



WASHOE COUNTY

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Grant Mgt. CE

STAFF REPORT

BOARD MEETING DATE: February 14, 2017

DATE: January 20, 2017
TO: Board of County Commissioners
FROM: Rick Warner, P.E., Sr. Licensed Engineer, Engineering and Capital Projects, Community Services Department, 954-4621, rwarner@washoecounty.us
THROUGH: Dave Solaro, Arch., P.E., Director
Community Services Department, 328-3600, dsolaro@washoecounty.us
SUBJECT: Recommendation to:
1) approve a resolution authorizing Washoe County staff to submit a grant application to the Bureau of Reclamation in response to Federal Funding Opportunity BOR-DO-17-F003 WaterSmart: Development of Feasibility Studies under the Title XVI Water Reclamation and Reuse Program for Fiscal Year 2017, beginning approximately April 2017 through October 2018;
2) commit \$150,000 match funding for a possible federal award amount of \$150,000;
3) recognize the grant supports a reclaimed water feasibility study potentially benefiting the entire county; and, if the grant is awarded,
4) direct the Comptroller's Office to make the necessary budget adjustments. (All Commission Districts.)

SUMMARY

The Bureau of Reclamation recently issued Federal Funding Opportunity BOR-DO-17-F003 WaterSmart: *Development of Feasibility Studies under the Title XVI Water Reclamation and Reuse Program for Fiscal Year 2017*. The program offers financial support to local and State feasibility studies relating to water reclamation and water recycling.

This particular grant opportunity could provide up to \$150,000. The grant requires equal matching funds (\$150,000) from Washoe County, which is supported by planning work already being implemented and funded through Washoe County's reclaimed water and sewer utility funds.

To demonstrate the grant applicant (Washoe County) has the legal and financial local support, the Bureau of Reclamation submittal process requires a resolution from the applicant's governing board. Washoe County's resolution is attached. If the grant application is approved by the Bureau of Reclamation, a Grant Agreement will be brought before the Board of County Commissioners for approval.

AGENDA ITEM # 5.B.

County Priority/Goal supported by this item: safe, secure and healthy communities.

PREVIOUS ACTION

There has been no previous action.

BACKGROUND

The Bureau of Reclamation recently issued Federal Funding Opportunity BOR-DO-17-F003 WaterSmart: *Development of Feasibility Studies under the Title XVI Water Reclamation and Reuse Program for Fiscal Year 2017*. The program offers financial support to local and State feasibility studies relating to water reclamation and water recycling.

This grant opportunity could provide up to \$150,000. The grant requires equal matching funds (\$150,000) from Washoe County, which is supported by planning work already being implemented and funded through Washoe County's reclaimed water and sewer utility funds.

If awarded, the grant funds would be applied to an ongoing regional reclaimed water study. The Washoe County Community Services Department is presently participating in a regional study examining how best reclaimed water can benefit the region's water portfolio. The current work is being conducted in collaboration with the Northern Nevada Water Planning Commission, City of Reno, City Sparks, Truckee Meadows Water Authority, University of Nevada, and Western Regional Water Commission.

To demonstrate the grant applicant (Washoe County) has the legal and financial local support, the Bureau of Reclamation submittal process requires a resolution from the applicant's governing board. Washoe County's resolution is included.

GRANT AWARD SUMMARY

Project/Program Name:

Bureau of Reclamation in response to Federal Funding Opportunity BOR-DO-17-F003 WaterSmart: Development of Feasibility Studies under the Title XVI Water Reclamation and Reuse Program for Fiscal Year 2017

Scope of the Project:

Washoe County and eight regional agencies is jointly developing a feasibility study to evaluate whether the State of Nevada's newly adopted "A+" reclaimed water category offers significant water resource management benefits. Category A+ reclaimed water quality requirements meet all Federal and State of Nevada drinking water standards, and is intended for groundwater recharge.

Benefit to Washoe County Residents:

Washoe County is seeking up to \$150,000 from the Bureau of Reclamation funding opportunity number BOR-DO-17-F003, WaterSMART: Development of Feasibility Studies under the Title XVI Water Reclamation and Reuse Program for Fiscal Year 2017. Title XVI funds would enhance the Northern Nevada Study by facilitating more robust analysis

evaluating water market conditions, water rights, climate change, and water treatment technologies with low energy consumption.

On-Going Program Support:

The works specifically supports a regional feasibility study and is not considered "on-going work".

Award Amount: *up to \$150,000*

Grant Period: *Beginning in April 2017 and completed by October 2018*

Funding Source: *Bureau of Reclamation WaterSMART Grant*

Pass Through Entity: *Not Applicable*

CFDA Number: *15.504*

Grant ID Number: *BOR-DO-17-F003*

Match Amount and Type: *\$150,000, in the form of in-kind staff contributions and direct payment for work performed by consultants.*

Sub-Awards and Contracts:

It is anticipated that if awarded, the grant funds will compliment feasibly study activities presently being conducted by the University of Nevada, Reno. If awarded, the grant funds would also likely fund new work performed by the Desert Research Institute.

FISCAL IMPACT

This is a federal reimbursable grant in the amount of \$150,000 and administered through the Department of the Interior, Bureau of Reclamation. Project costs will be posted to internal order (pending)-account 710100. The internal order will be established in Utilities Fund 5153 cost center 668500, where there is sufficient cash and budget appropriations for the project. The fund will supply cash until the grant is reimbursed and revenue is recorded in Utilities Fund 5153 cost center 668500-account 431100.

