

## **Scope of Services for Performing Load Rating of Bridges (PID 119284)**

### **Project Overview:**

The required services include:

- Create new system models of bridges in the most recent version of the AASHTO Bridge Rating BrR program to the most current loading conditions; a list of bridges will be provided.

The services shall also include acquisition and review of all related bridge plans, inventory information and the most current bridge inspection reports.

The load rating analyses shall be in accordance with State and Federal requirements and the most current AASHTO Manual of Bridge Evaluation.

### **Acquisition & Review of Data Files Collection:**

ODOT will provide access to bridge plans, inventory data, inspection reports and any other information available for each bridge.

The consultant shall be required to examine ODOT's bridge drawings for the structures' design and repair/rehabilitation plans. Where the construction plans are non-existent or incomplete, the consultant shall acquire the necessary information from various ODOT resources, such as, but not limited to: electronic and paper files; on-line inventory and inspection information; aperture cards; microfilm or microfiche; on-line archived ODOT Standard Drawings; request to the District Bridge Engineers and; on-site measurements and observations.

### **Load Ratings:**

The consultant shall be required to update the bridge rating files to the most current dead load and inspection conditions of the bridges prior to performing the load ratings.

The consultant shall perform the load ratings using the AASHTO Load and Resistance Factor Rating (LRFR) method for AASHTO HL93 loading (or LFR method for AASHTO HS20 loading if LRFR method requires posting of the bridge) at inventory and operating rating levels and all Ohio Legal Loads 2F1, 3F1, 4F1, and 5C1; AASHTO Special Hauling Vehicles 3, 3S2, 3-3, SU4, SU5, SU6 and SU7; and FAST Act Emergency Vehicles EV2 and EV3, also permit loads PL 60T & PL 65T (Ohio Legal Loads as given in the ODOT Bridge Design Manual, Section 900) at operating rating level as per the AASHTO The Manual of Bridge Evaluation, 3<sup>rd</sup> Edition and all of its interims. The bridge rating model shall be complete, error free and prepared as per ODOT formatting guidelines.

### **Project Deliverables:**

Deliverables will be submitted to the ODOT Office of Structural Engineering as follows:

1. An error-free, working, electronic copy of the database of all updated bridge files compatible with the latest version of AASHTO BrR program.
2. An electronic copy of each bridge's data file as exported from BrR in XML format
3. Electronic copies of each structure's final load rating summary in "PDF" format.
4. All data and dimensions obtained from field reviews along with digital photos of the bridges.
5. Immediate notification to the pertinent ODOT District Bridge Engineer and OSE for any structure where it is determined that posting for reduced load capacity is required.
6. A master Microsoft Excel spreadsheet containing all the information included in the individual summary reports.
7. Electronic (PDF) copies of the bridge plans used in creating bridge data models.

The information provided in the load rating summaries shall conform to the ODOT-BR-100. The rating results, in particular, must include the following: inventory and operating load rating for AASHTO LRFD

HL93 loading (or AASHTO LFR HS20 loading); the operating load rating for all Ohio Legal Loads 2F1, 3F1, 4F1, 5C1, 3, 3S2, 3-3, SU4, SU5, SU6, SU7, EV2 & EV3, also permit loads PL 60T & PL 65T as per ODOT Bridge Design Manual Section 900; rating factors for all loads at the described rating levels and; the percent of safe Ohio Legal Load based on the minimum rating factor of the eight Ohio Legal Loads.

Each load rating summary shall be signed & stamped by an Ohio licensed professional engineer and shall include the full name and the Ohio PE Registration number.

**Minimum Requirements:**

The professional engineers shall be proficient in load rating and in particular the use of BrR. The work shall be performed at the location that best suits the needs of the project.