



### **Chapter 1: Introduction**

Section 1-1 ..... General

### **Chapter 2: Project Management**

Section 2-1 ..... Introduction and Definitions  
Section 2-5 ..... Program vs. Project Management  
Section 2-10 ..... Performance Management  
Section 2-15 ..... Project Integration Management  
Section 2-20 ..... Project Type - Design/Planning

### **Chapter 3: Facilities Development Process**

Section 3-1 ..... Process Overview  
Section 3-5 ..... Improvement Concepts  
Section 3-10 ..... Scheduling and Programming  
Section 3-15 ..... Complex or Unique Projects  
Section 3-20 ..... Local Program Bridge  
Section 3-22..... Facilities Repeatedly Requiring Repair and Reconstruction (F4R)  
Section 3-25 ..... Environmental Scoping, Evaluation and Documentation  
Section 3-30 ..... U.S. Department of Transportation

### **Chapter 4: Highway Systems**

Section 4-1 ..... Introduction and Definitions  
Section 4-5 ..... System Alterations  
Section 4-10 ..... Special Bridges  
Section 4-15 ..... Detours and Temporary Routes

### ***Chapter 5: Intentionally Left Blank***

### **Chapter 6: Public Involvement**

Section 6-1 ..... Introduction  
Section 6-5 ..... Process Development  
Section 6-10 ..... Public Involvement Meetings  
Section 6-15 ..... Public Hearings

### **Chapter 7: Access Control**

Section 7-1 ..... Introduction  
Section 7-5 ..... Access Management System Plan  
Section 7-10 ..... Methods of Control  
Section 7-15 ..... Administrative Access Control (Control by Section 84.25)  
Section 7-20 ..... Purchased Access Control (Control by Section 84.09)  
Section 7-25 ..... STH Connection Permitting  
Section 7-30 ..... Access Covenants  
Section 7-35 ..... Corridor Access Management  
Section 7-40 ..... Freeway/Expressway Designation Statute 84.295  
Section 7-50 ..... Subdivision Review  
Section 7-55 ..... Scenic Easements

### **Chapter 8: Consultant Services**

Section 8-1 ..... Introduction  
Section 8-5 ..... Securing Consultant Services  
Section 8-10 ..... Contract Negotiation  
Section 8-15 ..... Contracts  
Section 8-20 ..... Contract Procedures  
Section 8-25 ..... Contract Management

## **Chapter 9: Surveying and Mapping**

Section 9-1	.....	Introduction
Section 9-5	.....	Policies
Section 9-10	.....	Public Relations
Section 9-20	.....	Spatial Reference Systems
Section 9-25	.....	Monumentation
Section 9-30	.....	Real Time Kinematic (RTK) Surveys
Section 9-35	.....	Horizontal Control - Traverse
Section 9-40	.....	Vertical Control
Section 9-43	.....	Planning and Scheduling
Section 9-45	.....	Geospatial Projects
Section 9-50	.....	Alignments - Reference Line with Stationing
Section 9-55	.....	Drainage Structure Surveys
Section 9-60	.....	Structure Surveys
Section 9-65	.....	Digital Terrain Models (DTMs)
Section 9-70	.....	Topography
Section 9-75	.....	Right-of-Way
Section 9-80	.....	Survey Mathematics

## **Chapter 10: Erosion Control and Storm Water Quality**

Section 10-1	.....	General Introduction
Section 10-5	.....	Developing an Erosion Control Plan
Section 10-10	.....	Erosion and Sediment Control Devices
Section 10-15	.....	Appendix
Section 10-25	.....	Stormwater Quality
Section 10-30	.....	Stormwater Quality Analysis
Section 10-35	.....	Stormwater Control Measure Selection
Section 10-40	.....	Maintenance Best Management Practices (BMPs)

## **Chapter 11: Design**

Section 11-1	.....	Introduction
Section 11-2	.....	Alternative Contracting
Section 11-3	.....	Community Sensitive Design
Section 11-4	.....	Reports
Section 11-5	.....	General Design Considerations
Section 11-10	.....	Design Controls
Section 11-15	.....	Cross-Section Elements for Projects on Rural Highways, Freeways, and Interstates
Section 11-20	.....	Cross-Section Elements for Projects on Urban Roadways and Highways
Section 11-25	.....	Intersections at Grade
Section 11-26	.....	Roundabouts
Section 11-30	.....	Interchange
Section 11-35	.....	Structures
Section 11-38	.....	Safety Certification Process
Section 11-40	.....	Perpetuation and Rehabilitation Requirements for Highways
Section 11-45	.....	Other Elements Affecting Geometric Design
Section 11-46	.....	Bicycle and Pedestrian Accommodations
Section 11-50	.....	Traffic Control
Section 11-52	.....	Traffic Engineering and Operations
Section 11-55	.....	Special Features

## **Chapter 12: Right-of-Way Plat and Exhibit Development**

Section 12-1	.....	General
Section 12-5	.....	Making Right-of-Way Determinations
Section 12-10	.....	Transportation Project Plat Preparation
Section 12-15	.....	Traditional Right-of-Way Plat Preparation
Section 12-20	.....	Acquisition Exhibit Preparation

### **Chapter 13: Drainage**

Section 13-1 .....	Drainage Practice
Section 13-5 .....	Field Work
Section 13-10 .....	Hydrology
Section 13-15 .....	Hydraulic Design of Culverts
Section 13-20 .....	Hydraulic Design of Bridges
Section 13-25 .....	Storm Sewer Design
Section 13-30 .....	Channels and Road Ditches
Section 13-35 .....	Erosion and Water Pollution Control
Section 13-40 .....	Subgrade Drainage
Section 13-45 .....	Culvert and Storm Sewer Rehabilitation and Replacement

