

Michigan Department of Environment, Great Lakes, and Energy
Drinking Water and Environmental Health Division

CAPACITY DEVELOPMENT STRATEGY FOR PUBLIC WATER SYSTEMS

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LIST OF ACRONYMS

Act 399	Michigan Safe Drinking Water Act, 1976 PA 399, as amended
AL	Action Level
AMP	Asset Management Program
AWWA	American Water Works Association
CA	Capacity Assessment
CDP	Capacity Development Program
CIP	Capital Improvement Plan
CP	Capacity Plan
CWS	Community Water Supply
CCR	Consumer Confidence Report
DWSRF	Drinking Water State Revolving Fund
DWEHD	Drinking Water and Environmental Health Division
ED-9	Executive Directive No. 2021-9 (November 4, 2022)
EGLE	Michigan Department of Environment, Great Lakes, and Energy
ETT	Enforcement Targeting Tool
LHD	Local Health Department
MCL	Maximum Contaminant Level
MRWA	Michigan Rural Water Association
MOR	Monthly Operating Report
NCWS	Noncommunity Water Supply
NTNCWS	Nontransient Noncommunity Water Supply
PFAS	Per- and Polyfluoroalkyl Substances
PWS	Public Water Supply
PWSS	Public Water Supply Supervision
RCAP	Rural Community Assistance Program
SDWA	Federal Safe Drinking Water Act
SWA	Source Water Assessment
SWP	Source Water Protection
TA	Technical Assistance
TMF	Technical, Managerial, and Financial
TNCWS	Transient Noncommunity Water Supply
TT	Treatment Technique
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WHP	Wellhead Protection Program

1. INTRODUCTION

The 1996 Amendments to the federal Safe Drinking Water Act (SDWA) require each state to develop a program to assist existing Public Water Supplies (PWS) in acquiring and maintaining technical, managerial, and financial (TMF) capacity. This program places emphasis on the prevention of water supply problems and encourages proper management to ensure a safe, reliable, and abundant supply of drinking water to all customers. The capacity development provisions of the SDWA focus on the enhancements and maintenance of the TMF capabilities of PWSs.

Section 1420(c)(1)(C) of the SDWA requires that states develop and implement a strategy to assist new and existing PWSs in acquiring and maintaining TMF capacity. The State of Michigan risks losing 20 percent of the annual allotment for the Drinking Water State Revolving Fund (DWSRF) if it does not develop and implement a capacity development strategy for new and existing supplies.

In response to this requirement, in 2000, Michigan published its first Capacity Development Strategies, one for existing water supplies and one for new water supplies. The 2018 America's Water Infrastructure Act, Section 2012, requires state drinking water programs to consider, and include as appropriate, asset management into state capacity development strategies by December 31, 2022.

States are required to include the following elements of a capacity development program (CDP) in their strategy:

1. Identify and prioritize supplies in need of improving capacity;
2. Identify the factors that encourage or impair capacity development;
3. Describe the methods the State uses to implement the strategy;
4. Describe metrics used to measure effectiveness of the strategy;
5. Identify the involvement and participation of stakeholders in the creation and updates of the strategy; and
6. Asset management promotion.

This document describes the methods and tools that are currently used, and will be used in the future, to implement Michigan's Capacity Development Strategy. Because Michigan contracts with local health departments (LHD) to provide regulatory oversight and technical assistance (TA) to Noncommunity Water Supplies (NCWS), the Capacity Development Strategy for Existing Noncommunity Water Supplies is described separately in a section immediately following the conclusion of the strategy for Community Public Water Supplies. A glossary of terms used in this document can be found in Appendix A.

2. STAKEHOLDER PARTICIPATION

Development of Michigan's Capacity Development Strategy and updates in 2021 involved stakeholder engagement. More information regarding the stakeholder process can be found in Appendix B.

3. STRATEGY IMPLEMENTATION

There are two key elements to establishing and maintaining adequate capacity in water supplies; those elements are the basis of this strategy. The first is to ensure that a new water supply has sufficient TMF before they begin serving water, and the second is to identify existing water supplies that are struggling with maintaining TMF capacity and offering them assistance.

3.1 NEW WATER SUPPLIES

Implementation of this Capacity Development Strategy for new water supplies involves several steps. This strategy outlines the steps that are taken by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) staff to ensure a water supply has adequate capacity before they begin serving water. In addition, a separate guide for new water supplies is available on EGLE's dedicated Capacity Development website ([Capacity Development \(michigan.gov\)](http://CapacityDevelopment.michigan.gov)). This guide offers more details for the water supply and consultants about what to expect during the capacity assessment (CA) process.

There are four control points for all new water supplies. They must adequately complete all four before the water supply may begin serving water. The four control points include:

1. Having an approved capacity plan (CP), which includes a CA conducted by EGLE staff.
2. Issuance of a construction permit.
3. Satisfactory onsite inspection of construction.
4. Receive approval to commence operation.

The main control point EGLE uses to help ensure that new water supplies begin operations with adequate TMF capacity is for all new supplies to have an approved CP. A CP at a minimum would include the following:

For Technical Capacity

- a. Project summary and planning data
- b. Analysis of source water, including demonstration of compliance with large quantity water withdrawal requirements
- c. Water use projections and basis for projections for initial, 5-year, and 20-year demand
- d. Demonstration of adequate capacity under initial, 5-year, and 20-year projected demand conditions for sources, treatment, pumping, storage, and distribution system
- e. Technical plans and specification, basis of design and the materials, methods, and procedures used in construction
- f. Chemical analyses of the proposed source(s)

For Managerial Capacity

The following are due with the application for a construction permit.

- a. For privately owned water supplies:
 - I. Resolution from the local government unit indicating their refusal to own or operate the proposed PWS.
 - II. Stipulation to conditions ensuring the PWS will meet the requirements of the Michigan Safe Drinking Water Act, 1976 PA 399, as amended (Act 399).
 - III. Proof of establishment of an escrow fund. This does not apply to licensed facilities.

The following are due prior to the final onsite inspection.

- b. Clear description of ownership
- c. Designation of a certified operator
- d. Sample Site Plans
- e. Emergency Response Plan
- f. Cross Connection Control Program
- g. Operation and maintenance procedures
- h. Plan for providing legal doctrines, including plans and/or policies for rate structures and fees, extending water service, shut-off for nonpayment, metering, responsibilities of the water supply and of customers, water conservation, and efficiency.
- i. General layout of the system (or as-built drawings) showing locations and capacities of sources, treatment systems, storage facilities, pumping facilities, distribution system (including water main location, size, material, and age; valves; hydrants; pressure district service area boundaries with hydraulic analysis; and service area boundaries at initial, 5-year, and 20-year projections), and backup power systems.
- j. Planning documents, if applicable, such as regional plans, zoning plans, land use plans, and source water protection (SWP) plans. A capital improvement plan (CIP) would be appropriate for a new municipal water supply with existing infrastructure. A new municipal water supply with all new infrastructure may fulfill the CIP requirement in the financial plan showing capital replacement needs for a five-year planning period.

For Financial Capacity

The following is due with the application for a construction permit.

- a. An analysis comparing the development of the proposed, new PWS to consolidating with an existing, reasonably available PWS.
- b. Acknowledgement of the annual fee.

- c. Approval of a financial plan demonstrating that revenues will be sufficient to cover expenses, including funding operation and maintenance and capital replacements for a five-year planning period.

