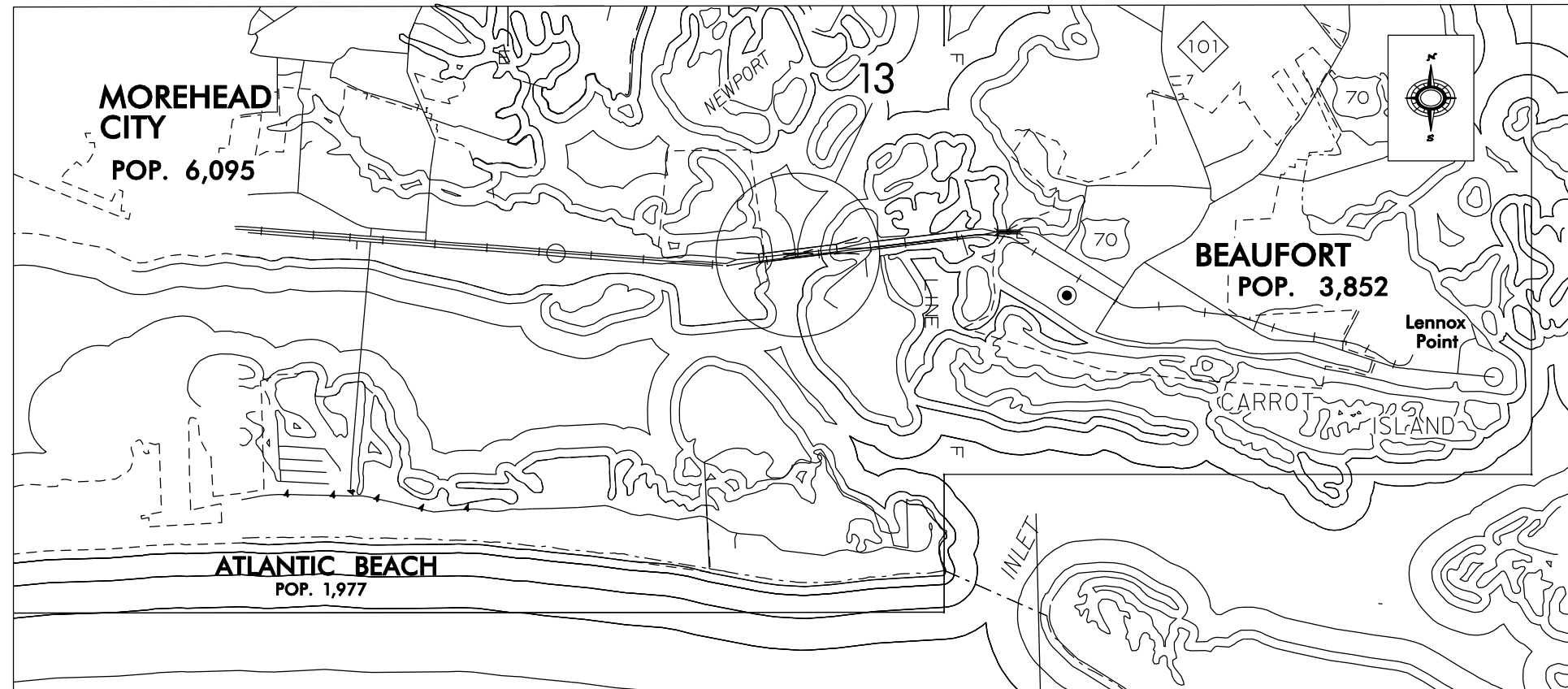
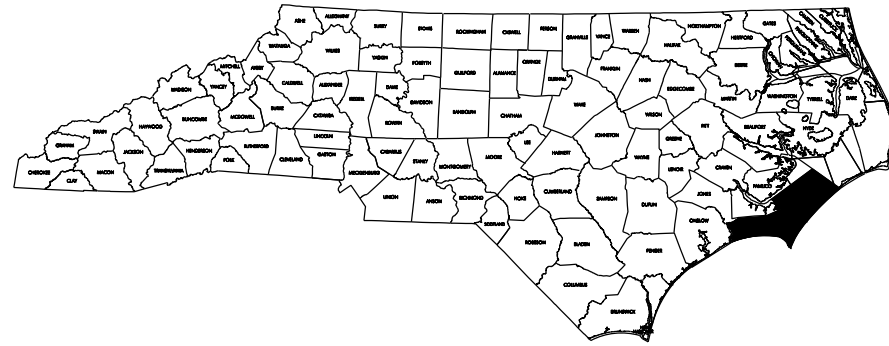


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BK-5102H	1	
STATE PROJECT NO.	F.A. PROJ. NO.	DESCRIPTION	
42580.1.1	BRNHS-0070(141)	PE	
42580.3.8	BRNHS-0070(141)	CONSTR	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CARTERET COUNTY

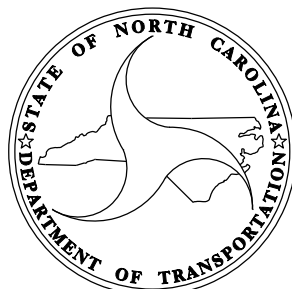
LOCATION: US 70 OVER NEWPORT RIVER
TYPE OF WORK: BRIDGE PRESERVATION - STRUCTURAL STEEL
REPAIRS & PAINTING



PROJECT: BK-5102H

CONTRACT NO. D000080

8 DATES
8 FILES



PROJECT LENGTH

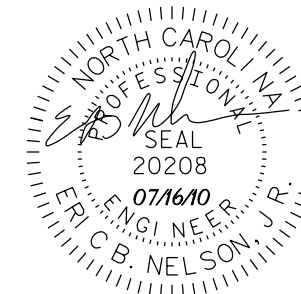
Prepared in the Office of:
BRIDGE MANAGEMENT UNIT
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2006 STANDARD SPECIFICATIONS

LETTING DATE:
AUGUST 19, 2010

DAN HOLDERMAN, PE
STATE BRIDGE
MANAGEMENT ENGINEER

MIKE SUMMERS
BRIDGE MANAGEMENT
PROJECT MANAGER



RICK NELSON, PE
DESIGN ENGINEER

NOTES

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

REMOVAL AND REPAIR OF THE EXISTING PORTIONS OF THE BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL SUBMIT PLANS FOR REMOVAL AND REPAIR IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "CLEAN AND PAINT EXISTING STRUCTURE".