The required cash match is \$150,000. There is sufficient cash and budget appropriations for the cash match in Utilities Fund 5153 cost center 668500-account 710100.

Should the Board accept this grant award, the adopted budget will be adjusted in Utilities Fund 5153 cost center 668500 as follows:

Internal order (pending)	Account 431100 Federal Grant	\$150,000 Increase
Internal order (pending)	Account 710100 Professional Services	\$150,000 Increase

This grant will not be invoiced monthly, but at periodic intervals in accordance with the grant agreement, project progress and inspections. No administration or overhead costs will be recovered through the grant.

RECOMMENDATION

It is recommended that the Board of County Commissioners: 1) approve a resolution authorizing Washoe County staff to submit a grant application to the Bureau of Reclamation in response to Federal Funding Opportunity BOR-DO-17-F003 WaterSmart: Development of Feasibility Studies under the Title XVI Water Reclamation and Reuse Program for Fiscal Year 2017, beginning approximately April 2017 through October 2018; 2) commit \$150,000 match funding for a possible federal award amount of \$150,000; 3) recognize the grant supports a reclaimed water feasibility study potentially benefiting the entire county; and, if the grant is awarded, 4) direct the Comptroller's Office to make the necessary budget adjustments.

POSSIBLE MOTION

Should the Board agree with staff's recommendation, a possible motion would be: "Move to: 1) approve a resolution authorizing Washoe County staff to submit a grant application to the Bureau of Reclamation in response to Federal Funding Opportunity BOR-DO-17-F003 WaterSmart: Development of Feasibility Studies under the Title XVI Water Reclamation and Reuse Program for Fiscal Year 2017, beginning approximately April 2017 through October 2018; 2) commit \$150,000 match funding for a possible federal award amount of \$150,000; 3) recognize the grant supports a reclaimed water feasibility study potentially benefiting the entire county; and, if the grant is awarded, 4) direct the Comptroller's Office to make the necessary budget adjustments."

RESOLUTION

A RESOLUTION APPROVING THE GRANT APPLICATION TO THE BUREAU OF RECLAMATION FOR FEDERAL FUNDING OPPORTUNITY BOR-DO-17-F003 WATERSMART: DEVELOPMENT OF FEASIBILITY STUDIES UNDER THE TITLE XVI WATER RECLAMATION AND REUSE PROGRAM FOR FISCAL YEAR 2017

WHEREAS, the United States Bureau of Reclamation has established the WaterSMART Grant Funding Program to provide federal assistance to local, regional, and State authorities to identify and investigate opportunities to reclaim and reuse wastewater and naturally impaired ground and surface water; and

WHEREAS, Washoe County's proposed grant-eligible project is titled "*Northern Nevada Indirect Potable Reuse Feasibility Study*", which is a regional study evaluating the feasibility of utilizing highly treated reclaimed water for groundwater recharge in conformance with recently adopted State of Nevada regulations; and

WHEREAS, in January of 2017, the Washoe County Community Services Department submitted an application for the Bureau of Reclamation WaterSMART Water Reclamation and Reuse Program Feasibilities Studies funding opportunity BOR-DO-17-F003 for FY 2017; and

WHEREAS, the Bureau of Reclamation WaterSMART funding would enhance Northern Nevada's regional study by investigating water market value impacts, creating a water rights framework, evaluating less energy intensive water treatment technologies, and assessing the regional water resource portfolio with respect to climate change; and

WHEREAS, Washoe County grant request is \$150,000, which requires an equal \$150,000 in-kind match by Washoe County; and

WHEREAS, Washoe County Community Services Department has the technical expertise, managerial capacity, and financial resources to successfully complete the Bureau of Reclamation WaterSMART grant requirements; and now, therefore, be it

RESOLVED, by the Board of Commissioners of Washoe County that Washoe County elects to authorize the submittal of the *Northern Nevada Indirect Potable Reuse Feasibility Study* and is authorized to commit Washoe County to the financial and legal obligations associated with the grant requirements and obligations, including an in-kind match, if approved.

Chair,
Washoe County Commission

Date

Attest:

Washoe County Clerk

RECLAMATION

Managing Water in the West

Funding Opportunity Announcement No. BOR-DO-17-F003

WaterSMART: Development of Feasibility Studies under the Title XVI Water Reclamation and Reuse Program for Fiscal Year 2017



U.S. Department of the Interior
Bureau of Reclamation
Policy and Administration
Denver, Colorado

October 2016

Synopsis

Federal Agency Name:	Department of the Interior, Bureau of Reclamation, Policy and Administration
Funding Opportunity Title:	WaterSMART: Development of Feasibility Studies under the Title XVI Water Reclamation and Reuse Program (FY) 2017
Announcement Type:	Funding Opportunity Announcement (FOA)
Funding Opportunity Number:	BOR-DO-17-F003
Catalog of Federal Domestic Assistance (CFDA) Number:	15.504
Dates: (See FOA Sec. D.4)	Application due date: Thursday, January 5, 2017 4:00 p.m. Mountain Standard Time
Eligible Applicants: (See FOA Sec. C.1)	State, regional, or local authorities; Indian tribes or tribal organizations; or other entities such as a water district, wastewater district, or rural water district. Applicants must be located in the Western United States or United States Territories as identified in the Reclamation Act of June 17, 1902, as amended or Hawaii.
Recipient Cost Share: (See FOA Sec. C.2)	50 percent or more of total study costs.
Federal Funding Amount: (See FOA Sec. B.1)	Funding Group I: Up to \$150,000 per agreement for a study up to 18 months. Funding Group II: Up to \$450,000 in Federal funds for a study that can be completed within 36 months.
Estimated Number of Agreements to be Awarded: (See FOA Sec. B.1)	It is expected that most awards will be made for studies in Funding Group I and only a very small number of awards will be made for studies in Funding Group II.

