



State of Ohio
Environmental Protection Agency
Capacity Development Strategy

Prepared by
The Division of Drinking and Ground Waters
Revised December 2021

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1.0 Introduction: Capability Assurance Program

This report presents the results of Ohio Environmental Protection Agency (Ohio EPA), Division of Drinking and Ground Waters (DDAGW) efforts to meet the capacity development provisions of the Safe Drinking Water Act (SDWA). Section 1420(c)(1)(c) of the 1996 Amendments to the SDWA require each state to implement a capacity development program to ensure that each community (CWS) and non-transient non-community (NTNC) public water system has the technical, managerial and financial capability to ensure long term compliance with all public drinking water regulations in order to avoid the withholding of twenty (20) percent of the United States Environmental Protection Agency (USEPA) capitalization grant for the drinking water state revolving loan fund each year. In addition to the 1996 amendments to the SDWA, the 2018 America's Water Infrastructure Act (AWIA), Section 2012 amendments to the SDWA requires states to include asset management into their capacity development strategy.

Ohio EPA, the state primacy agency, has developed a comprehensive Capacity Development Strategy including all the SDWA required elements. This introduction highlights the overall Ohio EPA program and is meant to demonstrate compliance with all SDWA requirements. It is not meant to describe the program or activity fully in detail. Additional program details may be found in Sections 2 through 6.

1.1 SDWA Section 1420(a): State Authority for New Water Systems

The State must have the legal authority to ensure that all new CWSs and NTNCs which commence operation after October 1, 1999, can demonstrate technical, managerial, and financial capability with respect to each national primary drinking water regulation in effect, or likely to be in effect on the date of commencement of operations. These legal authorities are contained in section 6109.24 (Rule governing demonstration of technical, managerial, and financial capability of water systems; implementation of asset management programs) of the Ohio Revised Code (ORC) and Chapter 3745-87 (Asset Management Program) of the Ohio Administrative Code (OAC).

A new water system is **any** water system that meets the definition of a community or non-transient non-community public water system in chapter 3745-81 (Primary Drinking Water Rules) of the OAC by constructing infrastructure. New systems include both CWSs and NTNCs being newly constructed as well as systems which do not currently meet the definition of a public water system (PWS), but which expand their infrastructure and thereby grow to become CWSs or NTNCs. Systems which are not currently PWSs, and which add additional users and thereby become CWSs or NTNCs **without constructing any additional infrastructure** are **not** "new systems" for the purposes of the asset management program.

Section 6109.24 of the ORC provides that the director may deny approval of plans submitted under section 6109.07 (Construction plans to be approved by director) of the ORC if the public water system that submitted the plans fails to demonstrate technical, managerial, and financial capability. Section 6109.07 (Construction, installation or change of public water system) of the ORC requires the approval of plans by the director of the Ohio EPA prior to the construction of a public water system or any substantial change in a public water system. **The control point for new water systems is the approval of plans.**

1.2 SDWA Section 1452: State Revolving Loan Funds

The SDWA includes provisions for the Administrator to provide capitalization grants to each state to initiate a State Revolving Fund (SRF) dedicated to funding water projects. The Drinking Water State Revolving Fund (DWSRF) has the requirement to ensure that public water systems receiving WSRLA funds have sufficient technical, managerial, and financial capacity. Ohio EPA requires all WSRLA applicants to demonstrate technical, managerial, and financial capability to be eligible for the Water Supply Revolving Loan Account (WSRLA) loans through the submittal and subsequent review of their Asset Management Program (AMP). The authority for this is contained in Section 6109.22 (J)(I) (Drinking water assistance fund) of the ORC and Chapter 3745-87 (Asset Management Program) of the OAC. **The control point for WSRLA applicants is the loan award.**

1.3 Asset Management Program

By August 6, 2000, the State must develop and implement a strategy to assist (all) public water systems acquire and maintain technical, managerial, and financial capability. In addition to this the AWIA provisions in Section 2012 now require states to consider asset management in their capacity development strategy by December 31, 2021. Ohio EPA requires asset management for all public water systems. An acceptable asset management program has the required technical, managerial, and financial capability components. As part of the capacity development strategy the SDWA requires the below sections (1.3.1 – 1.3.6) to be included in the strategy.

1.3.1 SDWA Section 1420(c)(2)(A): Methods or Criteria the State Will Use to Identify and Prioritize Water Systems Most in Need of Improving Technical, Managerial and Financial Capacity

It has been determined that DDAGW will identify and prioritize systems most in need of improving technical, managerial, and financial capacity following the guidelines below:

- Significant Non-Compliers (SNCs) as defined in USEPA guidance.
- Public water systems that have been identified during a sanitary survey as needing an Asset Management Screening (See Appendix A for Sanitary Survey Questions Related to Asset Management Program). An asset management screening is an evaluation of the technical, managerial, and financial capability of a public water system. Through this process systems will be targeted and DDAGW will aid in improving technical, managerial, and financial capability.
- Public water systems that experience an emergency or failure will be prioritized and an asset management screening may be conducted to aid in improving technical, managerial, and financial capability.
- Public water systems with continued non-compliance with previously cited violations.

- If capability issues are identified during a limited scope site visit the inspector may initiate an asset management screening.
- The PWSs asset management program is the primary mechanism for determining a PWS technical, managerial, and financial capability.

1.3.2 SDWA Section 1420(c)(2)(B): Factors that Encourage or Impair Capacity

Ohio EPA worked with various stakeholders, public water systems, and inspectors to help identify factors operating at the federal, state, and local level that impair or enhance water system capacity. The identified factors presented in this section of the document. These include institutional, regulatory, financial, tax and legal factors.

1.3.2.1 Factors that Enhance Capacity Development

Fourteen factors were identified that are considered to encourage capacity development. These factors have been categorized and provided in the table below.

Category	Factors that Encourage Capacity Development	Level		
		Local	Federal	State
Institutional	Public Water System Management	X		
	State Training and Technical Assistance Programs			X
	Third Party Technical Assistance Providers		X	X
	Drinking Water/Water System Guidance Materials		X	X
	State Training and Technical Assistance Programs			X
Financial	State and local tax exemptions	X		X
	Drinking Water State Revolving Fund awards		X	X
	Financial Assurance Requirements (OAC 3745-8?)			X
	USDA Rural Loans and Grant Programs		X	X
Regulatory	Drinking Water Regulations		X	X
	Operator Certification Requirements		X	X
	Asset Management Program Requirements			X
	Escrow requirements (financial assurance)			X
	New system requirements	X	X	X

1.3.2.2 Factors that Impair Capacity Development

Twelve factors were identified that are considered to impair capacity development. These factors have been categorized and provided in the table below.

Category	Factors that Impair Capacity Development	Level		
		Local	Federal	State
Institutional	Management	X		
	Political and community rivalries	X		
	Complexity of the SDWA		X	
	Lack of Resources	X	X	X
	Lack of Staff	X		X
	Depressed economy in small counties and communities	X		
	Large number of small water systems	X		X
Financial	Low-income levels in many Ohio communities	X		
Regulatory	Complexity of Regulations		X	X
	Lack of authority or require regionalization or consolidation of services	X	X	X
Tax	Taxes	X		
	Tax base issues	X		

1.3.3 SDWA Section 1420(c)(2)(C): Description of How the State Will Use its Authorities and Resources to:

1.3.3.1 Assist Public Water Systems in Complying with National Primary Drinking Water Standards

To assist with the compliance of National Primary Drinking Water Standards DDAGW has incorporated asset management requirements and review in the detail plan approval process, sanitary survey process, compliance monitoring and enforcement process and in the source water protection program. By including asset management components and review in these programs DDAGW believes that PWSs will be better equipped to properly operate and maintain the PWS. When systems are identified as lacking areas of technical, managerial, or financial capability DDAGW will provide technical assistance, guidance, and referrals to training providers and other technical, funding and planning assistance providers. DDAGW will also include recommendations, requirements, and significant deficiencies for system improvements in their sanitary survey letters, in enforcement actions and asset management will continue to be included in CPE recommendations.

1.3.3.2 Encourage the development of partnerships between public water systems to enhance the technical, managerial, and financial capacity of the systems

During sanitary surveys and other interactions, DDAGW will encourage water systems to network with similar water systems, training providers, technical, funding and planning assistance providers, and governmental agencies such as funding agencies, health departments, county engineers, Ohio Department of Natural Resources (ODNR), and Ohio Emergency Management Agency (OEMA). DDAGW will continue to strive to maintain positive, open, non-adversarial relations with water systems. DDAGW will continue to work with the Ohio Section of the American Water Works Association (OAWWA), Rural Community Assistance Program (RCAP), Ohio Rural Water Association (ORWA), regional planning agencies, Small Communities Environmental Infrastructure Group (SCEIG) and other industry organizations (such as the Manufactured Housing Association, Ohio Water Quality Association, and the Homebuilders Association) to encourage networking with and outreach to water systems.

Ohio EPA will continue to support drinking water regionalization efforts and shared services. This is done by offering funding incentives such as principal forgiveness or a zero percent interest rate for WSRLA projects that include regionalization efforts. Regionalization should also be evaluated as an alternative to repair of an existing system. In the case of a new water system, regionalization should be discussed as an alternative to be evaluated through economic and non-monetary cost effectiveness analysis. DDAGW will also continue including information on regionalization and shared services in training programs and educational materials.