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

THE COST ASSOCIATED WITH WELDING THE STRUCTURAL STEEL REPAIR PLATES TO THE EXISTING GIRDERS SHALL BE INCLUDED IN THE BID PRICE FOR "STRUCTURAL STEEL REPAIR". SEE SPECIAL PROVISIONS.

ALL VISUAL AND NON DESTRUCTIVE WELD TESTING SHALL BE PERFORMED BY NCDOT.

STRUCTURAL STEEL REPAIR MATERIAL SHALL BE AASHTO M270 GRADE 50 AND PAINTED IN ACCORDANCE WITH SYSTEM 1 OF ARTICLE 442-7 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

EXISTING STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH SYSTEM 1 OF ARTICLE 442-7 OF THE STANDARD SPECIFICATIONS. SEE SPECIAL PROVISIONS.

ALL DIMENSIONS SHOWN ARE HORIZONTAL OR VERTICAL, UNLESS OTHERWISE NOTED.

ALL FIELD CONNECTIONS TO BE 3/4" Ø HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED.

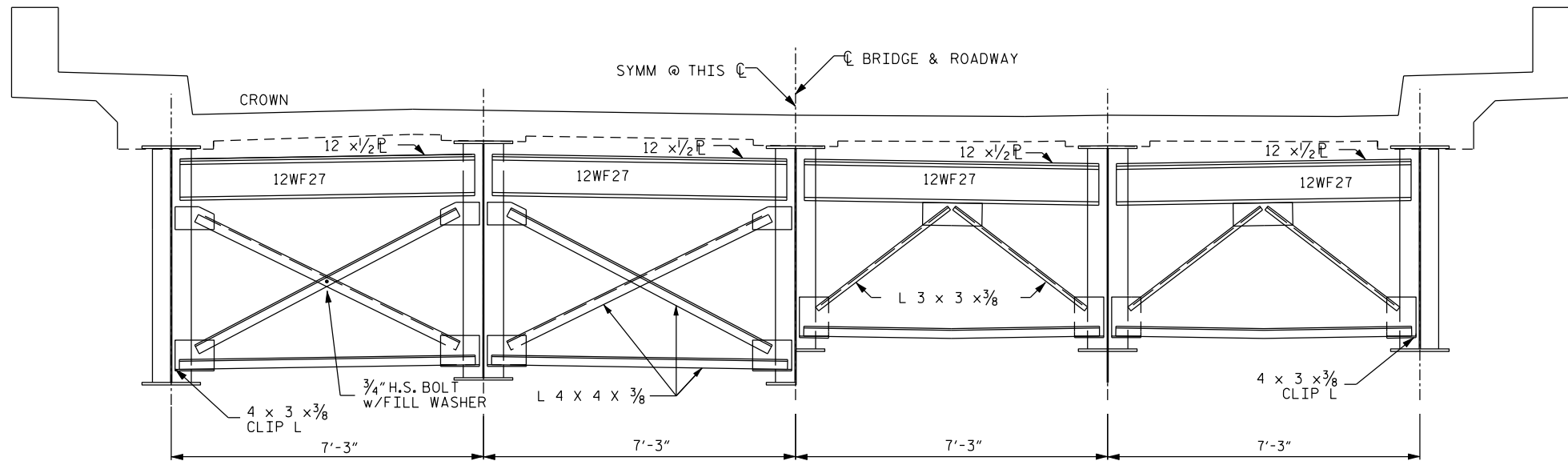
WHEN REPLACING CONNECTOR PLATES FOR DIAPHRAGM CONNECTIONS, THE REPLACEMENT CONNECTOR PLATES ARE TO BE PLACED NORMAL TO THE WEB OF THE GIRDER AND SHALL BE PLUMB.

TENSION ON THE AASHTO M164 BOLTS SHALL BE CALIBRATED USING DIRECT TENSION INDICATOR WASHERS IN ACCORDANCE WITH ARTICLE 440-8 OF THE STANDARD SPECIFICATIONS.

REPLACEMENT CONNECTOR PLATES REQUIRE COPING WHEN ANGLE SECTIONS ARE ADDED TO THE BOTTOM FLANGE. SEE DETAIL ON "REPAIR DETAILS" SHEET.

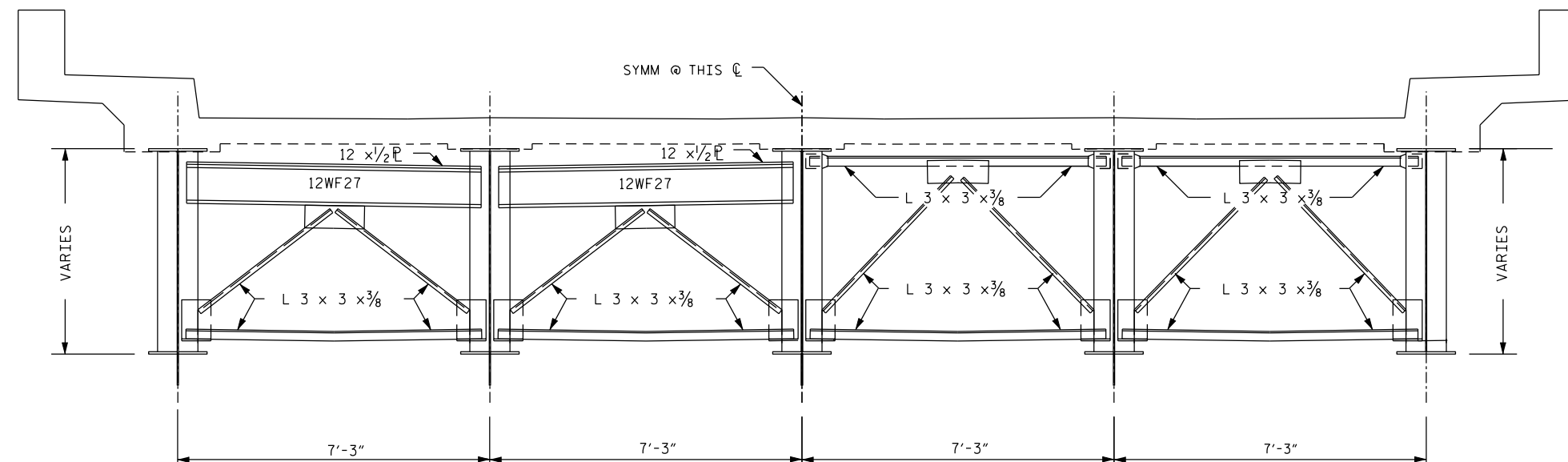
FOR HIGH STRENGTH BOLTS, SEE SPECIAL PROVISIONS.

