

Introduction

1. PURPOSE OF MANUAL

This manual has been developed to provide guidance and assistance to the roadway designer and other **Nebraska Department of Roads (NDOR)** personnel in the practices and procedures for the detailed design of roadway drainage and erosion control. The manual has been developed to meet the following principal objectives:

- Document **NDOR** guidelines with regard to drainage design criteria and erosion control practices.
- Define design criteria to guide judgments and decisions made by **Roadway Design Division** personnel.
- Describe the most current and effective design techniques and practices and to present charts, tables and other information useful to designers.

2. HOW TO USE THE MANUAL

This manual has been written to provide information for both the new designer and for the more experienced designer. General guidelines and design practices are described. For more detailed explanation of the topics, references are provided for the reader.

Throughout the manual, the words "shall", "should", and "may" are used to describe the appropriate application of various design techniques. The following definitions describe the proper application of these terms:

"Shall" is a mandatory condition; the designer will make every practical effort to follow the criteria. If it is impractical to follow the "shall" criteria, the designer needs to obtain authorization for a design exception (See the Roadway Design Manual).

"Should" is an advisory condition; the designer is recommended, not mandated, to follow the criteria. For situations where it is impractical to follow the "should" criteria, the designer needs to obtain **Assistant Design Engineer** approval and document the decision made.

"May" is a permissive condition; it is recommended that the designer make reasonable efforts to follow the design criteria. For situations where it is impractical to follow the "may" criteria, the designer does not need authorization for design variances.

Several formatting conventions have been used in the manual to aid the designer in locating information. When Exhibits are discussed in the text, the titles are highlighted, e.g., EXHIBIT 2.1. Individuals, sections, divisions, and other organizations with which interaction may be required appear in bold lettering, e.g., **Roadway Design Division Engineer**. References to material in other chapters of this manual are shown as: Chapter Two: Erosion and Sedimentation Control, for example.

3. MANUAL UPDATES

This manual will be updated on a regular basis to reflect new Nebraska policies. Policy letters will be issued between manual updates. These letters should be inserted at the beginning of the appropriate chapter(s); the information from the policy letters will be incorporated into the manual when it is updated.

4. SOURCES OF INFORMATION

This manual is a principal source of information providing general guidance on design guidelines and practices. Other sources of information are listed in the REFERENCES section found at the back of each Chapter. Suppliers of construction materials also may be used as sources of information.

Where possible, Internet connections have been given for reference materials cited in this manual. This connection will follow the first citation of a document on a page and will also appear in the REFERENCES section found at the back of the chapter.