

Table of Contents

Chapter 1 – Design Controls

1.1	General	<i>No Changes</i>
1.2	Traffic	<i>No Changes</i>
1.3	Capacity and Level of Service	<i>No Changes</i>
1.4	Roadway Functional Classification	<i>No Changes</i>
1.5	RRR Design	<i>1-1</i>
1.5.1	Turnpike Resurfacing, Restoration and Rehabilitation (RRR) Design	<i>1-1</i>
1.6	Design Consistency and Driver Expectancy	<i>No Changes</i>
1.7	Transportation Design for Livable Communities (TDLC)	<i>No Changes</i>
1.7.1	Policy Statement	<i>No Changes</i>
1.7.2	Aesthetics	<i>No Changes</i>
1.8	Access Management	<i>No Changes</i>
1.9	Design Speed	<i>No Changes</i>
1.10	Public Involvement	<i>No Changes</i>
1.11	Turnpike Design Controls	<i>1-1</i>
1.11.1	Use of “Interstate” vs. “Freeway Other” vs. “Non Interstate” Criteria	<i>1-1</i>
1.11.2	Design Vehicle	<i>1-1</i>

Tables

1.8.1	Freeway Interchange Spacing	<i>No Changes</i>
1.8.2	Arterial Access Management Classifications & Standards	<i>No Changes</i>
1.8.3	Interim Standards (Newly constructed or transferred roads)	<i>No Changes</i>

1.8.4 Corner Clearance at Intersections Isolated Corner Properties*No Changes*
 1.9.1 Design Speed State Highway System - Non-FIHS Facilities*No Changes*
 1.9.2 Minimum Design Speed Florida Intrastate
 Highway System Facilities*No Changes*

Chapter 2- Design Geometrics and Criteria

2.0 General*No Changes*
 2.1 Lanes*No Changes*
 2.1.1 Through or Travel Lanes*No Changes*
 2.1.2 Other Lane Widths*No Changes*
 2.1.3 Ramp Traveled Way Widths*No Changes*
 2.1.4 Pedestrian and Bicycle Facilities*No Changes*
 2.1.4.1 Sidewalks*No Changes*
 2.1.4.2 Bicycle Facilities*No Changes*
 2.1.5 Cross Slopes2-1
 2.1.6 Roadway Pavement2-1
 2.1.7 Transitions of Pavement Widths*No Changes*
 2.1.8 Number of Lanes on the State Highway System*No Changes*
 2.2 Medians*No Changes*
 2.2.1 Median Width for Roadways*No Changes*
 2.2.2 Multilane Facility Median Policy*No Changes*
 2.2.3 Median Treatments on Bridges*No Changes*
 2.3 Shoulders2-1
 2.3.1 Limits of Friction Course on Paved Shoulders2-2
 2.3.2 Shoulder Warning Devices (Rumble Strips)2-2
 2.4 Roadside Slopes*No Changes*

2.5	Borders	<i>No Changes</i>
2.5.1	Limited Access Facilities	<i>No Changes</i>
2.6	Grades	<i>No Changes</i>
2.7	Sight Distance	<i>No Changes</i>
2.8	Curves	2-2
2.8.1	Horizontal Curves	<i>No Changes</i>
2.8.1.1	Supplemental Alignment Control (Mainline)	<i>No Changes</i>
2.8.1.2	Supplemental Alignment Control (Intersections)	<i>No Changes</i>
2.8.1.3	Roadway Transitions	<i>No Changes</i>
2.8.2	Vertical Curves	2-2
2.8.3	Spiral Curves	2-2
2.9	Superelevation	<i>No Changes</i>
2.10	Vertical Clearance	<i>No Changes</i>
2.10.1	Vertical Clearance Over Water	<i>No Changes</i>
2.10.2	Airspace Obstructions	<i>No Changes</i>
2.11	Horizontal Clearance and Clear Zone	<i>No Changes</i>
2.12	Bridge Railings and Separators	<i>No Changes</i>
2.13	Intersections	<i>No Changes</i>
2.13.1	Circular Intersections (Roundabouts)	<i>No Changes</i>
2.13.2	Queue Length for Unsignalized Intersections	<i>No Changes</i>
2.14	Interchanges	<i>No Changes</i>
2.14.1	Limited Access Right of Way Limits at Interchanges	<i>No Changes</i>
2.14.2	Median Openings at Interchanges	<i>No Changes</i>
2.14.3	Ramp Widths	<i>No Changes</i>
2.15	Lighting Criteria	2-2
2.16	Four-Lane High-Speed Suburban Arterial Highways	<i>No Changes</i>

2.16.1	Design Speed	<i>No Changes</i>
2.16.2	Pedestrian and Bicycle Facilities	<i>No Changes</i>
2.16.3	Medians	<i>No Changes</i>
2.16.4	Friction Course	<i>No Changes</i>
2.16.5	Border Width	<i>No Changes</i>
2.16.6	Grades	<i>No Changes</i>
2.16.7	Horizontal Curves	<i>No Changes</i>
2.16.8	Superelevation	<i>No Changes</i>
2.16.9	Horizontal Clearance and Clear Zone	<i>No Changes</i>
2.16.10	Monitoring	<i>No Changes</i>
2.17	Toll Plazas	2-3
2.17.1	Horizontal Taper Rates	2-3
2.17.2	Cross Slopes and Transitions	2-3
2.17.3	Profile Grades	2-3
2.17.4	Toll Plaza Clear Zones/Horizontal Clearance	2-4
2.17.5	Queue Storage Criteria	2-7
2.18	Sodding	2-7
	Glossary of Term	<i>No Changes</i>
	Standards for Low and High Volume Highways in Annual Average Daily Volumes	<i>No Changes</i>

Figures

2-1	Clear Zones at an Exit Ramp	2-6
2-2	Clear Zone Development for a Mainline Toll	2-6
2-3	Shoulder Sodding and Reworking of Existing Facilities	2-8

Chapter 3 – Earthwork

3.1	General Introduction	<i>No Changes</i>
3.1.1	General	<i>No Changes</i>
3.2	Classification of Soils	<i>No Changes</i>
3.3	Cross Sections - A Design Tool	<i>No Changes</i>
3.4	Earthwork Quantities	<i>No Changes</i>
3.4.1	Method of Calculating	<i>No Changes</i>
3.4.2	Earthwork Tabulation	<i>No Changes</i>
3.4.3	Earthwork Accuracy	<i>No Changes</i>
3.4.3.1	Projects With Horizontal and Vertical Controlled Cross Sections	<i>No Changes</i>
3.4.3.2	Projects Without Horizontal and Vertical Controlled Cross Sections	<i>No Changes</i>
3.4.4	Variation in Quantities	<i>No Changes</i>
3.5	Earthwork Items of Payment	<i>No Changes</i>
3.5.1	Guidelines for Selecting Earthwork Pay Items	<i>No Changes</i>
3.5.2	Regular Excavation	<i>No Changes</i>
3.5.3	Embankment	<i>No Changes</i>
3.5.4	Subsoil Excavation	<i>No Changes</i>
3.5.5	Lateral Ditch Excavation	<i>No Changes</i>
3.5.6	Channel Excavation	<i>No Changes</i>
3.5.7	Borrow Excavation (Truck Measure)	<i>No Changes</i>
3.5.8	Regular Excavation (RRR Projects Only)-Lump Sum	<i>No Changes</i>
3.5.9	Summary of Earthwork	<i>3-1</i>