THE COST OF LABOR, MATERIALS, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO REMOVE THE EXISTING DIAPHRAGMS, CONNECTOR PLATES, GUSSET PLATES, PORTIONS OF CONNECTOR PLATES AND ANY MISCELLANEOUS STEEL SHALL BE INCLUDED IN THE BID PRICE FOR "STRUCTURAL STEEL REPAIR".



HALF SECTION @ PANEL POINT ⑦

HALF SECTION @ PANEL POINT ①



HALF SECTION @ PANEL POINT ④ & ⑩

HALF SECTION @ PANEL POINT ② ③ ⑤ ⑥ ⑧ ⑨

TOTAL BILL OF MATERIAL	
PAY ITEM	QUANTITY
CLEAN AND PAINT EXISTING STRUCTURE (LS)	LS
CLEAN AND PAINT EXISTING BEARING (EA.)	20 EA.
STRUCTURAL STEEL REPAIR (APPROX. LBS.)	4,117 LBS.
UNDER STRUCTURE PLATFORM (LS)	LS
POLLUTION CONTROL (LS)	LS

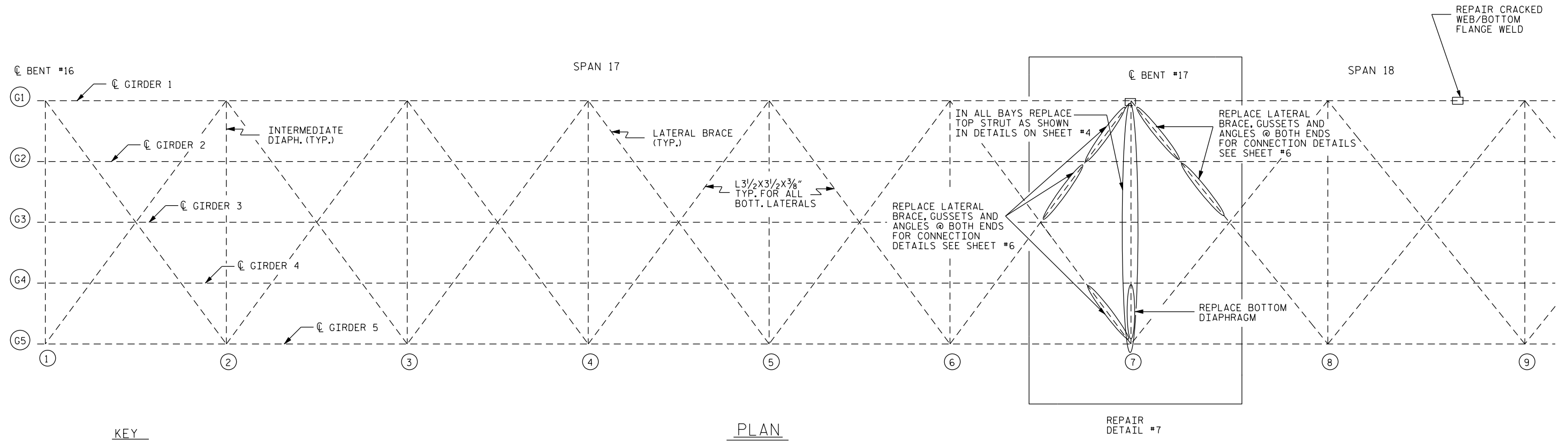
PROJECT NO. BK-5102H
 COUNTY: CARTERET
 STATION: N/A
 BRIDGE NO. 13

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

TYPICAL SECTION

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

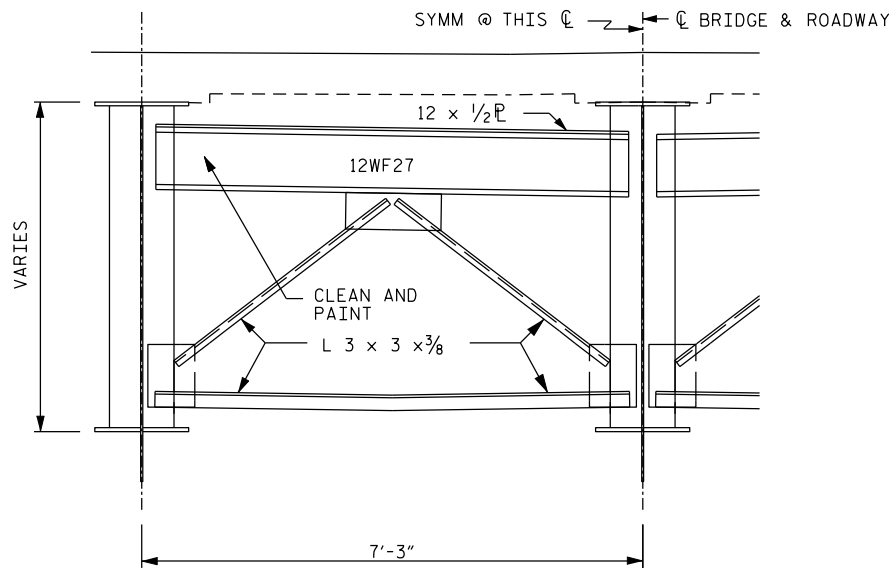
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 CHECKED BY: AGA DATE: 06/10



