

DATE: July 31, 2018
TO: Bridge Manual Users
FROM: DTSD – Bureau of Structures
SUBJECT: **July 2018 Bridge Manual Update**

The Bridge Manual revisions to text and standards are now complete and posted online for this six month cycle. Please see the attached sheets for a list, with brief explanation, of the Text and Standards that were revised.

Of particular interest in this edition:

- **Chapters (numerous):** AASHTO LRFD Section 5 – Concrete Structures was reconfigured in the 8th edition. Numerous LRFD references in the Bridge Manual were changed to reflect this.
- **Filler beneath girders:** The ¾” filler in front of bearing pads and beneath prestressed girders has been changed to ½” to reduce the likelihood that the girder bears on the filler rather than the ½” bearing pad. Filler between girders, under pier and abutment diaphragms, remains at ¾”.
- **Links:** Some links in chapters 2,6,8,9 and 45 were updated from http: to https: These changes were not noted on the Text Update Summary (which follows this cover letter).
- **Chapter 19:** Design of web shear reinforcement is to follow **LRFD [5.7.3.4.2] - General Procedure**. The simplified procedure was removed for prestressed concrete.
- **Chapter 40:** “40.5 Deck Overlays” has significant improvements for overlay description and selection.
- **Chapter 40:** “40.9 Superstructure Replacements/Moved Girders (with Widening)” has been revised. Existing piles, or soil/rock if spread footing, to be evaluated using Strength I rather than Service I. Contact the Bureau of Technical Services Geotechnical Engineering Unit for guidance regarding the factored resistance of the existing piles or bearing capacity of the soil/rock.

- **New Standard 40.34 – Polyester Polymer Overlay**: With more use, this overlay type warranted a standard. See 40.5.1.3 in the Bridge Manual text for additional information. **Note**: This standard is not yet complete due to consideration of bid items, etc., but was desired to get it out as a start.
- **Insert sheets**: An effort was made to clean-up many insert sheets, which have been posted. Use of the insert sheets is highly encouraged.

Most other changes are fairly minor. Please use the example calculations with care (follow along in AASHTO).

A vertical black bar in the left margin notes all text changes.

The user's feedback regarding the Bridge Manual is important to us as that is where we get many ideas for corrections, clarification and new ideas for enhancement.

July 2018 Bridge Manual Text Update Summary

<u>Chapter</u>	<u>Page Number(s)</u>	<u>Change</u>
2	3	Removed "Structures Inspection and Repair Unit" from Figure 2.1-2
5	4	Removed note stating not to use slab bridges on the Interstate
	5,13-15	Updated costs to include 2017
6	20-21	Rearranged abbreviations in Table 6.3-1
	39	Changed Riprap quantity to 1 CY from 5 CY to match future FDM
	42	Updated reference to FDM
9	4	Added Notice that Section 9.3 contents and the LRFD [article number] references are based on AASHTO LRFD Bridge Design Specifications (7th Edition - 2014)
	8	Corrected reference to Figure depicting a Bar Series Table
	9	Updated ASTM references for Structural Steel components to match current Specifications
	13,14	Updated Standard Specification references to match current Section numbers
	16	Updated Section reference for the Structure Inspection Manual to match current Section number
	17,18,19,20,21,22	Flagged LRFD [article number] references that are based on AASHTO LRFD Bridge Design Specifications (7th Edition - 2014)
	27	Added Note that the LRFD [article number] references in Section 9.12 match the AASHTO LRFD Bridge Design Specifications (8th Edition)
11	8	Removed "4th Edition" reference from WisDOT Policy Item.
	11	Updated reference with bold text LRFD [10.6.3.1.2c]
	16	Updated reference with bold text LRFD [10.7.1.2]
	21, 41	Updated reference from LRFD [5.7.4.4-3] to LRFD [Eq'n 5.6.4.4-3]
	22, 27, 42, 52	Updated reference from LRFD [5.5.4.2.1] to LRFD [5.5.4.2]
	37	Updated reference from LRFD [5.7.4.4] to LRFD [5.6.4.4]
	41	Updated reference from LRFD [6.9.5.1-1] to LRFD [Eq'n 6.9.5.1-1]
	50	Updated reference with bold text LRFD [10.8]
12	9	Removed "4th Edition" reference from WisDOT Policy Item.
	20	Added note to Figure 12.7-1 for prestressed girders with a Type A1 (F-F) abutment arrangement, which only allows 28" and 36" deep girders.
	21	Removed footnotes "c" and "d". These footnotes do not apply to current abutment arrangements.
13	29	Updated reference from LRFD [5.6.3] to LRFD [5.8.2]

