

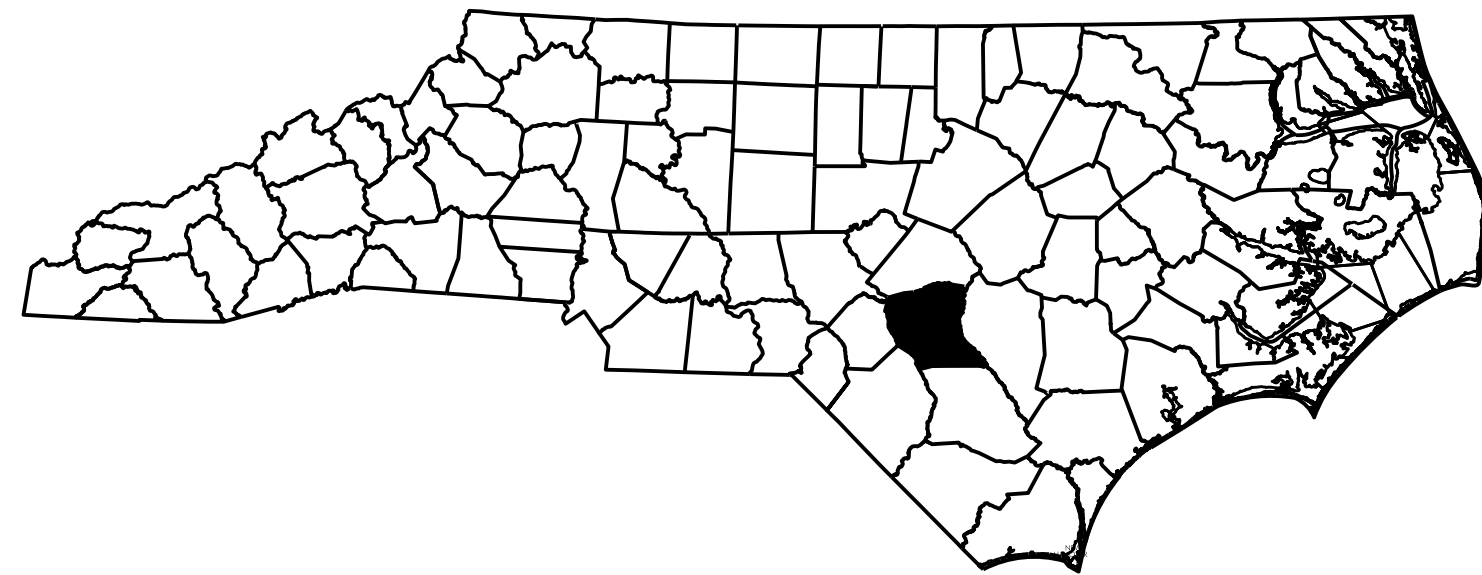
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**This file or an individual page
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PROJECT: W-5514

CONTRACT:



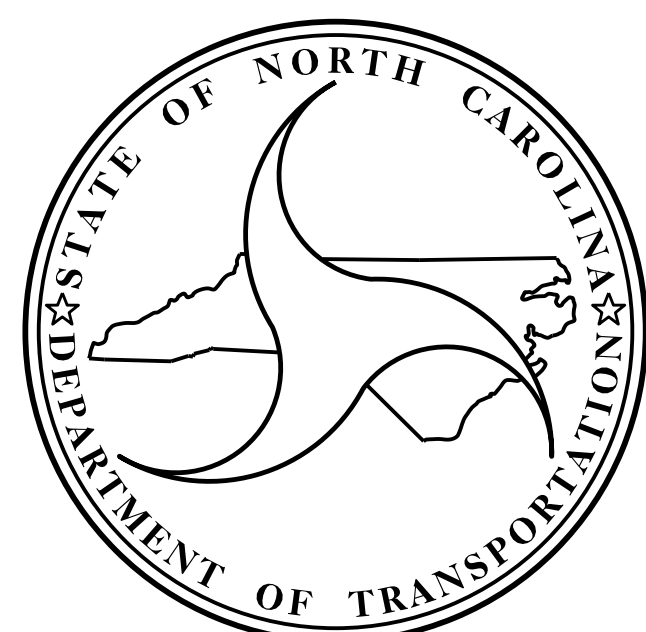
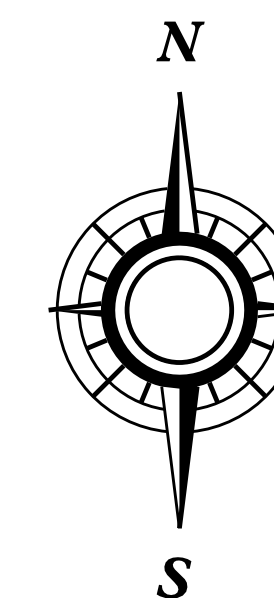
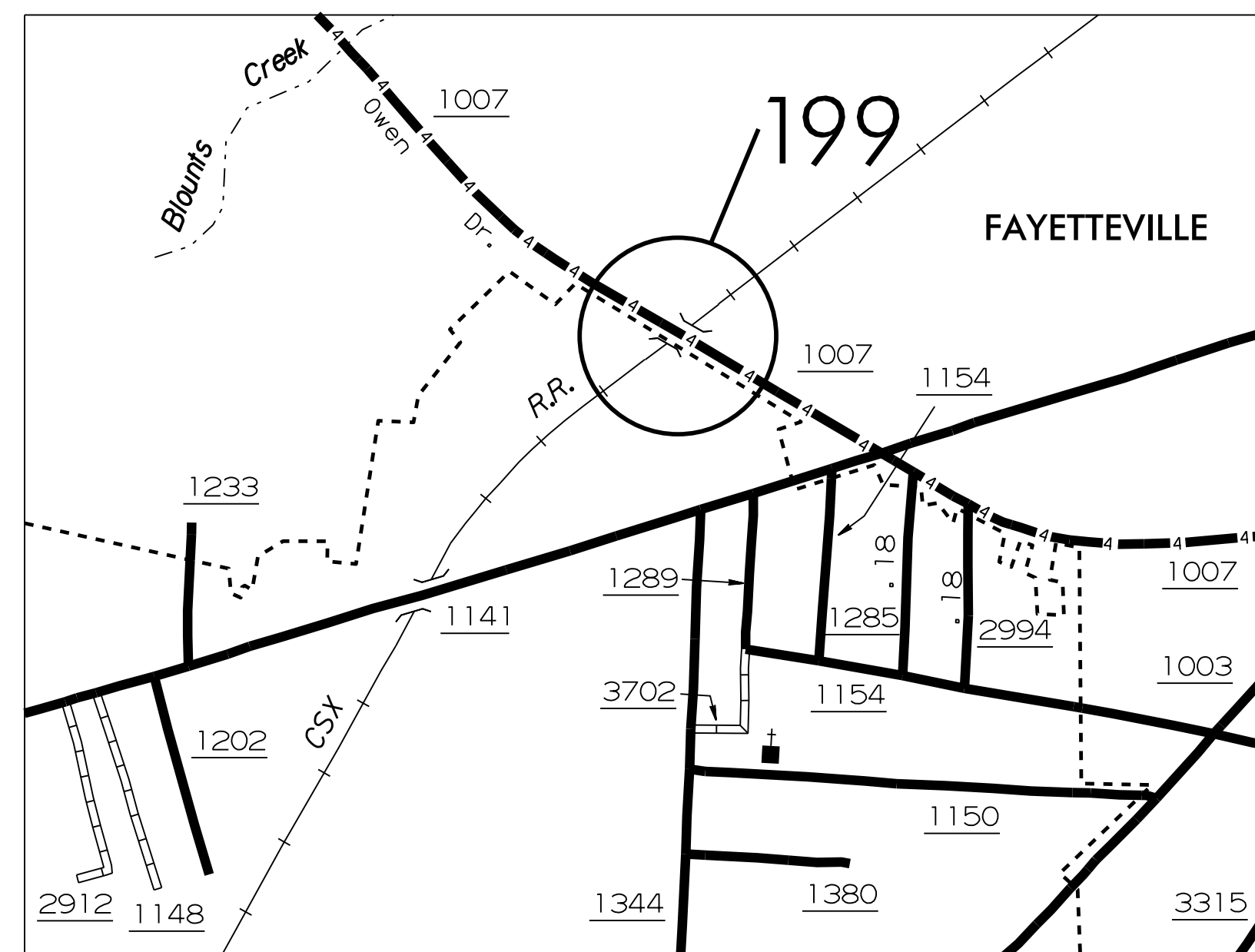
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5514	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
44102.1.FS1	NA	P.E.	
44102.3.FS1	NA	CONST.	

LOCATION: BRIDGE #199 ON SR 1007 (OWEN DRIVE) OVER CSX RAILROAD

TYPE OF WORK: BRIDGE PRESERVATION - DECK REPAIR OF EXISTING BRIDGE STRUCTURE WITH HYDRO-DEMOLITION, SCARIFICATION, LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH, AND JOINT DEMOLITION



DESIGN DATA
BRIDGE # 199 - ADT - 48,000

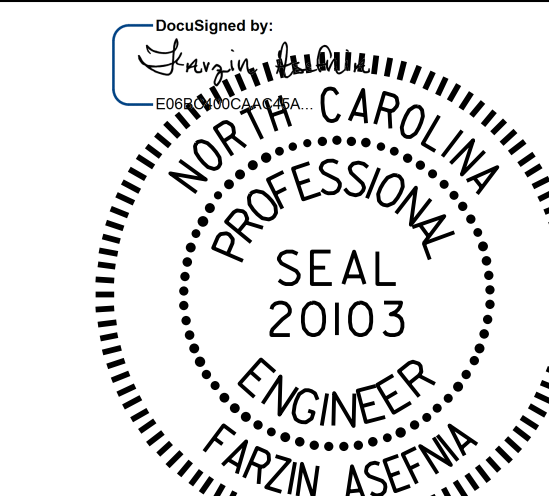
PROJECT LENGTH
BRIDGE # 199 - 0.030 MILE

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

J. M. BAILEY, P.E.
PROJECT ENGINEER

2012 STANDARD SPECIFICATIONS

LETTING DATE:
JULY 21, 2015

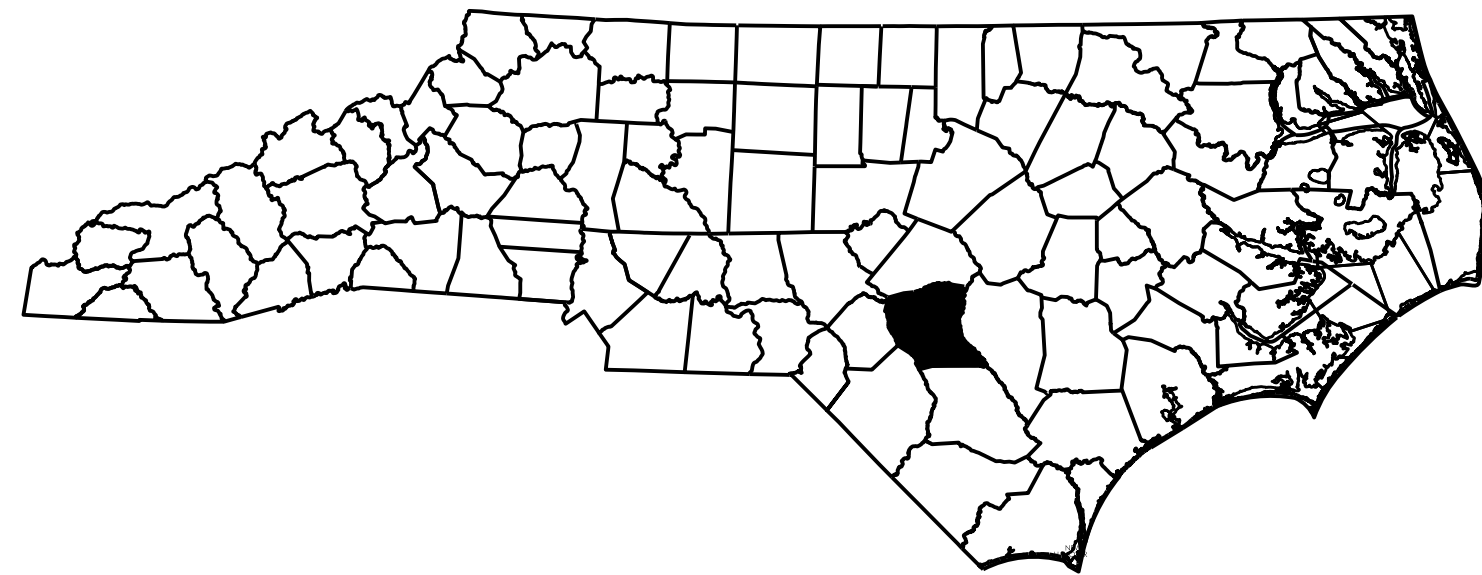


5/15/2015

FARZIN ASEFNIA, P.E.
PROJECT DESIGN ENGINEER

PROJECT: W-5514

CONTRACT:



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5514	1A	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
44102.1.FS1	NA	P.E.	
44102.3.FS1	NA	CONST.	

