

Highway Design Manual (Vol. I)
List of Major Revisions to Chapter 6 (Drainage)

1. **General**
 - a. Removed all references to the “Hydraulic Engineer”.
 - b. Performed general grammatical revisions and sentence restructuring.
 - c. Revised the primary units to English.
 - d. Included specific chapter references at the end of the Chapter.

2. **Introduction**
 - a. Added a reference to Pollutant Loading.

3. **Responsibility**
 - a. Added a reference to in-house and Consultant designers.

4. **Permits**
 - a. Updated the paragraph relating to the NPDES Storm Water Construction General Permit.

5. **Runoff Computations**
 - a. Added a reference to the section entitled “Storm Design Frequency” for the analysis of existing soil type and groundwater conditions to determine the feasibility of BMP types.
 - b. Updated the section on Detention Basins (revised the title to include “for Peak Flow Control”).

6. **Storm Sewers**
 - a. Revised the sections relative to the hydraulic grade line calculations. Added a reference to sag/ snow curb locations relative to ponding limits, and added the use of recommended core hole diameters for sizing structures.
 - b. Added drainage design recommendations for curbed medians greater than 6 ft wide.
 - c. Added a section entitled “Selection of Pipe Material”.

7. **Culverts**
 - a. Revised the order of preference in the selection of culvert type to list pipe arches last.
 - b. Added a paragraph to the section entitled “Environmental Issues” referencing culvert inlet protection.

8. Erosion Control

- a. Revised the list of items for use in implementing temporary and permanent BMP's based upon updated specifications and item numbers.

9. Water Quality

- a. Revised this section to include additional discussion on permanent water quality BMP's.
- b. Included specific BMP design criteria based upon interim NHDES guidelines.
- c. Included reference to the "first flush" volume for water quality treatment.