

Considerations for Using Integrated Planning

What Clean Water Utilities Should Know



Table of Contents

I.	What is Integrated Planning?	4
<hr/>		
II.	Purpose of this Document and How to Use It	5
<hr/>		
III.	Integrated Planning Considerations for Public Utilities	6
	A. Should I Develop an Integrated Plan?	6
	1. Are You A:	6
	2. Do You Have:	6
	3. Do You Need Relief Due to:	7
	4. What Are Your Options for Relief?	11
	B. How Do I Get Started on an Integrated Plan?	12
	1. Identify All Water-Related Obligations	12
	2. Define Costs and Timing Requirements	12
	3. Quantify Available Resources	12
	4. Evaluate Environmental and Health Impacts	12
	5. Prioritize Activities	13
	6. Identify Any Legal Relief Needed to Accommodate Priorities and Schedule	14
	C. What Can be Included in my Integrated Plan?	15
	1. Any/All CWA Obligations	16
	2. Drinking Water Obligations	19
	D. What Should my Integrated Plan Look Like?	20
	1. Scope: Which Water-Related Obligations Will be Included	20
	2. Affordability Analysis	21
	3. Alternatives Analysis	24
	4. Measure Success	25
	5. Plan Improvements	25
	E. Implementation Mechanisms	26
	1. How to Use Integrated Planning in the Permitting Context	26
	2. How to Use Integrated Planning in the Enforcement Context	27

3. Special Considerations for CSO Enforcement Actions	28
F. Public Participation	32
G. Regulatory Advocacy	36
1. Education	36
2. Invite Agency Involvement During the Integrated Planning Development Process	37
3. Involve Higher-Level Regulatory Management, Including EPA Headquarters, if Needed to Overcome Obstacles	37
<hr/>	
Appendix A – Case Studies	38
<hr/>	
Appendix B	52
A. Municipal Advocates Identified a Need	52
1. Implementation of Flexibility Available in Existing Law and Regulations but not Being Implemented by EPA/DOJ/States	52
2. Stop Treating Communities as CWA Violators	53
3. Increasing Affordability Challenges Across the Country	54
4. Avoid Traditional Silo Approach to Surface Water, Stormwater, Sewer Overflow, TMDL, and Other Water-Related Issues	55
5. Incorporate/Encourage Green Infrastructure	55
B. EPA Response	56
1. October 2011 Draft Framework	56
2. June 2012 Final Framework	57
3. July 2013 FAQ	61
4. November 2014 Affordability Framework	63
C. Legislation	66
1. Some States, EPA Regions Slow to Adopt Integrated Planning	66
2. Clarification to Policy Needed	66
3. Bipartisan Agreement on CWA Amendment	66

What is Integrated Planning?

Over the last several decades, cities and other municipal entities that own and operate wastewater treatment plants, sewer systems and municipal stormwater systems have been subjected to additional and increasingly stringent regulatory requirements under the federal Clean Water Act (CWA). These requirements derive from several distinct CWA programs, including those that address control of nutrients and other discharges from municipal treatment plants (also called publicly owned treatment works, or POTWs); systems that combine domestic effluents and stormwater (and which give rise to combined sewer overflows, or CSOs); municipal separate storm sewer systems (MS4s); wasteload allocations in total maximum daily loads (TMDLs); and other CWA requirements.

Each of these requirements is imposed independently, but the combined impact on the municipal operations, and on the financial status of the community and its residents, can be enormous.

Recognizing the challenges inherent in evaluating and addressing individual CWA requirements independently, regulated municipalities began an effort during the mid-2000s urging EPA to adopt an integrated planning approach that offers a voluntary opportunity to meet multiple CWA requirements by identifying efficiencies from separate wastewater and stormwater programs and sequencing investments so that the highest priority projects come first. Integrated planning can also lead to more sustainable and comprehensive solutions, such as green infrastructure and other innovative technologies, which improve water quality and enhances community vitality.

EPA first developed a framework for achieving water quality through integrated planning in 2011. EPA held public workshops and solicited public input on the draft and, on June 5, 2012, issued a [final framework](#) for achieving water quality through integrated planning.

EPA issued subsequent [guidance documents](#) regarding integrated planning in the following years. Still, some municipalities, EPA regional offices, and state permitting authorities were slow to support the development and implementation of integrated plans to address water quality issues. In particular, many communities found that the EPA regions and states within which they operate were hesitant to allow use of the new framework. Additionally, the lack of clear statutory authorization raised some concern about the long-term stability and continuity of the program.

To address these concerns, and to provide clear legal authority for integrated plans and Congressional support for use of the integrated plan process on a long-term basis, Congress passed the [Water Infrastructure Improvement Act](#), which became law on January 14, 2019. The National Association of Clean Water Agencies (NACWA) and other municipal parties played a critical role in advocating for the legislation and ensuring its passage.

As part of that Act, Congress required EPA to report on each integrated plan developed and implemented through a permit, order, or judicial consent decree since June 5, 2012, including a description of the control measures, levels of control, estimated costs, and compliance schedules for each plan. EPA submitted its [report](#) to Congress in June 2021.

Purpose of this Document and How to Use It

NACWA developed this document to help communities and municipal clean water utilities determine whether to develop an integrated plan and how to develop and implement an integrated plan. It provides information and specific considerations regarding why and how communities can develop integrated plans to help them determine whether integrated planning will be a useful tool for their own wastewater and stormwater planning and management.

The document details what communities should include in an integrated plan and how to develop the plan based on the authority from EPA guidance and the CWA. Additionally, it explains how communities can work with regulators to implement integrated plans and evaluate and develop improvements to the plan.

Appendix A of the document provides a limited number of case studies as examples, not only of communities that have considered and developed integrated plans, but also of communities that have used integrated planning tools to achieve more flexibility in complying with water-related obligations. Readers are also strongly encouraged to review case studies that are on EPA's integrated planning [website](#) and included in [EPA's 2021 Report to Congress](#), both of which are excellent resources.

Appendix B of the document provides background on EPA's guidance documents regarding development of a framework for achieving water quality through integrated planning as well as the subsequent CWA amendment, which provides clear legal authority for integrated plans and Congressional support for use of the integrated plan process on a long-term basis. This historical and background information on how integrated planning was developed and ensconced into law can be important for utilities to understand, especially when talking to regulators about integrated planning.

It is important to remember that there is no one "right" way to develop an integrated plan. The specific needs and challenges facing a given community and utility will be unique, and an integrated plan that worked for one specific utility will not necessarily work for another. The beauty of the integrated planning process is that it allows for a community to take its own approach. So while this document is intended to provide helpful considerations for communities to consider before starting down the integrated planning path, it should not be read as a definitive guide to the process. There is no "one size fits all" approach.

Additionally, this document does not replace the need for utilities to consult with legal counsel before embarking on integrated planning, especially in the enforcement context. **Any utility or community considering the use of integrated planning should consult with legal counsel before and during the integrated planning process.**

This document was developed in conjunction with NACWA Legal Affiliate Barnes & Thornburg, and NACWA is very grateful to the firm for its work on this project and their legal expertise on integrated planning issues. NACWA also thanks the many Association members that reviewed early versions of this document and provided their comments and input.

This document is intended to be an iterative document that evolves and includes new information as more utilities and communities gain experience with integrated planning. If readers have comments or suggestions for future editions, please contact Nathan Gardner-Andrews, NACWA's Chief Advocacy & Policy Officer, at ngardner-andrews@nacwa.org.

Integrated Planning Considerations for Public Utilities

A. Should I Develop an Integrated Plan?

The subsections below include considerations that a communities and utilities should evaluate to determine whether or not to develop an integrated plan. Such considerations include the types of entities or facilities that can use integrated planning and the regulatory relief the community or utility seeks. Communities that do not need regulatory relief can still benefit from developing an integrated plan, which serves as a management tool that comprehensively characterizes obligations and schedules investments in accordance with the community's priorities.

1. Are You A:

Communities can include NPDES requirements for separate sanitary sewer systems, combined sewer systems, municipal separate storm sewer systems, and wastewater treatment plants in an integrated plan. Each of the systems may have different owners or operators responsible for the various sewer systems and treatment plants as well as different geographic service areas and different service populations. See [2012 Framework](#) at 3.

In addition, integrated plans may address source water protection efforts that protect surface water supplies, and nonpoint source control. When developing an integrated plan, a community must determine and define the scope of the integration effort, ensure the participation of entities that are needed to implement the integrated plan, and identify the role each entity will have in implementing the plan. See [2012 Framework](#) at 3.

Examples of entities that can participate in the implementation of an integrated plan include: 1) municipalities, 2) wastewater utilities or sanitary districts, 3) stormwater utilities or MS4 authorities, 4) watershed authorities, 5) regional utilities, and 6) satellite or customer communities.

- a) Municipality
- b) Wastewater utility or sanitary district
- c) Stormwater utility or MS4 authority
- d) Watershed authority
- e) Regional utility
- f) Satellite or customer community

2. Do You Have:

Stated another way, any entity that has one of the following can initiate and participate in the development of an integrated plan: 1) a sanitary sewer collection system, 2) a combined sewer collection system, 3) a wastewater treatment plant,

4) satellite treatment facilities, 5) an asset management program, 6) a long-term operation & maintenance program, 7) storm water management program, 8) nonpoint source control program, and 9) a source water protection program.

Owners and operators of different systems and plants can work together, where appropriate, to develop a single integrated plan to address stormwater or wastewater planning and management concerns on a community-wide basis. For example, EPA has stated that it will consider issuing one permit implementing an integrated plan that addresses MS4 and POTW requirements where the permittee has responsibility for both. Alternatively, communities can work with regulators to coordinate multiple permits to support with the goals and expectations of the community's integrated plan. See [2013 FAQs](#) at p. 2.

3. Do You Need Relief Due To:

Integrated planning can provide communities with the flexibility to minimize legal and other constraints in achieving compliance objectives. Communities face a number of challenges in meeting CWA obligations, including but not limited to inadequate financial resources, substantial or costly new or anticipated obligations, technical feasibility or timing limitations, threatened or ongoing enforcement action, and negotiating or renegotiating a consent decree or enforcement order.

Additionally, permittees may seek to comprehensively evaluate and prioritize investments during permit renewal negotiations, in implementing new technology or green infrastructure to provide more cost-effective compliance, or in the incorporation of adaptive management concepts to water-related projects. Often communities seek a particular type of regulatory relief, such as lengthening a compliance schedule or developing an LTCP in a consent decree.

But communities need not have a particular regulatory driver to develop an integrated plan. Rather, communities with outdated wastewater or stormwater plans or communities that seek to streamline efforts among water departments or authorities within a municipality can pursue integrated planning to update asset management plans, lower operation costs and promote efficiencies, better coordinate capital projects, and support improved internal and external planning.

a) Limited Financial Resources

Affordability, being the single most significant challenge that many communities face in complying with CWA obligations, can affect many aspects of the community's stormwater and wastewater management. Integrated planning allows communities with limited financial resources to identify and prioritize investments based on costs and benefits.

Ideally, communities with affordability issues can use integrated planning to allocate funds where necessary rather than, for example, diverting funds based on statutes and regulations while existing infrastructure fails. The flexibility that integrated planning offers can provide relief from financial burdens related to compliance costs and timeframe without compromising on safe, public health, clean water, and CWA compliance. In some instances, communities with limited resources have developed an ideal stormwater or wastewater plan and then adjusted the plan based on affordability.

b) Substantial/Costly New or Anticipated Obligations

Many communities face substantial capital costs to comply, for example, with EPA's CSO or SSO policies. Hundreds of cities in the United States are required to establish legally binding programs to comply with CWA regulations related to CSOs and SSOs. LTCPs in particular involve the establishment of new infrastructure to reduce the discharge of untreated wastewater or stormwater into receiving waters.

Often, the new infrastructure options available for this purpose involve major capital investments and recurring rate increases for the construction of new treatment facilities or additional treatment capacity at existing facilities, new separate or combined sewer lines to convey wet weather overflows to the new treatment facilities, underground storage facilities, additional monitoring, reporting, and compliance costs, and additional operations and maintenance costs.

c) Technical Feasibility or Timing Limitations

Integrated planning allows municipalities to identify, evaluate, and select alternatives that are technologically feasible and incorporate flexibility in timing and prioritizing the projects. Communities can use integrated planning in both enforcement and permitting to extend compliance or implementation schedules where circumstances are appropriate and necessary, especially where a financial burden on the community exists.

For example, communities can use integrated planning to work with regulators to develop a feasible timeframe for prioritizing the elimination of certain CSO outfalls or implementation of CSO controls. Establishing an implementation schedule for the CSO controls is a negotiated process involving the permittee and EPA and state NPDES authorities.

Typically, "normal engineering and construction practices" dictate the time period for CSO control implementation. But environmental and financial considerations can influence the time allowed to complete the CSO controls. While an implementation schedule would give high priority to addressing the environmental concerns involving discharges to sensitive areas and use-impaired water bodies, communities can lengthen an implementation schedule by phasing construction of the CSO controls when a financial burden exists.

d) Threatened or Ongoing Enforcement Action

EPA and state authorities may bring enforcement actions against municipalities to address noncompliance with the CWA. Enforcement tools include administrative orders, negotiated consent decrees, or other formal state or federal enforcement actions that require compliance with various requirements under the CWA. Integrated planning can serve to bridge the gap between regulators' historic enforcement-driven approach and the flexibility provided for in the CWA and its regulations. EPA guidance and the Act provide for the incorporation of all or part of an integrated plan may into the remedy of a federal or state enforcement action (see related discussion in Appendix B).

Often enforcement actions focus investment on one problem in a way that limits simultaneous investments to address other significant water-related problems. An integrated plan can help communities evaluate the totality of their water issues, including those that are the target of enforcement, and develop a plan for prioritizing projects that reflect the relative importance of mitigating adverse impacts on human health and water quality within a community's unique financial capability. To successfully use integrated planning in threatened or ongoing enforcement, communities must involve regulators

and seek regulatory buy-in by advancing clear objectives and recommending specific approaches.

EPA guidance (see Appendix B for more information) details the following considerations for incorporating integrated plans into enforcement actions:

- The integrated planning framework should ensure that all necessary parties to a consent decree or administrative order are involved (e.g. municipality, utility authority).
- When there is a history of long-standing violations without significant progress, enforcement is used to address past violations and establish a path for coming into compliance.
- Where an extended time frame is necessary to achieve compliance, enforcement orders should provide schedules for CWA requirements that prioritize the most significant human health and environmental needs first.
- How permitting and enforcement actions may be used in conjunction to ensure implementation of the integrated plans.
- Sufficient flexibility should be provided in enforcement orders to allow for adaptive management approaches.
- Green infrastructure approaches and related innovative practices that provide more sustainable solutions by managing stormwater as a resource should be considered and incorporated, where appropriate, where they provide more sustainable solutions for municipal wet weather control.
- Environmentally beneficial projects that are identified in an integrated plan and which the municipality is not otherwise legally required to perform, such as water conservation measures, may be included in a settlement agreement consistent with [EPA's Supplemental Environmental Projects Policy](#).¹

e) Negotiating or Renegotiating a Consent Decree or Enforcement Order

Communities and utilities that are in the process negotiating or renegotiating a consent decree or enforcement order can use integrated planning to take advantage of the flexibility available under integrated planning in evaluating how their financial capability can influence schedules and other consent decree requirements. The integrated planning process allows communities to engage regulators early in the process so regulators understand what the

¹On June 5, 2017, the Attorney General issued a memorandum generally prohibiting the Justice Department from using supplemental environmental projects (SEPs) as part of the settlement of an enforcement matter. The prohibition was subsequently incorporated into the Code of Federal Regulations at 28 C.F.R. § 50.28. On August 21, 2019, the Justice Department issued a [memorandum](#) significantly curtailing the use of SEPs in environmental enforcement actions against municipalities specifically. On May 5, 2022, Attorney-General Garland issued a memorandum rescinding the 2017 memorandum and provided new guidelines. The Justice Department also issued an [interim final rule](#) contemporaneously rescinding 28 C.F.R. § 50.28 and inviting public comment on SEPs. It remains to be seen to what extent EPA will return to using SEPs as a tool to settle enforcement matters. Communities and utilities that are in the process negotiating or renegotiating a consent decree or enforcement order can use integrated planning to take advantage of the flexibility available under integrated planning in evaluating how their financial capability can influence schedules and other consent decree requirements. The integrated planning process allows communities to engage regulators early in the process so regulators understand what the community seeks to achieve, how the community has reached its conclusions, and what the proposed plan contains. The timing of enforcement—whether a community is already under a consent decree or is beginning to negotiate a consent decree—can impact the benefits of integrated planning, community objectives, EPA cooperation, and outcome.

community seeks to achieve, how the community has reached its conclusions, and what the proposed plan contains. The timing of enforcement—whether a community is already under a consent decree or is beginning to negotiate a consent decree—can impact the benefits of integrated planning, community objectives, EPA cooperation, and outcome.

f) Permit Renewal Considerations

All or part of an integrated plan can be incorporated into an NPDES permit, as appropriate. EPA guidance (see Appendix B for more information) establishes the following limitations and considerations for incorporating integrated plans into permits:

- Compliance schedules for meeting water quality-based effluent limitations (WQBELs) in NPDES permits issued for discharges from publicly owned treatment works (POTWs) and/or combined sewer overflows need to be consistent with the requirements in 40 C.F.R. § 122.47. Where appropriate, an NPDES permit authority can include a compliance schedule in a permit for WQBELs based on post July 1, 1977 state water quality standards that provide for implementation of compliance schedules “as soon as possible.” Compliance schedules in permits should prioritize the most significant human health and environmental needs first.
- Reopener provisions in permits consistent with section 122.62(a) may better facilitate adaptive management approaches.
- Green infrastructure approaches and related innovative practices that provide more sustainable solutions by managing stormwater as a resource should be considered and incorporated, where appropriate, where they provide more sustainable solutions for municipal wet weather control.
- Appropriate water quality trading may be reflected in NPDES permits in accordance with EPA’s [2003 Water Quality Trading Policy](#).

g) New Technology or Green Infrastructure that can Provide More Cost-Effective Compliance

Green infrastructure can provide multiple benefits with respect to meeting CWA obligations, while also providing ancillary benefits to enhance the livability of communities. Approaches to incorporating green infrastructure as a part of integrating planning can include specific green infrastructure policies, goal-setting, public education and outreach, and adoption of specific green infrastructure practices. Integrated planning provides for the evaluation of the performance of green infrastructure and other innovative measures to inform adaptive design and management to identify barriers to full implementation.

