# Summary of Manual Changes (Version 3.0)

Philadelphia Water (PWD) has updated its Stormwater Regulations and guidance resources to better align with the City's regulatory compliance obligations under the Clean Water Act while simultaneously improving the Stormwater Plan Review process for its applicants. A summary of the regulatory, process, design requirements, and Manual changes are outlined below.

## Water Quality Requirement (Chapter 1)

As part of the updated Stormwater Regulations, the Water Quality requirement has changed to achieve compliance with State and Federal requirements within both separate and combined sewersheds. These changes allow development sites to manage more stormwater runoff, reduce the rate at which the runoff reaches PWD's wastewater treatment plants, and remove pollutants from the dirtiest runoff.

| Item | Before July 2015 | After July 2015 |
|---|---|---|
| Water Quality Volume | 1.0" | 1.5" |
| Water Quality Release Rate | 0.24 cfs/acre of DCIA | 0.05 cfs/acre of DCIA |
| Water Quality Treatment: Separate Sewer and Direct Discharge | 100% Volume-Reducing | 100% Pollutant-Reducing (See Table 3.2-2 for acceptable non-infiltrating pollutant-reducing practices) |
| Water Quality Treatment: Combined Sewer | 20% Volume-Reducing | 100% Pollutant-Reducing (See Table 3.2-2 for acceptable non-infiltrating pollutant-reducing practices) |

## Plan Review Process (Chapter 2)

PWD has introduced a series of new and revised resources in order to improve the development community's access to information and ease in navigating the Stormwater Plan Review process. These resources include the development of a dynamic ERSA Worksheet that uses conditional logic to customize the application to each development project. Additionally, PWD developed a new Expedited PCSMP Review option to expand the number of projects eligible for faster reviews and approvals.

| Item | Before July 2015 | After July 2015 |
|---|---|---|
| ERSA Application | Static form | Dynamic form |
| Expedited Post-Construction Stormwater Management Plan (PCSMP) Review – Green Project Review name change | Green Project Review | Disconnection Green Review |
| Expedited PCSMP Review - Surface Green Review | None | Eligible to <u>all</u> projects that manage 100% of post-construction impervious area within the LOD using DIC and/or bioinfiltration/bioretention SMPs |

# STORMWATER REGULATIONS UPDATE

## Technical Design Requirements (Chapters 3 & 4)

In response to the updated Stormwater Regulations, PWD explored changes to the technical design requirements to assist the development community in complying with the new requirements, while providing and expanding upon available compliance tools.

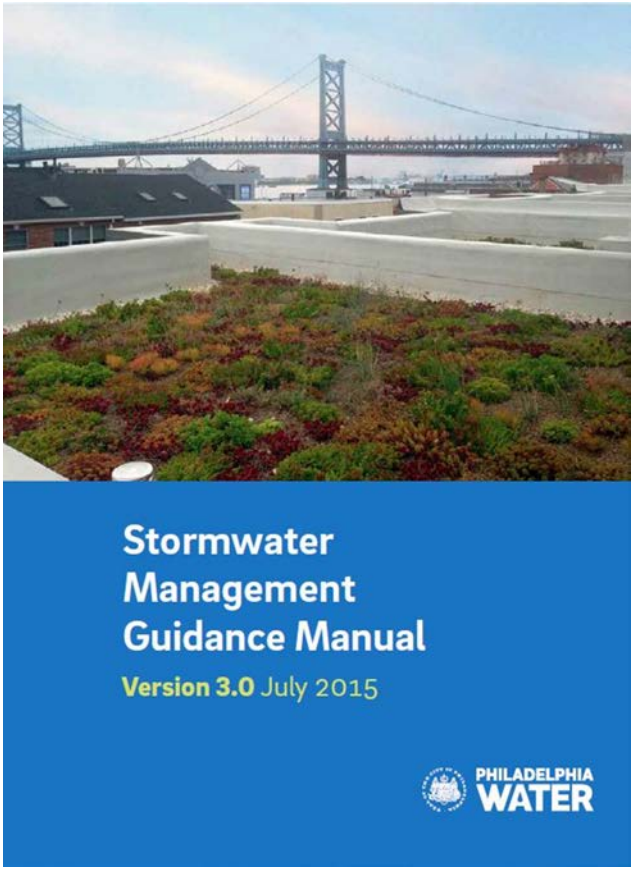
| Item | Before July 2015 | After July 2015 |
|---|---|---|
| Minimum Orifice Diameter | 3 inches | 1 inch (Traditional Orifice)<br>½ inch (Underdrain Orifice) |
| Surface Loading Ratio | 10:1 | 16:1 |
| Subsurface Loading Ratio | 5:1 | 8:1 |
| Bioretention Soil Volume Credit | None | 20% Void Space |
| Minimum Infiltration Rate | 0.5 in/hr | 0.4 in/hr |
| Maximum effluent event mean concentration performance requirement for media filters | None | 15 mg/L Total Suspended Solids (TSS) |
| Roof Runoff Isolation | None | Acceptable non-infiltrating pollutant-reducing practice in combined sewer areas (Table 3.2-2) |

## Stormwater Management Guidance Manual Version 3.0

In conjunction with the update to the Philadelphia Stormwater Regulations, Philadelphia Water has engaged in extensive revisions to create the Philadelphia Stormwater Guidance Manual Version 3.0. At its core, the Manual offers detailed guidance on how to quickly and efficiently comply with the Stormwater Regulations for development and other construction projects.

