

# Let the Good Times Boil!

A Case Study on Boil Water Orders

December 6, 2024

27<sup>th</sup> Annual Town & Country Engineering, Inc.  
Public Works Seminar



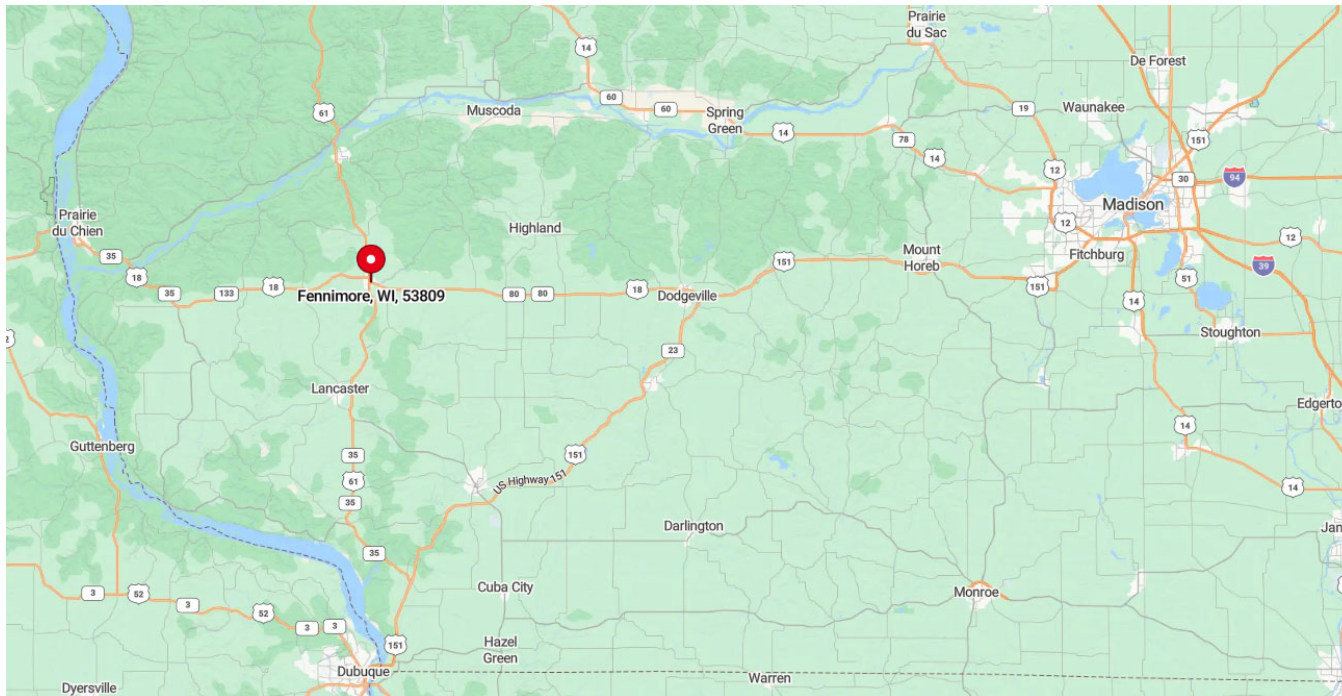
# Overview

- Water System
- Day of
- Boil Water Notice
- DNR Follow-up
- Lessons Learned
- Questions



