



**Celebrating 50 Golden Years**

Public Works Department

## **Frequently Asked Questions (FAQ's)**

**Water Meter Replacement Project**

**City of Apple Valley, Minnesota**

**Project 2016-101**

**January 2019**

## **GENERAL QUESTIONS**

### **Why is my water meter being replaced?**

The majority of the City's current meters are at the end of their useful life (approximately 15 - 20 years). As the meters age, they tend to slow down and become less accurate. The new meter will ensure that water flow is being registered correctly and that you are being billed accurately for the water you use.

### **Does my meter need to be replaced if it is less than 20 years old?**

Yes, the meter replacement program will replace some newer meters. This is necessary to ensure compatibility with the new meter reading system.

### **What are the benefits of a new meter?**

New meters will save time, prevent data recording errors, provide better leak detection and allow for more accurate and faster collection of the water meter reading than the current walk and drive-by technology. Water meters are necessary as they help the City determine how much water you have used.

Leak Detection: The system will flag accounts that may have an unusual reading as the result of a leak or meter malfunction. These issues can be addressed in a more-timely manner than the current quarterly meter reading system. The City will have the ability to notify you if unusual water usage is detected. For example, if there is continuous water use in a home it could indicate a water leak. Prompt attention to resolve the water leak can save you money on your utility bill.

Faster, More Accurate Collection of Water Use Data: The new meters and metering system will provide two-way communication between the meters and the City's meter software. City staff will have the ability to assist with real time, current data if there is a question about high water use, water leak or account questions.

Improved Technology: Additional benefits include more accurate and reliable meters, as well as reduced operational costs. For example, once all the meters are installed, the City will be able to eliminate the need to have someone walk or drive throughout the city to collect meter reads.

A customer portal is also planned for implementation at the end of the meter replacement program. This will provide you access to your consumption data. This information can help you better understand your water use, costs, and even shrink your environmental footprint.

**What type of meter and metering system is being installed?**

Your existing water meter will be replaced with a new Mueller water meter. The water meter shown below will be installed for residential and light commercial applications. It is a solid state ultrasonic meter with no moving parts.



3/4" and 1" Mueller Water Meter



Meter Data Transmitter (used for all meter types)

**What exactly is getting replaced?**

Your existing water meter will be replaced with a new water meter and meter data transmitter.

**What is the meter data transmitter?**

The meter data transmitter is what sends the meter reading by radio to the Advanced Meter Infrastructure (AMI) system. The meter data transmitter is connected to the water meter by a wire. The meter data transmitter will be mounted in the floor joist or near the ceiling by the water meter.

**How often does the meter data transmitter send the meter data?**

The water meter sends the water meter reading to the meter data transmitter through the wire once per hour. Once each day the meter data transmitter sends the hourly meter readings to the AMI system. See the Mueller RF document at the end of the FAQs.

**What is the AMI system?**

The Advanced Meter Infrastructure (AMI) system is the type of meter reading system the City is installing. The AMI network consists of five (5) antennas located on the City water towers and twelve (12) repeaters located on city facilities throughout the City. How it works is that meter readings are sent once per day from inside the home or business via radio signals to the AMI system. The data is then carried over fiber optic or cellular service back to the City for billing.

**How secure is the AMI system?**

The meter data sent through the AMI system is encrypted.

**Where is my water meter?**

Water meters are typically located in the utility or laundry room in the lower level of your home near your water heater, furnace, or water softener (if installed).

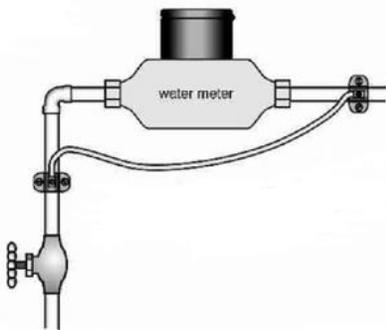
Occasionally the meter is located behind a wall, in a cabinet or in a closet area. If your meter is behind a wall or in a cabinet and cannot easily be accessed, the installer may not be able to complete the change out during your scheduled time.

