

# ERRATA for *Nebraska Department of Transportation* *Roadway Design Manual*

## Appendix H: Application of Design Standards

June 2016

① February 2017

② July/August 2017

③ February 2018

④ June 2018

⑤ August 2018

⑥ December 2018

The last update to the Roadway Design Manual (RDM) was in 2006. In the intervening years some design guidance has become obsolete, new/updated guidance has become available, offices of responsibility have changed, design procedures have been streamlined, etc. The NDOT is in the process of updating the *RDM* but, in the interim, the obsolete/incorrect guidance is being addressed through this document and a re-issued *RDM*. Page numbers cited in this document are referenced to the December 2018 Errata RDM. Deleted text in the December 2018 Errata RDM is in green with a strike through (~~errata~~) and new/corrected text is in red (**correct**). The following chapters have already been addressed:

- ⑥ Contents (updated in December 2018)
- ⑥ List of Exhibits (updated in December 2018)
- Chapter Three: Roadway Alignment (updated on June 17, 2011)
- Chapter Four: Intersections, Driveways and Channelization (updated on April 19, 2012)
- Chapter Six: The Typical Roadway Cross-Section (updated on February 18, 2016)
- ⑤ Chapter Seven: Earthwork (updated on August 2, 2018)
- Chapter Eight: Surfacing (updated on December 15, 2015)
- ⑥ Chapter Nine: Guardrail and Roadside Barriers (updated on December 13, 2018)
- ① Chapter Eleven: Highway Plans Assembly (updated on February 21, 2017)
- ② Chapter Twelve: Cost Estimating & Funding (updated on August 16, 2017)
- ① Chapter Fourteen: Traffic (updated on October 19, 2016)
- ③ Chapter Fifteen: Right-of-Way (updated on February 26, 2018)
- Chapter Sixteen: Pedestrian and Bicycle Facilities (added on February 8, 2016)
- Chapter Seventeen: Resurfacing, Restoration and Rehabilitation (3R) Projects (added on March 26, 2014)
- ⑥ Index (updated in December 2018)

The following items pertain to the entire manual:

- June 2016 and all subsequent changes – Chapter and EXHIBIT citations have been updated to the latest edition of the *RDM*
- ② July 2017 - All references to the **Nebraska Department of Roads (NDOR)** have been changed to the **Nebraska Department of Transportation (NDOT)**
- ⑥ December 2018 – Plan Sheet numbering updated (See Chapter Eleven, EXHIBIT 11.1)

Page	Existing Text	Corrected Text
Appendix H		
① H-1	<b><u>CONTENTS</u></b> – “1. THE THIRTEEN CONTROLLING DESIGN CRITERIA”	“1. THE CONTROLLING DESIGN CRITERIA”
① H-1	<b><u>CONTENTS</u></b> – “2.A <u>Design Exceptions for Federal-Aid Projects</u> ”	“2.A <u>Design Exceptions for Projects of Division Interest</u> ”
① H-1	<b><u>CONTENTS</u></b> – “2.A.2 Design Exception Documentation for Federal-Aid Projects”	“2.A.2 Design Exception Documentation for PoDIs”
① H-1	<b><u>CONTENTS</u></b> – “2.B <u>Design Relaxations of the Nebraska Minimum Design Standards (MDS)</u> ”	“2.B <u>Design Relaxations of the Nebraska Minimum Design Standards</u> ”
① H-2	“THE THIRTEEN CONTROLLING DESIGN CRITERIA”	“THE CONTROLLING DESIGN CRITERIA”
① H-2	<b>THE THIRTEEN CONTROLLING DESIGN CRITERIA</b> – “The FHWA has identified thirteen elements of roadway geometry as being of such importance that when the minimum design standard cannot be attained for a project on the National Highway System (NHS) a design exception will be required.”	“The FHWA has identified ten elements of roadway geometry on all Interstate and freeway projects and for high-speed roadways ( $\geq 50$ mph) and two design elements on low-speed roadways ( $< 50$ mph) as being of such importance that when the minimum design standard cannot be attained for a project on the National Highway System (NHS) a design exception will be required.”
① H-2	<b>Table Heading</b> – “The Thirteen Controlling Design Elements”	“The FHWA Controlling Design Elements for Interstate, Freeway, and High-Speed ( $\geq 50$ mph) Roadways”

