

# City of La Pine, Oregon Water and Wastewater System Improvements



Council Work Session  
January 23, 2019



Prepared by:  
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# Introductions

- \* AP Team

- \* Brad Baird, President – Principal Engineer/Quality Control
- \* Troy Baker – Wastewater System Improvements Project Manager
- \* Eric Smith – Water System Improvements Project Manager
- \* Brandon Mahon – Cagle/Glenwood Acres Collection and Distribution Project Manager

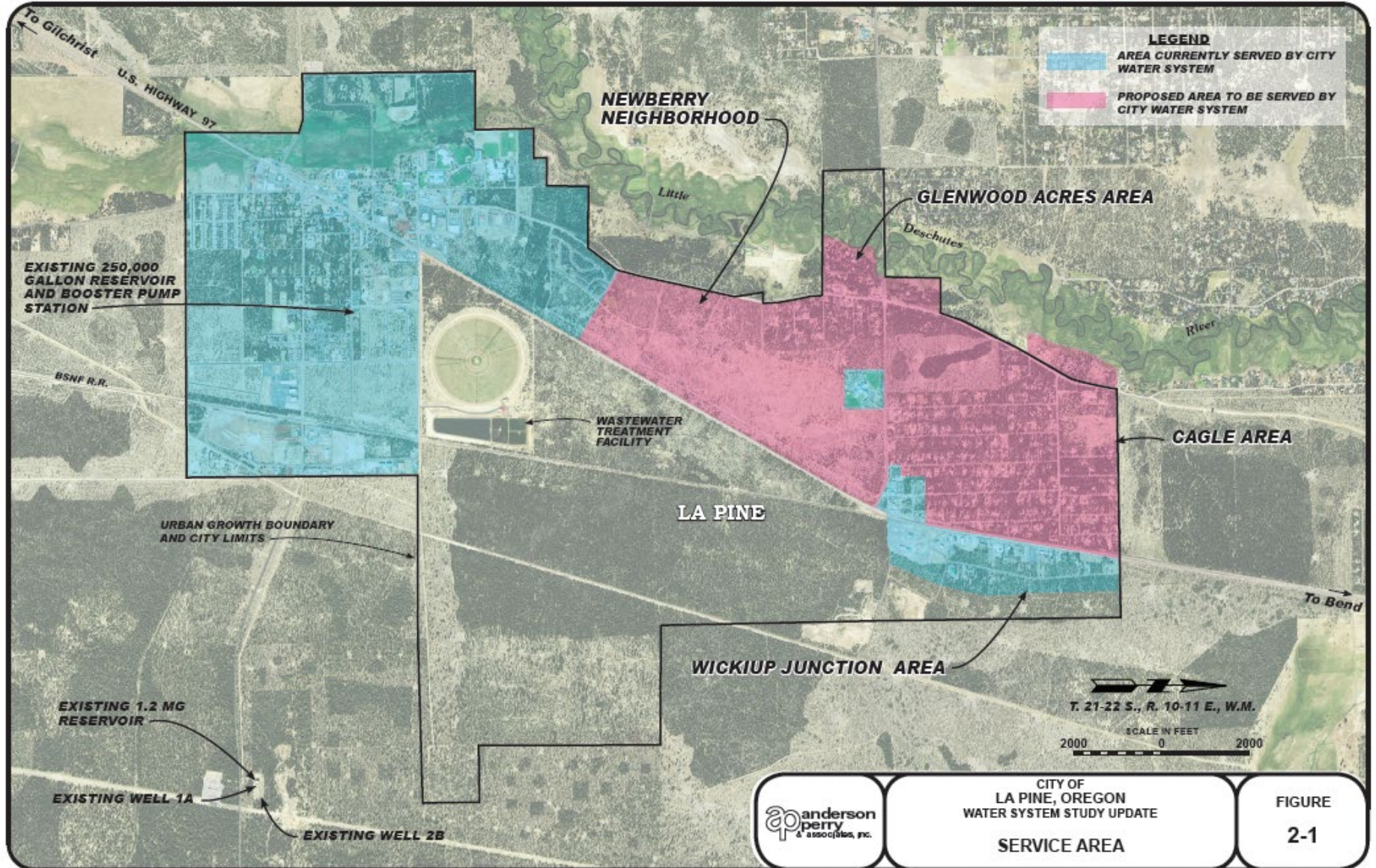
# Background

- \* Water and Wastewater System Study Updates – 2015-2016
  - \* Updates to past City planning documents to update projects and cost estimates
- \* Environmental Reports and Funding Acquisition – 2016-2017
- \* Preliminary and Design Engineering – 2018 - Present

