



# Navigator's Checklist for Managing Local Flood and Stormwater Challenges



## 1. Define the Condition of Your Community's System

Your community's local flooding and stormwater situation is unique. The strategy you develop to address these challenges should reflect your particular geographical, financial, infrastructural, institutional, community, and political realities. Establishing a solid foundation for your community's tailored approach is a critical first step. Navigate the Flood Step 1 is about comprehensively defining the existing conditions of your community's flood and stormwater systems before starting to develop a management plan.

Some questions to ask your team as they begin to define the condition of your community's system include:

- Do we know the physical condition of our watershed and waterways?
- What are the potential sources of flooding and pollution impacting our waterways?
- What are the anticipated impacts from climate change on our watershed and waterways?
- Have we evaluated our stormwater drainage system?
  - What type of stormwater system do we have -- a separate system that discharges directly to surface waters or a combined system that collects stormwater and wastewater and sends it to a treatment plant?
  - Is there a map -- physical or electronic -- of the assets of the stormwater system, e.g., pipes, ditches, culverts, drop inlets, tunnels, etc.?
  - Does our stormwater system include green infrastructure elements, e.g., bioswales, green roofs, permeable pavement, rain gardens, etc.? Do we currently use only gray infrastructure systems, e.g., pipes, deep tunnels?
  - What stormwater management regulations must we comply with?
  - Are we required to collect samples of our stormwater runoff? What type of monitoring is required?
- What is our current technical, financial, and managerial capacity to manage flooding and stormwater runoff?
  - What department(s) are responsible for flooding and stormwater management? Is there a stormwater utility?
  - Do we have local or state regulations that govern how our community pays for flooding and stormwater management?
  - Do we have an asset management inventory and/or associated plan?
  - What is our capital improvement plan for building flooding and stormwater improvements?
- Who are the stakeholders we should engage as we build our flooding and stormwater management programs?
  - Do our engagement strategies account for varying needs and perspectives of the diverse stakeholders in our community?
- What are the opportunities for us to work with our neighboring communities to jointly manage flooding and stormwater runoff?



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## 2. *Identify Your Community's Challenges*

As decision-makers, you need to be familiar with the nuances of your community's flooding and stormwater management challenges, help your technical team find ways to surface these challenges, and engage in the process to prioritize them to develop a sound plan. To unpack this complex process, *Navigate the Flood Step 2* outlines how technical staff can identify the major flooding and stormwater challenges in your community, and provides guidance for determining which elements require immediate versus longer term action.

Here are a few relevant questions to ask your team at this step:

- Have we identified our major flooding challenges, including sources of flooding and all potential environmental, public health, climate change risk factors, and infrastructure/other economic impacts?
- Have we identified any regional climate change or flood related models or maps to assess the most vulnerable areas within our community?
- Have we identified our major stormwater runoff challenges, including all potential environmental, public health, and infrastructure/other economic impacts?
- Have we done a neighborhood by neighborhood analysis of these flood and stormwater runoff related impacts?
  - Are some neighborhoods in our community impacted by flooding and/or stormwater runoff more than others? Which ones?
- Do we have a long term flood and/or stormwater management plan that includes goals and actionable steps to achieve those goals?
- Have we developed a range of environmental, social, and economic "Triple Bottom Line" criteria to assist in the process of developing or updating a long term plan?
- Do we have a plan for emergencies/crises related to flooding and stormwater runoff?
  - In what situations does the emergency plan apply? Have we identified an emergency response team including a designated chain of command and clear communication channels? An emergency budget and fund?

## 3. *Set Your Community's Visions and Goals*

As local decision-makers, you know that comprehensive planning is more than an internal review of flood and stormwater system conditions and management challenges. It involves genuine community and stakeholder engagement to set visions and goals that reflect community values and identify associated performance metrics.

*Navigate the Flood Step 3* provides a framework for setting your community's flood and stormwater management visions and goals.

