

**CITY OF SEBASTOPOL CITY COUNCIL
AGENDA ITEM REPORT FOR MEETING OF:**

October 15, 2024

To: Honorable Mayor and City Councilmembers
From: Dante Del Prete, Public Works Superintendent
Subject: Status of Water Supply/City Water Wells/Infrastructure Issues Presentation

RECOMMENDATIONS:

That the City Council receive the informational presentation of the City Water Supply, City Water Wells, and Infrastructure. This report is to provide a general understanding of the components and current status of the municipal water system.

EXECUTIVE SUMMARY:

The City of Sebastopol’s water system represents one of the largest investments in public infrastructure in the City, playing a critical role in providing the foundation for our community to thrive. The staff presentation is meant to be informative and aid in decision making by providing insights into asset conditions and activities that are driving operations of the City’s water system.

BACKGROUND AND DISCUSSION:

The City of Sebastopol owns, operates, and maintains approximately 36.7 miles of water mains and pipelines, 3 storage facilities, 1 booster pump station, 1 blending pump station, 4 active groundwater wells, and 2 arsenic treatment systems to produce, treat, and distribute water to the City’s water customers.

The operation and maintenance of the City’s water system are funded by the City’s Water Enterprise Fund. Financially, the water utility is operated as a self-supporting enterprise relying primarily on revenues from water rates to fund the cost of providing service and maintaining the water system.

The City of Sebastopol provides potable water to approximately 2,975 water meter accounts in the City of Sebastopol as well as providing water through the City’s water tower located at the City Corporation Yard. The Sebastopol municipal water system produced approximately 289 million gallons of treated drinking water in 2023.

Tonight’s presentation is to provide a general overview of the City’s water system key elements and conditions. Items that are included:

- Flow Diagram Simplified
- Water Production Wells
- Water Supply Aquifer
- Water Pressure Zones Defined
- Water Storage
- Water Quality and Regulatory Compliance
- Water System Age
- Future Significant Distribution System Upgrades
- Water System Master Plan Elements
- Water System Staff and Customer Service

STAFF ANALYSIS:

The Sebastopol water system consists of four major categories: production, treatment, storage, and distribution. These elements are prioritized for required preventative maintenance and replacement schedules to ensure reliability of the system. The Water System Master plan scheduled in this budget cycle will provide a comprehensive condition assessment to address potential modifications to distribution system and future replacement schedules. The City is obligated by State regulations to maintain the integrity of its water production, treatment, and distribution systems

COMMUNITY OUTREACH:

As of the writing of this staff report, the City has not received any public comment. However, staff anticipates receiving public comment from interested parties following the publication and distribution of this staff report. Such comments will be provided to the City Council as supplemental materials before or at the meeting. In addition, public comments may be offered during the public comment portion of the agenda item. This item has been noticed in accordance with the Ralph M. Brown Act and was available for public viewing and review at least 72 hours prior to the scheduled meeting date.

FISCAL IMPACT:

There is no cost associated with this item as it is an informational report only.

OPTIONS:

It is recommended that the City Council receive this informational presentation to better understand the municipal water system and its components.

ATTACHMENTS:

City of Sebastopol Municipal Water System Presentation

APPROVALS:

Department Head Approval: DDP Approval Date: 9-24-24

CEQA Determination (Planning): JJ Approval Date: 9-24-24

The proposed action is not a project under the California Environmental Quality Act (CEQA)