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Title XVI Water Reclamation and Reuse Program Feasibility Study Review Process
 Directives and Standards

Section A: Funding Opportunity Description

A.1. Program Information

The U.S. Department of the Interior's (Interior) WaterSMART (Sustain and Manage America's Resources for Tomorrow) program establishes a framework to provide Federal leadership and assistance on the efficient use of water, integrating water and energy policies to support the sustainable use of all natural resources, and coordinating the water conservation activities of various Interior bureaus and offices. Through this program, Interior is working to achieve a sustainable water strategy to meet the Nation's water needs.

The Bureau of Reclamation's (Reclamation) Title XVI Water Reclamation and Reuse program (Title XVI Program) is an important part of WaterSMART. As authorized by Title XVI of Public Law 102-575, as amended (Title XVI Act), Reclamation works to identify and investigate opportunities to reclaim and reuse wastewater and naturally impaired ground and surface water in the 17 Western States and Hawaii. For purposes of the Title XVI Program, a water reclamation and reuse project is a project that reclaims and reuses municipal, industrial, domestic, or agricultural wastewater and naturally impaired ground water and/or surface waters. Reclaimed water can be used for a variety of purposes, such as environmental restoration, fish and wildlife, ground water recharge, municipal, domestic, industrial, agricultural, power generation, or recreation. Water reclamation and reuse is an essential tool in stretching the limited water supplies in the Western United States.

Water reclamation and reuse feasibility studies help states, tribes, and local communities tackle water supply challenges. Feasibility studies funded under the Title XVI Program support the development of water reclamation and reuse projects to supplement urban and irrigation water supplies through water reclamation and reuse, thereby improving efficiency, providing flexibility during water shortages, and diversifying the water supply. Water reclamation and reuse projects provide growing communities with new sources of clean water while promoting water and energy efficiency and environmental stewardship.

For further information on the WaterSMART Program and the Title XVI Program, see www.usbr.gov/WaterSMART.

A.2. Funding Opportunity Announcement (FOA) Objective

The objective of this Funding Opportunity Announcement (FOA) is to invite applicants to cost share the development of new water reuse feasibility studies. For the purpose of this FOA, the term "feasibility" applies only to feasibility under the Title XVI Program and feasibility study reports funded under this FOA must be developed to meet the requirements of a feasibility study as defined by Section 1604 of the Title XVI Act and further described in Reclamation's Directives and Standards. For further information on the requirements of a Title XVI feasibility study, see Reclamation Manual Directives and Standards, Title XVI Water Reclamation and Reuse Program Feasibility Study Review Process (WTR 11-01) (Reclamation Feasibility Study D&S), available at www.usbr.gov/recman/wtr/wtr11-01.pdf and included as an attachment to this FOA.

Funding Opportunity Announcement No. BOR-DO-17-F003

Water reclamation and reuse project sponsors have communicated to Reclamation that developing feasibility studies that meet Title XVI program requirements is an effective way for them to investigate water reclamation and reuse opportunities, even where Federal funding is not available beyond planning efforts. This FOA makes planning support available for new water reclamation and reuse projects; however, Reclamation and the Department of the Interior cannot support the congressional authorization of new Title XVI Projects or extensions of existing authorized cost ceilings at the current time.

A.3. Statutory Authority

This FOA is issued under the authority of section 1604 of Title XVI of Public Law 102-575, as amended (43 United States Code [U.S.C.] 390h-2).

A.4. Other Related Funding Opportunities

WaterSMART: Title XVI Water Reclamation and Reuse Program Funding: Through this FOA, funding is available for planning, design, and construction of Title XVI Projects specifically authorized for funding under Title XVI of Public Law 102-575, as amended (43 U.S.C. 390h through 390h-39).

WaterSMART: Water Reclamation Research under the Title XVI Water Reclamation and Reuse Program: Through this FOA, research that supports the application of commercially available water reclamation and reuse technologies is funded jointly by Reclamation and state, regional, or local authorities; Indian tribes or tribal organizations; or other entities such as water districts, wastewater districts, or rural water districts in the Western United States or United States Territories as identified in the Reclamation Act of June 17, 1902, as amended, or Hawaii.

Desalination and Water Purification Research and Development: Research and Laboratory Studies: Through this FOA, funding is available for laboratory scale research studies to determine the viability of a novel process, new materials, or process modifications in conjunction with individuals, institutions of higher education, commercial or industrial organizations, private entities, public entities (including state and local), and Indian tribal governments.

Desalination and Water Purification Research and Development: Pilot Projects: Through this FOA, funding is available for pilot projects to test a novel process at a larger scale to determine the technology viability in conjunction with individuals, institutions of higher education, commercial or industrial organizations, private entities, public entities (including state and local), and Indian tribal governments.

Desalination and Water Purification Research and Development: Demonstration Projects – Through this FOA, funding is available for demonstration projects to determine the technical, practical, and economic ability of a novel process to assist with technology commercialization in conjunction with individuals, institutions of higher education, commercial or industrial organizations, private entities, public entities (including state and local), and Indian tribal governments.

