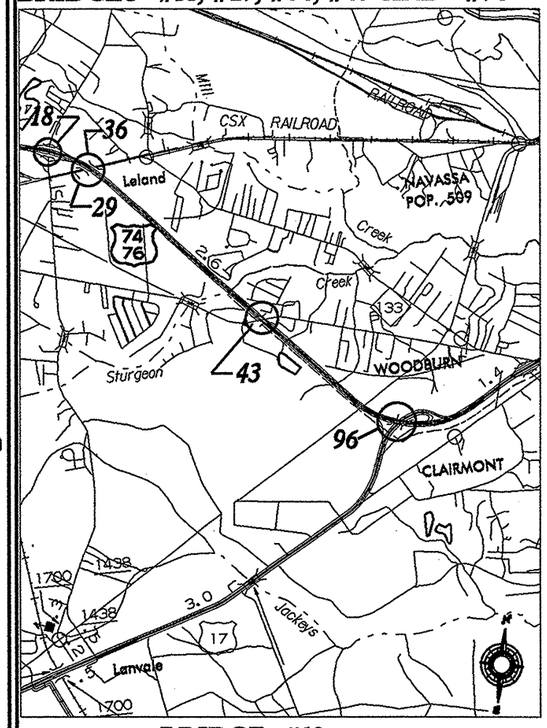
PROJECT: 17BP.3.P.3

CONTRACT: C203074

BRUNSWICK

BRIDGES #18, #29, #36, #43 AND #96



STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.3.P.3	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
17BP.3.P.3		P.E.
17BP.3.P.3		CONST.

BRUNSWICK AND DUPLIN COUNTIES

LOCATION: *BRIDGE #18, BRUNSWICK CO., ON SR1426 ACROSS US74/US76*
BRIDGE #43, BRUNSWICK CO., ON SR1437 ACROSS US74/US76
BRIDGE #96, BRUNSWICK CO., ON US17 ACROSS US74/US76

BRIDGE #182, DUPLIN CO., ON SR1961 ACROSS NE CAPE FEAR RIVER
BRIDGE #426, DUPLIN CO., ON SR1162 ACROSS I40

TYPE OF WORK: *BRIDGE PRESERVATION WITH EPOXY OVERLAY AND JOINT REPLACEMENT.*

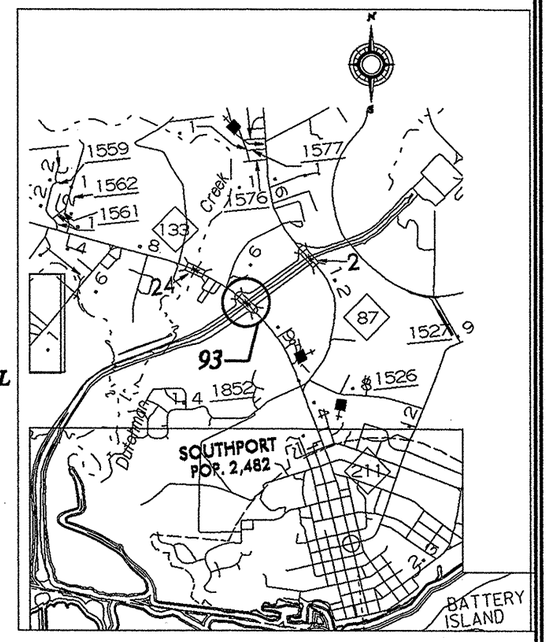
LOCATION: *BRIDGE #29, BRUNSWICK CO., ON US74 & US 76 ACROSS SR1472 & CSX RR*
BRIDGE #36, BRUNSWICK CO., ON US74/US76 WBL ACROSS SR1427 & CSX RR

TYPE OF WORK: *BRIDGE PRESERVATION WITH LATEX MODIFIED CONCRETE AND JOINT REPLACEMENT.*

LOCATION: *BRIDGE #93, BRUNSWICK CO., ON NC211 ACROSS PROGRESS ENERGY DISCHARGE CANAL*

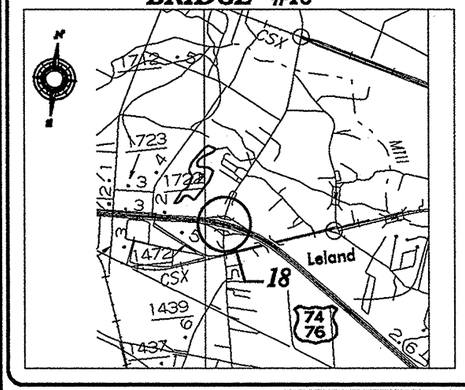
TYPE OF WORK: *BRIDGE PRESERVATION WITH EPOXY OVERLAY, JOINT REPLACEMENT AND GIRDER REPAIR.*

BRIDGE #93

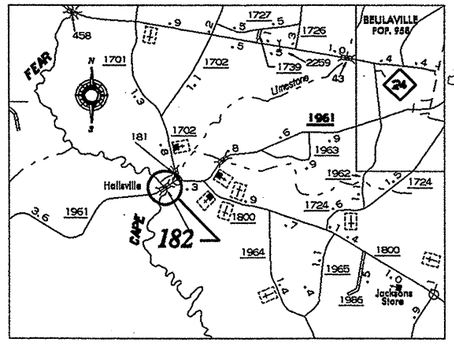


BRUNSWICK

BRIDGE #18

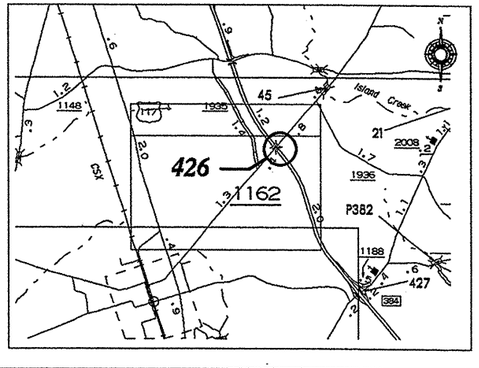


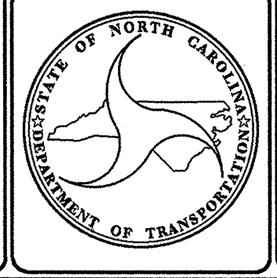
BRIDGE #182



DUPLIN

BRIDGE #426





DESIGN DATA

BRUNSWICK
#18 ADT 2009 = 1500
#29 ADT 2009 = 10000
#36 ADT 2008 = 11500
#43 ADT 2009 = 5200
#93 ADT 2009 = 18000
#96 ADT 2009 = 29000

DUPLIN
#182 ADT 2009 = 1400
#426 ADT 2009 = 1600

PROJECT LENGTH

BRIDGE BRUNSWICK #18	=	.063 MILE
BRIDGE BRUNSWICK #29	=	.073 MILE
BRIDGE BRUNSWICK #36	=	.073 MILE
BRIDGE BRUNSWICK #43	=	.080 MILE
BRIDGE BRUNSWICK #93	=	.080 MILE
BRIDGE BRUNSWICK #96	=	.088 MILE
BRIDGE DUPLIN #182	=	.072 MILE
BRIDGE DUPLIN #426	=	.038 MILE

Prepared in the Office of:

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURES MANAGEMENT UNIT - PRESERVATION & REPAIR GROUP
1000 BIRCH RIDGE DR. RALEIGH, N.C. 27610

RICK NELSON, P.E.

2012 STANDARD SPECIFICATIONS

LETTING DATE:
JUNE 19, 2012

FARZIN ASEFNIA, P.E.
PROJECT DESIGN ENGINEER

PROJECT: 17BP.3.P.3

CONTRACT: C203074

SAMPSON

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.3.P.3	1A	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
17BP.3.P.3		P.E.
17BP.3.P.3		CONST.

PENDER AND SAMPSON COUNTIES

LOCATION: *BRIDGE #38, PENDER CO., ON NC210 ACROSS BIG BRANCH OVERFLOW*
BRIDGE #73, PENDER CO., ON SR1318 ACROSS NE CAPE FEAR RIVER

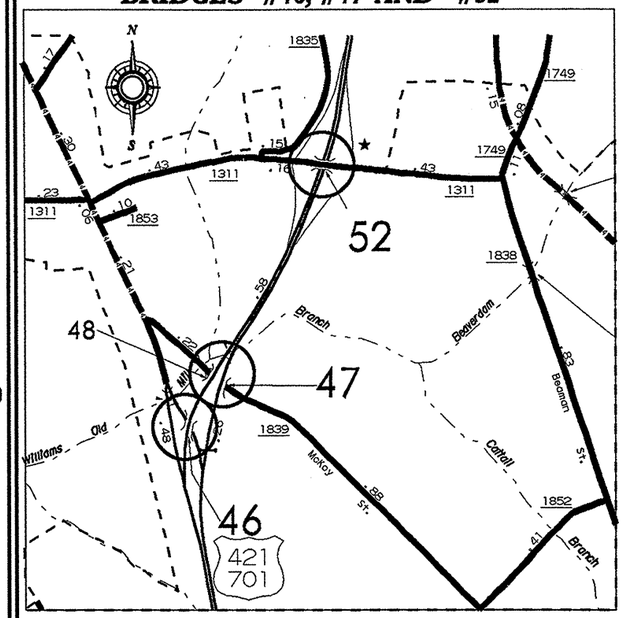
BRIDGE #41, SAMPSON CO., ON US701 BYP. ACROSS US421 & US701 NBL.
BRIDGE #46, SAMPSON CO., ON US701 BYP ACROSS US421 NBL.
BRIDGE #47 SAMPSON CO., ON US701 BYP. ACROSS SR1839
BRIDGE #52 SAMPSON CO., ON SR1311 ACROSS US701

TYPE OF WORK: *BRIDGE PRESERVATION WITH EPOXY OVERLAY AND JOINT REPLACEMENT.*

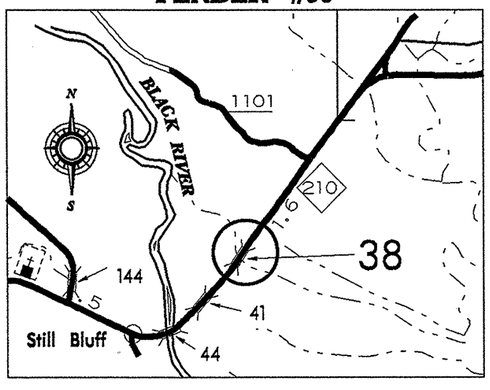
LOCATION: *BRIDGE #53, SAMPSON CO., ON SR1214 ACROSS US421/US701 BYP.*
BRIDGE #55, SAMPSON CO., ON SR1227 ACROSS US421/US701 BYP.
BRIDGE #57, SAMPSON CO., ON SR1226 ACROSS US421/US701BYP.

TYPE OF WORK: *BRIDGE PRESERVATION WITH LATEX MODIFIED CONCRETE AND JOINT REPLACEMENT.*

BRIDGES #46, #47 AND #52

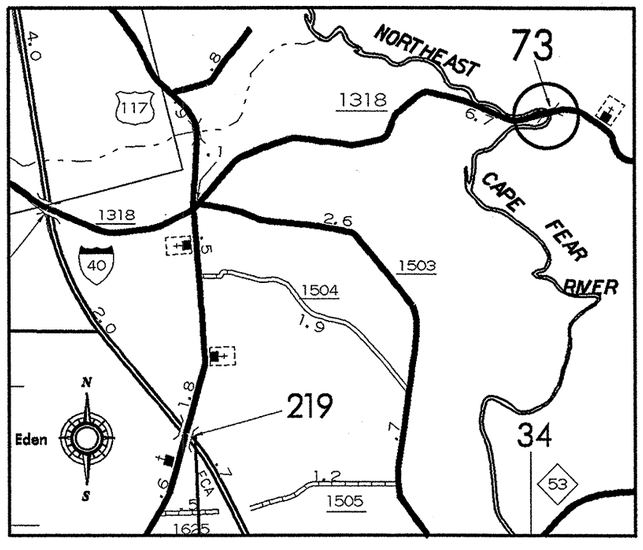


PENDER #38

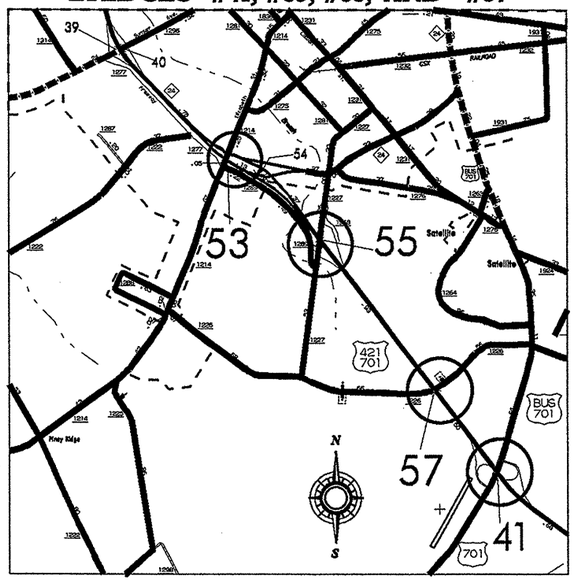


PENDER

PENDER #73



BRIDGES #41, #53, #55, AND #57



SAMPSON

DESIGN DATA

PENDER
#38 ADT 2009 = 1900
#73 ADT 2009 = 400

SAMPSON
#41 ADT 2008 = 5500
#46 ADT 2008 = 6800
#47 ADT 2008 = 3400
#52 ADT 2008 = 8600
#53 ADT 2008 = 2300
#55 ADT 2008 = 1900
#57 ADT 2008 = 2000

PROJECT LENGTH

BRIDGE PENDER #38	=	.022 MILE
BRIDGE PENDER #73	=	.076 MILE
BRIDGE SAMPSON #41	=	.048 MILE
BRIDGE SAMPSON #46	=	.040 MILE
BRIDGE SAMPSON #47	=	.033 MILE
BRIDGE SAMPSON #52	=	.048 MILE
BRIDGE SAMPSON #53	=	.063 MILE
BRIDGE SAMPSON #55	=	.063 MILE
BRIDGE SAMPSON #57	=	.044 MILE

Prepared in the Office of:
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURES MANAGEMENT UNIT - PRESERVATION & REPAIR GROUP
1000 BIRCH RIDGE DR. RALEIGH, N.C. 27610

RICK NELSON, P.E.
PROJECT ENGINEER

2012 STANDARD SPECIFICATIONS

LETTING DATE:
JUNE 19, 2012

NORTH CAROLINA PROFESSIONAL SEAL 20103 ENGINEER FARZIN ASEFNIA

FARZIN ASEFNIA, P.E.
PROJECT DESIGN ENGINEER

PROJECT: 17BP.3.P.3

CONTRACT: C203074

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.3.P.3	1B	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
17BP.3.P.3		P.E.
17BP.3.P.3		CONST.

BRUNSWICK, DUPLIN, PENDER AND SAMPSON COUNTIES

LOCATION: BRUNSWICK 18 – SR 1426 (LANVALE RD.) OVER US74/US76
BRUNSWICK 29 – US 74/76 EAST OVER SR 1472 (VILLAGE RD.) AND RAILROAD
BRUNSWICK 36 – US 74/76 WEST OVER SR 1472 (VILLAGE RD.) AND RAILROAD
BRUNSWICK 43 – SR 1437 (OLD FAYETVILLE RD.) OVER US74/US76
BRUNSWICK 93 – NC 211 OVER DUTCHMAN CREEK (PROGRESS ENERGY DISCHARGE CANAL)
BRUNSWICK 96 – US 17 OVER US74/76

DUPLIN 182 – SR 1961 (HALLSVILLE RD.) OVER NE CAPE FEAR RIVER
DUPLIN 426 – SR 1162 (BAY RD.) OVER 140

PENDER 38 – NC 210 OVER BIG BRANCHE OVERFLOW
PENDER 73 – SR 1318 (CROOMSBRIDGE RD.) OVER NE CAPE FEAR RIVER

SAMPSON 41 – US 701 BYP (GARLAND HWY.) OVER US 701 NBL/US 421 (FAIRCLOTH RD.)
SAMPSON 46 – US 701 BYP SBL OVER US 421 NBL
SAMPSON 47 – US 701 BYP NBL OVER McKOY. ST.
SAMPSON 52 – SR 1356 (NORTH BLVD.) OVER US 701
SAMPSON 53 – SR 1214 (W. ELIZABETH ST.) OVER US 701/US 421/NC 24
SAMPSON 55 – SR 1227 (TRAM RD.) OVER US 701/US 421 (FAIRCLOTH FREEWAY)
SAMPSON 57 – SR 1226 (INDIAN TOWN RD.) OVER US 701/US 421 (FAIRCLOTH FREEWAY)

TYPE OF WORK: BRIDGE PRESERVATION : EPOXY AND LATEX MODIFIED CONCRETE OVERLAYS, JOINT REPLACEMENT, AND GIRDER REPAIR.

INDEX OF SHEETS

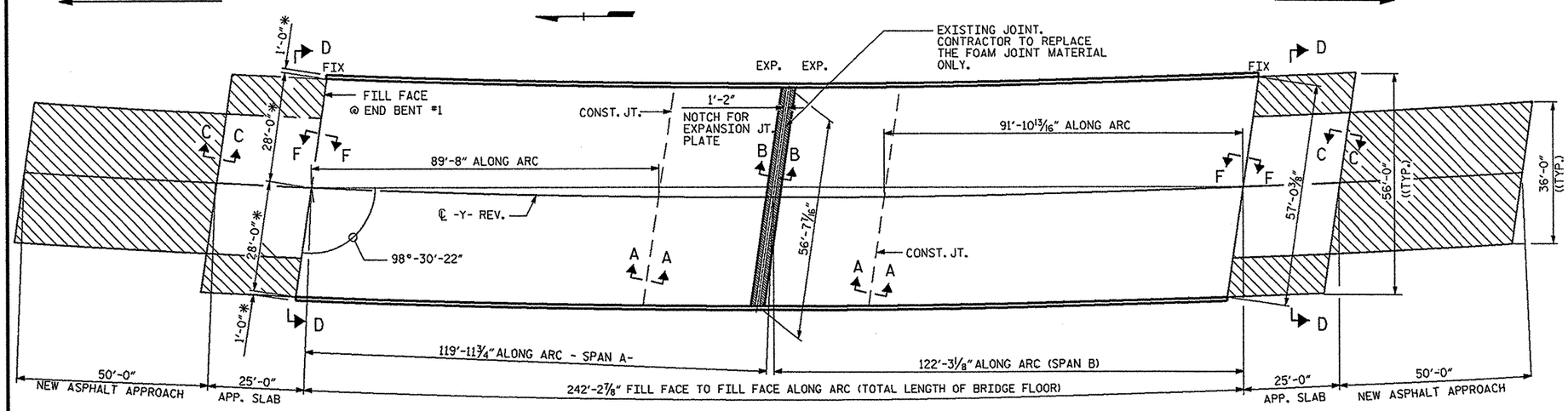
PROJECT: 17BP.3.P.3

CONTRACT: C203074

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203074

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
1330000000-E	607	4,520	SY	INCIDENTAL MILLING
1489000000-E	610	36	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1519000000-E	610	362	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1575000000-E	620	24	TON	ASPHALT BINDER FOR PLANT MIX
4400000000-E	1110	1,036	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	1,534	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	16	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4415000000-N	1115	6	EA	FLASHING ARROW BOARD
4420000000-N	1120	6	EA	PORTABLE CHANGEABLE MESSAGE SIGN
4430000000-N	1130	600	EA	DRUMS
4435000000-N	1135	150	EA	CONES
4445000000-E	1145	24	LF	BARRICADES (TYPE III)
4450000000-N	1150	4,026	HR	FLAGGER
4480000000-N	1165	2	EA	TMA
4510000000-N	SP	1,314	HR	LAW ENFORCEMENT
4810000000-E	1205	38,053	LF	PAINT PAVEMENT MARKING LINES (4")
4845000000-N	1205	30	EA	PAINT PAVEMENT MARKING SYMBOL
4847000000-E	1205	1,800	LF	POLYUREA PAVEMENT MARKING LINES (4", **********) (STANDARD GLASS BEADS)
4847100000-E	1205	8,850	LF	POLYUREA PAVEMENT MARKING LINES (6", **********) (STANDARD GLASS BEADS)
4847120000-E	1205	2,200	LF	POLYUREA PAVEMENT MARKING LINES (12", **********) (STANDARD GLASS BEADS)
4900000000-N	1251	249	EA	PERMANENT RAISED PAVEMENT MARKERS
8161000000-E	420	46,953	SF	GROOVING BRIDGE FLOORS
8660000000-E	SP	33	CF	CONCRETE REPAIRS

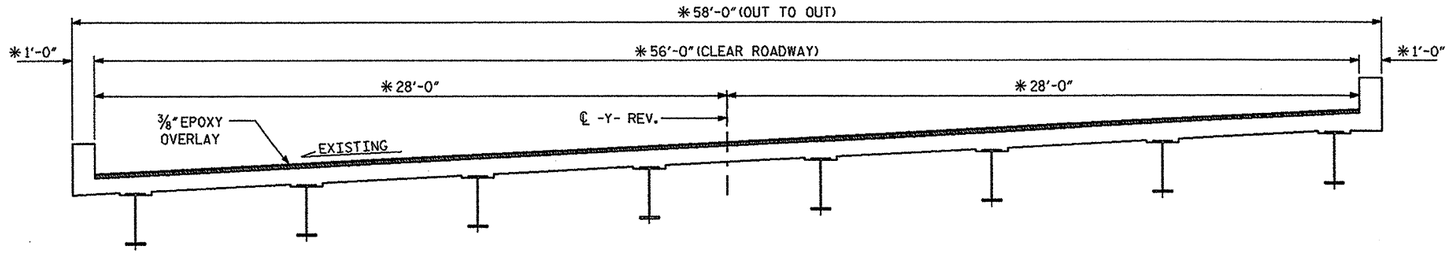
ItemNumber	Sec #	Quantity	Unit	Description
8692000000-N	SP	Lump Sum		FOAM JOINT SEALS
8881000000-E	SP	106	CY	GENERIC STRUCTURE ITEM LATEX MOD CONC OVERLAY
8881000000-E	SP	148	CY	GENERIC STRUCTURE ITEM LATEX MOD CONC OVERLAY - VERY EARLY STRENGTH
8892000000-E	SP	1,290	SF	GENERIC STRUCTURE ITEM CLASS II CONCRETE DECK REPAIRS FOR EPOXY OVERLAY
8892000000-E	SP	129,186	SF	GENERIC STRUCTURE ITEM PLACEMENT OF EPOXY OVERLAY
8893000000-E	SP	6,108	SY	GENERIC STRUCTURE ITEM HYDRO-DEMOLITION OF BRIDGE DECK
8893000000-E	SP	2,545	SY	GENERIC STRUCTURE ITEM PLACING & FINISHING OF LATEX MOD CONC OVERLAY
8893000000-E	SP	3,563	SY	GENERIC STRUCTURE ITEM PLACING & FINISHING OF LATEX MOD CONC OVERLAY - VERY EARLY STRENGTH
8893000000-E	SP	6,108	SY	GENERIC STRUCTURE ITEM SCARIFYING BRIDGE DECK



APPROX. AREA OF INCIDENTAL MILLING AND NEW ASPHALT SURFACE.

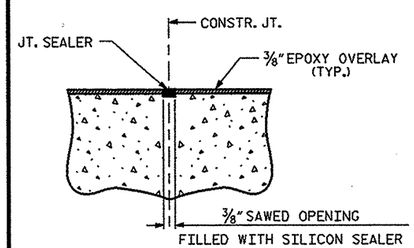
PLAN

(* DIMENSIONS ARE RADIAL)



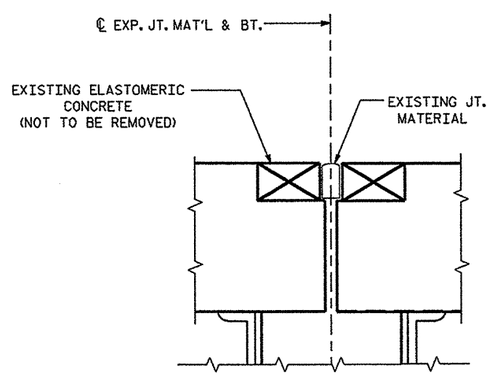
TYPICAL SECTION

(* DIMENSIONS ARE RADIAL)



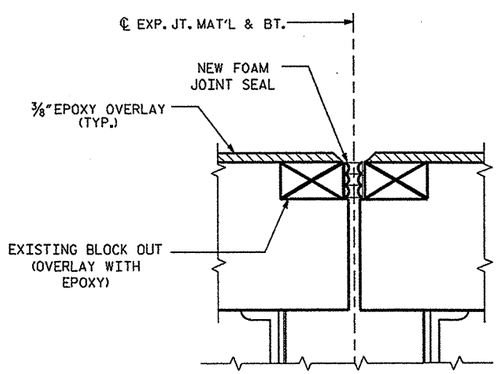
SECTION A-A

(PROPOSED)



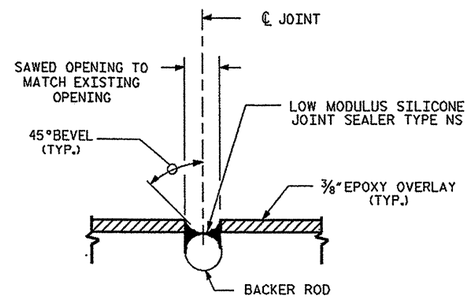
SECTION B-B

(EXISTING)

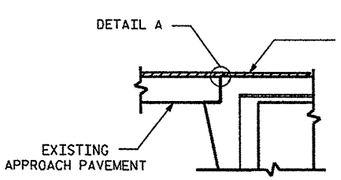


SECTION B-B

(PROPOSED)



DETAIL A



SECTION F-F

(TYP. @ EACH END BENT)

NOTES

FOR REPAIR OF BRIDGE WITH EPOXY OVERLAY, SEE SPECIAL PROVISIONS.

SEE SPECIAL PROVISIONS FOR CLASS II DECK REPAIRS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 7/8" WIDER THAN THE EXISTING JOINT WIDTH AT BENT 1.

THE QUANTITY FOR CLASS II DECK REPAIR IS ESTIMATED.

ALL DIMENSIONS ARE FROM BEST INFORMATION AVAILABLE. CONTRACTOR TO FIELD VERIFY EXISTING DIMENSIONS.

SAVE ELASTOMERIC BLOCK OUTS.

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

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.

PROJECT NO. 17BP.3.P.3

BRUNSWICK COUNTY

BRIDGE 18

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN VIEW & EPOXY OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/12/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : S.T. SANDOR DATE : 01/2012
CHECKED BY : D. L. P./ T. M. S. DATE : 03/2012

12-APR-2012 09:49
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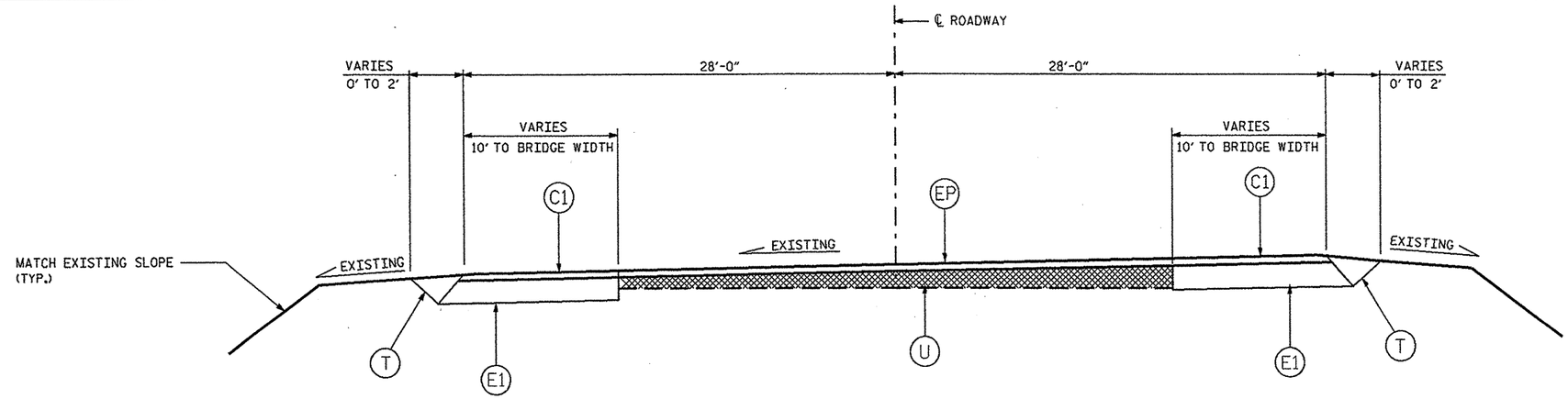
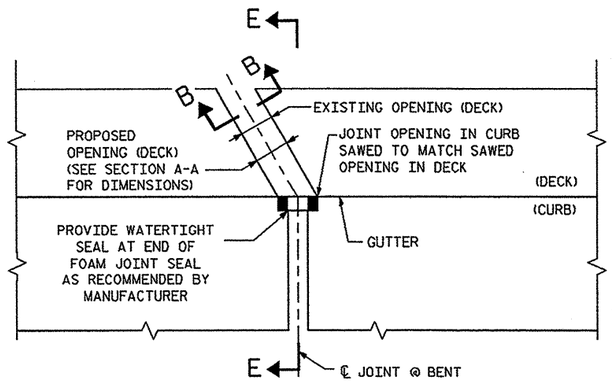
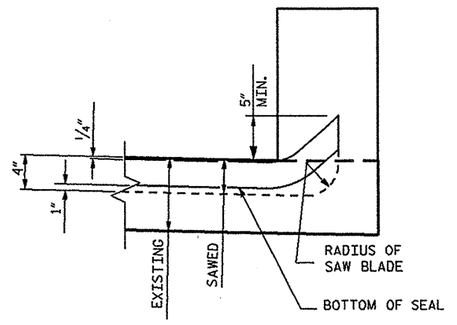


TYPICAL APPROACH SECTION D-D

(C1)	PROPOSED APPROXIMATE 1.5" MIN. ASPHALT CONCRETE SURFACE COURSE, TYPE S 9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN ONE LAYER.
(EP)	⅜" EPOXY OVERLAY
(E1)	EXISTING ASPHALT
(T)	EARTH MATERIAL.
(U)	EXISTING APPROACH SLAB

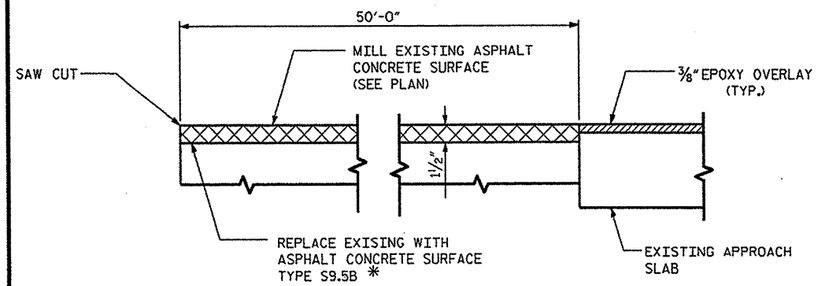


FOAM JOINT SEAL DETAILS



SEAL DETAILS @ RAIL

(SECTION E-E)



SECTION C-C

* EXISTING APPROACH AND SHOULDER ASPHALT CONCRETE PAVING TO BE MILLED A MINIMUM DEPTH OF 1.5" AS NECESSARY. PROVIDE ADEQUATE NEW ASPHALT CONCRETE THICKNESS TO PROVIDE SMOOTH TRANSITION TO APPROACH SLAB, AS SHOWN. NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE APPROACH AND SHOULDER ASPHALT.

TOTAL BILL OF MATERIAL

FOR BRIDGE #18

EPOXY OVERLAY	FOAM JOINT SEALS	* CLASS II CONCRETE DECK REPAIR FOR EPOXY OVERLAY	ASHALT CONC. SURFACE COURSE, TYPE S9.5B	INCIDENTAL MILLING
SQ.FT.	LUMP SUM	SQ. FT.	TON	SQ. YD.
13,815	LUMP SUM	138	43	511

* ESTIMATED QUANTITY. SEE SPECIAL PROVISIONS.
ALL QUANTITIES ARE FOR INFORMATION ONLY.

PROJECT NO. 17BP.3.P.3
BRUNSWICK COUNTY
BRIDGE : 18
SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EPOXY OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL
04/27/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : S.T. SANDOR DATE : 02/2012
CHECKED BY : D.L.P. / T.M.S. DATE : 03/2012

11-APR-2012 13:11
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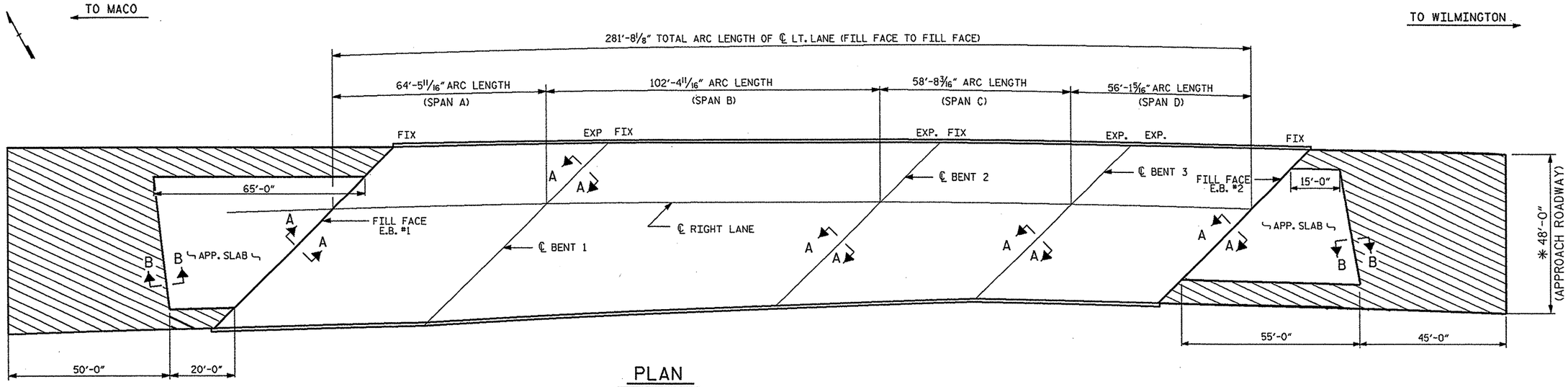


PLAN

(* DIMENSIONS ARE RADIAL)

NOTES

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

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

ROADWAY MILLING IS INCLUDED TO ENSURE A SMOOTH TRANSITION ONTO THE BRIDGE FLOOR. DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL MILL AS REQUIRED TO PROVIDE A SMOOTH TRANSITION TO THE ROADWAY AT BOTH ENDS OF BRIDGE.

THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK, SEE "TYPICAL "BLOW THRU" CONTAINMENT AND FORMWORK" DETAIL.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRODEMOLITION PROCESS SEE, "MANAGING HYDRODEMOLITION WATER" SPECIAL PROVISION.

FOR "HYDRO-DEMOLITION OF BRIDGE DECK", SEE SPECIAL PROVISIONS.

FOR OVERLAY OF BRIDGE WITH "LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH", SEE SPECIAL PROVISIONS.

FOR "FOAM JOINT SEALS", SEE SPECIAL PROVISIONS.

FOR "ELASTOMERIC CONCRETE", SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2 1/2".

FOR "SUBMITTAL OF WORKING DRAWINGS", SEE SPECIAL PROVISIONS.

FOR "SCARIFYING BRIDGE DECK", SEE SPECIAL PROVISIONS.

FOR "FALSEWORK AND FORMWORK", SEE SPECIAL PROVISIONS.

FOR "CRANE SAFETY", SEE SPECIAL PROVISIONS.

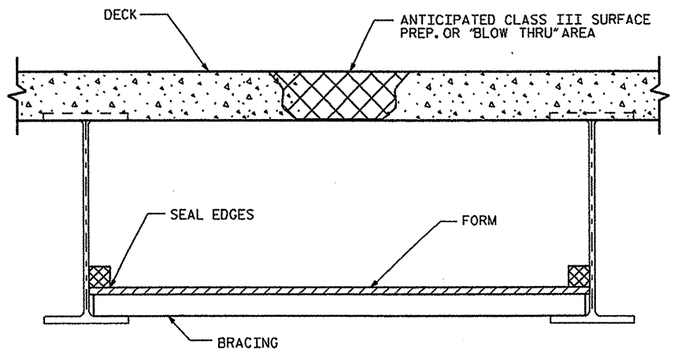
FOR "GROUT FOR STRUCTURES", SEE SPECIAL PROVISIONS.

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

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

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.

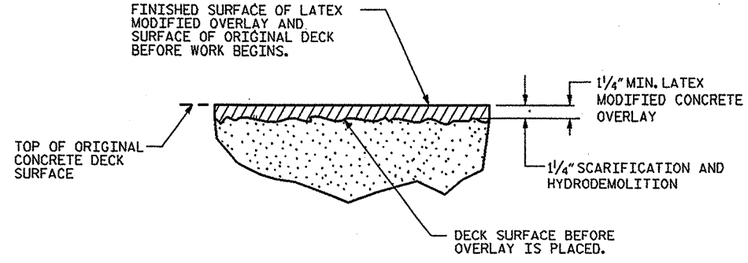


TYP. "BLOW THRU" CONTAINMENT AND FORMWORK

A METHOD TO CAPTURE WATER AND DEBRIS FROM BLOW THRU DURING HYDRO-DEMOLITION SHALL BE INSTALLED IN AREAS INDICATED AS CLASS III SURFACE PREPARATION.

SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

COST FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE PER SQ. YARD OF HYDRO-DEMOLITION.



DETAIL FOR LATEX MODIFIED CONCRETE OVERLAY

TOTAL BILL OF MATERIAL

INCIDENTAL MILLING	** SCARIFYING BRIDGE DECK	* CLASS II SURFACE PREPARATION	HYDRO-DEMOLITION	LATEX MODIFIED CONCRETE -VERY EARLY STRENGTH-	PLACING & FINISHING LATEX MODIFIED CONCRETE -VERY EARLY STRENGTH-	EVAZOTE JOINT SEALS	GROOVING BRIDGE FLOOR	ASPHALT CONC. SURF. COURSE TYPE S9.5B
SQ.YDS.	SQ.YDS.	SQ.YDS.	SQ.YDS.	C.Y.	SQ.YDS.	LUMP SUM	SQ. FT.	TON
678	1,828	18	1,828	76	1,828	LUMP SUM	13,550	44

* QUANTITY SHOWN IS FOR INFORMATION ONLY. ALL COSTS FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR HYDRO-DEMOLITION.

