Improving Community Water Management
Bureau of Reclamation WaterSMART Drought Response Program
Drought Resiliency Projects for Fiscal Year 2024

South Tahoe Public Utility District
1275 Meadow Crest Drive
South Lake Tahoe, CA 96150

Donielle Morse, Grant Project Manager
1275 Meadow Crest Drive
South Lake Tahoe, CA 96150
dmorse@stpud.us

(530) 543-6236 (Office)
530-541-0614 (Fax)

Table of Contents

Technical Proposal

Executive Summary

Applicant Name: South Tahoe Public Utility District (District)
City: South Lake Tahoe
County: El Dorado
State: California

Applicant Eligibility Requirements: Category A Applicant – Water District
Task Area: C
Category: A
Funding Group: I
Total Project Cost: $390,370
Funding Request: $195,185

Project Summary

The South Tahoe Public Utility District (District) works continuously to monitor and assess the efficiency of its water distribution system. The District's water use tracking systems currently lack the necessary targeted information (i.e., irrigable areas, hydrologic conditions, elevation impacts, etc.) to create water budgets and justified methodologies to understand how those budgets will impact different water users. Water budgets are site-specific and customer-specific methods of calculating the allowable amount of indoor and outdoor water to maximize efficiency, reduce waste, combat drought impacts, and increase available water supplies. South Lake Tahoe has experienced severe drought conditions for much of the past twenty years, specifically between 2011 and 2019, and then again in 2022, with January and February experiencing the driest conditions ever recorded. Water budgeting is a near future reality to combat drought impacts and increase water supplies. This project will optimize and enhance existing water use data and technology by creating Decision Support Tools to aid with the development of methodologies for creating and implementing future water budgets for residential and commercial, industrial, and institutional (CII) water users. A community partnership will also be developed as part of the project to identify challenges and community resources necessary for the successful implementation of water budgets, and to commit to decreasing water usage and to identify and address water loss. This project is supported by the District's 2020 Water Shortage Contingency Plan.

Length of time and estimated completion date for the proposed project:

The length of time of the proposed project is 24 months and is scheduled to begin in October 2024 and conclude in September 2026.

Federal facilities and federal lands:

The Project is not located on a federal facility and will not involve federal Lands.

Relevant background information:

South Tahoe Public Utility District (District) provides water and sewer services throughout its service area within the Lake Tahoe Basin, serving a year-round population of approximately 33,000 residents and a seasonal population of more than 88,000 visitors. The District's service area encompasses 27,000 acres in eastern El Dorado County, CA on the southern shore of Lake Tahoe. It extends west to include Emerald Bay, east to the California/Nevada state line, and south to include Christmas Valley. The service area includes most, but not all, of the City of South Lake Tahoe and portions of unincorporated El Dorado County. The District provides water to over 14,000 residential and 660 commercial, institutional, and industrial connections.

Water supply system:

The District is the largest water purveyor in the Lake Tahoe Basin, and 100% of the water supply is groundwater. The District maintains 15 wells, with 11 active supply wells and four standby wells currently providing water. The storage and distribution system is comprised of 16 booster pump stations, 23 storage tanks, 26 pressure-reducing valves, and 320 miles of potable water pipe. Due to the District's service area's topography, the distribution system is separated into 15 pressure zones. The total amount of water available in an unconstrained year is 21,506 acre-feet, and the 10-year average annual water supply is 5,668 acre-feet.

