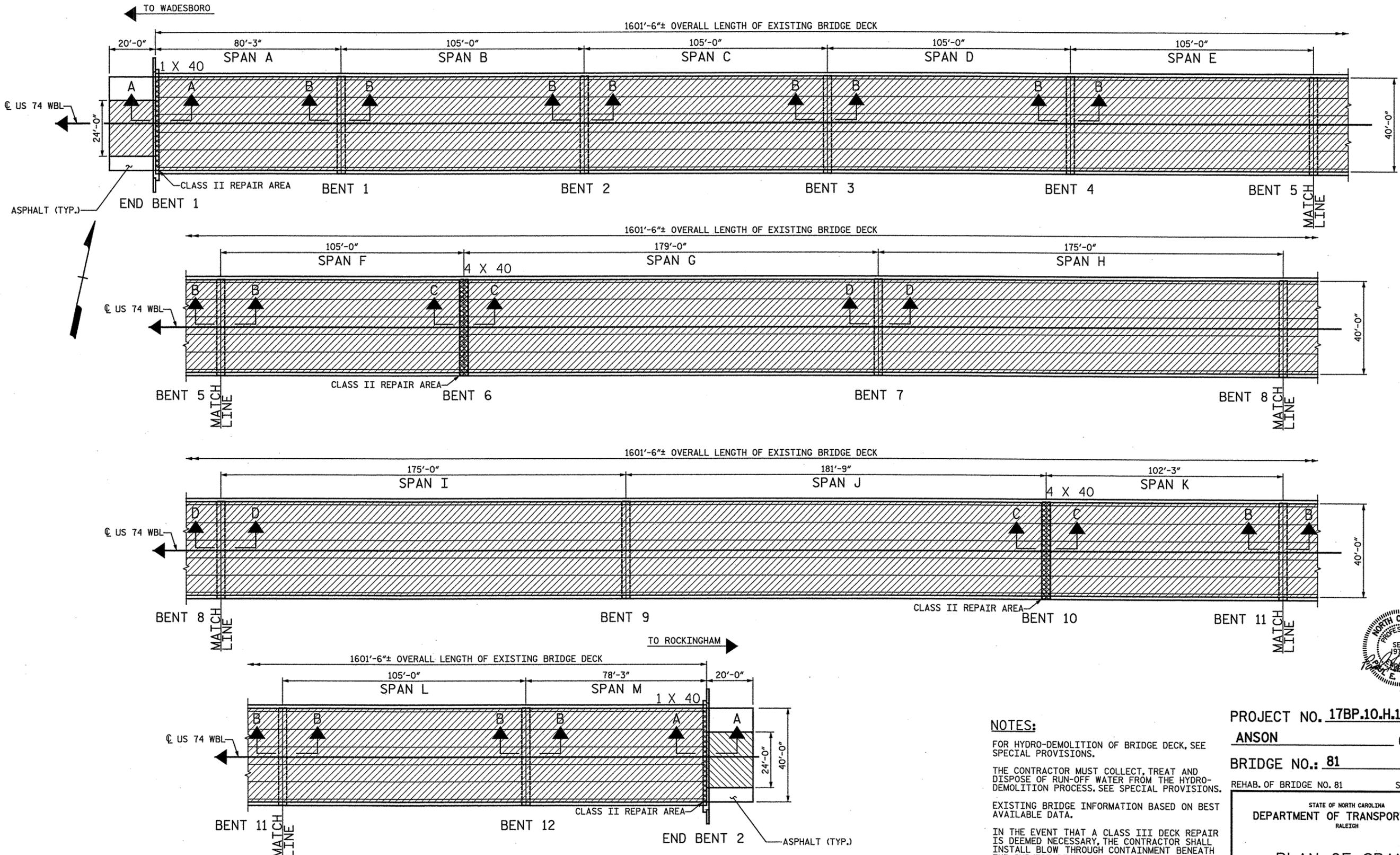


DRAWN BY : MTC DATE : 02-12
 CHECKED BY : EPS DATE : 02-12

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			TOTAL SHEETS
2			4			S-19

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PLAN OF SPANS - DECK SCARIFICATION, HYDRO-DEMOLITION & DECK REPAIRS

(CONCRETE BRIDGE FLOORS SHALL BE GROOVED IN ACCORDANCE WITH SECTION 420-14 OF THE STANDARD SPECIFICATIONS.)
(SEE SHEET S-X FOR SECTION A-A, B-B, C-C & D-D)

BRIDGE DECK SCARIFICATION & HYDRO-DEMOLITION APPROX. AREA CLASS II REPAIR

NOTES:
 FOR HYDRO-DEMOLITION OF BRIDGE DECK, SEE SPECIAL PROVISIONS.
 THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS. SEE SPECIAL PROVISIONS.
 EXISTING BRIDGE INFORMATION BASED ON BEST AVAILABLE DATA.
 IN THE EVENT THAT A CLASS III DECK REPAIR IS DEEMED NECESSARY, THE CONTRACTOR SHALL INSTALL BLOW THROUGH CONTAINMENT BENEATH THE SUBJECT DECK LOCATION. SEE BRIDGE NUMBER 88 FOR DETAILS.



PROJECT NO. 17BP.10.H.1
ANSON COUNTY
 BRIDGE NO.: 81
 REHAB. OF BRIDGE NO. 81 SHEET 3 OF 11

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPANS

BRIDGE ON US 74 WBL
 OVER PEE DEE RIVER

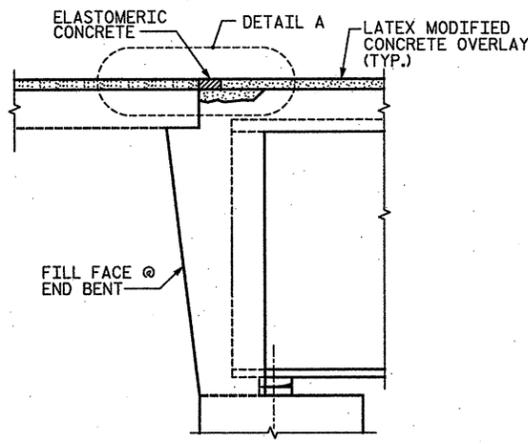
DRAWN BY : MTC DATE : 02-12
 CHECKED BY : EPS DATE : 02-12

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			S-19

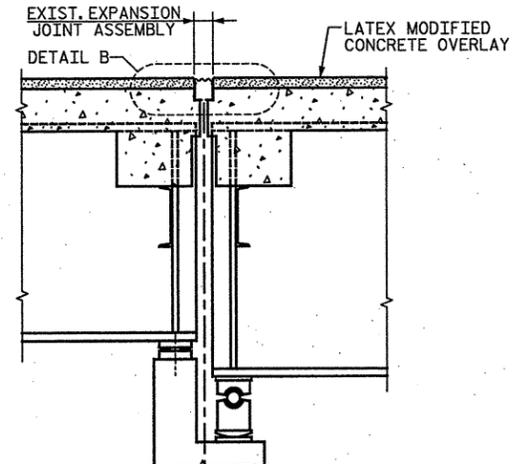
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3/14/2012



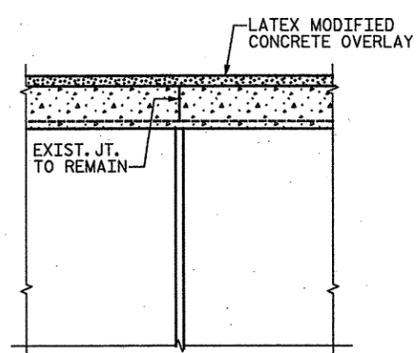
SECTION A-A

(PROPOSED JOINT @ END BENT 1 SHOWN, END BENT 2 SIMILAR)



SECTION C-C

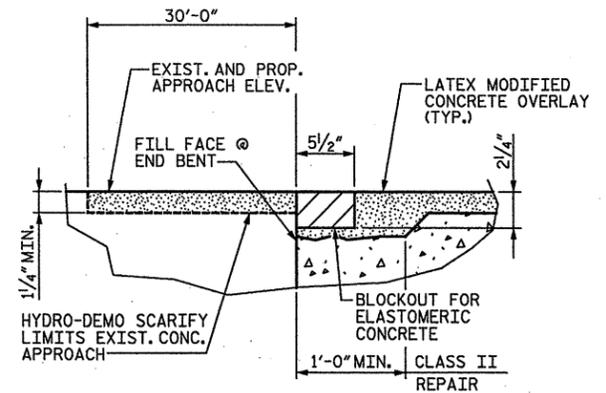
(PROPOSED JOINT @ BENTS 6 & 10)



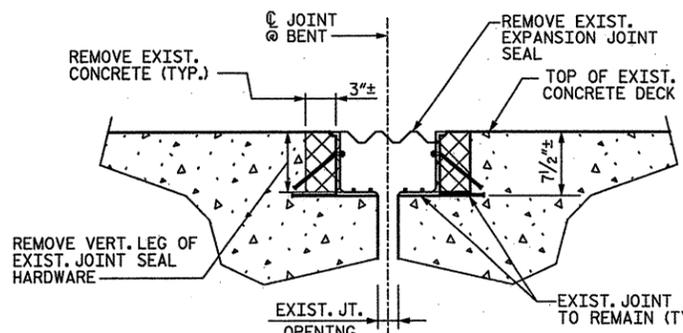
SECTION D-D

(BENTS 7, 8 & 9)

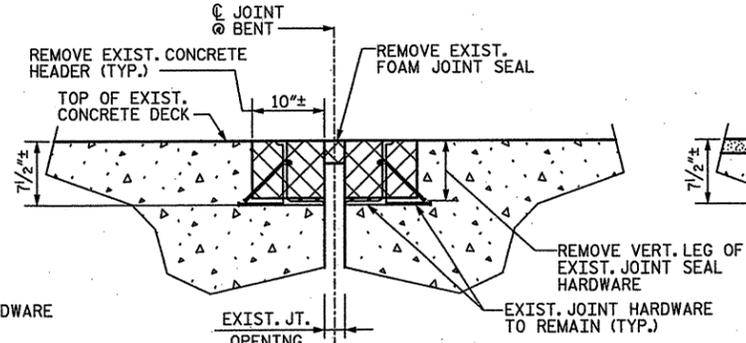
*ELASTOMERIC CONCRETE SHALL BE CAST AFTER THE LATEX MODIFIED CONCRETE OVERLAY-VERY EARLY STRENGTH HAS BEEN PLACED AND HAS REACHED SUFFICIENT STRENGTH TO CARRY LOAD. PROPOSED ELASTOMERIC CONCRETE SHALL RUN FROM GUTTER TO GUTTER. FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.



