

WINTER STORM EVENT BRIEFING

Water and Wastewater Commission | April 7, 2021



Agenda

Director's **Opening Remarks**
Winter Storm System **Overview & Demand Analysis**
Financial Relief Achieved to Date
Austin Water's **Resiliency Efforts**

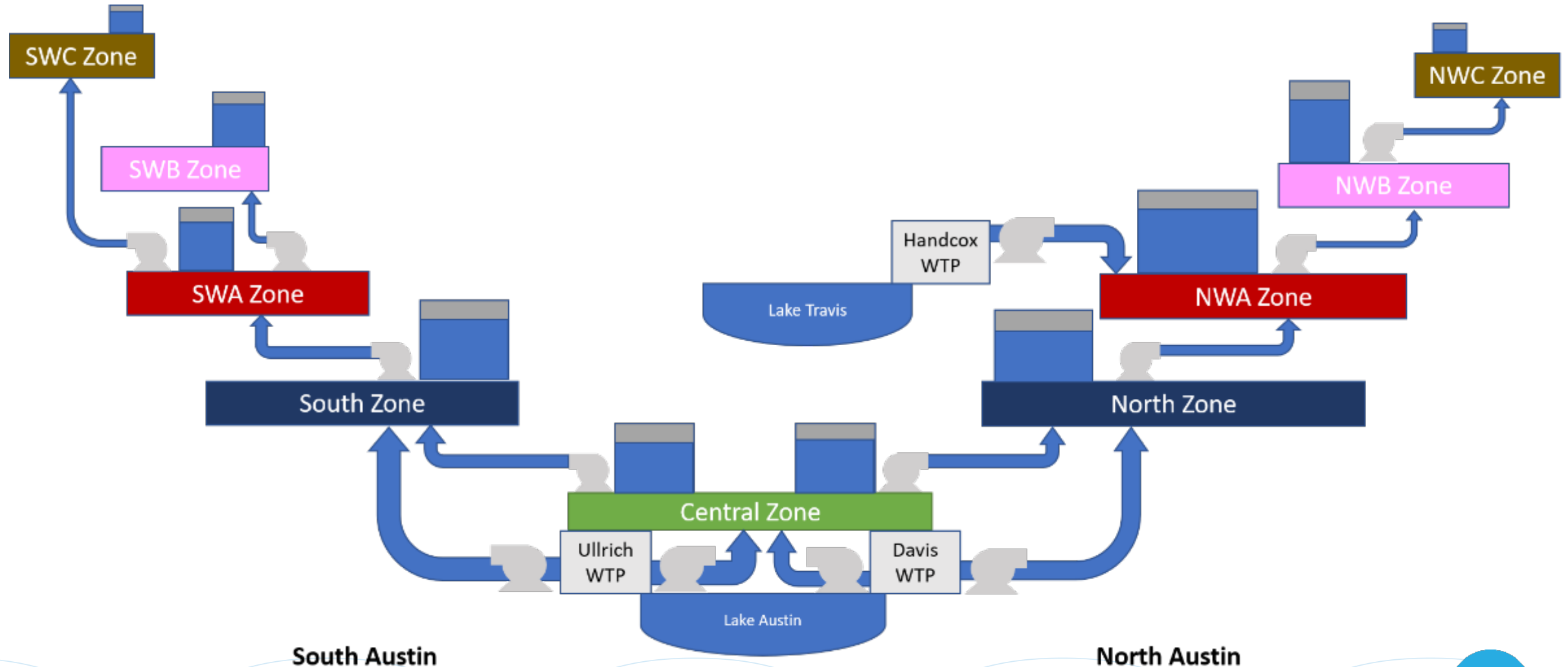


System Overview & Demand Analysis

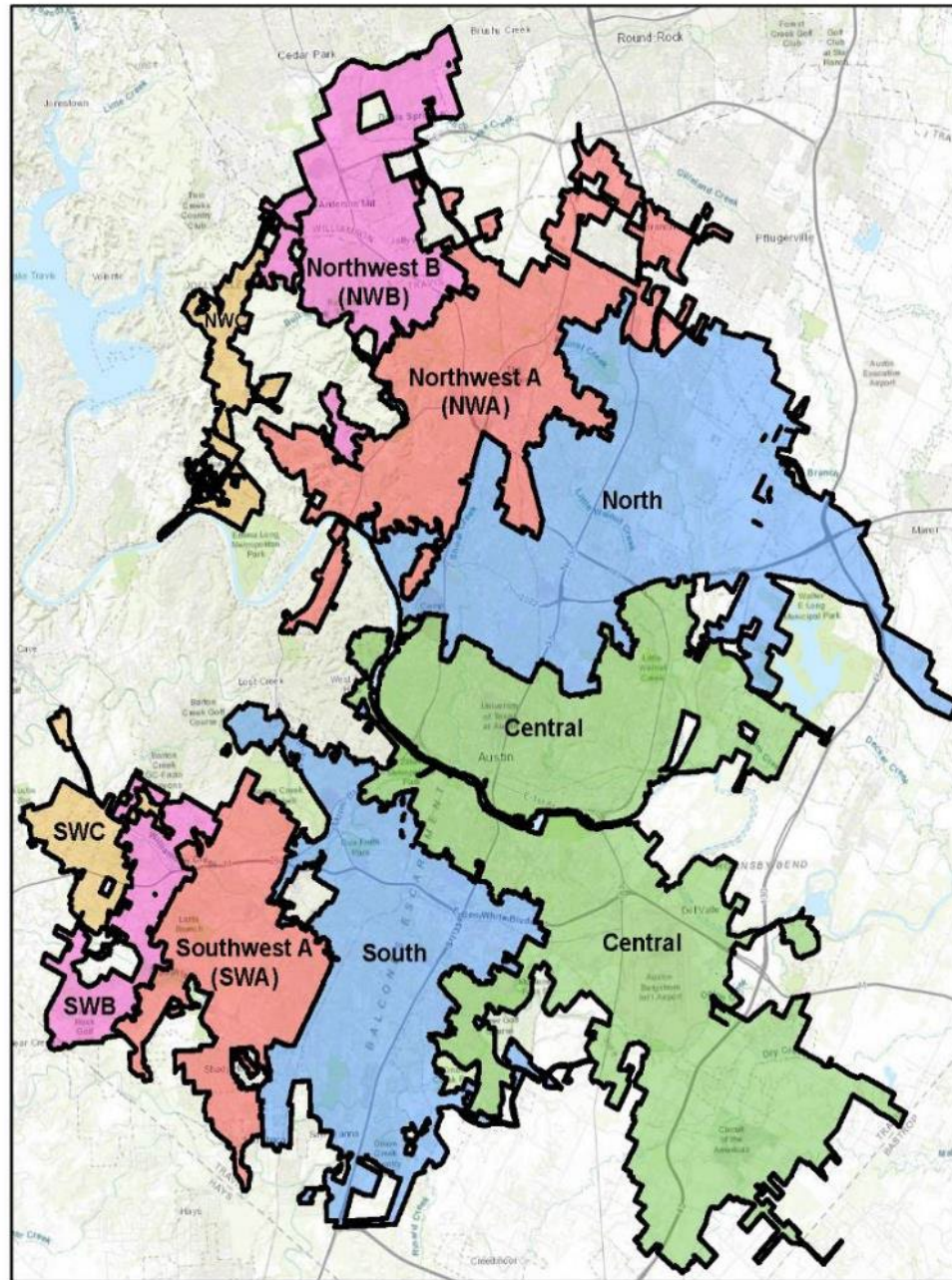
RICK CORONADO Assistant Director, Operations



