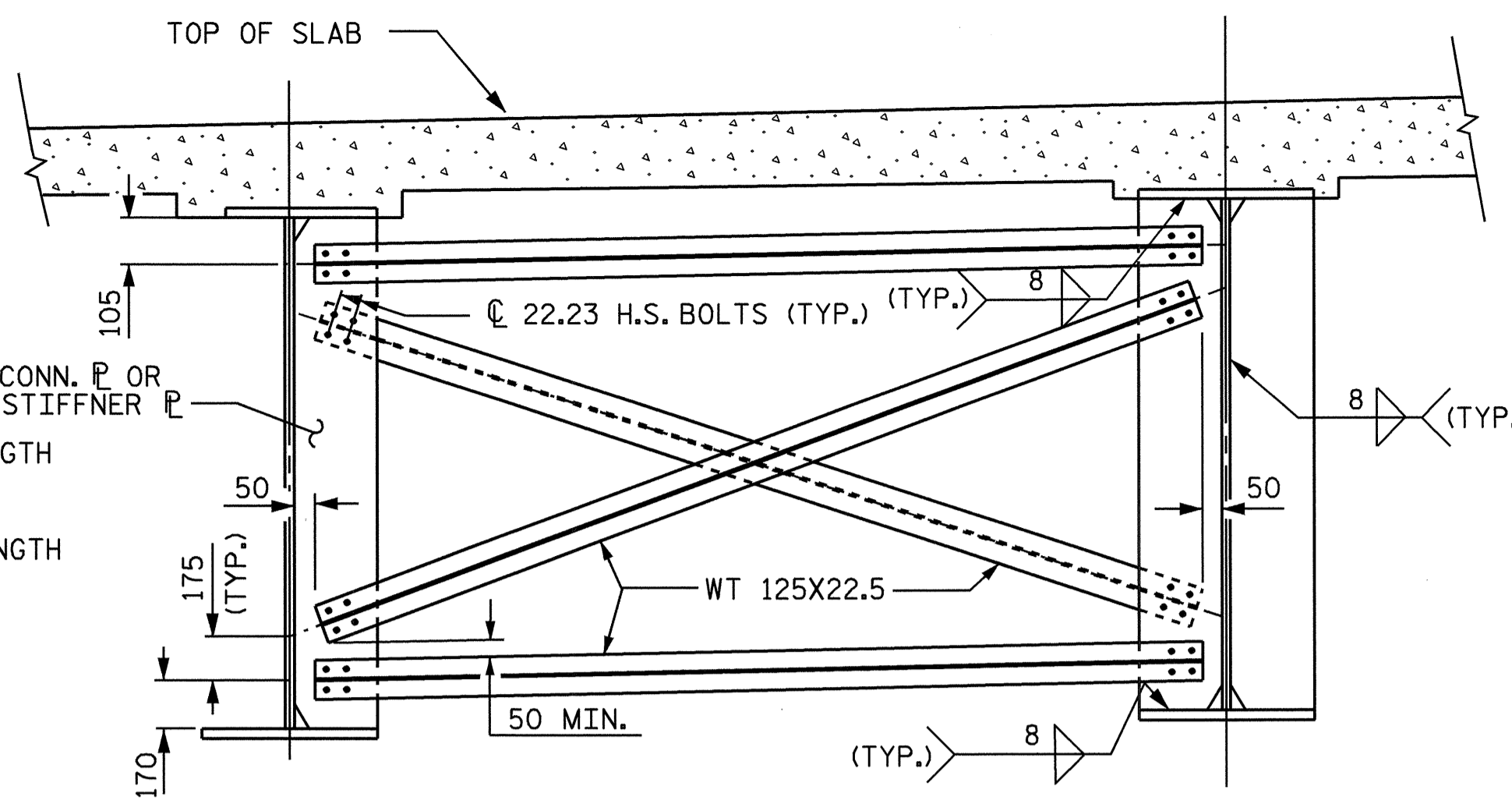


TYPICAL END BENT DIAPHRAGM (D1)



TYPICAL INTERMEDIATE DIAPHRAGM (D2)

NOTES
 ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 345W STEEL AND PAINTED IN ACCORDANCE WITH SYSTEM 4 OF ARTICLE 442-7 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

ALL DIMENSIONS SHOWN ARE HORIZONTAL OR VERTICAL, UNLESS OTHERWISE NOTED.
 ALL FIELD CONNECTIONS TO BE 22.23mm DIA. HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED.

