

A photograph of a green-painted steel truss bridge spanning a river. The bridge has a decorative metal railing. Below the bridge, the river flows over rocks, creating a small waterfall. The surrounding area is lush with green trees and vegetation. The sky is clear and blue.

Evolving to Regulatory Challenges from Recent Supreme Court Decisions

**PNWS-AWWA
2025 Section Conference
May 8, 2025**

**Chris Einmo, PE
Rob Bechtloff
Matt Kohlbecker, RG
Pam Villarreal, PE**

Introductions – Chris Einmo, P.E.

- Sr Project Manager, Marion County
- 16 years Water/Wastewater Nerd
- B.S. Civil Engineering, Duke University



Introductions – Rob Bechtloff

- Sr Project Manager, Slayden
- 28 years in construction
- 21 years Water/Wastewater



Introductions – Ma Kohlbecker, RG

- President and Principal Hydrogeologist, GSI Water Solutions
- MS Hydrogeology, University of Nevada at Reno
- 22 years experience as a hydrogeologist



Introductions – Pam Villarreal, PE

- Project Manager, Keller Associates, Inc.
- 13 years Environmental Remediation and Water/Wastewater
- B.S. Civil Engineering, UCLA



A photograph of a green steel truss bridge spanning a river. The bridge has a decorative railing and is supported by concrete piers. The river below has a small waterfall. The background is filled with lush green trees under a clear blue sky.

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- **Overview**
- Economic and Technical Challenges
- Proposed Project
- Effluent Discharge Evaluation
- Regulatory Challenges
- Positives and Takeaways



Regional Geography

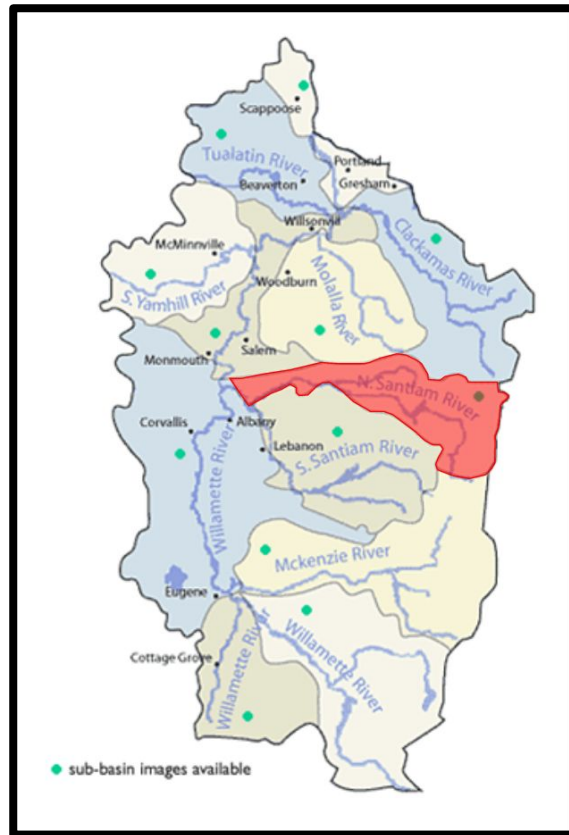
- The North Santiam River is a 92-mile tributary of the Willamette River.
- Water supply for over 200,000 residents and businesses in our state capitol.
- Detroit Lake is a popular recreational destination.



