

Southern Nevada Water Authority
Water Smart Landscapes Rebate Program
(\$300,000)

Applicant:

Southern Nevada Water Authority

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1. Technical Proposal: Executive Summary

Date: May 10, 2018
Applicant: Southern Nevada Water Authority
Location: 1001 South Valley View Boulevard
Las Vegas, NV 89153 (Clark County)

Project Overview:

As severe and sustained drought conditions in the Colorado River Basin continue to threaten water supplies and delivery systems, water conservation is a critical tool used to ensure a safe and reliable drinking water supply for Southern Nevada. Since 1991, the Southern Nevada Water Authority (SNWA) and its member agencies have implemented one of the most comprehensive and aggressive water conservation programs in the United States. Conservation initiatives have helped to save billions of gallons of water annually, extending the availability of Nevada's 300,000 acre-feet per year (AFY) Colorado River water appropriation. Within the SNWA's member agencies' service areas, nearly all water used meets municipal demands.

This project proposal seeks \$300,000 from the Bureau of Reclamation's (Reclamation) WaterSMART: Water and Energy Efficiency Grants program to support Southern Nevada's continued water conservation efforts. Funding will support a portion of the SNWA's 2019/2020 Water Smart Landscapes Rebate Program (WSL Program). The SNWA will provide a minimum matching contribution of \$3 million for a total project cost of \$3.3 million. This project will result in an estimated recurring annual savings of between 225 to 314 AFY by converting between 1,314,741 and 1,833,333 square-feet of lawn to water-efficient landscaping. Over the life of the improvement (50 years), the cumulative recurring impact of this project is estimated to result in a savings of between 11,250 and 15,700 AF.

Task Area:

The proposed project fits within *Eligible Projects C.3.1.1. – Water Conservation Projects* as identified in Funding Opportunity BOR-DO-18-F006. The SNWA's WSL Program provides a financial incentive for property owners to replace lawn with water-efficient landscaping. The program has proven to be the region's most effective way to achieve significant and lasting conservation gains, providing water savings that directly extend the region's existing supplies.

Length of Time and Estimated Completion Date

The proposed project encompasses landscape conversion rebates that are distributed under the SNWA's WSL Program during fiscal year 2019/2020 (July 1, 2019–June 30, 2020). All project work will be completed by June 30, 2020. Program participation is dependent on customer demands, which has been fairly steady in prior years.

2. Technical Proposal: Background Data

The SNWA was formed in 1991 by a cooperative agreement among the following water and wastewater agencies in Southern Nevada:

- Big Bend Water District
- City of Boulder City
- City of Henderson
- City of Las Vegas
- City of North Las Vegas
- Clark County Water Reclamation District
- Las Vegas Valley Water District

Together, these seven agencies provide water and wastewater service to more than 2 million residents in the cities of Boulder City, Henderson, Las Vegas and North Las Vegas, and areas of unincorporated Clark County (the service area is shown in the map included as Appendix A). As their wholesale water provider, the SNWA is responsible for water treatment and delivery, as well as acquiring and managing the region's short and long-term water resources. Since its inception, the SNWA has worked to seek new water resources, manage existing and future water resources, construct and manage regional water facilities, and promote conservation.

The severe and sustained drought conditions on the Colorado River underscores the critical role of conservation in helping to meet current and future demands. As drought conditions continue, Southern Nevada may be subject to declared Colorado River shortages as early as 2019—making Southern Nevada's conservation efforts even more important. In addition, further declines in Lake Mead's water level could result in additional shortages, which would further stress the ability of water supply facilities to meet water demands. Water conservation helps to mitigate these concerns.

The SNWA and its member agencies depend on the Colorado River for approximately 90 percent of the community's drinking water needs. The SNWA's primary resource is its share of Nevada's consumptive-use apportionment of 300,000 AFY of Colorado River water. In addition to this apportionment, the SNWA also has access to groundwater rights in the Las Vegas Valley, purchased/leased rights along the Muddy and Virgin rivers, and Coyote Spring Valley groundwater rights, which can be conveyed to the Colorado River for Intentionally Created Surplus (ICS) credit.

In Southern Nevada, the SNWA serves as a regional water wholesaler, which eliminates the need for direct marketing between municipalities. Instead, unused Colorado River resources are stored for the community's future use in water banks located in Southern Nevada, California and Arizona. The Southern Nevada water bank, established in 1987, has approximately 336,000 AF of credits, including water banked for the Las Vegas Valley Groundwater Management Program. The SNWA's California water bank has accumulated approximately 330,000 acre-feet of credits, while Arizona's bank has accumulated 601,000 acre-feet since the inception of Nevada Interstate Banking in 2002. SNWA's water conservation gains have helped further its banking efforts. Since 2002, water-efficiency programs have helped the SNWA to contribute approximately 409,000 AF of unused Nevada Colorado River water toward interstate banking efforts.