** INCLUDES SCARIFYING OF APPROACH SLAB.

DRAWN BY : S. T. SANDOR DATE : 02/2012
CHECKED BY : T. SHERRILL DATE : 03/2012

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ssandor

NORTH CAROLINA PROFESSIONAL SEAL 18563 ENGINEER TIMOTHY A. SHERRILL
04/12/12

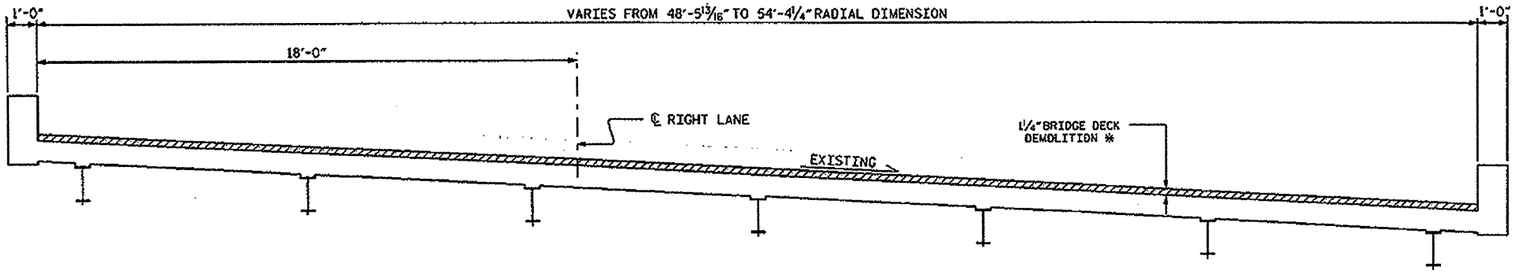
PROJECT NO. 17BP.3.P.3
BRUNSWICK COUNTY
BRIDGE : 29

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

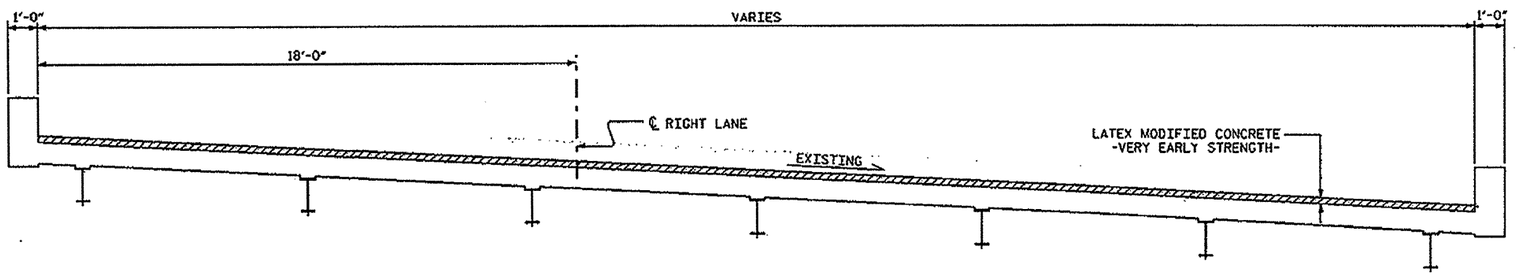
SURFACE PREPARATION PLAN AND BILL OF MATERIALS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			34

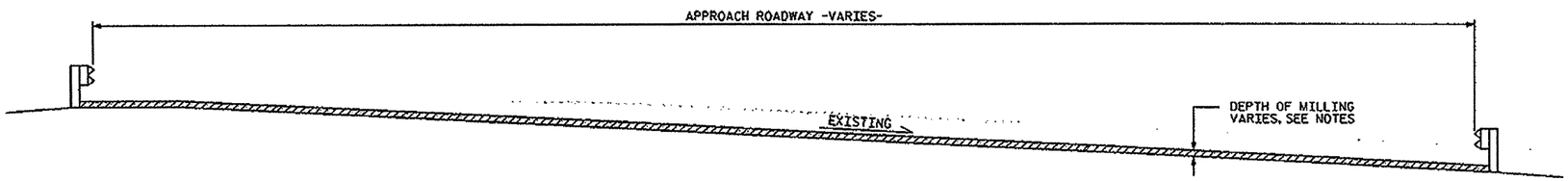


TYPICAL BRIDGE DECK DEMOLITION SECTION

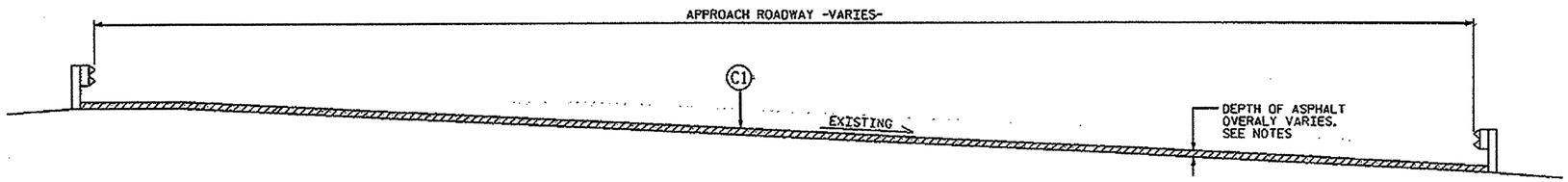
*DEMOLITION INCLUDES DECK SCARIFICATION AND HYDRO-DEMOLITION



PROPOSED TYPICAL BRIDGE DECK SECTION



TYPICAL ROADWAY MILLING SECTION



PROPOSED TYPICAL ROADWAY SECTION

C1	PROPOSED VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S 9.5B AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1-1/2" IN DEPTH OR GREATER THAN 2" IN DEPTH.

DRAWN BY : S. T. SANDOR DATE : 03/2012
CHECKED BY : T. SHERRILL DATE : 03/2012

17-APR-2012 14:08
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tmsherrill

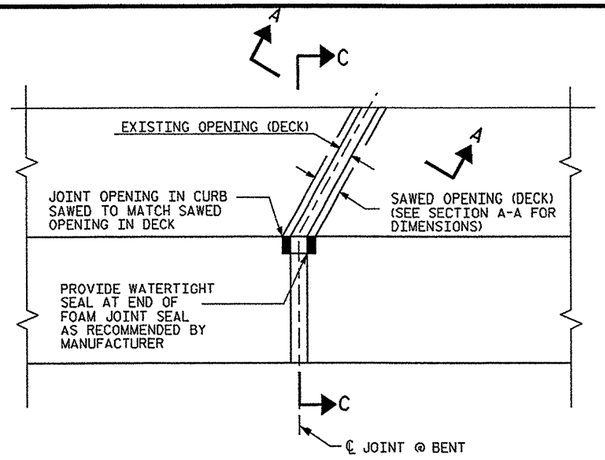
NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL
04/17/12

PROJECT NO. 17BP.3.P.3
BRUNSWICK COUNTY
BRIDGE : 29
SHEET 2 OF 3

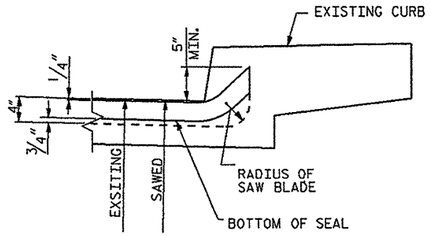
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTIONS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			34



PLAN



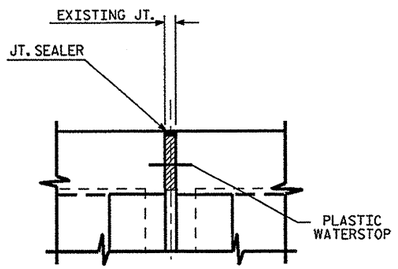
SECTION C-C

NOTES

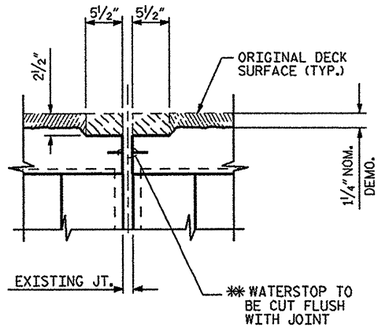
FOR FOAM JOINT SEAL, SEE SPECIAL PROVISIONS.

THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.

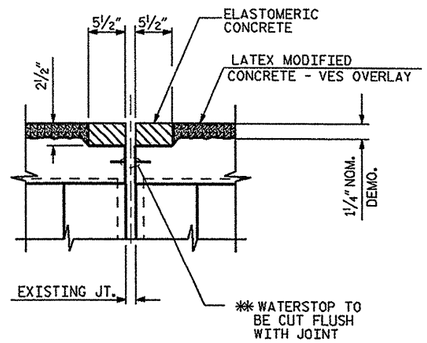
NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 2½".



SECTION A-A
(EXISTING JOINT)

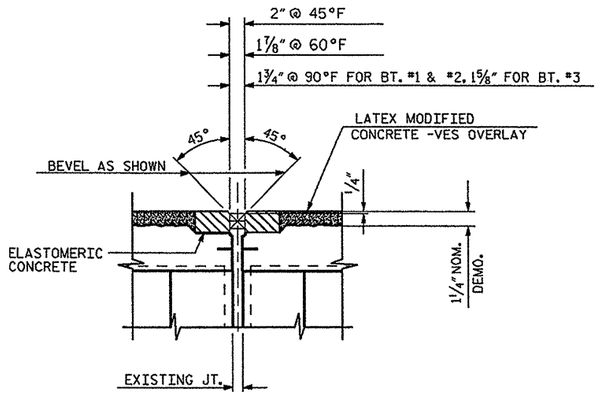


SECTION A-A
(MINIMUM EXISTING JOINT DEMOLITION)

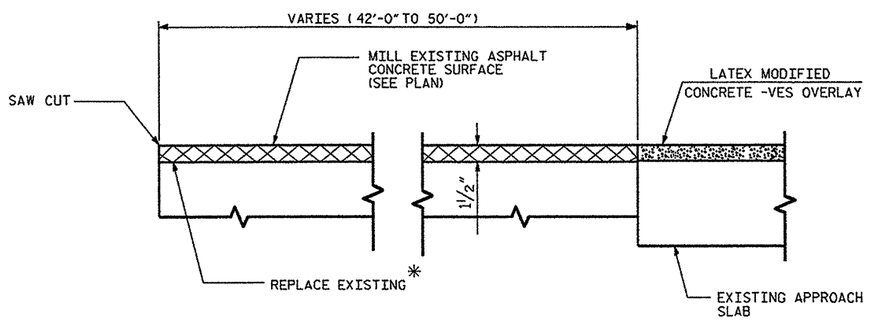


SECTION A-A
(PROPOSED FOAM JOINT SEAL PRE-SAWED DIMENSIONS)

** ALL LOOSE AND UNSOUND CONCRETE SHALL BE REMOVED. IF THE EMBEDDED PORTION OF THE EXISTING WATERSTOP IS EXPOSED DURING REMOVAL, THE ENTIRE WATERSTOP SHALL BE REMOVED.



SECTION A-A
(PROPOSED FOAM JOINT SEAL EXPANSION)



SECTION B-B

* EXISTING APPROACH AND SHOULDER ASPHALT CONCRETE PAVING TO BE MILLED A MINIMUM DEPTH OF 1.5". PROVIDE ADEQUATE NEW ASPHALT CONCRETE THICKNESS TO PROVIDE SMOOTH TRANSITION TO APPROACH SLAB, AS SHOWN. NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE APPROACH AND SHOULDER ASPHALT.

PROJECT NO. 17BP.3.P.3

BRUNSWICK COUNTY

BRIDGE: 29

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JOINT DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/12/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : S. T. SANDOR DATE : 02/2012
CHECKED BY : T. SHERRILL DATE : 03/2012

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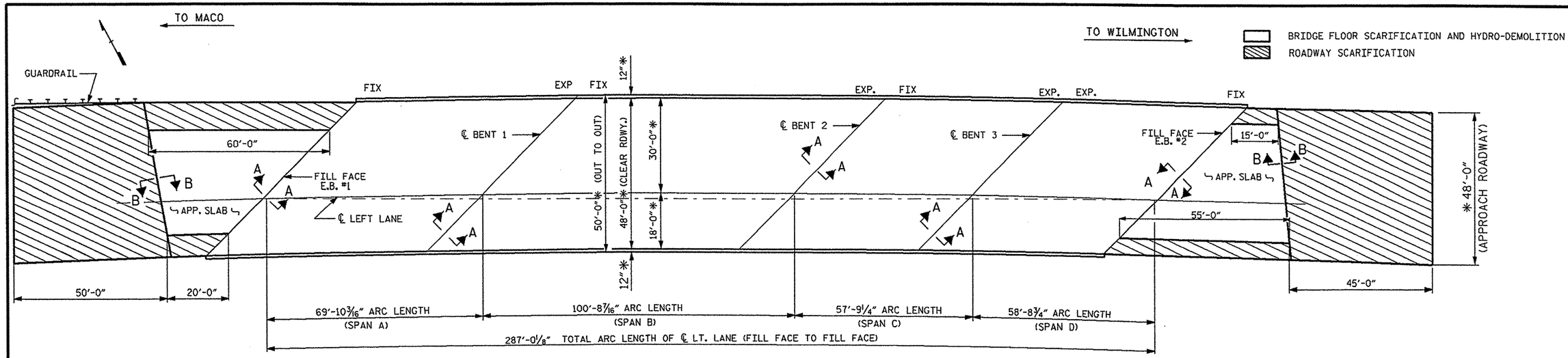

PLAN

(* DIMENSIONS ARE RADIAL)

NOTES

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

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

ROADWAY MILLING IS INCLUDED TO ENSURE A SMOOTH TRANSITION ONTO THE BRIDGE FLOOR. DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL MILL AS REQUIRED TO PROVIDE A SMOOTH TRANSITION TO THE ROADWAY AT BOTH ENDS OF BRIDGE.

THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK, SEE "TYPICAL "BLOW THRU" CONTAINMENT AND FORMWORK" DETAIL.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRODEMOLITION PROCESS SEE, "MANAGING HYDRODEMOLITION WATER" SPECIAL PROVISION.

FOR "HYDRO-DEMOLITION OF BRIDGE DECK", SEE SPECIAL PROVISIONS.

FOR OVERLAY OF BRIDGE WITH "LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH", SEE SPECIAL PROVISIONS.

FOR "FOAM JOINT SEALS", SEE SPECIAL PROVISIONS.

FOR "ELASTOMERIC CONCRETE", SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2 1/2".

FOR "SUBMITTAL OF WORKING DRAWINGS", SEE SPECIAL PROVISIONS.

FOR "SCARIFYING BRIDGE DECK", SEE SPECIAL PROVISIONS.

FOR "FALSEWORK AND FORMWORK", SEE SPECIAL PROVISIONS.

FOR "CRANE SAFETY", SEE SPECIAL PROVISIONS.

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

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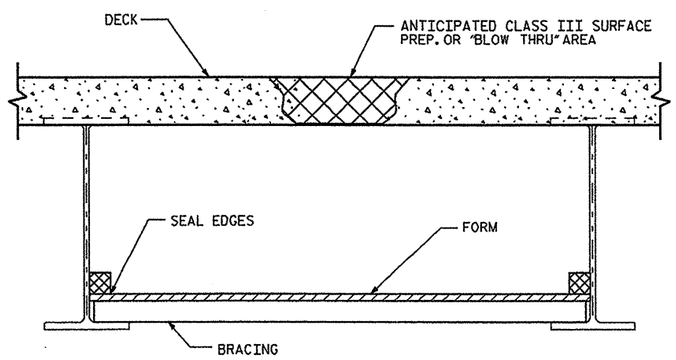

TYP. "BLOW THRU" CONTAINMENT AND FORMWORK

A METHOD TO CAPTURE WATER AND DEBRIS FROM BLOW THRU DURING HYDRO-DEMOLITION SHALL BE INSTALLED IN AREAS INDICATED AS CLASS III SURFACE PREPARATION.

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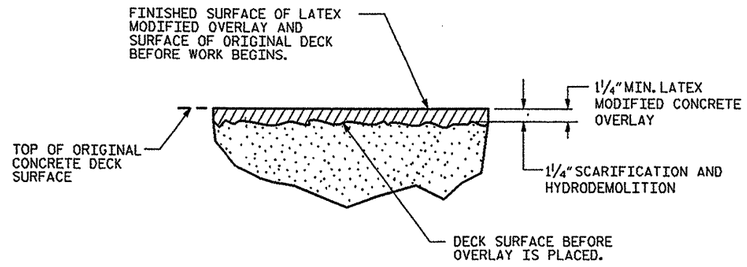

DETAIL FOR LATEX MODIFIED CONCRETE OVERLAY

TOTAL BILL OF MATERIAL

INCIDENTAL MILLING	** SCARIFYING BRIDGE DECK	* CLASS II SURFACE PREPARATION	HYDRO-DEMOLITION	LATEX MODIFIED CONCRETE -VERY EARLY STRENGTH-	PLACING & FINISHING LATEX MODIFIED CONCRETE -VERY EARLY STRENGTH-	EVAZOTE JOINT SEALS	GROOVING BRIDGE FLOOR	ASPHALT CONC. SURF. COURSE TYPE S9.5B
SQ.YDS.	SQ.YDS.	SQ.YDS.	SQ.YDS.	C.Y.	SQ.YDS.	LUMP SUM	SQ. FT.	TON
634	1,735	17	1,735	72	1,735	LUMP SUM	12,741	44

* QUANTITY SHOWN IS FOR INFORMATION ONLY. ALL COSTS FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR HYDRO-DEMOLITION.
** INCLUDES SCARIFYING OF APPROACH SLAB.

PROJECT NO. 17BP.3.P.3
BRUNSWICK COUNTY
BRIDGE : 36

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SURFACE PREPARATION PLAN AND BILL OF MATERIALS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL
04/12/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : S. T. SANDOR DATE : 02/2012
CHECKED BY : T. SHERRILL DATE : 03/2012

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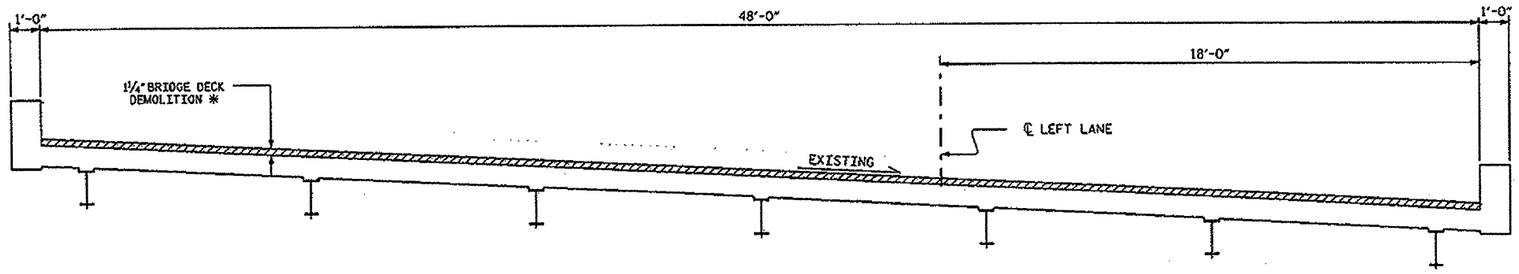
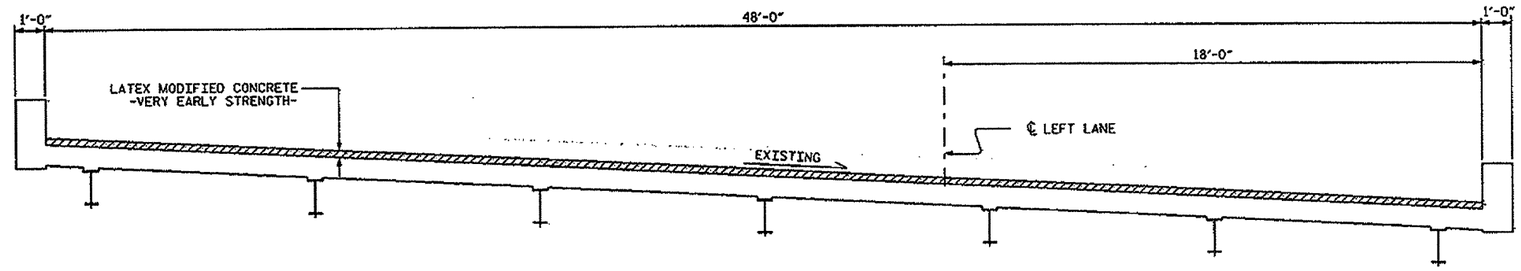
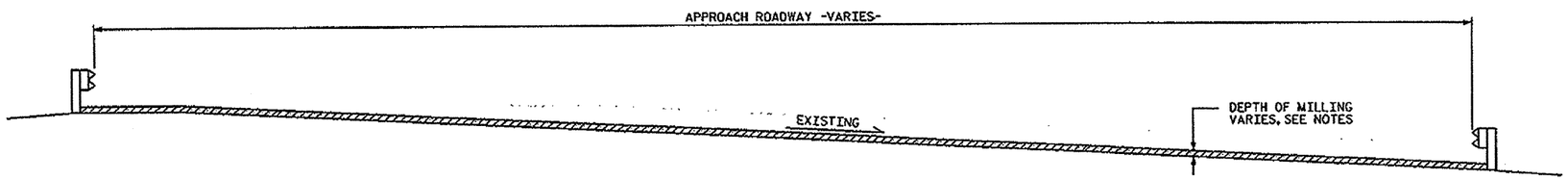


TYPICAL BRIDGE DECK DEMOLITION SECTION

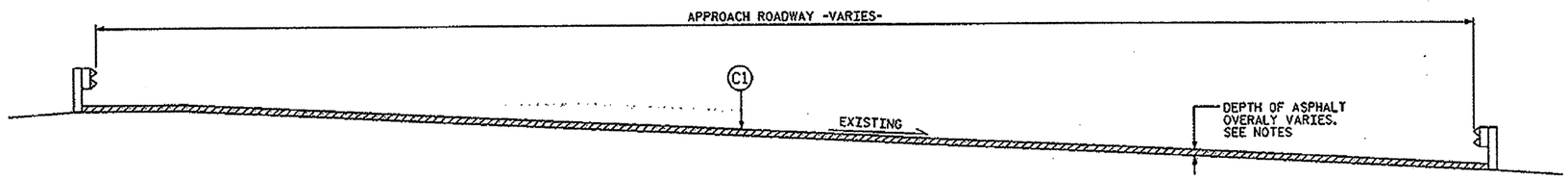
*DEMOLITION INCLUDES DECK SCARIFICATION AND HYDRO-DEMOLITION



PROPOSED TYPICAL BRIDGE DECK SECTION



TYPICAL ROADWAY MILLING SECTION



PROPOSED TYPICAL ROADWAY SECTION

C1	PROPOSED VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S 9.5B AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1-1/2" IN DEPTH OR GREATER THAN 2" IN DEPTH.

PROJECT NO. 17BP.3.P.3

BRUNSWICK COUNTY

BRIDGE : 36

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTIONS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-7
1			3			TOTAL SHEETS
2			4			34

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/17/12

DRAWN BY : S. T. SANDOR DATE : 03/2012
CHECKED BY : T. SHERRILL DATE : 03/2012

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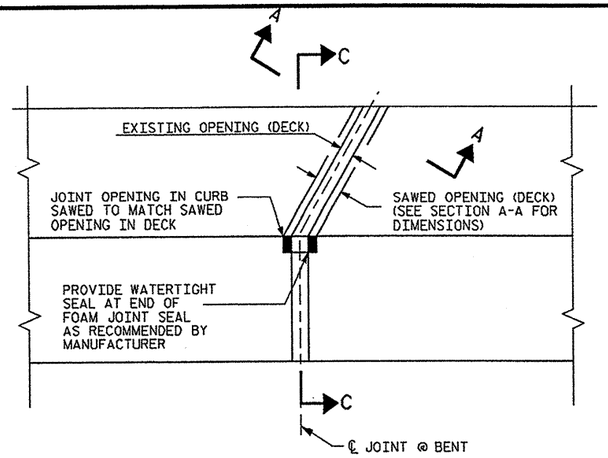
tmsherrill

NOTES

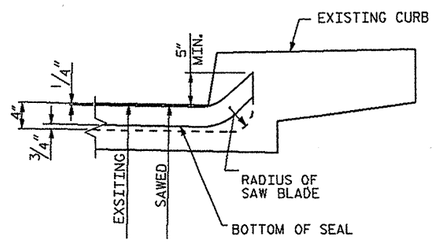
FOR FOAM JOINT SEAL, SEE SPECIAL PROVISIONS.

THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.

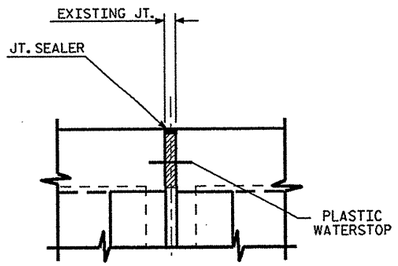
NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 2½".



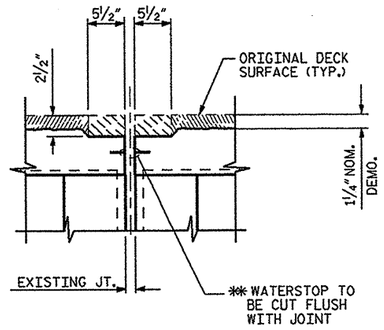
PLAN



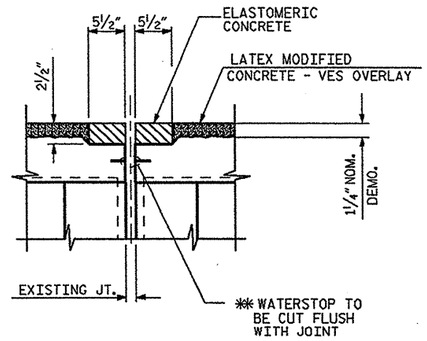
SECTION C-C



SECTION A-A
(EXISTING JOINT)

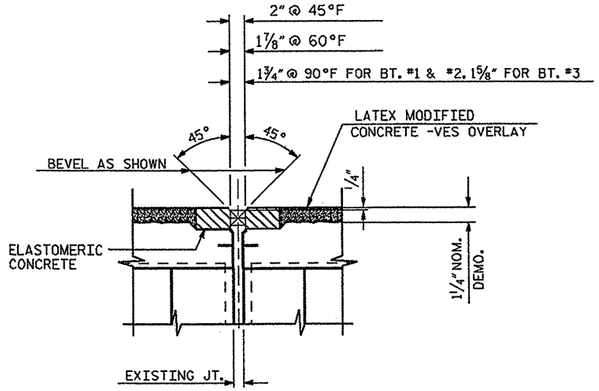


SECTION A-A
(MINIMUM EXISTING JOINT DEMOLITION)

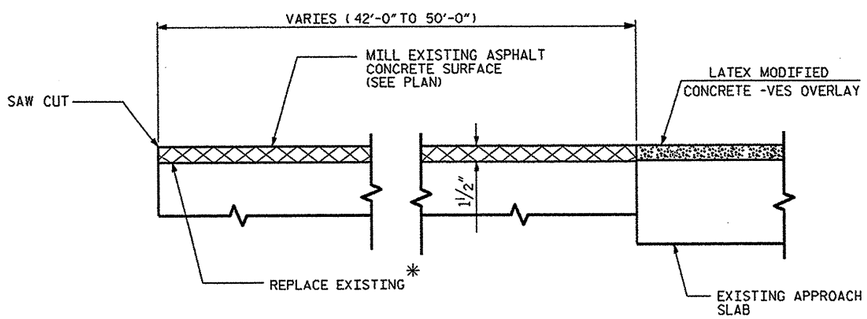


SECTION A-A
(PROPOSED FOAM JOINT SEAL PRE-SAWED DIMENSIONS)

** ALL LOOSE AND UNSOUND CONCRETE SHALL BE REMOVED. IF THE EMBEDDED PORTION OF THE EXISTING WATERSTOP IS EXPOSED DURING REMOVAL, THE ENTIRE WATERSTOP SHALL BE REMOVED.



SECTION A-A
(PROPOSED FOAM JOINT SEAL EXPANSION)



SECTION B-B

* EXISTING APPROACH AND SHOULDER ASPHALT CONCRETE PAVING TO BE MILLED A MINIMUM DEPTH OF 1.5". PROVIDE ADEQUATE NEW ASPHALT CONCRETE THICKNESS TO PROVIDE SMOOTH TRANSITION TO APPROACH SLAB, AS SHOWN. NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE APPROACH AND SHOULDER ASPHALT.

PROJECT NO. 17BP.3.P.3

BRUNSWICK COUNTY

BRIDGE: 36

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JOINT DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/11/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : S. T. SANDOR DATE : 02/2012
CHECKED BY : T. SHERRILL DATE : 03/2012

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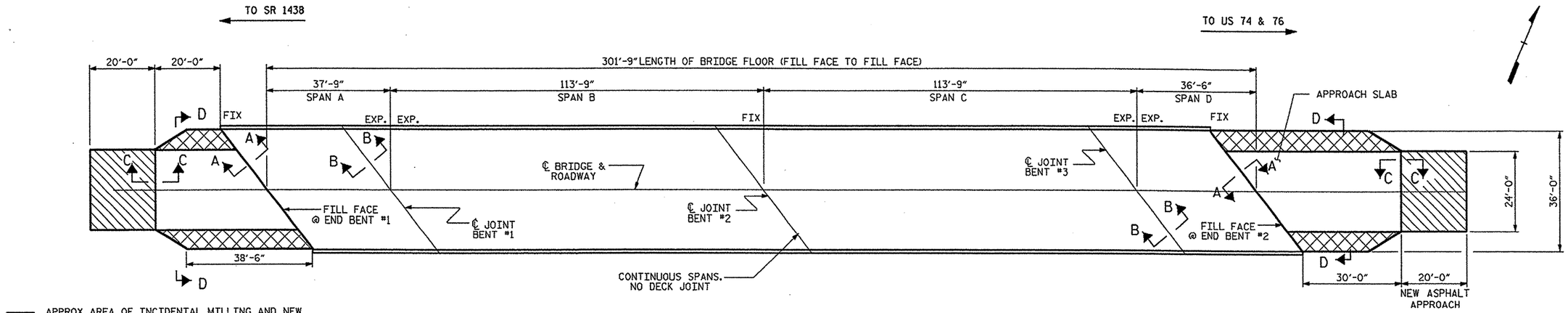
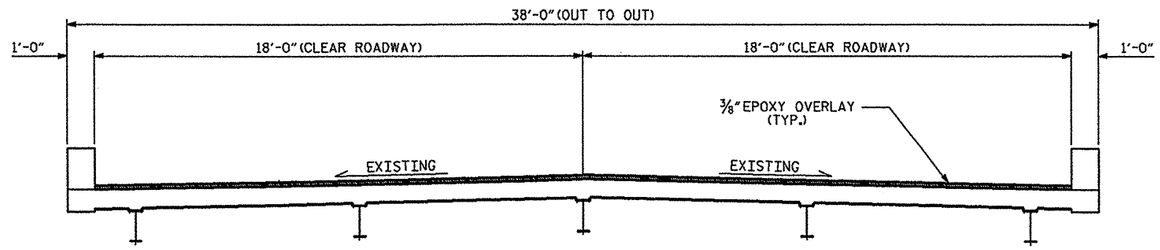
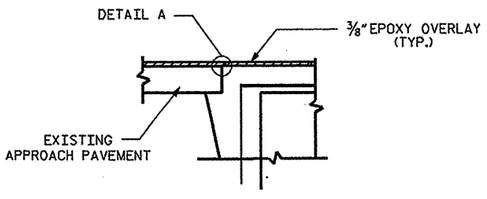


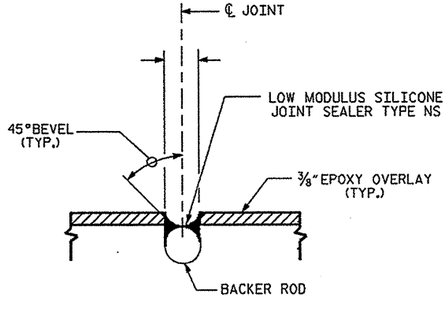
PLAN



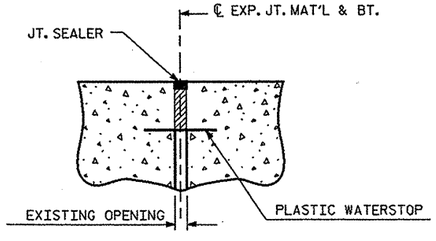
TYPICAL SECTION



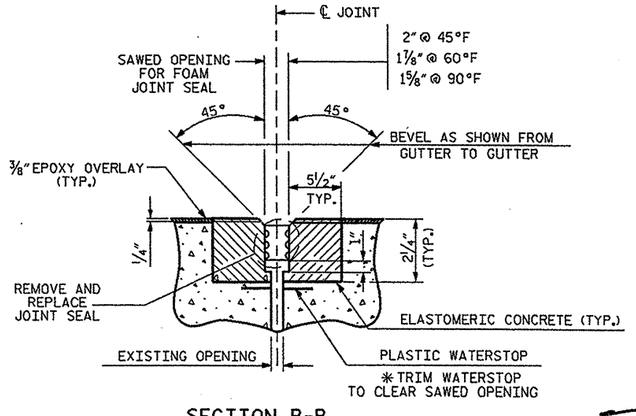
SECTION A-A
(TYP. @ EACH END BENT)



DETAIL A



SECTION B-B
(EXISTING)



SECTION B-B
(PROPOSED FOAM JT. SEAL)

* ALL LOOSE AND UNSOUND CONCRETE SHALL BE REMOVED. IF THE EMBEDDED PORTION OF THE EXISTING WATERSTOP IS EXPOSED DURING REMOVAL OF UNSOUND CONCRETE, THE ENTIRE WATERSTOP SHALL BE REMOVED.

NOTES

FOR REPAIR OF BRIDGE WITH EPOXY OVERLAY, SEE SPECIAL PROVISIONS.

SEE SPECIAL PROVISIONS FOR CLASS II DECK REPAIRS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2½" AT THE BENTS.

THE QUANTITY FOR CLASS II DECK REPAIR IS ESTIMATED.

ALL DIMENSIONS ARE FROM BEST INFORMATION AVAILABLE. CONTRACTOR TO FIELD VERIFY EXISTING DIMENSIONS.

SAVE ELASTOMERIC BLOCK OUTS.

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

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.

PROJECT NO. 17BP.3.P.3

BRUNSWICK COUNTY

BRIDGE : 43

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN VIEW & EPOXY OVERLAY DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS
2			4			34

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL
04/12/12

DRAWN BY : S.T. SANDOR DATE : 01/2012
CHECKED BY : TIM SHERRILL DATE : 03/2012

11-APR-2012 13:22
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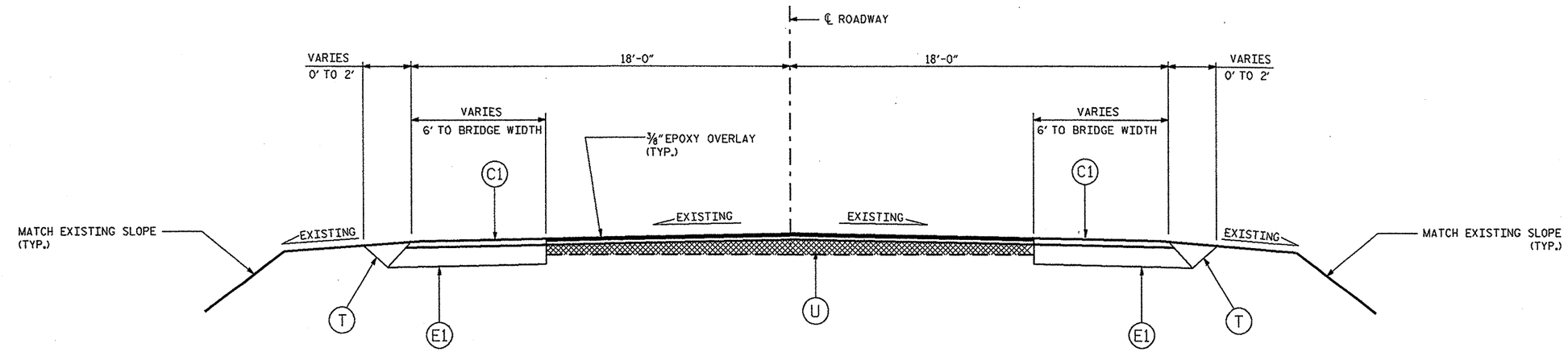
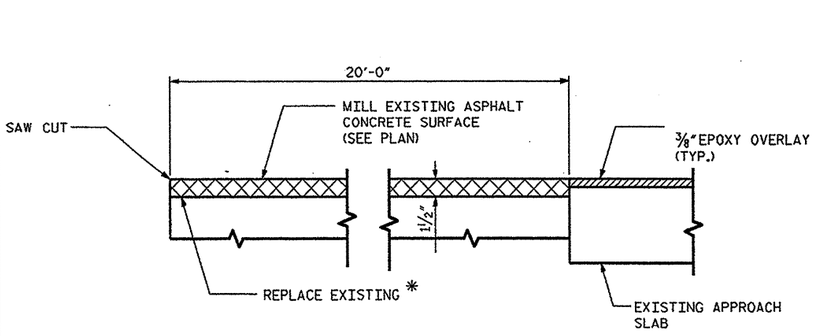


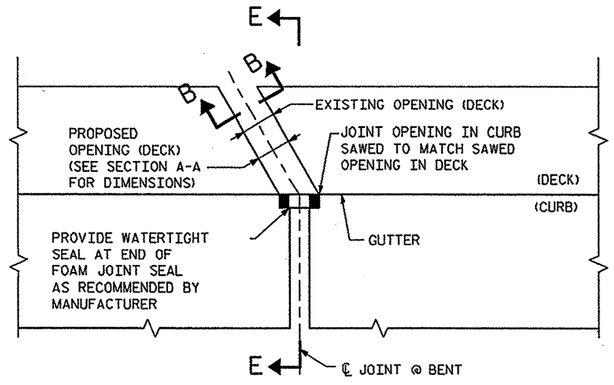
TYPICAL APPROACH SECTION D-D

C1	PROPOSED APPROXIMATE 1.5" MIN. ASPHALT CONCRETE SURFACE COURSE, TYPE S 9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN ONE LAYER.
E1	EXISTING BASE ASPHALT
T	EARTH MATERIAL.
U	EXISTING APPROACH SLAB

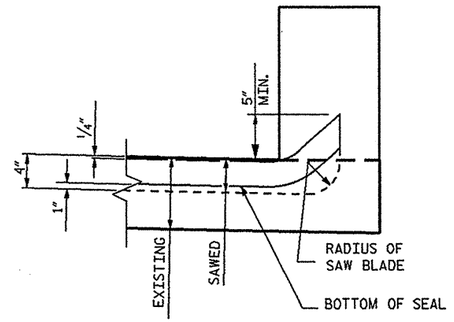


SECTION C-C

* EXISTING APPROACH AND SHOULDER ASPHALT CONCRETE PAVING TO BE MILLED A MINIMUM DEPTH OF 1.5" AS NECESSARY. PROVIDE ADEQUATE NEW ASPHALT CONCRETE THICKNESS TO PROVIDE SMOOTH TRANSITION TO APPROACH SLAB, AS SHOWN. NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE APPROACH AND SHOULDER ASPHALT.