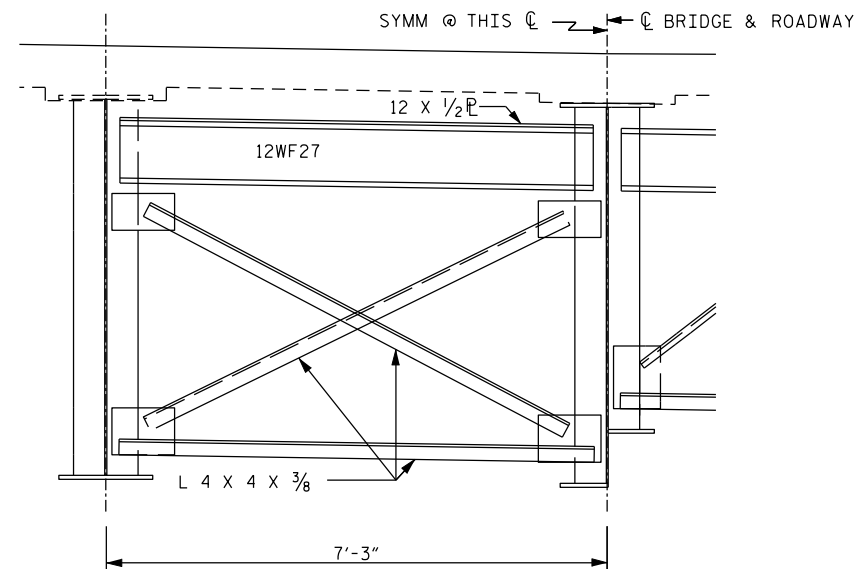
KEY

- ⓐ GIRDER LINE
- Ⓜ PANEL NUMBER

PLAN



EXISTING DIAPHRAGM
AT PANEL POINT 4



EXISTING DIAPHRAGM
AT PANEL POINT 7 & 13

PROJECT NO. BK-5102H
 COUNTY: CARTERET
 STATION: N/A
 BRIDGE NO. 13

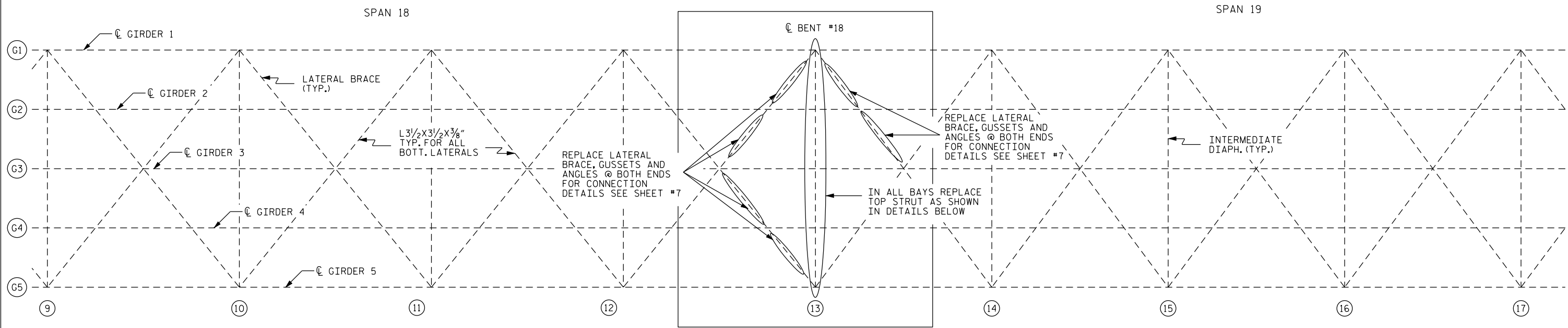
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

FRAMING PLAN

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

DRAWN BY: MJW DATE: 06/10
 CHECKED BY: AGA DATE: 06/10

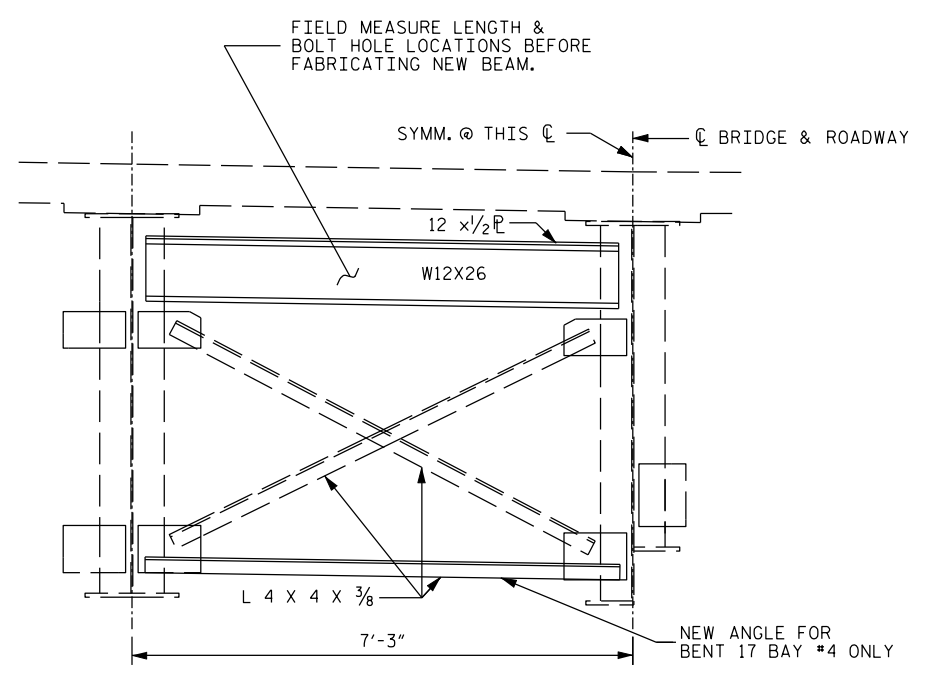
*****SYTIME***** *****USERNAME***** *****DCGN*****