TENSION ON THE AASHTO M164 BOLTS SHALL BE CALIBRATED USING DIRECT TENSION INDICATOR WASHERS IN ACCORDANCE WITH ARTICLE 440-10 OF THE STANDARD SPECIFICATIONS.

BEARING STIFFENERS ARE TO BE PLACED NORMAL TO THE WEB OF THE GIRDER AND SHALL BE PLUMB.

SHOP SPLICES ARE PERMITTED TO LIMIT THE MAXIMUM REQUIRED FLANGE PIECE LENGTHS TO 18 METERS AND WEB PIECE LENGTHS TO 14 METERS. PERMITTED FLANGE AND WEB SHOP SPLICES SHALL NOT BE LOCATED WITHIN 4.5 METERS OF MAXIMUM DEAD LOAD DEFLECTION (NOR WITHIN 4.5 METERS OF INTERMEDIATE BEARINGS OF CONTINUOUS UNITS). KEEP 600mm MINIMUM BETWEEN WEB AND FLANGE SHOP SPLICES. KEEP 150mm MINIMUM BETWEEN CONNECTOR PLATE OR TRANSVERSE STIFFENER WELDS AND WEB OR FLANGE SHOP SPLICES.

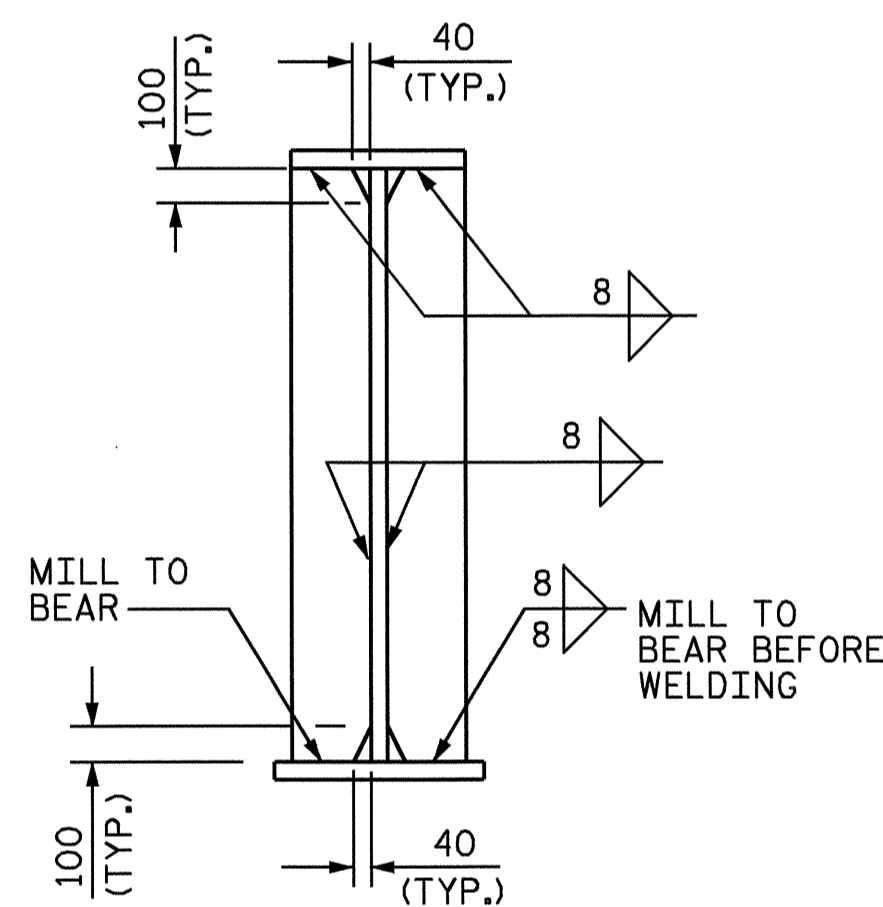
STUDS ON GIRDERS MAY BE SHIFTED UP TO 25mm IF NECESSARY TO CLEAR FLANGE SPLICE WELD.