# Water and Wastewater System Study Updates

Brief Overview

# Purpose



Water

# Existing Water System

- \* Supply
- \* Storage
- \* Distribution

# Supply

- \* Well 1A, approximately 600 gallons per minute (gpm)
- \* Well 2B, approximately 600 gpm
- \* Both located near Finley Butte Reservoir (1.2 million gallon (MG) reservoir)





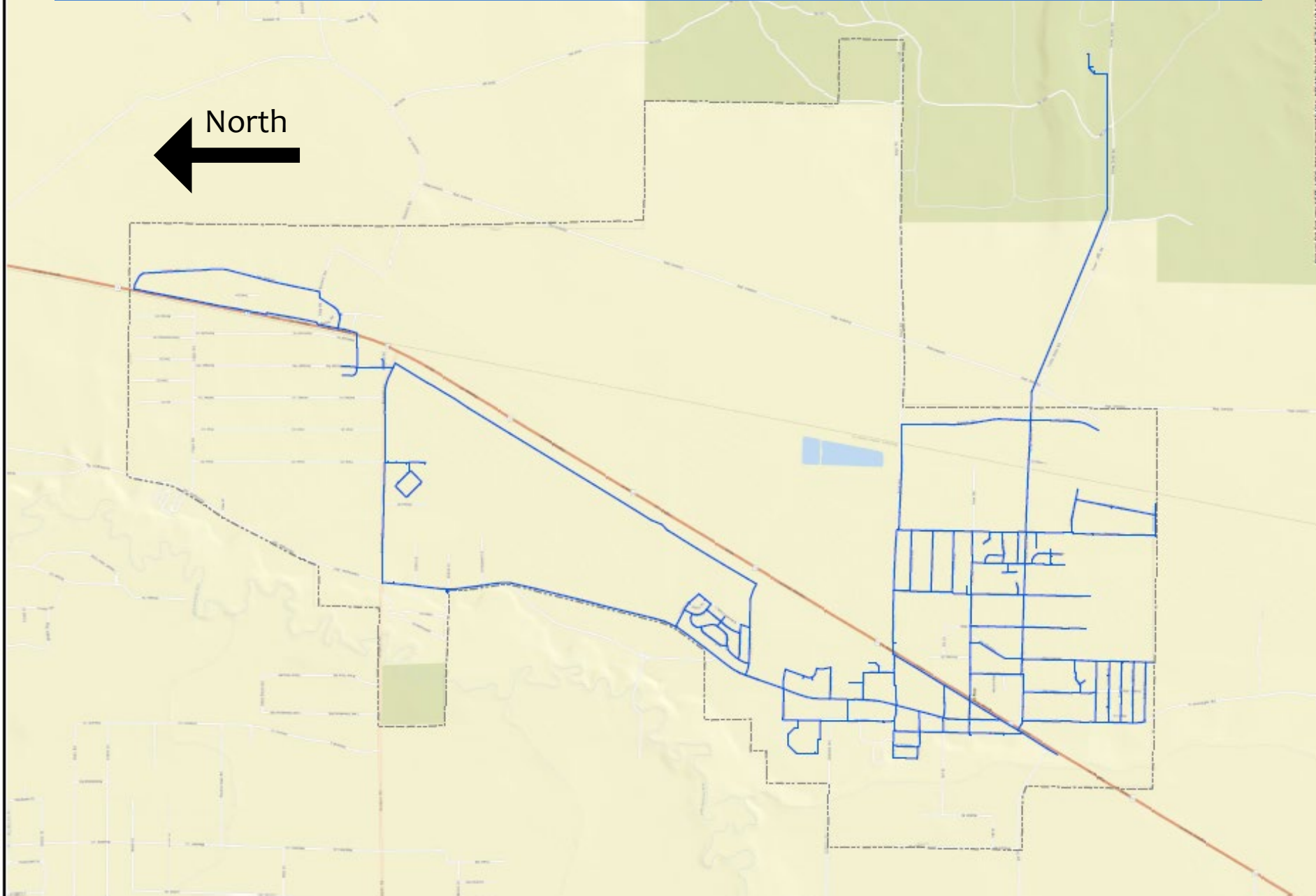
# Storage



- \* Finley Butte Reservoir
- \* Public Works Reservoir  
(250,000-gallon reservoir  
at public works building)



