Preface
The author of Bridge Design Manual (BDM) is the Methods Section of the Office of Bridges and Structures (OBS).

The BDM shall be used with other Iowa DOT documents and standards including the latest editions of the Office of Bridges and Structures Standards, the Office of Materials Instructional Memoranda, and Standard Specifications for Highway and Bridge Construction. It also shall be used with the 2017, 8th Edition of AASHTO LRFD Bridge Design Specifications except as noted. The BDM also references the 2002 edition of the AASHTO Standard Specifications for Highway Bridges with current errata changes. A list of reference documents and standards along with abbreviations is given in the Introduction section. An additional list is given with each major article or section.

Office of Bridges and Structures documents are available on the office web site:

and Iowa DOT documents are available in the Electronic Reference Library:
https://iowadot.gov/erl/index.html

Exceptions with respect to the use of LRFD are as follows:

- Repairs shall continue to follow guidelines in the repair section.
- BDM Section 10.2, Sign Supports, which is based on AASHTO’s Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, Sixth Edition, 2013, remains allowable stress design to match the AASHTO standard.
- The Iowa DOT’s working standards and standard plans have rebar development and lap lengths based on the 2014, 7th edition of the AASHTO LRFD Bridge Design Specifications. The AASHTO interims leading up to and incorporated in the 2017, 8th edition modified these lengths. The working standards and standard plans will be updated to the 2017, 8th edition by OBS as time permits. The working standards and standard plans should be used “as is” until they are updated by OBS. Additionally, any plan details which are similar to the standards may continue to be based on the development and lap lengths in the 2014, 7th edition until the standards are updated.
- The 2017, 8th edition of the AASHTO LRFD Bridge Design Specifications in Chapter 5: Concrete Structures requires D-regions (disturbed or discontinuity) to be designed using the strut-and-tie method (STM) for the strength and extreme event limit states with some exceptions provided for legacy methods [AASHTO-LRFD 5.5.1.2.3]. Historically, the Iowa DOT has used sectional models, which is a B-region method, in some areas which are classified as D-regions (e.g. typical pier caps). Iowa will continue designing based on its current historical practices until it completes a review of 2017, 8th edition requirements.

In general, the BDM is intended to define office practice for typical Iowa bridges without restricting innovation for unusual site and design conditions. The words “shall”, “required”, “office policy”, and similar terms indicate mandatory specifications that need to be followed unless exceptions are approved by the supervising Section Leader. Other terms such as “should”, “prefer”, and “recommended” indicate general guidance subject to engineering judgment of the designer. Interpretations of the supervising Section Leader, the Chief Structural Engineer, the Assistant Bridge Engineer, and the Bridge Engineer supersede policies in this manual.

The entire manual will be updated twice a year on January 1 and July 1. Only changes to the previous release will be shown.

Standard CADD notes are provided in Section 13 at the end of the manual.
Users are invited to bring errors and omissions to the attention of the Methods Section of the Office of Bridges and Structures.

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