In addition to construction permits, all new water supplies (Community Water Supplies [CWS] and Nontransient Noncommunity Water Supplies [NTNCWS]) must complete and pass a CA before beginning operations. A CA is defined as an evaluation of the TMF capacity of a CWS or NTNCWS to comply and maintain compliance with all the requirements of Act 399 and the administrative rules promulgated under the Act (Act 399 Rules). The new supply CA includes a water supply submitting information about their TMF capacity. The criteria used to assess the TMF capacity includes:

- **Technical Criteria:** The demonstration of technical capacity is accomplished by documenting that the supply has an adequate and reliable source, has the needed infrastructure, and has the capability for proper operation and maintenance.
- **Managerial Criteria:** The demonstration of managerial capacity is accomplished by documenting that the water supply has the institutional and administrative capabilities to achieve and maintain compliance with Act 399.
- **Financial Criteria:** To establish adequate financial capacity, supplies are required to demonstrate they have adequate revenues to meet all projected expenses in operating and maintaining the supply. The criteria require the submission of a projected five-year budget including revenues, reserves, and a capital replacement plan. This information is required as part of the budget plan.

After construction of a water supply is complete and the CP is approved, a final inspection can be conducted.

3.2 EXISTING WATER SUPPLIES

The Capacity Development Strategy implementation for existing water supplies begins with the determination of the PWSs that are *most* in need of improved TMF capacity. To make this determination, it is necessary to identify what information EGLE already has regarding the condition of the CWSs. The State of Michigan has conducted a water supply regulatory program since 1913 that has included consultation and TA. This program is in addition to the regulatory oversight responsibilities associated with the federal and state Safe Drinking Water Acts. A primary component of this TA program is the routine surveillance visit and sanitary survey conducted at each CWS. In Michigan, surveillance visits and sanitary surveys are performed at all PWSs on a routine basis. A sanitary survey, which is required under the federal and state Safe Drinking Water Acts, is required once every three years. These visits and surveys serve to detect construction, maintenance, and operational deficiencies before the water supply poses a public health threat. By conducting routine visits and surveys on a recurring cycle, recent improvements and new construction can be inspected for conformance and acceptability, and any deterioration of facilities, failings in operation, or lack of

maintenance can be detected. In addition, these visits provide an opportunity to build and strengthen relationships between EGLE and CWSs.

EGLE continuously updates and improves the sanitary survey process. Most recently, EGLE has worked to standardize the sanitary survey process across all the district offices by revising the questions and creating a checklist format. The sanitary survey process results in the accumulation of significant technical and managerial capacity information, and some financial capacity data. Experience has demonstrated that when a supply is found to be lacking in technical or managerial capacity, the problems can often be traced to financial deficiencies as well. It is noted that federal guidance does not require a comprehensive CA of every existing supply, but only for those supplies identified as needing assistance. When an evaluation of an existing supply reveals problems that create difficulty in providing safe drinking water, an in-depth financial CA may be initiated.

Another source of information that is readily available to EGLE is compliance data. Because EGLE has systems in place for dealing with acute risks to public health (both those that result from violations and those that may arise from emergencies), this strategy will not address these situations, except to take into account reoccurring situations that may indicate a lack of TMF capacity. Examples of immediate actions undertaken when circumstances warrant are boil water advisories, public notification, system flushing, and emergency disinfection. Circumstances that warrant these actions in a PWS include the loss of system pressure or the detection of unacceptable levels of contaminants in the water supply. These emergency situations are better handled through the current regulatory process and will not be included in the CDP. However, compliance data will often serve as an excellent indication that a water supply lacks adequate capacity. Repeated failure to monitor, sporadic recurrences of coliform bacteria in the distribution system, extended periods without a certified operator, inconsistencies in chemical application rates, and other similar symptoms should trigger an assessment of a system's capabilities when they have not already been identified during the routine visit or sanitary survey.

Capacity issues can occur in water supplies of any size, as has been well documented over the past decade. Therefore, it was decided that population served will not be used to determine if a supply needs a CA.

4. SCREENING OF PUBLIC WATER SUPPLIES FOR CAPACITY ASSISTANCE

A critical piece of the state's capacity development strategy is identifying and prioritizing those PWSs that are most in need of improving their TMF capacity. In addition to the annual capacity development report which identifies water supplies that have scored greater than 11 on the United States Environmental Protection Agency's (USEPA) Enforcement Targeting Tool (ETT), EGLE will implement a periodic review of water supplies with the purpose of identifying water supplies most in need of attention. The following information may be used to assist with the prioritization of water supplies on a periodic basis.

1. Sanitary Survey and Surveillance Visits
 - Failure to provide adequate firm capacity to meet demands
 - Lack of Contingency, Sample Siting, or CIPs
 - Lack of Cross Connection Control Plan and Annual Reports
 - Lack of General Plans or Reliability Studies
 - Number of deficiencies (significant or minor) identified
 - Violation of Operator Certification Requirements
2. Compliance Information
 - Maximum Contaminant Level (MCL) Exceedances
 - Waterborne Disease Outbreaks
 - Action Level (AL) and/or Treatment Technique (TT) Violations
 - Monitoring and/or Reporting Violations
 - Failure to obtain and/or Violation of Construction Permits
3. Construction Permit Bans/Warning Letters
4. Operation and Maintenance Problems
 - Lack of Hydrant and Main Flushing
 - Lack of Valve Turning Program
 - Lack of Pump and Motor Maintenance
 - Frequent Main Breaks
 - Failure to submit Monthly Operating Reports (MOR)
 - Inadequate Recordkeeping
5. EGLE Program Staff Input

Using this information, water supplies will be categorized to allow EGLE staff to best prioritize their efforts and attention.

5. CANDIDATES TO PARTICIPATE IN CAPACITY DEVELOPMENT PROCESS

EGLE staff work continuously with all water supplies to improve capacity during regular site visits, sanitary surveys, and training sessions. Sanitary surveys and site visits provide an opportunity to identify candidates for CA. Water supplies that have been identified as at risk for lack of TMF capacity will be prioritized to receive additional assistance from EGLE staff, and/or be referred to a TA provider such as the Rural Community Assistance Program (RCAP) or the Michigan Rural Water Association (MRWA). While a cooperative approach to enhancing TMF capacity is the preferred route, escalated enforcement actions including Administrative Consent Orders can be used.

6. TOOLS AVAILABLE TO BUILD CAPACITY

EGLE can direct water supplies to available resources and tools to help build, maintain, or enhance TMF capacity. The use of self-assessments and guidance on budgeting and

long-term planning may be recommended for supplies that have been identified as having financial difficulties in meeting all water supply needs. Other tools may be broadly applied to assist in building capacity, such as regional meetings and trainings that help water supplies prepare and plan for upcoming regulations.

Michigan's existing capacity development tools include:

- Sanitary Surveys and surveillance visits conducted by EGLE district staff or their agents for the purpose of evaluating the conditions of existing PWSs.
- Plan Review and approval performed by EGLE district staff or by LHDs for all new construction in PWSs.
- One-on-one TA and Consultation between EGLE district and central staff and water supply personnel to assist in the understanding of and compliance with state and federal requirements.
- Other EGLE Drinking Water and Environmental Health (DWEHD) PWS program efforts, including:
 - Monitoring letters and schedules that facilitate compliance and budgeting
 - Well site inspections and approvals
 - Review of Master Plans and Engineering Studies to assure regulatory compliance and optimum performance
 - Consumer Confidence Report (CCR) assistance
 - MOR review to assure compliance with TTs and to evaluate treatment processes for optimal operating practices
 - Emergency Planning and Response assistance for responding to public health threats
 - Cross connection control guidance through annual seminars and the Cross Connection Rules Manual
 - Guidance documents for completing required contingency plans and sample site plans
- Enforcement Activities of the DWEHD to assure compliance
- Contracted TA (through the DWSRF set aside funds) for small community and NTNCWSs
- Operator certification and training conducted by EGLE, with staff from both the Environmental Support Division and the DWEHD participating in the training and certification process. EGLE staff prepare the certification examinations to ensure that supply operators will be evaluated on the basis of current operational practices.
- Creation of a detailed operator designation form which requires owners to designate the different responsibilities of the water supply operation, such as MOR reporting, cross connections, CCR creation and distribution, etc. The detailed form is intended to clarify roles and reduce confusion which should improve compliance.
- The DWSRF has been a significant tool for supplies building capacity, both through loans for system improvements and by using set asides for other activities, including the aforementioned TA activities, as well as the programs below:

- SWP efforts
- Wellhead Protection matching grants
- Source Water Assessments (SWA) of regional aquifers and surface water sources
- Expanded Operator Certification and Training
- TA in preparing project plans for systems applying for a DWSRF loan
- CDP implementation
- Stakeholder organization activities that assist water supplies in meeting the SDWA requirements, including:
 - Training in operational responsibilities such as valve turning, hydrant flushing, leak detection, cross connection control, record keeping systems, etc.
 - Consultation from circuit riders on operation and maintenance matters
 - Determining rate structures
 - Mentoring through the use of experienced operators assisting others upon request
 - Proactive training about proposed or new regulations and their impact
 - Assistance in wellhead capture zone delineation
 - Engineering assistance
- Asset Management Plan (AMP) requirement
 - Required for all supplies serving greater than 1,000 people
- AMP promotion
 - Direct water supply assistance by EGLE staff
 - Training
 - Promotion of tools
 - Help with plans

7. ASSET MANAGEMENT PROGRAM

The Act 399 Rules define an AMP as, “a program that identifies the desired level of service at the lowest life cycle cost for rehabilitating, repairing, or replacing the assets associated with the waterworks system.” The requirements for an AMP are outlined in Rule 1606 of the Act 399 Rules, and as of January 1, 2018, all CWSs with a population greater than 1,000 are required to have an AMP. Guidance on the submission of an AMP was developed and made available to CWSs in August of 2017. The AMP is part of a CWS’s General Plan; as part of the General Plan the AMP is required to be updated at least every five years.

The asset management requirement framework, which is built upon five core elements, guides CWSs through the process of developing an AMP. The five core requirements include:

- A. A summary detailing the system used to maintain an inventory of assets. Priority shall be given to an inventory of source, treatment, pumping, and distribution system assets.
- B. A summary describing the method used to assess the criticality of assets considering the likelihood and consequence of failure.

- C. A statement of level of service goals.
- D. A CIP that identifies waterworks system needs for 5-year and 20-year planning periods. A publicly owned or operated supply shall comply beginning January 1, 2016. A privately owned supply shall comply beginning January 1, 2018.
- E. A summary detailing the funding structure and rate methodology that provides sufficient resources to implement the AMP.

In addition, a CWS that serves 1,000 or fewer people and that is publicly owned and operated shall include in the General Plan a CIP that identifies waterwork system needs for 5-year and 20-year planning periods.

As part of the AMP rule adoption significant effort was made to help educate water supplies on the five core principals of asset management and the new requirements. This included the development of tools, trainings, engagement of TA providers to give trainings and TA, and DWSRF loans to help with the cost of the activities. An AMP dedicated website ([Asset Management \(michigan.gov\)](http://Asset Management (michigan.gov))) has been developed and retains the available tools, resources, guidance, and training materials.

An AMP should be updated continually to reflect the addition of new assets, changes in condition to existing assets (such as repairs, replacement, or degradation), changes to project schedules, and changes to funding resources. Supplies should update their AMP at least annually to account for budget cycles and rate changes, and to inform and update “rolling” or annual CIPs. While an effective AMP will receive frequent updates by the water supply, the document submitted to EGLE should be updated whenever the General Plan is updated, at a minimum. This is usually no less frequent than every five years (to coincide with the reliability study update), but an update can be requested when deemed necessary by EGLE.

8. ASSET MANAGEMENT PROMOTION

While there is a requirement for CWSs serving greater than 1,000 people, a significant portion of supplies in Michigan serve fewer than 1,000 people. EGLE believes that AMPs can help water supplies of all sizes and are therefore also actively encouraging water supplies of all sizes to develop an AMP. EGLE is going to continue to promote AMPs to all water supplies, but specifically to small water supplies serving fewer than 1,000 people. Promotion activities include, at a minimum, training by EGLE and TA providers or one-on-one assistance from EGLE and TA providers. This may also include the addition of questions about asset management into the operator certification exams. Additional resources specific to small water systems are made available on EGLE’s dedicated AMP website.

One-on-one assistance from EGLE and TA providers can take the form of assisting with the creation of an AMP or educating parts of the organization. A frequent obstacle for water supplies trying to establish an AMP are the governing bodies that approve budgets. This includes condominium associations, city/township/village councils, or others. A frequent activity for both EGLE staff and TA providers is to attend these board/council meetings to teach members about AMPs and water supply operations to

help them understand the need and benefit of an AMP. This is often a successful method of getting the board to approve the funds and effort needed to establish an AMP.

9. PROMOTING TECHNICAL CAPACITY THROUGH WORKFORCE DEVELOPMENT

Water supplies across Michigan are currently facing the challenge of recruiting, training, and retaining employees. EGLE recognizes how crucial a certified operator is to help a water supply gain and maintain technical capacity. Although having a certified operator is critical, there is, or may be in the near future, a shortage of certified operators. This shortage will put water supplies at risk of having technical capacity issues. Therefore, EGLE is committed to facilitate and promote workforce development. EGLE will work with trade associations and TA providers on training or other promotion activities. EGLE will also support and work to remove any barriers to public-private partnerships and state and local collaborations.

An example of this work, which can hopefully be expanded or replicated in the future, is a new partnership between a city and a local community college. The community college has an established water and wastewater operator training program, and the city had a great need for qualified operators. EGLE, along with support from the USEPA, helped to introduce the community college to the city to discuss setting up an apprentice program for local high school students. This program began in 2021 and is expected to see their first round of graduates shortly.

If this program proves to be successful, it could be used as a model in other areas of the state, especially in more rural areas where it is especially difficult to recruit certified operators. Although EGLE cannot force such relationships and programs, using our knowledge of existing programs throughout the state we can help educate water supplies, cities, and institutions about the benefits and logistics.

10. PROMOTION OF WATER SUPPLY PARTNERSHIPS

Water supply partnerships can be a useful tool and, in some cases, a necessary tool to sustain PWSs in many parts of Michigan. Several challenges that can be addressed with partnerships include:

- Decreased demand resulting in excess capacity
- Increasing number of regulations for supplies to manage
- The increased cost of running a utility due to aging infrastructure or scarcity of quality source water
- Deficit of qualified/knowledgeable certified operators
- Ability to improve financial borrowing capacity

When a CWS enters into a partnership there can be immediate and long-term benefits for the supply, customers, and EGLE. CWSs that engage in partnerships can benefit in short- and long-term savings, improved customer service, increase capacity for future operations planning, and increase in TMF capacity. Partnership benefits that can be

seen by the customer can include improved water quality and increased reliability of water service. As a result of partnerships, EGLE may see improvements in compliance, potential reduction in the number of regulated systems, resource savings, and improved relations.

The types of partnership opportunities range from mutual aid agreements, sharing services, sharing equipment, forming water utility authorities, to full consolidation.

One specific model that has been successful in enhancing supply's TMF capacity has been the water supply authority. A water authority can allow the member supplies to each maintain their own autonomy, while gaining the financial benefits of being part of a larger organization. These water supplies can also share central administrative tasks (such as billing and human resources), along with equipment. This could allow a water supply that previously did not have the funds to make equipment purchases or upgrades to do so. There are existing water authorities, ranging from just two member supplies to over one hundred supplies. While this is not the only model, it has been effective and is therefore something that EGLE supports moving forward.

In addition, EGLE recognizes there may be times when it makes the most sense from a capacity perspective for a water supply to no longer exist on its own, and to instead become part of another neighboring water supply in a regionalization effort. EGLE has incentivized this work in the past using DWSRF loans and may use this tool again in the future.