Administrative Services/Financial Approval: AK Approval Date: 9-24-24

Costs authorized in City Approved Budget: Yes No N/A

City Attorney Approval: _____ Approval Date: _____

City Manager Approval: _____ Approval Date: _____

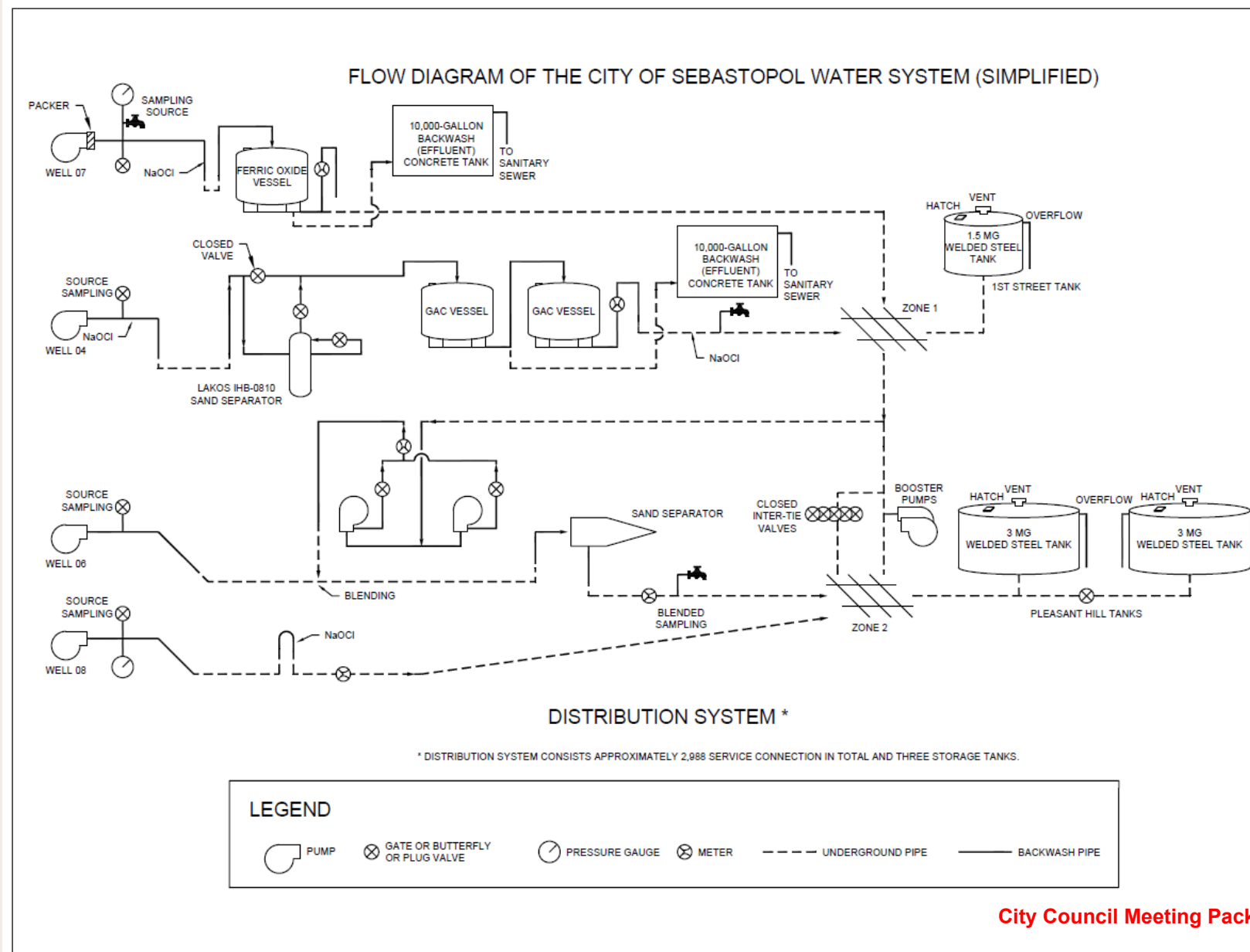
City of Sebastopol Municipal Water System