LOCATION: BRIDGE #199 ON SR 1007 (OWEN DRIVE) OVER CSX RAILROAD

TYPE OF WORK: BRIDGE PRESERVATION - DECK REPAIR OF EXISTING BRIDGE STRUCTURE WITH HYDRO-DEMOLITION, SCARIFICATION, LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH, AND JOINT DEMOLITION

INDEX OF SHEETS

SHEET NO.

1

1A

S-1 THRU S-9

SN

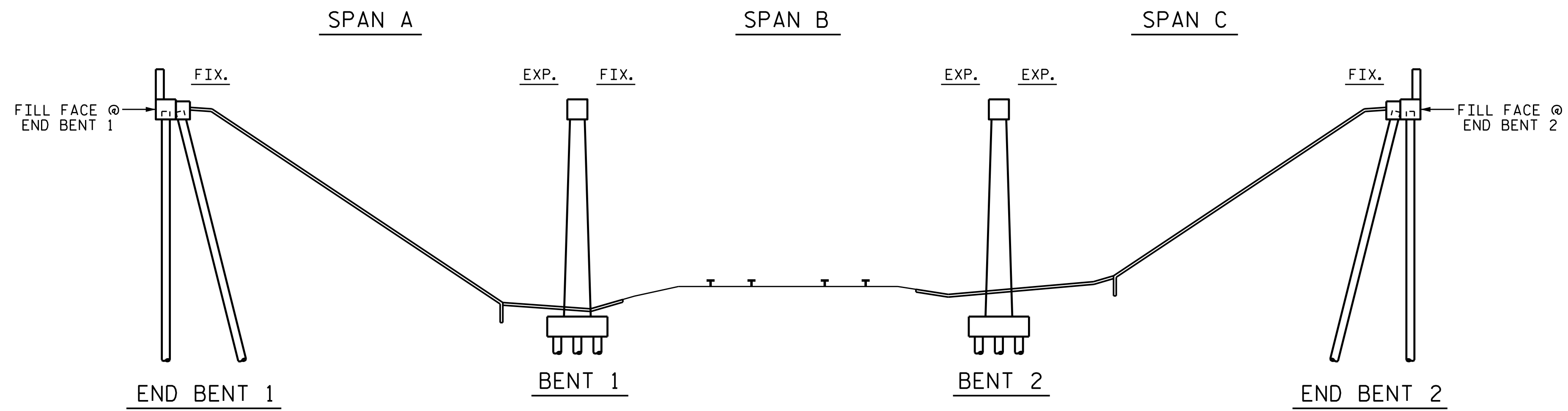
DESCRIPTION

TITLE SHEET

INDEX OF SHEETS

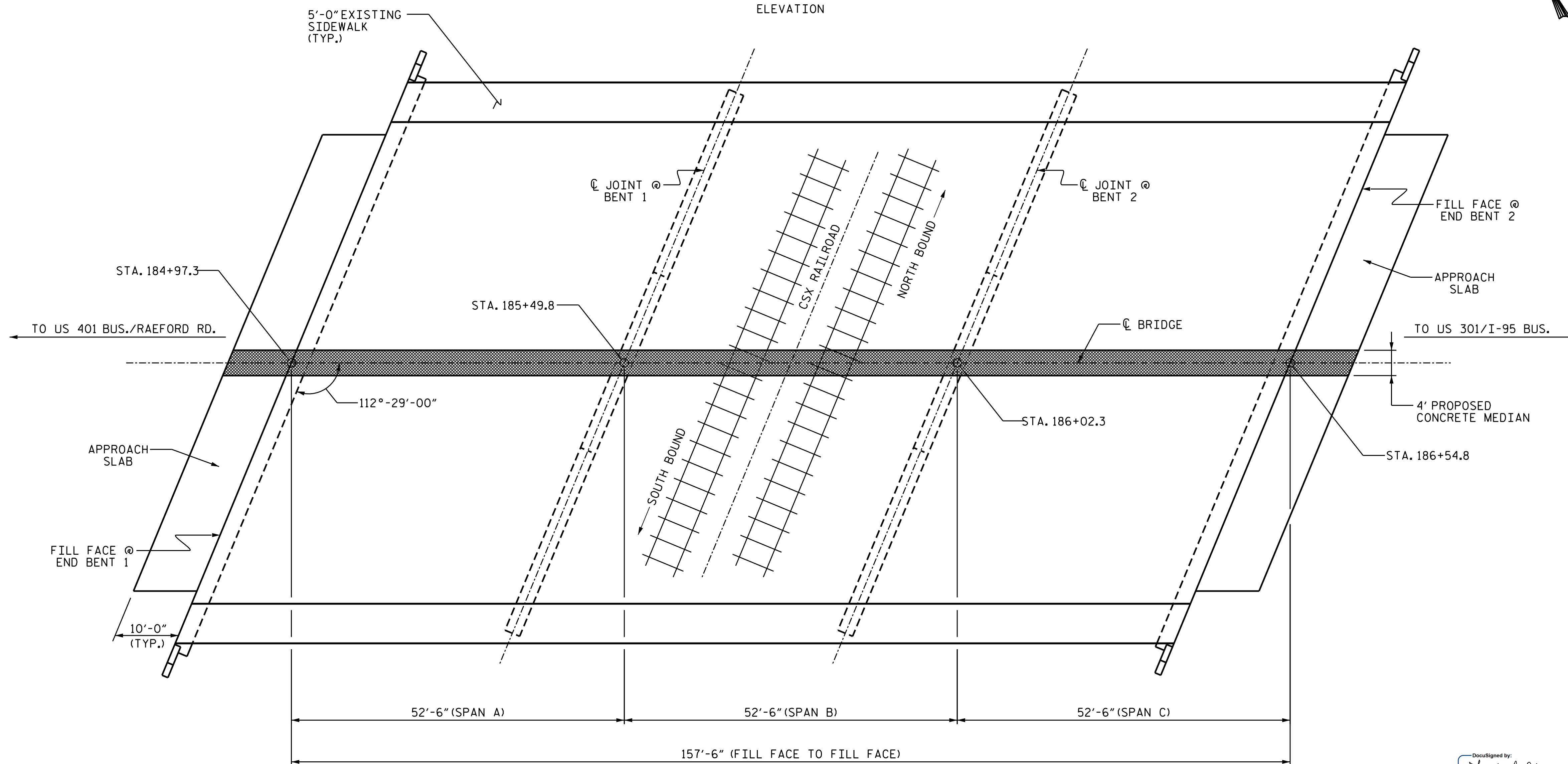
STRUCTURAL PLANS

STANDARD NOTES



SECTION ALONG -L-

ELEVATION



PLAN

PROJECT NO. W-5514
CUMBERLAND COUNTY
 BRIDGE NO. 199

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

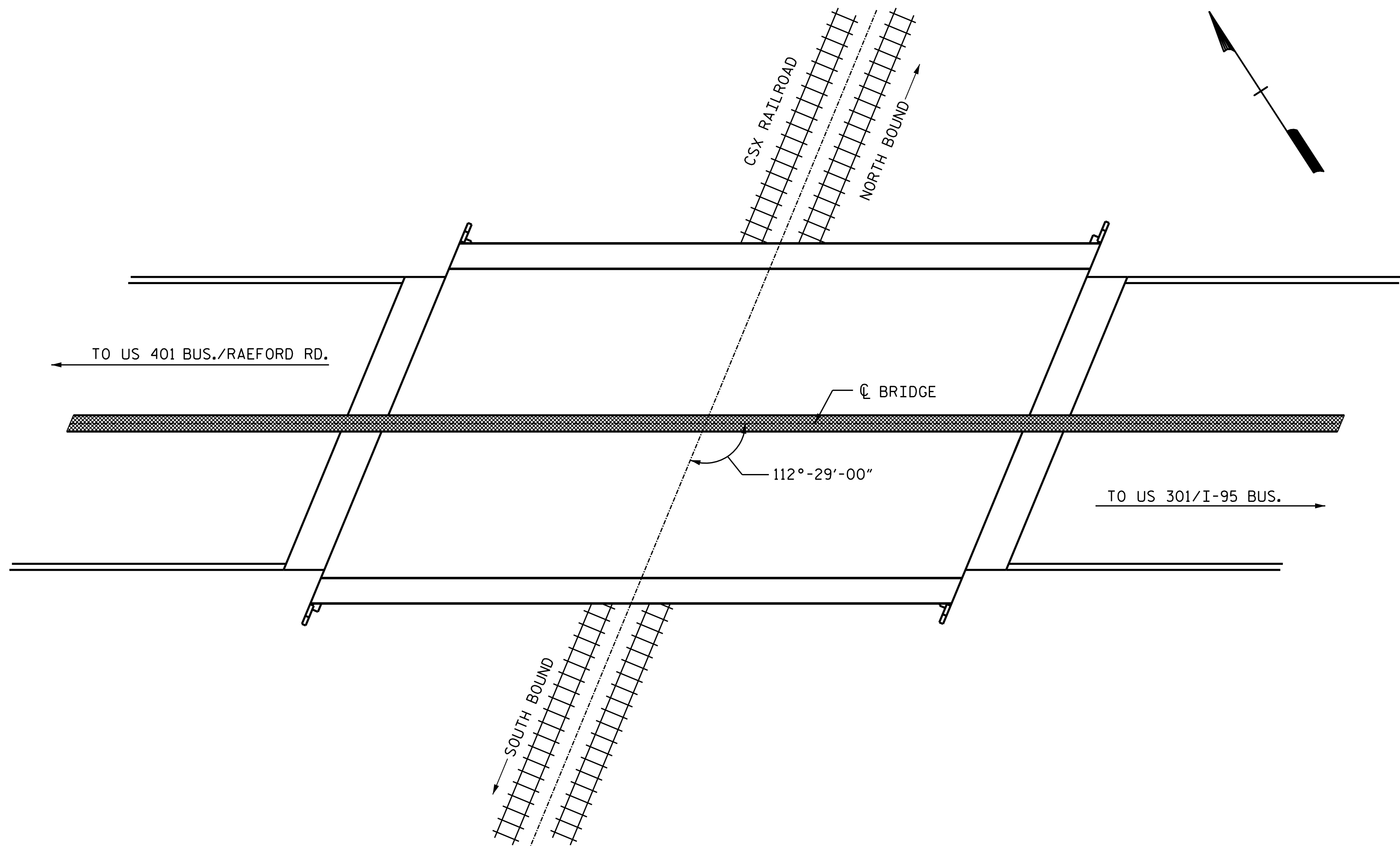
GENERAL DRAWING
 FOR BRIDGE OVER CSX
 RAILROAD ON SR 1007
 BETWEEN US 401 BUS.
 AND US 301/I-95 BUS.



DRAWN BY : D.V. JOYNER DATE : 9/2014
 CHECKED BY : W. SMITH DATE : 2/2015

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REVISIONS						SHEET NO.	
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1			3			TOTAL SHEETS	
2			4			9	



LOCATION SKETCH

NOTES

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

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

THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK.

THE CONTRACTOR MUST COLLECT, TREAT, AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS. SEE OVERLAY SURFACE PREPARATION 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.

FOR SCARIFYING BRIDGE DECK, HYDRO-DEMOLITION OF BRIDGE DECK, AND CLASS II AND CLASS III SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISIONS.