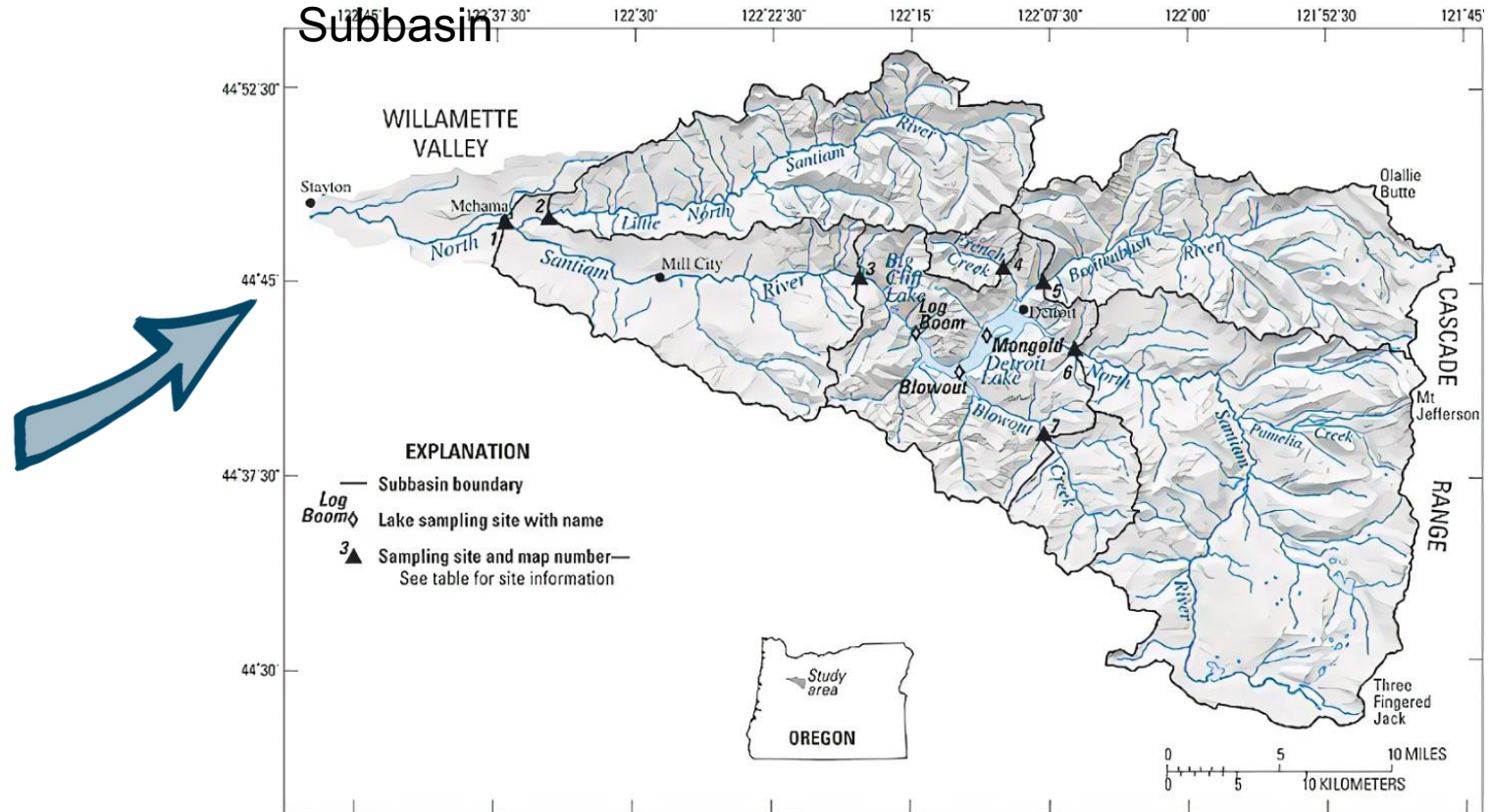
North Santiam Canyon Sewer Project

North Santiam Water Subbasin

Willamette River Watershed

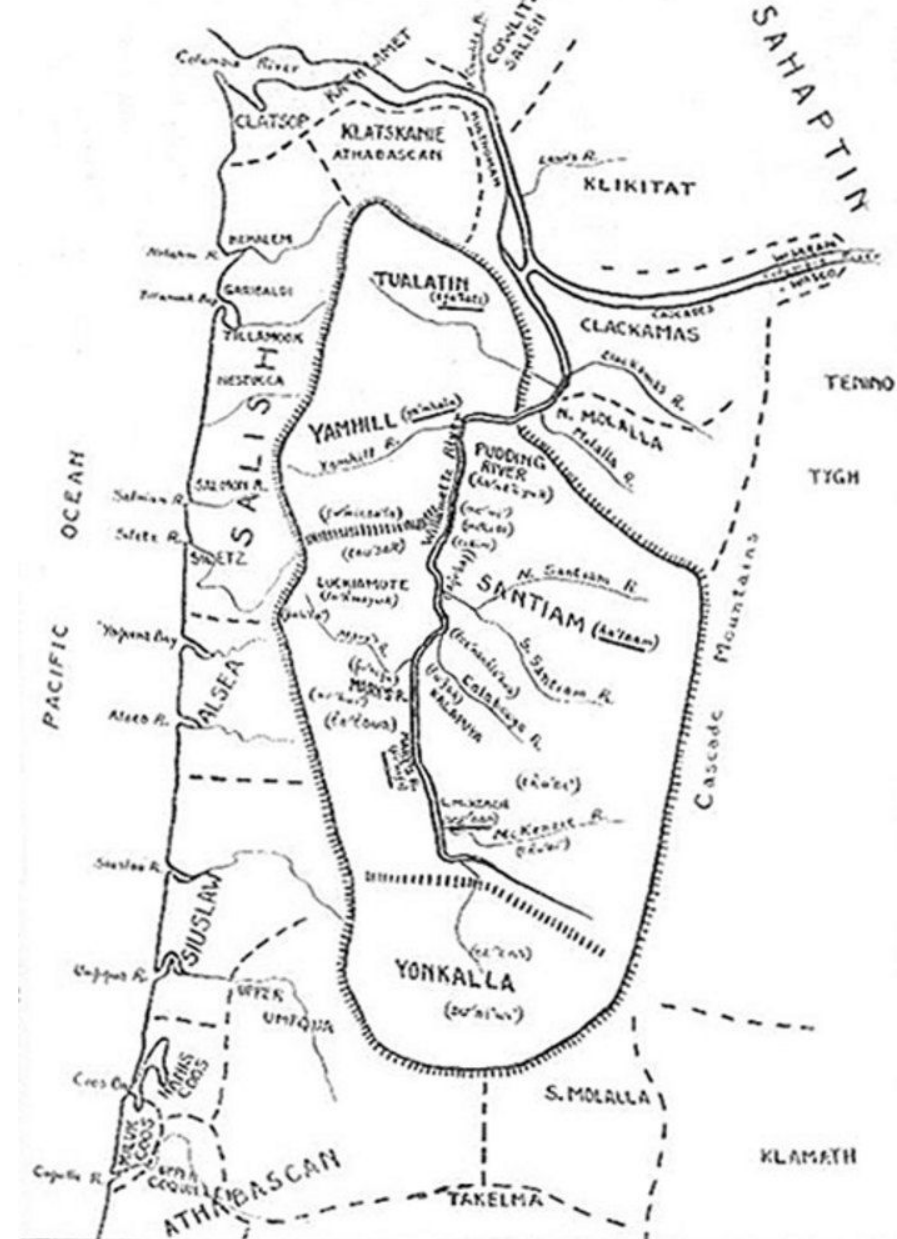


North Santiam Water Subbasin



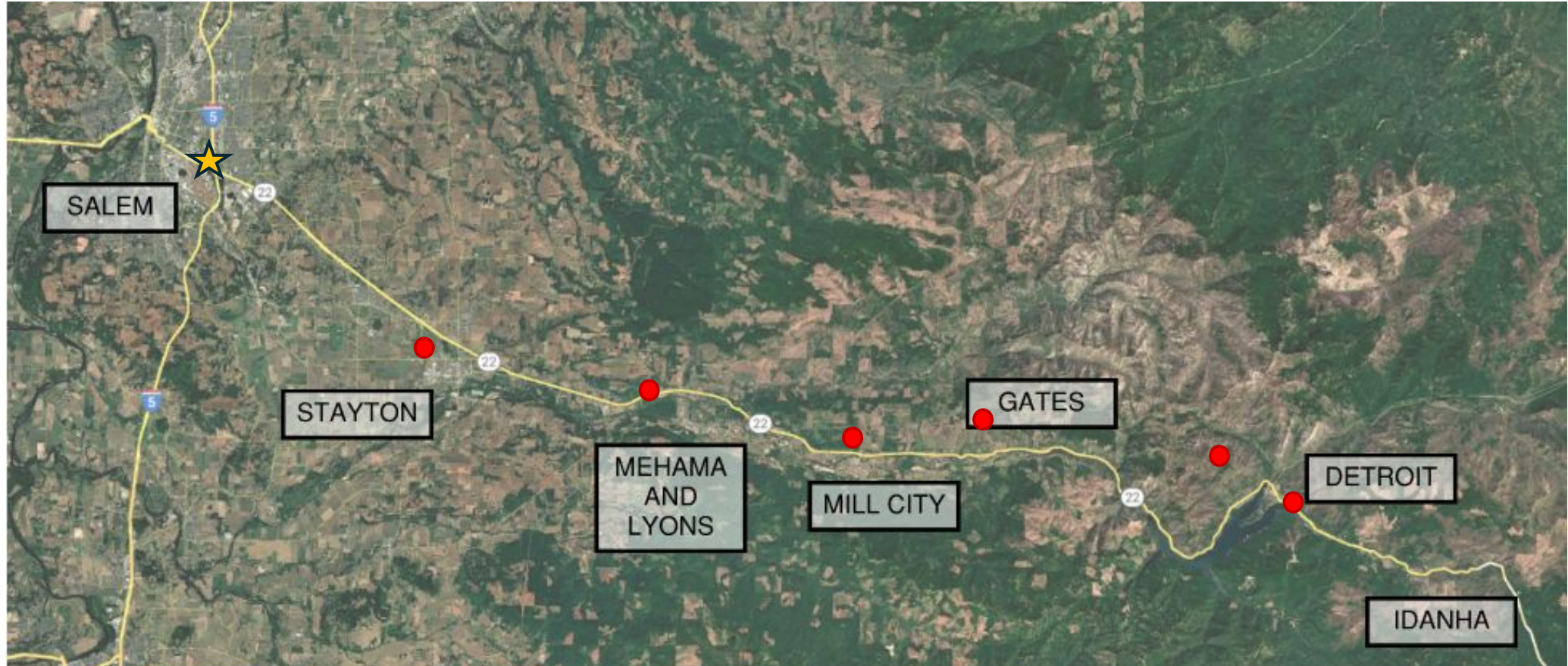
North Santiam Canyon Sewer Project

Historic Tribal Land



North Santiam Canyon Sewer Project

North Santiam Canyon Communities



North Santiam Canyon Sewer Project

The Importance of the N. Santiam Watershed

- Municipal Water Supply
- Irrigation
- Historic Tribal Land
- Aquatic Life
- Threatened and Endangered Species
- Recreation and Tourism
- Power Generation



Salem's Water Source



Geren Island Water Treatment Plant



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Recreation and Tourism



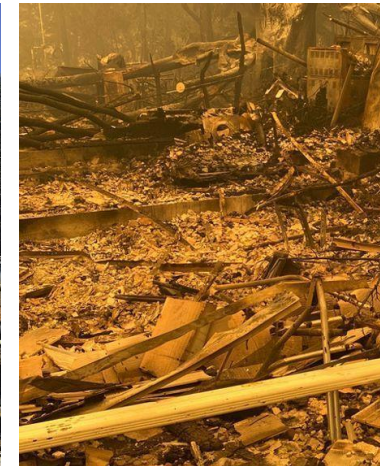
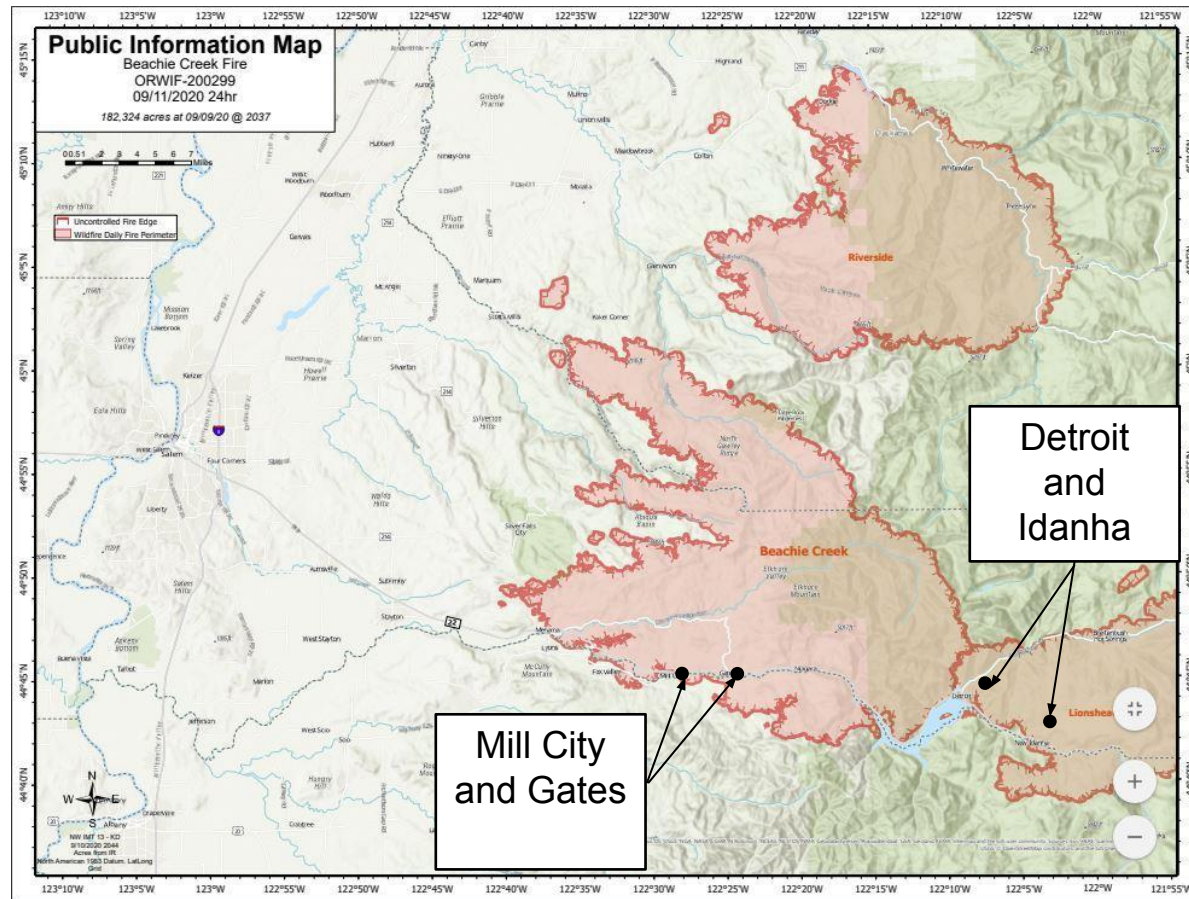
North Santiam Canyon Sewer Project