29	Updated reference from LRFD [5.6.3.1] to LRFD [5.8.2.1]
30	Updated reference from LRFD [5.6.3.2] to LRFD [5.8.2.2]
32, 34	Updated reference from LRFD [5.6.3.5] to LRFD [5.8.2.5]
32,33,34	Updated reference from LRFD [5.6.3.3] to LRFD [5.8.2.3]
32, 34	Updated reference from LRFD [5.6.3.5.1] to LRFD [5.8.2.5]
32, 35	Updated reference from LRFD [5.6.3.5.3] to LRFD [5.8.2.5.3]
32, 35	Updated reference from LRFD [5.6.3.5.2] to LRFD [5.8.2.5.2]
32	Updated reference from LRFD [5.7.5] to LRFD [5.6.5]
33, 35, 37	Updated reference from LRFD [Table 5.6.3.5.3a-1] to LRFD [Table 5.8.2.5.3a-1]
33, 35, 37	Updated reference from LRFD [5.6.3.6] to LRFD [5.8.2.6]
33, 34	Updated reference from LRFD [5.6.3.4.1] to LRFD [5.8.2.4.1]
34	Updated reference from LRFD [5.7.3.4] to LRFD [5.6.7]
37	Updated reference from LRFD [5.6.3.4.2] to LRFD [5.8.2.4.2]
37	Updated reference from LRFD [5.11] to LRFD [5.10.8]
39, 42, 44	Updated reference from LRFD [5.7.3.4] to LRFD [5.6.7]
41	Updated reference from LRFD [5.7.4] to LRFD [5.6.4]
41	Updated reference from LRFD [5.7.4.2] to LRFD [5.6.4.2]
41	Updated reference from LRFD [5.7.4.3] to LRFD [5.6.4.3]
41	Updated reference from LRFD [5.7.4.1] to LRFD [5.6.4.1]
44	Updated reference from LRFD [5.10.8] to LRFD [5.10.6]
45, 47	Updated reference from LRFD [5.13.3] to LRFD [5.12.8]
45, 48	Updated reference from LRFD [5.7.3] to LRFD [5.6.3]

14

29	Updated reference from LRFD [11.0] to LRFD [11]
30	Added Coulomb and Rankine active earth pressure theory equations
30	Added at-rest earth pressure equation
33 - 39	Updated Figures 14.4-1 thru 14.1-7 and source references
34	Updated reference from LRFD [11.11.2] to LRFD [11.10.5.2]
37	Removed Coulomb formula. Refer to 14.4.5.4
41	Added reference LRFD [11.5.6]
41	Updated Figure 14.4-8. Removed water load.
42	Updated reference from LRFD [Table 11.5.6.1] to LRFD [Table 11.5.7-1]
50	Added reference LRFD [11.9.7]
81	Updated reference from LRFD [C11.10.6.2.1] to LRFD [C11.10.2.1]
83	Updated reference from LRFD [11.5.6.1] to LRFD [Table 11.5.7-1]
83	Updated reference from LRFD [11.11.5.3] to LRFD [11.10.5.3]
85	Updated reference from LRFD [Table C11.10.4.4-1] to LRFD [Table C11.10.4-1]
92	Updated reference from LRFD [11.10.6.4.3.2.1] to LRFD [11.10.6.4.1]
93	Updated source from LRFD Figure [11.10.6.3.2-1] to LRFD [Figure 11.10.6.3.2-2]
94	Updated reference from LRFD [Table 11.5.7.1] to LRFD [Table 11.5.7-1]
95	Updated reference from LRFD [7.6.4.2] to LRFD [11.10.6.4.2]
95	Updated reference from LRFD [5.11.3] to LRFD [5.10.8.3]

95	Updated reference from LRFD [6.1.3] to LRFD [6.13]
99	
99	Updated reference from LRFD [Table 11.5.6.1] to LRFD [Table 11.5.7-1]
101	Updated reference from LRFD [Table 10.5.5.2.2.1] to LRFD [Table 10.5.5.2.2-1]
102	Updated reference from LRFD [10.6.3.1.2-a] to LRFD [Equation 10.6.3.1.2a-1]
107	Updated reference from LRFD [Table C3.11.5.9.1] to LRFD [Table C3.11.5.9-1]
114	Updated reference from LRFD [11.8.2] to LRFD [3.11.5.6]
115	Updated reference from LRFD [11.5.6] to LRFD [11.9]
129	Corrected reference from "paragraph C" to 14.16.3