Tables

3.5.1 Guidelines for Selecting Earthwork Pay Items	<i>No Changes</i>
--	-------------------

Figures

3.1.1 Cut and Fill Limits (With and Without Subsoil Excavation)	<i>No Changes</i>
3.4.1 Format for the Tabulation of Earthwork Quantities	<i>No Changes</i>
3.5.1 Pond Template	<i>No Changes</i>

Exhibits

3-A Fill and Truck Adjustments	<i>No Changes</i>
3-B Summary of Earthwork Box (Projects With Cross Sections).....	<i>No Changes</i>
3-C Summary of Earthwork Box (Projects With Limited or No Cross Sections)	<i>No Changes</i>

Chapter 4 – Roadway Safety

4.1 Clear Zone	<i>No Changes</i>
4.1.1 Clear Zone Concept	<i>No Changes</i>
4.1.2 Clear Zone Criteria	<i>No Changes</i>
4.2 Hazard Standards	<i>No Changes</i>
4.2.1 Canal Hazards	<i>No Changes</i>
4.2.2 Drop-off Hazards	<i>No Changes</i>
4.3 Roadside Barriers	<i>No Changes</i>
4.3.1 Warrants	<i>No Changes</i>
4.3.2 Barrier Selection	<i>No Changes</i>
4.3.3 End Treatments	<i>No Changes</i>
4.3.4 Transitions	<i>No Changes</i>

- 4.3.5 Placement*No Changes*
- 4.3.6 Upgrading Existing Barrier Systems*No Changes*
 - 4.3.6.1 Resetting Guardrail*No Changes*
- 4.4 Median Barriers*No Changes*
 - 4.4.1 Warrants*No Changes*
 - 4.4.2 Selection*No Changes*
 - 4.4.3 End Treatments*No Changes*
 - 4.4.4 Median Barrier Grading Requirements*4-1*
- 4.5 Crash Cushions*No Changes*
 - 4.5.1 Warrants*No Changes*
 - 4.5.2 Selection*No Changes*
 - 4.5.3 Design*No Changes*
 - 4.5.4 Shop Drawings*4-1*
- 4.6 Roadside Appurtenances*No Changes*
 - 4.6.1 Sign Supports*No Changes*
 - 4.6.2 Mailbox Supports*No Changes*
 - 4.6.3 Other Appurtenances*No Changes*
 - 4.6.4 Location Criteria*No Changes*
 - 4.6.5 Bus Benches and Transit Shelters*No Changes*

Tables

- 4.3.1 Minimum Offset of Barriers
(Measured from the face of the barrier)*No Changes*

Figures

- 4.2.2 Drop-off Hazards in Urban Sections*No Changes*

Exhibits

- 4-A Minimum Standards for Canal Hazards (Flush Shoulders)*No Changes*
4-B Minimum Standards for Canal Hazards (Curb and Gutter)*No Changes*

Chapter 5 – Utilities

- 5.1 General*No Changes*
5.2 Utility Accommodation Manual*No Changes*
5.3 Location of Existing Utilities*5-1*
5.4 Subsurface Utility Engineering*No Changes*
5.5 Coordination Process*No Changes*

Chapter 6 – Railroad Crossing

- 6.1 General*No Changes*
6.2 At-Grade Crossings*No Changes*
 6.2.1 Devices*No Changes*
 6.2.2 Surfaces*No Changes*
6.3 Grade Separations*No Changes*
 6.3.1 Criteria*No Changes*
 6.3.2 Bridge Width*No Changes*
 6.3.3 Horizontal Clearances to Face of Structures*No Changes*
 6.3.3.1 Adjustments for Track Geometry*No Changes*
 6.3.3.2 Adjustments for Physical Obstructions*No Changes*
 6.3.3.3 Required Foundation Clearances*No Changes*
 6.3.4 Crash Walls*No Changes*
 6.3.5 Vertical Clearance*No Changes*
 6.3.6 Special Considerations*No Changes*

6.3.7	Widening of Existing Overpasses	<i>No Changes</i>
-------	---------------------------------------	-------------------

Tables

6.3.3	Horizontal Clearances for Railroads	<i>No Changes</i>
-------	---	-------------------

Figures

6.1	Track Section	<i>No Changes</i>
6.2	Crash Wall Elevation	<i>No Changes</i>
6.3	Section Thru Tracks	<i>No Changes</i>

Chapter 7 – Signing, Marking, Lighting and Signals

7.1	General	<i>No Changes</i>
7.2	Signing and/or Pavement Marking	<i>No Changes</i>
7.2.1	Design Criteria	7-1
7.2.2	Wind Loading Criteria – Signs	<i>No Changes</i>
7.2.3	No-passing Zones	<i>No Changes</i>
7.2.4	Use of Local Street Names on Guide Signs	<i>No Changes</i>
7.2.5	Signing and Pavement Marking Project Coordination	<i>No Changes</i>
7.2.6	Foundation Criteria	<i>No Changes</i>
7.2.7	Signing for Bridges with Steel Decks	<i>No Changes</i>
7.2.8	Toll Plazas	7-2
7.2.8.1	Approach Signing for Mainline Toll Plazas	7-2
7.2.8.2	Approach Signing for Ramp Toll Plazas	7-2
7.2.8.3	Canopy Signing	7-3
7.2.8.4	Pavement Markings	7-3
7.2.9	SunPass	7-3