EPA recognizes the value of green infrastructure and other innovative solutions to address wet weather water quality problems and has expressed commitment to working to promote these types of solutions to manage wet weather-related events in an efficient and cost-effective way that can also help revitalize urban areas.

The CWA requires EPA to take various steps to promote the use of green infrastructure, including through the coordination and integration of green infrastructure into CWA permitting and enforcement, planning efforts, research, technical assistance, and EPA funding guidance. EPA also must ensure that the Office of Water coordinates efforts to increase use of green infrastructure with other federal agencies, state, tribal and local governments, and the private sector.

The CWA further requires EPA to direct each regional office, as appropriate based on local factors, and consistent with the requirements of the CWA, to promote and integrate the use of green infrastructure within the region, including outreach and training, and incorporation of green infrastructure into permitting and other regulatory programs, codes, and ordinance development, including requirements under consent decrees and settlement agreements in enforcement actions.

h) Incorporation of Adaptive Management Concepts to Water-Related Projects

Adaptive management promotes flexible decision making that can be adjusted in the face of uncertainties as communities realize actual outcomes from integrated planning initiatives and management actions. Careful monitoring of these outcomes both advances scientific understanding and helps communities adjust policies or operations as part of an iterative learning process.

Adaptive management uses available data to structure a range of alternative hypotheses and designs that reflect an acceptable balance between expected short-term responses and long-term realization of actual results. Integrated planning allows municipalities to incorporate adaptive management concepts into water-related projects. Such adaptive management practices, in turn, allow communities to implement and then improve lower cost solutions, including the implementation of green infrastructure over construction of gray infrastructure and the adoption of other new technologies that can lower the cost of investment for the same or better environmental results.

4. What Are Your Options for Relief?

Integrated planning itself can provide mechanisms for relief from legal, financial, and other constraints to achieve an ideal plan for sequencing investments. Upon identifying the relief sought and the potential avenues for relief, communities can determine whether integrated planning is the appropriate tool to achieve CWA compliance.

Examples of specific relief that communities can seek through integrated planning include:

- Increased compliance schedules related to CSO and SSO remediation programs, which the CWA allows to exceed 20 years;
- Use attainability analyses for modification of unachievable water quality standards;
- Development of green infrastructure solutions in LTCPs that allow for experimentation and flexibility on control criteria with the ability amend LTCPs to adjust the mix of green and gray infrastructure when the opportunity arises to increase energy efficiency and permeability; and
- Implementation of overflow controls that focus on real improvements to water quality and are sustainable and affordable, as opposed to limiting overflows to an arbitrary number that bears little relation water quality standards under the CWA.

B. How Do I Get Started on an Integrated Plan?

1. Identify All Water-Related Obligations

The initial task in the integrated planning process calls for the utility or community to compile a list of its major compliance obligations, including the CWA obligations, but also including SDWA requirements, if applicable, and the expected capital and asset management activities that will be needed over the long-term to keep the municipal water systems operating efficiently, effectively, and in compliance.

2. Define Costs and Timing Requirements

The next step is for municipal staff to estimate, for each of the major compliance obligations, several critical items of information, or to compile them if already developed:

- The expected costs, including both capital and operation and maintenance costs;
- The schedules that these activities are currently required or expected to follow; and
- The expected benefits that the activities should have in terms of improvements in water quality.

This information will be critical in developing a prioritized overall schedule of implementation for investments, which is a key outcome of the integrated planning process. Working with technical and legal experts as appropriate, the utility or community would review the information developed and would work to ensure that sufficient, adequate information is available regarding costs, schedules, and benefits, for use in beginning the integrated planning process.

3. Quantify Available Resources

Once utilities or communities have defined costs and timing requirements, they will need to quantify available resources, including technical and financial resources.

4. Evaluate Environmental and Health Impacts

Communities will also need to identify environmental and human health impacts affecting their regions. For example, human health risks associated with recreational uses of water, such as swimming, boating, and fishing, are a major consideration in integrated planning. Water quality issues of concern to communities can include nutrients, bacteria, ammonia, total suspended solids, metals, pesticides, temperature, aquatic life habitat, chlorides, and toxic pollutants. Human health considerations include recreation, fish and shellfish consumption, source water protection, toxic algae blooms, bacteria associated with basement backups, recycled water uses, and drinking water nitrates.

5. Prioritize Activities

After the utility or community identifies the key obligations, resources, environmental and human health concerns, and relevant costs, schedules, and benefits, the community would begin to prioritize issues and investments. With the help of legal and technical consultants, where appropriate, the community would convene a planning team, including key personnel from various offices within the municipality, to participate in a one- or two-day workshop.

The participants would engage in a comprehensive review of the key obligations, evaluating them within an organized structure that allows for assessment of each obligation both individually and in relation to other obligations. The workshop would generate an initial prioritized plan that includes each of the obligations, putting them in an order, structure, and timeline that delivers the maximum water quality benefit within the municipality's available financial resources as early as feasible within the implementation schedule.

That initial prioritization would represent an ideal or aspirational plan, without consideration of legal and other limitations that could affect feasibility. The aspirational plan would serve as a goal for the municipality's integrated planning development process, and the community would structure its eventual integrated plan to come as close to that goal as possible.

a) Prioritize Based on Community Values and Input

In prioritizing issues and investments, municipalities should consider community values and objectives. Public participation throughout the integrated planning process, discussed in more detail below, can provide valuable insight into community goals and values. The public and key stakeholder groups should be consulted early and often in the planning process, and ideally the work of developing an integrated plan will spark a series of community discussions about how the community wants to spend its money on water quality issues and what kinds of investments it wants to prioritize. The work of having these discussions on the front end of the process will often pay dividends on the backend by creating broad public support for the final integrated plan.

b) Consider Most Cost-Effective Projects for Earliest Implementation

Communities should work to identify projects that will provide maximum benefit at an achievable cost. For example, in CSO communities this may mean comparing the costs and benefits of increasing plant capacity, implementing CSO controls to achieve capture, and maintaining or replacing existing failing infrastructure to determine which projects will provide the maximum environmental benefit at an affordable cost.

c) Consider Environmental Justice Issues

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Communities can achieve this goal by ensuring that everyone enjoys the same degree of protection from environmental and health hazards and has equal access to the decision-making process to have a healthy environment in which to live, learn, and work.

NACWA has made a focus on environmental justice a key element of its work, and the NACWA Board of Directors has approved a [Statement of Environmental Justice Principles](#) outlining the Association's commitment to this issue.

Communities of all sizes are grappling with the need for water infrastructure maintenance or improvements to ensure clean, safe, accessible, and affordable drinking water and treatment of wastewater. Rising rates are making basic water and wastewater service unaffordable for low-income consumers across the country, many of whom also live in environmental justice communities. Aging infrastructure, deferred maintenance, changes in regulations, limitations on water resources, and outside stressors increase the complexity and cost of ensuring access to the basic public health needs of safe drinking water and adequate wastewater treatment.

Integrated planning provides communities with an opportunity to consider and promote environmental justice by considering affordability in terms of the disproportionate burdens of CWA compliance and water infrastructure improvements on low-income citizens. Such considerations include the potential for rate increases, affordability for households, affordability for low-income groups, and overall community financial capability.

Communities can also promote environmental justice by prioritizing water-related public health problems that require attention, especially in low-income or underserved areas. Communities can use integrated planning to promote environmental justice in a number of ways, including incorporating green infrastructure, creating "green" jobs, revitalizing underserved neighborhoods, and achieving better asset management.

The key to understanding a community's environmental justice issues involves engaging stakeholders and residents who live and work in areas that experience environmental injustice in terms of disproportionate pollution, human health impacts, or financial burdens. Accordingly, meaningful public participation can help identify and define opportunities for a community to promote environmental justice.

6. Identify Any Legal Relief Needed to Accommodate Priorities and Schedule

The next step in developing an integrated plan involves consideration of the legal and other constraints that exist or are expected and an evaluation of options for minimizing those constraints to the extent possible. The flexibility available to address applicable legal restrictions will vary depending on the particular requirements that a community are considering.

For example, if there is an obligation included in a federal consent decree, such as building a CSO tunnel, then it might be necessary to reopen and modify the decree in order to change that obligation or to allow more time to implement the requirement. In contrast, a requirement to control nutrient discharges from a treatment plant might be dictated by a TMDL, or by pre-TMDL requirements included in a permit. In those situations, communities may need to consider a variety of legal options, such as including a compliance schedule in the permit, modifying the TMDL, or possibly obtaining a change in the water quality standard that is driving the obligation. At this stage of the integrated planning process, the community should consider those relief mechanisms that could address the legal constraints and move the municipality closer to achieving its ideal plan.

a) Extended Compliance Schedules

Many communities pursuing integrated plans seek to lengthen consent decree schedules. Though EPA often imposes a 20-year limit in setting in compliance schedules, the CWA and its implementing regulations do not specify a maximum of 20 years for compliance schedules. Through integrated planning, communities can work to urge regulators to lengthen existing compliance schedules or incorporate longer compliance schedules in new enforcement settlements.

Specifically, communities can demonstrate, through their integrated plans, how compliance schedules longer than 20 years can provide for more affordable controls and, in some cases, even increased controls. Additionally, EPA has stated that it will incorporate all or part of an integrated plan into an NPDES permit, including compliance schedules for meeting WQBELs and CSO requirements consistent with 40 C.F.R. § 122.47.

b) Revised Level of Control

Integrated planning allows communities to pursue a level of control based on an incremental cost-benefit analysis, not based primarily on the limit of affordability. Through integrated planning, communities can develop cost-benefit analyses to inform prioritization of their investments to demonstrate to regulators that a particular level of control achieves the greatest environmental benefit at an affordable cost. This approach to selecting a level of control focuses on improvements to water quality rather than simply requiring the costliest control regardless of the relative benefits to water quality.

c) Modifications to Existing Permits or Enforcement Orders

EPA has also stated its willingness work with all parties to a federal consent decree to consider requests to modify the terms based on new and relevant information that can improve the remedies. Communities and utilities seeking to propose amendments to existing consent decrees to incorporate cost-effective innovative approaches that achieve comparable and measurable results should consider integrated planning as an important tool to advance this approach.

EPA has also expressed willingness to consider modification of NPDES permits to implement an integrated plan. Factors that regulators can consider in determining whether to modify a permit to incorporate an integrated plan include, but are not limited to, the nature of the modifications, operations or measures necessary to reach compliance, the time frame needed to complete the work, the length of time the discharger has already had to meet WQBELs under past permits and the length and severity of any past non-compliance, and the level of good faith displayed by the permittee in pursuing compliance. If a permit contains multiple compliance schedules, the compliance schedules should prioritize the most significant human health and environmental needs first.

C. What Can be Included in my Integrated Plan?

After the community or utility has identified the legal constraints and assessed the available relief mechanisms, it can then develop a draft outline of the final integrated plan. This plan outline would address all water-related obligations, explain how each fits in to a prioritized schedule, and discuss how the available relief mechanisms will be used to achieve that overall outcome.

Communities can use the plan outline to initiate discussions with the relevant regulatory agencies, and it could serve as the basis for discussion with other stakeholders as well. The integrated plan outline allows the municipality to demonstrate the benefits of regulatory flexibility, explore regulator support for obtaining the necessary flexibility, and adjust the plan outline to address regulator and stakeholder concerns. Once the utility has finalized the integrated plan outline, it can move forward with drafting the complete integrated plan, including all of the details necessary to obtain regulator approval.

1. Any/All CWA Obligations

In developing an integrated plan, communities should consider all CWA obligations. Once the community understands the totality of CWA obligations, it should identify and focus on those obligations from which the community will need regulatory relief as well as obligations involving significant costs that will affect the community's ability to comply with other obligations. The scope of issues can be comprehensive or more limited depending on the needs of the community.

a) NPDES Permit Obligations

NPDES permits contain enforceable conditions, including discharge limitations, monitoring and reporting requirements, and other provisions to ensure that the discharge does not threaten water quality or human health. The permit translates general requirements of the CWA into specific provisions tailored to the operations of the discharger. Depending on the discharger's operations, NPDES permittees may have difficulty complying with effluent limits for certain parameters such as nutrients, bacteria, ammonia, total suspended solids, metals, pesticides, chlorides, and toxic pollutants. Complying with effluent limits in NPDES permits can require costly capital improvements or increased operation and maintenance costs.

In CSO communities, permittees must comply with the nine minimum controls in the [1994 CSO Control Policy](#), which regulators use to address CSO problems without extensive engineering studies or significant construction costs, prior to the implementation of long-term control measures. NPDES permits for CSO communities typically require implementation of BMPs to reduce and control overflows. Such BMPs are typically technology-based controls designed to maximize pollutant capture and minimize impact to water quality, and they can be costly for communities to develop and implement. Further, if the BMPs do not sufficiently reduce CSO impacts to water quality, the CWA requires CSO communities to develop and submit a LTCP, which can require further substantial investments to reduce the frequency, duration, and intensity of CSO events.

b) MS4 Obligations

Permits for MS4 communities require permittees to implement controls to reduce the discharge of pollutants to the maximum extent practicable. To reduce discharges of pollutants to the maximum extent practicable, permittees must implement various controls, including management practices, control techniques and system, design and engineering methods, and such other controls that the permitting authority deems appropriate within the limits of practicability.

While MS4 permit obligations do not typically require significant capital investments, they can significantly increase operation and maintenance costs. EPA has also suggested that the CWA authorizes the agency to require MS4 discharges to meet water quality standards,

which, if required, would involve large-scale treatment of stormwater necessitating new and significant municipal investments.

c) TMDL Obligations

Section 303(d) of the CWA establishes the process for states to identify waters within their boundaries where implementing technology-based controls is inadequate to achieve water quality standards. States establish a priority ranking of these waters and, for the priority waters, develop TMDLs. A TMDL identifies the amount of a specific pollutant or property of a pollutant, from point, nonpoint, and natural background sources, including a margin of safety, that may be discharged to a water body and still ensure that the water body attains water quality standards. The allocations of pollutant loadings to point sources are called wasteload allocations.

Effluent limits in NPDES permits must be consistent with the assumptions used to derive the wasteload allocations. Also, in the absence of a TMDL, permitting authorities still must assess the need for effluent limits based on water quality standards and, where necessary, develop appropriate wasteload allocations and effluent limits. This analysis could be done for an entire watershed or separately for each individual discharge. Compliance with TMDL obligations and their related effluent limitations can also require significant investments in terms of expensive new construction and increased operation and maintenance costs. These are all obligations and related costs that can be considered and addressed through an integrated planning approach.

d) Consent Decree/Agreed Order Obligations

Regulatory enforcement typically prompts settlement negotiations, and, ultimately, court-ordered consent decrees or other negotiated settlements. Often, such negotiated enforcement settlements result in costly, overly-prescriptive remedies. These remedies and plans often require permittees to make major capital investments and commit to significant recurring annual operating and maintenance costs. Additionally, consent decrees and other negotiated settlements are very inflexible and can result in substantial penalties for noncompliance.

Generally, consent decrees and other negotiated settlements also result predominantly in gray infrastructure investments due to the perceived ease of quantifying the benefits of gray infrastructure. Gray infrastructure solutions are very expensive and eliminate any incentives for communities to consider employing green infrastructure or other innovative technology that might be more cost-effective to install and operate. Integrated planning can provide flexibility in terms of longer schedules and by prescribing long-term water quality goals while allowing for adjustment of the plan over time to take advantage of green infrastructure and technology advances.

e) Asset Management/Life Cycle Needs

Asset management is a process that communities and utilities can use to make sure they can conduct planned maintenance to repair, replace, or upgrade capital assets on time and with enough money to pay for such repairs. This practice of managing infrastructure capital assets minimizes the total cost of owning and operating these assets while delivering the desired service levels. Many communities use asset management to implement sustainable infrastructure. A high-performing asset management program includes detailed asset inventories, operation and maintenance tasks, and long-range financial planning.

Each community is responsible for making sure that its system stays in good working order, regardless of the age of its components or the availability of additional funds. Effective asset management programs require good data—including asset attributes (e.g., age, condition, and criticality), life-cycle costing, proactive operations and maintenance, and capital replacement plans based on cost-benefit analyses. Many communities already have asset management programs in place, but some do not.

Integrated planning allows communities to advance and more cost-effectively prioritize their asset management programs. In instances where asset management programs were not already in place, communities can now take advantage of integrated planning to develop asset management plans. Integrated planning can also help communities use sustainable infrastructure planning approaches to prioritize investments in, and renewal of, major wastewater and stormwater systems.

f) Flood Protection Needs

Flooding is a common and potentially costly hazard facing communities nationwide. Impacts to wastewater and stormwater utilities can include loss of power, damage to assets, and dangerous conditions for personnel. As storms become more frequent and intense and as sea levels rise, flooding will pose an ongoing challenge for communities.

Integrated planning can help communities evaluate their flood protection risks and needs. For example, many communities are using stormwater as a valuable freshwater resource to combat drought conditions, while others are using green infrastructure to reduce localized flooding events. Communities nationwide are already evaluating and adopting integrated planning approaches to managing stormwater in order to reduce water and wastewater treatment costs, provide adequate water supplies, and protect local waterbodies. In turn, revitalized water resources and green infrastructure solutions can drive economic development and community vitality and resilience.

Integrated planning can also help wastewater and stormwater utilities consider long-term wastewater and stormwater planning together to reduce flooding and promote resilience throughout the community. For NPDES permittees, stormwater discharge requirements for regulated MS4s are included in permits that are effective for a maximum of five years. Integrated planning helps regulated communities consider how long-term stormwater planning can assist them in meeting specific permit requirements. Long-term stormwater plans may address source water protection efforts and reduce nonpoint source pollutants through proposed trading approaches or other mechanisms. These plans may also address stormwater contributions causing localized flooding and sewer overflows.

g) Resiliency Needs and Green Infrastructure Initiatives

In the face of climate change, communities must consider new management practices to effectively manage stormwater and build vibrant, desirable communities. Green infrastructure—such as green roofs, permeable pavement, bioswales, rainwater harvesting, green streets, stormwater parks, conservation areas—can effectively address stormwater pollution and mitigate flooding while providing open space for recreation, habitat, improved air quality, climate resiliency, and aesthetic benefits.