17	26	Updated reference from LRFD [4.6.2.2.3c-1] to LRFD [Table 4.6.2.2.3c-1]
	50,66,79	Updated reference from LRFD [5.7.3.4] to LRFD [5.6.7]
	54	Updated reference from LRFD [5.10.8] to LRFD [5.10.6]
	77	Updated reference from LRFD [Table 5.9.4.2.2-1] to LRFD [Table 5.9.2.3.2b-1]
	77	Updated reference from LRFD [5.11.4.2] to LRFD [5.9.4.3.2]
	78	Updated references from LRFD [5.7.3.3.2] to LRFD [5.6.3.3]
	84	Added note for overhang steel when using precast panels

18	4,24,25	Changed LRFD [5.7.1] reference to LRFD [5.6.1] to match 8th Edition
	10,11	Changed LRFD [5.7.2.1] reference to LRFD [5.6.2.1] to match 8th Edition
	10	Changed LRFD [5.7.2.2] reference to LRFD [5.6.2.2] to match 8th Edition
	10,23	Changed LRFD [5.7.2] reference to LRFD [5.6.2] to match 8th Edition
	11	Changed LRFD [Table C5.7.2.1-1] reference to LRFD [Table C5.6.2.1-1] to match 8th Edition
	11	Changed LRFD [5.7.3.2.3] reference to LRFD [5.6.3.2.3] to match 8th Edition
	11	Changed LRFD [5.7.3.2.1] reference to LRFD [5.6.3.2.1] to match 8th Edition
	12	Changed LRFD [5.8.1.4] reference to LRFD [5.7.1.4] to match 8th Edition
	12	Changed LRFD [5.13.3.6.3] reference to LRFD [5.12.8.6.3] to match 8th Edition
	12	Changed LRFD [5.8.2.9] reference to LRFD [5.7.2.8] to match 8th Edition
	12	Changed LRFD [5.8.2.1] reference to LRFD [5.7.2.1] to match 8th Edition
	19,20	Changed LRFD [5.7.3.6.2] reference to LRFD [5.6.3.5.2] to match 8th Edition
	23	Changed LRFD [5.11.2.3] reference to LRFD [5.10.8.2.3] to match 8th Edition

	23	Changed LRFD [5.11.5.2.1] reference to LRFD [5.10.8.4.2a] to match 8th Edition
	25	Changed LRFD [5.7.3.4] reference to LRFD [5.6.7] to match 8th Edition
	26	Changed LRFD [5.7.3.3.2] reference to LRFD [5.6.3.3] to match 8th Edition
	27	Changed LRFD [5.11.1.2.1] reference to LRFD [5.10.8.1.2a] to match 8th Edition
	27	Changed LRFD [5.11.1.2.2] reference to LRFD [5.10.8.1.2b] to match 8th Edition
	27	Changed LRFD [5.11.1.2.3] reference to LRFD [5.10.8.1.2c] to match 8th Edition
	27,28	Changed LRFD [5.14.4.1] reference to LRFD [5.12.2.1] to match 8th Edition
	28	Changed LRFD [5.10.8] reference to LRFD [5.10.6] to match 8th Edition
	29	Changed LRFD [5.8.3.5] reference to LRFD [5.7.3.5] to match 8th Edition
	29	Changed LRFD [Eq'n 5.8.3.5-2] reference to LRFD [Eq'n 5.7.3.5-2] to match 8th Edition
	29	Changed LRFD [5.8.3.4.2] reference to LRFD [5.7.3.4.2] to match 8th Edition
	15,25	Updated load factor (γ_{LL+IM}) for Fatigue I Limit State per LRFD [3.4.1] - 8th Edition
	16	Updated nominal resistance eq'n $(\Delta F)_{TH}$ for Fatigue I Limit State per LRFD [5.5.3] - 8th Edition
	25	Added word "unfactored" to define permanent loads per LRFD [5.5.3] - 8th Edition
	26	Clarified definition of "d _c " for top reinforcement checked for Crack Control per LRFD [5.6.7] - 8th Edition
18E -1	5,14,71	Changed LRFD [5.7.2.1] reference to LRFD [5.6.2.1] to match 8th Edition
	9	Changed LRFD [5.7.3.6.2] reference to LRFD [5.6.3.5.2] to match 8th Edition
	13	Changed LRFD [5.7.2] reference to LRFD [5.6.2] to match 8th Edition
	15,17	Changed LRFD [5.7.1] reference to LRFD [5.6.1] to match 8th Edition
	17	Changed LRFD [5.7.3.4] reference to LRFD [5.6.7] to match 8th Edition
	19,23,69	Changed LRFD [5.7.3.3.2] reference to LRFD [5.6.3.3] to match 8th Edition
	30,32,39,42	Changed LRFD [5.11.1.2.1] reference to LRFD [5.10.8.1.2a] to match 8th Edition
	30,45	Changed LRFD [5.11.1.2.2] reference to LRFD [5.10.8.1.2b] to match 8th Edition
	42, 45	Changed LRFD [5.11.1.2.3] reference to LRFD [5.10.8.1.2c] to match 8th Edition
	51,56,58	Changed LRFD [5.14.4.1] reference to LRFD [5.12.2.1] to match 8th Edition

