

# Long-Term Stormwater Planning: A Voluntary Guide for Communities



*Part of the Suite of Integrated Planning Resources*





Introduction

Overarching Tips as You Get Started

 Assess Where You Are Now

 Analyze Your Opportunities

 Move Toward Implementation

Resources

Conclusion



# Introduction

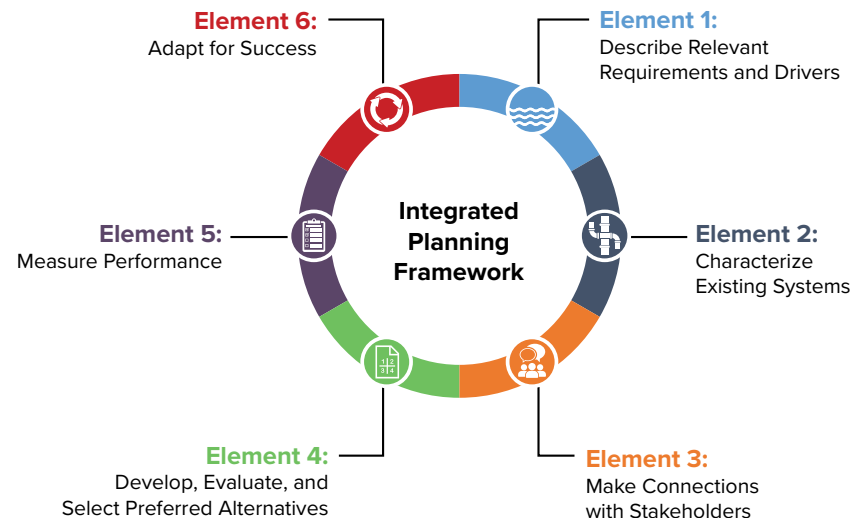
## Purpose and Use of This Guide

Water infrastructure must be durable, designed to complement communities and the environment, and maintained to prevent failures. Stormwater managers across the country oversee stormwater infrastructure to protect people and property, reduce flooding and pollution, and enhance local economies. Integrated planning and long-term stormwater planning can help communities achieve these objectives.

Municipalities can use the integrated planning process to achieve clean water and human health goals while addressing aging wastewater and stormwater infrastructure, changing population and rainfall patterns, inequity in access to clean water and healthy environments, and competing funding priorities. In 2012, EPA developed the [Integrated Municipal Stormwater and Wastewater Planning Approach Framework](#), which described the overarching principles of integrated planning and the six elements that integrated plans should address. EPA designed the Framework to help municipalities address competing clean water infrastructure investment needs and choose the most beneficial approaches for setting priorities and achieving water quality goals. In 2019, Congress enacted the Water Infrastructure Improvement Act (WIIA), which officially recognizes the Framework as a voluntary way for municipalities to comply with the Clean Water Act. The WIIA also requires EPA to continue supporting communities as they apply the Framework in their stormwater and wastewater planning efforts.

This guide applies the integrated planning approach to stormwater assets, concepts, and resources. Planning for long-term stormwater management can create opportunities for communities to use stormwater as a resource, invest in resilient infrastructure, revitalize waterways, and introduce green space to make communities more enjoyable and welcoming. It also lets community staff form new partnerships or build upon existing relationships with those who live or work in the community, including those who previously did not engage in planning. By incorporating diverse viewpoints, community staff can better address community objectives and find creative solutions to address multiple priorities. Improved planning leads to better-informed recommendations and decisions. Visit EPA's [long-term stormwater planning and integrated planning](#) webpages for more information.

This guide lays out a voluntary process that any community can use to apply a long-term planning approach to stormwater management. This long-term planning approach can help communities develop an integrated plan focusing on coordinated solutions across wastewater and stormwater infrastructure investments. Communities can also use this approach to



## Introduction

strategically address their stormwater needs, even if they are not developing an integrated plan or do not have stormwater systems regulated under the Clean Water Act. This guide emphasizes stakeholder input and involvement from community members most affected by stormwater. It also highlights how to incorporate green infrastructure into community stormwater management to support local jobs, improve community assets, and strengthen climate resilience.

This guide may be helpful for:

- Municipal staff responsible for achieving the community's stormwater management, water quality, human health, and regulatory objectives.
- Municipal officials interested in exploring long-term solutions to reduce stormwater impacts in their communities.
- Community stakeholders who want to identify goals that benefit residents and other community members.
- Technical consultants who support local stormwater management programs and projects.
- Communities that are interested in improving their stormwater management to prevent future issues.
- Municipalities pursuing integrated planning to meet cross-program water quality objectives.

## Overarching Tips

### Assess Where You Are Now

### Analyze Your Opportunities

### Move Toward Implementation

## Resources

## Conclusion

### Green Infrastructure

“Green infrastructure” (as defined by the Clean Water Act) is the range of measures that use plant or soil systems, permeable pavement or other permeable surfaces or substrates, stormwater harvest or reuse, or landscaping to store, infiltrate, or evapotranspire stormwater and reduce flows to sewer systems or surface waters. Green infrastructure includes bioretention, tree boxes, bioswales, green streets, conservation areas, and permeable pavements. Municipalities can combine these practices with gray infrastructure to help manage stormwater and provide multiple benefits such as open space, habitat creation, resilience, and improved aesthetics.

## Long-Term Stormwater Planning: An Overview

Successful long-term stormwater planning involves assessing your community's water quality, human health, and other drivers of decision-making and investment. It also involves setting goals, analyzing opportunities, and implementing improvements over a long period of time (see graphic below). The long-term stormwater planning process follows the six elements of the Integrated Planning Framework. Using a proactive planning approach to manage stormwater can help communities maximize benefits while addressing regulatory obligations and aging infrastructure. This future-looking approach also encourages communities to consider changing population and precipitation patterns





## Introduction

that may affect solutions. By planning for the future, communities can document issues and solutions in a comprehensive way and better position themselves to compete for funding.

Communities can use the process described in this guide to develop a long-term stormwater plan—a document that summarizes the knowledge and strategies gained from this process and presents an implementation approach. Some communities may find it useful to develop a standalone, written, long-term stormwater plan. Others may prefer to embed their long-term stormwater planning goals and strategies into other community plans, such as integrated plans, capital improvement plans, transportation plans, master plans, sustainability plans, parks and recreation plans, economic development plans, or land use plans.

Long-term stormwater planning, like other planning efforts, takes hours of collaboration, but a well-developed plan is worth the effort. Aligning stormwater with broader community goals and efforts provides an opportunity to address existing problems and prevent future issues. Successful long-term stormwater planning also relies on an adaptive management approach, in which communities establish processes to evaluate performance and modify approaches based on lessons learned.

Long-term stormwater planning does not remove obligations to comply with the Clean Water Act, nor does it change existing regulatory or permitting standards or requirements. However, regulated communities with coverage under a municipal separate storm sewer system (MS4) permit can use long-term stormwater planning to help meet specific permit requirements and be more strategic about implementation approaches and timelines. Communities with unregulated stormwater systems may also benefit from developing these plans to make proactive infrastructure decisions. Whether the community is regulated under the MS4 program or not, involving decision-makers and stakeholders early and throughout the process is essential to selecting goals and implementing strategies that benefit the community and its waters.