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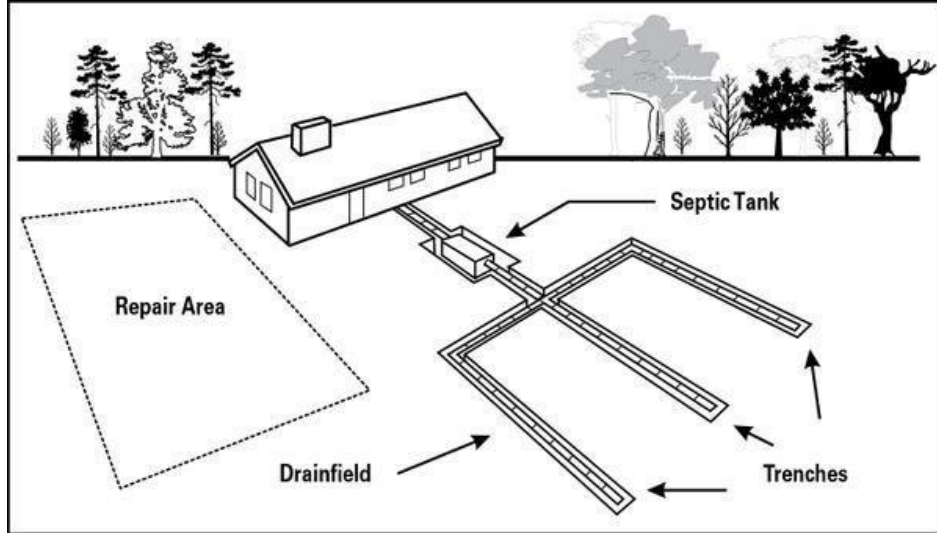
Urgency Post-Wildfires



North Santiam Canyon Sewer Project

Challenges for the Canyon Communities

- Existing systems were built pre-code
- Large septic footprints required to meet current code



North Santiam Canyon Sewer Project

Limiting Factor

- Lack of community wastewater systems is a limiting factor to economic and community development in the North Santiam Canyon.

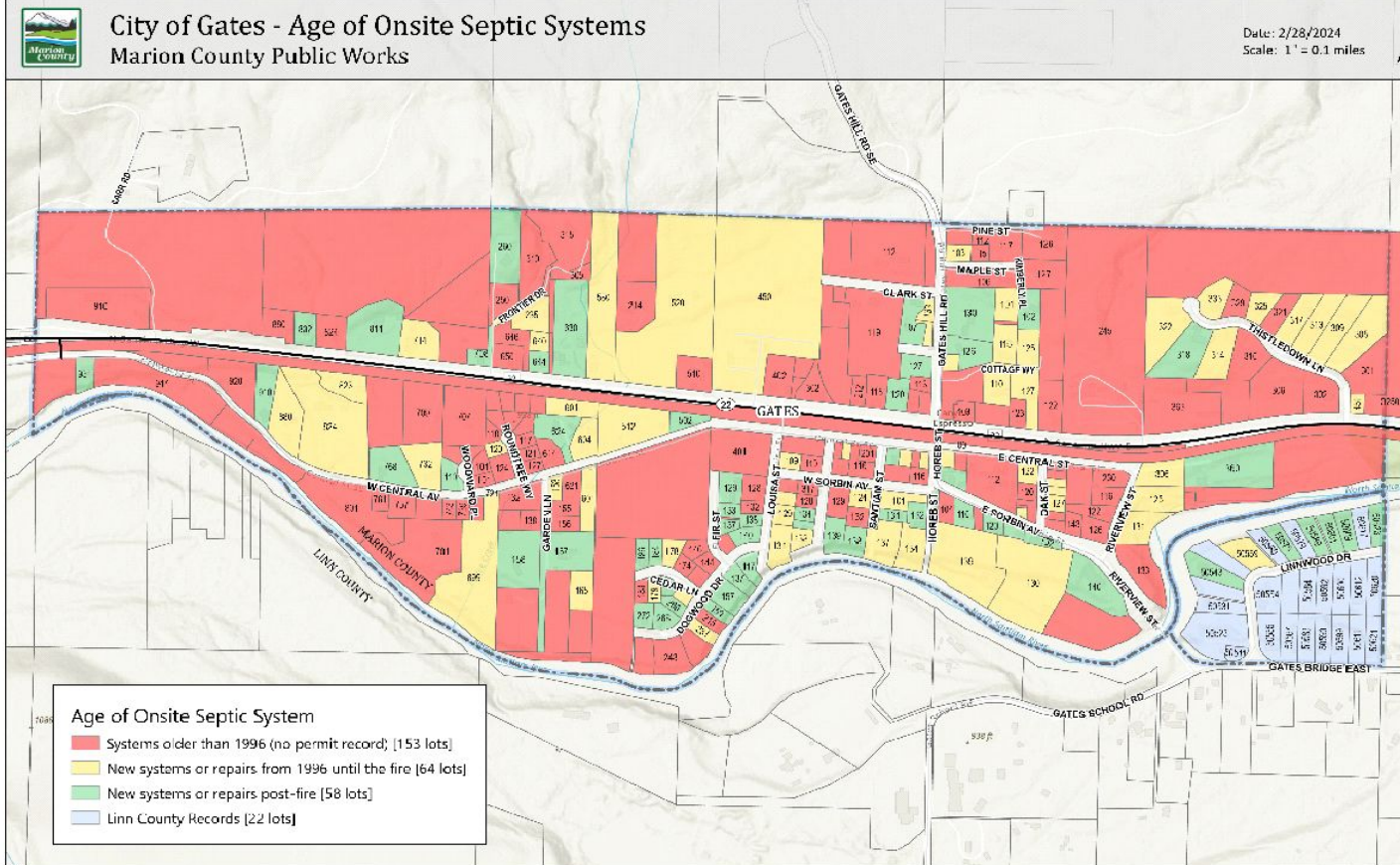


Existing Mill City WPCF



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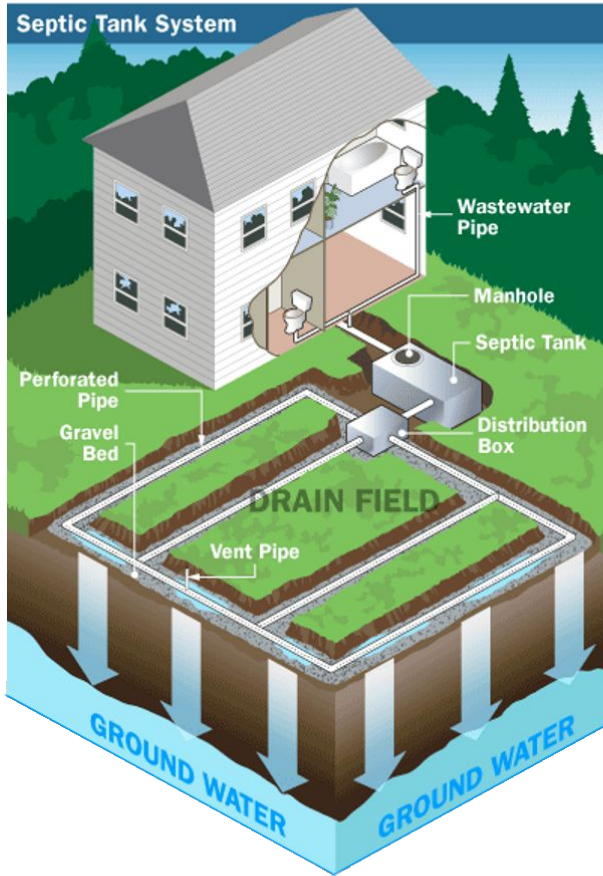
Gates Septic Systems



- Age of onsite septic systems
- 50% were constructed before 1996 (no permit record)
- Lot size

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Importance of Going from Septic to Sewer

