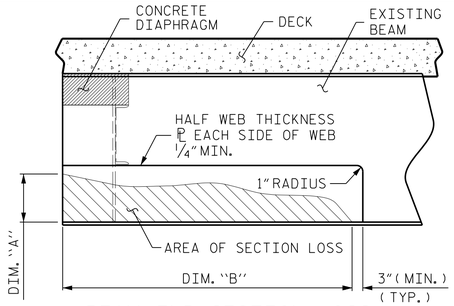
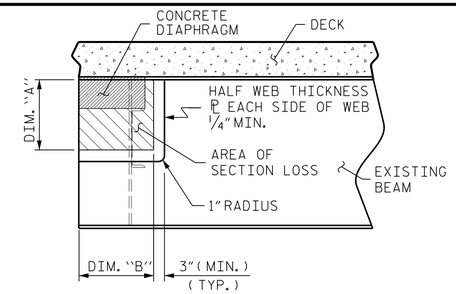


BEAM END SECTION LOSS AND PLATING REPAIR



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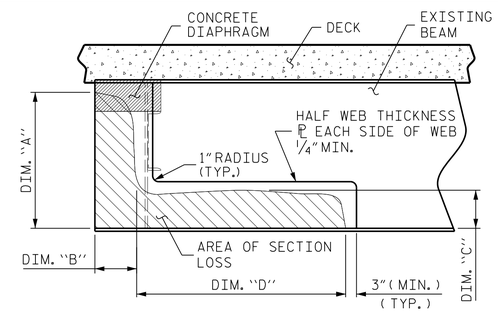
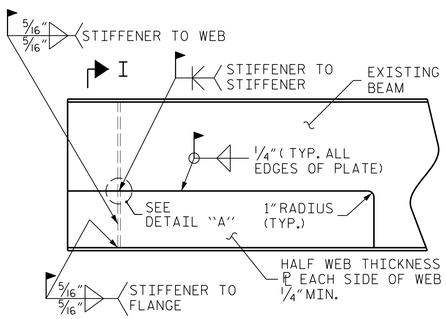
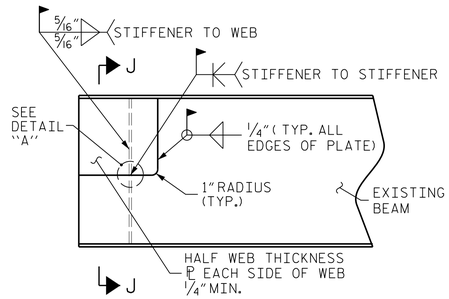


BEAM END SECTION LOSS AND PLATING REPAIR



BEAM END PLATING REPAIR

TYPE "A"



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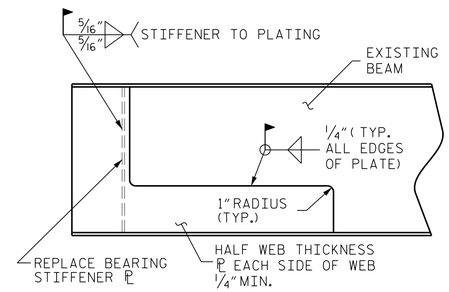
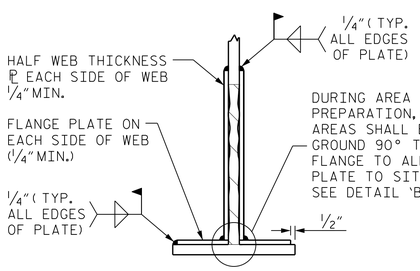


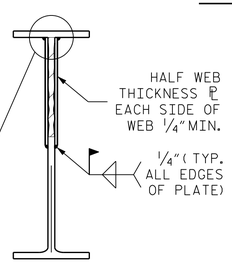
BEAM END PLATING REPAIR

TYPE "C"

BEAM END PLATING REPAIR



SECTION I-I



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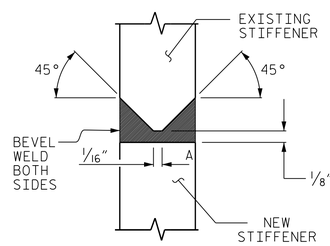

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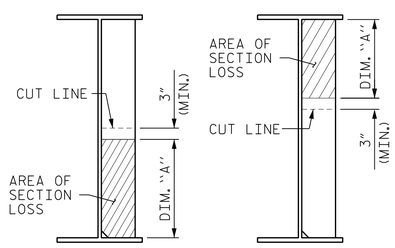
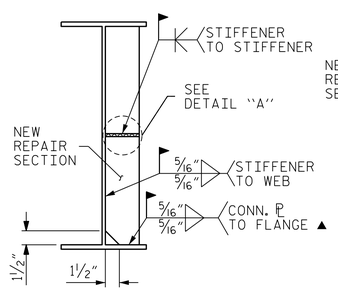
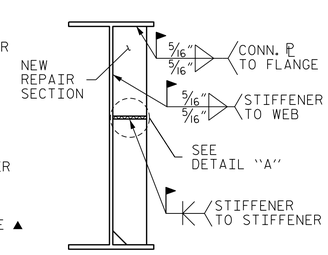