1.3.3.3 Assist public water systems in the training and certification of operators

DDAGW assists with the training and certification of operators by supporting many training providers in the state. DDAGW works closely with the Operator Training Committee of Ohio, ORCAP, ORWA and OAWWA. DDAGW offers water systems technical assistance and training providers such as RCAP and ORWA. Ohio has a technical assistance contract with ORCAP to provide training to operators and systems. Our operator certification program ensures that operators have the ability to obtain certification. Ohio has the ability to utilize set aside monies if necessary to provide additional training.

1.3.3.4 Assist Systems Vulnerable to Emerging Contaminants

Harmful Algal Blooms

In 2020, Ohio EPA updated Ohio's Public Water System Harmful Algal Bloom (HAB) Response Strategy. The strategy provides guidelines on HAB monitoring and sampling protocols, identifies acceptable analytical methods, identifies cyanotoxin levels that will be used to make advisory decisions and recommends contingency planning for PWSs. Ohio first developed this strategy in 2011 and continues to update it annually.

Ohio EPA continues to utilize the Water Supply Revolving Loan Account (WSRLA) to offer 0% interest rate on any portion of a planning, design, or construction loan that includes infrastructure improvements to address HABs. In the past DDAGW has provided funding from the Local Assistance and Other State Programs set-aside to surface water treatment public water systems to purchase and install monitoring equipment for the early detection of HABs in their source waters to allow treatment adjustments. This work developed and enhanced a system's ability to respond to increases in microcystin levels, and the equipment purchases, and training increased a system's self-sufficiency in determining levels of microcystin in its drinking water. These expenses promoted prevention and early awareness of the presence of HABs, as opposed to reaction activities.

Per- and Polyfluoroalkyl Substances

In December 2019, the state released the Ohio PFAS Action Plan for Drinking Water. This plan outlines work to address potential threats to both public (Ohio EPA) and private (ODH) drinking water systems. Ohio EPA will keep abreast on PFAS developments and ensure the plan is adapted as the science and national regulatory framework on PFAS unfolds. The action plan has six main objectives:

1. Gather sampling data from public water systems statewide to determine if PFAS is present in drinking water.
2. Assist private water systems owners with guidelines and resources to identify and respond to potential PFAS contamination.
3. Establish Action Levels for drinking water in Ohio to aid in appropriately responding to PFAS contamination for the protection of public health.
4. Work with Ohio communities to identify resources to assist their public water systems in implementing preventative and long-term measures to reduce PFAS-related risks.
5. Develop and disseminate education information to the public to increase awareness and understanding of PFAS-related compounds

and relative risk of exposure to PFAS through drinking water and other exposure pathways.

6. Continue ongoing engagement to ensure this action plan for Ohio is adopted as the scientific body of knowledge expands and the regulatory framework progresses at the national level.

Ohio EPA continues to utilize the Water Supply Revolving Loan Account (WSRLA) to offer 0% interest rate on any portion of a planning, design, or construction loan that includes infrastructure improvements to address PFAS. Additional information about Ohio's current efforts to address PFAS is available at www.pfas.ohio.gov.

1.3.3.5 Assist Systems in Protecting Source Waters

As part of Ohio EPA's Asset Management Program rules (OAC 3745-87-03(B)) PWSs are required to review their water source assessment reports annually and update as necessary. This is intended to ensure that PWS administrators and staff are familiar with the source(s) of drinking water, the area surrounding the well or intake, and potential contaminant sources. PWSs should then review and update their source water protection checklist or source water protection plans as needed. By including this in the AMP rules it helps start the conversation about source water and its importance as a critical asset and allows DDAGW to work with systems to ensure they have an updated source water assessment and checklist or protection plan.

In addition, the source water program's source water protection priorities will continue to offer and facilitate source water planning workshops for high susceptibility municipal surface water systems. The same protection planning assistance will be provided to those systems with new or upgraded wells or well fields so they can meet the state protection planning requirements. Larger municipal and/or rural community systems without source protection plans will also be targeted for source water planning efforts. DDAGW will also continue to support public water systems to complete new and revised drinking water source assessment for those systems that do not engage with a consulting or engineering firm to do so for them.

1.3.3.6 Assist systems in contingency planning

DDAGW assists PWSs by evaluating the general adequacy of Community and Non-community PWS contingency plans. The minimum requirements for a community public water systems contingency plan are outlined in OAC rule 3745-85 and the minimum requirements for a non-community public water systems contingency plan are outlined in the Asset Management Program rule 3745-85. In addition, the current contingency plan required by OAC rule 3745-85 and OAC rule 3745-87 for community and non-community systems, respectively, must be maintained on-site at the public drinking water system for evaluation during a sanitary survey.

These evaluations serve to keep a PWSs contingency plan up-to-date and usable and reinforces the plan's contents and procedures to the drinking water system.

DDAGW also offers a template for contingency planning which consists of two sections. Section or Volume 1 covers Ohio EPA's role and actions in response to an emergency situation effecting Ohio's PWSs. Section or Volume II covers a community public water systems requirements and the actions a public water system should take to prepare for an emergency situation. For non-community public water systems an asset management program template is available which outlines the requirements of the required content.

DDAGW has developed partnerships and works closely with Ohio Water/Wastewater Agency Response Network (OHWARN), local EMA, and partners with RCAP for training and tabletop exercises. In addition, DDAGW provided funding from the Local Assistance and Other State Programs set-aside to small community public water systems to purchase and install emergency generators. The purpose of these grants is to help public water systems increase their technical capacity to provide a continuous source of safe drinking water. Given the unpredictable nature of power failures, it is critical that water systems acquire onsite alternative power sources as part of their contingency planning. DDAGW will continue to explore and leverage set-asides to enhance overall public water system security and preparedness in the future.

1.3.4 SDWA Section 14209(c)(2)(D): Description of How the State Will Establish a Baseline and Measure Improvements to Capacity

To track progress and measure improvements DDAGW will track the following:

- Number and percent of enforcement referrals containing asset management provisions,
- Number and percent of systems passing asset management screenings as part of sanitary surveys,
- Compliance reports (number and percent of systems in compliance with drinking water rules),
- Number and percent of WSRLA applicants denied loans due to lack of asset management,
- Number and percent of plans for new CWS and NTNC water systems denied due to lack of asset management, and
- Tracking and analyzing annual metrics reports.

1.3.5 SDWA Section 1420(c)(2)(E): Identification of Persons that have an interest and are involved in the development and implementation of the Capacity Development Strategy

The capability assurance program for the State of Ohio is implemented by a primary workgroup. The workgroup meets on a continual basis to discuss statewide implementation and acts as an advisory group for the asset management program. The workgroup also worked to develop asset management rules, assisted with stakeholder outreach, and with the development of guidance. This groups includes members from all five district offices and central office. Members of the workgroup change based on staffing and need, but the workgroup ensures each district office is represented. The workgroup members as the date of this document consist of:

- Central Office: Tanushree Courlas, Andrew Barienbrock, Colin Bennett, and Sean Stephenson
- District Offices: Gina Hayes (SWDO), Sarah Wallace and Brandon Kilbarger (SEDO), Dan Osterfeld (CDO), Rebecca Warner (NEDO) and Jill Schiefer (NWDO)
- Guidance Team: Amy Jo Klei, Mike Deal, and Jeff Davidson

In 2017, Ohio EPA worked to introduce Senate Bill 2 to the Ohio Legislature which was signed by Ohio's Governor on July 10, 2017. This revised ORC 6109.24 which requires the Director of Ohio EPA to adopt rules establishing requirements governing the demonstration of technical, managerial, and financial capability. The revisions to the ORC list the minimum requirements that must be include in a public water systems asset management program (see Appendix E). This then paved the framework for the development of the asset management rules which set the minimum requirements of an asset management program for all public water systems in Ohio (see Appendix F). During the rule writing process Ohio worked with Stakeholders including PWS owners and operators, consultants, environmental organizations, and the general public. Stakeholders were notified of DDAGW's plans to revise rules on July 14, 2017 by electronic or regular mail in accordance with their request. An internal review period, held from January 16 through February 16, 2018, allowed Ohio EPA staff to view the proposed rules and provide comments. Ohio EPA invited interested parties to comment on this rule between January 16 through February 16, 2018. A subset of the AWWA Water Utility Council volunteered to work with Ohio EPA to address the comments received and make revisions to the proposed rules. Representatives from Columbus, Cincinnati, Del-Co, Dayton, Fairborn, and Aqua Ohio participated in the group. Three in-person meetings were held with this group and the rules were revised during those meetings to address comments received during the interested party period. The additional stakeholder that Ohio EPA provided outreach to are below.

The workgroup identified the following interested parties:

- public water systems,
- lenders,
- US Department of Agriculture, Rural Development,

- US Department of Housing and Urban Development,
- US Department of Commerce, Economic Development Administration,
- US Army Corps of Engineers,
- Ohio Public Works Commission,
- Ohio Department of Development,
- Ohio Consumers' Council,
- Ohio Township Association,
- League of Women Voters of Ohio,
- Ohio Home Builders Association,
- Ohio Nursing Home Association,
- Ohio Hospital Association,
- Ohio Industrial Association, and
- the attached Appendix B, DDAGW list of Organizations Affected by Drinking Water Rules.