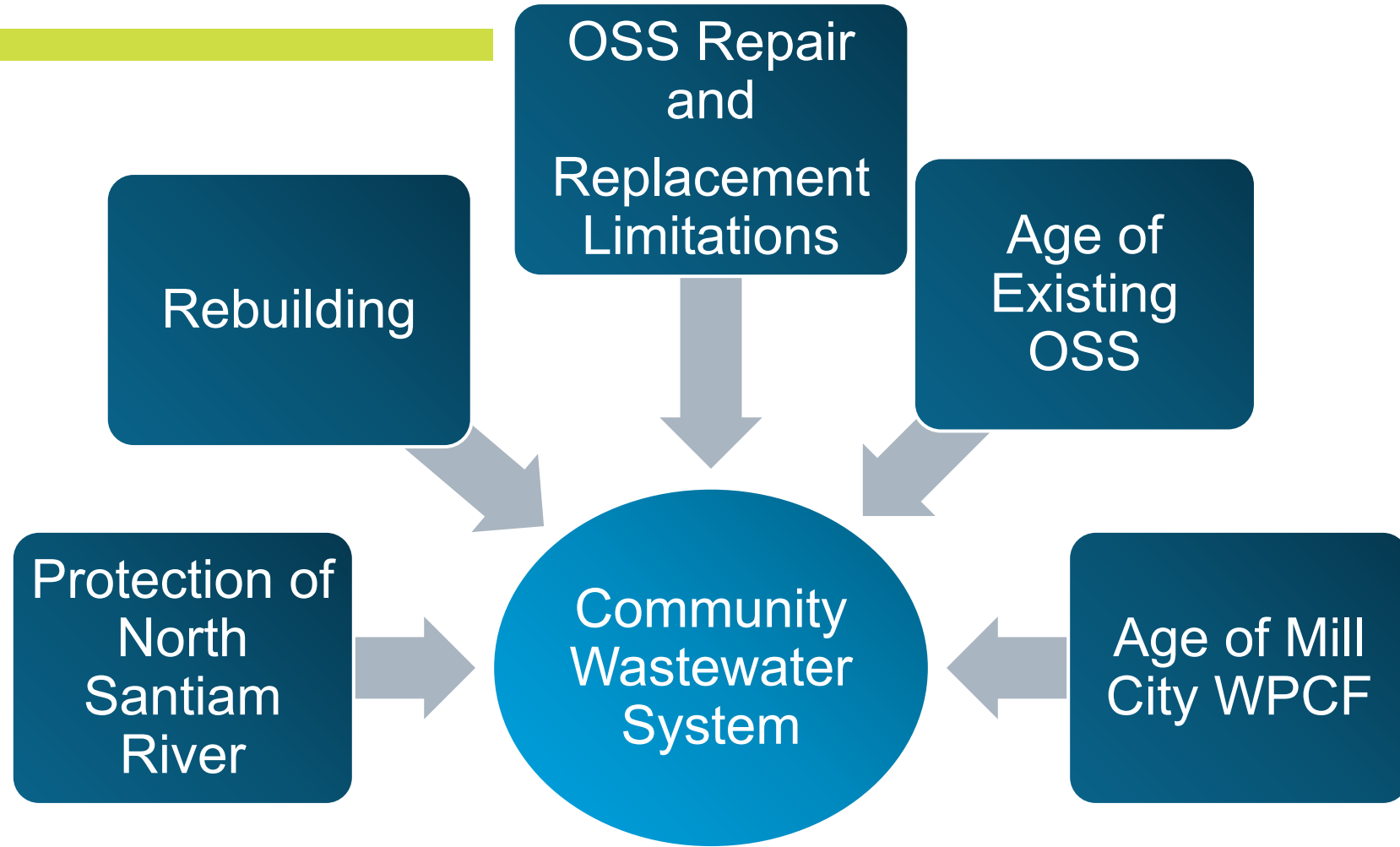


- Failing septic systems
- Pathogens
- Toxic algal blooms
- Low dissolved oxygen concentrations
- Impacts downstream water treatment
- Reconstruction after disasters



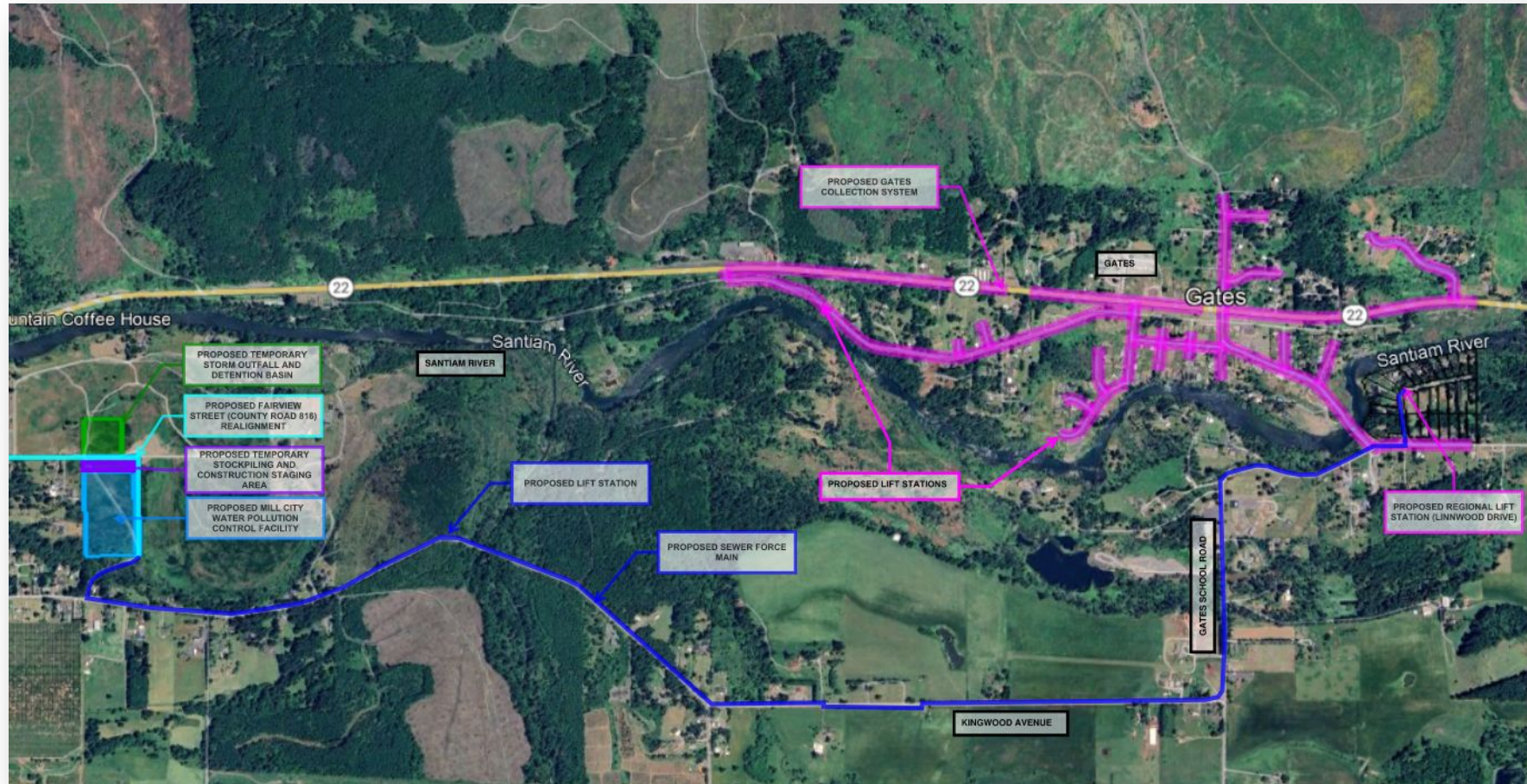
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All Roads Lead To...



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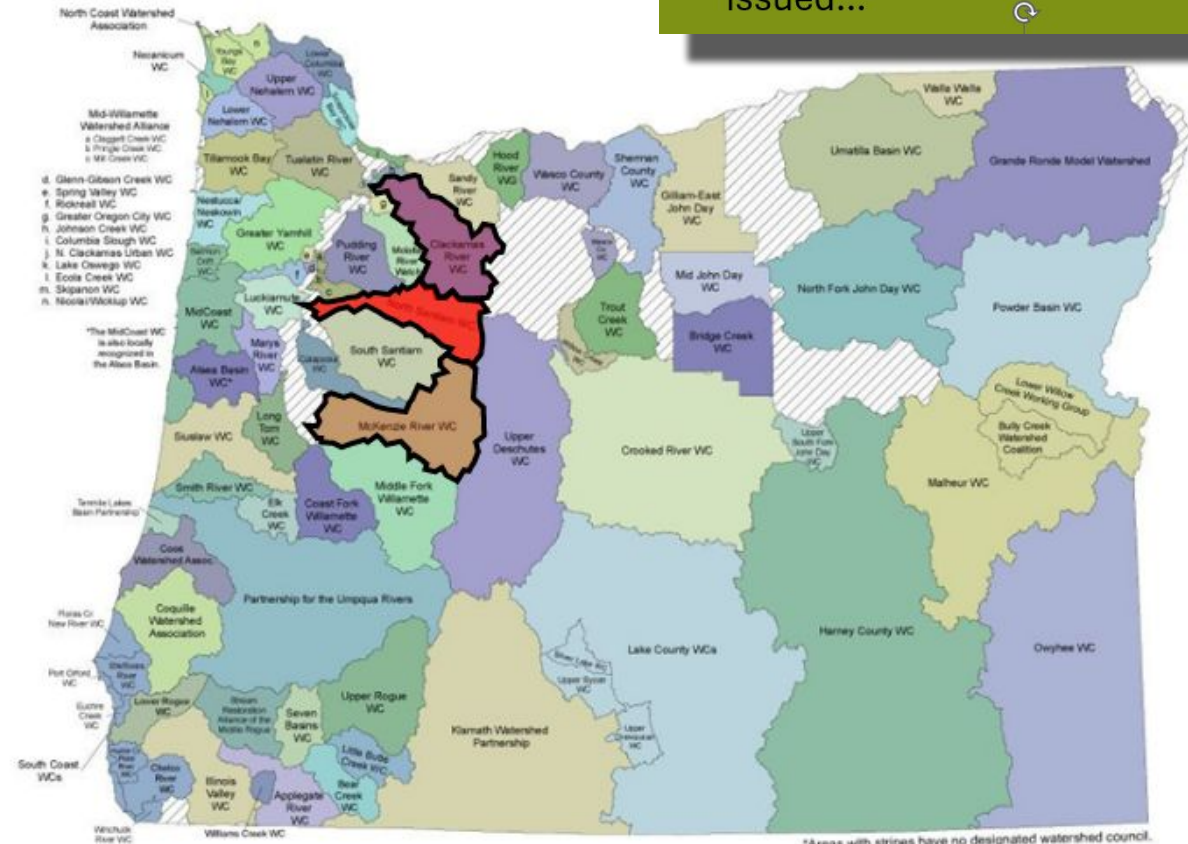
Lower Basin Regional Solution



North Santiam Canyon Sewer Project

The Three-Basin Rule

- Oregon state permitting rules (OAR 340-041-0350)
- Prohibits federal Clean Water Act permits in protected region
- Applies to the Clackamas River, McKenzie River, and North Santiam River.



(8) Industrial waste discharge sources, confined animal feeding operations, and domestic sewage treatment facilities must meet the following conditions:

- (a) No NPDES permits for *new* industrial or new confined animal feeding operation waste discharges, or *new* domestic sewage treatment facilities may be issued...

