3.2 CONSTRUCTION EQUIPMENT OVERLOADS

3.2.1 GENERAL

This policy applies to the evaluation of operating or transporting construction overloads on structures and addresses cases beyond the scope of the load limitations set forth in the *Standard Specifications*.

3.2.2 EVALUATION CRITERIA

Evaluations of the structure shall satisfy the Strength II limit state, per the *AASHTO-CA BDS* for new structures or *SM&I (Structures Maintenance & Investigations) Bridge Load Rating Manual* for existing structures. Construction equipment shall be evaluated as a special design vehicle with the following design criteria:

- Refined methods shall be used to determine live load distribution for wheel line spacings less than six feet. The live load distribution may be based on the approximate methods in Article 4.6.2.2 of *AASHTO-CA BDS* for wheel line spacings of six feet or greater.
- The multiple presence factor shall be taken as m = 1.0.
- Construction equipment axle weights and configurations shall be based on manufacturer specifications and maximum anticipated axle weights.
- Axles that do not contribute to the extreme force effect under consideration shall be neglected.
- For centrifugal forces, the design speed shall be taken as 25 mph.
- The dynamic load allowance shall be 75% at the deck joints and 25% for other bridge members not entirely below ground level.
- The construction equipment shall be a single vehicle placed anywhere on the bridge.
- The deck shall be evaluated for the wheel loads using the methods described in AASHTO-CA BDS.

The resistance of bridge components shall be reduced when the material has not attained the design strength per the contract documents.

3.2.3 REFERENCES

1. Caltrans (2024), *Standard Specifications*, California Department of Transportation, Sacramento, CA.
2. Caltrans (2022), *Structure Maintenance and Investigations Bridge Load Rating Manual*, 2nd Edition, California Department of Transportation, Sacramento, CA.