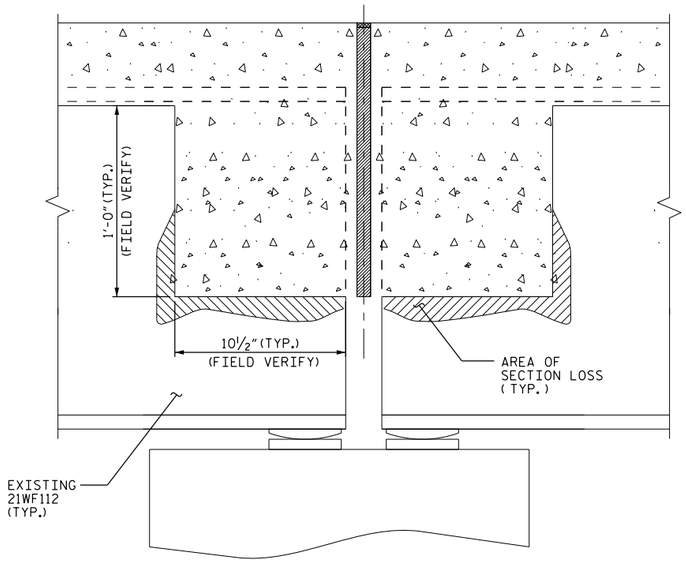
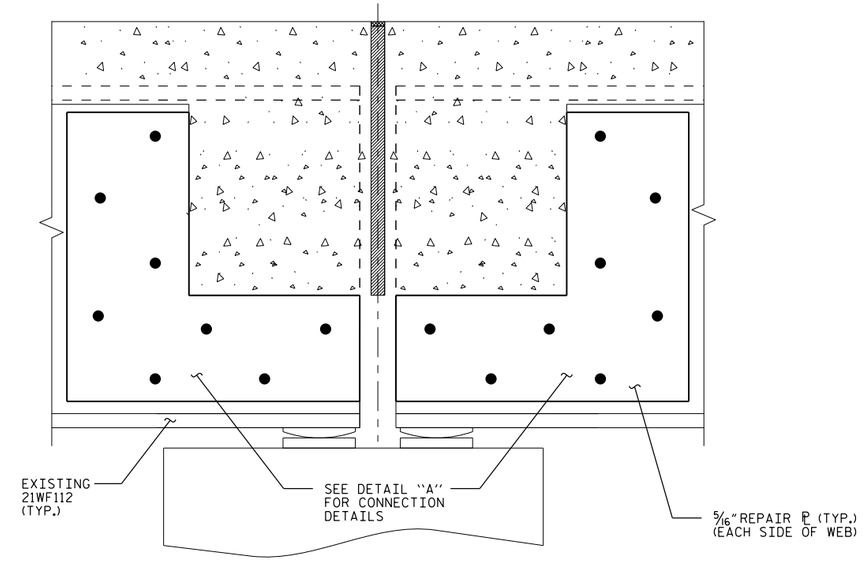


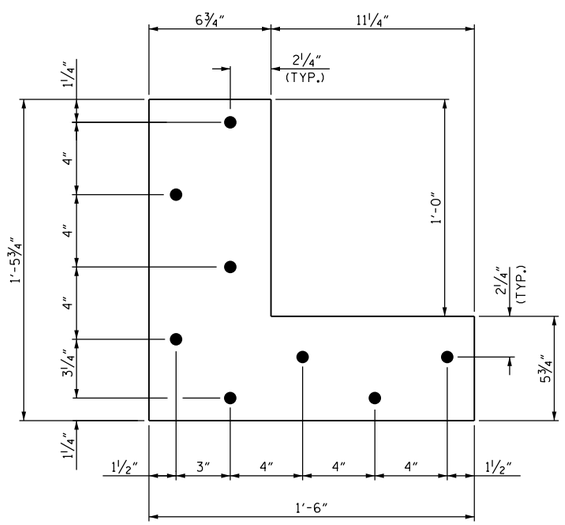
SECTION LOSS BEAM END REPAIR

(EXISTING)



SECTION LOSS BEAM END REPAIR PLATES

(PROPOSED)



DETAIL "A"

(ALL HOLES TO BE 11/16" Ø
FOR 5/8" Ø BOLTS)