System Overview



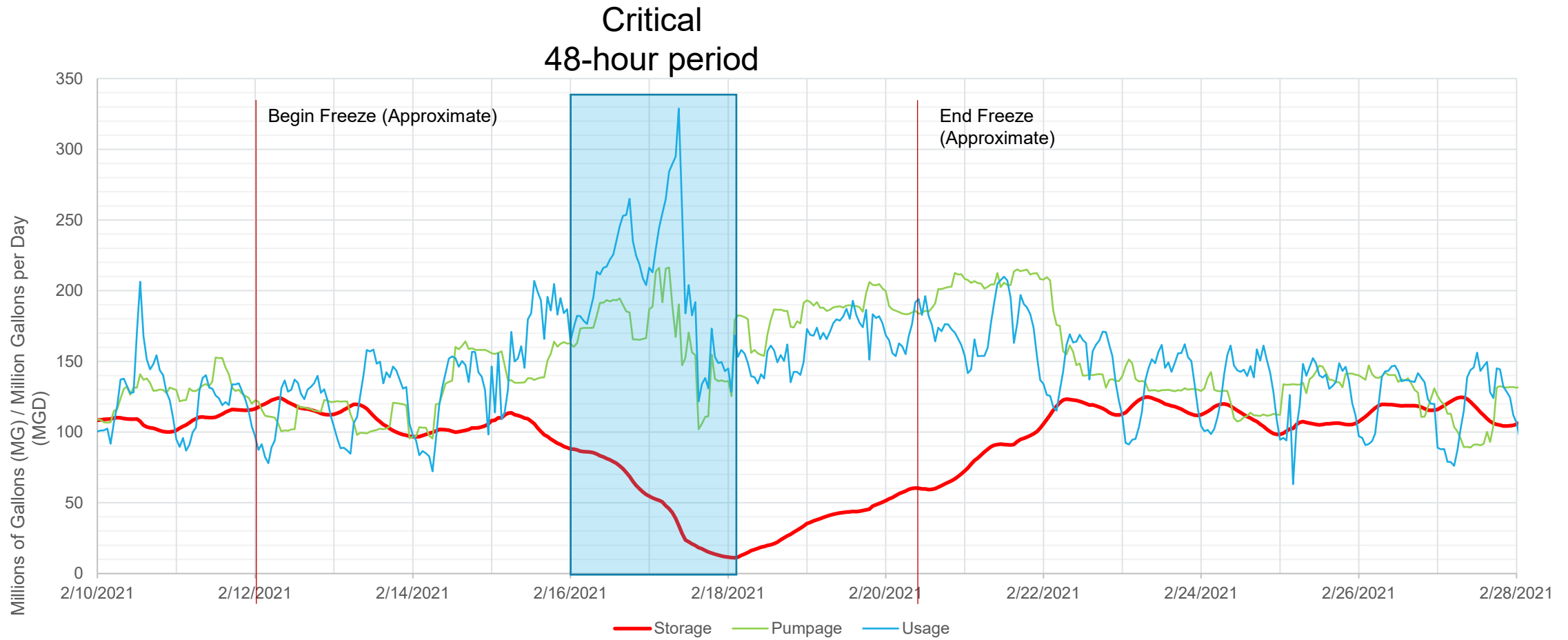
System Map



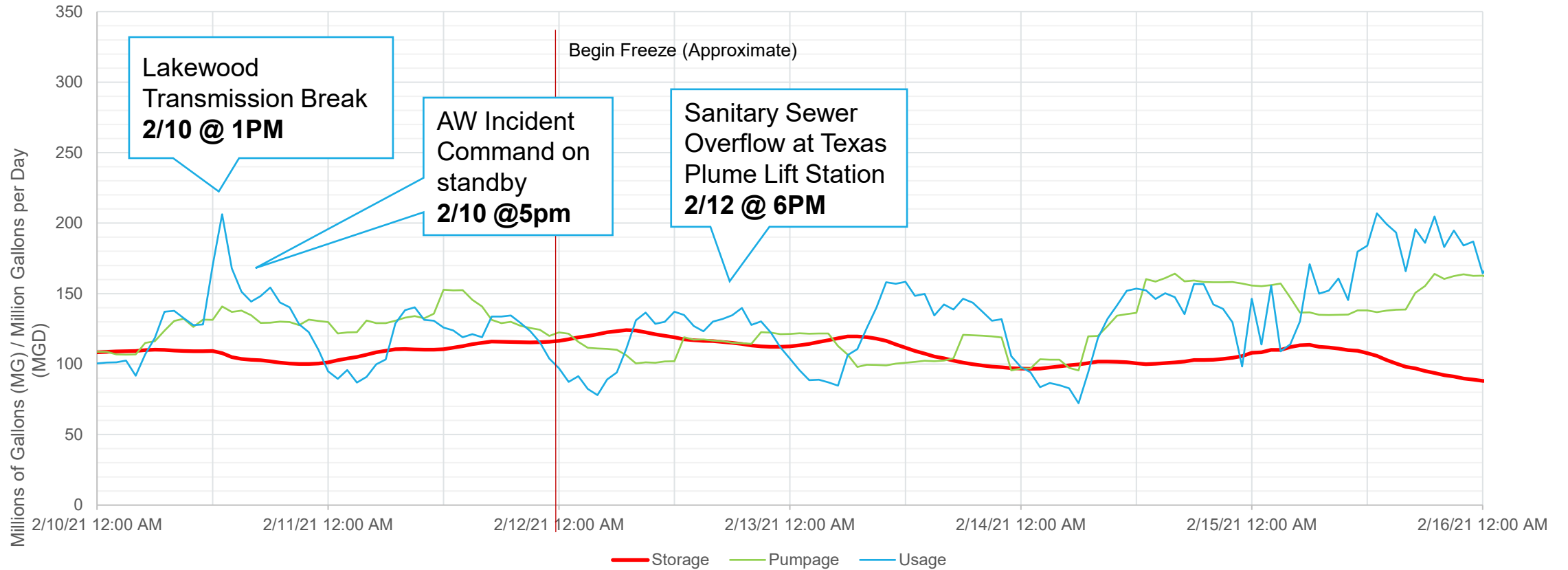
3/2/2021



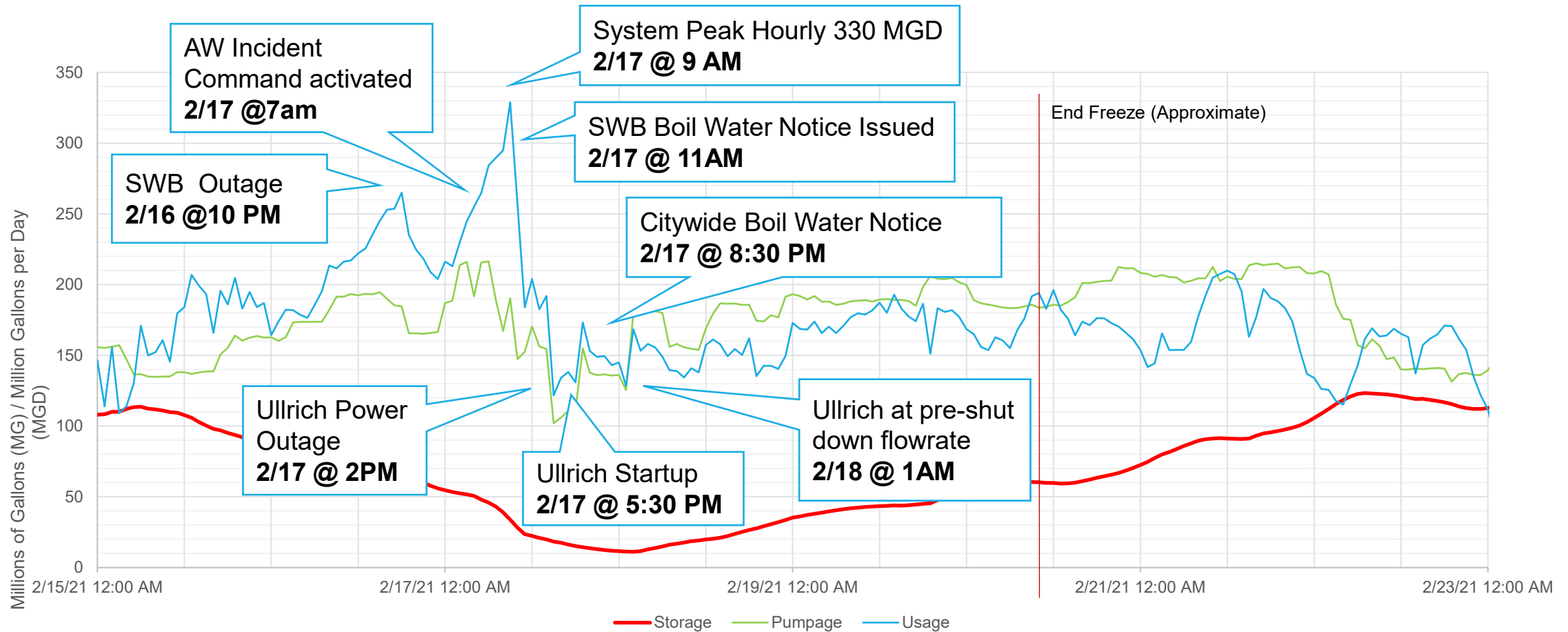
Event Overview



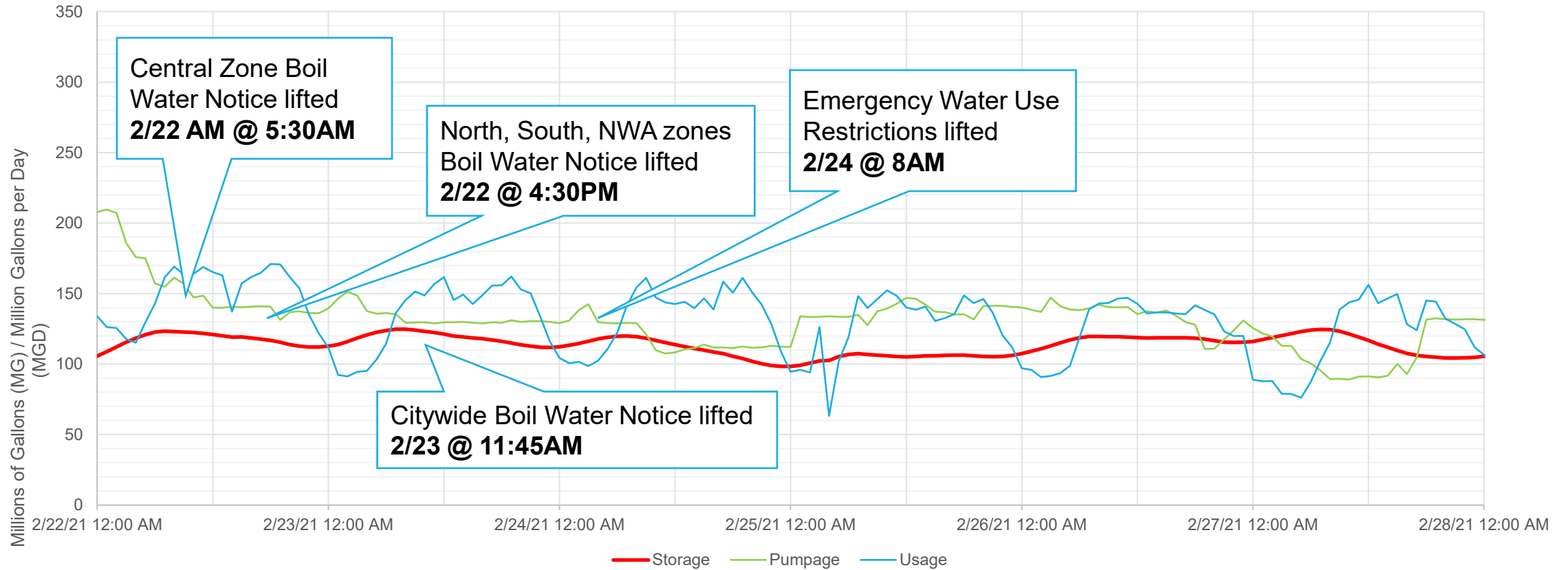
Initial Storm Response



Storage Loss



System Recovery

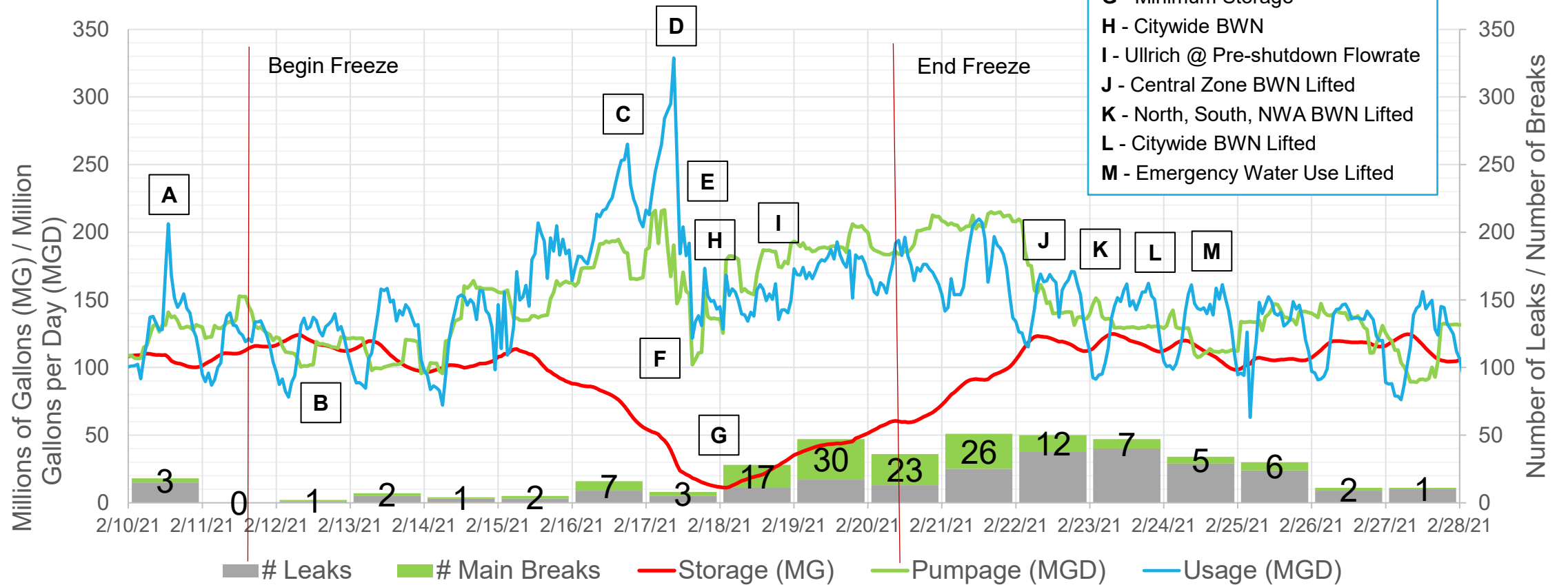


Leak/Break Timeline

Millions of Gallons (MG) / Million
Gallons per Day (MGD)

Number of Leaks / Number of Breaks

- A - Lake Creek 42" Break
- B - Texas Plume SSO
- C - SWB Low Pressure
- D - Peak Hrly Usage
- E - SWB BWN
- F - Ullrich Power Outage
- G - Minimum Storage
- H - Citywide BWN
- I - Ullrich @ Pre-shutdown Flowrate
- J - Central Zone BWN Lifted
- K - North, South, NWA BWN Lifted
- L - Citywide BWN Lifted
- M - Emergency Water Use Lifted



Storm Impacts to Facilities



Water Treatment Plant Accessibility

- ❖ Icy conditions prevented travel by staff. 4x4 vehicles with chains were required.
- ❖ Sludge trucks unable to access the plant and sludge truck hatches were frozen shut during sub-freezing temperatures.
- ❖ AW equipment and Street & Bridge support cleared the road, allowing sludge truck and chemical truck access by Friday, 2/19.



