

LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals



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FOREWORD

The first edition of the *LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals* incorporates recent work performed under the National Cooperative Highway Research Program (NCHRP), specifically NCHRP 10-80, and other research efforts including state-sponsored activities. These Specifications address:

- Division I on design,
- Division II on fabrication, construction, and
- Division III on inspection, and asset management.

Where possible, these specifications incorporate other AASHTO documents, specifically, the AASHTO *LRFD Bridge Design Specifications*, AASHTO *LRFD Bridge Construction Specifications*, AASHTO *Manual for Bridge Evaluation*, and AASHTO *Standard Specifications for Transportation Materials and Methods of Sampling and Testing*.

The design specifications are founded upon the Sixth Edition of *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals* which incorporate a wealth of research, engineering practice, and long history of satisfactory performance for the vast majority of structures. Based upon NCHRP Report 796 (2014), LRFD calibration, and current research for both loads and resistances are incorporated. Resistances include several specifications associated with improved detailing for fatigue performance. Additionally, new sections on Fabrication, Construction, Inspection, and Asset Management are based upon best practices. These areas are evolving as agencies gain more experience with inspection and management of their ancillary structure inventories.

The design specifications provided in Division I are based on the LRFD methodology and are intended to address the usual structural supports. Requirements more stringent than those in the Specifications may be appropriate for atypical structural supports. The commentary is intended to provide background on some of the considerations contained in the Specifications; however, it does not provide a complete historical background or detailed discussions of the associated research studies. The Specifications and accompanying commentary do not replace sound engineering knowledge and judgment in design, fabrication, construction, inspection, or asset management.

AASHTO Highways Subcommittee on Bridges and Structures

PREFACE

The first edition of *LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals* supersedes the sixth edition of the *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals*. It includes changes approved by the Highways Subcommittee on Bridges and Structures in 2014.

An abbreviated table of contents follows this preface. Detailed tables of contents precede each Section and each Appendix.

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2017 INTERIM REVISIONS INSTRUCTIONS AND INFORMATION

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AASHTO has issued interim revisions to the *LRFD Structural Supports for Highway Signs, Luminaires, and Traffic Signals*, First Edition (2015). This packet contains the revised pages. They are designed to replace the corresponding pages in the book.

Affected Articles

Underlined text indicates revisions that were approved in 2016 by the AASHTO Highways Subcommittee on Bridges and Structures. ~~Strikethrough text~~ indicates any deletions that were likewise approved by the Subcommittee. A list of affected articles is included below.

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2017 Changed Articles

SECTION 3: LOADS

3.8.7

C3.8.7

SECTION 5: STEEL DESIGN

5.3

5.12.1

C5.12.1

SECTION 10: SERVICEABILITY REQUIREMENTS

10.4.2.1

C10.4.2.1

SECTION 11: FATIGUE DESIGN

11.5.1

11.7.2

C11.9.3

C11.9.3.1

SECTION 12: BREAKAWAY SUPPORTS

12.1

C12.1

APPENDIX B: DESIGN AIDS

B.2

2018 INTERIM REVISIONS INSTRUCTIONS AND INFORMATION

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2018 Changed Articles

SECTION 3: LOADS

3.4

C3.8.4

C3.8.5

SECTION 4: ANALYSIS AND DESIGN—GENERAL CONSIDERATIONS

4.8.1

C4.8.1

SECTION 5: STEEL DESIGN

5.6.7

C5.6.7

5.8.3.1.2

5.8.7.2

5.11.2.1.2

5.11.3.1.2

5.16.3.1

5.17

SECTION 10: SERVICEABILITY REQUIREMENTS

10.4.2.1

APPENDIX B: DESIGN AIDS

B.2

B.3

2019 INTERIM REVISIONS INSTRUCTIONS AND INFORMATION

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2019 Changed Articles

SECTION 5: STEEL DESIGN

5.6.6.1

5.6.7

SECTION 11: FATIGUE DESIGN

11.9.2