These persons were provided an opportunity to comment on this guidance and on OAC 3745-87. DDAGW will consider offering workshops and public outreach presentations as interest warrants and resources permit.

1.3.6 SDWA Section 1420(c)(2)(F) Description of how the state will:

1.3.6.1 Encourage development by the PWS of AMP that include best practices; and Assist, including through the provisions of technical assistance, public water system in training operators or other relevant and appropriate persons in implementing such asset management plans.

Ohio requires all public water systems develop, maintain, and implement an asset management program. This is required by ORC 6109.24 (Appendix E) and OAC rule 3745-87 (Appendix F) which lists the minimum requirements of an asset management program. Public water systems now demonstrate technical, managerial, and financial capability by developing and implementing an acceptable asset management program.

Ohio makes technical assistance available through set-aside funds and provides assistance in developing and maintaining asset management programs. In addition, Ohio provides training through set-asides to operators and system officials on the importance of, development of and implementation of asset management plans.

2.0 Asset Management Program Procedure

The following is a description of the procedure that is recommended as the method to develop and or review a public water systems AMP. The goal of this process is the development of a comprehensive AMP which can be readily reviewed by Ohio EPA and implemented by the PWS. Ohio EPA can aid in the development or review of this program.

The scope of the AMP is defined in Ohio Revised Code 6109.24 and Ohio Administrative Code 3745-87. To coordinate this effort, DDAGW recommends a discussion occur through a meeting between DDAGW and the owner of the proposed or existing water system. The purpose of this meeting is to identify the scope of the AMP and the needs of the system.

2.1 Strategy for New Systems

- Applicants for new CWS and NTNC water systems shall submit an outline describing what the asset management program will entail when general or detail plans are submitted.
- For district office plans, the technical portion of the plan will be reviewed by the plan review engineer, and the management portion of the plan will be reviewed jointly by the plan review engineer and the sanitary survey field staff assigned to that system. For central office plans, the technical portion of the plan will be reviewed by the plan review engineer, and the management portion of the plan will be reviewed by the plan review engineer and Infrastructure Group staff in consultation with the sanitary survey field staff assigned to that system. The financial portion of all plans will be forwarded to the central office for review by DDAGW fiscal specialists.
- The applicant shall be notified of any deficiencies in the general plans, detail plans or asset management plan within 21 calendar days of receipt of the complete package for district plans, and within 45 days for central office plans.
- Approval of the general or detail plans shall be recommended once the general, detail and description of the asset management program are acceptable. If the applicant is unable to submit acceptable revisions to the general, detail plans or asset management program, the plan review engineer shall recommend a proposed denial of the plans.

2.2 Strategy for Water Supply Revolving Loan Account Applicants

- WSRLA loan applicants shall participate in an asset management screening at least 90 days prior to loan award.
- For district office plans, the technical portion of the plan will be reviewed by the plan review engineer, and the management portion of the plan will be reviewed jointly by the plan review engineer and the sanitary survey field staff assigned to that system. For central office plans, the technical portion of the plan will be reviewed by the plan review engineer, and the management portion of the plan will be reviewed by the plan review engineer and Infrastructure group staff in consultation with the sanitary survey field staff assigned to that system. The financial portion of all plans will be forwarded to the central office for review by the Division of Environmental and Financial Assistance (DEFA) in conjunction with DDAGW fiscal specialists.
- The applicant shall be notified of any deficiencies in the general plans, detail plans or asset management program within 21 calendar days of receipt of the complete package for district plans, and within 45 days for central office plans.
- Approval of the WSRLA loan shall be recommended once the general plan, detail plan and asset management program are acceptable. If the applicant is unable to submit acceptable

revisions to the general, detail plans or asset management program, the plan review engineer shall recommend a proposed denial of the WSRLA loan.

2.3 Strategy for Existing Systems

All public water systems are required to have a written and implemented AMP as of October 1, 2018. Ohio EPA may review all or part of a PWSs AMP during sanitary surveys, enforcement actions, or upon request by the director. Ohio EPA will prioritize systems lacking technical, managerial, or financial capacity as described in section 1.3.1. Historically, district staff have also identified systems through emergency events, obvious capability issues or by any other reason as identified by the director.

2.3.1 Systems with high ETT Scores

Systems with high ETT scores will be asked to submit a written description of the asset management program as part of enforcement actions. The AMP will be reviewed by following the asset management screening process. The cost of preparing or updating the program may be used to offset any penalty at the discretion of the Ohio EPA. A partial asset management program which addresses only deficiencies identified by DDAGW may be acceptable in appropriate circumstances. Correction of asset management deficiencies shall be included in enforcement orders and agreements. Required corrections will be tracked and enforced.

2.3.2 Sanitary Survey

Asset Management questions have been included in the sanitary survey question set (Appendix A). During a sanitary survey the inspector will review the questions with the system and based on the responses, the inspector will determine if an AMP screening is required.

An asset management screening is meant to take an in-depth look at the AMP. Approaches for correcting deficiencies will be determined on a case-by-case basis. The district office will track implementation of agreed upon or required improvements.

2.3.3 Request of the Director

The director may request review of an AMP if there are obvious capability issues, a PWS experiences an emergency event or any for any other reason identified outside of a high ETT score or a sanitary survey.

3.0 Asset Management Program Acceptance Criteria

Ohio EPA requires an AMP for all PWSs in the state. The minimum requirements are established in the Ohio Revised Code 6109.24 (Appendix E) and the Ohio Administrative Code 3745-87-03 (Appendix F). DDAGW evaluates a public water systems capability based on the asset management program which consists of three sections technical, managerial, and financial. The minimum acceptance criteria for these three sections are summarized below and expanded upon in section 4.0-6.0 of this document.

3.1 Technical Capability

Technical capability shall be accepted based on compliance with all SDWA requirements and industry standards in accordance with Section 6109.24 (Construction plans to be approved by director) of the ORC and Chapter 3745-91 (Plans Approval) of the OAC, Chapter 3745-87 (Asset Management) of the OAC and compliance with Ohio EPA professional operator certification rules in accordance with Section 6109.04(C)(1)(b) (Director to adopt and enforce rules) of the ORC and Chapter 3745-7 (Water Supply Works and Wastewater Works Personnel) of the OAC. The facilities shall be designed and constructed in accordance with the Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, Recommended Standards for Water Works, industry standards and other DDAGW guidance. The water system shall be operated under the responsible charge of a properly certified operator where required, or an otherwise qualified operator.

3.2 Managerial Capability

Managerial capability shall be accepted based on clearly identified ownership and accountability; clearly defined table of organization and adequate staffing, demonstration of adequate understanding and expertise in the regulation and operation of water systems; compliance with certified operator (if required), monitoring, reporting, treatment, disinfection, minimum pressure, license to operate, contingency plan, laboratory certification, plan approval, escrow deposit (if required), and backflow prevention and cross-connection control requirements of the OAC; and demonstration of effective external linkages.

3.3 Financial Capability

Financial capability shall be accepted based on demonstration of revenue or budgeting sufficiency, credit worthiness and adequate fiscal management and controls. The goal of the Financial Plan development will be to demonstrate that the public water system can remain financially viable into the future. It must show that the administration and operation of funds associated with the system are self-generating or sustainable; have the financial capability to reliably meet performance requirements over a period of time; and have obtained the financial commitment of the system owners and operators, and customers.

4.0 Asset Management Program - Technical Content

The purpose of the technical section of the asset management program is to gather information and develop an understanding of a public water systems assets. Along with the financial and managerial plans, the technical section of the AMP assists the system make better decisions to repair, replace or rehabilitate assets at the appropriate time. The technical section of the AMP by rule must contain the following sections:

4.1 Schematic of Water Source, Treatment, Storage and Distribution

A map of the water source, treatment, storage, and distribution is required in a systems AMP. This can range in detail based on the system size and need but the schematic should include the major items from the asset inventory and at least the location and name of the asset.

4.2 Inventory of Assets

An asset inventory leads to awareness of what the system owns, uses, and is critical in determining the repairs and replacements that are likely to occur. The asset management rule (OAC 3745-87) defines the minimum assets that must be included in the inventory: wells, reservoir, intake; treatment works; storage (tank/tower); distribution piping; valves; hydrants; pump stations; meters; auxiliary power, as applicable. Other assets may be included, and Ohio EPA recommends including enough assets to be able to make sound decisions about the PWS system and at minimum should include items required by rule an any additional items of substantial monetary value and assets that are critical to the operation of the system.

4.3 Evaluation of Assets

The evaluation of assets includes asset attributes, condition assessment, remaining useful life and a criticality assessment.

4.3.1 Asset Attributes

- Unique Identifier
- Known purchase date, installation date, or estimated age, if different
- Status of asset (in use, available for use etc.)

Ohio EPA encourages that the asset attributes be incorporated into the system maps.

4.3.2 Condition Assessment

The condition of each asset on the inventory (e.g. excellent, good, fair, poor, needs replacement) will need to be determined. Condition rankings should give an idea of the state of an asset. Other than a visual examination of the asset, documentation from previous maintenance and repairs, if available, should also be used to determine condition. In the case that a system does not already have documentation for the history of maintenance and repair of the asset, the system

should start keeping a record and use previous knowledge to determine prior repairs and maintenance of assets. The tracking of repairs will help in determining the condition of an asset to take the best route of action whether it is repair, rehabilitation, or replacement.

