



# Water System Plan Implementation

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# Plan Purpose

- Document Policies
- System Evaluation
  - Reliability
  - Water Quality (chlorine, backflow prevention, etc)
  - Capacity (growth, fire flow, storage, etc)
  - Customer Service (Pressure, O&M, etc)
  - Financial Sustainability
- Basis for capital improvements



# Plan Purpose (Continued)

- Required by:
  - Washington Administrative Code 246-290-100
  - King County Code 13.24
  - Bellevue City Code 24.02.070
- Demonstrates conformance with the Growth Management Act (GMA) for water system planning



# Non-CIP Recommendations

- Engineering Evaluations:
  - Chlorine Residuals
  - Backup Power
  - Seismic Vulnerability Assessment
  - Emergency Wells/ Water Rights
- Implement AMI
- Expand Asset Management Program



# CIP Recommendations

- Add inlet capacity
- Add access to storage
- Replace W Lake Samm Pkwy water main
- Fire Flow and Pressure Improvements
- Continue ongoing rehabilitation programs

# Seismic Vulnerability Assessment



- Scope:
  - Establish level of service goals (restoration time, etc)
  - Simulate seismic performance, customer impacts
  - Recommend improvements to meet goals
- Participate with Central Puget Sound Water Supply Forum

*San Fernando, CA  
1971*



# Seismic Vulnerability Assessment



- Policy Considerations (Future ESC Discussions):
  - Level of Service Goals (restoration times)
  - Prioritization for Resiliency Improvements
  - Operational Policies (priorities during curtailment)



# Wells

- Emergency Water Supply Master Plan proposed
- 2018
  - Economic Loss Assessment complete
  - Water Quality Assessment complete
  - Demand assessment and conceptual site layouts
- Future Work:
  - Incorporate seismic findings into Master Plan
  - Draft Master Plan tentatively in 2020
  - Siting study may be proposed for 2021





- ☐ Nov. 2018 – Contract negotiations closed
- ☐ Dec. 2018 – Council approves contract
- ☐ Jan. 2019 – Project kick-off/launch
- ☐ Feb. 2019 – Customer portal to Council
- ☐ Dec. 2020 – Project completion



# Inlet Capacity

CIP W-104:

- New inlet location selected (136<sup>th</sup> & NE 8<sup>th</sup>)
- Construction in 2020

CIP W-110:

- Enatai Inlet Replacement (also 2020)  
adds tertiary supply

*Bel-Red Inlet*





# Storage Deficit

- East-west transmission project will make excess storage available 2020
- Clyde Hill project completed; access to 0.4 MG “dead” storage
- Pikes Peak deficit to be resolved following on-site generator at Cherry Crest PS

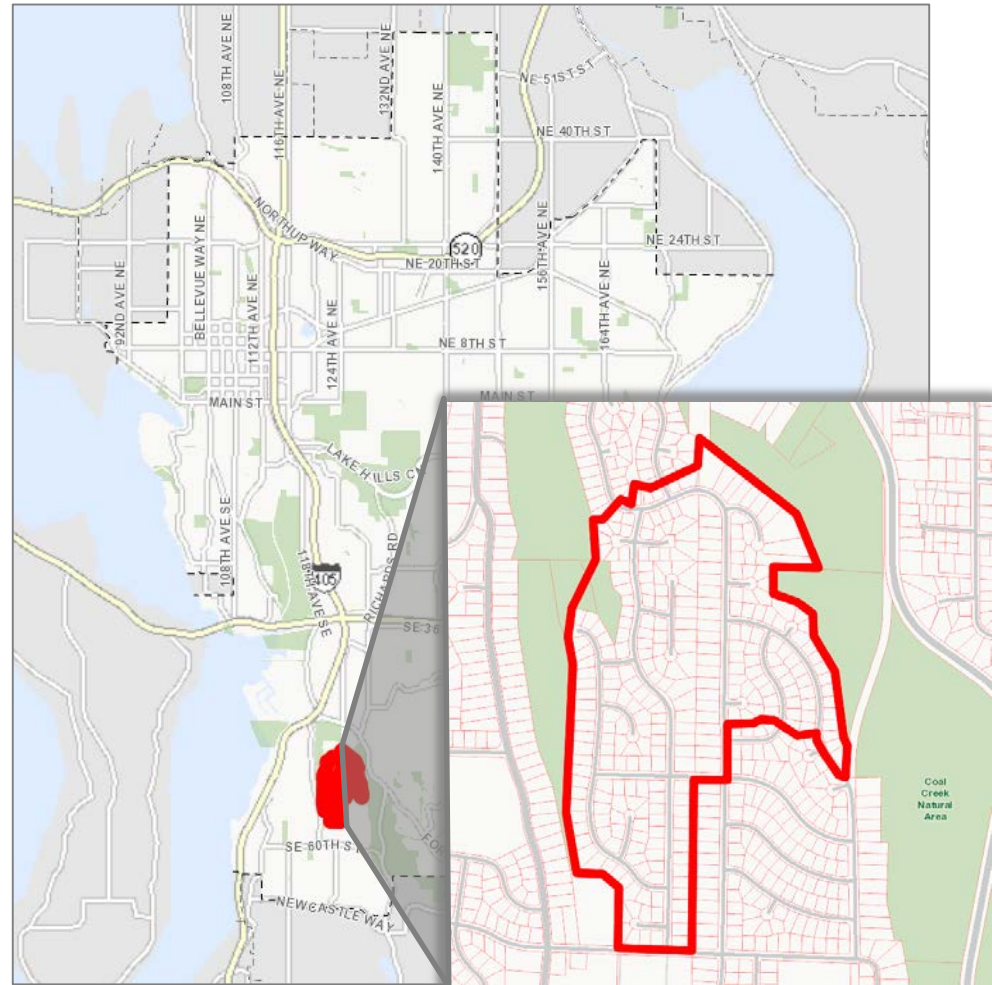


*Woodridge Reservoir*

# Newport Hills Fire Flow



- 285 +/- single-family houses with deficient fire flow and lack of system redundancy
- New PRV project will resolve both problems
- 2018: Location selected, design through 90%
- 2019-2020: Bidding and construction.