Ullrich Water Treatment Plant

Ferric sulfate lines broke and leaked

- ◆ Ferric sulfate lines associated with Upflow Clarifier 2 broke and caused leaks. Three leaks prevented bringing up Upflow Clarifier 2 and caused plant to maintain at 90 MGD on 2/19.
- ◆ Lines were professionally insulated but were not able to withstand the temperatures.
- ◆ The leak spread as snow melted and was successfully contained in sand on 2/20 and disposed by 2/22.





Icicle on UFC 1
(out of service)



Handcox WTP

**Broken water lines,
pressure issues and filter
backwash pump station
frozen**

- ◆ Pressure Reducing Valve broke on centrifuge water lines, which required sending sludge to sewer as early as 2/13.
- ◆ Potable water pumps, lines and instrumentation at filter backwash pump station froze. Filters continued to perform well despite high run times. Manual backwash was working by 2/20.
- ◆ Low pressure from Northwest C Pressure Zone to feed lime slakers; Used a potable water pump and hydrostatic tank to manually run slakers.

Collection Lift Stations

Power Outage Impacts

- 💧 Texas Plume Lift Station: Sanitary Sewer Overflow
- 💧 Scotland Wells Lift Station: Dry Pit Partially Flooded
- 💧 Cliffs over Lake Austin Lift Station: Storm Impacts
- 💧 Westpark Lift Station 3: Dry Pit Flooded – SSO avoided



South Austin Regional Wastewater Treatment Plant

💧 Broken Non Potable Water lines

- Repairs prioritized to critical equipment first
- Long-term solutions to include addition of heat strips, insulation, isolation valves to noncritical water lines

💧 Statewide hypochlorite shortage

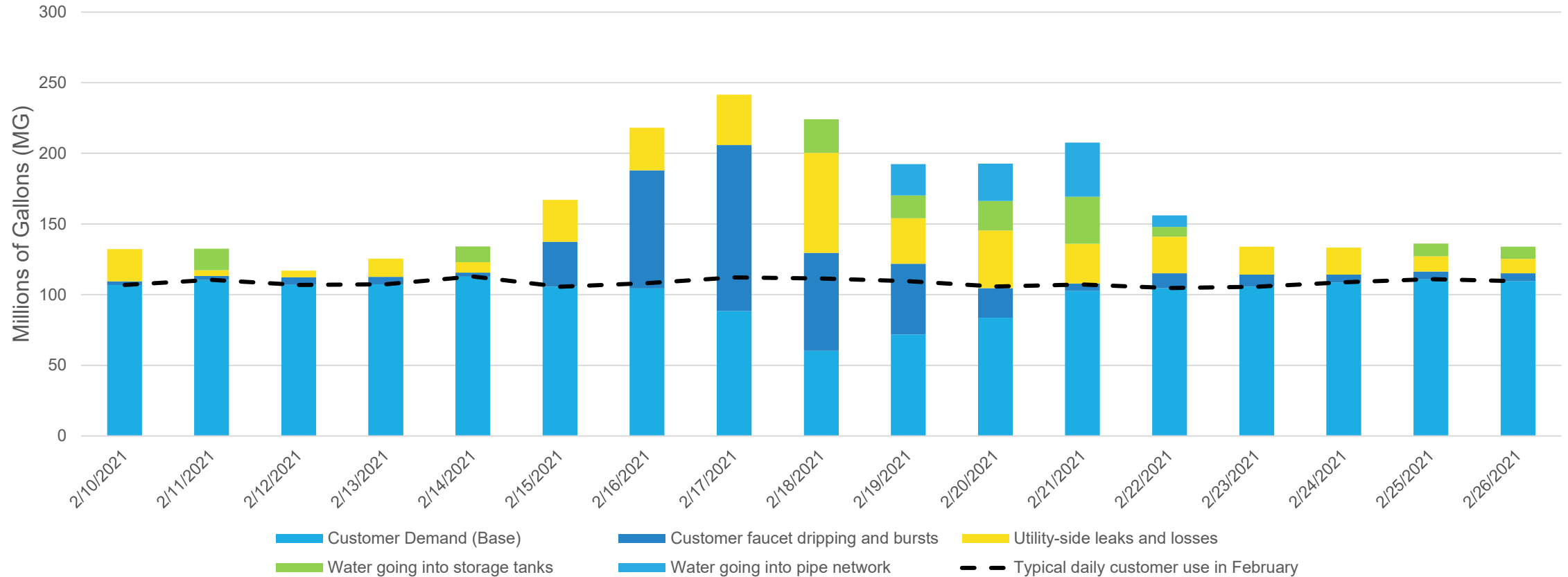
- Emergency purchases made through other vendors
- Purchase additional hypochlorite storage tank