FOAM JOINT SEAL DETAILS



SEAL DETAILS @ RAIL

(SECTION E-E)

TOTAL BILL OF MATERIAL

FOR BRIDGE #43

EPOXY OVERLAY	FOAM JOINT SEALS	*CLASS II CONCRETE DECK REPAIR FOR EPOXY OVERLAY	ASHALT CONC. SURFACE COURSE, TYPE S9.5B	INCIDENTAL MILLING
SQ.FT.	LUMP SUM	SQ. FT.	TON	SQ. YD.
12,745	LUMP SUM	127	11	202

*ESTIMATED QUANTITY. SEE SPECIAL PROVISIONS.
ALL QUANTITIES ARE FOR INFORMATION ONLY.

PROJECT NO. 17BP.3.P.3
BRUNSWICK COUNTY
BRIDGE : 43

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EPOXY OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL
04/12/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : S.T. SANDOR DATE : 02/2012
CHECKED BY : D.L.P. / T.M.S. DATE : 03/2012

11-APR-2012 13:27
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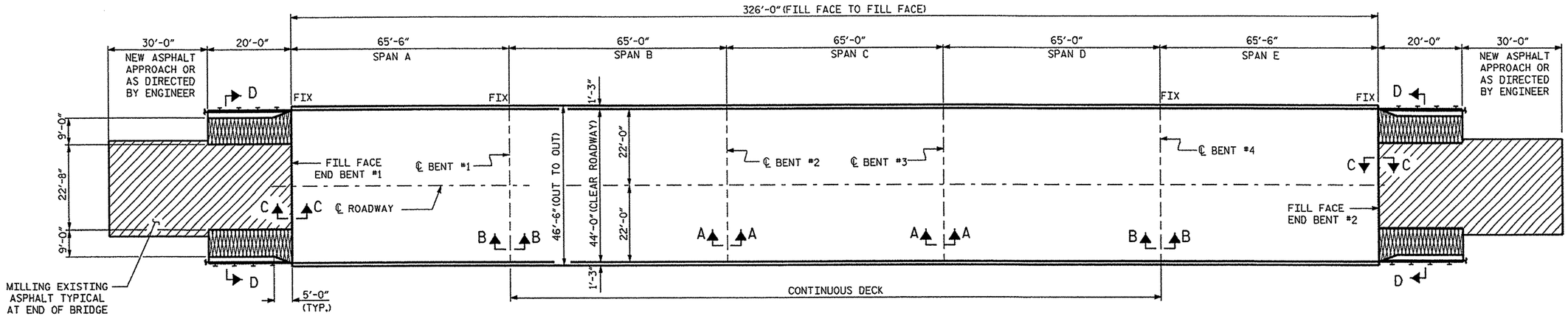
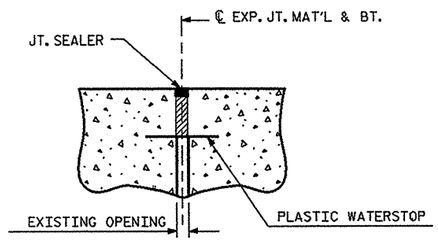


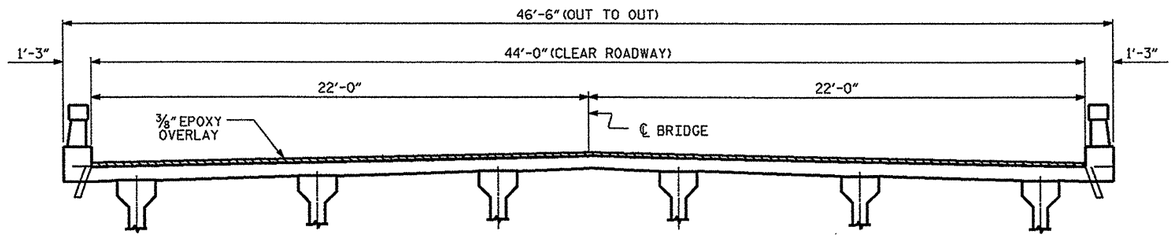
PLAN

APPROX. AREA OF NEW ASPHALT SECTION

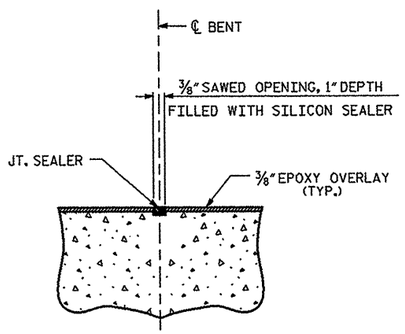
APPROX. AREA OF INCIDENTAL MILLING AND NEW ASPHALT SURFACE.



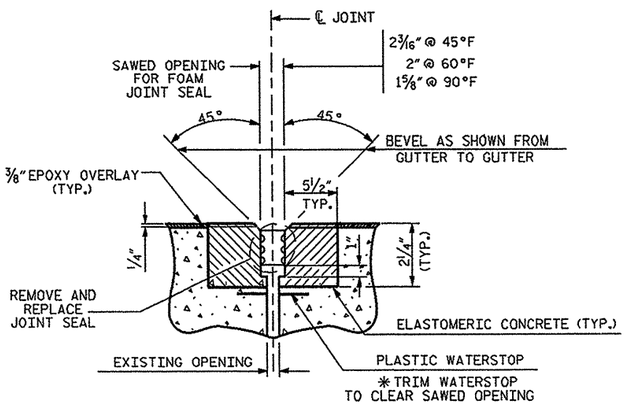
SECTION B-B
(EXISTING)



TYPICAL SECTION



SECTION A-A
(PROPOSED)



SECTION B-B
(PROPOSED FOAM JT. SEAL)

* ALL LOOSE AND UNSOUND CONCRETE SHALL BE REMOVED. IF THE EMBEDDED PORTION OF THE EXISTING WATERSTOP IS EXPOSED DURING REMOVAL OF UNSOUND CONCRETE, THE ENTIRE WATERSTOP SHALL BE REMOVED.

NOTES

FOR EPOXY OVERLAY , SEE SPECIAL PROVISIONS.

FOR FOAM SEAL JOINTS, SEE SPECIAL PROVISIONS.

FOR SEAL DETAILS @ RAIL SEE SHEET NO. 2.

FOR BILL OF MATERIAL SEE SHEET NO. 2.

THE NOMINAL UNCOMPRESSED JOINT SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2½" AT BENTS NO. 1 AND NO. 4.

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

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.

NORTH CAROLINA PROFESSIONAL SEAL 18755 ENGINEER TIMOTHY W. SHERRILL 04/12/12

PROJECT NO. 17BP.3.P.3

BRUNSWICK COUNTY

BRIDGE: 93

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN VIEW & EPOXY OVERLAY DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : S.T. SANDOR DATE : 01/2012
CHECKED BY : T. SHERRILL DATE : 02/2012

11-APR-2012 13:29
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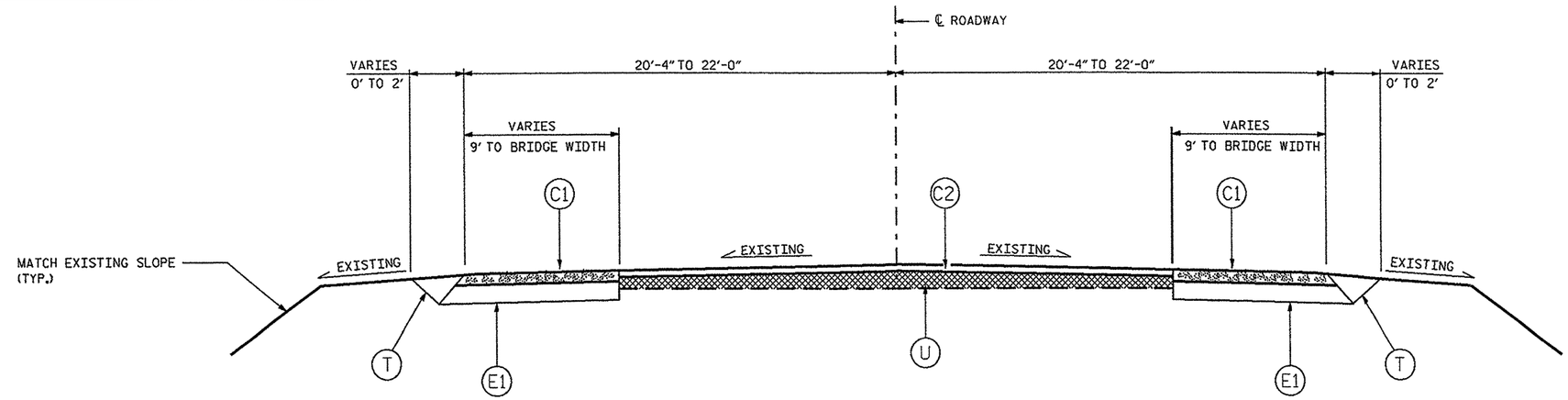
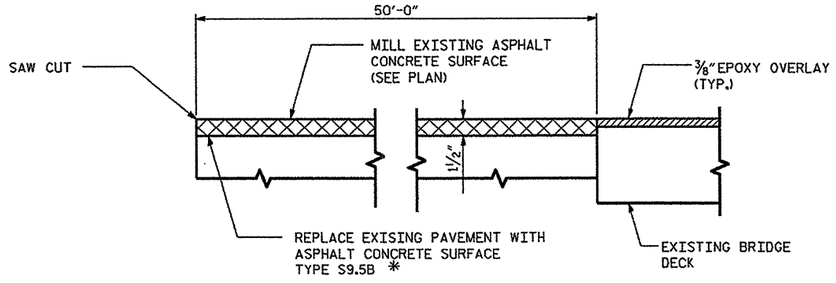
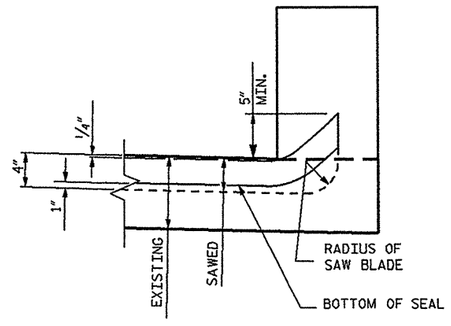


TYPICAL APPROACH SECTION D-D

C1	PROPOSED APPROXIMATE 3.0" MIN. ASPHALT CONCRETE SURFACE COURSE, TYPE S 9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO 1.5" THICK LAYERS.
C2	PROPOSED APPROXIMATE 1.5" MIN. ASPHALT CONCRETE SURFACE COURSE, TYPE S 9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN ONE LAYER.
E1	PROPOSED APPROXIMATE 6" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. PER ONE LAYER THICKNESS OF 3". TWO LAYERS REQUIRED.
T	EARTH MATERIAL.
U	EXISTING APPROACH SLAB



SECTION C-C



SEAL DETAILS @ RAIL

* EXISTING APPROACH AND SHOULDER ASPHALT CONCRETE PAVING TO BE MILLED A MINIMUM DEPTH OF 1.5" AS NECESSARY. PROVIDE ADEQUATE NEW ASPHALT CONCRETE THICKNESS TO PROVIDE SMOOTH TRANSITION TO APPROACH SLAB, AS SHOWN. NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE APPROACH AND SHOULDER ASPHALT.

TOTAL BILL OF MATERIAL

FOR BRIDGE #93

EPOXY OVERLAY	FOAM JOINT SEALS	*CLASS II CONCRETE DECK REPAIR FOR EPOXY OVERLAY	ASHALT CONC. BASE COURSE, TYPE B25.0B	ASHALT CONC. SURFACE COURSE, TYPE S9.5B	INCIDENTAL MILLING	CONCRETE REPAIR
SQ.FT.	LUMP SUM	SQ. FT.	TON	TON	SQ. YD.	CU. FT.
14,344	LUMP SUM	143	36	40	261	33

*ESTIMATED QUANTITY. SEE SPECIAL PROVISIONS.
ALL QUANTITIES ARE FOR INFORMATION ONLY.

PROJECT NO. 17BP.3.P.3
BRUNSWICK COUNTY
BRIDGE : 93
SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EPOXY OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL
04/02/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-12
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : S.T. SANDOR DATE : 02/2012
CHECKED BY : T. SHERRILL DATE : 02/2012

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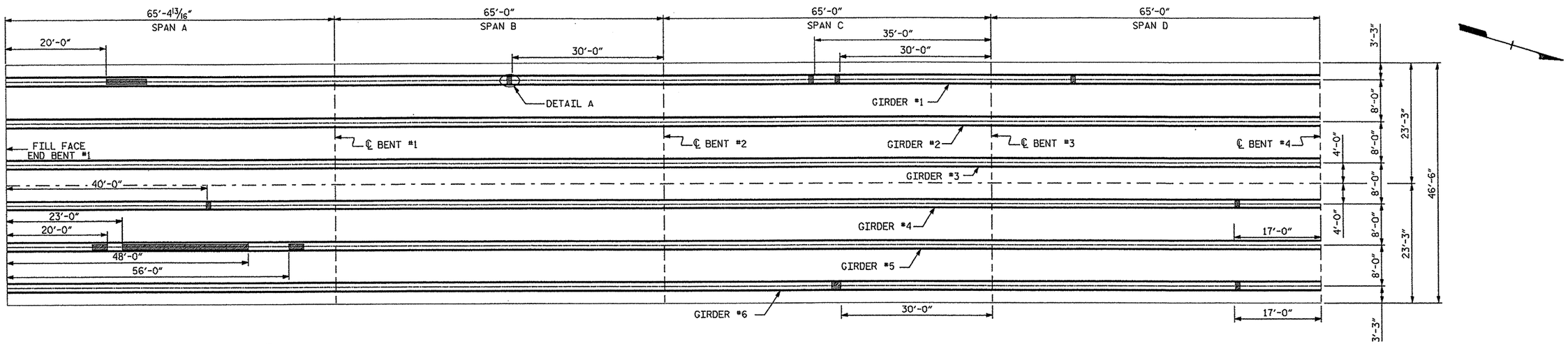
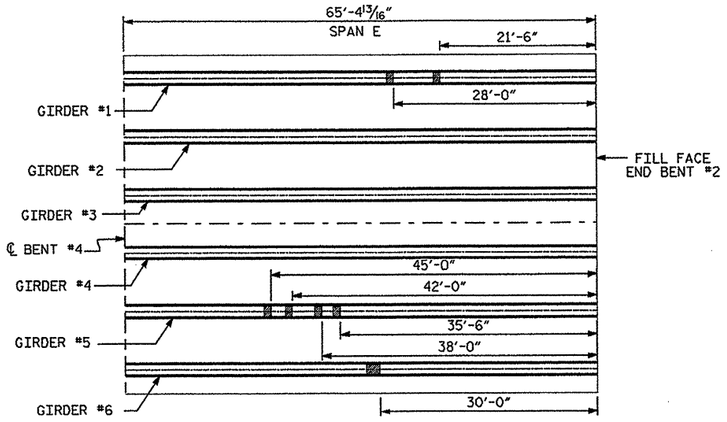
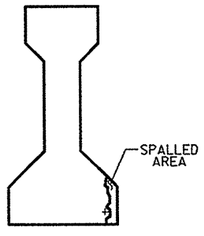


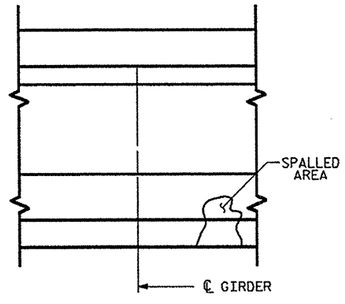


PLAN

(UNDERSIDE OF BRIDGE)



AT ℄ OF GIRDER



ELEVATION OF GIRDER

DETAIL A

NOTES

REPAIR AREAS ARE APPROXIMATE.

ALL GIRDERS SHALL BE SURVEYED FOR ADDITIONAL DELAMINATED AND PREVIOUSLY REPAIRED AREAS. AREAS SHALL BE CAREFULLY EXAMINED. DELAMINATED AREAS, POORLY REPAIRED AREAS AND REPAIR AREAS THAT ARE NOT SMOOTH AND PROPERLY FINISHED SHALL BE REMOVED AND ADDRESSED AS INDICATED BELOW.

FOR CONCRETE REPAIRS, SEE THE CONCRETE REPAIRS SPECIAL PROVISIONS. FOLLOW THE CONCRETE REPAIRS SPECIAL PROVISIONS, WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

1. SAW CUT PERIMETER OF REPAIR AREA SQUARE TO THE ADJACENT FACE OF THE GIRDER. SAW CUT DEPTH SHALL BE A MINIMUM OF 1/2". REMOVE ADDITIONAL DEPTH OF REPAIR AREAS AS NECESSARY TO REMOVE UNSOUND CONCRETE.
2. DO NOT DAMAGE PRESTRESSING STRAND OR REINFORCING STEEL.
3. REMOVE RUST ON PRESTRESSING STRAND WITH WIRE BRUSH. DO NOT SAND BLAST OR OTHERWISE ABRADE PRESTRESSING STRAND.
4. REPAIR MATERIAL SHALL BE PREPACKAGED, SHRINKAGE-COMPENSATING, POLYMER MODIFIED CONCRETE REPAIR MORTAR, WITH CORROSION INHIBITOR AND A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI. SUBMIT PROPOSED REPAIR MORTAR TO ENGINEER FOR APPROVAL PRIOR TO WORK.
5. PREPARE SUBSTRATE, AND CONDITION, MIX, CURE, AND PERFORM OTHER WORK WITH THE REPAIR MATERIAL, IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

PROPOSED MATERIALS AND METHODS SHALL BE SUBMITTED FOR A APPROVAL PRIOR TO BEGINNING WORK. MATERIALS SHALL BE APPROVED FOR USE BY NCDOT.

PROJECT NO. 17BP.3.P.3

BRUNSWICK COUNTY

BRIDGE : 93

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GIRDER REPAIRS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-13
1			3			TOTAL SHEETS
2			4			34

NORTH CAROLINA PROFESSIONAL SEAL 48565 ENGINEER TIMOTHY M. SHERRILL

T. M. Sherrill 04/12/12

DRAWN BY : S.T. SANDOR DATE : 01/2012
CHECKED BY : TIM SHERRILL DATE : 02/2012

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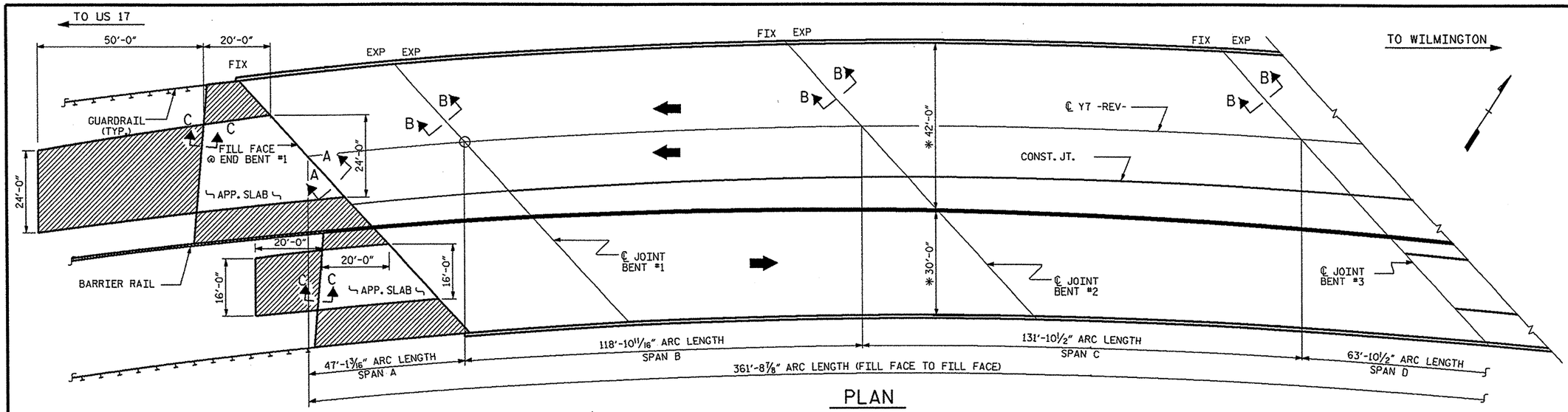
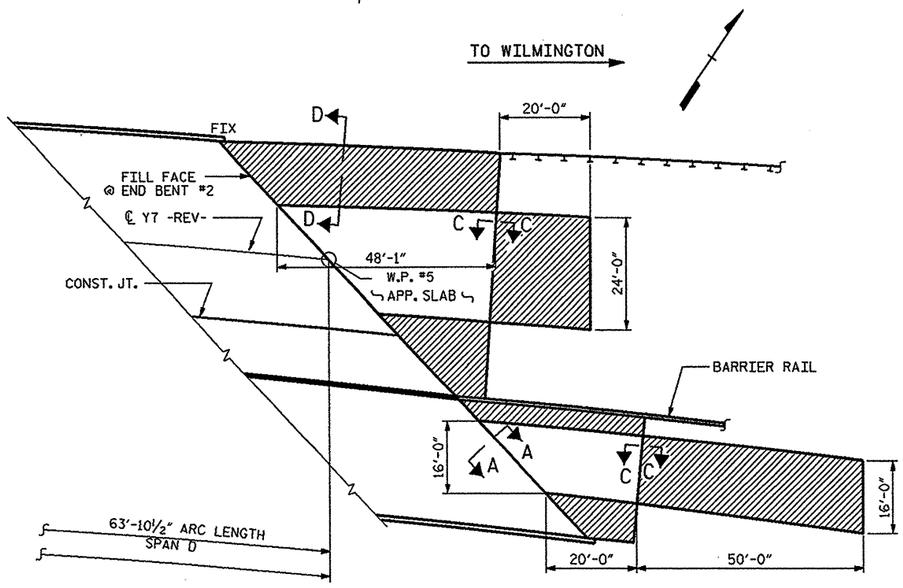
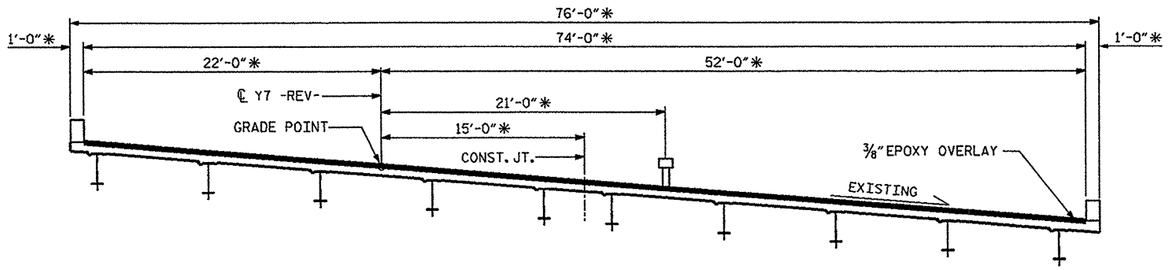


PLAN

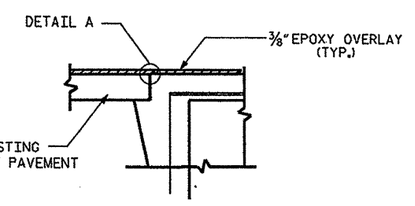
* DIMENSIONS ARE RADIAL





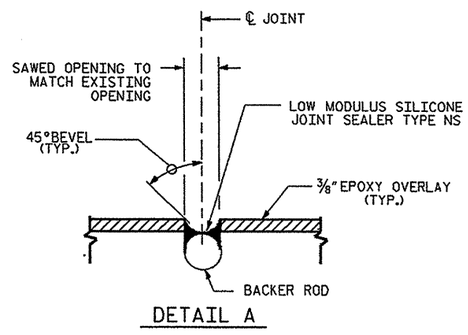
TYPICAL SECTION

* ALL HORIZONTAL DIMENSIONS ARE RADIAL



SECTION A-A

(TYP. @ EACH END BENT)



DETAIL A

NOTES

FOR REPAIR OF BRIDGE WITH EPOXY OVERLAY, SEE SPECIAL PROVISIONS.

SEE SPECIAL PROVISIONS FOR CLASS II DECK REPAIRS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

THE QUANTITY FOR CLASS II DECK REPAIR IS ESTIMATED.

ALL DIMENSIONS ARE FROM BEST INFORMATION AVAILABLE. CONTRACTOR TO FIELD VERIFY EXISTING DIMENSIONS.

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

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.

PROJECT NO. 17BP.3P.3

BRUNSWICK COUNTY

BRIDGE: 96

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN VIEW & EPOXY OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY SHERRILL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-14
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : S.T. SANDOR DATE : 03/2012
CHECKED BY : TIM SHERRILL DATE : 03/2012

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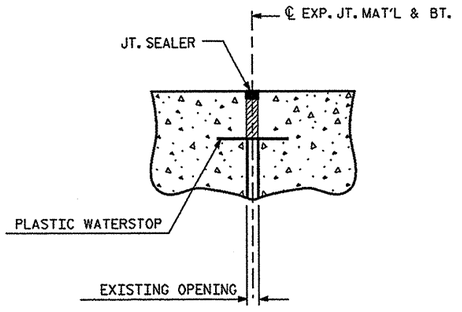
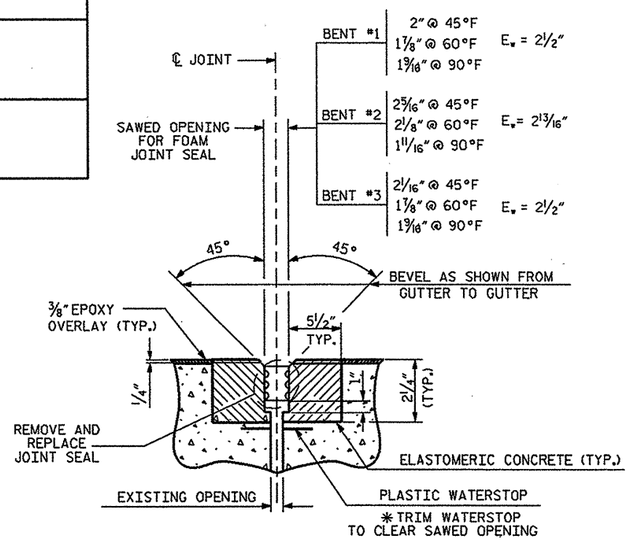
(C1)	PROPOSED APPROXIMATE 1.5" MIN. ASPHALT CONCRETE SURFACE COURSE, TYPE S 9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN ONE LAYER.
(EP)	3/8" EPOXY OVERLAY
(E1)	EXISTING ASPHALT
(T)	EARTH MATERIAL.
(U)	EXISTING APPROACH SLAB



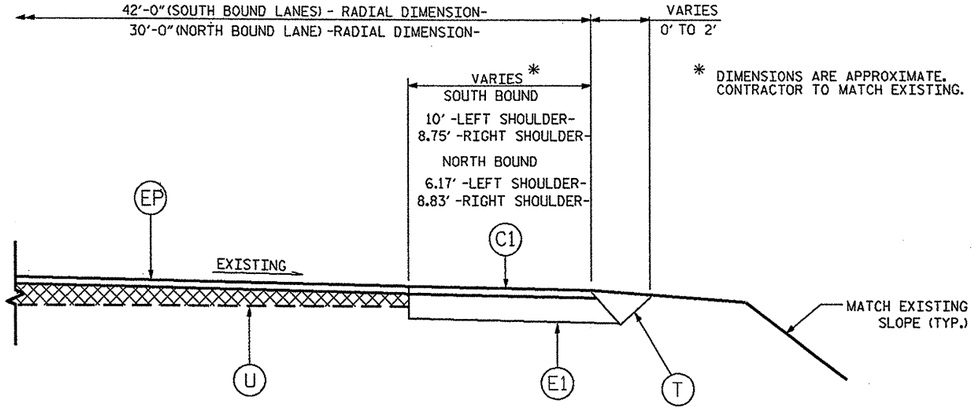
SECTION B-B
(EXISTING)



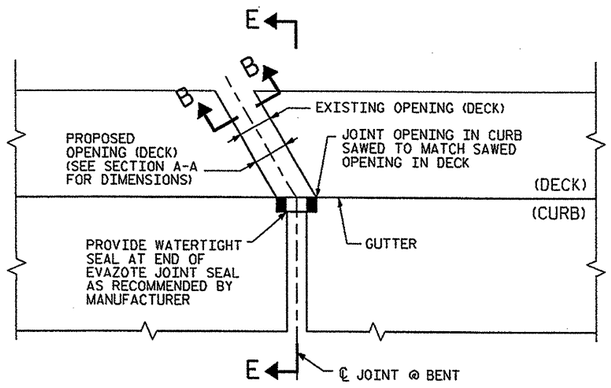
E_w = WIDTH OF UNCOMPRESSED FOAM SEAL

SECTION B-B
(PROPOSED FOAM JT. SEAL)

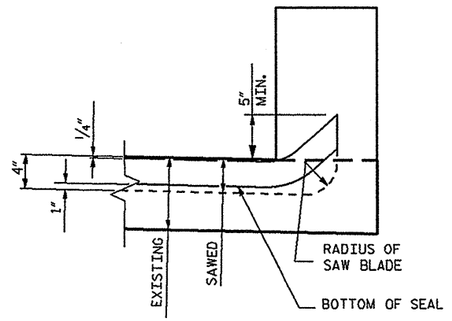
* ALL LOOSE AND UNSOUND CONCRETE SHALL BE REMOVED. IF THE EMBEDDED PORTION OF THE EXISTING WATERSTOP IS EXPOSED DURING REMOVAL OF UNSOUND CONCRETE, THE ENTIRE WATERSTOP SHALL BE REMOVED.



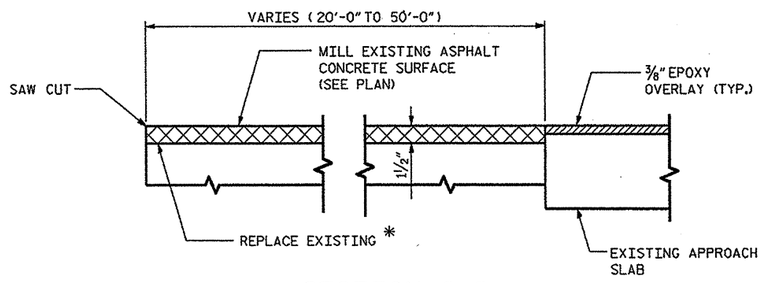
TYPICAL SECTION D-D
(RIGHT SHOULDER SHOWN. LEFT SHOULDER SIMILAR, BUT MIRRORED.)



FOAM JOINT SEAL DETAILS



SEAL DETAILS @ RAIL
(SECTION E-E)



SECTION C-C

* EXISTING APPROACH AND SHOULDER ASPHALT CONCRETE PAVING TO BE MILLED A MINIMUM DEPTH OF 1.5" AS NECESSARY. PROVIDE ADEQUATE NEW ASPHALT CONCRETE THICKNESS TO PROVIDE SMOOTH TRANSITION TO APPROACH SLAB, AS SHOWN. NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE APPROACH AND SHOULDER ASPHALT.

TOTAL BILL OF MATERIAL
FOR BRIDGE #96

EPOXY OVERLAY	FOAM JOINT SEALS	* CLASS II CONCRETE DECK REPAIR FOR EPOXY OVERLAY	ASHALT CONC. SURFACE COURSE, TYPE S9.5B	INCIDENTAL MILLING
SQ.FT.	LUMP SUM	SQ. FT.	TON	SQ. YD.
28,655	LUMP SUM	287	40	476

* ESTIMATED QUANTITY. SEE SPECIAL PROVISIONS.
ALL QUANTITIES ARE FOR INFORMATION ONLY.

PROJECT NO. 17BP.3.P.3
BRUNSWICK COUNTY
BRIDGE : 96

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EPOXY OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL
04/12/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-15
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : S.T. SANDOR DATE : 02/2012
CHECKED BY : T. SHERRILL DATE : 03/2012

11-APR-2012 13:36
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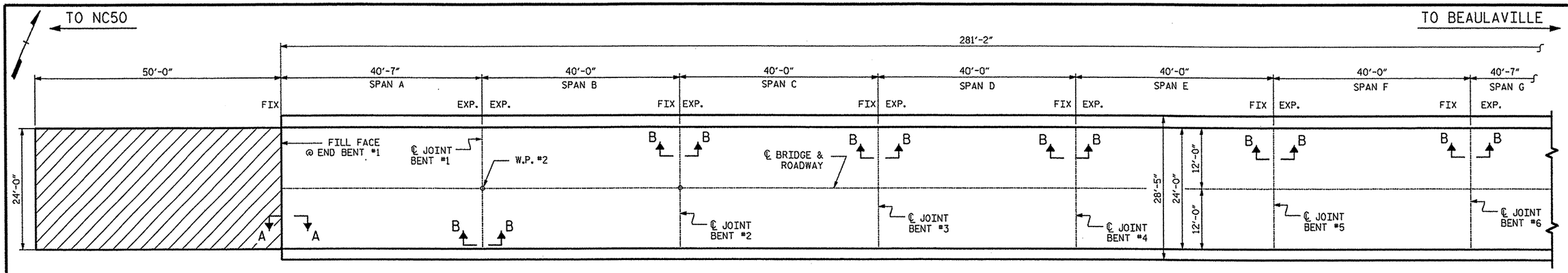
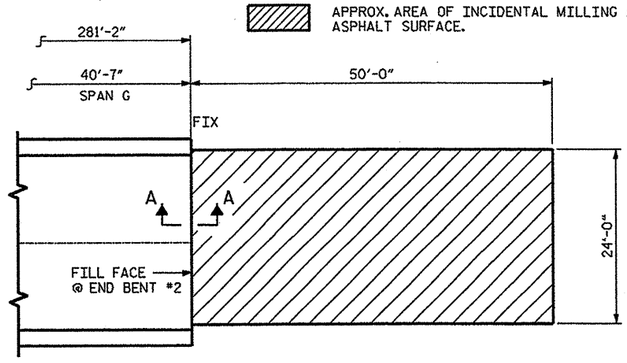
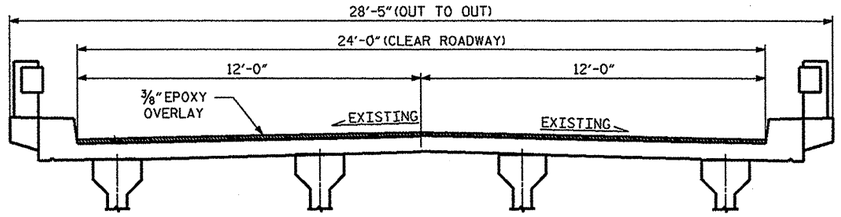
ssandor



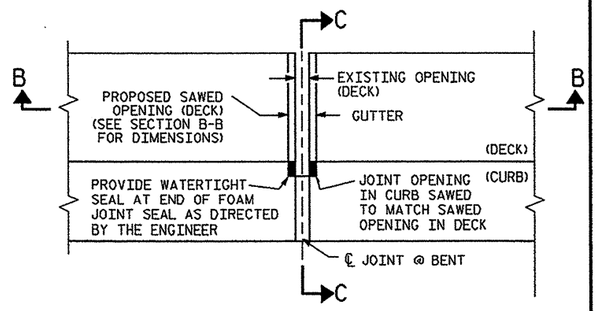
PLAN

APPROX. AREA OF INCIDENTAL MILLING AND NEW ASPHALT SURFACE.





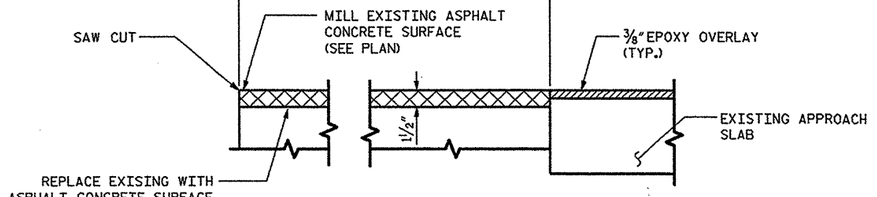
TYPICAL SECTION



FOAM SEAL DETAILS

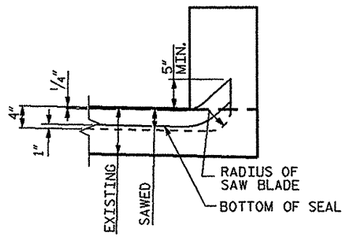
TOTAL BILL OF MATERIAL FOR BRIDGE #182				
EPOXY OVERLAY	FOAM JOINT SEALS	*CLASS II CONCRETE DECK REPAIR FOR EPOXY OVERLAY	ASHALT CONC. SURFACE COURSE, TYPE S9.5B	INCIDENTAL MILLING
SQ.FT.	LUMP SUM	SQ. FT.	TON	SQ. YD.
6,748	LUMP SUM	67	22	267

*ESTIMATED QUANTITY. SEE SPECIAL PROVISIONS.
ALL QUANTITIES ARE FOR INFORMATION ONLY.



JOINT DETAILS @ END BENTS (SECTION A-A)

* EXISTING APPROACH ASPHALT CONCRETE PAVING TO BE MILLED A MINIMUM DEPTH OF 1.5" AS NECESSARY. PROVIDE ADEQUATE NEW ASPHALT CONCRETE THICKNESS TO PROVIDE SMOOTH TRANSITION TO APPROACH SLAB, AS SHOWN. NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE APPROACH AND SHOULDER ASPHALT.



SECTION C-C

NOTES

FOR REPAIR OF BRIDGE WITH EPOXY OVERLAY, SEE SPECIAL PROVISIONS.

SEE SPECIAL PROVISIONS FOR CLASS II DECK REPAIRS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2½" @ THE BENTS.

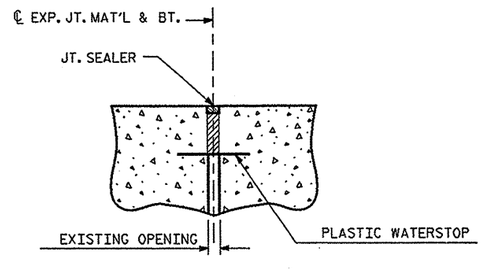
THE QUANTITY FOR CLASS II DECK REPAIR IS ESTIMATED.