## Overarching Tips

### Assess Where You Are Now

### Analyze Your Opportunities

### Move Toward Implementation

## Resources

## Conclusion

### Benefits of Long-Term Stormwater Planning

- Uses a comprehensive approach to reduce stormwater impacts over time and build resilience.
- Puts communities in the driver's seat, allowing them to be more proactive and less reactive.
- Spends money wisely by aligning stormwater upgrades with other infrastructure and development projects.
- Supports equitable planning and investment.
- Reduces flooding and pollution with reliable infrastructure that attracts and sustains businesses and residents.
- Builds an attractive community that allows residents to eat, live, work, and play in their own backyard.
- Provides certainty and predictability to developers and creates new opportunities for financing.
- Increases transparency with and involvement of community members and decision-makers.
- Encourages community members to actively participate in decisions that affect their environment and health.
- Increases accountability and vested interests of community staff due to stronger interdepartmental coordination and stakeholder involvement.

## Introduction

## What's in This Guide?

Each section in this guide outlines steps, tips, and resources that communities can use to follow a long-term stormwater planning process:

### Overarching Tips

### ■ ■ ■ Assess Where You Are Now

### ■ ■ ■ Analyze Your Opportunities

### ■ ■ ■ Move Toward Implementation

### Resources

### Conclusion

The sections generally follow the chronological order in which a community will complete activities. However, long-term stormwater planning is iterative, and some activities occur concurrently or overlap. For instance, identifying goals is an initial step outlined in the process, followed by making connections with stakeholders. You should make connections with stakeholders at the same time you identify goals, to ensure your goals include input from stakeholders, community members, and community staff. Communities may also want to revisit previously completed parts of the process as their priorities evolve and as they receive input from community members or stakeholders.

In 2016, EPA began providing technical assistance to four communities (Burlington, Iowa; Hattiesburg, Mississippi; Rochester, New Hampshire; and Santa Fe, New Mexico) on long-term stormwater planning efforts. This guide includes examples of how these communities applied a long-term planning approach to stormwater.

This guide also provides links to downloadable Long-Term Stormwater Planning Worksheets with questions and prompts to help communities document their process and decisions. The worksheets are intended to be an easy-to-use tool that communities can reference; populate; expand upon; and even incorporate directly into an integrated plan, long-term stormwater plan, or other community plan. Each community can tailor the long-term stormwater planning process and structure the resulting plans in a way that best suits its needs.



# Overarching Tips as You Get Started

## Get People Involved

- Connect and remain engaged with both internal stakeholders (e.g., community staff from different departments) and external stakeholders (e.g., community groups) throughout the process. Engaging with stakeholders may require coordinating with trusted community groups, scheduling meetings during non-working hours, meeting online or in accessible in-person locations, and distributing information in multiple languages.
- Think about how to use long-term planning to help community members experience the benefits of stormwater investments.
- Find a champion. Your effort will be more successful with a champion—someone who can promote the effort at a high level and empower those working on it. Ongoing coordination will create momentum and accountability. Make sure your champion can see the process through, serve as a central point of contact for stakeholders, think about the big picture, and identify efficiencies that could be realized.

## Set Your Community Up for Success

- Focus on a short list of stakeholder-prioritized goals to achieve success more quickly and keep momentum. It may be tempting to tackle a long list of goals simultaneously, but sometimes less is more.
- Consider piggybacking your goals and strategies onto existing processes, projects, and plans where feasible. Stormwater is a topic that touches many areas (e.g., transportation, public spaces, development, permitting, recreation), so existing resources can be a good starting point.
- Make sure milestones are achievable and tracked to ensure success.

## Do What Works Best for Your Community

- Participate in authentic community engagement by listening to residents, particularly those who are under-resourced and disproportionately affected, so that you can identify their needs. Building trust with these community members ensures that open conversations can happen and that you receive their input on investments that affect them.
- Customize the general process outlined in this guide based on your community's needs. There is no set rulebook for a durable approach to stormwater management.
- Document your process and implementation approach in the format that works best for you and your stakeholders. Integrated plans or long-term stormwater plans may take the form of a standalone document, or a community may decide to weave long-term stormwater planning into multiple existing community plans such as master or transportation plans.

## Don't Reinvent the Wheel

- Try to use existing resources, worksheets, guides, and tools to help with discussions, documentation, and planning. Communities throughout the country have tackled long-term planning on a variety of topics. This guide includes links to EPA references to assist in the planning process.
- If a long-term planning process for a different topic area was successful in your community, talk to the people who led that effort and consider using a similar approach for stormwater.

## Hold Parties Accountable

- Create a work plan or scoping document that outlines your effort's background, overall goal, roles, responsibilities, milestones, timelines, and reminders to schedule check-ins with collaborators and community members. Community staff and their stakeholders often juggle many priorities, making it easy to push voluntary efforts to the back burner. A planning document can clarify expectations, provide accountability, and keep the process moving.

## Plan to Evolve

- Remember that the process will evolve with time, so it's important to get started early. You can adapt along the way to achieve your goals. It is easy to get bogged down with the scale of a long-term vision and the desire to achieve perfect results, but you don't need a perfect plan to get started.
- Employ a long-term planning mindset with an engaged group of community stakeholders who can implement strategies and adapt as needed to achieve goals in a way that most benefits the community. Proactively plan strategies to keep stakeholders engaged and reduce barriers to participation.

## Use Resources

Check out the [Resources section](#) of this document for a list of resources organized by long-term stormwater planning topics.

- Long-Term Stormwater Planning Worksheets
  - [Worksheet 1: Identify Stakeholders and Ways to Engage](#)
  - [Worksheet 2: Identify Drivers and Issues](#)
  - [Worksheet 3: Identify Goals](#)
  - [Worksheet 4: Mapping and Data Management](#)
  - [Worksheet 5: Asset Conditions](#)
  - [Worksheet 6: Capital Improvements](#)
  - [Worksheet 7: Strategy Implementation Summary](#)
  - [Worksheet 8: Strategy Prioritization](#)
  - [Worksheet 9: Financial Needs](#)
  - [Worksheet 10: Strategy Status Evaluation](#)
- [Integrated Planning in Action: The Basics](#)
- [Integrated Planning in Action: Getting Started](#)



Introduction

Overarching Tips

 Assess Where You Are Now

Describe Relevant Requirements and Drivers

Characterize Existing Systems

 Analyze Your Opportunities

 Move Toward Implementation

Resources

Conclusion

## Describe Relevant Requirements and Drivers



This section describes ways for a community to identify requirements and drivers as part of Element 1 of the Integrated Planning Framework. Communities can summarize the outcomes of these actions in an integrated plan, long-term stormwater plan, or other type of community planning document.

A meaningful long-term stormwater planning approach will outline a path to identify and prioritize community-specific goals based on stakeholder input. These goals should be broad statements summarizing the community's long-term vision. Identifying certain goals might require characterizing your existing systems (Integrated Planning Element 2) as described in the next section of this guide. However, establishing an initial list of goals is an important first step in the process.

To begin the process, identify and talk to key stakeholders to get their perspectives on the community's challenges (Integrated Planning Element 3). By taking this step first, you allow the community to independently provide their input (i.e., without hearing your opinion) on challenges in water quality, regulatory obligations, nonregulatory considerations, and human health. From there, you can identify an initial list of goals for minimizing or solving the community's issues. Consider how to give everyone the same degree of protection from environmental and health hazards and equal access to the decision-making process. Next, work with your stakeholders to decide which of these goals to focus on first (Integrated Planning Element 3). Once you have developed a prioritized list of goals, you can look at existing community goals in planning documents and policies to see where your long-term stormwater planning goals overlap and align with other community priorities.

