



Oregon

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FILE CODE:

April 18, 2007

To: Users of Oregon DOT Bridge Design and Drafting Manual

Subject: New changes and additions to the ODOT Bridge Design and Drafting Manual

ODOT Bridge Section has added updates and additions to our Bridge Design and Drafting Manual (BDDM). These changes will be effective on April 18th, 2007. The new updated version can be accessed at the following web site:

<http://www.odot.state.or.us/tsbbridgepub/BrStds.htm>.

The Manual and changes can be viewed from the site, or downloaded and printed. The updates and additions consist of 38 files covering changes listed in the BDDM Update Summary April 2007.

The changes will apply to new projects. It is expected that existing projects may make use of the new changes, if agreed with the CPM or Project Team Leader.

We are very interested in comments and suggestions on these proposals from those who use the manual. Please provide comments and questions about the changes to Kevin Davidson at (503) 986-3342, Kevin.F.Davidson@odot.state.or.us or Bruce Johnson at (503) 986-3344.

Bruce V. Johnson
State Bridge Engineer

Attachment: BDDM Update Summary April 2007

BVJ/jdj

BDDM Update Summary April 2007

1.1.1 Standard Specifications and Standard Drawings Manual – revise to use LRFD 4th Edition Bridge Design Specifications. Also delete sentence beginning "For design of bridge foundations: "
".

1.1.1.1 Purpose of the Bridge Design and Drafting Manual –

Design Deviation – process explanation added.

Technical Bulletin – explanation added.

1.1.1.3 Bridge Security Design Considerations – new section

1.1.2.2(1) Bridge Length – add Wildlife passage as an item that may affect bridge length.

1.1.2.3 Structure Layout: Spans and Proportions –

(2) Structure Depth – for steel superstructures, in LRFD table 2.5.2.6.3-1, use minimum depths for estimating purposes.

(3) Girder Spacing – change "beam" to "girder", add "for concrete girders"

1.1.2.4 Structure Types and Economics –

(1) General – revise wording on economic ranking of structure and substructure types

(5) Design Criteria for Major or unusual bridges – new section

(6) Maintenance and Provisions for Inspection of Bridges – new section

1.1.2.9 Other Things To Keep In Mind –

(7) Use of Salvage Materials – new section (moved from 1.1.2.4 (1)).

1.1.2.10 Special Considerations for Federal-Aid Projects –

(1) Alternate Designs and Unusual Structures – General re-write.

(5) Use of Debris From Demolished Bridges or Overpasses – new section.

1.1.4 Foundation Modeling (Foundation Springs) – Third sentence from end, beginning with "Nominal...", delete "(Ultimate)".

1.1.4.2 General Procedures and Typical Values –

- Second paragraph, delete "(ultimate)".

- (3) Pile Supported Footings – First paragraph, last sentence: delete "(ultimate capacities)".

- Translational Capacities – First paragraph, second sentence: delete "(ultimate)".

1.1.5 Foundation Design – Major rewrite, remove Allowable Stress design references.

1.1.5.3 Spread Footing Foundation Design –

- (2) Nominal and Factored Bearing Resistance – delete "(ultimate)".

- (4) Global Stability – changed to **Overall** Stability. Change extreme event factor of safety from 1.1 to 1.0 .

1.1.5.4 Pile Foundations –

- General – revise throughout for LRFD specifications (delete pile table for allowable stress design, etc.).

- Piling Considerations (1) Pile Resistance – first sentence, delete “(ultimate)”.

- (9) Pile Foundation Design Recommendations – Delete paragraph “d) Seismic Foundation Design Recommendations”.

1.1.5.5 Drilled Shafts –

Drilled Shaft Considerations (8) Shaft Foundation Design Recommendations – Delete bullet paragraph “Seismic Foundation Design Recommendations”.

1.1.5.6 Add new section “Seismic Foundation Recommendations”

1.1.7.2 Live Loads – Update Permit Load designations (text, diagrams, charts)

1.1.7.6 Shear Correction Factor for Skewed Girders – new section

1.1.8.4 End Bents, Integral Abutments – various revisions. New Fig’s 1.1.8.4A & B

1.1.13.1 (14) Remove “Z” for cracking control to agree with LRFD 5.7.3.4, clarify.

1.1.13.4 Additional Shear Reinforcement – (in cross beams) clarified. Fig. 1.1.13.4A revised.

1.1.13.6 Additional Shear Reinforcement in Longitudinal Girders – Section Deleted

1.1.19.1 Elastomeric Bearing Pads – revise pad movement equations for LRFD

1.1.20.1 Decks, Design and Detailing –

- Add cross-reference to deck requirements in 1.1.14.1 Design of Precast Prestressed Elements.

- Vibrations – Add new section (regarding concrete placement)

1.1.20.2 Deck Expansion Joint Seals – various revisions for LRFD

1.1.21.4 Temporary Barriers – Fig. 1.1.21.4A and text revised for more anchor bolts.

1.1.25.3 Deck and End Panel Reinforcement Protection – Table 1.1.25.3A footnote “** Mild Areas...”: change 3 miles to 1 mile.

1.2.1.3 Intermediate Cross Frames – replace Fig. 1.2.1.3B (correct TC-P5 weld callout in A-A). Replace Fig. 1.2.1.3C (correct tension flange weld on Intermediate Exterior girder).

1.2.1.5 Bearing Stiffeners – add notes and Fig. 1.2.1.5B for skewed, welded attachments.

1.4.7 Utilities on Structures – Merge “Installation of Utilities on Bridges” document into this BDDM section.

1.4.8.1 Roadway Clearances – Rev. Fig. 1.4.8.1B: add 17'-6" vert. for Interstates, correct width.

1.4.9 Bridge Temporary Works – various revisions and clarifications.

A1.1.8.7 – Revise Fig. A1.1.8.7B to English units.

Section 2 – new Preface added

2.1.3.1 What Bridge Headquarters Needs At Completion of a Design Project – add bullet item for CAD Files in Microstation Format

2.1.3.4 File Naming Conventions – updated

2.1.7 Color Table – updated

2.2.2 Line Work and Levels – added discussion

2.4.1 Request for Drawing Numbers – Instructions for requesting drawing numbers without BDS access.

A2.7.3 General Notes – remove references to Allowable Stress design for foundation elements. Update permit trucks to match section 1.1.7.2 .