

# Review of Comprehensive Stormwater Management Plans

## Project Background

The Borough of Sharpsburg, located about five miles northeast of downtown Pittsburgh along the Allegheny River, sits at the bottom of multiple watersheds, making it one of the most flood-exposed municipalities in Allegheny County. The Borough is seeking to identify the most impactful areas and corresponding solutions – including green stormwater infrastructure solutions – that are ripe for investment to mitigate flooding. A Comprehensive Stormwater Management Plan would empower the community to use limited tax dollars to leverage grant funding, making the biggest impact to protect the health and safety of residents, properties, and public assets. This project, a partnership between the Borough and WaterNow Alliance, will generate a request for proposals and an estimated planning budget for such a comprehensive planning effort, positioning Sharpsburg to create an innovative and Comprehensive Stormwater Management Plan that will guide the Borough's stormwater, parks, development, and capital improvement efforts for the next 25 years. As part of this project, WaterNow researched examples of comprehensive stormwater management plans elsewhere in the United States, and interviewed identified communities and utilities to better understand the process of establishing a sustainable and effective stormwater management plan. The goal of this phase was to identify the key components of an innovative, sustainable stormwater management plan, become familiar with the existing approach to scoping RFPs, and identify best practices and successful approaches to incorporating community input into RFP development around stormwater managements plans. This phase included the detail review of 9 existing stormwater plans and 3 interviews with communities and utilities which had strong plans (especially with regards to GSI and community engagement) and/or similar characteristics to Sharpsburg to inform the following phases of this project. A summary of the key findings from this research follows below.

## Key Takeaways

- **Partnerships** – between municipalities, with other agencies such as PennDOT, or with non-profit partners – can both lower costs and open up new avenues of funding. In some instances, comprehensive stormwater planning on the municipal scale is undertaken in partnership with a regional sewer or water authority, especially where local communities have limited financial and organizational capacity to invest. For Sharpsburg, collaboration with neighboring communities and with regional authorities like ALCOSAN or PennDOT may be helpful in developing an impactful comprehensive plan. Many stormwater management plans are created in response to specific regulatory compliance needs. With the regulatory burden falling primarily on ALCOSAN, Sharpsburg may have some latitude to develop its plan in a way that prioritizes local goals.
- A robust, **collaborative community engagement process** in the implementation of the plan creates the potential for benefits which extend beyond stormwater management to other environmental and community issues. Ideally, this process can occur throughout the development and implementation of the plan, and gather input through a variety of different methods. It may be helpful to partner with local NGOs to both increase participation and draw on local expertise in engaging the community, and to reduce administrative overhead of this process.

## Stormwater Management Plan Review

WaterNow carried out a detailed review of 9 existing stormwater management plans in the United States, focusing on plans that included an emphasis on GSI and community involvement. Other factors considered when looking for stormwater management plans to review included water quality monitoring approach and inter-governmental cooperation. The plans selected for review came from communities with a range of population, from 4,804 people to 300,431. We prioritized smaller communities to provide insight that would be most applicable to Sharpsburg.

The table below includes the 8 stormwater (and combined wastewater) management plans reviewed with community population and median household income, as well as whether the plan met the prioritized factors.

Plan Name	Location	Population	MHI	GSI Focus	Community Involvement	Water Quality Monitoring	Inter-govt. Cooperation
Selection and Implementation of Alternatives Report	Camden and Gloucester City, NJ CCMUA	Camden: 70,996 Gloucester City: 11,464	Camden: \$36,258 Gloucester City: \$71,756	Y	Y	N	Y
Municipal Stormwater Management Plan	Borough of South Bound Brook, NJ	4,084	\$83,986	Y	N	N	N
Stormwater Strategic Plan	Pittsburgh, PA	300,431	\$63,380	Y	Y	N	Y
City Beautiful H2O Program Plan	Harrisburg, PA	50,135	\$46,654	Y	Y	Y	Y
Decatur Storm Water Master Plan Volume I	Decatur, GA	24,569	\$129,992	Y	Y	N	N
Burlington Integrated Water Resources Plan	Burlington, VT	44,781	\$64,931	Y	Y	Y	N
Ellicott City Watershed Master Plan	Ellicott City, MD	73,272	\$149,543	Y	Y	Y	N
Stormwater Management Plan	Village of Nyack, NY	7,236	\$95,000	Y	N	N	N

## Key Takeaways

- **Green stormwater infrastructure (GSI)** is a focus of many of the plans reviewed. GSI is widely used as an important tool alongside traditional grey infrastructure projects, to meet regulatory requirements and promote sustainability and equity. The plans with the most robust GSI consider the multiple avenues to incorporate, fund, and maintain GSI in the community, both on public and private property.
- Various methods of **community engagement and involvement** in planning development are outlined in the reviewed plans, including surveys, community meetings, workshops, mailings, and more. The plans with the most robust community engagement process provided a clear description of the engagement process throughout the various stages of plan development, and incorporated community feedback into the prioritization and implementation of projects under the plan. For example, Decatur, GA's Storm Water Master Plan prioritized stormwater projects based on an online mapping tool that allowed residents to locate stormwater challenges.
- Numerous plans include **policy recommendations** such as development regulations, stormwater utility fees, and infrastructure design standards, as well as infrastructure enhancements. The integration of both policy changes and tangible on-the-ground projects are used to meet the objectives of the plans.
- Robust plans also include **financial analyses** to assess the affordability of proposed stormwater projects to ensure the initiatives are feasible and sustainable in the long run.
- A few of the plans reviewed include details on **water quality monitoring and compliance** to assess the effectiveness of stormwater management strategies and ensure compliance with water quality standards, but many plans lacked these details.
- A few of the plans detailed their approach to **inter-governmental cooperation**, highlighting the need for a collaborative approach to coordinate between municipal authorities, utilities, and other levels of government to address stormwater effectively. While some plans do not include inter-governmental cooperation, others include policy recommendations aimed at coordinating action among multiple government entities (i.e., regulations and ordinances that involve multiple city departments).
- Most plans included an **implementation plan** and some incorporated long-term investment strategies to address stormwater challenges.
- Plans developed by **smaller communities** (10,000 people or less) were typically not as comprehensive as those prepared by larger communities, likely due to a lack of staff capacity and financial resources, as well as differences in scope.