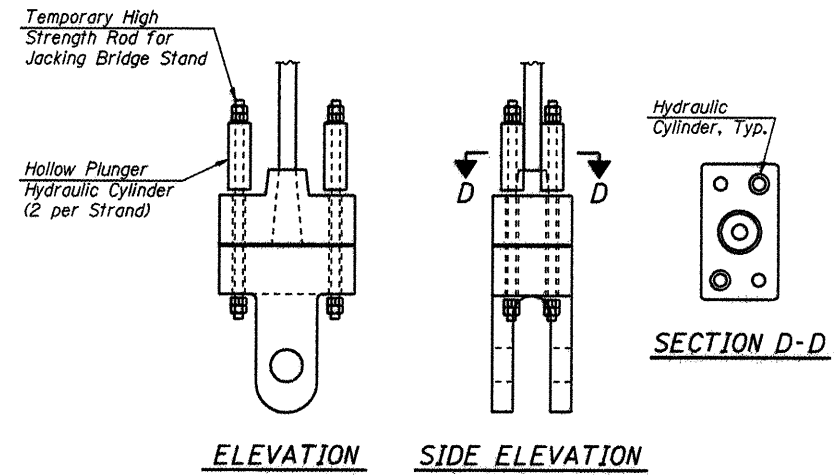


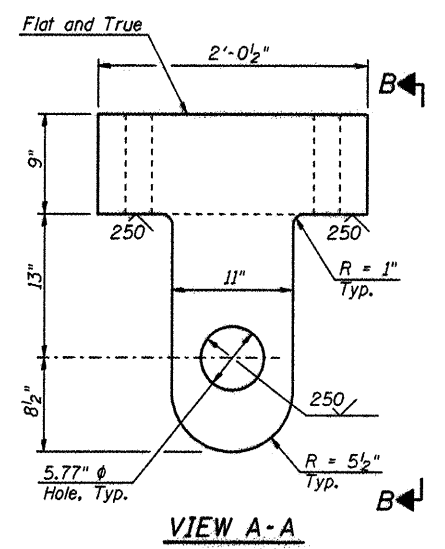
TYPICAL CASTING ASSEMBLY

NOTE:
2 1/4" F1554 STUDS SHALL NOT BE TORQUED MORE THAN ONCE.

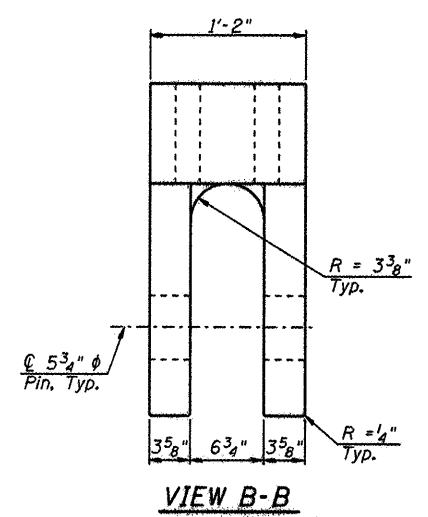


ELEVATION SIDE ELEVATION
JACKING DETAIL

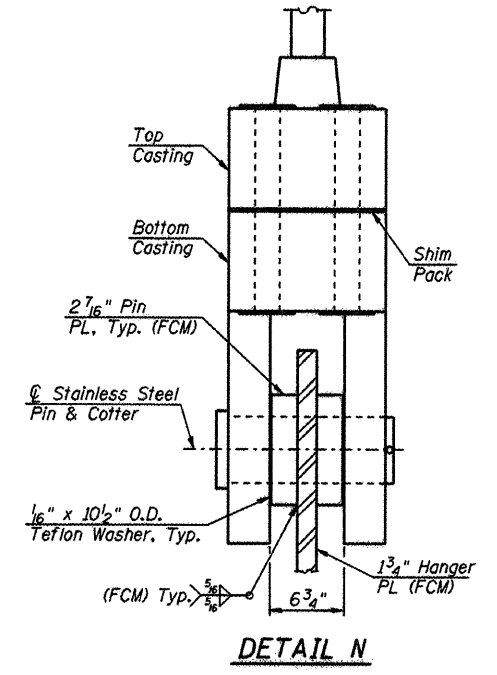
Note:
After completion of jacking of both hangers per location, temporary jacking rods shall be changed out in pairs to permanent threaded studs under dead load only. Pressure in all jacks for a given pair of hangers shall be equalized.