In the event that Colorado River shortages are implemented, the SNWA intends to utilize banked resources to help temporarily offset supply availability. Conservation improves the ability to respond to shortages both by directly reducing demand and freeing up resources that can be banked for times of emergency.

System Overview

The SNWA manages the Southern Nevada Water System's (SNWS) regional pumping, treatment and delivery facilities. SNWS diverts and treats raw Colorado River water from Lake Mead and delivers potable water to Southern Nevada's municipal water purveyors (Las Vegas Valley Water District, City of Henderson, City of North Las Vegas and City of Boulder City).

Water is extracted via two 600 million gallons per day (MGD) raw water intakes submerged within Lake Mead (located at elevation 1,050 and 1,000 feet, respectively). Water collected at these diversion points is transported to and treated at one of the SNWA's two water treatment facilities. These facilities treat and deliver an average of approximately 400 MGD and have a maximum capacity of 900 MGD. Treated water is delivered to the municipal water purveyors through more than 160 miles of large diameter pipeline, which traverse the Las Vegas Valley and connect to purveyor systems. SNWA facilities support water distribution to more than 500,000 customer accounts and more than 2 million residents in Southern Nevada.

Relationship with Bureau of Reclamation

The SNWA has established long-standing relationships with Reclamation, and has coordinated on a number of initiatives including the Brock Reservoir System Efficiency Project and the Yuma Desalting Plant Pilot Project; development and implementation of interstate water banking agreements with Arizona and California; Colorado River accounting and procedures for return-flow credits; a Xeriscape Conversion Study; and environmental restoration and stabilization initiatives in the Las Vegas Wash. Since 2010, the SNWA has received ten WaterSMART grants from Reclamation in direct support of the SNWA's turf conversion efforts. In 2016, the SNWA received a 3-year grant in support of the WSL program — \$1,000,000 was awarded by the WaterSMART: Water and Energy Efficiency Grants Program for fiscal years 2016/2017, 2017/2018 and 2018/2019.

Program Description

Since its creation in 1991, the SNWA has implemented a number of conservation programs focused on reducing water use. While the SNWA actively promotes indoor conservation, in Southern Nevada the greatest opportunity for water conservation lies in curbing outdoor water use. According to consolidated data provided by SNWA member agencies, residents account for approximately 59 percent of water use. Approximately, 60 percent of Southern Nevada's total annual water supply is used consumptively, meaning it can be used just once—commercial and residential landscape irrigation is collectively the single largest consumptive use.

The SNWA has realized significant water savings as part of its lawn conversion program. As a measure of success, since 2002 Southern Nevada's consumptive water use has declined by approximately 33 billion gallons annually, despite the addition of 400,000 new residents and millions of annual visitors. In addition, total water use stated in gallons per capita per day (GPCD) has been reduced 36 percent (from 314 GPCD in 2002 to 127 GPCD in 2017) and significant recent progress has been made toward the community's new conservation goal of 116 GPCD by 2035.

The SNWA has expended more than \$215 million to the WSL program to date, resulting in the removal of more than 185 million square-feet of turf. This represents a cumulative savings of approximately 364,904 AF and annual recurring savings of more than 31,753 AFY. Reclamation's WaterSMART: Water and Energy Efficiency Grants program will provide an important contribution to continuing the impact and capacity of this program.

3. Technical Proposal: Water Smart Landscapes Program Description

In Southern Nevada, nearly all water used indoors is recovered, treated and returned to the Colorado River system for return-flow credits. The recycling of Colorado River water used in Southern Nevada is accrued according to the 1984 U.S. Bureau of Reclamation “Procedure for Determining Return-Flow Credits to Nevada from Las Vegas Wash” and subsequent administrative updates authorized by Reclamation. This process extends Nevada’s Colorado River water supply by nearly 70 percent. As a result, the SNWA’s conservation efforts emphasize reducing outdoor water use, which cannot be recovered through return-flow credits.

The WSL Program is a key component in the SNWA’s efforts to meet its conservation goals. The WSL Program encourages property owners to convert lawn by providing a financial incentive to offset a portion of the cost associated with the conversion. The program currently rebates \$2.00 per square-foot for the first 5,000 square-feet converted per property, and \$1.00 per square-foot for each additional square-foot converted. The maximum award for any property in a fiscal year is \$300,000. However, the WSL rebate has not maintained pace with inflation, resulting in decreased program participation. At its May 2018, Board of Directors meeting, the SNWA will recommend that its Board increase the rebate amount to stimulate participation. Staff will recommend that the rebate be increased to \$3.00 per square foot and the annual conversion limit removed, pending funding availability. Since the rebate rate may increase, calculations within this grant proposal are estimated using the average rebate rate of \$2.00 per square foot and the increased rebate rate of \$3.00 per square foot.