ANTICIPATED REPAIR LOCATIONS		
LOCATION	SPAN	BEAM
BENT 1	A	1
	A	2
	A	3
	B	1
	B	2
	B	4
BENT 2	B	1
	B	2
	B	3
	C	1
	C	2
	C	3
	C	4
BENT 3	C	1
	C	2
	C	3
	C	4
	D	1
	D	2
	D	3
	D	4

NOTES:

DIMENSIONS INDICATED ARE BASED ON THE BEST INFORMATION AVAILABLE. FOR EACH BEAM BEING REPAIRED, CONTRACTOR SHALL FIELD VERIFY DIMENSIONS. PLATE DIMENSIONS SHALL BE ADJUSTED TO FIT IN THE SPACE FROM BOTTOM OF CONCRETE DIAPHRAGM TO TOP OF THE BOTTOM FLANGE.

AFTER THE STRUCTURAL STEEL HAS BEEN BLASTED AND PRIMED, THE STRUCTURAL STEEL AND BEARING SHALL BE INSPECTED FOR EXCESSIVE SECTION LOSS. AREAS THAT EXHIBIT AN EXCESS OF 35% SECTION LOSS SHALL BE REVIEWED BY THE ENGINEER TO DETERMINE IF AREA OF SECTION LOSS SHOULD BE REPAIRED.

ONE PLATE SHALL BE PLACED, AS INDICATED, ON EACH SIDE OF THE BEAM ENDS.

PLATES SHALL BE NEW, AASHTO M270, GRADE 36 OR BETTER.

PLATES SHALL BE SHOP PRIMED PRIOR TO DELIVERY.

ALL BOLTS SHALL MEET ASTM A325.

ALL NUTS SHALL MEET ASTM A194.

ALL FLAT WASHERS SHALL MEET ASTM F436.

TENSION ON THE BOLTS SHALL BE CALIBRATED USING DIRECT TENSION INDICATOR WASHERS (DTIS) IN ACCORDANCE WITH ARTICLE 440-8 OF THE NCDOT STANDARD SPECIFICATIONS. DTIS SHALL BE MEET ASTM F959.

PRIOR TO PLACEMENT OF THE PLATES, APPLY WET EPOXY MASTIC AROUND THE TOP AND SIDE PERIMETERS ON THE PLATE FACE THAT IS TO BE IN CONTACT WITH THE BEAM. AMOUNT OF EPOXY MASTIC SHALL BE SUFFICIENT TO SEAL THE INTERFACE OF THE PLATE AND THE BEAM AFTER BOLTS ARE TIGHTENED. NO EPOXY MASTIC SHALL BE PLACED ALONG THE BOTTOM PERIMETER OF THE PLATE. WHILE THE MASTIC IS STILL WET, PLATES SHALL BE PUT IN PLACE AND BOLTS PROPERLY TIGHTENED.

THE EPOXY MASTIC USED FOR THIS WORK SHALL BE COMPATIBLE WITH THE PAINT SYSTEM USED FOR THE PAINTING OF EXISTING STEEL AND SHALL BE APPROVED BY THE NCDOT MATERIALS AND TEST UNIT. THE EPOXY MASTIC WILL BE ACCEPTED ON THE BASIS OF THE MANUFACTURER'S WRITTEN CERTIFICATION THAT THE BATCH PRODUCED MEETS THEIR PRODUCT SPECIFICATION

AFTER PLACEMENT OF THE PLATES AND TIGHTENING OF THE BOLTS, PLATES, BOLTS, AND SURROUNDING AREA SHALL BE PAINTED OR PAINT SHALL BE REPAIRED AS PER PROJECT REQUIREMENTS AND NCDOT STANDARD SPECIFICATIONS.

PAYMENT WILL BE MADE AT CONTRACT PRICE BID PER POUNDS STRUCTURAL STEEL USED FOR "BEAM REPAIR". SUCH PAYMENTS WILL BE FULL COMPENSATION FOR ALL MATERIALS, EQUIPMENT, TOOLS, LABOR, MISCELLANEOUS STEEL, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

PROJECT NO. BP-5500G
SAMPSON COUNTY
BRIDGE NO. 6

DocuSigned by:
W. Matthew Clarke
1EB20097EAAF437...
3/4/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BEAM END
PLATE REPAIR

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-17
1			3			TOTAL SHEETS
2			4			20

DRAWN BY : S. T. SANDOR DATE : 11/2014
CHECKED BY : W. M. CLARKE DATE : 12/2014

25-FEB-2015 07:05
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ssandor