**What if the water meter is behind the water heater or water softener?**

If access to the water meter is blocked or the meter is not reachable, the homeowner is responsible to move the appliance or obstruction so the water meter can be replaced.

**I found my water meter. What is the wire attached to the pipe on each side of the meter and valves?**

The wire that connects to the pipe on each side of the meter is the electrical grounding wire for your home. For more information, see NFPA Article 250 Grounding and Bonding at the end of the FAQ's.



**How much will the new meter cost me?**

There is no charge for the new meter and meter data transmitter.

**Will my water bill increase with the new meter?**

Possibly. As meters age, they can slow down and do not always measure all the water running through them. Your bill could change based on the consumption associated with the new meter.

All the new meters are factory tested for operability and accuracy.

If you receive a higher bill in the second billing cycle after the installation of the new meter, *and* you haven't changed your water use patterns, you may actually have a minor leak that was not registering correctly through your old meter.

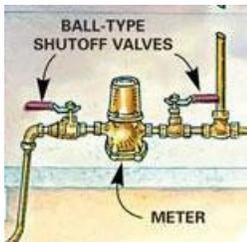
## VALVES

### **Is the City responsible for the valves on either side of the water meter?**

The City is not responsible for the valves or any of the plumbing in the property, home or business. The City only maintains the water meter.

### **Why do I need my valves to work?**

When the water meter is replaced, these valves need to be operational to shut off the water. Also, the best defense against a water emergency is knowing where the main water shut off valve is located inside your structure and ensuring that it is functional. The main water valve is generally found in the mechanical room near the furnace and water heater. The water meter is usually in this area also. There should be a valve on each side of the water meter. Either valve will shut off the water to your home if they are operable. If you have a water leak inside your home, it may be necessary to shut off the water until the leak is repaired.



### **What are the different types of valves?**

A ball valve and gate valve are the two most common types of valves. The handle for the ball valve should rotate 90 degrees to turn the water on and off. The ball valve requires very little maintenance, just operate by turning on and off to verify functionality. The gate valve requires a little more attention. A gate valve is just that - a small gate within the valve that opens and closes as you turn the handle to the left or right, respectively. The gate valve stem can corrode over time. Corrosion found on the valve stem can be forced into the packing of the valve, damaging the packing and resulting in a leaky valve.

Gate valve maintenance, with the gate valve open:

1. Clean the valve stem with a strip of emery cloth until the brass is shiny and free of corrosion. (Once cleaned, the valve stem may be lubricated with food grade grease or spray lubricant.)

2. Fully close and open the gate valve two or three times to remove any particles lodged in the sleeve that the gate valve seats into.



### **My valve doesn't work. I can't turn off the water to my home, what do I need to do?**

A valve that does not operate or shut off the water to the home is the homeowner's responsibility to have repaired or replaced. To replace a valve, the water will need to be shut off at the curb stop which is typically located in the front yard. You must notify Public Works of the water off request at least 48 hours in advance by calling 952-953-2400. The 48-hours allows time for Public Works staff to locate the curb stop and verify its operation prior to the scheduled shut off time. By doing this, residents avoid the added cost of having a plumber waiting for the water to be turned off, or return fees in the event the water could not be shut off.

Some plumbers can also temporarily freeze the water line and replace the valves for you.

### **Is a plumbing permit required if my valve requires replacement?**

Yes, the 2015 Minnesota State Building Code Section 1300.0120 Subpart 1 states, **Required.** *An owner or authorized agent who intends to replace any gas, mechanical, electrical, plumbing system, or other equipment, the installation of which is regulated by the code; or cause any such work to be done, shall first make application to the building official and obtain the required permit.* A discounted plumbing permit is available at <https://epermits2.logis.org/home.aspx?city=av>.

## **TIMELINE, SCHEDULING and PREPARATION**

### **When will my meter be replaced? When will installers be in my neighborhood?**

You will receive a letter from the City approximately one to two weeks before Midwest Testing (MWT) will be scheduling appointments in your area. MWT is the company contracted by Mueller System to install the water meters in the City.