When used in conjunction with gray infrastructure, such green approaches can create effective wastewater and stormwater infrastructure networks. These innovative practices also help to promote community economies, particularly for communities in need, by

supporting sustainable local jobs, improving community assets, and revitalizing underserved areas.

Integrated planning allows communities to use the existing flexibility under the CWA and its regulations to promote green infrastructure to manage stormwater as a resource, reduce overflows, and improve water quality—all of which improve community resiliency and livability.

h) Water Reclamation/Reuse/Water Recycling Initiatives

Water reuse and recycling involves reusing treated wastewater for beneficial purposes such as agricultural and landscape irrigation, industrial processes, toilet flushing, and recharging groundwater. More advanced water recycling efforts can also involve direct potable water reuse.

Water recycling can result in both natural resource and financial savings for communities. Communities can tailor wastewater treatment to meet the water quality requirements of a planned reuse. Water recycling benefits can include decreasing wastewater discharges and reducing and preventing pollution. Specifically, the more water that communities are able to recycle, the less they discharge into surface water and, consequently, pollutant loadings to surface water decrease.

Moreover, in some cases, substances that can be pollutants when discharged to a body of water can be beneficially reused for irrigation. For example, recycled water may contain higher levels of nutrients, such as nitrogen, than potable water. Application of recycled water for agricultural and landscape irrigation can provide an additional source of nutrients and lessen the need to apply synthetic fertilizer.

While water recycling is a sustainable approach and can be cost-effective in the long term, the treatment of wastewater for reuse can be expensive initially. Integrated planning can help communities identify and invest in water recycling initiatives that will provide sustainable and cost-effective solutions over the long term.

2. Drinking Water Obligations

Communities can consider drinking water obligations in integrated planning in two primary ways. First, EPA has stated that it will directly consider source water protection efforts. Specifically, the [2012 Framework](#) provides that “integrated plans may address source water protection efforts that protect surface water supplies, and/or nonpoint source control through proposed trading approaches or other mechanisms.” [2012 Framework](#), at p. 5.

Second, while costs for drinking water treatment and distribution would not be used to estimate metrics such as the residential indicator identified in the [2014 FCA Guidance](#), the financial burden associated with drinking water and other projects not required by the CWA may be considered when evaluating the overall financial health of a community. In this regard, the financial capability assessment considers SDWA obligations indirectly, as additional information about a permittee’s financial capability.

EPA acknowledges that a community’s SDWA obligations can be an important

consideration in establishing schedules for implementing integrated plans. EPA also acknowledges that both clean water and drinking water costs are often covered through charges on a single rate base. See Appendix B for more information and background on the various documents that outline how drinking water costs can factor in to integrated planning.

One component of a financial capability assessment includes an evaluation of the residential indicator that is based on only CWA costs. Communities can include drinking water costs in other components of a financial capability assessment. For example, the financial capability indicator considers the bond rating of the entity that issues debt to fund a permittee's capital project, which both wastewater and drinking water obligations can impact if the permittee provides both services.

If a community has incurred general obligation debt associated with SDWA obligations, the financial capability assessment would consider such obligations in the "overall net debt as a percent of full market property value" indicator. Further, communities can submit additional information, including information regarding drinking water obligations for consideration in analyzing financial capability. To the extent that drinking water costs are not fully addressed by these other considerations, EPA encourages communities to provide additional information.

D. What Should my Integrated Plan Look Like?

An integrated plan should identify all water-related obligations that the community seeks to address through integrated planning and describe the limitations and issues with existing programs. The integrated plan should also include an affordability analysis that evaluates the community's financial ability, taking into account the impacts on residents and additional information regarding the community's unique financial conditions.

Next, the plan should include an alternatives analysis that identifies, evaluates, and ultimately selects alternatives for implementation. The community should also propose an implementation schedule that prioritizes the community's most pressing human health and water quality concerns first. The integrated plan should include benchmarks and metrics that allow the community to measure the success of selected alternatives and include sufficient flexibility to make improvements to the plan, as necessary.

1. Scope: Which Water-Related Obligations Will be Included

An integrated plan should identify all water-related obligations that a community seeks to prioritize, including the CWA obligations, SDWA requirements (if applicable), and the expected capital and asset management activities that will be needed over the long term to keep the municipal water systems operating efficiently, effectively, and in compliance.

a) Existing Systems and Performance

The integrated plan should consider existing systems and performance to characterize the scope of obligations that the plan should address.

b) Limitations and/or Problems with Existing Programs

The community should also characterize the limitations and problems with existing programs to help the community prioritize issues and improvements.

(1) Human Health Threats

An integrated plan should prioritize human health threats first, which could include issues related to bacteria impairments in recreational waters, source water protection, impairments in areas used for fish and shellfish consumption, toxic algae blooms, bacteria associated with basement backups, recycled water uses, and drinking water nitrates among others. Each community may have a different or unique issue it needs to address.

(2) Water Quality Impairments, Beach Closings

Next, the integrated plan should prioritize water quality impairments, especially those resulting in beach closures or other limits on recreational activities. Water quality issues of concern for communities developing an integrated plan can include nutrients, bacteria, ammonia, total suspended solids, metals, pesticides, temperature, aquatic life habitat, chlorides, and toxic pollutants.

(3) Compliance Challenges

An integrated plan should evaluate and prioritize CWA compliance challenges, including unattainable permit limits, TMDLs, compliance with minimum controls for CSO or MS4 communities, separate sanitary sewer issues, local environmental conditions, aquatic life protection, and nonpoint source control.

(4) Enforcement Issues

An integrated plan should identify current and potential enforcement issues, including any consent decrees or other enforcement-related obligations imposed via judicial or administrative means. Communities under current enforcement orders may need relief from enforcement-related obligations, which the integrated plan should consider and address. Furthermore, communities facing potential future enforcement may seek to use integrated planning in negotiating settlements to resolve enforcement.

c) Anticipated Future Obligations

An integrated plan should also account for anticipated future obligations and provide enough flexibility for the community to adapt the plan to address future CWA obligations. For example, anticipated TMDL nutrient limits can require significant new construction for compliance that could impact affordability assumptions in the integrated plan. Other potential issues that could result in additional future CWA obligations can include nutrient rulemakings, anti-degradation findings, future SDWA requirements, and changing environmental conditions.

2. Affordability Analysis

EPA's financial capability assessment practices have evolved since the inception of the CWA. In 1997, EPA issued the ["Combined Sewer Overflow – Guidance for Financial Capability Assessment and Schedule Development"](#) [1997 FCA Guidance], which derived from EPA's development of FCA methodologies in its Interim Economic Guidance for Water Quality Standards, issued in 1995, and Financial Capability

Guidebook, issued in 1984. EPA's [1997 FCA Guidance](#) outlines a two-phase analysis that identifies and characterizes a permittee's residential indicator (RI) and financial indicators. The RI provides for a determination of current and projected program costs as a percentage of the permittee's median household income (MHI), and the permittee's financial indicators reference a variety of measures of financial strength and performance. The residential and financial indicators are then interpreted through a Financial Capability Matrix intended to offer a snapshot of the economic burden that a defined program will impose on a community.

Over the years, communities have identified a number of shortcomings with EPA's two-phased approach. Accordingly, EPA issued updated guidance in 2014 for integrated plans (discussed in Appendix B) to promote a more flexibility in assessing financial capability.

After issuance of the [2014 FCA Guidance](#), EPA developed new [FCA guidance](#) that was signed on January 12, 2021 but was never published in the Federal Register. The incoming administration took the position that the unpublished [2021 FCA Guidance](#) never took effect and proposed [new FCA guidance](#) on February 16, 2022. Municipal stakeholders, including NACWA, have raised a number of significant issues in [comments](#) on the proposal. As of July 2022, final FCA guidance had not been issued. Accordingly, the discussion below is based on the [2014 FCA Guidance](#) that is currently effective as of May 2022.

a) Financial Capability Assessment

EPA's [2014 FCA Guidance](#) lays out specific approaches to provide a foundation for the assessment of financial capability. As stated in the [2014 FCA Guidance](#) and outlined in the [2012 Framework](#), communities can build on that foundation to include additional relevant information. The [2014 FCA Guidance](#) adopts the [1997 FCA Guidance](#)'s two-phased approach to assessing overall financial capability and is applicable to all utilities and communities—both combined and separate, as well as stormwater. Additional information and analysis of these documents is available in Appendix B.

The first phase assesses the impact on residential customers, and the first step is to calculate the portion of the annual costs that would be borne by residential households for both current and projected CWA related expenses. The residential share of the annual costs of CWA obligations is then compared to the MHI of the service area.

MHI is calculated using current census data and may be adjusted based on the current Consumer Price Index. The CWA compliance costs per household are divided by the adjusted MHI to calculate the residential indicator (RI). The [2014 FCA Guidance](#) then identifies various ranges of RI scores as "low, mid-range or high" levels of burden. In situations where a community has unique circumstances that would affect the conclusion of the first phase of the assessment, the community can submit additional information documenting its unique financial conditions.

The second phase of the financial capability analysis assesses the financial strength of the permittee. The [2014 FCA Guidance](#) identifies six indicators used to evaluate the debt, socioeconomic and financial conditions that affect a permittee's financial capability to implement CWA controls necessary for compliance with the Act. These include bond

ratings, overall net debt as a percent of full market property value, unemployment rate, median household income, property tax revenue collection rate, and property taxes as a percent of full market property value. EPA has established benchmarks for each of the six indicators designating whether a “weak”, “mid-range”, or “strong” financial capability. EPA then uses these benchmarks to generate an overall score of a permittee’s financial capability.

The RI calculated in phase one and the permittee capability indicators analyzed in phase two are then evaluated together in a Financial Capability Matrix to assess the level of financial burden. The level of burden is used to inform discussions to establish a schedule for meeting CWA obligations in permits and enforcement actions. EPA uses these indicators, including the annualized costs as a percent of MHI, to help assess when costs are reaching levels that may represent a high burden on ratepayers and that longer compliance timeframes are likely to be appropriate to spread the cost over a longer period.

As discussed above, this two-step analysis does not always provide a complete representation of financial capability and can result still in unaffordability. Accordingly, the [2014 FCA Guidance](#) allows communities to submit other relevant financial or demographic information that illustrates the community’s unique or atypical circumstances, as discussed below.

b) Other/Supplemental Analyses

Integrated planning can help communities take advantage of the additional flexibility that the [2014 FCA Guidance](#) offers by allowing communities to develop and submit supplemental financial analyses for EPA’s consideration. These supplemental factors can include revenue requirements, dynamic rate modeling, bonding capability, quintile or other analysis of disadvantaged communities, cost of service study, and life cycle cost analysis.

For example, communities can submit projections of system-wide rate increases that can be used to estimate residential customer bills given assumptions about projected economic growth informed by historical experience. If a community has experienced, or anticipates experiencing, real declines in median household income, the community can submit information regarding how wastewater bills are projected to compare to median income in 5, 10 and 20 years at various income levels. Such dynamic financial planning models can provide a more accurate projection of financial burden over time.

Through integrated planning, communities can also address the differing impacts on significant customer groups within a service area as well as disproportionate burdens across the distribution of income levels within service areas. For example, communities can provide additional documentation calculating projected bills for customer groups across differing quartiles or quintiles of the permittee’s income distribution. This allows communities and regulators to consider the disproportionate burdens placed on sub-populations or communities within a service area.

Analyses of disproportionate burdens are critical to provide an accurate assessment of financial capability, but also can help to promote environmental justice in program implementation. These analyses, in turn, can aid community understanding of the true burdens facing economically disadvantaged populations and help define appropriate community-level strategies to support those populations.

Additionally, EPA has stated its support for the use of life cycle costs in evaluating alternatives as part of an integrated plan. Life cycle costs represent the net present value of all costs for a project over its lifetime, including primary project costs, secondary financing costs, operations and maintenance and the cost of rehabilitation, repair, and replacement. When evaluating alternatives for wastewater controls, communities can assess the full life cycle costs of each alternative to provide a full accounting of the project's annualized cost and revenue impacts. Consideration of such life cycle costs can help communities implement cost-effective technologies that provide more sustainable solutions for municipal wet weather control.

3. Alternatives Analysis

Integrated plans must include a process for identifying, evaluating, and selecting alternatives and proposing implementation schedules. First, communities will need to identify criteria by which to evaluate the various alternatives, and the selection process should also include a description of the criteria used to compare alternatives and select priorities. Specifically, the identification of alternatives should include cost estimates, including potential disproportionate burdens on portions of the community, projected pollutant reductions, benefits to receiving waters, and other environmental and public health benefits associated with each alternative.

The alternatives analysis should detail the criteria used, the projects selected, and the reasons for selection. Additionally, the community should include a description of the relative priorities of the projects selected, including a description of how the proposed priorities reflect the relative importance of adverse impacts on public health, water quality, and the community's financial capability.

a) Consider Green Infrastructure and New Technologies

In considering alternatives, communities should prioritize the use of green infrastructure in selecting investments in major wastewater and stormwater systems where feasible and appropriate. Communities should also explore how the use of new technologies like real-time sewer monitoring and other innovations could be used as part of an integrated plan. Specifically, communities should identify criteria, including those related to sustainability, to use in comparing alternative projects. Throughout the alternatives analysis and selection process, communities should prioritize and incorporate green infrastructure and other innovative measures where they provide more sustainable solutions.

b) Propose Implementation Schedule

The integrated plan should propose an implementation schedule that prioritizes CWA-related projects that mitigate adverse impacts on human health and water quality and account for the community's unique financial capability circumstances. The financial strategy and capability assessment helps ensure that investments are sufficiently funded, operated, maintained, and replaced over time. As discussed above, the community's financial capability assessment should take into consideration current sewer rates; stormwater fees and other revenue; planned rate or fee increases; the costs, schedules, and anticipated financial impacts to the community of other planned stormwater or wastewater expenditures; and other relevant factors impacting the utility's rate base.

4. Measure Success

Communities must develop a process for evaluating the performance of projects identified in an integrated plan, which may include the evaluation of monitoring data or information developed by pilot studies and other analyses.

a) Identify Performance Metrics, Environmental/Human Health Benefits

Specifically, the community should develop proposed performance criteria and measures of success that allow the community to evaluate the environmental and human health benefits of the selected alternatives. The community should identify any barriers to full implementation of green infrastructure and other innovative technology and promote adaptive design and management principles to ensure the success of such technology.

b) Monitor After Completion

The community should develop a monitoring program to address the effectiveness of controls, which will provide data allowing the community to quantitatively evaluate performance and beneficial impacts.

c) Consider Secondary Benefits

In addition to evaluating the quantitative data from monitoring, communities should evaluate secondary community benefits such as community redevelopment, job creation, economic development, improvements in disadvantaged communities, public/private partnerships, and energy usage. Particular community benefits may include new recreational spaces, access to green space, aesthetically pleasing water quality features, neighborhood revitalization, increased energy efficiency or energy savings, and the creation of “green” jobs.

5. Plan Improvements

Finally, communities should develop a process for identifying, evaluating and selecting new projects or modifications to ongoing or planned projects and implementation schedules based on changing circumstances, including new regulatory developments or fluctuating financial conditions. In situations where a municipality is seeking to modify an integrated plan, or to the permit or enforcement order that implements the integrated plan, the community should collect the appropriate information to support the modification and consistent with five elements of integrated plans, discussed above.

a) Incorporate New Requirements as Imposed

Communities may need to make improvements to their integrated plans to accommodate new regulatory requirements. As discussed above, integrated plans should account for anticipated future obligations and provide enough flexibility for the community to adapt the plan to address future CWA obligations. Accordingly, if a community becomes subject to new regulatory requirements—such as limits deriving from a recently-promulgated TMDL or other rulemakings, new anti-degradation findings, or additional SDWA requirements—the community should modify the integrated plan to address the new requirement. Changing environmental conditions—such as increased flooding or harmful algal blooms—can also require communities to revisit and develop improvements to address the new conditions.

b) Adaptive Management Based on Implementation Experience

To effectively address changing circumstances, communities and utilities should adopt adaptive management principles to develop and implement changes to their integrated plans based on experience. Effective adaptive management can require communities to regularly revisit and revise objectives. To do so, communities must have a clear understanding of the assumptions made in selecting alternatives as well as an evaluation at the outset of each alternative's likelihood of achieving planning objectives, generating new information, or foreclosing future choices.

As discussed above, communities should incorporate processes for comparing the outcomes of various alternatives with a focus on significant and quantifiable indicators of progress toward environmental and human health objectives. Integrated plans must incorporate sufficient flexibility to allow communities to adjust operations in light of new information or shifting conditions.

E. Implementation Mechanisms

Implementing an integrated approach to wastewater and stormwater management will likely require coordination between state and federal permitting and enforcement authorities. EPA encourages early coordination between communities and regulators on key implementation issues that may arise in individual integrated plans. EPA recommends that communities initiate discussions with EPA and state permitting authorities to address integrated plans that raise issues associated with ongoing federal enforcement actions.

Communities should communicate their integrated plan objectives and emphasize the use of permitting over enforcement to achieve water quality goals, but EPA and state permitting authority generally retain ultimate authority to determine the appropriate roles that permitting and enforcement play in addressing the regulatory requirements identified in a community's integrated plan.

1. How to Use Integrated Planning in the Permitting Context

Communities can incorporate the elements of their integrated plans into NPDES permits where appropriate, but permitting authorities will not delay permit issuance or implementation of existing permit and enforcement requirements while an integrated plan is being developed.