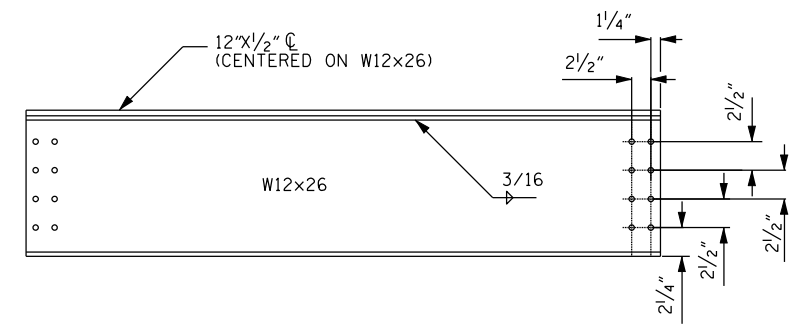
KEY
 (G) GIRDER LINE
 (#) PANEL NUMBER

REPAIR
DETAIL #8

PLAN

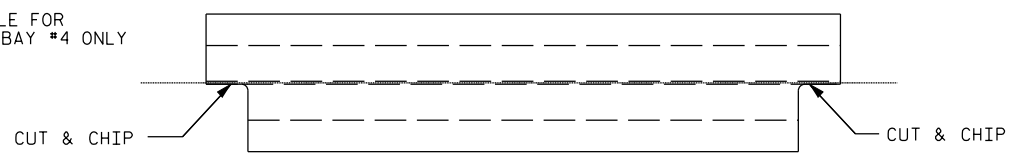


PROPOSED DIAPHRAGM
AT BENT 17 & 18

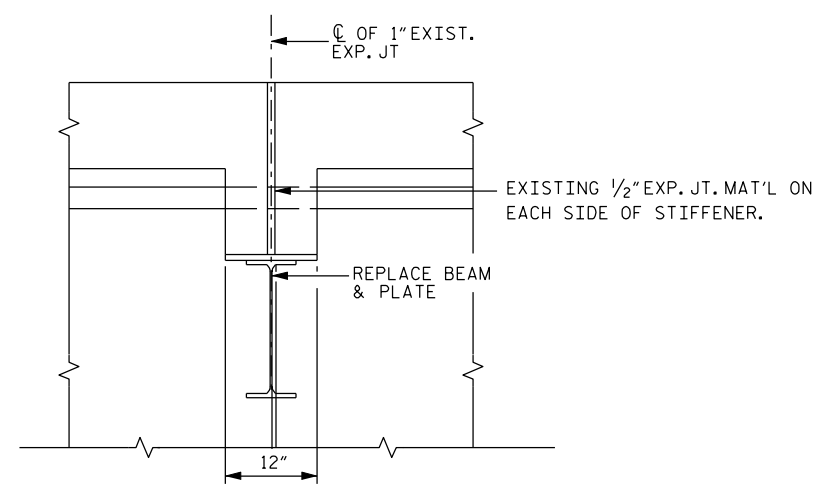


ELEVATION

*FIELD VERIFY DIMENSION



PLAN
REPLACEMENT BEAM



SECTION THRU DIAPHRAGMS
AT BENT 17 & 18

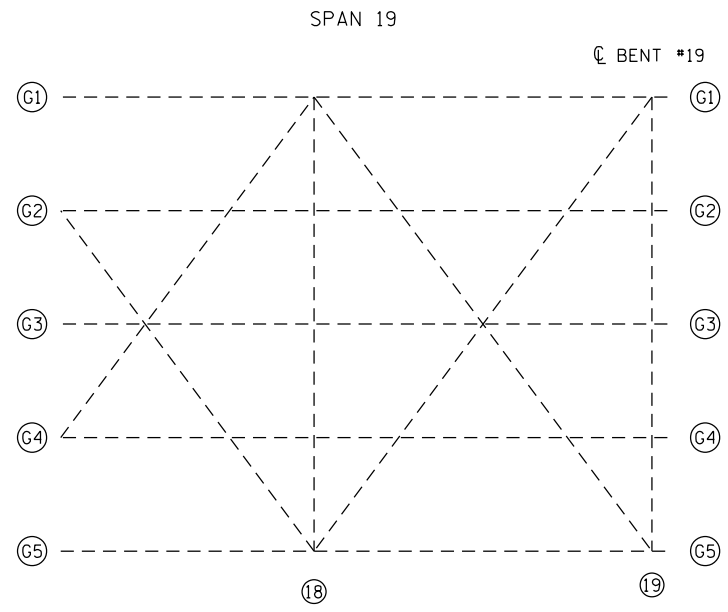
PROJECT NO. BK-5102H
 COUNTY: CARTERET
 STATION: N/A
 BRIDGE NO. 13

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 FRAMING PLAN
 AND
 DIAPHRAGM DETAILS

REVISIONS					SHEET NO. S-4
NO.	BY	DATE	NO.	BY	
1			3		
2			4		

DRAWN BY: MJW DATE: 06/10
 CHECKED BY: AGA DATE: 06/10

*****SYSTEM*****
 *****USER*****
 *****DATE*****



PLAN

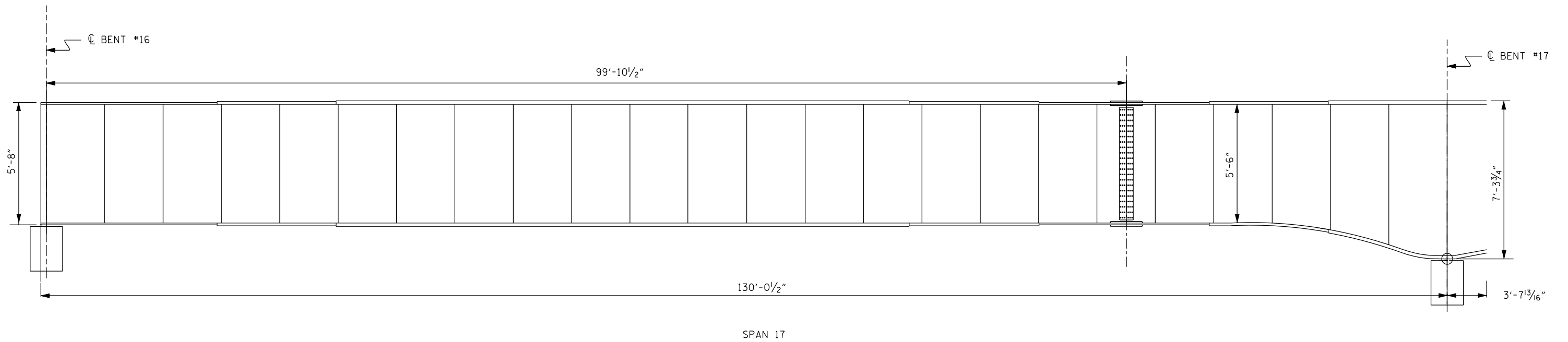
PROJECT NO. BK-5102H
 COUNTY: CARTERET
 STATION: N/A
 BRIDGE NO. 13

