Table of Contents

CHAPTER 1 - INTRODUCTION 1-1

1.1 PURPOSE 1-1
1.2 SCOPE 1-1
1.3 GENERAL 1-1
1.4 DISTRIBUTION 1-2
1.5 PROCEDURE FOR REVISIONS AND UPDATES 1-2

CHAPTER 2 - FDOT CADD SOFTWARE 2-1

2.1 GENERAL 2-1
2.2 DISTRIBUTION 2-1
2.3 SUPPORT 2-1
2.4 SUPPORTED PRODUCTS 2-2
2.5 MINIMUM SYSTEM REQUIREMENTS 2-2
2.6 TRANSLATION OF FILES 2-2

CHAPTER 3 - RESOURCE AND SUPPORT FILES 3-1

3.1 GENERAL 3-1
3.2 DATABASE 3-1
3.3 CONTROL FILES 3-2
3.4 MICROSTATION SEED FILES 3-2
3.5 LEVELS AND SYMBOLOGY 3-3
3.5.1 Levels 3-4
3.5.2 Color Tables 3-4
3.5.3 Line Weight 3-5
3.5.4 Line Styles 3-5
3.5.4.1 Standard English Line Style Measurements for Printing 3-6
3.5.4.2 FDOT Custom Line Style Resource Files 3-6
3.5.4.3 Custom Line Style Graphics 3-6
3.6 PRINTER DRIVER CONFIGURATION FILES 3-18
3.7 CELL LIBRARIES 3-19
3.8 TEXT 3-20
3.8.1 Fonts 3-20
3.8.1.1 FDOT True Type Fonts (TTF) 3-20
3.8.1.2 MicroStation Fonts 3-21

CHAPTER 4 - CADD STANDARD RULES 4-1

4.1 STANDARD RULES 4-1
4.2 STANDARD RULE TABLES 4-3
4.2.1 Alignment Design - ALGNRD 4-3
4.2.2 AutoTURN - AUTOSP 4-5
4.2.3 Clip Border - CLIPRD 4-7
4.2.4 Drainage Detail - DRDTRD 4-10
4.2.5 Existing Drainage - DREXRD 4-16
4.2.6 Drainage Mapping - DRMPRD 4-17
4.2.7 Drainage Proposed - DRPRRD 4-23
4.2.8 Drainage Cross Section - DRXSRD 4-28
4.2.9 Landscaping Design - DSGNLD 4-36
4.2.10 Lighting Design - DSGNLT 4-39
4.2.11 RoadwayDesign - DSGNRD 4-42
4.2.12 Signalization Design - DSGNSG 4-47
4.2.13 Signing and Pavement Marking Design - DSGNSP 4-54
4.2.14 Digital Terrain Model - DTMRD 4-59
4.2.15 Geotechnical - GEOTECH 4-60

4.2.16 GuidSIGN - GSWKSP....4-63
4.2.17 Irrigation - IRRGLD....4-66
4.2.18 Intelligent Transportation System - ITSSP....4-68
4.2.19 Key Sheets - KEYSHT....4-76
4.2.20 Mast Arm Details - MRARSP....4-79
4.2.21 All Levels and Symbology Accepted - OPEN....4-84
4.2.22 Pond Cross Section - PDXSRD....4-84
4.2.23 Roadway Plan Sheet - PLANRD....4-92
4.2.24 Roadway Plan/Profile Sheet - PLPRRD....4-95
4.2.25 Quantity Computation - QTDSRD....4-107
4.2.26 Roadway Cross Section - RDXSRD....4-114
4.2.27 Signing and Pavement Cross Section - RDXSSP....4-122
4.2.28 Right of Way Detail for Roadway – RWDTRD....4-132
4.2.29 Traffic Control - TCDSRD....4-135
4.2.30 Existing Topography for Roadway - TOPORD....4-143
4.2.31 Existing Topography for Right of Way – TOPORW....4-148
4.2.32 Typical Section Data – TYPDRD....4-150
4.2.33 Typical Section Sheets - TYPSRD....4-161
4.2.34 Utilities Adjustment - UTADRD....4-171
4.2.35 Utilities Existing - UTEXRD....4-179
4.2.36 Utilities Proposed - UTPRRD....4-183