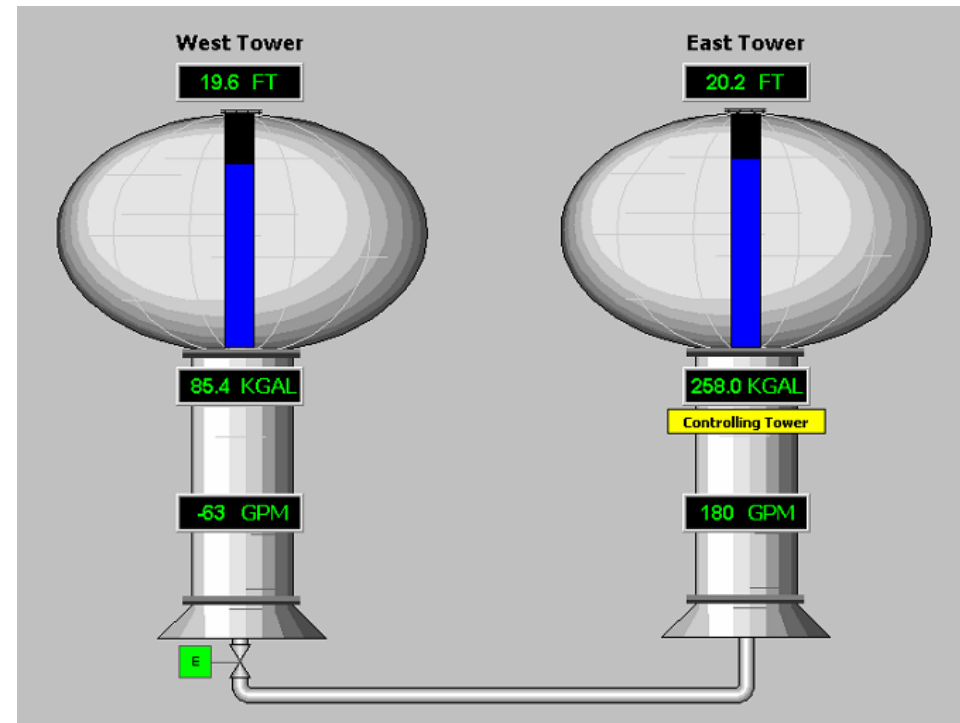
# Welcome to Fennimore

- Grant County
- Approx. population of 2,700
- Home to Igor at Carr Valley Cheese



# Water System Overview

- Two Wells
  - Well 4: 425 gpm
    - Submersible
  - Well 5: 450 gpm
    - Vert. Turbine
- Two Towers
  - East Tower: 300,000 gal
  - West Tower: 100,000 gal
- Single Pressure Zone
- Average: 200,000 gallons/day