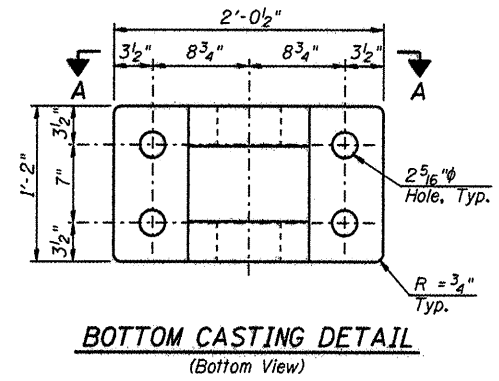
VIEW A-A



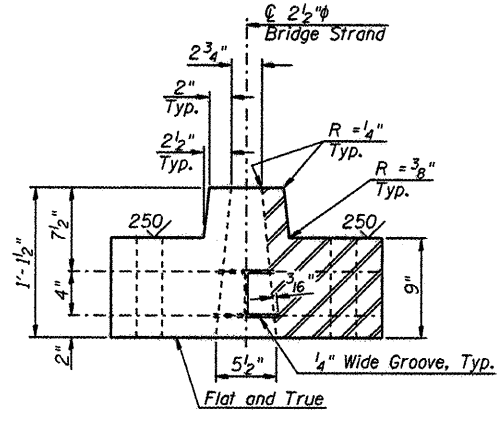
VIEW B-B



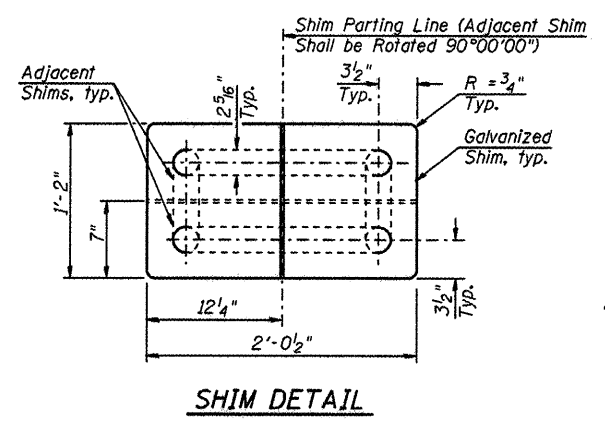
DETAIL N



BOTTOM CASTING DETAIL
(Bottom View)



TOP CASTING DETAIL
(Top View)



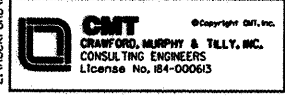
SHIM DETAIL

Note:
Seal perimeter of Shim Pack with silicone sealant. Provide shim stock galvanized and of varying thicknesses to accommodate a maximum shim pack thickness of 2 1/2". Shim thickness shall vary from 1/2" thick to 1/4" thick. Total thickness of shim pack shall not exceed 2 1/2". Nominal thickness of shim pack is 1/4".

NOTE:
ALL FOUR CABLES AT ONE LOCATION SHALL BE STRESSED SIMULTANEOUSLY DURING ERECTION.

Notes:
Cotter and pin shall conform to the requirements of ASTM A276, A304N stainless steel with $F_y = 35$ ksi.
The 2 1/4" Studs shall conform to the requirements of ASTM F1554 Gr. 105. The Studs shall also meet the supplementary requirements of paragraph S5 of F1554. The contractor shall install the studs to a pretension of between 100 and 110 kips. Galvanize studs in accordance to the requirements of ASTM F2329.
Compressible-Washer-Type direct tensions indicators shall be installed to prove the 2 1/4" Stud tension. The direct tension indicators (DTI'S) shall be supplied in accordance with ASTM F959 except for the compressive strength which is non-standard. The DTI'S shall be zinc coated. The DTI supplier shall provide inspection and acceptance criteria to install the bolts to the pretension specified. At a minimum, inspection and acceptance shall be accomplished through the use of feeler gauges to measure the compression gaps in the installed DTI'S. The DTI supplier shall provide a test report for establishing the inspection and acceptance criteria. At a minimum, the DTI supplier shall test an additional 5 DTI'S under hardened flat washers, similar to those that will be used in production, at a load of 105 kip in order to determine the inspection and acceptance criteria. All DTI'S including those used for testing, shall be supplied from the same lot.
Washers shall conform to the requirements of ASTM F436. Nuts shall conform to the requirements of ASTM A563 Grade DH Heavy Hex. Galvanize in accordance to the requirements of ASTM A153.
Alloy Steel Casting shall conform to the requirements of ASTM A148, Gr. 80-50 (annealed and galvanized).
For location of Detail N and additional Tie Girder Hanger Details, see Sheet 49 of 79.

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HNTB

DESIGNED - PA, JDJ, BPD, CJW	REVISED -
DRAWN - GLD	REVISED -
CHECKED - RJK	REVISED -
DATE - 02/04/2011	REVISED -

**CITY OF ROCKFORD
MORGAN STREET BRIDGE**

**THE GIRDER HANGER DETAILS - II
STRUCTURE NO. 101-6108**

SCALE: SHEET NO. 50 OF 79 SHEETS STA. 47+00.74 TO STA. 52+63.50

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5077	99-00493-00-BR	WINNEBAGO	253	176
FED. ROAD DIST. NO. 2 ILLINOIS			CONTRACT NO. 85529	
FED. AID PROJECT BRN-5099659				