

New Jersey Turnpike Authority

PO Box 5042, Woodbridge, NJ 07095



Document Change Announcement

2007 Design Manual

DCA2011-DM-03

DATE: June 21, 2011

Subject: Revision to Subsection 2.2.4.3.2 of the Design Manual

Description of Change

Outdated language regarding the selection of bridge bearings has been deleted and additional language has been added to guide the designers in selection of bearings for new and retrofitted bridges.

Instructions to Designers and Consultants

Effective immediately, the revisions contained in this announcement shall be applied to all projects that have not reached Phase C of design. Contact your NJTA Project Manager for instructions. Attached revision is noted in italics.

Designers may access these revisions in the NJTA Design Manual, which is available on the Authority's Web Page: <http://www.state.nj.us/turnpike/design-manual.html>

Information for In-House Staff

The revisions have been incorporated into the Design Manual, which is available on the S drive @ S:\Project Files\Design-Procedure Manual. Please distribute the information to your respective Project Managers and have them direct their consultants appropriately.

Recommended By:

A handwritten signature in black ink, appearing to read 'R. Fischer', written over a horizontal line.

Robert J. Fischer, P.E.
Assistant Chief Engineer, Design

Approved By:

A handwritten signature in black ink, appearing to read 'R. Raczynski', written over a horizontal line. To the right of the signature is the date '6/21/11'.

Richard J. Raczynski, P.E.
Chief Engineer

cc: Senior Staff Engineering, Operations & Maintenance Departments, All Prequalified Consultant Firms, File

New Jersey Turnpike Authority

DOCUMENT UPDATE REQUEST

Forward to Assistant Chief Engineer, Design

Initiator	Rich Schaefer	Submittal Date	05/27/11
Firm	HNTB Corporation	Telephone	973-237-1650

Document (check one)

- Procedures Manual
- Design Manual
- Sample Plans
- Standard Drawings
- Standard Specifications

Description of Change

Delete the last three sentences of the first paragraph of Section 2.2.4.3.2 and replace with the following:

Elastomeric Bearings which are fully vulcanized to a masonry plate and a sole plate are preferred where their use is practical and cost effective. Elastomeric bearings with a sliding surface will be permitted on a case by case basis.

High Load Multi Rotational (HLMR) bearings shall be specified for all bridges that qualify as curved girder bridges in accordance with Subsection 4.6.1.2.4 of the AASHTO LRFD Bridge Design Specifications. HLMR bearings should be considered for use in situations where skewed or unconventional structure framing may induce torsion or transverse rotations at the bearing points.

Seismic isolation bearings shall specified for use as dictated by seismic analysis. Adequacy of seismic isolation bearings shall be evaluated in accordance with the appropriate provisions of the current edition of the AASHTO Guide Specifications for Seismic Isolation Design. Performance metrics for the bearings shall be presented on the Contract Plans.

Regardless of bearing type chosen, the designer shall evaluate the anticipated construction sequence and alert the Contractor if temporary bracing, preload jacking for thermal displacement, or other special procedures are required to install the bearings without overstress.

Delete the second paragraph of Section 2.2.4.3.2 and associated "Pertinent References" section.

Delete Design Example C-1.

Reason for Change

Additional language has been added to guide the designer in selection of bearings for new and retrofitted bridges. HLMR bearings have become increasingly cost effective when compared to elastomeric bearings, especially in situations where large rotations are anticipated or in situations where predicated bearing behavior may be difficult to accommodate with an elastomeric bearing such as curved or skewed structures. Language regarding special installation procedures has been added as well to compensate for the inexperience of contractors who are often unfamiliar with installing modern bearings devices. Additionally, seismic bearing guidance and associated design example C-1 have been reduced and deleted, respectively. Design guidance in the recently updated 2010 AASHTO Guide Specification for Seismic Isolation Design has made much of the Design Manual guidance redundant.