

CHAPTER 9: DRINKING WATER REGULATIONS

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Purpose and Applicability of Regulations

Manufacturers are required to supply a safe source of drinking water to their employees that is free from microbial and chemical contamination. Also, many manufacturing activities (such as in the food industry) require safe, potable water for their processes. Most manufacturers in Michigan are customers of a public water system through connection to a municipal or community water supply. However, those plants that supply their own water from a well are public water systems (called noncommunity water supplies) and must meet certain drinking water standards. Additionally, these water supplies must meet construction, operational, and sampling requirements. They must also meet both state and local ordinances regarding cross-connection control measures.



Generally, customers who buy water from a community water supply (e.g. the City of Detroit or Grand Rapids) do not have sampling requirements; however, manufacturing complexes that inject chemicals into purchased water or use the water for certain purposes, such as food manufacturing, may have additional requirements. Those requirements are the responsibility of the water supplier. The cross-connection section of this chapter is useful for the protection of your employees ([Chapter 9.6](#)).

Agencies and Their Laws and Rules

In 1974, the U.S. Congress passed the Safe Drinking Water Act. This act gave the U.S. Environmental Protection Agency (U.S. EPA) responsibility for establishing and enforcing drinking water standards nationwide. The Michigan Safe Drinking Water Act, Public Act 399, as amended, (Act 399) was enacted in 1976 and enables the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to maintain direct control over the public drinking water program in the state.

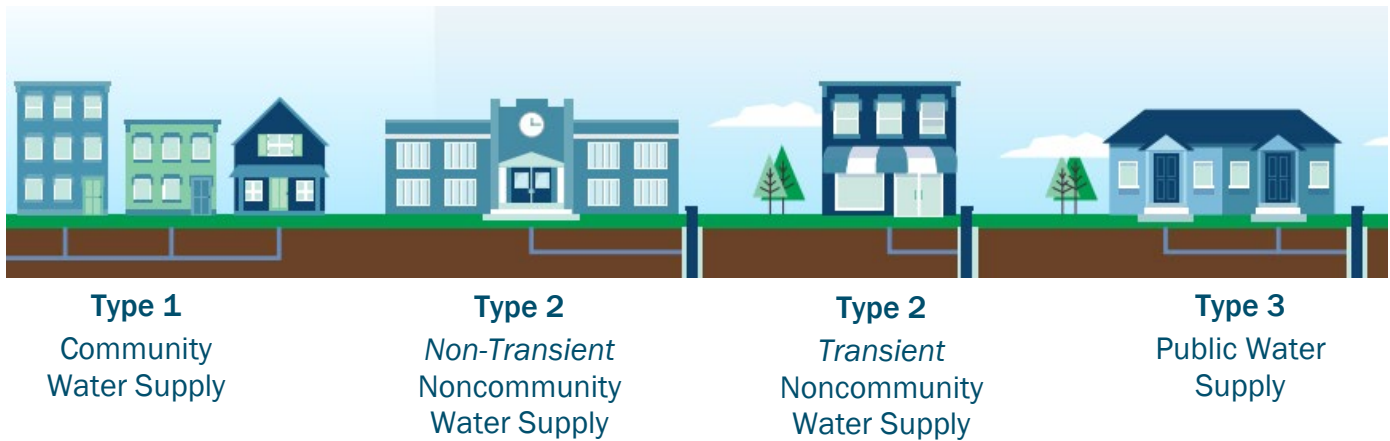
Community, or Type 1, public water supplies serve 25 or more residents or 15 or more living units year-round. These water supplies are regulated directly by EGLE staff. Noncommunity, or Type 2, public water supplies serve 25 persons or more at least 60 days per year, at facilities such as factories, schools, restaurants, campgrounds, churches, etc. EGLE contracts with local health departments to provide technical assistance and administer the noncommunity water supply regulations. Local health departments also provide services for public water supplies that serve less than 25 persons (Type 3 supplies).

In addition to requirements specific to public water supplies outlined in Act 399, water well drilling, construction, and repair standards are regulated by Part 127 (Water Supply and Sewer Systems) of the Michigan Public Health Code, 1978 PA 368, as amended (Act 368), and Administrative Rules, as amended. Also, when a well is constructed to obtain water to be used solely in a manufacturing process and not for any drinking or sanitary purposes, it is regulated under Part 127. Some examples of this include non-contact cooling water, paper and pulp manufacturing, and certain fabrication operations. More information on water well construction can be found by visiting [Water Well Construction \(michigan.gov\)](http://michigan.gov).