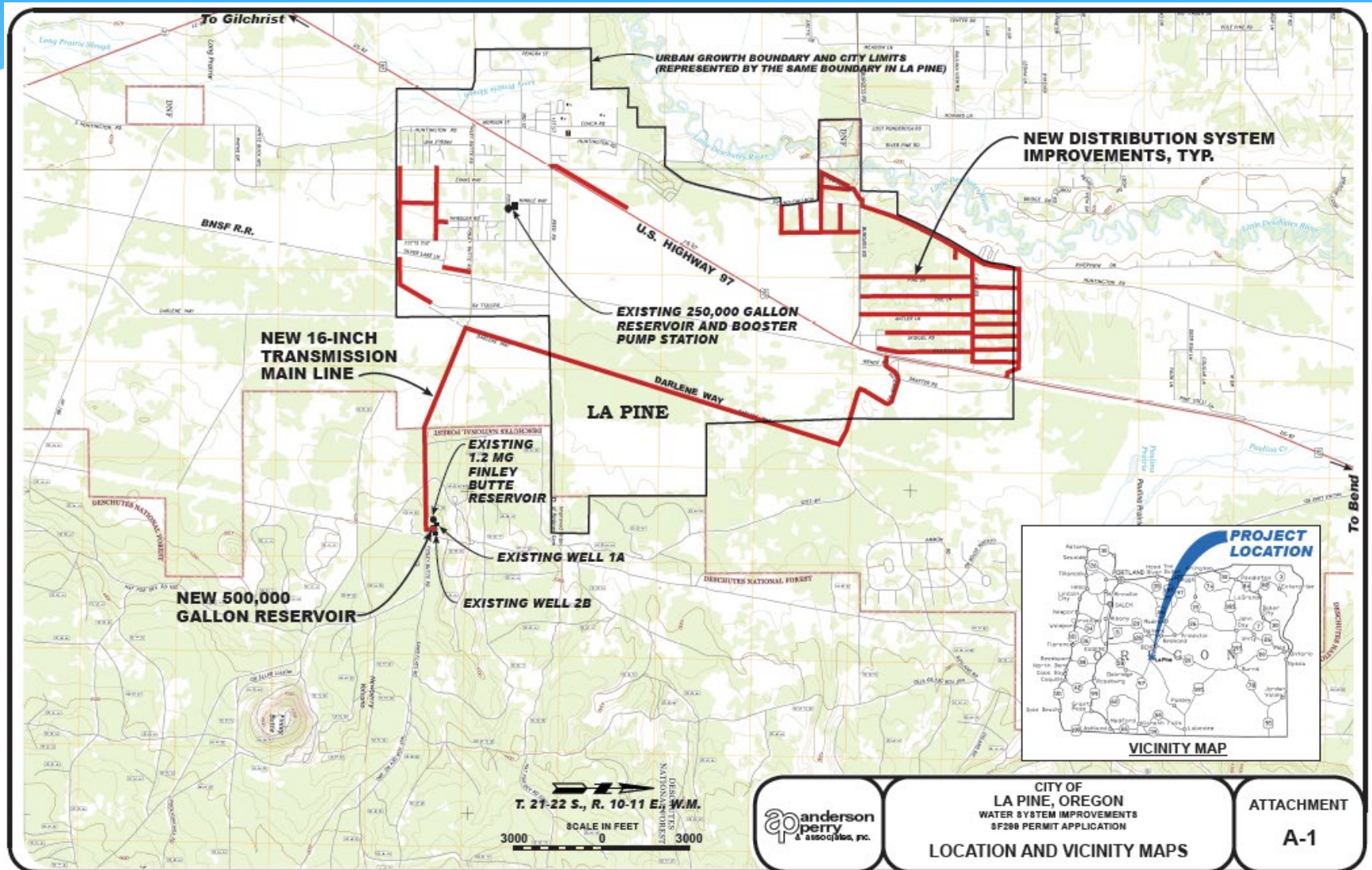
# Distribution



# Redundancy, Fire Flow, and Pressure

- \* City system is currently served by two wells and only one reservoir
- \* With the addition of the Cagle/Glenwood Acres areas, there are limited fire flow capacities at the north end of the City
- \* Limited fire flow capacities can result in system pressures below 20 psi (minimum required by State)
- \* Single pipeline connection between “downtown” and northern La Pine areas