Historically, regulators have taken a siloed approach to addressing water quality issues, which often results in an enforcement order that focuses on a discrete water quality problem. Integrated planning can provide regulators with a more comprehensive view of the environmental and human health issues facing a community to allow for the prioritization of cost-effective investments that can be implemented through more flexible permitting approaches rather than through enforcement.

a) Compliance Schedules

Communities can use integrated planning to demonstrate the need for compliance schedules in permits. Though EPA often imposes a 20-year limit in setting compliance

schedules, the CWA and its regulations do not impose such a limit. Accordingly, communities can and should demonstrate through their integrated plans how compliance schedules longer than 20 years can provide for more affordable controls and, in some cases, even increased controls. Additionally, EPA has stated that it will incorporate all or part of an integrated plan into an NPDES permit, including compliance schedules for meeting WQBELs and CSO requirements consistent with 40 C.F.R. § 122.47.

b) Adaptive Management

EPA also allows for the use of reopener provisions in permits consistent with section 40 C.F.R. § 122.62(a) to better facilitate adaptive management approaches. Integrated planning can help permittees plan for and incorporate sufficient flexibility into their permits to identify barriers to full implementation of green infrastructure and other innovative measures. This flexibility allows permittees to evaluate performance and use adaptive management to address barriers to full implementation.

c) Use Attainability Analyses

Integrated planning can also help permittees modify substantive water quality requirements. Specifically, permittees can demonstrate, through use attainability analyses, that they cannot meet certain water quality standards, and the CWA and its regulations allow for modification of the unachievable standards.

Notably, affordability concerns can justify changing water quality standard if the permittee can show that compliance with the standard would result in “substantial and widespread economic and social impact.” In turn, permitting authorities can incorporate revised water quality standards into permits based on the permittee’s adequate demonstration in the use attainability analysis pursuant to 40 C.F.R. § 131.10(g).

d) Other Creative Solutions

EPA will consider, and has stated support for, green infrastructure approaches and related innovative practices that provide more sustainable solutions for managing stormwater, municipal wet weather control, and compliance with water quality standards. Additionally, integrated plans can incorporate source water protection efforts and nonpoint source control through proposed trading approaches or other mechanisms. For example, integrated plans can incorporate nutrient credit trading with other wastewater facilities or MS4s to allow for flexibility in achieving load limits to comply with the nonpoint nutrient runoff water quality requirements.

2. How to Use Integrated Planning in the Enforcement Context

EPA has also stated its willingness work with all communities facing enforcement to develop, or consider modification of, the terms of the enforcement order to implement effective remedies that reflect the community’s financial abilities. Integrated planning can help communities identify and propose remedies and compliance requirements that reflect community priorities and account for the totality of the community’s water-related obligations.

Communities and utilities can incorporate all or part of an integrated plan into the remedy of a federal or state enforcement action, and integrated planning can help communities and regulators shift the focus of enforcement to identifying and implementing a path for the permittee to come into compliance. To successfully

incorporate integrated planning objectives into enforcement remedies, communities should involve all necessary parties to a consent decree or administrative order.

a) Selection of Compliance Requirements

Both the CWA and EPA guidance emphasize the use of green infrastructure approaches and other innovative technologies to implement sustainable remedies through enforcement. Integrated plans can also identify environmentally beneficial projects that a permittee is not otherwise legally required to perform, which permittees and regulators can include in negotiated settlements consistent with [EPA's Supplemental Environmental Projects Policy](#).²

Like in the permitting context, enforcement orders should include sufficient flexibility to allow for adaptive management approaches that can help ensure the success of green infrastructure and other innovative technology.

b) Implementation Schedule

Consent decrees and other enforcement orders often include inflexible compliance schedules, which limits a community and utility's ability to prioritize and implement cost-effective water quality control and can require significant expenditures on a single water quality issue at the expense of other significant water quality, infrastructure, and community priorities. Accordingly, integrated planning can help communities take advantage of the existing flexibility in the CWA and its regulations to develop and propose schedules in enforcement that prioritize the most significant human health and environmental needs first, account for financial capability, and actually allow the permittee to come into compliance.

3. Special Considerations for CSO Enforcement Actions

In 1994, EPA adopted the [CSO Control Policy](#) with the overall goal of promoting cost-effective CSO controls that meet the objectives of the CWA. Section 402(q)(1) of the CWA codifies the [1994 CSO Control Policy](#), meaning that it carries the force and effect of law for purposes of developing permits, orders, and decrees for CSO communities.

The [1994 CSO Control Policy](#)'s focus on cost-effectiveness is intended to balance CWA compliance with a community's financial capability to determine an appropriate level of control and timeframe within which the community must achieve that level of control. Indeed, two of the four key principles announced in the [1994 CSO Control Policy](#) focus on cost-effectiveness and financial considerations:

- Providing sufficient flexibility to municipalities, especially disadvantaged communities, to consider the site-specific nature of CSOs and to determine the most cost-effective means of reducing pollutants and meeting CWA objectives and requirements.
- Allowing a phased approach to implementation of CSO controls considering a community's financial capability.

²See footnote 1 above for additional information.

To determine financial capability, the [1994 CSO Control Policy](#) lists 1) MHI, 2) total control costs per household as a percent of MHI, 3) property tax as a percent of property values, 4) property tax collection rate, 5) unemployment, and 6) bond rating, as examples of factors to be considered. Other financial considerations include grant and loan availability, previous and current user fees and rate structures, and other funding mechanisms and financing sources.

The [1994 CSO Control Policy](#) is not prescriptive and does not mandate how EPA must consider and weigh these factors. Further, the [1994 CSO Control Policy](#) requires cost-effective controls and does not establish arbitrary limits on timeframes to achieve the controls or arbitrary expectations regarding the percentage of median household income that permittees must spend on controls. While EPA has not issued a policy for SSOs, the concepts in the CSO Policy regarding cost-effective controls and flexible time frames should apply equally in the SSO context.

The [1994 CSO Control Policy](#) focuses the implementation of CSO controls for the purpose of achieving water quality standards. Accordingly, the Policy provides communities and EPA with significant flexibility to determine how to meet those objectives and how long it will take to do so.

a) Selection of CSO LTCP Level of Control

In selecting a level of control for CSOs, permittees can invoke the flexibility of the [1994 CSO Control Policy](#) to evaluate incremental costs and incremental benefits. The [1994 CSO Control Policy](#) calls for communities to consider a range of control options, and to consider as a factor in selecting the level of control “where the increment of pollution reduction achieved in the receiving water diminishes compared to the increased costs.”

Notably, the [Policy](#) contains no language suggesting that communities or EPA should ignore other environmental impacts associated with potential control options—including, but not limited to, climate change—in choosing between options and determining appropriate timeframes.

The [CSO Policy](#) presumes that CSO controls will achieve water quality standards if they 1) reduce CSOs to no more than 4 to 6 overflows a year, or 2) capture for treatment at least 85% of the flow during a storm event on a system-wide annual average basis, or 3) eliminate or remove the mass of pollutants causing water quality impairments. Alternatively, a permittee can demonstrate that its proposed CSO controls will meet water quality standards, or, if there are other sources of pollutants, that the CSOs will not prevent receiving waters from meeting water quality standards.

To help identify the level of control that is appropriate, the [1994 CSO Control Policy](#) establishes the expectation that a CSO control plan will consider a reasonable range of alternatives. For example, the plan could evaluate the controls necessary to achieve discharges ranging from zero to twelve discharges a year. Alternatively, the plan could evaluate the controls needed to achieve a level of capture of flows ranging from 100% to 75%. The [Policy](#) then recommends that the permittee develop appropriate cost/performance curves to demonstrate the relationships among these control alternatives:

This should include an analysis to determine where the increment of

pollution reduction achieved in the receiving water diminishes compared to the increased costs. This analysis, often known as the knee of the curve, should be among the considerations used to help guide the selection of controls. 59 Fed. Reg. at 18688, 18693 (Apr. 19, 1994).

Although the [1994 CSO Control Policy](#) is intended to promote the cost-effective control of CSOs to meet CWA objectives, EPA often seeks to require CSO controls to the limit of affordability without regard to whether or not additional controls provide meaningful additional water quality benefits.

Integrated planning can help communities develop cost-benefit analyses to inform prioritization of their investments to demonstrate to regulators that a particular level of control achieves the greatest environmental benefit at an affordable cost. This approach to selecting a level of control focuses on improvements to water quality rather than simply requiring the costliest control regardless of the relative benefits to water quality.

An integrated plan can also provide EPA with a framework to consider impacts ancillary to the water quality issues—such as the carbon footprint of various control options—and factor those impacts into the decision on the level of control. For example, the new control systems that EPA requires communities to install for sewer overflows are often energy-intensive, and the increase in carbon footprint between two control options can be significant even though the change in discharge levels may be small.

An integrated plan can also help focus a community's discussions with EPA on establishing environmental performance criteria to be met by control options rather than focusing on the control options themselves. EPA and state regulators often raise detailed questions regarding the particulars of a community's control programs, including even the size and location of new sewer mains. This focus on the minutiae of the design and location of controls can drain community resources and does not necessarily ensure adequate performance. Integrated plans allow communities to communicate their priorities and recommend those systems that they believe, in their best engineering judgment, will meet agreed upon performance criteria, thereby reducing the transaction costs associated with negotiating the details of the control programs themselves.

b) Determine CSO LTCP Prioritization and Implementation Schedule

To help identify the appropriate length of time for implementation of CSO controls, the [1994 CSO Control Policy](#) allows implementation to be phased “based on the relative importance of adverse impacts upon water quality standards and designated uses, priority projects identified in the long-term plan [such as projects to control overflows to sensitive areas], and on a permittee's financial capability.”

Enforcement actions to control CSOs often result in consent decrees that require overly costly and overly prescriptive LTCPs. EPA has historically imposed a 20-year schedule for compliance with the consent decree and implementation of the LTCP even though the [CSO Policy](#) does not require a 20-year schedule.

EPA's [1997 FCA Guidance](#), discussed above and in Appendix B, sets forth methodologies for evaluating a number of factors related to a permittee's financial capability to implement a CSO control plan over a specific period of time. The [1997 FCA Guidance](#) is not a tool for selecting a particular CSO control but is intended to help determine the length of time over

which the selected CSO controls may be implemented. Importantly, EPA intended for the [1997 FCA Guidance](#) to be implemented in a flexible way:

It must be emphasized that the financial indicators found in this guidance might not present the most complete picture of a permittee's financial capability to fund the CSO controls. However, the financial indicators do provide a common basis for financial burden discussions between the permittee and EPA and state NPDES authorities.

Since flexibility is an important aspect of the CSO Policy, permittees are encouraged to submit any additional documentation that would create a more accurate and complete picture of their financial capability. [1997 FCA Guidance](#), at p. 7.

Regarding implementation schedules for long-term controls, the [1994 CSO Control Policy](#) considers sensitive areas, use impairment, grant and loan availability, and sewer rates, as well as financial capability. The [1997 FCA Guidance](#) contemplates that the schedule "would be negotiated between the permittee, EPA, and state NPDES authorities."

Although the EPA guidance calls for the negotiation of schedules, the guidance establishes general "scheduling boundaries." For example, if the cost of CSO controls is considered a low burden, the guidance states that the implementation schedule should be based on the normal engineering and construction schedule. If the burden is considered medium, an implementation schedule up to 10 years is considered appropriate. Finally, "[i]n unusually 'High Burden' situations, an implementation schedule up to 20 years may be negotiated with state NPDES and EPA authorities."

The guidance expressly states that these boundaries are not binding:

The general implementation schedule time boundaries provide a basis for developing consistent and reasonably uniform implementation schedules across the nation in situations where permittee's CSO controls impose similar financial burdens. The time boundaries are not intended to replace the negotiations and deliberations necessary to balance all of the environmental and financial considerations that influence the site-specific nature of the controls and implementation schedules. [1997 FCA Guidance](#), at p. 46, 51.

Accordingly, the [1997 FCA Guidance](#) represents a starting point for discussions regarding implementation schedules. Nothing in EPA's guidance precludes the agency from taking a broader perspective when reviewing a community's financial capability. Specifically, when reviewing the affordability of a particular implementation schedule, nothing in the guidance precludes EPA from considering all household expenditures for shelter; the cumulative impacts of multiple CWA requirements (CSO, SSO, stormwater, nutrients, etc.); operation and maintenance costs; costs for annual renewal and replacement of capital assets; system upgrades to ensure continued compliance with regulatory requirements; limitations on the ability of permittees to obtain financing; other non-water related facility capital, operations and maintenance needs in the community, and impacts on sub-populations within a community. The [2014 FCA Guidance](#) reinforces the fact that there are a variety of factors that can be considered in an integrated plan.

Integrated plans comprehensively characterize and prioritize these water-related obligations and affordability considerations in a single document. Communicating such information through an organized and thoughtful integrated plan provides EPA with both a framework and compelling justifications for considering extended compliance schedules for long-term controls. In this regard, integrated plans can serve as an effective negotiating tool, particularly with respect to compliance schedules for CSO controls.

c) Support a Use Attainability Analysis Request, If Needed

If meeting water quality standards would cause substantial and widespread economic and social impact, the [1994 CSO Control Policy](#) recognizes the ability to change the underlying standards based on a use attainability analysis. In fact, the [CSO Policy](#) specifically directs states to conduct water quality standards reviews at the same time as the development of a LTCP:

Coordinating the development of the long-term CSO control plan and the review of the WQS and implementation procedures provides greater assurance that the long-term control plan selected and the limits and requirements included in the NPDES permit will be sufficient to meet WQS and comply with sections 301(b)(1)(C) and 402(a)(2) of the CWA. 59 Fed. Reg. at 18689.

Based on the “knee of the curve” analysis, discussed above, and based on financial capability, the cost-effective level of control may require a change in water quality standards. This may be particularly true because most states have failed to complete the review of WQS that were envisioned as part of the [1994 CSO Control Policy](#), meaning that current WQS do not align with the LTCP projects. Permittees can effect such a WQS change through a use attainability analysis, which typically will require a consideration of the affordability of meeting existing water quality standards. Integrated plans can provide compelling cost/benefit and financial capability information to support a permittee’s request to change water quality standards through a use attainability analysis.

d) A Word of Caution: Regulators May use Integrated Plan to Expand the Scope of an Enforcement Order

Incorporating all or part of an integrated plan into an enforcement order can result in additional reporting and regulatory requirements. For example, if a community successfully demonstrates to EPA that it cannot afford a particular CSO control because it plans to incur significant asset management costs in the near term, EPA may consider such asset management costs to justify an extended compliance schedule but will likely require asset management expenditures as an enforceable requirement in the negotiated settlement or LTCP. Accordingly, if a state or federal agency proposes a remedy or enforcement order with which the permittee can reasonably comply, the permittee should consider whether directly incorporating aspects of an integrated plan would require the enforcement order to include additional reporting or regulatory requirements.

F. Public Participation

The [2012 Framework](#) requires utilities and municipalities participating in an integrated wastewater or stormwater plan to provide opportunities for meaningful input into the development of proposed modifications to the plan, as well as make pertinent new information available to the public during implementation of the plan and [2012 Framework](#),

at p. 4. Additionally, where a permit or enforcement order incorporates green infrastructure requirements, the utilities should allow for public involvement to assist in evaluating the effectiveness of the approach and to assist in successful implementation of the approach.

Public participation in integrated planning can be any process that directly engages the public in decision-making and gives full consideration to public input in making that decision. Specifically, public participation is a series of actions implemented by the planning entity designed to engage the public and obtain input from them. To ensure meaningful public participation, utilities municipalities should gather input from a wide spectrum of stakeholder interests – including citizen groups, local community groups, environmental activist groups, and representatives from disadvantaged communities – and provide fair treatment, substantive involvement, and social inclusion with respect to the development and implementation of an integrated plan.

The planning entity need not cede decision-making to the public but should balance stakeholder views and concerns and reflect the decisions back so that the public understands how the planning entity considered the public's diverse concerns. When conducted meaningfully, public participation can promote environmental justice and result in better and more easily implementable decisions that reflect public interests and values. The public will have a better understanding of the integrated plan and a greater ability to accept decisions when the planning entity addresses and acknowledges their concerns. Ensuring a meaningful public participation process can also mean that the public and consulted stakeholders will be champions of the integrated plan moving forward.

EPA's Public Participation Guide identifies five key steps in the planning process:

- Organizing for participation;
- Identifying stakeholders;
- Choosing an appropriate level of public participation;
- Integrating public participation in the decision process; and
- Matching public participation tools to objectives throughout the process.

Utilities should make sure that they are crafting a public input process that seeks meaningful participation and not just seek public buy-in for a pre-determined outcome. Time, legal or other constraints may limit exactly how much public input can be facilitated in a given situation, but even a short timeline to develop a plan can and should still include some period of public engagement.

The utility should evaluate its ability and capacity to engage the public and identify what it seeks to gain from public participation. Factors to consider include:

- Decision-makers' commitment to considering public input;
- Constraints (legal, timing, or other) that may limit the ability to engage the public;
- What outcomes might constitute a "successful" decision;
- Conflicting and competing priorities for prioritizing infrastructure investment;

- Ability to commit the necessary resources to public participation; and
- Internal capacity to conduct public participation or ability to contract for the expertise needed.

Public participation may not be feasible for all major decisions. Accordingly, the planning entity must clarify for itself the specific issues and questions on which it desires and can achieve public participation. For example, there may be opportunity to involve the public in alternatives analysis and selection.

Next, the planning entity will need to identify and evaluate the skills and expertise required to plan and implement meaningful public participation. These skills and expertise include communication, facilitation, and conflict management. Then, planning entities can identify the individuals, resources, organizations, and contractors that will be necessary to conduct public participation.

The planning entity must identify the stakeholders, including marginalized or overburdened members of the community, that should be involved in the integrated planning process. Stakeholders could include regulators, ratepayers, community groups, NGOs, and other municipal authorities with overlapping responsibilities in the areas of stormwater, transportation, flood management, drinking water, groundwater, parks, and public works.

In identifying stakeholders, planning entities should consider a broad range of interests that the integrated plan could affect, including health, safety, pollution, property value, jobs, and local economy. After identifying potential stakeholders, the planning entity must build relationships with the stakeholders. To build such relationships, planning entities can conduct stakeholder interviews during the planning stage. In conducting interviews, the planning entity should reach a diverse set of stakeholders that represent all interests previously identified, which may require identifying and planning for cultural and language differences within the community.

Conducting meaningful public participation involves seeking public input at the specific points in the decision process and on the specific issues where such input has a real potential to help shape the decision or action. Depending on the legal and regulatory circumstances surrounding the integrated plan, the scope of the plan, and the relief sought, the opportunity for public influence could be rather small or fairly significant.