Page	Existing Text	Corrected Text
<b>Appendix H</b>		
① H-2	<b>Table – “The Thirteen Controlling Design Elements”</b>	Remove Item 4 “Bridge Width”, Item 7 “Vertical Alignment” and Item 12 “Lateral Offset to Obstruction”. Renumber & rename Item 5 “Horizontal Alignment” as Item 4 “Horizontal Curve Radius”. Renumber Item 6 “Superelevation” as Item 5 “Superelevation Rate”. Renumber & rename Item 8 “Grade” and Item 6 “Maximum Grade”. Renumber Items 9, 10, 11 and 13 as Items 7, 8, 9 and 10.
① H-2		Add Table “ <b>The FHWA Controlling Design Elements for Low-Speed (&lt; 50 mph) Roadways</b> ”
① H-3	“The <b>Nebraska Department of Roads (NDOR)</b> has added a fourteenth controlling design criteria to the <i>MDS</i> .”	“The <b>Nebraska Department of Transportation (NDOT)</b> has added four controlling design criteria to the <i>MDS</i> .”
① H-3	<b>Table</b>	Add Item 11 “Vertical Alignment”, Item 13 “Lateral Offset to Obstruction”, and Item 14 “Bridge Width”. Renumber Item 14 as Item 12.
⑥ H-3	<b>Table Item 13, Lateral Offset to Obstruction –</b> “The distance from the edge of the traveled way to a vertical roadside object; lateral offset to obstruction should not be confused with the roadway clear zone.”	“The distance from the edge of the traveled way to a vertical roadside object; lateral offset to obstruction should not be confused with the roadway clear zone (See Section 1.A).”
④ H-3	“This item is not a <b>FHWA</b> design criterion; inability to meet to minimum standard will not require a design exception from the <b>FHWA</b> but will require a relaxation of the <i>MDS</i> (See Section 2.B).”	“These four additional items are not <b>FHWA</b> design criteria; inability to meet to minimum standard will not require a design exception from the <b>FHWA</b> but will require a relaxation of the <i>MDS</i> (See Section 2.B).”

Page	Existing Text	Corrected Text
<b>Appendix H</b>		
① H-3	<b>New Text below table</b>	“The 14 controlling criteria in the <i>MDS</i> will apply to all roadway classifications and design speeds.”
⑥ H-4		<b>New Section 1.A: <u>Nominal Shoulder Width for Lateral Offset to Obstruction</u></b>
⑥ H-5		<b>New Exhibit H.1 Lateral Offset to Obstruction – New and Reconstructed Projects</b>
⑥ H-6		<b>New Exhibit H.2 Lateral Offset to Obstruction – Resurfacing, Restoration and Rehabilitation (3R) Projects`</b>
① H-7	<b>Section 2: DEPARTURE FROM STANDARDS</b>	
	– “If the minimum design standards cannot be attained, a design exception for projects on the NHS and/or a design relaxation will be require, unless the project is classified as a maintenance resurfacing project.”	“If the minimum design standards cannot be attained, a design exception for Projects of Division Interest (PoDI) and/or a relaxation of the <i>MDS</i> will be required, unless the project is classified as a maintenance resurfacing project.”
① H-7	<b>Section 2.A: <u>Design Exceptions for Federal-Aid Projects</u></b>	<b>Section 2.A: <u>Design Exceptions for Projects of Division Interest</u></b>
① H-7	<b>Section 2.A.1: Oversight Authority for Departure from Standards – “FHWA PROJECT APPROVAL AUTHORITY: The FHWA retains full oversight and approval authority for design exceptions to the AASHTO thirteen controlling design criteria for the following Projects of Division Interest (PoDI):”</b>	<b>“FHWA PROJECT APPROVAL AUTHORITY: The FHWA retains full oversight and approval authority for design exceptions to the controlling design criteria for any project on the NHS which has been designated as a PoDI.”</b>

## Appendix H

① H-7

### Section 2.A.1: Oversight Authority for Departure from Standards

Removed this text

1. NHS projects except as noted below in “**NDOR PROJECT APPROVAL AUTHORITY**”.
2. Non NHS projects as jointly agreed to by the **FHWA** and the **NDOR**.
3. Projects identifies by the **FHWA** as having an elevated level of risk, whether on or off the NHS.
4. Intelligent Transportation System (ITS) projects that are greater than \$1 million in cost and for projects incorporating ITS features when the cost of the ITS features exceeds \$1 million.
5. Modifications associated with Interstate interchanges, as defined by Title 23 of the “Code of Federal Regulations” (*23 CFR*), regardless of funding source (web site).