Section B: Award Information

B.1. Total Project Funding

The President's fiscal year (FY) 2017 budget request includes \$21.5 million for the Title XVI Program. It is estimated that up to \$1,000,000 will be available for development of new water reclamation and reuse feasibility studies under this FOA. Applications submitted under this FOA also may be considered if other funding becomes available in FY 2017 or thereafter. Please refer to www.usbr.gov/WaterSMART/Title for updated funding information.

B.2. Project Funding Limitations

The Federal share (Reclamation's share in addition to any other sources of Federal funding) of any one proposed study shall not exceed 50 percent of the total study costs. Generally, the non-Federal share of study costs must be expended at the same or greater rate as the federal share of study costs. Applicants are invited to submit proposals under one of the two Funding Groups described below. It is expected that the majority of awards will be made for studies in Funding Group I compared to studies in Funding Group II.

Note: For the purposes of this FOA, the terms "project" and "study" are used interchangeably and refer to the applicant's proposed feasibility study.

B.2.1. Funding Group I

Up to \$150,000 in Federal funds provided through this FOA will be available for feasibility studies that are relatively small in scope or can otherwise meet Title XVI Program requirements with less Federal funding.

B.2.2. Funding Group II

Up to \$450,000 in Federal funds provided through this FOA will be available for feasibility studies that are relatively larger in scope, encompass a regional scale, or otherwise need more Federal funding to meet Title XVI Program requirements.

B.3. Assistance Instrument

Awards will be made through a grant or cooperative agreement as applicable to the selected project. If a cooperative agreement is awarded, the recipient should expect Reclamation to have substantial involvement in the project.

Substantial involvement by Reclamation may include:

- Collaboration and participation with the recipient in the management of the project and close oversight of the recipient's activities to ensure that the program objectives are being achieved.

Funding Opportunity Announcement No. BOR-DO-17-F003

- Oversight may include review, input, and approval at key interim stages of the project.

At the request of the recipient, Reclamation can provide technical assistance after award of an agreement. If you would like to receive Reclamation technical assistance, you must account for these costs in your budget. To discuss available assistance and these costs, contact your local Reclamation office, listed at www.usbr.gov/main/offices.html.

Section C: Eligibility Information

C.1. Eligible Applicants

Applicants eligible to receive an award under this FOA include state, regional, or local authorities; Indian tribes or tribal organizations; or other entities such as a water district, wastewater district, or rural water district. Applicants must be located in the Western United States or United States Territories as identified in the Reclamation Act of June 17, 1902, as amended or Hawaii.

C.2. Cost-Sharing Requirements

Applicants must be capable of cost sharing **50 percent** or more of the total feasibility study costs. Cost sharing may be made through cash or in-kind contributions from the applicant or third-party partners. Cost share funding from sources outside the applicant's organization (e.g., loans or state grants) should be secured and available to the applicant prior to award. Please see Section D.2.2.7. Official Resolution and Section D.2.2.8. Study Budget: Funding Plan and Letters of Commitment for more information regarding the documentation required to verify commitments to meet cost sharing requirements.

C.2.1. Cost Share Regulations

All cost share contributions must meet the applicable administrative and cost principles criteria established in 2 Code of Federal Regulations (CFR) Part 200, available at www.ecfr.gov.

C.2.2. In-Kind Contributions

In-kind contributions constitute the value of noncash contributions that benefit a federally assisted project. These contributions may be in the form of real property, equipment, supplies, and other expendable property, as well as the value of goods and services directly benefiting and specifically identifiable to the project or program. The cost or value of in-kind contributions that have been or will be relied on to satisfy a cost-sharing or matching requirement for another Federal financial assistance agreement, a Federal procurement contract, or any other award of Federal funds may not be relied on to satisfy the cost-share requirement for an award under this FOA; except where the Federal statute authorizing a program specifically provides that Federal funds made available for such program can be applied to matching or cost sharing requirements of other Federal programs, such as awards to tribal organizations under Public Law (P.L.) 93-638, as amended. Applicants should refer to 2 CFR §200.434 for regulations regarding the valuation of in-kind donations and contributions, available at www.ecfr.gov.

C.3. Eligible Studies

C.3.1. Eligible Studies

Proposals for the development of a new water reclamation or reuse feasibility study designed to meet the requirements of a feasibility study as defined under the Reclamation Feasibility Study Directives and Standards (D&S) are eligible for funding under this FOA. This includes studies that evaluate sources and uses of reclaimed water, including but not limited to municipal, industrial, domestic, or agricultural wastewater, as well as naturally impaired ground or surface waters, including stormwater, seawater, or brackish water. Specific feasibility study content requirements are described in Section 4 of the Reclamation Feasibility Study D&S. This is available on Reclamation's website at www.usbr.gov/recman/wtr/wtr11-01.pdf and is included as an attachment to this FOA.

C.3.2. Ineligible Studies

Projects not eligible for funding under this FOA include, but are not limited to:

- Proposals for the development of a feasibility study or project that is not designed to meet the requirements of a feasibility study as defined under the Reclamation Feasibility Study D&S.
- Proposals for development of one or more components of a feasibility study or subgroups of an interconnected regional scale study that would not result in a completed feasibility study within the timeframe listed in this FOA.
- Feasibility studies that previously have been completed, submitted for review, or are the subject of an existing financial assistance agreement with Reclamation (even where another party is conducting the study).
- Proposals for the development of appraisal studies.
- Proposals that include ground disturbing activity or construction.
- Research activities eligible under the WaterSMART: Water Reclamation Research under the Title XVI Water Reclamation and Reuse Program for Fiscal Year 2017, FOA No. BOR-DO-17-F004.

