

Meter Setting Specifications Update

September 2026

To: Board of Water Commissions

From: Tamara Scheuren, CRF Supervisor and Eric Radloff, Lead ST

Staff is requesting Board approval to update the Residential and Commercial/Industrial Meter Setting Specifications to clarify the required location of the water meter inlet valve.

Wisconsin Plumbing Code requires the building control valve to be located within three feet of where the water service enters the building and upstream of the water meter; however, neither the plumbing code nor the Utility's current specifications establish a maximum distance between the building control valve and meter setting.

To provide clear and consistent guidance for contractors and property owners and to limit the amount of unmetered piping within a building, staff recommends requiring the meter inlet valve to be installed within six feet of the building control valve. This requirement would be added to both the Residential and Commercial/Industrial Meter Setting Specifications.

Please see the attached Meter Setting Specifications and proposed additions in yellow.

Meter Setting Specifications

Residential

The following specifications provide consistent standards for water meter settings in the City of Sheboygan. Based on information obtained from American Water Works Association (AWWA) standards, Badger Meter Inc., and Master Meter Inc., these specifications help to ensure the meter's accuracy and the safety of workers who must maintain meters.

- **Horns:** Meter horns are required on all residential installations, including single and multiple dwelling units. Horns must not have built-in backflow prevention. Meter horns are not required on existing installations unless the entire meter setting must be rebuilt. Meter horns have a 7 1/2" inch laying length.
- **Valves:** All meter settings must have two valves (inlet and outlet). Existing installations with only a functional inlet valve are acceptable. If an existing setting has two valves in need of replacement, then the setting will need to be rebuilt, including the addition of a horn. Outlet valves shall not be installed closer than 12" from the meter horn flanges. Commercial settings must have a lockable in-valve, minimum 3/4", plumbed directly to the horn. Valves with removable handles are not acceptable. *The inlet valve must be installed within 6 feet of the building control valve.*
- **Support:** All meter horns shall be full pipe clamped to the wall or floor within 6" inches of the inlet and outlet of the horn. All support hardware must be compatible material to reduce the potential for galvanic action with the piping. Support hardware cannot distort, cut, or abrade the piping and must be sufficiently rigid to support the piping and its contents. Radiator clamps and pipe rests are not acceptable means of support.
- **Clearance:** All meter settings shall maintain 18" of unobstructed space from the floor to center pipe of the meter. The center pipe of the meter shall be no higher than 48" from the floor. A minimum of 12" of unobstructed space must be maintained above the meter lens.
- If multiple meters are stacked, 24" of unobstructed space shall be maintained between the bottom meter, center of pipe and the top meter, center of pipe. If multiple meters are parallel or in a row, 6" of space must be maintained between each meter horn. 36" of unobstructed space must be maintained in front of the meter setting.

All water meters must be installed by Water Utility staff. Contact the Utility meter shop at (920) 459-3814 at least 24 hours in advance to schedule the installation.

Meter Setting Specifications

Commercial

The following specifications provide consistent standards for water meter settings in the City of Sheboygan. Based on information obtained from American Water Works Association (AWWA) standards, Badger Meter Inc., and Master Meter Inc., these specifications help to ensure the meter's accuracy and the safety of workers who must maintain meters.

- **Valves:** All meter settings must have two new valves (inlet and outlet). In-valves that are 3/4" and 1" in size must be lockable ball valves (locking wing style) and plumbed directly to the meter horn. Valves with removable handles are not accepted. Outlet valves shall not be installed closer than 12" from the meter horn flanges. *The inlet valve must be installed within 6 feet of the building control valve.*
- **Laying lengths:** All 1 1/2" and larger disc, turbine, and compound meters must have a minimum of ten (10) pipe diameters upstream of straight and unobstructed pipe (no elbows, tees, reducers, or valves) and five (5) pipe diameters downstream. Mag meters (Model M2000) and E-Series meters must have a minimum of five (5) pipe diameters upstream of the meter and five (5) pipe diameters downstream. E-Series meters also require a test tee with a 2" outlet and ball valve, after the downstream lay lengths.
- **Flanges:** Flanges for 1 1/2" and 2" meter settings must be brass. Victaulic style flanges and fittings can be used except that the flanges at the meter must be flat flanges. The Utility only stocks flat, drop-in style gaskets.
- **Support:** All meter settings shall be supported from the wall or floor with full pipe clamps within 6" of the meter flange, but no closer than 3" from the meter flange to allow adequate support and wrenching space. All support hardware must be compatible material to reduce the potential for galvanic action within the piping. Support hardware cannot distort, cut, or abrade the piping and must be sufficiently rigid to support the piping and its contents. Radiator clamps and pipe rests are not acceptable means of support.
- **Clearance:** All meter settings must maintain a minimum of 18" of unobstructed space from the floor to center pipe of the meter. The center pipe of the meter shall be no higher than 48" from the floor. A minimum of 12" from the wall, or any other obstruction, around the meter flange must be maintained. Bypasses can be built tight to the wall, but 12" of clearance must be maintained between the bypass pipe and meter flange. Bypass valves shall not be more than 60" above the floor. 18" of unobstructed space must be maintained above the meter lens. 36" of unobstructed space must be maintained in front of the meter setting (including valves).
- If multiple meters are stacked, 24" of unobstructed space shall be maintained between the bottom meter, center of pipe and the top meter, center of pipe. If multiple meters are parallel or in a row, 6" of space must be maintained between each meter horn. 36" of unobstructed space must be maintained in front of the meter setting.

All water meters must be installed by Water Utility staff. Contact the Utility meter shop at (920) 459-3814 at least 24 hours in advance to schedule the installation. **Up to 60 days might be necessary to order and receive large meters.**