Contents

Division 1 Manual Overview

Chapter 100 Manual Description

100.01 Purpose 100-1
100.02 Presentation and Revisions 100-1
100.03 Manual Applications 100-2
100.04 Manual Use 100-2
100.05 Manual Organization 100-2

Division 2 Project Development

Chapter 200 Capital Project Scoping

200.01 General 200-1
200.02 References 200-1
200.03 Preservation Projects 200-3
200.04 Improvement Projects 200-7
200.05 Scoping Procedures 200-12
200.06 Predesign Studies 200-24
200.07 Level of Service 200-25

Chapter 205 External Project Scoping and Review Requirements

205.01 General 205-1
205.02 References 205-1
205.03 Security Scoping and Project Review Requirements 205-2
205.04 Information Technology and Intelligent Transportation Systems Scoping and Project Review Requirements 205-3
205.05 Operations Scoping and Project Review Requirements 205-6

Chapter 210 Design Matrix Procedures

210.01 General 210-1
210.02 Selecting a Design Matrix 210-1
210.03 Using a Design Matrix 210-1

Chapter 220 Design Documentation, Approval and Process Review

220.01 General 220-1
220.02 References 220-2
220.03 Definitions 220-4
220.04 Design Documentation 220-6
220.05 Project Development 220-9
220.06 Design Approval 220-11
220.07 Project Development Approval 220-13
220.08 Combined Design Approval/Project Development Approval 220-14
220.09 FTA Triennial Review 220-14
220.10 Design Drawing Production 220-16

Chapter 230 Quality and Constructability

230.01 General 230-1
230.02 References 230-1
230.03 Definitions 230-3
230.04 Roles and Responsibilities 230-5
230.05 Project Management Plan 230-7
230.06 Quality Control. 230-8
230.07 Quality Assurance 230-9
230.08 Quality Control/Quality Assurance (Consultant Designed Projects). 230-13
230.09 Quality Control/Quality Assurance (Structures) 230-14
230.10 Project Goal Requirements. 230-20
230.11 Advertisement 230-21

Division 3 General Design Criteria

Chapter 300 Accessibility

300.01 General 300-1
300.02 References 300-2
300.03 Definitions 300-4
300.04 Policy 300-4
300.05 ADA Requirements by Project Type 300-5
300.06 Terminal Facilities. 300-7
300.07 Staff Facilities at Terminals 300-18
300.08 Site Design Considerations 300-19
300.09 Gangways 300-22
300.10 Pedestrian Features within DOT Rights-of-Way. 300-23
300.11 Documentation 300-23
300.12 People First Language. 300-24

Chapter 310 Security

310.01 General 310-1
310.02 References 310-2
310.03 Design Considerations 310-2
310.04 MARSEC Levels 310-3
310.05 Vessel Security 310-3
310.06 Passenger Security Screening Area. 310-4
310.07 Security Rooms 310-4
310.08 Toll Plaza and Vehicle Holding Area 310-5
310.09 Waterside Structures 310-6
310.10 Access Control/Restricted Areas/TWIC 310-7
310.11 Closed Circuit Television. 310-7
310.12 Panic Buttons 310-7
310.13 Signage 310-8
310.14 Sensitive Security Information (SSI) 310-8

Chapter 315 Risk Management and Safety Systems

315.01 General 315-1
315.02 References 315-2
315.03 Definitions 315-2
315.04 Risk Management 315-3
315.05 Safety Design Considerations 315-3

Chapter 320 Environmental Stewardship

320.01 Environmental Stewardship 320-1
320.02 Environmental Stewardship & Sustainability Program 320-2
320.03 Environmental Documentation, Permits, and Approvals 320-2
320.04 Environmental Stewardship & Sustainability Process 320-5

Chapter 325 Surveying

325.01 General 325-1
325.02 References 325-1
325.03 Procedures 325-2
325.04 Datums 325-2
325.05 Global Positioning System 325-2
325.06 Geographic Information System 325-3
325.07 Photogrammetric Surveys 325-3
325.08 Monumentation 325-3
325.09 Documentation 325-3

