CHAPTER 5: PERFORMANCE STANDARDS

Under the Wayne County Storm Water Management Standards, storm water management systems must be selected and designed with two main objectives: flood control and water resources protection. This chapter presents the performance standards that Wayne County has adopted to meet these two objectives.

In addition to adopting performance standards, Wayne County has established design standards for certain components of storm water management systems. These standards help ensure that each component is designed, operated and maintained such that the performance standards are met. A summary of the performance standards and design standards under the Wayne County Storm Water Management Standards is shown in the attached table. Chapters 6, 7, and 8 of this manual provide detailed information about standards and guidance for designing storm water management system components to satisfy the performance standards.

Applicants for storm water construction approval may select any combination of storm water management components to satisfy the performance and design standards provided that the selection: (1) complies with other requirements of the Wayne County Storm Water Management Standards; (2) complies with other local, county, state or federal requirements; (3) and does not conflict with existing local storm water management plans.

The performance standards described in this chapter pertain to permanent storm water management systems. Certain temporary storm water management measures are also required for some development projects which involve earth change activities. These temporary measures are described in Chapter 7.

5.1 Flood Control

The design of a storm water management system must incorporate elements for protecting against the effects of flooding. To control flooding, Wayne County has adopted the following **minimum performance standards** for storm water runoff from development projects.

- For storm water management systems with drainage areas greater than 5 acres, the peak flow rate of storm water runoff leaving the development site must not exceed 0.15 cfs/acre for a 100-year storm.
- For storm water management systems with drainage areas of 5 acres or less, the peak flow rate of storm water runoff leaving the development site must not exceed 0.15 cfs/acre for a 10-year storm.

5.2 Water Resources Protection

Designing a storm water management system to address water resources protection requires an understanding of the type of pollutants expected to be generated from the site during and after construction. With that understanding, the system and the maintenance plan that accompanies it must incorporate appropriate Best Management Practices (BMPs).

Wayne County has adopted the following **minimum performance standard** to minimize pollutants in storm water runoff from development projects:

- Storm water management systems must be designed and constructed to remove 80 percent or more of the total suspended solids load from the development site, as determined on an annual average basis.

WAYNE COUNTY STORM WATER MANAGEMENT PROGRAM
Summary of Performance and Design Standards

Performance Standard	General Design Standards	Additional Design Standards
Rule 501: Flood Control • Maximum peak flow rate leaving development site: Rule 501(B)	• Determination of peak flow rate: Rule 601 • SWMS must include detention system with flow restrictor or retention basin: Rule 602(B) o <u>Detention Systems:</u> Rule 602(B)(1) ▪ Sizing for flood control storage volume ▪ Outlet / flow restrictor sizing o <u>Retention Basins:</u> Rule 602(B)(2) ▪ Sizing for flood control storage volume • SWMS must have adequate outlet, except that outlet not required for retention basins: Rule 602(C) • SWMS are prohibited in floodplain unless specific additional requirements satisfied: 602(D) • Additional requirements: Rule 602(E) o SWMS must follow natural drainage pattern o SWMS that include surface waters cannot be located within pre-existing surface water.	<u>Detention Systems/Retention Basins</u> • Rule 701: Open Detention Basins • Rule 702: Retention Basins • Rule 703: Underground Detention Systems • Rule 704: Reserved • Rule 705: Reserved
Rule 502: **Water Resources Protection** • 80% average annual TSS removal: Rule 502(B)	• SWMS must include pretreatment system at the inlet to each detention system and/or retention basin. Rule 603(B). Pretreatment system must either o Be designed such that the SWMS achieves adequate TSS removal, Rule 603(B)(1); or o Be sized to capture and gradually release the first flush volume: Rule 603(B)(2) • SWMS must capture and gradually release bank full flood, except retention basins not required to satisfy bank full flood requirements: Rule 603(C) • Additional requirements: Rule 603(D) o Buffer strip required for SWMS with surface waters (except bioretention areas and vegetated swales) o Landscape plan required for SWMS with surface waters	<u>Pretreatment Systems</u> • Rule 706: Forebays • Rule 707: Bioretention Areas • Rule 708: Manufactured Treatment Systems • Rule 709: Reserved • Rule 710: Reserved

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Summary of Performance and Design Standards (Continued)

Performance Standard	General Design Standards	Additional Design Standards
		• Rule 711: Conveyances • Rule 801: Wetlands • Rule 802: County Parks • Rule 803: County Roads

The information presented in this table is referenced to the Administrative Rules of the Wayne County Storm Water Management Standards.