Water Quality

- WPCF Permit
- Year-round subsurface discharge in the root zone
- Treat to Class A Recycled Water Standards
- Mechanical wastewater treatment plant, minimum



Contaminant	Units	Sample Type	Anticipated Effluent Concentrations		
			Current System	Proposed System A	Proposed System B
			Recirculating Gravel Bed Filter	Mechanical Treatment Plant (Secondary Treatment)	Advanced Mechanical Treatment Plant (Secondary and Tertiary Treatment)
BOD ₅	mg/L	Average Monthly	<20	<10	<10
TSS	mg/L	Average Monthly	<20	<10	<10
Nitrate	mg/L	Average Monthly	26.7	5	1
Ammonia	mg/L	Average Monthly	6.6	1	1
E. Coli	MPN/100 mL	Daily Maximum	200	23	23
pH	S.U.	Minimum-Maximum	Not Measured	6.5 to 8.5	6.5 to 8.5

*Measured at Mill City WPCF Drain Field MW-1

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North Santiam Canyon Sewer Project

Alternative Delivery

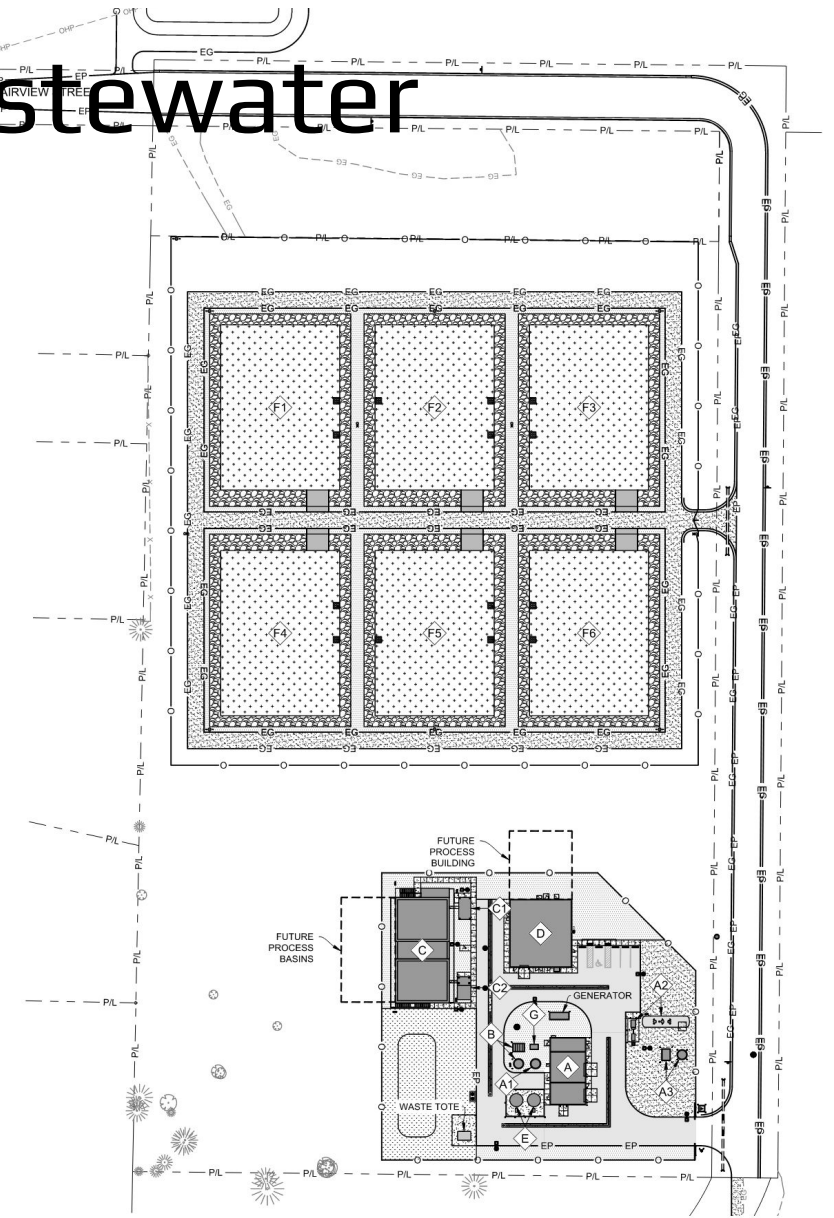
- County Decided to go CM/GC to expedite the project schedule. Have set end date due to ARPA funds.
- Early schedules to confirm funding compliance.
- Early procurement of long lead equipment to ensure arrival in time for installation and commissioning.
- VE and constructability reviews at design deliverables - 30%, 50%, 90%.



North Santiam Canyon Sewer Project

Mill City & Gates Municipal Wastewater Treatment Facility

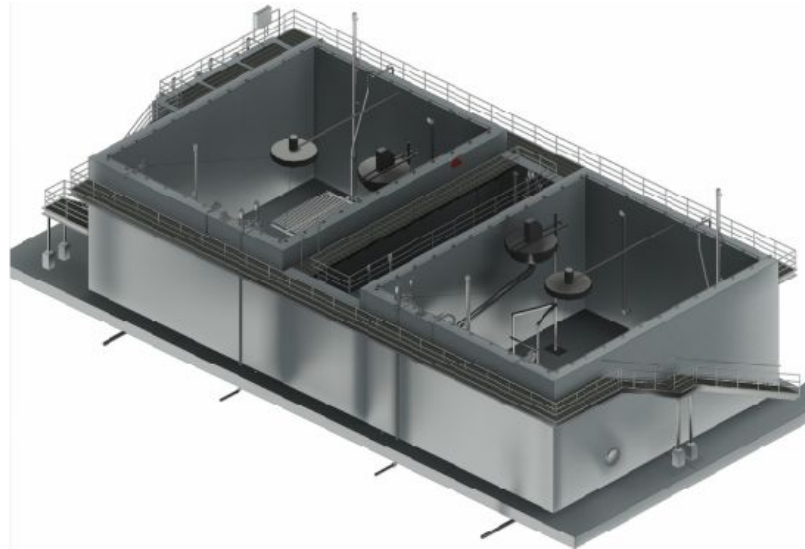
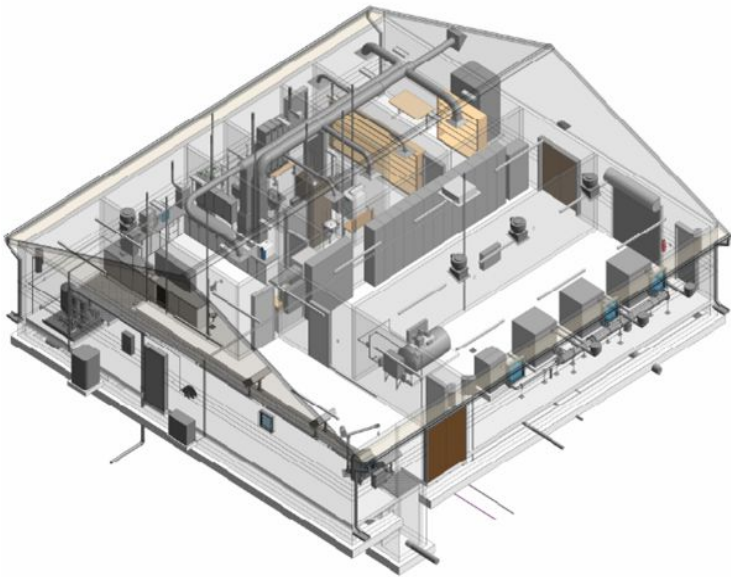
- Advanced Mechanical Wastewater Treatment
 - Headworks Facility
 - Screening and Grit Removal
 - Influent Pump Station
 - Secondary Treatment
 - Tertiary Filtration
 - Solids Dewatering Equipment
- Rapid Infiltration Basins