ALL DIMENSIONS ARE FROM BEST INFORMATION AVAILABLE. CONTRACTOR TO FIELD VERIFY EXISTING DIMENSIONS.

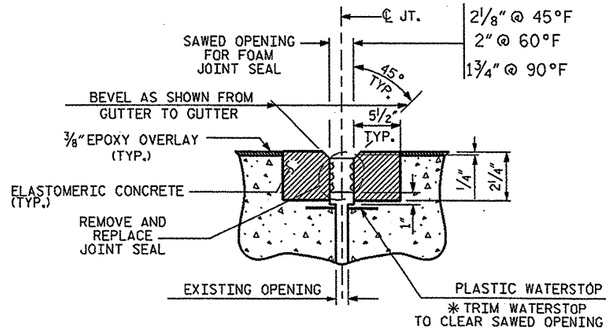
FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLAN SHEETS.

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.



SECTION B-B
(EXISTING)



SECTION B-B
(PROPOSED FOAM JT. SEAL)

* ALL LOOSE AND UNSOUND CONCRETE SHALL BE REMOVED. IF THE EMBEDDED PORTION OF THE EXISTING WATERSTOP IS EXPOSED DURING REMOVAL, THE ENTIRE WATERSTOP SHALL BE REMOVED.

PROJECT NO. 17BP.3.P.3
DUPLIN COUNTY
BRIDGE : 182

SHEET 1 OF 1

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN VIEW & EPOXY OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL
04/12/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-16
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : S. T. SANDOR DATE : 01/2012
CHECKED BY : T. SHERRILL DATE : 03/2012

11-APR-2012 13:41
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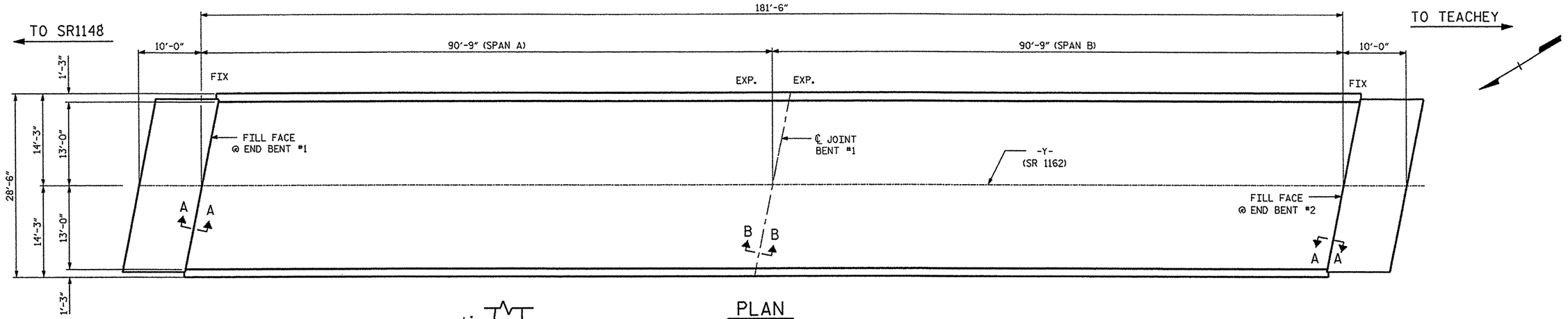
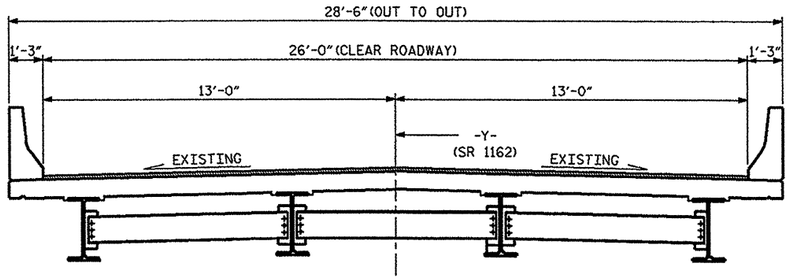
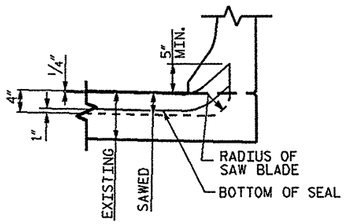


PLAN





SEAL DETAILS @ RAIL (SECTION C-C)

NOTES

FOR REPAIR OF BRIDGE WITH EPOXY OVERLAY, SEE SPECIAL PROVISIONS.

SEE SPECIAL PROVISIONS FOR CLASS II DECK REPAIRS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 1/8" WIDER THAN THE EXISTING JOINT WIDTH AT END BENTS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 1/8" WIDER THAN THE EXISTING JOINT WIDTH AT BENT 1.

CONTRACTOR TO FIELD VERIFY EXISTING JOINT WIDTH DIMENSIONS.

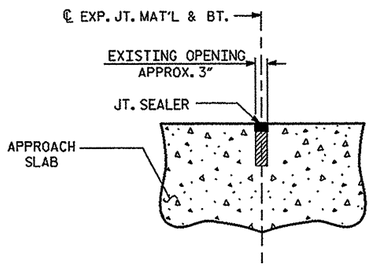
ALL DIMENSIONS ARE FROM BEST INFORMATION AVAILABLE. CONTRACTOR TO FIELD VERIFY EXISTING DIMENSIONS.

THE QUANTITY FOR CLASS II DECK REPAIR IS ESTIMATED.

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

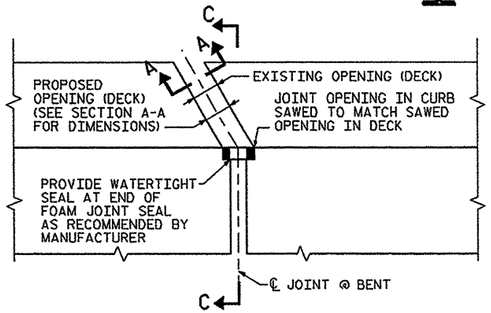
LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.



SECTION A-A

(EXISTING)



TYPICAL SECTION

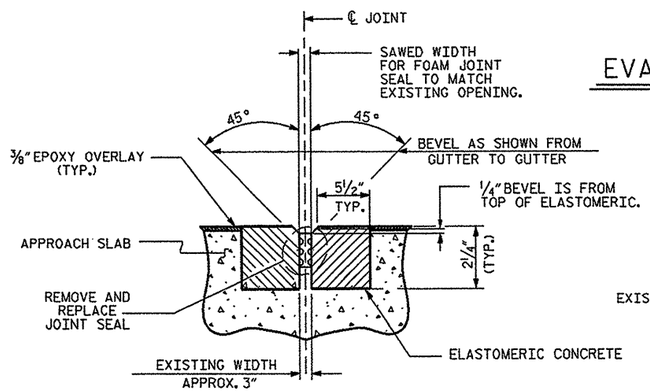
TOTAL BILL OF MATERIAL

FOR BRIDGE #426

EPOXY OVERLAY	FOAM JOINT SEALS	*CLASS II CONCRETE DECK REPAIR FOR EPOXY OVERLAY
SQ.FT.	LUMP SUM	SQ.FT.
5239	LUMP SUM	52

*ESTIMATED QUANTITY. SEE SPECIAL PROVISIONS.

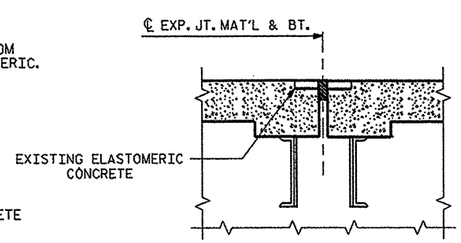
ALL QUANTITIES ARE FOR INFORMATION ONLY.



SECTION A-A

(PROPOSED FOAM JT. SEAL)

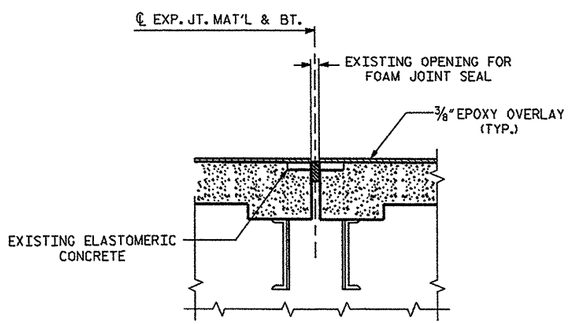
EVAZOTE JOINT SEAL DETAILS



SECTION B-B

(EXISTING)

DO NOT REPLACE EXISTING ELASTOMERIC CONCRETE.



SECTION B-B

(PROPOSED)

PROJECT NO. 17BP.3.P.2

DUPLIN COUNTY

BRIDGE : 426

SHEET 1 OF 1.

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN VIEW & EPOXY OVERLAY DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-17
1			3			TOTAL SHEETS
2			4			34

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/13/12

DRAWN BY : S.T. SANDOR DATE : 01/2012

CHECKED BY : T. SHERRILL DATE : 03/2012

11-APR-2012 13:46
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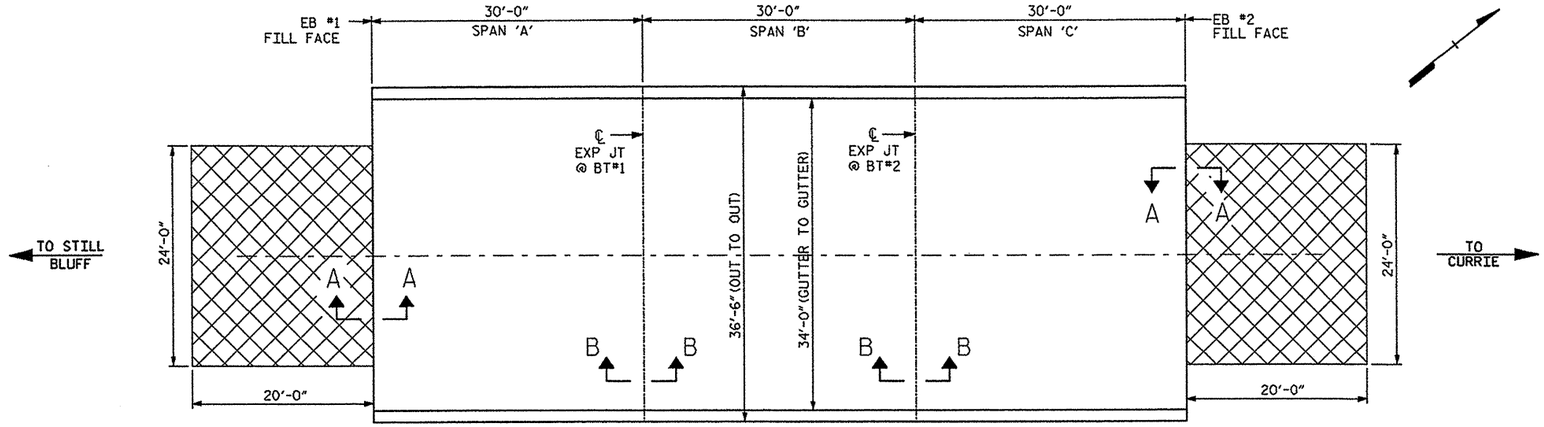
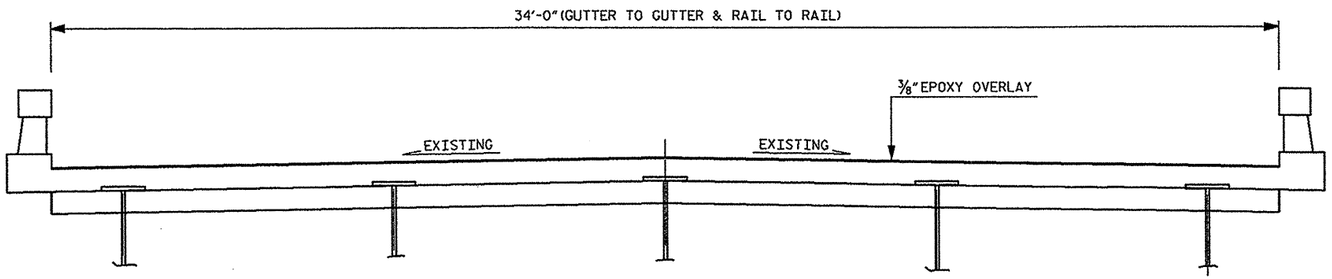


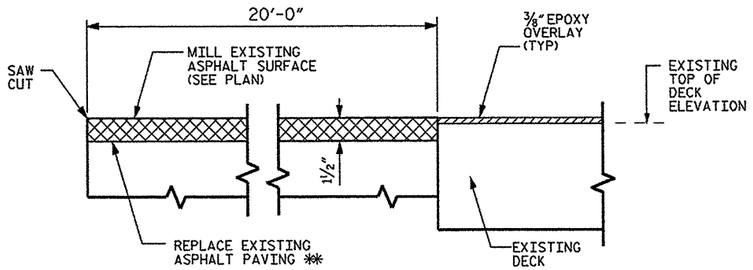
PLAN

INCIDENTAL MILLING AND NEW ASPHALT APPROACH (TYP)

BRIDGE DECK OVERLAY



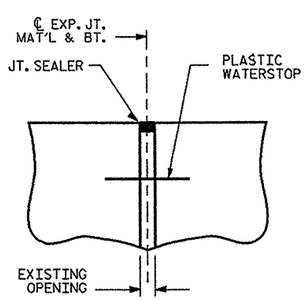
TYPICAL SECTION



SECTION A-A

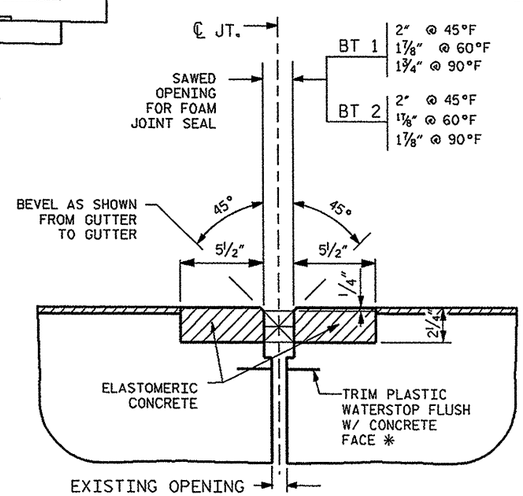
JOINT DETAILS @ END BENTS

** EXISTING APPROACH ASPHALT PAVING TO BE MILLED A MINIMUM DEPTH OF 1.5". NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE APPROACH. PROVIDE ADEQUATE NEW ASPHALT THICKNESS FOR A SMOOTH TRANSITION FROM ROADWAY SAWCUT LOCATION TO TOP OF OVERLAY ON BRIDGE DECK, AS SHOWN ABOVE.



SECTION B-B

(EXISTING)



SECTION B-B

(PROPOSED FOAM JT. SEAL)

* ALL LOOSE AND UNSOUND CONCRETE SHALL BE REMOVED. IF THE EMBEDDED PORTION OF THE EXISTING WATERSTOP IS EXPOSED DURING REMOVAL, THE ENTIRE WATERSTOP SHALL BE REMOVED.

NOTES

FOR REPAIR OF BRIDGE WITH EPOXY OVERLAY, SEE SPECIAL PROVISIONS.

SEE SPECIAL PROVISIONS FOR CLASS II DECK REPAIRS.

THE QUANTITY FOR CLASS II DECK REPAIR IS ESTIMATED.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2 1/2" @ BENTS 1 & 2.

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

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.

TOTAL BILL OF MATERIAL

EPOXY OVERLAY	FOAM JOINT SEALS	* CLASS II CONCRETE DECK REPAIR FOR EPOXY OVERLAY	ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B	INCI-DENTAL MILLING
SQ.FT.	LUMP SUM	SQ.FT.	TONS	SQ. YD.
3060	LUMP SUM	31	9	107

*ESTIMATED QUANTITY. SEE SPECIAL PROVISIONS.
ALL QUANTITIES ARE FOR INFORMATION ONLY.

PROJECT NO. 17BP.3.P.3

PENDER COUNTY

BRIDGE 38

SHEET 1 OF 1

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN VIEW AND EPOXY OVERLAY DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-18
1			3			TOTAL SHEETS
2			4			34

NORTH CAROLINA PROFESSIONAL SEAL 18165 ENGINEER TIMOTHY M. SHERRILL

04/04/12

DRAWN BY : P. BRYANT DATE : 2/2012
CHECKED BY : T. SHERRILL DATE : 3/2012

11-APR-2012 13:56
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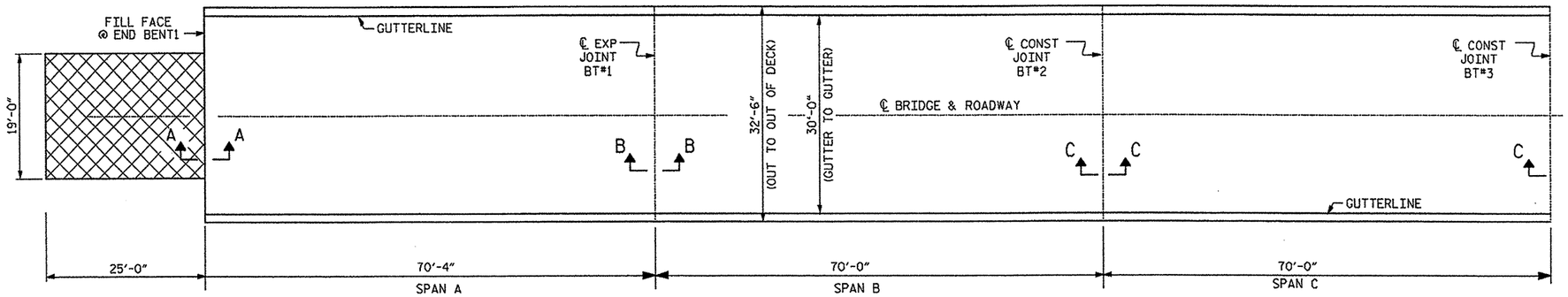
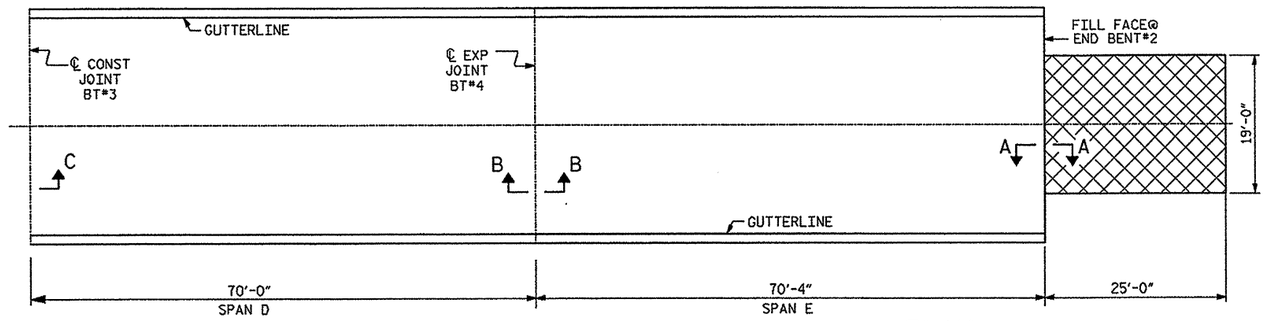
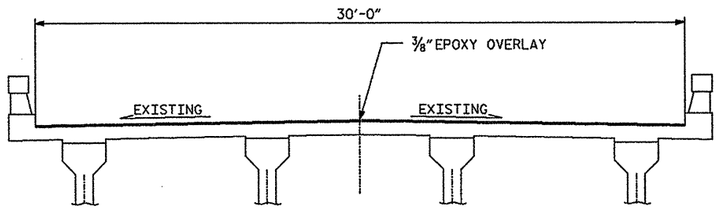
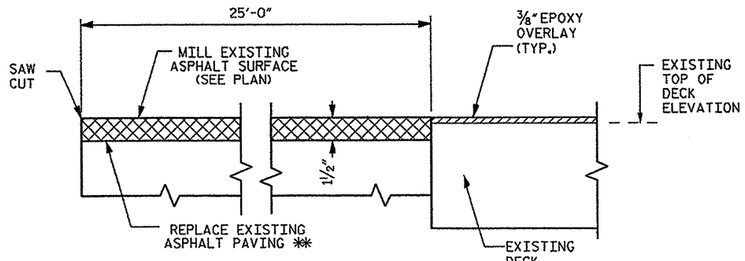




PLAN



TYPICAL SECTION



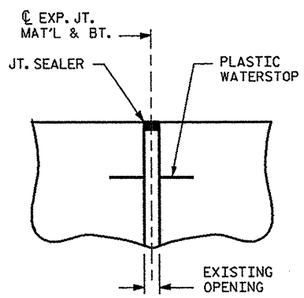
SECTION A-A

JOINT DETAILS @ END BENTS

** EXISTING APPROACH ASPHALT PAVING TO BE MILLED A MINIMUM DEPTH OF 1.5". NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE APPROACH. PROVIDE ADEQUATE NEW ASPHALT THICKNESS FOR A SMOOTH TRANSITION FROM ROADWAY SAWCUT LOCATION TOP OF OVERLAY ON BRIDGE DECK, AS SHOWN ABOVE.

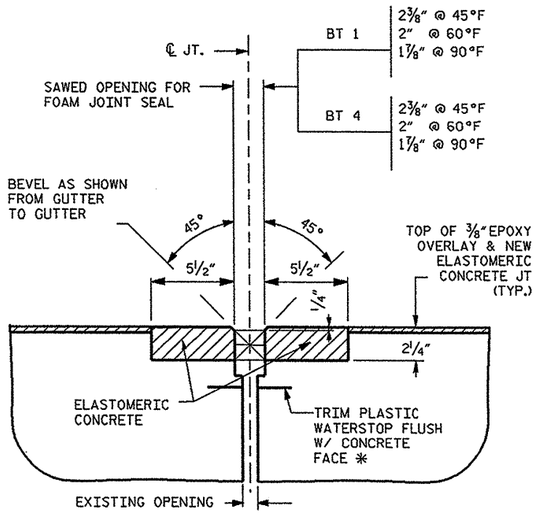
ASPHALT MILLING AND REPLACEMENT

BRIDGE DECK OVERLAY



SECTION B-B

(EXISTING)



SECTION B-B

(PROPOSED FOAM JT. SEAL)

* ALL LOOSE AND UNSOUND CONCRETE SHALL BE REMOVED. IF THE EMBEDDED PORTION OF THE EXISTING WATERSTOP IS EXPOSED DURING REMOVAL, THE ENTIRE WATERSTOP SHALL BE REMOVED.

NOTES

FOR REPAIR OF BRIDGE WITH EPOXY OVERLAY, SEE SPECIAL PROVISIONS.

SEE SPECIAL PROVISIONS FOR CLASS II DECK REPAIRS.

THE QUANTITY FOR CLASS II DECK REPAIR IS ESTIMATED.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2 1/2" @ BENTS 1 & 4.

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

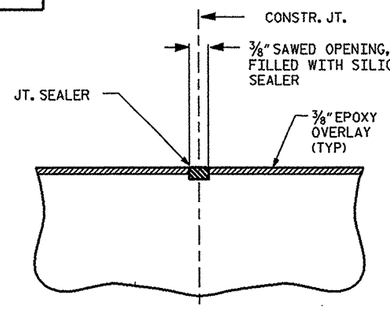
LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.

TOTAL BILL OF MATERIAL

EPOXY OVERLAY	FOAM JOINT SEALS	*CLASS II CONCRETE DECK REPAIR FOR EPOXY OVERLAY	ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B	INCI-DENTAL MILLING
SQ.FT.	LUMP SUM	SQ.FT.	TONS	SQ. YD.
10520	LUMP SUM	105	9	105

*ESTIMATED QUANTITY. SEE SPECIAL PROVISIONS. ALL QUANTITIES ARE FOR INFORMATION ONLY.



SECTION C-C

(PROPOSED)

PROJECT NO. 17BP.3.P.3

PENDER COUNTY

BRIDGE 73

SHEET 1 OF 1

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN VIEW & EPOXY OVERLAY DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-19
1			3			TOTAL SHEETS
2			4			34

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/12/12

DRAWN BY : P. BRYANT DATE : 2/2012
CHECKED BY : T. SHERRILL DATE : 3/2012

11-APR-2012 14:03
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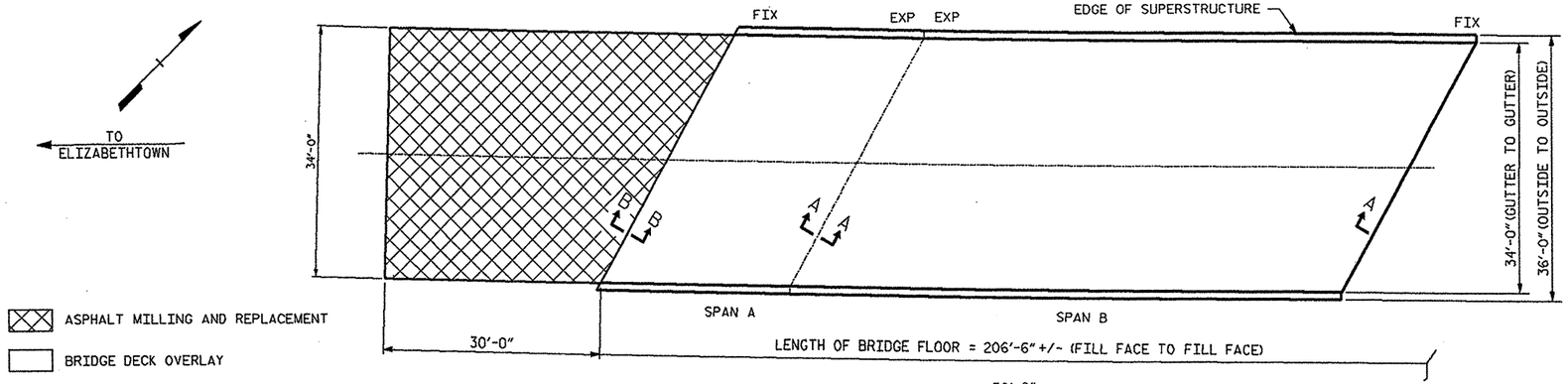
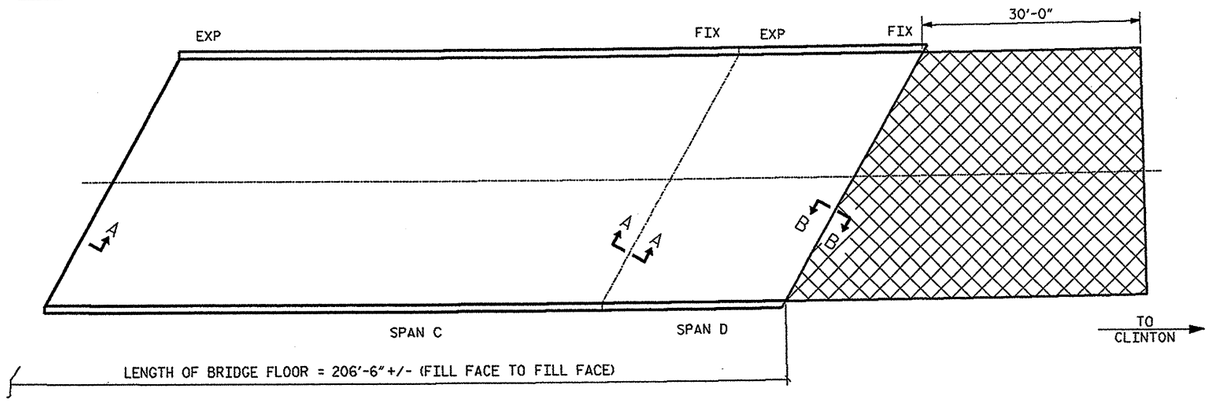




SURFACE PREPARATION PLAN

NOTES

FOR REPAIR OF BRIDGE WITH EPOXY OVERLAY, SEE SPECIAL PROVISIONS.

SEE SPECIAL PROVISIONS FOR CLASS II DECK REPAIRS.

THE QUANTITY FOR CLASS II DECK REPAIR IS ESTIMATED.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2 ½" @ BENTS 1 & 2.

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

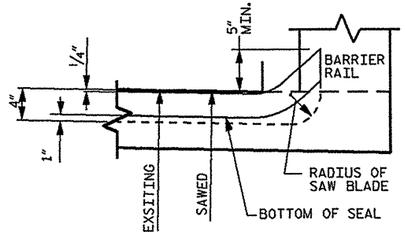
LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.

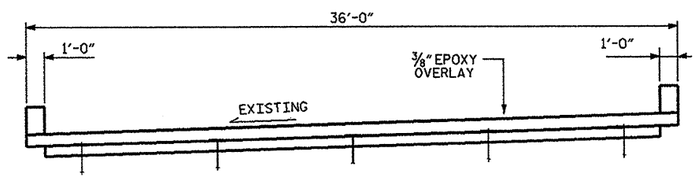
TOTAL BILL OF MATERIAL

EPOXY OVERLAY	FOAM JOINT SEALS	*CLASS II CONCRETE DECK REPAIR FOR EPOXY OVERLAY	ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B	INCI-DENTAL MILLING
SQ.FT.	LUMP SUM	SQ.FT.	TONS	SQ. YD.
7020	LUMP SUM	70	19	228

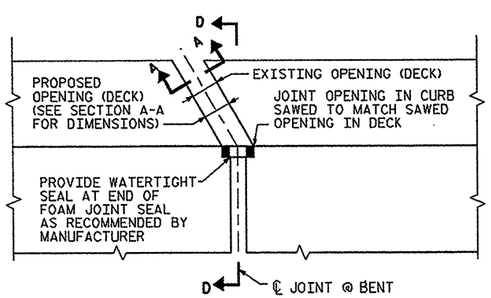
*ESTIMATED QUANTITY. SEE SPECIAL PROVISIONS.
ALL QUANTITIES ARE FOR INFORMATION ONLY.



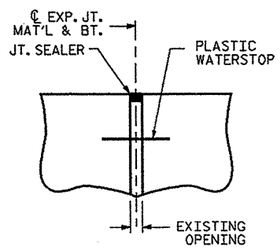
SECTION D-D



TYPICAL BRIDGE FLOOR SECTION

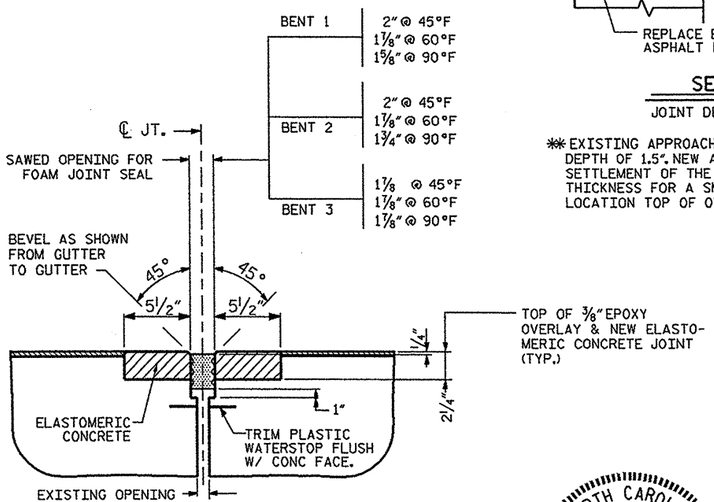


FOAM JOINT SEAL DETAILS



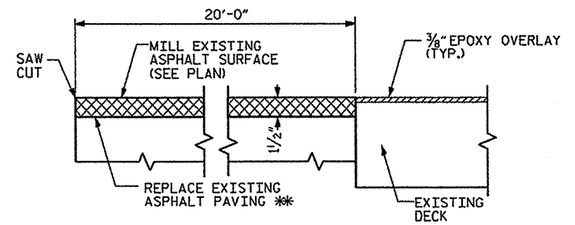
SECTION A-A

(EXISTING)



SECTION A-A

(PROPOSED FOAM JT. SEAL)



SECTION B-B

JOINT DETAILS @ END BENTS

** EXISTING APPROACH ASPHALT PAVING TO BE MILLED A MINIMUM DEPTH OF 1.5". NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE APPROACH. PROVIDE ADEQUATE NEW ASPHALT THICKNESS FOR A SMOOTH TRANSITION FROM ROADWAY SAWCUT LOCATION TOP OF OVERLAY ON BRIDGE DECK, AS SHOWN ABOVE.

PROJECT NO. 17BP.3.P.3

SAMPSON COUNTY

BRIDGE 41

SHEET 1 OF 1

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN VIEW & EPOXY OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL
04/12/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-20
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : P. BRYANT DATE : 2/2012
CHECKED BY : T. SHERRILL DATE : 3/2012

11-APR-2012 14:12
S:\PRS\PDC\Squad B\Paul_Bryant\SAMPSON\17BP.3.P.3_BRIDGE*0041_SD_PGD.dgn
ssandor

TOTAL BILL OF MATERIAL				
EPOXY OVERLAY	FOAM JOINT SEALS	*CLASS II CONCRETE DECK REPAIR FOR EPOXY OVERLAY	ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B	INCI-DENTAL MILLING
SQ.FT.	LUMP SUM	SQ.FT.	TONS	SQ. YD.
7342	LUMP SUM	73	12	138

*ESTIMATED QUANTITY. SEE SPECIAL PROVISIONS.
ALL QUANTITIES ARE FOR INFORMATION ONLY.

NOTES

FOR REPAIR OF BRIDGE WITH EPOXY OVERLAY, SEE SPECIAL PROVISIONS.

SEE SPECIAL PROVISIONS FOR CLASS II DECK REPAIRS.

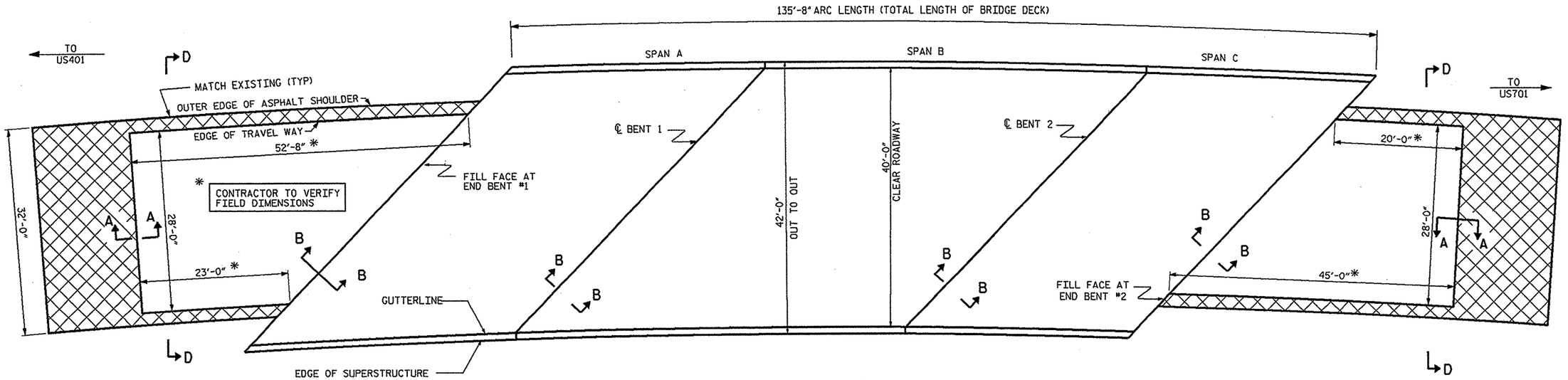
FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2½" @ THE BENTS.

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

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

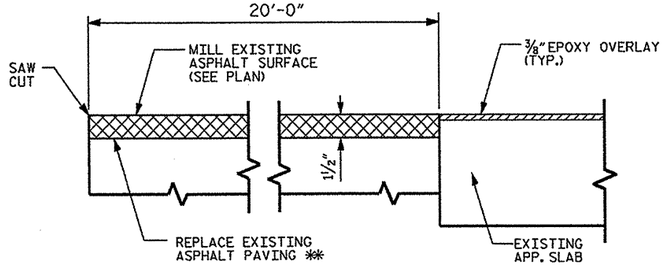
DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.



SURFACE PREPARATION PLAN

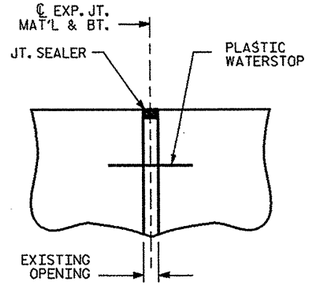
INCIDENTAL MILLING AND NEW ASPHALT APPROACH (TYP)

BRIDGE DECK OVERLAY



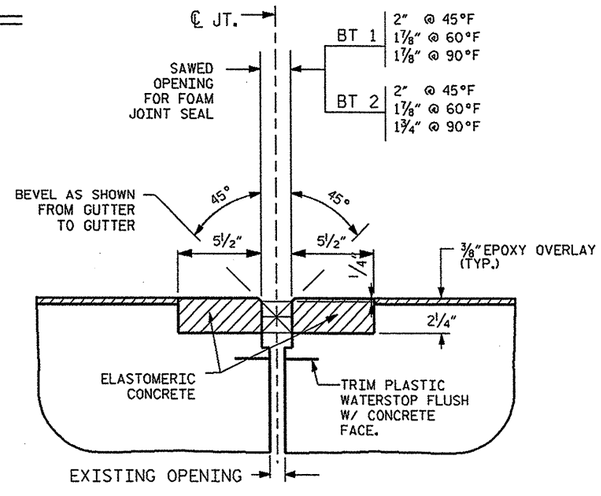
SECTION A-A

JOINT DETAILS @ END BENTS



SECTION B-B

(EXISTING)



SECTION B-B

(PROPOSED FOAM JT. SEAL)

** EXISTING APPROACH AND SHOULDER ASPHALT PAVING TO BE MILLED A MINIMUM DEPTH OF 1.5". NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE APPROACH. PROVIDE ADEQUATE NEW ASPHALT THICKNESS FOR A SMOOTH TRANSITION FROM ROADWAY SAWCUT LOCATION TO TOP OF OVERLAY ON APPROACH SLAB, AS SHOWN ABOVE.