Systems have differing abilities when it comes to identifying information about their assets. It would be acceptable for small systems to base the condition of their assets on age, remaining useful life, maintenance/repairs, and best management practices selection. As systems get more information about their system, they will be able to make a better assessment of their assets and be able to rely less on just the age of assets.

4.3.3 Remaining Useful Life

The average life span of an asset and the known information about its age can be used to determine the remaining useful life of the asset. To determine the remaining useful life of the asset, subtract the known or estimated age of the asset from the average life of the asset. The average life of most assets has already been determined by the US EPA. When determining the remaining useful life of the asset it is best to be on the conservative side in case an asset fails early, then most of the funds to replace it should already be collected and set aside. Systems will want to consider the condition assessment and what they know from experience on how or when certain assets tend to fail and use that information to adjust the remaining useful life.

4.3.4 Criticality Assessment

Systems will need to list their assets based on their criticality and condition assessment. To determine the criticality of an asset, systems will want to use information regarding maintenance history, how likely the asset is to fail, and importance to system functions. After the criticality of an asset has been determined, assets should be prioritized based on their criticality and condition in comparison to the other assets. This prioritization will help a system determine which assets are most in need of funding for future rehabilitations and replacements. Systems may wish to prioritize their most critical assets if they have an extensive inventory.

4.4 Operation and Maintenance Programs

An operating plan is to be included, to ensure others are aware of how the system operates and its procedures. This will be useful in the event of new hires or retirements. It should include the daily procedures employees encounter to ensure the safe delivery of water. The water system must develop its own procedures that are relevant to the individual public water system.

The operation and maintenance program must include maintenance schedules for each of the following, as applicable:

- wells, all raw-water reservoirs, and intakes,
- pump stations,
- electrical equipment and controls,
- water storage tanks and/or hydro-pneumatic tanks,
- distribution system components including valves and hydrants,
- water treatment facilities, and
- auxiliary power.

The schedules should be written in enough detail that a different operator would be able to come in and understand the system. The operation and maintenance program should be one set of documents and in an accessible area.

4.5 Emergency Preparedness and Contingency Planning Programs

The asset management plan should also include a contingency plan that meets the requirements in OAC Chapter 3745-85 for community public water systems. For non-community public water systems, a contingency plan is also required by the asset management rule.

4.6 Source Water Protection

All public water systems have a source water assessment report. As part of the asset management rule the report must be reviewed annually and evaluated every five years. The review is intended to ensure that public water system administrators and staff are familiar with the source(s) of the drinking water, the area around the well or intake that provides water to the system, the potential contaminant sources that may affect the source and the source's susceptibility to contamination. By including source water protection within the AMP, the DDAGW hopes to continue conversations about the importance of source water as a critical asset.

4.7 Approved Capacity Projections

Capacity projections are required to be included in an AMP and must meet the requirements of Approved Capacity Planning and Design Criteria for Establishing Approved Capacity for: (1) Surface Water and Ground Water Supply Sources, (2) Drinking Water Treatment Plants (WTPs) and (3) Source/WTP Systems. Other written approved capacities of small public water systems using only ground water (e.g., factories, mobile home parks, office buildings, restaurants, condominiums, and the like) will be established with Ohio EPA's "Guidelines for Design of Small Public Water Systems".

4.8 Criteria and Timeline for Infrastructure Rehabilitation and Replacement

The asset management program must include a timeline for the rehabilitation and replacement of its infrastructure. To determine the schedule, a system will want to look at the criticality of their assets, remaining useful life, and the condition assessments of their assets. The costs and

ability to raise funds for assets is also to be considered in the timeline. Systems must develop their own criteria to determine when and what items are placed on the timeline. Using this information and their criteria, they can prioritize the most critical needs first and address any expansion of assets that may need to occur.

Along with a schedule of replacements, systems must identify funds that will be used to complete the rehabilitation timeline. Information on how the funds will be collected and used for the repair, rehabilitation, replacement, and expansion of assets is to be included. This information should be included in the financial section of the AMP.

4.9 Capital Improvement Plan

Asset management programs shall include a capital improvement plan (CIP). Projections should be included for a three to five-year timeframe. The CIP should be reviewed and updated annually by the water system. The CIP should include planning and detailed expenditures to aid the water system in deciding the amount of money they should be saving and setting aside in a separate account each year. It is important to include details on the project, so that an accurate estimate of the total project cost and its benefits can be determined. For the CIP, systems should consider compliance, replacing worn-out treatment, adequacy of storage/pressure, and water treatment updates. Projects are to be listed by the year they are planned and include at least the following: description of the project; need for and benefits of the project; estimate of project cost; and funding source(s).

Water systems must have a description and estimated cost of significant projects for the next five to twenty years. Projects on this list may change, but it is important the water system be planning for these larger projects. The system needs to have a long-term funding strategy to ensure it is sustainable and maintained properly. An important part of the CIP is determining the cost of projects and how they will be funded. Funding should be identified to cover the financing of repairs, rehabilitations, replacement, and expansion of assets, along with the repayment of any debt.

5.0 Asset Management Program - Managerial Contents

The purpose of the Managerial section of the AMP is to provide assurances that the public water system has both the ability and commitment to provide effective management and operation. Minimum requirements for an AMP for capability demonstration are listed in the OAC 3745-87 (Appendix F). The management section of an AMP consists of the following five sections:

5.1 Ownership and Legal Authority Section

This section of management should document that the public water systems owner or operator has the right and authority to take all measures necessary for financing, construction, operation, and maintenance of the system. The PWS shall provide copies of documents that clearly set forth the applicants control and authority for the system and disclose any encumbrances,

5.1.1 Identification of the type of organization which owns or will own the drinking water system. If current ownership will change in the future,

describe the planned change and the proposed time frame for the change of ownership. Ownership categories include but are not limited to:

- Political Subdivisions such as: School Districts, Township, State, Federal, Conservancy District, City, County, or Village.
- Privately Held such as: Investor, Public Utilities Commission of Ohio (PUCO) Regulated, Homeowners Associate, Trust, Cooperative, Sole Proprietor, Partnership, Corporation, Estate, Regional Water Association

5.1.1.1 The system is owned by a municipality that operates under a home rule charter:

- Provide the name of the incorporated municipality and the count in which it is located;
- Provide a copy of the charter;
- If the municipal owner has any inter-government agreements relating to the provision of drinking water with other entities, include the name of the other entities and the counties in which they are located; also attach copies of the agreements; and
- Describe the extent to which the applicant provides direct bill service to customers in any area outside of the applicant's authority; if such service is provided, identify the areas and counties in which they are located; also attach copies of any agreements relating to the arrangement

5.1.1.2 If the owner is a political subdivision other than a home rule charter municipality:

- Provide the name and county of each incorporating political subdivision;
- Describe the extent to which the applicant provides direct bill service to customers in any political subdivision not a part of the applicant; if such service is provided, identify the political subdivisions and the counties in which they are located;
- If the applicant has any agreement relating to the provision of source water or drinking water with any other political subdivision or entity, please provide a list of their names and copies of the agreements;
- If the applicant leases its system to an entity for operations, please provide a copy of the lease or agreement, and indicate who is responsible for establishing rates and tariffs; and
- Provide a copy of the incorporation or other authorizing documents and by-laws of the applicant; if contained in the ORC, provide applicable sections by reference.

5.1.1.3 If the owner category is a sole proprietorship:

- Provide the name, address, and phone number of the individual who owns the system.

5.1.1.4 If the owner category is a partnership:

- Provide the name, address, and phone number of the general partner and the nature, character, and extent of the interest. Also provide a copy of the partnership agreement.

5.1.1.5 If the owner category is a corporation:

- Identify if the corporation Closely Held, Publicly Traded, or a Wholly Owned subsidiary;
- List the officers of the corporation, as well as the ten largest shareholders and their share of ownership;
- Provide a copy of the corporate charter, articles of incorporation and bylaws; and
- Information on initial capital structure.

5.1.1.6 If the owner category is a Water Association:

- List the officers of the association and their respective titles;
- Note whether the association is managed by the members or by a contract management organization; if by a contract, please identify the contractor and provide a copy of the contract; and
- provide a copy of the charter documents, articles of incorporation or other authorizing documents, and the by-laws of the association.

5.1.1.7 Other ownership categories:

- Sufficient information and documentation must be provided to clearly establish the ownership and authority of the system.

5.1.2 Identify any other public drinking water systems currently owned or operated by application, owner(s), and authority of the system.

5.2 Staffing Organization, Cooperative Agreements and Service Contracts

This section of the asset management program requires systems to document and provide details about the operating structure and processes, including at minimum the information below:

- A copy of the organization chart and/or table;
- a copy of job descriptions and/or job manuals as they relate to the water system;
- identification and minimum qualifications of the operator, including certificate number if a certified operator is required;
- the number of employees projected to run the system, including operations, administration, and management; please identify projected employees by number, type, minimum qualifications, and designate as full or part time;
- for a new system, a timetable for staffing; it is recommended that key staff be hired or retained to assist in the design and construction of the system; a missing or incomplete timetable may result in delay of the approval of the system;
- water system management experience of the key personnel and affiliated organizations, including experience in other states;
- a copy of the budget estimates by category; the more detail that is supplied, the better support there is for budget estimates;
- copies of any management policies and standards already developed, or a timetable for development of any remaining policies and standards;
- copies of the system's general rules and regulations, including connection policies, extension policies, standard specifications, records management plan, cross-connection control plan, sample siting plan, and contingency plan.