Based upon a joint Reclamation/SNWA research project conducted from 1995 to 2000, every square-foot of grass replaced with desert landscaping saves an average of 55.8 gallons of water per year (see Evaluation Criteria A – Quantifiable Water Savings from Turf Removal for scientific basis of estimate). Since 1999, the WSL Program has supported the removal of more than 185 million square-feet of lawn—resulting in cumulative conservation savings of more than 364,904 AF of total water, and an annual recurring savings of more than 31,753 AFY.

The SNWA will contribute \$3 million in matching contributions to the proposed project, which will be derived from SNWA budgeted 2019/2020 WSL Program funding. Using the current average rebate rate of \$1.80 per square foot and a projected increased average rebate rate of \$2.51 per square foot, this project will result in the conversion of between 1.3 and 1.8 million square-feet of turf and will save an additional 225 to 314 AFY.

Water Smart Landscapes Program Process:

The following details the general process that applicants to the WSL program follow to qualify for and receive landscape conversion rebates:

1. **Application** - Single-family property owners must submit an application to the WSL Program via mail or internet. Commercial and institutional properties contact a Programs Coordinator directly.
2. **Pre-conversion site inspection** – All properties must meet eligibility requirements. At the pre-conversion site inspection, SNWA staff document the existing landscape, determine eligibility to participate in the program and explain the program requirements to the property owner or agent.

(Step 1-2 Duration: 14 days)

3. **Six month performance period** – After SNWA deems the property eligible for participation, the property owner is given up to six months to complete a landscape conversion. Subject to SNWA approval, participants may be granted up to six additional months.

(Step 3 Duration: Customer dependent up to 6 months)

4. **Post-conversion site inspection** – Upon notice from the applicant that a conversion is complete, SNWA will inspect the landscape to ensure it meets minimum requirements and to determine the square footage eligible for rebate. If program requirements are not met, the applicant is given an additional 60 days or the remainder of the six-month time period to take corrective action.
5. **Rebate issuance** – Following a successful post-conversion site inspection, the customer is notified of the rebate amount. The customer acknowledges the amount by signing a form and returning it. A rebate check is then processed and mailed.

(Step 4-5 Duration: 21 days)

On average, this entire process takes approximately 3 to 4 months from initial customer request.

Project Planning:

The SNWA has developed a number of planning documents that guide the management, acquisition and conservation of its water resources. To help plan for the future, the SNWA has developed and maintains a comprehensive Water Resource Plan (available at http://www.snwa.com/ws/resource_plan.html). This document includes a 50-year planning horizon where future water resources are assessed against projected demands. The plan is reviewed annually and updated as needed. Since 1996, the plan has been revised eight times to reflect rapidly changing conditions driven by drought and growth. The plan considers both water conservation initiatives and banking arrangements as important goals and resources. The WSL Program is specifically highlighted as an important conservation tool, which extends the region's water resources.

In addition, and in accordance with Reclamation requirements for Section 210(b) of the Reclamation Reform Act of 1982, the SNWA maintains a regional water conservation plan that identifies water conservation strategies and goals to protect and extend Southern Nevada's available water resources (available at http://www.snwa.com/assets/pdf/about_reports_conservation_plan.pdf). The SNWA works closely with its member agencies to refine conservation strategies and programs that are appropriate for the community. The 2014-2018 SNWA Conservation Plan is currently on file with Reclamation. This plan sets a new target goal of 199 GPCD by 2035. The Conservation Plan identifies the WSL Program as a critical tool in achieving this conservation goal.

Estimated Project Schedule:

As a customer rebate program, the WSL Program is dependent upon customer demand. Historically, rebate issuance has remained relatively steady through the fiscal year. If approved, SNWA will be able to proceed as soon as an agreement is entered. By quarter, expenditures for this portion of the FY 2019/2020 WSL Program are anticipated to track the following estimated forecast.

This chart depicts the estimated amount of landscape converted using the current average rebate of \$1.80 per square foot:

Fiscal Year 2019-2020	Percent	Landscape Converted	Rebate Issuance
Q1 - July 1 – September 30	25	458,333.25 square-feet	\$825,000
Q2 - October 1 – December 31	25	458,333.25 square-feet	\$825,000
Q3 – January 1 – March 31	25	458,333.25 square-feet	\$825,000
Q4 - April 1 – June 30	25	458,333.25 square-feet	\$825,000
Total	100	1,833,333 square feet	\$3,300,000

This chart depicts the estimated amount of landscape converted using an estimated average rebate of \$2.60 per square foot (if the rebate amount is increased):