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/12/12

DRAWN BY : P. BRYANT DATE : 2/2012
CHECKED BY : T. SHERRILL DATE : 3/2012

11-APR-2012 14:24
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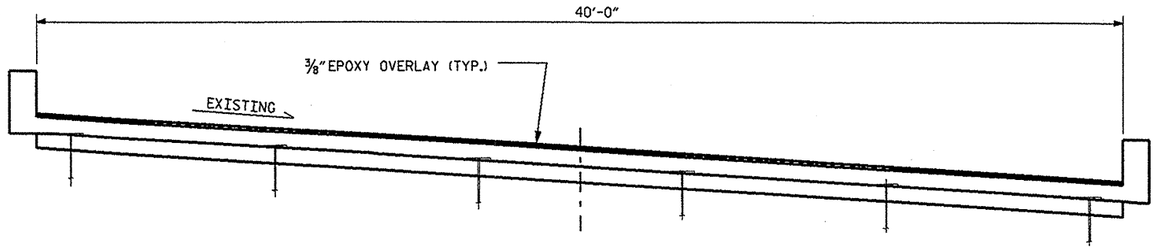
PROJECT NO. 17BP.3.P.3
SAMPSON COUNTY
BRIDGE: 46

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

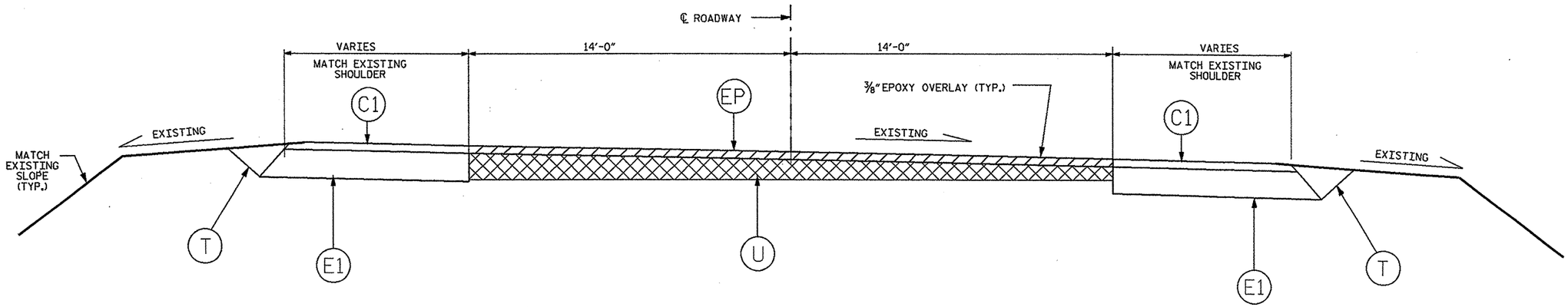
PLAN VIEW & EPOXY OVERLAY DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-21
1			3			TOTAL SHEETS
2			4			34

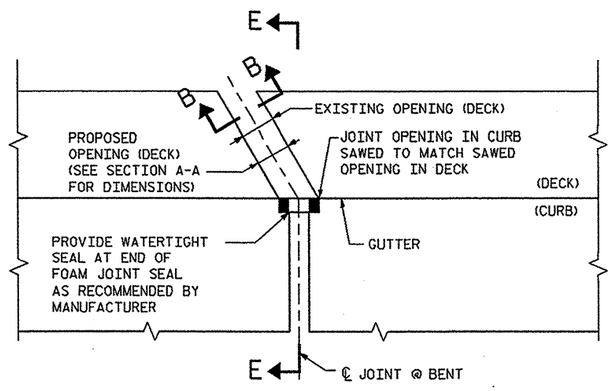


TYPICAL BRIDGE FLOOR SECTION

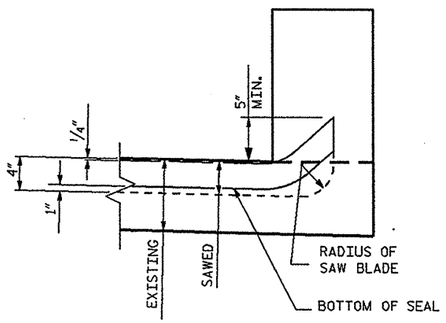
(C1)	PROPOSED APPROXIMATE 1.5" MIN. ASPHALT CONCRETE SURFACE COURSE, TYPE S 9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN ONE LAYER.
(EP)	3/8" EPOXY OVERLAY
(E1)	EXISTING ASPHALT
(T)	EARTH MATERIAL.
(U)	EXISTING CONCRETE APPROACH SLAB



TYPICAL APPROACH SECTION D-D



FOAM JOINT SEAL DETAILS



SEAL DETAILS @ RAIL

(SECTION E-E)

PROJECT NO. 17BP.3.P.3

SAMPSON COUNTY

BRIDGE: 46

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EPOXY OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/12/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-22
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : P. BRYANT DATE : 02/2012
CHECKED BY : T. SHERRILL DATE : 03/2012

11-APR-2012 14:25
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ssandor

TOTAL BILL OF MATERIAL

EPOXY OVERLAY	FOAM JOINT SEALS	*CLASS II CONCRETE DECK REPAIR FOR EPOXY OVERLAY	ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B	INCI-DENTAL MILLING
SQ.FT.	LUMP SUM	SQ.FT.	TONS	SQ. YD.
6618	LUMP SUM	66	13	151

*ESTIMATED QUANTITY. SEE SPECIAL PROVISIONS.
ALL QUANTITIES ARE FOR INFORMATION ONLY.

NOTES

FOR REPAIR OF BRIDGE WITH EPOXY OVERLAY, SEE SPECIAL PROVISIONS.

SEE SPECIAL PROVISIONS FOR CLASS II DECK REPAIRS.

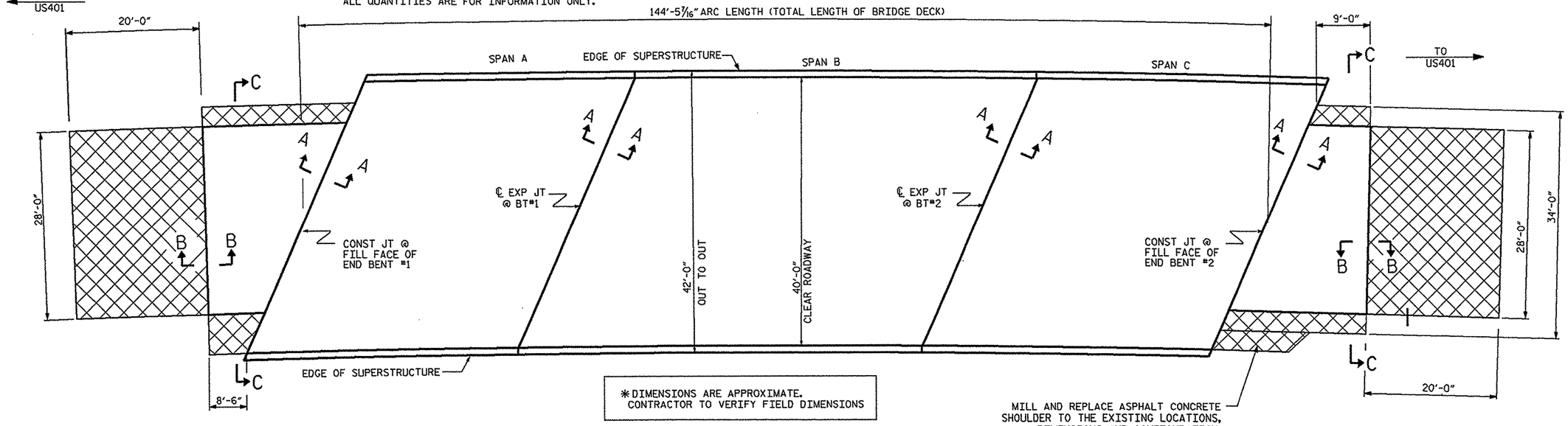
FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2½" @ THE BENTS.

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

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

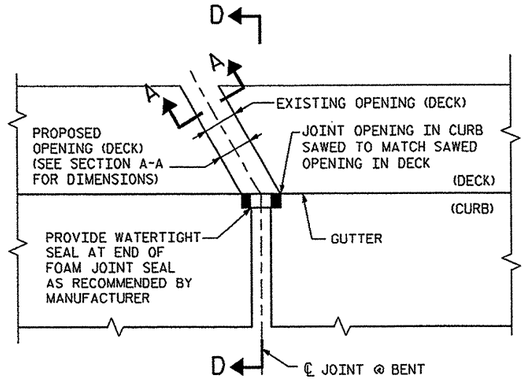
DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.



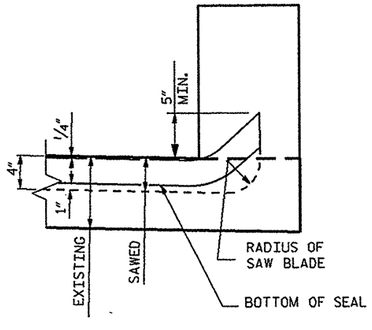
INCIDENTAL MILLING AND NEW ASPHALT APPROACH (TYP)

BRIDGE DECK OVERLAY

PLAN

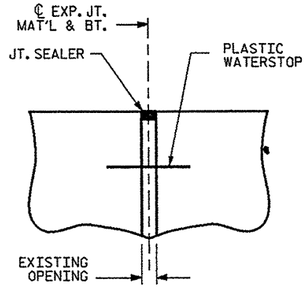


FOAM JOINT SEAL DETAILS



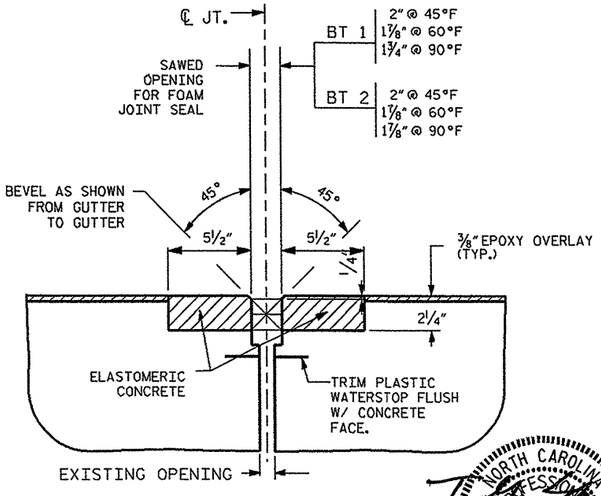
SEAL DETAILS @ RAIL

(SECTION D-D)



SECTION A-A

(EXISTING)



SECTION A-A

(PROPOSED FOAM JT. SEAL)

PROJECT NO. 17BP.3.P.3
SAMPSON COUNTY
BRIDGE : 47
SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN VIEW & EPOXY OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL
04/12/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-23
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : P. BRYANT DATE : 2/2012
CHECKED BY : T. SHERRILL DATE : 3/2012

12-APR-2012 09:50
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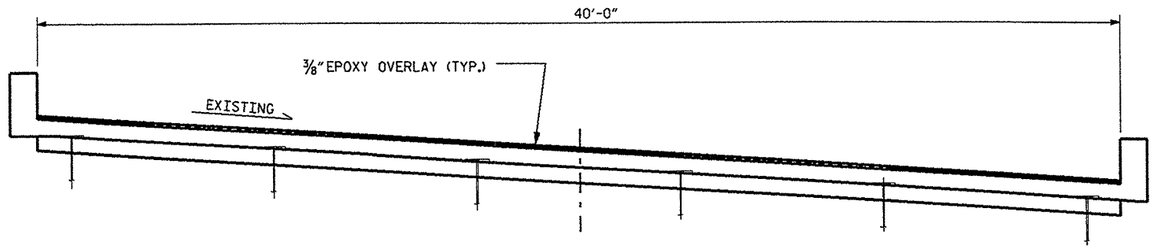
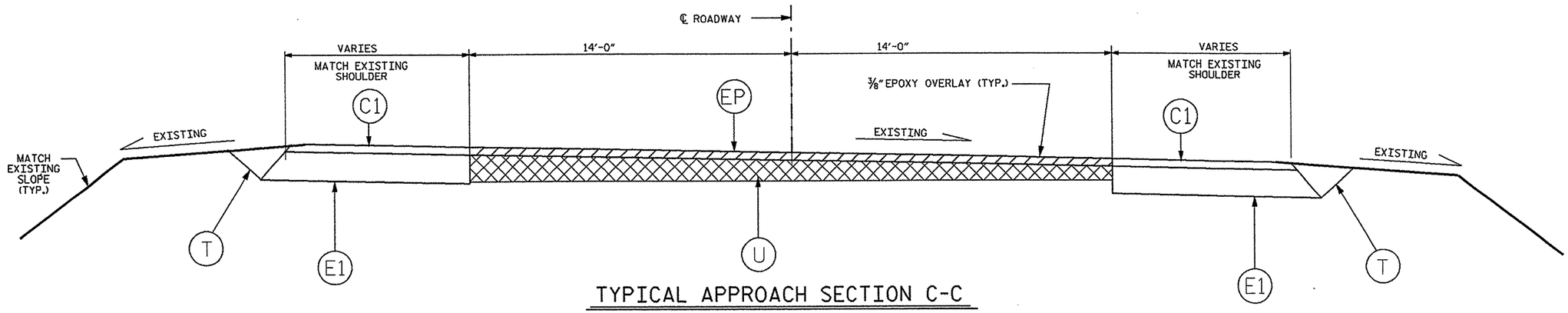


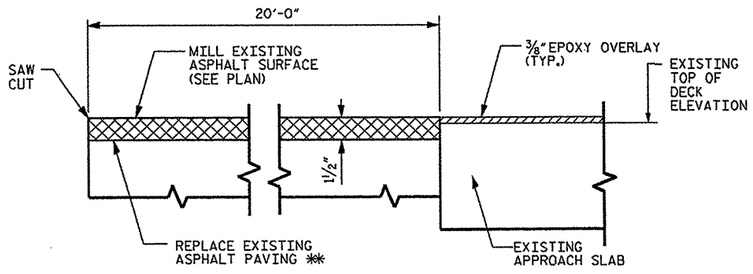
TYPICAL BRIDGE FLOOR SECTION



TYPICAL APPROACH SECTION C-C

** EXISTING ASPHALT CONCRETE IN SHOLUDER AREAS TO BE MILLED A MINIMUM DEPTH OF 1.5". NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE SHOULDER ASPHALT. PROVIDE ADEQUATE NEW ASPHALT CONCRETE THICKNESS TP PROVIDE SMOOTH TRANSITION TO APPROACH SLAB,AS SHOWN.

(C1)	PROPOSED APPROXIMATE 1.5" MIN. ASPHALT CONCRETE SURFACE COURSE, TYPE S 9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN ONE LAYER.
(EP)	3/8" EPOXY OVERLAY
(E1)	EXISTING ASPHALT
(T)	EARTH MATERIAL.
(U)	EXISTING CONCRETE APPROACH SLAB



SECTION B-B

JOINT DETAILS @ END BENTS

** EXISTING APPROACH ASPHALT AND SHOULDER ASPHALT PAVING TO BE MILLED A MINIMUM DEPTH OF 1.5". NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE APPROACH ASPHALT. PROVIDE ADEQUATE NEW ASPHALT CONCRETE THICKNESS TO PROVIDE SMOOTH TRANSITION FROM SAW CUT LOCATION TO APPROACH SLAB, AS SHOWN.

PROJECT NO. 17BP.3.P.3

SAMPSON COUNTY

BRIDGE NO.: 47

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EPOXY OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL
04/12/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-24
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : P. BRYANT DATE : 02/2012
CHECKED BY : T. SHERRILL DATE : 3/2012

11-APR-2012 14:32
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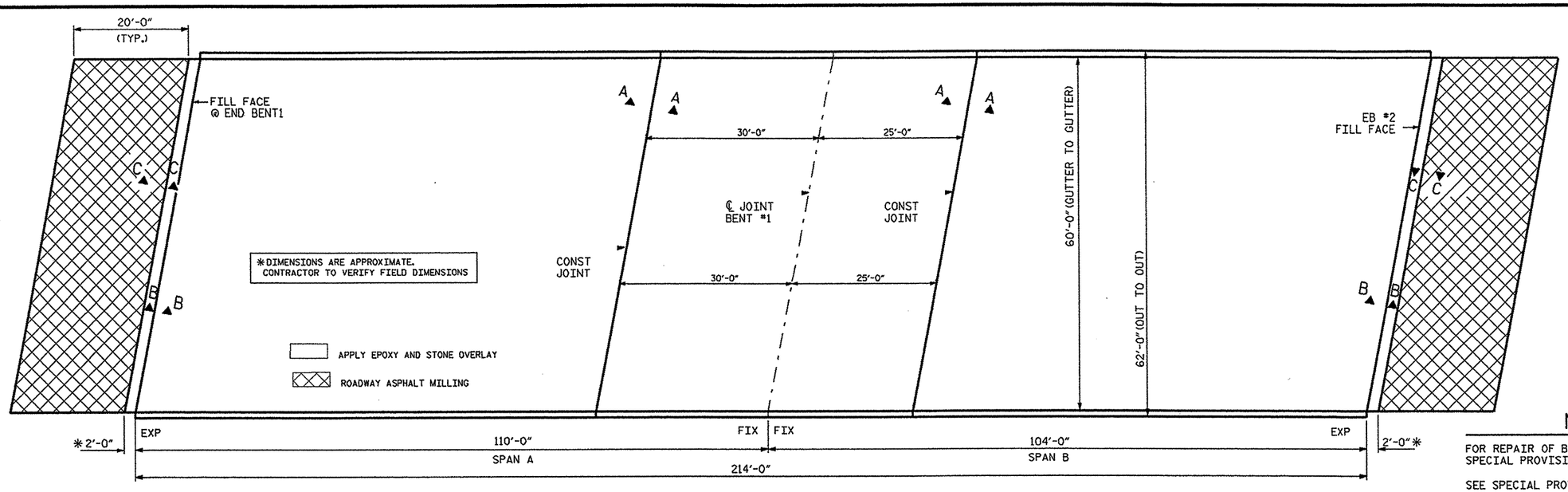
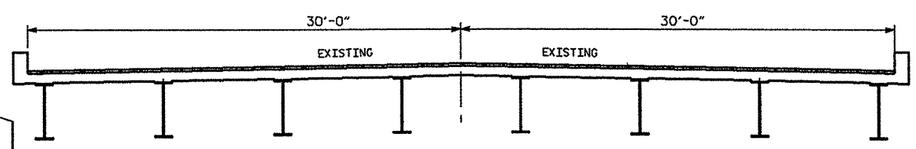
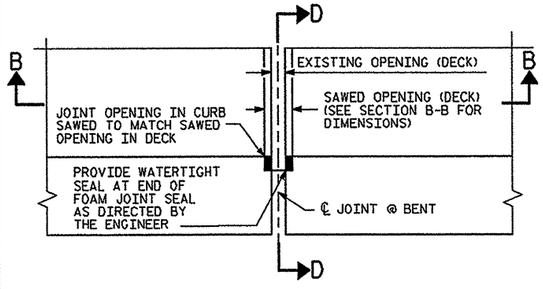


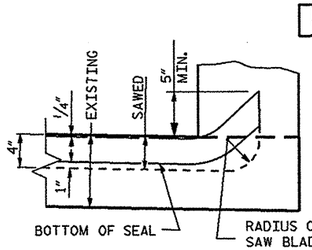
BRIDGE PLAN VIEW



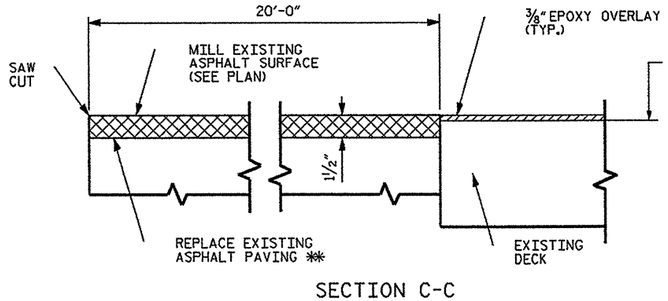
TYPICAL BRIDGE FLOOR SECTION



PLAN

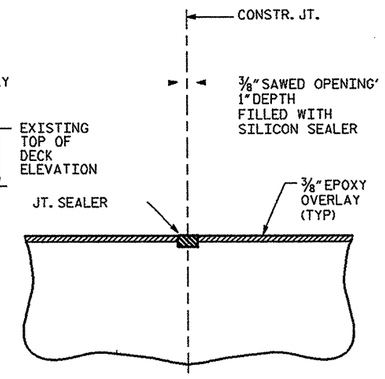


SEAL DETAILS @ RAIL



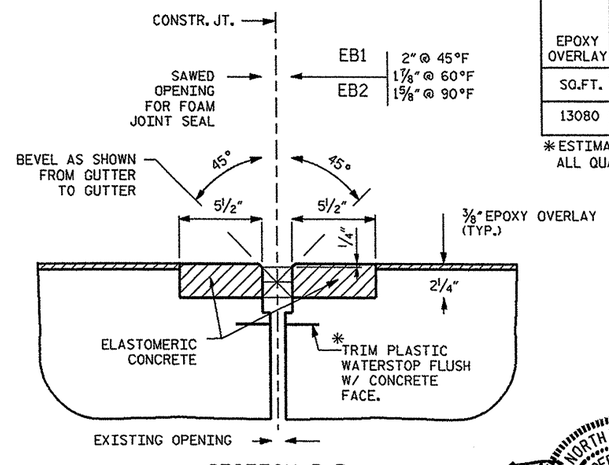
SECTION C-C

JOINT DETAILS @ END BENTS



SECTION A-A

(PROPOSED)



SECTION B-B

(PROPOSED FOAM JT. SEAL)

** EXISTING APPROACH ASPHALT PAVING TO BE MILLED A MINIMUM DEPTH OF 1.5". NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE APPROACH. PROVIDE ADEQUATE NEW ASPHALT THICKNESS FOR A SMOOTH TRANSITION FROM SAWCUT LOCATION TO TOP OF OVERLAY ON BRIDGE DECK, AS SHOWN ABOVE.

* ALL LOOSE AND UNSOUND CONCRETE SHALL BE REMOVED. IF THE EMBEDDED PORTION OF THE EXISTING WATERSTOP IS EXPOSED DURING REMOVAL, THE ENTIRE WATERSTOP SHALL BE REMOVED.

NOTES

FOR REPAIR OF BRIDGE WITH EPOXY OVERLAY, SEE SPECIAL PROVISIONS.

SEE SPECIAL PROVISIONS FOR CLASS II DECK REPAIRS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2½" @ THE BENTS.

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

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.

TOTAL BILL OF MATERIAL

EPOXY OVERLAY	FOAM JOINT SEALS	*CLASS II CONCRETE DECK REPAIR FOR EPOXY OVERLAY	ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B	INCI-DENTAL MILLING
SQ.FT.	LUMP SUM	SQ.FT.	TONS	SQ. YD.
13080	LUMP SUM	131	22	267

*ESTIMATED QUANTITY. SEE SPECIAL PROVISIONS. ALL QUANTITIES ARE FOR INFORMATION ONLY.

PROJECT NO. 17BP.3.P.3

SAMPSON COUNTY

BRIDGE 52

SHEET 1 OF 1

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN VIEW & EPOXY OVERLAY DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/12/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-25
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : P. BRYANT DATE : 2/2012
CHECKED BY : T. SHERRILL DATE : 3/2012

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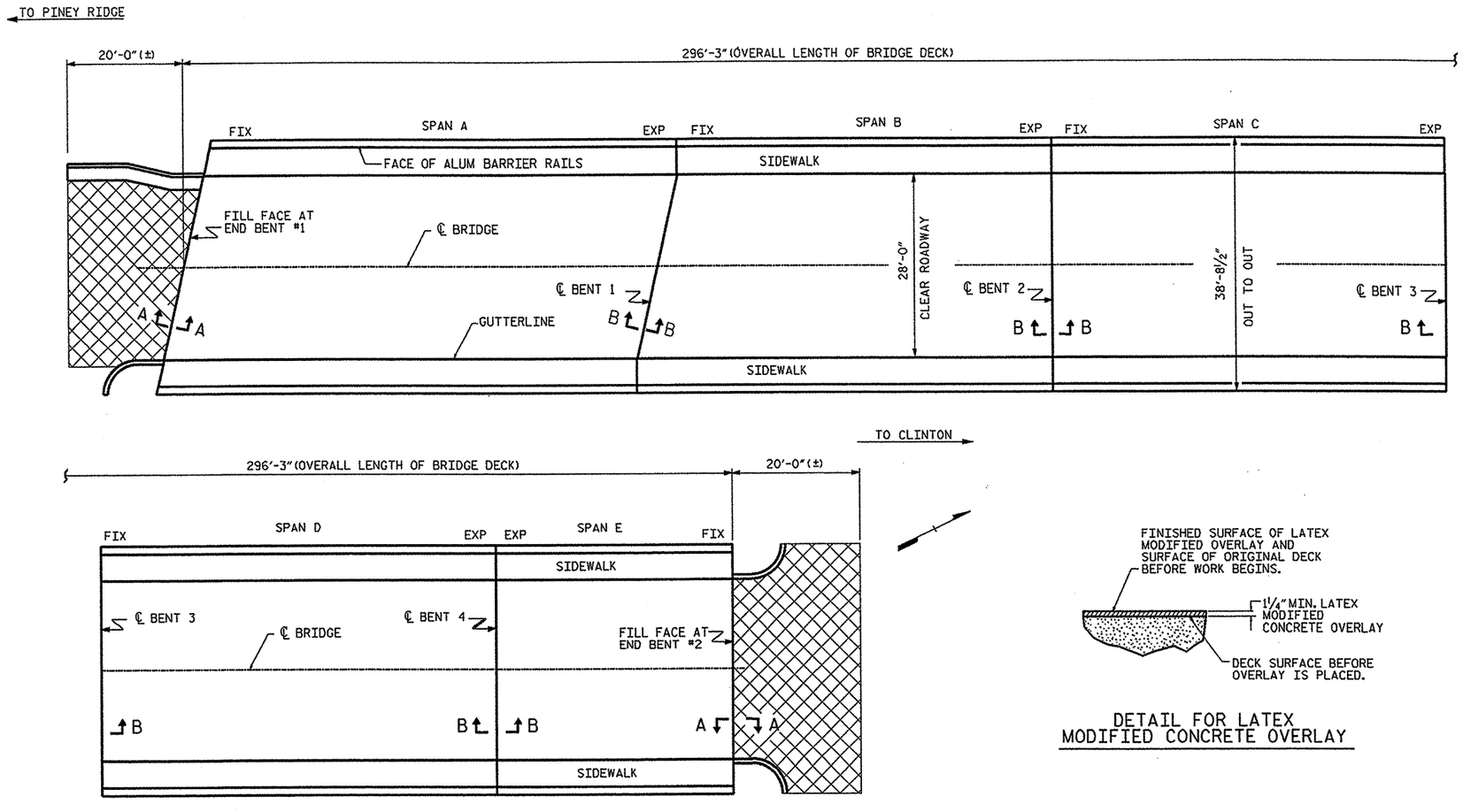
eaandor



ASPHALT MILLING AND REPLACEMENT

BRIDGE DECK SCARIFICATION AND HYDRO-DEMOLITION

DETAIL FOR LATEX MODIFIED CONCRETE OVERLAY

NOTES

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

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

ROADWAY MILLING IS INCLUDED TO ENSURE A SMOOTH TRANSITION ONTO THE BRIDGE FLOOR. DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL MILL AS REQUIRED TO PROVIDE A SMOOTH TRANSITION TO THE ROADWAY AT BOTH ENDS OF BRIDGE.

THE BOUNDARIES OF AREAS IDENTIFIED FOR CLASS III SURFACE PREPARATION ARE APPROXIMATE, THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK, SEE "TYP. "BLOW THRU" CONTAINMENT AND FORMWORK" DETAIL.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRODEMOLITION PROCESS SEE, "MANAGING HYDRODEMOLITION WATER" SPECIAL PROVISION.

FOR "HYDRO-DEMOLITION OF BRIDGE DECK", SEE SPECIAL PROVISIONS.

FOR OVERLAY OF BRIDGE WITH "LATEX MODIFIED CONCRETE", SEE SPECIAL PROVISIONS.

FOR "FOAM JOINT SEALS", SEE SPECIAL PROVISIONS.

FOR "ELASTOMERIC CONCRETE", SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2½".

FOR "SUBMITTAL OF WORKING DRAWINGS", SEE SPECIAL PROVISIONS.

FOR "SCARIFYING BRIDGE DECK", SEE SPECIAL PROVISIONS.

FOR "FALSEWORK AND FORMWORK", SEE SPECIAL PROVISIONS.

FOR "CRANE SAFETY", SEE SPECIAL PROVISIONS.

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

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

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

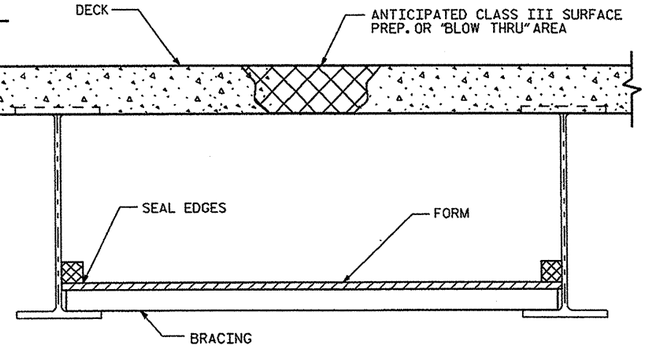
DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.

TOTAL BILL OF MATERIAL

SCARIFYING BRIDGE DECK	CLASS II* SURFACE PREPARATION	HYDRO-DEMOLITION	LATEX MODIFIED CONCRETE	PLACING & FINISHING LATEX MODIFIED CONCRETE	FOAM JOINT SEALS	GROOVING BRIDGE FLOOR	INCIDENTAL MILLING	ASPHALT CONC SURF COURSE TYPE S9.5B
SQ.YDS.	SQ.YDS.	SQ.YDS.	C.Y.	SQ.YDS.	LUMP SUM	SQ. FT.	SQ.YDS.	TONS
922	922	922	38	922	LUMP SUM	7406	132	9

*QUANTITY SHOWN IS FOR INFORMATION ONLY. ALL COSTS FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR HYDRO-DEMOLITION.

PLAN



TYP. "BLOW THRU" CONTAINMENT AND FORMWORK

A METHOD TO CAPTURE WATER AND DEBRIS FROM BLOW THRU DURING HYDRO-DEMOLITION SHALL BE INSTALLED IN AREAS INDICATED AS CLASS III SURFACE PREPARATION.

SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

COST FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE PER SQ. YARD OF HYDRO-DEMOLITION.

PROJECT NO. 17BP.3.P.3

SAMPSON COUNTY

BRIDGE : 53

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SURFACE PREPARATION PLAN AND BILL OF MATERIALS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-26
1			3			TOTAL SHEETS
2			4			34

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/11/12

DRAWN BY : P. BRYANT DATE : 2/2012
CHECKED BY : T. SHERRILL DATE : 3/2012

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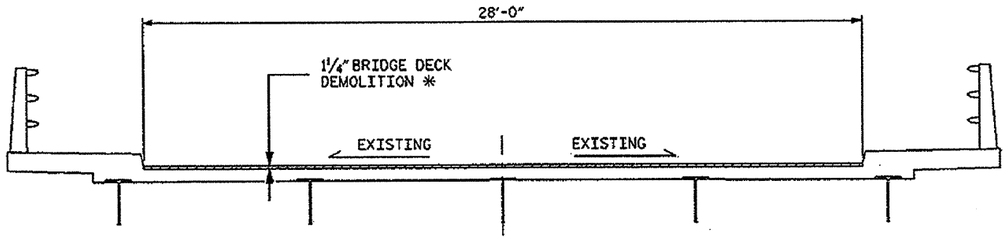
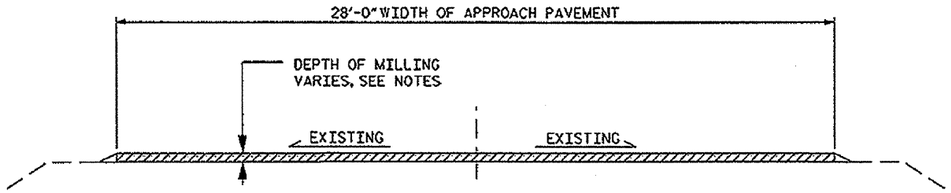
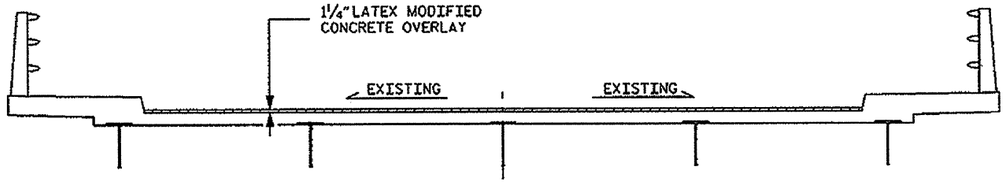


TYPICAL BRIDGE DECK DEMOLITION SECTION

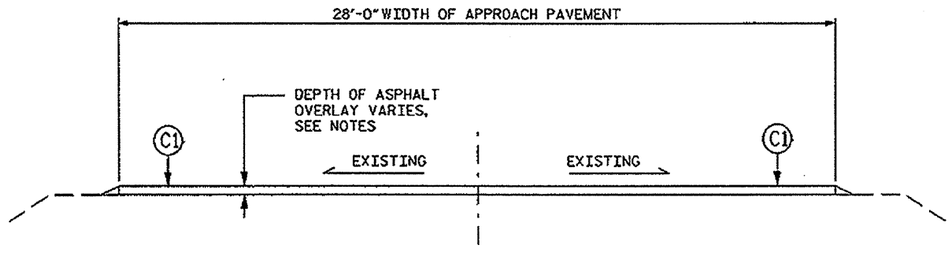
*DEMOLITION INCLUDES DECK SCARIFICATION AND HYDRO-DEMOLITION



TYPICAL ROADWAY MILLING SECTION



PROPOSED TYPICAL BRIDGE DECK SECTION



TYPICAL PROPOSED ROADWAY SECTION

C1	PROPOSED VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S 9.5B AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1-1/2" IN DEPTH OR GREATER THAN 2" IN DEPTH.

PROJECT NO. 17BP.3.P.3

SAMPSON COUNTY

BRIDGE : 53

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTIONS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/17/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-27
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : P. BRYANT DATE : 2/2012
CHECKED BY : T. SHERRILL DATE : 3/2012

17-APR-2012 14:25
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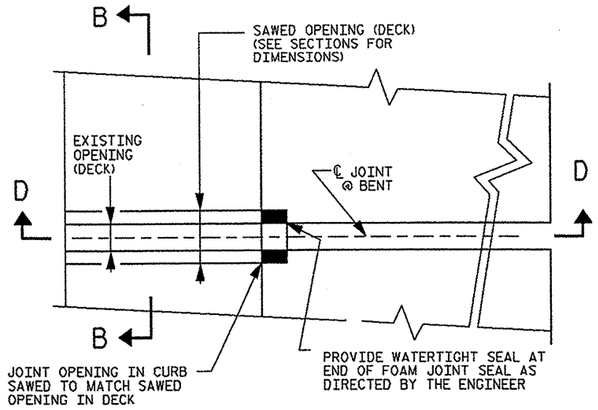
tmcharrill

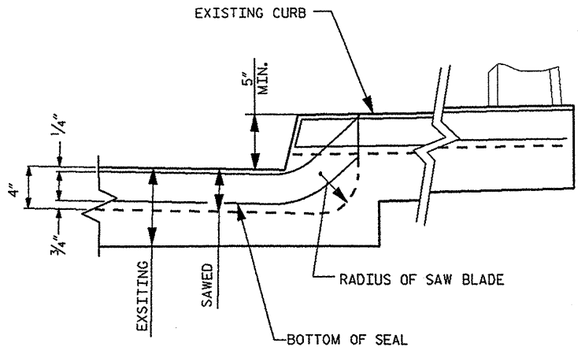
NOTES

FOR FOAM JOINT SEAL, SEE SPECIAL PROVISIONS.

THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.

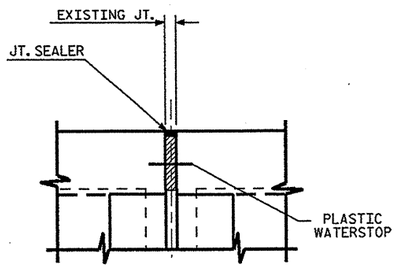
NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 2½".



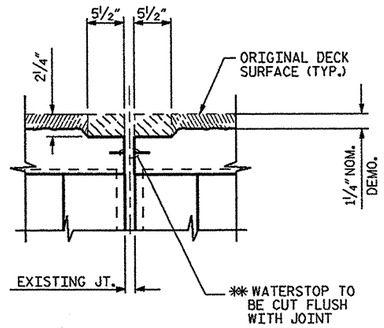


SECTION D-D

PLAN

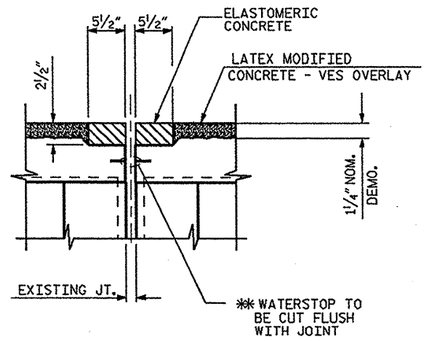


SECTION B-B
(EXISTING JOINT)

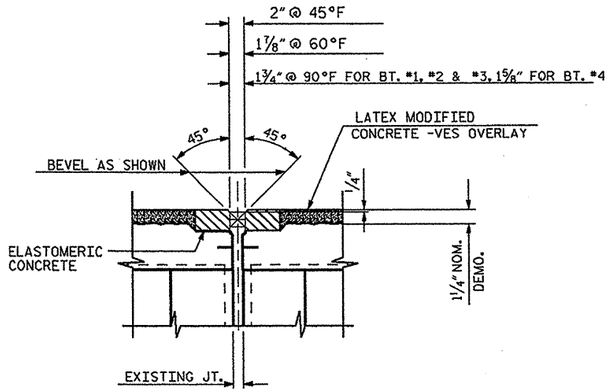


SECTION B-B
(MINIMUM EXISTING JOINT DEMOLITION)

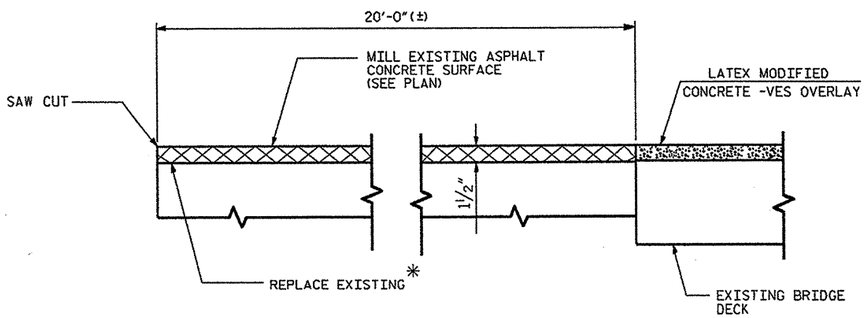
✻✻ ALL LOOSE AND UNSOUND CONCRETE SHALL BE REMOVED. IF THE EMBEDDED PORTION OF THE EXISTING WATERSTOP IS EXPOSED DURING REMOVAL, THE ENTIRE WATERSTOP SHALL BE REMOVED.