CHAPTER 5 - PROJECT STRUCTURE 5-1

5.1 EXCEPTIONS.... 5-1
5.2 STANDARD PROJECT DIRECTORY 5-1
5.2.1 Create Project Procedure 5-1
5.2.2 Discipline Sub-directories....5-1
5.2.2.1 Sub-Directories Under the Discipline Directories 5-2
5.2.3 Custom Sub-directories....5-2
5.2.4 Engineering Data Directory....5-2
5.2.5 Standard Project Directory Format 5- 2
5.3 STANDARD FILE NAMES.... 5-5
5.3.1 Standard Design File Naming Convention 5-5
5.3.2 Print File Naming Convention....5-5
5.3.2.1 Sheet Numbers....5-6
5.3.2.2 Print File Naming Format 5-7
5.3.3 Standard File Name Extensions....5-7
5.3.4 Duplicate Files....5-9
5.4 REFERENCE FILES 5-10
5.5 FILE SHARING AND MERGING.... 5-11
5.6 PROJECT INDEXING & JOURNALING 5-12
5.6.1 Index Guidelines and Format....5-12
5.6.2 Journal Guidelines and Format 5-13

CHAPTER 6 - PRINTING & PRINT IMAGE FILES 6-1

6.1 PRINTS 6-1
6.2 PRINT BORDERS.... 6-1
6.3 IMAGE FILES.... 6-1
6.4 INCLUSION OF ELECTRONIC PLAN SHEETS.... 6-2
6.5 FDOT PRINT DRIVERS.... 6-3
6.5.1 MicroStation Half-Toning 6-3
6.5.2 Quality and Reproduction....6-3

CHAPTER 7 - CADD QUALITY ASSURANCE / QUALITY CONTROL 7-1

7.1 GENERAL 7-1
7.2 PRESERVATION OF THE PROFESSIONAL OF RECORD 7-1
7.3 ELECTRONIC DELIVERY PROCESS MANAGEMENT 7-2
7.4 QUALITY ASSURANCE (QA) – CENTRAL OFFICE ROLE 7-2
7.4.2 QA Reports 7-2
7.5 QUALITY CONTROL (QC) – DATA PRODUCERS' ROLE 7-2
7.5.1 FDOT Filechecker 7-3
7.5.1.1 FileChecker Interface 7-4
7.5.1.2 FileChecker Reports 7-5
7.5.2 Quality Control (QC) Software 7-6
7.5.2.1 QC Quik 7-7
7.5.2.2 QC Batch Report 7-8

CHAPTER 8 - ELECTRONIC DELIVERY PROCEDURE 8-1

8.1 GENERAL 8-1
8.2 GLOSSARY 8-1
8.3 PROJECT DATA SET CONTRASTED TO THE BID SET 8-4
8.4 REVISION FILE NAME CONVENTIONS FOR ELECTRONIC DELIVERY 8-7
8.5 PRE-PRODUCTION 8-7
8.6 PRODUCTION 8-7
8.6.1 Engineering Data 8-9
8.6.2 Data for Machine Control in Construction 8-13
8.6.3 Maximum Corridor Frequency Spacing 8-14
8.6.4 Merging External Project Files 8-14
8.6.5 Reviewing The Project 8-15
8.6.6 Sign and Seal Project Files 8-15
8.6.7 Media Requirements for Delivery 8-16
8.6.8 Compliance Certification 8-17
8.7 POST-PRODUCTION 8-19
8.8 REVISIONS 8-19
8.9 STRUNG PROJECTS 8-21
8.10 RE-LET PROJECTS AND ROLL BACK REVISIONS 8-21