### **Chapter 14: Pavements**

Section 14-1 .....	General
Section 14-5 .....	Subgrade and Base Course
Section 14-7 .....	Traffic
Section 14-10 .....	Pavement Design
Section 14-15 .....	Pavement Type Selection
Section 14-25 .....	Pavement Rehabilitation

### **Chapter 15: Plan Preparation**

Section 15-1 .....	Standards
Section 15-5 .....	Methods
Section 15-10 .....	Review

### **Chapter 16: Standard Detail Drawings (SDDs)**

#### **Chapter 17: Railroad Coordination**

Section 17-1 .....	Overview
Section 17-5 .....	Background
Section 17-10 .....	Agency Responsibilities
Section 17-15 .....	Types of Programs
Section 17-20 .....	Implementing Projects
Section 17-25 .....	Active Warning Device Projects
Section 17-30 .....	Crossing Surface Projects
Section 17-35 .....	Crossing Closure and Consolidation
Section 17-40 .....	Separation Projects
Section 17-45 .....	Other Safety Funded Projects
Section 17-50 .....	Contract Administration
Section 17-55 .....	Property
Section 17-60 .....	Design Considerations

#### **Chapter 18: Utility Coordination**

Section 18-1 .....	Introduction
Section 18-5 .....	Agency Responsibilities and Duties
Section 18-10 .....	Project Development Process
Section 18-15 .....	Utility Company Rights and Obligations
Section 18-20 .....	Typical Processing of a Utility Project

#### **Chapter 19: Plans, Specifications, and Estimates**

Section 19-1 .....	Introduction
Section 19-5 .....	Estimates
Section 19-10 .....	PS&E Transmittal and Composition
Section 19-15 .....	Special Provisions
Section 19-21 .....	Quality Management Program
Section 19-22 .....	Post-Advertisement Activities
Section 19-25 .....	Local Force Account Agreements
Section 19-30 .....	Razing and Removal Contracts
Section 19-35 .....	TEA and EDA Funded Projects
Section 19-40 .....	Review

## **Chapter 20: Environmental Documents, Reports and Permits**

Section 20-1	.....	Introduction
Section 20-5	.....	Major Laws, Regulations and Agreement Documents
Section 20-10	.....	Roles and Responsibilities in the Environmental Documents Process
Section 20-15	.....	Environmental Document Types
Section 20-20	.....	Categorical Exclusion Documents
Section 20-25	.....	Environmental Assessments
Section 20-30	.....	Environmental Impact Statements
Section 20-35	.....	Environmental Document Review and Approvals
Section 20-40	.....	Re-evaluating Environmental Documents
Section 20-45	.....	Other Required Documents
Section 20-50	.....	Permits
Section 20-55	.....	Agency Coordination for Environmental Documentation and Permitting

## **Chapter 21: Hazardous Materials Investigation**

Section 21-1	.....	Non-Standard Materials Environmental Screening and Waste Characterization
Section 21-5	.....	Asbestos
Section 21-35	.....	Contaminated Site Assessment and Remediation

## **Chapter 22: Air Quality**

Section 22-1	.....	General
Section 22-5	.....	Laws & Regulations Pertaining to an Air Quality Analysis
Section 22-10	.....	Ozone (O3) and Particulate Matter (PM)
Section 22-15	.....	Mobile Source Air Toxic (MSAT)
Section 22-20	.....	Construction Emissions
Section 22-25	.....	Documentation of Air Quality Impacts

## **Chapter 23: Noise**

Section 23-1	.....	General
Section 23-5	.....	Laws, Regulations and Policy Pertaining to Noise Analysis
Section 23-10	.....	Project Analysis
Section 23-15	.....	Factors Influencing Noise Levels
Section 23-20	.....	Existing Noise Levels
Section 23-25	.....	Future Sound Levels
Section 23-30	.....	Noise Impact Determination
Section 23-35	.....	Noise Abatement Measures
Section 23-40	.....	Construction Noise
Section 23-45	.....	Documentation of Noise Analysis
Section 23-50	.....	Providing Sound Level Information to Local Officials

## **Chapter 24: Land and Water Resources Impacts**

Section 24-1	.....	Introduction
Section 24-5	.....	Aquatic Systems
Section 24-10	.....	Threatened and Endangered Species
Section 24-15	.....	Wildlife
Section 24-20	.....	Terrestrial Systems
Section 24-25	.....	Bibliography

## **Chapter 25: Socio-Economic Factors**

Section 25-1	.....	Introduction
Section 25-5	.....	Impact Categories
Section 25-10	.....	Impact Identification
Section 25-15	.....	Impact Evaluation
Section 25-20	.....	Impact Mitigation

**Chapter 26: Cultural Resource Preservation**

- Section 26-1 ..... General
- Section 26-5 ..... Section 106 Process
- Section 26-10 ..... Reporting
- Section 26-20 ..... Compensation Regarding Historic Preservation
- Section 26-25 ..... Burial Sites & Burial Related Discoveries
- Section 26-30 ..... Qualifications
- Section 26-35 ..... Other Applicable Laws

**Chapter 27: Planting and Aesthetic Design**

- Section 27-1 ..... Introduction
- Section 27-10 ..... Visual Impact Assessment
- Section 27-20 ..... Planting Design
- Section 27-25 ..... Plant Materials