



Florida Department of Transportation

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MEMORANDUM

DATE: December 10, 2015

TO: Holders of the FDOT Drainage Manual

FROM: Rick Renna, P.E. (State Drainage Engineer)

SUBJECT: FDOT Drainage Manual – January 2016

The Drainage Manual has been revised for the January 2016 scheduled release date. Implement the revised 2016 Drainage Manual policies on all design projects, when possible, without impacting production schedules. Significant revisions and pertinent details are listed below.

Table of Contents

Updated as necessary to reflect the revisions shown below.

Chapter 1 – Introduction

Section 1.4 – Added information from previous Appendices A and B to section.

Section 1.5 – Added non-conventional project box to require Drainage Design Report to be submitted with all (90% and Final) Phase submittals on all non-conventional projects.

Section 1.6 – Deleted Appendices A and B and changed Appendices C, D and E to Appendices A, B and C. Also added new appendix, Appendix D.

Chapter 2 – Open Channel

Section 2.2 – Revised outfall frequency reference to include piped and open channel.

Section 2.4.5 – Reworded some of language and added freeboard requirement for cut slope conditions.

Table 2.4 – Added statement to limit maximum velocity when long term turf density is expected to be poor.

Figure 2-1 – Removed “T” from table and added “ d_{allowed} ”.

Chapter 3 – Storm Drain Hydrology and Hydraulics

Section 3.4 – Added statement regarding the determination of the design tailwater for storm drain systems connected to ponds.

Section 3.4.1 – Added Sea Level Rise information.

Section 3.6.2 – Added statement regarding bolting down manholes under pressure.

Section 3.7.1.1 – Added statement about Trench drains only being allowed for use with temporary drainage without District approval on non-conventional projects.

Section 3.7.4 – Added new section on inlet placement.

Section 3.9.1 – Added criteria for spread in left turn lanes.

Section 3.10 – Added statements regarding outlet pipes in manholes and inlets and a statement regarding the flow line of a pipe entering and exiting structures.

Section 3.10.2.4 – Made clarification to utility clearance topic regarding gas lines.

Section 3.11 – Added new section on pipes within or adjacent to retained earth embankment sections and deleted the previous MSE Wall Section, 3.11.1.

Section 3.11-3.12 – Renamed the sections due to the addition of the new Section 3.11.

Chapter 4 – Cross Drain Hydraulics

Section 4.5 – Added statement to include criteria from Section 3.4.1 when establishing MHW elevation for tailwater.

Section 4.8.2.1 – Added statement to include criteria from Section 3.4.1 to adjust the hurricane hydrograph for sea level rise.

Section 4.9.3.1 – Deleted ACB cable data due to the new information now in Specification 530.

Section 4.9.3.2 – Split section into two subsections, spill-through abutments and bulkhead abutments, for clarity.

Section 4.9.3.4 – Deleted bedding stone information as it was duplicated in Specification 530.

Section 4.9.5 – Revised section on wave and current forces with coastal bridges.

Section 4.10.4.1 – Moved information on culvert extension to Section 6.5.

Chapter 5 – Stormwater Management

Section 5.2.1 – Revised section on FAC Rule 14-86 to clarify when the rule will apply to FDOT closed Stormwater Management Facilities.

Section 5.4.1.1 – Various revisions including new criteria on required geotechnical information, offsite runoff, limitations on the use of pumps, permanent pool criteria for wet facilities, clarification on where to start pond routing, and the consideration of sea level rise for outfall calculations. Also deleted regional facility information that is already covered in Section 5.3.

Section 5.4.1.2 – Revised section on FAC Rule 14-86 to clarify when the rule will apply to FDOT Stormwater Management Facilities with positive outlets.

Section 5.4.1.5 – Added new aviation section to address stormwater management facilities near airports.

Section 5.4.3 – Updated language to better direct fence placement to Section 5.4.4.2 (4)

Section 5.4.4.2.1 – Revised language to require discussions with Department before purchasing R/W for certain maintenance accesses.

Section 5.4.4.2.2 – Added language regarding sodding slopes with dry facilities.

Section 5.4.4.2.6 – Added new section on seepage.

Section 5.4.4.2.7 – Added a new section limiting Traversable Pond Overflows.

Chapter 6 – Optional Culvert Materials

Section 6.5 – Added information on culvert extension previously located in section 4.10.4.1. Also added Wall Zone Pipes.

Table 6-1 – Added Wall Zone Pipes. Added steel pipe and ductile iron pipe. Also added Note 11 to limit the use of steel pipe.

Appendix B – Removed link to the old FDOT IDF Curves, Rainfall Intensities, etc. and added link to the Florida NOAA Rainfall Data.

Appendix F – Added new appendix for pipes within walled embankment sections including wall zone pipes and wall zones.