SEE ROADWAY PLANS FOR PROPOSED APPROACH PAVEMENT REHABILITATION AND ELEVATIONS. NEW APPROACH PAVEMENT ELEVATIONS SHALL PROVIDE SMOOTH TRANSITION FROM ROADWAY TO NEW BRIDGE DECK.

FOR OVERLAY SURFACE PREPARATION, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR LATEX MODIFIED CONCRETE-VERY EARLY STRENGTH, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR HYDRO-DEMOLITION, SEE SPECIAL PROVISIONS.

AVERAGE ASPHALT THICKNESS ON BRIDGE DECKS IS 2 7/8".

FOR VOLUMETRIC MIXER, SEE SPECIAL PROVISIONS.

FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL

BRIDGE NO.	5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	CLASS II SURFACE PREPARATION	CLASS III SURFACE PREPARATION	LATEX MODIFIED CONCRETE-VERY EARLY STRENGTH	PLACING & FINISHING LATEX MODIFIED CONCRETE-VERY EARLY STRENGTH	FOAM JOINT SEALS	VOLUMETRIC MIXER	CONCRETE FOR DECK REPAIR	BRIDGE JOINT DEMOLITION	SCARIFYING BRIDGE DECK	HYDRO-DEMOLITION OF BRIDGE DECK
199	SO.YD.	SQ.FT.	CU.YD.	SQ.YD.	SQ.YD.	CU.YD.	SO.YD.	LUMP SUM	LUMP SUM *	CU. FT.	SQ. FT.	SQ.YD.	SQ.YD.
TOTAL	79	11,329	11 ***	3	3 *	82 **	1,473	LUMP SUM	LUMP SUM *	3 *	151	1,473	1,473

*CLASS III SURFACE PREPARATION IS NOT ANTICIPATED. TOKEN PAY ITEMS ARE INDICATED FOR PRICING PURPOSES, IN CASE UNANTICIPATED CLASS III SURFACE PREPARATION AREAS ARE ENCOUNTERED.

** THE PAY ITEM INCLUDES CONCRETE FOR STAGED LMC.

*** THIS QUANTITY IS FOR THE MONOLITHIC CONCRETE ISLAND AND IS SHOWN FOR THE CONTRACTOR'S CONVENIENCE.

DRAWN BY : D.V. JOYNER DATE : 02/2015
 CHECKED BY : W. SMITH DATE : 02/2015

PROJECT NO. W-5514
CUMBERLAND COUNTY
 BRIDGE NO. 199

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

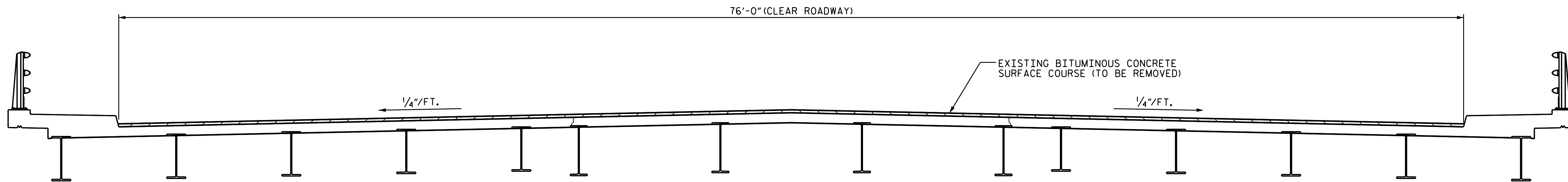
GENERAL DRAWING
 FOR BRIDGE OVER CSX
 RAILROAD ON SR 1007
 BETWEEN US 401 BUS.
 AND US 301/I-95 BUS.



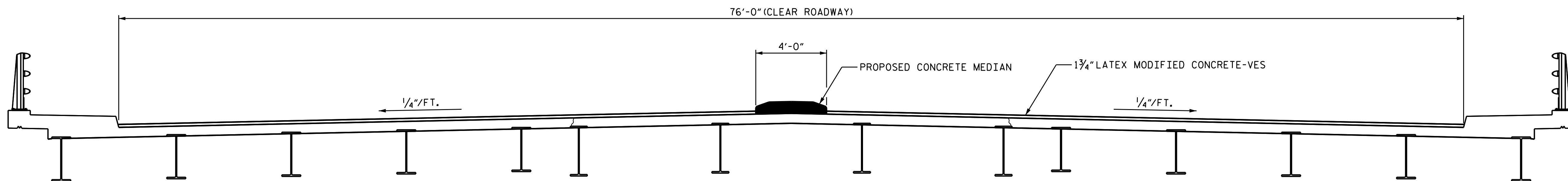
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1			3			TOTAL SHEETS
2			4			9

NOTE:

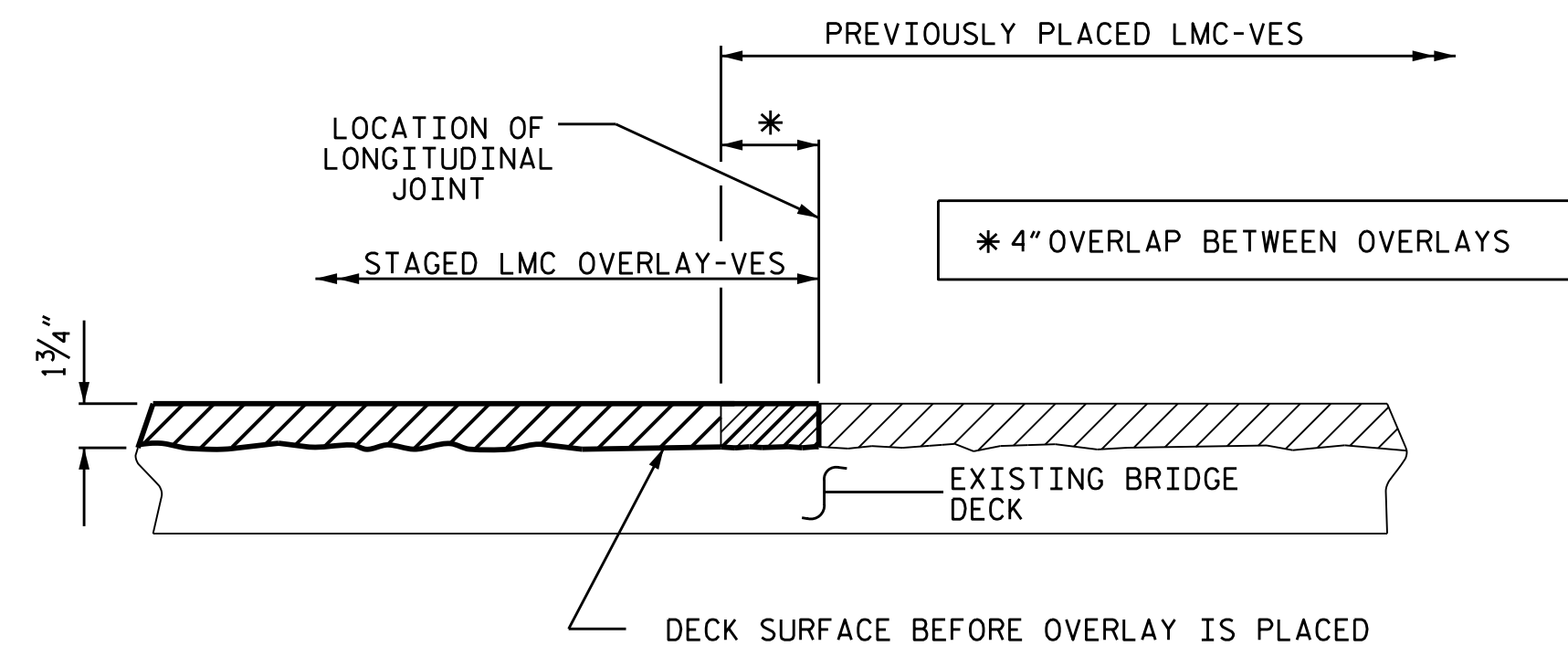
STAGING OF LATEX MODIFIED CONCRETE (LMC) OVERLAY-VERY EARLY STRENGTH IS NOT INDICATED ON STRUCTURE PLANS. IN THE EVENT STAGED CONSTRUCTION IS UTILIZED OR IF LONGITUDINAL JOINTS ARE NECESSARY, LONGITUDINAL CONSTRUCTION JOINTS OF LMC-VES SHALL BE LOCATED ALONG CENTERLINE OR EDGE OF TRAVEL LANES. WHEN PREPARING THE SURFACE FOR LMC OVERLAY ADJACENT TO A PREVIOUSLY PLACED LMC STAGE, THE PREVIOUSLY PLACED LMC SHALL BE REMOVED FOR A DISTANCE OF 4-INCHES FROM THE LMC EDGE. THE SURFACE OF THE NEW STAGE AREA, ALONG WITH THE 4 INCH OVERLAY AREA, SHALL BE PREPARED AS PER THE OVERLAY SURFACE PREPARATION SPECIAL PROVISIONS. NEW LMC SHALL BE PLACE IN THE 4-INCH OVERLAP, AS PART OF NEW LMC STAGE PLACEMENT.



EXISTING TYPICAL SECTION



PROPOSED TYPICAL SECTION



SECTION THRU DECK

STAGED LMC - VERY EARLY STRENGTH OVERLAY JOINT

(AS NEEDED)

CONSTRUCTION SEQUENCE:

1. THE CONTRACTOR SHALL MILL THE AWS TO TOP OF THE EXISTING CONCRETE DECK AND APPROACH SLAB.
2. HE THEN SHALL SCARIFY AND HYDRO-DEMOLITION THE EXISTING DECK AS DETAILED IN PLANS.
3. THE ENTIRE DECK AND APPROACH SLAB AREAS SHALL BE OVERLAYED WITH VES-LMC.
4. CONSTRUCT THE PROPOSED 4' CONCRETE MEDIAN.
5. GROVE THE ENTIRE DECK AND APPROACH SLAB AREA.

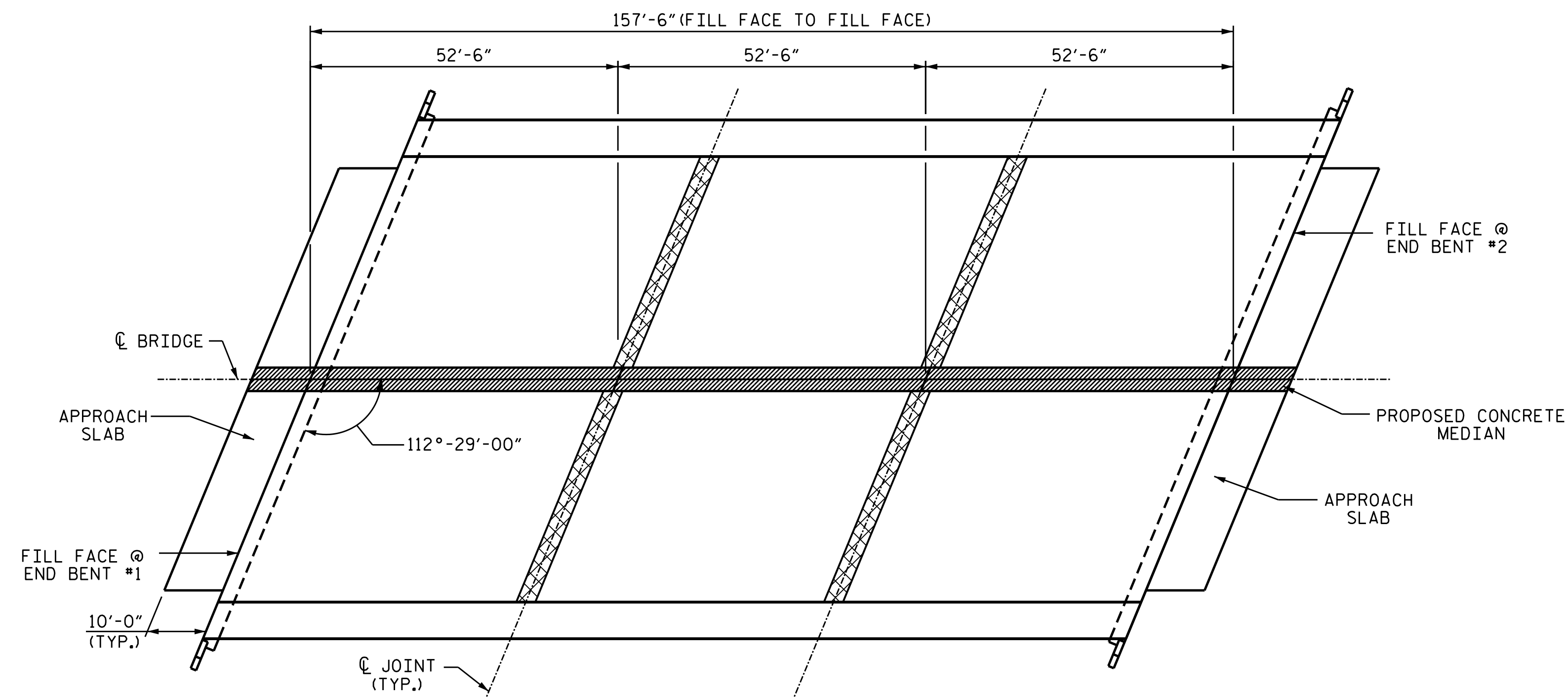
DRAWN BY : D.V. JOYNER DATE : 9/2014
 CHECKED BY : W. SMITH DATE : 2/2015