Identifying the amount of this potential influence is the primary consideration in designing a successful public participation program. An integrated plan does not require a specific level of public participation, and planning entities must commit only to public participation at levels that they are able and willing to deliver. EPA generally recognizes five levels of public participation, which differ depending on the potential for public influence, including:

- Informing the public by providing information to help them understand the issues, options, and solutions;
- Consulting with the public to obtain their feedback on alternatives or decisions;
- Involving the public to ensure their concerns are considered throughout the decision process, particularly in the development of decision criteria and options;

- Collaborating with the public to develop decision criteria and alternatives and identify the preferred solution; and
- Empowering the public by placing final decision-making authority in their hands.

The “inform” level of public participation does not actually provide the opportunity for public input, but it provides the public with information to understand the decision-making process. For example, planning entities may need to inform the public on rate issues, costs and benefits, and regulatory relief needed.

The “consult” level of public participation provides a basic opportunity for public input wherein the planning entity simply asks for public opinion on a particular aspect of the integrated planning. When seeking public participation at the consult level, the planning agency should consider the public input received and provide feedback as to how that input influenced the planning entity’s decision.

The “involve” level of public participation invites the public into the decision-making process at multiple stages. The planning entity, however, remains the decision-maker and no expectation of consensus-building exists. At the involve level, the planning entity should provide opportunity for public input throughout the decision-making process and should provide direct feedback regarding how the public input helped influence the decision.

The “collaborate” level of public participation directly engages the public in the decision-making. This level often includes an attempt to find consensus solutions although the planning entity still makes the final decisions. At the collaborate level, the planning entity should engage the public in all key activities and decisions and incorporate public input to the maximum extent possible.

The “empower” level of public participation provides the public with the opportunity to make decisions for themselves and, generally, is not appropriate or feasible for developing an integrated plan.

Once the planning entity identifies the appropriate level of public participation for the integrated plan, it should develop a clear purpose and goal for public participation in the integrated plan that is real, practical, and shared among stakeholders. Again, planning entities should ensure that they can achieve the promised level of public participation, as failing to achieve the stated level of public participation can undermine public confidence in the process.

The planning entity must communicate its expectations for public participation to stakeholders in a clear and straightforward way. Creating a visual representation of the decision-making process can be useful. In describing the decision-making process, planning entities should include:

- Key steps and timing in the process;
- Points at which the planning entity will obtain and use public input;
- How the planning entity will keep the public informed throughout the process;

- How decision criteria will be established;
- How alternatives will be developed; and
- How the final decision will be made.

Depending on the level of participation sought, public participation makes use of a variety of tools to inform the public and generate public input. To inform the public and generate input, planning entities can use the following tools:

- **Inform –**

- | | |
|------------------------|-----------------------------|
| • Public meetings; | • Websites; |
| • Briefings; | • Information repositories; |
| • Telephone contacts; | • Press and media; and |
| • Printed information; | • Social media. |

- **Input –**

- | | |
|--------------------|-------------------------------|
| • Interviews; | • Public workshops; |
| • Focus groups; | • Charrettes; and |
| • Public meetings; | • Computer-assisted feedback. |

A written public participation plan memorializes the methods that the planning agency will use to actively facilitate public involvement in the integrated planning process. The plan should identify internal and external stakeholders, state key messages and objectives, discuss challenges and opportunities for public participation, schedule phases of outreach, identify outreach tools, and establish the planning entity’s plan for evaluating input. Public participation plans developed as part of a community’s Long Term Control Plan or other capital investment project can provide a useful blueprint for creating a public participation plan for integrated planning.

G. Regulatory Advocacy

States and regions have differing attitudes and experience dealing with integrated planning. Accordingly, planning entities will need to consider and develop strategies that effectively engage regulators in the integrated planning process.

1. Education

Because some states and regions will have limited experience in development and administration of integrated plans, the planning entity may need to educate regulators throughout the process. The Act as well as EPA’s own guidance—including the [2011 Guidance](#), [2012 Framework](#), [2013 FAQs](#), and [2014 FCA Guidance](#) (see more information on all of these documents in Appendix B)—provides planning entities with a strong legal basis to achieve regulatory relief and prioritize infrastructure investments. These directives from Congress and EPA Headquarters empower municipalities to develop their own integrated plans with input from local regulators while maintaining authority over critical integrated planning decisions.

2. Invite Agency Involvement During the Integrated Planning Development Process

Much like with public participation, planning entities should invite agency involvement to familiarize and include regulators in the integrated planning process. Planning entities can identify a state regulator or EPA regional office as a stakeholder in the public participation process. Involving regulators in the process will serve to educate regulators regarding the integrated planning process, address regulatory concerns, and minimize administrative obstacles to implementation.

3. Consider Existing State and Federal Obligations & Involve Higher-Level Regulatory Management, Including EPA Headquarters, if Needed to Overcome Obstacles

Although integrated planning provides municipalities with the flexibility to minimize legal and other constraints in achieving compliance objectives, municipalities must carefully consider how their integrated planning goals might affect existing CWA obligations. In particular, implementing integrated planning strategies that affect compliance requirements or implementation schedules can require cooperation and approval from state agencies, EPA, or the Army Corps of Engineers. Coordination with the various relevant entities is key.

If municipalities encounter resistance to integrated planning from local regulators despite attempts to educate and engage state agencies and EPA regional offices in the process, they can elevate concerns to EPA Headquarters where appropriate. Given EPA's stated commitment to promoting integrated planning and the CWA's explicit directive to EPA to provide municipalities with integrated planning opportunities, municipalities may receive additional support for integrated planning efforts from EPA Headquarters. Of course, municipalities should employ discretion and sensitivity in managing their relationships with local regulators when seeking to involve higher-level agency management.

Appendix A

Case Studies

This Appendix includes case studies from a number of different NACWA members that have pursued integrated plans, along with links and more specific information about each plan. As you can see by reviewing these examples, there are lots of different ways communities can pursue integrated planning and there is no specific “right way” or “wrong way” to do it. Some of these examples were also **featured** in the U.S. Environmental Protection Agency’s [Report to Congress on Integrated Plans and Municipality Profiles](#), which utilities should also review.

So be creative as you think about your own possibilities through integrated planning and let these case studies give you ideas!

Columbus, Ohio

Date Plan Completed: 2015

Implementation Mechanism: Consent Decree

Blueprint Columbus Overview

In 2015, the Ohio Environmental Protection Agency (Ohio EPA) approved the City of Columbus, Ohio’s integrated plan, known as [Blueprint Columbus](#). The City proposed Blueprint Columbus as an alternative to its existing Wet Weather Management Plan (WWMP), developed in 2005 to implement the City’s separate sewer overflow (SSO) and combined sewer overflow (CSO) [consent decrees](#). Blueprint Columbus provides a more comprehensive method to control SSOs, CSOs, and water in basement events (WIBs), while incorporating green infrastructure and allowing the City to prioritize projects based on areas of impact identified in its 2005 WWMP.

Blueprint Columbus addresses SSOs, WIBs, and stormwater quality using four methods: (1) **lateral rehabilitation**, which prevents inflow and infiltration (I/I) from private properties from entering sewers; (2) **roof water redirection**, which directs water from rooftops to the curb or to private lawns at least seven feet from buildings instead of directly to sewers or to foundation drains; (3) **voluntary sump pump program**, which prevents water near home perimeters from entering foundation drains, which are typically connected to sanitary sewers in older homes; and (4) **green infrastructure** on city-owned properties or rights-of-way to improve stormwater quality and reduce total runoff quantity. Blueprint Columbus also incorporates grey infrastructure projects to address CSO reductions.

The City of Columbus anticipates that once Blueprint Columbus implementation is complete, an estimated 342 tons of sediment will be removed by green infrastructure each year, reducing total suspended solids (TSS) entering surface waters. Because there are no public drinking water intakes in the Blueprint Columbus near-field watersheds, a public drinking water supply assessment was not completed, and the plan does not address drinking water.

Blueprint Columbus was [featured](#) in the U.S. Environmental Protection Agency's [Report to Congress on Integrated Plans and Municipality Profiles](#).

Affordability

The total capital costs for Blueprint Columbus are estimated to be \$1.7 billion, which includes both conventional and Blueprint infrastructure components, with approximately \$1.33 billion associated with sewer lining, green infrastructure, lateral lining, roof redirection, and sump pumps. The City performed an affordability analysis to compare the Blueprint Columbus plan and a proposed alternative WWMP, electing to prepare a long-term financial model to analyze trends and evaluate how rate increases would impact ratepayers over time.

The City had completed a Financial Capability Analysis consistent with EPA's 1997 Guidance as part of its original WWMP in 2009, based on residential indicators and financial capability. The updated affordability analysis completed as part of the Blueprint Columbus plan looked at demographics, including persistently impoverished regions that would struggle to handle significant rate increases. The City also looked at customer responses to bill increases and the overall financial health of the utility as benchmarks of whether rates would be affordable.

Asset Management

Asset management mechanisms are also incorporated in the Columbus integrated plan to track conditions over time and measure progress and performance. For example, the City's capacity, maintenance, operations, and management (CMOM) program provides benchmarking for and summaries of improvements made in conveyance, treatment, and storage utilization of the sewage system. Additionally, to benchmark program performance, the City evaluates the following indicators, among others: (1) miles of sewers televised and cleaned; (2) tracking of CSOs, SSOs, and WIBs reported; and (3) volume of wastewater treated.

Adaptive Management & Monitoring

The City and Ohio EPA have developed a collaborative, adaptive management approach to updating Blueprint Columbus. Whenever the City believes that a significant change in scope, schedule, or approach is warranted, the City is entitled to submit requested changes to Ohio EPA with supporting documentation for approval. In addition, the City submits annual reports and tracks and summarizes the status of all projects, including any delays or changes.

The City is also required to initiate programmatic reviews of all work completed as part of the integrated plan on or before January 1, 2025, and again before January 1, 2030, to evaluate whether projects are achieving required levels of control, and whether green infrastructure projects meet performance standards. If the goals of the integrated plan are not being met, the City is required to submit a proposed alternative and implementation schedule as part of the report.

The completion date for the Blueprint Columbus program is 2045.

Benefits of Blueprint Columbus

Blueprint Columbus will have a positive impact on Columbus' local economy. The City estimated that over 20 years, the Blueprint plan will create an additional \$2.8 billion in regional output, \$977 million in earnings, and more than 700 jobs. The plan also provides opportunities to improve the quality of life in neighborhoods by improving aesthetics, reducing greenhouse gases, providing wildlife habitat, and potentially increasing home values. In addition, the City estimated that homeowners will save approximately \$453 million on the cost of maintaining their private laterals.

Washington, D.C.

Date Plan Completed: 2015

Implementation Mechanism: Consent Decree

DC Clean Rivers Project Modification for Green Infrastructure Overview

The District of Columbia Water and Sewer Authority (DC Water) prepared a financial capability assessment using [integrated planning](#) methods as a key component of its process to modify the [consent decree](#) implementing its combined sewer overflow (CSO) long-term control plan (LTCP), called the DC Clean Rivers Project, to enable a significant investment in green infrastructure over traditional "gray" infrastructure solutions.

DC Water evaluated the use of green infrastructure to reduce CSOs to the Potomac River and Rock Creek, with the goal of bringing environmental, social, and economic benefits to District of Columbia residents. Green infrastructure had the potential to reduce the scope of gray infrastructure needed to control stormwater runoff, deliver earlier pollutant reductions through phased construction, and bring triple bottom line benefits to ratepayers.

DC Water was able to use the information developed in its financial capability assessment using integrated planning methodologies to modify the DC Clean Rivers Project by extending its consent decree duration from 20 to 25 years (from 2005 to 2030) and adopting a hybrid grey-green solution to control CSOs that will help support local job creation, improved air quality, and provide for a cooler city, greener public and private spaces, added wildlife habitat, increased property values, and greenhouse gas mitigation. The plan included constructing pilot green infrastructure projects and using the results to determine whether to continue with green infrastructure or to construct gray infrastructure.

In addition to green infrastructure, the DC Clean Rivers Project also includes pumping station rehabilitations, targeted sewer separation, and more than 18 miles of tunnels constructed over 100 feet below ground designed to capture CSOs during heavy rainfall and transport them to DC Water's Advanced Wastewater Treatment Plant at Blue Plains.

With the DC Clean Rivers Project, DC Water will reduce CSOs system-wide by 96% in the average year while providing flood relief to multiple neighborhoods in the District.

Affordability

DC Water updated its 2002 affordability analysis as part of evaluating green infrastructure plans for CSO control and prioritizing projects. That analysis showed that the costs associated with the schedule of the existing consent decree plan coupled with other necessary sewer and wastewater improvements would have been unaffordable for more than 40% of households by 2018. The analysis also showed that affordability concerns necessitated the extension of both the consent decree schedule and optimization of capital spending for other sewer and wastewater projects.

Taking into account engineering and economic considerations, DC Water determined that extending its implementation schedule by five years would result in the earliest affordable, practical, and technically achievable schedules for CSO control. Additionally, optimization of more than \$2.5 billion of capital spending will be considered between 2015 and 2032. Extension of the consent decree schedule combined with deferment of other capital projects were projected to reduce typical residential sewer bills from approximately \$1,675 per year to about \$1,200 per year.

Total Nitrogen Removal / Wet Weather Plan

In 2007, EPA modified DC Water's National Pollutant Discharge Elimination System (NPDES) permit to include a total nitrogen effluent limit for Blue Plains of 4.689 million pounds per year to comply with the total maximum daily load (TMDL) established for the Chesapeake Bay. DC Water conducted evaluations to assess the impact of these new total nitrogen effluent limits on top of the LTCP and existing NPDES permit requirements for treating wet weather flows and submitted a Final Total Nitrogen Removal/Wet Weather Plan (TN/WW Plan) as a companion document to the consent decree modification.

Green Infrastructure Practicability Assessment and Adaptive Management

DC Water completed its practicability assessment for green infrastructure in 2020. In Rock Creek, full scale implementation of green infrastructure was determined to be impractical primarily due to cost effectiveness. However, a hybrid green-gray solution was selected that blended the strengths of green and gray infrastructure to achieve CSO control in the sewershed. A non-material modification of the consent decree was entered in 2020 providing for implementation of this hybrid plan. With respect to the Potomac River, green infrastructure was determined to be impractical due to the cost and concerns with implementing it in historic districts. As a result, gray infrastructure consisting of the Potomac River Tunnel is being implemented to control CSOs on the Potomac River.

DC Water is using an adaptive management approach to implement its green infrastructure solutions in Rock Creek. Pursuant to the consent decree modifications, projects will be constructed in a sequential fashion, with monitoring and performance assessments conducted in between construction phases. Data collected from this monitoring will then be used in the planning and designing of the next round of green infrastructure projects to ensure that those projects are practical and effective for both CSO control and the betterment of the community.

Benefits of the Clean Rivers Project Modification for Green Infrastructure

The consent decree modification allowed for time to be included in the schedule for a

thorough evaluation of green infrastructure in the field. This resulted in the application of green infrastructure in an appropriate and responsible manner to provide the best mix of benefits to ratepayers. The use of green infrastructure resulting from the plan will offer environmental, social, and economic benefits, including increased property values, neighborhood beautification, reduced heat island effects, habitat creation, green jobs, and enhanced community gathering spaces. In addition, extension of the schedule by five years mitigated rates for residents that are significantly burdened by a multi-billion dollar CSO controls program primarily funded by ratepayers.

Further, the consent decree modification allowed reconfiguration of the controls on the Potomac River to eliminate a pumping station to dewater the Potomac Tunnel and consolidate all pumping operations at the Blue Plains Advanced Wastewater Treatment Plant. This significantly reduced disruption, long term operation and maintenance costs, as well as DC Water's carbon footprint.

Evansville, Indiana

Date Plan Completed: 2011 (Amended 2016; 2022 Amendment Pending)

Implementation Mechanism: Consent Decree

Consent Decree and Integrated Plan Overview

On June 22, 2011, the Evansville Water and Sewer Utility (EWSU) reached an agreement with the U.S. Environmental Protection Agency (EPA), Department of Justice (DOJ) and Indiana Department of Environmental Management (IDEM) for Evansville's federally mandated integrated overflow control plan (IOCP), known as [Renew Evansville](#). An amendment to EWSU's [consent decree](#) was filed in December 6, 2016, and another is currently pending.

The Renew Evansville projects will address combined sewer overflows (CSOs), as well as overflows and backups in the separate sanitary sewer system. Under the terms of the agreement, Evansville will spend \$729 million over 24 ½ years to significantly upgrade the city's sewer system infrastructure, improve operations and significantly reduce water pollution to comply with the Clean Water Act (CWA). EWSU must reduce the number of CSO events—wastewater that overflows into the Ohio River and Pigeon Creek during weather events—to no more than four per year. The most recent amendment, if approved, would allow Evansville time to evaluate more recent flow data and conduct value engineering exercises to address substantial cost increases associated with some of the major projects since 2016. A further amendment is expected to result from these efforts within the next five years.

Integrated Overflow Control Plan (Renew Evansville)

The IOCP includes upgrades to existing infrastructure, construction of new infrastructure, green infrastructure solutions, and improvements to operations and maintenance. Specifically, the \$729 million plan includes the following projects: 1) \$148 million to transform Bee Slough into one of the largest wetland treatment systems in the U.S., 2) \$175 million for sewer projects on the west side of Evansville, 3) \$30 million in projects

to separate stormwater and sanitary sewer pipes, 3) \$22 million in green infrastructure projects designed to reduce the amount of storm water in the combination sewer systems, including projects related to the new hotel and parking garage, the Indiana University medical campus, the streetscape projects around downtown, the Jacobsville Main Street project, the YMCA parking lot, the CK Newsome Learning Garden, and projects at local churches, 4) \$54 million in sanitary sewer overflow abatement, expanding all sanitary sewer capacity to accommodate 10-year storm precipitation levels, 5) \$107 million in wastewater treatment plant (WWTP) modifications, expanding capacity to 45 million gallons/day for the West WWTP and 40 million gallons/day for the East WWTP, 6) \$122 million for the 7th Avenue lift station replacement, and 7) \$71 million in new downtown underground storage.