Fiscal Year 2019-2020	Percent	Landscape Converted	Rebate Issuance
Q1 - July 1 – September 30	25	326,685.25 square-feet	\$825,000
Q2 - October 1 – December 31	25	326,685.25 square-feet	\$825,000
Q3 – January 1 – March 31	25	326,685.25 square-feet	\$825,000
Q4 - April 1 – June 30	25	326,685.25 square-feet	\$825,000
Total	100	1,314,741 square feet	\$3,300,000

Performance Measures:

Performance measures for this program will be calculated in *rebates issued, turf converted* and *water saved*. Total program performance measures include the issuance of \$3,300,000 in rebates, between 1,314,741 and 1,833,333 square-feet of turf converted and the recurring annual conservation of between 225 and 314 AFY.

As described in the table below, using the current average rebate of \$1.80 per square foot, Reclamation’s \$300,000 contribution to this program will result in the conversion of approximately 183,333 square-feet of lawn and the recurring annual conservation of 31 AFY.

Agency	Contribution	Turf Converted (square feet)	Water Conserved (AFY)
SNWA	\$3,000,000	1,650,000	283
Reclamation	\$300,000	183,333	31
Total	\$3,300,000	1,833,333	314

Calculating an increased average rebate of \$2.51 per square foot, Reclamation’s \$300,000 contribution to this program will result in the conversion of approximately 131,474 square-feet of lawn and the recurring annual conservation of 22 AFY.

Agency	Contribution	Turf Converted (square feet)	Water Conserved (AFY)
SNWA	\$3,000,000	1,183,267	203
Reclamation	\$300,000	131,474	22
Total	\$3,300,000	1,314,741	225

The total number of rebates issued will be available upon project completion.

Conservation progress is measured by annually comparing the community’s actual water use to the expected water use without conservation measures in effect. To measure conservation, the SNWA uses an explanatory regression model to determine the variables that influenced Southern Nevada’s water use during the preceding year. Although the model has identified a substantial number of relevant variables, the most significant are related to population, weather and economic indicators. This data is obtained from other agencies on an annual basis.

To track and monitor the effectiveness of the WSL Program, the SNWA developed the Conservation Incentive Archive and Database (CiCADA). Developed in-house and launched in 2017, the CiCADA database tracks all participants, processes and results related to the WSL Program. Important features include individual participant tracking, Clark County Assessor property record information, rebate application information, site assessment information, converted square footage, and rebate amounts. Other functions include the ability to run various reports on program participation, to track quality assurance performed on staff work, and to run queries on numerous tracking and enrollment options. All of these functions allow the database to serve as the primary method for tracking performance measures. Information regarding results of the program can be made available to Reclamation as needed, or quarterly through progress reporting processes. At project completion, Reclamation will be provided with a report summarizing the number of square feet converted, rebates issued, acre-feet per year saved and other relevant program information.

4. Technical Proposal: Evaluation Criteria

Evaluation Criteria A - Quantifiable Water Savings from Turf Removal:

The total project cost for this funding request is \$3,300,000. The current average rebate is \$1.80 per square-foot. Applying this average rebate rate to the proposed project, the SNWA estimates that 1,833,333 square-feet of turf grass will be removed during the grant performance period.

$$\text{Total Square Feet Converted} \frac{\$3,300,000}{\$1.80/\text{square-foot}} = 1,833,333 \text{ square-feet}$$

If the SNWA’s Board approves a rebate increases to \$3.00 per square foot, the average rebate for 10,000 square feet (the proposed new rebate structure), would be \$2.51 per square feet. Applying an average rebate rate of \$2.51 per square feet to the proposed project, the SNWA estimates that 1,314,741 square-feet of turf grass will be removed during the grant performance period.

$$\text{Total Square Feet Converted} \frac{\$3,300,000}{\$2.51/\text{square-foot}} = 1,314,741 \text{ square-feet}$$

In 1995, a multi-year Xeriscape Conversion Study was implemented as a result of a cooperative agreement between SNWA and Reclamation. Funded in part by Reclamation, the final report finished in 2005. This research involved hundreds of participants that were divided into three treatment groups: Xeric Study, Turf Study, and control groups. Data on both household water consumption and water consumption through irrigation submeters was collected. Submeters were installed to determine per-unit area water application for both xeric- and turf grass-dominated landscapes. The per-unit area savings of xeric- versus turf dominated landscapes as revealed by the submeter data was found to be 55.8 gallons per square-foot per year. This results in a significant savings of 76.4 percent when considered in the context of all available residential water conservation measures.

Based on the data gathered from the Xeriscape Conversion Study, the SNWA is able to determine the water savings realized from landscape conversion projects completed through the WSL Program. The number of square feet of lawn converted to Xeriscape under the requirements of the WSL program will determine the number of gallons of water saved.