A significant change for Version 3.0 is the web-based format in which users can access the Manual. This platform promotes quick and easy ways for obtaining and distributing information as it relates to stormwater management in Philadelphia. The policies and procedures detailed in the Manual have been updated to incorporate the regulatory, process, and technical design requirements mentioned above.

Additional documentation and descriptions have been added to the revised Manual to provide expanded guidance and reach broader audiences, such as developers, contractors, and property owners. Similarly, PWD has integrated references to the wider development process both within the department and across City agencies. The table below highlights the significant improvements implemented in Version 3.0.



# STORMWATER REGULATIONS UPDATE

PHILADELPHIA WATER

| Item | Before July 2015 | After July 2015 |
|---|---|---|
| Manual format | PDF file | Web-based with print-to-PDF functionality |
| Executive Summary | None | New Manual Introduction that provides stormwater management background and overall summary |
| Step-by-step submission, review, and approval procedures | None | Defined project Review Paths with associated Review Phases in Chapter 2 |
| Submission requirements | Spread across multiple Chapters | Consolidated in Chapter 2 |
| Information on PWD's Development Review Process | None | Contact information, and description of permits/approvals provided by other PWD Units in Section 2.5 |
| Information on the City of Philadelphia's Development Review Process | None | Description of permits/approvals provided by other City Departments and how they relate to PWD Approvals in Section 2.6 |
| SMP design strategies | Spread across multiple Chapters | Documents PWD's preferred integrated design approach in Section 3.2 |
| SMP selection guidance | None | SMP Hierarchy that documents PWD preferences with regard to SMP selection |
| SMPs in series guidance | None | Examples and guidance on using SMPs in series in Section 3.2 |
| Stormwater Management Trading guidance | None | Defines PWD's stormwater management trading standards and provides trading examples in Section 3.2 |
| Example Infiltration Testing and Soil Characterization Plan | None | Figure 3.3-2 |
| Infiltration testing procedures | Manual Appendix | Defines detailed procedural requirements and results evaluation guidance in Section 3.3 |
| Cased borehole infiltration testing guidance | None | Outlines cased borehole infiltration testing procedures and requirements in Section 3.3 |
| Calculations for compliance with requirements | Spread across multiple Chapters | Consolidated in Section 3.4 to show compliance for each requirement |
| Integrated stormwater management examples | None | Commercial office building, residential multi-family, trails, athletic fields, and roof runoff isolation (Section 3.5) |

# STORMWATER REGULATIONS UPDATE

PHILADELPHIA WATER

| Item | Before July 2015 | After July 2015 |
|---|---|---|
| SMP One-Sheets | None | One page summary for each SMP-type that consists of a description of the SMP, key advantages, key limitations, development |
| SMP guidance | Detailed guidance for seven structural SMPs | Updated guidance for seven structural SMPs, new sections for Blue Roofs and Media Filters and consolidated sections for Pretreatment, Inlet and Outlet Controls |
| Sizing Table | None | Water Quality sizing table for bioinfiltration/bioretention to facilitate flexibility and predictability in design |
| Standard Details | None | Available for bioinfiltration/bioretention basins, green roofs, and porous pavement as well as pipe-in-stone subsurface infiltration basins |
| Differentiation between SMP requirements/standards versus recommendations | Not identified explicitly | Design and material requirements/standards identified by numerical bullets within each Chapter 4 section |
| Landscaping design guidance | Mix of requirements and recommendations | Requirements/standards clearly associated with each SMP type within Chapter 4 |
| Isometric SMP renderings | Limited | Each SMP and critical pretreatment, inlet and outlet control systems has a complementary rendering highlighting typical features and components |
| Construction guidance | Limited to SMP specific guidance | Provides a dedicated chapter, Chapter 5, to post-approval activities associated with construction and project close-out |
| Post-construction and operations and maintenance guidance | None | Provides a dedicated chapter, Chapter 6, to post-construction activities, including typical maintenance activities for property owners |
| Plan and report checklists | Limited, and existed outside the Manual | Integrated into Manual Appendices and provide detailed information for plan and report requirements |
| Stormwater Plan Review worksheets | Isolated worksheets that require replication of inputs between sheets | Single workbook containing all worksheets to promote interconnectivity |