North Santiam Canyon Sewer Project

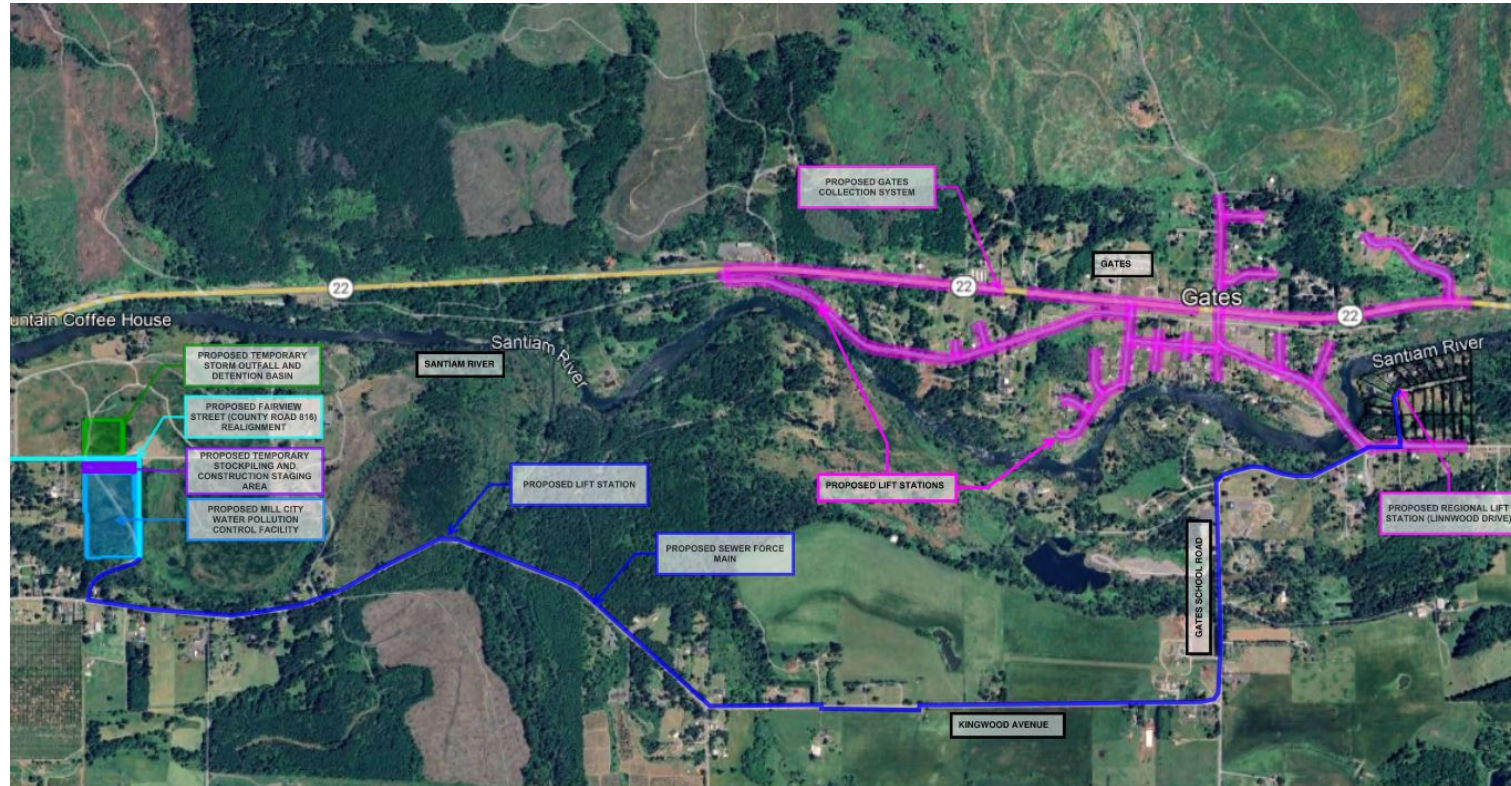
Phase I – New WW Treatment Facility

Phase I – Mill City & Gates Municipal Wastewater Treatment Facility



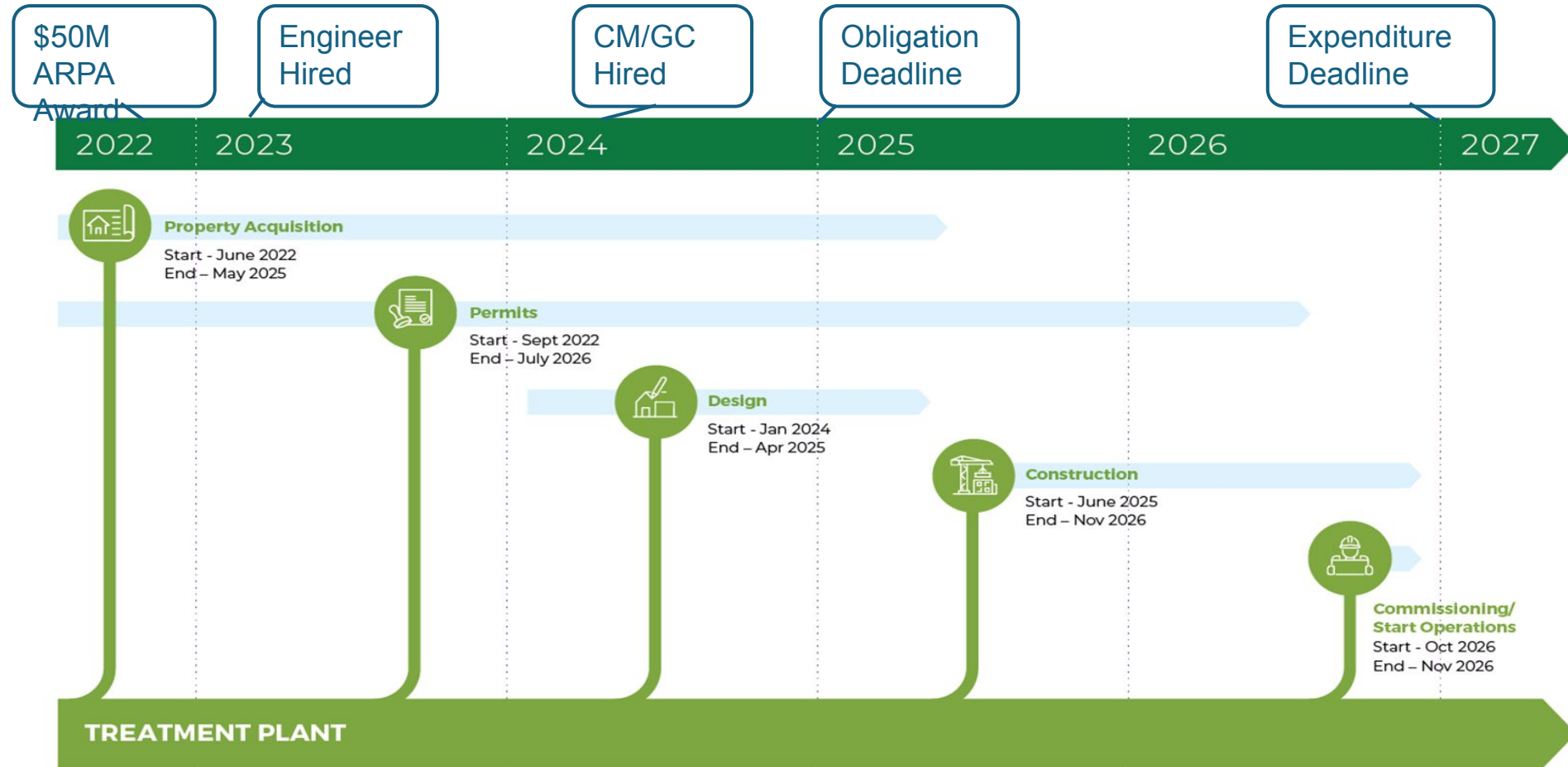
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Phase II – Gates City Sewer System & Interconnect



North Santiam Canyon Sewer Project

Project Schedule – Phase 1



North Santiam Canyon Sewer Project

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North Santiam Canyon Sewer Project

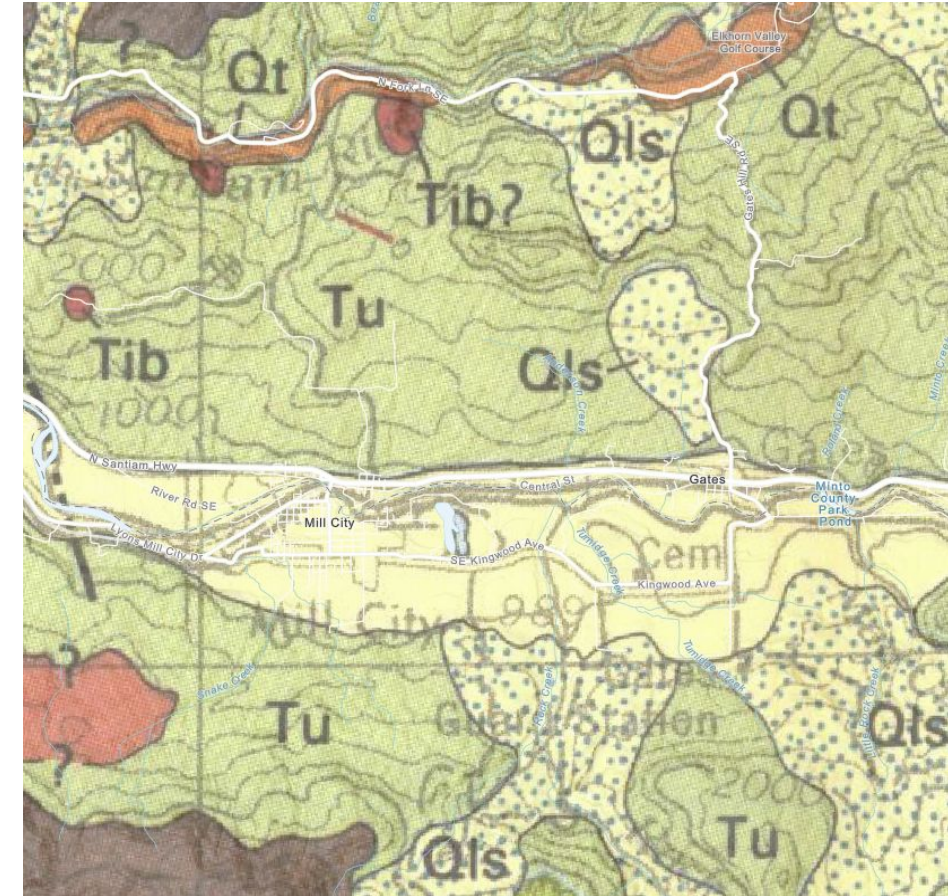
Effluent Discharge Options

- ☐ ~~Direct Discharge~~
- ☐ ~~Land Application~~
- ☐ ~~Deep Aquifer Recharge~~
- ☐ ~~Long Distance Transport~~
- ☒ Surface Infiltration