9.1 Types of Drinking Water Supplies

There are three [types of public water supplies](#) defined in the state of Michigan:

1. Community (Type 1) Water Supplies
2. Noncommunity (Type 2) Water Supplies
3. Type 3 Water Supplies



9.2 Community (Type 1) Water Supplies

Community (Type 1) water supplies provide year-round service to 15 or more LIVING units or 25 or more RESIDENTS. Examples include municipal water systems, apartment complexes, manufactured housing communities and subdivisions on their own water source. Source water for community supplies may be obtained from treating surface water or from groundwater wells. Generally, manufacturers are customers of Type 1 community water supplies and do not have jurisdiction over the supply itself, just their own distribution systems. A water quality report (Consumer Confidence Report) is prepared by community water supplies annually; contact your local water utility for a copy. A manufacturer that is a customer of a municipal or community water system may have obligations regarding cross-connection control. The supplier of water has local jurisdiction regarding this issue. More information on [community water supply](#) is available at Michigan.gov/CommunityWaterSupply. If your facility is a customer of a community water supply system, review [Chapter 9.6](#) related to cross-connections.

9.3 Noncommunity (Type 2) Water Supplies

Noncommunity (Type 2) water supplies provide service to 15 or more **SERVICE CONNECTIONS** or 25 or more **INDIVIDUALS** on an average daily basis of at least **60 DAYS OUT OF THE YEAR**. Examples are schools, restaurants, industries, campgrounds, etc., which are on their own water supply, such as a well. Treated surface water meeting safe drinking water standards may also be a source of water for a noncommunity supply. Manufacturers may be Type 2 water supplies on their own supply or may be connected to a well serving more than one customer, such as a well that serves an industrial complex with more than one business in it. The [local health department](#) performs sanitary surveys of Type 2 water supplies at least once every five years. Noncommunity supplies are required to sample routinely, meet drinking water standards, and maintain their water systems in a sanitary condition in accordance with Act 399. If your facility has a Type 2 water supply, also see [Chapter 9.6](#) related to cross-connections.

Type 2 noncommunity supplies fall under two categories:

- A **transient noncommunity** water supply is one that serves at least 15 service connections

or at least 25 people on an average daily basis for at least 60 days out of the year. Examples include campgrounds, highway rest areas, and churches.

- A **nontransient noncommunity** water supply is one that routinely serves the **same** 25 or more people daily at least six months out of the year. Examples include factories, schools, or other businesses that employ 25 persons or more.

Visit [Michigan.gov/NoncommunityWaterSupply](https://www.michigan.gov/NoncommunityWaterSupply) for more information about noncommunity water supplies and how to locate your health department.



9.3.1 Permits & Permit Fees

Construction permits for Type 2 water wells must be issued by the local health department for the county. Construction details and a site plan must be included with the application. Permit fees for Type 2 noncommunity water supplies are set by the local health department issuing the permit. These fees vary. A permit maybe required for the installation of the treatment equipment. For more information on when a permit is required, contact your local health department, or EGLE.

Secondary Treatment

The installation of premise plumbing treatment can lead to additional monitoring and reporting requirements and could have additional impacts that must be assessed ahead of installation. Some facilities, such as hospitals, are using chemical disinfectants to reduce the risk of opportunistic pathogens such as *Legionella* from occurring within premise plumbing. Other facilities add chemicals for corrosion control to reduce exposure to lead, copper, and other metals that may leach from premise plumbing and water fixtures. Such water systems are considered treatment facilities and, as such, are subject to regulations as public water supplies under the [Michigan Safe Drinking Water Act \(Act 399\)](#).

9.3.2 Annual Fees & Laboratory Fees

Noncommunity supplies are required to pay an annual fee assessed by EGLE based upon their status as a transient or nontransient noncommunity public water supply. The fee is assessed on October 1 and due by November 30 of each year. The owner of the water supply is also responsible for payment of any laboratory fees for required water testing.

9.3.3 Certified Operator Requirements

An operator must be certified in the classification designated by Act 399 if they are in charge of a treatment system necessary for public health reasons at any Type 2 noncommunity water supply, or a distribution system at a Type 2 nontransient noncommunity water supply. “Treatment” is defined as a technology that is employed by a public water supply for the control of the chemical, physical, biological, or radiological characteristics of the water supply. A “distribution system” is composed of components where water is distributed and used for drinking/household purposes. The components may include piping, fixtures, transmission mains, pumps, storage tanks, etc.

