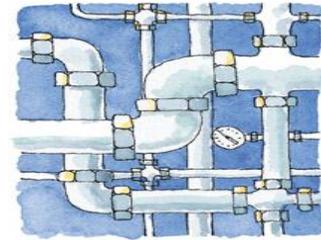


Water Main Break Fact Sheet

Water Mains:

- Metro Water Services (MWS) has more than 3,000 miles of water mains over approximately 400 square miles.
- 64% of our water mains are over 40 years old.
- Of the >3,000 miles of water mains, approximately 800 miles are unlined cast iron.
- The most common size pipe for a water main is 6 - 8". However, MWS water mains range in size from 2" to 60".



Factors contributing to main breaks:

- Age - The possibility of main breaks increase as pipe age increases; over 64% of our water mains are over 40 years old.
- Weather Conditions - Extreme Heat or Cold; Freezing weather can cause pipes to contract and expand, weakening pipe material.
- Water Temperature - Water temperatures below 40 degrees can cause pipes to become more brittle.



- Soil Conditions and Ground Movement - Natural ground shift caused by soil moisture and temperature as well as that caused by nearby construction activity can cause a break.
- Pipe Material - Cast iron is more susceptible to external pressures such as extreme temperature changes but any pipe material can break.
- Pipe Diameter - The smaller the diameter, the greater the risk for damage.
- Corrosion - Older pipes are not cement lined and can corrode, increasing the chance of a break.
- Construction - On occasion, construction crews damage water mains during excavation.

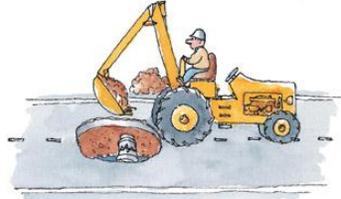
How temperature affects water mains:

- Dimensions, pressure capacity, and stiffness are all affected by temperature changes.
 - Pipes expand with increasing temperatures and contract with decreasing temperatures, weakening them.
 - Water temperature below 40 degrees can cause pipes to become more brittle.
 - Freezing and thawing soils can shift.



Metro Water Services strategy to tackle main breaks:

- Emergency Hotline **(615) 862-4600** staffed 24/7 to take calls and dispatch crews.
- 10 repair crews trained to quickly respond and repair water main breaks. (5 day crews/ 5 night crews available)
- 8 valve crews knowledgeable of the water system and operation of our 64,000 valves. (4 day crews/ 4 night crews available)
- Additional MWS staff available from other MWS divisions such as Stormwater to assist crews.
- Over 35 pieces of heavy equipment to help crews excavate and repair breaks.
- Warehouse full of pipe section of various sizes and repair parts.
- Emergency Contractors available for emergency bid to assist with repairs.



Tips on protecting your own pipes:



- ***Locate the shutoff valve for your home.*** If a pipe should burst, this will allow you to stop the flow of water quickly. *If a meter box lid is raised for any reason, please replace as soon as possible to prevent the meter from freezing.
- Keep your pipes warm. Wrap exposed pipes with insulating material or heat tape.
- Keep it closed. Close doors a, windows and outside vents to prevent cold air from reaching pipes.
- Use available heat sources. Leave cabinet doors under sink open or use heat lamps or light bulbs to keep exposed pipes warm.
- Let the water run. A small steady stream the size of a pencil lead will help prevent pipes from freezing.
- Stay safe. Never use open flames to thaw a frozen pipe.