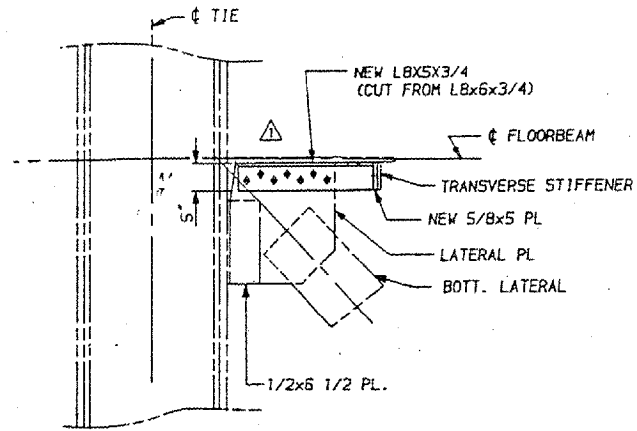
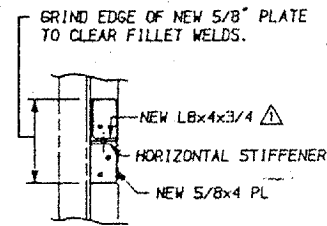


24	64-3B-I-3	32	20
F.H.W.A. REC.	ILLINOIS PROJECT		

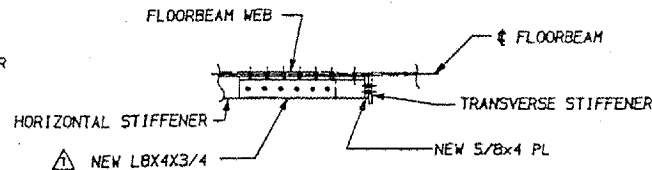
MASSAC, IL. & McCRACKEN, KY.