Preliminary Demand Analysis



Preliminary Demand Overview

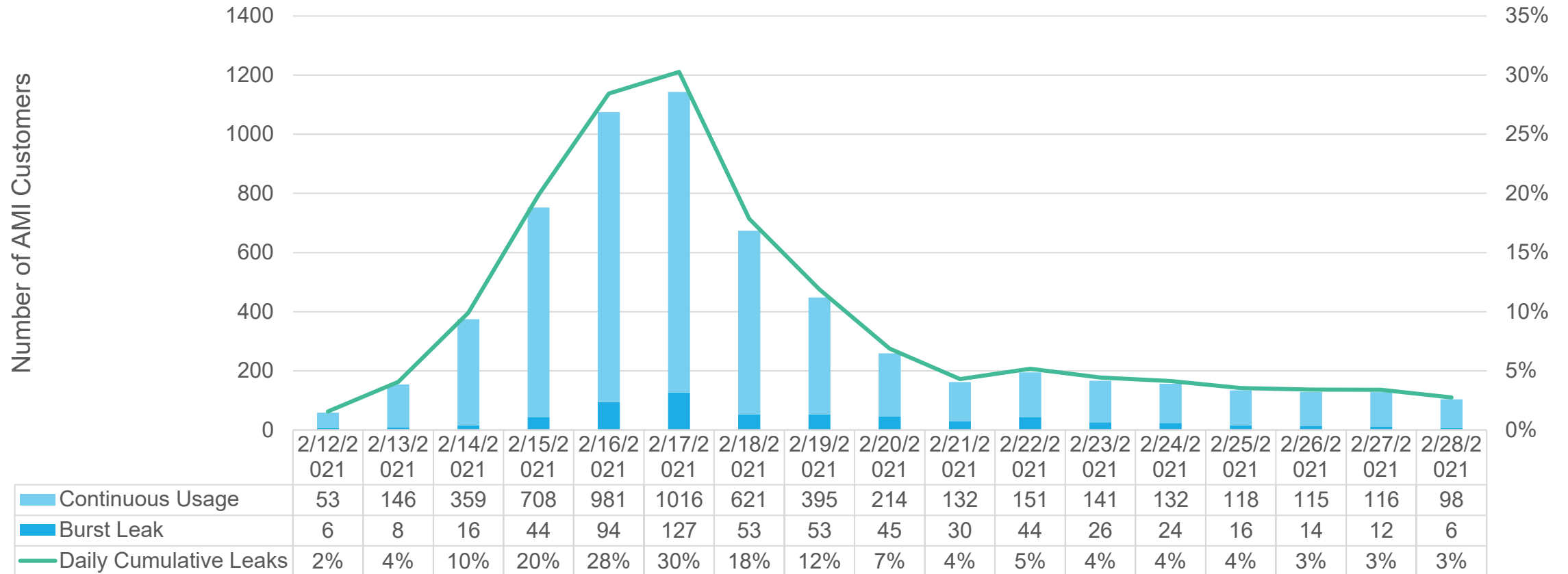


Customer Data

From **My ATX Water**
Customer Portal (AMI)



Continuous Usage & Burst Leaks Identified in Portal

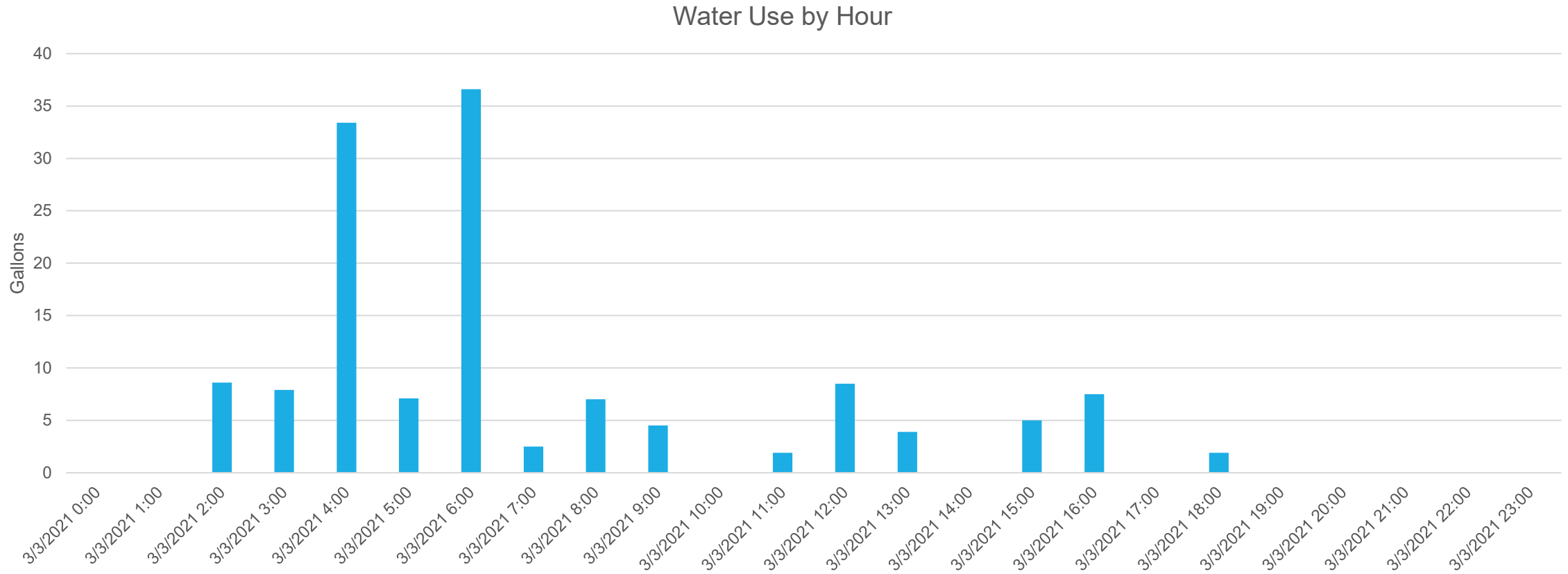


Example Customer Profiles

- 💧 The following slides show examples of two customers who had leaks identified during the freeze event.
- 💧 **Customer 1**
Running a hose to prevent a freeze, transitioning into a burst leak.
- 💧 **Customer 2**
Burst leak from a frozen irrigation line.

