

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

**Chapter Eight: Surfacing**

© October 2023

The last update to the Roadway Design Manual (*RDM*) was in May 2022. In the intervening time 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 continually 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 January 2023 Errata RDM. Deleted text in the Errata RDM (<http://dot.nebraska.gov/business-center/design-consultant/rd-manuals/>) is in green with a strike through (~~errata~~) and new/corrected text is in red (correct). Additions to previously added text is in blue (added).

## **THE FOLLOWING ITEMS PERTAIN TO THE ENTIRE MANUAL:**

January 2023 and all subsequent changes – Sections and **EXHIBITS** have been re-numbered as required by the errata. Chapter and **EXHIBIT** citations, Clarity task numbers, references, and internet links are updated to the latest edition of the *RDM* as are the Contents, List of Exhibits, and the Index

### **① January 2023**

- Design Process Outline (*DPO*) task order/ terminology updated to the July 2022 edition.
- The **Location Studies Section** in the **Planning and Project Development Division (PDD)** is now the **Project Scoping Section**
- The **PDD Environmental Documents Unit (EDU)** is now the **Environmental Project Management Unit (EPMU)**
- The **PDD Noise and Air Section** is now **Noise, Air & Hazmat** in the **PDD Roadside Development and Compliance Unit (RDC)**
- The **PDD RDC Manager** is now the **RDC Supervisor**
- The **PDD Highway Environmental Biologist** is now the **404/ Wetlands Biologist** of the **Technical Resources Unit (TRU)** in **PDD**

### **② October 2023**

- **Intelligent Transportation Systems (ITS)** transferred from the **Operations Division to Roadway Design** and combined with the **Lighting Unit (02-27-2023)**
- “Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way (with 2013 Supplement)” replaced by “Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way” (August 2023)

Page	Existing Text	Corrected Text
------	---------------	----------------

**Chapter Eight**

**② ERRATA OCTOBER 2023**

② 8-3	<p><b>Section 2.A.2: Pavement Joints –</b></p> <p>1. Contraction joints are located in the pavement to relieve stresses caused by shrinkage, thermal contraction, and moisture or thermal gradients. Joint spacing generally divides the pavement into sections of approximately the same length and width (the length to width ratio will not exceed 1.5). Longitudinal contraction joints are normally located between traffic lanes. Transverse contraction joints are perpendicular to the centerline and will include load transfer devices across the joint.</p>	<p>1. Contraction joints are located in the pavement to relieve stresses caused by shrinkage, thermal contraction, and moisture or thermal gradients. Joint spacing generally divides the pavement into sections of approximately the same length and width (the length to width ratio will not exceed 1.5). Longitudinal contraction joints are normally located between traffic lanes (see Section 2.A.2.a of this chapter). Transverse contraction joints are perpendicular to the centerline and will include load transfer devices across the joint.</p>
② 8-4		<p>Added <b>Section 2.A.2.a: Policy for Longitudinal Joints</b></p>
② 8-5	<p><b>Section 3: PAVEMENT SUBDRAINS</b></p>	<p>New final sentence – For additional information, see the “Information” section of the <i>Standard Plans</i> (Ref. 8.1), plans 430 and 431.</p>
② 8-9	<p><b>Section 5.A: <u>Types of Rehabilitation</u></b></p>	<p>Removed this Section, duplication of information – See Chapter One: <u>Roadway Design Standards</u>, Sections 6.B &amp; 6.C, and Chapter Seventeen: <u>Resurfacing, Restoration and Rehabilitation (3R) Projects</u>, Section 1, of this manual.</p>

Page	Existing Text	Corrected Text
<b>Chapter Eight</b>		
② 8-11	<p><b>Section 5.E: <u>Pavement Dropoffs During Construction</u> –</b>  It is the responsibility of the roadway designer to inform <b>Traffic Engineering</b> of projects being build under traffic where grading operations are adjacent to the existing roadway. The <i>Standard Plans</i> (Ref. 8.1) covers the signing of dropoffs created during surfacing operations.</p>	<p>It is the responsibility of the roadway designer to inform <b>Traffic Engineering</b> of projects being build under traffic where grading operations are adjacent to the existing roadway.</p>
② 8-14	<p><b>Section 7: RUMBLE STRIPS AND RUMBLE STRIPES</b></p>	<p>New first paragraph – Reducing the occurrence of vehicles deviating from their assigned lane by either leaving the roadway or encroaching on or crossing into opposing lanes is one of the critical emphasis areas for the <u>Nebraska Strategic Highway Safety Plan</u> (web site). Installation of rumble strips and rumble stripes is a cost-effective measure, recognized by federal and state transportation agencies, for alerting errant drivers of lane departure and providing the driver with an opportunity to correct back into their lane, potentially mitigating lane departure crashes.</p>
② 8-14	<p><b>Section 7: RUMBLE STRIPS AND RUMBLE STRIPES</b></p>	<p>New fourth paragraph – Rumble strips will not be placed on bridge decks or bridge approach slabs.</p>