### Stakeholders may include a variety of groups and individuals:

- Residents
- Neighborhood and civic associations
- Municipal departments
- Utilities
- Elected officials
- Developers
- Local environmental groups and organizations
- Other municipalities in the region
- Municipal consultants
- Educational groups
- State regulators



Introduction

Overarching Tips

Assess Where You Are Now

Describe Relevant Requirements and Drivers

Characterize Existing Systems

Analyze Your Opportunities

Move Toward Implementation

Resources

Conclusion

## Groundwork Questions

Answer the groundwork questions below to identify stakeholders, document drivers and issues, and develop prioritized long-term stormwater planning goals. See the following worksheets for additional prompts.

### Identify Stakeholders

- Who are your stakeholders and what are their priorities?
- Who is/are the champion(s) of this effort?

### Identify Past, Current, and Future Issues

- Has stormwater negatively affected specific neighborhoods?
- What environmental and socioeconomic indicators should you consider?
- What environmental justice and supplemental indexes—such as traffic proximity, hazardous waste proximity, and superfund proximity—should you consider?
- Are there neighborhood dynamics such as gentrification and displacement to consider?
- What challenges does your community face currently or expect to face in the future?
- How does stormwater intersect with your current and anticipated challenges?
- What Clean Water Act obligations does your community have, if any?
- What are your community's other water quality or human health drivers related to stormwater management?
- What geographic areas, activities, and environmentally sensitive areas does your community want to improve and protect?

### Determine Initial Goals

- Based on the issues and challenges identified, what are your initial goals?
- How will you use stakeholder input to prioritize the initial goals?
- Based on stakeholder input, what are the prioritized goals your community intends to focus on during the long-term stormwater planning process?
- What existing community documents and plans can you use to support your long-term stormwater planning goals?
- How can you align stormwater goals with existing community goals and stakeholder priorities?



#### Links to Editable Worksheets

Downloadable worksheets include prompts to help document process and decisions.

Worksheets

1

[Identify Stakeholders and Ways to Engage](#)

2

[Identify Drivers and Issues](#)

3

[Identify Goals](#)





Introduction

Overarching Tips

■ ■ ■ Assess Where You Are Now

Describe Relevant Requirements and Drivers

Characterize Existing Systems

■ ■ ■ Analyze Your Opportunities

■ ■ ■ Move Toward Implementation

Resources

Conclusion

## Tips

- Remember that different stakeholders may be involved in various ways throughout the process, depending on the specific goal.
- Define goals after obtaining stakeholder feedback. Keep the dialogue open so stakeholders can identify long-term stormwater goals and objectives that are meaningful to them.
- Identify your internal champions early in the process. Staff-level and manager champions are key. The staff champion can advocate for long-range efforts and the manager champion can help with accountability, advocate for resources, and establish internal processes for decisions.
- Lean on your champions to keep the dialogue going and maintain focus to achieve goals.
- Identify goals based on your community's unique priorities.
- Work on fewer goals at a time, which will allow you to move through the process and achieve success more quickly than if you tried to tackle all goals at once.
- Remember that you can add new or revised goals as the process evolves.



### Defining Issues and Goals in Rochester, New Hampshire

As one of EPA's pilot project communities, Rochester convened an in-person meeting to discuss the city's challenges and long-term vision. The group identified five general challenge topic areas and created a goal for each area:

1. Achieve efficient stormwater infrastructure operations and maintenance by developing and implementing a complete asset management program.
2. Implement a long-term finance strategy to support the stormwater program.
3. Establish and enforce effective community policies for development and redevelopment that integrate stormwater standards and green infrastructure considerations.
4. Integrate green infrastructure and effective stormwater opportunities into public projects.
5. Revitalize the cornerstone waterways of Rochester to meet community needs and provide benefits.

After defining goals, the city identified opportunities to incorporate its long-term stormwater goals into existing master plans and the capital improvement plan.

Introduction

Overarching Tips

 Assess Where You Are Now

Describe Relevant Requirements and Drivers

Characterize Existing Systems

 Analyze Your Opportunities

 Move Toward Implementation

Resources

Conclusion

## Characterize Existing Systems



This section describes ways for a community to characterize existing systems as part of Element 2 of the Integrated Planning Framework. Communities can summarize the outcomes of these actions in an integrated plan, long-term stormwater plan, or other type of community planning document.

Understanding your community's existing stormwater system allows you to refine and adapt the initial goals you determined in the previous section. To characterize your system, you should evaluate your assets, assess their condition, identify performance concerns, and determine infrastructure maintenance or replacement needs. Some communities may also choose to characterize the performance of a system (e.g., flows and discharges into and out of the system, pollutant removal rates). Knowing where your assets are located and understanding system performance is critical to integrated planning (Integrated Planning Element 2).

Because many stormwater systems are old and complex, data gaps often prevent communities from characterizing their entire system. Identifying and filling these gaps is an important part of the long-term stormwater planning process. The information you have gathered through characterizing your system will help you optimize performance, reduce the potential for deficiencies, and identify current and future system needs. Understanding your community's system and data gaps will also help you estimate funding needs (described later in the process), better link pollutant load reductions to installed stormwater infrastructure, and demonstrate progress to your community.

Start by gathering existing information and talking to your stakeholders (Integrated Planning Element 3) to understand your stormwater system's assets and the data available for those assets. Assets include all components of a stormwater system, such as pipes, catch basins, ponds, outfalls, and green infrastructure. Then, identify information you need to fully document assets and characterize the system.

### Ways to fill data gaps

- Asset inventory
- Asset mapping
- Asset condition assessments
- Hydrologic and hydraulic modeling

## Groundwork Questions

Answer the groundwork questions below to characterize your existing system and identify data gaps. See the following worksheets for additional prompts.

### Identify Assets and Asset Tracking

- What types of stormwater assets (both green and gray) does your community have?
- Are your community’s stormwater assets mapped and/or tracked? If so, how?
- Who is responsible for tracking stormwater asset data, and how will you update the data?
- How do you track pollutant load reductions from stormwater controls?

### Determine Asset Conditions and Level of Service

- Have you fully characterized the capacity, condition, and age of your existing stormwater system?
- Do you have the data and capability to perform stormwater system modeling? If not, what data, knowledge, skills, or funding might you lack?
- Can you characterize the flows going into and out of the stormwater system? If not, identify the data needed to do so.
- What stormwater asset data gaps must be filled as part of your long-term stormwater planning process?
- What level of service does your system provide, and what level does your community expect? If you don’t know your system’s level of service, what information do you lack? Consider stakeholder input when answering these questions.

### Assess Criticality and Needs

- What are your most critical stormwater system assets? What happens if they fail?
- What portions of your stormwater system need upgrades or improvements?
- Are there any planned major upgrades or systemwide projects?
- How do you currently prioritize system upgrades? Do you consider asset management, current/future needs, and indicators—including environmental justice?



#### Links to Editable Worksheets

Downloadable worksheets include prompts to help document process and decisions.