57	Changed LRFD [5.10.8.2] reference to LRFD [5.10.6] to match 8th Edition
58	Changed LRFD [5.8.3.5] reference to LRFD [5.7.3.5] to match 8th Edition
58	Changed LRFD [Eq'n 5.8.3.5-2] reference to LRFD [Eq'n 5.7.3.5-2] to match 8th Edition
59	Changed LRFD [5.8.3.4.2] reference to LRFD [5.7.3.4.2] to match 8th Edition
64	Changed LRFD [5.8.4] reference to LRFD [5.7.4] to match 8th Edition
68	Changed LRFD [5.13.3.6.3] reference to LRFD [5.12.8.6.3] to match 8th Edition
3	Updated sentence to state that Example is current through AASHTO LRFD 8th Edition - 2017
5, 15,16,20,21, 25,30,34, 35,36,39,40, 43,44	Updated load factor (γ_{LL+IM}) for Fatigue I Limit State per LRFD [3.4.1] - 8th Edition
15,16,20,21, 25,30,34,36, 39,40,42,44	Updated nominal resistance eq'n $(\Delta F)_{TH}$ for Fatigue I Limit State per LRFD [5.5.3] - 8th Edition
15,30,34	Added word "unfactored" to define permanent loads per LRFD [5.5.3] - 8th Edition

19

8	Updated reference from LRFD [5.9.3] to LRFD [5.9.2.2]
8	Updated reference from LRFD [5.9.4] to LRFD [5.9.2.3]
8	Updated reference from LRFD [5.9.5] to LRFD [5.9.3]
8, 9	Updated reference from LRFD [5.9.5.3] to LRFD [5.9.3.3]
8	Updated reference from LRFD [5.9.5.2.3a] to LRFD [5.9.3.2.3a]
9	Updated reference from LRFD [5.9.5.4] to LRFD [5.9.3.4]
10	Updated reference from LRFD [5.14.1.4.5] to LRFD [5.12.3.3.5]
15, 17	Updated reference from LRFD [Table 5.9.4.2.2-1] to LRFD [Table 5.9.2.3.2b-1]
17	Updated reference from LRFD [Table 5.9.4.1.2-1] to LRFD [Table 5.9.2.3.1b-1]
17	Updated reference from LRFD [5.9.4.1.1] to LRFD [5.9.2.3.1a]
17	Updated reference from LRFD [Table 5.9.4.2.1-1] to LRFD [Table 5.9.2.3.2a-1]
17	Updated reference from LRFD [5.14.1.4.6] to LRFD [5.12.3.3.6]
20, 21	Updated reference from LRFD [5.11.4.2] to LRFD [5.9.4.3.2]
21	Updated reference from LRFD [5.11.4.3] to LRFD [5.9.4.3.3]
21	Updated reference from LRFD [5.7.3.2.3] to LRFD [5.6.3.2.3]
21-23	Updated reference from LRFD [5.7.3.2.2] to LRFD [5.6.3.2.2]
22	Updated reference from LRFD [5.7.2.2] to LRFD [5.6.2.2]
22	Updated reference from LRFD [C5.7.3.1.1] to LRFD [C5.6.3.1.1]
23	Updated reference from LRFD [C5.7.2.2] to LRFD [C5.6.2.2]
23, 24	Updated reference from LRFD [5.7.3.1.1] to LRFD [5.6.3.1.1]