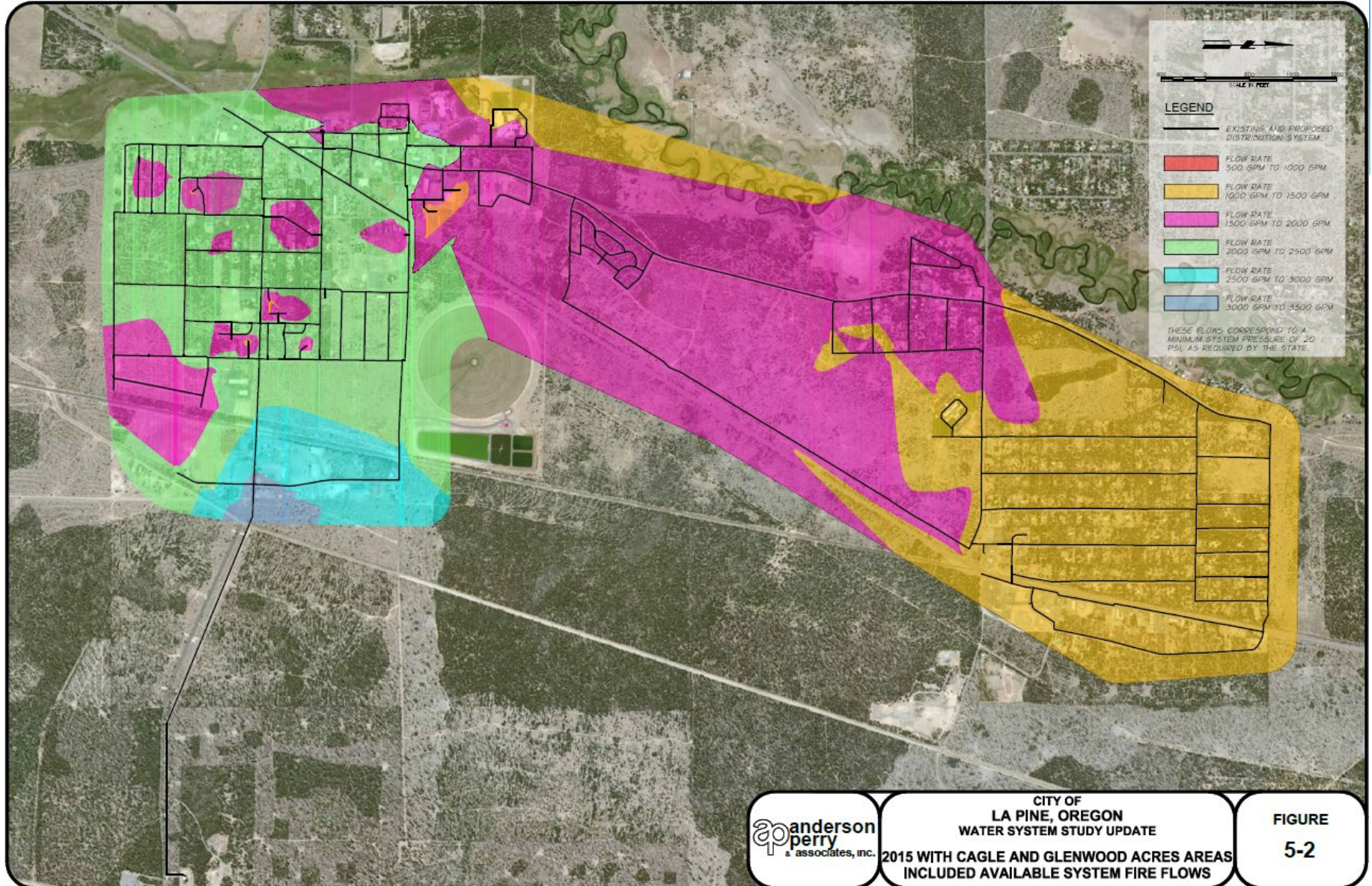
# Proposed Improvements - Water



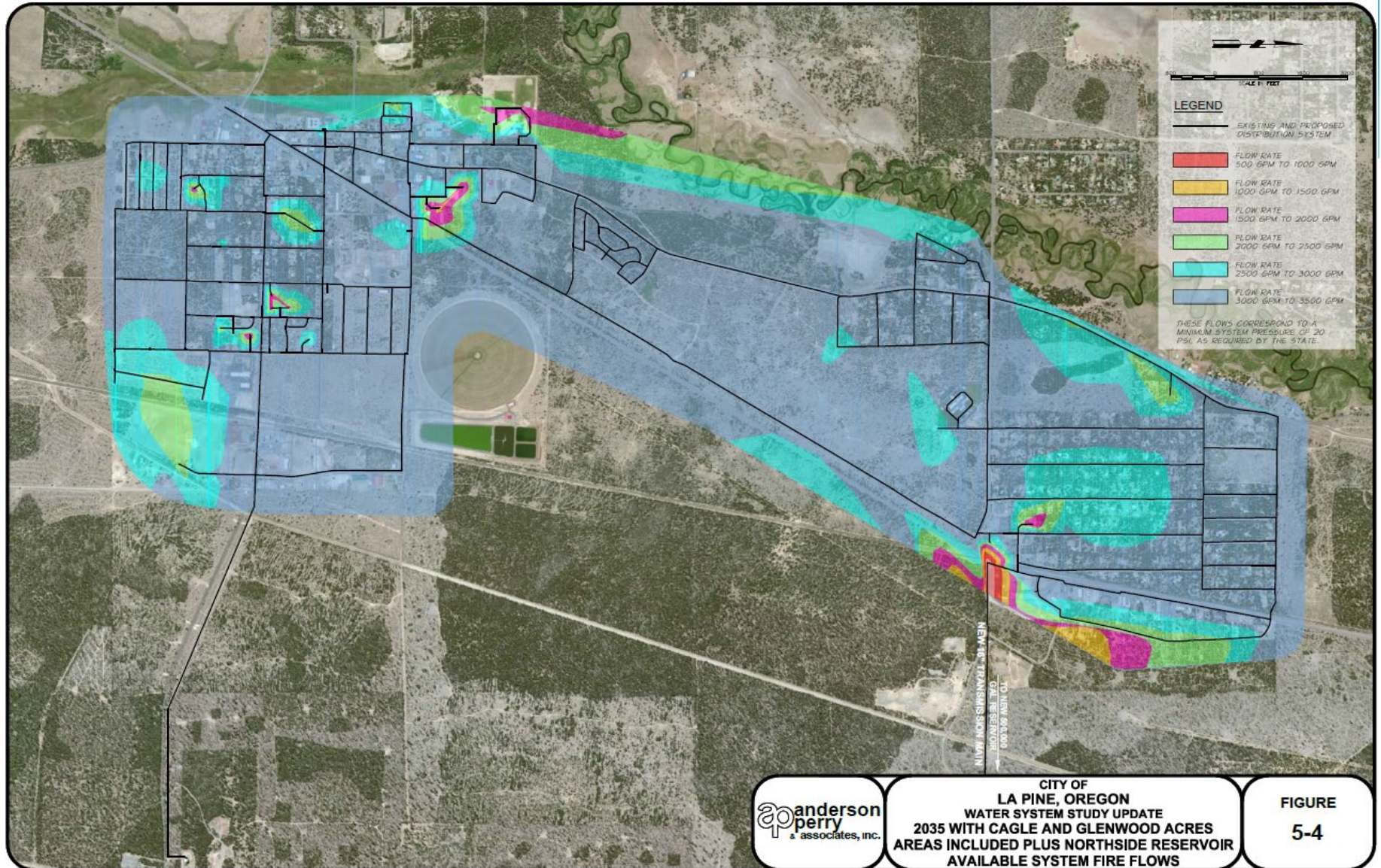
# Proposed Improvements - Water

- \* Provide Reliability and Redundancy
  - \* Transmission Line Failure
- \* Meet Minimum System Pressure (20 psi) - State Law
- \* Increase Fire Flow Capacity
- \* Extend Water Service into Cagle and Glenwood Acres Areas