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

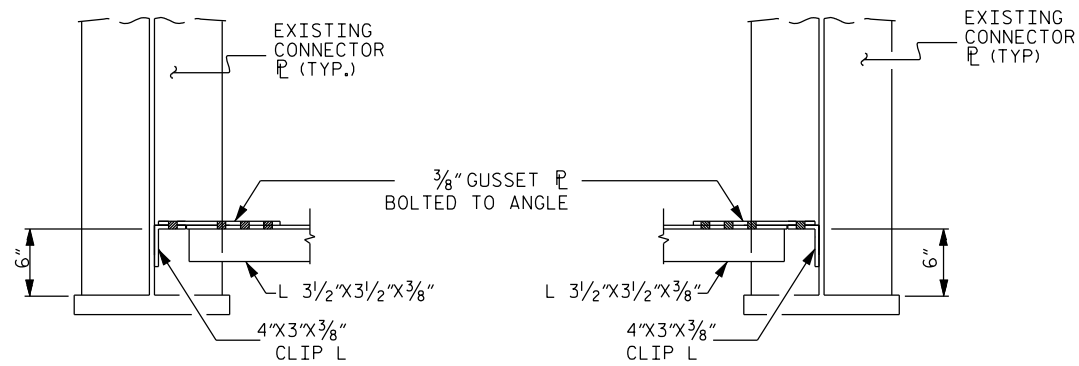
FRAMING PLAN

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

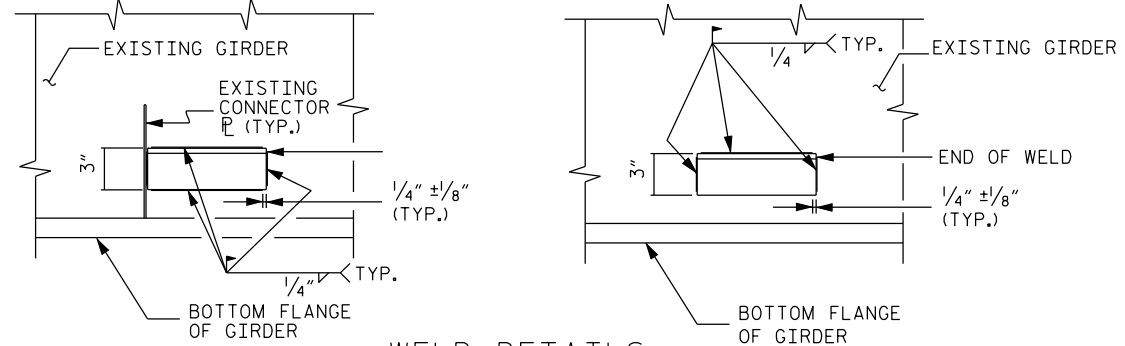
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 CHECKED BY: AGA DATE: 06/10



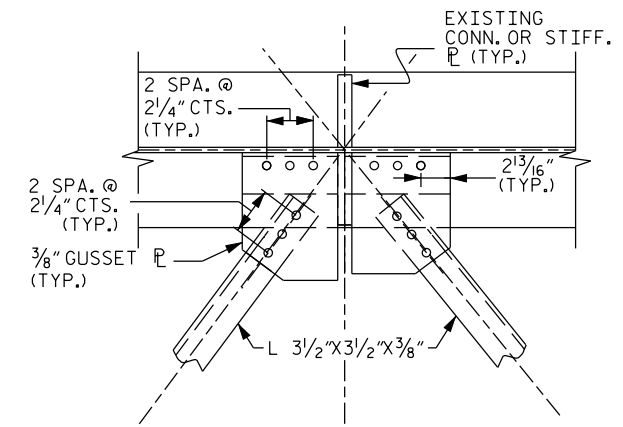
ELEVATION



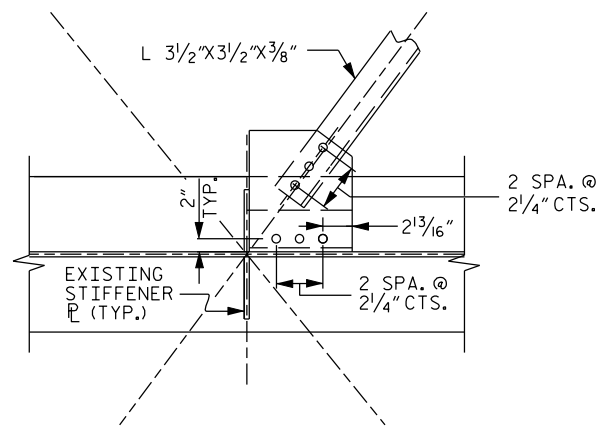
SECTION THRU CONNECTION (TYP.)