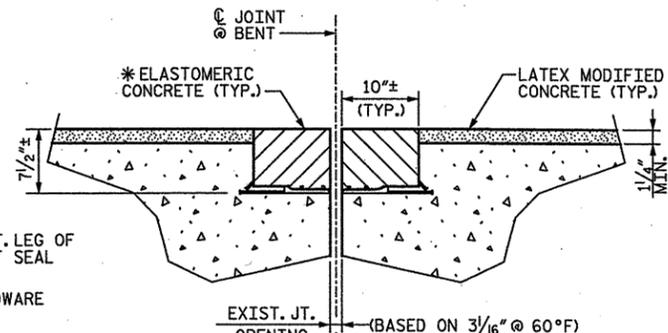
DETAIL A
(LOCATION OF JOINT TO MATCH EXISTING JOINT LOCATION)



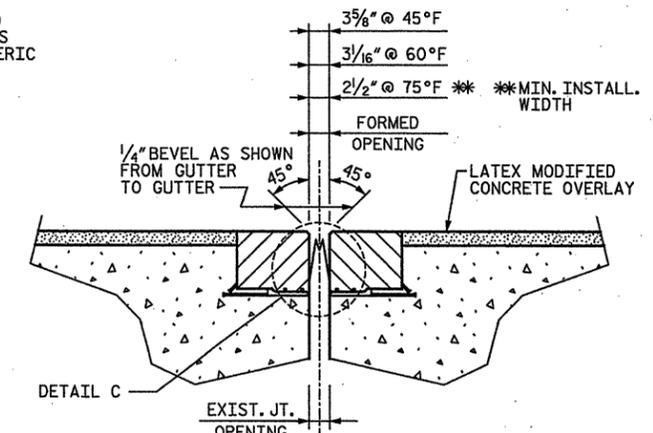
EXISTING JOINT DETAIL BENT 6



EXISTING JOINT DETAIL BENT 10



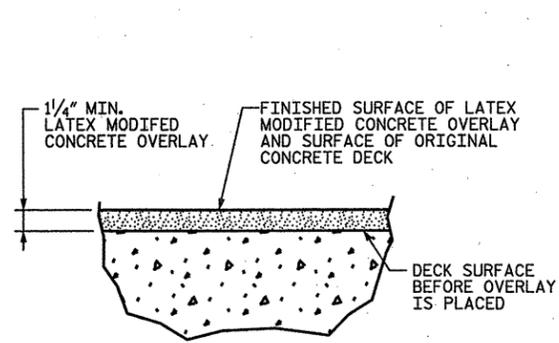
PROPOSED JOINT DETAIL (BEFORE SAWING) BENTS 6 & 10



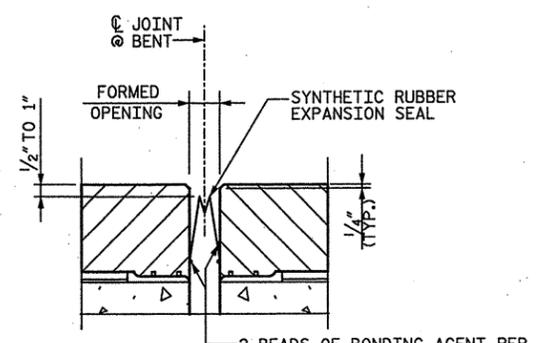
PROPOSED JOINT DETAIL (AFTER SAWING) BENTS 6 & 10

DETAIL B

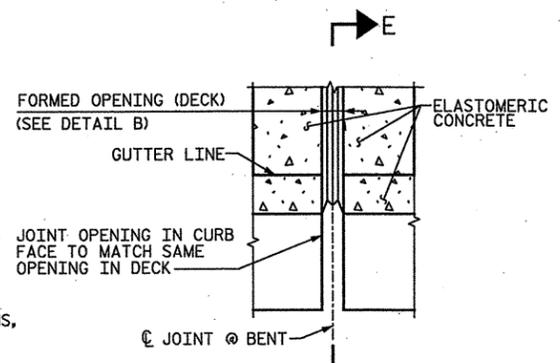
- NOTES:**
- EXISTING JOINT ASSEMBLY SHOWN ON BEST AVAILABLE INFORMATION AND MAY VARY BASED ON FIELD CONDITIONS.
 - ALL JOINT DIMENSIONS SHOWN AT 60°F.
 - SET TOP OF NEW JOINT SEAL A MINIMUM OF 1/2" AND A MAXIMUM OF 1" BELOW TOP OF PROPOSED LMC OVERLAY.



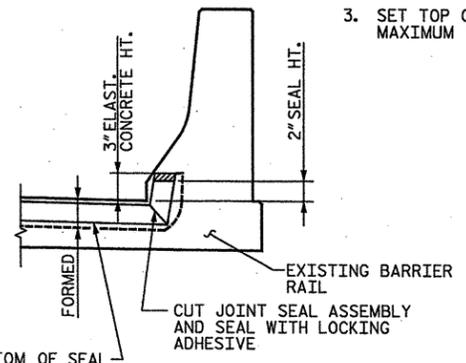
DETAIL FOR LATEX MODIFIED CONCRETE OVERLAY



DETAIL C
EXISTING JOINT DETAIL



PLAN OF JOINT SEAL AT CURB



SECTION E-E

PROJECT NO. **17BP.10.H.1**
ANSON COUNTY
BRIDGE NO.: **81**

REHAB. OF BRIDGE NO. 81 SHEET 4 OF 11

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPANS
DECK REPAIR DETAILS

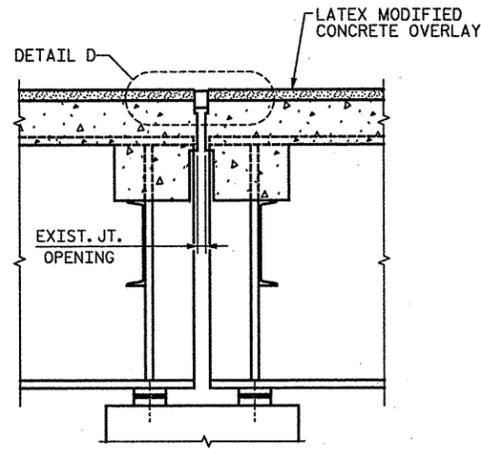
BRIDGE ON US 74 WBL
OVER PEE DEE RIVER

DRAWN BY: **MTC** DATE: **02-12**
CHECKED BY: **EPS** DATE: **02-12**

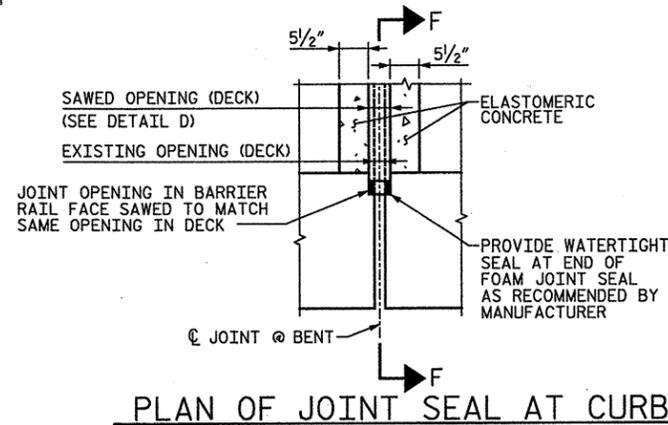
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REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-12
1			3			TOTAL SHEETS
2			4			S-19

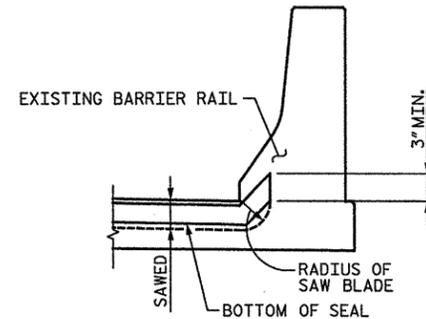
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 3/8/2012



SECTION B-B
(BENTS 1-5, 11 & 12)



PLAN OF JOINT SEAL AT CURB



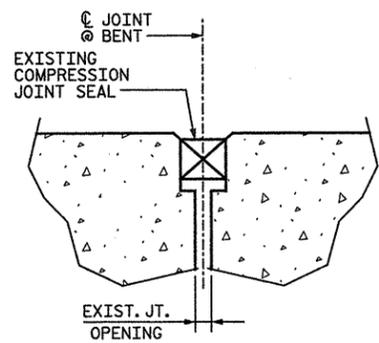
SECTION F-F

FOAM JOINT NOTES:

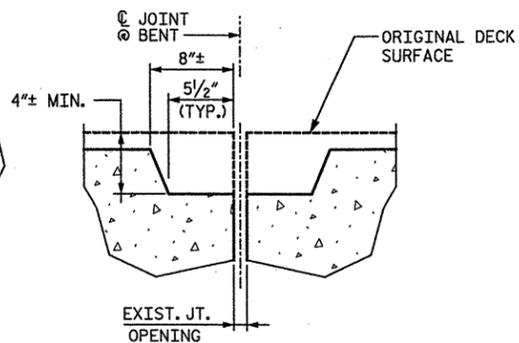
- FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
- THE INSTALLED FOAM JOINT SHALL BE WATERTIGHT.
- THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2 1/2".
- THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE FOAM JOINT SEAL IN LIEU OF SAWING THE JOINT.
- FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT DAMAGING EXISTING BRIDGE DECK. ANY NECESSARY REPAIRS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

NOTES:

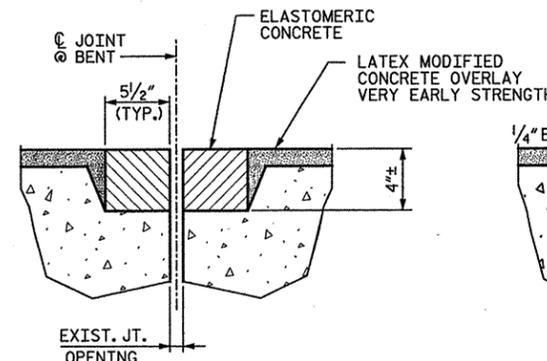
1. THE ENGINEER SHALL BE NOTIFIED OF ANY BARS DAMAGED DURING THE CONCRETE REMOVAL PROCESS DUE TO THE CONTRACTOR'S OPERATIONS. REPAIRS TO SUCH DAMAGED BARS SHALL BE AS DIRECTED BY THE ENGINEER AND COMPLETED AT NO ADDITIONAL COST TO THE DEPARTMENT.
2. HEAVILY DETERIORATED OR DAMAGED REINFORCING STEEL SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER.