10.1 IDENTIFICATION OF FACTORS THAT ENHANCE OR IMPAIR CAPACITY DEVELOPMENT

The SDWA amendments of 1996 required each state to identify the factors that either encourage or impair the TMF capacity of PWSs. The factors operating at the federal, state, and local level that impair or enhance capacity are presented in this section. They are:

- Institutional: Intergovernmental, cultural, procedural, or relationship issues that either enhance or impair the ability of water supplies to acquire and/or maintain TMF capabilities.
- Regulatory: Federal, state, or local rules and regulations that affect TMF capacity.
- Financial: Financial practices, policies, or conditions that affect TMF capacity.
- Tax: Federal, state, or local taxation practices, policies, or attitudes that affect TMF capacity.
- Legal: Federal, state, or local statutes, interpretations of laws, and court decisions that affect TMF capacity.

Listed below are examples of some of the many enhancements and impairments to TMF capacity in the State of Michigan.

Federal Enhancements to TMF Capacity

Institutional Enhancements:

- USEPA funding to states for the PWS program and to other TA organizations such as the MRWA provides support for building TMF capacity at the water supply level.

Regulatory Enhancements:

- The SDWA has provided a statutory and regulatory basis for what states and local water supplies must do at a minimum to provide a reliable and trusted source of drinking water.
- The amount of research and the commitment by the USEPA to work with states and the regulated community through Technical Advisory Workgroups when establishing national drinking water standards is an enhancement to TMF capacity.
- Regulations are developed in a manner that should assist supplies in prioritizing issues that need to be addressed in providing safe drinking water to the public.

Financial Enhancements:

- Continued funding of the PWS Grant for State programs is an important enhancement to running the state's CDP.
- The DWSRF set asides that may be used for CDPs and TA activities are enhancements to capacity building.
- Low interest loans and principal forgiveness through the DWSRF for capital improvements can assist in building capacity of an existing supply.
- In the early 2020s, an increase in nationwide funding for infrastructure improvements, specifically money allocated for improvements to drinking water infrastructure.

Federal Impairments to TMF Capacity

Institutional Impairments:

- The USEPA's headquarters serves the needs of all primacy agencies in the country, and therefore sets policies and procedures that work for the majority of situations. Rules and regulations are promulgated by the USEPA in a way that does not always address the widely different, and sometime conflicting, priorities of states. Each state is unique in their ability to implement rules and regulations, and this results in different impacts which is, at times, challenging.
- The USEPA does not always provide consistent guidance which hinders the states' ability to make regulatory decisions.

- The extended time periods between a proposal for and adoption of drinking water standards and rules can cause problems for states and local water supplies. The process often generates awareness of a pending standard but will not necessarily provide information on how to deal with the interim period before the supply has to be in compliance even though the public will be aware of the health risk.
- Increased number of federal regulations and continuous changes in regulations and rules create difficulties for both state regulators and regulated supplies.
- The increase in complexity of regulations require significant resources at state and local water supplies to interpret and implement them.
- Ongoing regulatory and technology changes make it challenging to maintain a robust and fully modernized data management system to facilitate program implementation.

Financial Impairments:

- The procedural requirements of the DWSRF are impairments to TMF capacity building. Supplies will often only consider the DWSRF as a funding source after easier financial services are explored.
- The lack of coordination between financing programs for drinking water supplies by the federal government is an impairment to capacity building efforts.
- The current funding levels requested by the USEPA and approved by Congress are clearly inadequate to meet the funding needs for capital improvements identified in the USEPA drinking water needs survey. Both grant and DWSRF loan programs should be enhanced to remove this financial impairment to building capacity.
- The USEPA has not increased its PWSS Grant adequately to keep pace with the state's expanded responsibilities under the SDWA

State Enhancements to TMF Capacity

Institutional enhancements:

- The joint administration of the DWSRF between EGLE and the Michigan Municipal Bond Authority enhances, ensures, and/or builds financial capacity.
- EGLE's strong commitment to training drinking water operators provides for enhanced capacity by providing well trained, knowledgeable operators.
- EGLE's Water and Wastewater Professionals Workforce Week acknowledges and highlights the profession to encourage further growth and resources available to operators.
- EGLE's renewed relationship with TA providers provides enhanced capacity for water supplies by providing direct support to water supplies to improve their TMF capacity.
- EGLE's participation in the USEPA's Area-Wide Optimization Program (AWOP) builds staff technical capacity which, in turn, will help build the technical capacity of water supplies.

Regulatory Enhancements:

- The State has had a program for supervision and oversight of PWSs since 1913, which has historically included a TA component as one of its strongest elements. Onsite surveillance, well site approval, plan review, operation report review, sanitary surveys, and monitoring of CWSs have been performed routinely for years.
- Michigan has a strong operator training and certification program that includes requirements for certified operators in charge of distribution systems, limited treatment, or complete treatment. Water supplies serving more than 4,000 people are required to have a “back-up” certified operator. All NTNCWSs and Transient Noncommunity Water Supplies (TNCWS) employing treatment for public health protection are required to obtain a certified drinking water operator. The program also includes requirements for continuing education and designates the amount required by classification. Continuing education credit categories may include technical and managerial.
- EGLE has an active SWP program, which includes both a Wellhead and Surface Water Intake Protection program, promoted through the use of matching grants. An SWA Program is being implemented for NCWSs and CWSs that have not voluntarily participated in the Wellhead Protection Program (WHP). Surface water supplies are also being addressed in the SWA Program.
- EGLE has additional requirements imposed upon privately owned CWSs such as apartment buildings, condominiums, and subdivisions where governmental ownership and operation is not possible. Such supplies must enter into a formal agreement with EGLE stipulating the manner in which the supply will be designed, constructed, and operated before a construction permit is issued. In addition, privately owned water supplies not licensed by another state agency are required to maintain an escrow account that can be accessed by EGLE to address any major operational needs that the supply refuses to or cannot address.
- AMP requirement for all CWSs serving greater than 1,000 people.
- New regulations, including the implementation of per- and polyfluoroalkyl substances (PFAS) MCLs, and revised Lead and Copper Rule allows for water supplies to access funds to address public health concerns, which may also allow them to address technical capacity issues.
- Revisions to EGLE’s PWS classification policy to promote consistent classification of privately owned water supplies.
- Revision of financial rules (DWSRF) to make it easier and more flexible to address the current needs of water supplies.

Financial Enhancements:

- EGLE's drinking water program receives revenues from state-imposed yearly fees paid by regulated water supplies. These fees supplement the state appropriation for program activities.
- Bipartisan state funding to address drinking water infrastructure needs, including lead service line replacement.

Tax Enhancements:

- Tax exempt bonds are available to fund infrastructure projects in municipalities.
- Exemption of state sales taxes for purchasing materials and exemption of property taxation for publicly owned water supplies.

State Impairments to TMF Capacity

Institutional Impairments:

- Insufficient resources, including staff and funding, to meet the demand for technical support from local water supplies.
- The prevalence of small supplies in certain regions of the state, particularly northern Michigan, which results in a disproportionately large number of supplies for a relatively low population. This further contributes to the strain on existing resources.
- Michigan has over 10,000 noncommunity PWSs and approximately 1,300 of these supplies are nontransient. Small supplies (both community and noncommunity) face numerous and significant challenges in providing safe, reliable, and abundant drinking water.
- Ongoing regulatory and technology changes make it challenging to maintain a robust and fully modernized data management system to facilitate program implementation.

Regulatory Impairments:

- As a result of increasing state and federal regulations, more and more state resources are being spent on regulatory enforcement rather than the historic role of TA that can build and strengthen TMF capacity.
- Lack of Michigan Public Service Commission oversight of PWSs in Michigan is a major impairment to building and maintaining capacity. There is no Michigan Public Service Commission oversight of water supply revenues or rate hikes, as in many other states.
- Michigan has limited incentives to encourage or require regional water supply planning. Political, financial, and local issues can result in less than optimal sharing of resources between neighboring water supplies.
- The lack of oversight and inconsistent application of design standards in the past have resulted in the installation of sub-optimal water supplies, particularly for

non-municipal water supplies serving apartment complexes, subdivisions, manufactured housing communities, and nursing homes.