7.2.9.1	Signing	7-3
7.2.9.2	Pavement Markings	7-4
7.3	Lighting	7-4
7.3.1	Design Criteria	7-4
7.3.2	Pole Design Criteria	7-5
7.3.2.1	General	7-5
7.3.2.2	Standard Aluminum Light Poles	<i>No Changes</i>
7.3.3	Foundations Criteria	7-6
7.3.4	Wind Loading Criteria - Lighting	<i>No Changes</i>
7.3.5	Lighting Project Coordination	7-6
7.3.6	Voltage Drop Criteria	7-6
7.3.6.1	Load Analysis Criteria	7-7
7.3.6.2	Pole Cable Distribution System	7-7
7.3.7	Maintenance of Existing Lighting During Construction ...	<i>No Changes</i>
7.3.8	Grounding	<i>No Changes</i>
7.3.9	Mainline Toll Plaza	7-7
7.4	Traffic Signals	7-8
7.4.1	Design Criteria	7-8
7.4.1.1	Lane Use Control Signals	7-8
7.4.2	Certification and Specialty Items	7-8
7.4.3	Stop Line Location	<i>No Changes</i>
7.4.4	Controller Assemblies	<i>No Changes</i>
7.4.5	Left Turn Treatments	<i>No Changes</i>
7.4.6	Signal Preemption	<i>No Changes</i>
7.4.7	Intersection Design - Lane Configuration	<i>No Changes</i>

7.4.8 Signal Loops*No Changes*
 7.4.9 Grounding and Electrical Bonding*No Changes*
 7.4.10 Wind Loading - Traffic Signals*No Changes*
 7.4.11 Foundation Criteria*No Changes*
 7.4.12 Mast Arm and Monotube Supports*No Changes*
 7.4.12.1 Mast Arm Supports*No Changes*
 7.4.12.2 Standard Monotube Signal Structures*No Changes*
 7.4.13 Traffic Signal Project Coordination7-8
 7.4.14 LED Light Sources*No Changes*
 7.5 Foundation Design*No Changes*

Tables

7.2.1.1 Number of Luminaires for Various Sign Widths*No Changes*

Chapter 8 – Pedestrian and Bicycle Facilities

8.1 General*No Changes*
 8.2 References*No Changes*
 8.3 Pedestrian Facilities*No Changes*
 8.3.1 Sidewalks*No Changes*
 8.3.2 Disability Considerations*No Changes*
 8.4 Bicycle Facilities*No Changes*
 8.4.1 Bicycle Lanes (Designated)*No Changes*
 8.4.2 Bicycle Lanes (Undesignated)*No Changes*
 8.4.3 Bicycle Route Systems*No Changes*
 8.5 Drainage and Utility Considerations*No Changes*

8.6	Shared Use Paths	<i>No Changes</i>
8.6.1	Considerations	<i>No Changes</i>
8.6.2	Widths	<i>No Changes</i>
8.6.3	Cross Slopes	<i>No Changes</i>
8.6.4	Grades	<i>No Changes</i>
8.6.5	Horizontal Clearance	<i>No Changes</i>
8.6.6	Vertical Clearance	<i>No Changes</i>
8.6.7	Design Speed	<i>No Changes</i>
8.6.8	Horizontal Alignment	<i>No Changes</i>
8.6.8.1	Minimum Radii	<i>No Changes</i>
8.6.8.2	Stopping Sight Distance	<i>No Changes</i>
8.6.9	Vertical Alignment	<i>No Changes</i>
8.6.10	Separation Between Shared Use Path and Roadway	<i>No Changes</i>
8.6.11	Path Railings	<i>No Changes</i>
8.6.12	Lighting	<i>No Changes</i>
8.6.13	Signing, Pavement Marking, and Signalization	<i>No Changes</i>
8.7	Bridges, Overpasses, and Underpasses	<i>No Changes</i>
8.8	Drop-off Hazards for Pedestrians and Bicyclists	<i>No Changes</i>
8.9	Florida Intrastate Highway System	<i>No Changes</i>

Tables

8.6.4	Maximum Grade Lengths	<i>No Changes</i>
8.6.8.1	Minimum Radii for Shared Use Paths	<i>No Changes</i>
8.6.8.2	Minimum Stopping Sight Distances	<i>No Changes</i>

Figures

8.1	Pedestrian Bridge Typical Section	<i>No Changes</i>
-----	---	-------------------

8.2 Drop-Off Hazards for Pedestrians and Bicyclists*No Changes*

Chapter 9 – Landscaping

9.1 General9-1
9.2 Maintenance Plan*No Changes*

Chapter 10 – Work Zone Traffic Control

10.1 General*No Changes*
10.2 References10-1
10.3 Comprehensive Work Zone Traffic Control Planning*No Changes*
10.4 Traffic Control Plans (TCP)10-1
10.5 TCP Development10-1
10.6 Coordination*No Changes*
 10.6.1 Phase Submittals*No Changes*
10.7 Work Zone Traffic Control Training*No Changes*
 10.7.1 Background*No Changes*
 10.7.2 Training Requirements*No Changes*
10.8 Traffic Control Devices*No Changes*
10.9 Signs10-1
 10.9.1 Advance Warning Signs*No Changes*
 10.9.2 Length of Construction Sign*No Changes*
 10.9.3 Existing Signs*No Changes*
10.10 Lighting Units*No Changes*
 10.10.1 Warning Lights*No Changes*

 10.10.2 Advance Warning Arrow Panels*No Changes*

10.10.3	Variable Message Signs	<i>No Changes</i>
10.10.4	Traffic Signals	<i>No Changes</i>
10.11	Channelizing Devices	<i>No Changes</i>
10.11.1	Type III Barricades	<i>No Changes</i>
10.11.2	Separation Devices	<i>No Changes</i>
10.11.3	Channelizing Device Alternates	<i>No Changes</i>
10.12	Pavement Markings	<i>10-2</i>
10.12.1	Removing Pavement Markings	<i>10-2</i>
10.12.2	Raised Retro-Reflective Pavement Markers (RPM)	<i>No Changes</i>
10.12.3	Work Zone Markings	<i>No Changes</i>
10.13	Safety Appurtenances for Work Zones	<i>No Changes</i>
10.13.1	Traffic Barriers	<i>No Changes</i>
10.13.2	Barrier Walls (Temporary)	<i>No Changes</i>
10.13.3	End Treatments	<i>No Changes</i>
10.13.4	Modifications of Existing Barriers	<i>No Changes</i>
10.13.5	Crash Cushions	<i>No Changes</i>
10.14	Traffic Control Plan Details	<i>10-2</i>
10.14.1	Taper Lengths	<i>No Changes</i>
10.14.2	Intersecting Road Signing and Signals	<i>No Changes</i>
10.14.3	Sight Distance to Delineation Devices	<i>No Changes</i>
10.14.4	Pedestrians and Bicyclists	<i>No Changes</i>
10.14.4.1	Pedestrian Considerations	<i>No Changes</i>
10.14.4.2	Bicycle Considerations	<i>No Changes</i>
10.14.5	Superelevation	<i>10-2</i>
10.14.6	Lane Widths	<i>10-2</i>
10.14.7	Lane Closure Analysis	<i>10-3</i>

