

### **I-01.01 Purpose**

This manual has been prepared to provide Design Division and Bridge Division personnel, as well as other parties performing design work for the department, with a convenient guide for the policies, procedures, and design values that are presently recommended for the development of plans for federal or state-funded highway construction in the State of North Dakota.

This Design Manual is designed to provide guidance on all design activities for the various levels of federal aid streets and highways in North Dakota, from the Interstate system to local streets and highways. The manual also provides guidance on certain state-funded activities, such as maintenance type projects.

Design guidance in this manual consists primarily of information on minimum standards to be followed in design work for the department. General guidance from federal or national organizations, such as the FHWA or AASHTO, is included in the manual by reference.

It does not contain data or design methods that are adequately covered in college textbooks or engineering handbooks, nor does it presume to answer or anticipate all situations which may arise. It does provide a means of conveying the department's experience in the various aspects of highway design, with the expectation that this information used together with good judgment will enable employees, consultants, or other parties doing design work to develop detail plans with a minimum of effort and indecision.

Each user should follow the instructions contained in this manual and thereby achieve a more consistent and uniform application of the department's policies and procedures. Should conflicts exist between this manual and the Standard Specifications or FHWA or AASHTO, the Standard Specifications will prevail.

### **I-01.02 Instructions to User**

The information in this manual contains minimum acceptable design values for various roadway features. Some of the information pertains to new and reconstructed highways, while other information covers work on existing highways. The values given in these chapter are acceptable minimums. Higher values (for features like the clear zone, stopping sight distance, radius, etc.) should be used within reasonable economic limits.

These guides are not meant to be applied rigidly to every situation. There will be situations when special site conditions (such as environmental, aesthetic, or economic considerations) warrant deviation from the values stated in this manual. It may be acceptable to use values below these minimums with the approval of the Design Engineer (or Bridge Engineer for structural designs). In these cases, the reasons and justification for the deviation from the minimum standards should be clearly documented and a design exception processed through appropriate channels. See Section I-06.06 for information on the design exception process.