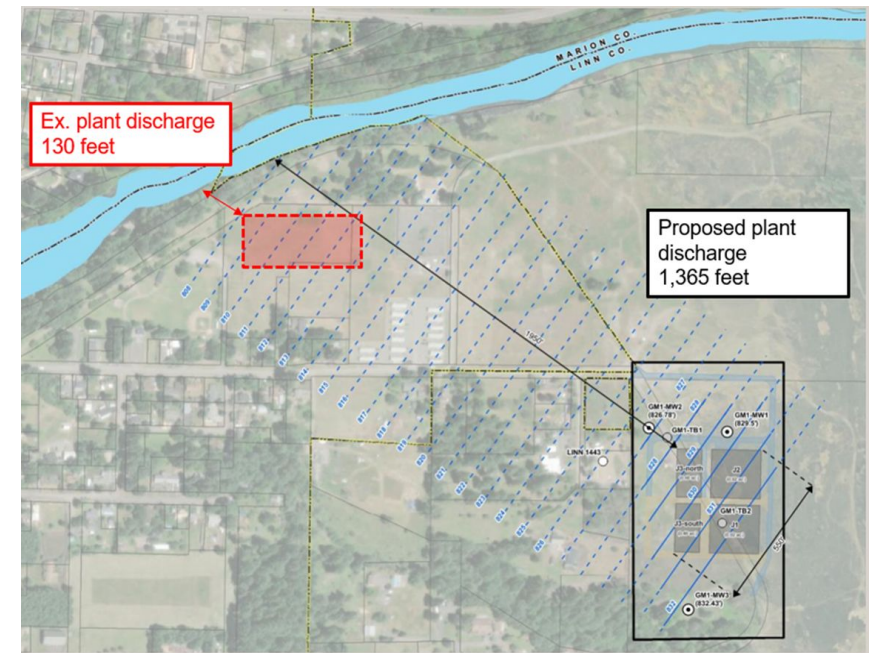
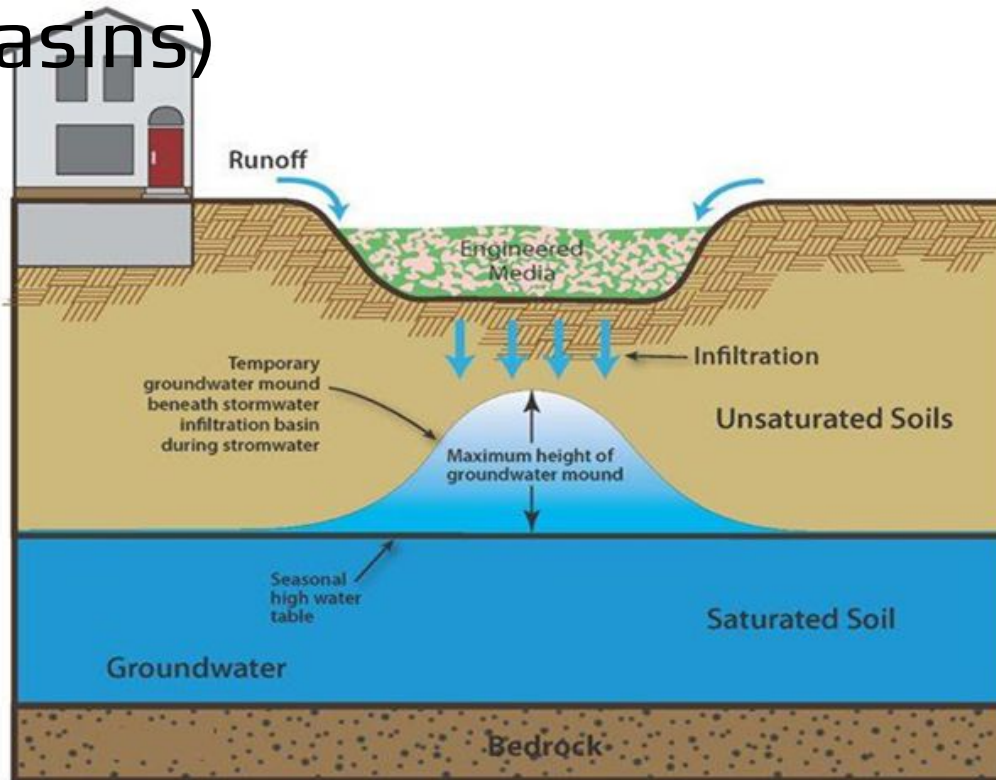
North Santiam Canyon Sewer Project

Infiltration Location Was Determined Thousands of Years Ago



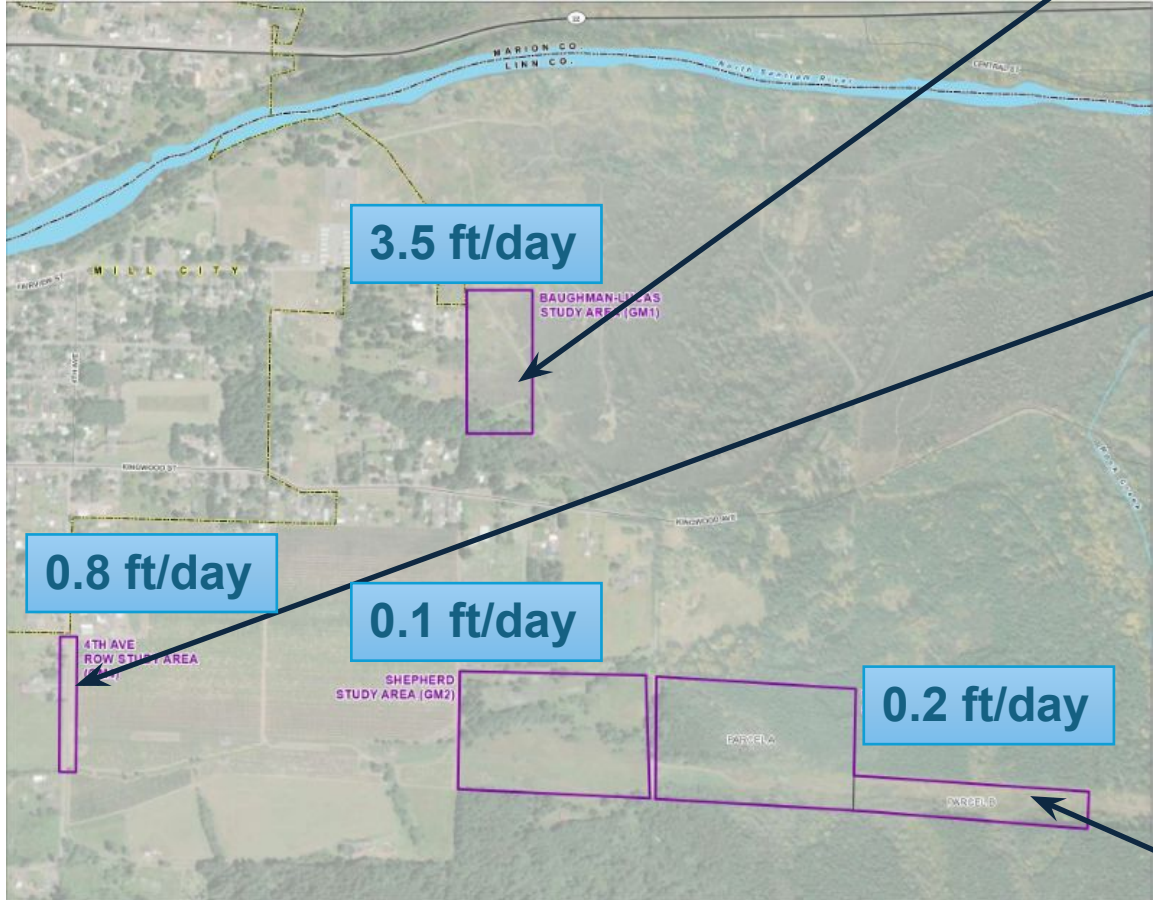
"Project MCRIB"

(Mill City Rapid Infiltration Basins)



- Existing drainfield – 130 feet from river
- Goal – locate proposed RIB site as far from river as feasible

Infiltration Site Evals



MOST FAVORABLE

GM1
5%-12%
Fines



GM4
5%-10% Fines

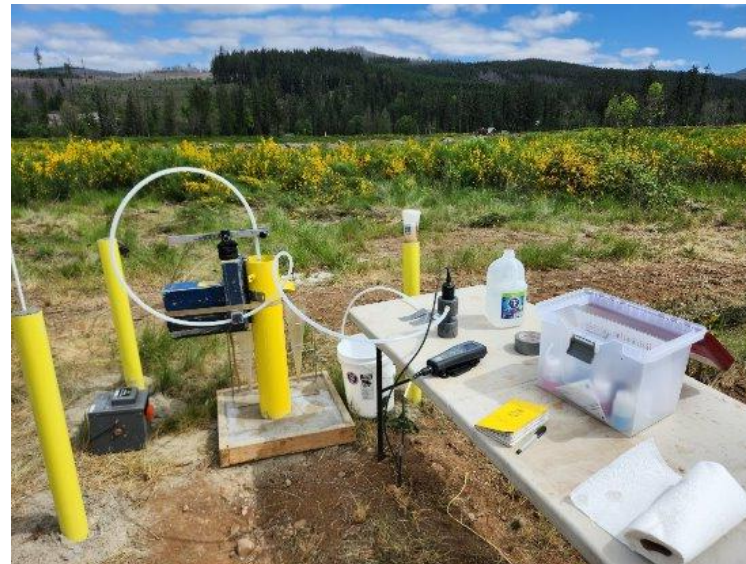


GM5
15%-24%
Fines

LEAST FAVORABLE

Infiltration Site Evals

- All sites $> \frac{1}{4}$ mile from river not viable
- Extensive testing/modeling on only viable site



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Maui Decision

- **April 2020** – Supreme Court opinion: *County of Maui v. Hawaii Wildlife Fund*
- Established 7-factor “Functional Equivalence” test
- **December 2023** – EPA: Guidance for Point Source Discharges Through Groundwater