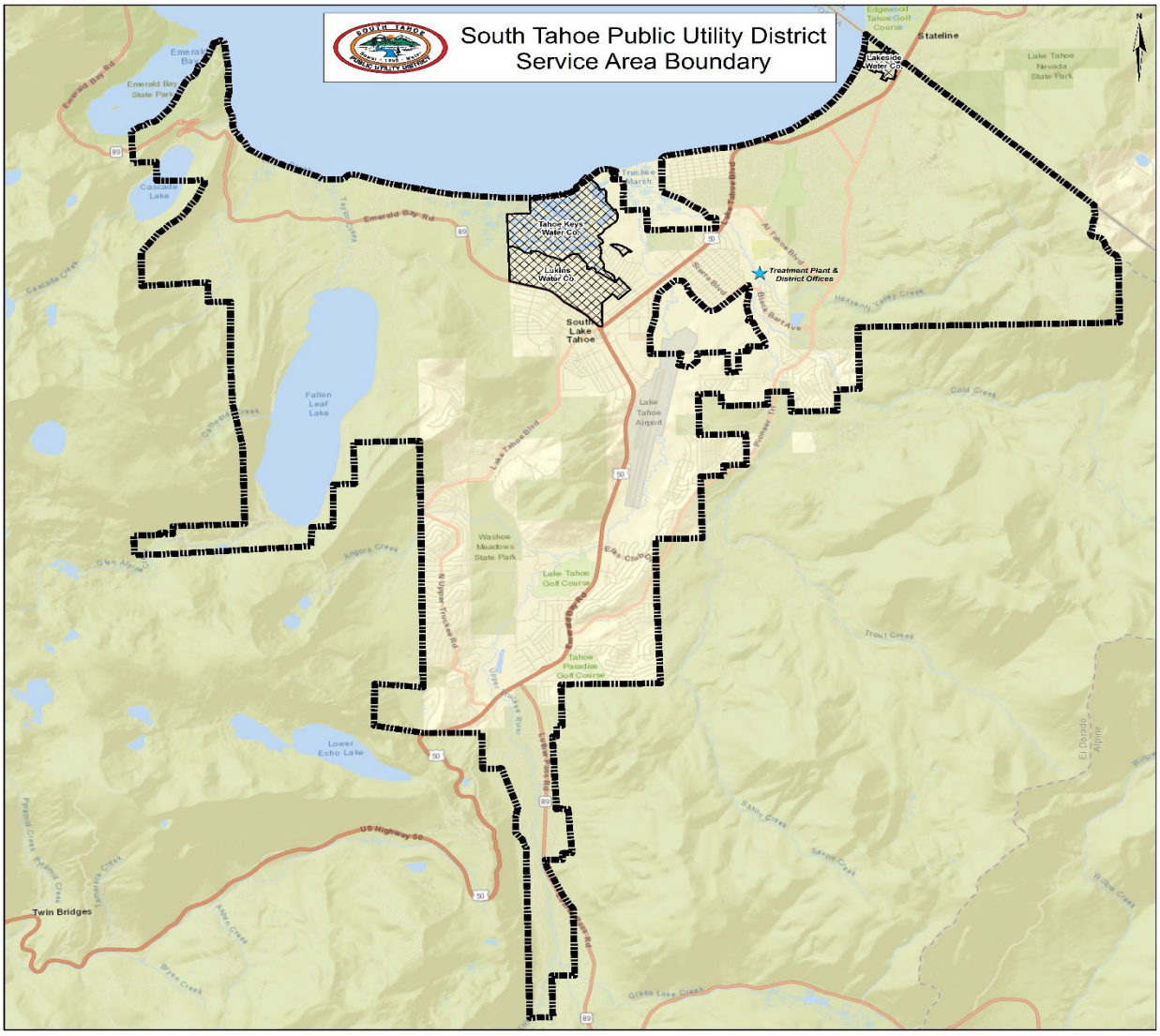
Drought conditions:

The South Lake Tahoe area the District serves is vulnerable to the effects of climate change, mainly due to the lowering elevation of the rain/snow line, decreased snowpack, increased wildfires, and increasing temperatures. The overall trend is that the climate warms and dries. Climate models project a shift towards more precipitation as rain instead of snow and a decrease in the Sierra Nevada snowpack by 35% to 90%. A shift in precipitation type would alter the amount and location of recharge to groundwater aquifers, causing stream baseflows and shallow groundwater levels to lower. In addition, long-term declines in Lake Tahoe could

further lower groundwater levels in the Tahoe Valley South Groundwater Basin, reducing aquifer storage and reducing the volume of groundwater available for either water supply or sustaining groundwater-surface water interactions. Extreme climate conditions may become more prevalent, leading to extended, severe droughts, wildfires, and floods – a frequent reality in the District's service area. Prolonged drought conditions would be expected to result in increased groundwater withdrawals to meet increased water demands.

Project Location

The Improving Community Water Management Project is located within the incorporated City of South Lake Tahoe and unincorporated portions of El Dorado County, California, approximately 100 miles northeast of Sacramento. The Project's latitude is 38.92232, and longitude is -119.96911 (District Offices). Please see the following map for the entire District service area, which this project will encompass.