Page	Existing Text	Corrected Text
<b>Chapter Eight</b>		
② 8-14	<b>Section 7: RUMBLE STRIPS AND RUMBLE STRIPES</b>	New sixth paragraph – Each shoulder receiving rumble strips shall be measured separately, in stations of 100 feet. Centerline rumble strips shall be measured in stations of 100 ft. Stations are measured horizontally along the project centerline between the project beginning and ending points. Deductions will be made by the <b>District</b> for all areas where rumble strips are not required, the roadway designer is not responsible for the deductions.
② 8-14	<b>Section 7: RUMBLE STRIPS AND RUMBLE STRIPES</b> , Seventh paragraph – The appropriate pay items are “Rumble Strip, Asphalt” and “Rumble Strip, Concrete”.	Rumble strips are paid for by the Station (Sta). The appropriate pay items are “Rumble Strips, Asphalt”, “Rumble Strips, Concrete”, and/or “Centerline Rumble Strips”.

Page	Existing Text	Corrected Text
------	---------------	----------------

**Chapter Eight**

② 8-16

**Section 7.B: Edgeline Rumble Stripes**

New first paragraph – **NDOT** has determined through demonstration projects, national studies, and Nebraska crash history analysis that the installation of edgeline rumble stripes is an effective countermeasure for roadway departure crashes on two-lane two-way roadways. **NDOT** also recognizes that installing edgeline rumble stripes utilizes transportation funds that could be available for other transportation needs on the state highway system. A systematic or systemic approach to the implementation of safety mitigation strategies is important regardless of the mitigation strategy to be used. Due to the random occurrence of roadway departure crashes, it is important to recognize that any roadway departure crash could be a fatality based upon the random presence of another vehicle, the roadside configuration, and the health of the individuals involved in the crash. Consequently, this policy for implementation is based upon the total number of roadway departure crashes.

Page	Existing Text	Corrected Text
------	---------------	----------------

**Chapter Eight**

② 8-16

**Section 7.B: Edgeline Rumble Stripes,**

Second and third paragraphs –  
 After reviewing the crash data and research literature, **NDOT** has determined the following to be guiding principles for the installation of rumble stripes on the state highway system.

- Roadway type – Rural two-lane undivided with two-way traffic
- Lane width – 12 feet with two-feet integral shoulders for a 28-foot minimum total top width; Edge Line Rumble Stripes may be installed on shoulders up to 6-feet in width when recommended by **Traffic Engineering**
- Pavement section with a recommended minimum overlay thickness of two inches of pavement and the surface in good condition
- ADT in excess of 500 VPD
- Posted speed limit of 50 mph or greater

Edge line rumble stripes may be placed at the direction of the **Traffic Engineer** or designee to address other traffic operations issues beyond those presented here. An example would be when a documented history of run-off road crashes is observed on an existing highway curve. Crash history reviews by **Traffic Engineering** will be performed at minimum evaluation length of three years.

After reviewing the crash data and research literature, **NDOT** has determined the following to be guiding principles for the installation of edgeline rumble stripes on the state highway system new pavement projects. Edgeline rumble stripes may be placed on existing state highway pavement at the direction of the **M&R Engineer** or designee.

- Roadway type – Rural two-lane undivided with two-way traffic
- Lane width – 12 feet with two-feet integral shoulders for a 28-foot minimum total top width
- Pavement section with a recommended minimum overlay thickness of two inches of pavement and the surface in good condition
- Posted speed limit of 50 mph or greater

Page	Existing Text	Corrected Text
------	---------------	----------------

**Chapter Eight**

② 8-16

**Section 7.B: Edgeline Rumble Stripes**

New final paragraph – After edgeline rumble stripes are installed, they will be perpetuated on subsequent projects unless their function is replaced by a similarly effective mitigation measure for roadway departure crashes, speed limit of the segment is reduced to 45 mph or lower, or the new pavement overlay thickness is less than two inches. Edgeline rumble stripes may be placed on new pavement overlays with a thickness of less than two inches at the direction of the **M&R Engineer** or designee.