As of December 8, 2002, all nontransient noncommunity water systems are required to have a certified operator. The certification by EGLE is based on the operator's qualifications, experience, a written examination, and a laboratory examination in some cases. Noncommunity water supply operators are certified based on a written or oral examination and may have to demonstrate knowledge of the operation of the treatment and monitoring equipment.

For more information about the Operator Training and Certification Program, visit Michigan.gov/EGLEOperatorTraining.



9.3.4 Noncommunity Water Supply Responsibilities

Type 2 noncommunity water supplies must all sample for coliform bacteria and nitrates/nitrites; however, the nontransient supplies must also sample for metals, cyanide, arsenic, volatile organic compounds, synthetic organic compounds, per- and polyfluoroalkyl substances (PFAS), lead, and copper. Other sampling requirements may apply if certain treatment technologies are used, such as corrosion control systems. Sampling requirements are based upon which category the water supply falls under, and the sampling frequency is determined by the local health department based on inspection results, water quality, population served, and sampling history. The laboratories used by the supply must be certified by the state for the components being tested.

Nontransient noncommunity water supplies must also demonstrate adequate capacity to operate. Capacity is defined as the ability of a water supply to plan for, achieve, and maintain compliance with drinking water standards. Capacity consists of three parts: technical, managerial, and financial capacity to operate and maintain a water system. This includes assurances of water system performance in terms of management and operation including its long-term viability in meeting water quality goals, and financial ability to maintain the water infrastructure.

9.4 Type 3 Water Supplies

Type 3 public water supplies are regulated by local health departments under both Act 399 and Part 127 of Act 368. A Type 3 supplier must comply with all applicable state and local plumbing codes, as well as any local codes regarding water supplies. The supply must meet minimum construction standards outlined in Part 127 but may be required to meet more stringent construction and/or sampling requirements based upon site specific conditions, such as groundwater contamination, geologic conditions, etc.

Permits for Type 3 water supplies and those wells providing only process water for manufacturing are obtained from the local health department. Permit fees for Type 3 public water supplies, or wells providing processing water only, are set by the local health department. The owner of the water supply is responsible for any sampling fees.

Unless otherwise specified by the local health department or other agency having jurisdiction, Type 3 water supplies and process water wells are not required to routinely submit water samples. Type 3 water supplies are not required to have a certified operator.

9.5 Water Use Program – Great Lakes Protection

Part 327 of Michigan’s Act 451 provides a regulatory structure for the principles of the Great Lakes-St. Lawrence River Basin Water Resources Compact. This Compact requires all Great Lakes states to implement a program to protect, conserve, and manage all water dependent on the natural resources of the Great Lakes Basin. Part 327 provides an environmental baseline for managing water resources in a more integrated manner and strengthens the legal basis for opposing unwarranted diversions of Great Lakes water. Preservation of local streamflow is the environmental standard by which Michigan manages its waters of the Great Lakes Basin. Each stream segment in the state has statutory limits of allowable streamflow reduction resulting from water withdrawals.

The [Water Use Program](#) in EGLE’s Water Resources Division is responsible for registering Large Quantity Withdrawals (LQW), collecting annual water use data, making determinations on the potential impacts to the water resources as a result of a proposed withdrawal, and issuing water withdrawal permits.

9.5.1 Water Withdrawal Permits

A [Water Withdrawal Registration](#) is required prior to beginning a **new** or **increased** withdrawal with at least 100,000 gallons per day (70 gallons per minute) in withdrawal **capacity** but less than or equal to 2,000,000 GPD (1,388 GPM) **capacity**.

A **Water Withdrawal Permit** is required prior to beginning a **new** or **increased** withdrawal that:

- will have more than 2,000,000 gallons per day (or 1,388 gallons per minute) withdrawal **capacity**
- OR will transfer more than 100,000 gallons per day, averaged over any 90-day period, from the watershed of one Great Lake to the watershed of another Great Lake.

Exceptions - these withdrawals are not required to obtain a Water Withdrawal Permit but are subject to Registration instead:

- **community water supplies** - contact your [Community Water Supply Program district engineer](#) instead
- **bottled water production** - review the [Bottled Water Source Approval](#) requirements instead
- **seasonal withdrawals** - active for no more than 6 months per year AND average less than 2,000,000 GPD water use in any 90-day period within their season of operation
- **temporary withdrawals** - short term withdrawals that total less than 180,000,000 gallons water use for the entire withdrawal period.

