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Subject: Publication of Bridge Design Manual Chapters

The NDOT Bridge Division Bridge Design Manual (BDM) Chapters 1, 5, 7, 9, and 13 are now available for download at:

- <https://dot.nebraska.gov/business-center/bridge/>

These chapters are effective immediately. For details on publication and maintenance, refer to the Foreword and Chapter 1 of the BDM. Please check this website regularly for updates and future chapter publications.

Update Summary

The BDM is structured to align with AASHTO chapters, differing from the format of the previous Bridge Office Policies and Procedures (BOPP). As a result, a line-by-line commentary of changes is not feasible. While some policies remain unchanged, others have been updated. Designers are responsible for ensuring the new policies are applied to their projects. Below is a summary of major changes, though not exhaustive.

Major changes to policy in Chapter 1

- Expanded section includes a list of coordinating documents (current editions), definitions for the Manual, abbreviations, and policy on bridge operational importance

Major changes to policy in Chapter 5

- Only two concrete strengths are allowed for precast prestressed girders.
- Use of approximate prestress losses is permitted for preliminary design; refined analysis is required for final design.
- Debonding is the preferred method to reduce stresses in NU girder ends; deflection of strands may be used if partial debonding is insufficient.
- Vent hole locations are now defined.
- Long term deflections for precast prestressed concrete girders are not required to be checked.
- LL+IM deflections must be included for clearance calculation in roadway grade separation structures using precast prestressed concrete girders.
- Maximum NU girder spacing is set at 15 ft.
- NU and IT girder section names are now in inches instead of millimeters.
- Maximum hold-down forces for deflected strands must be met.

Major changes to policy in Chapter 7

- Guidance provided on waterproof membrane types for asphalt overlay projects.
- Updated joint types for repair and preservation projects (with asphalt overlay).
- Guidelines and examples of common repair methods.

Major changes to policy in Chapter 9

- Traditional deck design is allowed.
- 7.5 in decks are not permitted.
- Empirical deck design reinforcement is modified for thicker decks.
- Limits set on longitudinal reinforcement size in decks over piers.
- Minimum pour rates must be computed for multi-span bridges.
- Modified deflection limits for closure pours.
- Minimum haunch at flange tip set at 1" during design.

Major changes to policy in Chapter 13

- Preferred rail type: 39" Single Slope Closed Rail.
- Pedestrian fence is set at 6 feet from the top of the sidewalk.
- Anti-climb fence is also permitted.

Contact Information

For questions or comments, please contact:
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