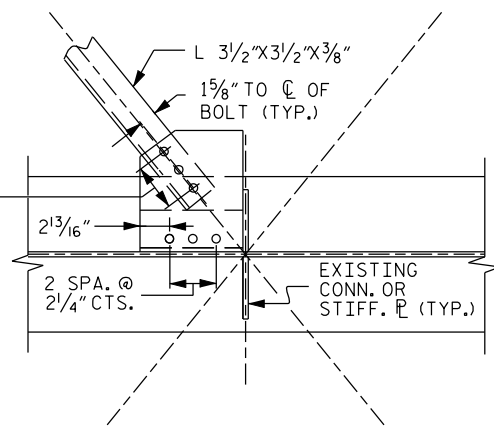
WELD DETAILS



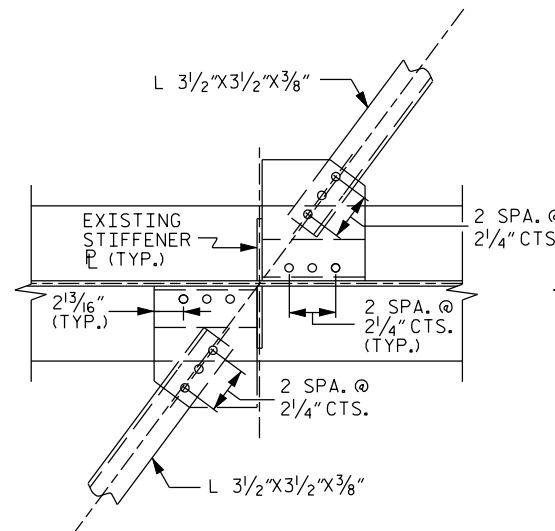
GIRDER G-1
AT BENT 17



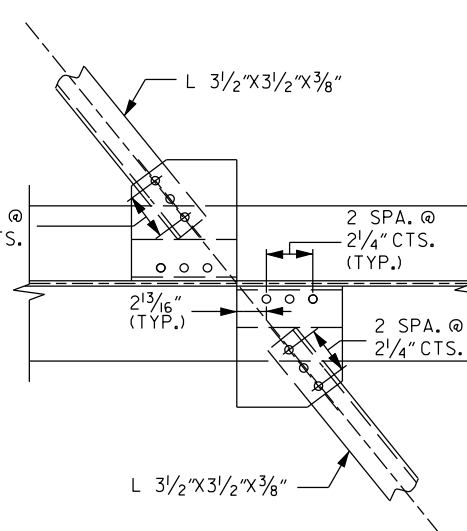
GIRDER G-3
LEFT OF BENT 17



GIRDER G-3
RIGHT OF BENT 17
GIRDER 5 AT BENT 17 SIMILAR



GIRDER G-2
LEFT OF BENT 17



GIRDER G-2
RIGHT OF BENT 17

DETAIL OF BOTTOM LATERAL CONNECTIONS

PROJECT NO. BK-5102H
 COUNTY: CARTERET
 STATION: N/A
 BRIDGE NO. 13

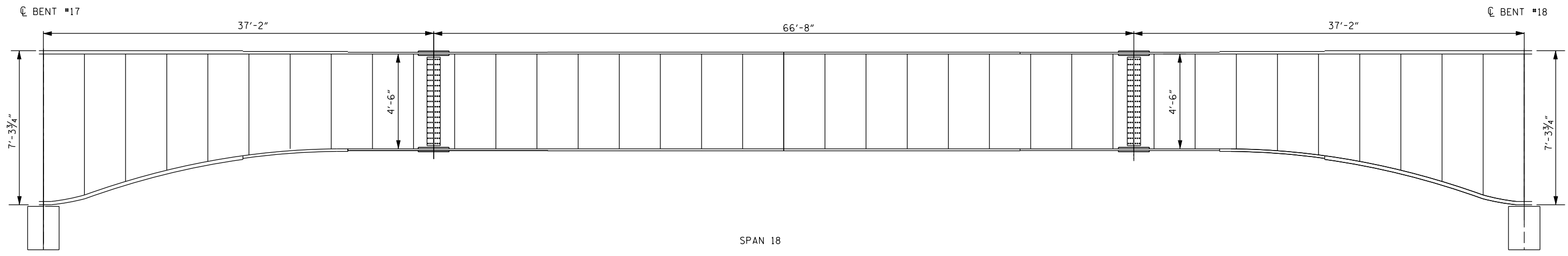
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 LATERAL CONNECTION
 DETAILS SPAN
 NO. #16 & #17

DRAWN BY: MJW/RW DATE: 06/10
 CHECKED BY: AGA DATE: 06/10

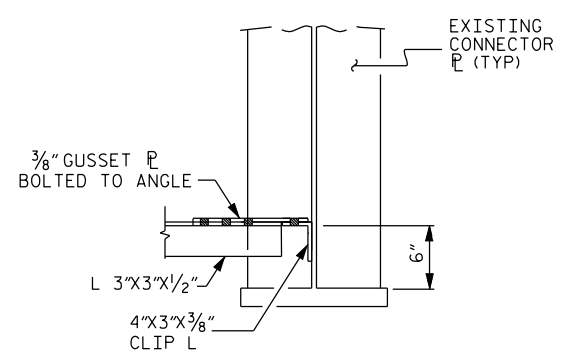
REVISIONS					SHEET NO.
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

TOTAL SHEETS: S-6

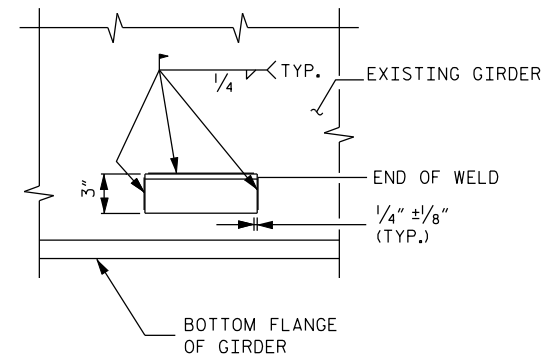
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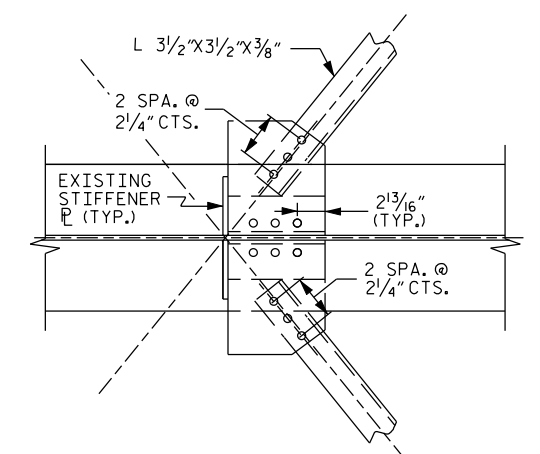
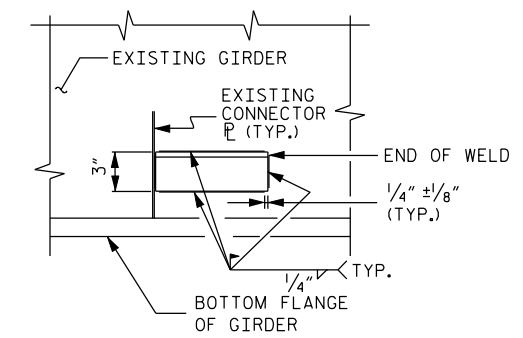
SPAN 18
ELEVATION



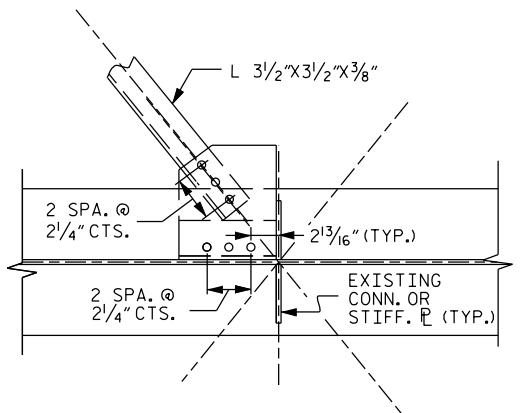
SECTION THRU CONNECTION (TYP.)



