

Initial Load Capacity Rating Guidance

Based on a guidance update, it is required for the Design Consultant to conduct first cycle load capacity ratings on new and majorly rehabilitated structures. In order to complete the load capacity ratings, the Bureau of Structural Evaluation and Infrastructure Management has created this document as a starting reference.

Load Capacity Rating can be divided into two potential categories:

1. Bridge types which **can be modeled** using LARS. LARS is a Bentley product.
2. Bridge types which **cannot be modeled** in LARS.

In order to complete the Load Capacity Ratings, please utilize our webpage for further guidance (ie. NJDOT Load Rating Manual and sample documents and files for expected deliverables). (<http://www.state.nj.us/transportation/eng/structeval/loadrating.shtm>)

For bridge types that can be modeled in LARS:

- Utilize the NJDOT Load Rating Manual, the MBE (Manual for Bridge Evaluation), and any appropriate guidance on our webpage to create a set of complete load capacity rating models in LARS.
- Live loads required in the load rating model include:
 - Live loads as per MBE (Manual for Bridge Evaluation)
 - Replace AASHTO 3S2 with NJ3S2 as defined in Section 43 of the latest NJDOT Design Manual
 - Specialized Hauling Vehicles (SHVs)
 - Emergency Vehicles (EVs)
- After completing the load ratings, please provide the following deliverables to the Bureau of Structural Evaluation and Infrastructure Management:
 - Load Rating Report (Word and PDF)
 - Load Rating Appendix (Word and PDF)
 - .BMD LARS Input file
 - Calculations (Excel file preferred)
 - As Built Drawings (PDF)
 - MIS (Member Identification Sketch) as a Visio or MicroStation sketch

For bridge types that cannot be modeled in LARS:

The following bridge types cannot be modeled in LARS at this time:

1. Steel Box Girder (Straight) and Steel I and Box Girders (curved)
2. Continuous for dead load and live load Prestressed concrete bridges
3. Continuous timber bridges
4. Culverts, Frames, and Arches
5. Movable span bridges
6. Integral abutment bridges (both abutments are integral)

An approved program or software should be used to perform load capacity ratings for the bridge types listed above. Please obtain prior authorization from the Bureau of Structural Evaluation and Infrastructure Management when choosing an appropriate program for these bridge types. Also, prior discussion is advised to clarify all load capacity rating issues (ie. Load capacity rating approach, report preparation, deliverables, etc.). Please note, as per NJDOT policy, a load rating for steel pier caps, steel cross girders, and timber pier caps is required.

- Live loads required in the load rating model include:
 - Live loads as per MBE (Manual of Bridge Evaluation)
 - Replace AASHTO 3S2 with NJ3S2 as defined in Section 43 of the latest NJDOT Design Manual
 - Specialized Hauling Vehicles (SHVs)
 - Emergency Vehicles (EVs)
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If you have any additional questions, please contact Mr. Mula Reddy, Project Engineer, at 609-963-1396.