CHAPTER I
INTRODUCTORY AND GENERAL DESIGN INFORMATION

I-01  Introduction
I-02  Milestone Program

Appendix I-02A Milestone Flow Charts

I-03  Effective Dates and Revisions

Appendix I-03A Proposed Revision/Addition To NDDOT Design Manual

I-04  State Highway System
I-05  Organization/Responsibilities of Design and Bridge Divisions Responsibilities
I-06  Design Philosophy, Investment Strategy, and Guides
I-07  Plan Sheet Order
I-08  Final Plan Submittal Process

Appendix I-08A  Electronic Plan Sheet Submittal Checklist

I-09  Project Selection, Development Scheduling and Control
I-10  Plan Reviews

Appendix I-10A  Plan Review Notification, Distribution, and Attendance List

I-11  Plan Revisions and Change Orders
I-12  Design Records, Identification, Retention

Appendix I-12A  Guidelines for Use of the 409 File Stamp

I-13  FHWA Involvement in the Design Process

Appendix I-13A  Partnership Agreement
Appendix I-13B  Stewardship Agreement Interaction Between NDDOT and FHWA

I-14  Design/Plan Preparation By Others
I-15  Reference Publications
I-16  Definitions
I-17  Abbreviations and Symbols
I-18  Manual Revisions
CHAPTER II
ENVIRONMENTAL AND PUBLIC INVOLVEMENT

II-01  Introduction
II-02  Environmental Documentation

Appendix II-02A  Cultural Resource Procedures Outline

II-03  Public Involvement and Coordination

CHAPTER III
ROADWAY DESIGN

III-01  Plan Preparation

Appendix III-01A  Plan Preparation: Detailed Plan Design and Development Checklists
Appendix III-01B  Plan Preparation: Plan Review
Appendix III-01C  Plan Preparation: Final Office Plan Review Checklist

III-02  Professional Engineers and Surveyors
III-03  Alignments and Roadway Geometry
III-04  Earthwork
III-05  Bases, Edge Drains, and Prime
III-06  Surfacing
III-07  Pedestrian and Bicycle Facilities
III-08  Utility Relocation, Adjustments, and Accommodation Policies
III-09  Permanent Signing

Appendix III-09A Permanent Signing Details
Appendix III-09B North Dakota Department of Transportation Interchange Numbering on I–94
Appendix III-09C North Dakota Department of Transportation Interchange Numbering on I–29
Appendix III-09D Sign Support Design

III-10  Marking

Appendix III-10A  Pavement Marking Material Selection
Appendix III-10B  Left-Turn Lane, Stop Bar, Cross Walk Lines and Bicycle Lane Markings
Appendix III-10C  Bicycle Lane Details

III-11  Lighting
III-12  Traffic Control Signals
III-13  Guardrail
Appendix III-13A Various Guardrail Layouts and Details
Appendix III-13B Guardrail Length of Need Details

III-14 Safety Reviews

Appendix III-14A Figures
Appendix III-14B Clear Zones, Horizontal Curve Adjustment

III-15 Fills (Over 7’), Foreslope Flattening, and Flattening at Culverts

Appendix III-15A Foreslopes and Backslopes for Basic Ditch Configurations
Appendix III-15B Deep Fill Areas

III-16 Driveways and Access Management
III-17 Airport Clearances
III-18 Plan Notes
III-19 Work Zone Traffic Control

Appendix III-19A Maintaining Traffic (Temporary Bypass, Detour, & One Lane Closure)

III-20 Special Provisions
III-21 Cost Estimates

CHAPTER IV
STRUCTURAL DESIGN

IV-01 General Guidelines
IV-02 Bridge Division Operating Policies and Procedures
IV-03 Standard Specifications for Highway Bridges
IV-04 LRFD Bridge Design Specifications
IV-05 Railroad Structures
IV-06 Appendices

Appendix IV-06A Predetermination of Pile Lengths Based on Analysis of Soil Properties
Appendix IV-06B Installation of Utilities on Highway Structures
Appendix IV-06C Pedestrian & Shared-Use Facilities on Structures
Appendix IV-06D Preliminary Engineering Meeting Agenda
Appendix IV-06E Integral Straight Abutment Design (Standard Specifications)
Appendix IV-06F Abutment Underdrain & Excavation Details
Appendix IV-06G Checklist for Bridge Plans (SFN 17180)
Appendix IV-06H Interchange Clearance Diagram
CHAPTER V
HYDRAULIC STUDIES AND DRAINAGE DESIGN

V-01 Hydrology
V-02 Bridges and Box Culverts
V-03 Urban Storm Drainage Systems

Appendix V-03A Rational Method - Runoff Coefficients
Appendix V-03B Time of Concentration of Small Drainage Basins
Appendix V-03C Rainfall Intensity – Duration – Frequency by District
Appendix V-03D Drainage Studies - Procedural Guide (Urban Design)
Appendix V-03E Standard Drawings for Inlets
Appendix V-03F City Participation
Appendix V-03G Hydraulic Computation Forms

V-04 Small Drainage Structures for Rural Projects
V-05 Pipe Material Selection

Appendix V-05 A Pipe Culvert Backfill Heights

V-06 Permit Requests/ Drainage Reviews

CHAPTER VI
CADD MANUAL
http://www.dot.nd.gov/manuals/design/caddmanual/caddmanual-welcome.htm

CHAPTER VII
GEOTECHNICAL STUDIES AND DESIGN