Using an average rebate of \$1.80 per square foot, this project will result in a 314 AFY savings per year.

$$\text{Total AFY Saved} = \frac{55.8 \text{ gal} \times 1,833,333 \text{ square-feet}}{325,851 \text{ gal/AF}} = 314 \text{ AFY}$$

Using an average rebate of \$2.51 per square foot, this project will result in 225 AFY savings per year.

$$\text{Total AFY Saved} = \frac{55.8 \text{ gal} \times 1,314,741 \text{ square-feet}}{325,851 \text{ gal/AF}} = 225 \text{ AFY}$$

The SNWA estimates the expected life of the improvements to be 50 years. Over the life of the improvement, the cumulative recurring impact of this portion of the 2019/2020 WSL Program is estimated to result in savings of between 11,250 to 15,700 AF.

$$\begin{array}{l} \text{Cumulative Recurring} \\ \text{Impact estimating a rebate} \\ \text{rate of \$1.80 per sq. ft.} \end{array} \quad 314 \text{ AFY} \times 50 \text{ years} = 15,700 \text{ AF}$$

$$\begin{array}{l} \text{Cumulative Recurring} \\ \text{Impact estimating a rebate} \\ \text{rate of \$2.51 per sq. ft.} \end{array} \quad 225 \text{ AFY} \times 50 \text{ years} = 11,250 \text{ AF}$$

Evaluation Criteria B - Water Supply Reliability:

Up to 18 points may be awarded under this criterion. This criterion prioritizes projects that address water reliability concerns, including making water available for multiple beneficial uses and resolving water related conflicts in the region.

The SNWA and its member agencies depend on the Colorado River for approximately 90 percent of the community’s water resource needs. The SNWA’s primary resource is its share of Nevada’s consumptive-use apportionment of 300,000 AFY of Colorado River water.

In Southern Nevada, the SNWA serves as a regional water wholesaler, which eliminates the need for direct marketing between municipalities. Instead, unused Colorado River resources are stored for future use in water banks located in Southern Nevada, California and Arizona. The Southern Nevada water bank, established in 1987, has approximately 359,000 AF of credits, including water banked for the Las Vegas Valley Groundwater Management Program. The SNWA’s California water bank has accumulated approximately 162,000 acre-feet of credits, while Arizona’s bank has accumulated 601,000 acre-feet since the inception of Nevada Interstate Banking in 2002. SNWA’s water conservation gains have helped further its banking efforts. Since 2002, water-efficiency programs have helped the SNWA to contribute approximately 269,000 AF of unused Nevada Colorado River water toward interstate banking efforts.

In the event that Colorado River shortages are implemented, the SNWA intends to utilize banked resources to help offset supply availability. Conservation improves the ability to respond to shortages both by directly reducing demand, and by freeing up resources that can be banked for times of emergency.

Evaluation Criteria C – Implementing Hydropower

Up to 18 points may be awarded for this criterion. This criterion prioritizes projects that will install new hydropower capacity to utilize our natural resources to ensure energy is available to meet our security and economic needs.

The proposed project does not include construction or installation of a hydropower system. However, it does increase energy efficiency in water management. Water treatment and delivery is energy intensive. Under the proposed project, each acre-foot of water saved will yield an estimated 2,118 kilo-Watt hours (kWh) of energy conserved. These savings are estimated by calculating the power required to treat and deliver one acre-foot of water to the average customer (includes wholesale and purveyor power uses).

The SNWA obtains energy from a number of sources. In 2017, these included 106,425 MWH from the hydropower generated at Hoover Dam and purchased from Reclamation (10 percent), 812,700 MWH market purchases (79 percent), and small quantities of power purchased from NV Energy (61,500 MWH) or generated by SNWA solar and hydropower projects (48,375 MWH).

Through the proposed portion of the 2019/2020 WSL Program, it is estimated that the region will save between 476,550 and 665,052 kWh each year, with a total savings of between 23 million to 33 million kWh through the life of the project (50 years).

Energy Savings		kWh Saved Annually	kWh Saved Over the Life of the Project
Using an estimated rebate rate of \$1.80 per sq. ft	314 AFY x 2,118 kWh	= 665,052 kWh	x 50 years = 33,252,600
Using an estimated rebate rate of \$2.51 per sq. ft	225 AFY x 2,118 kWh	= 476,550 kWh	x 50 yrs = 23,827,500

The SNWA is committed to conserving energy and utilizing renewable resources when possible to ensure energy is available to meet Southern Nevada’s security and economic needs. The SNWA voluntarily committed to meet 25 percent of its energy needs through renewable resources by 2025, which parallels Nevada's Renewable Energy Portfolio Standards. At present, more than 18 percent of energy used by the SNWA is generated through renewable resources. The savings generated by the proposed project will allow the SNWA to further reduce its non-renewable market purchases, increasing the emphasis on renewable energy.