Project Description

The South Tahoe Public Utility District (District) continuously monitors and assesses its water distribution system's efficiency and encourages its customers to use water as efficiently as possible. A key component to ensuring efficient water use is the implementation of customer water budgets. Water budgets are site-specific and customer-specific methods of calculating the allowable amount of indoor and outdoor water usage to maximize efficiency, reduce waste, combat drought impacts, and increase available water supplies. Currently, the District has multiple systems in place to monitor and assess the water distribution system. However, a

more robust approach is needed to better manage and protect our water supplies. The primary goal of this project is to create decision support tools to aid in developing methodologies to ensure successful implementation of future customer water budgets for residential, commercial, industrial, and institutional (CII) water users. The secondary goal is to identify tools and resources needed by customers to meet their water budgets through the facilitation of a Community Drought Impact Partnership.

The District utilizes an Advanced Meter Infrastructure (AMI) system to monitor usage in the water distribution system. AMI is an integrated system of smart meters, data management systems, and communication networks that enable two-way communication to collect detailed metering information throughout the District's water distribution system. The District also uses WaterSMART Software, a customer engagement and analytics platform, which interfaces with the AMI system to provide real-time customer water use information. The District will hire a Consultant who specializes in software design for Water Use Data Infrastructure to create the decision support tools described above. To create these tools, the Consultant will analyze historical water usage data from existing systems, as well as identify and gather missing data the District needs to develop methodologies to assist with the implementation of customer water budgets.

Using the decision support tools created by the consultant, the District can begin to more accurately evaluate how water is being used in each customer class, including differentiating between indoor and outdoor use. The tools will also be used to identify the top water users in the commercial class so that the Project Manager can perform additional onsite evaluations to further define water usage, including appliances, fixtures, and systems. At the same time the decision support tools are being created, the District will convene a Community Drought Impact Partnership of local and regional regulatory agencies, commercial, industrial, and institutional consumers, and representatives of residential consumers. The partnership aims to identify challenges and community resources necessary to successfully implement and support future customer water budgets.

The project's final phase will use the decision support tools, onsite evaluations, and information identified through the Community Drought Impact Partnership to develop methodologies that customers can use in the implementation of future water budgets. The methodologies will focus on how to use water most efficiently and will be categorized by customer class, usage type (indoor/outdoor), and industry.

Performance Measures

Measure 1: Increase Annual Water Savings
Target: Increase annual water savings by 3% (168 AF) per year
Tools to measure: Annual water audits; newly designed Decision Support Tools
How often to measure: Annually
When target will be met: Beginning in 2027

Target: Achieve total water savings of 30% (1,546 AF) over a ten-year period after project completion.
Tools to measure: Annual water audits; newly designed decision support tools
How often to measure: Annually
When target will be met: September 2036 (or ten years after project completion)

Measure 2: Optimize Water Use Data Technology
Target: Develop Decision Support Tools to inform methodologies to assist customers in meeting water budgets.
Tools to measure: Report on data gaps; Decision Support Tools summary and usage guide; Water Use Evaluation Report, Categorized table of methodologies
How often to measure: Quarterly
When target will be met: September 2026 (or two years after project completion)

Measure 3: Advance Community Engagement
Target: Develop a Community Drought Impact Partnership with a minimum of five community partners
Tools to measure: Partnership directory; meeting schedules and agendas; report of challenges/resources needed to help residential and CII customers meet water budget goals
How often to measure: Quarterly
When target will be met: September 2026 (or two years after project completion)

Evaluation Criterion

Evaluation Criterion A – Project Benefits (30 Points)

Sub-Criterion A1.b: Water Better Managed

How will the project build long-term resilience to drought? How many years will the project continue to provide benefits?

The proposed project, Improving Community Water Management, will build long-term resilience to drought by providing the management tools necessary to evaluate actual water use and change behavior and assessment. The best way to achieve long-term resilience to

drought is to permanently reduce the need for water. This project will ensure the District does not extract more water than is needed by optimizing and advancing water use data technology to create customer water budgets, to monitor and rapidly correct system losses, to track indoor and outdoor use data, and to target some of the highest users of water in the project area for additional support and resources. The project will also identify and assemble key stakeholders in a Community Drought Impact Partnership to collaboratively create goals, recommendations, and commitments to better manage water usage, identify and address water loss, prepare for drought conditions, and meet future water budgeting goals.