The 2016 consent decree amendment also includes significant investments in asset management, but incorporates substantial flexibility in how those investments are implemented. Evansville has committed to approximately \$65 million in asset management projects, divided into five-year increments. An initial project list is included in the amendment, but Evansville may substitute reserve or new projects as needed. In addition, the amendment includes cost protections. If the anticipated costs of selected projects for a given period exceed the funding commitment contained in the consent decree, Evansville may defer any remaining projects to later periods. And Evansville will not be required to invest more than the agreed amount, even if certain projects are not completed.

The anticipated 2022 amendment would delay certain of the major projects to allow time for reevaluation that could result in further amendments to achieve the same level of control more cost-effectively.

This plan is designed to enable EWSU to capture ninety-eight percent of the sewage overflow that currently goes into the Ohio River and achieve compliance with the consent decree and CWA requirements.

Affordability

Renew Evansville requires significant capital investment, which has and will continue to require rate increases. Although EPA typically requires an implementation schedule of 20 years or less, EWSU successfully negotiated a 24 ½ year implementation schedule, which will help alleviate the financial burden of implementing the IOCP. The extended time limit will provide the city with more time to fund the planned projects and reduce the rate increases that would have been greater throughout a 20-year period.

To finance the IOCP, EWSU will have approximately \$12 million in annual debt payments that will be paid off in 2032. Some households in Evansville may experience rate increases that exceed 2 percent of median household income depending on the consumption level and location of ratepayers. Once EWSU pays off the \$12 million in annual debt payments by 2032, rate increases should be significantly reduced.

Due to substantial cost increases, along with the need to replace the utility's drinking water filtration plant, Evansville's financial situation has become more challenging. As a result, an anticipated 2022 consent decree amendment will pause certain large capital projects while Evansville evaluates more recent data and conducts value engineering exercises. It

is hoped that, with the 2022 and later amendments, Evansville will be able to identify more cost-effective measures to achieve the same level of control, such that rate increases can be minimized.

Enforceability

Throughout the implementation of the IOCP, EWSU must meet agreed-upon deadlines and metrics, many of which are incorporated directly into the consent decree. For example, the 2016 consent decree amendment includes appendices that outline the remedial measures to be included in the IOCP, the design criteria for each remedial measure, the performance criteria that would apply to each remedial measure, and the schedule for implementing each remedial measure and other improvements identified in the IOCP. EWSU has already begun implementing several aspects of the IOCP. For example, EWSU implemented “Clear Path,” which required the inspection and cleaning of sewer lines and manholes by November 1, 2017, subject to stipulated penalties and fines.

Johnson County, Kansas

Date Plan Completed: 2019

Implementation Mechanism: Consent Order and NPDES Permits

Johnson County Wastewater Integrated Plan Overview

Johnson County Wastewater (JCW) developed its two-phase [Integrated Plan](#) (IP) to help the County meet its customer service goals, address critical infrastructure needs, and make water quality improvements over a 25-year period. The IP is designed to help address aging infrastructure, wet weather management challenges, resource recovery and waste acceptance, and ever-increasing regulatory compliance requirements. JCW's National Pollutant Discharge Elimination System (NPDES) permits reference the IP, which is incorporated into a consent order between JCW and the Kansas Department of Health & Environment.

JCW leveraged existing community engagement programs as well as input from the Johnson County Board of County Commissioners to guide its decision making. JCW also appointed an Assistant Chief Engineer of Integrated Planning to help provide focused leadership on integrated plan implementation.

Decisions in the IP were based on three main objectives that align with JCW's Mission Statement: environmental protection, customer service, and community enhancement. JCW evaluated all potential projects using a Multiple Criteria Decision Analysis that scored the relative anticipated environmental and community benefits produced. Importantly, integrated planning is now a core concept of JCW's mission statement and asset management policies.

Under Phase 1 of the IP, JCW defined system needs, prioritized investments, identified data gaps and study needs, conducted stakeholder engagement, and developed a long-term wet weather management plan. Under Phase 2, JCW is incorporating the findings in Phase 1 through an adaptive management approach, developing long-range investment

priorities and scheduling, and more deeply engaging the broader community.

Pursuant to the plan, JCW identified near and long-term programmatic and capital improvement projects totaling approximately \$2.1 billion dollars. And the flexible and iterative process outlined in the IP will allow JCW to revise and reprioritize projects and improvements to reflect immediate needs while continuing to provide safe and high-quality service to the community. The IP is also proactive at addressing existing and forthcoming water quality standards while providing a long-term strategy for system renewal and keeping rates affordable.

JCW's IP was [featured](#) in the U.S. Environmental Protection Agency's [Report to Congress on Integrated Plans and Municipality Profiles](#).

Asset Management

JCW has made considerable investments to continually improve its assets, including upgrading wastewater treatment capabilities, optimizing collection system maintenance and renewal efforts, implementing wet weather management strategies, and improving pumping facility performance.

Through its Facilities Asset Management Program (FAMP), JCW utilizes a baseline funding forecast model to calculate projected funding needs based on information such as asset age, condition, replacement value, and useful life expectancies. JCW anticipates a funding demand for all pump stations and wastewater treatment facilities of approximately \$500 million over the next 25 years.

JCW's Collection System Asset Management Program (CAMP) includes a multi-year implementation plan of continuous improvement initiatives for collection system management and performance. The CAMP is updated each year to focus and align the program initiatives with JCW's priorities. JCW's pipe, manhole, and stream crossing inspection and renewal programs, along with operations and maintenance strategies and other collection system management tasks, are implemented through the CAMP. Using this risk-based asset management framework, JCW will continue to systematically inspect and renew the collection system throughout the course of the IP.

Adaptive Management & Monitoring

Under Phase 2 of the IP, JCW will implement a long-term performance monitoring approach that measures both the environmental and programmatic improvements resulting from IP implementation. Specific performance metrics will be linked to project evaluation criteria and results will be used to adjust or enhance the program, as necessary. These performance measures include tracking JCW's applicable Key Performance Indicators for the collection and treatment systems, reviewing effluent monitoring and other publicly available receiving stream data to characterize water quality improvements, and creating management controls to facilitate project execution and reliably achieve significant project milestones.

Benefits of the IP

The IP has allowed JCW to prioritize the most important projects as well as those meeting

multiple objectives while maintaining affordable rates for the community. In so doing, the IP has facilitated improvements in water quality, compliance with regulatory obligations, the efficient use and protection of natural resources, minimization of impacts on human health and property, financial benefits, and responsible growth and community development.

Lawrence, Kansas

Date Plan Completed: 2012

Implementation Mechanism: NPDES Permits

Lawrence Integrated Plan Overview

In July 2012, the City of Lawrence, Kansas, developed the [Integrated 2012 Wastewater Utilities Plan](#) (Integrated Plan), detailing a scope and implementation schedule for infrastructure improvements, enhancements, and expansion. The Integrated Plan addresses the City's wastewater capacity, management, operation, and maintenance (CMOM), and contains an inflow and infiltration (I/I) reduction program to correct sanitary sewer deficiencies on a prioritized, site-specific basis.

In January 2014, on advice from and in consultation with the Kansas Department of Health and Environment (KDHE), the City and KDHE executed a 20-year Memorandum of Understanding (MOU) that acknowledges and agrees that the Integrated Plan contains all essential components of the U.S. Environmental Protection Agency's 2012 Integrated Municipal Stormwater and Wastewater Planning Approach Framework, and adopts the Integrated Plan as the core document for future modifications. The MOU also provides for: (1) incorporation of the Integrated Plan into the National Pollutant Discharge Elimination System (NPDES) permits for certain wastewater treatment plants, with a provision for plan review and modification at each five-year permit renewal; (2) an implementation schedule reflecting the parties' best estimate of improvement projects and respective start dates; and (3) annual City updates on Integrated Plan progress.

Lawrence's Integrated Plan was [featured](#) in the U.S. Environmental Protection Agency's [Report to Congress on Integrated Plans and Municipality Profiles](#).

Integrated Plan Implementation: NPDES Permits

The Integrated Plan for the City of Lawrence is incorporated in the NPDES permits for both the Lawrence Kansas River Wastewater Treatment Plant (Kansas River WWTP) and the Wakarusa River Wastewater Treatment Plant (Wakarusa WWTP). Using Integrated Plan principles, the permits provide a coordinated, phased-in approach for future expansions, wet weather flows, and nutrient removal requirements. The permits also include reopener provisions allowing for amendment of the Integrated Plan, as well as provisions for the City to provide annual updates on Integrated Plan progress made during the current year and planned for the next year.

Both the Kansas River WWTP and Wakarusa WWTP NPDES permits address specific and separate Integrated Plan requirements. For example, the Kansas River WWTP permit requires that efforts be made to reduce nitrogen and phosphorus through mechanical

methods and that the results be reported to the KDHE, while the permit for the Wakarusa WWTP outlines a phased-in approach for future plant expansion and required the City to complete biota and antidegradation studies on the Wakarusa River both before and after plant start up.

Integrated Plan Evaluation, Improvements, & Modifications

Each permit requires annual review of the City's progress and performance under the Integrated Plan and includes a reopener clause to address unanticipated issues requiring modification of the implementation schedule. The permits also allow for evaluation and modification of the Integrated Plan upon renewal of the permits, thereby allowing the City to incorporate plan improvements with each five-year permit cycle.

The City is in the process of updating the Integrated Plan to, among other things, incorporate newly-approved total maximum daily load (TMDL) requirements and new MS4 permit requirements, address aspects of the Integrated Plan that may extend beyond the five-year permit term, and incorporate asset management considerations.

Going forward, the City is also working to address remediation at a former industrial site which has elevated levels of nitrate and ammonia in groundwater, soil, sediments, and surface and storm water. As part of its continuous integrated planning efforts, the City has done a Cost-Benefit Analysis Report and Data Gap Study and is evaluating remedial options for the site in a manner committed to community engagement and the potential for coordinated upgrades as part of the larger Integrated Plan. Specifically, the City is considering treating some of the containment water from the site at its wastewater plant in a manner that would benefit both capital projects as part of its nutrient treatment upgrades.

Seattle, Washington

Date Plan Completed: 2015

Implementation Mechanism: Consent Decree

Seattle Integrated Plan Overview

In 2015, the City of Seattle completed an [Integrated Plan](#) as part of its development under a [consent decree](#) of a Long-Term Control Plan (LTCP) to achieve further reductions in combined sewer overflows (CSOs). The resulting Integrated Plan approach adopted in the LTCP allowed the City to prioritize and implement stormwater control projects that will significantly benefit water quality while deferring the completion of lower-benefit LTCP projects by five years (from 2025 to 2030).

To develop the Integrated Plan, the City completed a 13-step process that included public outreach, ranking receiving waterbodies and drainage basins, estimating pollutant load and exposure reductions and water quality benefits for various candidate projects, and using a Multiple Objective Decision Analysis (MODA) to score and ultimately select a combination of stormwater projects that would provide the greatest water quality benefits as compared to those that could be deferred.

Ultimately, pursuant to the Integrated Plan, the City prioritized the implementation of three stormwater projects by 2025, while deferring construction and completion of six low-volume CSO projects until 2030. While implementation of the Integrated Plan will ultimately cost more than the LTCP projects alone, it will also result in greater pollutant load reductions, water quality benefits, and protection of public health and safety and the environment.

Seattle's Integrated Plan was [featured](#) in the U.S. Environmental Protection Agency's [Report to Congress on Integrated Plans and Municipality Profiles](#).

Multiple Objective Decision Analysis

Based on pollutant load modeling and exposure assessments, the City determined that multiple combinations of potential stormwater projects and programs could provide significantly greater water quality benefits beyond those that would be achieved by implementation of the combined CSO reduction projects alone. To help select the highest value stormwater projects, the City used a MODA to compare them.

Seattle's MODA methodology for its Integrated Plan involved establishing evaluation criteria; developing measurement scales and assigning draft scores; establishing relative value weights; normalizing scores and calculating results; and performing sensitivity analyses.

The evaluation criteria included assessment of issues such as performance risks, enhancement of relationships with other agencies including Tribes, water quality and other positive environmental outcomes, construction impacts, long-term community impacts, environmental justice, operations and maintenance, safety, and flexibility.

Adaptive Management & Monitoring

Under the Integrated Plan approach, the City set a performance goal for measuring the success of projects and is implementing a sampling and monitoring plan. During plan implementation, the data collected are being used to calculate pollutant load removals and calibrate facility design. Following post-construction monitoring, the City will evaluate results in light of set performance goals and will, as necessary, develop a Supplemental Compliance Plan.

Benefits of the Integrated Plan Approach

The Integrated Plan approach to Seattle's LTCP is resulting in significant water quality benefits beyond the benefits that would have been achieved by implementing LTCP control measures alone. These include substantially larger reductions in pollutant loads, higher discharge treatment frequency, and increased stormwater infiltration coupled with reduced direct stormwater discharges. The approach is also amplifying these water quality benefits by producing them sooner due to project prioritization.

Springfield, Missouri

Date Original Plan Completed: 2015

Implementation Mechanism: Consent Decree and Permits

Integrated Plan for the Environment Overview

The City of Springfield, Green County and City Utilities developed a local decision-making tool approved by the U.S. Environmental Protection Agency (EPA) and Missouri Department of Natural Resources (MDNR) called the "[Integrated Plan for the Environment](#)." Utilizing a holistic, citizen-focused approach, the plan examines not only wastewater and stormwater issues, but also solid waste, drinking water and air quality concerns to inform regulatory drivers.

The goal of the Integrated Plan for the Environment is to ensure that environmental investments are affordable to citizens and to prioritize the most effective solutions to address the most pressing community problems. Six core principles guide the plan's development: affordability, effectiveness, fairness, attainability, measurability, and adaptability.

Under the plan, community stakeholders identified the 16 most significant sources of pollution in the region, which ranged from agricultural and urban runoff and stationary and mobile source air emissions, to contaminated sites, residential burning, and sanitary sewer overflows (SSOs). A Multiple Criteria Decision Analysis (MCDA) was then employed with input from national environmental experts to score and rank these pollution sources in line with community priorities.

Once the most significant sources of pollution in the Springfield-Greene County area were identified, application of a Sustainable Return on Investment (SROI) approach to several projects allowed the City to monetize the environmental, economic, and social costs and benefits of possible solutions over a 25-year period to identify paths forward that provided the greatest return on community investment. Key technical factors such as upfront capital expenditures, annual operation and maintenance costs, avoided costs, flow and pollutant loading estimates, air emissions, property values, and energy impacts were considered in the analysis.

While the Integrated Plan for the Environment adopts an adaptive management approach that calls for continuing work and evaluation, to date the plan has identified the City's number one environmental priority as ensuring a clean and healthy drinking water supply, with Tier II initiatives including health-related air quality issues, protection of fish and aquatic life, recreational use protection for streams and lakes, and attainment of air quality standards to attract and retain businesses. The plan methodology has also determined that floatables control (removing trash from the waterway), public outreach efforts, riparian restoration, and cattle exclusion currently provide the best value options for environmental improvements, while certain SSO measures are unlikely to pay for themselves.

Springfield's Integrated Plan for the Environment was [featured](#) in the U.S. Environmental Protection Agency's [Report to Congress on Integrated Plans and Municipality Profiles](#).

Long-Term Control Overflow Plan

A cornerstone of the Integrated Plan for the Environment is the City of Springfield's Long-Term Overflow Control Plan (OCP), which was adopted under an amended judicial consent decree and renegotiated in 2021 based on the findings of the Integrated Plan. The revised OCP commits the city to invest an additional \$300 million in wastewater infrastructure improvements from 2021-2035 in a phased approach allowing for prioritization of cost-effective solutions. The Integrated Plan allowed the City to extend the original schedule of compliance, which lowered the annual financial impact on ratepayers.

The OCP calls on the City to rehabilitate aging pipes, expand private sewer repair programs, upgrade treatment facilities, reduce SSOs, increase sewer maintenance staffing, and continue monitoring and public outreach efforts. However, the OCP also provides for time for additional study into ways to lower the economic impacts and increase the combined benefits of any potential additional controls. The City began implementing the OCP in 2015.

Affordability

The City of Springfield, Green County and City Utilities sponsored and provided technical support to a citizen's Affordability Task Force that evaluated the potential impact of various existing and planned environmental regulatory obligations and issued recommendations to MDNR. The Task Force estimated that such requirements could necessitate up to an additional \$1 billion in investment, with low-income citizens being potentially forced to pay 18% of their income to cover these costs by 2030. The Integrated Plan for the Environment is designed to help address these concerns and produce solutions that are workable for all members of the community.

With respect to the OCP, the City has committed to strategically invest \$300 million in wastewater-related improvements over a 15-year period in a manner that prioritizes the community's environmental priorities. However, the plan also addresses the high control costs and uncertain potential benefits of additional controls, especially in relation to other environmental improvements, by providing adequate time to further study the impacts of mandating any additional controls while in the interim committing limited ratepayer funds to other projects that will provide greater community benefits through the City's Integrated Plan.

Asset Management

Much of the City's sewer investment strategy centers around asset management, which is a central aspect of the Integrated Plan for the Environment. Under the OCP, the City has committed a set amount of funding to reduce SSOs and improve the environment under a multi-phased approach, while deferring commitment of additional funds until more data is collected and system performance is evaluated.

Under the first phase of the OCP, projects were completed between 2016-2020 that were found to be certain to improve the sewer system and address immediate needs such as those related to biosolids in a cost-effective manner. Prior to entering the second phase of the OCP, the City worked with MDNR to provide a [Supplemental Overflow Control Plan](#) that extended the compliance schedule to 2035 while lowering the annual investment. The supplemental plan, which was incorporated into a [Second Amended Consent Judgment](#)

in April 2021, is intended to further upgrade the sewer system and improve wastewater treatment plants in a manner expected to be cost-effective. The supplemental plan also includes investments in green infrastructure projects that were found to be a cost-effective way to improve water quality while providing additional community benefits.

Adaptive Management & Monitoring

The Integrated Plan for the Environment focuses on adaptive management, and as such is a living document that is updated on a regular basis and is currently being utilized in all major permitting decisions. While environmental solutions under the plan are still being developed, the final phase of the plan is an Adaptive Management phase that expressly recognizes that “a true Integrated Plan will never be complete.” The plan therefore calls on the City to continue to advance environmental targets as success is achieved, and to refine analyses, check the effectiveness of solutions, and consistently reprioritize initiatives.