# W. Lake Samm Fire Flow

- Will allow pressure increase after infrastructure installed:
  - 2017 PRV station (done)
  - 2018-2019 Outreach and policy issues (ongoing)
  - 2019-2020 replace main
  - 2020 individual PRVs
- Addresses largest fire flow deficiency in system

*Existing Fire Flow  
(270 Zone)*

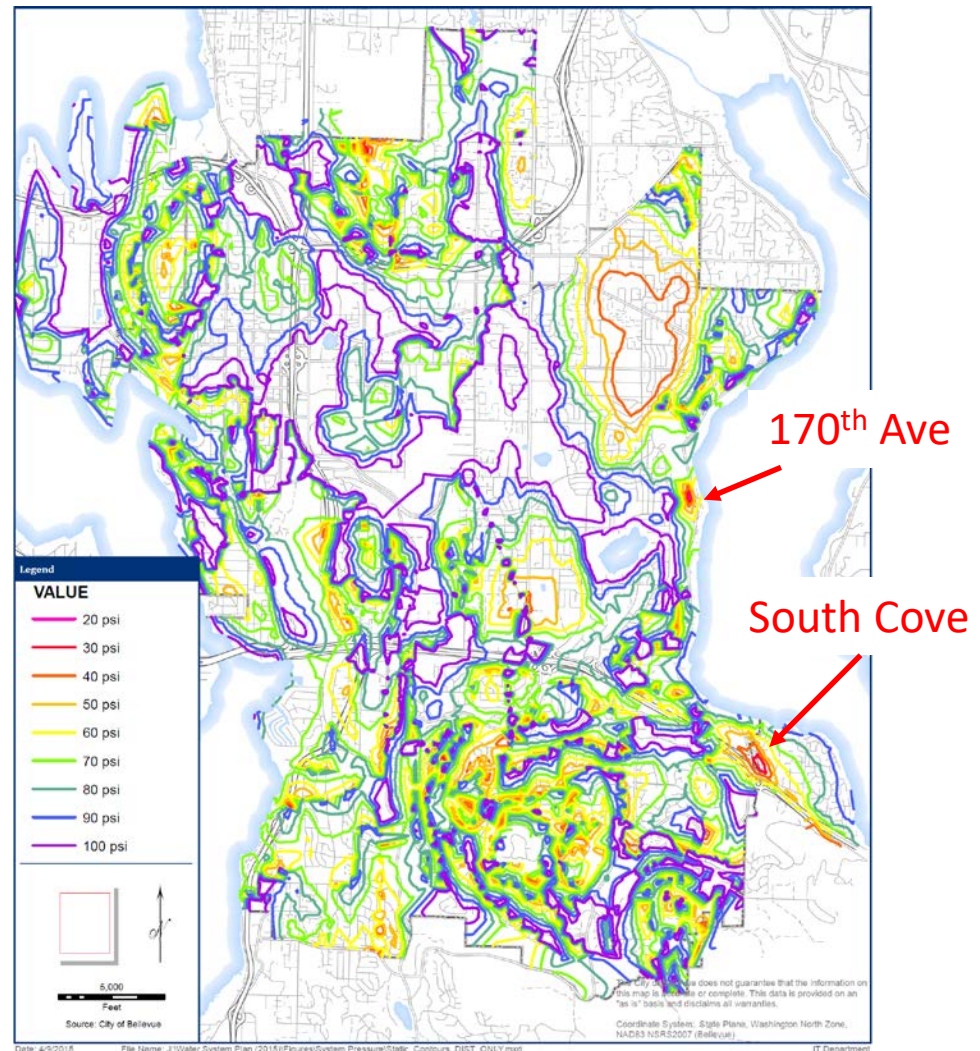
*After pressure  
increase*



# Pressure



- City policy pressure > 30 psi
- New PRV with operational changes addresses largest issue (South Cove)
- Public main 170<sup>th</sup> Ave would still be below 30-psi (several homes). Pipeline proposed through Weowna Park





# 2017-2018 CIP Progress

- # miles of main replaced
- Horizon View 1 PS/Reservoir Complete
- Pikes Peak & Cherry Crest PS Concept
- Pikes Peak Reservoir Design Progressed
- Enatai Inlet design through 30%
- NE 40<sup>th</sup> Inlet resolved using new tech (no CIP)
- # PRV Stations replaced



# 2019-2020 Look Ahead

- 5 miles/year main replacement. Unknowns:
  - Market conditions
  - Transportation projects
- West Lake Sammamish water main, PRVs
- Mobilize Smart Meter contract, implement
- Pikes Peak Reservoir
- Cherry Crest Pump Station
- Enatai Inlet Station



# Questions?