- Incorrect classification of privately owned supplies by LHD staff can lead to installation of PWSs that do not provide adequate TMF capacity as required.
- Cost and complexity of state and federal regulations can be especially challenging for small community and noncommunity supplies.

Financial Impairments:

- No uniform governmental accounting required for privately owned supplies. Financial management standards and requirements are needed, such as periodic audits.
- The DWSRF audit requirements by the bondholders are a disincentive to potential applicants.
- Insufficient funding for EGLE/LHD limits ability to provide TA to enhance TMF.
- While funding may be available from other state or federal sources such as the Michigan Department of Agriculture and Rural Development, the Michigan Department of Transportation, or the United States Department of Agriculture, the awareness and criteria can make it difficult to access.

Legal Impairments:

- Increasing awareness and challenges to program decisions and determinations strains resources and diverts resources away from other program needs.
- Regulatory constraints on funding sources can lead to difficulty funding certain types of projects. The inability of the DWSRF to be used to accommodate growth limits the consolidation of nonviable water supplies.
- Some municipal entities will not extend municipal water service without annexation, which also prevents consolidation and eliminates economically feasible solutions from being implemented.

Local Enhancements to TMF Capacity

Institutional Enhancements:

- The regional and statewide meetings of various stakeholder groups, (American Water Works Association [AWWA], MRWA, Michigan Municipal League, Michigan Townships Association, etc.), in partnership with EGLE, provide excellent training opportunities to promote TMF capacity building.
- Funding for program activities that provide training and education of employees (non-regulatory programs such as safety, maintenance, etc.) are enhancements to capacity.
- CCRs build capacity by educating the public about the water quality and the needs of the water supply. This could include infrastructure upgrades to improve water quality or meet new requirements.
- Surface water supply participation in AWOP allows for them to build additional technical capacity.

Regulatory Enhancements:

- Supplies may use local ordinances to grant authority and responsibility to conduct cross connection control programs.
- Participation of a local water supply in the USEPA Needs Survey allows them to build capacity by requiring them to identify long-term needs.

Financial enhancements:

- Municipal governments and utility board members appointed by elected officials have the authority to initiate financing for capital projects.
- The expansion of training and assistance from TA providers, related to financial management of water supplies, including asset management, has helped to build financial capacity at water supplies across the state

Local Impairments to TMF Capacity

Institutional Impairments:

- Lack of public awareness of the costs of water production, treatment, and distribution. Often, the public (as well as the governing body) is unaware of the true cost of producing safe water. Frequently, the bill is combined with wastewater, or the rate is set politically and is not reflective of the actual cost of service.
- Smaller supplies face greater challenges in maintaining adequate TMF capacity because they lack the economy of scale and resources available to larger supplies.
- A significant portion of small supplies utilize a third-party circuit rider as their designated operator. Third-party circuit rider operators who oversee a large volume of supplies tend to have more challenges with assuring each individual CWS's TMF needs are met.

Regulatory Impairments:

- Some local water supplies, particularly small and medium supplies, lack the expertise to interpret and implement new regulations and requirements.
- Many small water supplies are not in the utility business, but are public water suppliers nonetheless, such as manufactured housing communities, noncommunity supplies, etc.
- Water supplies may not always have adequate standard operating procedures to keep pace with new and changing regulations.
- Specific geological conditions or contaminations from industry can create regulatory compliance problems for local PWSs in certain regions because of elevated contaminant levels (arsenic, radionuclides, PFAS, volatile organic compounds [VOC], dioxane, etc.).

Financial Impairments:

- There are insufficient funding mechanisms for small supplies, especially for small privately owned supplies. Funding for small, low-cost projects is limited.
- Economies of scale are not available for most small supplies.
- Inconsistent availability of professional staff, across water supplies in the state, familiar with water supply financing results in underestimating supply revenue needs.
- Customer pressures to avoid cost increases prevent PWSs from keeping up with operating expenses, maintaining adequate reserve funds, and properly investing in capital facilities.
- There is no required training for financial managers of water supplies. Such training could provide knowledge in the area of financial resource management, assisting in capacity building efforts.

Legal Impairments:

- Land use planning and zoning is at local discretion. Regional cooperation in these areas could lead to more efficient expansion of water supplies to foster consolidation and water supply partnerships and avoid proliferation of small, nonviable supplies.

As part of EGLE's long-term approach to capacity development, we will continue to use the tools that encourage capacity and make improvements as needed. We will attempt to reduce or eliminate the factors that hinder supplies from obtaining adequate capacity. Part of the long-term strategy will include identifying the factors to focus on for improvement, propose solutions or methods to mitigate the problems, and direct the appropriate resources to improve or eliminate the factors that impair capacity.

Historically, Michigan has played an active role in stakeholder meetings at the national level and in the federal rule making process. Since the inception of the federal SDWA, we have expressed our position through whatever means available. This involvement continues today with state representation on the Ground Water Rule Advisory Group, the Needs Survey workgroup, the Microbial/Disinfection Byproducts Workgroup, and others. In addition, Michigan continues to participate in the Association of State Drinking Water Administrators (ASDWA) and its positions with regard to proposed legislation. We have also maintained, and continue to maintain, a presence in the Michigan Section of the AWWA.

11. METHODS FOR IMPLEMENTATION OF THE STRATEGY

There are various authorities, resources, and methods that EGLE's DWEHD is currently using to assist PWSs in complying with state and federal regulations, to encourage partnerships between PWSs, and to assist PWSs in the training and certification of operators.

In April of 1998, Act 399 was amended. Among the changes made to Act 399 were several amendments to facilitate the implementation of a CDP, including the following definitions and rules:

- From Section 325.1002 Definitions
 - Sec. 2. As used in this act:
 - (b) “Capacity assessment” means an evaluation of the technical, financial, and managerial capability of a community supply or nontransient noncommunity water supply to comply and maintain compliance with all requirements of this act and the rules promulgated under this act.
- From Section 325.1003b Department of environmental quality; powers; conduct of capacity assessment or source water assessment; availability of records to department.
 - Sec. 3b (1) The department may do 1 or more of the following:
 - (a) Conduct a capacity assessment at a community supply, a nontransient noncommunity water supply, or a public water supply applying to the department for assistance under part 54 of the natural resources and environmental protection act, 1994 PA 451, MCL 324.5401 to 324.5418.
 - (b) Conduct a source water assessment at a public water supply.
 - (c) Enter the facilities and business offices used in the operation of a public water supply.
 - (2) Public water supplies shall make available to the department records needed to conduct a capacity assessment or source water assessment. The department may request information in writing or during on-site visits to conduct capacity assessments or source water assessments.
- From Section 325.1004 Waterworks system; filing plans and specifications; general plan; evaluation of proposed system;...return or rejection of plans and specifications;...plans and specifications for improvements; permit for construction; violation; conditions for denial of permit;...
 - Sec. 4 (7) The department may deny a permit for construction of a waterworks system or an alteration, addition, or improvement to a waterworks system if the most recent capacity assessment shows that the waterworks system does not have adequate technical, financial, or managerial capacity to meet the requirements of this act and the rules promulgated under this act, and the deficiencies identified in that capacity assessment remain uncorrected, unless the proposed construction will remedy the deficiencies.

With this authority, the DWEHD has the ability to request information and make onsite visits for the purposes of performing CAs and deny a construction permit for any alteration, addition, or improvement to a waterworks system that has not demonstrated adequate TMF capacity if the proposed construction will not correct the deficiencies.