CHAPTER 9 - RIGHT OF WAY MAPPING STANDARDS 9-1

9.1 STANDARD FILE NAMES 9-1
9.2 SEED FILES SETTINGS 9-2
9.3 TEXT 9-3
9.3.1 True Type Font 9-3
9.3.2 Text Size 9-4
9.4 MICROSTATION LINE STYLES 9-4
9.5 CELL LIBRARY 9-7
9.6 LEVEL AND SYMBOLOGY STANDARDS 9-10
9.7 FDOT CADD SOFTWARE 9-16
9.8 GEOPAK FEATURE PREFERENCE 9-16

CHAPTER 10 - ENVIRONMENTAL MANAGEMENT STANDARDS 10-1

10.1 GENERAL 10-1
10.2 STANDARD FILE NAMES 10-1

CHAPTER 11 - SURVEY STANDARDS 11-1

11.1 GENERAL 11-1
11.2 STANDARD FILE NAMES 11-1
11.3 RESOURCE FILES 11-2
11.3.1 CAiCE Feature table 11-2
11.3.1.1 List Files 11-2
11.3.2 CAiCE Cell Library 11-2
11.3.3 Translation Table 11-3
11.3.4 Additional CAiCE Tables and Cell Libraries 11-3
11.3.5 CAiCE Special Characters 11-3
11.4 GEOPAK SURVEY 11-4
11.5 SURVEYING DATA 11-4
11.6 LEVEL AND SYMBOLOGY STANDARDS 11-4
11.7 COUNTY MAPPING 11-15

CHAPTER 12 - DRAINAGE STANDARDS 12-1

12.1 GENERAL 12-1
12.2 STANDARD FILE NAMES 12-1
12.2.1 File Sharing and Merging 12-2
12.3 RESOURCE FILES 12-3
12.4 ENGINEERING DATA 12-3
12.5 PACKAGING 12-3
12.6 ENGINEERING OF RECORD (E.O.R.) 12-3
12.6.1 Roadway Engineer of Record (E.O.R.): 12-3
12.6.2 Drainage Engineer of Record (E.O.R.): 12-4
12.7 DRAINAGE STRUCTURES & BOX CULVERTS 12-4
12.7.1 Plan View 12-4
12.7.2 Profile View 12-4
12.7.3 Drainage Structure Cross Section 12-4

CHAPTER 13 - ROADWAY STANDARDS 13-1

13.1 GENERAL 13-1
13.2 STANDARD FILE NAMES 13-2
13.3 SUPPORT ROADWAY EXCEL FILES 13-5

CHAPTER 14 - SIGNING & PAVEMENT MARKING STANDARDS 14-1

14.1 GENERAL 14-1
14.2 STANDARD FILE NAMES 14-1
14.3 SIGN DESIGN 14-2
14.4 GUIDSIGN 14-2
14.5 AUTOTURN 14-3

CHAPTER 15 - SIGNALS STANDARDS 15-1

15.1 GENERAL 15-1
15.2 STANDARD FILE NAMES 15-1

CHAPTER 16 - HIGHWAY LIGHTING STANDARDS 16-1

16.1 GENERAL 16-1
16.2 STANDARD FILE NAMES 16-1
16.3 AGI32 LIGHTING SOFTWARE 16-2

CHAPTER 17 - LANDSCAPE STANDARDS 17-1

17.1 GENERAL 17-1
17.2 STANDARD FILE NAMES 17-1

CHAPTER 18 - STRUCTURES STANDARDS 18-1

18.1 GENERAL 18-1
18.2 STANDARD FILE NAMES 18-2
18.3 RESOURCE FILES 18-15
18.4 ENGINEERING DATA 18-15
18.5 LEVEL AND SYMBOLOGY STANDARDS 18-17
18.5.1 Borders and Scales 18-22
18.5.1.1. Borders 18-22
18.5.1.2. Scales 18-23
18.6.2 Text Sizes and Weights 18-24
18.6.3 Colors 18-25
18.6.4 Special Symbols 18-25
18.6.5 Dimension Settings 18-25
18.6 REFERENCE FILES 18-25