Chapter 330 Marine

330.01 General 330-1
330.02 References 330-3
330.03 Design Specifications Matrix 330-5
330.04 Design Considerations 330-5
330.05 Vessels 330-12
330.06 Tidal Information 330-18
330.07 Slips 330-22
330.08 Berthing and Mooring Criteria 330-28
330.09 Wave, Flood, and Coastal Storm Loading 330-30

Chapter 340 Civil

340.01 General 340-1
340.02 References 340-3
340.03 Design Considerations 340-3
340.04 Project Datum 340-5
340.05 Site Preparation 340-6
340.06 Grading and Erosion Control 340-7
340.07 Roadway Design and Channelization 340-8
340.08 Pavement Design 340-11
340.09 Traffic Control 340-13

Chapter 350 Buildings

350.01 General 350-1
350.02 References 350-2
350.03 Design Considerations 350-4
350.04 Building Structures 350-6
350.05 Building Foundations 350-9
350.06 Building Utilities. 350-10
350.07 Building Permits 350-12

Chapter 360 Electrical

360.01 General 360-1
360.02 References 360-1
360.03 Design Considerations 360-2
360.04 Wiring and Protection. 360-6
360.05 Wiring Methods and Materials 360-10
360.06 Equipment. 360-13
360.07 Lighting 360-18

Division 4 Terminal Buildings

Chapter 400 Passenger Buildings

400.01 General 400-1
400.02 References 400-3
400.03 Design Considerations 400-3
400.04 Passenger Building Spaces 400-5
400.05 Circulation, Structure, and Envelope Multipliers 400-5
400.06 Facility Entry 400-6
400.07 Customer Information 400-6
400.08 Ticketing and Queuing 400-7
400.09 Passenger Waiting Areas 400-8
400.10 Passenger Conveniences 400-8
400.11 Passenger Security Screening Area 400-10
400.12 Lost and Found 400-10
400.13 Attendant Control Station 400-10
400.14 Passenger Control Point 400-10
400.15 Luggage Cart and Wheelchair Storage 400-11
400.16 Security Interview Room 400-11
400.17 Restrooms and Water Fountains 400-12
400.18 Janitor Storage 400-13
400.19 IT Equipment Network Room 400-13
400.20 Terminal Electrical Room 400-14
400.21 Elevator Machine Room 400-15
400.22 Retail, Concessions, and Lease Space 400-15

Chapter 410 Circulation and Passenger Waiting

410.01 General 410-1
410.02 References 410-2
410.03 Design Considerations 410-3
410.04 Passenger Waiting Areas 410-5
410.05 Passenger Circulation 410-19
410.06 Boarding/Departing Routes 410-20

Chapter 420 Passenger Amenities, Business Case

420.01 Elements of the Business Case 420-1
420.02 Special Topics 420-3

Chapter 430 Terminal Supervisor Buildings

430.01 General 430-1
430.02 References 430-2
430.03 Design Considerations 430-3
430.04 Terminal Supervisor Building Spaces 430-4

Chapter 440 Maintenance Buildings, Enclosures, and Support Areas

440.01 General 440-1
440.02 References 440-2
440.03 Design Considerations 440-3
440.04 Terminal Maintenance Building 440-5
440.05 Vessel Maintenance Building 440-7
440.06 Miscellaneous Structures, Enclosures, and Support Areas 440-10

Chapter 450 Architecture

450.01 General 450-1
450.02 References 450-2
450.03 Design Considerations 450-2
450.04 Building Code Requirements 450-3
450.05 Building Permits 450-4
450.06 WSF Architectural Guidelines 450-5
450.07 LEED® Certification 450-10
450.08 Public Art Requirements 450-10

Chapter 460 Landscape Architecture

460.01 General 460-1
460.02 References 460-2
460.03 Design Considerations 460-3
460.04 Pedestrian Pavement/Hardscape:. 460-3
460.05 Landscaping 460-5
460.06 Lighting 460-9
460.07 Site Furnishings 460-9
460.08 Signage and Informational Kiosks 460-10
460.09 Public Art. 460-10
460.10 Flagpoles 460-10