# Proposed Improvements - Water



# Proposed Improvements - Water



# Wastewater



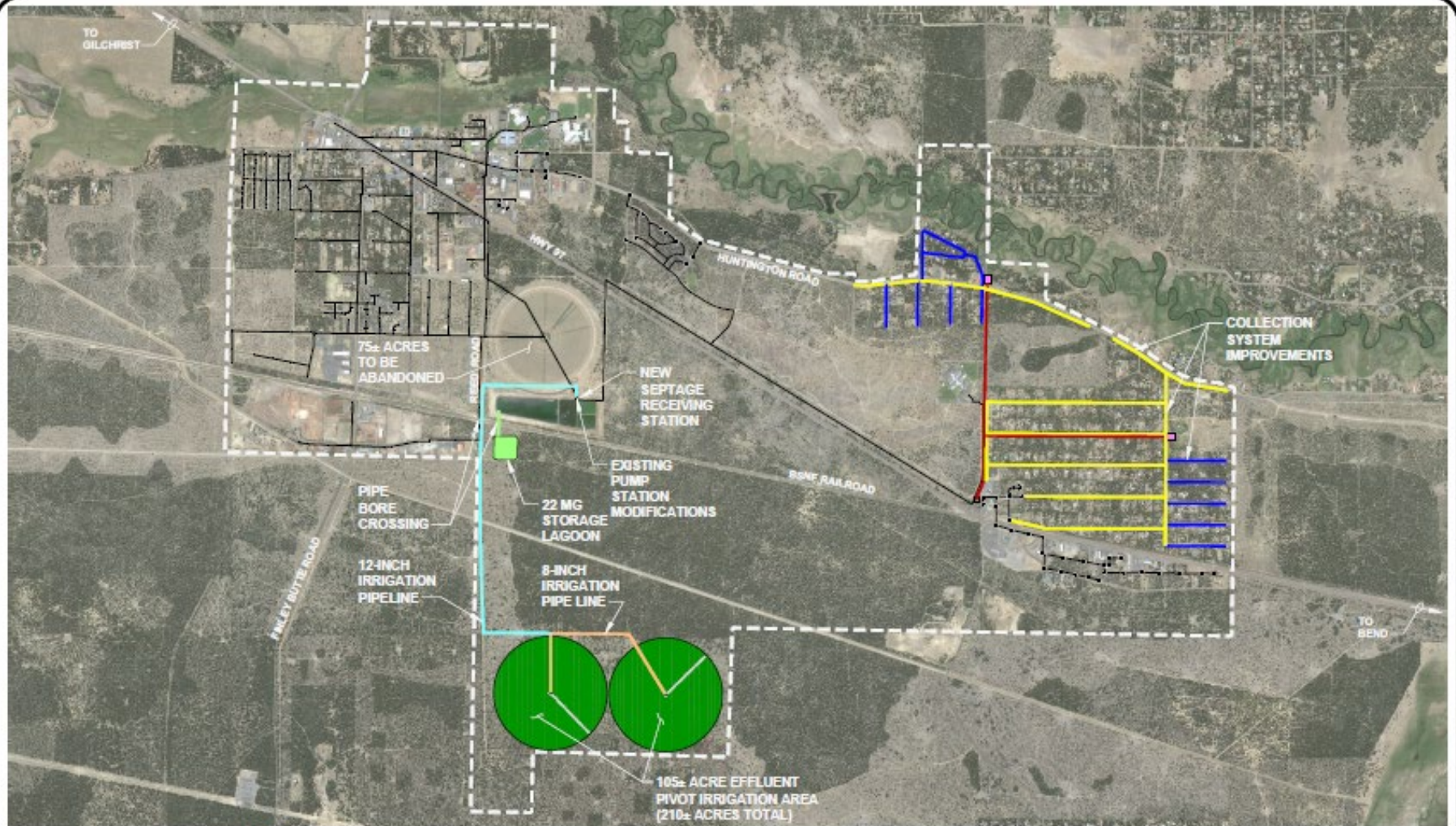
# Existing Wastewater System

- \* City utilizes a Septic Tank Effluent Gravity (STEG) system
- \* The collection system includes gravity collection system piping, 5 lift stations and pressure sewer mains
- \* The treatment system consists of three partially aerated facultative lagoons and a storage lagoon
- \* The City currently utilizes 75 acres of irrigation to dispose of treated wastewater

# Purpose - Wastewater

- \* Connect Cagle/Glenwood Acres areas to the City's system
- \* Protect Shallow Groundwater in Cagle and Glenwood Acres Areas
- \* Move Disposal Area to Protect Shallow Groundwater
- \* Provide Additional Storage for Treated Wastewater
- \* Provide Additional Disposal Area for Treated Wastewater

# Proposed Improvements - Wastewater



**LEGEND**

- NEW 4" PRESSURE SEWER PIPE
- NEW 6" GRAVITY SEWER PIPE
- NEW 8" GRAVITY SEWER PIPE
- EXISTING SEWER PIPE (SIZE NOT SHOWN)
- NEW LIFT STATION
- EXISTING LIFT STATION



CITY OF  
LA PINE, OREGON  
WASTEWATER SYSTEM STUDY UPDATE  
**PROPOSED WASTEWATER  
SYSTEM IMPROVEMENTS**

FIGURE  
**4-9**

# Project Benefits

- \* Water

- \* Provide Reliability and Redundancy to the Entire System
- \* Provide Adequate Fire Flows in Northern Portion of La Pine, Promoting Development
- \* Lower Fire Insurance Rates in Portions of La Pine

- \* Wastewater

- \* Provide Adequate Capacity in the Wastewater Treatment and Disposal System, Allowing for Future Growth
- \* Cagle and Glenwood Acres Residents No Longer Need to Maintain a Septic Tank

# Proposed Project Costs

- \* Water System Improvements - \$10,637,500
  - \* Wastewater System Improvements - \$14,028,000
  - \* **Total - \$24,662,500**