10.14.8	Detours, Diversions, and Lane Shifts	<i>No Changes</i>
10.14.9	Above Ground Hazards	<i>No Changes</i>
10.14.10	Drop-offs in Work Zones	<i>10-3</i>
10.14.11	Narrow Bridges and Roadways	<i>10-3</i>
10.14.12	Existing Highway Lighting	<i>No Changes</i>
10.14.13	Work Area Access	<i>No Changes</i>
10.14.14	Railroads	<i>No Changes</i>
10.14.15	Pay Items and Quantities	<i>No Changes</i>
10.14.16	Temporary Drainage	<i>10-4</i>
10.14.17	Temporary Retaining Walls	<i>10-4</i>
10.14.18	Friction Course on Temporary Pavement	<i>10-4</i>
10.14.19	Rolling Roadblocks	<i>10-4</i>
10.15	Speed Zoning	<i>10-5</i>
10.15.1	Regulatory Speeds in Work Zones	<i>10-6</i>
10.16	Law Enforcement Services	<i>No Changes</i>
10.16.1	Use of Speed and Law Enforcement Officers	<i>No Changes</i>
10.16.2	Use of Traffic Control Officer Law Enforcement	<i>No Changes</i>
10.16.3	Coordination, Documentation and Payment	<i>No Changes</i>
10.16.4	Other Uses of Law Enforcement	<i>No Changes</i>
10.17	Motorist Awareness System (MAS)	<i>No Changes</i>
10.17.1	Portable Regulatory Signs (PRS)	<i>No Changes</i>
10.17.2	Radar Speed Display Unit (RSDU)	<i>No Changes</i>
10.17.3	Highway Advisory Radio (HAR)	<i>No Changes</i>
10.17.4	Safety Warning Transmitter (SWT)	<i>No Changes</i>
10.17.5	Speed and Law Enforcement Officer	<i>No Changes</i>

Tables

10.14.1 Taper Length Criteria for Work Zones	<i>No Changes</i>
10.14.2 Minimum Radii for Normal 0.02 Cross Slopes	<i>No Changes</i>

Exhibits

10-A Lane Closures	<i>No Changes</i>
10-B Lane Closure Policy and Procedure	<i>10-6</i>

Chapter 11 – Storm Water Pollution Prevention Plan

11.1 General	<i>No Changes</i>
--------------------	-------------------

Chapter 12 – Right of Way

12.1 General	<i>12-1</i>
12.2 Procedures for Establishing R/W Requirements	<i>No Changes</i>
12.2.1 Open Cut and Fill Roadway Sections	<i>No Changes</i>
12.2.2 Curb and Gutter Roadway Section	<i>No Changes</i>
12.2.3 Access Management	<i>12-1</i>
12.2.4 Procedures for Decision Making	<i>No Changes</i>
12.2.5 Transmittal of R/W Requirements	<i>No Changes</i>
12.3 Process for Establishing Right of Way Requirements	<i>No Changes</i>
12.3.1 New or Major Reconstruction Projects	<i>No Changes</i>
12.3.2 Reconstruction Projects With Anticipated R/W Requirements	<i>No Changes</i>
12.3.3 Projects Without an Identified R/W Phase	<i>No Changes</i>
12.4 Property Owner Contacts	<i>12-1</i>
12.5 Construction Issues	<i>12-2</i>

Figures

12.3.3 R/W Requirements Generalized Process Flow Diagram*No Changes*

Chapter 13 – Initial Engineering Design Process

13.1 General*No Changes*

13.2 Initial Engineering Design (Phase I)*13-1*

13.3 Scope, Objectives, Schedule and Budget*No Changes*

13.4 Project Design Controls and Standards*No Changes*

13.5 Support Services*No Changes*

13.5.1 Aviation Office Coordination*No Changes*

13.5.2 Projects Involving Bridges With Lead Based Paint*No Changes*

13.6 Preliminary Geometry, Grades, and Cross Sections*No Changes*

Tables

13.5.1 Construction of Airspace Obstructions – Notification*No Changes*

Exhibits

13-A Major Activities – Initial Engineering Process*No Changes*

Chapter 14 – Final Engineering Design Process

14.1 General*No Changes*

14.2 Final Engineering Design*No Changes*

14.3 Contract Plans Preparation*No Changes*

14.4 Specifications and Special Provisions*14-1*

14.5 Pay Items and Summaries of Quantities*14-1*

14.6 Assemble Contract Plans Package*14-1*

Exhibits

14-A Major Activities – Final Engineering Design Process	14-2
--	------

Chapter 15 – Update Engineering Design Process

15.1 General	No Changes
15.2 Design Update Review and Decision Process	No Changes
15.3 Updating Engineering Design and Documents	No Changes
15.4 Revised Contract Plans Package	No Changes

Exhibits

15-A Major Activities - Update Engineering Design Process	No Changes
---	------------

Chapter 16 – Design Submittals

16.1 General	No Changes
16.2 Design Documentation Submittals	No Changes
16.2.1 Field Survey Data	No Changes
16.2.2 Project Traffic	No Changes
16.2.3 Typical Section Package	16-1
16.2.4 Preliminary Drainage Design	16-2
16.2.5 Preliminary Geometry and Grades	16-2
16.2.5.1 Turnpike Preliminary Line and Grade Submittal	16-2
16.2.6 Preliminary Traffic Control Plan	16-3
16.2.7 Pavement Selection and Design	16-3
16.2.7.1 Turnpike Pavement Design Submittals	16-3
16.2.8 Preliminary Utilities	No Changes

16.3	Structures Submittals	<i>No Changes</i>
16.3.1	Coordination of Structural Design – (Bridges and Retaining Walls)	<i>No Changes</i>
16.3.2	Bridges	<i>No Changes</i>
16.3.3	Other Structural Submittals and Reviews	<i>No Changes</i>
16.4	Plans Phase Reviews	<i>No Changes</i>
16.4.1	Phase III Submittals	<i>16-3</i>
16.4.2	Phase IV Submittals	<i>16-3</i>
16.4.3	Final Submittal	<i>16-4</i>
16.4.3.1	Full Electronic Seal	<i>16-4</i>
16.4.3.2	Partial Electronic Seal	<i>16-4</i>
16.4.3.3	Architectural Plans	<i>16-4</i>

Exhibits

16-C	Building	<i>16-5</i>
16-D	Certification of Plans, Specifications and Quantities.....	<i>16-6</i>

Chapter 17 – Engineering Design Estimate Process

17.1	General	<i>No Changes</i>
17.2	Pay Item List	<i>No Changes</i>
17.3	Designer Interface for TRNS*PORT	<i>No Changes</i>
17.4	Estimated Quantities	<i>No Changes</i>
17.4.1	Computation Book and Summary of Quantities	<i>17-1</i>
17.4.1.1	Plan Quantity	<i>No Changes</i>
17.4.1.2	Final Measurement Concept	<i>No Changes</i>
17.4.2	Breakdown of Quantities	<i>No Changes</i>