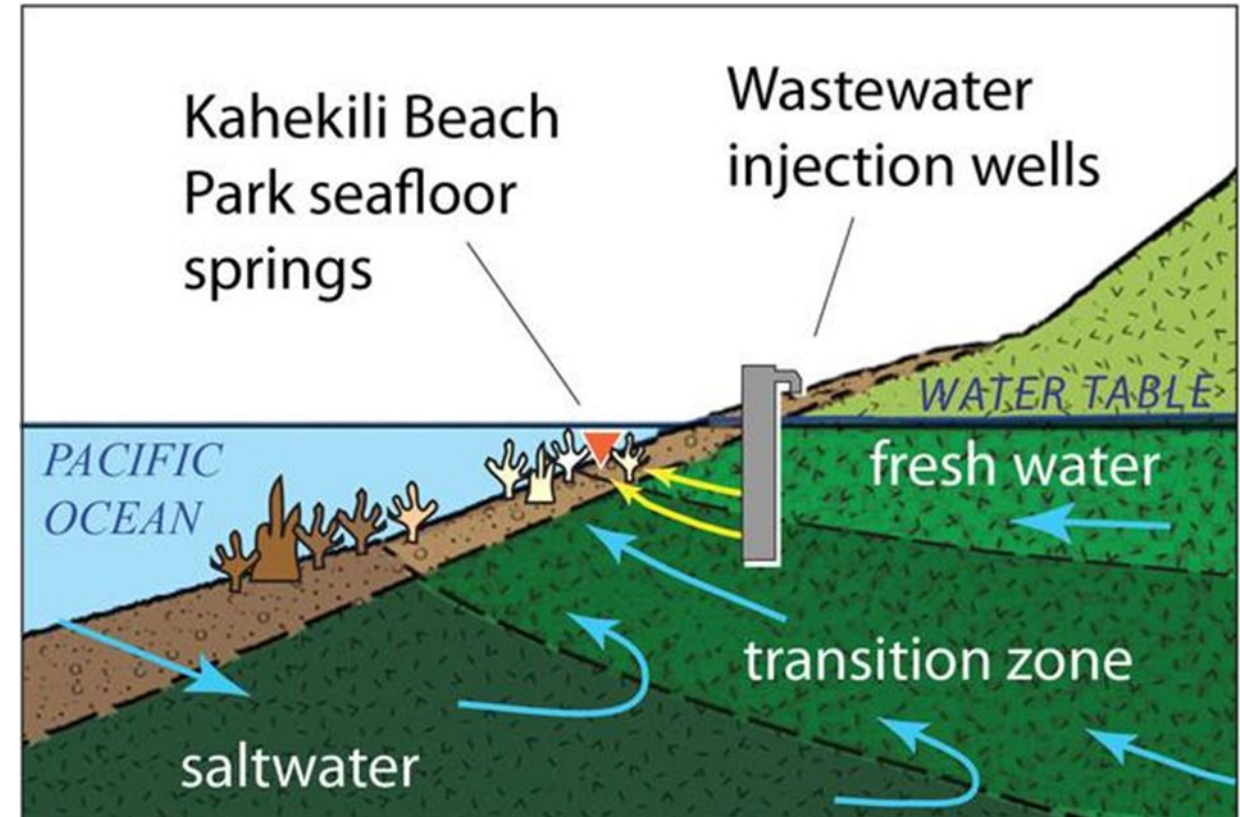


Image: USGS

"A large and obvious loophole in one of the key regulatory innovations of the Clean Water Act." - Justice Breyer

The *Maui* Test



Transit time	6 – 18 months	Unlikely (?)
Distance traveled	1,500 feet	Likely
The nature of the material	Sand/gravel	Ambiguous
The extent to which the pollutant is diluted/chemically changed	High	Unlikely
The amount of pollutant entering navigable waters relative to source	~100%	Likely
The manner in which the pollutant enters navigable waters	Groundwater plume	Ambiguous
The degree to which the pollutant maintains its identity	$\leq 0 - 0.7$ ppm NO ₃ (1 ppm at source)	Likely

Poll Question

Based on what you just learned, would you be comfortable building & owning this facility without a federal CWA permit?

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#3780 6934



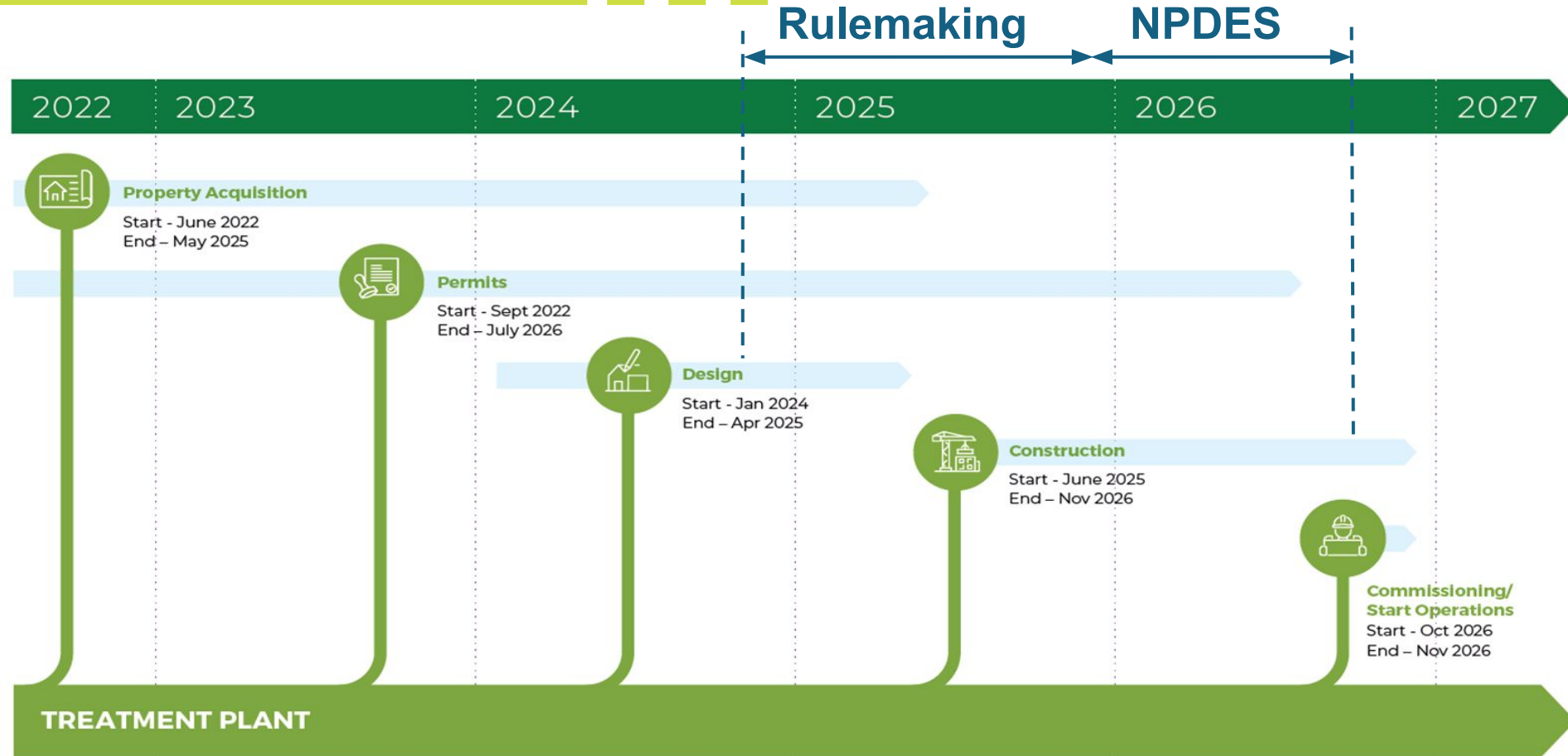
Three Basin Rule Change Petition



- County petitioned **August 2024** (after exhausting all other options)
- Close coordination with Salem and other stakeholders:
- Narrow exemptions for systems:
 - Publicly owned treatment works
 - Discharges to groundwater
 - Best available technology
 - Preserves/improves water quality
 - Min. threshold for distance
- November 2024 - Oregon DEQ moved to a comprehensive Rule update
- Rulemaking scheduled to complete November 2025

<https://www.oregon.gov/deq/rulemaking/pages/threebasinpetition.aspx>

Implications to Project Schedule



North Santiam Canyon Sewer Project

Oregon Senate Bill 1189



- ORS 468B.050(1)(2) prohibits construction of “any disposal system or part thereof” without appropriate discharge permit.
- SB 1189 – creates a limited exception to begin construction to meet ARPA deadline
- Does not exempt this project from any permit requirements of operating/discharging from the plant per the Clean Water Act

Passed
Senate
29 – 0

House
58 – 0

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North Santiam Canyon Sewer Project

Key Components to Success

- Keeping the public involved and informed
 - Public Open House
 - Regular Updates
 - Local sewer authority (NSSA)
- Upstream and Downstream Advocacy
- Interagency Partnerships
- Bipartisan Lawmaker Endorsements



North Santiam Canyon Sewer Project

Critical Partnerships

- City of Salem
- Oregon Dept. of Environmental Quality
- The 4 canyon cities (Mill City, Gates, Detroit, and Idanha)
- Tribal Entities
- Downstream Water Users
- Other Facilities



North Santiam Canyon Sewer Project

Key Takeaways for Water Utilities

- Stay informed on the changing legal landscape as it impacts your watershed
- Engage early and often with upstream projects
- Build regulatory partnerships
- Seek opportunities where protecting your water supply is a common interest



Acknowledgements

- City of Salem
- Mid-Willamette Valley Council of Governments
- North Santiam Sewer Authority
- Confederated Tribes of Grande Ronde
- Oregon Business Development Department



North Santiam
Sewer Authority



Questions?



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Thank you!



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