- 
- \* Includes all Project Costs including Design, Construction, and Contingencies

# Project Funding Packages

- \* Water System Improvements:

- \* Funders include:

- \* Business Oregon (Safe Drinking Water Revolving Loan Fund)
    - \* USDA Rural Development
    - \* City of La Pine

- \* Wastewater System Improvements:

- \* Funders include:

- \* Business Oregon (Community Development Block Grant and Water/Wastewater Program)
    - \* USDA Rural Development
    - \* Department of Environmental Quality
    - \* City of La Pine

# Loan and Grant Summary

	Loans	Grants	City Contribution	Total
Wastewater	\$6,250,000	\$6,145,000	\$1,633,000	\$14,028,000
Water	\$6,336,000	\$3,450,500	\$851,000	\$10,637,500
<b>Total</b>	<b>\$12,586,000</b>	<b>\$9,595,500</b>	<b>\$2,484,000</b>	<b>\$24,665,500</b>

# Potential Rate Impacts

- \* During funding acquisition combined water and sewer rates were approximately \$75/month
- \* The initial goal of the project was to obtain enough grants and low interest loans to keep rates below \$100/month
- \* With current funding package, and current estimated project costs, rates could be in the \$80-\$90/month range



# Work Already Completed

- \* Water and Wastewater System Study Updates
  - \* Evaluated Entire Water and Wastewater Systems for a 20-year Design Period
- \* One-Stop Meeting
  - \* Meeting with Multiple Funding Agencies to Determine Potential Funding Packages
  - \* Agencies included USDA RD, DEQ, IFA, Oregon Health Authority
- \* Funding Acquired
- \* Environmental Assessments for Water and Wastewater Projects
- \* Wastewater System Improvements and Cagle/Glenwood Acres Collection and Distribution Improvements currently in design

# Project Schedule

- \* See Project Timeline Handout

Thank you!

Questions?