# Tower Controls

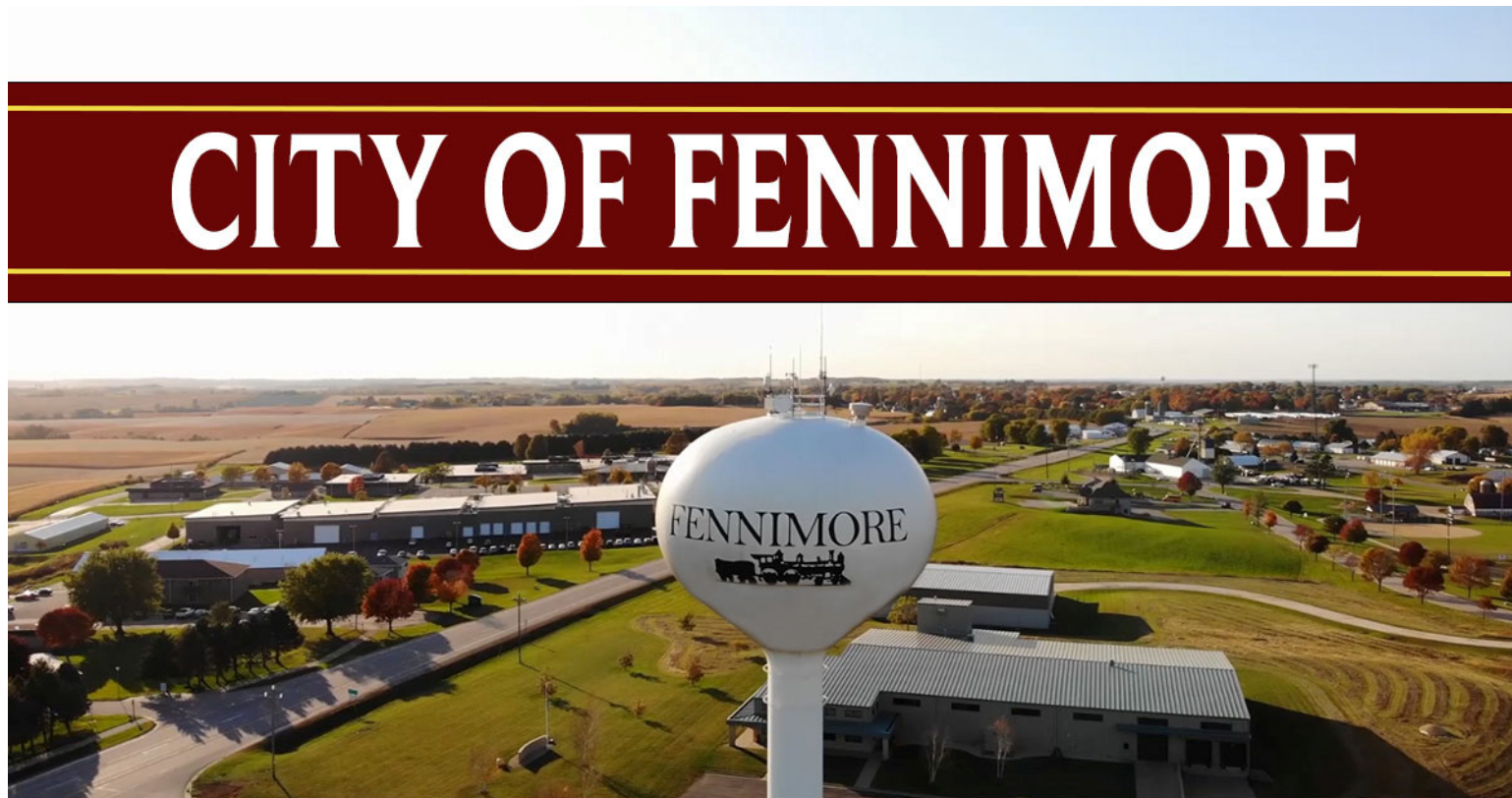
- Typical Operations



West Tower Control Valve Close

# Situation Overview

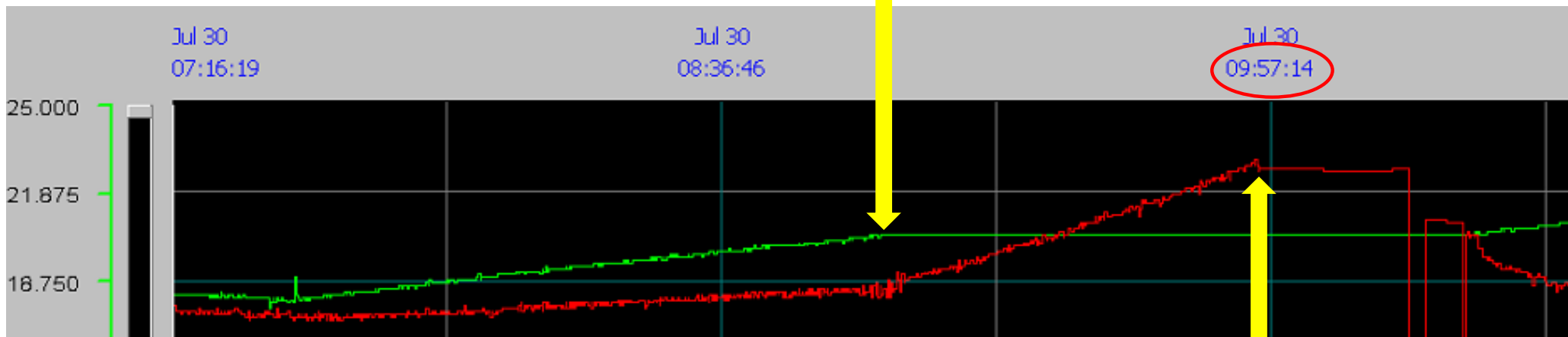
- Tuesday July 30<sup>th</sup>, 2024



# Tower Isolation

- Green – East Tower
- Red – West Tower

East Tower Isolated

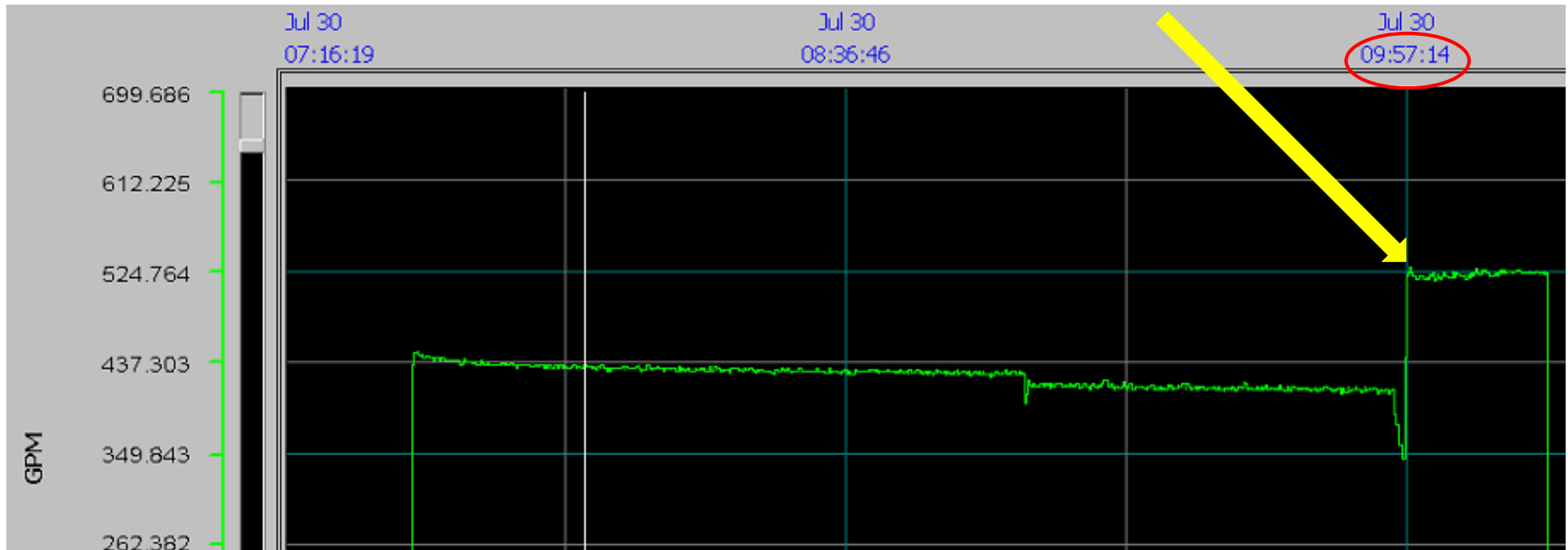


West Tower Control Valve Close

# Water Main Breaks

- Well 4 Pumping

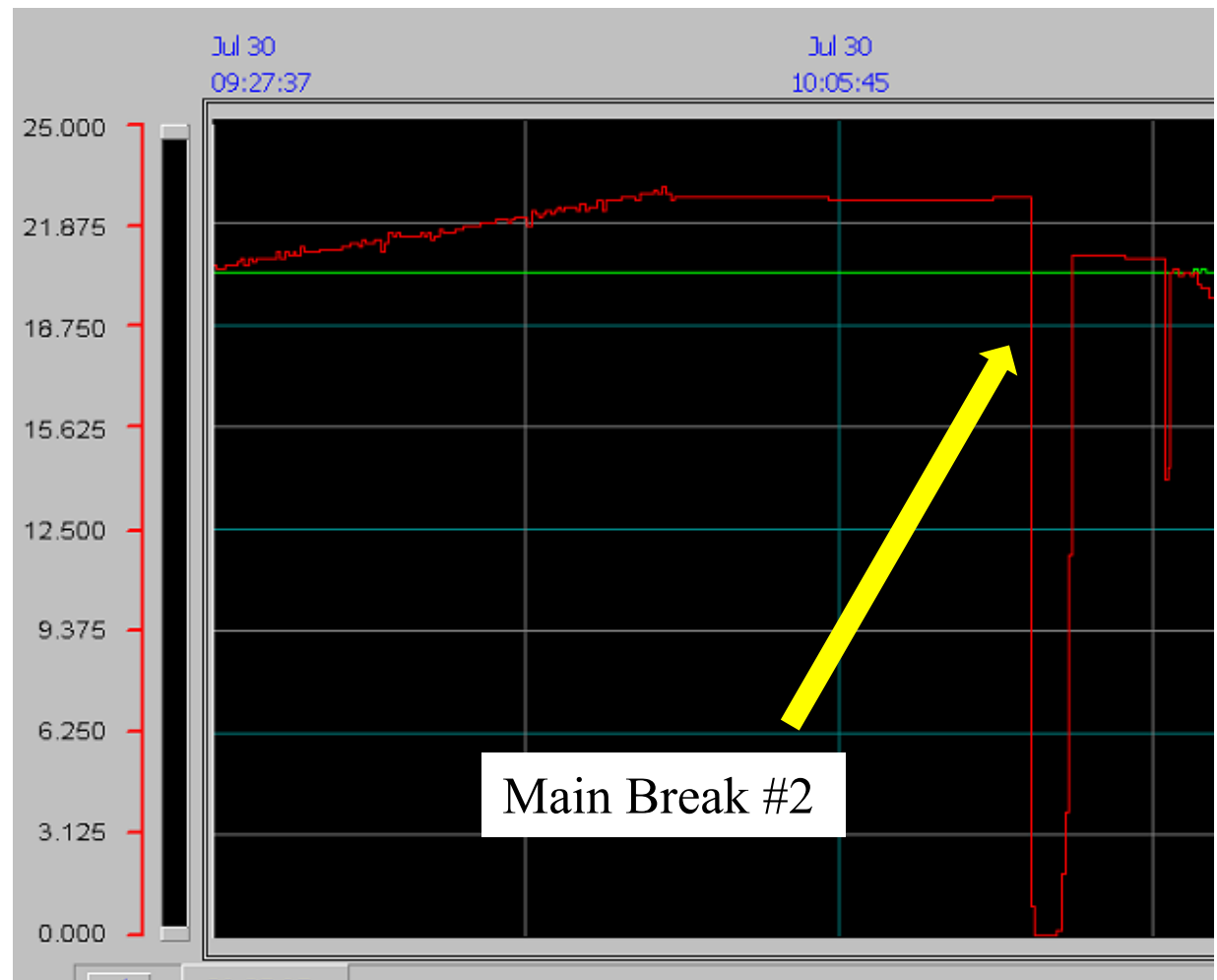
Main Break #1





# Water Main Breaks

- West Tower Online



# City Hall

- Approximately 75 phone calls over about 20 minutes
- Documented addresses and nature of call
  - None known to be without water
  - All for low pressure
- Highest Density of Calls:
  - Near breaks
  - Higher topography



# Contact DNR

- Start with your rep
  - Nathan Wells
- Drinking Water & Groundwater Field Supervisor
  - Eileen Pierce (South Central Region)
- Compliance Specialist – Drinking Water & Groundwater Program
  - Kim Barkhahn

# Boil Water Notice

- NR 810.12 – Distribution system loss of pressure
  - Corrective action when pressure is lost in an area affecting 25% or more of the system, or in an entire pressure zone.