PROJECT NO. W-5514
CUMBERLAND COUNTY
 BRIDGE NO.: 199

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 TYPICAL SECTION &
 LATEX MODIFIED
 CONCRETE DETAILS

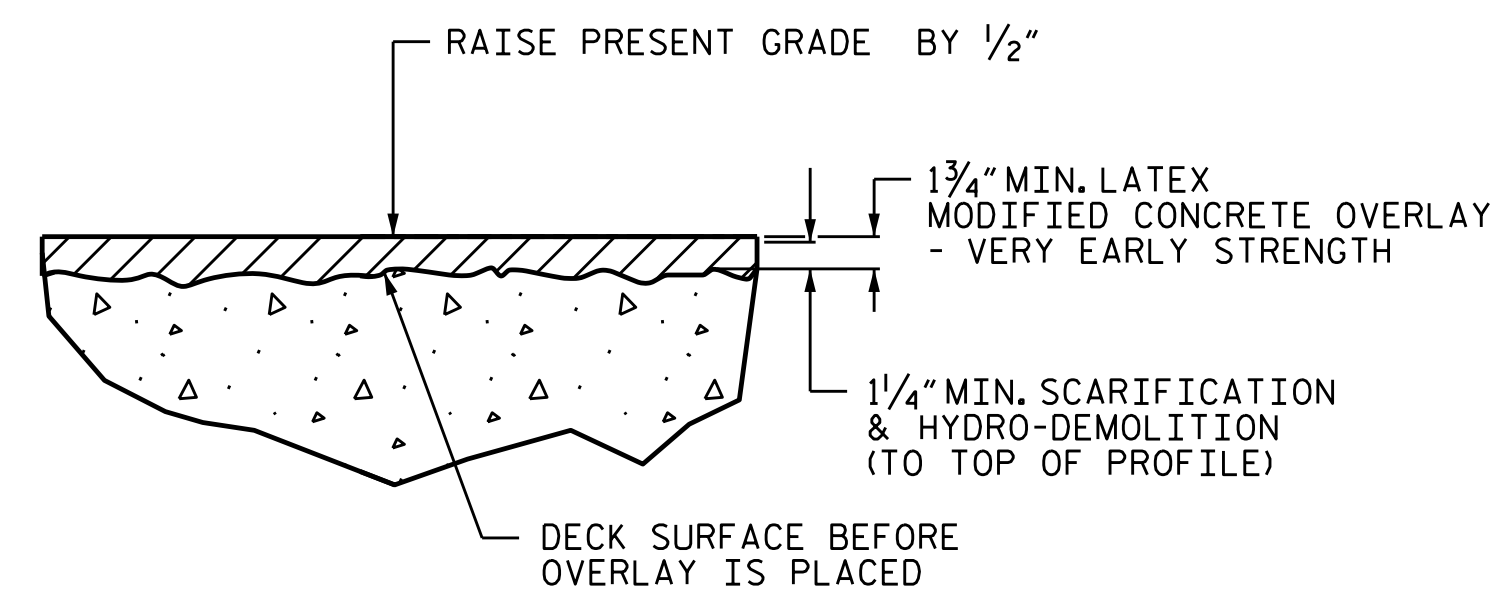
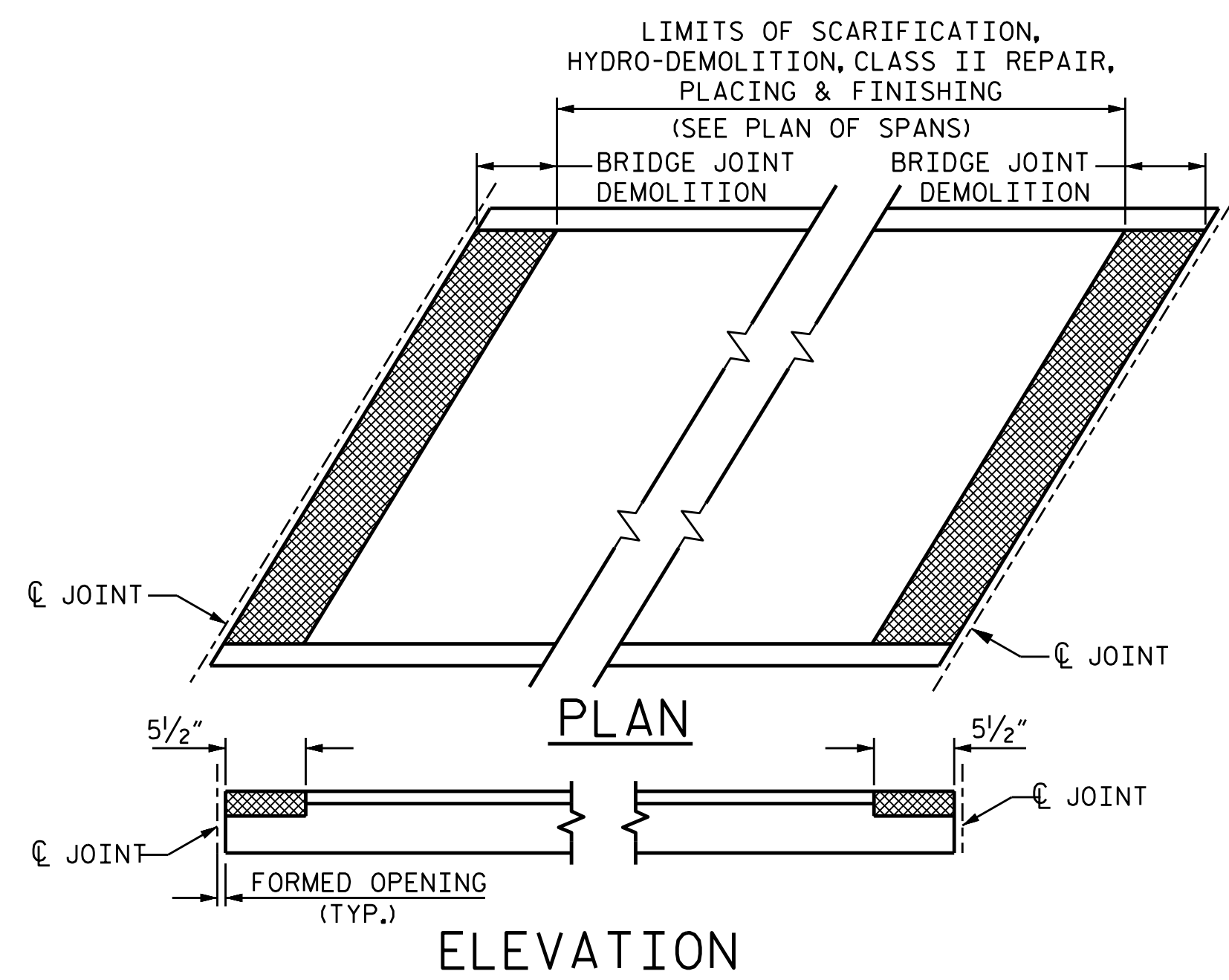


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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			9
2			4			



- DECK SCARIFICATION, HYDRO-DEMOLITION, AND LATEX MODIFIED CONCRETE OVERLAY - VERY EARLY STRENGTH
- BRIDGE JOINT DEMOLITION

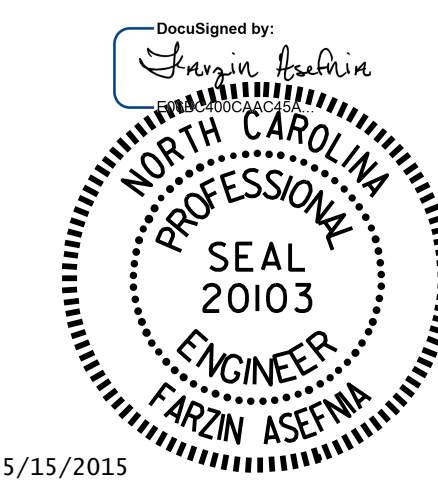
PLAN OF SPANS



DETAIL FOR LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH OVERLAY

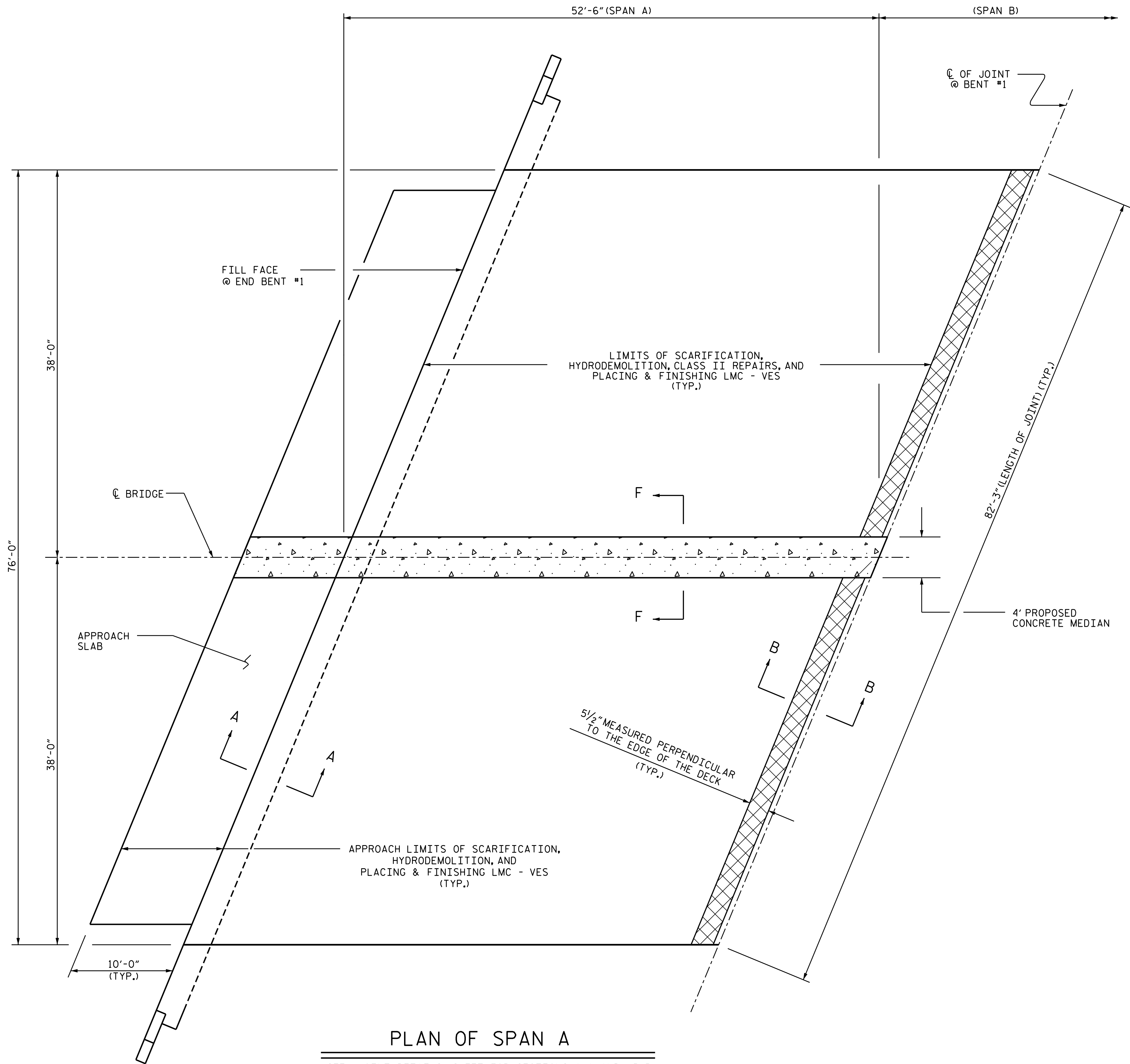
PROJECT NO. W-5514
CUMBERLAND COUNTY
 BRIDGE NO.: 199

