

# Bridge Design Memorandum

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**To:** Bridge Design  
**From:** JMW/jmw  
**Date:** 5/21/2014  
**Re:** Disc Bearing Design

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As per NJA and JMW, all current and future LRFD designed bridges shall include:

When designing and detailing disc bearings, the sole plate-to-girder flange connections shall be bolted connections drilled and tapped in the shop. Sole plate-to-girder flange connections are not to be welded. Notes shall be placed on the plans directing the Contractor to the Special Provision 907-811 and stating **“The Contractor is responsible for ensuring that the disc bearing fabricator provides a bearing-to-girder bolt template with hardened bushings to the steel girder fabricator and the Contractor is responsible for ensuring proper fit-up. Details of these templates shall be included in the shop drawing submittal.”**

Details shall be placed in the plans indicating that the anchor bolts connecting the masonry plate to the concrete cap shall be grouted in a vented corrugated sleeve blockout after final placement of the masonry plate. The blockout shall be vented at both the top and bottom and the grout shall be pumped into the blockout starting from bottom to top while the anchor bolt is in place. The Contractor will not be allowed to pour the grout into the blockout and insert the anchor bolt into the poured grout. The anchor bolt should be detailed as a split bolt in a treaded collar to allow for future replacement and/or repair.

Bolted bearings are more easily maintained and provide for future repair and/or replacement reducing the possibility of damaging the girder. Disc bearings are Contractor Designed and the notes and details are to ensure that the design and fit-up are constructible. The use of corrugated blockouts, templates, and split anchor bolts have allowed for increased flexibility in placement and fit-up during construction eliminating the need for field tapped bearing plates.