Worksheets

4

[Mapping and Data Management](#)

5

[Asset Conditions](#)

6

[Capital Improvements](#)



Introduction

Overarching Tips

■ ■ ■ Assess Where You Are Now

Describe Relevant Requirements and Drivers

Characterize Existing Systems

■ ■ ■ Analyze Your Opportunities

■ ■ ■ Move Toward Implementation

Resources

Conclusion

### Ensure Functionality of Assets

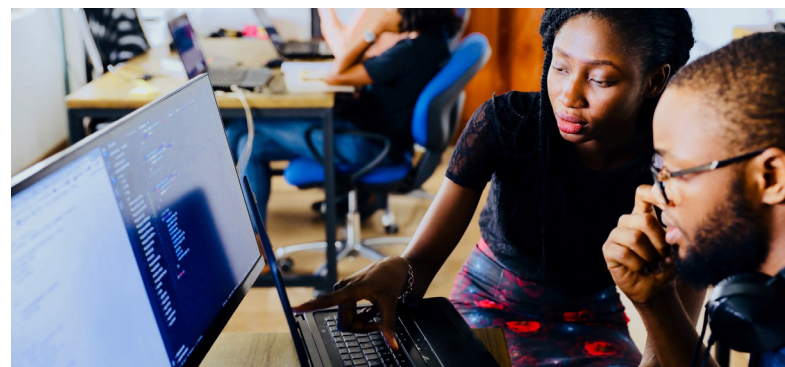
- How do you assess pollutant load reductions from stormwater controls?
- What operation and maintenance (O&M) mechanisms (e.g., inspection frequency requirements) do you plan to implement to keep stormwater controls functional?
- How do you plan to track long-term O&M?
- How will you use information on functionality to prioritize O&M and/or repairs?

### Identify System Challenges

- What areas have known issues with flooding? Describe the extent of flooding and typical conditions that cause flooding in those areas. Consider stakeholder input when answering these questions.
- How might changes in population, development, and climate (e.g., more intense and frequent storms) affect current system performance?

### Assess Current Funding

- How are upgrades to the existing stormwater system funded?
- How is operation and maintenance of the stormwater system funded?
- How are inspections of the stormwater system funded?
- Is current funding sufficient to meet critical needs?



### Launching Asset Management in Hattiesburg, Mississippi

Hattiesburg, Mississippi received technical assistance from EPA to develop a long-term stormwater management plan. The city was working to completely characterize its existing system, and wanted a comprehensive understanding of the location, size, and condition of its stormwater assets. The city plans to establish an asset management program in coordination with its wastewater and drinking water utilities. Establishing an asset management program will help the city achieve efficient, proactive, and cost-effective O&M. The city developed a long-term stormwater plan appendix outlining resources and steps to develop an asset management program through 11 key actions. Resources in the appendix may be useful for any community pursuing system characterization and asset management.

Introduction

Overarching Tips

 Assess Where You Are Now

Describe Relevant Requirements and Drivers

Characterize Existing Systems

 Analyze Your Opportunities

 Move Toward Implementation

Resources

Conclusion

## Tips

- Talk to staff members and managers across departments to get the most complete and accurate picture of your system. Stormwater assets are often managed and tracked by multiple departments within the community.
- Consider setting up an asset management program to better understand the existing stormwater system's assets and characterization, improve operation and maintenance tasks, and focus on long-range financial planning. Other departments may have software you can use or asset management experience to help you get started.
- Robustly manage your data so you can successfully characterize your stormwater system. You can track assets in a simple spreadsheet, geographic information system (GIS) software, or customized asset management software. Organize and maintain the data using an approach that makes sense for your community.
- Consider existing hydrologic or hydraulic modeling for capital improvement plans, green infrastructure master plans, water reuse plans, and regional stormwater management plans when assessing stormwater flows and discharges.
- If the community owns or operates a regulated MS4, use effluent characterization data and stormwater control performance monitoring data to determine storm sewer system discharge characteristics.
- Update your goals as needed based on the information you discover while characterizing your system.

Introduction

Overarching Tips

Assess Where You Are Now

Analyze Your Opportunities

Make Connections with Stakeholders

Develop, Evaluate, and Select Preferred Alternatives

Move Toward Implementation

Resources

Conclusion

## Make Connections with Stakeholders



This section describes ways for a community to make connections with stakeholders as part of Element 3 of the Integrated Planning Framework. Communities can summarize the outcomes of these actions in an integrated plan, long-term stormwater plan, or other type of community planning document.

It is critical to connect with stakeholders both before setting long-term goals and throughout the planning process. Consider building off existing opportunities to engage with community members and creating new opportunities to connect with groups or individuals who have not been previously engaged. Maintaining open communication with stakeholders ensures that all viewpoints are considered in the planning process.

Begin by identifying key stakeholders and listening to their perspectives on the community's challenges. Remember to seek out groups who offer a variety of perspectives on relevant topics, such as development, housing, community organization, water and natural resources management, flooding, and transportation. As you progress in the planning process, check in with your stakeholders for feedback on revising goals, implementation strategies, and schedules. Consider emphasizing dialogue with stakeholders from overburdened communities to reduce barriers to participation. Continual stakeholder engagement helps you stay aware of new challenges or concerns so that you can address them in the planning process and identify solutions. It also provides an opportunity to update stakeholders on progress and creates accountability for those leading the process.

### Groundwork Questions

Answer the groundwork questions below to connect with stakeholders and use their input to set goals while integrating their input throughout the long-term process. See Worksheet 1 for additional prompts.

- How will your champion(s) connect with stakeholders and keep momentum?
- Are there clear areas of intersection or commonality across stakeholder priorities?
- When and how will each stakeholder group be involved in this effort?
- How will you obtain stakeholder feedback?
- How will you revise implementation strategies and schedules based on stakeholder feedback?

Worksheets



#### Links to Editable Worksheets

Downloadable worksheets include prompts to help document process and decisions.

1

[Identify Stakeholders and Ways to Engage](#)





Introduction

Overarching Tips

■ ■ ■ Assess Where  
You Are Now

■ ■ ■ Analyze Your  
Opportunities

Make Connections with  
Stakeholders

Develop, Evaluate,  
and Select Preferred  
Alternatives

■ ■ ■ Move Toward  
Implementation

Resources

Conclusion

## Tips

- Involve stakeholders from the beginning of the process.
- Identify partner/stakeholder champions to help you better connect with other community members and continue the dialogue.
- Meet your stakeholders where they are. Be cognizant of time limitations and challenges with attending meetings and provide opportunities to engage using a variety of mechanisms (e.g., in-person meetings, virtual meetings, written feedback).
- Communicate with stakeholders clearly and often to solicit their input, demonstrate how their feedback informs the long-term process, and share updates.
- Be open to all suggestions, even if they appear unrelated to the effort.
- Make decisions after obtaining stakeholder feedback, so that stakeholders participate in all parts of the process (e.g., identifying goals, objectives, and solutions).
- Coordinate with decision-makers regularly to avoid communication mishaps and develop responsive relationships.
- Tailor any materials (i.e., outreach information, plans, resource documents) according to topic and audience.
- Avoid using technical jargon so that information is accessible to all audiences.
- Consider your community demographics and any opportunities to increase accessibility, such as making information available in common languages and sharing information in accessible formats for people who are deaf, hard of hearing, blind, or have low vision.
- Ensure any meeting location has essential accessibility features that allow participants to easily access the meeting space and restrooms.

# Develop, Evaluate, and Select Preferred Alternatives



This section describes ways for a community to develop, evaluate, and select preferred alternatives as part of Element 4 of the Integrated Planning Framework. Communities can summarize the outcomes of these actions in an integrated plan, long-term stormwater plan, or other type of community planning document.

## Develop Implementation Strategies and Schedules

Once you have selected your initial goals and gained a sense of your existing system's assets and performance (Integrated Planning Element 2), you can work with your stakeholders (Integrated Planning Element 3) to develop implementation strategies, objectives, and proposed schedules for each goal. A strategy outlines the general approach and method for achieving a goal. Strategies define discrete actions to pursue over time. Once you have established your strategies, think about clear and measurable objectives for each strategy. Objectives allow communities to evaluate the effectiveness of their strategy implementation (Integrated Planning Element 5), as described in the next section. As you think through the strategies and objectives that support each goal, you may find that your list of initial goals narrows due to various constraints (e.g., schedules, funding), leaving you with a list of final goals. The figure below provides an example of a goal and corresponding implementation strategies and objectives. Note that you will want to add measurable values to the objectives in the example below (e.g., 75 percent of public projects install green infrastructure annually).