Monetary resources available to implement the capacity development strategy are provided through a number of avenues, including the Public Water Supply Supervision (PWSS) Grant and the State of Michigan appropriation to support the program. In addition, Michigan's PWSs pay an annual fee to support the efforts of the state to maintain primacy. However, much of the resources brought into this program originate with the DWSRF. Resources that are and will continue to be used include:

- Low-interest loans to PWSs to fund infrastructure improvements.
- Set aside funds that are used to provide the following services:
 - Field staff for conducting the program activities that are expected to be faced with increasing workloads generated by the capacity development efforts;
 - Continue to increase operator training and certification activities as the certification program is expanded to cover NTNCWS and the small, nonmunicipal supplies without treatment for public health purposes;
 - SWA and SWP activities, including matching grants for WHPs; and
 - Planning assistance for small communities that are applying for DWSRF loans.

Additional resources and methods for existing supplies, that will be used to aid in the implementation of Michigan's Capacity Development Strategy include:

- Continue to provide and improve DWEHD program activities with the intent to enhance the technical capacity of PWSs. These activities include:
 - Routine surveillance visits to provide TA in operational matters such as cross connection control, chemical treatment, system operation, and maintenance;
 - Conducting sanitary surveys;
 - Assisting with emergency response activities;
 - Plan review and approval;
 - Providing reminder letters for compliance activities; and
 - Providing updates on upcoming rules and regulations.
- Ongoing technical training of DWEHD staff through internal quarterly Rule School sessions and analyst and engineer meetings.
- Continue to coordinate training activities with EGLE's Environmental Support Division and other TA providers.
- Maintain a dedicated capacity development website with educational materials about the CDP.
- Maintain a dedicated website for the AMP.
- Development and implementation of new rules that will further encourage capacity development among PWSs and assist in the implementation of this strategy, such as:
 - Requiring ownership of community PWSs to be clearly identified and having the legal standing to carry out the responsibilities of a PWS;
 - Requiring standby power (or other means of reliability), contingency plans, and reliability studies of supplies currently exempted from these

- requirements (supplies serving less than 200 people or less than 50 service connections);
- Requiring Operation Plans from supplies identified as having difficulty providing adequate capacity;
- Requiring supplies to initiate review of financial data and prepare a budget plan when supplies are determined to have inadequate financial capacity;
- Requiring training for supply managers and board members; and
- Require a CWS that serves greater than 1,000 people to implement an AMP.

12. BASELINE MEASURES FOR SUCCESS OF CAPACITY DEVELOPMENT PROGRAM

A number of different factors are being used to measure the effectiveness of the CDP. It is important to look at these measures over time, and in context of new rules and regulations. This is because the promulgation of new rules, regulations, or revised practices can initially increase the number of violations, but over time these metrics will improve and ultimately improve public health and can also enhance water supply capacity. These metrics include, but are not limited to:

- Compliance data, including the number of violations for monitoring and reporting, MCLs, ALs, or TTs.
- Compliance rate for report submittal including MORs, CCRs, etc.; how many are submitted complete and on time.
- Rate of completion for supplies subject to an AMP.
- The number of sanitary surveys and routine visits performed.
- The number of deficiencies (significant or minor) or recommendations made during sanitary surveys.
- Volume of enforcement actions against certified operators.
- Enforcement information to determine the number of actions initiated against PWSs for TMF problems.
- The number of supplies that have completed or are actively pursuing an approved WHP, SWP plan, or SWA.

13. ACTIONS THAT MAY IMPACT FUTURE CAPACITY DEVELOPMENT IMPLEMENTATION

- Executive Directive No. 2021-9 (ED-9) - On November 4, 2022, Michigan's Governor Gretchen Whitmer announced ED-9. ED-9 is a directive to state departments, primarily directed at EGLE and the Michigan Department of Health and Human Services to undertake a comprehensive review of the state's role in our drinking water systems. In its entirety, the review is intended to assess and better understand the state's role in our drinking water systems. Outcomes of ED-9 are expected to have implications on future implementation of Capacity Development. ED-9 is broken into six different areas and requires the state department to conduct actions such as:

- Line-by-line review of Act 399 and the accompanying rules and make recommended statutory and administrative changes to strengthen drinking water protections and ensure the continuation of best practices that exceed what the law currently requires.
- Examination of data collection and sharing practices, with the goal of strengthening the collection and transfer of information and formalizing best practices already in place.
- Examine the opportunity for regional planning in the sourcing, treatment, and delivery of drinking water.
- Adoption and implementation of new federal drinking water regulations.
- Adoption and implementation of new state drinking water regulations.
- Availability for new or increased funding sources, including grants and loans.

14. SUMMARY

Michigan will continue to use sanitary surveys and compliance data as the basis of identifying and prioritizing supplies in need of TMF capacity assistance. The strategy will continue to incorporate some of the enhancements to TMF into the CDP while avoiding those factors that may inhibit or impair the strategy. This strategy also identifies the authority and resources of the SDWA that could be used to assist in implementation. The strategy also encourages and promotes partnerships in resolving TMF deficiencies identified to measure the effectiveness of the strategy.

EGLE's capacity development strategy was, and will continue to be, implemented by blending the specific elements in the strategy with the day-to-day operations of the DWEHD. This includes the regular TA and supervision activities, specifically sanitary surveys and routine visits. While many of the fundamental aspects of this strategy have been in practice for many years and are well integrated into the program, other elements may need to be adjusted as we discover how they work. For this reason, EGLE has designed this strategy to be adaptable in order to allow for adjustments and modifications as needed.

As discussed in the introduction to this document, the Noncommunity PWS Program in Michigan is unique. The implementation of this program is performed primarily by local health agencies covering more than 10,000 noncommunity PWSs statewide. As a result, a separate strategy is necessary for the NCWSs using the program activities performed by LHDs to provide TMF capacity assistance. This strategy is described in the next section.

CAPACITY ASSESSMENTS FOR EXISTING NONCOMMUNITY WATER SUPPLIES

METHODS OR CRITERIA USED TO IDENTIFY AND PRIORITIZE SUPPLIES

EGLE employs a comprehensive program in conjunction with LHDs to provide regulatory oversight and TA to NCWSs. These activities include sanitary surveys, annual treatment surveillance site visits, SWA, permitting for new or altered NCWSs, water sampling and water quality oversight, compliance with operator certification requirements, complaint investigation, water borne disease outbreak investigation, TA, training, and outreach.

Information from current practices will be used to prioritize NCWSs in most need of CA. EGLE will prioritize NCWSs as follows:

- Elevated ETT score and other enforcement priorities.
- NCWSs with a water borne disease outbreak, or chronic violations of acute MCL or TT violations.
- NCWSs reaching formal hearing status for enforcement of violations of the SDWA.
- Failure to designate a certified operator for supplies employing treatment to meet a drinking water standard.
- Supplies with other MCL or TT violations.
- Supplies under an AL exceedance.
- Significant deficiencies.
- Monitoring and reporting significant noncompliance.
- NCWSs brought to the informal hearing step in enforcement of violations of the SDWA.
- Chronic failure to pay annual fees, civil fines, or state laboratory analytical fees.

FACTORS THAT ENCOURAGE CAPACITY DEVELOPMENT

Michigan has an established NCWS program, and we are knowledgeable and involved with NCWSs in a wide range of activities. This facilitates incorporating appropriate capacity activities into existing services and communication channels.

Examples include:

- Sanitary survey/SWAs
- Annual treatment surveillance site visits
- Construction permit requirements for new or altered existing supplies
- Operator certification and training requirements
- Monitoring oversight
- State and local training and outreach (brochures, newsletters, websites, and training workshops)
- Occasional third-party TA contract

- Network with affiliated stakeholders, including trade associations and federal, state, and local government
- Cooperation from state licensing agencies such as food service, liquor control, child care, campground, migrant labor camps, medical facilities, plumbing, and water supply contractors, etc.