C.3.3. Length of Studies

The length of time to complete a feasibility study is determined by the Funding Group for which the study is proposed. The funding groups and respective timeframes are listed below:

- Feasibility studies in Funding Group I should be completed and submitted to Reclamation within 18 months of award
- Feasibility studies in Funding Group II be completed and submitted to Reclamation within 36 months of award.

Northern Nevada
Indirect Potable Reuse Feasibility Study
January 2017

Study Description

A Reno, Nevada regional team (Regional Team) of eight public agencies is jointly developing a feasibility study (Study) to evaluate whether the State of Nevada's newly adopted "A+" reclaimed water category offers significant water resource management benefits. Category A+ reclaimed water quality requirements meet all Federal and State of Nevada drinking water standards, and is intended for indirect potable reuse (IPR).

The Study will consist of multiple elements and will take 3-to-4 years and approximately \$7 million to complete. The Regional Team is seeking up to \$150,000 from the Bureau of Reclamation funding opportunity number BOR-DO-17-F003, WaterSMART: *Development of Feasibility Studies under the Title XVI Water Reclamation and Reuse Program for Fiscal Year 2017*. Title XVI funds would enhance the Northern Nevada Study by facilitating more robust analysis evaluating water market conditions, water rights, climate change, and water treatment technologies with low energy consumption.

Although IPR alternatives have been included in previous Northern Nevada water master planning efforts, IPR was not considered viable largely because there was not a clear regulatory pathway established in Nevada. One of the most comprehensive water management plans developed to date is titled *North Valleys Effluent Disposal Options*, dated 2005. The plan evaluated numerous water supplies, wastewater treatment scenarios, and effluent management options for an area located approximately 10 miles north of Reno, Nevada, commonly referred to as the *North Valleys*. The plan continues to serve as a water, wastewater, and reclaimed water roadmap for the region. The Northern Nevada feasibility study is utilizing the North Valleys as its boundary condition.

As shown in **Figure 1. Northern Nevada Indirect Potable Reuse Feasibility Study Vicinity Map**, the North Valleys is comprised of four (4) adjacent hydro-geologic basins (Cold Springs, East Lemmon Valley, West Lemmon Valley, and Bedell Flat). Water demands are met with limited groundwater perennial yields plus the area receives drinking water from two (2) water importation projects. The Truckee Meadows Water Authority, which is a member of the Regional Team, supplies the North Valleys with 3,000 acre-feet annually potable water originating from the Truckee River, and another 8,000 acre-feet annually from Honey Lake, California through a 35-mile pipeline.

Scope and Responsibilities

Although the potential use of A+ reclaimed water to augment groundwater sources in Northern Nevada is viewed favorably by water managers, the Regional Team's Study is crafted to more fully develop an understanding of the social, economic and environmental elements.

The Study will be conducted and drafted to meet the requirements of a feasibility study as defined under section 1604 of Pub. L. 102-75, and will conform to the suggested outline found in Section 4.B of the Bureau of Reclamation (BOR) Title XVI Feasibility Study Directives and Standards. Washoe County will be the lead agency and designated project sponsor with respect to the BOR funding opportunity. Funding from the Bureau of Reclamation would enable a substantially more robust analysis relating to the project rationale and justification work occurring in calendar year 2017, specifically enhancing the water markets evaluation; water rights; climate change; and low energy water treatment solutions.

Project Development and Rationale

Crafting a triple bottom line analysis unique to the Reno, Nevada area is envisioned to help align the Study activities, and more clearly articulate the project purpose, goals, and metrics to the public and policy makers in the Northern Nevada community. Field demonstration-scale projects are intended to prove IPR planning concepts, measure treatment technology performance, and verify ability to meet regulatory compliance.

Community Engagement

The Northern Nevada Study embraces approaches to include community engagement in the local decision making processes. The Study presently includes community engagement activities that can be described as shorter-term and longer-term initiatives.

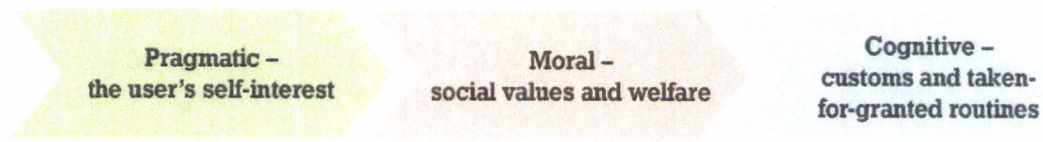
A short-term communication plan for calendar year 2016 was developed to assist local agency staff communicate predominately to local jurisdiction councils and commissions.

Throughout the Study period, a comprehensive community engagement plan will be developed to engage the general public for the purpose of informing and offering engagement opportunities for the public.

The foundational principles of the Regional Team's community engagement work relates to creating "agency legitimacy" – defined as specific and authentic actions a public agency initiates to gain the trust and acceptability from the public. Agency legitimacy is more important as communities consider reuse projects, particularly potable water reuse. Reuse projects have often been met with public opposition, despite having proven that the technology and water quality meet or exceed drinking water standards. Oftentimes, technical professionals such as engineers and scientists believe the public will accept new

technologies when it is provided with information through marketing and public education. Such outreach efforts need be authentic to achieve public support. Research shows three levels of legitimacy need to be addressed to have a successful project.