SECTION B-B
(PROPOSED FOAM JOINT SEAL PRE-SAWED DIMENSIONS)



SECTION B-B
(PROPOSED FOAM JOINT SEAL EXPANSION)



SECTION A-A

* EXISTING APPROACH AND SHOULDER ASPHALT CONCRETE PAVING TO BE MILLED A MINIMUM DEPTH OF 1.5". PROVIDE ADEQUATE NEW ASPHALT CONCRETE THICKNESS TO PROVIDE SMOOTH TRANSITION TO BRIDGE DECK, AS SHOWN. NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE APPROACH AND SHOULDER ASPHALT.

PROJECT NO. 17BP.3.P.3

SAMPSON COUNTY

BRIDGE: 53

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JOINT DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-28
1			3			TOTAL SHEETS
2			4			34

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/04/12

DRAWN BY : P. BRYANT DATE : 02/2012
CHECKED BY : T. SHERRILL DATE : 03/2012

11-APR-2012 08:15
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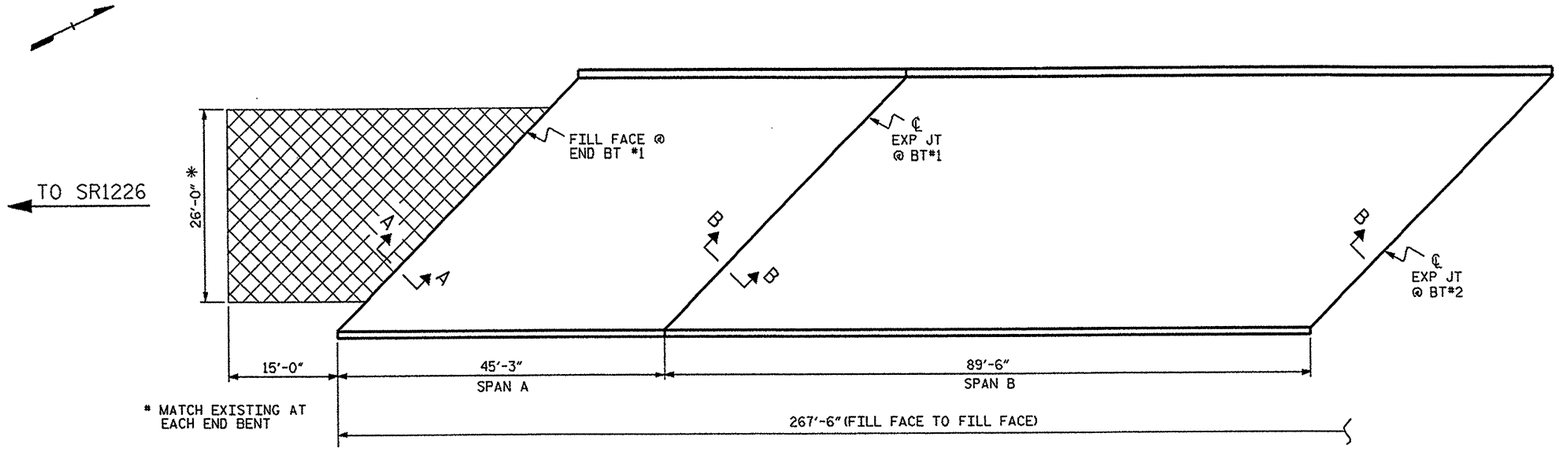
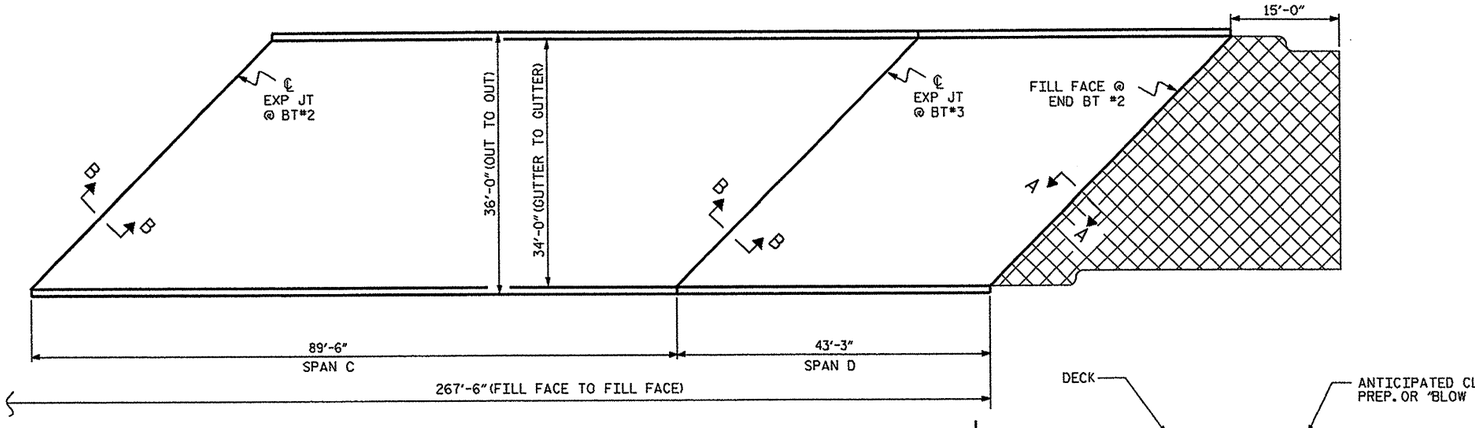




PLAN

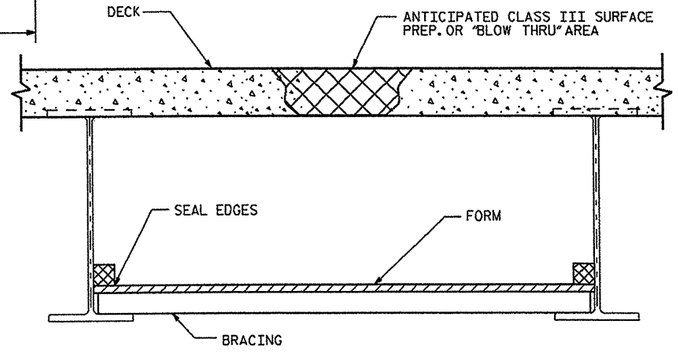
ASPHALT MILLING AND REPLACEMENT

BRIDGE DECK SCARIFICATION AND HYDRO-DEMOLITION

TOTAL BILL OF MATERIAL

SCARIFYING BRIDGE DECK	CLASS II* SURFACE PREPARATION	HYDRO-DEMOLITION OF BRIDGE DECK	LATEX MODIFIED CONCRETE	PLACING & FINISHING LATEX MODIFIED CONCRETE	FOAM JOINT SEALS	GROOVING BRIDGE FLOOR	INCIDENTAL MILLING	ASPHALT CONC SURF COURSE TYPE S9.5B
SQ.YDS.	SQ.YDS.	SQ.YDS.	C.Y.	SQ.YDS.	LUMP SUM	SQ. FT.	SQ.YDS.	TONS
1010	1010	1010	42	1010	LUMP SUM	8293	202	14

*QUANTITY SHOWN IS FOR INFORMATION ONLY. ALL COSTS FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR HYDRO-DEMOLITION.



TYP. "BLOW THRU" CONTAINMENT AND FORMWORK

A METHOD TO CAPTURE WATER AND DEBRIS FROM BLOW THRU DURING HYDRO-DEMOLITION SHALL BE INSTALLED IN AREAS INDICATED AS CLASS III SURFACE PREPARATION.

SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

COST FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE PER SQ. YARD OF HYDRO-DEMOLITION.

NOTES

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

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

ROADWAY MILLING IS INCLUDED TO ENSURE A SMOOTH TRANSITION ONTO THE BRIDGE FLOOR. DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL MILL AS REQUIRED TO PROVIDE A SMOOTH TRANSITION TO THE ROADWAY AT BOTH ENDS OF BRIDGE.

THE BOUNDARIES OF AREAS IDENTIFIED FOR CLASS III SURFACE PREPARATION ARE APPROXIMATE, THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK, SEE "TYP. "BLOW THRU" CONTAINMENT AND FORMWORK" DETAIL.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRODEMOLITION PROCESS SEE, "MANAGING HYDRODEMOLITION WATER" SPECIAL PROVISION.

FOR "HYDRO-DEMOLITION OF BRIDGE DECK", SEE SPECIAL PROVISIONS.

FOR OVERLAY OF BRIDGE WITH "LATEX MODIFIED CONCRETE", SEE SPECIAL PROVISIONS.

FOR "FOAM JOINT SEALS", SEE SPECIAL PROVISIONS.

FOR "ELASTOMERIC CONCRETE", SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2½".

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FOR "SCARIFYING BRIDGE DECK", SEE SPECIAL PROVISIONS.

FOR "FALSEWORK AND FORMWORK", SEE SPECIAL PROVISIONS.

FOR "CRANE SAFETY", SEE SPECIAL PROVISIONS.

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

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

LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.
DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.

PROJECT NO. 17BP.3.P.3

SAMPSON COUNTY

BRIDGE : 55

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SURFACE PREPARATION PLAN AND BILL OF MATERIALS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-29
1			3			TOTAL SHEETS
2			4			34

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/12/12

DRAWN BY : P. BRYANT DATE : 2/2012
CHECKED BY : T. SHERRILL DATE : 3/2012

11-APR-2012 15:13
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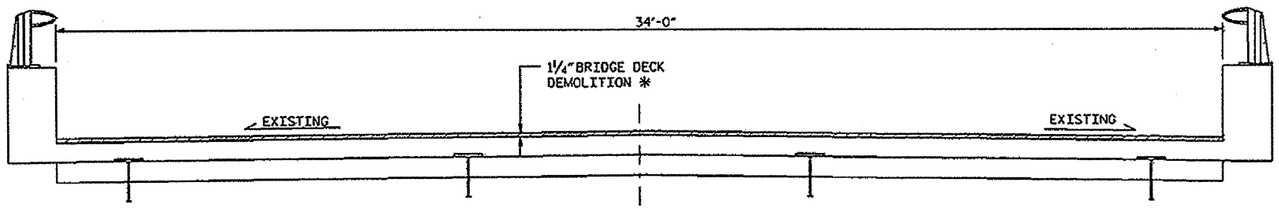
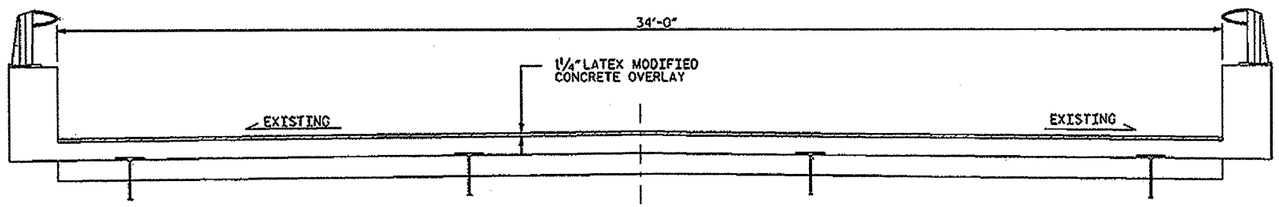
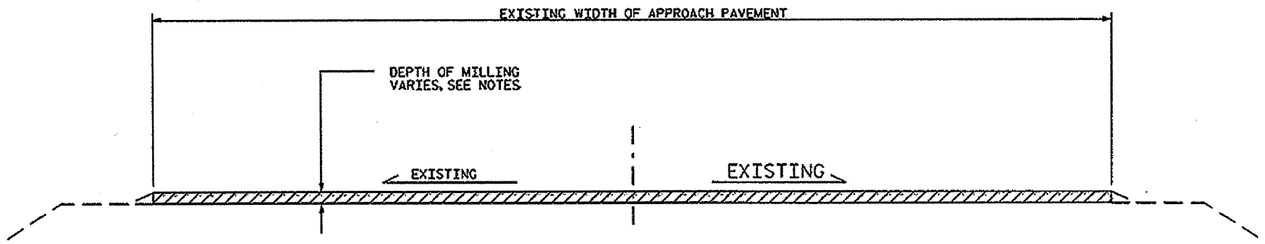


TYPICAL BRIDGE DECK DEMOLITION SECTION

*DEMOLITION INCLUDES DECK SCARIFICATION AND HYDRO-DEMOLITION

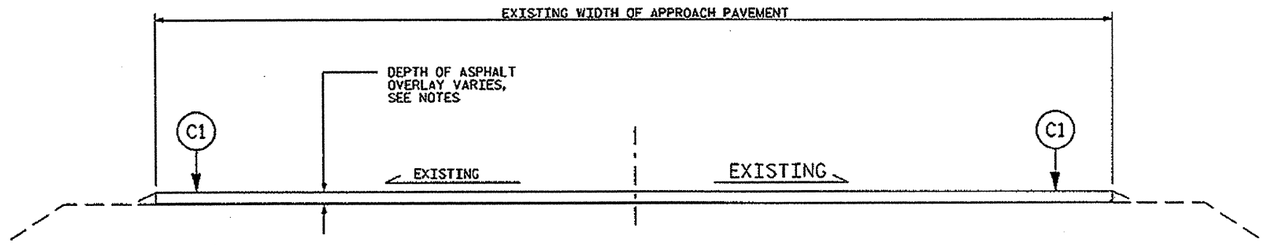


PROPOSED TYPICAL BRIDGE DECK SECTION



TYPICAL ROADWAY MILLING SECTION

C1	PROPOSED VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S 9.5B AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1-1/2" IN DEPTH OR GREATER THAN 2" IN DEPTH.



TYPICAL PROPOSED ROADWAY SECTION

PROJECT NO. 17BP.3.P.3

SAMPSON COUNTY

BRIDGE: 55

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SURFACE PREPARATION DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-30
1			3			TOTAL SHEETS
2			4			34

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/19/12

DRAWN BY : P. BRYANT DATE : 2/2012
CHECKED BY : T. SHERRILL DATE : 3/2012

17-APR-2012 14:28
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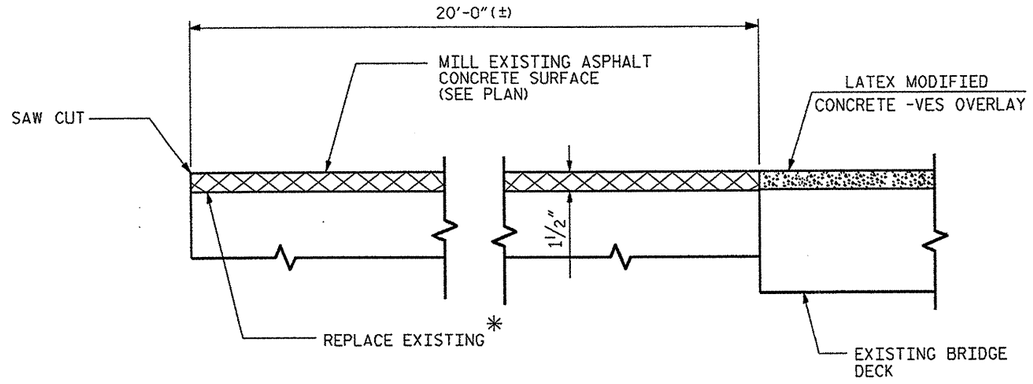
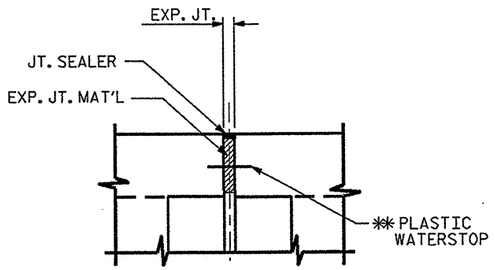


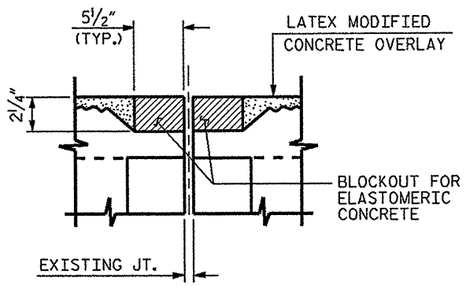
SECTION A-A

* EXISTING APPROACH AND SHOULDER ASPHALT CONCRETE PAVING TO BE MILLED A MINIMUM DEPTH OF 1.5". PROVIDE ADEQUATE NEW ASPHALT CONCRETE THICKNESS TO PROVIDE SMOOTH TRANSITION TO BRIDGE DECK, AS SHOWN. NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE APPROACH AND SHOULDER ASPHALT.

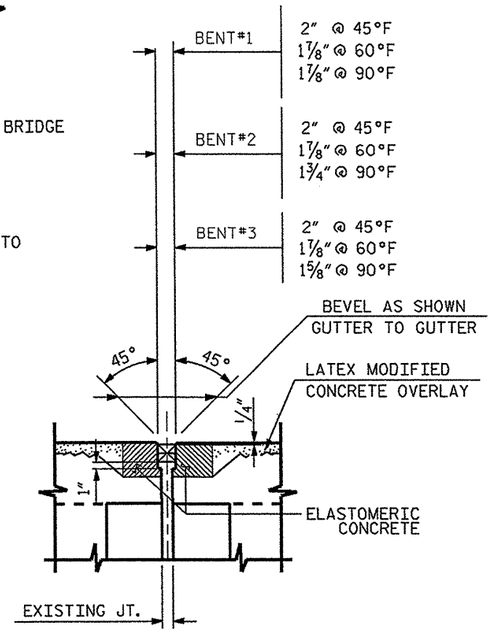


SECTION B-B
(EXISTING JOINT)

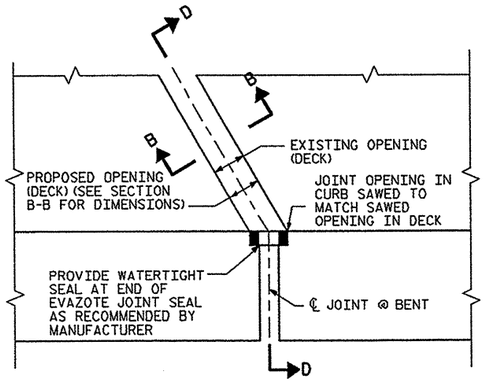
** ALL LOOSE AND UNSOUND CONCRETE SHALL BE REMOVED. IF THE EMBEDDED PORTION OF THE EXISTING WATERSTOP IS EXPOSED DURING REMOVAL, THE ENTIRE WATERSTOP SHALL BE REMOVED.



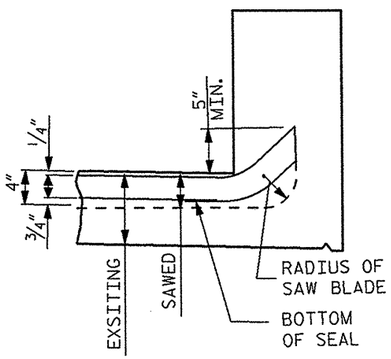
SECTION B-B
(PROPOSED FOAM JOINT SEAL PRESAWED DIMENSIONS)



SECTION B-B
(PROPOSED FOAM JOINT SEAL)



EVAZOTE JOINT SEAL DETAILS



SECTION D-D

NOTES

FOR FOAM JOINT SEAL, SEE SPECIAL PROVISIONS.

THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.

NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 2½".

PROJECT NO. 17BP.3.P.3

SAMPSON COUNTY

BRIDGE : 55

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JOINT DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-31
1			3			TOTAL SHEETS
2			4			34

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/12/12

DRAWN BY : P. BRYANT DATE : 2/2012
CHECKED BY : T. SHERRILL DATE : 3/2012

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ssandor

TOTAL BILL OF MATERIAL

SCARIFYING BRIDGE DECK	CLASS II* SURFACE PREPARATION	HYDRO-DEMOLITION OF BRIDGE DECK	LATEX MODIFIED CONCRETE	PLACING & FINISHING LATEX MODIFIED CONCRETE	FOAM JOINT SEALS	GROOVING BRIDGE FLOOR	INCIDENTAL MILLING	ASPHALT CONC SURF COURSE TYPE S9.5B
SQ.YDS.	SQ.YDS.	SQ.YDS.	C.Y.	SQ.YDS.	LUMP SUM	SQ. FT.	SQ.YDS.	TONS
613	613	613	26	613	LUMP SUM	4963	161	11

*QUANTITY SHOWN IS FOR INFORMATION ONLY. ALL COSTS FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR HYDRO-DEMOLITION.

NOTES

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

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

ROADWAY MILLING IS INCLUDED TO ENSURE A SMOOTH TRANSITION ONTO THE BRIDGE FLOOR. DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL MILL AS REQUIRED TO PROVIDE A SMOOTH TRANSITION TO THE ROADWAY AT BOTH ENDS OF BRIDGE.

THE BOUNDARIES OF AREAS IDENTIFIED FOR CLASS III SURFACE PREPARATION ARE APPROXIMATE, THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK, SEE "TYP. "BLOW THRU" CONTAINMENT AND FORMWORK" DETAIL.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRODEMOLITION PROCESS SEE, "MANAGING HYDRODEMOLITION WATER" SPECIAL PROVISION.

FOR "HYDRO-DEMOLITION OF BRIDGE DECK", SEE SPECIAL PROVISIONS.

FOR OVERLAY OF BRIDGE WITH "LATEX MODIFIED CONCRETE", SEE SPECIAL PROVISIONS.

FOR "FOAM JOINT SEALS", SEE SPECIAL PROVISIONS.

FOR "ELASTOMERIC CONCRETE", SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2½".

FOR "SUBMITTAL OF WORKING DRAWINGS", SEE SPECIAL PROVISIONS.

FOR "SCARIFYING BRIDGE DECK", SEE SPECIAL PROVISIONS.

FOR "FALSEWORK AND FORMWORK", SEE SPECIAL PROVISIONS.

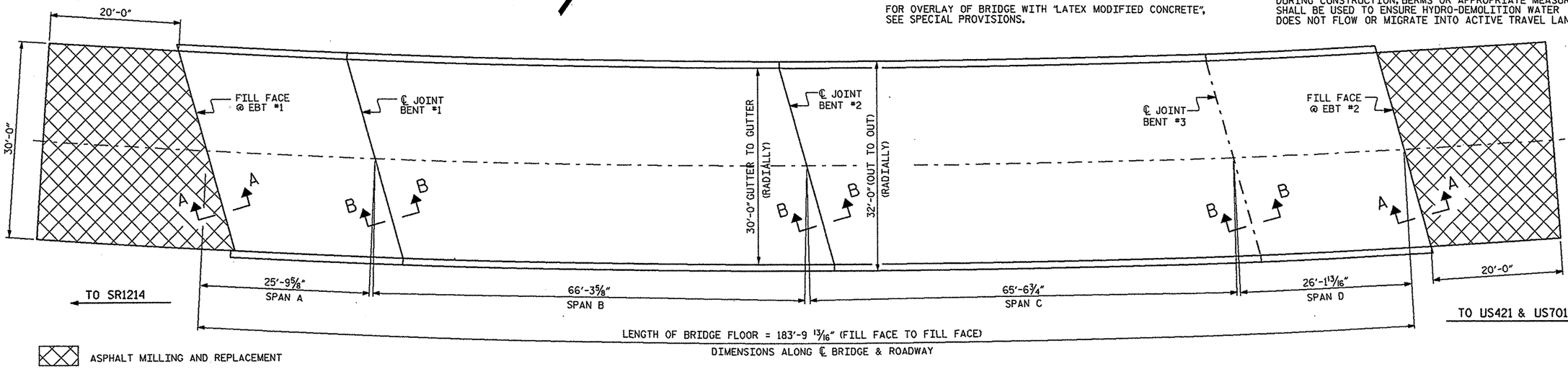
FOR "CRANE SAFETY", SEE SPECIAL PROVISIONS.

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

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

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

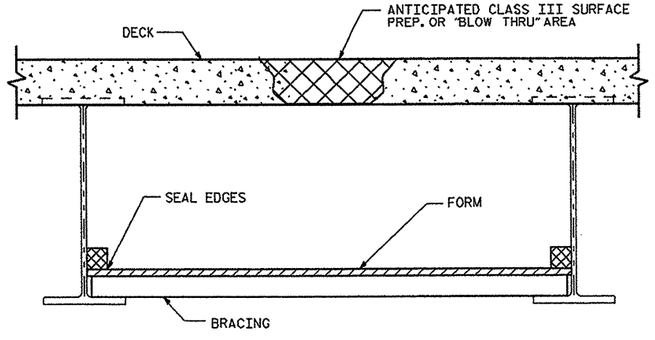
DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.



ASPHALT MILLING AND REPLACEMENT

BRIDGE DECK SCARIFICATION AND HYDRO-DEMOLITION

PLAN VIEW

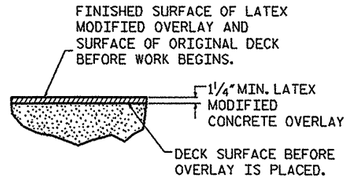


TYP. "BLOW THRU" CONTAINMENT AND FORMWORK

A METHOD TO CAPTURE WATER AND DEBRIS FROM BLOW THRU DURING HYDRO-DEMOLITION SHALL BE INSTALLED IN AREAS INDICATED AS CLASS III SURFACE PREPARATION.

SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

COST FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE PER SQ. YARD OF HYDRO-DEMOLITION.



DETAIL FOR LATEX MODIFIED CONCRETE OVERLAY

PROJECT NO. 17BP.3.P.3

SAMPSON COUNTY

BRIDGE : 57

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SURFACE PREPARATION PLAN AND BILL OF MATERIALS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-32
1			3			TOTAL SHEETS
2			4			34

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/15/12

DRAWN BY : P. BRYANT DATE : 2/2012
CHECKED BY : T. SHERRILL DATE : 3/2012

11-APR-2012 15:15
S:\PRS\PGC\Squad B\Paul_Bryant\SAMPSON\17BP.3.P.3_BRIDGE#005T_SD_PGD.dgn
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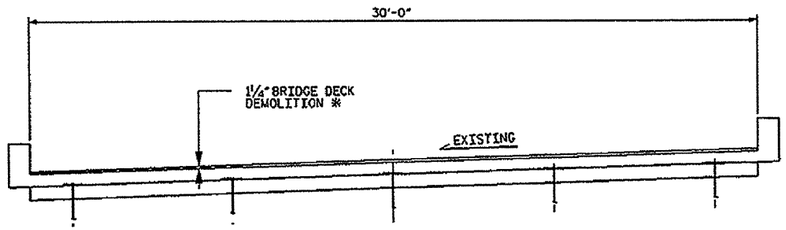
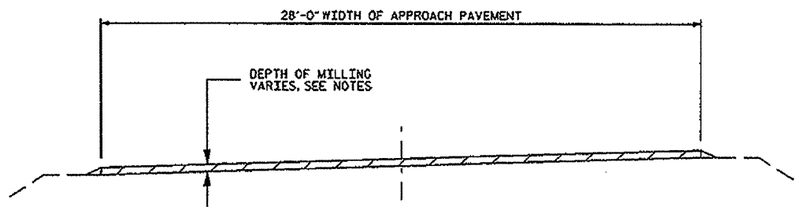
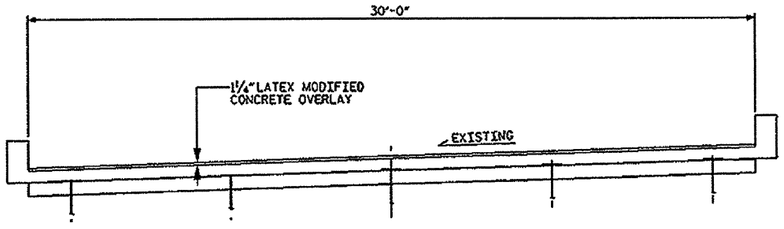


TYPICAL BRIDGE DECK MILLING SECTION

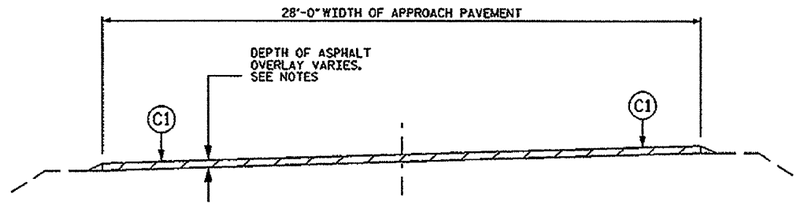
*DEMOLITION INCLUDES DECK SCARIFICATION AND HYDRO-DEMOLITION



TYPICAL ROADWAY MILLING SECTION



PROPOSED TYPICAL BRIDGE DECK SECTION



TYPICAL PROPOSED ROADWAY SECTION

C1	PROPOSED VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S 9.5B AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1-1/2" IN DEPTH OR GREATER THAN 2" IN DEPTH.

PROJECT NO. 17BP.3.P.3

SAMPSON COUNTY

BRIDGE : 57

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTIONS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

01/17/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-33
1			3			TOTAL SHEETS
2			4			34

DRAWN BY : P. BRYANT DATE : 02/2012
CHECKED BY : T. SHERRILL DATE : 03/2012

17-APR-2012 14:33
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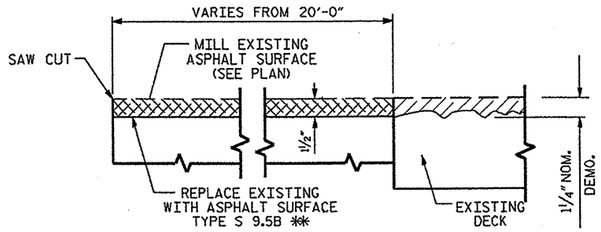


SECTION A-A

** EXISTING APPROACH ASPHALT PAVING TO BE MILLED A MINIMUM DEPTH OF 1.5" AS NECESSARY. NEW ASPHALT THICKNESS MAY EXCEED 1.5" DUE TO SETTLEMENT OF THE APPROACH AND SHOULDER ASPHALT. PROVIDE ADEQUATE NEW ASPHALT THICKNESS TO PROVIDE SMOOTH TRANSITION FROM SAWCUT LOCATION TO BRIDGE DECK, AS SHOWN.

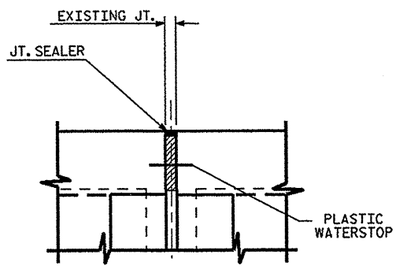
NOTES

FOR FOAM JOINT SEAL, SEE SPECIAL PROVISIONS.

THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.

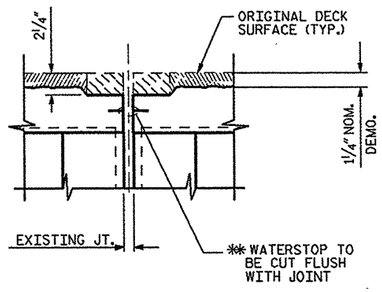
NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 2½".

	BT#1	BT#2	BT#3
@ 45°F	1 15/16"	2"	1 15/16"
@ 60°F	1 7/8"	1 7/8"	1 7/8"
@ 90°F	1 13/16"	1 9/16"	1 13/16"



SECTION B-B

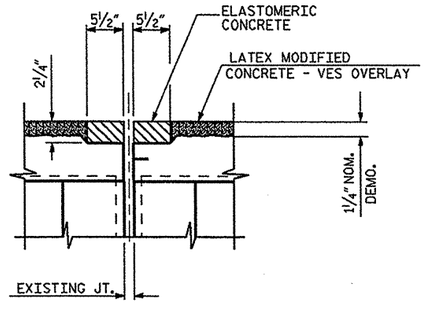
(EXISTING JOINT)



SECTION B-B

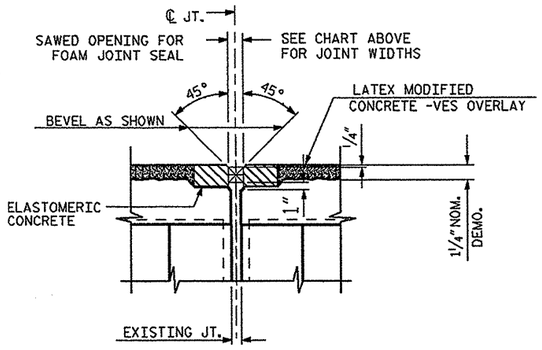
(MINIMUM EXISTING JOINT DEMOLITION)

** ALL LOOSE AND UNSOUND CONCRETE SHALL BE REMOVED. IF THE EMBEDDED PORTION OF THE EXISTING WATERSTOP IS EXPOSED DURING REMOVAL, THE ENTIRE WATERSTOP SHALL BE REMOVED.



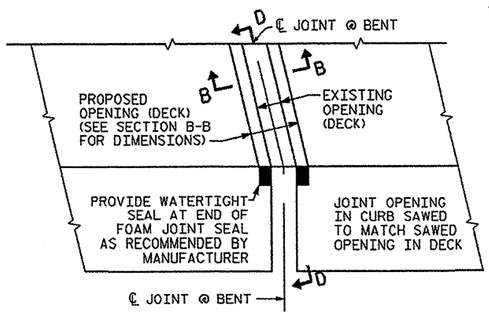
SECTION B-B

(PROPOSED FOAM JOINT SEAL PRE-SAWED DIMENSIONS)

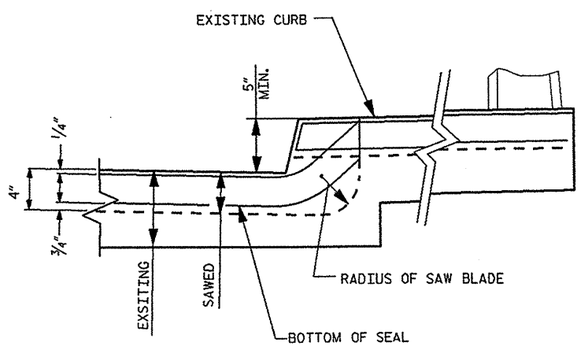


SECTION B-B

(PROPOSED FOAM JOINT SEAL EXPANSION)



FOAM JOINT SEAL DETAILS



SECTION D-D

PROJECT NO. 17BP.3.P.3

SAMPSON COUNTY

BRIDGE : 57

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JOINT DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

04/12/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-34
1			3			TOTAL SHEETS
2			4			34

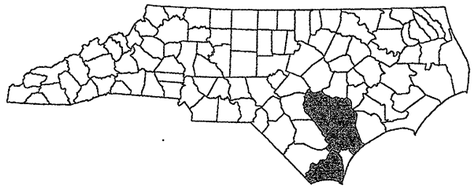
DRAWN BY : P. BRYANT DATE : 03/2012
CHECKED BY : T. SHERRILL DATE : 03/2012

11-APR-2012 08:36
S:\PRS\POC\Squad B\Paul_Bryant\SAMPSON\17BP.3.P.3_BRIDGE#0057_SD_PGD.dgn
ssandor

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

BRUNSWICK, DUPLIN, PENDER AND SAMPSON COUNTIES
DIVISION 3



BRIDGE PRESERVATION

BRUNSWICK 18 – SR 1426 (Lanvale Rd.) over US 74/76
BRUNSWICK 29 – US 74/76 East over SR 1472 (Village Rd.) and Railroad
BRUNSWICK 36 – US 74/76 West over SR 1472 (Village Rd.) and Railroad
BRUNSWICK 43 – SR 1437 (Old Fayetteville Rd.) over US 74/76
BRUNSWICK 93 – NC 211 over Dutchman Creek (CP&L discharge canal)
BRUNSWICK 96 – US 17 over US 74/76

DUPLIN 182 – SR 1961 (Hallsville Rd.) over NE Cape Fear River
DUPLIN 426 – SR 1162 (Bay Rd.) over I-40

PENDER 38 – NC 210 over Big Branch Overflow
PENDER 73 – SR 1318 (Croomsbridge Rd.) over Northeast Cape Fear River

SAMPSON 41 – US 701 BYP (Garland Hwy.) over US 701 NBL/US 421 (Faircloth Freeway)
SAMPSON 46 – US 701 BYP SBL over US 421 NBL
SAMPSON 47 – US 701 BYP NBL over McKoy St.
SAMPSON 52 – SR 1356 (North Blvd.) over US 701
SAMPSON 53 – SR 1214 (W. Elizabeth St.) over US 701/US 421/NC 24
SAMPSON 55 – SR 1227 (Tram Rd.) over US 701/US 421 (Faircloth Freeway)
SAMPSON 57 – SR 1226 (Indian Town Rd.) over US 701/US 421 (Faircloth Freeway)

WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

PLAN PREPARED FOR NCDOT BRIDGE MANAGEMENT UNIT
RALEIGH, NC

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

INDEX OF SHEETS

TRAFFIC MANAGEMENT STRATEGY

BRIDGE WORK WILL BE PERFORMED USING TIME RESTRICTED LANE CLOSURES AND ROAD CLOSURES. REFER TO SHEET TMP-3 FOR PHASING.

PLAN PREPARED BY:
Stantec Consulting Services Inc.
801 Jones Franklin Road-Suite 300
Raleigh, NC 27606
Tel. 919.851.6866
Fax. 919.851.7024
www.stantec.com

BETSY L. WATSON, P.E. — *TRAFFIC ENGINEER*
GEORGE KARAGEORGE — *SR. TRANSPORTATION DESIGNER*

APPROVED: Betsy L Watson
DATE: March 23, 2012

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 29449 ENGINEER BETSY L. WATSON

SHEET NO.
TMP-1

WBS 17BP.3.P.3

3/21/2012
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PROJ. REFERENCE NO.	SHEET NO.
WBS 17BP.3.P.3	TMP-1A

LEGEND

DIRECTION OF TRAFFIC FLOW

DIRECTION OF PEDESTRIAN TRAFFIC FLOW

WORK AREA PAVEMENT REMOVAL

NORTH ARROW

TYPE III BARRICADE

CONE

DRUM SKINNY DRUM TUBULAR MARKER

CHANGEABLE MESSAGE SIGN (CMS)

FLAGGER

AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)

FLASHING ARROW BOARD(TYPE C)

LAW ENFORCEMENT

TRUCK MOUNTED ATTENUATOR (TMA)

PORTABLE CONCRETE BARRIER (PCB)

TEMPORARY CRASH CUSHION

TEMPORARY SHORING

WORK ZONE SIGN-PORTABLE

WORK ZONE SIGN-STATIONARY

WORK ZONE SIGN-STATIONARY OR PORTABLE

SIGNALS

EXISTING PROPOSED TEMP TEMPORARY

PAVEMENT MARKINGS

EXISTING PAVEMENT MARKING (GRAY)

SKIP LINES

MINI-SKIP LINES

SOLID LINES

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

EXISTING PAVEMENT MARKING SYMBOLS (HOLLOW)

ONLY PAVEMENT MARKING ALPHANUMERIC CHARACTERS

PAVEMENT MARKERS

CRYSTAL/CRYSTAL

CRYSTAL/RED

YELLOW/YELLOW

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 ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
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
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
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
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMPS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)

Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

APPROVED:_____ DATE:_____

SEAL 29449 ENGINEER LEISY L. WATSON NORTH CAROLINA PROFESSIONAL SEAL

3/3/12

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

LEGEND
&
ROADWAY STANDARD DRAWINGS

3/2/2012
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GENERAL NOTES

PROJ. REFERENCE NO.	SHEET NO.
WBS 17BP.3.P.3	TMP-2

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

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.