- Boil notice contains the following:
  - Notice that water is bacteriologically unsafe
  - Water for washing of eating utensils, drinking, or cooking should be boiled at a rolling boil for at least one minute
  - Ice and beverages prepared with unboiled water should be discarded

# Boil Water Notice

- NR 809.950 – General public notification requirements
  - 809.951 – Tier 1 public notice
    - ‘Significant potential to have serious adverse effects on human health as a result of short-term exposure’
- At a minimum, one or more forms of delivery:
  - Radio and TV
  - Postings
  - Hand delivery
  - Others approved by Department

# Boil/Bottle Water Advisory

**Fennimore Waterworks water has failed to maintain pressure and could be contaminated with Fecal Coliform/E. coli.**

We experienced a disruption in the water distribution system. Such a system failure carries with it a high potential that fecal contamination or other acute, disease-causing organisms could enter the distribution system. These conditions may pose an imminent and substantial health endangerment to persons served by the system. State and Federal Safe Drinking Water Regulations requires that we inform you of the disruption and potential drinking water contamination.

## **What precautions should be taken at this time?**

Water supplied by our system should not be used for drinking, cooking, food preparation and making ice, dishwashing, and personal hygiene needs (e.g. oral hygiene) where water enters your body. Use caution with any other contact, such as showering and bathing, and hand washing. Ice, food, and any beverages prepared with potentially contaminated water must be discarded. You should boil or use commercially bottled water for the purposes listed above. If you boil water, the water should be heated to a rolling boil for at least **ONE** minute before use.

## **What does this mean?**

*Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly and people with severely compromised immune systems.*

The symptoms above are not caused only by organisms in drinking water. If you experience any of these symptoms and they persist, you may want to seek medical advice. People at increased risk should seek advice about drinking this water from their health care providers.