24	Updated reference from LRFD [5.7.2.1] to LRFD [5.6.2.1]
24	Updated reference from LRFD [5.7.3.3.2] to LRFD [5.6.3.3]
26, 28	Updated reference from LRFD [5.5.4.2.1] to LRFD [5.5.4.2]
26, 27	Updated reference from LRFD [5.8.4.3] to LRFD [5.7.4.4]
27	Updated reference from LRFD [5.8.4.4] to LRFD [5.7.4.2]
27-29	WisDOT Policy Item Update - Shear reinforcement shall be designed by General Procedure per LRFD [5.7.3.4.2] . AASHTO LRFD 8th Edition discontinued the use of the Simplified Procedure for prestressed sections.
28	Updated reference from LRFD [5.8.2.5] to LRFD [5.7.2.5]
28	Updated reference from LRFD [5.8.2.9] to LRFD [5.7.2.8]
28	Changed reference from LRFD [5.8.3.4.3] to LRFD [5.7.3.3] and revised the nominal shear resistance equation.
29	Updated reference from LRFD [5.8.2.7] to LRFD [5.7.2.6]
30	Updated reference from LRFD [5.8.2.9] to LRFD [5.7.2.8]
30	Updated reference from LRFD [5.8.3.5] to LRFD [5.7.3.5]
30	Updated reference from LRFD [5.7.3] to LRFD [5.6.3]
31	Updated reference from LRFD [5.7.2.1] to LRFD [5.6.2.1]
32	Updated reference from LRFD [5.7.3.4] to LRFD [5.6.7]
32	Updated reference from LRFD [5.14.1.4] to LRFD [5.12.3.3]
33	Updated reference from LRFD [C5.14.1.4.2] to LRFD [C5.12.3.3.2]
33	Updated reference from LRFD [5.14.1.4] to LRFD [5.12.3.3]

24	13	Bolt designations changed from ASTM A325/A490 to A325/A490 conforming to ASTM F3125.
	50	Changed LRFD [5.5.4.2.1] to LRFD [5.5.4.2]
	51	Bolt designations changed from ASTM A325/A490 to A325/A490 conforming to ASTM F3125.

27	10	Changed LRFD [6.6] reference to LRFD [Table 6.6.1.2.5-3] for clarity
	17	Changed LRFD [5.7.5] reference to LRFD [5.6.5] to match 8th Edition
	17	Changed LRFD [6] reference to LRFD [Section 6] for clarity
27E -1	2	Updated sentence to state that Example is current through AASHTO LRFD 8th Edition - 2017

28	6,7	Indicating that compression seals should be turned up into parapets
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30	8	Clarified Parapet 'A' use for design speeds greater than 45 mph
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36	6	Updated reference from LRFD [5.7.1] to LRFD [5.6.1]
	10	Updated reference from LRFD [5.7.3.2.3] to LRFD [5.6.3.2.3]
	10	Updated reference from LRFD [5.7.3.2.1] to LRFD [5.6.3.2.1]
	10, 29	Updated reference from LRFD [12.11.4.2] to LRFD [12.11.5.2]
	10	Updated reference from LRFD [5.14.5.3] to LRFD [5.12.7.3]
	10	Updated reference from LRFD [C5.13.3.6.1] to LRFD [C5.12.8.6.1]

	11	Updated reference from LRFD [5.8.2.1] to LRFD [5.7.2.1]
	11, 12	Updated reference from LRFD [5.14.5.3] to LRFD [5.12.7.3]
	11, 12	Updated reference from LRFD [5.8.3.3] to LRFD [5.7.3.3]
	11	Updated reference from LRFD [5.8.3.4.1] to LRFD [5.7.3.4.1]
	11	Updated reference from LRFD [5.8.2.9] to LRFD [5.7.2.8]
	12	Updated reference from LRFD [5.8] to LRFD [5.7]
	12	Updated reference from LRFD [5.13.3.6] to LRFD [5.12.8.6]
	12	Updated reference from LRFD [12.11.3] to LRFD [12.11.4]
	12, 13	Updated reference from LRFD [5.7.3.4] to LRFD [5.6.7]
	13	Updated reference from LRFD [12.11.4.3] to LRFD [12.11.5.3]
	13	Updated reference from LRFD [5.7.3.3.2] to LRFD [5.6.3.3]
	27	Updated reference from LRFD [5.11.1.2.1] to LRFD [5.10.8.1.2a]
	27	Updated reference from LRFD [5.11.2] to LRFD [5.10.8.2]
	27	Updated reference from LRFD [5.11.1.2.2] to LRFD [5.10.8.1.2b]
	27	Updated reference from LRFD [5.11.1.2.3] to LRFD [5.10.8.1.2c]
	31	Updated reference from LRFD [5.14.4.1] to LRFD [5.12.2.1]
	32	Updated reference from LRFD [12.11.4.3.1] to LRFD [12.11.5.3.1]
	32	Updated reference from LRFD [5.10.8] to LRFD [5.10.6]
	44	Updated box culvert size to match Section 2.5 guidance