Criteria D – Complementing On-Farm Irrigation Improvements

Up to 10 points may be awarded for projects that describe in detail how they will complement on-farm irrigation improvements eligible for NRCS financial or technical assistance.

This project does not complement on-farm irrigation improvements.

Criteria E – Department of the Interior (DOI) Priorities

Up to 10 points may be awarded based on the extent that the proposal demonstrates that the project supports the Department of the Interior priorities.

- 1. Creating a conservation stewardship legacy second only to Teddy Roosevelt by utilizing science to identify best practices to manage land and water resources and adapt to changes in the environment.*

Since 1991, the SNWA has developed and implemented one of the most progressive and comprehensive water conservation programs in the nation. Conservation efforts in the Las Vegas Valley have helped reduce the community's Colorado River consumption by 28 billion gallons between 2002 and 2017, even as the population increased by nearly 660,000 residents during that time. The community is currently ahead of schedule to achieve its water conservation goal of 116 GPCD by 2035.

In 2017, Southern Nevada used 127 gallons per capita per day, representing a 36 percent decline the community's per capita water use since 2002. (This number reflects water from all sources used by residents and businesses served by municipal water providers, as well as recovered indoor water treated and returned to the Colorado River system and water used by 40 million annual visitors).

The SNWA's role is to facilitate information sharing and collaboration. This has resulted in the creation of successful community-wide water-efficiency policies, such as permanent mandatory watering restrictions and limitations on lawn installation in new construction. Education, outreach and incentive programs are largely managed by the SNWA through committed involvement from its member agencies, community stakeholders and the public. Participation in the SNWA's rebate programs has realized record-breaking results:

- Water Smart Landscape Rebate Program
 - 185 million square feet of grass removed
 - 119 billion gallons of water saved since the program began in 1999
- Pool Cover Instant Rebate Coupon Program
 - 43,000 coupons received
 - 512 million gallons of water saved annually
- Water Efficient Technologies Program
 - 1.5 billion gallons of annual water savings by businesses
- Water Smart Homes
 - Nearly 13,000 homes have been built via this program
 - 14 billion gallons of water saved since the program began in 2005

- 2. Foster relationships with conservation organizations advocating for balanced stewardship and use of public lands;*

As the wholesale water provider to Southern Nevada's municipal water agencies, the SNWA is responsible for managing the region's current and future water resources. This includes managing all water supplies available to Southern Nevada through an approved water budget; managing regional water resources and conservation programs; ensuring regional water quality meets or exceeds state and federal standards; allocating and distributing regional water resources among its member agencies; water resource planning; presenting a unified position on water issues facing

Southern Nevada; and building and operating regional facilities to provide a reliable drinking water delivery system to all member agencies.

3. *Utilizing our natural resources ensuring American Energy is available to meet security and economic needs.*

This project supports DOI priorities by ensuring American Energy is available to meet security and economic needs. Water treatment and delivery is energy intensive. Under the proposed project, each acre-foot of water saved will yield an estimated 2,118 kilo-Watt hours (kWh) of energy conserved. Since its inception, the WSL Program has avoided the use of 903,672,980 kWh, which was made available for other uses, including security and economic concerns.

Evaluation Criteria F- Implementation and Results

Up to 6 points may be awarded for this subcriteria. Does the applicant have a Water Conservation Plan and/or System Optimization Review (SOR) in place? Please self-certify, or provide copies of these plans where appropriate to verify that such a plan is in place.

To support its water planning and management responsibilities, the SNWA developed and maintains a Water Resource Plan (copy attached). The SNWA Water Resource Plan projects demands and identifies a portfolio of existing and planned water supply options available to meet those demands over time. The plan, first developed in 1996, is reviewed annually and updated as needed. As demonstrated in past revisions, adjustments to the plan are made to account for various uncertainties such as drought, conservation achievements, resource availability and changes in population and demand projections. The Water Resource Plan is scheduled to be updated in 2019.

Conservation plays an important role in water resource management. For this reason, the SNWA maintains a Conservation Plan (copy attached), which is updated every five years. Last updated in 2014, this plan helps the SNWA effectively manage its water resources.

Evaluation Criteria G- Nexus to Reclamation Project Activities

Up to 4 points may be awarded if the proposed project is in a basin with connections to Reclamation project activities.