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 SURFACE PREPARATION



DRAWN BY : D.V. JOYNER DATE : 9/2014
 CHECKED BY : W. SMITH DATE : 2/2015

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



SUMMARY OF QUANTITIES FOR SPAN "A"		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK & APPROACH	519.0 SY	
HYDRO-DEMOLITION OF BRIDGE DECK & APPROACH	519.0 SY	
CLASS II SURFACE PREPARATION	1.0 SY	
CLASS III SURFACE PREPARATION	1.0 SY	
JOINT DEMOLITION	37.8 SF	

PAYMENT FOR CLASS II AND CLASS III SURFACE PREP. BASED UPON SQUARE FEET OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF BRIDGE DECK, SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

THE EXISTING BRIDGE SURFACE HAS AN ASPHALT WEARING SURFACE. IT IS POSSIBLE THAT CLASS II SURFACE PREPARATION MIGHT BE NECESSARY, BUT CANNOT BE ESTIMATED WITH THE AWS PRESENT. THE QUANTITY INDICATED IS FOR BIDDING PURPOSES ONLY. THE ACTUAL QUANTITY SHALL BE CONFIRMED AFTER SCARIFICATION AND HYDRO-DEMOLITION OF THE BRIDGE DECK.

- SCARIFYING BRIDGE DECK
- APPROX. AREA CLASS II SURFACE PREPARATION
- BRIDGE JOINT DEMOLITION
- PROPOSED (CLASS A) CONCRETE MEDIAN

PLAN OF SPAN A
(SEE "JOINT DETAILS" SHEET FOR SECTIONS A-A AND B-B)

PROJECT NO. W-5514
CUMBERLAND COUNTY
 BRIDGE NO.: 199

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SURFACE PREPARATION
 SPAN A**



DRAWN BY : D.V. JOYNER/M. WELDON DATE : 2/2015
 CHECKED BY : W. SMITH DATE : 2/2015

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1			3			TOTAL SHEETS
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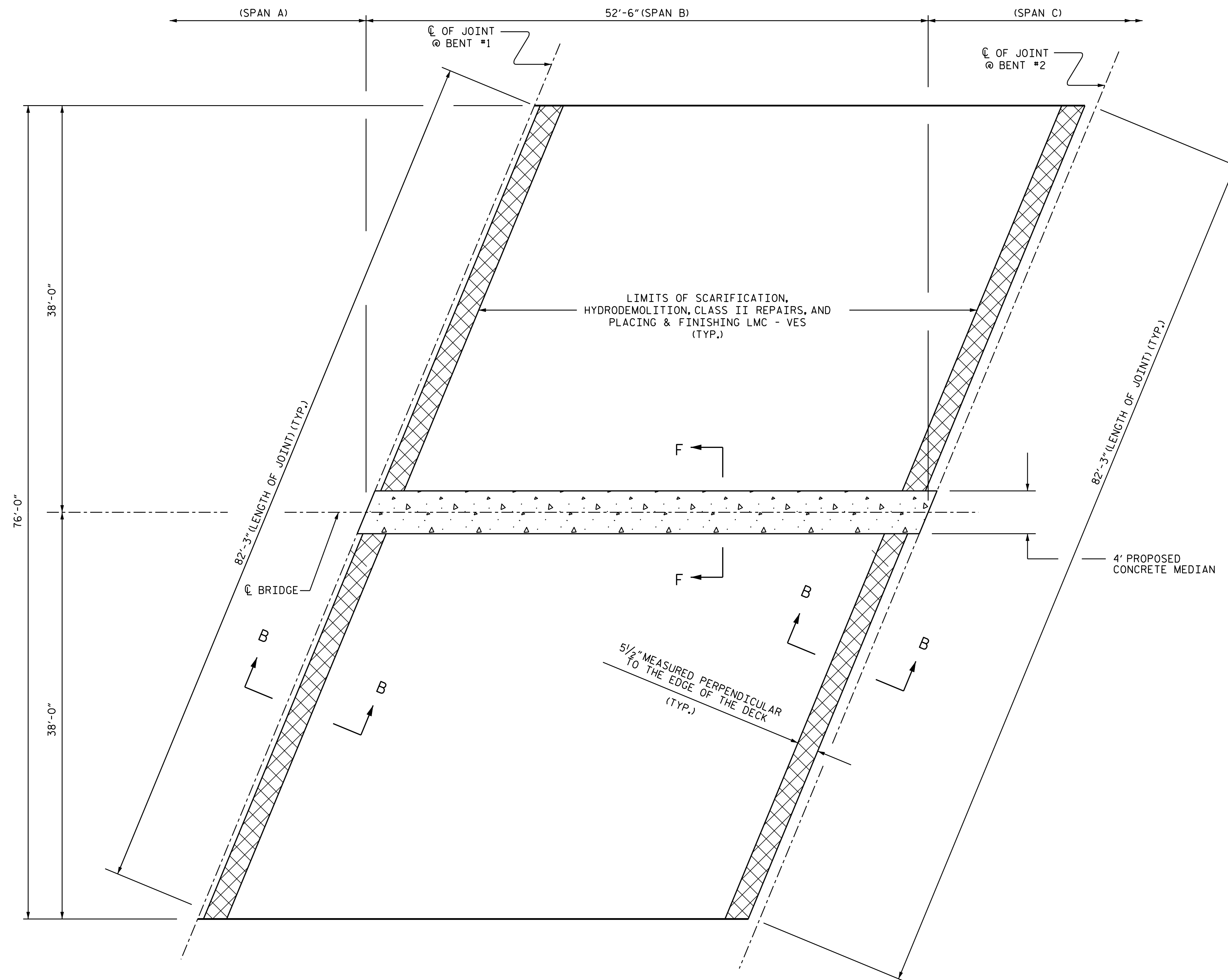
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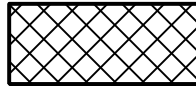

SUMMARY OF QUANTITIES FOR SPAN "B"

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	435.0 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	435.0 SY	
CLASS II SURFACE PREPARATION	1.0 SY	
CLASS III SURFACE PREPARATION	1.0 SY	
JOINT DEMOLITION	75.5 SF	

PAYMENT FOR CLASS II AND CLASS III SURFACE PREP. BASED UPON SQUARE FEET OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF BRIDGE DECK, SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

THE EXISTING BRIDGE SURFACE HAS AN ASPHALT WEARING SURFACE. IT IS POSSIBLE THAT CLASS II SURFACE PREPARATION MIGHT BE NECESSARY, BUT CANNOT BE ESTIMATED WITH THE AWS PRESENT. THE QUANTITY INDICATED IS FOR BIDDING PURPOSES ONLY. THE ACTUAL QUANTITY SHALL BE CONFIRMED AFTER SCARIFICATION AND HYDRO-DEMOLITION OF THE BRIDGE DECK.



-  SCARIFYING BRIDGE DECK
-  APPROX. AREA CLASS II SURFACE PREPARATION
-  BRIDGE JOINT DEMOLITION
-  PROPOSED (CLASS A) CONCRETE MEDIAN

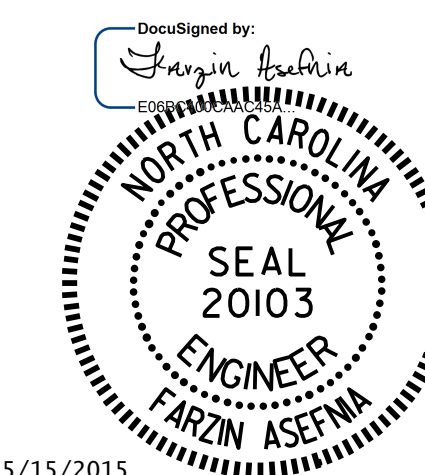
PLAN OF SPAN B

(SEE "JOINT DETAILS" SHEET FOR SECTIONS A-A AND B-B)

PROJECT NO. W-5514
CUMBERLAND COUNTY
 BRIDGE NO.: 199

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SURFACE PREPARATION
 SPAN B



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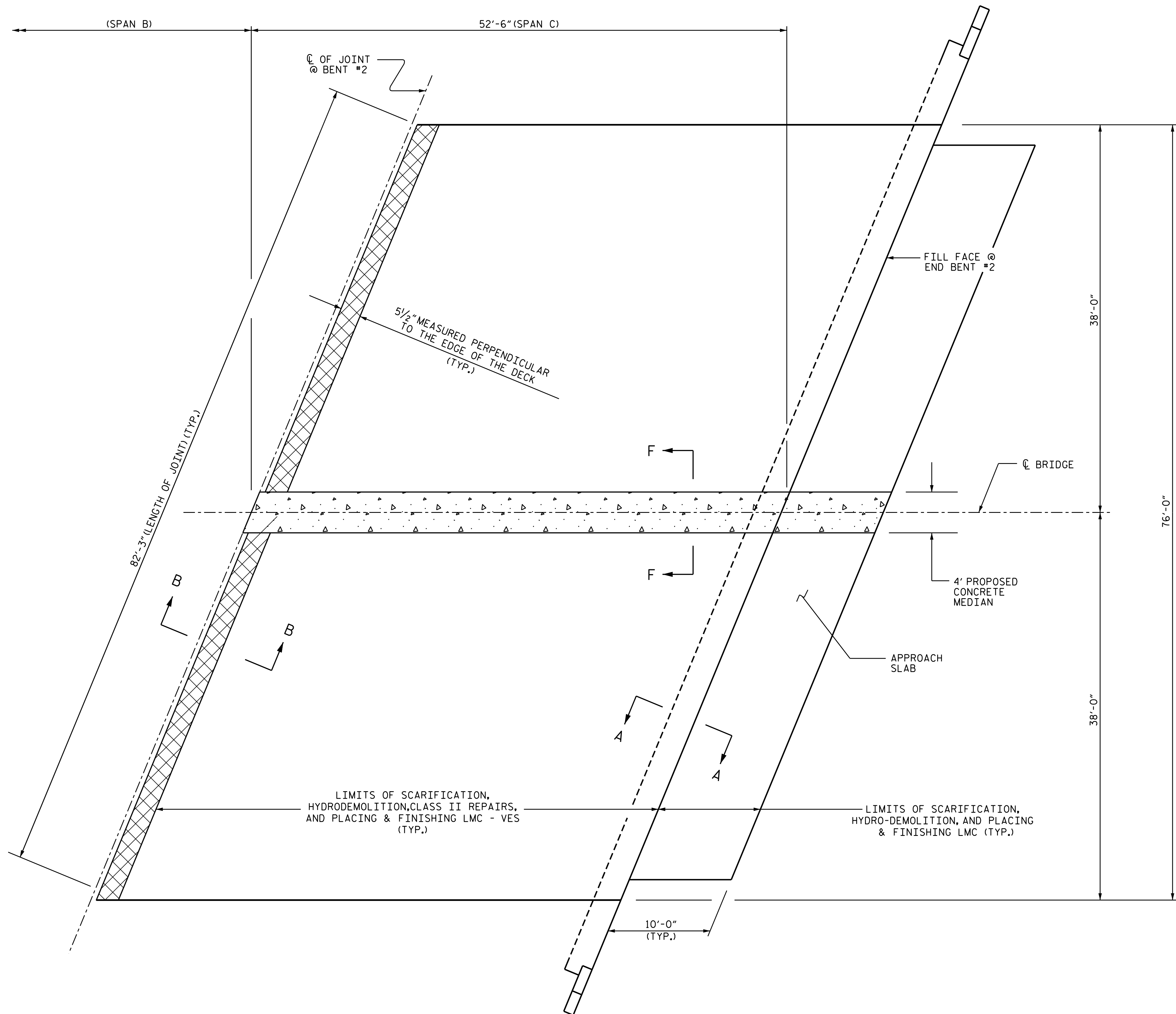
SUMMARY OF QUANTITIES FOR SPAN "C"

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK & APPROACH	519.0 SY	
HYDRO-DEMOLITION OF BRIDGE DECK & APPROACH	519.0 SY	
CLASS II SURFACE PREPARATION	1.0 SY	
CLASS III SURFACE PREPARATION	1.0 SY	
JOINT DEMOLITION	37.8 SF	

PAYMENT FOR CLASS II AND CLASS III SURFACE PREP. BASED UPON SQUARE FEET OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF BRIDGE DECK, SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

THE EXISTING BRIDGE SURFACE HAS AN ASPHALT WEARING SURFACE. IT IS POSSIBLE THAT CLASS II SURFACE PREPARATION MIGHT BE NECESSARY, BUT CANNOT BE ESTIMATED WITH THE AWS PRESENT. THE QUANTITY INDICATED IS FOR BIDDING PURPOSES ONLY. THE ACTUAL QUANTITY SHALL BE CONFIRMED AFTER SCARIFICATION AND HYDRO-DEMOLITION OF THE BRIDGE DECK.