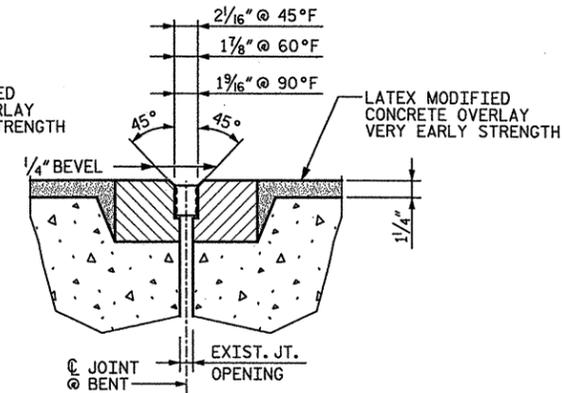
EXISTING JOINT DETAIL



MINIMUM CONCRETE REMOVAL DETAIL @ EXISTING JOINT



PROPOSED FOAM JOINT SEAL (DETAIL BEFORE SAWING)



PROPOSED FOAM JOINT SEAL (DETAIL AFTER SAWING)

DETAIL D

ELASTOMERIC CONCRETE	
BENT NO.	ELASTOMERIC CONCRETE * (CU. FT.)
1-5	61.1
11 & 12	24.4
TOTAL	85.5

* QUANTITY FOR INFORMATION ONLY

PROJECT NO. 17BP.10.H.1

ANSON COUNTY

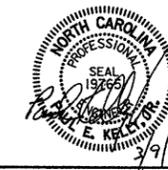
BRIDGE NO.: 81

REHAB. OF BRIDGE NO. 81 SHEET 4A OF 11

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DECK REPAIR DETAILS

BRIDGE ON US 74 WBL
OVER PEE DEE RIVER

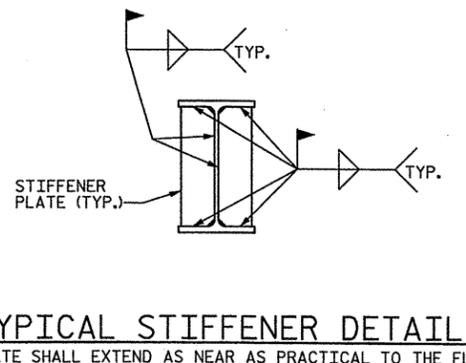
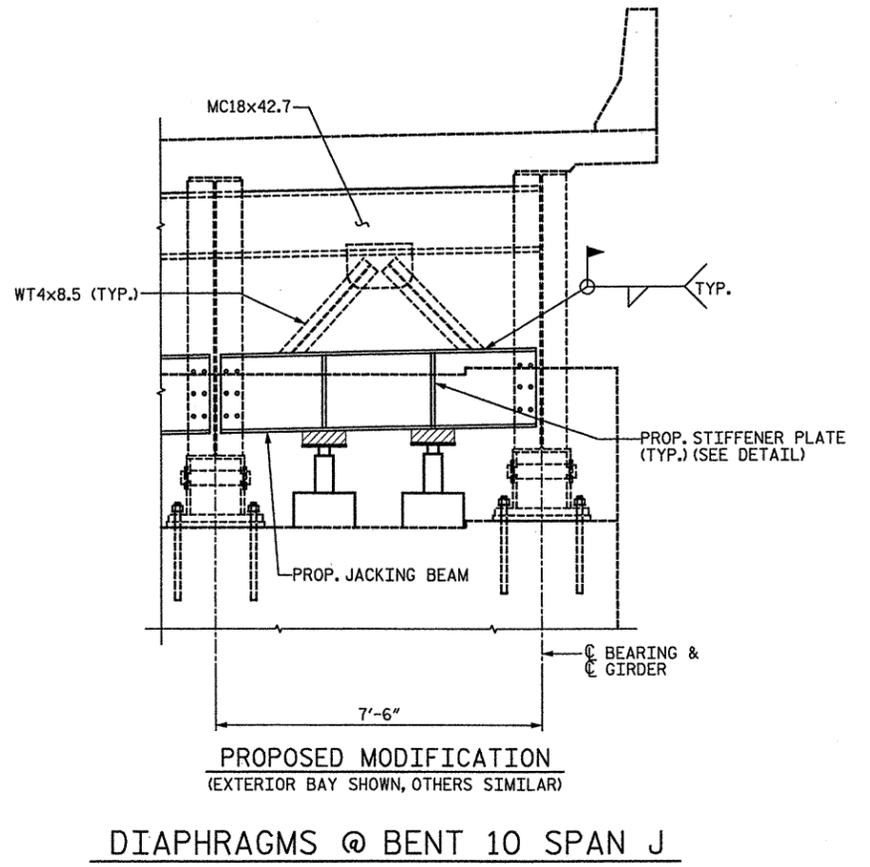
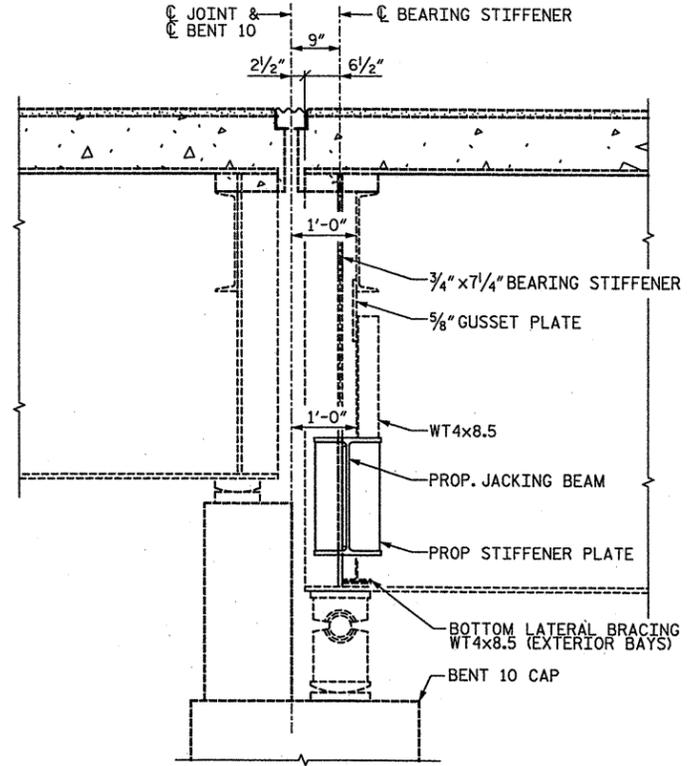
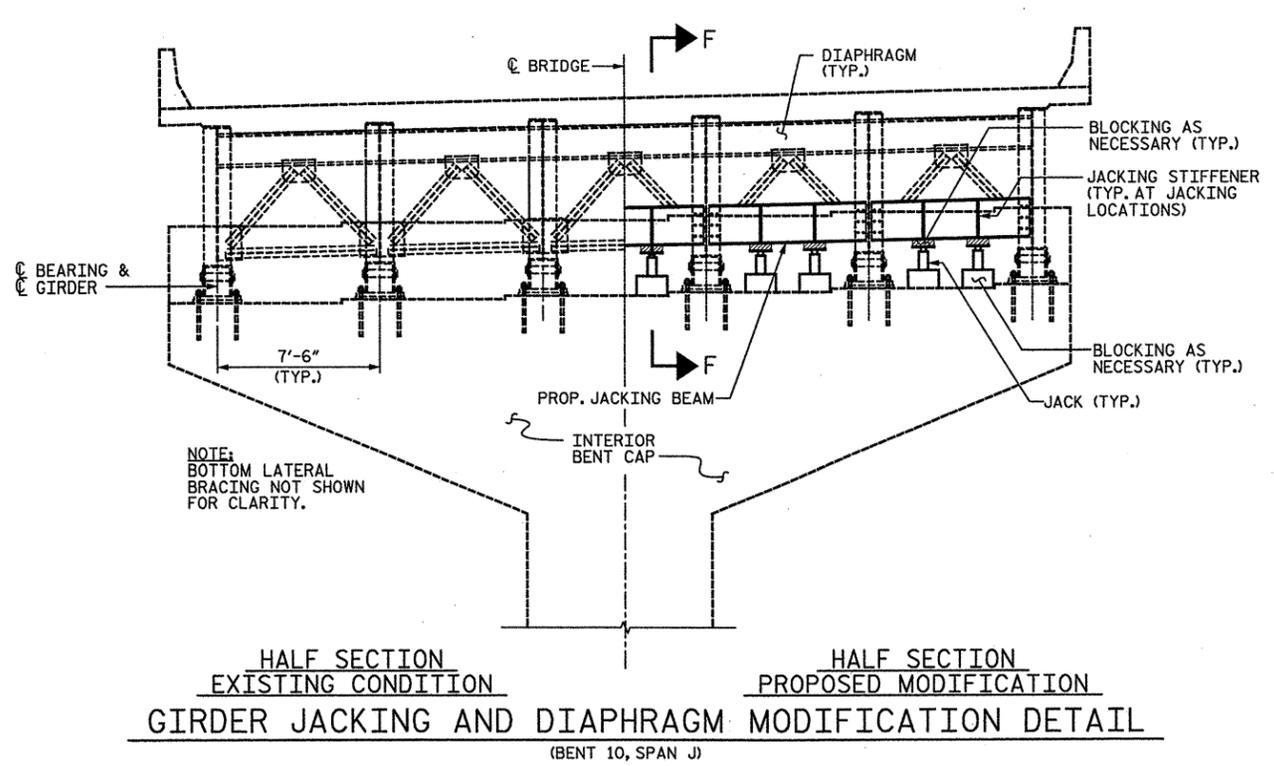


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NC License NO. F-0991

DRAWN BY: VMW DATE: 03-12
CHECKED BY: PEK DATE: 03-12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-12A
1			3			TOTAL SHEETS
2			4			S-19

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NOTES:
 1. FOR NOTES AND CONSTRUCTION SEQUENCE, SEE SHEET 6 OF 11.