Three Levels of Legitimacy



Nevada Regulatory Framework

In December 2016, following a comprehensive two year state-wide collaborative process, the State of Nevada adopted revised reclaimed water regulations, which for the first time establishes a regulatory framework for implementing indirect potable reuse for groundwater augmentation. The newly adopted Nevada regulations permit two methods of indirect potable reuse:

- 1) Utilizing infiltration basins receiving Nevada Class A reclaimed water, as shown in **Figure 2**, which is the highest category for unrestricted non-potable uses.
- 2) Aquifer storage and recovery utilizing Nevada Class A+ reclaimed water, as shown in **Figure 3**, which is achieved by advanced water treatment processes and suitable for direct injection to groundwater aquifers.

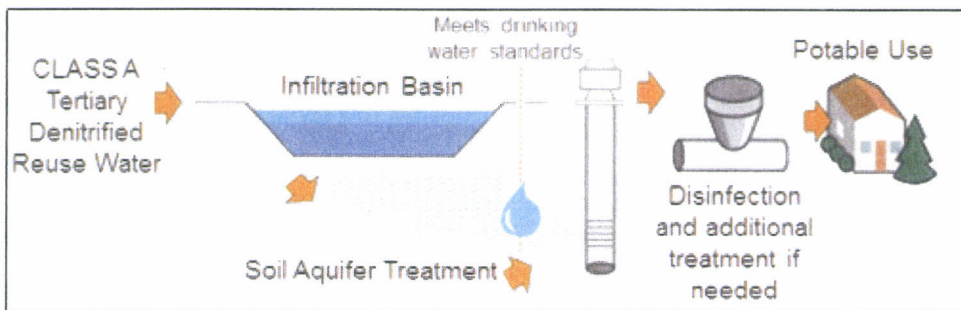


Figure 2 Nevada Indirect Potable Reuse through Infiltration Basins

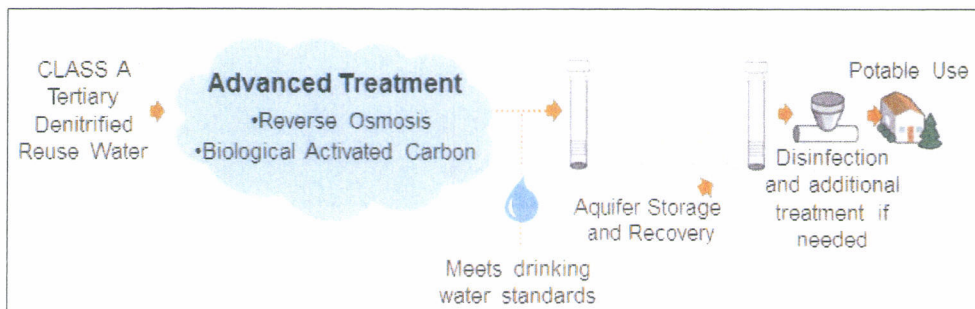


Figure 3 Nevada Indirect Potable Reuse through Aquifer Injection

Pilot Testing Treatment Technologies

The Northern Nevada Study includes advanced water treatment technology pilot testing conducted in collaboration with the Water Environment and Reuse Foundation (WE&RF), Project 15-10. Focal area for WE&RF 15-10 is optimizing Ozone Biological Activated Carbon (O₃-BAC) systems for trace organic constituent removal. WE&RF 15-10 is being jointly funded by WE&RF, American Water, Stantec Consulting, and Washoe County.

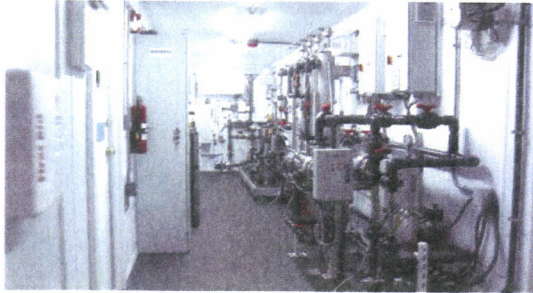


Figure 4 WE&RF Project 15-10 Oxelia Pilot Unit from Xylem.

Demonstration Project

A cornerstone of the feasibility phase activities is a 50-to-100 gallon per minute (GPM) demonstration-scale advanced water treatment facility. Two (2) demonstration site locations are presently planned. One demonstration is investigating the infiltration basin approach, while the second demonstration project is utilizing “advanced water treatment” (i.e O₃-BAC and RO, followed by advanced oxidation processes likely consisting of ultra-violet light and peroxide. Demonstration-scale trailers are depicted in **Figure 5**

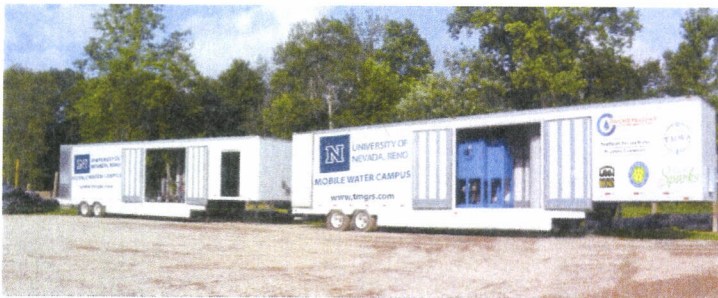


Figure 5 Illustration showing likely Demonstration-scale trailers configuration.

The Regional Team has contracted with Dr. Krishna Pagilla, Professor and Environmental Engineering Program Director at the University of Nevada, Reno to operate the demonstration project for performance, reliability, and ability to robustly meet Nevada’s regulations.