LANE CLOSURE TIME RESTRICTIONS

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

ROAD NAME/BRIDGE #	DAY AND TIME RESTRICTIONS
BRUNSWICK COUNTY	
SR 1426/#18 NC 211/#93	6:00 A.M.-7:00 P.M. MONDAY THRU SUNDAY (EVERYDAY)
SR 1437/#43	6:00 A.M.-9:00 A.M. MONDAY THRU FRIDAY 4:00 P.M.-7:00 P.M. MONDAY THRU FRIDAY
US 74-76/#18 US 74-76/#29 US 74-76/#36 US 74-76/#43 US 17/74/76 #96	FROM MEMORIAL DAY TO THE NEXT LABOR DAY 6:00 A.M.-7:00 P.M. MONDAY THRU THURSDAY AND FRIDAY 6:00 A.M. TO SUNDAY 7:00 P.M. FROM LABOR DAY TO THE NEXT MEMORIAL DAY 6:00 A.M.-9:00 A.M. MONDAY THRU SATURDAY 3:00 P.M.-7:00 P.M. MONDAY THRU SATURDAY 6:00 A.M.-7:00 P.M. SUNDAY
SAMPSON COUNTY	
US 701 SBL/#46 SR 1227/#55	6:00 A.M.-7:00 P.M. MONDAY THRU FRIDAY
US 701 BYP/#41 US 701 NBL/#47 SR 1311/#52	6:00 A.M.-9:00 A.M. MONDAY THRU FRIDAY 3:00 P.M.-7:00 P.M. MONDAY THRU FRIDAY

B) DO NOT CLOSE OR NARROW A LANE OF TRAFFIC, DETAIN AND/OR ALTER THE TRAFFIC FLOW ON OR DURING HOLIDAYS, HOLIDAY WEEKENDS, OR ANY OTHER TIME WHEN TRAFFIC IS UNUSUALLY HEAVY, INCLUDING THE FOLLOWING SCHEDULES:

ROAD NAME
ALL ROADS
(EXCEPT SR 1214 SAMPSON CO. BRIDGE #53 WHICH IS UNDER SEPARATE INTERMEDIATE CONTRACT TIME)

HOLIDAY & HOLIDAY WEEKEND LANE CLOSURE TIME RESTRICTIONS

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 7:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.

3) FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.

4) FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.

5) FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 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 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

6) FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.

7) FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.

8) FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

C) DO NOT CLOSE ROADS AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
NC 211 BRIDGE #93	6:00 A.M.-7:00 P.M. MONDAY-SUNDAY

LANE AND SHOULDER CLOSURE REQUIREMENTS

D) LANE CLOSURES ARE REQUIRED WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN ANY PORTION OF A TRAVEL LANE. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

E) INSTALL ALL LANE CLOSURES ACCORDING TO THE PLANS, ROADWAY STANDARD DRAWINGS (1101.02), OR AS DIRECTED BY THE ENGINEER.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

G) 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 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

H) 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 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

ROAD CLOSURES

I) FURNISH AND INSTALL SIGNING AND DEVICES FOR ROAD CLOSURES ACCORDING TO THE TRAFFIC MANAGEMENT PLAN. COVER OR REMOVE ALL SIGNS AND DEVICES FOR ROAD CLOSURES WHEN NOT IN EFFECT.

J) FURNISH AND INSTALL OFFSITE-DETOUR ROUTE SIGNING AS SHOWN IN THE TRAFFIC MANAGEMENT PLAN. COVER OR REMOVE OFFSITE-DETOUR SIGNING WHEN THE DETOUR IS NOT IN OPERATION. ALL DETOUR ROUTES MUST BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTING.

K) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

L) WHEN CLOSING A ROADWAY OR DRIVEWAY PLACE TYPE III BARRICADES COMPLETELY ACROSS THE ROADWAY OR FROM CURB TO CURB. ATTACH BARRICADE MOUNTED "ROAD CLOSED" SIGN R11-2 AT ALL CLOSURE LOCATIONS. IF LOCAL TRAFFIC IS TO BE MAINTAINED STAGGER THE BARRICADES TO ALLOW ACCESS.

M) INSTALL SIGNS BEFORE BARRICADES WHEN CLOSING A ROADWAY TO TRAFFIC. REMOVE BARRICADES BEFORE SIGNS WHEN OPENING A ROADWAY TO TRAFFIC. INSTALL/REMOVE ROAD CLOSURE SIGNS AND BARRICADES IN A CONTINUOUS OPERATION AND WITHIN THE SAME CALENDAR DAY.

PAVEMENT MARKINGS AND MARKERS

N) RECORD ALL LOCATIONS AND TYPES OF EXISTING PAVEMENT MARKINGS AS THEY WILL BE REPLACED IN THE SAME LOCATION ON THE NEW SURFACE.

O) UPON COMPLETION OF ALL OTHER CONSTRUCTION OPERATIONS INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME/BRIDGE #	MARKING	PAVEMENT MARKER
BRUNSWICK COUNTY		
SR 1426/BRIDGE #18	PAINT	NONE
US 74-76/BRIDGE #29/36	POLYUREA	PERMANENT RAISED
SR 1437/BRIDGE #43	PAINT	NONE
NC 211/BRIDGE #93	POLYUREA	PERMANENT RAISED
US 17/BRIDGE #96	POLYUREA	PERMANENT RAISED
DUPLIN COUNTY		
SR 1961/BRIDGE #182	PAINT	NONE
SR 1162/BRIDGE #426	PAINT	NONE
PENDER COUNTY		
NC 210/BRIDGE #38	PAINT	NONE
SR 1318/BRIDGE #73	PAINT	NONE
SAMPSON COUNTY		
US 701 BYP./BRIDGE #41	PAINT	NONE
US 701 BYP./BRIDGE #46	PAINT	NONE
US 701 BYP./BRIDGE #47	PAINT	NONE
SR 1311/BRIDGE #52	PAINT	NONE
SR 1214/BRIDGE #53	PAINT	NONE
SR 1227/BRIDGE #55	PAINT	NONE
SR 1226/BRIDGE #57	PAINT	NONE

P) FOR PAVEMENT MARKING SYMBOLS, ALPHANUMERIC CHARACTERS, DIAGONAL LINES AND STOP BARS USE THE FOLLOWING TYPE OF MARKING:

ON ASPHALT PAVEMENTS
1. THERMOPLASTIC HEATED IN PLACE, OR
2. THERMOPLASTIC EXTRUDED.
3. COLD APPLIED PLASTIC (TYPE 2) OR 3 OPTIONAL

ON CONCRETE PAVEMENTS
1. COLD APPLIED PLASTIC (TYPE 2) OR 3 OPTIONAL
2. THERMOPLASTIC HEATED IN PLACE (OPTIONAL)

Q) DO NOT USE POLYUREA MARKING ON TYPE S9.5A SURFACE COURSE.

R) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

S) REPLACE ANY PAVEMENT MARKINGS ERADICATED OR DAMAGED BY CONSTRUCTION OPERATIONS BEFORE OPENING LANES TO TRAFFIC. A THIN LAYER OF PAINT MAY BE USED INITIALLY UNTIL FINAL MARKINGS ARE PLACED.

MISCELLANEOUS

T) USE LAW ENFORCEMENT TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS SHOWN IN THE PLAN OR AS DIRECTED BY THE ENGINEER. LOCATIONS SHOWN IN THE PLANS ARE APPROXIMATE AND MAY BE REVISED AS THE OFFICER OR THE ENGINEER DEEM NECESSARY.

U) ALL DIMENSIONS AND STATIONS IN THE TRAFFIC MANAGEMENT PLAN AND PHASING ARE APPROXIMATE (+/-); FIELD ADJUST AS NECESSARY OR AS DIRECTED BY THE ENGINEER.

V) ENSURE THE OVERSIZE/OVERWEIGHT PERMIT UNIT (919) 733-4740 HAS BEEN ADVISED OF THE ONGOING TRAFFIC OPERATIONS THROUGH THE DIVISION OFFICE.

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801 Jones Franklin Road
Suite 300
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Tel. (919) 851-6866
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APPROVED:_____ DATE:_____

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 29449 BESSY L. WATSON
3/23/12

DIVISION OF HIGHWAYS • STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION • WORK ZONE TRAFFIC CONTROL

GENERAL NOTES

3/21/2012
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PROJ. REFERENCE NO.	SHEET NO.
WBS 17BP.3.P.3	TMP-3

PHASING

PERFORM ALL BRIDGE WORK USING THE TRAFFIC CONTROL METHODS LISTED BELOW

DO NOT WORK ON BRUNSWICK COUNTY BRIDGES #18, #29, #36 AND #96 SIMULTANEOUSLY.

BRUNSWICK COUNTY

BRUNSWICK 18 - SR 1426 (LANVALE RD.) OVER US 74/76

USE FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING 1101.02 SHEET 1.

BRUNSWICK 29 - US 74/76 EAST OVER SR 1472 (VILLAGE RD.) & RXR

FOR US 74/76 EAST RIGHT LANE AND ENTRANCE RAMP LANE USE RIGHT LANE CLOSURES PER SHEETS TMP-4,4A.

FOR US 74/76 EAST LEFT LANE USE LEFT LANE CLOSURES PER SHEETS TMP-5,5A.

BRUNSWICK 36 - US 74/76 WEST OVER SR 1472 (VILLAGE RD.) & RXR

FOR US 74/74 WEST RIGHT LANE AND EXIT RAMP LANE USE RIGHT LANE CLOSURES PER SHEET TMP-6.

FOR US 74/76 WEST LEFT LANE USE LEFT LANE CLOSURES PER ROADWAY STANDARD DRAWING 1101.02 SHEET 4.

BRUNSWICK 43 - SR 1437 (OLD FAYETTEVILLE RD.) OVER US 74/76

USE FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING 1101.02 SHEET 1.

BRUNSWICK 93 - NC 211 OVER DUTCHMAN CREEK

DURING WORK ON THIS BRIDGE USE NIGHTLY ROAD CLOSURES FOR NC 211 SOUTHBOUND AND PROVIDE OFFSITE DETOUR. MAINTAIN NC 211 NORTHBOUND THROUGH THE BRIDGE PER SHEETS TMP-7,7A AND TMP-8,8A.

BRUNSWICK 96 - US 17 OVER US 74/76

FOR EXIT RAMP FROM US 17 NORTHBOUND TO US 74/76, USE TRAFFIC SHIFTS TO PERFORM BRIDGE WORK FOR LEFT AND RIGHT SIDES PER SHEETS TMP-9,9A,10,10A.

FOR US 17 SOUTHBOUND, USE RIGHT AND LEFT LANE CLOSURES PER ROADWAY STANDARD DRAWING 1101.02 SHEET 3.

SAMPSON COUNTY

SAMPSON 41 - US 701 BUS.(GARLAND HWY.) OVER US 421 (FAIRCLOTH FREEWAY)

USE FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING 1101.02 SHEET 1.

SAMPSON 46 - US 701 BYP. SOUTH OVER US 421 NBL

FOR US 701 BYP. SOUTH RIGHT LANE, USE RIGHT LANE CLOSURES PER ROADWAY STANDARD DRAWING 1101.02 SHEET 4.

FOR US 701 BYP. SOUTH LEFT LANE, USE LEFT LANE CLOSURES PER ROADWAY STANDARD DRAWING 1101.02 SHEET 4.

SAMPSON 47 - US 701 BYP. NORTH OVER MCKOY ST.

FOR US 701 BYP. NORTH RIGHT LANE, USE RIGHT LANE CLOSURES PER ROADWAY STANDARD DRAWING 1101.02 SHEET 4.

FOR US 701 BYP. NORTH LEFT LANE, USE LEFT LANE CLOSURES PER ROADWAY STANDARD DRAWING 1101.02 SHEET 4.

SAMPSON 52 - SR 1356 (NORTH BLVD.) OVER US 701

USE LANE CLOSURES WITH LAW ENFORCEMENT AND FLAGGERS PER SHEETS TMP-11,12

I C T

SAMPSON 53 - SR 1214 (W. ELIZABETH ST.) OVER US 701/US 421/NC 24

COMPLETE WORK ON BRIDGE #53, WITHIN A 21 CONSECUTIVE CALENDAR DAY PERIOD, WHEN SCHOOL IS NOT IN SESSION, DURING JUNE 15-AUGUST 15, 2013. SEE INTERMEDIATE CONTRACT TIMES.

USE FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING 1101.02 SHEET 1.

SAMPSON 55 - SR 1227(TRAM RD.) OVER US 701/US 421(FAIRCLOTH FREEWAY)

USE FLAGGING OPERATIONS PER SHEETS TMP-13 AND TMP-14.

SAMPSON 57 - SR 1226 (INDIAN TOWN RD.) OVER US 701/US 421(FAIRCLOTH FREEWAY)

USE FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING 1101.02 SHEET 1.

DUPLIN COUNTY

DUPLIN 182 - SR 1961 (HALLSVILLE RD.) OVER CAPE FEAR RIVER

USE FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING 1101.02 SHEET 1.

DUPLIN 426 - SR 1162 (BAY RD.) OVER I-40

USE FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING 1101.02 SHEET 1.

PENDER COUNTY

PENDER 38 - NC 210 OVER BIG BRANCH OVERFLOW

USE FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING 1101.02 SHEET 1.

PENDER 73 - SR 1318 (CROOMSBRIDGE RD.) OVER NE CAPE FEAR RIVER

USE FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING 1101.02 SHEET 1.

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APPROVED:_____ DATE:_____

SEAL 29449 ENGINEER BETSY L. WATSON

3/23/12

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

PHASING

3/21/2012
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PROJ. REFERENCE NO.	SHEET NO.
WBS 17BP.3.P.3	TMP-4

MT MISERY ROAD

BRIDGE #18

LANVALE ROAD

74 76 WEST

74 76 EAST

720' MERGE TAPER

360'

250'

250'

BACK OF GORE

MATCHLINE - SEE NEXT SHEET

CHANGEABLE MESSAGE SIGN

MESSAGE NO. 1	MESSAGE NO. 2
REDUCE SPEED	CAUTION MERGING TRAFFIC

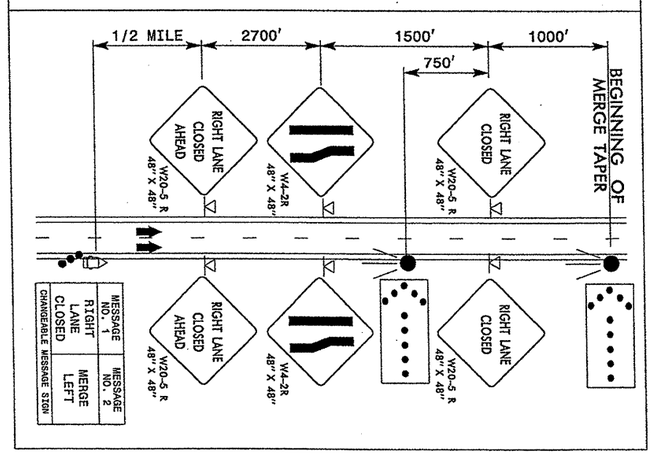
W3-1A 48" X 48" 2 SIGNS

RIGHT LANE CLOSED AHEAD W20-5 R 48" X 48"

CHANGEABLE MESSAGE SIGN

MESSAGE NO. 1	MESSAGE NO. 2
STOP AHEAD	NO MERGE LANE

SIGNING IN ADVANCE OF RIGHT LANE CLOSURE



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SEAL 25049 ENGINEER JERRY L. WATSON NORTH CAROLINA PROFESSIONAL

3/23/12

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

BRUNSWICK CO. BRIDGE #29

US 74/76 EAST
RIGHT LANE WORK AREA

3/21/2012
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PROJ. REFERENCE NO.	SHEET NO.
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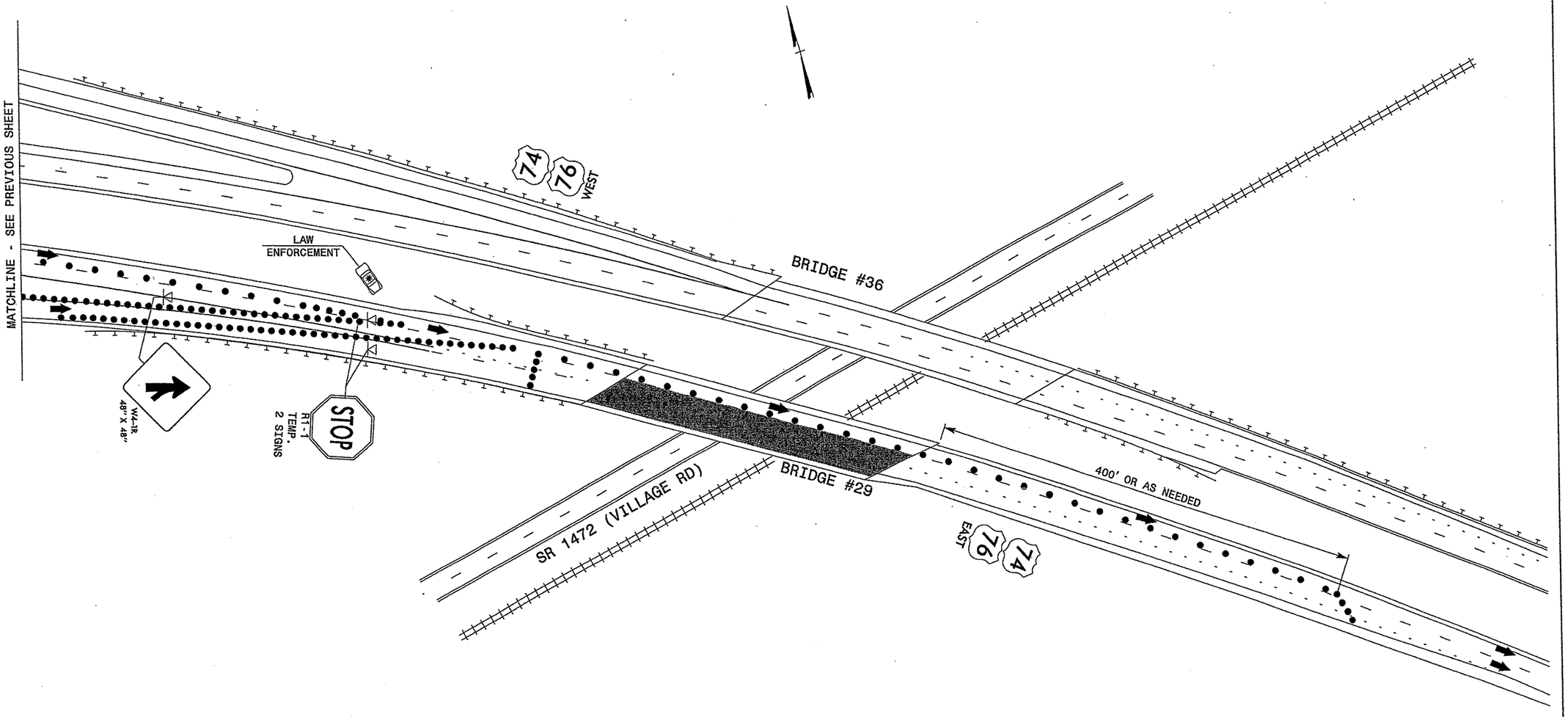

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BRUNSWICK CO. BRIDGE #29

US 74/76 EAST
RIGHT LANE WORK AREA

3/21/2012
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PROJ. REFERENCE NO.	SHEET NO.
WBS 17BP.3.P.3	TMP-5

MT MISERY ROAD

BRIDGE #18

LANVALE ROAD

74 76 WEST

74 76 EAST

720' MERGE TAPER

360'

250'

250'

LAW ENFORCEMENT

MATCHLINE - SEE NEXT SHEET

BACK OF GORE

STOP
R1-1
TEMP.
2 SIGNS

W3-1A
48" X 48"
2 SIGNS

LEFT LANE CLOSED AHEAD
W20-5 L
48" X 48"

CHANGEABLE MESSAGE SIGN

MESSAGE NO. 1	MESSAGE NO. 2
REDUCE SPEED	CAUTION MERGING TRAFFIC

CHANGEABLE MESSAGE SIGN

MESSAGE NO. 1	MESSAGE NO. 2
STOP AHEAD	NO MERGE LANE

SIGNING IN ADVANCE OF LEFT LANE CLOSURE

1/2 MILE — 2700' — 1500' — 750' — 1000'

LEFT LANE CLOSED AHEAD
W20-5 L
48" X 48"

W4-2L
48" X 48"

LEFT LANE CLOSED
W20-5 L
48" X 48"

LEFT LANE CLOSED

BEGINNING OF MERGE TAPER

CHANGEABLE MESSAGE SIGN

MESSAGE NO. 1	MESSAGE NO. 2
LEFT LANE CLOSED	MERGE RIGHT

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SEAL 27449 ENGINEER BETSY L. WATSON

3/23/12

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

BRUNSWICK CO. BRIDGE #29

US 74/76 EAST
LEFT LANE WORK AREA

3/2/2012
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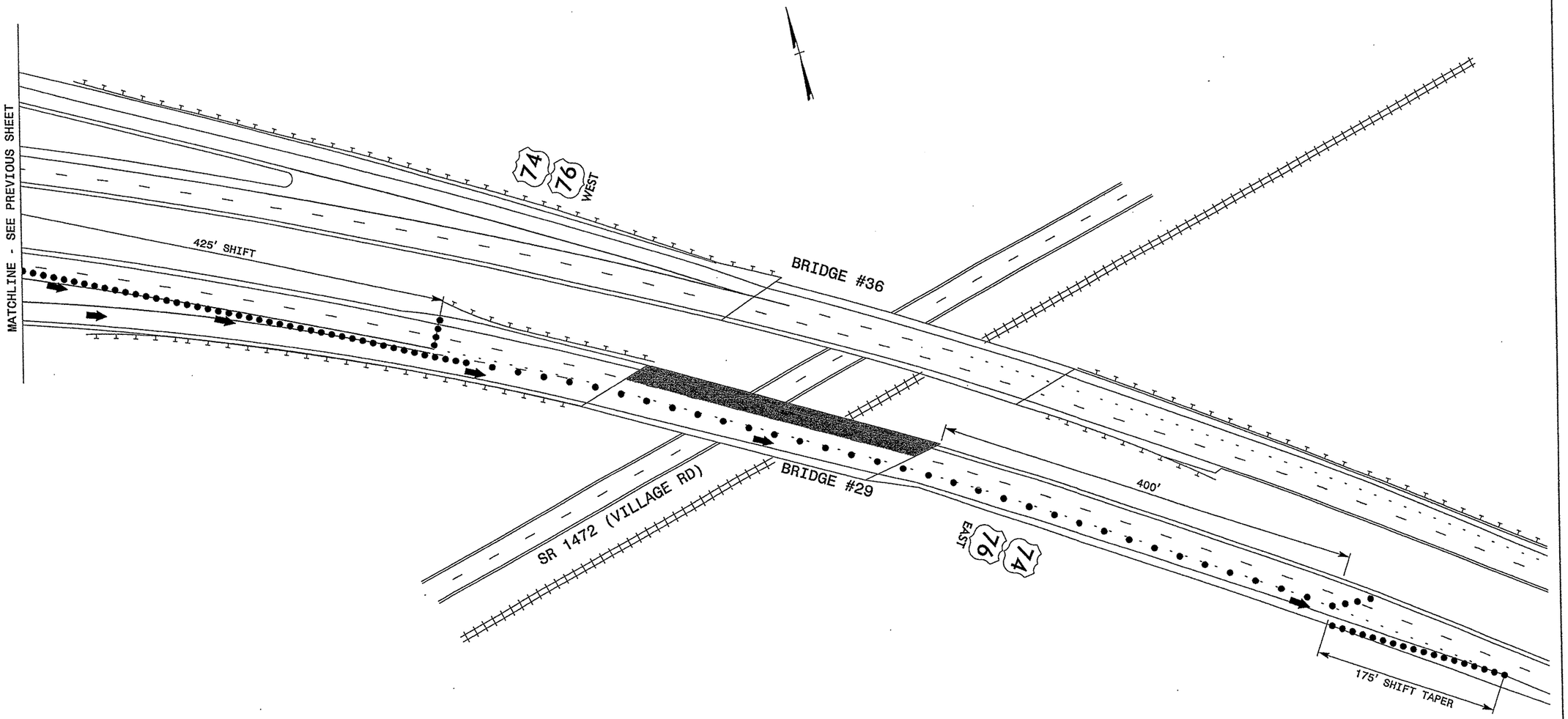

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SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26249 JAMES I. WATSON

3/23/12

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BRUNSWICK CO. BRIDGE #29

US 74/76 EAST
LEFT LANE WORK AREA

3/21/2012
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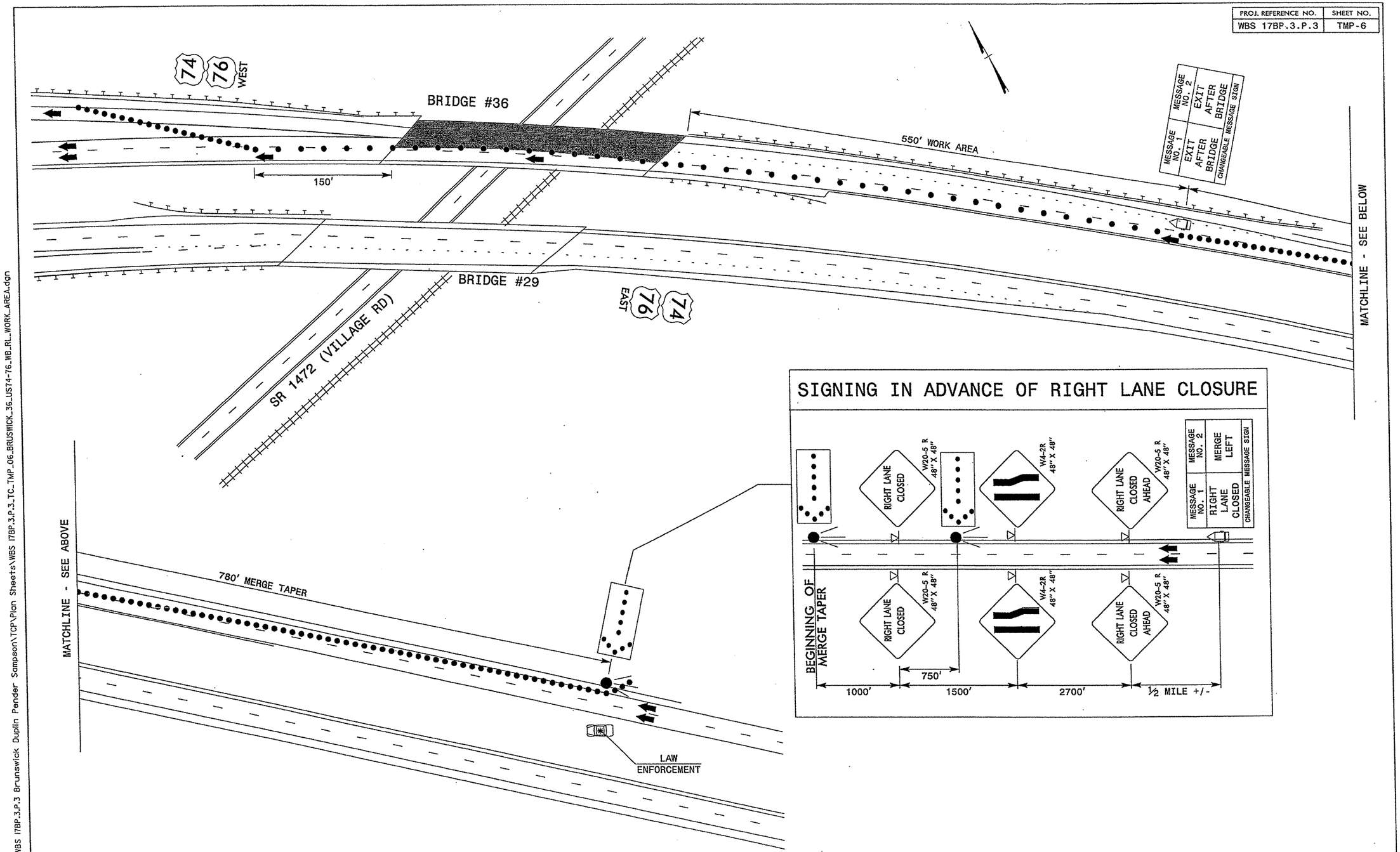

SIGNING IN ADVANCE OF RIGHT LANE CLOSURE

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 29449 BETSY L. WATSON

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DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

BRUNSWICK CO. BRIDGE #36

US 74/76 WEST
RIGHT LANE AND RAMP LANE WORK AREAS

3/21/2012
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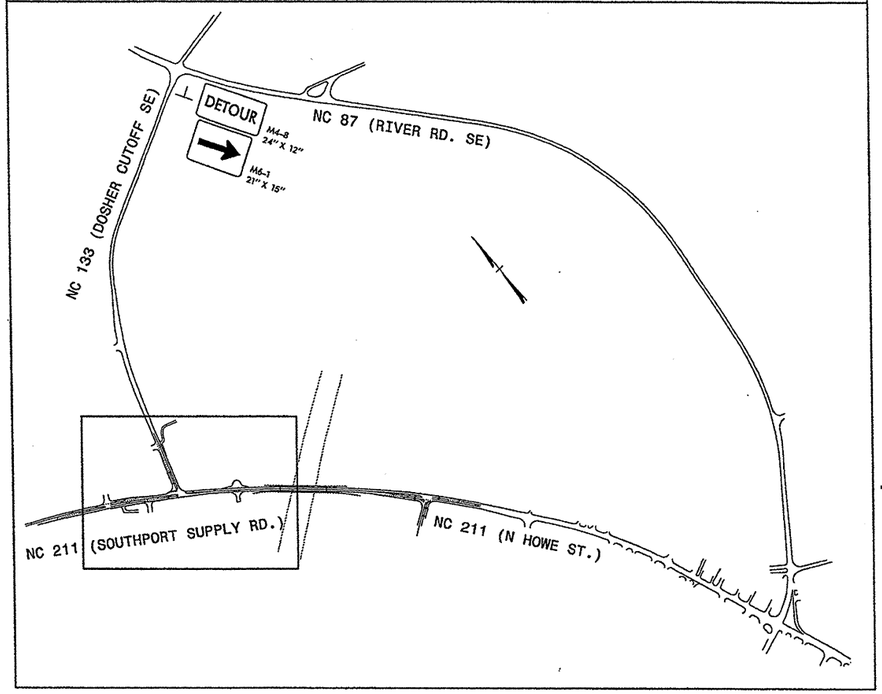
PROJ. REFERENCE NO.	SHEET NO.
WBS 17BP.3.P.3	TMP-7

NC 211 DETOUR



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3/23/12

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

BRUNSWICK CO. BRIDGE #93

NC 211 NORTHBOUND WORK AREA

3/21/2012
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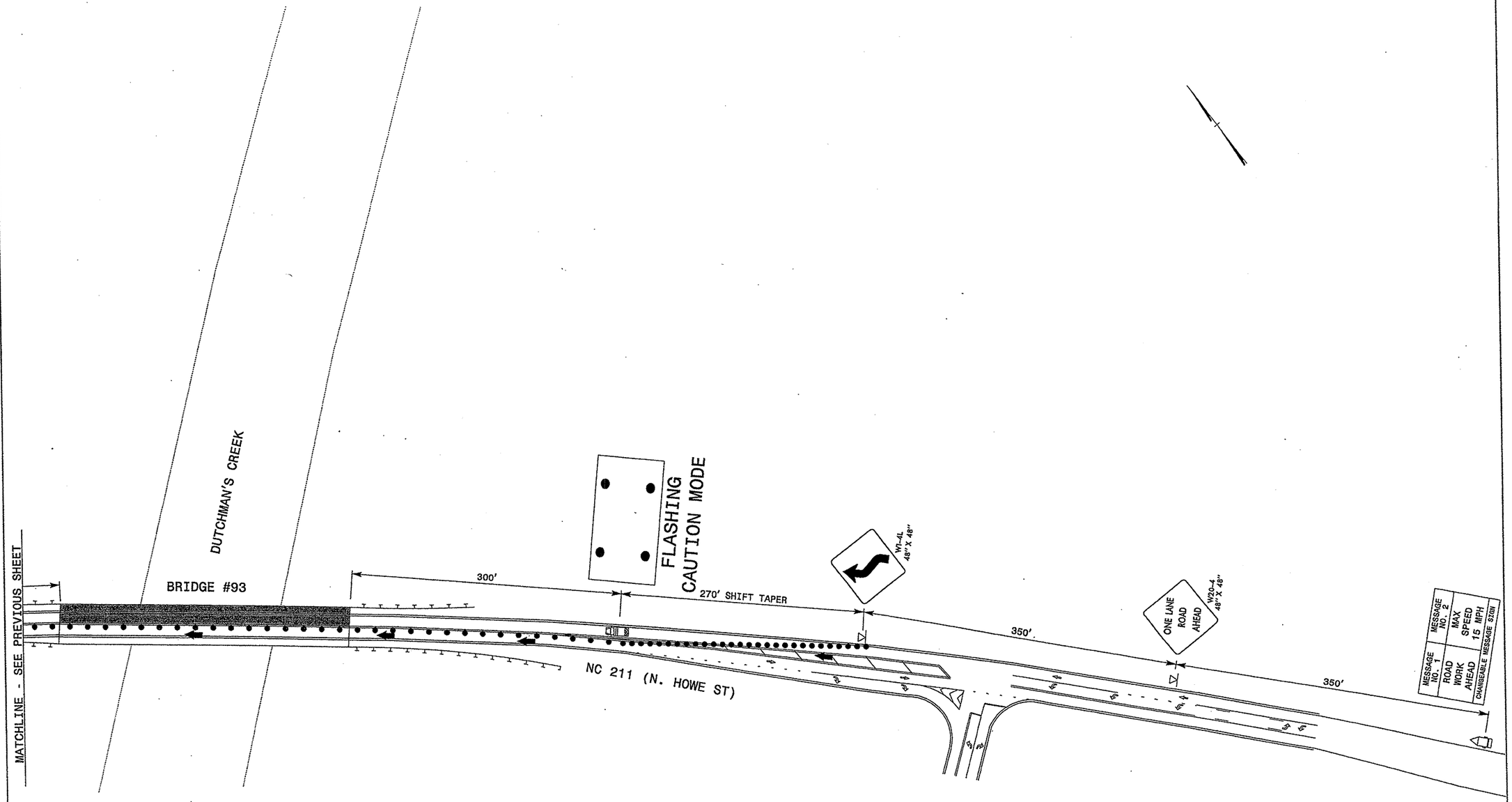

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SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19429 BETSY L. WATSON

Betsy Watson 3/23/12

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

BRUNSWICK CO. BRIDGE #93

NC 211 NORTHBOUND WORK AREA

3/21/2012
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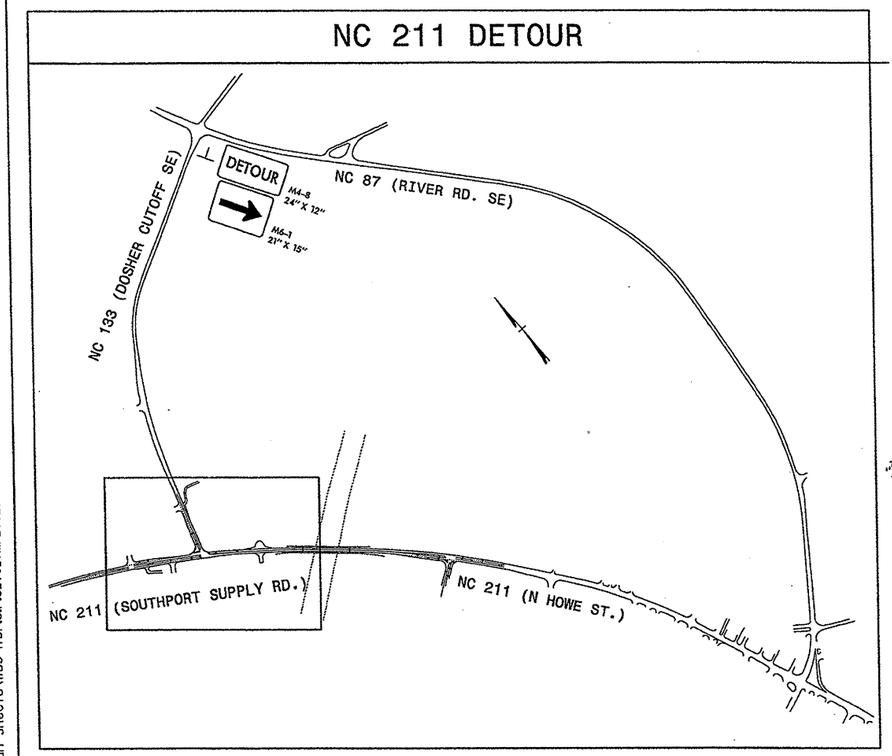
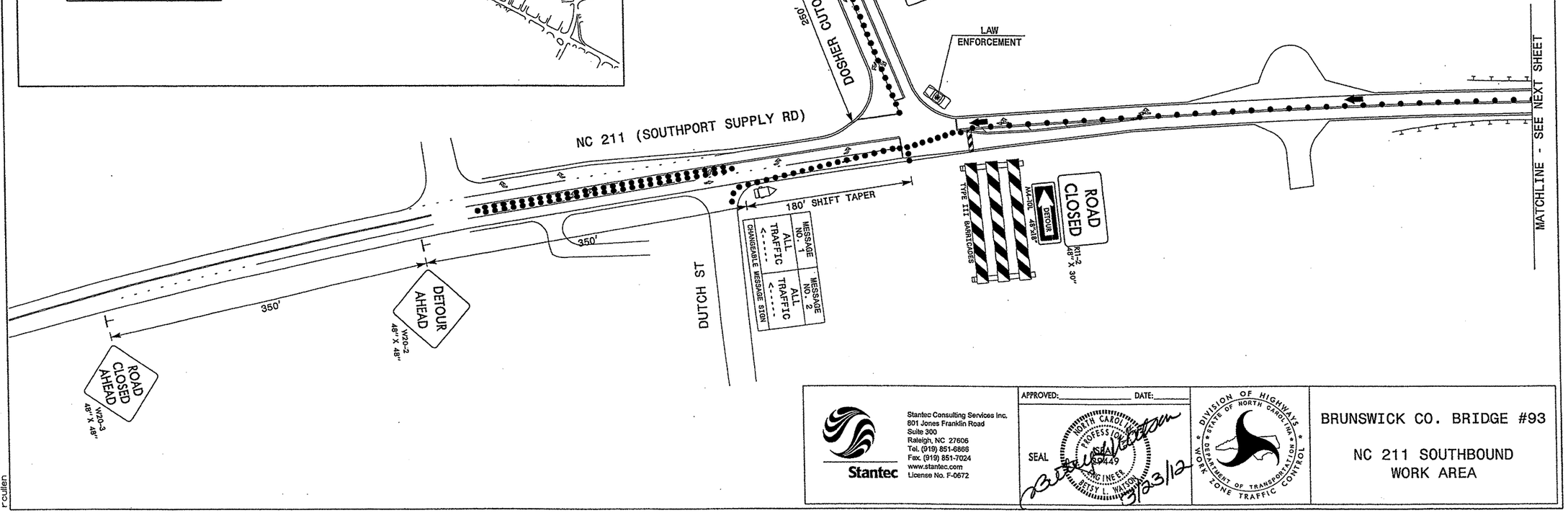
PROJ. REFERENCE NO.	SHEET NO.
WBS 17BP.3.P.3	TMP-8