5.3 Addressing Customer and Compliance Issues

As part to the management plan the PWS shall describe their plan for addressing the current and reasonably foreseeable compliance requirements identified in Section 4.1(a) of these guidelines. The applicant shall also describe their plan for outreach to their customers and addressing customer and consumer complaints

5.4 Operation and Maintenance

Ohio EPA requirements for operation of public water systems are contained in Chapter 3745 (State of Ohio Environmental Protection Agency Regulations) of the OAC, RSWW, AWWA standards and publications, DDAGW and other industry guidance documents and policies to evaluate operations and maintenance procedures for public water systems. An operations and maintenance manual, submitted as part of the asset management program, managerial plan, must show that routine operations and maintenance issues related to system infrastructure have been addressed for the proposed project. The size and content of the O&M manual can be expected to vary greatly depending on the size and complexity of system infrastructure.

This section management plan shall provide details that support the budget estimates for Operation and Maintenance, and assurances that the applicant has in place a mechanism and structure to properly operate and maintain the system. The operating plan should conform to accepted practices of the water supply industry and provide sufficient detail in describing the operation and maintenance of the public water system to assess the operating plan. The following minimum information must be provided when detailing the operations and maintenance section:

- a description of the facilities or proposed facilities;
- an explanation of startup and normal operation procedures;
- the routine maintenance program;
- records and reporting system;
- sampling and analyses program;
- staff training program;
- sanitary survey program;
- safety program;
- emergency plan and operating procedures, (is this the same as 4.5 above);
- manufacturer's manuals; and
- an interconnect, valve and blow-off exercise and testing program.

5.5 Effective External Linkages

This section of the management plan should identify the external linkages that are available to the owner to address technical, customer, managerial and financial issues, as well as manpower, resource and emergency needs which may arise in the operation of the water system and describe the system's interaction with customers, regulators, and other entities. A listing of such linkages may include but is not limited to U.S. EPA, Ohio EPA, PUCO, suppliers; engineering, operations, and other technical consultants; AWWA, ORWA, OTCO, RCAP, regional planning agencies, business and industry organizations, etc.; investment, banking and financial consultants; planning consultants. The listing should include contact names, addresses, fax and phone numbers, e-mail addresses and how they are expected to be effectively utilized. Water systems are encouraged to maintain active participation in water industry organizations.

5.6 Supporting Documentation

The asset management plan must include written policy and supporting documentation on security, use of system equipment, billing practices and revenue collections, and purchasing authority. This policy and supporting documentation should include information on how to address situations and ensure similar situations are handled consistency.

6.0 Asset Management Program - Financial Contents

The purpose of the financial portion of the AMP is to provide assurances that the public water system has adequacy demonstrated financial capacity. The financial plan will include a long-term funding strategy to support asset management plan implementation, including but not limited to, the identification of sources and amounts of funds to finance the needed repair, rehabilitation, replacement, or expansion of assets, including debt services. This includes, at minimum:

6.1 Five-year pro forma statement

New and existing public water systems are required to provide a pro forma statement. The pro forma statement is the statement prepared by the public water system to show anticipated revenues and expenses which they expect to have in the future following certain assumptions. At minimum the pro forma statement must include:

- 6.1.1 Income statement, balance sheet, and statement of cash flow pertaining to the water operating fund.
- 6.1.2 An amortization schedule of all water system debt including terms of outstanding debt.
- 6.1.3 The current water rate ordinance in effecting including any planned periodic increases of the rate, as applicable.
- 6.1.4 Documentation of all customers being billed.
- 6.1.5 Any existing information demonstrating bond or credit rating.

6.2 Five years of annual financial reports for existing public water systems

- 6.2.1 Income statement, balance sheet, and statement of cash flow pertaining to the water operating fund.
- 6.2.2 An amortization schedule of all water system debt including terms of outstanding debt.
- 6.2.3 The current water rate ordinance in effecting including any planned periodic increases of the rate, as applicable.
- 6.2.4 Documentation of all customers being billed.
- 6.2.5 Any existing information demonstrating bond or credit rating.
- 6.2.6 The most recent five years of financial reports, as required by section 117.38 of the Revised Code, or substantively equivalent documents which describe performance of the owner and the water system.

6.3 New Non-publicly owned PWSs

- 6.3.1 A demonstration of the cost of the water treatment components and the conveyance system including capitalization terms or lump sum debt retirement option if selected.
- 6.3.2 A demonstration of an adequate budget and revenue sources to support the annual operation and maintenance costs of the system for the next five years of operation including the following:
 - 6.3.2.1 cost of required level certified operator coverage
 - 6.3.2.2 capitalization terms of anticipated long-term debt incurred in the next five years of operation.

6.4 Existing Non-publicly owned PWSs

- 6.4.1 Income statement, balance sheet, and statement of cash flow pertaining to the water operating fund.
- 6.4.2 An amortization schedule of all water system debt including terms of outstanding debt.
- 6.4.3 The current water rate ordinance in effecting including any planned periodic increases of the rate, as applicable.
- 6.4.4 Documentation of all customers being billed.
- 6.4.5 Any existing information demonstrating bond or credit rating.

- 6.4.6** Type of business organization and historical origination date; including the legal document establishing the corporate structure.
- 6.4.7** The most recent five years of annual financial statement documentation which describe all assets, liabilities, income, expenditures, balances and equity of the water system

Appendix A – Asset Management Screening Questions



Asset Management Screening Questions

The following questions will be asked to public water system officials by Ohio EPA during an asset management screening.

(Revised Date: 11/12/2019)

1. Does the governing body hold meetings that are open to the public and announced in advance?
2. Is there a high-level table of organization that identifies critical personnel with clearly defined job duties and assigned individuals? *(OAC Rule 3745-87-03(A)(4)(b)(i))*
3. Is there a continuity plan in place for critical personnel through succession planning? *(OAC Rule 3745-87-03(A)(3))*
4. Do operators, the governing body and other employees regularly attend training to enable them to maintain their skills?
5. If the system has/had a significant deficiency, has it been addressed or is it on an acceptable schedule to be addressed?
6. Does the water system have a written approved capacity? *(OAC Rule 3745-87-03(B)(7)(a))*
7. Has the system identified infrastructure changes necessary to meet future demand, if applicable? *(OAC Rule 3745-87-03(B)(7)(b))*
8. Does the system have a schematic of water source(s), treatment, storage, and distribution? *(OAC Rule 3745-87-03(B)(1))*
9. Does the system have an up-to-date map showing the location of assets? *(OAC Rule 3745-87-03(B)(2)(d))*
10. Does the system have an asset inventory including the following: *(OAC Rule 3745-87-03(B)(2))*
 - Asset name,
 - Known purchase or installation date,
 - Status of asset, and
 - Locations of assets
11. Has each asset been evaluated on the following: *(OAC Rule 3745-87-03(B)(3))*
 - Condition,
 - History of maintenance and repair (Note: this could be included in a separate maintenance log)
 - Estimated remaining useful life,
 - Prioritized based on criticality and condition
12. Does the water system have a prioritized list for repair, rehabilitation, replacement and expansion of existing assets? *(OAC Rule 3745-87-03(B)(8))*
13. Has the water system identified funding needed for any repair, rehabilitation, replacement and expansion projects? *(OAC Rule 3745-87-03(B)(8))*
14. Does the system have a capital improvement plan (CIP) for the next three to five years with detailed project information including: *(OAC Rule 3745-87-03(B)(9))*
 - The projects are listed in order of the year scheduled
 - Description of each project
 - Need for and benefits of the project
 - Estimated project cost (including design/construction)
 - Funding sources
15. Does the system have a description and estimated cost for any significant projected projects for the next 5 to 20 years? *(OAC Rule 3745-87-03(B)(9)(c))*
16. Have the water rates been evaluated in the past 3 years, if applicable? *(OAC Rule 3745-81-03(C)(1)(e))*
17. Does the water system have documentation of all customers being billed for water usage, if applicable? *(OAC Rule 3745-81-03(C)(1)(f))*

18. Is there a funding strategy in place to cover the costs associated with this asset management program (e.g., operation and maintenance costs, capital improvement projects, repair, replacement, rehabilitation, and expansion of existing assets)? (OAC Rule 3745-87-03(C))
19. Does the system have supporting documentation on the following, as applicable: (OAC Rule 3745-87-03(A)(4)(f))
- Security,
 - Use of system equipment,
 - Billing practices and revenue collections, and
 - Purchasing authority
20. Does the system have a description of internal contracting and spending procedures for both routine and emergency repairs and replacements? (OAC Rule 3745-87-03 (A)(4)(e))
This includes information on who can authorize expenditures (e.g., Can the operator procure necessary items in a timely manner with/without prior approval? What is the spending limit? What is the procedure for obtaining funds for non-emergency items?)
21. Does the system have an adequate operations and maintenance program, including: (OAC Rule 3745-87-03(B)(4))
- SOPs for daily operations,
 - Maintenance schedules, and
 - An adequate maintenance log
22. Does the system have an acceptable contingency plan? (OAC Rules 3745-87-03(B)(5) and 3745-85-01)
23. Does the water system have one of the following?
- An endorsed source water protection plan? (recommendation for municipal comms over 250)
 - If no, recommend they complete it.
 - If yes:
 1. Has it been reviewed according to the schedule stated in the plan or at least every 3 years if there was no review schedule? (OAC Rule 3745-87-03(B)(6))
 2. Were any revisions submitted to Ohio EPA, if applicable? (OAC Rule 3745-87-03(B)(6)(e))
 - An accepted protective strategies checklist? (recommendation for non-municipal comms or municipal comms with population under 250)
 - If no, recommend the PWS complete it.
 - If yes:
 1. Has it been reviewed in the past 5 years? (OAC Rule 3745-87-03(B)(6))
 2. Were any revisions submitted to Ohio EPA, if applicable? (OAC Rule 3745-87-03(B)(6)(e))
24. Does the system have less than 15% water loss? If not, are efforts being made to reduce this?
25. Are steps being taken to detect and address leaks?
26. Is the system tracking the required metrics : (OAC Rule 3745-87-05)
27. **Financial review** - As a reminder, the financial portion of your asset management program will be reviewed by our Central Office.

