Integrated Planning in Action

Permitting Authority Toolkit
Module 2: Collaborating

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Rodney Cook, Sr Park capacity relief project.
Photo courtesy of J. Cory Rayburn.

The Integrated Planning Permitting Authority Toolkit consists of three modules, each designed to help the permitting authority promote and support integrated planning for National Pollutant Discharge Elimination System (NPDES) permittees. The modules have been designed to lead permitting authority staff along the path to incorporating integrated plans in permits. The modules are not fact sheets composed of narrative guidance; rather, they should be used as hubs for information on process steps, tools, resources, successful examples, and recommendations. You should select and use modules based on where you are on the integrated planning continuum.

This module—**Collaborating**—will help you learn how to best work with permittees to develop integrated plans that include activities, commitments, and milestones that can be incorporated into permits to meet Clean Water Act objectives.

Initiate discussions with the permittee that has committed to integrated planning and communicate shared goals and expectations.

Once a permittee has decided to pursue integrated planning, connect the integrated planning team with the permittee through formal discussions or existing interactions. These discussions may be appropriate at a variety of different times such as during permit reissuance, after receipt of an annual report, or during enforcement negotiations.

Approaching the permittee in the spirit of collaboration to achieve mutual goals will create a solid foundation for working together to develop an integrated plan. This type of planning and permitting could be a new approach, but rewarding for everyone involved.

After developing shared goals, consider discussing expectations for meeting those goals, as you and the permittee may have different ideas for how to do this. Being fully transparent—up front—about what everyone expects from the process may prevent future problems and delays.

As discussed in Module 1, it is recommended that your permitting authority form an integrated planning workgroup or team to tackle integrated planning and interact with the permittee at various times. Each could be an opportunity to support the permittee in developing a plan that will support your goals.

Permitting Authority Staff	Collaborating Role
Permitting staff management	Ensure resources are available to adequately support integrated planning and encourage communication between permit writers and with enforcement staff.
Wastewater technical staff	Send initial communications, run all educational workshops and meetings, lead initial one-on-one meetings. Communicate between themselves to understand the range of Clean Water Act obligations the permittee must consider.
Stormwater technical staff	
CSO technical staff	
Enforcement staff	Work with permitting staff to ensure that the plan can satisfy any pending enforcement actions.
Economists	Review economic analyses included in the plan, such as a financial capability analysis.
Communications staff	Provide guidance on community outreach.
Clean Water State Revolving Fund staff	Provide guidance on funding opportunities for permittees to consider when writing the plan.
Non-Permitting Authority Partners	**Collaborating Role**
EPA headquarters and regional staff	Support the permitting authority in integrated planning efforts and represent EPA interests.

A mechanism that formalizes goals and expectations, such as a memorandum of understanding, can make both you and the permittee more comfortable moving forward with the planning process under your shared understanding.

The Missouri Department of Natural Resources helped three of its permittees develop integrated plans. Instead of enforcement actions, the Department used memoranda of understanding to enter into the integrated planning process with the permittees. This step assured permittees that the Department was committed to working with them and made it clear the Department and the permittee were working toward a common purpose.

EPA's Integrated Planning Roundtable with State Permitting Authorities: Memorandum of Understanding

Support the permittee during plan development.