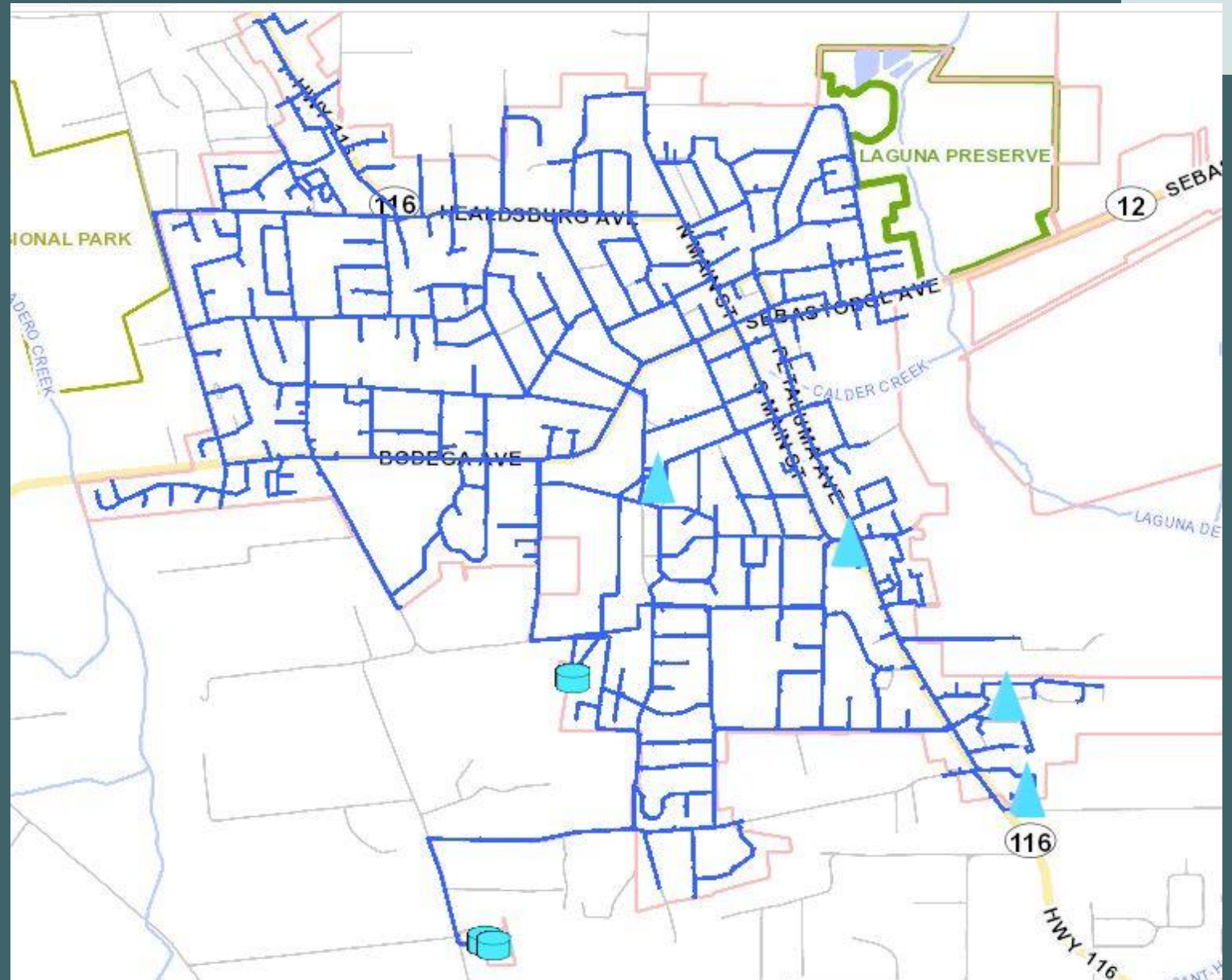
Water System Elements

- Flow Diagram Simplified
- Water Production Wells
- Water Supply Aquifer
- Water Pressure Zones Defined
- Water Storage
- Water Quality and Regulatory Compliance
- Water System Age
- Water System Staff and Customer Service

Flow Diagram Simplified



Water Production Wells



Well 4, Water Zone 1

- Location- 710 Petaluma Avenue
- Year installed- 1953
- Well Drilled to a Depth of -775 ft
- Well Pump Set Depth- 250 ft
- Current Treatment- Granular Activated Carbon (GAC), Disinfection
- Contaminant(s) of Concern- PCE Perchloroethylene, or aka tetrachloroethylene (Dry Cleaner)
- Average Gallons Per Minute (GMP) Production- 1020 gmp
- Average Annual Production- 157 MG



Well 7, Water Zone 1

- Location- 1157 Village Way
- Year Installed- 1996
- Well Drilled to a Depth of -710 ft
- Well Pump Set Depth- 440 ft
- Current Treatment- Packer (Plug) installed at 395-400' to seal off upper screens, CO2 pH adjustment, Granular Ferric Oxide Media, Disinfection
- Contaminant of Concern- Arsenic, in the form of As(III)
- Average Gallons Per-Minute (GPM)- 490gpm
- Average Annual Production- 86.5 MG



Well 6, Water Zone 2

- Location- 991 Gravenstein HWY So.
- Year installed- 1968
- Well Drilled to a Depth of – 1,015ft
- Well Pump Set Depth- 220ft
- Current Treatment- Blending, Disinfection
- Contaminant(s) of Concern- Arsenic, in the form of As(V)
- Average Gallons Per Minute (GMP) Production- 350gpm
1250gpm when blended with Zone 1 water
- Average Annual Production- 26.5 MG



Well 8, Water Zone 2

- Location- 351 Jewell Avenue
- Year installed- 2007
- Well Drilled to a Depth of – 580ft
- Well Pump Set Depth- 400ft
- Current Treatment- Disinfection
- Contaminant(s) of Concern- None
- Average Gallons Per Minute (GMP) Production- 445gpm
- Average Annual Production- 44.5 MG