Geotechnical Investigations

Classifying hydrogeologic characteristics through groundwater modeling and field investigations will assist with sizing the demonstration project advanced treatment units as well as determining the suitability of aquifer recharge at each potential site. The Regional Team’s efforts will be complimented from experts at the University of Nevada and the Nevada Desert Research Institute. Near-term options for demonstrating aquifer recharge within the Study boundary include:

- Cold Springs – utilizing existing infiltration basins at the Cold Springs Water Reclamation Facility to demonstrate soil-aquifer treatment and recovery.
- Stead/Lemmon Valley – construct injection and recovery wells demonstrating aquifer storage and recovery.
- Bedell Flat – potential site for longer term storage/water banking full scale implementation.

Funding

A multi-year budget for the Study is presented in **Table 3 Northern Nevada Feasibility Study Budget**. The Regional Team is seeking up to \$150,000 from the Bureau of Reclamation funding opportunity number BOR-DO-17-F003, WaterSMART: *Development of Feasibility Studies under the Title XVI Water Reclamation and Reuse Program for Fiscal Year 2017*. Bureau of Reclamation funding would enable a substantially more robust analysis relating to the *project rationale* and justification work occurring throughout 2017 and the early part of 2018.

As illustrated in **Table 1**, local matching funds would come from Washoe County. Washoe County’s contributions are cash, with funds allocated from Washoe County’s regional reclaimed water funds, which are supported by reclaimed water privilege connection fees and user fees. Washoe County’s 50-percent matching funds (\$150,000) are from cash on-hand, and do not include or require any commitments from other local, State of Nevada, or Federal contributions. **Table 2 - Proposal Bureau of Reclamation (Funded Project Activities) Budget** illustrates the preliminary activity level budget for Washoe County personnel and for consultant experts.

Table 1 Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non Federal Entities	
1. Washoe County	\$150,000
Non-Federal Subtotal	\$150,000
Other Federal Entities	
1. Not Applicable	
REQUESTED RECLAMATION FUNDING	\$150,000

Table 2 Proposal Bureau of Reclamation (Funded Project Activities) Budget

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	\$/Unit	Quantity		
Salaries and Wages including Fringe				
Employee – Lydia Peri	\$ 48.28	280	hourly rate	\$ 13,518
Employee – Rick Warner	\$ 78.20	69	hourly rate	\$ 5,361
Employee – Vahid Behmaram	\$ 68.00	90	hourly rate	\$ 6,120
Trip 1				\$ -
Trip 2				\$ -
Contractual/Construction				
University of Nevada – Water Markets	\$45,000	1	Not to Exceed Contract	\$ 45,000
University of Nevada – Climate Change	\$25,000	1	Not to Exceed Contract	\$ 25,000
University of Nevada – Low Energy Treatment Processes	\$100,000	1	Not to Exceed Contract	\$ 100,000
Desert Research Institute - Climate Change	\$40,000	1	Not to Exceed Contract	\$ 40,000
National Water Research Institute - Expert Panel	\$40,000	1	Not to Exceed Contract	\$ 40,000
Water Rights Consultant	\$25,000	1	Not to Exceed Contract	\$ 25,000
Other				
Other				\$ -
TOTAL DIRECT COSTS				\$
Indirect Costs				
Type of rate	percentage			\$ -
TOTAL ESTIMATED PROJECT COSTS				\$ 300,000

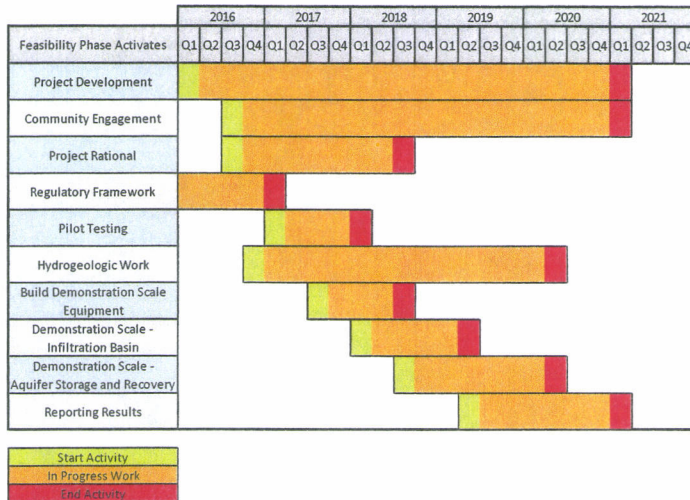
Table 3 Northern Nevada Feasibility Study Budget

BUDGET ITEM DESCRIPTION	TOTAL COST
1. Project Development	\$ 305,000
2. Community Outreach	\$ 160,000
3. Regulatory Framework	\$ 65,000
4. Pilot Testing / Advanced Water Treatment Technologies	\$ 2,389,000
5. Demonstration Project	\$ 2,330,000
6. Hydrogeological Investigations	\$ 1,490,000
TOTAL ESTIMATED PROJECT COSTS	\$ 6,739,000

Schedule

The Northern Nevada agencies anticipate feasibility study activities to extend through 2020. BOR funded activities will occur and be completed with other Project Rational Activities – within 18 months to comply with the funding requirements.