FACTORS THAT IMPAIR CAPACITY OF NCWSs

1. Lack of awareness – NCWSs are generally a business, or non-profit entity engaged in a product or service. Owners do not see themselves as supplying water to the public. It is a constant educational process that often involves enforcement to ultimately drive the message home.
2. The large number of NCWSs in Michigan greatly impairs the state's ability to communicate effectively as does the extreme diversity of the size and types of facilities. We estimate there is a 10 percent turnover rate per year in ownership or responsible charge.
3. The complexity of regulations is a very significant impairment for NCWSs. Typically, federal or state rules are written to address the technical and operational problems of CWSs. This leads to a variety of federal rules that do not directly address noncommunity problems and diverts resources for state efforts that are more beneficial.
4. Lack of resources – 77 percent of the NCWSs in Michigan serve less than 100 persons per day. The very small supplies tend to have limited financial resources and virtually no managerial or technical resources relative to supplying water to the public.

STATE ASSISTANCE FOR NCWSs

Michigan will utilize its existing programs and delivery of services to assist NCWSs to comply with regulations. These activities include sanitary survey inspections, SWAs, cross connection control inspections, permitting for new or altered noncommunity PWSs, water sampling and water quality oversight, certification for operators employing treatment for public health purposes, compliance investigation, water borne disease outbreak investigation, annual fee invoicing and collection, TA, training, and outreach.

Partnerships between NCWSs can be encouraged by educational efforts directed at organizations or associations that represent supplies with commonality, e.g., schools, day care centers, and manufacturing. Otherwise, the diversity and distribution of NCWSs does not lend themselves to this concept very well.

As per Part 19, Examination and Certification of Operators, of the Act 399 Rules, all NTNCWSs and certain TNCWSs that employ regulated treatment are required to have a designated certified drinking water operator. Oversight of the examination and renewal process is retained with EGLE, while enforcement is with LHDs. Generally, noncommunity system operators are classified as Level 5 (F, D, or S). Level 5 operators are not required to be onsite at all times; however, the supply is required to have a plan in place during any absence of the designated operator. Minimum oversight acceptable

for CWSs and NCWSs during standard operations and/or when the operator-in-charge leaves is outlined in policy. A NCWS with treatment to meet a drinking water standard or quality will require more oversight than systems with no treatment. EGLE's development of content and marketing of CWS small systems training includes NCWS Level 5 operators.

BASELINE MEASUREMENTS

Our current supply tracks violation rates for supplies statewide and by local health jurisdiction. We routinely assess compliance rates with monitoring and reporting, MCL violations, TT triggers, and with sanitary surveys. A comprehensive review of quarterly data is conducted, which includes evaluating the status of noncommunity certified operators. In addition to the annual compliance reports, we formally evaluate LHD noncommunity program performance annually, based in part on compliance rates of the NCWS in their jurisdiction. This supply will serve as the basis for measuring improvement.

IDENTIFICATION OF STAKEHOLDERS

Information pertaining to identification and stakeholder involvement can be found in Appendix C.

APPENDIX A: GLOSSARY OF TERMS

Action Level – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water supply must follow.

Boil Water Advisory – The procedure where a local or state health agency or a PWS issues an advisory that the water may not meet bacteriological standards and that water should be boiled for disinfection purposes.

Budget Plan – A plan that includes a summary of expected annual revenue sources, an accounting of anticipated and planned expense, administrative costs, capital replacement costs, and a description of the method of payment for the operation and maintenance of the water supply.

Capacity Assessment – An evaluation of the TMF capability of a PWS to comply and maintain compliance with all requirements of the SDWA.

Capacity Plan - Information required by the approval process, both for the construction permit and the final inspection, touches on the TMF components of capacity. This TMF information may be collectively referred to as the CP.

Community Water Supply – Water supply that provides year-round service to not fewer than fifteen (15) living units or which regularly provides year-round service to not fewer than twenty-five (25) residents.

Contingency Plan – A plan for use by a supplier of water in the event of an emergency.

Cross Connection – A connection or arrangement of piping or appurtenances through which a backflow could occur.

Drinking Water State Revolving Fund – A program to provide money for loans and other financial assistance.

Emergency – A situation in a PWS that results in contamination, loss of pressure, lack of adequate supply of water, or other condition that poses an imminent hazard or danger to public health

Enforcement Targeting Tool – A calculation method developed by the USEPA to track PWSs that are deemed to be significantly out of compliance with the SDWA.

Field Operations Section – The staff of the DWEHD primarily located in eight district offices throughout Michigan that help conduct the CWS Program.

Financial Capacity – The ability of a PWS to acquire and manage sufficient financial resources to allow the supply to achieve and maintain compliance with state and federal drinking water regulations.

Firm Capacity – As applied to wells, pumping stations, or units of treatment systems means the production capability of each part of the waterworks system with the largest well, pump, or treatment unit out of service.

General Plans – A plan for a PWS to include as a minimum:

- a) The general layout of the entire waterworks system, including treatment systems and distribution systems, and the location of valves, hydrants, storage tanks, watermains, and their size, pumps, wells, and pumping systems.
- b) Rated capacity of the waterworks system, including capacity of the developed water source, treatment system, storage tanks, pumping facilities, and equipment to maintain system reliability.
- c) Distribution System Materials Inventory.
- d) CWSs that have a distribution system intended to provide fire protection shall include the following:
 - a. Hydraulic analysis of the distribution system showing pressure contours under peak demands
 - b. Inventory of water main by size and material and age
 - c. Service area maps including existing and future service area boundaries
- e) AMP.

Managerial Capacity – The ability of a PWS to conduct its affairs in a manner enabling the supply to meet the requirements of the SDWA. Managerial capacity refers to the water supply's institutional and administrative capabilities.

Maximum Contaminant Level – The maximum permissible level of a contaminant in water which is delivered to any user of a PWS.

Michigan Rural Water Association – A third-party TA provider.

Monitoring Waiver – An exclusion of, or reduction in monitoring granted in accordance with Michigan's drinking water regulations. Waivers can be granted for asbestos, cyanide, nitrite, glyphosate, polychlorinated biphenyls (PCBs), and dioxin, which eliminate the monitoring requirements during a compliance period. Waivers can be granted for VOCs and synthetic organic compounds which can reduce the amount of monitoring required by a PWS

Noncommunity Water Supply – A PWS that is not a community supply, but that has not less than 15 service connections or that services not fewer than 25 individuals on an average daily basis for not less than 60 days per year.

Nontransient Noncommunity Water Supply – A noncommunity PWS that serves not fewer than 25 of the same individuals on an average daily basis over six months per year.

Operations Plan – A written document that provides guidance on daily routine and troubleshooting operations as well as information on system maintenance.

Plans and Specifications – Drawings, data, and a true description or representation of an entire waterworks system, or parts thereof, as it exists or is to be constructed and, in addition, a statement of how a waterworks system is to be operated.

Public Water Supply – A waterworks supply that provides water for drinking or household purposes to persons other than the supplier of water, except for those waterworks systems that supply water to only one living unit.

Reliability Study – A study to determine the quantity of water supply needed for the waterworks system based upon ten-year projections of water use by the PWS.

Rural Community Assistance Program – A third-party TA provider.

Safe Drinking Water Act – The federal Safe Drinking Water Act passed by the United States Congress in 1974.

Sanitary Survey – An evaluation, including an onsite review of a waterworks system, or portion thereof, for existing or potential health hazards, including sampling, design, operation, and maintenance, for the purpose of determining the ability of the PWS to produce, treat, and distribute adequate quantities of water meeting state drinking water standards.

Source Water Assessment – A state program to delineate the boundaries of areas in the state from which one or more PWSs receive supplies of drinking water, to identify contaminants regulated under Act 399 for which monitoring is required because the state has determined they may present a threat to public health, and, to the extent practical, to determine the susceptibility of the PWS in the delineated area to these contaminants.