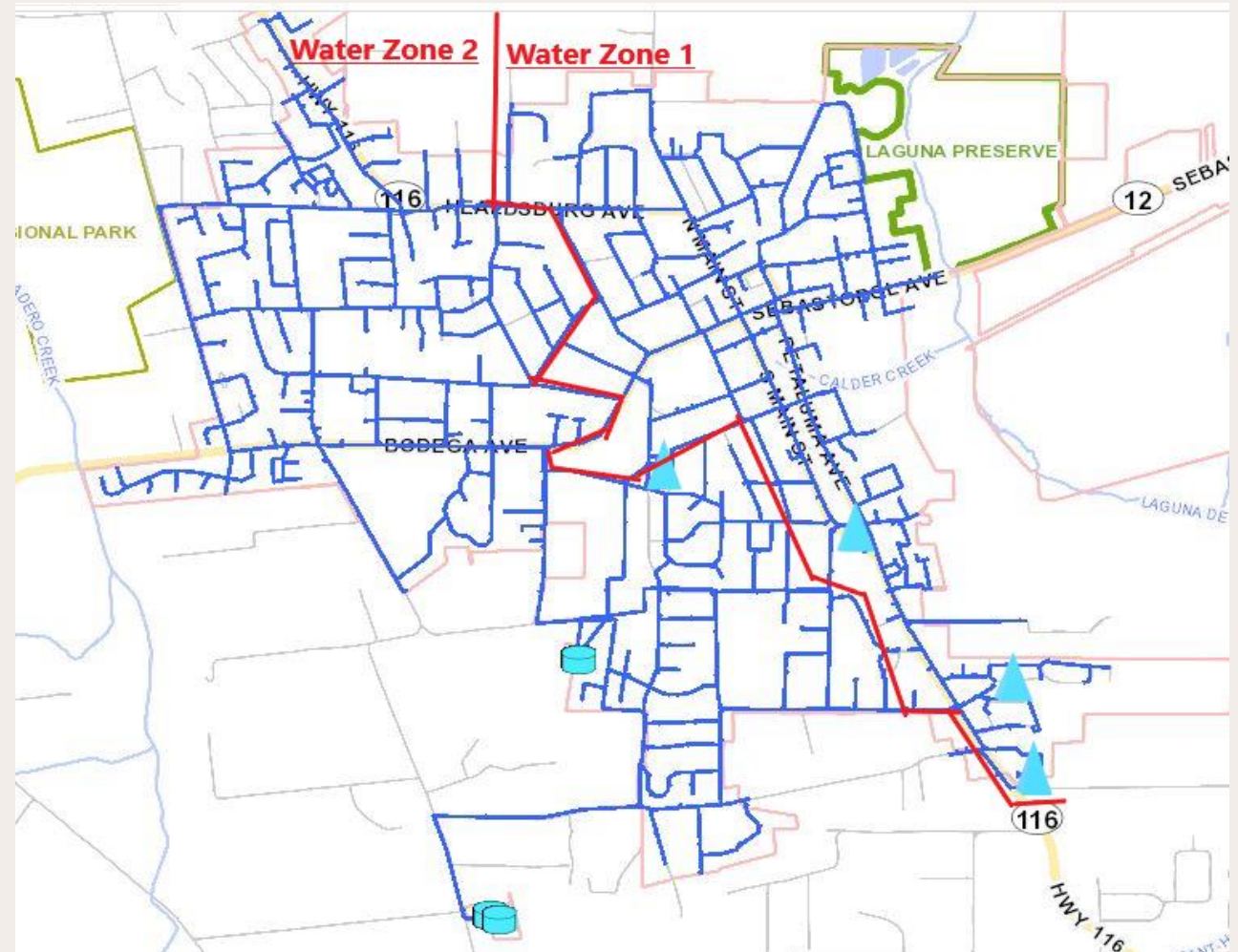
Wilson Grove Aquifer

All the city's water producing wells overlay the Wilson Grove Formation which is currently rated at "low-risk" by the Sustainable Groundwater Management Act.