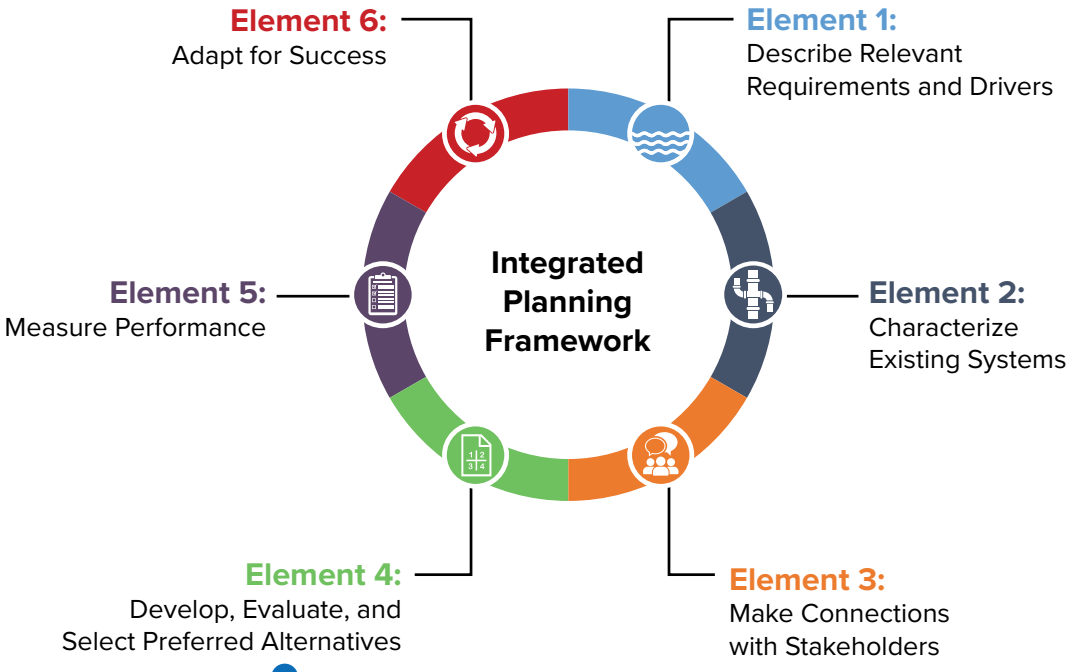
As the permitting authority, you are able to provide valuable planning assistance to permittees. You could be in the best position to explain the integrated plan development process and convey what your team will be looking for if the permittee submits a plan for consideration.

Initially, permittees may be hesitant to commit to integrated planning due to funding or resource constraints. The "Funding the Development of an Integrated Plan" and "Funding Integrated Planning Implementation" fact sheets offer advice on finding sources of funding.

It could be helpful for you to point out that integrated planning is similar to other types of infrastructure planning, such as long term control planning and capital improvement planning. Thus, much of what is required may be quite familiar to them.

The figure below summarizes the elements of EPA's Integrated Planning Framework. It is important to include all six elements to ensure that a plan has been developed using stakeholder input and the best available data.

Below, examples highlight how specific municipalities incorporated these elements into their plans as well as resources that your permittee might find useful when completing their own plan.



Element 1: Describing Requirements and Drivers

The City of New Bedford, Massachusetts, identified water quality issues by identifying waterbody classifications and impairments for each waterbody in the area. The city compiled receiving water data and previous studies to better understand water quality drivers and their causes. It also identified public health and safety issues associated with wastewater and stormwater discharges, such as waterborne illnesses and flood control.

Determining Requirements and Drivers Fact Sheet

> "This Long Term Control and Integrated Capital Improvements Plan needs to address a series of water quality, public health, regulatory and institutional issues. These issues, and resultant project goals, need to be identified during the early planning stages to guide the development and proposed implementation of each plan component."
>
> *—New Bedford's Long Term CSO Control and Integrated Capital Improvements Plan*

Element 2: Characterizing Systems

The City of Columbia, Missouri, reviewed its collection, wastewater treatment, and stormwater systems to determine the scope of the city's wastewater and stormwater needs. The assessments showed how past efforts have improved system performance; they also found room for further improvement that an integrated plan could address. For instance, while the city had made progress toward reducing wet weather overflows, it identified that it needed to better maintain the collection system to address dry weather backups caused by aging infrastructure. The evaluation also highlighted the need to increase investment in the stormwater system and reduce the illicit discharges.

> "The City and their co-permittees are currently fulfilling the requirements of the MS4 permit. However, the evaluation highlighted several opportunities for improvement in the current program. Most notably, developing a more strategic and proactive illicit discharge detection and elimination inspection program and refining erosion and sediment control inspection operations would allow the City to more effectively resolve issues that cause immediate water quality concerns."
>
> *—Columbia's Wastewater and Stormwater Integrated Management Plan*

RESOURCES:

- EPA's *Combined Sewer Overflows: Guidance for Monitoring and Modeling* presents a set of guidelines that give a municipality flexibility to develop a site-specific strategy for characterizing its combined sewer system operations and impacts and for developing and implementing a CSO long term control plan.
- EPA's *Asset Management Programs for Stormwater and Wastewater Systems: Overcoming Barriers to Development and Implementation* includes input on the critical steps and factors for developing and implementing an asset management program, barriers to program implementation and ways to overcome those barriers, program implementation cost and capital planning consideration, and successes and benefits of program implementation.