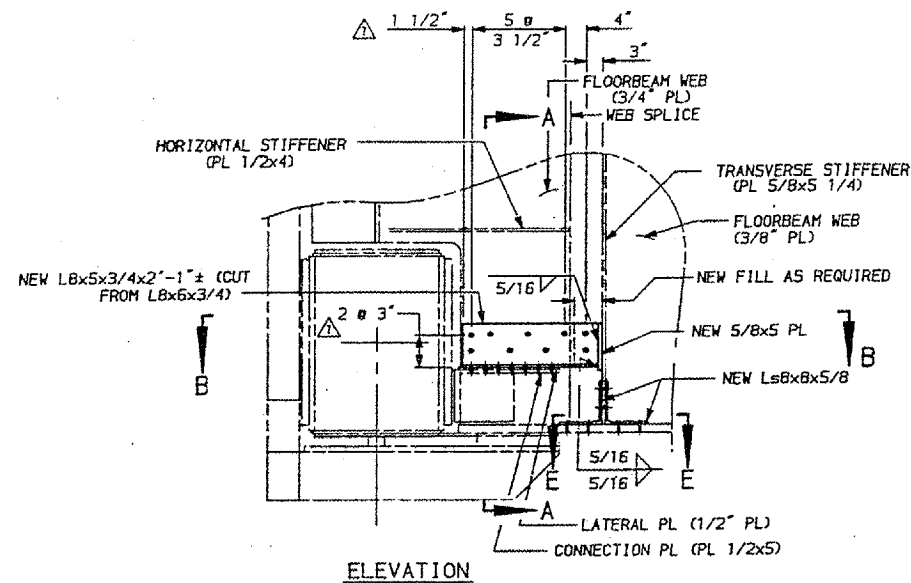
SECTION B - B



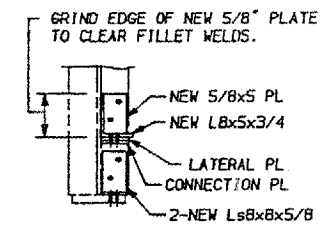
SECTION D - D



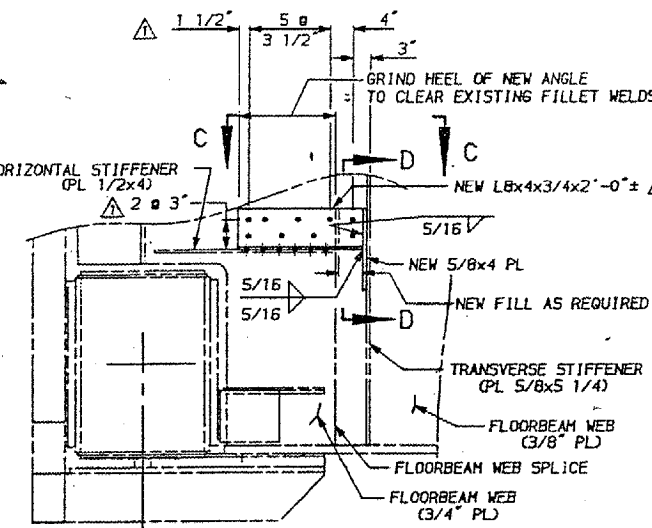
SECTION C - C



RETROFIT TYPE F3



SECTION A - A



ELEVATION

RETROFIT TYPE F4

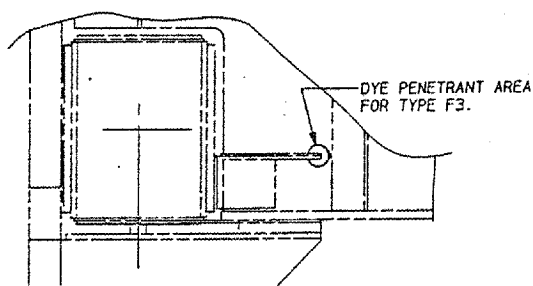
RETROFIT TYPE F3

GENERAL PROCEDURE:

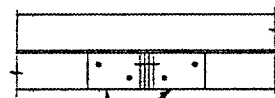
1. SANDBLAST TO REMOVE PAINT FROM THE FLOORBEAM WEB IN AN AREA APPROXIMATELY 6" IN DIAMETER CENTERED ON THE LATERAL PLATE (SEE DYE PENETRANT AREA).
2. USE DYE PENETRANT TO CHECK THE FLOORBEAM WEB FOR CRACKS AT THE END OF THE LATERAL PLATE. IF THE WEB IS CRACKED, DRILL A 15/16" DIAMETER HOLE AT THE CRACK TIP AND DEBURR HOLE. USE DYE PENETRANT ON THE NEWLY EXPOSED (DRILLED) SURFACE OF THE FLOORBEAM WEB TO ENSURE THAT THE CRACK DOES NOT EXTEND PAST THE HOLE. IF THE CRACK EXTENDS PAST THE HOLE, GRIND TO REMOVE CRACK OR DRILL ANOTHER HOLE. REPEAT DYE PENETRANT CHECK. SOLVENT CLEAN AREA TO REMOVE CUTTING OIL.
3. REMOVE BOLTS FROM LATERAL PLATE TO FLOORBEAM CONNECTION. MAKE TEMPLATE OF HOLES IN EXISTING LATERAL PLATE. SANDBLAST TO REMOVE PAINT FROM ALL NEW FAYING SURFACES ON FLOORBEAM WEB AND EXISTING LATERAL PLATE.
4. DRILL UNDERSIZED HOLES IN NEW WELDMENT USING TEMPLATE.
5. SECURE NEW WELDMENT IN PLACE SO THAT THE VERTICAL LEG OF THE ANGLE IS TIGHT AGAINST THE FLOORBEAM WEB, THE HORIZONTAL LEG OF THE ANGLE IS TIGHT AGAINST THE LATERAL PLATE AND THE END PLATE OF THE NEW WELDMENT IS TIGHT AGAINST THE TRANSVERSE STIFFENER. DRILL HOLES IN THE FLOORBEAM WEB AND THE TRANSVERSE STIFFENER USING THE NEW WELDMENT AS A TEMPLATE. REAM HOLES IN THE NEW WELDMENT THROUGH LATERAL PLATE.
6. REMOVE NEW WELDMENT AND SOLVENT CLEAN ENTIRE RETROFIT AREA TO CLEAN AND REMOVE CUTTING OIL FROM FAYING SURFACES. SOLVENT CLEAN AND REMOVE CUTTING OIL FROM FAYING SURFACES OF WELDMENT.
7. PLACE WELDMENT IN THE FINAL POSITION AND INSTALL BOLTS.
8. SECURE ONE NEW ANGLE TO BOTTOM OF TRANSVERSE STIFFENER AND TO THE BOTTOM FLANGE.
9. DRILL HOLES IN TRANSVERSE STIFFENER AND BOTTOM FLANGE USING THE NEW ANGLE AS A TEMPLATE. REMOVE NEW ANGLE.
10. SECURE SECOND NEW ANGLE TO BOTTOM OF TRANSVERSE STIFFENER AND BOTTOM FLANGE. REAM UNDERSIZED HOLES IN VERTICAL LEG OF NEW ANGLE TO HOLES IN TRANSVERSE STIFFENER. DRILL HOLES IN BOTTOM FLANGE USING NEW ANGLE AS A TEMPLATE. REMOVE NEW ANGLE.
11. USE SOLVENT TO CLEAN AND REMOVE CUTTING OIL FROM ALL FAYING SURFACES. SOLVENT CLEAN TO REMOVE CUTTING OIL FROM FAYING SURFACES OF NEW ANGLES.
12. PLACE BOTH ANGLES IN FINAL POSITION AND INSTALL BOLTS.
13. PAINT ENTIRE RETROFIT AREA.
14. REMOVE EXISTING BENT PLATES CONNECTING TRANSVERSE STIFFENER ANGLE TO FLOORBEAM BOTTOM FLANGE. SECURE ONE NEW ANGLE TO BOTTOM OF TRANSVERSE STIFFENER AND TO THE BOTTOM FLANGE.
15. DRILL HOLES IN NEW ANGLES USING EXISTING HOLES IN TRANSVERSE STIFFENER AND BOTTOM FLANGE AS TEMPLATE. REMOVE NEW ANGLE.
16. SECURE SECOND NEW ANGLE TO BOTTOM OF TRANSVERSE STIFFENER AND TO THE BOTTOM FLANGE. USE EXISTING HOLES IN TRANSVERSE STIFFENER AND BOTTOM FLANGE AS A TEMPLATE TO DRILL HOLES IN NEW ANGLE. REMOVE NEW ANGLE.
17. PROCEED WITH STEPS 11 THRU 13 ABOVE.