-  SCARIFYING BRIDGE DECK
-  APPROX. AREA CLASS II SURFACE PREPARATION
-  BRIDGE JOINT DEMOLITION
-  PROPOSED (CLASS A) CONCRETE MEDIAN



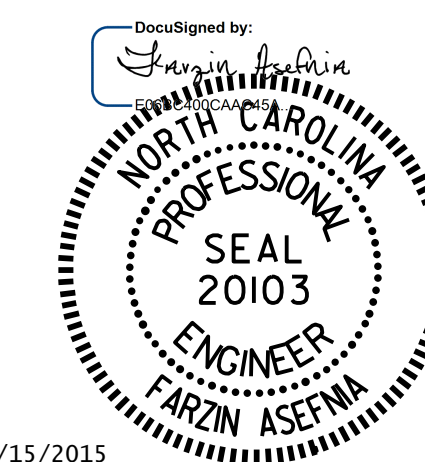
PLAN OF SPAN C

(SEE "JOINT DETAILS" SHEET FOR SECTIONS A-A AND B-B)

PROJECT NO. W-5514
CUMBERLAND COUNTY
 BRIDGE NO.: 199

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SURFACE PREPARATION
 SPAN C



5/15/2015

DRAWN BY : D.V. JOYNER/M. WELDON DATE : 2/2015
 CHECKED BY : W. SMITH DATE : 2/2015

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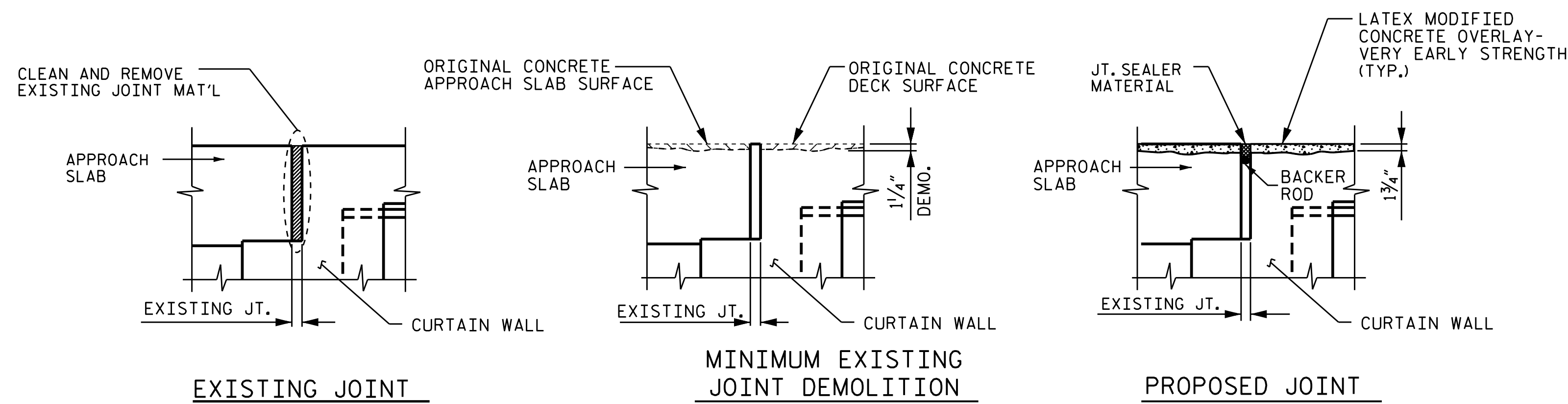
CONTRACTOR SHALL FIELD VERIFY THE EXISTING FORMED OPENING PRIOR TO OBTAINING JOINT MATERIAL.

HYDRO-DEMOLITION OR EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

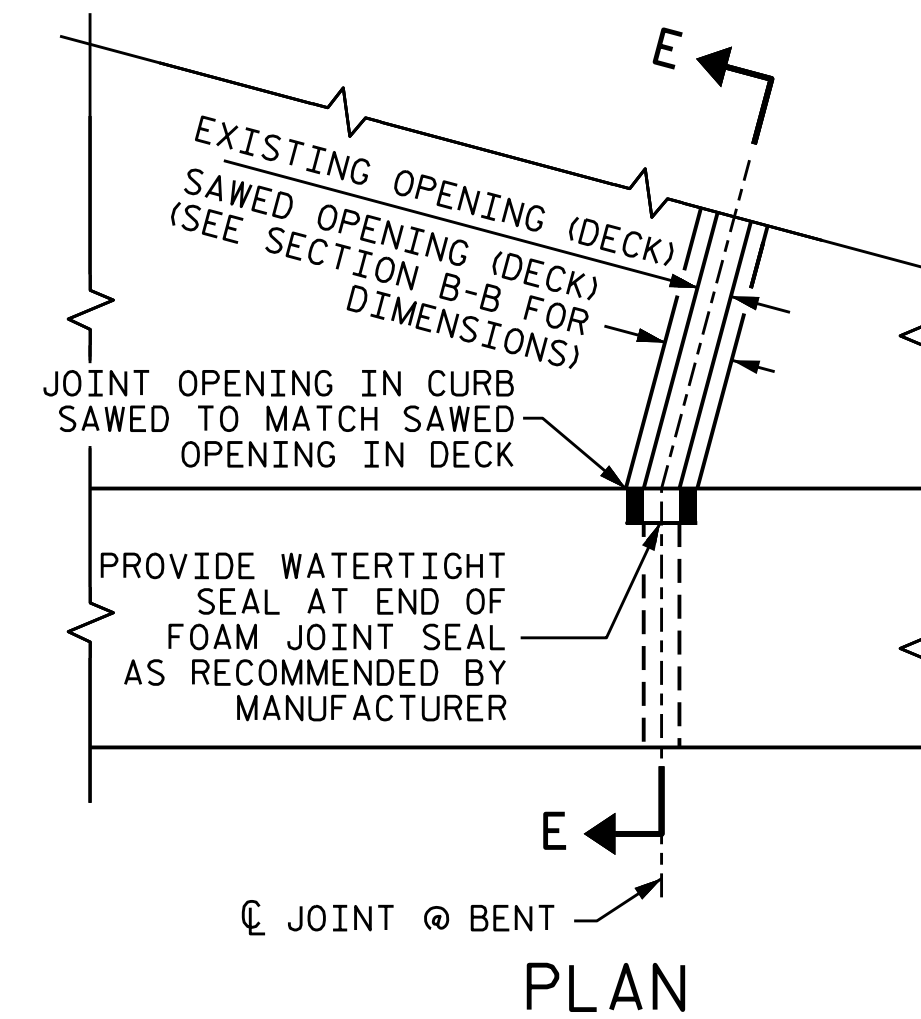
FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

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

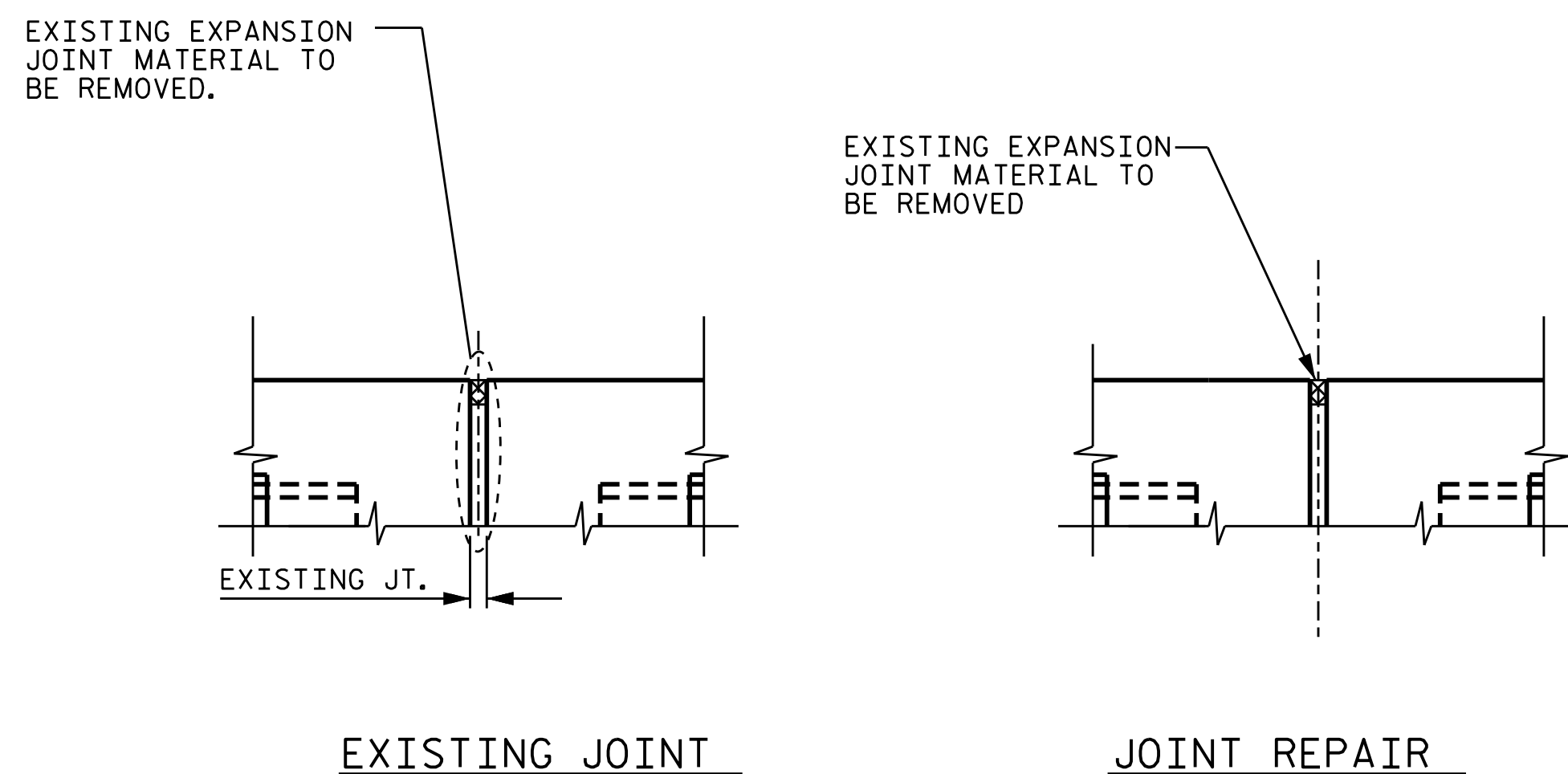
THE WIDTH OF THE UNCOMPRESSED FOAM JOINT MATERIAL SHALL BE 2".