ENDS OF GIRDERS SHALL BE PLUMB.

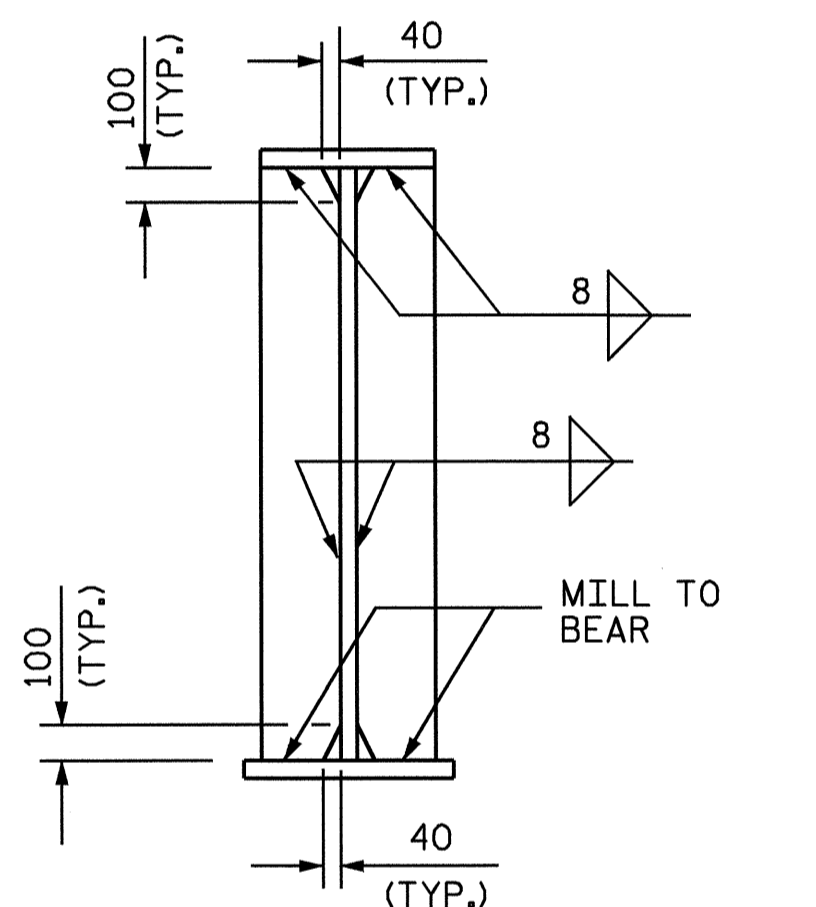
AT THE CONTRACTOR'S OPTION, THE DIAPHRAGM WITH THE WELDED GUSSET PLATES MAY BE USED IN LIEU OF THE DIAPHRAGM WITH BOLTED ANGLES AT NO ADDITIONAL COST TO THE DEPARTMENT.

BEARING STIFFENER MAY REQUIRE COPING IF WIDER THAN BOTTOM FLANGE TO AVOID INTERFERENCE WITH THE ANCHOR BOLTS.