Chapter 470 Public Art

470.01 General 470-1
470.02 References 470-2
470.03 Public Art Requirements 470-2
470.04 Use of Funds for Art 470-3
470.05 Criteria for Public Art 470-3
470.06 Process and Project Delivery Plan 470-5
470.07 Approvals 470-6
470.08 Documentation 470-6

Division 5 Landside Development

Chapter 500 Access, Approaches, and Exits

500.01 General 500-1
500.02 References 500-2
500.03 Design Considerations 500-3
500.04 Vehicle Access Road 500-4
500.05 Vehicle Exits 500-7
500.06 HOV and Transit Access 500-9
500.07 Pedestrian Access and Exits 500-10
500.08 Bicycle Access and Exits 500-11
500.09 Perimeter Fences and Gates 500-11

Chapter 510 Toll Plaza

510.01 General 510-1
510.02 References 510-3
510.03 Design Considerations 510-3
510.04 Toll Plaza Elements 510-5
510.05 Determining Number of Tollbooths 510-10
510.06 Operational Strategies 510-12
510.07 Toll Plaza Signage 510-12

Chapter 520 Vehicle Holding and Support Areas

520.01 General 520-1
520.02 References 520-2
520.03 Design Considerations 520-3
520.04 Vehicle Holding 520-4
520.05 Motorcycle/Bicycle Access and Holding 520-9
520.06 Outdoor Passenger Waiting Area 520-10
520.07 Passenger Amenities 520-11
520.08 Landscaping 520-12

Chapter 530 Parking

530.01 General 530-1
530.02 References 530-2
530.03 Design Considerations 530-3
530.04 Parking Program Elements 530-4
530.05 Parking Area Design 530-4
530.06 Employee Parking 530-5
530.07 Passenger Parking 530-6
530.08 Miscellaneous Parking 530-7

Chapter 540 High Occupancy Vehicle and Transit

540.01 General 540-1
540.02 References 540-2
540.03 Design Considerations 540-2
540.04 Transit Facilities 540-3
540.05 Commuter Rail 540-6
540.06 HOVs, Ridesharing and Ride-Hailing 540-6

Chapter 550 Site Circulation

550.01 General 550-1
550.02 References 550-2
550.03 Design Considerations 550-2
550.04 Public Access 550-3
550.05 Vertical Circulation 550-5
550.06 Vehicle Circulation 550-6
550.07 Building Circulation 550-8

Chapter 560 Site Utilities

560.01 General 560-1
560.02 References 560-2
560.03 Design Considerations 560-3
560.04 Potable Water 560-5
560.05 Fire Protection 560-7
560.06 Sanitary Sewer 560-9
560.07 Stormwater 560-10
560.08 Natural Gas 560-12
560.09 Site Power 560-13
560.10 Site Lighting 560-13
560.11 Communications 560-13

Chapter 570 Signage and Wayfinding

570.01 General 570-1
570.02 References 570-2
570.03 Design Considerations 570-3
570.04 Signage and Wayfinding Design Process 570-4
570.05 Signage and Wayfinding Types 570-9
570.06 Signage Functions 570-11
570.07 Signage Manuals 570-25
570.08 Signage by Location. 570-26

Chapter 580 Sustainability and Resiliency

580.01 Sustainability 580-1
580.02 Resiliency 580-2
580.03 Envision 580-3

Division 6 Waterside Development

Chapter 600 Trestle

600.01 General 600-1
600.02 References 600-3
600.03 Design Considerations 600-4
600.04 Trestle Components 600-7
600.05 Trestle Civil Design 600-9
600.06 Trestle Structural Design 600-10
600.07 Bulkhead Structural Design 600-12
600.08 VTS Bridge Seat Structural Design 600-13
600.09 Trestle Utilities 600-14

Chapter 610 Vehicle Transfer Span

610.01 General 610-1
610.02 References 610-2
610.03 Design Considerations 610-4
610.04 VTS Components (H-Span) 610-7
610.05 VTS Gradients 610-10
610.06 Structural Design Criteria 610-11
610.07 VTS Piped Utilities 610-20
610.08 Mechanical Design Criteria 610-22
610.09 Electrical Design Criteria 610-33