### Goal

A broad, qualitative statement of desired *achievements*.

- Example: Increase the amount of green infrastructure installed in the community to minimize pollutant loads, reduce localized flooding and enhance visual appeal.

### Strategy

A general approach or method: *how* you plan to achieve the goal.

- Example #1: Update the city ordinance to require on-site retention for redevelopment and new development projects.
- Example #2: Perform a desktop green infrastructure site suitability assessment with geospatial data to identify potential public sites for green infrastructure installation throughout the community.
- Example #3: Update the city's master plan to include green infrastructure projects.

### Objective

A specific, *measurable statement* of what will be done to achieve goals within a particular timeframe.

- Example #1: Gallons of stormwater treated annually on-site via retention.
- Example #2: Percent of public projects that install green infrastructure annually.
- Example #3: Acres of impervious area treated by green infrastructure in implemented master plan projects.

## Introduction

## Overarching Tips

### Assess Where You Are Now

### Analyze Your Opportunities

Make Connections with Stakeholders

Develop, Evaluate, and Select Preferred Alternatives

### Move Toward Implementation

## Resources

## Conclusion

There are many ways to achieve your goals, and stakeholder input is essential for building strategies that are feasible and realistic for the community. Strategies may include policies, guidance, capacity building, awareness, staff training, and construction projects. Some goals may be complex and require many strategies, while others may be straightforward and only require a few. Additionally, some strategies—especially those related to project implementation, construction, and physical infrastructure—may have implementation alternatives that require evaluation based on stakeholder criteria and priorities. Resources designed to protect public health and the environment for all people, such as EPA’s [EJScreen tool](#), can help prioritize efforts.

Because stormwater affects so many places within communities, there are many opportunities to incorporate your strategies into existing efforts related to development, infrastructure investment, source control efforts, and environmental compliance. For example, consider integrating stormwater management improvements into capital improvement projects such as lead service line replacement or road work. Long-term stormwater strategies do not need to be standalone efforts and can be paired with other community efforts.

Strategy implementation schedules will likely depend on the timeline of existing community efforts and stakeholder priorities. As communities develop schedules, it may be helpful to rank or prioritize the strategies based on stakeholder-selected criteria and implement high-priority strategies first. For example, communities may decide that enhancing a certain geographic area in a downtown corridor is a top priority. They may then choose to prioritize any strategy with an anticipated positive effect on that area.

Communities should also consider the life cycle implementation costs (e.g., staffing, construction, long-term O&M) of strategies. Communities that incorporate these considerations into their planning process will be better able to identify funding sources. Your strategies will be more successful if your process identifies how to track and secure sufficient funding over time.

### Types of funding mechanisms:

- Tax-based general funds
- Utility fees
- Grants
- Loans
- Municipal bonds
- Partnerships
- Low-interest loans
- Market-based approaches
- Regional approaches

### Example criteria to evaluate strategies and alternatives:

- Water quality, environmental and public health benefits
- Cost
- Staff resources required
- Compliance impact
- Potential for addressing disproportionate community burden
- Implementation feasibility
- Alignment with other community priorities and processes



Introduction

Overarching Tips

Assess Where You Are Now

Analyze Your Opportunities

Make Connections with Stakeholders

Develop, Evaluate, and Select Preferred Alternatives

Move Toward Implementation

Resources

Conclusion

## Develop a Financial Approach

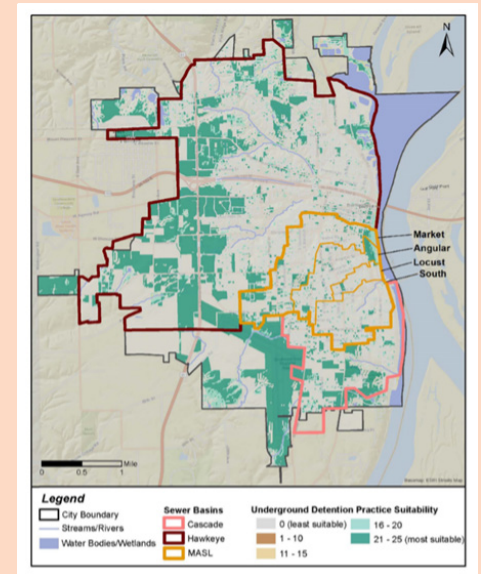
Implementing long-term stormwater planning strategies requires adequate funding to support both programmatic aspects and physical infrastructure. The success of a strategy relies on sufficient funding to support its full life cycle, including costs for administrative support, design, construction, and operation and maintenance over time. Communities have a variety of funding mechanisms available for stormwater management, including dedicated municipal revenue sources and external financing options that can be combined to create a funding portfolio that meets program needs.

Because long-term stormwater planning goals are unique for every community, the process of developing a financial strategy will also be specific to the community. Communities with programmatic goals will likely need to think comprehensively about developing a financial strategy for their entire stormwater program. A comprehensive approach entails assessing current program needs, anticipated program needs (including funds needed for strategy implementation), current and potential funding sources, and the gap between what is available and what is needed. Developing a programmatic financial approach will help paint an accurate picture of the full costs associated with stormwater program activities. Meeting this full cost has been a challenge for some communities, which may operate more reactively than proactively. Communities with narrowly focused goals may decide to limit the scope of their financial approach to assess only the funding needed to implement discrete strategies.

A financial approach will help communities obtain adequate funding based on needs. Together with the other documented long-term planning enhancements, the community will be able to provide clear information on costs and improvements for residents and decision-makers.

### Strategy to Increase Green Infrastructure in the Community: Geospatial Site Suitability Analyses

Burlington, Iowa; Hattiesburg, Mississippi; and Rochester, New Hampshire had long-term stormwater planning goals related to increasing green infrastructure in their communities. Through technical assistance from EPA, each community performed a screening-level site suitability assessment to identify potential locations for green infrastructure installation. This site suitability assessment was a GIS-based desktop analysis that used physical site characteristic data layers (e.g., soil permeability, slope, depth to groundwater) to create heat maps that show which locations in the community are best suited for green infrastructure. Each community's stakeholders established criteria and physical site characteristics to rank opportunities. The resulting GIS data and heat maps provided each community with a screening-level starting point for assessing opportunities and design projects.



Introduction

Overarching Tips

Assess Where You Are Now

Analyze Your Opportunities

Make Connections with Stakeholders

Develop, Evaluate, and Select Preferred Alternatives

Move Toward Implementation

Resources

Conclusion

## Groundwork Questions

Answer the groundwork questions below to summarize an implementation plan for each strategy, assess programmatic funding needs, and identify funding sources and financing options. See the following worksheets for additional prompts.

### Implementation Strategies and Schedules

- Who is responsible for strategy implementation?
- What tools are needed for implementation?
- What other community efforts and goals overlap with each strategy?
- What is the estimated strategy implementation cost?
- What potential funding sources are available for each strategy?
- How might each strategy impact the community?
- What are the potential barriers for each strategy?
- What metrics can you use to evaluate and measure each strategy's effectiveness?
- What is the proposed implementation timeline for each strategy?