The OCP likewise calls for the continuous gathering and validation of data, as well as an evaluation of methods for identifying and implementing cost-effective stormwater management solutions throughout the various phases. Under the OCP, the City will continue to evaluate sewer basin responses and adaptively manage and refine projects included in the plan based on the results of those additional data inputs and evaluations.

Ultimately, the OCP calls on the City to collect information and undertake pilot projects that will provide a better understanding of the collection system and allow the City to more accurately project realistic reductions systemwide and determine necessary, cost-effective capacity improvements. The City must propose an updated OCP to MDNR for approval by April 1, 2035, which will outline future steps and projects to reduce SSOs.

Benefits of the Integrated Plan for the Environment

The Integrated Plan for the Environment provides for environmental stewardship that will improve Springfield’s economic development, tourism, and overall quality of life. The plan allows for a holistic approach that uses local knowledge to examine environmental resources related not only to stormwater and wastewater, but also to solid waste, drinking water, and air quality. Perhaps most importantly, the approach to decision making provided by the plan will ensure that community resources are invested in what matters most to the community, while meeting regulatory obligations and addressing the most significant problems with the most effective solutions in a way that is affordable to Springfield’s citizen.

Springfield’s integrated planning approach also allows the City to find solutions that maximize the advancement of multiple environmental priorities – not just those related to wastewater and stormwater – to address several regulatory objectives at a reduced cost. The approach likewise creates efficiencies by protecting all environmental resources together and fostering coordination between different regulatory and permitting agencies at both the state and local levels to reduce redundancies and eliminate unnecessary requirements. Additionally, by examining the relative impacts of different pollutant sources, the plan allows for the identification of opportunities to address pollution sources that do not require use of utility ratepayer funds, thereby providing for significant savings to the overall community.

Appendix B

Background, Historical Development and Key Documents of Integrated Planning

This section includes information on the background and development of integrated planning as a legally sanctioned approach for utilities and communities to meet their Clean Water Act (CWA) obligations, including summaries of key documents and requirements. It is helpful for utilities to understand the legal and regulatory evolution of integrated planning, including its codification in the CWA, when discussing plans with regulators and other stakeholders.

A. Municipal Advocates Identified a Need

Since the CWA's inception, EPA, states, and municipalities have made significant progress protecting public health and the environment through implementation of the National Pollutant Elimination Discharge System (NPDES) program. Municipalities, however, face increasing stressors in meeting CWA obligations, such as population growth, aging infrastructure, limited resources, and increasingly complex water quality issues. Such affordability issues are often compounded by, or even result from, regulators' inflexible response to communities' efforts to address existing water quality issues.

Additionally, the focus on enforcement approaches that dictate detailed terms and prescriptive remedies contributes to a lack of flexibility in prioritizing, scheduling, and coordinating wastewater and stormwater management. This historical tendency of regulators and municipalities to focus on addressing specific CWA requirements individually, rather than considering a specific CWA requirement as one aspect of a larger sum of CWA obligations, constrained municipalities from implementing cost-effective solutions that prioritize the most critical water quality issues first.

Accordingly, the National Association of Wastewater Agencies (NACWA), the United States Conference of Mayors (USCM), the Water Environment Federation (WEF) and others recognized a need in the mid-2000s to seek new, comprehensive approaches to address CWA requirements to which EPA and, ultimately, Congress responded.

1. Implementation of Flexibility Available in Existing Law and Regulations but not Being Implemented by EPA/DOJ/States

Municipalities recognized that EPA's inflexible and piecemeal approach to water quality in a number of key areas undermined communities' efforts to address existing water quality issues and commonly resulted in affordability issues. In response, EPA developed integrated planning guidance, detailed below, that more clearly articulates the flexibility available to communities in evaluating how their financial capability can influence schedules in permits and consent decrees.

A key principle of integrated planning is to meet water quality standards and other

CWA obligations by invoking the flexibilities that already exist in the CWA. This approach recognizes that communities should prioritize CWA-related projects that reflect the relative importance of mitigating adverse impacts on human health and water quality, within a community's unique financial capability circumstances.

The key principles of integrated planning include: maintaining or exceeding existing regulatory standards; balancing CWA requirements so that the most pressing impacts can be addressed first; identifying how to incorporate results of integrated planning into enforceable documents, including NPDES permits; and use of innovative technologies, including green infrastructure.

Existing laws and regulations provide for flexibility to allow point sources to meet technology-based and water quality-based effluent limitations. For example, in CSO communities, this means compliance with the nine minimum controls established in the [1994 CSO Control Policy](#) as the minimum best available technology economically achievable (BAT) and best conventional technology (BCT), based on best professional judgment (BPJ). CSOs are not subject to secondary treatment requirements.

Water quality standards are established by states and are set at levels necessary to protect designated uses. In general, discharges must not cause or have a reasonable potential to cause or contribute to the violation of a water quality standard. If that goal cannot be achieved immediately, a permitting authority can issue a permit with a compliance schedule or, for CSO communities, a long-term control plan (LTCP). Alternatively, EPA can include a compliance schedule or require development of a LTCP in a consent decree.

EPA's guidance encourages consideration of affordability when deciding on compliance schedules without mandating any deadline. Notably, the 20-year limit that EPA routinely relies on in setting in compliance schedules, referenced in EPA's 1997 FCA Guidance, is not based in law or regulation. Rather, invoking existing regulatory flexibility to allow compliance schedules longer than 20 years would provide for more affordable controls, and in some cases even increased controls.

Similarly, if, based on a use attainability analysis, meeting water quality standards is not achievable, the CWA and EPA's implementing regulations allow for modification of the unachievable standards. One basis for changing water quality standards is a showing that compliance with the standard would result in "substantial and widespread economic and social impact." See 40 C.F.R. § 131.10(g)(6). Additionally, existing law and regulations do not limit how EPA evaluates affordability, nor do they require that dischargers spend to the limit of affordability to meet water quality standards or control CSOs.

2. Stop Treating Communities as CWA Violators

Consent decrees can limit municipalities' abilities to prioritize and implement cost-effective water quality control. For example, inflexible compliance schedules or stringent limits on overflows can force municipalities into a myopic focus on a single water quality issue at the expense of other significant water quality, infrastructure,

and community priorities.

Enforcement, which regulators should use as an extraordinary legal remedy reserved for the most intractable cases of egregious violations of the CWA, has become a default regulatory mechanism. EPA often rationalizes that such enforcement relieves permittees from the threat of third-party suits. But, invoking enforcement as the default suggests to the public that municipalities are untrustworthy and condone water pollution.

Rather than penalizing municipalities for the inability to comply with CWA regulations and NPDES permits, regulated communities identified opportunities to incorporate flexibility available under existing law and regulations in order to take a more comprehensive and integrated approach in negotiating consent decrees, developing LTCPs and minimizing overflows. Despite urging from the regulated community to adopt more flexible approaches, permitting authorities and EPA continued to subject municipalities to rigid consent decrees, LTCPs, and NPDES permits that hamstring the permittees' abilities to prioritize and address multiple water quality issues cost-effectively.

3. Increasing Affordability Challenges Across the Country

Communities often identify affordability as the primary obstacle in complying with CWA obligations. For many communities, the need to address population growth or decline, increases in impervious surfaces, source water supply needs, and aging infrastructure complicates the already complex water quality issues that municipalities must address.

In recent years, many communities have increased investments in their wastewater and stormwater infrastructure through capital projects to rehabilitate existing systems, improve operation and maintenance, and address additional regulatory requirements. As a result, the implementation of programs to improve water quality and attain CWA objectives forces communities to face difficult economic challenges with limited resources and financial capability.

Notably, rate increases required to pay for CWA obligations, including LTCPs and nutrient removal total maximum daily loads (TMDLs), can place a disproportionately high financial burden on households with fixed income, households at or below the poverty level, and moderate income families experiencing high unemployment and whose real income wage gains have stagnated or decreased.

Businesses and other organizations are often significant ratepayers because they use large volumes of municipal wastewater services. For businesses, wastewater is a variable cost of doing business, which can motivate businesses to leave a community to seek more favorable water and sewer rates. When commercial ratepayers leave a community, local government must reapportion rates accordingly. Consequently, businesses that remain, as well as households, pay a larger share, often leaving behind consumers with less ability to pay.

Many cities across the country—especially those in the Midwest and Northeast, where existing clean water infrastructure is in the most need of investment—have experienced the adverse effects of population loss, declining business and employment, decreasing property values, difficulty in raising money in capital markets, and stranded physical assets. When cities begin to fail, affluent households also begin to move, leaving the lower-income household to pay an increasing share of the cost burden.

EPA's traditionally siloed and enforcement-driven approach to addressing water quality forces communities with finite resources to make difficult choices between repairing and maintaining aging infrastructure and complying with new requirements in inflexible permits or enforcement orders. In light of increasing affordability challenges nationwide, communities identified opportunities to use integrated planning to sequence and prioritize investments that achieve water quality goals at lower costs in a manner that addresses the most critical problems first.

4. Avoid Traditional Silo Approach to Surface Water, Stormwater, Sewer Overflow, TMDL, and Other Water-Related Issues

EPA and states historically have focused on achieving individual CWA requirements independently. This approach can result and has resulted in implementation of a particular alternative to solve one problem at a time without full consideration of all CWA obligations. Such a fragmented approach to addressing water quality issues constrained municipalities from implementing the most cost-effective solutions in a sequence that addresses the most serious water quality issues first.

Accordingly, communities identified integrated planning as an opportunity to use the flexibility available in CWA and the regulations, policy, and guidance thereunder to comprehensively evaluate NPDES obligations and prioritize wastewater investments through integrated planning.

5. Incorporate/Encourage Green Infrastructure

Communities faced resistance from EPA and state permitting authorities in allowing the implementation of green infrastructure to address water quality issues. Over the years, EPA has stated strong encouragement for the use of green infrastructure, but municipalities still encountered challenges in successfully implementing green infrastructure into consent decrees, LTCPs, and NPDES permits.

Despite EPA's stated support for green infrastructure, EPA and state permitting authorities have continued to rely on gray infrastructure to control significant water quality issues, such as overflows, for the perceived simplicity in quantifying gray infrastructure's impacts on water quality. But given the relative unpredictability of green infrastructure in comparison to gray infrastructure, EPA must provide communities with flexible opportunities to implement, evaluate, and improve green infrastructure controls. Such approaches must allow for additional time to improve or replace green infrastructure that has not achieved the required water quality results.

EPA has stated its willingness to consider additional flexibilities in compliance

schedules on a case-by-case basis to allow for adequate time to determine effectiveness of proposed green infrastructure components and to implement additional controls. Overall, both regulators and municipalities understand the value of green infrastructure not only in terms of environmental quality benefits but also in terms of community and quality-of-life benefits. By allowing communities to utilize the existing flexibility under the CWA, integrated planning provides opportunity to promote green infrastructure to manage stormwater as a resource, reduce overflows, and improve water quality.

B. EPA Response

Acknowledging the need to balance the CWA's basic objective of keeping sewage and pollutants out of the nation's waters with the financial conditions of state and local governments, EPA issued a series of memoranda that laid a framework for integrated planning.

1. October 2011 Draft Framework

In 2011, EPA issued its first memorandum, "[Achieving Water Quality Through Integrated Municipal Stormwater and Wastewater Plans](#)" [2011 Guidance], related to integrated planning. Specifically, the [2011 Guidance](#) promoted the use of effective and cost-sensitive planning approaches. EPA acknowledged the tendency for regulators and municipalities to focus on addressing specific CWA requirements individually rather than considering a specific CWA requirements as one aspect of a larger sum of CWA obligations. Through its [2011 Guidance](#), EPA sought to use the flexibility built into the CWA and its implementing rules, policy, and guidance to work with municipalities on comprehensive integrated planning to prioritize wastewater and stormwater investments.

The [2011 Guidance](#) directs regulators and municipalities to identify "efficiencies in implementing sometimes overlapping and competing requirements that arise from separate waste- and storm-water programs, including how best to make capital investments and meet operation and maintenance requirements."

In particular, EPA promotes the use of sustainable solutions, like green infrastructure, which can improve both water quality and quality of life. EPA's [2011 Guidance](#) does not contemplate a lowering of regulatory or permitting standards, but does allow municipalities to "maximize[e] their infrastructure improvement dollars through the appropriate sequencing of work." In order to do so, the [2011 Guidance](#) directs EPA to consider a municipality's financial ability within the context of the totality of that municipality's CWA obligations. EPA acknowledged that such an integrated approach would require the balancing of a municipality's competing CWA priorities, with highest priority reserved for the most pressing public health and welfare issues.

The [2011 Guidance](#) outlined the EPA Office of Water's and Office of Enforcement and Compliance Assurance's plans for developing an integrated planning approach framework to aid the Agency, and its regional offices, in working with state and local governments toward cost effective decisions.

Specifically, EPA intended for the framework to identify 1) the essential components of an integrated plan, 2) steps for identifying municipalities that might make best use of such an approach, and 3) how best to implement the plans with our state partners under the CWA permit and enforcement programs. The [2011 Guidance](#) contemplated public participation in the development of the framework, including discussions and meetings with states, local governments, utilities, environmental activist groups, and other stakeholders to obtain their feedback on the draft framework.

Finally, the 2011 Guidance reiterated EPA's stated commitment to green infrastructure. In particular, EPA highlighted its green infrastructure strategic agenda, which outlined the activities that EPA planned undertake to help communities implement green infrastructure approaches. EPA's intended for its strategy to "clarify and advance the wider utility of green infrastructure within the regulatory and enforcement contexts through improvements in outreach and information exchange, financing, and tool development and capacity building."

EPA described its community partnership program identifying ten communities with which the Agency planned to "work on green infrastructure implementation issues," as well as EPA's plan to add twenty more communities to the partnership program. In conjunction with the partnership program, EPA stated its intention to develop technical assistance resources for implementation of green infrastructure. Finally, EPA acknowledged that existing rules and guidance provide the tools to allow for integrated planning that promotes cost-effective solutions and prioritizes the most critical water quality issues.

2. June 2012 Final Framework

After receiving public input regarding the draft 2011 Guidance, EPA issued a final "[Integrated Municipal Stormwater and Wastewater Planning Approach Framework](#)" [2012 Framework] for developing integrated plans on June 5, 2012 to provide further guidance for EPA, states, and municipalities in developing and implementing effective integrated plans under the CWA.

Specifically, the [2012 Framework](#) identifies the operating principles and essential elements of an integrated plan, which is voluntary and is the responsibility of the municipality to develop. The [2012 Framework](#) explains that integrated plans should identify a municipality's relative priorities for projects and include a description of how the proposed priorities reflect the relative importance of adverse impacts on human health and water quality and the municipality's financial capability. According to EPA, the integrated plan will be the starting point for development of appropriate implementation actions, which may include requirements and schedules in enforceable documents.

The [2012 Framework](#) outlines four overarching principles of integrated planning:

1. Maintain existing regulatory standards that protect public health and water quality.

2. Allow municipalities to balance CWA requirements in a manner that addresses the most pressing public health and environmental protection issues first.
3. Municipalities are responsible for developing integrated plans if they choose to pursue this approach. Where a municipality has developed an initial plan, EPA and/or the State will determine appropriate actions, which may include developing requirements and schedules in enforceable documents.
4. Innovative technologies, including green infrastructure, are important tools that can generate many benefits, and may be fundamental aspects of municipalities' plans for integrated solutions.

In addition to the overarching principles, EPA included "principles to guide the development of an integrated plan," which state that integrated plans should accomplish the following:

1. Reflect State requirements and planning efforts and incorporate State input on priority setting and other key implementation issues.
2. Provide for meeting water quality standards and other CWA obligations by utilizing existing flexibilities in the CWA and its implementing regulations, policies and guidance.
3. Maximize the effectiveness of funds through analysis of alternatives and the selection and sequencing of actions needed to address human health and water quality related challenges and non-compliance.
4. Evaluate and incorporate, where appropriate, effective sustainable technologies, approaches and practices, particularly including green infrastructure measures, in integrated plans where they provide more sustainable solutions for municipal wet weather control.
5. Evaluate and address community impacts and consider disproportionate burdens resulting from current approaches as well as proposed options.
6. Ensure that existing requirements to comply with technology-based and core requirements are not delayed.
7. Ensure that a financial strategy is in place, including appropriate fee structures.
8. Provide appropriate opportunity for meaningful stakeholder input throughout the development of the plan.

Next, the [2012 Framework](#) details the elements of an integrated plan. EPA directs communities to define the scope of their NPDES requirements, highlighting that separate sanitary sewer systems, combined sewer systems, municipal separate

storm sewer systems and wastewater treatment plants may have different owners, operators, geographic service areas, service populations, and CWA obligations. In addition to point source discharges, the [2012 Framework](#) allows for integrated plans to address source water protection efforts and nonpoint source control.

The [2012 Framework](#) establishes the following six integrated plan elements:

- **Element 1:** A description of the water quality, human health and regulatory issues to be addressed in the plan.
- **Element 2:** A description of existing wastewater and stormwater systems under consideration and summary information describing the systems' current performance.
- **Element 3:** A process which opens and maintains channels of communication with relevant community stakeholders in order to give full consideration of the views of others in the planning process and during implementation of the plan.
- **Element 4:** A process for identifying, evaluating, and selecting alternatives and proposing implementation schedules.
- **Element 5:** A process for evaluating the performance of projects identified in a plan.
- **Element 6:** A process for identifying, evaluating and selecting improvements to the plan.

EPA noted that an integrated plan should include an assessment of existing challenges in meeting CWA requirements and projected future CWA requirements, such as water quality-based requirements based on a new TMDL; a characterization of human health threats; a characterization of water quality impairment and threats and, where available, applicable wasteload allocations (WLAs) of an approved TMDL; identification of sensitive areas and environmental justice concerns; and metrics for evaluating and meeting human health and water quality objectives.

EPA also stated that an integrated plan should include identification of municipalities and utilities that are participating in the planning effort and a characterization of their wastewater and stormwater systems, as well as characterization of flows in and from the wastewater and stormwater systems under consideration.

The process for communication with community stakeholders should provide appropriate opportunities that allow for meaningful input during the identification, evaluation, and selection of alternatives and other appropriate aspects of plan development. Additionally, municipalities should make new information available to the public and provide opportunities for meaningful input into the development of proposed modifications to the plan and the incorporation of green infrastructure into the plan.