For non-loan screenings, the following financial information must be submitted **within 30 days of this screening** to Ohio EPA. Please contact Ohio EPA to determine where to submit the information.

Latest water rate ordinance/schedule

- Documentation of triennial water rate evaluation (water rates evaluated in past 3 years)
- Documentation of all customers being billed for water usage, if applicable
- One of the following for the past 5 years:
 - Publicly owned PWS: Copies of the past 5 years of Comprehensive Annual Financial Reports (CAFR) or substantively equivalent documents, **OR**
 - Non-publicly owned PWS: Most recent five years of financial statement documentation of assets, liabilities, income, expenditures, balances, and equity of the system
- All of the following for the next 5 years:
 - Income statement, balance sheet, Income statement, balance sheet, and statement of cash flow for the PWS operating fund,
 - Amortization schedule of all PWS debt, including terms of all outstanding debt

- Capitalization of long-term debt anticipated in the next five years
- Any existing information demonstrating bond or credit rating

For loan screenings, the following financial information must be submitted to the DEFA Project Coordinator in DEFA-CO (failure to submit these could result in denial of the loan application):

- Copy of the latest water rate ordinance/schedule
- Table of organization, including the financial section
- Water supply capital improvement plan
- Schedule of indebtedness for the water infrastructure
- Past Financial Performance:
 1. Copies of the last 5 years of Comprehensive Annual Financial Reports (CAFR), OR
 2. The financial statement for each of the past 5 years of operation.
Note: Either of these sources (i.e., CAFR or financial statements) must have the enterprise or proprietary funds separated (the water, sewer, and all other funds must be delineated separately).
 3. Basis of accounting used in development of the CAFR or financial statement.
- Projected Financial Statement:
 - Projected financial statements for each of the next 5 years of water fund operation, OR
 - A pro forma statement, which is a cost projection of the proposed water system revenues and expenses, including predicted deficits and surpluses. The statement must include the next 5 years of operation, but it may be developed in planning horizon intervals of 5, 10, and 20 years.
- Contact Ohio EPA to determine where to send the information.

Appendix B – List of Organizations Affected by Drinking Water Rules

Amended Substitute House Bill 106 became effective on March 5, 1996. In part, it established Ohio Revised Code 121.39 paragraph (D), which requires Ohio EPA to “consult with organizations that represent political subdivisions, environmental interests, business interests, and other persons affected by” a proposed rule or amendment concerning environmental protection.

The Division of Drinking and Ground Waters has developed the attached list of organizations, which will receive notice when the division intends to adopt a new rule or amend an existing rule. At least sixty days prior to proposing a new drinking water rule or amending an existing drinking water rule, the Division of Drinking and Ground Waters will send a notice to each of the organizations on the attached list. The notice will state the division’s intent to propose a new or amended rule and summarize the content of the new or amended rule. The notice will also list the name, address, and phone number of a person in the central office to get in touch with to obtain a copy of the new or amended rule. If appropriate, the division will also send notice to other organizations that may be affected by a particular new rule or amendment.

Audubon Ohio	Association of Ohio Health Commissioners
Asse National Office	AWWA, Ohio Section
Benesch, Friedlander, Copeplan Aranoff	Bishoff & Associates
Buckeye Hills/Hocking Valley Regional Development Center	Citizens Policy Center
City of Mount Vernon Water & Wastewater Dept.	Columbia Gas Transmission Corporation
Common Cause	County Commissioners Association of Ohio
County Engineers Association of Ohio	Eastgate Development & Transportation Agency
DTE Energy Services	Great Lakes Rural Community Assistance Program
League of Women Voters of Ohio	Governmental Policy Group
Mid-Ohio Regional Planning Commission	League of Ohio Sportsman
Nature Conservancy	Miami Valley Regional Planning Commission
Office of Local Government Services	National Association of Water Companies
Ohio Association of Consulting Engineers	Northeast Ohio Areawide Coordinating Agency
Ohio Campground Owners Association	Ohio Academy of Nursing Homes
Ohio Chamber of Commerce	Ohio Audubon Council
Ohio’s Consumer Council	Ohio Planning Conference
Ohio Dept. of Agriculture	Ohio Chemical Council
Ohio Dept. of Development (Gov. Office of Appalachia)	Ohio Conservation Council
Ohio Dept. of Health	Ohio Dept. of Development
Ohio Environmental Council	Ohio Dept. of Natural Resources
Ohio Hospital Association	Ohio Homebuilders Association
Ohio Manufactures Association	Ohio Manufactured Housing Association
Ohio Municipal League	Ohio Mid-Eastern Governments Association
Ohio Petroleum Marketers Association	Ohio Petroleum Council
Ohio Public Health Association	Ohio PIRG
Ohio Rural University Program (Public	Ohio Public Works Commission

Management & Regional Affairs	
Ohio Rural University Program (Local Govt & Rural Dev)	Ohio Rural University Program (Center for Policy Analysis and Public Service)
Ohio School Boards Association	Ohio Rural Water Association
Ohio State Medical Association	Ohio State Bar Association
Ohio Valley Regional Development Commission	Ohio Township Association
Ohio Water Environment Association	Ohio Water Development Authority
OKI Regional Council of Governments	Ohio Water Well Association
OTCO	ORSANCO
Public Utilities Commission of Ohio	Retail Merchants Association
Sierra Club – Ohio Chapter	State & Local Government Commission of Ohio
Stateside Associates	Toledo Metropolitan Area Council of Governments
URS Corporation	U.S. Army Corps of Engineers: Buffalo District
U.S. Army Corps of Engineers: Ohio River Headquarters	U.S. Dept. of Commerce/Economic Development
U.S. Dept. of Agriculture/Rural Development	U.S. Dept. of Housing and Urban Development
U.S. Environmental Protection Agency	Water Management Association of Ohio

Appendix C – General Plan Requirements for Design or Construction Loans

Elements of a General Plan For Water Treatment Plant Design and/or Construction projects Funded Through the Water Supply Revolving Loan Account (WSRLA)

All applications for water treatment plant design and nominations for construction funding through the WSRLA must include an Ohio EPA Director approved general plan. For director approval, the general plan must be submitted to the Division of Drinking and Ground waters for review and contain the following information, where applicable.

Introduction and Purpose

Discuss why the project is needed and provided documentation of need, including compliance issues or standards violations. Types of projects eligible for funding through the WSRLA are listed in the *Drinking Water Assistance Fund Program Management Plan (PMP)*. Types of specific projects ineligible for funding are listed in *Appendix F of the Drinking Water Assistance Fund PMP*.

Existing situation

- Describe the raw water sources, capacities, and water quality data.
- Discuss all existing drinking water problems in the study and/or service area (this includes treatment, distribution and issues associated with the plant).
- Describe the existing service area and current population to be served.
- Provide the existing water demand presented in residential, commercial, and industrial categories.
- Provide an engineering description of the existing facilities.

Future conditions

- Describe other projects anticipated over the next 20 years.
- Provide the projected average and peak water demands based on population trends presented in residential, commercial, and industrial categories. Projections should be for at least 20 years in five-year increments.
- Describe the projected service area and the projected population to be served.

Alternatives

Describe the project alternatives considered and the rationale for the selected alternative based on the technical, managerial, financial, operational and local decision-making justifications for the selected approach. **A regionalization alternative must be included for projects for new water treatment plants, major plant rehabilitations or plant expansions.** A feasible regionalization alternative must be eliminated before evaluating other alternatives. Where environmental resources (e.g., stream, wetlands, woodlots,

etc.) are present, demonstrate how avoidance of impacts to such resources was included in the alternative evaluation and selection process. A cost analysis must include all required construction, operation, maintenance, and ongoing disposal costs.

Selected alternative

The basis for choosing the selected alternative needs to be clearly identified. Discussion should include capital cost, ease of operation, reliability, environmental impacts, and sustainability, thereby helping demonstrate that it is, in fact, the most cost-effective, sustainable alternative. In addition, the selected alternative needs to be described in sufficient detail including the following.