Some important questions to ask include:



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- Have we integrated community values with strategic planning and priorities through a public engagement process?
  - Are we continuing to engage with community and utility leaders?
- Have we clearly developed and articulated our goals for stormwater and flood management?
  - What are our goals?
  - Are our goals as equitable as they could be?
  - Do our goals consider potential impacts of climate change?
- Have we developed objectives and strategies to achieve our goals and set performance metrics?
- Have we identified 'low hanging fruit' in line with our goals to achieve quick wins and build project momentum?

## 4. Choose Your Community's Solutions

As decision-makers engaged in a transparent analysis of all possible solutions to address flooding and stormwater challenges, you will be on the path to selecting a suite of strategies suitable for your community's unique conditions, priorities, visions, and goals. Assessing various alternative scenarios may also enhance your capacity to respond to unanticipated implementation challenges by having alternative approaches readily available.

Navigate the Flood Step 4 offers a series of example flood and stormwater management solutions ranging from conventional options such as levees and floodwalls to nature-based solutions that harness natural processes such as stream restoration and green stormwater infrastructure.

Here are a few questions to ask your team at this step:

- Have we evaluated various possible solutions or combinations of solutions to meeting our flooding challenges?
- Have we evaluated various possible solutions or a combination of solutions to meeting our stormwater runoff challenges?
- Have we evaluated how these solutions meet environmental, social, and economic "Triple Bottom Line" criteria and whether our various solutions will ensure we comply with all applicable regulations?
  - Have we considered the full life-cycle of our proposed solutions, including the cost of implementation, maintenance, and asset replacement?
  - Have we considered additional technical and operational criteria such as public acceptance and ongoing maintenance needs?



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- What are our top choices?
  - How did we arrive at these options? Have we conducted a cost benefit analysis for our top solutions?
- How have we communicated these top choices to the community?
- Have we developed a strategic (and/or master) plan that is flexible and remains current?
  - Are we continuing to revise the plan(s) as we begin to implement our solutions?
  - Did we build-in a mechanism to evaluate stakeholder feedback?
  - Have we considered EPA standards for integrated planning and adaptive management?
  - How does the plan meet regulatory requirements?
  - How does the plan address neighborhoods disproportionately impacted by flooding and/or stormwater runoff?
  - Have we captured intentions and efforts into existing reporting or strategic planning requirements?

## 5. *Put Your Community's Plan into Action*

Implementing flood and stormwater management plans is a dynamic process involving regular communication between decision-makers and technical staff to adapt to changing conditions, lessons learned, and new data. Navigate the Flood Step 5 sets out ways technical staff can execute flood and stormwater management plans as well as guidance for incorporating adaptive management strategies into implementation to ensure ongoing monitoring and performance data inform regular updates and improvements to your community's operation of flood and stormwater systems.

Here are a few questions to ask your team as you put your community's plan into action:

- Have we started implementing the plan considered in Step 4?
- How often do we update our plan based on lessons learned, monitoring data, and/or availability of new technologies?
- How do we pay for our flood and stormwater management projects?
  - Are we leveraging partnerships with other entities to jointly seek funding opportunities to minimize rate impacts and maximize funding and co-benefits?
  - Did we and are we continuing to explore potential public private partnerships to implement projects on private land?
  - Did we and are we continuing to explore incentive programs for projects to be conducted on private land?
  - Did we and are we continuing to explore opportunities for buying land in the floodplain?



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## *Additional Resources*

The five steps of [Navigate the Flood](#) guide local decision-makers and managers and staff through the multifaceted process of planning for and building sustainable, resilient, and equitable stormwater and flood management systems.

Stay in the flow and dive into the Guide's deep well of technical and financial resources in the [All Resources](#) library.

Looking for a way to connect with experts who can provide hands-on support and practical guidance? Access the Guide's [Technical Resources Providers](#) for even more technical, managerial, operational, and financial resources.

Looking for descriptions of key terms related to floods and stormwater? See the following glossary resources that are available here and in the [All Resources](#) library.

[EPA Glossary of Terms](#)

[Appendix D: FEMA Glossary](#)

[National Flood Insurance Program Terminology Index](#)