17.4.3	Utility Contract Plans (Joint Project Agreements)	<i>No Changes</i>
17.4.4	Plan Notes	<i>No Changes</i>
17.5	Specifications (Method of Measurement)	<i>No Changes</i>
17.6	Pay Items	<i>No Changes</i>
17.7	Contract Time	<i>No Changes</i>
17.8	Alternative Contracting Practices	<i>17-1</i>

Exhibits

17-A	Major Activities - Engineering Design Estimate Process	<i>No Changes</i>
------	--	-------------------

Chapter 18 – Quality Assurance & Quality Control

18.1	General	<i>No Changes</i>
18.2	Quality Assurance	<i>No Changes</i>
18.2.1	Authority	<i>No Changes</i>
18.2.2	Accountability	<i>No Changes</i>
18.2.3	Critical Areas to be Monitored	<i>No Changes</i>
18.2.4	Documentation	<i>No Changes</i>
18.2.5	Training	<i>No Changes</i>
18.3	Quality Control	<i>No Changes</i>
18.3.1	Authority	<i>No Changes</i>
18.3.2	Accountability	<i>No Changes</i>
18.3.3	Critical Areas to be Monitored	<i>No Changes</i>
18.3.4	Documentation	<i>No Changes</i>
18.3.5	Training	<i>No Changes</i>
18.4	Turnpike Quality Control and Assurance Process	<i>18-1</i>
18.4.1	Quality Goals and General Requirements	<i>18-1</i>

18.4.2	Quality Control Procedure Requirement	18-3
18.4.2.1	Completion Checklists Requirements	18-3
18.4.2.2	Quality Control Tracking Stamp Requirements	18-3
18.4.2.3	Quality Process Log Requirements	18-4
18.4.2.4	Standard Documentation Procedure	18-4
18.4.3	Definitions	18-4

Exhibits

18-A	Project Staffing List	18-6
18-B	Quality Process Log	18-11
18-C	Certificate of Compliance	18-12

Chapter 19 – Sealing Design Documents

19.1	General	<i>No Changes</i>
19.2	Sealing of Contract Plans/Record Set	<i>No Changes</i>
19.2.1	Manual Sealing	<i>No Changes</i>
19.2.2	Electronic Sealing	<i>No Changes</i>
19.3	Sealing Other Engineering Documents	<i>No Changes</i>
19.4	Sealing of Revisions	<i>No Changes</i>
19.4.1	Plans	<i>No Changes</i>
19.4.2	Other Engineering Documents	<i>No Changes</i>
19.5	Support Documents	<i>No Changes</i>
19.5.1	18 KIP Equivalent Single Axle Loads (ESAL)	<i>No Changes</i>
19.5.2	Project Traffic	<i>No Changes</i>

Chapter 20 – Plans Processing and Revisions

20.1 General*No Changes*
 20.2 Glossary*No Changes*
 20.3 Plans Processing*No Changes*
 20.3.1 District Activities*No Changes*
 20.3.2 Submittal to Tallahassee*20-1*
 20.4 Revisions to the Contract Plans Package*No Changes*
 20.5 Resubmittal of Withdrawn Project*No Changes*

Figures

20.1 District Revisions*No Changes*

Exhibits

20-A Transmittal of Contract Plans Set*No Changes*
 20-B Contract File Index*No Changes*
 20-C Revision Memo*No Changes*
 20-E Plans, Specifications and Computation Book*No Changes*
 20-F Project Certification to Federal Standards*No Changes*
 20-G Preliminary Engineering Certification*No Changes*
 20-H Request for Control Group Change*No Changes*
 20-I Change Memo*No Changes*

Chapter 21 – Transportation Design for Livable Communities

21.1 General*No Changes*
 21.2 Planning*No Changes*
 21.3 Application*No Changes*

21.4	Techniques	<i>No Changes</i>
21.5	Design Criteria	<i>No Changes</i>
21.5.1	Design Speed	<i>No Changes</i>
21.5.2	Number of Lanes	<i>No Changes</i>
21.5.3	Lane Widths	<i>No Changes</i>
21.5.4	Horizontal Alignment	<i>No Changes</i>
21.5.5	Medians	<i>No Changes</i>
21.5.6	Horizontal Clearance and Clear Zones	<i>No Changes</i>
21.5.7	Intersections	<i>No Changes</i>
21.5.8	Lighting	<i>No Changes</i>
21.5.9	Traffic Control	<i>No Changes</i>
21.5.10	Landscaping	<i>No Changes</i>
21.5.11	Parking	<i>No Changes</i>
21.5.12	Alternative Roadway Paving Materials	<i>No Changes</i>
21.5.13	Conversion to One-Way Pairs	<i>No Changes</i>
21.6	Pedestrian and Bicycle Considerations	<i>No Changes</i>
21.6.1	Sidewalks	<i>No Changes</i>
21.6.2	Crosswalks	<i>No Changes</i>
21.6.3	Curb Extensions (Bulb-Outs)	<i>No Changes</i>
21.6.4	Personal Security and Safety Amenities	<i>No Changes</i>
21.6.5	Bicycle Facilities	<i>No Changes</i>
21.7	Transit-Systems and Amenities	<i>No Changes</i>

Tables

21.1	Lane Widths	<i>No Changes</i>
21.2	Horizontal Clearance to Utility Installations	<i>No Changes</i>

21.3	Horizontal Clearance to Trees	<i>No Changes</i>
21.4	Horizontal Clearance to Other Roadside Obstacles	<i>No Changes</i>
21.5	TDLC Clear Zone	<i>No Changes</i>

Figures

21.1	Curb Extension	<i>No Changes</i>
------	----------------------	-------------------

Exhibits

21-A	General Techniques	<i>No Changes</i>
21-B	Techniques To Reduce Speed Or Traffic Volume	<i>No Changes</i>
21-C	Techniques To Support Shifts Between Modes	<i>No Changes</i>
21-D	Area-Wide Techniques	<i>No Changes</i>

Chapter 22 – Lump Sum Project Guidelines

22.1	General	<i>No Changes</i>
22.2	Project Selection	<i>No Changes</i>
22.3	Plans Preparation	<i>No Changes</i>
22.4	Preliminary Estimate	<i>No Changes</i>
22.5	Specifications	<i>No Changes</i>
22.6	Contracts Administration	<i>No Changes</i>
22.7	Construction Contract Administration	<i>No Changes</i>
22.8	Materials Sampling and Testing	<i>No Changes</i>

Exhibits

22-A	Items of Work	<i>No Changes</i>
------	---------------------	-------------------