### Financial Approach

- What existing stormwater activities require resources? Include labor and program administration, staff training/certification, infrastructure O&M, capital costs, technology support, and miscellaneous costs (e.g., equipment, materials).
- What are the estimated stormwater activity costs for the next five to 15 years, including costs to implement long-term stormwater planning strategies?
- What funding gaps do you foresee?
- What are the possible opportunities for cost savings, cost-sharing, improved efficiency, and organizational effectiveness by coordinating across city departments or neighboring communities?
- What funding and financing options have you used in the past? Were any attempts to secure financing or funding unsuccessful, and if so, why?
- What municipal program funding and financing options are available?



#### Links to Editable Worksheets

Downloadable worksheets include prompts to help document process and decisions.

Worksheets

7

[Strategy Implementation Summary](#)

8

[Strategy Prioritization](#)

9

[Financial Needs](#)



## Introduction

## Overarching Tips

### ■ ■ ■ Assess Where You Are Now

### ■ ■ ■ Analyze Your Opportunities

Make Connections with Stakeholders

Develop, Evaluate, and Select Preferred Alternatives

### ■ ■ ■ Move Toward Implementation

## Resources

## Conclusion

- What external funding sources are available?
- What funding mechanisms will be used to fund the stormwater program and achieve the final goals?

## Tips

### Implementation Strategies and Schedules

- Have coordinators bring stakeholders to the table, keep the effort targeted, set timelines and deadlines, create opportunities for feedback, and incorporate feedback into strategies.
- Have champions help generate support and buy-in needed for successful strategy implementation.
- Establish incremental milestones to convey progress to members of the community and other stakeholders.
- Create as many strategies as needed across multiple years to achieve your goal.
- Set schedules for strategies that allow you to achieve incremental progress starting in the near term.
- Consider that you may have to implement some strategies in a certain chronological order, while you may be able to schedule others based on stakeholder priorities.
- Do not overpromise results. Be clear with your community to keep expectations realistic.
- Establish clear and measurable objectives for each strategy early on so that targets for success are transparent.
- Use modeling and monitoring results, depending on the objective.

### Financial Approach

- Coordinate across departments to integrate stormwater management into broader projects and existing activities for cost savings and greater organizational effectiveness.
- Consider establishing a dedicated revenue source, such as a stormwater fee, to provide a reliable funding stream for capital investments and long-term O&M.
- Consider ways to make established fees affordable for rate payers, such as scaling or incremental fees.
- Include both capital and O&M costs for any physical infrastructure installed as part of a strategy.
- Use information gathered from characterizing the existing system (Integrated Planning Element 2) to identify funding needs in your financial strategy.
- Develop an asset management program to identify infrastructure needs (e.g., repair, replacement, ongoing O&M).
- Commit to identifying funding resources needed to achieve objectives.



Introduction

Overarching Tips

Assess Where You Are Now

Analyze Your Opportunities

Make Connections with Stakeholders

Develop, Evaluate, and Select Preferred Alternatives

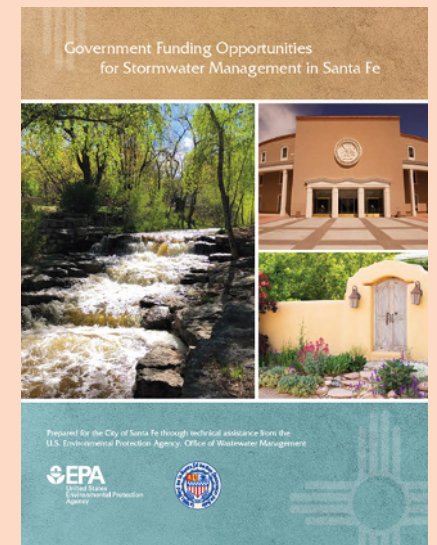
Move Toward Implementation

Resources

Conclusion

## Government Funding Opportunities in Santa Fe, New Mexico

Through technical assistance from EPA, stakeholders in Santa Fe identified a long-term stormwater planning goal to generate reliable funding for the city's stormwater program. As part of its strategy to achieve this funding goal, the city developed a guide titled [Government Funding Opportunities for Stormwater Management in Santa Fe](#) that discusses government funding opportunities and how to integrate stormwater management into existing city planning efforts. The guide outlines how to leverage strategic partnerships and learn from past projects. The guide is available to city employees, decision-makers, and key external stakeholders to demonstrate the advantage of pursuing stormwater management projects to improve public infrastructure, the environment, and the overall quality of life for residents of Santa Fe.



## Greening Transportation Projects in Santa Fe, New Mexico

Through technical assistance from EPA, stakeholders in Santa Fe identified a long-term stormwater planning goal to incorporate green infrastructure into new development and redevelopment projects. One of the strategies the city pursued to achieve this goal was to develop a guide titled [Incorporating Green Infrastructure into Roadway Projects in Santa Fe](#). This guide is a quick reference that practitioners can use to incorporate green infrastructure into their transportation project planning and designs.



Introduction

Overarching Tips

Assess Where You Are Now

Analyze Your Opportunities

Move Toward Implementation

Measure Performance

Adapt for Success

Resources

Conclusion

## Measure Performance



This section describes ways for a community to measure performance as part of Element 5 of the Integrated Planning Framework. Communities can summarize these actions in an integrated plan, long-term stormwater plan, or other type of community planning document.

Once you have assessed the current situation and determined your goals, you are ready to begin implementing strategies and working toward long-term goals based on a defined schedule. At this point, some communities may choose to write a standalone long-term stormwater plan or an integrated plan summarizing their process and approach to implementing strategies. Other communities may choose to integrate their strategies directly into existing planning documents.

Regulated communities might also choose to work with their permitting authorities (especially if the long-term stormwater planning effort is tied to regulatory requirements) to incorporate their strategies into National Pollutant Discharge Elimination System permits as clear, specific, and measurable requirements.

To make meaningful modifications and track progress over time, communities should periodically evaluate the performance of their strategies with stakeholders. Communities should reassess overall progress at least annually to ensure implementation continues in a manageable and effective way. This evaluation can involve assessing progress against objectives established in the previous section. Communities should continue to work with stakeholders in identifying opportunities to integrate long-term stormwater planning goals into new community efforts and priorities.

Monitoring progress is also key. Develop a monitoring plan to gather the data needed to measure or model progress toward achieving objectives. The appropriate monitoring and/or modeling approach will depend on your objectives, the types of discharges addressed in your plan, any permit requirements, and the staff and budget available. The approach should establish monitoring parameters associated with objectives, monitoring location and frequency, sampling protocols, analytical methods, and a quality assurance plan. You should consider the quantity of data needed and available budget when setting the monitoring frequency. You should also think about staff training requirements, safety considerations, and whether you can share responsibilities across departments or recruit external support, such as from a local university.

### Groundwork Questions

Answer the groundwork questions below to assess progress. See Worksheet 10 for additional prompts.

- What tools or methods will you use to measure progress toward established objectives?
- Will you survey community members at regular intervals to define objectives and provide feedback on whether you are meeting those objectives?
- Will you track cost savings from long-term planning efforts?

Worksheets



#### Links to Editable Worksheets

Downloadable worksheets include prompts to help document process and decisions.

