REVISION LOG

DATE: October 30, 2018

The Drainage Manual has been revised for the January 2019 scheduled release date. Significant revisions and pertinent details are listed below.

Table of Contents

Updated as necessary to reflect the revisions listed below.

Chapter 1 – Introduction

Section 1.4 – Added statement to clarify shaded boxes throughout the manual.

Section 1.5 – Moved the information from the “Modification for Non-Conventional Projects” box requiring the Drainage Design Reports to be submitted with all phase submittals into the section as to apply to all projects.

Chapter 2 – Open Channel

Table 2.1 – Removed reference to “piped or open” since this table is in the open channel chapter and no further description is needed. The piped option will now be covered in Table 3.1.

Section 2.4.5 – Added language to clarify where channel freeboard is measured from.

Section 2.4.6 – Added new section on driveways.

Chapter 3 – Storm Drain Hydrology and Hydraulics

Table 3.1 – Added “Outfalls” after removing the requirement for piped outfalls from Table 2.1.

Section 3.7.1.1 – Added some language to specifically prohibit ponding and erosion in conjunction with driveways. Added a statement to prohibit the placement of inlets in bridge approach slabs. Also moved the “Modification for Non-Conventional Projects” box on trench drains to the new Section 3.9.3.

Table 3.3 – Added footnote (7) to reemphasize that Type S Inlet is subject to heavy wheel loads.
Table 3.4 – Reworded title of the table for clarity.

Table 3.5 – Added footnote (6) regarding slope and ditch transitions in conjunction with cross drain mitered end sections.

Table 3.6 – Added specific criteria for spread in turn lanes.

Section 3.9.3 – Added a new section on trench drains.

Section 3.9.4 – Renumbered the Hydroplaning Section to allow for the addition of the new Trench Drain section. Also added a statement to ensure the runoff from driveways is considered in calculations.

Section 3.10 – Added a paragraph on providing top side access at pipe bends and junctions. Also recommended the use of a new inlet in place of a junction box when the conditions are appropriate.

Section 3.10.2 – Renamed section to “Minimum Pipe Cover and Clearances”. Deleted bullet 1 and renumbered the remaining bullets. Added a provision that if minimum pipe cover can’t be met, then District Drainage Engineer approval is required.

Section 3.12.2 – Added additional criteria on French Drains to match Standard Plan Indexes 443-001 and 443-002.

**Chapter 4 – Cross Drain Hydraulics**

Section 4.2.1 – Renamed section to “LRFD Design Specifications”. Also updated LRFD references.

Table 4.3 – Added a bullet to cover temporary bridges.

Section 4.9.3.2.1 – Removed option for grout filled mattresses.

**Chapter 5 – Stormwater Management**

Section 5.4.1.4.2 – Deleted statement that required approval from downstream home owner and permitting authority regarding water quantity and rate control criteria.

Section 5.4.1.4.3 – Deleted statement that required approval from downstream home owner and permitting authority regarding compensatory treatment.

Section 5.4.1.4.4 – Deleted statement that required an exemption from the permitting authority when the downstream property owner agrees to accept increased runoff.

Section 5.4.4.2 – Added additional language regarding Context Sensitive Solutions Policy and other landscape factors.
Chapter 6 – Optional Culvert Materials

Section 6.6 – Deleted statement that allowed for alternate pipe materials to be considered other than the pipes listed in the Drainage Manual. Increased the maximum allowed diameter of Steel Reinforced Polyethylene (SRPE) to 120”.

Table 6.1 – Added joint less cast in place box culvert as an option for wall zone pipe.

Appendix C – Cover Height Tables

General Notes – Updated some references.

Appendix D – Pipes within Walled Embankment Sections

Wall Zone Criteria Notes – Revised note 3 to clarify expectations.