Water Zones Defined

- **Water Zone 1**, Lower Elevation of the City. Pressure Determined by gravity feed from the elevation of the First Street Reservoir
- **Water Zone 2**, Higher Elevation of the City. Pressure determined by gravity feed from the elevation of the Pleasant Hill Reservoirs 1 & 2



Water Storage First Street Reservoir

- Location- 976 Mackey Ct.
- Year Constructed- 1991
- Type of Construction- Welded Steel
- Capacity-1.5 Million Gallons
- Dimensions- 106' diameter, 24' height
- Water Zone 1, Lower Elevation of the City. Pressure Determined by gravity feed from First Street Reservoir

❖ Note

The water wells pump directly into the distribution system. When water production surpasses the demand usage water then “overflows” into the reservoirs for storage



Water Storage Pleasant Hill Reservoirs #1 and #2

- Location- 1281 Pleasant Hill Rd
- Configuration- Two Welded Steel Reservoirs, connected through pipes and isolation valves
- Capacity- 6 Million Gallons total in both reservoirs
- Water Zone 2, Higher Elevation of the City. Pressure determined by gravity feed from Pleasant Hill Reservoirs 1 & 2

❖ Note

The water wells pump directly into the distribution system. When water production surpasses the demand usage water then “overflows” into the reservoirs for storage



Water Storage Pleasant Hill Reservoir #1

- Location- 1281 Pleasant Hill Rd
- Name- Pleasant Hill #1 Reservoir
- Capacity- 3 Million Gallons
- Dimensions- 120' diameter, 39' height
- Construction- Welded Steel
- Date Constructed- 1979



Water Storage Pleasant Hill Reservoir #2

- Location- 1281 Pleasant Hill Rd
- Name- Pleasant Hill #2 Reservoir
- Capacity- 3 Million Gallons
- Dimensions- 120' diameter, 36' height
- Construction- Welded Steel
- Date Constructed- 1986



Water Quality and Regulatory Compliance

- **Water Sampling**
 - Weekly Bacteriological
 - Source Sampling
 - Lead and Copper
 - Regulated Contaminants
- **Backflow Prevention and Testing Program**
 - Protects the municipal water system from potential contaminants
 - Backflow Required Connections- Commercial, Irrigation, City Owned facilities, and Parks
- **System Maintenance Activities**
 - Water Main Valve Exercising
 - System Dead-end Blowoffs
 - Fire Hydrant Exercising
- **System Resilience and Precautionary Redundancy**
 - The City has sufficient redundancy in the event of a facility malfunction, shutdown for maintenance, or for a planned system upgrade or repair
 - Production redundancy, Pumping schedules can be adjusted to accommodate production volumes in order to accommodate shutting down individual water wells
 - Storage Reserves, 7+ days of normal use with full reservoirs. Could extend with mandatory conservation orders