PROJECT NO. 17BP.10.H.1
 ANSON COUNTY
 BRIDGE NO.: 81
 REHAB. OF BRIDGE NO. 81 SHEET 5 OF 11

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
JACKING AND DIAPHRAGM MODIFICATION
 BRIDGE ON US 74 WBL
 OVER PEE DEE RIVER



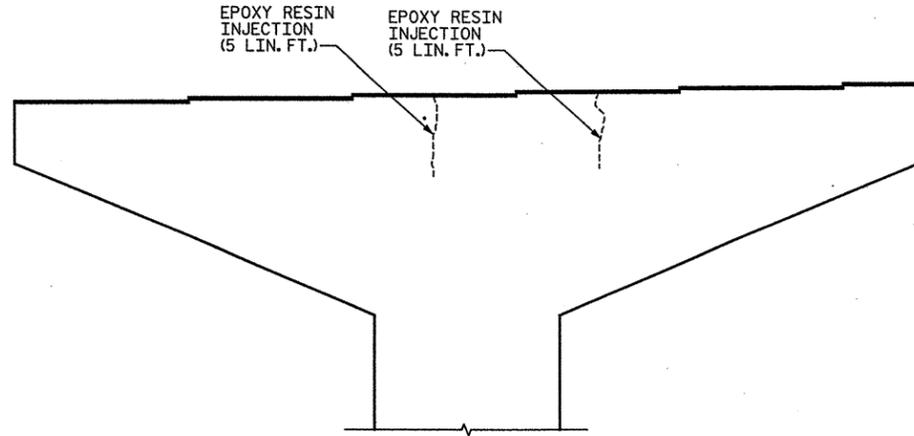
DRAWN BY : MTC DATE : 02-12
 CHECKED BY : EPS DATE : 02-12

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 Charlotte, NC 28208
 NC License No. F-0991

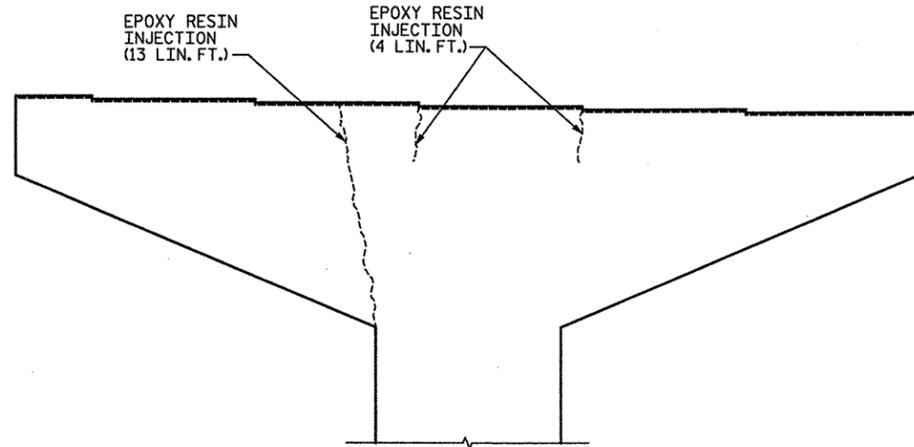
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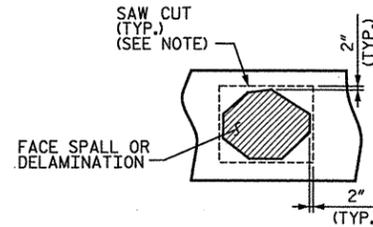
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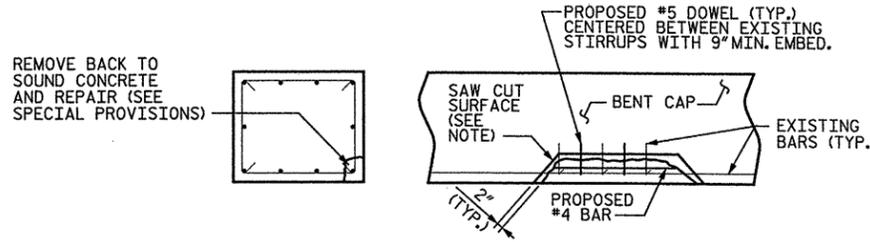
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ELEVATION OF BENT 3 - LOOKING WEST



FACE REPAIR



SECTION

ELEVATION

CORNER REPAIR

TYPICAL CONCRETE REPAIR DETAILS

NOTE: CONTRACTOR SHALL SAW CUT TO A MAXIMUM DEPTH OF 1". THIS DEPTH SHALL BE REDUCED TO PREVENT DAMAGE TO EXISTING REINFORCEMENT, BUT SHALL BE NO LESS THAN 1/2". CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

NOTES:

1. FOR CRACKS REQUIRING EPOXY RESIN INJECTION, SOUNDING MAY PROVE THAT A CONCRETE REPAIR IS NECESSARY.
2. CRACK AND REPAIR DIMENSIONS SHOWN ARE APPROXIMATE. IF PROPOSED CRACK REPAIR REQUIRES CONCRETE REPAIR THE CONTRACTOR SHALL DETERMINE ACTUAL SPALL, CRACK, AND DELAMINATION DIMENSIONS PRIOR TO MAKING REPAIRS.
3. THE ENGINEER SHALL BE NOTIFIED OF ANY BARS DAMAGED DURING THE CONCRETE REMOVAL PROCESS. REPAIRS TO DAMAGED BARS SHALL BE DIRECTED BY THE ENGINEER AND COMPLETED AT NO ADDITIONAL COSTS.
4. DOWEL LENGTH SHALL BE BASED ON A 9" EMBEDMENT INTO EXISTING CONCRETE AND MAY BE ADJUSTED BASED ON THE MINIMUM EMBEDMENT SPECIFIED BY THE MANUFACTURER OF THE EPOXY ADHESIVE BONDING SYSTEM.
5. REINFORCING STEEL SHALL BE GRADE 60.
6. SUBSTRUCTURE REPAIRS SHALL PROVIDE A MINIMUM OF 2" CLEAR COVER TO REINFORCING STEEL. REPAIRED AREAS MAY BE BUILT OUT TO ACHIEVE CLEARANCE.
7. EPOXY PROTECTIVE COATING SHALL BE APPLIED TO THE TOP OF ALL BENT CAPS AND THE COST SHALL BE INCLUDED IN THE OTHER BENT REPAIRS. FOR EPOXY COATING, SEE STANDARD SPECIFICATIONS.
8. DEBRIS SHALL BE REMOVED FROM EXISTING BENT CAPS. ALL COST ASSOCIATED WITH DEBRIS REMOVAL SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS CONTRACT PAY ITEMS.

PROJECT NO. 17BP.10.H.1

ANSON COUNTY

BRIDGE NO.: 81

REHAB. OF BRIDGE NO. 81 SHEET 7 OF 11

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**BENT 3
SUBSTRUCTURE REPAIR**

BRIDGE ON US 74 WBL
OVER PEE DEE RIVER

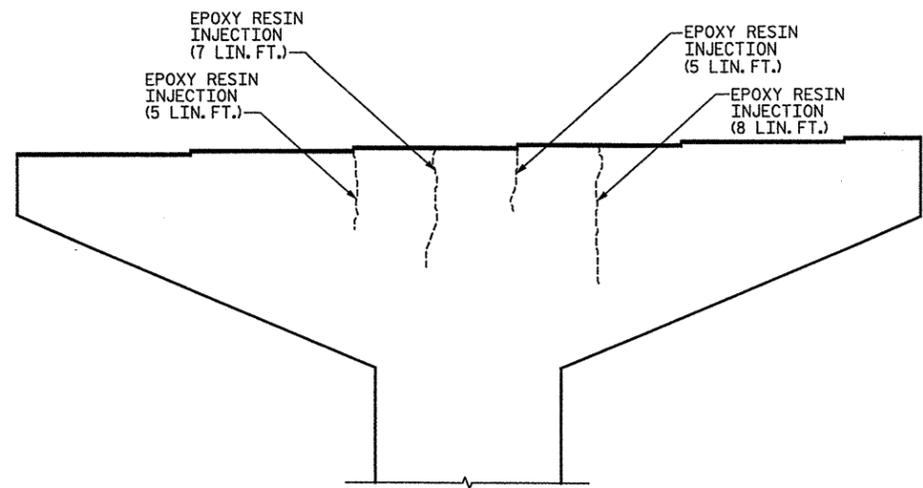


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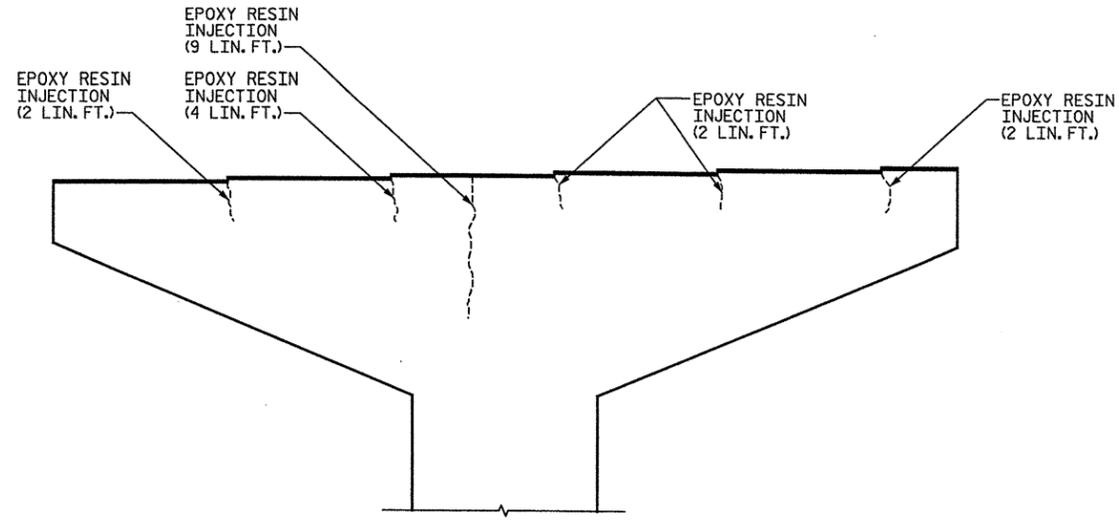
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Charlotte, NC 28208
NC License NO. F-0991