38	3,4	Added Volume # to AREMA Chapter being referenced
	5	Added Name of Document next to acronym being referenced
	17,19	Updated Table # being referenced to match the (2016) - AREMA Manual

40	11-27	Complete re-write of Section 40.5 - Deck Overlays
	28	Added language to not remove full-depth diaphragms during deck replacements
	33	Revised guidance for re-use of existing substructure foundations for bridge superstructure replacements.
	47-57	Updated Figure references
	54	Updated factored sustained tensile resistance equation

45E -2	3	Corrected modulus of elasticity for at time of release. Other pages have corrections based on this value changing.
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July 2018 Standard Details Update Summary

Chapter 4

- Std 4.01 ■ No revisions.
- Std 4.02 ■ No revisions.
- Std 4.03 ■ No revisions.
- Std 4.04 ■ No revisions.
- Std 4.05 ■ No revisions.

Chapter 7

- Std 7.01 ■ Corrected note with "Geotextile"
- Std 7.02 ■ Corrected note with "Geotextile Type HR"
- Std 7.03 ■ No revisions.
- Std 7.04 ■ No revisions.
- Std 7.05 ■ No revisions.
- Std 7.06 ■ No revisions.
- Std 7.07 ■ No revisions.

Chapter 9

- Std 9.01 ■ No revisions.
- Std 9.02 ■ Corrected backfill type from "Type B" to "Type A" in Retaining Wall Notes
- Std 9.03 ■ No revisions.

Chapter 11

- Std 11.01 ■ Added "End Plate Detail For CIP Piling" for non-artesian conditions
- Removed reference to maximum axial resistance table values

Chapter 12

- Std 12.01 ■ Added Designer Note referencing Stds. 12.10 thru 12.13 for structural approach details.
- Revised filler thickness from 3/4" to 1/2" along abutments and under girders
- Std 12.02 ■ No revisions.
- Std 12.03 ■ No revisions.
- Std 12.04 ■ No revisions.
- Std 12.05 ■ No revisions.
- Std 12.06 ■ No revisions.
- Std 12.07 ■ No revisions.
- Std 12.08 ■ Revised filler thickness from 3/4" to 1/2" along abutments and under girders
- Std 12.09 ■ No revisions.
- Std 12.10 ■ Removed note for base agg. dense requirements
- Added note referencing Std. 9.01 for backfill and base agg. requirements
- Removed FDM SDD reference
- Std 12.11 ■ No revisions.
- Std 12.12 ■ No revisions.
- Std 12.13 ■ Added plan detail for slab spans structures with a structural approach slab

Chapter 13

- Std 13.01 ■ No revisions.
- Std 13.02 ■ No revisions.
- Std 13.03 ■ No revisions.
- Std 13.04 ■ No revisions.
- Std 13.05 ■ No revisions.

- Std 13.06 ■ No revisions.
- Std 13.07 ■ No revisions.
- Std 13.08 ■ No revisions.
- Std 13.10 ■ No revisions.
- Std 13.11 ■ No revisions.

Chapter 14

- Std 14.02 ■ No revisions.
- Std 14.03 ■ No revisions.
- Std 14.04 ■ No revisions.
- Std 14.05 ■ No revisions.
- Std 14.11 ■ Removed "LRFD/QMP" from MSE wall bid item
- Std 14.12 ■ Removed "LRFD/QMP" from MSE wall bid item
- Std 14.13 ■ Removed "LRFD/QMP" from MSE wall bid item
 - Corrected note with "Geotextile Type DF Schedule B"

Chapter 15

- Std 15.01 ■ Corrected notes with "Geotextile Type HR"
- Std 15.02 ■ Updated Notes and serveral minor changes
- Std 15.03 ■ Updated Notes and serveral minor changes

Chapter 17

- Std 17.01 ■ No revisions.
- Std 17.02 ■ No revisions.
- Std 17.03 ■ Updated bid item to "Flashing Stainless Steel"

Chapter 18

- Std 18.01 ■ No revisions.
- Std 18.02 ■ No revisions.