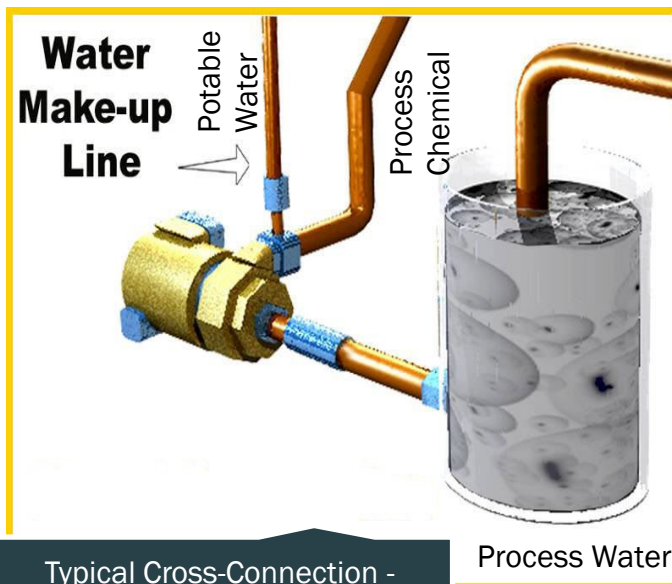
Water Withdrawal Permit Application - all information on this application form, and a \$2000 application fee is required. Please call 517-599-3792 or e-mail WaterUseProgram@Michigan.gov prior to submitting a Water Withdrawal Permit application.

9.6 Cross-Connection Requirements

A cross-connection is a connection or arrangement of piping or appurtenances (fixtures, fittings, or equipment) through which a backflow into the potable water supply may occur. It is the responsibility of water utility customers or public water supply owners to comply with all cross-connection control regulations in their area or municipality. No cross-connections are allowed between a public water supply and a secondary water source, such as a well. Examples of cross-connections include submerged inlets, such as unapproved ball cock assemblies in toilet tanks; unprotected connections between the water supply and a boiler containing additives; or piping submerged in a tank or vessel which may contain a contaminant, such as a mixing or electroplating tank.



Typical Cross-Connection - Submerged Inlet



Typical Cross-Connection - Potable Line Into Process

Act 399 states that “a connection with a public water supply system shall comply with existing laws, ordinances, and rules including: (a) The state plumbing act, 2002 PA 733, MCL 338-3511 to 338-3569, [and] (b) Local ordinances or rules providing acceptable protection against cross connections.” Public water supplies are required to develop a comprehensive control program for the elimination and prevention of all cross-connections.

The program should include a time scheduled for inspection and reinspection of all water utility

customers’ premises for possible connections, including manufacturing sites. This periodic inspection is to “ascertain if safe air gaps or required backflow preventers are in place.” The inspection may identify certain backflow prevention assemblies, such as a reduced pressure principle backflow assembly, etc. A manufacturer or commercial owner may be responsible for having such devices in its facility tested on a periodic basis. A customer of a public water supply must also have written approval from the water utility or the agency having jurisdiction over the water supply of any proposed corrective action or protective device before using or installing it. During an inspection of the water supply, if cross-connections are identified, a compliance schedule may be established depending upon the degree of hazard and the time required to obtain and install equipment.

If a cross-connection has not been corrected within a reasonable period, the distribution system of the customer may be disconnected from the public water supply in such a way that it cannot be connected by any unauthorized person. When a secondary water source is used in addition to a public water supply, any exposed public water supply and secondary water piping shall be identified by distinguishing colors or tags and maintained so that each pipe may be traced easily in its entirety. There can be no connections between the two distribution systems.

Find more information about Cross Connection Control at [Michigan.gov/CommunityWater](https://www.michigan.gov/CommunityWater).

Learn more about cross-connections, along with the methods and equipment used to eliminate them, by taking EGLE's Cross-Connection course offered through the [Drinking Water Operator Training and Certification programs](https://www.michigan.gov/EGLEOperatorTraining). Visit [Michigan.gov/EGLEOperatorTraining](https://www.michigan.gov/EGLEOperatorTraining).



WHERE TO GO FOR HELP

Websites, program contacts, resources and publications for common drinking water topics

Federal drinking water program

U.S. EPA Office of Groundwater and Drinking Water
(epa.gov/ground-water-and-drinking-water)

State drinking water regulations and program resources

EGLE, Public Water Supply Programs - Michigan.gov/DrinkingWater
Environmental Assistance Center - EGLE-Assist@Michigan.gov, 800-662-9278

Safe Drinking Water Act, Act 399 of 1976

Community Water Supply Information

Noncommunity Water Supply Information

Training and Certification of Water Supply Operators

Water Use Program

Permitting, change in ownership, and sampling requirements associated with Type 2 and 3 public water supplies - [Local Health Department Directory](#)