Technical Capacity – The physical and operational ability of a PWS to meet the requirements of the SDWA.

Transient Noncommunity Water Supply – A NCWS that does not meet the definition of NTNCWS.

Treatment Technique – A minimum treatment requirement or a necessary methodology or technology that is employed by a supplier of water for the control of the chemical, physical, biological, or radiological characteristics of the PWS.

Waterworks System – A system of pipes and structures through which water is obtained and distributed, including, but not limited to, wells and well structure, intakes and cribs, pumping stations, treatment plants, storage tanks, pipelines and appurtenances, or a combination thereof, actually used or intended for use for the purpose of furnishing water for drinking or household purposes.

APPENDIX B: AVAILABLE RESOURCES

EGLE offers a variety of resources to assist PWSs in accessing information on capacity development and asset management planning.

Resources for CWS Capacity Development are available at [Capacity Development \(michigan.gov\)](https://www.michigan.gov/capacity-development)

Resources include:

- District Office Map and Addresses
- Aquifer Test Requirements for Public Water Supply Wells
- Stipulation to Conditions for a Privately Owned Type I Public Water Supply
- Stipulation to Conditions for a Licensed, Privately Owned Type 1 Public Water Supply
- Sample Siting Plan
- Emergency Response Plan
- Cross Connection Control Suggested Program and Model Ordinance
- Financial Capacity Workbook
- Capacity Assessment Checklist for New Community Water Systems
- New Systems Capacity Assessment Policy for Community Water Systems
- Grouting of Community Water Supply Wells
- Miscellaneous Helpful Information for Small Systems

Resources for CWS Asset Management Planning are available at [Asset Management \(michigan.gov\)](https://www.michigan.gov/asset-management)

Resources include:

- Submission Guidance
- Frequently Asked Questions and Answers
- Review Checklist
- Training Slides
- Guidance for Water Systems
- Workbook for Water Utilities
- EPA Asset Management 101: Basics for Small Water and Wastewater Systems

Resources available for NTNCWS Systems are available at [Noncommunity Water Supply \(michigan.gov\)](https://www.michigan.gov/noncommunity-water-supply)

APPENDIX C: PUBLIC PARTICIPATION DURING INITIAL STRATEGY CREATION AND REVISION

STAKEHOLDER PROCESS FOR 2021 REVISIONS

EGLE engaged a group of stakeholders for the revision of the Capacity Development Strategy in 2021. EGLE received assistance with the process from the Environmental Finance Center Network (EFCN) at Wichita State University. Representatives of the following organizations were invited to a virtual meeting on July 8, 2021, during which they provided input on both required and potential updates to the original Strategy.

- Michigan Department of Licensing and Regulatory Affairs
- Southeast Michigan Council of Governments
- A local health department
- Michigan Association of Local Environmental Health Administrators
- Michigan Association for Local Public Health
- Michigan Section AWWA
- Michigan Manufactured Housing Association
- Michigan Rural Assistance Program
- Michigan Rural Water Association
- Michigan Townships Association
- Michigan Municipal League
- Contract Drinking Water Operator
- CWSs
 - Large, serving >50,000 people
 - Medium, serving 3,300 – 50,000 people
 - Small, serving <3,300 people
- NCWSs

During this meeting they were asked to provide feedback on each of five proposed revisions to the Strategy. They were also invited to provide written feedback for up to two weeks after the meeting. These proposals included:

- Combining the new and existing supply capacity development strategies
- Inclusion of asset management promotion activities
- Implementation of a periodic review of water supply capacity
- Promotion of technical capacity through workforce development
- Promotion of water supply partnerships

The external stakeholders provided good feedback on this proposal and were especially supportive of the promotion of water supply partnerships, support toward workforce development efforts, and continued training for governing bodies regarding the needs of asset management. The specific examples that the stakeholder group provided heavily influenced the revisions to the Strategy.

STAKEHOLDER PROCESS FOR CREATION OF INITIAL STRATEGY

EGLE (formerly the Michigan Department of Environmental Quality), utilized the expertise and experience of stakeholders both within and outside of the agency to give feedback on the proposed revisions to the Strategy according to the provisions of the 1996 Amendments to the SDWA. Representatives of the following organizations were invited to a meeting on December 21, 1999, during which they were asked for input on each of the federal requirements to consider in developing a capacity development strategy.

- EGLE
 - Drinking Water and Radiological Protection Division (DWRPD)
 - Field Operations, Ground Water and Environmental Health Sections
 - Environmental Assistance Division
 - Municipal Facilities Section and Operator Training and Certification Unit
- Michigan Department of Consumer & Industry Services
 - Health Facilities
- Michigan Department of Treasury
 - Michigan Municipal Bond Authority
- Michigan Section AWWA
 - Chair, Chair-elect, Past-Chair, Director
 - Small Community Water Systems Committee
 - Regulatory Advisory Committee
- MRWA
- Michigan Townships Association
- Michigan Municipal League
- Michigan Community Action
- Public Sector Consultants
- Michigan Association of Local Environmental Health Administrators
- Michigan Association for Local Public Health
- Small Business Association of Michigan
- Michigan School Business Officials
- Michigan Public Service Commission
- Michigan RCAP
- Michigan Manufactured Housing Association
- PWSs (Private and Municipal)
- Michigan Consulting Engineering Council
- Michigan Professional Engineers Association
- Contractors
- Law Firms
- League of Women Voters

The purpose of this meeting was to gather input from these stakeholders on the required elements of a capacity development strategy for existing supplies. The state's

authority to conduct a CA at a CWS and NCWS was explained, including the requirement for PWSs to make available records needed to conduct a TMF CA, either in writing or during onsite surveillance visits. The five requirements a state must address were then identified and discussed. Attendees were specifically asked to provide input on the triggers that should be used to identify supplies that should be a priority for capacity assistance, and whether the state should have statutory authority to enforce these triggers. This same information was presented at the Annual Meeting of the MRWA in Midland, Michigan, on April 16, 2000, and the presentation used at both meetings was placed on the Field Operations Section website for access by interested parties. In addition, informational articles were placed in the Michigan Section AWWA publication, *WaterWorks News*, and in the newsletter of the MRWA. Both articles provided a contact for interested stakeholders to provide input and obtain further information.

At the same time external stakeholders were being asked for their input, staff of the Field Operations Section of the DWRPD were also holding information meetings to discuss the criteria that should be used to prioritize supplies in need of CA. DWRPD staff agreed that the current program of TA provided through surveillance visits, evaluations, sanitary surveys, plan review, and compliance oversight is the logical basis for identifying and prioritizing supplies in need of CA. Both the external and internal groups also agreed that significant noncompliance by a water supply should be a trigger used in the prioritization system. During this process, external stakeholders expressed the following opinions and concerns.

- There is a fine line between protecting public health and interfering with “home rule.”
- They felt strongly that any prioritization system should be public health based.
- CA should be available to address problems before they become violations.
- The CDP should use “may” versus “shall” in implementation of the strategy for existing systems.
- A willingness to participate on the part of the water supplier should be incorporated into the strategy.
- A self-assessment process needs to be available.

The internal stakeholders echoed these recommendations and emphasized that the current program of sanitary surveys and evaluations provides a sound basis for identifying systems in need of assistance. They also suggested that the priority system for the noncommunity program closely follow enforcement activity initiated by the LHD and focus primarily on nontransient water systems.

IDENTIFICATION OF STAKEHOLDERS SPECIFIC TO NONCOMMUNITY WATER SUPPLIES

Representatives of NCWS associations and owners’ groups were invited to attend the stakeholder group and participate in the process. However, a challenge with NCWSs is there are few state or national organizations that represent any significant number of NCWSs. Most of the supplies are not affiliated with any group or trade associations, and

when they are being represented, usually only a very small subset is considered “public water supplies” under state and federal definitions, so it is not an important issue with the group as a whole.