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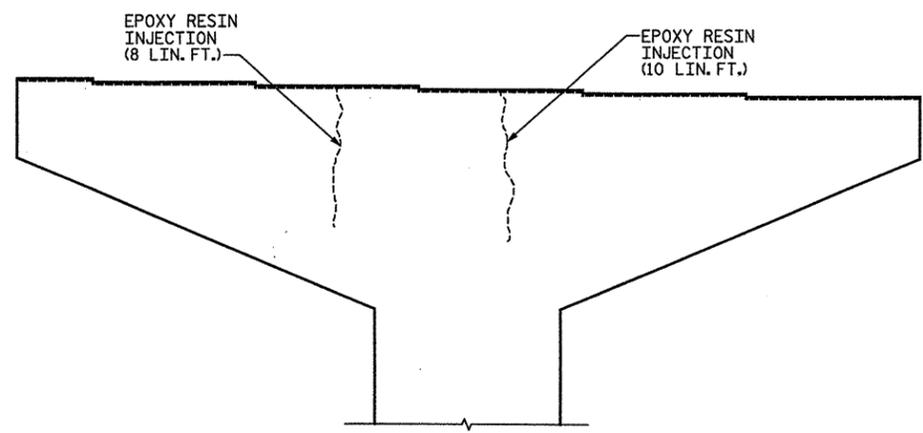
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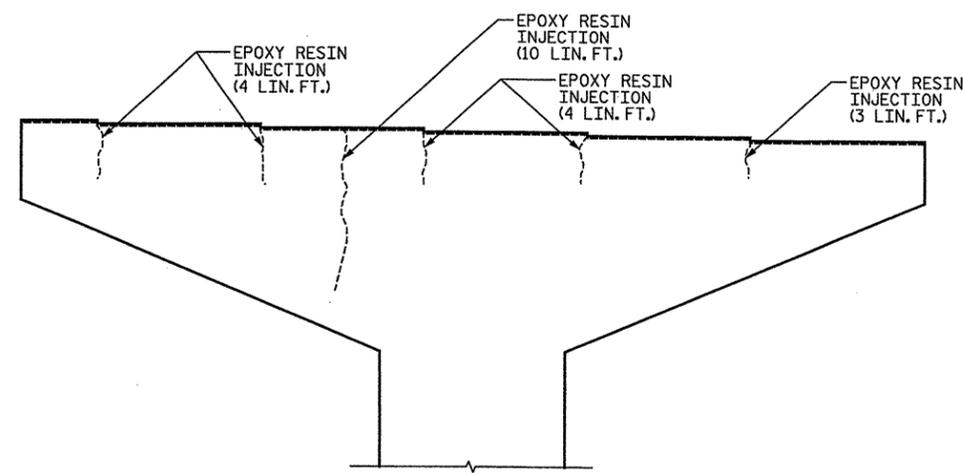
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ELEVATION OF BENT 5 - LOOKING EAST



ELEVATION OF BENT 4 - LOOKING WEST



ELEVATION OF BENT 5 - LOOKING WEST

NOTES:
 1. FOR NOTES AND TYPICAL CONCRETE REPAIR DETAILS, SEE SHEET 7 OF 11.

PROJECT NO. 17BP.10.H.1
 ANSON COUNTY
 BRIDGE NO.: 81
 REHAB. OF BRIDGE NO. 81 SHEET 8 OF 11



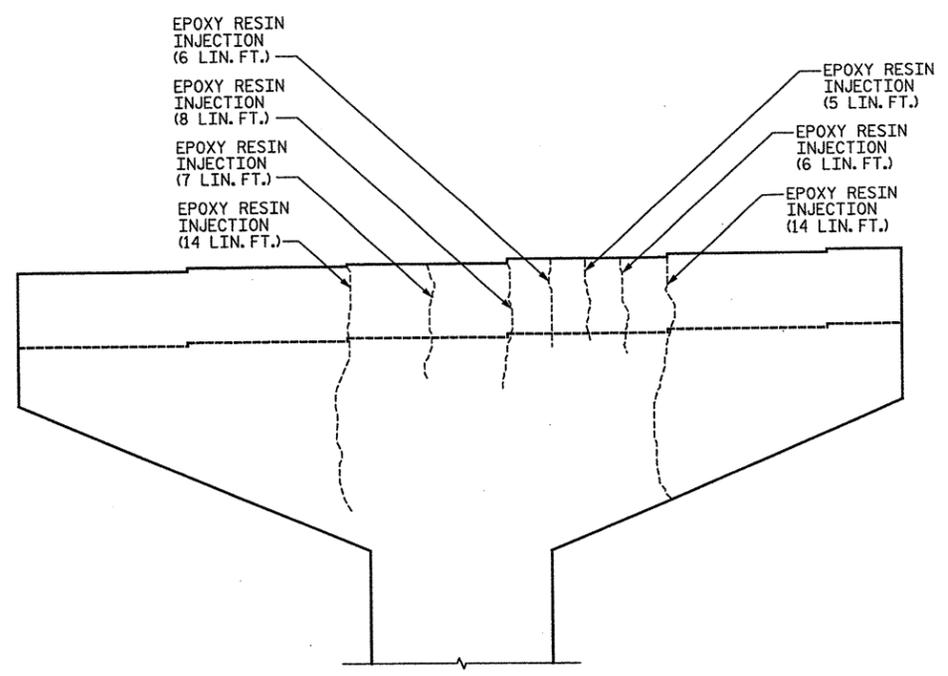
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**BENT 4 & 5
 SUBSTRUCTURE REPAIR**
 BRIDGE ON US 74 WBL
 OVER PEE DEE RIVER

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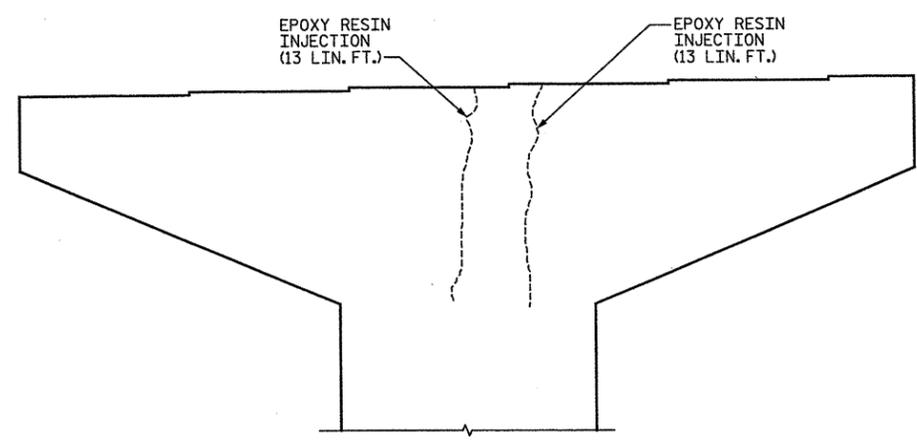
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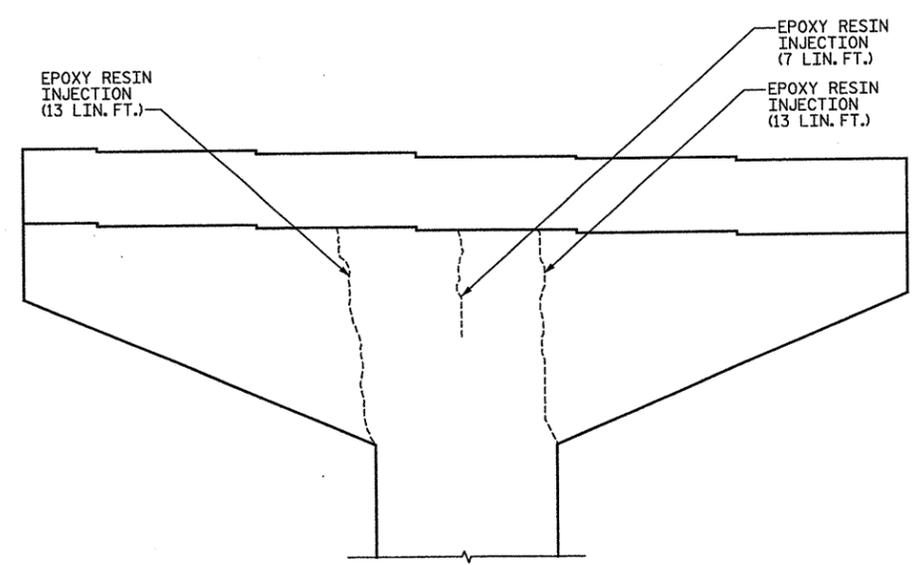
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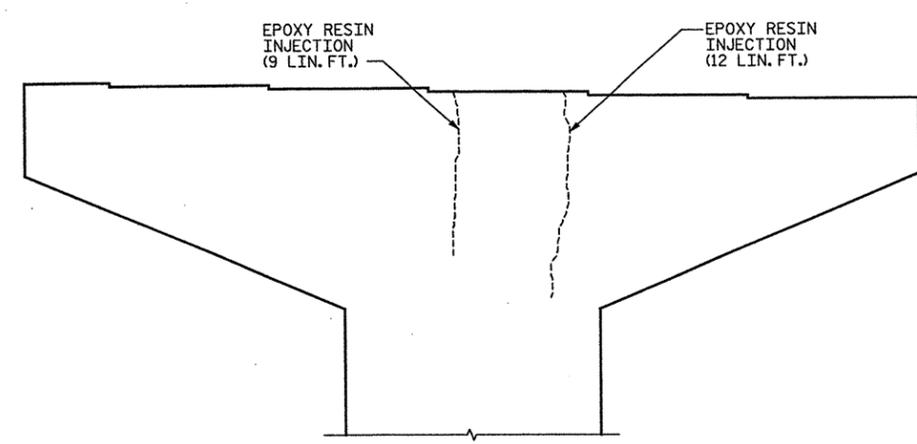
ELEVATION OF BENT 6 - LOOKING EAST



ELEVATION OF BENT 7 - LOOKING EAST



ELEVATION OF BENT 6 - LOOKING WEST



ELEVATION OF BENT 7 - LOOKING WEST

NOTES:

- FOR NOTES AND TYPICAL CONCRETE REPAIR DETAILS, SEE SHEET 7 OF 11.

