


OneWater Nevada
Our Sustainable Water Future

Regional Reclaimed Water Feasibility Study

Presentation to the Western Regional Water Commission
December 13, 2018



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Today's Discussion

- ◆ Reclaimed Water Uses in the Truckee Meadows
- ◆ Advanced Reclaimed Water Projects in the United States
- ◆ Regional Reclaimed Water Feasibility Study
- ◆ ***OneWater Nevada***

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Current Reclaimed Water Uses in the Truckee Meadows

- ◆ Water sourced from regional water reclamation facilities
- ◆ Decades of water recycling experience
- ◆ 10 % of total area water supply
- ◆ Regulated by the State of Nevada Division of Environmental Protection



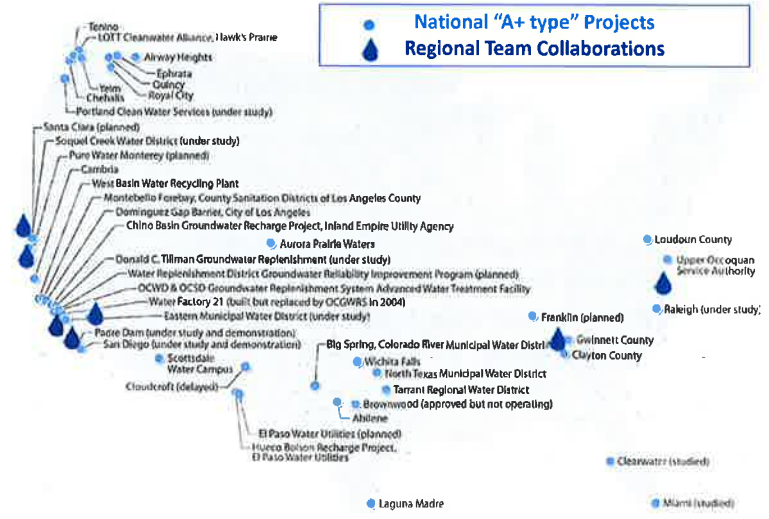
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State of Nevada Reclaimed Water Regulations

- ◆ **Categories A thru E water quality**
 - Standards for non-potable uses
 - Safe for environment, recreation, and industrial uses
- ◆ **Category A+ water quality**
 - Meets all State and Federal drinking water standards
 - Quality achieved through advanced water treatment and natural purification processes
 - Intended for storing water in groundwater aquifers
 - Governor Sandoval's 2015 Drought Forum: improve Nevada's drought response

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National "A+ type" Reclaimed Water Programs



Conditions for Success: Building Legitimacy

- ◆ Clear Purpose
- ◆ Public Engagement
- ◆ Regional Effort
- ◆ Regulatory Pathway
- ◆ Demonstration Project
- ◆ Hydrogeologic Investigations
- ◆ Independent Expert Panel
- ◆ Feasibility Study
- ◆ Regional Water Authority Leadership



Regional Reclaimed Water Feasibility Study

◆ Purpose

- Determine if Nevada's newly adopted Category A+ for reclaimed water offers water management opportunities for the Truckee Meadows Region.

◆ Key Questions

- What would be the social, economic, and environmental impacts?
- How to ensure A+ water would be a safe, sustainable, and a reliable resource?
- Can local aquifers be used for long-term water storage?
- How to encourage public engagement?

University of Nevada, Reno Leadership

◆ Krishna Pagilla, PhD

- Program Chair, Civil and Environmental Engineering
- Internationally recognized water expert



- ◆ Examining social, economic, and financial aspects
- ◆ Leading scientific and technical evaluations
- ◆ Leading water quality and public health evaluations
- ◆ UNR offers a broad range of independent expertise
- ◆ 3 PhD candidates dedicated to feasibility study
- ◆ Funded by WRWC



Demonstrations and Investigations



*Advanced Water Treatment Pilot Test
South Truckee Meadow
Water Reclamation Facility*



*Groundwater Investigation
Cold Springs
Water Reclamation Facility*



Demonstrations and Investigations

◆ Treatment Technology Demonstration Projects

- 2017 - 2019 at South Truckee Meadows Water Reclamation Facility
- 2019 - 2020 at Reno-Stead Water Reclamation Facility
- 2019 - 2020 at Cold Springs Water Reclamation Facility

◆ Groundwater Aquifer Investigations

- 2018 - 2019 at American Flat Road
- 2018 - 2020 at Bedell Flat



Bedell Flat, Washoe County Nevada



Feasibility Study Completed and Current Activities

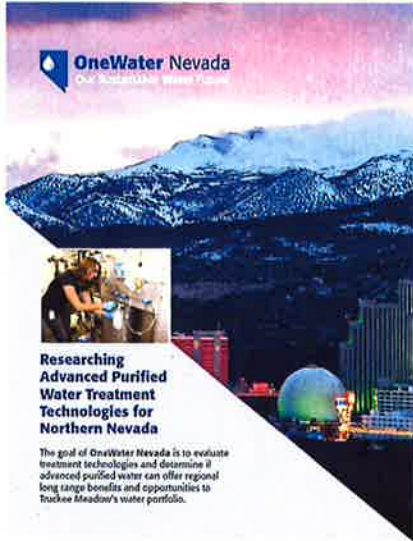
- ◆ Regulatory framework ✓
- ◆ Project rationale and justification ✓
- ◆ Triple-bottom-line analysis ✓
- ◆ Water treatment pilot testing ✓
- ◆ Basis of design injection well treatment ✓
- ◆ Basis of design infiltration treatment ✓
- ◆ Monitoring and testing plan ✓
- ◆ Water quality operating plan ✓
- ◆ Treatment pilot testing ✓
- ◆ Bedell Flat infiltration study ✓
- ◆ American Flat Road aquifer investigation ✓
- ◆ Cold Springs monitoring well drilling ✓
- ◆ Reno-Stead injection test well drilling ✓
- ◆ Equipment leases and purchase ✓
- ◆ Water Rights Analysis ✓
- ◆ Water Markets Analysis ✓
- ◆ Low energy treatment evaluations ✓
- ◆ Climate change study ✓
- ◆ Expert panel meetings (4) ✓
- ◆ Public information brochure ✓
- ◆ 20 local public presentations ✓
- ◆ Peer-reviewed technical conferences ✓
- ◆ Water Research Foundation Grants (2) ✓
- ◆ National Science Foundation Grant ✓
- ◆ Bureau of Reclamation Grant ✓
- ◆ Website and public engagement ✓
- ◆ Operator training ✓
- ◆ Collaborative agency site visits (7) ✓

Feasibility Study Next Steps

- ◆ Technical Work
 - On schedule to complete study in 2020
 - Validate treatment technologies through field demonstrations
 - Preparing reports for State of Nevada and Washoe County Health District approval
 - Independent expert panel input
- ◆ Community Engagement Elements
 - Broadening public education opportunities
 - Demonstration projects
 - Gathering public officials input
 - **Community leaders field trips**



OneWater Nevada



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