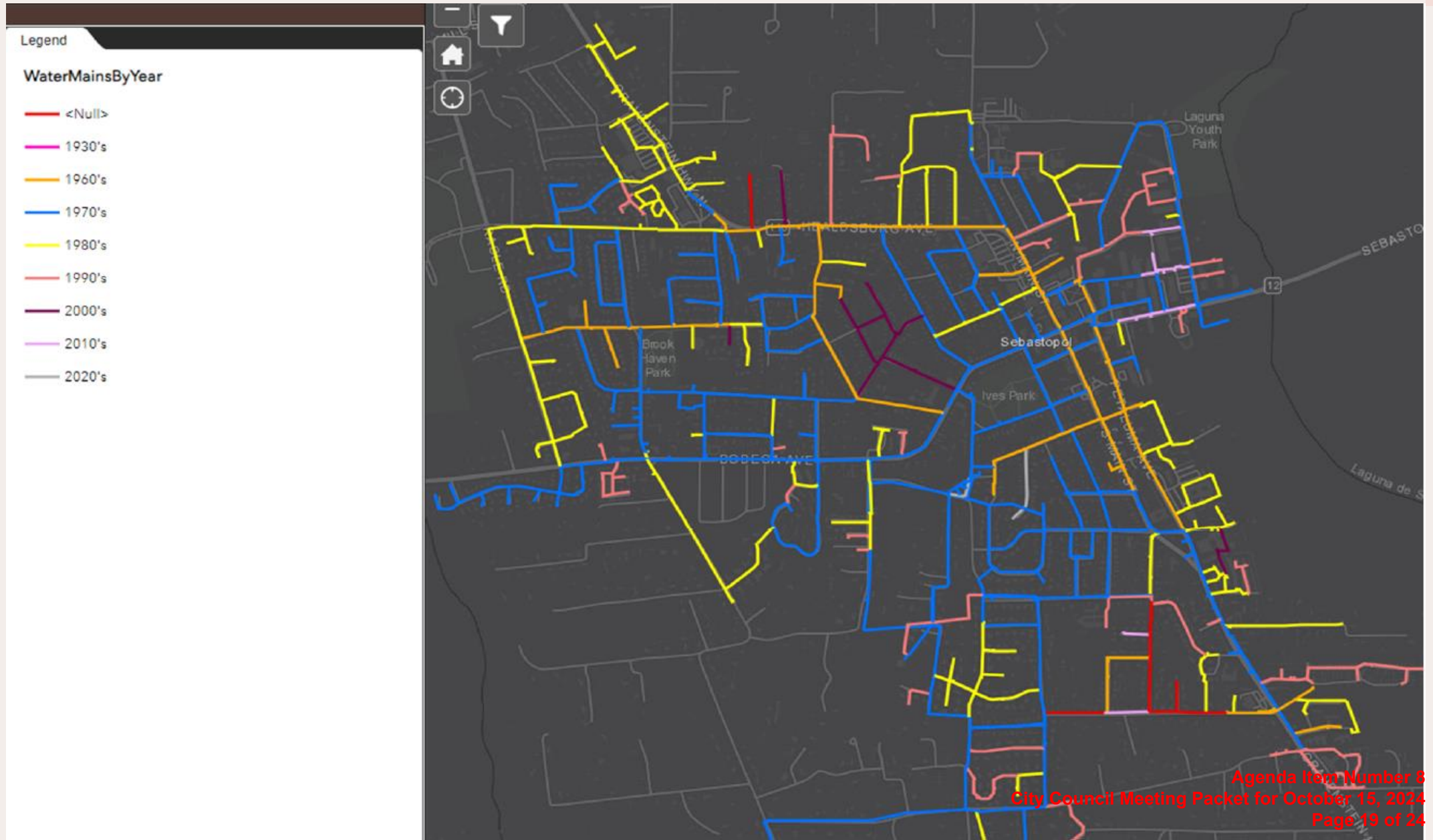


City History and Water System Age

- The City experienced significant growth in the in the downtown areas during 1960s-1980s which necessitated water system upgrades.
- The current water system was primarily installed between 1960 and 1990, with most existing operating mains installed within this period.



Water System Age Map



Future Significant Distribution System Upgrades

1. **Replacement of Aging Sections of Water System Infrastructure** -Downtown corridor is approaching 65 years of service life
2. **Well 4 Replacement** –Essential Water Treatment Facility Utilizing the oldest well site
3. **Pleasant Hill Reservoir Tank 2 Interior Relining** –Tank Liner is due to be replaced with new material
4. **Well 6 Arsenic Treatment Facility** –Treatment facility has been designed should arsenic levels increase beyond current treatment
5. **Pleasant Hill Road Water System Connection Loop** –Connection would provide a secondary connection for the current Lynch Road single pipe connection to Pleasant Hill Reservoirs



Water System Master Plan Elements



Key Components of a Water Master Plan

1. Infrastructure Assessment

Infrastructure assessment is the first critical step in formulating a water master plan. This involves a comprehensive evaluation of the existing water system infrastructure which includes inspecting pipelines, storage facilities, treatment plants, and distribution networks.

2. -Data Collection and Analysis

Accurate data forms the cornerstone of effective water master planning. Data collection and analysis are essential to making informed decisions. This includes gathering data on various aspects such as water quality, consumption patterns, and future growth projections.

3. -Identifying Infrastructure Needs

Identifying infrastructure needs is the next crucial component of a water master plan. Based on the data collected and analyzed, the plan should identify areas that require system improvements, upgrades, maintenance costs, or expansion.

4. Developing Long-Term Goals

Watermaster planning extends beyond addressing immediate needs and includes future needs. It involves developing long-term goals that are essential to ensuring the sustainability of water resources and the protection of the environment.

Public Works Water System Staff

Responsibilities,

- **Chief Operation Officer-** Public Works Superintendent, Dante Del Prete
- **Maintenance and Construction Coordination-** Public Works Assistant Superintendent, Erik Billing
- **Regulatory Compliance-** Water Treatment Operator, Andrew Cerini
- **Field Maintenance Staff-** Construction and Repairs, By Assignment
- **Public Works State Certified Operators-**
 - Water Treatment Operators- 6
 - Water Distribution Operators- 9
 - Backflow Certified Testers- 2



Questions?



Thank you,

- Dante Del Prete
- Public Works Superintendent
- ddelprete@cityofsebastopol.gov