PROJECT NO. 17BP.10.H.1

ANSON COUNTY

BRIDGE NO.: 81

REHAB. OF BRIDGE NO. 81 SHEET 9 OF 11

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**BENT 6 & 7
SUBSTRUCTURE REPAIR**

BRIDGE ON US 74 WBL
OVER PEE DEE RIVER

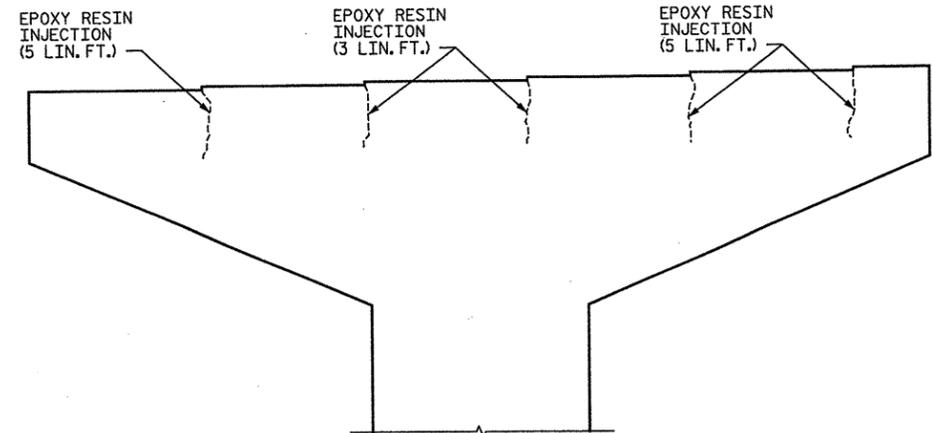


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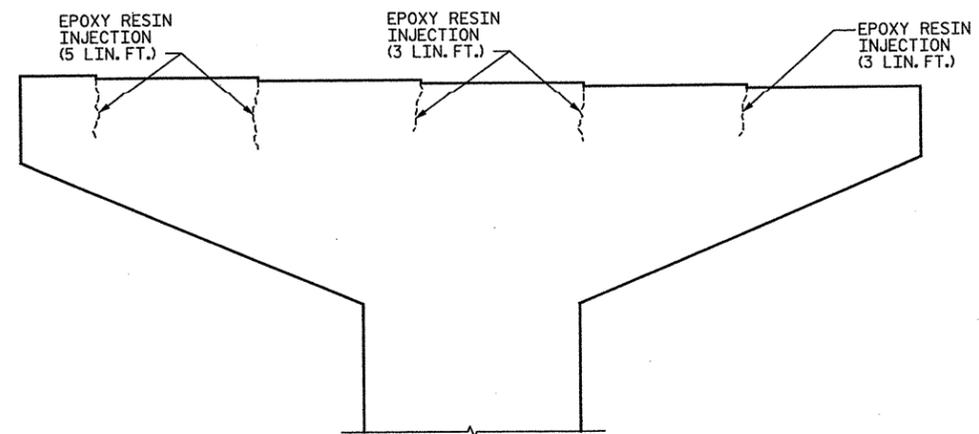
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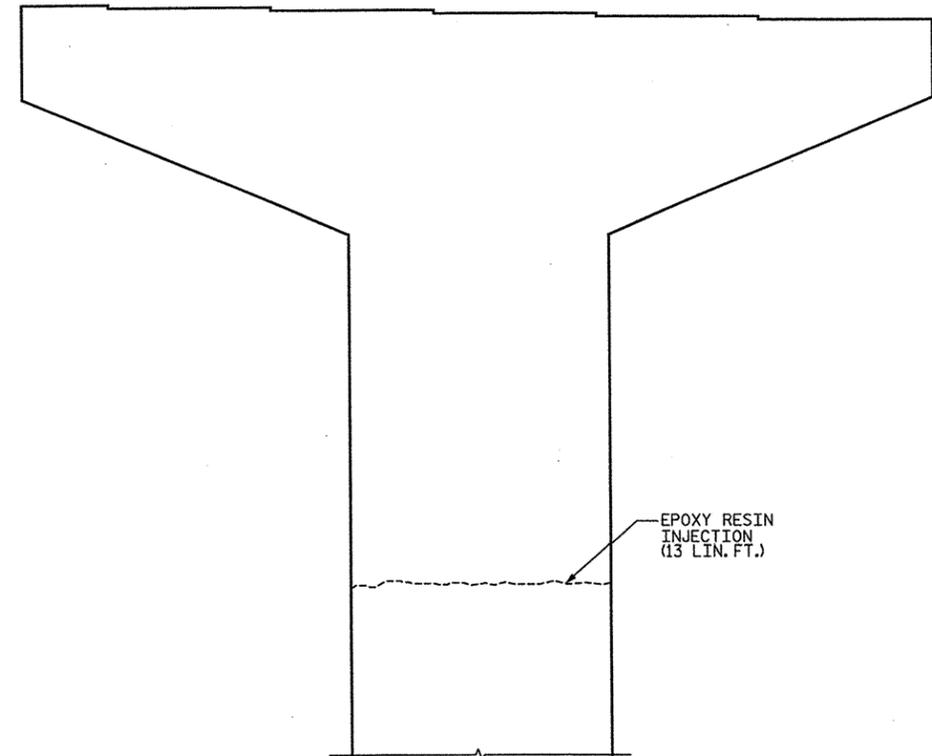
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ELEVATION OF BENT 8 - LOOKING EAST



ELEVATION OF BENT 8 - LOOKING WEST



ELEVATION OF BENT 9 - LOOKING WEST

NOTES:

- FOR NOTES AND TYPICAL CONCRETE REPAIR DETAILS, SEE SHEET 7 OF 11.

PROJECT NO. 17BP.10.H.1

ANSON COUNTY

BRIDGE NO.: 81

REHAB. OF BRIDGE NO. 81 SHEET 10 OF 11

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**BENT 8 & 9
SUBSTRUCTURE REPAIR**