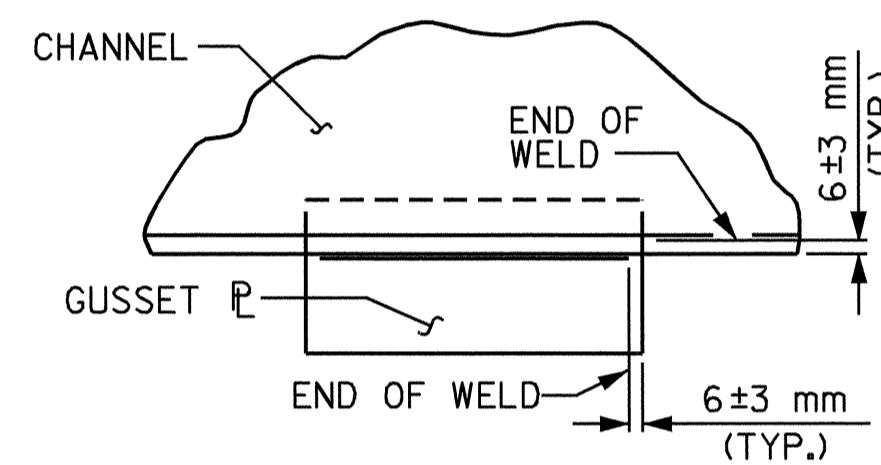
CURVATURE OF STEEL GIRDER MAY BE ACCOMPLISHED BY CUTTING PLATES TO REQUIRED CURVATURE OR BY HEAT TREATMENT. SEE SPECIAL PROVISIONS FOR HEAT CURVING GIRDERS FOR BRIDGES.