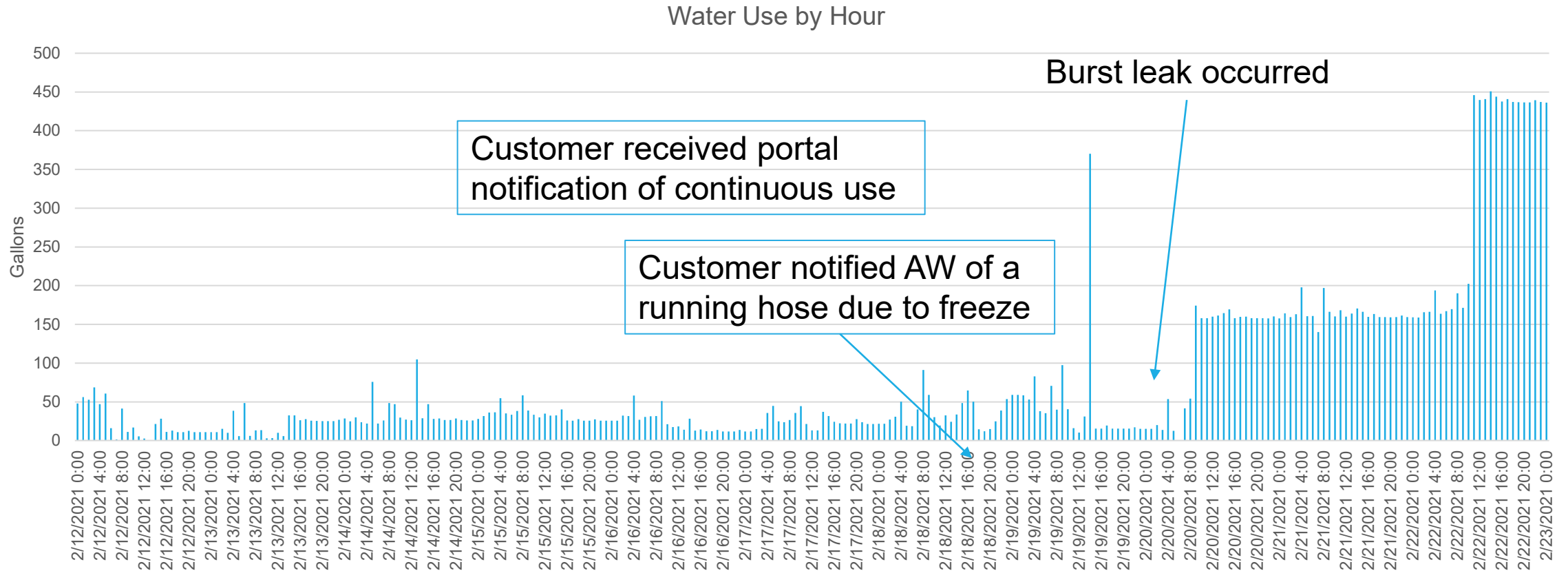


Normal Use Example



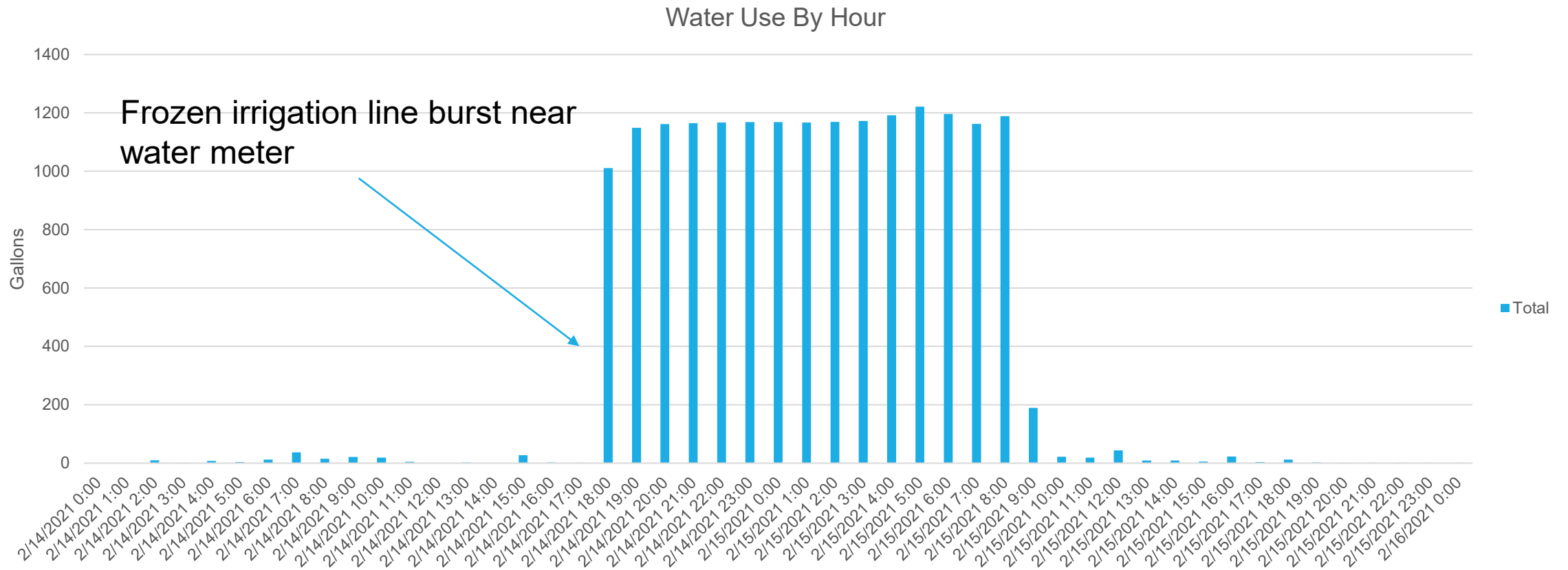
Customer #1

Continuous Usage Alert into a Burst Leak



Customer #2

Burst Leak



Demand Response Preliminary Analysis

- Summary of public-side repair response, including main and service lines
- Initial analysis of water main breaks
- More than 1,500 emergency water turn off requests



Financial Relief Achieved to Date

JOSEPH GONZALES Assistant Director, Financial Services



Winter Storm **Bill Relief**

- 💧 **Emergency Cut-off Fees Waived**
- 💧 **Residential Rate Reduction**
 - Reduce Tiers 3 – 5 volumetric rates to \$0.01 per 1,000 gallons
 - Cap Tiered fixed fee at \$3.55 (Tier 2)
- 💧 **Commercial & Multifamily Bill Adjustments**
- 💧 **Wastewater Averaging**



Winter Storm **Bill Relief**

💧 **Residential Rate Relief**

- Temporary rate relief savings - \$2,177,194

💧 **Commercial and Multifamily Bill Adjustments**

- Commercial bill adjustments applied - \$437,653
- Multi-family bill adjustments applied - \$702,094

💧 **Total Relief as of 3/23/21: Over \$3.3 Million**



Additional Relief

- **Emergency Home Repair Program**
 - Committed \$1 million for emergency plumbing repairs
- **Plus 1 Payment Assistance Funding**
 - Providing additional \$5 million in residential payment assistance funding