- EPA's *Guide for Estimating Infiltration and Inflow* provides information on estimating the amount of infiltration and inflow entering a collection system and for responding to NPDES infiltration and inflow permit reporting requirements.
- EPA's *Condition Assessment of Underground Pipes* provides guidance for completing a condition assessment of underground pipes, including developing a program, compiling an asset inventory, performing an asset assessment, managing data, analyzing data, and making decisions.
- The American Water Works Association's *Self-Assessment for Wastewater Treatment Plant Optimization* provides the methodology for improving wastewater treatment plant performance through a needs assessment that focuses on a few key parameters, including effluent water quality and energy savings.
- EPA's *Navigating the NPDES Permitting Process for Water Reuse Projects* summarizes key items to consider when permitting water reuse projects, presents strategies to effectively permit water reuse projects, and draws upon specific case studies that illustrate these strategies.

> "Utilizing the power of GIS and modeling is an important aspect. That was key for us, understanding the complexities of your system. And you got to really make sure that model is well calibrated, obviously, so bringing the client and the engineer and the consultant into the room and understanding that, 'Hey, look, this is really happening in our system.' So having that data behind it to support your projects is important."
>
> ***—Shawn Syde, New Bedford, Massachusetts***

Element 3: Engaging Stakeholders

The City of Richmond, Virginia, incorporated stakeholder involvement throughout its entire integrated planning process. It branded its plan as "RVAH2O" and created a website, Facebook page, and Twitter feed to reach a wide audience. Stakeholders included environmental advocates, recreational users of the James River, property owners, businesses, and permitting authority and local governmental agencies and representatives. The city met with technical stakeholders quarterly and non-technical stakeholders every six months to gather feedback on plan development.

> "DPU determined early on that community input and support would be key to the success of its Clean Water Plan as this support would facilitate development of an integrated VPDES permit as well as future implementation efforts. It was felt that this input and support could be gained by implementing a thoughtful, well-informed approach that demonstrates the Utility's commitment to improving the environment while continuing their good stewardship of their infrastructure assets and local water resources. Community support was especially important in considering priorities and options for improving and protecting the City's waters."
>
> ***—Richmond's RVA Clean Water Plan***

RESOURCES:

- EPA's *Public Outreach for Integrated Wastewater and Stormwater Planning* provides guidance on performing public outreach in the integrated planning process.
- EPA's *Getting in Step: Engaging Stakeholders in Your Watershed* provides the tools needed to effectively engage stakeholder groups and use such groups to communicate with others to restore and maintain healthy environmental conditions through community support and cooperative action.
- The Environmental Law Institute's *Step-by-Step Guide to Integrating Community Input into Green Infrastructure Projects* provides a step-by-step process that local governments can use to integrate community input into their green infrastructure projects.
- EPA's *Getting in Step: A Guide for Conducting Watershed Outreach Campaigns* advises on how watershed groups, local governments, and others can maximize the effectiveness of public outreach campaigns to reduce nonpoint source pollution and protect waterbodies.
- EPA's *Multi-Agency Water Reuse Programs: Lessons for Successful Collaboration* analyzes the dynamics of interagency collaboration, evaluates five regional partnerships responsible for building successful reuse collaborations, and offers lessons for successful recycled water projects.

> "One of the other pieces that…enhanced our outreach is we engaged a few community members on a more detailed level. The community ambassadors developed out of that, and we still have those community ambassadors that we meet with monthly. So that evolved out of that process, these members of the community that really get the message out."
>
> ***—Claire Maulhardt, Harrisburg, Pennsylvania***

Element 4: Developing and Selecting Alternatives

Johnson County, Kansas, identified all potential projects and solutions to address the current and anticipated requirements it had identified in Element 1 of its integrated planning process. The county conducted a multiple-criteria decision analysis to score potential alternatives. The criteria were based on Johnson County's mission statement and weighted based on community values, then expanded into several sub-objectives. After evaluating projects, the county considered financial impacts and scheduling constraints when creating the proposed project schedule.