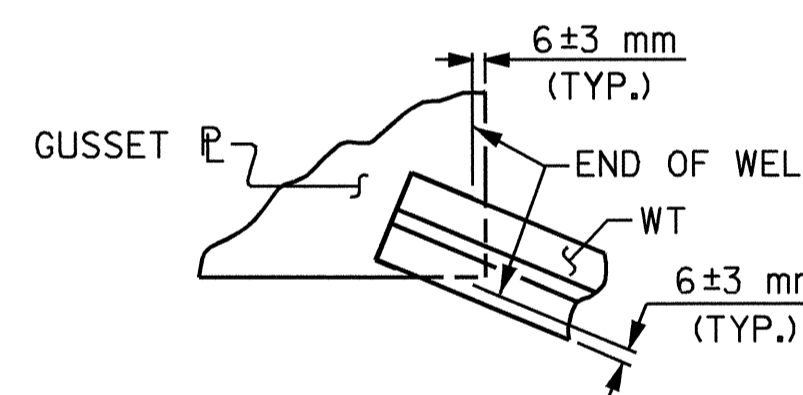
BEARING STIFFENER/ CONNECTOR PLATE



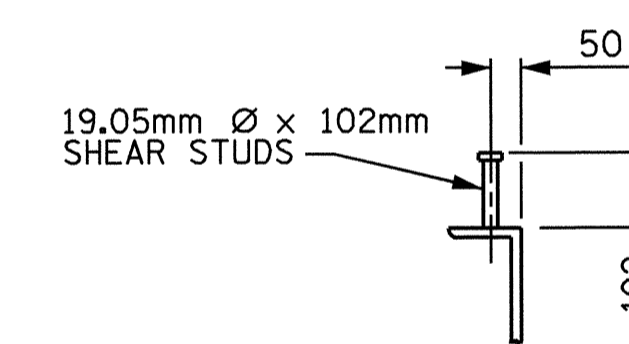
BEARING STIFFENER



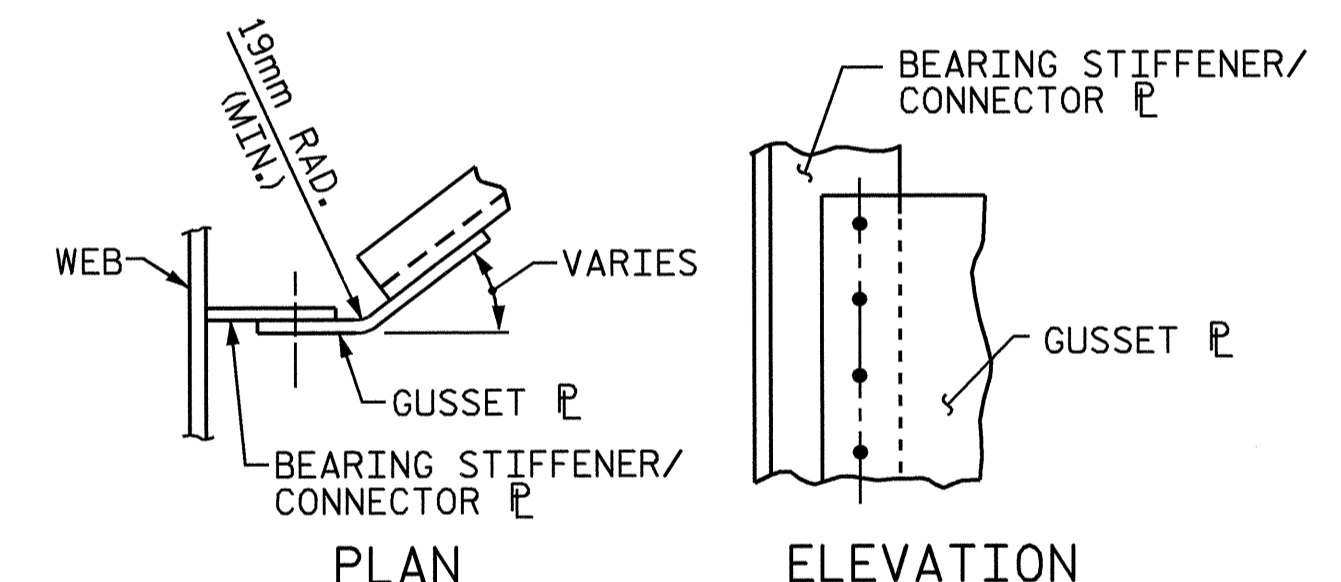
TYPICAL GUSSET PLATE CONNECTION



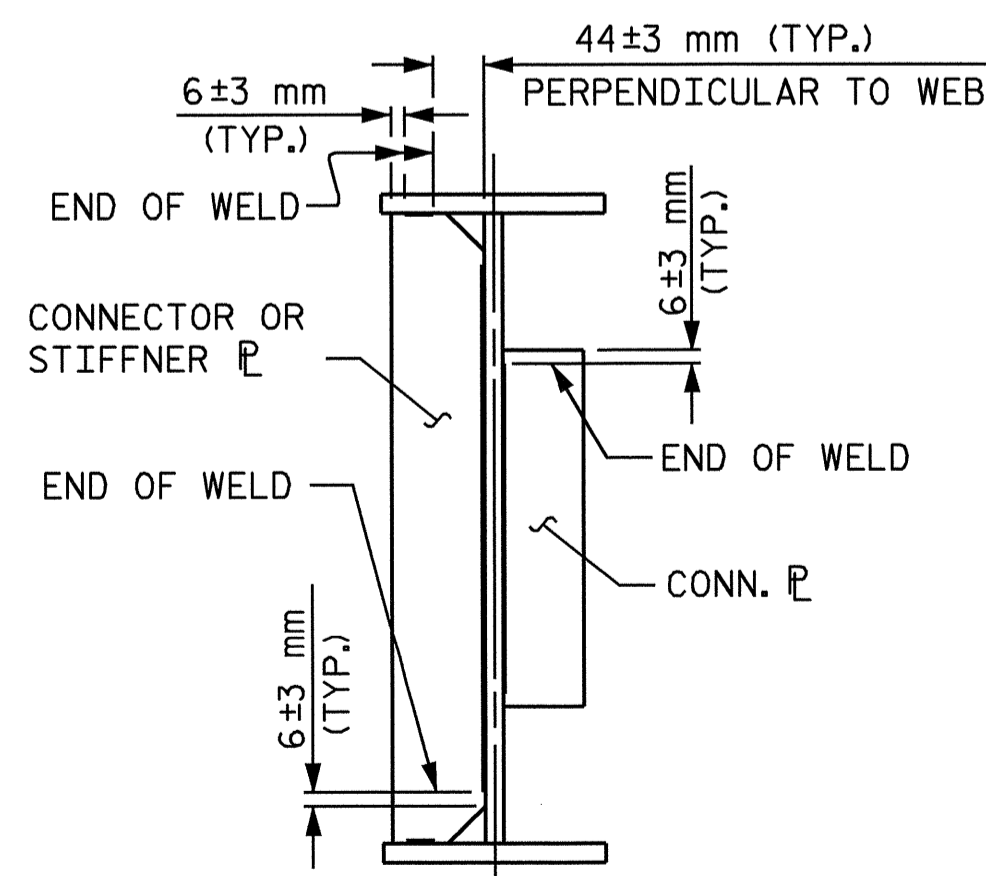
TYPICAL "TEE" TO GUSSET PLATE CONNECTION



