Technical Note
e-Notification
No. 12
May 20, 2021
Updated: 05/25/2022

Technical Note 12
with Updated Item 1

1. AASHTOWare BrR Version

For projects that have advanced beyond the preliminary design phase as of the updated published date of this Technical Note, AASHTOWare BrR Version ~~6.8.4.3002~~ 7.1 shall be used to develop the load rating model. For projects that have not yet advanced beyond the preliminary design phase as of the updated published date of this Technical Note, AASHTOWare BrR Version ~~7.0~~ 7.2 shall be used to develop the load rating model. The Load Rating Summary Form (LRSF) associated with the version used, available on the Bridge Maintenance Office (BMO) website, shall also be used.

Any new load rating generated after the published date of this updated Technical Note shall be developed in BrR Version 7.2. Any modifications to an existing load rating model created in a previous version(s) of BrR to account for bridge widenings, overlays, deterioration, etc. on or after the updated Technical Note published date shall be migrated to BrR Version ~~7.0~~ 7.2.

2. Substructure Controlling Determination for New Bridges

Generally, bridge substructures will not control load ratings, and design consultants are required to confirm this at the completion of the design of new bridges, either through analysis or engineering judgement. If it is determined that any substructure elements may control, then a load rating following the LRGD, confirming all trucks pass all criteria, shall be completed for the controlling element and included with the Bridge File.

3. Coding NBI Item 70

NBI Item 70, *Bridge Posting*, is a parameter used to describe the degree that the operating rating is less than the maximum legal load level. Currently, NBI Item 70 is auto-calculated by SCDOT's Roadway Information Management System (RIMS), is dependent on the input of NBI Item 64, *Operating Rating*, and therefore cannot be manually updated in BIO.

However, NBI Item 64 should always be inputted as the governing HL-93 LRFR rating factor in accordance with Item #12 (Part A) of Technical Note 03. Because this rating factor is not used to determine posting, the load rater shall notify the Bridge Maintenance Office (BMO) by submitting a Data Correction Form for Item 70 if:

a. The structure does not require posting, **AND**
b. The governing HL-93 LRFR rating factor (NBI Item 64) is less than 1.0.

BMO will then override NBI Item 70 as code *5 – Equal to or above legal loads* for structures that fit this criterion.

4. Coding NBI Items 63-66 for Structures with HL-93 LRFR Rating Factors < 0.10

As outlined in TN03, Item #12, all structures are to have NBI Items 63-66 reported as HL-93 LRFR rating factors, whether LFR was used for posting avoidance or not. However, there may be instances, especially for reinforced concrete box culverts rated in BrR, where the HL-93 LRFR rating factors are unrealistically low while the LFR rating factors are more favorable, such that LFR ratings are used for the final structure load rating.

Structures that have an HL-93 LRFR Operating RF < 0.10 (approximately equal to 3 tons GVW) and are open to traffic are flagged by FHWA as requiring a bridge closure. To prevent these structures from being inappropriately flagged, Items 63-66 for these cases shall be coded depending on the structure types detailed below if the HL-93 LRFR Operating Rating Factor < 0.10.

- For **RC Box Culverts** that show no signs of distress and have been carrying normal traffic for an appreciable amount of time, code NBI Items 63-66 as follows:

  Item 63 – "8 - Load and Resistance Factor Rating (LRFR) rating reported by rating factor (RF) method using HL-93 loading."
  Item 64 – 1.00
  Item 65 – "8 - Load and Resistance Factor Rating (LRFR) rating reported by rating factor (RF) method using HL-93 loading."
  Item 66 – 1.00

- For **all other structure types** that do not require a bridge closure, code NBI Items 63-66 as follows:

  Item 63 – "8 - Load and Resistance Factor Rating (LRFR) rating reported by rating factor (RF) method using HL-93 loading."
  Item 64 – 0.10
  Item 65 – "8 - Load and Resistance Factor Rating (LRFR) rating reported by rating factor (RF) method using HL-93 loading."
  Item 66 – 0.10

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Please direct any questions concerning the above to:

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