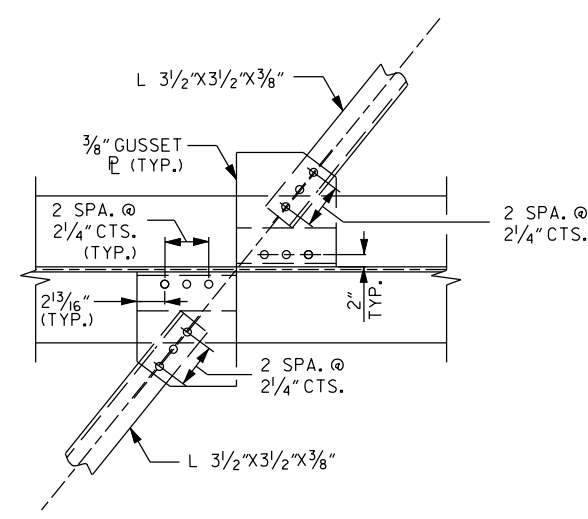
TYPICAL WELD DETAILS



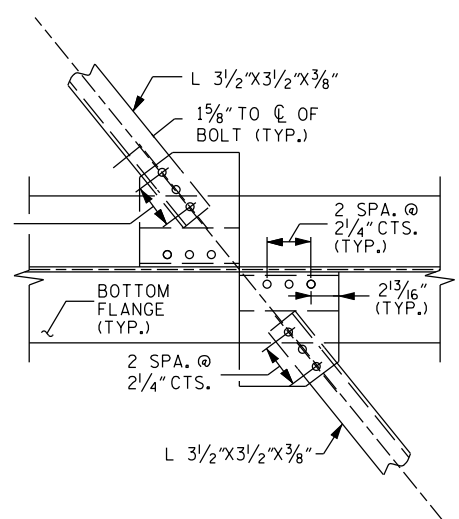
GIRDER G-3
LEFT OF BENT 18



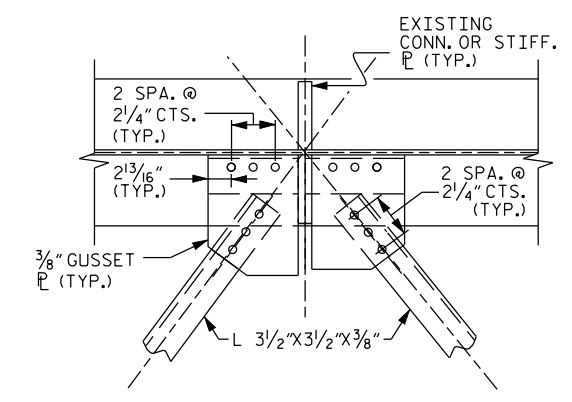
GIRDER G-3
RIGHT OF BENT 18
GIRDER 5 AT BENT 18 SIMILAR



GIRDER G-2
LEFT OF BENT 18



GIRDER G-4
LEFT OF BENT 18
GIRDER 2 RT. OF BENT 18 SIMILAR



GIRDER 1
AT BENT 18

DETAIL OF BOTTOM LATERAL CONNECTIONS

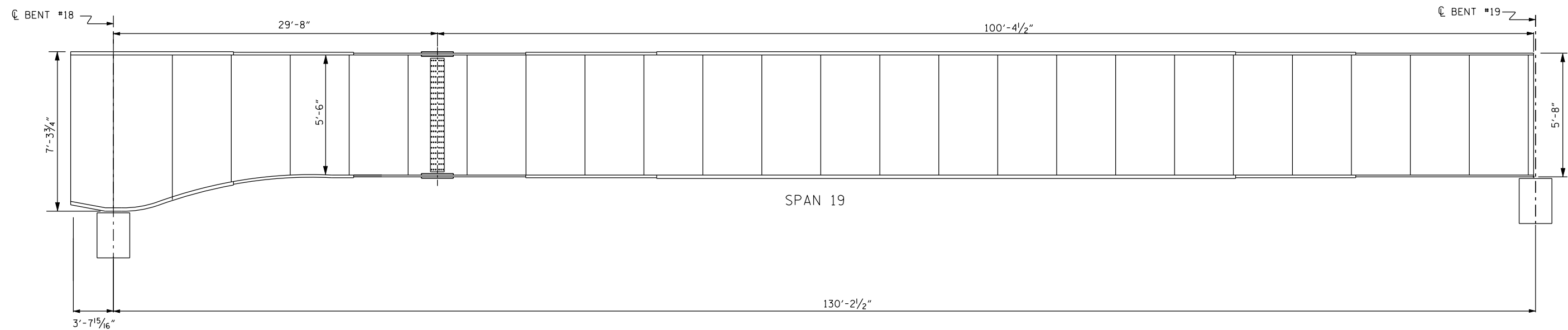
PROJECT NO. BK-5102H
 COUNTY: CARTERET
 STATION: N/A
 BRIDGE NO. 13

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 LATERAL CONNECTION
 DETAILS SPAN
 NO. #17 & #18

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

SHEET NO.
S-7
TOTAL SHEETS

DRAWN BY: MJW/RW DATE: 06/10
 CHECKED BY: AGA DATE: 06/10



ELEVATION

REPAIR 7		
REMOVAL	REMOVE BOTTOM LATERAL BRACES REMOVE TOP DIAPHRAGM REMOVE BOTTOM STRUT (BAY 4 ONLY)	INCIDENTAL
REPLACE BOTTOM LATERAL BRACES (PLUS GUSSET PLATES & ANGLE CLIPS & BOLTS w/NUTS.)	10- L4X3X3/8" ANGLE CLIP 5 - L3 1/2X3 1/2X3/8" LATERAL BRACE 60 - 3/4" H.S. BOLT w/NUT 10- 3/8" GUSSET P (8)	117 LBS 342 LBS 35 LBS 122 LBS
REPLACE TOP STRUT & BOLTS, BAYS 1-4 REPLACE BOTTOM STRUT (BAY #4 ONLY)	4 - W12X26 w/CHIPPED & CLIPPED ENDS 4 - 1/2" P X12"X7 FT 64 - 3/4"X2" H.S. BOLT w/NUT 1 - L4X3X3/8" ANGLE CLIP	728 LBS 571 LBS 44 LBS 69 LBS
TOTAL		2028 LBS

REPAIR 13		
REMOVAL	REMOVE BOTTOM LATERAL PLATES REMOVE TOP DIAPHRAGM	INCIDENTAL
REPLACE BOTTOM LATERAL BRACES (PLUS GUSSET PLATES & ANGLE CLIPS & BOLTS w/NUTS.)	12 - L4X3X3/8" ANGLE CLIP 6 - L3 1/2X3 1/2X3/8" LATERAL BRACE 72 - 3/4" H.S. BOLT w/NUT 12 - 3/8" GUSSET P	143 LBS 411 LBS 42 LBS 150 LBS
REPLACE TOP STRUT & BOLTS, BAYS 1-4	4 - W12X26 w/CHIPPED & CLIPPED ENDS 4 - 1/2" P X12"X7 FT 64 - 3/4" H.S. BOLT w/NUT	728 LBS 571 LBS 44 LBS
TOTAL		2089 LBS

PROJECT NO. BK-5102H
 COUNTY: CARTERET
 STATION: N/A
 BRIDGE NO. 13

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SPAN 19
 BENTS
 NO. #18 & #19

DRAWN BY: MJW/RW DATE: 06/10
 CHECKED BY: AGA DATE: 06/10

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

SHEET NO.
S-8
TOTAL SHEETS