NC 211 DETOUR





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SEAL 29449 ENGINEER BETSY L. WATSON 3/23/12

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

BRUNSWICK CO. BRIDGE #93

NC 211 SOUTHBOUND
WORK AREA

3/21/2012
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PROJ. REFERENCE NO.	SHEET NO.
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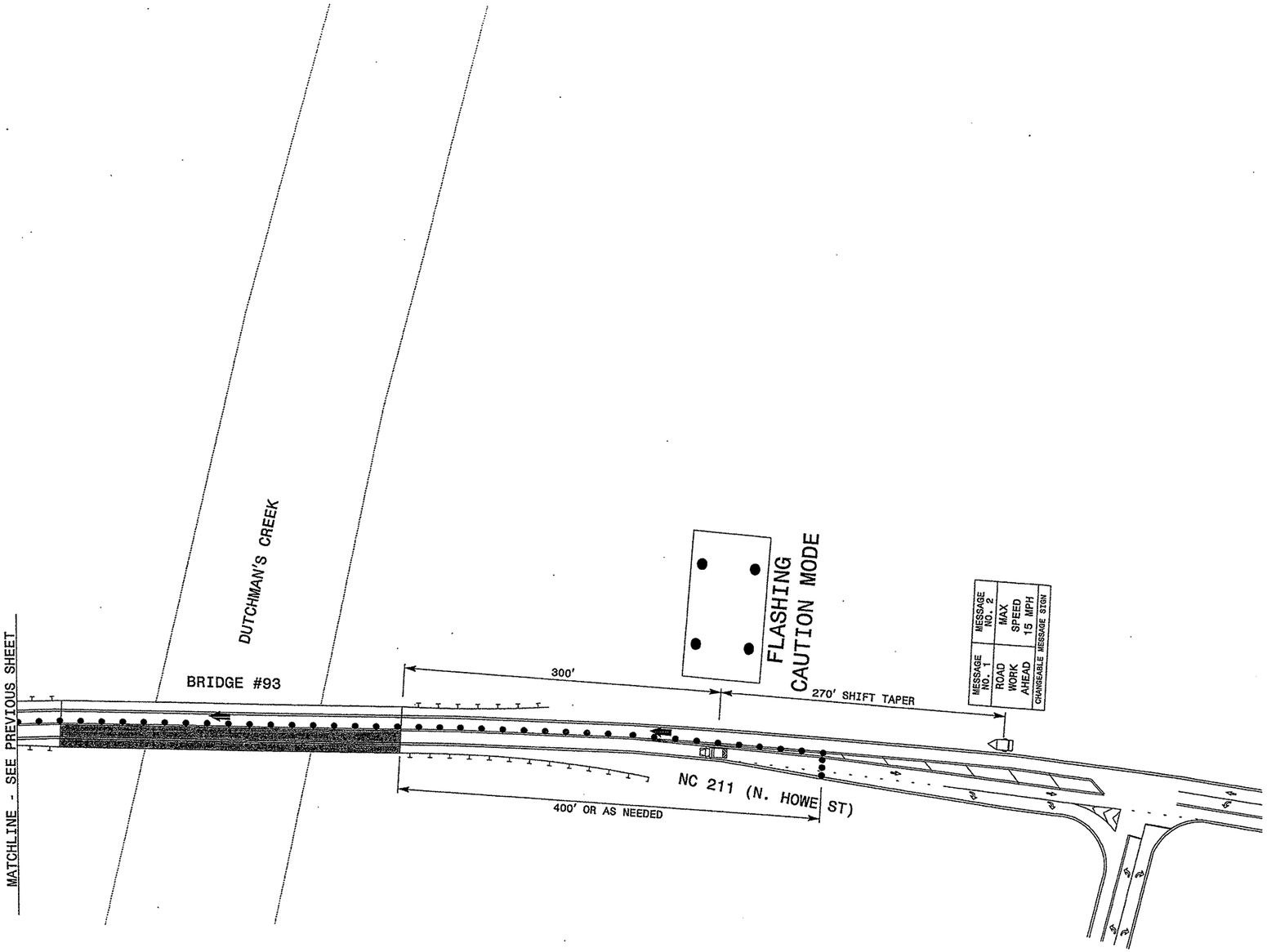

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SEAL
024469
JERSY L. WATSON
3/23/12

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

BRUNSWICK CO. BRIDGE #93

NC 211 SOUTHBOUND WORK AREA

3/21/2012
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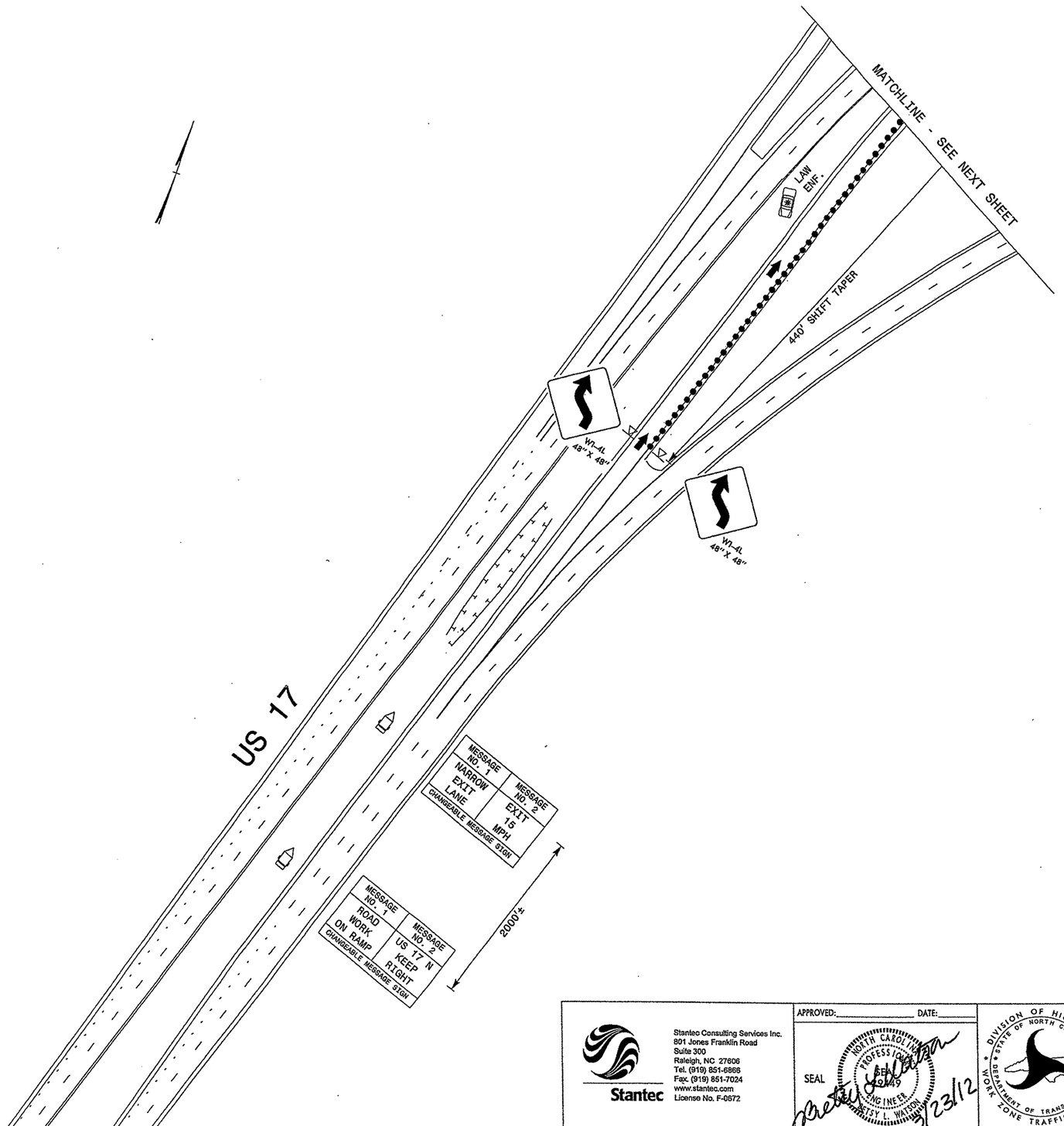
PROJ. REFERENCE NO.	SHEET NO.
WBS 17BP.3.P.3	TMP-9



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Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
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Fax. (919) 851-7024
www.stantec.com
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APPROVED:_____ DATE:_____

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER BETSY L. WATSON 049449

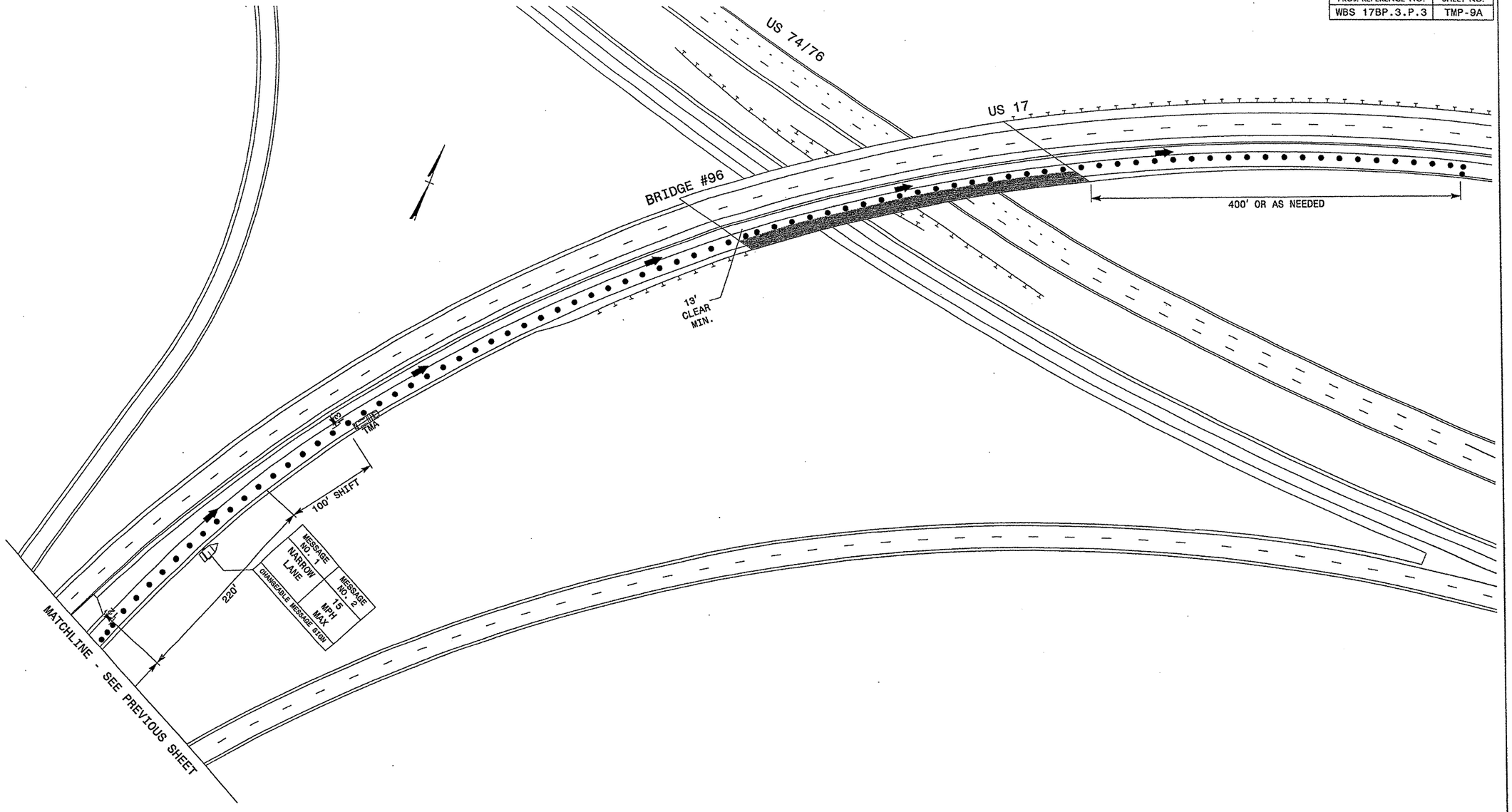
5/23/12

DIVISION OF HIGHWAYS • STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION • WORK ZONE TRAFFIC CONTROL

BRUNSWICK CO. BRIDGE #96

US 17 NORTHBOUND RAMP RIGHT SIDE WORK AREA

PROJ. REFERENCE NO.	SHEET NO.
WBS 17BP.3.P.3	TMP-9A



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801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
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SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024181 BETSY L. WATSON
3/23/12

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

BRUNSWICK CO. BRIDGE #96

US 17 NORTHBOUND RAMP RIGHT SIDE WORK AREA

3/21/2012
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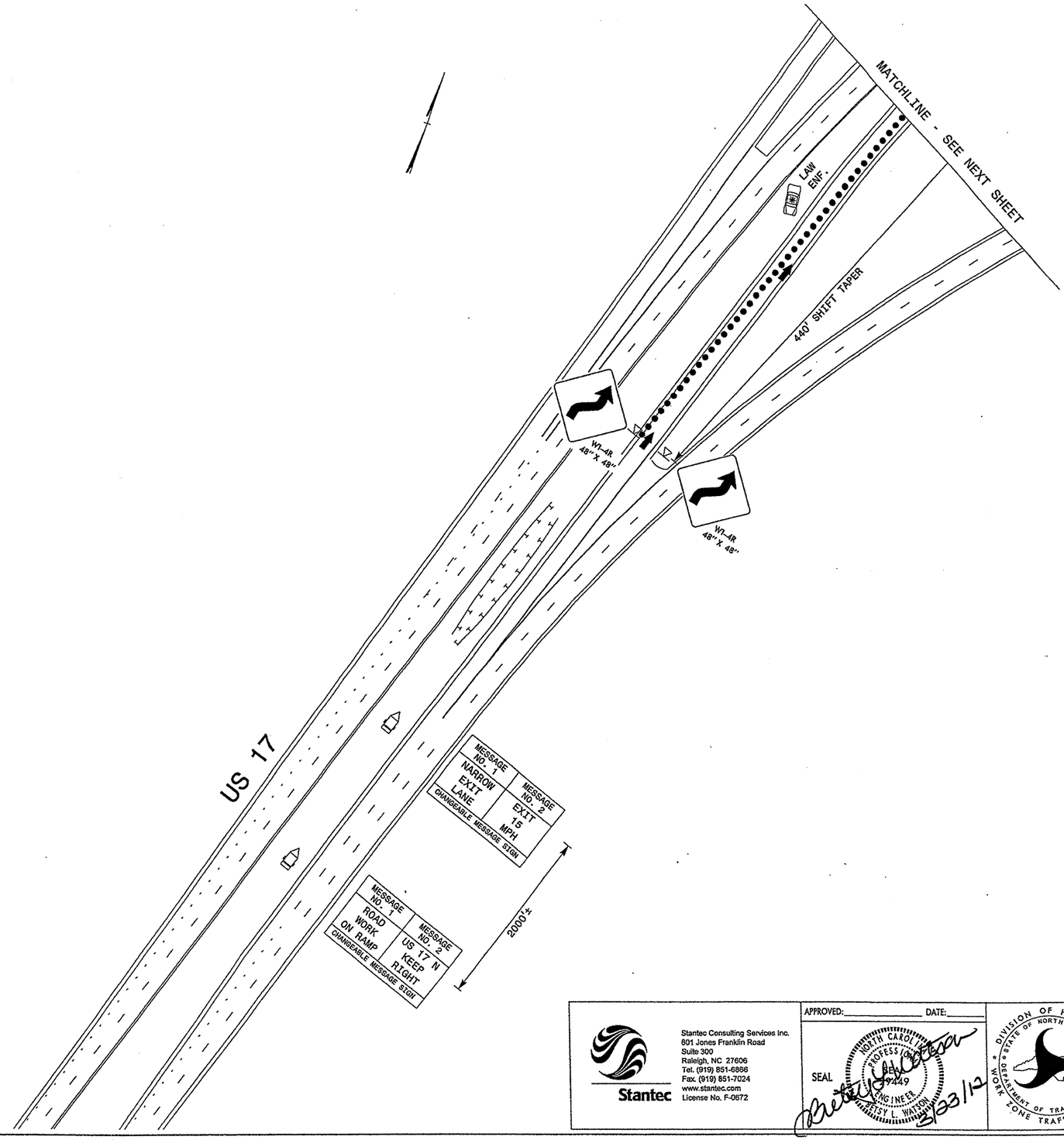

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SEAL
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PROFESSIONAL
L-0449
ENGINEER
BETSY L. WATSON
3/23/12

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

BRUNSWICK CO. BRIDGE #96

US 17 NORTHBOUND RAMP LEFT SIDE WORK AREA

3/21/2012
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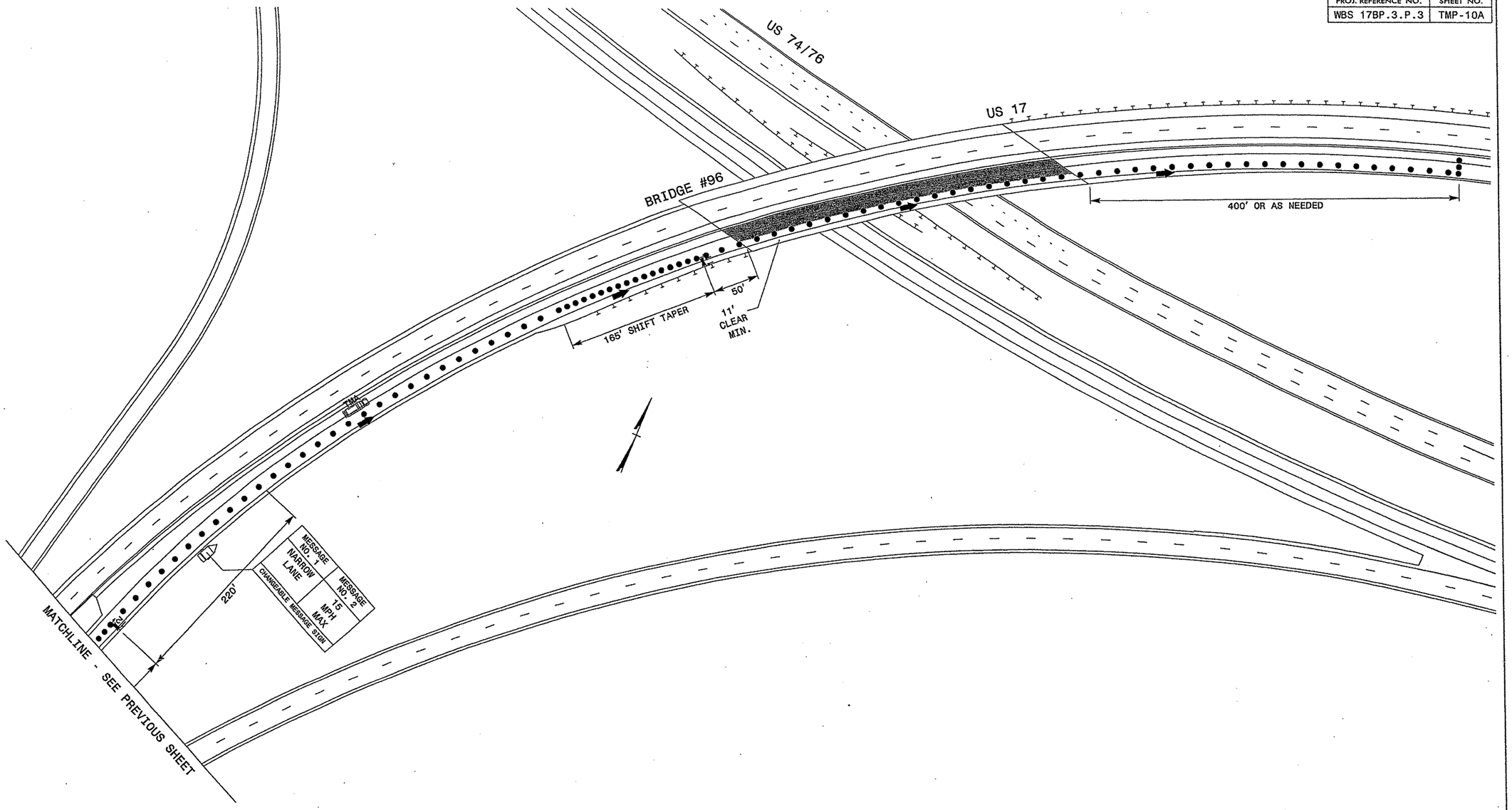

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SEAL 039449 NORTH CAROLINA PROFESSIONAL ENGINEER BETSY L. WATSON

3/23/12

DIVISION OF HIGHWAYS • STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION • WORK ZONE TRAFFIC CONTROL

BRUNSWICK CO. BRIDGE #96

US 17 NORTHBOUND RAMP LEFT SIDE WORK AREA

PROJ. REFERENCE NO.	SHEET NO.
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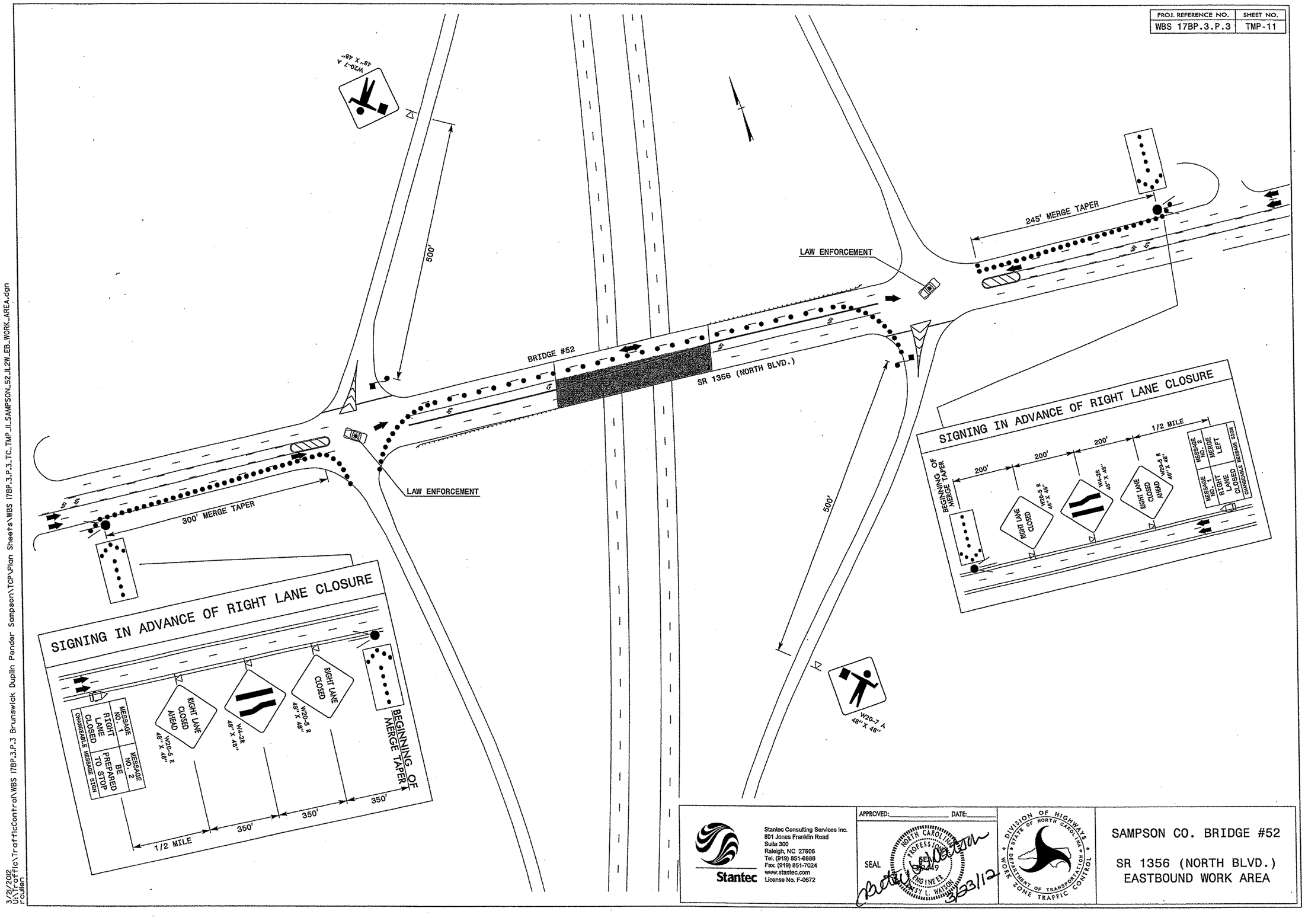

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801 Jones Franklin Road
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Raleigh, NC 27606
Tel. (919) 851-6866
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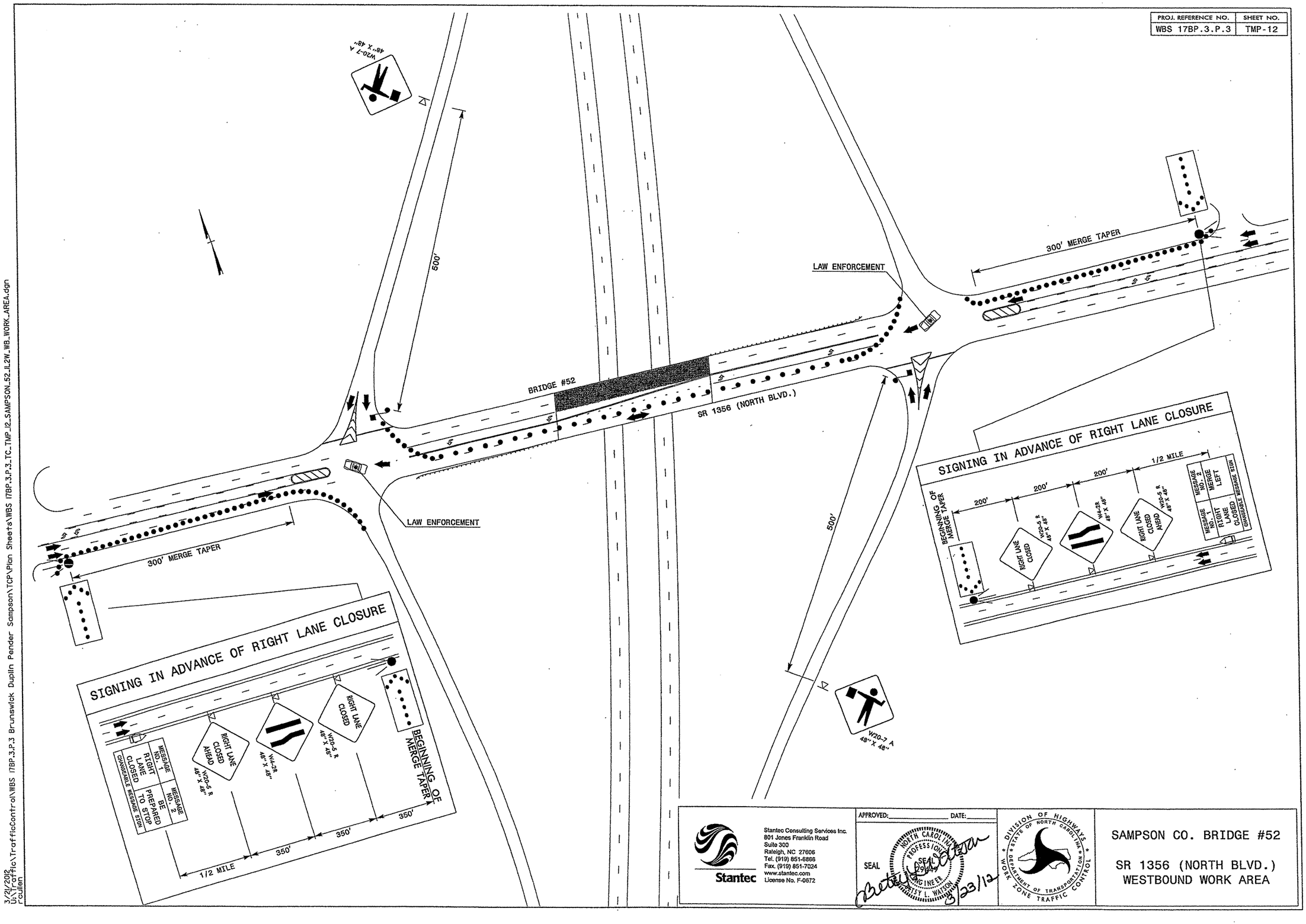
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
LESLEY L. WATSON
3/23/12

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

SAMPSON CO. BRIDGE #52

SR 1356 (NORTH BLVD.) EASTBOUND WORK AREA

PROJ. REFERENCE NO.	SHEET NO.
WBS 17BP.3.P.3	TMP-12



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801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
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SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 29049 BETSY L. WATSON
3/23/12

DIVISION OF HIGHWAYS • STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION • WORK ZONE TRAFFIC CONTROL

SAMPSON CO. BRIDGE #52

SR 1356 (NORTH BLVD.) WESTBOUND WORK AREA

3/21/2012
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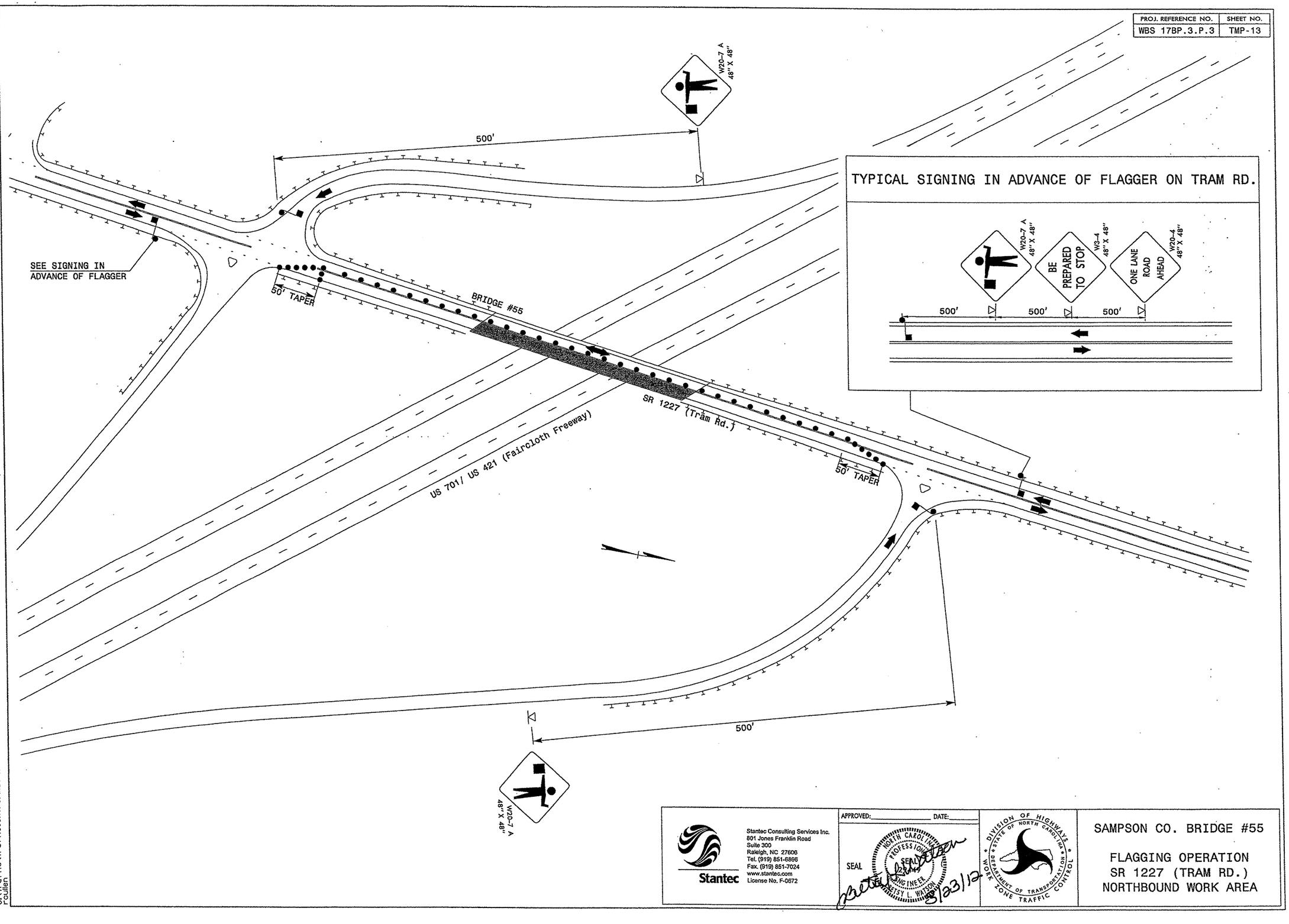

TYPICAL SIGNING IN ADVANCE OF FLAGGER ON TRAM RD.

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801 Jones Franklin Road
Suite 300
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SEAL 23449 — NORTH CAROLINA PROFESSIONAL ENGINEER — BETSY L. WATSON

3/23/12

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

SAMPSON CO. BRIDGE #55

FLAGGING OPERATION
SR 1227 (TRAM RD.)
NORTHBOUND WORK AREA

3/21/2012
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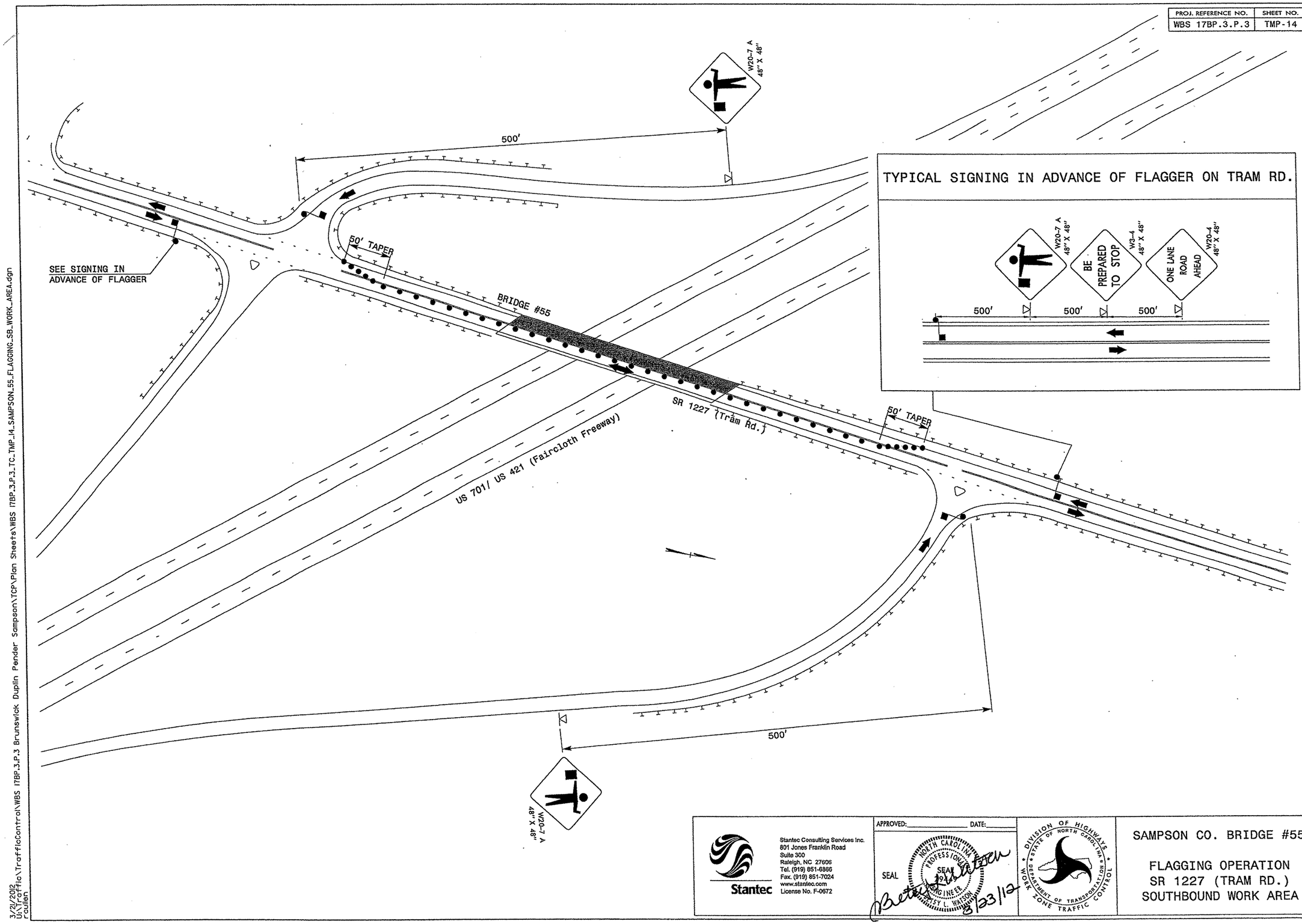

TYPICAL SIGNING IN ADVANCE OF FLAGGER ON TRAM RD.

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Raleigh, NC 27606
Tel. (919) 851-6866
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SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19241 BETSY L. WATSON

8/23/12

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

SAMPSON CO. BRIDGE #55

FLAGGING OPERATION
SR 1227 (TRAM RD.)
SOUTHBOUND WORK AREA

3/21/2012
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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 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 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