Table 4 Northern Nevada Feasibility Study Schedule



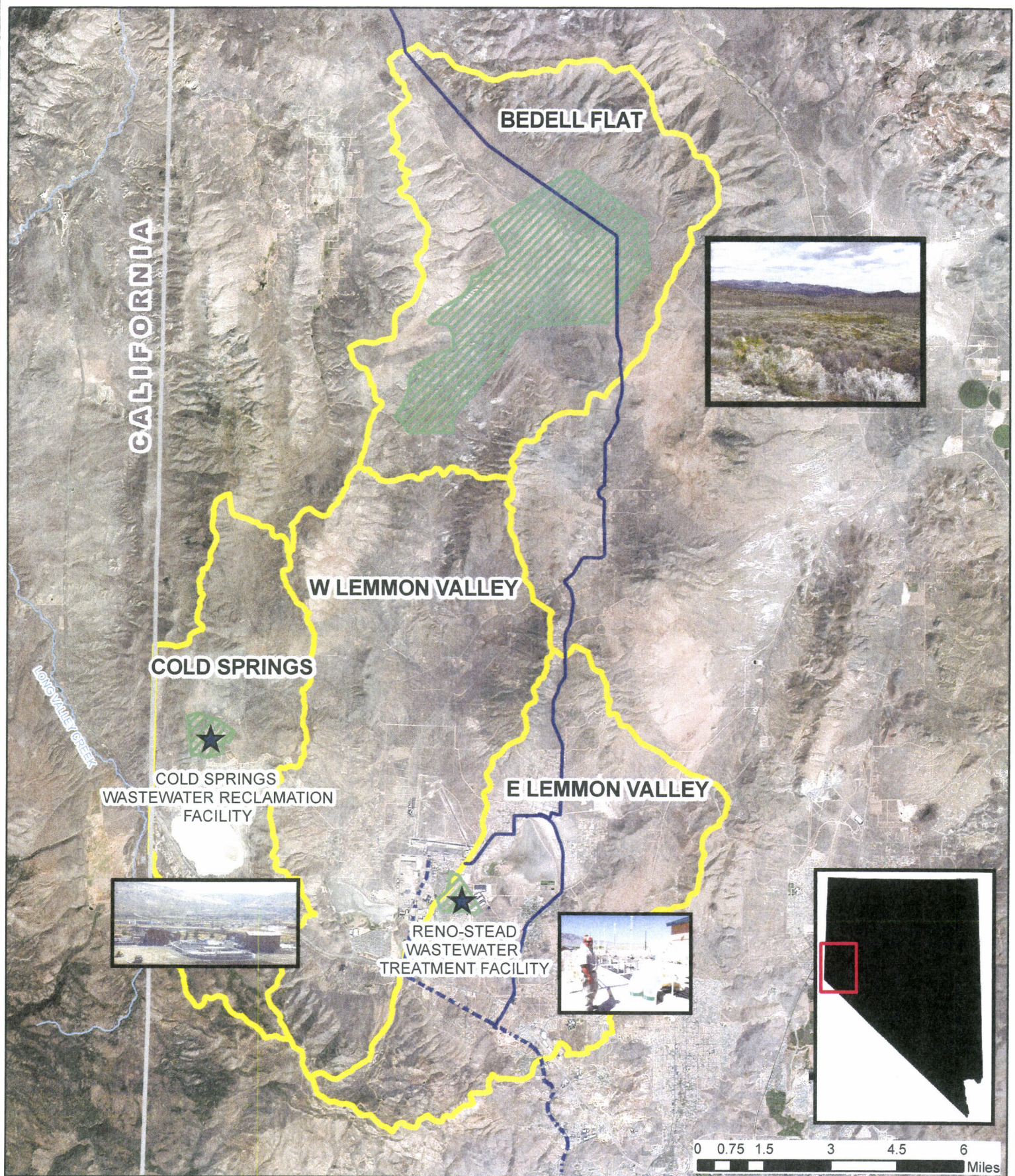
Discussion

The Regional Team has developed a collaborative and comprehensive feasibility approach which includes staff from eight regional water agencies, researchers from the University of Nevada, international experts, and water research organizations. Funding from the Bureau of Reclamation would enable a substantially more robust analysis relating to the project rationale and justification work occurring in calendar year 2017, specifically enhancing Regional Team’s Study in the following focus areas:

- Developing a water market value impact study.
- Evaluating methods acceptable to the Nevada State Water engineer to create and account for a “new” A+ water right.
- Evaluating if indirect potable reuse enables the region’s water resource portfolio with greater resiliency with respect to climate change.
- Evaluating less energy intensive water treatment technologies suitable for potable reuse, compared to reverse osmosis.

Key Regional Team Members

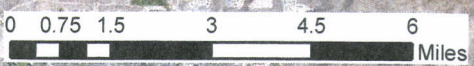
Regional Team members responsible to deliver the overall Northern Nevada Regional Feasibility Study include the professionals listed below. Not shown is approximately twenty others that have significant leadership on key feasibility phase activities. The Northern Nevada effort is truly a large and effective collaboration, which has developed a work plan to achieve success.



- Legend**
- ★ Wastewater Treatment Facility
 - Truckee Meadows Water Authority
 - Fish Springs Water Importation Pipeline
 - ▨ Potential Recharge Sites
 - Hydrobasin

FIGURE 1

**Northern Nevada Indirect Potable Reuse
Feasibility Study Vicinity Map
Bureau of Reclamation WaterSmart Grant
BOR-DO-17-F003**



Notes: The Scale and configuration of all Information shown hereon are approximate only and are not intended as a guide for design or survey work. Reproduction is not permitted without prior written permission from the Washoe County Community Services Department. January, 2017

**Washoe County Community Services Department
Engineering &
Capital Projects Division
Utility Division**