Chapter 19

- Std 19.01 ■ Revised note for welded wire fabric equivalent
- Std 19.02 ■ No revisions.
- Std 19.03 ■ Revised note for welded wire fabric equivalent
- Std 19.04 ■ No revisions.
- Std 19.11 ■ Revised note for welded wire fabric equivalent
 - 0.6" dia. strands noted, rather than blank (always 0.6" for 36W")
- Std 19.12 ■ No revisions.
- Std 19.13 ■ Revised note for welded wire fabric equivalent
 - 0.6" dia. strands noted, rather than blank (always 0.6" for 45W")
- Std 19.14 ■ No revisions.
- Std 19.15 ■ Revised note for welded wire fabric equivalent
 - 0.6" dia. strands noted, rather than blank (always 0.6" for 54W")
- Std 19.16 ■ No revisions.
- Std 19.17 ■ Revised note for welded wire fabric equivalent
 - (views rearranged to accommodate longer note)
 - 0.6" dia. strands noted, rather than blank (always 0.6" for 72W")
- Std 19.18 ■ No revisions.
- Std 19.19 ■ Revised note for welded wire fabric equivalent
 - (views rearranged to accommodate longer note)
 - 0.6" dia. strands noted, rather than blank (always 0.6" for 82W")
- Std 19.20 ■ No revisions.
- Std 19.31 ■ Revised filler thickness from 3/4" to 1/2" along abutments and under girders

- Std 19.32 ■ No revisions.
- Std 19.33 ■ Revised filler thickness from 3/4" to 1/2" along abutments and under girders
- Std 19.34 ■ Revised filler thickness from 3/4" to 1/2" along abutments and under girders
- Std 19.35 ■ Revised filler thickness from 3/4" to 1/2" along abutments and under girders
- Std 19.36 ■ Added details and dimensions to "Section Thru Diaphragm".
- Std 19.37 ■ No revisions.
- Std 19.38 ■ No revisions.
- Std 19.50 ■ Added Pre-Tension information
- Std 19.51 ■ No revisions.
- Std 19.52 ■ No revisions.
- Std 19.53 ■ Added "Total Initial Prestress Force (Kips)" column to Girder Data Table
- Std 19.54 ■ No revisions.
- Std 19.55 ■ No revisions.
- Std 19.56 ■ No revisions.

Chapter 23

- Std 23.01 ■ No revisions.
- Std 23.02 ■ No revisions.
- Std 23.03 ■ No revisions.

Chapter 24

- Std 24.02 ■ No revisions.
- Std 24.03 ■ No revisions.
- Std 24.04 ■ No revisions.
- Std 24.06 ■ No revisions.
- Std 24.08 ■ No revisions.
- Std 24.09 ■ No revisions.
- Std 24.10 ■ No revisions.
- Std 24.11 ■ No revisions.
- Std 24.12 ■ No revisions.

Chapter 27

- Std 27.02 ■ No revisions.
- Std 27.05 ■ Revised filler thickness from 3/4" to 1/2" along abutments and under girders
- Std 27.06 ■ No revisions.
- Std 27.07 ■ Added 2" dimension for locating studs in the Plan View
- Std 27.08 ■ No revisions.
- Std 27.09 ■ Minor - corrected spelling in Notes (Ensure)
- Std 27.10 ■ No revisions.

Chapter 28

- Std 28.01 ■ No revisions.
- Std 28.02 ■ No revisions.
- Std 28.03 ■ Minor - Graphically increased bar size in "Joint @ Abut. (Steel Girders)" detail.
- Std 28.04 ■ No revisions.
- Std 28.05 ■ Moved keyed note "15" arrow to touch adiprene buttons in Section E-E
- Std 28.06 ■ No revisions.
- Std 28.07 ■ No revisions.
- Std 28.08 ■ Moved keyed note "15" arrow to touch adiprene buttons in Section E-E

Chapter 29

- Std 29.01 ■ No revisions.

- Std 29.02 ■ Minor - corrected spelling in Notes (be made)
- Std 29.03 ■ No revisions.