860 Lincoln Ave **City of Fennimore** Fennimore WI 53809

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Director of Public Works-Jordan Fritche [djpw@fennimore.com](mailto:djpw@fennimore.com)

Mayor: Ryan Boebel [mayor@fennimore.com](mailto:mayor@fennimore.com)

Website: [www.fennimore.com](http://www.fennimore.com)

Phone: 608-822-6110 Fax: 608-822-6007

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**Dear Residents of the City of Fennimore,**

**City of Fennimore water may be contaminated due to loss of pressure.**

**What should you do?**

**Out of an abundance of caution, do not drink water or ingest ice before boiling it or use a safe alternative source.**

**Dear Residents of the City of Fennimore,**

**City of Fennimore water may be contaminated due to loss of pressure.**

**What should you do?**

**Out of an abundance of caution, do not drink water or ingest ice before boiling it or use a safe alternative source.**

Bring all water to a full, rolling boil, let it boil for one minute or longer, and let it cool before using, or use bottled water. Boiled or bottled water should be used for drinking, making ice, brushing teeth, and food preparation **until further notice**. Boiling kills bacteria and other organisms in water.

A safe alternative source includes bottled water. The City is partnering with Bender's Foods to provide 1 case of water per City household until Wednesday, July 31<sup>st</sup>, 2024 at 8am, at which time bottled water will be available at the City Office.

After the system has restored pressure and lifted the advisory, its recommended consumers flush their building plumbing systems.

**What happened? What is being done?**



# Notification Methods

- BookFace
- City Website
- Local Radio
- Official Posting Locations
- Direct Contacts
  - Residences nearby
  - Food-type Businesses
- Electronic Billboard  
Message Signs

If you have questions regarding the safety of our drinking water, please contact:

Jordan Fritche	608-822-6119
Name of Responsible Person	Area Code-Telephone Number
860 Lincoln Avenue	Fennimore WI 53809
Street Address	City State Zip

I certify that the information and statements contained in this public notice are true and correct and have been provided to consumers in accordance with the delivery, content, format, and deadline requirements in Subchapter VII of ch. NR 809, Wis. Adm. Code.

X *J. Fritche* Signature 7/30/24 Date

Tier 1 Notice

\*\* Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

85 comments 190 shares



**A sign informing residents of the water boil advisory was put into place that lasted from the afternoon of Tuesday, July 30 until midday Friday, Aug. 2. Loss of water pressure in the water system due to several water main breaks lead to the advisory being issued.**

**Photo by Heather Copus**

# Notification Methods



ONSOLVE  
**CODERED**

Stay informed about what is happening in your community.

**Register for CodeRED to receive local emergency alerts.**

# Community Involvement

- City provided bottled water
- Voluntary bottled water provided (donated)
  - Bender's Foods
  - Kwik Trip
- Grant County Highway
  - Electronic signage

# Water Utility Response

- July 31<sup>st</sup> : Approx. 273,000 gallons pumped
- August 1<sup>st</sup> : Approx. 305,000 gallons pumped
- 20 to 30 Chlorine Residual tests completed
  - Target 0.5 – 0.7 mg/L
- Bac-T testing
  - 2 samples from 2 locations, 24 hours apart

# Boil Notice Rescinded

- Friday August 2nd at noon

Investigative samples collected on 7/31/2024 and again on 8/1/2024 were tested and reported to be free of total coliform and *E. coli* bacteria. As a result, this letter serves as confirmation that the Precautionary Boil Water Notice formally issued on 7/30/2024 is rescinded.

Water supplied by your system can be used for human consumption. Human consumption means drinking, cooking, food preparation and making ice, dishwashing, and all personal hygiene needs (e.g., showering, hand washing, bathing and oral hygiene).