Additionally, the **FHWA** may retain oversight and approval authority for the departure from standards for a project on the NHS which incorporates unique features or unusual designs. The **FHWA** is also responsible for verifying that federal requirements outside the scope of *23 CFR* are met. For example, right-of-way actions, environmental processing, and disadvantaged business enterprise support require federal oversight.

## Appendix H

① H-7

**Section 2.A.1: Oversight Authority for Departure from Standards – “NDOR PROJECT APPROVAL AUTHORITY:** Under the terms of the NDOR/FHWA Stewardship & Oversight Agreement (web site), the **NDOR** assumes oversight and approval authority for design exceptions to the **AASHTO** Thirteen controlling design criteria for:

1. Projects which are not on the NHS except as noted above in item 2 of “**FHWA PROJECT APPROVAL AUTHORITY**”.
2. 3R and maintenance overlay projects on the Interstate System.
3. New or reconstructed Interstate projects with an estimated total cost of \$1 million or less.
4. Non-Interstate NHS projects, as defined by a National Environmental Policy Act (NEPA) document with an estimated cost of \$15 million or less.
5. NHS projects with an estimated cost of \$5 million or less which are part of a corridor project, as defined by a NEPA document, with a total estimated cost of over \$15 million.
6. Other projects as agreed to jointly by the **FHWA** and the **NDOR**.

**NDOR** approval of a Design Exception shall be transmitted to the appropriate **FHWA Transportation Engineer** for information.”

**“NDOT PROJECT APPROVAL AUTHORITY:**

Under the terms of the NDOR/FHWA Stewardship & Oversight Agreement (web site), the **NDOT** assumes oversight and approval authority for design exceptions to the controlling design criteria for any project which is designated as a PoDI which is not on the NHS.

Page	Existing Text	Updated Text
------	---------------	--------------

**Appendix H**

① H-8

**Section 2.A.2: Design Exception Documentation for Federal-Aid Projects**

**Section 2.A.2: Design Exception Documentation for PoDIs**

① H-8

**Section 2.A.2: Design Exception Documentation for Federal-Aid Projects – “FHWA Full Oversight Projects On the NHS:**  
 For projects that do not meet the guidance found the “AASHTO Minimum Design Guidance” (pg.H-8), the *Green Book*, or the *I-State Green Book* a design exception document will be prepared for formal **FHWA** approval following the **FHWA** design exception format (See Mitigation Strategies for Design Exceptions, (web site)). If the project also does not meet the design standards found in the *MDS*, the designer will request a design relaxation as detailed in Section 2.B *after* obtaining **FHWA** approval. The request for a design relaxation should be in the same format as the request for a **FHWA** design exception.”

**“PoDIs Which Are On the NHS:** For projects that do not meet the guidance found the “AASHTO Minimum Design Guidance” (pg.H-8), the *Green Book*, or the *I-State Green Book* a design exception document will be prepared for formal **FHWA** approval following the **FHWA** design exception format (See Mitigation Strategies for Design Exceptions, (web site)) If the project also does not meet the design standards found in the *MDS*, the designer will request a design relaxation of the *MDS* as detailed in Section 2.B *after* obtaining **FHWA** approval.”

**Appendix H**

① H-8

**Section 2.A.2: Design Exception Documentation for Federal-Aid Projects – “Non-FHWA Full Oversight On the NHS (Regardless Of Funding):** For projects on the NHS that do not meet the guidance found in the “AASHTO Minimum Design Guidance” (pg., H-8), the *Green Book*, or the *I-State Green Book* a design exception document will be prepared following the **FHWA** design exception format (See Mitigation Strategies for Design Exceptions) for both the project file and for approval by the **Deputy Director – Engineering**. This documentation does not need to be submitted to the **FHWA** for formal approval but is subject to periodic review. If the project also does not meet the design standards found in the *MDS*, the designer will request a design relaxation as detailed in Section 2.B. The request for a design relaxation should be in the same format as the request for a **FHWA** design exception.”

**“PoDIs Which Are Not On the NHS:** For projects which are not on the NHS that do not meet the guidance found in the “AASHTO Minimum Design Guidance” (pg., H-8), the *Green Book*, or the *I-State Green Book* a design exception document will be prepared following the **FHWA** design exception format (See Mitigation Strategies for Design Exceptions) for both the project file and for approval by the **Deputy Director – Engineering**. This documentation does not need to be submitted to the **FHWA** for formal approval but will be transmitted to the appropriate **FHWA Transportation Engineer** for review and comment. If the project also does not meet the design standards found in the *MDS*, the designer will request a design relaxation as detailed in Section 2.B.”