- Provide an engineering description of the facilities to be constructed, including a basic layout (schematic and site plan), sizing of treatment units and a desired approved capacity of the treatment facilities, including accounting for growth. The methodology for determining approved capacities for treatment facilities can be found in the document titled ***Approved Capacity Planning and Design Criteria for Establishing Approved Capacity for: 1) Surface Water and Groundwater Supply Sources, 2) Drinking Water Treatment Plants (WTPs), and 3) Source/WTP Systems*** (Approved Capacity).
- Provide a description of all existing and proposed raw water sources and their desired approved capacity. The methodology for determining approved capacities for raw water sources can be found in the Approved Capacity document.
- Describe the proposed use of existing facilities (if applicable), treatment and disposal to be installed, including the construction phases (if overall project is to be completed in steps).
- Describe how this project will address current and anticipated future compliance issues (i.e. disinfection byproducts, lead and copper corrosion, etc.), if applicable.
- Describe how treatment residuals will be properly disposed of.

Include an accurate schedule for designing, bidding, constructing, and initiating operation of the proposed facility.

Preliminary estimate

Provide a preliminary estimate of the proposed project's cost and the associated impact on the local user rates. If rates will have to be increased to support the project, include an estimate of the necessary increase.

Public participation

Provide information regarding public participation for the project, to date, such as minutes from council meetings, public meetings, or newspaper articles. Describe future anticipated public participation activities, keeping in mind that more controversial projects require evidence of public involvement and support.

Environmental issues

Describe the project area's major resources (e.g., streams, wetlands, woodlots, historic structures, etc.), the likely impacts of project implementation on these resources, how impacts to these resources can be avoided or minimized, and coordination with other agencies to address these resource issues. Describe anticipated construction-related impacts specific to proposed work (e.g., noise, dust, traffic disruption, erosion, and sediment runoff, etc.) and applicable best management practices to address them. Please contact the Ohio EPA – DEFA for further assistance with these topics.

Funding

Describe all anticipated sources of funding for the project, if known. Otherwise, identify likely funding sources to be pursued.

Compliance schedule

For systems presently out of compliance for drinking water requirements, discuss and submit any compliance schedules the system is required to follow with applicable milestone dates for the significant events that are necessary to attain compliance

Appendix D - Reference Documents for Plan Approval

The following is a list of documents that are used for reference during the plan approval process:

1. Ohio Administrative Code; available on the Division web site at: <http://epa.ohio.gov/ddagw/rules.aspx> or at <http://codes.ohio.gov/>
2. Ohio Revised Code; available at <http://codes.ohio.gov/>
3. Recommended Standards for Water Works Great Lakes Upper Mississippi River Board of State Public Health and Environmental Managers; available from <http://10statesstandards.com/>
4. AWWA Standards; available from www.awwa.org
5. Guidelines for Design of Small Public Ground Water Systems (Greenbook). <http://epa.ohio.gov/portals/28/documents/engineering/greenbook.pdf>
6. Division of Drinking and Ground Water's Water Supply Data Sheet <http://epa.ohio.gov/portals/28/documents/engineering/wsds.doc>
7. Backflow Prevention and Cross-Connection Control; available from the Division.
8. Approved Capacity - Planning and Design Criteria for Establishing Approved Capacity for: 1) Surface Water and Ground Water Supply Sources, 2) Drinking Water Treatment Plants (WTPs), and 3) Source/WTP Systems. <http://epa.ohio.gov/portals/28/documents/engineering/ApprovedCapacity.pdf>
9. The following engineering guidance documents are available on the Division web site at: <http://epa.ohio.gov/ddagw/rules/tabid/5735/LiveTabId/110545/LiveAccId/115090/Default.aspx>

[ENG-01-002](#): Guidelines for Clarifier and Filter Ratings at Surface Water Treatment Plants

[ENG-02-001](#): Guidelines for Treatment Process Ratings at Precipitative (e.g., Lime) Softening Ground Water Plants

[ENG-03-002](#): Detail Plan Submission Guidance for Non-Community Public Water Systems

[ENG-05-001](#): Guidelines for Obtaining Approval of Membranes to Meet Particulate and Microbiological Removal Requirements for Surface Water

[ENG-06-001](#): Guideline for Evaluation and Implementation of Chloramination (This policy to be replaced by rule revisions).

[ENG-07-001](#): Guidelines for Obtaining Approval of Membranes to Meet Treatment Requirements for Ground Water Treatment

[ENG-08-002](#): ASTM AWWA Pipe Policy

[ENG-09-001](#): Guidelines for evaluating granular activated carbon (GAC) for disinfection by-product (DBP) precursor removal

[ENG-10-001](#): Guidance for Installation of Automatic Flush Hydrants in Distribution Systems

[ENG-12-001](#): Guidelines for Demonstration of On-Site Sodium Hypochlorite Generators to Meet Inactivation/Disinfection Requirements of Drinking Water

[ENG-13-001](#): Guidelines for Obtaining Secondary Filtration Credit for Compliance with the LT2 Rule

10. Project Summary Sheets for pump stations, pressure reducing stations and air relief valves, storage tanks and waterline extensions. <http://epa.ohio.gov/ddagw/engineering.aspx>.
11. Guidelines for Arsenic Removal Treatment for Small Public Drinking Water Systems. <http://epa.ohio.gov/portals/28/documents/engineering/ArsenicManual.pdf>
12. Minimum Requirements for a General Plan for Self Certification Agreements; available from the Division.
13. Required Analysis for new public water system wells. A complete well analysis list of parameters can be found in OAC 3745-9-09 or at: <http://epa.ohio.gov/Portals/28/documents/pws/CompleteWellAnalysis.pdf>
14. State of Ohio Technical Guidance for Sealing Unused Wells. http://epa.ohio.gov/ddagw/gw_support/tabid/6071/LiveTabId/126911/Default.aspx
15. Guidelines for Tracer Studies; available from the Division. (Needs to be formally adopted.)
16. Laboratory Construction and Remodeling. http://epa.ohio.gov/Portals/28/documents/labcert/lab_construction_and_remodel_checklist.pdf

**Appendix E – Rules Governing Demonstration of Technical, Managerial and Financial
Capability of Water Systems; Implementation of Asset Management Programs**

Ohio Revised Code 6109.24
Effective October 6, 2017

The director of environmental protection shall adopt, and may amend and rescind, rules pursuant to section [6109.04](#) of the Revised Code establishing requirements governing the demonstration of technical, managerial, and financial capability for the purposes of this section.

(B)(1) A public water system shall demonstrate the technical, managerial, and financial capability of the system to comply with this chapter and rules adopted under it by implementing an asset management program not later than October 1, 2018.

(2) Notwithstanding division (B)(1) of this section, the director may require a public water system to complete an asset management program prior to October 1, 2018.

(3) A public water system shall include in the asset management program all of the following:

(a) An inventory and evaluation of all public water system assets;

(b) Public water system operation and maintenance programs;

(c) A public water system emergency preparedness and contingency planning program;

(d) Criteria and timelines for public water system infrastructure rehabilitation and replacement;

(e) Approved public water system capacity projections and public water system capital improvement planning;

(f) A long-term funding strategy to support the public water system's asset management program implementation.

(C) If requested by the director, a public water system shall submit a written description of the system's asset management program to the director. The system shall submit the written description not later than thirty days after the date of the request. A small public water system may meet the written description requirement by doing both of the following:

(1) Submitting the template made available by the director under division (F)(1) of this section;

(2) Including with the completed template a statement that the activities described in the template are being implemented.

(D) If a public water system fails to submit an acceptable written description of the system's asset management program or otherwise fails to demonstrate technical, managerial, and financial capability in accordance with this section and rules adopted under it, the director may request the owner or operator of the system to revise and resubmit the written description. Environmental protection agency staff may provide technical guidance to a public water system in preparing the asset management program or while addressing deficiencies noted in the asset management program.

(E) If a public water system fails to demonstrate technical, managerial, and financial capability in accordance with this section and rules adopted under it, the director may take any action authorized by this chapter or rules adopted under it to improve and ensure the capability of the public water system, including denying a plan submitted under section [6109.07](#) of the Revised Code.

(F) The director shall make available both of the following either on the environmental protection agency's web site or via another public forum:

(1) A template for small public water systems to prepare an asset management program;

(2) Information about sources of funding available to assist public water systems with preparing and completing an asset management program.