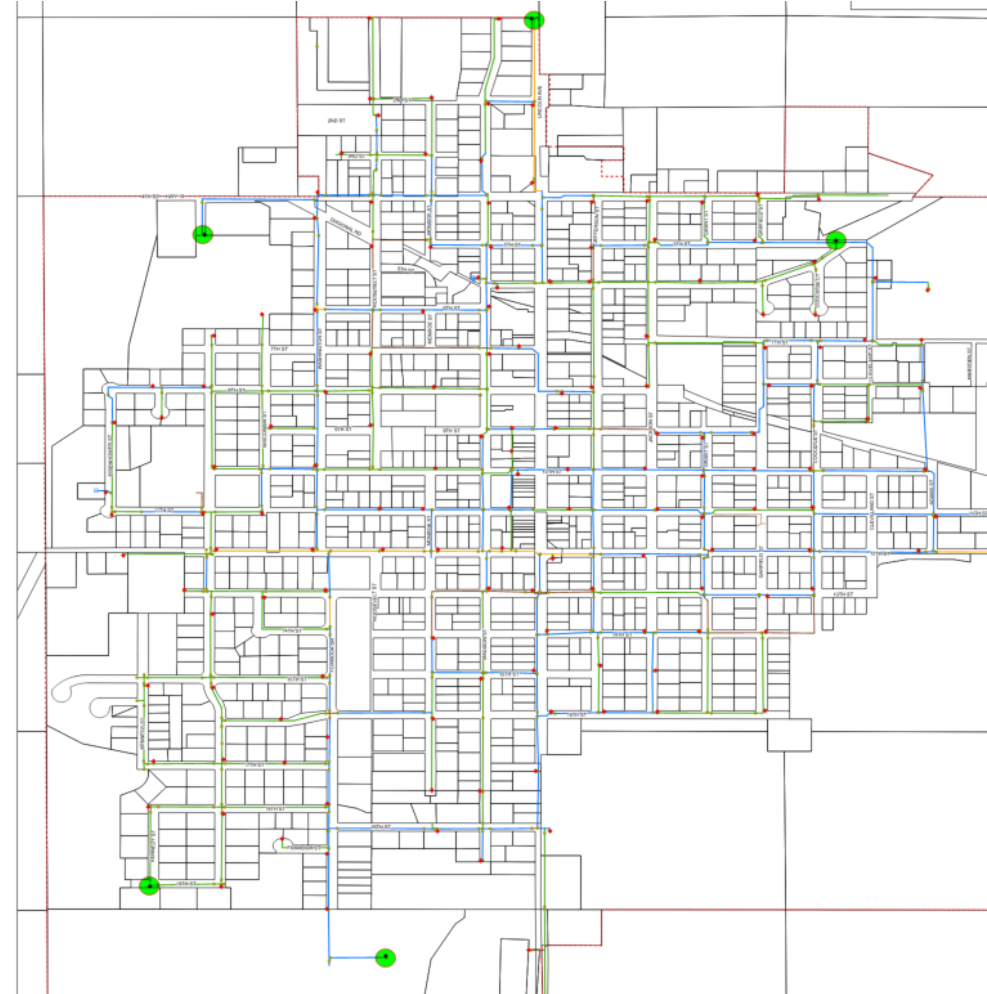
11 comments 98 shares

# DNR Follow-Up

- ‘Fennimore Hot Wash’
  - After Action Review
    - Short & Focused
    - Focus on WHAT, not WHO
    - Encourage open discussion
  - What happened and why
  - What will go differently next time
  - What follow-up is needed?

# Emergency Chlorination Plan

- WRWA has a plan template
- Procedure to document
  - Target chlorine dose
  - Dosing at wells
  - Dosing at reservoirs
  - Flushing and testing
- Map of flushing hydrants





# Lessons Learned

- System Awareness
- Disaster Preparedness
- Notification Means
- Staffing/Relationships
  - G-Pro Excavating
  - City of Lancaster
  - Water, Streets, Electric Utilities
  - Conference and Seminar attendance
- Mapping
- SCADA
  - Trending & Event Logging

# Acknowledgements

- City of Fennimore Staff and Council
  - Justin Tollefson, Braxton Wilson, Zack McLimans; Water/Wastewater Operators
  - Jordan Fritche; DPW
  - Ashley Edge; City Clerk
  - Ashley Mumm; Deputy Clerk
  - Missy Collins; Utility Clerk
  - Lydia McLimans; Community Development Manager
  - Mayor Ryan Boebel and City Council

# Questions / Comments

- Evan Chambers, Town & Country Engineering
  - 608-273-3350
- Jordan Fritche, City of Fennimore DPW
  - 608-822-6110
- Justin Tollefson, City of Fennimore  
Water/Wastewater
  - 608-988-6400