Chapter 23 – Design Exceptions and Design Variations

23.1	General	<i>No Changes</i>
23.2	Design Exceptions	<i>No Changes</i>
23.2.1	Coordination and Conceptual Concurrence	<i>No Changes</i>
23.2.2	Justification and Documentation	<i>No Changes</i>
23.2.3	Approval and Concurrence	<i>23-1</i>
23.2.3.1	Turnpike Design Exceptions	<i>23-1</i>
23.2.3.2	Turnpike Design Variations	<i>23-1</i>
23.2.4	Sealing	<i>No Changes</i>
23.2.5	Concurrence Review	<i>No Changes</i>
23.2.6	Copies and Distribution	<i>No Changes</i>
23.3	Design Variations	<i>No Changes</i>
23.4	AASHTO Criteria for Critical Design Elements	<i>No Changes</i>

Tables

Criteria Tables Cross Reference	<i>No Changes</i>
---------------------------------------	-------------------

Exhibits

23-A	Sample Request Letter for Design Exception	<i>No Changes</i>
23-B	Sample Request Letter for Design Variation	<i>No Changes</i>
23-C	Design Exceptions Variations and Utility Exceptions Process ...	<i>No Changes</i>

Chapter 24 – Federal Aid Project Certification

24.1	General	<i>No Changes</i>
24.2	Exemption Coverage	<i>No Changes</i>
24.2.1	Exclusions	<i>No Changes</i>

24.3	Certification Responsibilities	<i>No Changes</i>
24.4	Certification Documentation and Reviews	<i>No Changes</i>
24.5	Certification Statement	<i>No Changes</i>

Exhibits

24-A	Approval and Concurrence Process	<i>No Changes</i>
24-B	Design Plans Phase Review	<i>No Changes</i>
24-C	Special Provisions	<i>No Changes</i>

Chapter 25 – Florida’s Design Criteria For Resurfacing, Restoration and Rehabilitation (RRR) of Streets and Highways

25.1	Introduction	<i>No Changes</i>
25.1.1	General	<i>No Changes</i>
25.1.2	Application	<i>No Changes</i>
25.2	Planning and Programming RRR Projects	<i>No Changes</i>
25.2.1	Projects Requiring Right of Way	<i>No Changes</i>
25.2.2	Projects With Bridges Within Project Limits	<i>No Changes</i>
25.2.3	Project Features Requiring Exceptions and Variations ...	<i>No Changes</i>
25.3	RRR Project Design Process	<i>No Changes</i>
25.3.1	Review of Project Purpose	<i>No Changes</i>
25.3.1.1	Principal Reason(s) for the RRR Project	<i>No Changes</i>
25.3.1.2	General Nature of Proposed Improvements (Type of Work).....	<i>No Changes</i>
25.3.1.3	Review Project Budget and Priority	<i>No Changes</i>
25.3.2	Assessment of Conditions	<i>No Changes</i>
25.3.2.1	Office Reviews	<i>No Changes</i>

25.3.2.2	Field Reviews	<i>No Changes</i>
25.3.3	Project Scopes	<i>No Changes</i>
25.3.4	Survey Guidelines for RRR Projects	<i>No Changes</i>
25.3.4.1	Types of Work for RRR Projects	<i>No Changes</i>
25.3.4.2	Definition of Levels of Survey Effort	<i>No Changes</i>
25.3.5	Review Project Plans	<i>No Changes</i>
25.3.6	Document the Design Process	<i>No Changes</i>
25.4	RRR Design Criteria	<i>No Changes</i>
25.4.1	Design Period	<i>No Changes</i>
25.4.2	Project Traffic Volume	<i>No Changes</i>
25.4.3	Pavement Design	<i>No Changes</i>
25.4.4	Design Speed	<i>No Changes</i>
25.4.5	Lane and Shoulder Widths	<i>No Changes</i>
25.4.6	Roadway Cross Slopes	<i>No Changes</i>
25.4.7	Superelevation	<i>No Changes</i>
25.4.8	Shoulder Treatment	<i>No Changes</i>
25.4.9	Side Slopes	<i>No Changes</i>
25.4.10	Vertical Alignment	<i>No Changes</i>
25.4.10.1	Vertical Curvature	<i>No Changes</i>
25.4.10.2	Grades	<i>No Changes</i>
25.4.11	Horizontal Alignment	<i>No Changes</i>
25.4.11.1	Horizontal Curves	<i>No Changes</i>
25.4.12	Stopping Sight Distance	<i>No Changes</i>
25.4.13	Vertical Clearance	<i>No Changes</i>
25.4.14	Horizontal Clearance	<i>No Changes</i>
25.4.15	Control Zones	<i>No Changes</i>

25.4.16	Border	<i>No Changes</i>
25.4.17	Intersections	<i>No Changes</i>
25.4.18	Drainage	<i>No Changes</i>
25.4.19	Pedestrian, Bicyclist and Transit Needs	<i>No Changes</i>
25.4.20	Utilities (Underground and Overhead)	<i>No Changes</i>
25.4.21	At-grade Railroad Crossings	<i>No Changes</i>
25.4.22	Aesthetics and Landscaping	<i>No Changes</i>
25.4.23	Highway Lighting	<i>No Changes</i>
25.4.24	Highway Traffic Control Devices	<i>No Changes</i>
25.4.25	Bridges	<i>No Changes</i>
25.4.25.1	Bridge Loading	<i>No Changes</i>
25.4.25.2	Bridge Width	<i>No Changes</i>
25.4.25.3	Bridge Railing	<i>No Changes</i>
25.4.25.4	Vertical Clearance	<i>No Changes</i>
25.4.25.5	Considerations	<i>No Changes</i>
25.4.26	Roadside Safety Hardware	<i>No Changes</i>
25.4.26.1	Longitudinal Barriers, Guardrails, Median Barriers	<i>No Changes</i>
25.4.26.2	Guardrail to Bridge Rail Transitions	<i>No Changes</i>
25.4.26.3	Guardrail Terminals	<i>No Changes</i>
25.4.26.4	Crash Cushions and Attenuators	<i>No Changes</i>
25.5	Design Exceptions and Variations	<i>No Changes</i>