Appendix F – Minimum Contents of an Asset Management Program

Ohio Administrative Code 3745-87-03

Effective November 8, 2018

- (A) In order to demonstrate adequate managerial capacity, personnel commitments that are needed to provide for effective management, operation and financials of the public water system shall be proven with documentation. The asset management program shall include, but is not limited to, the following:
- (1) Demonstration of ownership accountability, which includes the legal authority to take the measures necessary for construction, operation, and maintenance of the system, including maintaining staffing skills, resources, and prioritizing continuous improvements of the water system.
 - (2) Demonstration that the owner has committed to proper operation and management of the public water system in accordance with agency 3745 of the Administrative Code, as applicable.
 - (3) Demonstration to ensure continued, proper operation of the public water system through succession planning, such as having a continuity plan in place for critical personnel.
 - (4) The owner or operator of the public water system shall include at least the following information in the asset management program:
 - (a) brief, non-technical description of the water system, including major components, source type, number of service connections, and number and type of customers.
 - (b) An operating plan defining the tasks to be performed in managing and operating the public water system, which shall consist of at least the following:
 - (i) A high-level table of organization that identifies critical personnel including the operator, manager and supervisor responsible for operations, maintenance, treatment, and distribution. The table shall include clearly defined job classifications/titles and the individuals within those job classifications/titles. The table shall include differentiation between a property owner and business owner or lessee, if applicable.
 - (ii) If cited with significant deficiencies, the director may require fiscal and managerial training for water systems governing bodies and responsible management, and documentation of governing bodies and employees attending appropriate water system fiscal and management training.
 - (iii) An operation and maintenance program as described in paragraph (B)(4) of this rule.
 - (c) Demonstration of the owner's ability to address violations of applicable portions of the Revised Code and the Administrative Code. The demonstration shall include an explanation of how the water system will establish and maintain effective communications and relationships between the water systems management, its customers, professional service providers and any applicable regulatory agencies.
 - (d) An inventory of external contacts and resources necessary for proper operation of the system, including a description of how the contacts and resources will be effectively utilized.
 - (e) Description of internal contracting and purchasing procedures to accomplish routine and emergency repairs and replacements.
 - (f) Supporting documentation on the following, if applicable:
 - (i) Security. 3745-87-03 2
 - (ii) Use of system equipment.
 - (ii) Billing practices and revenue collections.
 - (iii) Purchasing authority
- (B) In order to demonstrate adequate technical capacity, the asset management program shall

include, but is not limited to, the following:

- (1) Schematic of water source, treatment, storage and distribution.
- (2) Inventory of assets, including the following:
 - (a) Asset name
 - (b) Known purchase or installation date, or estimated age of asset if different.
 - (c) Status of asset (e.g. in use, available for use, needs repaired, etc.) as identified by the water system. (d) Locations of assets, including up-to-date maps.
- (3) Evaluation of assets, including the following:
 - (a) Condition (e.g. excellent, good, fair, poor, needs replacement).
 - (b) History of maintenance and repair.
 - (c) Estimated remaining useful life based upon condition and performance
 - (d) A prioritization of assets based on criticality and condition assessment.
- (4) Operation and maintenance programs.
 - (a) Standard operating procedures for daily operation of the facility.
 - (b) Maintenance schedules or supporting documentation of the maintenance performed for each of the following as applicable:
 - (i) Wells, all raw-water reservoirs and intakes.
 - (ii) Pump stations.
 - (iii) Electrical equipment and controls.
 - (iv) Water treatment facilities.
 - (v) Water storage tanks and/or hydropneumatic tanks.
 - (vi) Distribution system components, including hydrants and valves.
 - (vii) Auxiliary power.
 - (c) Demonstration of an adequate maintenance log.
- (5) Emergency preparedness and contingency planning program. 3745-87-03
 - (a) Community public water systems shall prepare a written contingency plan meeting the requirements of Chapter 3745-85 of the Administrative Code.
 - (b) Non-community public water systems shall prepare a written contingency plan in accordance with paragraphs (B), (C)(1), (C)(2), (C)(4), (D)(3), (D)(4)(c), (D)(4)(d), (D)(4)(e), (D)(4)(g), (D)(4)(h), (D)(4)(i), (D)(4)(j), (D)(12), (D)(13), (D)(14), (G)(1) and (G)(2) of rule 3745-85-01 of the Administrative Code.
- (6) Source water protection.
 - (a) The public water system shall review the source water assessment annually and every five years shall evaluate the assessment to determine if revisions are necessary. If revisions are deemed necessary, the public water system shall request, in writing, a consultation with Ohio EPA on any suggested revisions. If Ohio EPA determines that re-assessment is necessary, the re-assessment shall be conducted by Ohio EPA or under guidance provided by Ohio EPA.
 - (b) Community and non-transient non-community public water systems that have an endorsed drinking water source protection plan, shall review the protection plan as stated in the plan and revise the plan as necessary.
 - (c) Community and non-transient non-community public water systems that have an endorsed drinking water source protection plan that does not include a review schedule, shall review the protection plan every three years and revise it as necessary.
 - (d) Public water systems that have a drinking water source protection checklist that has been submitted and accepted by Ohio EPA, the water system shall review and update the checklist every five years.
 - (e) A revised drinking water source protection plan or checklist shall be submitted to Ohio EPA within sixty days of making the revisions.
- (7) Approved capacity projections, including.

- (a) Written approved capacities of small public water systems using only ground water (such as factories, mobile home parks, office buildings, restaurants, condominiums, and the like) will be established in accordance with Ohio EPA's "Guidelines for Design of Small Public Water Systems." Written approved capacity projections for all other water systems shall meet the requirements of Ohio EPA's "Planning and Design Criteria for Establishing Approved Capacity for: 1) Surface Water And Ground Water Supply Sources, 2) Drinking Water Treatment Plants (WTPs), and 3) Source/WTP Systems."
- (b) Identification of infrastructure needed to meet written approved capacity projections.
- (8) Criteria and timelines for infrastructure rehabilitation and replacement.
 - (a) Identification of, and a schedule for needed repair, rehabilitation, replacement and expansion of existing assets and prioritized to address the most critical needs.
 - (b) Identification of funds that will be collected or set aside for repair, rehabilitation, replacement or expansion of existing assets.
- (9) Capital improvement plan (CIP). 3745-87-03
 - (a) A CIP shall include annual projections for a three to five-year planning period with detailed expenditures in each of those time frames.
 - (b) The projects should be listed by the year in which they are planned and include, at a minimum, the following information:
 - (i) Description of the project.
 - (ii) Need for, and benefits of, the project.
 - (iii) Estimate of project cost, including engineering design and construction.
 - (iv) Funding sources.
 - (c) A description and estimated cost of significant projected projects for the next five to twenty years.
- (C) In order to demonstrate adequate financial capacity, water systems shall include a long-term funding strategy to support asset management plan implementation, including, but not limited to, the identification of sources and amounts of funds to finance the needed repair, rehabilitation, replacement or expansion of assets, including debt service.
 - (1) New publicly owned public water systems shall include a five-year pro forma statement of the next five years of operation, which includes the following:
 - (a) An income statement, balance sheet, and statement of cash flow pertaining to the water operating fund.
 - (b) An amortization schedule of all water system debt including terms of all outstanding debt.
 - (c) Capitalization terms of long-term debt anticipated to be incurred in the next five years of operation.
 - (d) The current water rate ordinance in effect including any planned periodic increases of the rate, as applicable.
 - (e) Documentation of triennial water rate evaluation, as applicable.
 - (f) Documentation of all customers being billed for water usage, as applicable.
 - (g) Any existing information demonstrating bond or credit rating.
 - (2) Existing publicly-owned public water systems shall include all of the following:
 - (a) All the items listed in paragraph (C)(1) of this rule.
 - (b) The most recent five years of annual financial reports, as required by section 117.38 of the Revised Code, or substantively equivalent documents which describe the performance of the owner and the water system.
 - (3) New non-publicly owned public water systems shall include all of the following:
 - (a) A demonstration of the cost of the water treatment components and the conveyance system including capitalization terms or lump sum debt retirement option if selected.

- (b) A demonstration of an adequate budget and revenue sources to support the annual operation and 3745-87-03 5 maintenance costs of the system for the next five years of operation including the following:
 - (i) Cost of required level certified operator coverage.
 - (ii) Capitalization terms of anticipated long-term debt incurred in the next five years of operation.
- (4) Existing non-publicly owned public water systems shall include all of the following:
 - (a) All the items shown in paragraph (C)(1) of this rule.
 - (b) Type of business organization and historical origination date; including the legal document establishing the corporate structure. (c) The most recent five years of annual financial statement documentation which describe all assets, liabilities, income, expenditures, balances and equity of the water system.

[Comment: "Guidelines for Design of Small Public Water Systems (2015)" can be found at <http://epa.ohio.gov/ddagw/Engineering#176079933-standards-policies-guidance-and-white-papers> and "Planning and Design Criteria for Establishing Approved Capacity for: 1) Surface Water And Ground Water Supply Sources, 2) Drinking Water Treatment Plants (WTPs), and 3) Source/WTP Systems (March 2010)" can be found at <http://epa.ohio.gov/ddagw/Engineering#176079935-approved-capacity>]

Appendix J – Acronyms

American Water Works Association (AWWA)
Community Water System (CWS)
Comprehensive Plant Evaluations (CPEs)
Division of Drinking and Ground Waters (DDAGW)
Equivalent Dwelling Units (EDUs)
Great Lakes Rural Community Assistance Program (GLRCAP)
Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers (GLUMRB)
Interim Enhanced Surface Water Rules (IESWTR)
National Sanitation Foundation (NSF International)
Non-Transient Non-Community Water System (NTNCWS)
Ohio Revised Code (ORC)
Ohio Administrative Code (OAC)
Ohio Environmental Protection Agency (OEPA)
Ohio Department of Natural Resources (ODNR)
Ohio Emergency Management Association (OEMA)
Ohio Section of the American Water Works Association (OAWWA)
Ohio Rural Water Association (ORWA)
Operator Training Committee of Ohio (OTCO)
Public Utilities Commission of Ohio (PUCO)
Public Water Supply (PWS)
Safe Drinking Water Act (SDWA)
Significant Non-Compliers (SNCs)
Small Communities Environmental Infrastructure Group (SCEIG)
Surface Water Treatment Rules (SWTRs)
Recommended Standards of Water Works (RSWW)
United States Environmental Protection Agency (USEPA)
Water Supply Revolving Loan Account (WSRLA)