> “A critical aspect of developing an MCDA tool is creating a decision framework that explicitly links the alternatives to evaluation criteria, which represent the interests or priorities of the community. Sub-objectives are critical to the decision framework because they provide an objective means of linking alternatives to the community objectives. Once established, the framework enables decision makers to understand how the overall goal is linked to the individual alternatives and helps facilitate the scoring process.”
>
> ***—Johnson County’s Integrated Management Plan***

RESOURCES:

- The Environmental Finance Center at University of North Carolina’s “Introducing EPA’s Integrated Planning Element Four—Analyzing and Prioritizing Projects” webinar taught participants how to evaluate both stormwater and wastewater projects when developing their integrated plan.
- EPA’s *Planning for Sustainability: A Handbook for Water and Wastewater Utilities* describes a number of steps utilities can undertake to enhance their existing planning processes to ensure that water infrastructure investments are cost-effective over their life-cycle, resource efficient, and support other relevant community goals.
- EPA’s *Prioritizing Wastewater and Stormwater Projects Using Stakeholder Input* describes how communities can use stakeholder input to select and rank criteria and apply those criteria to prioritize stormwater and wastewater projects.
- EPA’s *Clean Water Act Financial Capability Assessment Guidance* is used by municipalities when devising plans to come into compliance with the CWA. During that process, municipalities and EPA negotiate schedules with specific timeframes for implementation. The FCA Guidance describes the financial information and formulas EPA uses to assess a community’s financial resources to implement control measures and timeframes.
- EPA’s *Clean Water Act Financial Capability Assessment Guidance* identifies the key elements EPA uses in working with permittees to evaluate how their financial capability should influence schedules and provides examples of additional information that may help some communities provide a “more accurate and complete picture” of their financial capability.
- EPA’s *Multi-Agency Water Reuse Programs: Lessons for Successful Collaboration* analyzes the dynamics of interagency collaboration, evaluates five regional partnerships responsible for building successful reuse collaborations, and offers lessons for successful recycled water projects.

Developing project alternatives requires technical analysis of data. Some permittees may not have the resources to hire consultants to create customized models, but many publicly available tools exist that may meet their needs.

TOOLS:

- EPA's Storm Water Management Model (SWMM) is used for planning, analysis, and design related to stormwater runoff, combined and sanitary sewers, and other drainage systems. It can be used to evaluate gray infrastructure stormwater control strategies, such as pipes and storm drains, and is a useful tool for creating cost-effective green/gray hybrid stormwater control solutions. SWMM was developed to support local, state, and national stormwater management objectives to reduce runoff through infiltration and retention and to help reduce discharges that cause impairment of waterbodies. It also allows for future precipitation scenarios.
- EPA's National Stormwater Calculator (SWC) is a software application that estimates the annual amount of rainwater and frequency of runoff from a specific site. Estimates are based on local soil conditions, land cover, and historical rainfall records. Users supply information about the site's land cover and then select the controls they would like to use. The SWC is designed to be used by anyone interested in reducing runoff from a property, including site developers, landscape architects, urban planners, and homeowners.
- EPA's Watershed Management Optimization Support Tool (WMOST) is a software application designed to facilitate integrated water resources management across wet and dry climate regions. It allows water resources managers and planners to screen a wide range of practices across their watershed or jurisdiction for cost-effectiveness and environmental and economic sustainability. WMOST allows users to select up to 15 stormwater management practices, including traditional gray infrastructure, green infrastructure, and other stormwater control practices.
- The resources in EPA's Green Infrastructure Modeling Toolkit incorporate green or a combination of green and gray infrastructure practices to help communities manage their water resources in a more sustainable way, increasing resilience to future changes. This toolkit includes the SWMM, SWC, GIWiz, WMOST, VELMA, and GIFMod models.
- EPA's Financing Alternatives Comparison Tool (FACT) is a financial analysis tool that helps municipalities, utilities, and environmental organizations identify the most cost-effective method to fund a wastewater or drinking water management project. FACT comprehensively compares financing options for these projects by incorporating financing, regulatory, and other important costs.

Element 5: Measuring Performance

The City of Seattle, Washington's integrated plan included post-construction monitoring for three stormwater projects to determine if they performed as anticipated. The city proposed monitoring the mass of material collected during expanded street sweeping and the influent and effluent concentrations and volumes of the stormwater managed by the other two stormwater projects. The plan states that Seattle will use the monitoring results to calculate total pollutant load reductions and compare realized reductions with the city's goals.

> “The City proposes to set a performance goal for measuring the success of the Integrated Plan stormwater projects… Following completion of all post-construction monitoring for the three stormwater projects/programs, the City will evaluate the monitoring results in light of the performance goal.”
>
> *—Seattle’s Plan to Protect Seattle’s Waterways*

Element 6: Adapting for Success

The City of Akron, Ohio, outlined an adaptive management approach, consisting of expanded flow monitoring, water quality monitoring, asset management analysis, and advanced and/or innovative technology evaluation, that it used to improve the physical and hydraulic data used in its models. The city’s approach also describes how it will monitor the performance of implemented projects, compare the results with the original goals, and adapt the plan as necessary to stay on track.