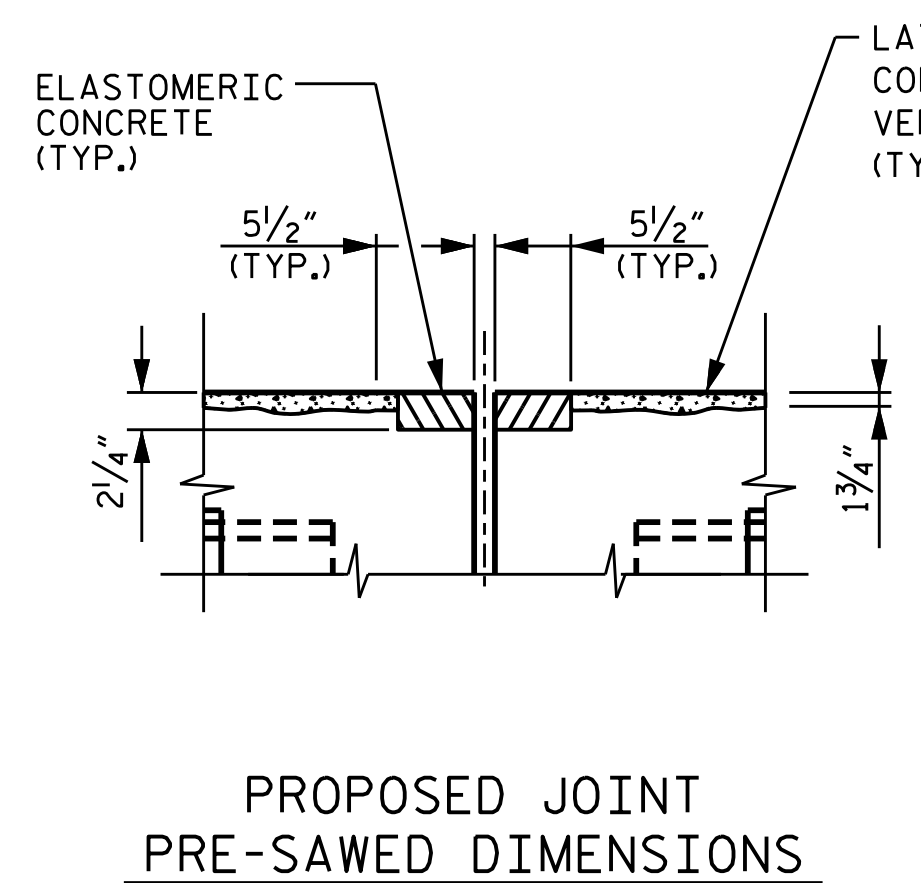
JOINT INSTALLATION SEQUENCE
SECTION A-A



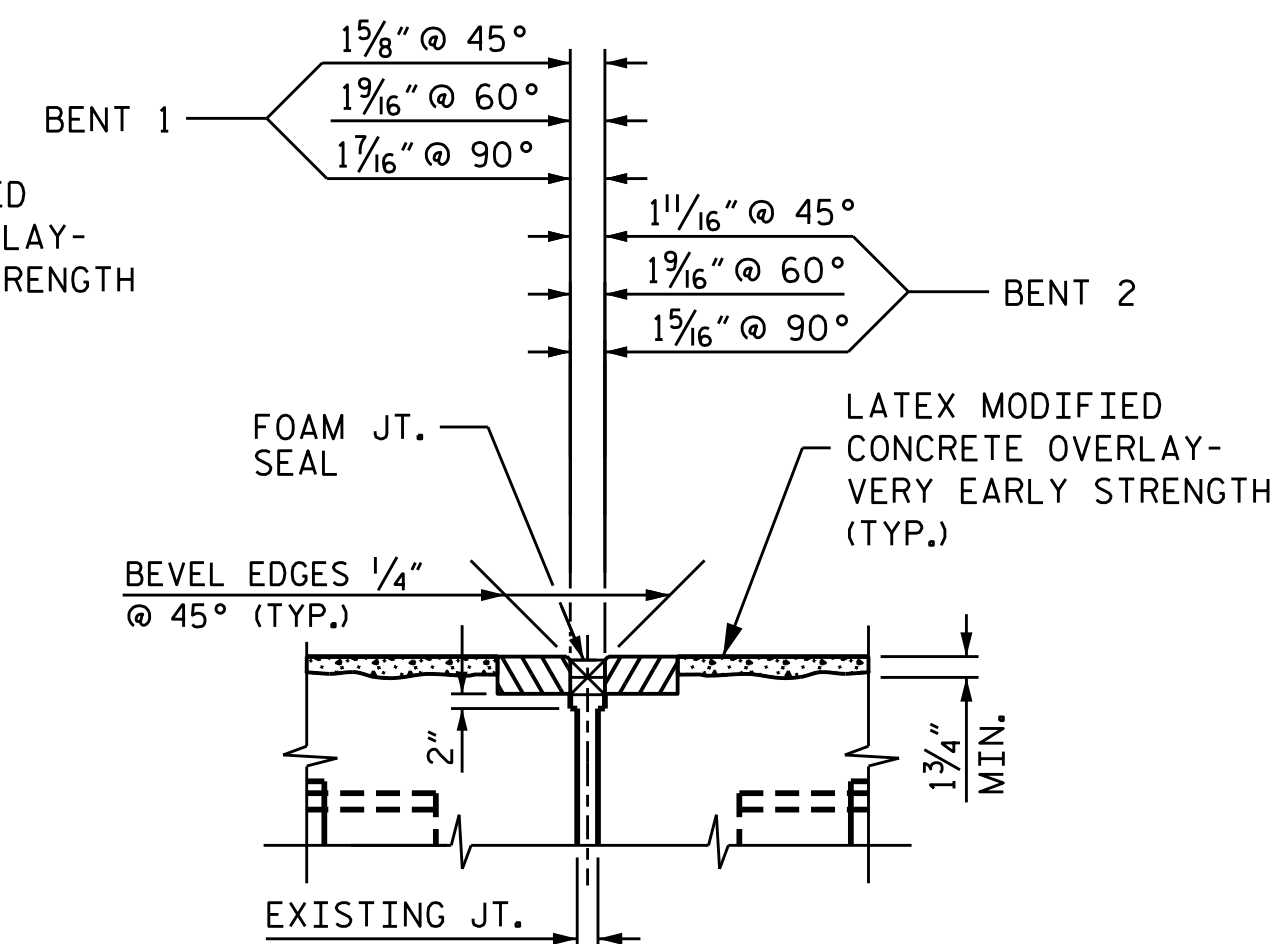
PLAN



JOINT INSTALLATION SEQUENCE
SECTION B-B



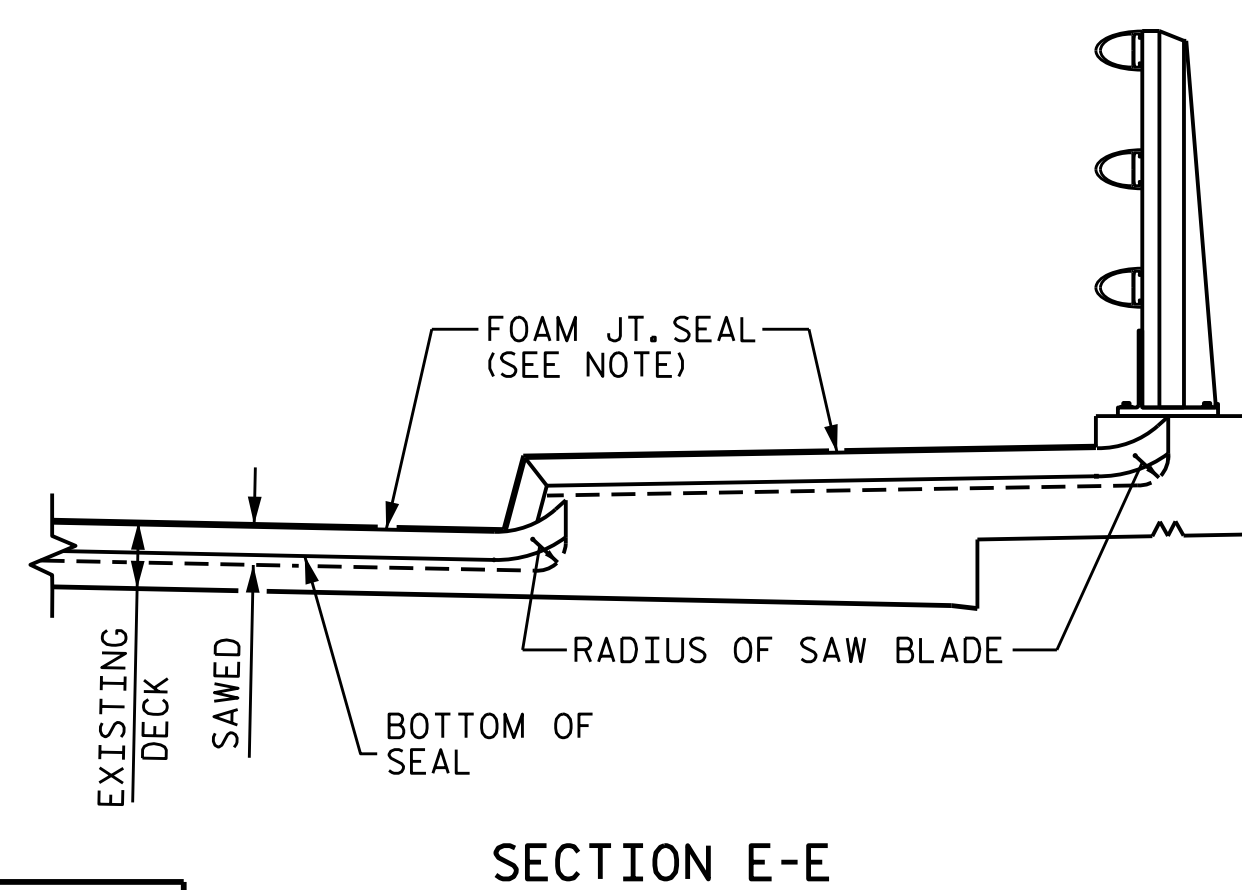
PROPOSED JOINT PRE-SAWED DIMENSIONS



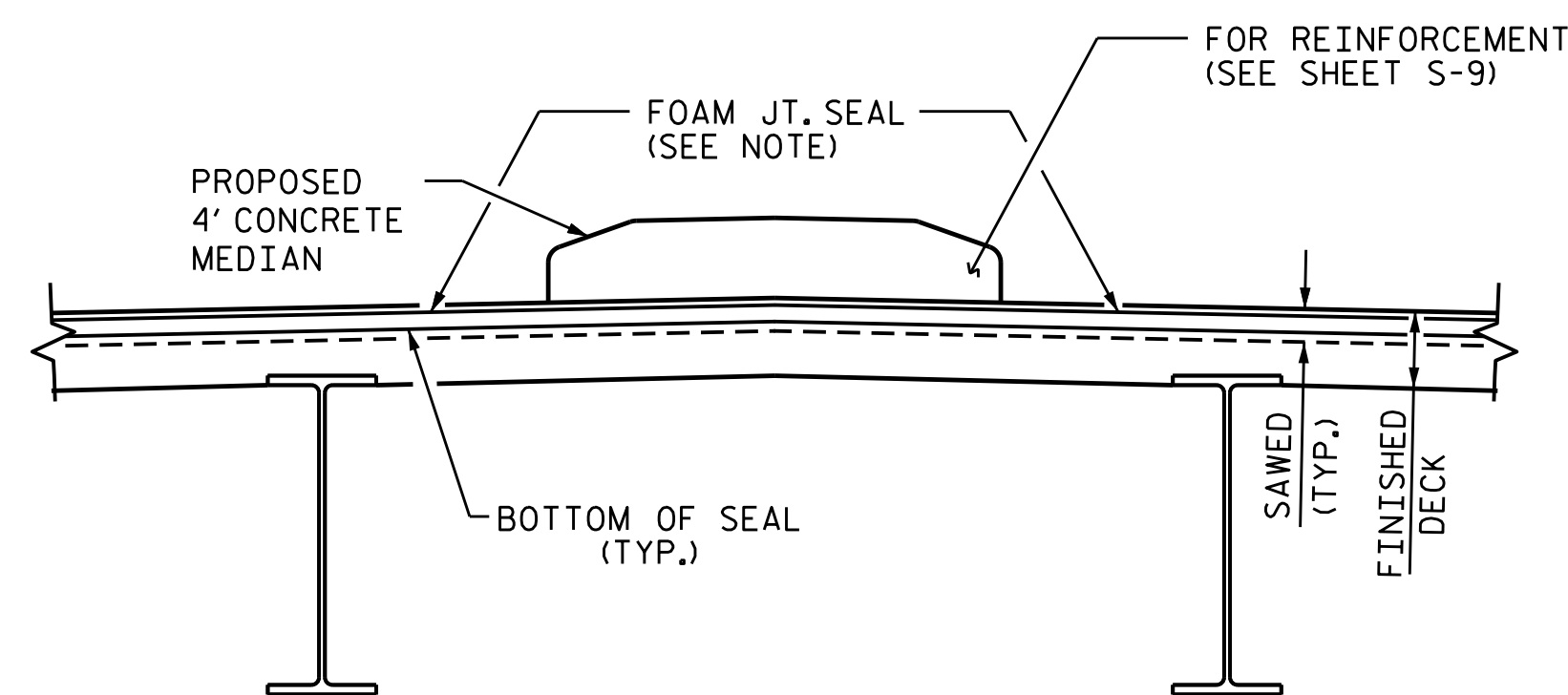
PROPOSED FOAM JOINT SEAL EXPANSION

ELASTOMERIC CONCRETE	
BENT 1	14.15 (CU. FT.)
BENT 2	14.15 (CU. FT.)
* TOTAL	28.30 (CU. FT.)