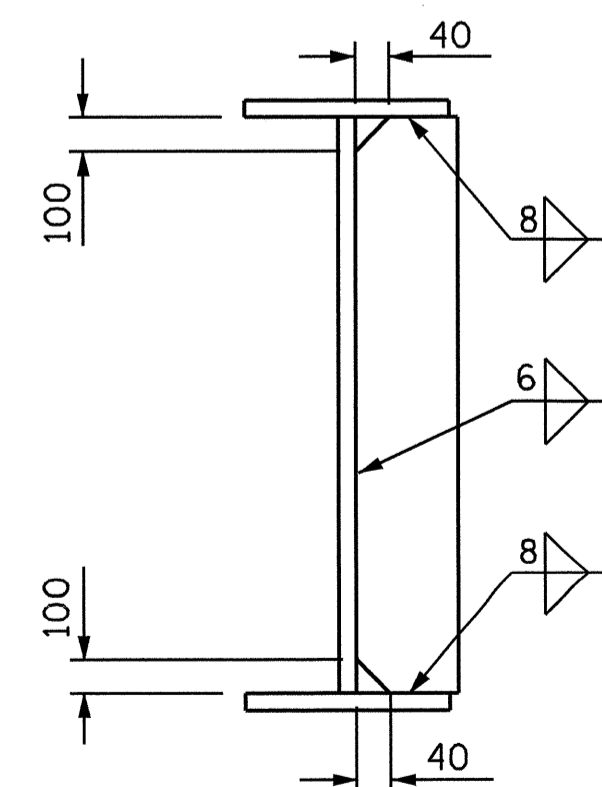
SHEAR STUD DETAILS



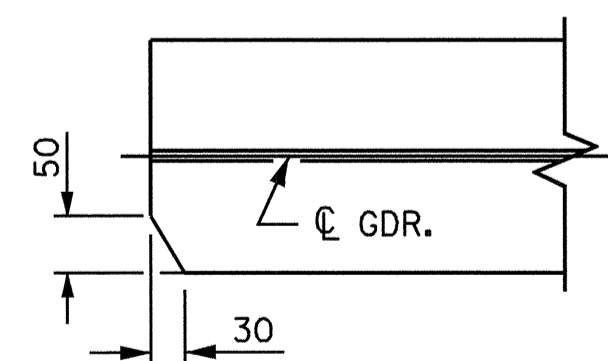
GUSSET PLATE DETAILS



TYPICAL STIFFENER OR CONNECTOR PLATE CONNECTIONS



CONNECTOR PLATE



TOP FLANGE COPING DETAIL

PROJECT NO. R-0977A
CHEROKEE COUNTY
 STATION: 41+19.524-LREV-

SHEET 3 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 STRUCTURAL
 STEEL DETAILS
 TING H. FANG
 12/22/04

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 STRUCTURAL
 STEEL DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-138
1			3			TOTAL SHEETS
2			4			230

DRAWN BY : T. H. FANG/BNB DATE : 7-21-03
 CHECKED BY : MIKE ALLEN DATE : 11-04

21-DEC-2004 07:31
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