The process for identifying, evaluating, and selecting alternatives and proposing implementation schedule in element 4 should:

- Address the use of sustainable infrastructure planning approaches, such as asset management, to assist in providing information necessary for prioritizing investments in and renewal of major wastewater and stormwater systems;
- Address the use of a systematic approach to consider and incorporate, where appropriate, green infrastructure and other innovative measures where they provide more sustainable solutions;
- Identify criteria, including those related to sustainability, to be used for comparing alternative projects and a description of the process used to compare alternatives and select priorities;
- Identify alternatives, including cost estimates, potential disproportionate burdens on portions of the community, projected pollutant reductions, benefits to receiving waters and other environmental and public health benefits associated with each alternative;
- Include an analysis of alternatives that documents the criteria used, the projects selected, and reasons for selection;
- A description of the relative priorities of the projects selected, including a description of how the proposed priorities reflect the relative importance of adverse impacts on public health and water quality and the permittee's financial capability;
- Propose an implementation schedule; and
- Include a financial strategy and capability assessment that ensures investments are sufficiently funded, operated, maintained and replaced over time.

The assessment of the community's financial capability should account for current sewer rates, stormwater fees and other revenue, planned rate or fee increases, and the costs, schedules, anticipated financial impacts to the community of other planned stormwater or wastewater expenditures and other relevant factors impacting the utility's rate base.

In order measure the success of the projects implemented, an integrated plan should include performance criteria and measures of success; a monitoring program to address the effectiveness of controls, compliance monitoring and ambient monitoring; and a process for evaluation of the performance of green infrastructure and other innovative measures to inform adaptive design and management to include identification of barriers to full implementation.

To evaluate improvements to the plant, integrated plans should include a process for identifying, evaluating and selecting proposed new projects or modifications to ongoing or planned projects and implementation schedules based on changing circumstances. If a municipality seeks modification of a plan, element 6 requires that the municipality collect the appropriate information to support the modification and that the modification comport with the requirements of elements 1 through 5.

The [2012 Framework](#) addresses implementation, which EPA acknowledges will require coordination between state and federal NPDES permitting and enforcement

authorities. EPA and state permitting authorities can incorporate elements of an integrated plan into NPDES permits, enforcement actions, or both.

The [2012 Framework](#) provides examples of how permit writers can incorporate integrated plans into NPDES permits by using the flexibility that already exists in the CWA and its regulations, including through compliance schedules for meeting water quality-based effluent limits (WQBELs); reopener provisions that can better facilitate adaptive management approaches; green infrastructure for managing stormwater as a resource; and water quality trading. Additionally, the [2012 Framework](#) provides considerations for incorporating integrated plans into enforcement actions to shift the focus away from penalizing municipalities in favor of establishing a path for bringing municipalities into compliance.

Specifically as it related to enforcement, the [2012 Framework](#) recommends that:

- Integrated planning involve all necessary parties to a consent decree or enforcement order;
- Federal and state authorities use enforcement to address past violations and establish a path to compliance;
- Enforcement orders include compliance schedules that prioritize the most significant human health and environmental concerns first;
- Authorities coordinate permitting and enforcement to achieve implementation of integrated plans;
- Enforcement orders maintain enough flexibility to allow for adaptive management;
- Enforcement authorities should consider and incorporate green infrastructure for municipal wet weather control; and
- Enforcement authorities include environmentally beneficial projects from integrated plans in settlement agreements.

However, as noted above, integrated planning can be used in the permitting context as well, not just enforcement.

3. July 2013 FAQ

On July 15, 2013, EPA issued an additional guidance document, "[Integrated Municipal Stormwater and Wastewater Planning Frequently Asked Questions](#)" [2013 FAQs], regarding integrated planning that addresses specific frequently asked questions relating to enforcement, permitting, financial capability, and other general integrated planning topics.

Regarding enforcement, the FAQs provide that EPA can reexamine remedies and affordability in existing consent decrees to determine whether or not the parties should reopen and revise a consent decree to incorporate an integrated planning approach. The [2013 FAQs](#) clarify that the [2012 Framework](#) should serve as a guide

for negotiating ongoing consent decrees to address multiple CWA obligations and prioritize the most critical projects.

The [2013 FAQs](#) also reiterate EPA's commitment to working within the constraints of communities' financial abilities to address overflows, which remain an enforcement priority. The [2013 FAQs](#) further explain that EPA does not intend for integrated planning to expand its enforcement program; rather, EPA intends use enforcement in conjunction with permitting to help communities meet CWA obligations.

The [2013 FAQs](#) provide that EPA will consider issuing a single permit for municipal separate storm sewer systems (MS4s) and POTWs, where appropriate, and coordinate separate MS4 and POTW permits to be consistent with a municipality's integrated plan.

The [2013 FAQs](#) describe the regulatory and administrative common law constraints on including compliance schedules in permits and notes the increased flexibility for establishing compliance schedules in enforcement.

To determine whether an integrated plan should be incorporated into NPDES permits, enforcement, or both, the [2013 FAQs](#) state that EPA will consider factors, such as the nature of the modifications, operations or measures necessary to reach compliance; the time frame needed to complete the work; the length of time the discharger has already had to meet WQBEL(s) under past permits and the length and severity of any past non-compliance; the level of good faith displayed by the permittee in pursuing compliance; and other case-specific circumstances.

The [2013 FAQs](#) clarify that a Financial Capability Assessment can directly include both municipal wastewater and stormwater costs but not drinking water, air, or land costs. A Financial Capability Assessment can address the costs of drinking water, air, and land requirements in the context of a communities' overall financial health, which can inform schedule development under a municipality's integrated plan.

The [2013 FAQs](#) direct permittees to EPA's Guidance for Financial Capability Assessment for information and indicators that EPA relies on to determine financial capability. Notably, the [2013 FAQs](#) clarify that communities need not spend 2% of median household income (MHI) of the community to participate in the integrated planning process.

While no general grant funds are available for the preparation of an integrated plan, communities can use the Clean Water State Revolving Fund to assist in integrated planning and resulting eligible capital projects. Additionally, EPA's integrated planning approach allows municipalities to include the ongoing costs for infrastructure rehabilitation and improvements and to consider life cycle costs in evaluating alternatives. The [2013 FAQs](#) also state support for stormwater utilities, which can provide dedicated sources of funding for stormwater programs.

The [2013 FAQs](#) reiterate that integrated planning will not lessen existing statutory or regulatory standards but will allow municipalities to invoke existing flexibilities in

EPA rules, policies, and guidance in order to prioritize and sequence implementation of CWA obligations. The [2013 FAQs](#) reiterate EPA's support of green infrastructure to address wet weather water quality issues and municipalities' role in identifying their most critical water quality needs.

Additionally, the [2013 FAQs](#) clarify that integrated plans alone are not legal binding absent incorporation or implementation of the plan into appropriate enforceable requirements and that municipalities need not “qualify” for integrated planning, which is a voluntary undertaking. The [2013 FAQs](#) also express EPA's willingness to work with municipalities interested in developing integrated plans and coordinate with EPA regional offices and state permitting authorities to develop plans that are acceptable to EPA, including its regional offices, and state permitting authorities.

Finally, the [2013 FAQs](#) clarify that integrated plans can address multiple water quality problems, including investments necessary to implement final and anticipated TMDLs, and can further incorporate street sweeping, pollution prevention programs, and non-NPDES efforts, such as preserving buffer areas.

4. November 2014 Affordability Framework

As the implementation of the [2012 Framework](#) progressed, EPA identified a need to more clearly articulate the flexibility available under existing guidance—such as the 1997 “[Combined Sewer Overflows - Guidance for Financial Capability Assessment and Schedule Development](#)” [1997 FCA Guidance]—for assessing permittees' financial capability.

Accordingly, EPA issued a financial capability assessment framework, “[Financial Capability Assessment Framework for Municipal Clean Water Act Requirements](#)” [2014 FCA Guidance], in November 2014 to provide additional examples and greater clarity on the flexibilities in existing guidance that communities can use in assessing their financial capability, and the relationship between that assessment and consideration of schedules for permit and consent decree implementation.

Specifically, the [2014 FCA Guidance](#) provides for consideration of the impact on residential rate payers and the financial capability of the permittee using several indicators, as well as allowing schedules to be responsive to circumstances unique to that community.

The [2014 FCA Guidance](#) encourages permittees to provide any additional information that would be useful in understanding the unique or atypical circumstances and how they may affect CWA schedules. With such additional information, EPA can consider and account for all relevant factors presented by a community to ensure that regulators have a full understanding of financial capability to inform the development of schedules.

Accordingly, the [2014 FCA Guidance](#) identified several key elements of EPA's approach to evaluating financial capability.

- The [2014 FCA Guidance](#) primarily relies on the assessment tools established in the [1997 FCA Guidance](#) as a basis for financial burden discussions between the permittee, EPA, and state NPDES authorities.
- In addition to the information submitted pursuant to [1997 FCA Guidance](#), the [2014 FCA Guidance](#) allows permittees to submit additional information that would provide a more accurate and complete picture of their financial conditions.
- The [2014 FCA Guidance](#) provides a more nuanced approach to financial capability than the [1997 FCA Guidance](#), which simply categorizes financial burden as “high, medium, or low.” For example, the 2014 FCA Guidance clarifies that EPA will not rigidly set schedules according to the break points between the “high, medium, or low” categories. Rather, EPA will establish compliance timeframes based on financial capability information, including MHI, regardless of where the community is on the “high, medium, and low” continuum.
- The [2014 FCA Guidance](#) clarifies that EPA will consider all CWA costs presented in the analysis, not just those associated with combined sewer systems. Accordingly, a permittee’s financial capability analysis could include costs of stormwater and wastewater; ongoing asset management or system rehabilitation programs; existing CWA related capital improvement programs; collection systems and treatment facilities; and other CWA obligations required by state or other regulators.
- EPA will indirectly consider drinking water obligations pursuant to the Safe Drinking Water Act (SDWA) as additional information about a permittee’s financial capability. For example, to the extent that a municipality incurred general obligation debt associated with the SDWA, EPA would consider such obligations as part of “overall net debt as a percent of full market property value.”
- The [2014 FCA Guidance](#) directs communities to demonstrate how they will implement the CWA work included as costs in the financial capability assessment, including appropriate assurances that the communities will make such expenditures.

The [2014 FCA Guidance](#) provides examples of additional information that is relevant to the evaluation of financial capability. The [2014 FCA Guidance](#) modifies the [1997 FCA Guidance](#)’s two-phased approach to assessing overall financial capability by allowing permittees to submit additional relevant information.

Generally, the first phase assesses the impact on residential customers by comparing the residential share of annual costs of CWA obligations to the MHI of the service area. The second phase then assesses the permittee’s financial strength based on six indicators, including bond ratings, overall net debt as a percent of full market property value, unemployment rate, median household income, property tax revenue collection rate, and property taxes as a percent of full market property value.

However, the [2014 FCA Guidance](#) importantly acknowledges that a two-step analysis may not provide a complete representation of financial capability and allows

the permittee to submit additional relevant financial or demographic information that illustrates the permittee's unique or atypical circumstances.

The [2014 FCA Guidance](#) provides a specific, but non-exhaustive, list of other potentially relevant information related to residential impacts and financial strength. Regarding residential impacts, the guidance says EPA may consider the following additional information in assessing financial capability:

- Income distribution by quintile, geography or other breakdown, illustrating how income distribution in the service area differs from comparable data on the national level or for similar cities;
- The income distribution that resulted in differential rates for low-income customers;
- Information about service area poverty rates and trends;
- Projected, current and historical sewer, and stormwater fees as a percentage of household income, quintile, geography or other breakdown;
- Information on sewer and water usage for various classes of ratepayers or by type of dwelling unit; and
- Information on the percent of households who own versus rent.

Regarding financial strength, the guidance states EPA may consider the following additional information in assessing financial capability:

- Historical population trends or population projections;
- Service area unemployment data and trends, or other labor market indicators, including unemployment on an absolute basis;
- Rate or revenue models, including dynamic financial planning models showing the projections of impacts over the program period. All revenue sources tied to CWA obligations may be included as appropriate;
- Rate determination studies used to develop and support recent rate increases;
- Data and trends on late payments, disconnection notices, service terminations, uncollectable accounts, or revenue collection rates;
- Historical increases in rates or other dedicated revenue streams;
- State or local legal restrictions or limitations on property taxes, other revenue streams or debt levels;
- Other costs or financial obligations, such as those that relate to drinking water or other infrastructure, that significantly affect a permittee's ability to raise revenue:
- Circumstances that may affect a permittee's bond rating, such as incurring debt beyond certain thresholds may negatively impact the permittee's bond rating, thereby reducing the ability to raise capital;

- Financial plans that show the implications of incurring additional debt for a permittee’s ability to secure financing, including projections of metrics such as debt ratios, debt service coverage, debt per customer, days of cash on hand, days of working capital and other metrics used by rating agencies; and
- Extraordinary stressors such as those from natural disasters, municipal bankruptcies, unusual capital market conditions, or other situations that impact a permittee’s ability to raise revenue or acquire needed financing.

C. Legislation

1. Some States, EPA Regions Slow to Adopt Integrated Planning

In light of EPA’s [2012 Framework](#) and related guidance, several communities used the integrated planning process to reduce their economic burdens while better protecting water quality. Broad implementation of the integrated planning process, however, did not proceed quickly. Many communities found EPA regional offices and some states hesitate to allow EPA’s integrated planning guidance to develop and implement integrated plans through permitting and enforcement.

2. Clarification to Policy Needed

Additionally, absent clear statutory authorization, regulators and permittees expressed concern about the long-term stability and continuity of the program.

3. Bipartisan Agreement on CWA Amendment

To address these concerns and provide clear legal authority for integrated plans and Congressional support for use of the integrated planning process on a sustainable, long-term basis, Congress passed the Water Infrastructure Improvement Act (the Act)—H.R. 7279, now Public Law 115-436—with large bipartisan support. The President signed the Act into law on January 14, 2019. NACWA played a critical role in advocating for this legislation and getting it signed into law.

a) EPA and States Must Inform Communities They Can Develop Integrated Plans in Permitting and Enforcement Context

Importantly, the Act’s integrated planning provisions ensure that state and federal permitting authorities inform each community that it has the opportunity to develop an integrated plan, which permitting authorities can then incorporate into permits.

A permit incorporating an integrated plan may integrate all regulatory requirements addressed in the plan, including requirements related to 1) combined sewer overflows, 2) capacity, management, operation and maintenance programs for sanitary sewer collection systems, 3) municipal stormwater discharges, 4) municipal wastewater discharges, and 5) water quality-based effluent limitations to implement an applicable wasteload allocation in a TMDL.

Consistent with the [2012 Framework](#) and related guidance, enforcement authorities can also incorporate integrated plans into enforcement actions, and communities that develop integrated plans can request that their enforcement orders or decrees be modified based on the integrated plan.

b) Long-Term Compliance Schedules are Available Beyond 5 Years if State Rules Allow

The Act allows a permit incorporating an integrated plan to contain a compliance schedule, which can be longer than one permit term if the compliance schedule is authorized by state water quality standards and meets the requirements of the EPA regulation concerning compliance schedules, 40 CFR 122.47. Consequently, the Act effectively overrules the holding in *In The Matter of Star-Kist Caribe, Inc.*³ and clarifies that the requirement in 40 CFR 122.47 for compliance by an applicable statutory deadline does not prohibit implementation of an applicable water quality-based effluent limitation over more than one permit term.

Indeed, nothing in the CWA provision regarding compliance with water quality-based requirements (Section 301(b)(1)(C)) precludes including a compliance schedule in an integrated planning permit. And the Act provides that regulators and permittees can review compliance schedules each time that the permit is renewed to determine whether the permitting authority should modify the schedule.

c) Integrated Plans Can Include Reclamation/Reuse/Water Recycling and Green Infrastructure Initiatives

In addition to codifying the integrated planning process, the Act also contains provisions that promote the use of green infrastructure measures and projects to reclaim, reuse, and recycle wastewater, such as porous pavement and green roofs. Many communities have sought to use these measures to reduce stormwater discharges, without the need to build extensive and costly gray infrastructure systems, such as storage tanks and underground tunnels. The green infrastructure provisions in the Act require EPA to work actively to promote green infrastructure use, within existing legal authorities, and to coordinate efforts to increase use of green infrastructure with other federal agencies, state governments, tribal, governments, local governments, and the private sector. Additionally, the language acknowledges that wastewater recycling projects can play an important role in integrated plans for certain communities.

d) EPA Municipal Ombudsman to Advocate for Communities

In navigating the myriad requirements that the CWA imposes, municipalities have experienced difficulty imparting community-specific concerns. Municipalities also have faced challenges accessing financial information and other resources available to them through EPA. Accordingly, the Act creates a new office at EPA, for a Municipal Ombudsman.

The Ombudsman's office can assist municipalities by providing them with information and assistance and will be responsible for providing information to the EPA Administrator to ensure that all EPA offices, including the regional offices, consistently implement EPA policies as to municipal CWA obligations.

To ensure that EPA promotes the effective implementation of the integrated plan program, the [Act](#) requires EPA to prepare a report to Congress on integrated plans and to make that

³In *In The Matter of Star-Kist Caribe, Inc.*, 3 E.A.D. 172, 175, 177 (1990), the EPA Administrator interpreted section 301(b)(1)(C) of the CWA to mean that 1) after July 1, 1977, permits must require immediate compliance with (i.e., may not contain compliance schedules for) effluent limitations based on water quality standards adopted before July 1, 1977, and 2) compliance schedules are allowed for effluent limitations based on standards adopted after that date only if the state's water quality standards or implementing regulations clearly state and intention to allow them.

report publicly available within two years of the law's enactment. The report must contain information on all integrated plans developed and implemented since EPA issued its [2012 Framework](#). Accordingly, in June 2021, EPA submitted its [report](#) to Congress. The report discusses the [2012 Framework](#)'s flexible process and includes overarching principles and six essential elements that integrated plans should address. It also showcases 13 municipalities' water quality challenges, integrated planning priorities, infrastructure investments, and preliminary results.



Considerations for Using Integrated Planning

What Clean Water Utilities Should Know