[10 Strategy Status Evaluation](#)



Introduction

Overarching Tips

Assess Where You Are Now

Analyze Your Opportunities

Move Toward Implementation

Measure Performance

Adapt for Success

Resources

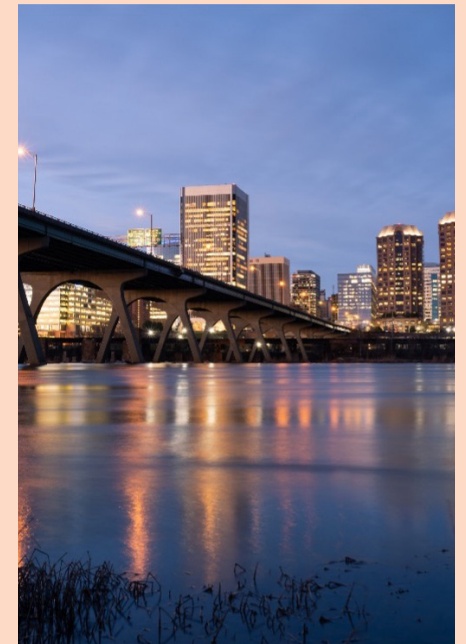
Conclusion

## Tips

- Where feasible, track cost savings gained from using a long-term planning approach.
- Communicate progress (especially benefits) to stakeholders and the public. Involve these groups when evaluating performance metrics and overall effectiveness of your approach.
- Communicate benefits associated with implementing a strategy, even if they are not easily quantifiable. For example, benefits such as stronger interdepartmental relationships, clearer processes for developers, increased resilience against flooding, increased effectiveness in addressing community-identified needs, and increased community awareness and involvement can all show how a strategy improved the community.

### Implementing Integrated Planning in Richmond, Virginia

In 2014, Richmond began a stakeholder-driven integrated planning process to gain efficiencies in managing multiple water quality requirements and make progress toward its clean water goals. Richmond sought to develop a single integrated permit for the city's wastewater treatment facility, combined sewer overflows, and stormwater discharges. The community's goals guided development of comprehensive water protection-based strategies for the plan. The city developed an outreach plan and established a technical stakeholder group that included environmental nongovernmental organizations, utilities, community coalitions, city planners, park and river protection organizations, universities, and state regulators. The city's water quality managers and stakeholders produced a common set of integrated planning goals. For each goal, the stakeholders developed multiple objectives and evaluated strategies to achieve these objectives. The planning team developed specific metrics and associated targets for each strategy, such as pounds of pollutant removed, linear feet of stream restored, and acres of tree canopy planted. Richmond's final integrated plan—the *RVA Clean Water Plan*—describes a process the city will use to implement individual projects to meet its targets with affordability in mind. Richmond has made significant progress toward its targets since implementing the *RVA Clean Water Plan*.



Introduction

Overarching Tips

Assess Where You Are Now

Analyze Your Opportunities

Move Toward Implementation

Measure Performance

Adapt for Success

Resources

Conclusion

## Adapt for Success



This section describes ways for a community to adapt for success as part of Element 6 of the Integrated Planning Framework. Communities can summarize the actions in an integrated plan, long-term stormwater plan, or other type of community planning document.

Establish an approach to periodically review and improve your process or plan over time. Consider how to use performance data to adapt your projects and schedule to work toward goals. Inputs for developing your plan may change over time. For example, precipitation intensities, durations, and frequencies may change. Population density and community makeup could also change, leading to a need for additional outreach or changes to how you communicate with your community members. These potential changes should also factor into updates to the projects or schedule as appropriate.

You may want to solicit stakeholder input on how your process or plan is working. Consider performing in-depth assessments to inform revisions every few years, depending on project schedule and other considerations. Your plan will likely have extended planning horizons, so it is important to incorporate adaptive management activities into project implementation. If you manage a regulated MS4 and your plan helps fulfill part of your regulated activities or is incorporated into your permit, it's helpful to stay in contact with your permitting authority and communicate any plan updates to ensure you are on the same page.

### Groundwork Questions

Answer the groundwork questions below to ensure you plan to adapt. See the following worksheets for additional prompts.

- What process will you use to adapt to new data and information over time?
- How often will you review progress and adapt your approach or plan?
- How frequently will you update your plan? Think about both major and minor updates.
- How will you periodically measure progress and adjust priorities as needed to meet your objectives?
- Are there any new community goals to consider including in updates?
- What community departments should you engage, and how will you ensure responsible parties are meeting their commitments?



#### Links to Editable Worksheets

Downloadable worksheets include prompts to help document process and decisions.

7

[Strategy Implementation Summary](#)

10

[Strategy Status Evaluation](#)

Worksheets



Introduction

Overarching Tips

 Assess Where  
You Are Now

 Analyze Your  
Opportunities

 Move Toward  
Implementation

Measure Performance

Adapt for Success

Resources

Conclusion

## Tips

- Revisit your approach or plan at regular intervals to ensure your efforts continue to meet your goals and the community's needs.
- Stay connected with your stakeholders to update them on progress and solicit feedback. Consider new feedback as you update your approach.
- Check for new sources of funding or financing options that could help you achieve your objectives.
- Engage with relevant community departments to discuss progress, make adjustments, and celebrate successes.



# Resources



## Describe Relevant Requirements and Drivers

### Long-Term Stormwater Planning Pilot Project Resources

- *Long-Term Stormwater Planning: A Methodology for a Green Infrastructure Site Suitability Assessment*
- Hattiesburg, Mississippi's [Long-Term Stormwater Plan](#) | See Introduction
- Rochester, New Hampshire's [Long-Term Stormwater Plan](#) | See Introduction, Table 1 (Stormwater Opportunities in Community Plans) and Appendix A (Existing Community Goals at the Start of the Long-Term Stormwater Planning Process)
- [Government Funding Opportunities for Stormwater Management in Santa Fe](#) | See Introduction, which describes the process for external and internal community meetings
- [Long-Term Stormwater Planning in Santa Fe](#)

### Goal Setting Resources

- [Land Use and Green Infrastructure Scorecard](#) (EPA-833-R-23-002)
- [Integrated Planning in Action: Determining Requirements and Drivers](#) (EPA-832-F-22-007)
- [Planning for Sustainability: A Handbook for Water and Wastewater Utilities](#) (EPA-832-R-12-001) | See page 10, "Goal Setting—Establish Sustainability Goals that Reflect Utility and Community Priorities"
- [Strategic Planning: A Handbook for Small Water Systems](#) (EPA-816-B-21-001) | See page 9, "Develop Your Guiding Principles"

### Outreach Resources

- [Public Outreach for Integrated Wastewater and Stormwater Planning](#) (EPA 830-R-17-003)
- [Getting in Step: Engaging Stakeholders in Your Watershed](#) (EPA-841-B-11-001) | See page 17, "Section 2: Getting Started"
- [Getting in Step: A Guide for Conducting Watershed Outreach Campaigns](#) (EPA-841-B-10-002) | See page 3, "Part 1: Getting Started"

### Environmental Justice, Resiliency, and Sustainability Resources

- EPA's [EJScreen](#)
- EPA's [Environmental Justice](#) website
- [Planning for Sustainability: A Handbook for Water and Wastewater Utilities](#) (EPA-832-R-12-001)
- University of North Carolina School of Government, Environmental Finance Center, 2022. [Leveraging the Integrated Planning Framework for Advancing Climate Resilience and Environmental Justice](#)
- Green Infrastructure Leadership Exchange and GreenPrint Partners, 2022. [Equity Guide for Green Stormwater Infrastructure Practitioners](#)
- Green Infrastructure Leadership Exchange, 2022. [Community Voices on Equity & Green Stormwater Infrastructure](#)



## Characterize Existing Systems

### Long-Term Stormwater Planning Pilot Project Resources

- Hattiesburg, Mississippi's [Long-Term Stormwater Plan](#) | See Goal 3 (Achieve Efficient, Proactive, and Cost-Effective Operation and Maintenance of the City's Stormwater Infrastructure through Asset Management) and Appendix C (Asset Management Program Development Steps and Resources)
- Rochester, New Hampshire's [Long-Term Stormwater Plan](#) | See Section 2 (Goal – Know Your Assets: Develop and Implement an AMP)