① H-8

**Section 2.A.2: Design Exception Documentation for Federal-Aid Projects – “Federal Aid Projects Which Are Not On The NHS:** For projects that do not meet the guidance found in the *MDS*, the designer will request a design relaxation as detailed in Section 2.B.”

Removed this text



Page	Existing Text	Updated Text
<b>Appendix H</b>		
① H-8	<p><b>Section 2.A.2: Design Exception Documentation for Federal-Aid Projects – “Federal Aid Projects Which Meet the Minimum Standards:</b> A document will be placed in the project file stating that “This project meets the AASHTO Green Book for the thirteen controlling criteria.”</p>	<p><b>“PoDIs Which Meet the Minimum Standards:</b> A document will be placed in the project file stating that “This project meets the design controlling criteria.”</p>
① H-9	<p><b>Section 2.C: <u>Procedure for When Desirable Conditions Cannot be Attained</u> –</b> “This document should be reviewed and signed by the affected Divisions (e.g. <b>Planning and Project Development, Traffic Engineering</b>) and by the appropriate level of supervision (such as the <b>Unit Head</b> or the <b>Assistant Design Engineer</b>) and placed in the project file.”</p>	<p>“This document should be reviewed and signed by the affected Divisions (e.g. <b>Project Development, Traffic Engineering</b>) and by the appropriate level of supervision (such as the <b>Unit Head</b> or the <b>Assistant Design Engineer</b>) and placed in the project file.”</p>
① H-10	<p><b>Section 3.B: <u>Instructions</u> –</b> “Prior to filling out DR-Form 76, the designer must determine whether the project is on the NHS. The designer may view maps showing the NHS routes in Nebraska on the internet at the web site (web site). Projects on the NHS will require a design exception from the <b>FHWA</b> or approval by the <b>Deputy Director– Engineering</b> (See Section 2.A.2) if the AASHTO minimum design guidance cannot be attained.”</p>	<p>“Prior to filling out DR-Form 76, the designer must determine whether the project is a PoDI and if it is on the NHS. The designer may view maps showing the NHS routes in Nebraska at (web site). PoDIs will require a design exception from the <b>FHWA</b> or approval by the <b>Deputy Director – Engineering</b> (See Section 2.A.2) if the AASHTO minimum design guidance cannot be attained.”</p>

Page	Existing Text	Updated Text
<b>Appendix H</b>		
① H-10	<b>Section 3.B: <u>Instructions</u></b> – “Form DR-76 will be completed using the same format for all Federal-aid projects, NHS projects, and PoDIs regardless of the level of approval authority (the designer should check Clarity <sup>®</sup> to determine if the project is a PoDI).”	“Form DR-76 will be completed using the same format for all projects regardless of the level of approval authority.”
① H-10	<b>Section 3.B: <u>Instructions</u></b> – “The designer, in consultation with the <b>Unit Head</b> , will determine the values to be used on a project for each of the Thirteen controlling design criteria.”	“The designer, in consultation with the <b>Unit Head</b> , will determine the values to be used on a project for each of the controlling design criteria.”
① H-11	<b>Section 3.B: <u>Instructions</u></b> – “ <b>Projects on the NHS:</b> The designer should use the design values from the <i>MDS</i> as the minimum condition.”	“ <b>PoDIs on the NHS:</b> The designer should use the design values from the <i>MDS</i> as the minimum condition.”
① H-11	<b>Section 3.B: <u>Instructions</u></b> – “ <b>Projects not on the NHS and State Highway Projects:</b> “The designer will use the design guidance from the <i>MDS</i> as the minimum condition. If the minimum design values cannot be attained, the designer will need to request a relaxation of the <i>MDS</i> . A copy of the approval of a design relaxation for Federal-aid projects, non-NHS projects, and PoDIs will be transmitted to the appropriate <b>FHWA Transportation Engineer</b> for information.”	“ <b>PoDIs not on the NHS and State Highway Projects:</b> “The designer will use the design guidance from the <i>MDS</i> as the minimum condition. If the minimum design values cannot be attained, the designer will need to request a relaxation of the <i>MDS</i> . A copy of the approval of a design relaxation for non-NHS PoDIs will be transmitted to the appropriate <b>FHWA Transportation Engineer</b> for review and comment.”