RETROFIT TYPE F4

1. SECURE NEW WELDMENT IN PLACE SO THAT THE VERTICAL LEG OF THE ANGLE IS TIGHT AGAINST THE FLOORBEAM WEB, THE HORIZONTAL LEG OF THE ANGLE IS TIGHT AGAINST THE HORIZONTAL STIFFENER AND THE END PLATE IS TIGHT AGAINST THE TRANSVERSE STIFFENER. DRILL HOLES IN THE FLOORBEAM WEB, THE TRANSVERSE STIFFENER AND THE HORIZONTAL STIFFENER USING THE NEW WELDMENT AS A TEMPLATE.
2. REMOVE NEW WELDMENT. SOLVENT CLEAN TO REMOVE CUTTING OIL AND SANDBLAST TO REMOVE PAINT FROM FAYING SURFACES OF NEW WELDMENT AND FLOORBEAM WEB.
3. PLACE NEW WELDMENT IN FINAL POSITION AND INSTALL BOLTS.
4. PAINT ENTIRE RETROFIT AREA.



DYE PENETRANT AREA



SECTION E - E

(NOTE: USE EXISTING HOLES FOR UNIT II, P.P. 8 DOWNSTREAM AND UNIT V, P.P. 10 DOWNSTREAM)

QUANTITIES				
RETROFIT	ITEM	UNIT	UNIT II	UNIT V
TYPE F3	STRUCTURAL STEEL	LBS.	3,400	4,100
TYPE F4	STRUCTURAL STEEL	LBS.	2,000	2,500

NOTES:

1. FOR GENERAL NOTES SEE SHEET 3.
2. FOR RETROFIT LOCATIONS SEE SHEET 18.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
4. DENOTES NEW 7/8" H.S. BOLT IN NEW HOLE.
5. DENOTES NEW 7/8" H.S. BOLT IN EXISTING HOLE.

REV. NO.	DATE	BY	CHKD.	APPR.	DESCRIPTION	DATE
1	10/24/88				MISCELLANEOUS	10/24/88

F A I ROUTE 24 (INTERSTATE 24)  
 OVER OHIO RIVER  
 MASSAC COUNTY ILLINOIS

RETROFIT DETAILS 2

PREPARED BY  
**MODJESKI AND MASTERS**  
 CONSULTING ENGINEERS

DRAWN: CMH  
 CHKD: TBN  
 APPD: JEP  
 DATE: 10/11/88