City staff is still working with MWT to map out the areas and approximate dates the installers will be in your area. You will get a letter in the mail approximately one to two weeks before the MWT installers will be in your neighborhood - indicating just that *and* with instructions on how to schedule your appointment. There will be an online scheduling option as well as a phone number for property owners and residents to call to make an appointment. The installer will

need to gain access into your home or business to replace the meter.

An initial test area of 100 meters were replaced in City buildings and employee homes. The second test area is a group of 500 meters located throughout the City. Residents and businesses in this area will get a letter with instructions on how to schedule an appointment. Once the meter installations have been completed and accepted in the test areas, MWT will be installing meters systematically within select areas until all the meters are replaced.

The City expects the meter replacements to take place in 2019 and 2020 so it may be some time before installers are in your neighborhood.

### **What if I'm not home when the installers are ready to change out my meter?**

Installers will do their best to schedule your appointment for a date and time that works best for you. Appointments are available Monday through Thursday between 8:00 a.m. and 6:30 p.m.

### **Preparing for Your Meter Replacement:**

- The water meter is located inside your home. Locate the water meter and clear the work area for the installer (typically a 3' x 3' area). Also, test your valves to ensure operability. Repair your valves if needed. If the valves are not functioning properly, the installer may not be able to perform the meter replacement until the valves are operating. If there is a valve problem, the repair is the responsibility of the home or business owner.
- An adult (at least 18 years old) will need to be present during the appointment.
- The meter replacement typically takes 30 – 45 minutes but are scheduled in a two (2) hour time block.
- The water is turned off briefly while the meter is being replaced.
- Keep pets away during the installation.
- Installers will have a photo ID, uniform, marked vehicle and background check.
- There is no cost to you for the meter replacement.
- If it will be difficult for you to be around for the appointment, consider whether a family member or trusted friend or neighbor could be at your house to let the installer in to perform the meter replacement.

### **Will I be able to schedule an appointment if the installers are not working in my neighborhood?**

Midwest Testing (MWT) will make every effort to accommodate schedules. However, to maintain an efficient installation process, the meters will be installed within identified geographic neighborhoods whenever possible.

One of the challenges is that the City cannot store 16,000 + meters. This means that we will receive different meter sizes at different points throughout the project. By scheduling an appointment,

MWT can plan ahead, coordinate the meter stock with the meter types and sizes in the area to ensure the meter size you need installed is available for your appointment.

**How far out may I schedule my appointment?**

You should receive a letter in the mail from Midwest Testing with instructions on how to schedule your appointment approximately two weeks prior to when installers will be in your neighborhood. Appointments will be scheduled within a three (3) week rolling window.

**Will I get a reminder about my appointment?**

There will not be reminders for appointments. Should the customer miss their appointment the installer will contact them via phone while on site. If no contact is made via phone, the installer will distribute a door tag communication with information for the customer to reschedule.

**What if I have to cancel my appointment?**

We understand that conflicts come up. As a courtesy, we respectfully ask that you give Midwest Testing a 48-hour cancellation notice. This will allow the installers to open the appointment window to others in your area.

**Will installers have to come inside my home?**

Yes. In nearly all instances, water meters are located inside the home and you will need to give the installer access to your home. That means that someone 18 years or older needs to be at your home when your meter is scheduled to be replaced to authorize entry into your home. It doesn't have to be you. It could be a family member, a trusted friend or neighbor.

**Will I need to do anything while the meter installer is at my home?**

You may be asked to open a faucet when the water is ready to be turned off if there is no water source near the meter. This is done so that upon completion any air in the line from the meter removal will be purged. There may be a slight sputtering which is from the air introduced when the meter was removed. On rare occasion, the water may be slightly discolored when the water is turned back on. This is temporary and the result of the water being turned off. It is not harmful. The discoloration, if any, is from iron and manganese minerals that may have settled out in your water service line.

**How will I know the person knocking on my door is legitimate?**

Excellent question. All installers will be driving vehicles marked with the name Midwest Testing. They will be wearing a vest or logo shirt and will have a Midwest Testing ID badge. They will be carrying a letter on City letterhead indicating they are performing the meter change out on behalf of the City.