Austin Water's Resiliency Efforts

ANNA BRYAN-BORJA Assistant Director, Business Services



Austin Water has a proactive **Emergency Management** program

- ◆ National Incident Management System
- ◆ Emergency Management Staffing
- ◆ Departmental Operations Center
- ◆ Training, Drills, Tabletop Exercises
- ◆ Software for Incident Management, Continuity of Operations Planning

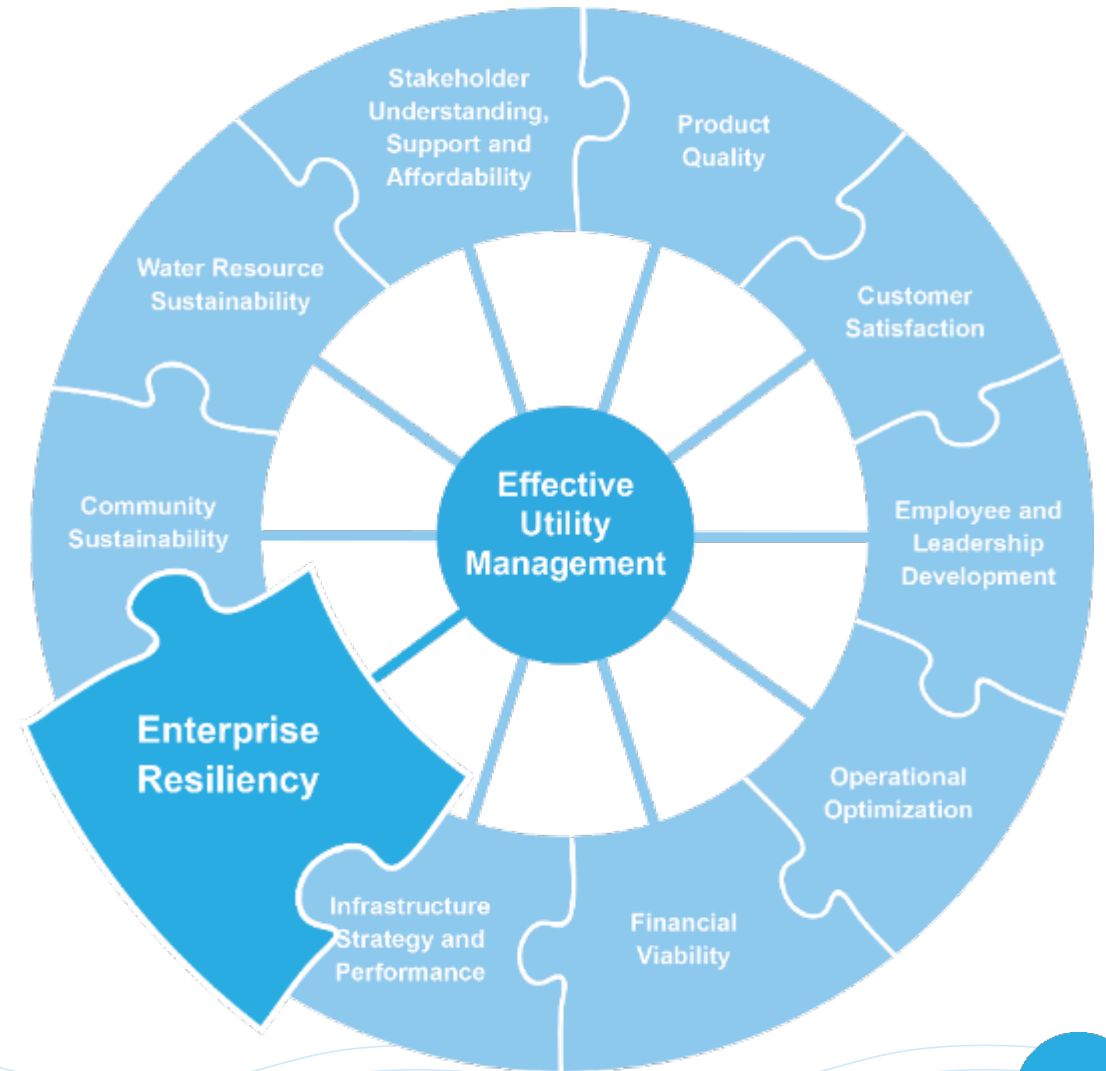


FEMA



Enterprise Resiliency is a Strategic Initiative at Austin Water

- Ensure AW preparedness for and response to critical incidents is effective, practiced, and regularly reviewed.
- Ensure water and wastewater operational resiliency through normal and emergent conditions.
- Ensure utility resiliency by identifying and addressing natural hazard risks.



Preparing for Future Emergencies

- 💧 Bottled Water Distribution in 2018, 2021
- 💧 AW purchased 60 water “totes”- 275 gallon tanks
- 💧 Bulk Water Truck



Austin Water Complies with America's Water Infrastructure Act

- 💧 **October 2018:** America's Water Infrastructure Act (AWIA) was signed into law
- 💧 AWIA requires drinking water systems serving more than 3,300 people to develop or update risk assessments and emergency response plans (ERPs)
- 💧 **AW certified compliance** with the risk assessment requirement in March 2020 and the ERP requirement in September 2020



America's Water Infrastructure Act 2.0

- 💧 AWIA requires recertification every 5 years
- 💧 AW will repeat the process for the drinking water system every 2 years
- 💧 In 2021, AW launched “AWIA 2.0” review process for wastewater system
- 💧 AW will repeat the review of wastewater every 2 years



Next Steps

- **Resilience Working Group**
- **After Action Report**



A photograph of four construction workers standing in a row in front of a dense bamboo grove. They are all wearing white hard hats, high-visibility yellow safety vests with orange reflective stripes, and face masks. The worker on the far left is also wearing a blue t-shirt and work gloves. The worker second from the left is wearing a black face mask. The worker third from the left is wearing a blue bandana over his mouth and sunglasses. The worker on the far right is wearing a grey face mask and safety glasses. A semi-transparent blue banner is overlaid across the middle of the image, containing the title and date.

Questions and Discussion

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