Tables

25.4.5.1	Lane and Shoulder Widths - Rural Multilane	<i>No Changes</i>
----------	--	-------------------

25.4.5.2	Lane and Shoulder Widths Two-Lane Rural and Urban, Without Curb and Gutter	<i>No Changes</i>
25.4.5.3	Lane Widths Urban Multilane or Two-Lane With Curb and Gutter	<i>No Changes</i>
25.4.5.4	Lane and Shoulder Widths Urban Multilane Without Curb and Gutter	<i>No Changes</i>
25.4.6	Roadway Cross Slopes	<i>No Changes</i>
25.4.10.1	K Values for Vertical Curvature	<i>No Changes</i>
25.4.11.1	Safe Criteria for State Highway System With Maximum Superelevation	<i>No Changes</i>
25.4.12	Stopping Sight Distance	<i>No Changes</i>
25.4.14.1	Clear Zone Width (feet)	<i>No Changes</i>
25.4.14.2	Horizontal Clearance for Traffic Control Signs	<i>No Changes</i>
25.4.14.3	Horizontal Clearance for Light Poles	<i>No Changes</i>
25.4.14.4	Horizontal Clearance for Utility Installations	<i>No Changes</i>
25.4.14.5	Horizontal Clearance to Signal Poles and Controller Cabinets for Signals	<i>No Changes</i>
25.4.14.6	Horizontal Clearance to Trees	<i>No Changes</i>
25.4.14.7	Horizontal Clearance to Bridge Piers and Abutments	<i>No Changes</i>
25.4.14.8	Horizontal Clearance to Railroad Grade Crossing Traffic Control Devices	<i>No Changes</i>
25.4.14.9	Horizontal Clearance to Other Roadside Obstacles	<i>No Changes</i>
25.4.25.1	Bridge Loading	<i>No Changes</i>
25.4.25.2	Clear Width Criteria for Bridges	<i>No Changes</i>

Exhibits

25-A Control Zones*No Changes*

Chapter 26 – Bridge Project Development

26.1	General	<i>No Changes</i>
26.2	Organization	<i>No Changes</i>
26.3	Definitions	<i>No Changes</i>
26.3.1	Category 1 Structures	<i>No Changes</i>
26.3.2	Category 2 Structures	<i>No Changes</i>
26.4	Abbreviations Used in Structures Design	<i>No Changes</i>
26.5	Responsibility	<i>No Changes</i>
26.6	FHWA Oversight	<i>No Changes</i>
26.7	Bridge Project Development	<i>No Changes</i>
26.8	Bridge Analysis.....	<i>No Changes</i>
26.8.1	General	<i>No Changes</i>
26.8.2	Contents	<i>No Changes</i>
26.9	Bridge Development Report (BDR)/30% Structures Plans	<i>No Changes</i>
26.9.1	General	<i>No Changes</i>
26.9.2	Contents	<i>No Changes</i>
26.9.3	Format	<i>No Changes</i>
26.9.4	Aesthetics	<i>No Changes</i>
26.9.5	Construction and Maintenance Considerations	<i>No Changes</i>
26.9.6	Historical Significance Considerations	<i>No Changes</i>
26.9.7	Alternative Designs	<i>No Changes</i>
26.9.8	Conclusions and Recommendations	<i>No Changes</i>
26.9.9	30% Structures Plans	<i>No Changes</i>

26.10	Bridge Development Report (BDR) Submittal Checklist	<i>No Changes</i>
26.10.1	Typical Sections for Roadway and Bridge	26-1
26.10.2	Roadway Plans	<i>No Changes</i>
26.10.3	Maintenance of Traffic Requirements	<i>No Changes</i>
26.10.4	Bridge Hydraulics Report and Bridge Hydraulics Recommendation Sheet	26-1
26.10.5	Geotechnical Report	<i>No Changes</i>
26.10.6	Bridge Corrosion Environment Report	<i>No Changes</i>
26.10.7	Existing Bridge Plans	<i>No Changes</i>
26.10.8	Existing Bridge Inspection Report	<i>No Changes</i>
26.10.9	Utility Requirements	<i>No Changes</i>
26.10.10	Railroad Requirements	<i>No Changes</i>
26.10.11	Retaining Wall and Bulkhead Requirement	<i>No Changes</i>
26.10.12	Lighting Requirements	<i>No Changes</i>
26.10.13	Handicap Access Requirements	<i>No Changes</i>
26.11	Final Plans and Specifications Preparation	<i>No Changes</i>
26.11.1	General	<i>No Changes</i>
26.11.2	60% Substructure Submittal / 60% Structures Plans ...	<i>No Changes</i>
26.11.3	90% Structures Plans	<i>No Changes</i>
26.11.4	100% Structures Plans and Specifications	<i>No Changes</i>
26.12	Plans Assembly	<i>No Changes</i>
26.13	Plans Submittal	<i>No Changes</i>
26.13.1	Schedule	<i>No Changes</i>
26.13.2	Submittal Schedule	<i>No Changes</i>
26.14	Review for Constructability and Maintainability	<i>No Changes</i>

26.14.1 Purpose*No Changes*
 26.14.2 Responsibility*No Changes*
 26.15 Review for Biddability*No Changes*
 26.15.1 Purpose*No Changes*
 26.15.2 Responsibility*No Changes*
 26.16 Bridge Load Rating*26-1*
 26.17 Review of Non-FDOT Funded Projects (New Construction) ...*No Changes*
 26.18 Deviations from Structures Design Guidelines.....*26-1*
 26.18.1 Deck Slab Design.....*26-1*

Exhibits

26-A Bridge Development Report (BDR) Submittal Checklist*No Changes*

Chapter 27 – Hydraulic Data and U.S. Coast Guard Permits

27.1 Bridge Hydraulic Report (BHR)*No Changes*
 27.2 Bridge Hydraulic Recommendation Sheet (BHRS)*No Changes*
 27.3 U.S. Coast Guard Permit*No Changes*
 27.4 Scour Considerations*No Changes*
 27.4.1 Development of Scour Design Criteria*No Changes*
 27.4.2 Submittal Requirements for Scour Design*No Changes*
 27.5 Debris Accumulation*No Changes*
 27.6 Widening*No Changes*
 27.7 Scour Elevations*No Changes*

Exhibits

27-A Structural Plans Development*No Changes*

Chapter 28 – Shop and Erection Drawings

28.1	Introduction	28-1
28.2	Drawing Submittals Required	28-1
28.3	Contractor Information Required	28-1
28.4	Submittals Requiring a Specialty Engineer	28-1
28.5	Scheduling of Submittals	28-1
28.6	Transmittal of Submittals	28-2
28.6.1	General Submittal Requirements	28-2
28.6.2	Requirements for Department EOR	<i>No Changes</i>
28.6.3	Requirements for Consultant EOR (Full Services)	<i>No Changes</i>
28.6.3.1	Review by Engineer of Record only	<i>No Changes</i>
28.6.3.2	Review by Engineer of Record and the Department	<i>No Changes</i>
28.6.4	Requirements for Consultant EOR (Design Services Only)	<i>No Changes</i>
28.6.5	Requirements for Architectural or Building Structures ...	<i>No Changes</i>
28.6.6	Requirements for Roadway Submittal Items	<i>No Changes</i>
28.6.7	Requirements for Overhead Sign Structures and Nonstandard Miscellaneous Structures	<i>No Changes</i>
28.6.8	Miscellaneous Requirements and Assistance	<i>No Changes</i>
28.7	Disposition of Submittals	<i>No Changes</i>
28.7.1	Minor Modifications	<i>No Changes</i>
28.7.2	Major Modifications	<i>No Changes</i>
28.8	Segmental Bridges - Shop Drawing Checklist	<i>No Changes</i>
28.8.1	Construction Methods and Sequence (Overall Scheme) ..	<i>No Changes</i>