You may call the City at 952-953-2400 to verify the installer's name. City personnel will have a list of all installers along with the area where they will be working. You may also call the Apple Valley Police Department as they will have the names of the installers, photos and information as to where they will be working and when.

The City has reviewed background checks on all of the installers. Installers will have passed their background checks and will have received training from Mueller Systems on the installation.

**Will the meter installer be doing anything other than replacing the meter and meter data transmitter?**

If your home has a sump pump, a sump pump inspection will be done. It is important to remember that not all homes have sump pumps.

**What is a sump pump inspection and why?**

The sump pump inspection will include a visual check of the sump pump and piping system along with a picture of the system.

State Law and City Ordinance prohibit sump pumps to discharge to the sanitary sewer. When a sump pump is connected to a sanitary sewer line, it is called a cross connection. Often this is a hose leading from the sump to a laundry tub or a floor drain. Water that goes down any drain in your house leads to the sanitary sewer system and eventually ends up at a wastewater treatment plant. The City is billed for every gallon of water that is discharged to the wastewater plant, increasing costs for all properties within the City.

**What if my sump pump is found to discharge into the sanitary sewer system?**

The City will send you a letter outlining the corrective action required.

**What can I expect during my meter installation appointment?**

There is a short video on the City website that explains the meter installation process. The video can be found at [www.cityofapplevalley.org/294/water-sewer-utility-services](http://www.cityofapplevalley.org/294/water-sewer-utility-services).

**Meter Replacement Summary**

- The City will send you a letter about the meter replacement program about 1-2 weeks prior to the Midwest Testing (MWT) letter.
- MWT will be sending you a letter with instructions on how to schedule an appointment.
- Check your valves to ensure they are operable and clear the area around your meter.
- MWT installers will arrive at your home during the scheduled time range. They will have an ID, uniform and branded vehicle. You can contact the City of Public Works at 952-953-2400 if you have questions.

- MWT will turn off the water, remove the old meter, install the new meter, install the new meter data transmitter, document the meter information and turn the water back on. Photos of the old and new meters will be taken for quality assurance.
- MWT will perform a sump pump inspection if your home has a sump pump.

Additional Mueller Meter Information is available at:

<https://muellersystems.com/resource-library/product-data-sheets/>

## **HEALTH & SAFETY/RADIO FREQUENCY (RF) QUESTIONS**

### **How safe is the AMI metering technology?**

The issue has been studied by a wide variety of government, industry and scientific organizations, including the Federal Communications Commission (FCC), the Environmental Defense Fund and the Utilities Telecom Council. Their findings indicate that the Radio Frequency transmissions generated are as safe as those generated by other household appliances and devices, including microwave ovens, cellular phones and laptop computers.

### **What frequency will the City's AMI system operate on?**

The City's AMI system operates on the 900 MHz (megahertz) bandwidth similar to other household appliances.

### **What is the output power of the AMI system?**

The output power is one (1) watt or less.

### **Will the meter data transmitter interfere with my TV, cellphone, Wi-Fi or similar devices?**

No. The meter data transmitter transmits the meter data once per day. The transmission takes a fraction of a second. Therefore, the radio-read device will likely not interfere with your TV, cellphone, Wi-Fi or similar device. The radio unit transmits at very low power for a brief moment of time.

### **Sources:**

Mueller <http://muellersystems.com/wp-content/uploads/2015/12/Mi.Net-RF-Safety.pdf>

FCC <https://ecfsapi.fcc.gov/file/7022311412.pdf>

Environmental Defense Fund <https://www.edf.org/health-and-smart-grid>

California Council on Science and Technology <https://ccst.us/?s=smart+meter+report>

**NFPA ARTICLE 250 GROUNDING AND BONDING:**

A conductor is required to be installed on the supply side of a service or within a service equipment enclosure, or for a separately derived system, that ensures the required electrical conductivity between metal parts required are electrically connected. [NFPA 70:100.1].

**NFPA Article 250 (A)**

- (1) **Electrical System Grounding.** Electrical systems that are grounded shall be connected to earth in a manner that will limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during normal operation.

Contact a licensed electrical contractor to determine if corrections are needed. Electrical permits are required for any electrical modifications, including proper bonding of the service.