> “The adaptive management process will provide a better understanding of the City’s infrastructure and its response to changing environments, financial circumstances and regulatory requirements.”
>
> *—City of Akron Integrated Plan*

Encourage permittees to engage stakeholders through the planning process.

Local support is often crucial to realizing the benefits of an integrated planning process. You should encourage permittees to communicate “early and often” with community stakeholders to inform their planning process and garner local support for subsequent projects. In addition, permittees have found that the stakeholder engagement aspect—element 3 of the Integrated Planning Framework—really improves relations with their communities. Often, permittees that are struggling to maintain their infrastructure and address human health concerns can find communicating with the public difficult. Integrated planning gives them a way to ask for and use stakeholder input that can help build trust in the community in a structured way.

Element 3: Engaging Stakeholders

Capital Region Water in Harrisburg, Pennsylvania, started community ambassador committee with interested residents. It offered education to committee members, including wastewater facility tours. This helped connect ratepayers to the wastewater and stormwater systems serving them; it deepened their knowledge of how those systems operate and the challenges in protecting the community from water quality and human health concerns.

These residents were able to disseminate the information to other community members and get feedback, which the permittee then considered during integrated plan development. The committee and the permittee developed a mutually beneficial relationship and the permittee continues to work with the ambassadors monthly to effectively communicate to even more residents.

EPA's Integrated Planning Roundtable with State Permitting Authorities: Stakeholder Engagement

Promote the consideration of resilience for all water infrastructure during integrated planning.

If they are not doing so already, permittees should consider ways to make their infrastructure more resilient when developing alternatives during integrated planning to help communities prepare for heavy storms, flooding, extreme heat, drought, and other challenges that may be worsened by climate change.

RESOURCES:

- EPA's *Flood Resilience: A Basic Guide for Water and Wastewater Utilities* helps drinking water and wastewater utilities become more resilient to flooding by examining the threat of flooding, determining impacts to utility assets, and identifying cost-effective mitigation options. It is particularly useful for small and medium utilities and provides easy-to-use worksheets with corresponding videos. Although this guide focuses on flood resilience, the same approach can be applied to enhancing resilience to other natural hazards such as earthquakes and tornadoes.
- EPA's Resilient Strategies Guide provides options for drinking water, wastewater, and stormwater utilities seeking to develop plans whose strategies address their specific needs and priorities.

TOOLS:

- EPA's Adapting for Success Fact Sheet is a fact sheet developed to inform municipalities interested in integrated planning on how to develop a process to

adapt for success.

- EPA's Route to Resilience Tool uses brief videos and an easy-to-navigate interface to guide utility personnel through the process of building their own unique "Roadmap to Resilience" report. It presents five stops along the route (assess, plan, train, respond, and recover) where users learn what it means for their utility to be resilient and what tools and resources are available to help it reach resilience.
- EPA's Climate Resilience Evaluation and Awareness Tool is a risk assessment application that helps utilities adapt to climate change impacts by providing a better understanding of current weather conditions and long-term projected changes.
- EPA's Creating Resilient Water Utilities initiative provides drinking water, wastewater, and stormwater utilities with practical tools, training, and technical assistance to increase resilience to climate change. Through a comprehensive planning process, this initiative promotes a clear understanding of climate change and potential long-term adaptation options for decision-making related to water utility infrastructure financing.

Communicate regularly with the permittee during the plan development process.

It is critical that you and your team check in regularly with the permittee during the planning process. Finding long-term solutions using an integrated planning approach can sometimes take years and can be resource intensive. Communicating regularly will allow you and the permittee to build trust and stay on the same page about progress and expectations. You want to ensure that, at the end of the process, the plan is built on transparent and reasonable assumptions, has clear milestones that can be incorporated into a permit, and is one that the permittee can commit to achieving and supporting.

EPA's Integrated Planning Element Four Analyzing and Prioritizing Project introduction: Communicating with the State

> "It is very important that the NPDES authority be engaged with the municipality during the development process with the goal of the municipality developing a successful integrated plan."
>
> *—Michael Abbott, Missouri Department of Natural Resources*