28.8.2	Casting Curves and Geometry Control	<i>No Changes</i>
28.8.3	Post-Tensioning System and Computation	<i>No Changes</i>
28.8.4	Segment Shop Drawings	<i>No Changes</i>
28.8.5	Erection Equipment	<i>No Changes</i>
28.9	Distribution of Submittals	<i>No Changes</i>
28.10	Review of Prequalified Joint Welding Procedures	<i>No Changes</i>
28.11	Submittal Activity Record (Logbook)	28-3
28.11.1	Shop Drawing Website	28-3
28.11.2	RFI Log Website	28-4
28.12	Archiving Record Shop Drawings	<i>No Changes</i>

Tables

28.1	FDOT Changes to Minor Modifications	<i>No Changes</i>
28.2	FDOT Changes to Major Modifications	<i>No Changes</i>
28.3	Shop Drawing Distribution Schedule	<i>No Changes</i>

Figures

28.1	Record Shop Drawing Transmittal	<i>No Changes</i>
------	---------------------------------------	-------------------

Exhibits

28-A	Shop Drawing Flow Diagram for Review by Consultant EOR Only (Structural Items)	<i>No Changes</i>
28-B	Shop Drawing Flow Diagram for EOR & DOT Review (Structural Items)	<i>No Changes</i>
28-C	Shop Drawing Flow Diagram for Review by DOT Only (Structural Items)	<i>No Changes</i>

28.6-A Turnpike Enterprise Shop Drawing Review Office;
 Routing Chart for Shop Drawing Review Process28-5

28.6-B Turnpike Enterprise Shop Drawing Review Office;
 Overview Distribution Chart28-6

28.6-C Turnpike Enterprise Shop Drawing Review Office;
 Shop Drawing Submittal Checklist28-7

28.6-D Turnpike Enterprise Shop Drawing Review Office;
 Contact Information28-8

Chapter 29 – Miscellaneous Highway Related Structures

29.1 Design of Overhead Sign Structures and Foundations29-1

 29.1.1 Overhead Signs in Urban Locations*No Changes*

 29.1.2 Overhead Signs in Rural Locations29-1

 29.1.3 Overhead Signs on Bridge Structures*No Changes*

 29.1.4 Space Frame Gantry Structure.....29-1

29.2 Design of High Mast Light Poles and Foundations*No Changes*

29.3 Design of Mast Arm Assemblies and Foundations*No Changes*

 29.3.1 General Requirements*No Changes*

 29.3.2 Standard Mast Arm Assemblies*No Changes*

 29.3.3 Standard Mast Arm Assemblies
 for Site Specific Loadings*No Changes*

 29.3.4 Special Mast Arm Assemblies*No Changes*

 29.3.5 Anchor Bolt Installation on Existing Foundations*No Changes*

 29.3.6 Design of Monotube Signal Structures
 and Foundations.....*No Changes*

29.4 Structural Design of Aluminum Light Poles*No Changes*

 29.4.1 General Requirements*No Changes*

 29.4.2 Standard Aluminum Light Poles and Foundations*No Changes*

 29.4.3 Special Aluminum Light Poles and Foundations*No Changes*

29.5 Design of Strain Poles and Span Wire Assembly*No Changes*

29.6 Design of Sound Barrier Walls*No Changes*

 29.6.1 Geotechnical Investigation*No Changes*

 29.6.2 Preparation of Control Drawings*No Changes*

 29.6.3 Detail Drawings*No Changes*

Tables

29.1 Design Wind Speeds (mph)*No Changes*

29.2 Design Wind Speeds for Mast Arms*No Changes*

Figures

29.1 (Showing Actual Signs)*No Changes*

29.2 (Showing Signs for Design Purposes)*No Changes*

Exhibits

29-A Flowchart for Designing and Detailing Mast Arm Assemblies ..*No Changes*

Chapter 30 – Retaining Walls

30.1 Purpose*No Changes*

30.2 Conventional (CIP) Retaining Walls and
 Proprietary Retaining Walls (Permanent Walls)*No Changes*

30.2.1	Retaining Walls (Conventional Design).....	<i>No Changes</i>
30.2.2	Retaining Walls (Proprietary Design)	
	(Design Required in Contract Plans)	<i>No Changes</i>
30.2.3	Retaining Walls (Proprietary Design) (Design not Required in Contract Plans - Control Plans only)	<i>No Changes</i>
30.2.4	Wall System Selection	<i>No Changes</i>
30.3	Critical Temporary Walls	<i>No Changes</i>
30.4	Experimental Wall Projects	<i>No Changes</i>
30.5	Shop Drawing Review	<i>No Changes</i>
30.6	Bidding Procedure	<i>No Changes</i>

Figures

30.1	Proprietary Retaining Walls	<i>No Changes</i>
------	-----------------------------------	-------------------

Exhibits

30-A	Sample Invitation Letter	<i>No Changes</i>
30-B	Sample Letter	<i>No Changes</i>
30-C	Procedure for Wall System Selection	<i>No Changes</i>

Chapter 31 – Geosynthetic Design

31.1	Purpose	<i>No Changes</i>
31.2	Contract Plans Content	<i>No Changes</i>
31.3	Bid Procedure	<i>No Changes</i>
31.4	Shop Drawings / Redesigns	<i>No Changes</i>
31.5	Geosynthetic Reinforcement Design Methodology	<i>No Changes</i>

31.5.1 Design Considerations*No Changes*
 31.5.2 Requirements*31-1*
 31.5.3 Design Guidelines*No Changes*

Exhibits

31-A Geosynthetic Reinforced Soil Slopes*No Changes*
 31-B Geosynthetic Reinforced Foundations Over Soft Soils*No Changes*

Chapter 32 – Sound Barrier Walls

32.1 General Requirements.....*No Changes*
 32.2 Noise Study Report Addendum.....*No Changes*
 32.3 Noise Abatement Criteria.....*No Changes*
 32.4 Public Involvement.....*No Changes*
 32.5 Final Noise Abatement Commitments.....*No Changes*
 32.6 Design of Sound Barrier Walls.....*No Changes*
 32.7 Geotechnical Investigation.....*No Changes*
 32.8 Preparation of Control Drawings.....*No Changes*
 32.9 Detail Drawings.....*No Changes*

Tables

32.1 Noise Abatement Criteria.....*No Changes*