Chapter 620 Passenger Overhead Loading

620.01 General 620-1
620.02 References 620-4
620.03 Design Considerations 620-6
620.04 OHL Components 620-10
620.05 Structural Design Criteria 620-13
620.06 OHL Utilities 620-16
620.07 Mechanical Design Criteria 620-18
620.08 Electrical Design Criteria 620-30
620.09 Architectural Design Criteria 620-35

Chapter 630 Wingwalls

630.01 General 630-1
630.02 References 630-2
630.03 Design Considerations 630-3
630.04 Design Criteria 630-4
630.05 Wingwall Alternatives 630-7
630.06 Miscellaneous Design 630-8

Chapter 640 Fixed Dolphins

640.01 General 640-1
640.02 References 640-2
640.03 Design Considerations 640-3
640.04 Design Criteria 640-4
640.05 Fixed Dolphin Alternatives 640-6
640.06 Miscellaneous Design 640-7

Chapter 650 Floating Dolphins

650.01 General 650-1
650.02 References 650-2
650.03 Design Considerations 650-3
650.04 Design Criteria 650-5
650.05 Stability 650-9
650.06 Anchor System 650-9
650.07 Fender System 650-10
650.08 Towing System 650-10
650.09 Miscellaneous Design 650-11

Division 7 Practical Design

Chapter 700 Practical Design

700.01 General 700-1
700.02 Practical Design Procedure 700-3
700.03 Community Engagement 700-4
700.04 Tribal Engagement 700-4
700.05 Advisory Team 700-5
700.06 Need and Performance Identification 700-5
700.07 Context Identification 700-6
700.08 Design Control Selection 700-6
700.09 Alternative Formulation and Evaluation 700-9
700.10 Design Element Selection and Dimensions 700-10
700.11 Documentation Tools 700-10
700.12 References 700-12

Appendices

Appendix A	Acronyms and Abbreviations	A-1
Appendix B	Definitions	B-1
Appendix C	Comment Review Form	C-1
Appendix D	Quality Audit Sign-Off Sheet	D-1
Appendix E	Quality Control Color Code	E-1
Appendix F	Project Management Plan Examples	F-1
Appendix G	Checking Process Flow Chart	G-1
Appendix H	DQC Sign-Off Sheet	H-1
Appendix I	Deliverables Expectations Matrix	I-1
Appendix J	WSF Project Status Report	J-1
Appendix K	PS&E Turn-In QA/QC Process	K-1
Appendix L	Review Checklist Templates	L-1
Appendix M	Step-by-Step Instructions on Submitting Plans for Advertisement	M-1
Appendix N	Environmental Task Form	N-1
Appendix O	Vessel Data for Terminal Design	O-1
Appendix P	Route Information	P-1
AppendixQ	Terminal Reference Data	R-1
Appendix R	Terminal Site Plans	R-1
Appendix S	Terminal Building Programs	S-1
Appendix T	Terminal Signage Plan Example	T-1
Appendix U	WSF Design Approval/Project Development Approval Templates	U-1
Appendix V	Memorandum of Understanding Arts in Public Places	V-1
Appendix W	Trestle Pavement Depths	W-1
Appendix X	Terminal Tidal Information	X-1
Appendix Y	Terminal Tidal Datum Adjustment	Y-1
Appendix Z	Terminal Vertical Datums	Z-1
Appendix AA	Vehicle Transfer Span Gradients	AA-1
Appendix BB	Vacant	BB-1
Appendix CC	WSF CADD Standard and Procedures	CC-1
Appendix DD	Vacant	DD-1
Appendix EE	Terminal Maintenance Design	EE-1
Appendix FF	Signage and Wayfinding Checklist	FF-1
Appendix GG	Tollbooth Drawings	GG-1
Appendix HH	Vacant	HH-1
Appendix II	TDM Updated Approval Authority Memo (2018.02.05)	II-1