Chapter 30

- Std 30.02 ■ No revisions.
- Std 30.04 ■ Added 4" and 1 1/2" dimensions for end post spacing in Elevation
- Std 30.05 ■ Added 4" and 1 1/2" dimensions for end post spacing in Elevation
- Std 30.07 ■ No revisions.
- Std 30.08 ■ No revisions.
- Std 30.09 ■ No revisions.
- Std 30.10 ■ No revisions.
- Std 30.11 ■ Updated sidewalk edge radius from 1" to 2" to match Std. 17.01
- Updated bid item description to "Fence Chain Link _-FT."
- Std 30.12 ■ No revisions.
- Std 30.13 ■ No revisions.
- Std 30.14 ■ No revisions.
- Std 30.15 ■ No revisions.
- Std 30.16 ■ No revisions.
- Std 30.17 ■ No revisions.
- Std 30.18 ■ No revisions.
- Std 30.19 ■ Updated conduit and light standard details
- Std 30.20 ■ No revisions.
- Std 30.21 ■ Added (2)-#5 vertical parapet bars behind junction box without a light standard
- Std 30.24 ■ No revisions.
- Std 30.25 ■ No revisions.
- Std 30.26 ■ No revisions.
- Std 30.27 ■ No revisions.
- Std 30.28 ■ No revisions.
- Std 30.29 ■ No revisions.
- Std 30.30 ■ No revisions.
- Std 30.31 ■ No revisions.
- Std 30.32 ■ Corrected "R508 (OR S5__)" in Outside Elevation
- Std 30.33 ■ No revisions.
- Std 30.34 ■ No revisions.
- Std 30.35 ■ No revisions.
- Std 30.36 ■ No revisions.
- Std 30.37 ■ No revisions.

Chapter 36

- Std 36.01 ■ Updated wing numbering for culvert wings
- Corrected note with "Geotextile Type C"
- Std 36.02 ■ No revisions.
- Std 36.03 ■ No revisions.
- Std 36.04 ■ No revisions.
- Std 36.05 ■ Corrected note with "Geotextile Type DF Schedule A"
- Std 36.06 ■ No revisions.
- Std 36.07 ■ No revisions.
- Std 36.08 ■ No revisions.
- Std 36.10 ■ No revisions.
- Std 36.11 ■ Corrected note with "Geotextile Type DF Schedule A"
- Std 36.12 ■ Corrected note with "Geotextile Type DF Schedule A"
- Std 36.13 ■ No revisions.

- Std 36.14 ■ No revisions.
- Std 36.15 ■ No revisions.
- Std 36.16 ■ No revisions.

Chapter 37

- Std 37.01 ■ No revisions.
- Std 37.02 ■ No revisions.

Chapter 38

- Std 38.01 ■ No revisions.

Chapter 39

- Std 39.02 ■ Updated alternate material substitution note.
- Std 39.03 ■ No revisions.
- Std 39.09 ■ No revisions.
- Std 39.10 ■ Updated alternate material substitution note.
- Std 39.11 ■ No revisions.
- Std 39.12 ■ No revisions.
- Std 39.13 ■ Added weld symbol around handhole pipe in Section O-O

Chapter 40

- Std 40.01 ■ No revisions.
- Std 40.02 ■ No revisions.
- Std 40.03 ■ No revisions.
- Std 40.04 ■ No revisions.
- Std 40.05 ■ No revisions.
- Std 40.06 ■ No revisions.
- Std 40.07 ■ No revisions.
- Std 40.08 ■ No revisions.
- Std 40.09 ■ No revisions.
- Std 40.10 ■ No revisions.
- Std 40.11 ■ No revisions.
- Std 40.12 ■ No revisions.
- Std 40.13 ■ No revisions.
- Std 40.14 ■ No revisions.
- Std 40.15 ■ No revisions.
- Std 40.16 ■ No revisions.
- Std 40.17 ■ No revisions.
- Std 40.18 ■ No revisions.
- Std 40.19 ■ No revisions.
- Std 40.20 ■ No revisions.
- Std 40.21 ■ No revisions.
- Std 40.22 ■ No revisions.
- Std 40.23 ■ Clarified vertical position of wing strapping channel
- Std 40.24 ■ No revisions.
- Std 40.25 ■ No revisions.
- Std 40.26 ■ No revisions.
- Std 40.31 ■ Added bid item "Cleaning Decks to Reapply Concrete Masonry Overlay"
 - Added Note for sealing overlay construction joints
 - Added Note for overlay quantities
- Std 40.32 ■ Updated Rapid Set Deck Repair bid item unit to "CY"
 - Re-ordered bid items

- Std 40.33 ■ No revisions.
- New** Std 40.34 ■ Polyester Polymer Concrete Overlay
- Std 40.40 ■ No revisions.
- Std 40.41 ■ No revisions.