## Make Connections with Stakeholders

### Long-Term Stormwater Planning Pilot Project Resources

- Rochester, New Hampshire's [Long-Term Stormwater Plan](#) | See Section 2 (Goal – Know Your Assets: Develop and Implement an AMP)
- [Long-Term Stormwater Planning in Santa Fe](#) | See Section titled “Listening to the Community and Engaging Stakeholders”

### Asset Management Resources

- [Asset Management Programs for Stormwater and Wastewater Systems: Overcoming Barriers to Development and Implementation](#) (EPA-EP-C-14-003)
- EPA's [Condition Assessment of Underground Pipes](#)
- EPA's [Webinar: Stormwater Asset Management: Letting Your Green Infrastructure Assets Work for You](#)

### Engagement Resources

- [Prioritizing Wastewater and Stormwater Projects Using Stakeholder Input](#) (EPA-830-R-17-002)
- [Public Outreach for Integrated Wastewater and Stormwater Planning](#) (EPA-830-R-17-003)
- [Talking to Your Decision-Makers: A Best Practices Guide](#) (EPA-816-F-06-034)
- [Getting in Step: Engaging Stakeholders in Your Watershed](#) (EPA-841-B-11-001) | See page 17, “Section 2: Getting Started”
- [Getting in Step: A Guide for Conducting Watershed Outreach Campaigns](#) (EPA-841-B-10-002) | See page 3, “Part 1: Getting Started”
- [Using Stakeholder Input to Evaluate and Rank Alternatives: Basic Decision-Making Spreadsheet Tool](#)



## Long-Term Stormwater Planning Pilot Project Resources:

### Implementation Strategies and Schedules

- Long-Term Stormwater Planning: A Methodology for a Green Infrastructure Site Suitability Assessment
- Hattiesburg, Mississippi's [Long-Term Stormwater Plan](#) | See Appendix G (Methodology–Site Suitability Assessment for Potential Green Infrastructure Implementation) and Appendix H (Implementation Planning and Progress Evaluation Tool)
- Rochester, New Hampshire's [Long-Term Stormwater Plan](#) | See Section 8, Table 12 (Prioritization Metrics), Table 13 (LTSW Key Action Prioritization Template), and Appendix D (Green Infrastructure Site Suitability Methodology)
- [Incorporating Green Infrastructure into Roadway Projects in Santa Fe](#)

## Long-Term Stormwater Planning Pilot Project Resources: Financial Approach

- Hattiesburg, Mississippi's [Long-Term Stormwater Plan](#) | See Goal 2 (Ensure Adequate Funding for the Stormwater Program), Appendix A (Example Table for Identifying and Evaluating Stormwater Activities and Budget Estimates), and Appendix B (Summary of Potential Federal Funding Opportunities)
- Rochester, New Hampshire's [Long-Term Stormwater Plan](#) | See Section 3 (Goal – Deliver Sustainable Stormwater Services: Meet the City's Stormwater Funding Needs) and Appendix C (Summary of Potential Federal Funding Opportunities)
- [Government Funding Opportunities for Stormwater Management in Santa Fe](#) | See Appendix C: Summary of Potential Federal Funding Opportunities

## Implementation Strategy and Schedule Development Resources

- EPA's [EJScreen](#)
- EPA's [Environmental Justice](#) website
- EPA's [Off-Site Stormwater Management](#) webpage
- [Land Use and Green Infrastructure Scorecard](#) (EPA-833-R-23-002)
- [Bioretention Design Handbook: Designing Holistic Bioretention for Performance and Longevity](#) (EPA-841-B-23-002)
- [Green Infrastructure Modeling Toolkit](#)
- [Green Streets Handbook](#)
- [Using Stakeholder Input to Evaluate and Rank Alternatives: Basic Decision-Making Spreadsheet Tool](#)
- [Making the Right Choices for Your Utility: Using Community Priorities and Sustainability Criteria for Water Infrastructure Decision-Making](#) (EPA-832-R-21-008)
- [Clean Water Act Financial Capability Assessment Guidance](#) (EPA-800-B-21-001B)
- [Prioritizing Wastewater and Stormwater Projects Using Stakeholder Input](#) (EPA-830-R-17-002)
- National Municipal Stormwater Alliance's [Establishing a Comprehensive Stormwater Program Plan](#) website

Introduction

Overarching Tips

Assess Where You Are Now

Analyze Your Opportunities

Move Toward Implementation

Resources

Describe Relevant Requirements and Drivers

Characterize Existing Systems

Make Connections with Stakeholders

Develop, Evaluate, and Select Preferred Alternatives

Measure Performance

Adapt for Success

Conclusion

### Financial Approach Resources

- EPA’s [Environmental Finance Centers](#) website
- EPA’s [Water Finance Clearinghouse](#) website
- EPA’s [Water Technical Assistance \(Water TA\)](#) webpage
- EPA’s [Green Infrastructure Funding Opportunities](#) webpage
- [Integrated Planning in Action: Funding the Development of an Integrated Plan](#) (EPA-832-F-22-008)
- EPA’s [Funding Integration Tool for Source Water \(FITS\)](#)
- EPA’s Green Infrastructure Federal Collaborative webcast: [Navigating Federal Funding for Green Infrastructure and Nature-Based Solutions](#) (see the Past Events section of the webpage).
- [Getting Community Buy-in for Stormwater Funding: A Four-Session Participatory Workshop: Facilitator Manual](#) (EPA-600-R-18-214)
- University of North Carolina School of Government, Environmental Finance Center, 2020. [Introducing EPA’s Integrated Planning Element Four – Analyzing and Prioritizing Projects Webinar](#)



### Measure Performance

#### Long-Term Stormwater Planning Pilot Project Resources

- Hattiesburg, Mississippi’s [Long-Term Stormwater Plan](#) | See Appendix H (Implementation Planning and Progress Evaluation Tool)
- Rochester, New Hampshire’s [Long-Term Stormwater Plan](#) | See Section 8

#### Estimating Progress Resources

- [Assessment, Total Maximum Daily Load Tracking, and Implementation System \(ATTAINS\)](#)
- [Green Infrastructure Modeling Toolkit](#)
- [National Stormwater Calculator](#)
- [Storm Water Management Model \(SWMM\)](#)
- [Water Quality Portal – Tools for Automated Data Analysis \(TADA\)](#)
- [Watershed Management Optimization Support Tool \(WMOST\)](#)



### Adapt for Success

- [Integrated Planning in Action: Adapting for Success](#) (EPA-832-F-22-007)
- Rochester, New Hampshire’s [Long-Term Stormwater Plan](#) | See Section 8



Introduction

Overarching Tips

Assess Where  
You Are Now

Analyze Your  
Opportunities

Move Toward  
Implementation

Resources

Conclusion

## Conclusion

The approach described in this guide is a flexible process that communities can use to ensure progress over time and balance stormwater management objectives with other community priorities. This approach encourages communities to prioritize capital investments in stormwater infrastructure and align stormwater needs with other community efforts. Integrating long-term stormwater goals with broader community goals such as economic development, infrastructure investment, and environmental compliance allows the planning effort to support resilience, economic growth, and quality of life.

Successful implementation will require an adaptive management approach and collaboration across departments and with stakeholders. With this guide, any community can create a path to prioritized, cost-effective, sustainable, and comprehensive solutions that protect human health and manage stormwater as a resource.