Reclamation is a critical partner in SNWA's water management and conservation efforts. The SNWA diverts 90 percent of its water supply from the Reclamation managed Colorado River system. The SNWA receives delivery of Colorado River water from Reclamation under several contracts held by the SNWA or its member agencies, as listed below:

SNWA Contracts:

- Contract Number 2-07-30-W0266, Amendment Number 1, Amended and Restated Contract with the Southern Nevada Water Authority, for the Delivery of Colorado River Water
- Contract Number 7-07-30-W0004, Amendatory and Supplemental Contract between the United States and the State of Nevada for the Delivery of Water and Construction of Project Works

SNWA Member Agency Contracts:

- Contract Number 14-06-300-978, "Boulder Canyon Project Arizona-California-Nevada Contract for the Delivery of Water," City of Boulder City
- Contract Number 0-07-30-W0246, Contract for Delivery of Water to City of Henderson
- Contract Number 14-06-300-2130, "Boulder Canyon Project Contract for Delivery of Water to Las Vegas Valley Water District"

- Contract Number 2-07-30-W0269, “Boulder Canyon Project Contract with the Big Bend Water District, Nevada, for the Delivery of Colorado River Water”

The water delivered by SNWA under these contracts is diverted at Reclamation approved diversion points in the Colorado River at Lake Mead and below Hoover Dam. This includes delivery of water through the Robert B. Griffith Water Project (formerly the Southern Nevada Water Project) constructed by Reclamation, as authorized by an Act of the United States Congress.

In addition, the SNWA has established long-standing relationships with Reclamation, and has coordinated on a number of initiatives including funding for the Brock Reservoir System Efficiency Project and the Yuma Desalting Plant Pilot Project; development and implementation of interstate water banking agreements with Arizona and California; Colorado River accounting and procedures for return-flow credits; a Xeriscape Conversion Study; and environmental restoration and stabilization initiatives in the Las Vegas Wash.

Since 2010, the SNWA has received ten WaterSMART grants from Reclamation in direct support of the SNWA’s turf conversion efforts. In 2016, the SNWA received a 3-year grant in support of the WSL program — \$1,000,000 was awarded by the WaterSMART: Water and Energy Efficiency Grants Program for fiscal years 2016/2017, 2017/2018 and 2018/2019.

Evaluation Criteria H- Additional Non-Federal Funding

Up to 4 points may be awarded to proposals that provide non-Federal funding in excess of 50 percent of the project costs.

This project proposal seeks \$300,000 from Reclamation’s WaterSMART: Water and Energy Efficiency Grants program. Funding will support a portion of the SNWA’s 2019/2020 Water Smart Landscapes Rebate Program (WSL Program). The SNWA will provide a minimum matching contribution of \$3 million for a total project cost of \$3.3 million. If the proposed project is funded by Reclamation, the non-federal share will be 90 percent.

5. Project Budget: Funding Plan

The SNWA has four key funding sources, which include quarter-cent sales tax, connection fees, commodity fees and reliability charges. These revenue sources provide the organization with a mix of funding sources, which help to ensure the financial stability and capacity of the organization. Matching contributions for the 2019/2020 WSL Program will be derived from bond proceeds currently held in the SNWA Enterprise Fund.

Adequate funding to support project activities and matching contributions will be allocated in the SNWA’s Fiscal Year 2019/2020 budget. The proposed work will not result in operations and maintenance obligations in future calendar years. No in-kind contributions are incorporated into this proposal. In addition, no funding will be provided by a source other than the applicant.

In addition to this request, a complementary request for \$1,000,000 (\$333,333 per year for three years) has been submitted under Funding Group II of the WaterSMART Grants Program. Necessary match funding is available for both program grants.

6. Project Budget: Budget Proposal

BUDGET ITEM DESCRIPTION	COMPUTATION		RECIPIENT FUNDING	RECLAMATION FUNDING	TOTAL COST
	\$/Unit and Unit	Quantity			
SALARIES AND WAGES	N/A	N/A			
FRINGE BENEFITS	N/A	N/A			
TRAVEL	N/A	N/A			
EQUIPMENT	N/A	N/A			
SUPPLIES AND MATERIALS	N/A	N/A			
OTHER (REBATES)					
Customer Rebates (current average rebate)	\$1.80/per square foot	1,833,333 sq. ft.	\$3,000,000	\$300,000	\$3,300,000
<i>Customer Rebates (using estimated average rebate if incentive is increased)</i>	<i>\$2.51/per square foot</i>	<i>1,314,741 sq. ft.</i>	<i>\$3,000,000</i>	<i>\$300,000</i>	<i>\$3,300,000</i>
CONTRACTUAL	N/A	N/A			
Regulatory and Environmental Compliance	N/A	N/A			
TOTAL DIRECT COSTS			\$3,000,000	\$300,000	\$3,300,000
INDIRECT COSTS – 0%			\$0.00	\$0.00	\$0.00
TOTAL PROJECT COSTS			\$3,000,000	\$300,000	\$3,300,000

Budget Narrative

All costs included in this proposal are directly related to rebate and contract costs. Program costs for salaries/wages, fringe benefits, travel, equipment and other supplies and materials are not being requested for consideration as either match or reimbursable expenditures. All costs are direct and necessary for project implementation. The non-federal contribution is 90 percent; federal contribution is 10 percent.