*BASED ON THE MINIMUM BLOCKOUT SHOWN.



SECTION E-E



SECTION F-F

DRAWN BY : D.V. JOYNER DATE : 9/2014
CHECKED BY : W. SMITH DATE : 2/2015

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mweldon

5/15/2015



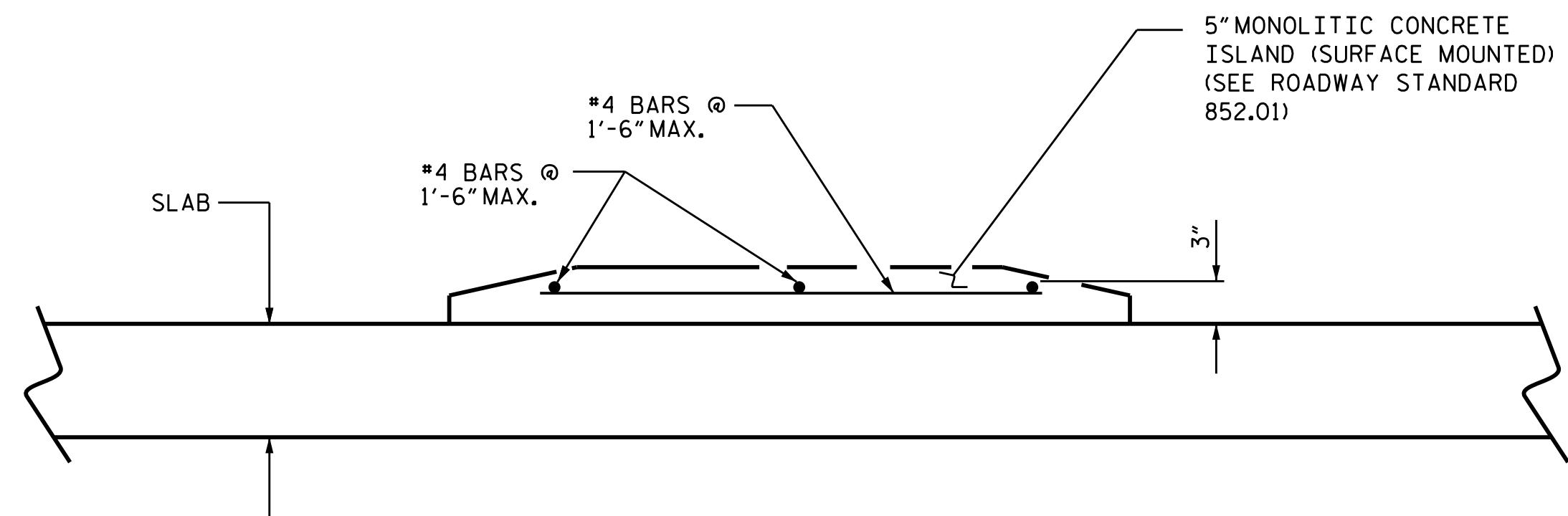
PROJECT NO. W-5514
CUMBERLAND COUNTY
BRIDGE NO.: 199

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
TYPICAL SECTION
AND
JOINT DETAILS

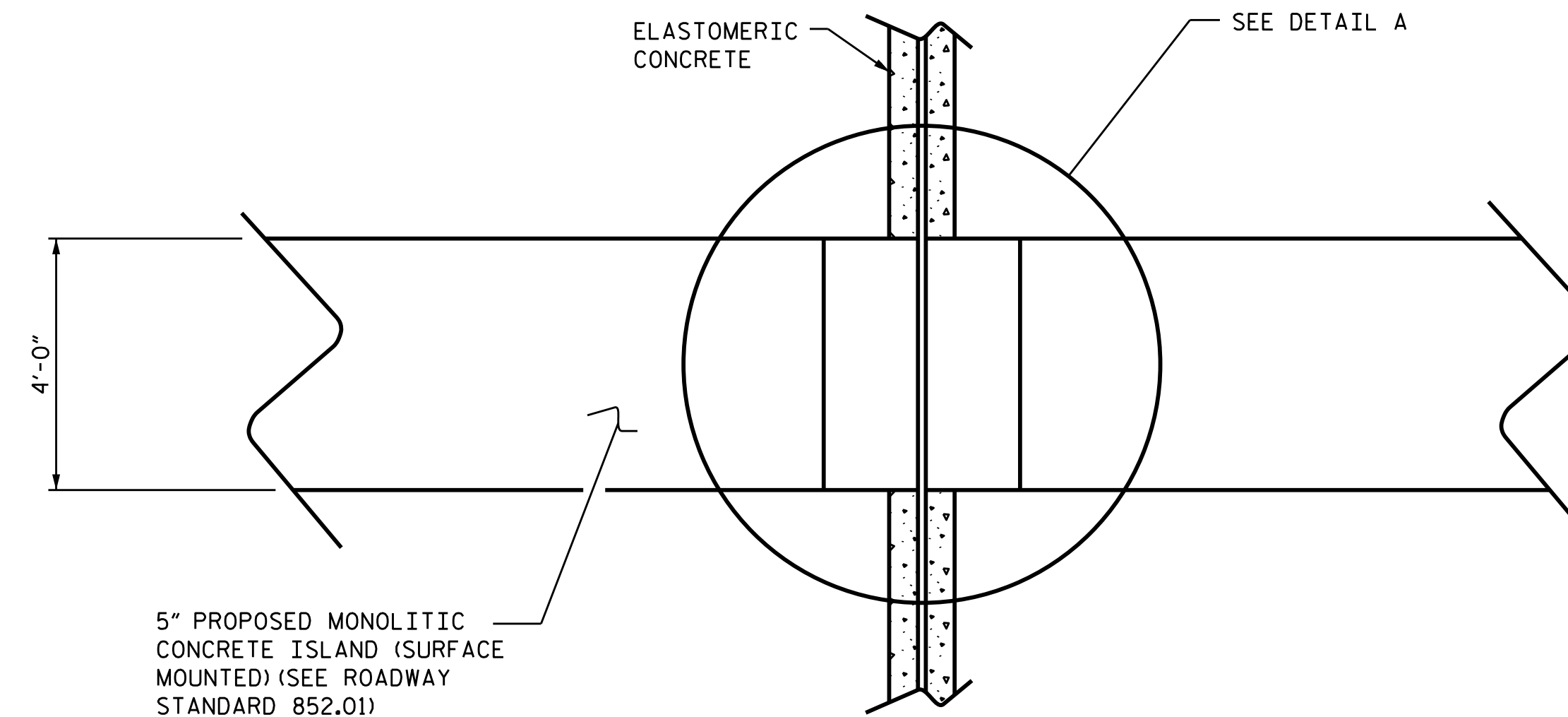
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS
2			4			9

NOTES:

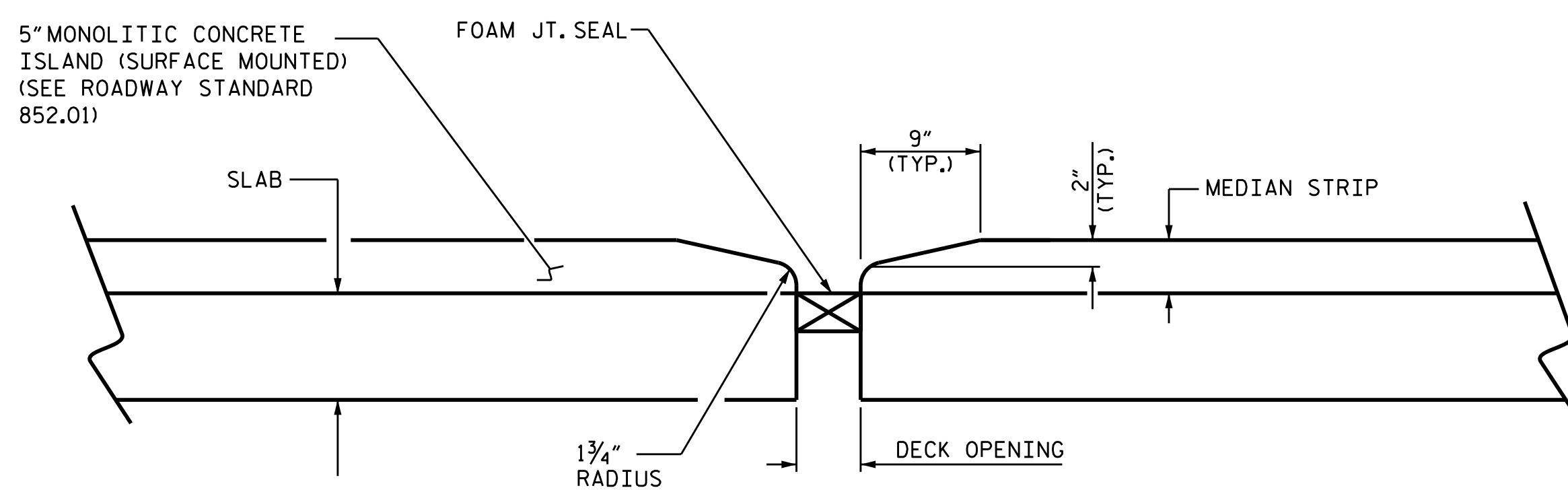
1. FOR 5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED) DETAIL SEE ROADWAY STANDARD NO. 852.01
2. THE ELASTOMERIC CONCRETE SHALL TERMINATE AT THE FACE OF THE CONCRETE MEDIAN
3. ALL REINFORCING STEEL IN CONCRETE MEDIANS SHALL BE EPOXY COATED.



REINFORCING STEEL DETAIL



5" PROPOSED MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED) (SEE ROADWAY STANDARD 852.01)

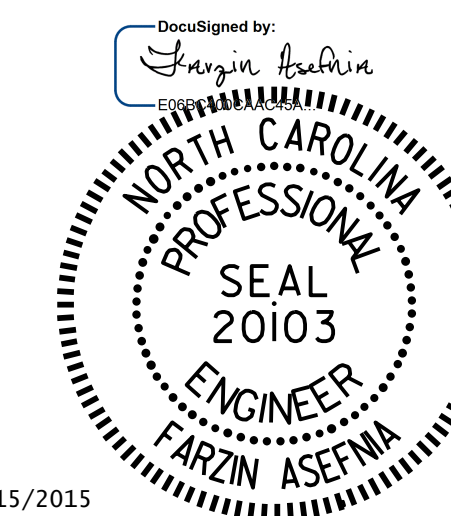


DETAIL A
(CONCRETE ISLAND AT THE JOINT)

PROJECT NO. W-5514
CUMBERLAND COUNTY
 BRIDGE NO.: 199

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PERMANENT CONCRETE
 MEDIAN ON BRIDGE



5/15/2015

DRAWN BY : M. WELDON DATE : 05/2015
 CHECKED BY : F. ASEFNIA DATE : 05/2015

13-MAY-2015 12:22
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS
2			4			9

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 2012 "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. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH

JANUARY, 1990

STD. NO. SN