STIFFENER/CONN. ℙ SECTION LOSS

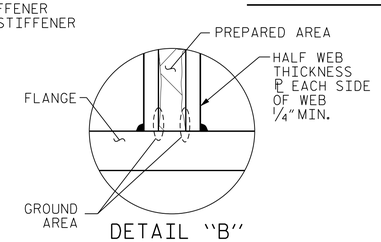




STIFFENER/CONN. ℙ SECTION REPAIR

▲ FOR STIFFENERS, MILL TO BEAR AND DO NOT WELD

STIFFENER/CONNECTOR PLATE REPAIR



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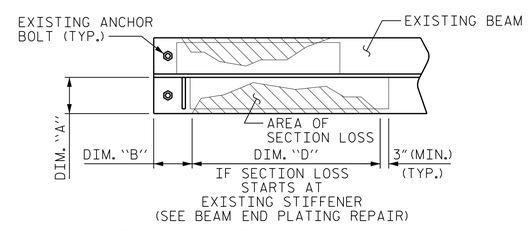
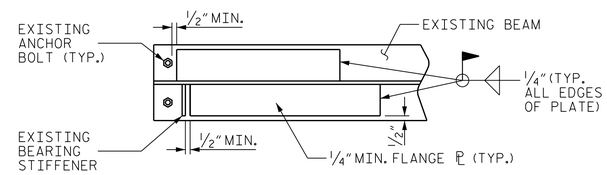


FLANGE SECTION LOSS AND PLATING REPAIR



FLANGE PLATING REPAIR

TYPE "D"

BEAM FLANGE PLATING REPAIR

BEAM PLATING REPAIR NOTES

ALL CONDITIONS AND DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION OR INSTALLATION OF ANY COMPONENTS.

REPAIR PLATES SHALL BE NEW, AND SHALL BE THE SAME GRADE OF THE EXISTING STEEL MEMBER OR BETTER.

REPAIR SEQUENCE:

COORDINATE WITH MATERIALS AND TEST UNIT AT LEAST 4 DAYS PRIOR TO ANTICIPATED WORK.

REMOVE LIVE LOAD FROM REPAIR AREA BY EITHER CLOSING BRIDGE TO TRAFFIC OR SHIFTING TRAFFIC AWAY FROM REPAIR AREA.

IF NECESSARY, REMOVE EXISTING STIFFENER TO INSTALL WELDED PLATE REPAIR. REPLACE WITH A NEW STIFFENER PLATE OF SIMILAR SIZE.

IF BEAM DETERIORATION EXTENDS INTO THE CONCRETE DIAPHRAGM THEN CHIP AWAY CONCRETE TO DETERMINE THE EXTENT OF THE DAMAGE.

IF PAINTING THE STEEL, CLEAN AND BLAST STEEL AS REQUIRED, PRIOR TO PERFORMING STEEL REPAIRS. OTHERWISE, MECHANICALLY CLEAN RUST, SCALE, AND EXISTING PAINT TO AT LEAST 3" BEYOND REPAIR AREA.

PRIME ENTIRE REPAIR AREA AND REPAIR PLATES WITH AN ORGANIC ZINC PRIMER PRIOR TO WELDING NEW PLATES. REMOVE PRIMER IN WELD AREA.

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

EACH PLATE SHALL BE APPROXIMATELY ONE-HALF THE ORIGINAL THICKNESS OF THE BEAM WEB.

FULLY WELD ALONG TOP AND SIDES OF THE PLATES AS SHOWN.

ALL WELDING SHALL BE IN ACCORDANCE WITH CURRENT APPLICABLE AWS AND NCDOT STANDARD SPECIFICATIONS.

ALL WELDS SHALL BE INSPECTED AND TESTED BY THE NCDOT MATERIALS AND TEST UNIT IN ACCORDANCE WITH THE CURRENT AWS BRIDGE WELDING CODE AND STANDARD SPECIFICATIONS.

IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, AFTER REPAIR, GRIND ALL WELDS FLUSH, AND THOROUGHLY CLEAN AREA TO REMOVE DEBRIS AND OILS FROM THE REPAIR PROCESS.

CLEANING AND PAINTING OF REPAIRED STRUCTURAL STEEL SHALL BE PERFORMED AS PART OF THE OVERALL CLEANING AND PAINTING CONTRACT.

FOR CLEANING AND PAINTING, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISIONS.

AFTER BEAMS ARE REPAIRED AND PAINTED, ANY CONCRETE REMOVED FROM THE BENT DIAPHRAGMS SHALL BE RECAST. ANY REINFORCING STEEL CUT DURING THE REMOVAL PROCESS SHALL BE SPLICED WITH A SIMILAR SIZE BAR WITH AT LEAST A ONE FOOT SPLICE TO THE EXISTING STEEL. NO SEPARATE PAYMENT SHALL BE MADE FOR CONCRETE AND REINFORCING STEEL AS THIS IS CONSIDERED INCIDENTAL TO THE PAY ITEM "BEAM REPAIR". FOR BEAM REPAIR, SEE SPECIAL PROVISIONS.

REMOVE ALL TRAFFIC CONTROL DEVICES.

PROJECT NO. I-6052 & 15BPR.35

MECKLENBURG COUNTY

BRIDGE NO. 590281, 590282, 590337, 590338, 590341, 590342, 590345

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BEAM REPAIR DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 24939 ENGINEER BYRON E. ATKINSON
1/12/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671

REVISIONS							SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:		SD-1
1			3				TOTAL SHEETS
2			4				108

DRAWN BY :	B.E. LANNING	DATE :	10/2022
CHECKED BY :	B.E. ATKINSON	DATE :	10/2022
DESIGN ENGINEER OF RECORD :	B.E. ATKINSON	DATE :	10/2022

1/12/2023
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