Salaries and Wages

Reclamation funding will not be expended for program administration. In addition to the SNWA's matching contribution, the SNWA will assume all overhead costs necessary to operate the program, including staffing, administration, marketing and other duties associated with assuring a successful program.

Fringe Benefits

Not applicable to this project.

Travel

Not applicable to this project.

Supplies and Materials

Not applicable to this project.

Other (rebates)

Expenditures totaling \$3,300,000 in customer rebates will result in the estimated conversion of between 1,314,741 and 1,833,333 square-feet of turf. The total square footaged converted is dependent upon a potential increase in rebate amount from \$2.00 per square foot to \$3.00 per square foot. At \$2.00 per square foot, the average rebate issuance is estimated at \$1.80 per square foot. If the rebate amount increases, the average rebate issuance is estimated at \$2.51 per square foot. The SNWA's Board may consider the rebate increase at its May 31, 2018 meeting. The variance between estimated average rebate issuance and actual average rebate issuance will be within a plus/minus 5 percent.

Contractual

Not applicable to this project.

Regulatory and Environmental Compliance

Not applicable to this project.

Total Direct Costs

Reclamation is being requested to contribute \$300,000 toward direct WSL program. The SNWA will provide a cash match of \$3 million.

Indirect Costs

Not applicable to this project.

8. Environmental and Cultural Resource Compliance

(1) *Will the project impact the surrounding environment?*

The elements of this proposal are not anticipated to have any environmental impacts that would require consideration under NEPA or NHPA. Work will be implemented on private land, within urbanized Southern Nevada communities, all of which have been previously disturbed.

(2) *Impact on listed or candidate species?*

The Colorado River watershed contains a number of sensitive and protected species. Management of the river's resources is key to protecting these species and their habitats. Although conversion of turf landscaping provides no direct benefits to threatened or endangered species, water conservation achievements can indirectly increase Reclamation's flexibility in managing Lake Mead and Colorado River water resources.

Construction activities associated with the conversion of lawn will not harm or negatively impact any of Southern Nevada's threatened or endangered species. All landscape conversions will be completed by private parties and implemented on private land within previously developed residential and commercial areas in Southern Nevada.

(3) *Wetlands or other surface waters inside the project boundaries?*

Not applicable.

(4) *When was the water delivery system constructed.*

The majority of the SNWA and its member agencies water system has been constructed over the past 45 years. This project is not anticipated to impact any infrastructure that might be classified as historic.

(5) *Modification to individual features of an irrigation system?*

System modifications are made to individual property owner's residential and commercial irrigation systems. The exact date of construction can vary widely but typically does not exceed 30 years.

(6) *Are there any buildings, structures or features listed or eligible for listing on the National Register of Historic Areas?*

The potential project area includes private residences and commercial residences throughout a large section of Southern Nevada, all of which have been previously impacted. There are a number of historic properties or candidate sites throughout the area. However, it is not anticipated that any of these sites will be candidate projects for the issuance of rebates.

(7) *Are there any known archaeological sites in the proposed project area?*

The potential project area includes private residences and commercial residences throughout a large section of Southern Nevada, all of which have been previously impacted. There are a

number of archaeological areas throughout the area. However, it is not anticipated that any of these sites will be candidate projects for the issuance of rebates.

(8) Will the project have a disproportionately high and adverse effect on low income or minority populations?

No.

(9) Will the project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?

No.

(10) Will the project contribute to the introduction, continued existence or spread of noxious weeds or non-native invasive species known to occur in the area?

Not applicable.

9. Required Permits or Approvals

As a non-construction program, it is not anticipated that the implementation of this project will require the issuance of any permits. Property owners of exceptionally large projects may be required to seek permits applicable to the size and scope of work being performed. However, acquisition of such a permit would be the responsibility of the property owner. Such an occurrence is an exception and is not reflective of the standard landscape conversation project.

10. Letters of Support – Not applicable.

11. Official Resolution

An official resolution authorizing the submission of this proposal and confirming the subject matching requirements will go before the SNWA Board of Directors at its May 31, 2018 meeting. A copy will be forwarded to Reclamation at that time, which is within the 30-day deadline.

12. Unique Entity Identifier

The SNWA maintains an active registration in SAM.gov. It's Cage Code is 3NRT9. The SNWA's unique entity identifier or DUNS No. is 135965650.

SF 424A SUBMITTED VIA GRANTS.GOV

Appendix A – SNWA System