BRIDGE ON US 74 WBL
OVER PEE DEE RIVER

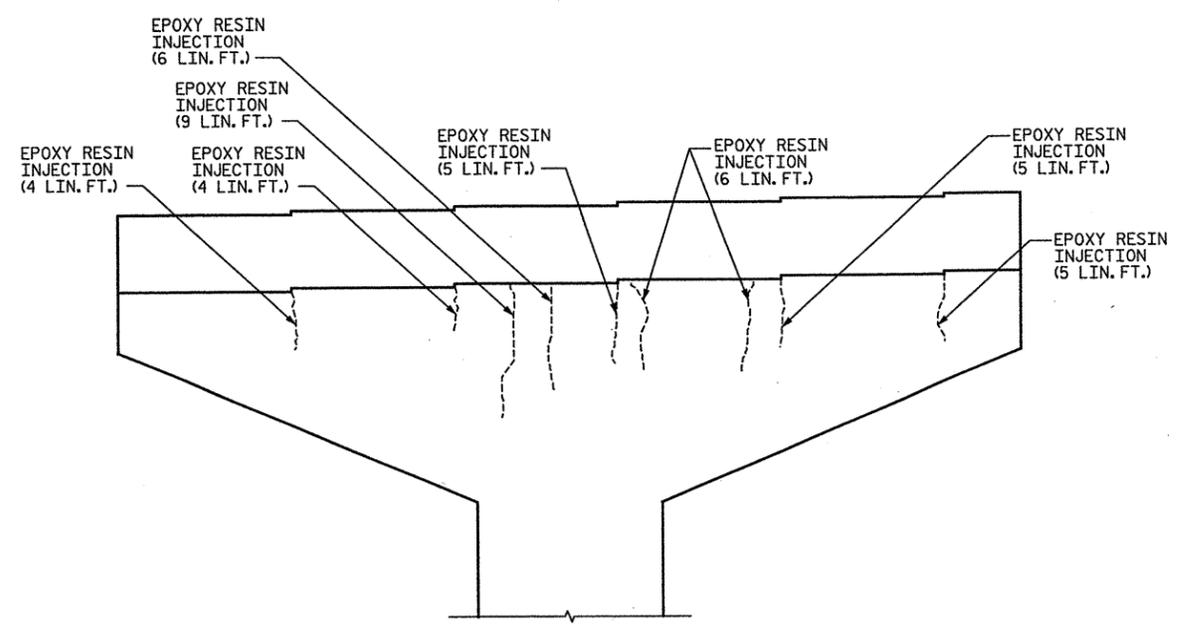


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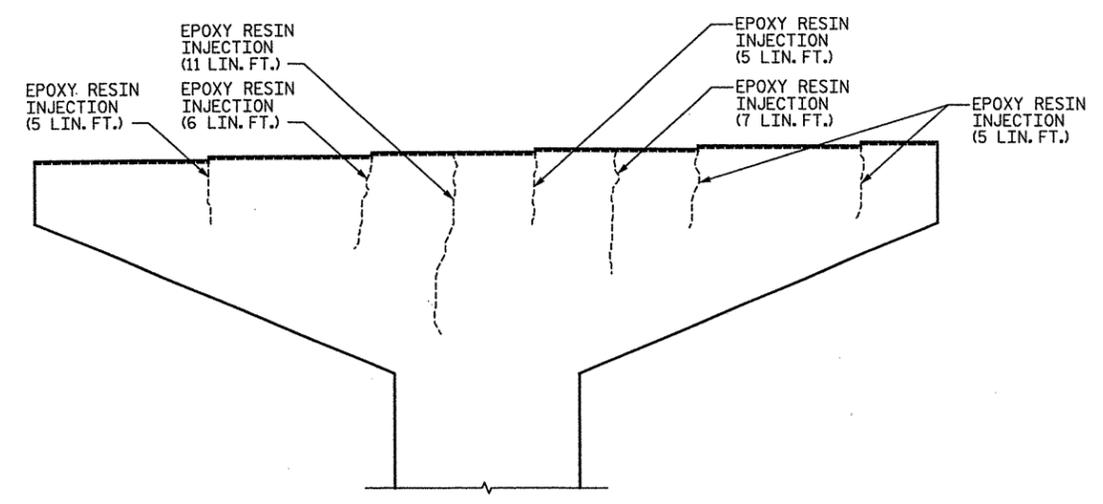
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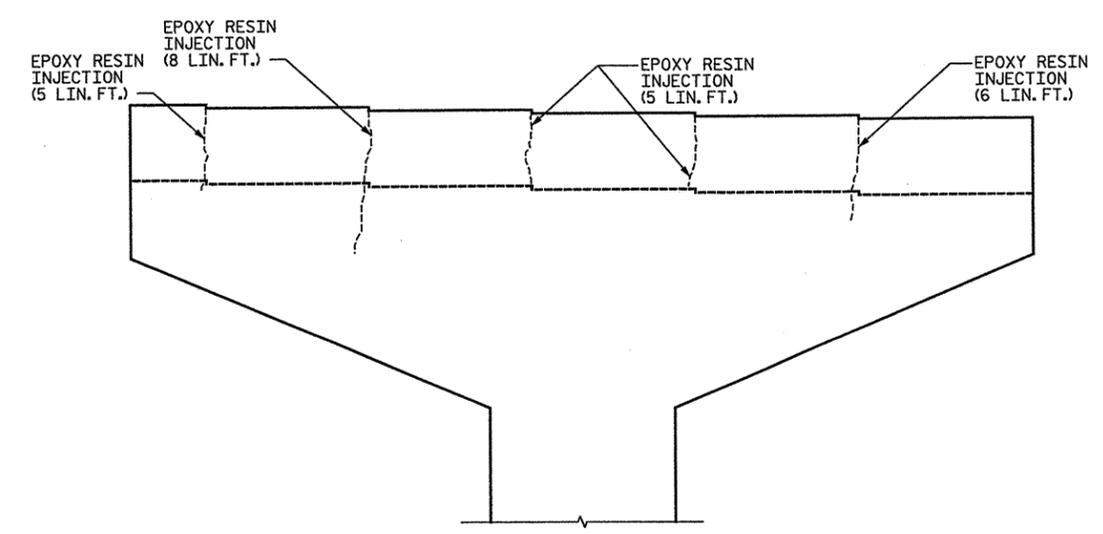
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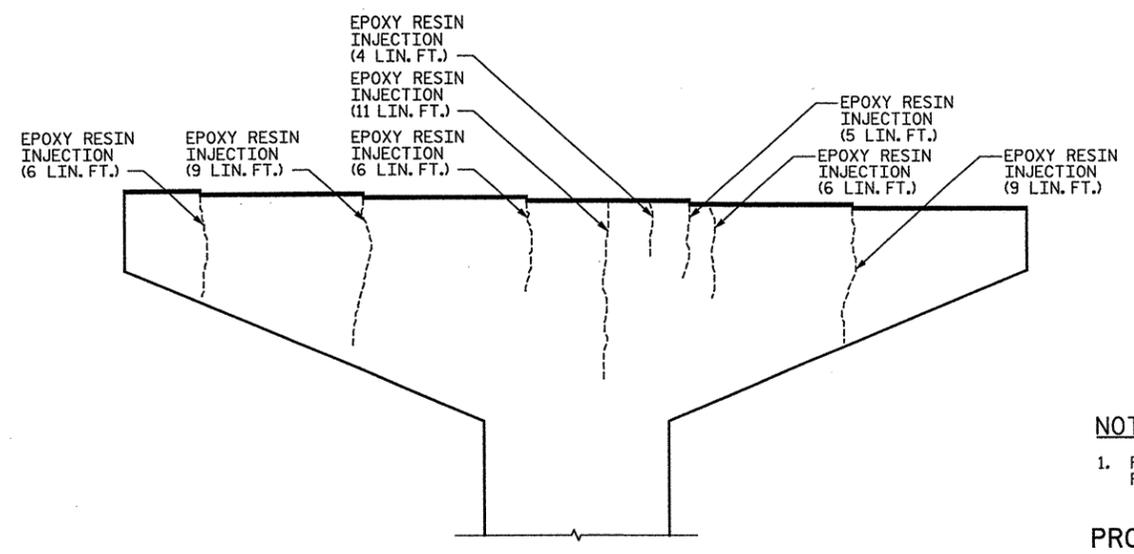
ELEVATION OF BENT 10 - LOOKING EAST



ELEVATION OF BENT 11 - LOOKING EAST



ELEVATION OF BENT 10 - LOOKING WEST



ELEVATION OF BENT 11 - LOOKING WEST

NOTES:

- FOR NOTES AND TYPICAL CONCRETE REPAIR DETAILS, SEE SHEET 7 OF 11.

PROJECT NO. 17BP.10.H.1

ANSON COUNTY

BRIDGE NO.: 81

REHAB. OF BRIDGE NO. 81 SHEET 11 OF 11

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**BENT 10 & 11
SUBSTRUCTURE REPAIR**

BRIDGE ON US 74 WBL
OVER PEE DEE RIVER



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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

**MECKLENBURG AND
ANSON COUNTIES**

DIVISION 10



LOCATION 1: MECKLENBURG COUNTY BRIDGE #88 NC 49 OVER NSRR

TYPE OF WORK: OVERLAY AND SUBSTRUCTURE REPAIR

LOCATION 2: MECKLENBURG COUNTY BRIDGE #54 NC 160 OVER NSRR

TYPE OF WORK: OVERLAY AND SUBSTRUCTURE REPAIR

LOCATION 3: ANSON COUNTY BRIDGE #81 US 74 WB OVER PEE DEE RIVER

TYPE OF WORK: OVERLAY AND SUBSTRUCTURE REPAIR

SEE SHEET 1 FOR VICINITY MAPS

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET AND INDEX OF SHEETS
TMP-1A	ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	GENERAL NOTES
TMP-1C	PHASING NOTES
TMP-2	DETAILS AND TYPICAL SECTIONS

SHEET NO.

TMP-1

PROJECT: 17BP.10.H.1

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PLAN PREPARED FOR NCDOT BRIDGE MANAGEMENT UNIT
RALEIGH, NC



STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

PROJECT ENGINEER JOHN JOHNSON, PE
DESIGN ENGINEER RICHARD ODYNSKI, PE

APPROVED: _____
DATE: _____

SEAL

2-23-12

ROADWAY STANDARD DRAWINGS

REV. SEPTEMBER 2011

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD.NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.05	WORK ZONE VEHICLE ACESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)

LEGEND

GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  EXIST. PVMT.
-  NORTH ARROW
-  PROPOSED PVMT.
-  WORK AREA
-  REMOVAL

TRAFFIC CONTROL DEVICES

-  BARRICADE (TYPE III)
-  CONE
-  DRUM  SKINNY DRUM  TUBULAR MARKER
-  TEMPORARY CRASH CUSHION
-  FLASHING ARROW BOARD (TYPE C)
-  FLAGGER
-  LAW ENFORCEMENT
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY

PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

PAVEMENT MARKERS

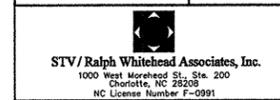
-  CRYSTAL/CRYSTAL
-  CRYSTAL/RED
-  YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

-  PAVEMENT MARKING SYMBOLS

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GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
NC 49	6:00 A.M. TO 8:00 P.M., MONDAY TO SUNDAY
NC 160	6:00 A.M. TO 8:00 P.M., MONDAY TO FRIDAY
US 74	6:00 A.M. TO 9:00 A.M. MONDAY TO THURSDAY 4:00 P.M. TO 6:00 P.M. MONDAY TO THURSDAY FRIDAY 6:00 A.M. TO SUNDAY 9:00 P.M.

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAMES
US 74, NC 49, AND NC 160

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 9:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 9:00 P.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 9:00 P.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 9:00 P.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 9:00 P.M. THE DAY AFTER INDEPENDENCE DAY.
IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 9:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 9:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 9:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
9. FOR ANY NASCAR EVENT AT THE LOWES MOTOR SPEEDWAY, BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY THE WEEK OF THE EVENT UNTIL 9:00 P.M. THE FOLLOWING MONDAY.
10. FOR ANY CAROLINA PANTHERS GAME IN CHARLOTTE AND ANY GAMES AT BOBCATS ARENA, FROM THREE HOURS BEFORE THE GAME UNTIL THREE HOURS AFTER THE GAME.
11. FOR THE DEMOCRATIC NATIONAL CONVENTION, BETWEEN AUGUST 27TH AT 6:00 A.M. UNTIL SEPTEMBER 8TH AT 6:00 A.M.

C) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- G) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

TRAFFIC PATTERN ALTERATIONS

H) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- I) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- J) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- K) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.
- L) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.
- M) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- N) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.
- O) UPON COMPLETION OF ALL OTHER CONSTRUCTION OPERATIONS, REPLACE PAVEMENT MARKINGS ON THE FINAL SURFACE WITH CONTRAST TAPE FOR SKIP LINES, RAISED PAVEMENT MARKERS, AND POLYUREA FOR ALL OTHER LINE TYPES.

MISCELLANEOUS

P) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

APPROVED: _____	DATE: _____		
SEAL			GENERAL NOTES

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PROJ. REFERENCE NO.	SHEET NO.
17BP.10.H.1	TMP-1C
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PHASING

USE NCDOT RSD. 1101.01 SHEETS 1 THRU 3 OF 3 TO INSTALL WORK ZONE ADVANCE WARNING SIGNS.

CONTRACTOR MAY WORK ON MULTIPLE PHASES OR LOCATIONS SIMULTANEOUSLY IF APPROVED BY THE ENGINEER.