**Chapter Eight**

② 8-17

**Section 7.C: Centerline Rumble Stripes**

New first paragraph – **NDOT** has determined through demonstration projects, national studies, and Nebraska crash history analysis that the installation of centerline rumble stripes is an effective countermeasure for lane departure crashes on two-lane two-way roadways. **NDOT** also recognizes that installing centerline rumble stripes utilizes transportation funds that could be available for other transportation needs on the state highway system. A systematic or systemic approach to the implementation of safety mitigation strategies is important regardless of the mitigation strategy to be used. Due to the random occurrence of roadway departure crashes, it is important to recognize that any roadway departure crash could be a fatality based upon the random presence of another vehicle, the roadside configuration, and the health of the individuals involved in the crash. Consequently, this policy for implementation is based upon the total number of roadway departure crashes.

**Chapter Eight**

② 8-17

**Section 7.C: Centerline Rumble Stripes,**

Second paragraph –

After reviewing the crash data and research literature, **NDOT** has determined the following to be guiding principles for the installation of centerline rumble stripes on the state highway system.

- Roadway type – Rural two-lane undivided with two-way traffic
- Lane width – No less than 11 feet; the lane width will be 12 feet minimum where edgeline rumble stripes are present
- Pavement section with a recommended minimum overlay thickness of two inches of pavement and the surface in good condition
- ADT in excess of 1,500 VPD
- Posted speed limit of 50mph or greater
- Evaluation period of at least three years and minimum length of segment of three miles
- Cross-lane departure and opposite direction sideswipe crashes greater than 0.4 crashes per mile per year evaluated for a minimum three-mile segment for a minimum of three years where the combination of cross-lane departure and opposite direction sideswipe crashes exceeds 1.0 crash per year per hundred million vehicle miles traveled

After reviewing the crash data and research literature, **NDOT** has determined the following to be guiding principles for the installation of centerline rumble stripes on the state highway system new pavement projects. Centerline rumble stripes may be placed on existing state highway pavement at the direction of the **M&R Engineer** or designee.

- Roadway type – Rural two-lane undivided with two-way traffic
- Lane width – No less than 11 feet; the lane width will be 12 feet minimum where edgeline rumble stripes are present
- Pavement section with a recommended minimum overlay thickness of two inches of pavement and the surface in good condition
- Posted speed limit of 50mph or greater

(Continued on next page)

- Segments may be added for continuity when the gap between highway segments with centerline rumble strips is less than 5 miles in length
- Highway segments in excess of 10 miles in length that warrant the installation of centerline rumble strips under the preceding warrants will be reviewed to determine if the entire segment warrants the installation of centerline rumble strips. Gaps in excess of 5 miles in a segment that exhibit no cross-lane departure and opposite direction sideswipe crashes may be omitted from the roadway to receive centerline rumble strips

Page	Existing Text	Corrected Text
------	---------------	----------------

**Chapter Eight**

② 8-17

**Section 7.C: Centerline Rumble Stripes,**

Previous second and third paragraphs –  
 Centerline rumble stripes may also be placed to delineate geometric features of the roadway which may differ from the overall character of the roadway. Examples include the delineation of broken back curves with intersections in the intermediate tangent, entrances to rural roundabouts, or approaches to channelized intersections.

Centerline rumble stripes may be placed at the direction of the **Traffic Engineer** or designee to address other traffic operations issues beyond these presented here.

Removed this test

Page	Existing Text	Corrected Text
<b>Chapter Eight</b>		
② 8-18	<b>Section 7.C: <u>Centerline Rumble Stripes</u></b>	New final paragraph – After centerline rumble stripes are installed, they will be perpetuated on subsequent projects unless their function is replaced by a similarly effective mitigation measure for lane departure crashes or if the new pavement overlay thickness is less than two inches. Centerline rumble stripes may be placed on new pavement overlays with a thickness of less than two inches at the direction of the <b>M&amp;R Engineer</b> or designee.
② 8-18	<b>Section 9: SURFACING ELEVATIONS</b>	Moved to Chapter Eleven: <u>Highway Plans Assembly</u> as Section 4.J.1
② 8-18	<b><u>EXHIBIT 8.2</u></b>	Moved to Chapter Eleven: <u>Highway Plans Assembly</u> as <b><u>EXHIBIT 11.4</u></b>