CHAPTER 19 - UTILITIES STANDARDS 19-1

19.1 INTRODUCTION OF UTILITY COORDINATION OF CADD FILES 19-1
19.2 UTILITY FILE COORDINATION OPTIONS 19-1
19.3.1 Sharing of Graphic Files 19-1
19.3.2 ASCII Input File 19-1
19.3.3 Geographic Information System (GIS) File 19-1
19.3 UTILITY COORDINATION WORKFLOW 19-2
19.3.1 Phase I Utility Coordination Workflow 19-2
19.3.2 Phase II Utility Coordination Workflow 19-2
19.3.3 Phase III Utility Coordination Workflow 19-3
19.3.4 Phase IV Utility Coordination Workflow 19-3
19.4 EXCHANGE OF GRAPHICS FILES 19-4
19.4.1 Standard File Names 19-4
19.5 UTILITY PLANS 19-5
19.6 ASCII FILE NAME CONVENTIONS 19-5
19.6.1 ASCII Header Convention 19-5
19.6.2 Format of Station and Offset ASCII File 19-6
19.6.3 Format of Northing and Easting ASCII File 19-7
19.6.4 ASCII Input File Examples 19-8
19.7 UTILITY SCANNED IMAGES 19-11

CHAPTER 20 - GEOTECHNICAL STANDARDS 20-1

20.1 GENERAL 20-1
20.2 STANDARD FILE NAMES 20-1
20.3 ENGINEERING DATA 20-2
20.4 SOIL SURVEY 20-3
20.5 SOIL BORING DATA 20-3

CHAPTER 21 - CONSTRUCTION STANDARDS 21-1

21.1 GENERAL 21-1
21.2 STANDARD FILE NAMES 21-1

CHAPTER 22 - INTELLIGENT TRANSPORTATION SYSTEMS (ITS) STANDARDS 22-1

22.1 GENERAL 22-1
22.2 STANDARD FILE NAMES 22-1

CHAPTER 23 - ARCHITECTURAL STANDARDS 23-1

23.1 GENERAL 23-1
23.2 ADOPTED CADD FILE FORMAT 23-1
23.3 ADOPTED CADD STANDARDS 23-2
23.4 ARCHITECTURAL PROJECTS 23-2
23.5 DELINEATION BETWEEN ARCHITECTUAL & ENGINEERING PLANS 23-3
23.6 STANDARD FILE NAMES 23-4
23.6.1 Standard Model File Names 23-4
23.6.2 Standard Sheet File Names 23-5
23.6.3 Detail File Name Format 23-6
23.6.4 Schedule File Name Format 23-6
23.7 ENGINEERING DATA 23-6
23.8 LEVEL AND SYMBOLOGY STANDARDS 23-6
23.8.1 Architectural Scale Chart 23-7
23.8.2 Text Type, Size and Line Weight 23-7
23.9 LAYERING STANDARDS 23-9
23.10 FILE STRUCTURE 23-10
23.11 ELECTRONIC SIGNING AND SEALING 23-10
23.12 ELECTRONIC SUBMITTAL 23-10

CHAPTER 24 - SPECIFICATIONS STANDARDS 24-1

24.1 GENERAL 24-1
24.2 STANDARD FILE NAMES 24-1
24.3 RESOURCE FILES 24-1
24.4 TECHNICAL SPECIAL PROVISIONS – SIGNING AND SEALING 24-1
24.5 ELECTRONIC FILE STRUCTURE 24-1
24.6 FORMAT PROCEDURE FOR SPEC-PACKAGE SUBMITTAL ON CD 24-3

CHAPTER 25 - APPENDIX 25-1

25.1 GLOSSARY OF TERMS 25-1
25.2 ABBREVIATIONS 25-6
25.3 REFERENCED DOCUMENTS 25-6