SEE SHEET TMP-2 FOR TYPICAL SECTIONS OF LANE CLOSURES.

LOCATION 1 (BRIDGE #88):

- STEP 1: USING NCDOT RSD. 1101.02 SHEET 3 OF 15, INSTALL LANE CLOSURE SIGNS AND DEVICES TO CLOSE THE INSIDE LANES OF BRIDGE 88, DURING NIGHT OPERATIONS. PERFORM BRIDGE PRESERVATION WORK AS REQUIRED. AT THE END OF EACH WORK PERIOD REOPEN THE ROADWAY TO TRAFFIC.
- STEP 2: REPEAT STEP 1 UNTIL ALL WORK IS COMPLETED.
- STEP 3: USING NCDOT RSD. 1101.02 SHEET 3 OF 15, INSTALL LANE CLOSURE SIGNS AND DEVICES TO CLOSE THE INSIDE LANES OF BRIDGE 88, DURING NIGHT OPERATIONS. INSTALL FINAL PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
- STEP 4: USING NCDOT RSD. 1101.02 SHEET 3 OF 15, INSTALL LANE CLOSURE SIGNS AND DEVICES TO CLOSE THE OUTSIDE LANES OF BRIDGE 88, DURING NIGHT OPERATIONS. PERFORM BRIDGE PRESERVATION WORK AS REQUIRED. AT THE END OF EACH WORK PERIOD REOPEN THE ROADWAY TO TRAFFIC.
- STEP 5: REPEAT STEP 4 UNTIL ALL WORK IS COMPLETED.
- STEP 6: USING NCDOT RSD. 1101.02 SHEET 3 OF 15, INSTALL LANE CLOSURE SIGNS AND DEVICES TO CLOSE THE OUTSIDE LANES OF BRIDGE 88, DURING NIGHT OPERATIONS. INSTALL FINAL PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.

LOCATION 2 (BRIDGE #54):

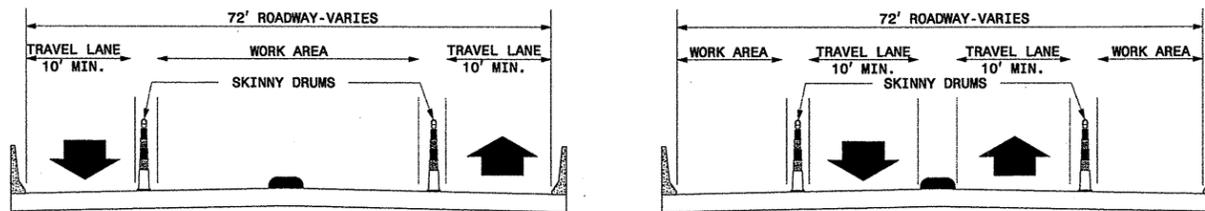
- STEP 1: USING NCDOT RSD. 1101.02 SHEET 3 OF 15, INSTALL LANE CLOSURE SIGNS AND DEVICES TO CLOSE THE OUTSIDE LANE OF BRIDGE 54. USE SHEET TMP-2 TO INSTALL SIDEWALK CLOSURE SIGNS AS NEEDED. PERFORM BRIDGE PRESERVATION WORK AS REQUIRED. AT THE END OF EACH WORK PERIOD REOPEN THE ROADWAY TO TRAFFIC.
- STEP 2: REPEAT STEP 1 UNTIL ALL WORK IS COMPLETED.
- STEP 3: USING NCDOT RSD. 1101.02 SHEET 3 OF 15, INSTALL LANE CLOSURE SIGNS AND DEVICES TO CLOSE THE OUTSIDE LANE OF BRIDGE 54. USE SHEET TMP-2 TO INSTALL SIDEWALK CLOSURE SIGNS AS NEEDED. INSTALL FINAL PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
- STEP 4: USING NCDOT RSD. 1101.02 SHEET 7 OF 15, INSTALL LANE CLOSURE SIGNS AND DEVICES TO CLOSE THE INSIDE LANES OF BRIDGE 54, DURING NIGHT OPERATIONS. PERFORM BRIDGE PRESERVATION WORK AS REQUIRED. AT THE END OF EACH WORK PERIOD REOPEN THE ROADWAY TO TRAFFIC.
- STEP 5: REPEAT STEP 4 UNTIL ALL WORK IS COMPLETED.
- STEP 6: USING NCDOT RSD. 1101.02 SHEET 7 OF 15, INSTALL LANE CLOSURE SIGNS AND DEVICES TO CLOSE THE INSIDE LANES OF BRIDGE 54, DURING NIGHT OPERATIONS. INSTALL FINAL PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.

LOCATION 3 (BRIDGE #81):

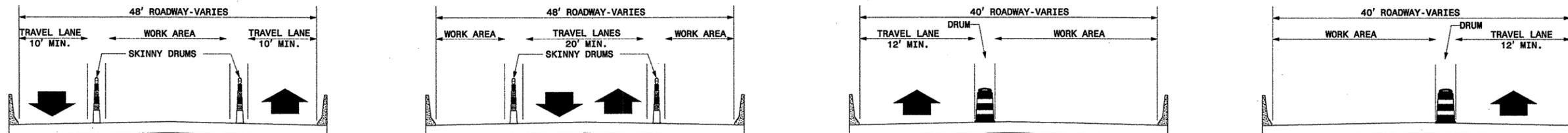
- STEP 1: USING NCDOT RSD. 1101.02 SHEET 4 OF 15, INSTALL LANE CLOSURE SIGNS AND DEVICES TO CLOSE THE OUTSIDE LANE OF BRIDGE 81, DURING NIGHT OPERATIONS. PERFORM BRIDGE PRESERVATION WORK AS REQUIRED. AT THE END OF EACH WORK PERIOD REOPEN THE ROADWAY TO TRAFFIC.
- STEP 2: REPEAT STEP 1 UNTIL ALL WORK IS COMPLETED.
- STEP 3: USING NCDOT RSD. 1101.02 SHEET 4 OF 15, INSTALL LANE CLOSURE SIGNS AND DEVICES TO CLOSE THE OUTSIDE LANE OF BRIDGE 81, DURING NIGHT OPERATIONS. INSTALL FINAL PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
- STEP 4: USING NCDOT RSD. 1101.02 SHEET 4 OF 15, INSTALL LANE CLOSURE SIGNS AND DEVICES TO CLOSE THE INSIDE LANE OF BRIDGE 81, DURING NIGHT OPERATIONS. PERFORM BRIDGE PRESERVATION WORK AS REQUIRED. AT THE END OF EACH WORK PERIOD REOPEN THE ROADWAY TO TRAFFIC.
- STEP 5: REPEAT STEP 4 UNTIL ALL WORK IS COMPLETED.
- STEP 6: USING NCDOT RSD. 1101.02 SHEET 4 OF 15, INSTALL LANE CLOSURE SIGNS AND DEVICES TO CLOSE THE INSIDE LANE OF BRIDGE 81, DURING NIGHT OPERATIONS. INSTALL FINAL PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.

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APPROVED: _____ DATE: _____ <div style="text-align: center;">  SEAL 2-23-12 </div>	 DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL	<h3>PHASING NOTES</h3>
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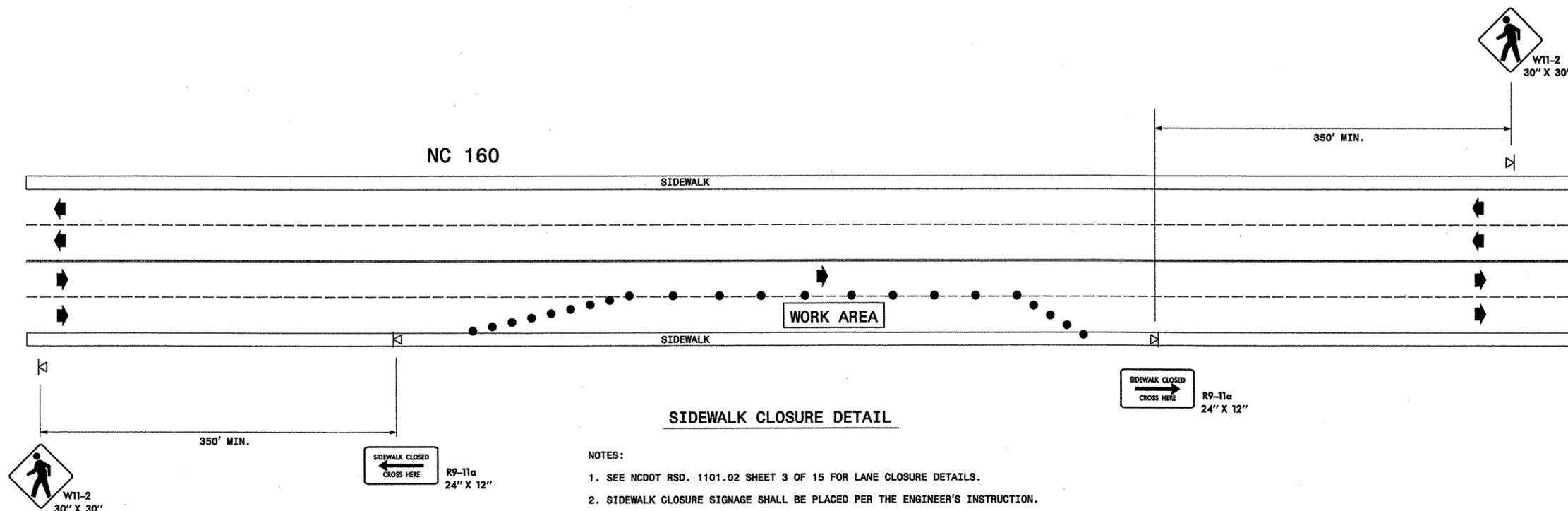


TYPICAL SECTIONS ON BRIDGE 88



TYPICAL SECTIONS ON BRIDGE 54

TYPICAL SECTIONS ON BRIDGE 81



APPROVED: _____ DATE: _____	 DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL	DETAILS AND TYPICAL SECTIONS
 SEAL HOWARD A. O'DONOGHUE 2-25-12		

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 2006 "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 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

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

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

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

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

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

REINFORCING STEEL:

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

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

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" 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 FLAT 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