The project is anticipated to continue to provide benefits for 20 years and beyond.

How will the project improve the management of water supplies? For example, will the project increase efficiency, increase operational flexibility, or facilitate water marketing (e.g., improve the ability to deliver water during drought or access other sources of supply)? If so, how will the project increase efficiency or operational flexibility?

The project will improve the management of water supplies by providing a comprehensive understanding of how water is being used by consumers, and by creating tools that will be used to implement methodologies (i.e., water budgets) that will permanently increase water use efficiency. This project will help identify missing data needed to accurately create water budgets, which is particularly important for Commercial, Industrial, and Institutional (CII customers). Approximately 5% of the District's customers are classified as CII, yet they account for over 30% of the total annual water demand. The decision support tools created with this project will allow the District to focus in on CII outdoor water usage and calculate water budgets based on evapotranspiration data, irrigable landscape area, plant types, climate conditions, irrigation efficiency and more. Data collection and reporting tools will also allow for increased analysis of distribution system data for rapidly identifying water loss and taking steps to ensure groundwater sources are not wasted.

Another component of improving water management is working with stakeholders through the Community Drought Impact Partnership to obtain commitments from consumers to improve infrastructure, establish recommendations for businesses for efficient water use, and to empower customers to make informed decisions to address water loss and high-water use. These commitments and recommendations will ensure consumers are better prepared for periods of drought and/or water shortages that are expected to occur in the future due to climate change.

What is the estimated quantity of water that will be better managed as a result of this project? How was this estimate calculated? Provide this quantity in acre-feet per year as the average annual benefit over ten years (e.g., if the project captures flood flows in wet years, state this and provide the average benefit over ten years or longer, including dry years).

The District expects to save an average of 837 Acre Feet (AF) per year beginning in 2027 with the implementation of this project. This estimate was calculated based on the current usage of 151 gallons per customer per day (GCPD) and the drop in water consumption by approximately 3% annually that is estimated to occur from this project. Although exact water budgeting for CII is still unknown and will be based on new data and customer input as proposed in this project, it is estimated that across all District customers, a 3% annual reduction is reasonable to assume based on historical comparisons of similar projects. The table below details the ten-year water savings due to the reduction from the current 151 GCPD to 105 GCPD, with the first impacts of the project expected in 2027.

Water Better Managed					
Year	Current Use (GPCD)	Savings Goal (GPCD)	Savings Goal (Percentage)	Water Savings Per Year	Acre-Feet Savings Per Year
Current	151.00	Compared to current year use	Savings Goal / Current Use	(GPCD x 30K customers)	
2026	151.00	-	0%	-	0
2027	146.00	5.00	3%	54,750,000.00	168
2028	142.00	9.00	6%	98,550,000.00	302
2029	137.00	14.00	9%	153,300,000.00	470
2030	133.00	18.00	12%	197,100,000.00	605
2031	129.00	22.00	15%	240,900,000.00	739
2032	124.00	27.00	18%	295,650,000.00	907
2033	120.00	31.00	21%	339,450,000.00	1,042
2034	115.00	36.00	24%	394,200,000.00	1,210
2035	110.00	41.00	27%	448,950,000.00	1,378
2036	105.00	46.00	30%	503,700,000.00	1,546
			Sum	2,726,550,000.00	8,367
			10-year average	272,655,000.00	837

What percentage of the total water supply does the water better managed represent?

The District averaged the last three years of total annual water supply as provided by well production reports (see attached).

2020 1,882.730 MG
2021 1,789.043 MG
2022 1,674.624 MG

The three-year average of percent total water supply better managed is below:

Year	Water Supplied (MG)	Water Supplied (Acre Feet)	Savings Per Year (Acre Feet)	Percent of Total Water Supply Better Managed
Average of 2020/2021/2022	1,782.132	5,469	837	15.30%

Provide a qualitative description of the degree/significance of anticipated water management benefits.

As recommended in the 2020 California Water Resilience Portfolio, the project will bring together water users, public water agencies, non-governmental organizations and businesses, and other stakeholders through the Community Drought Impact Partnership to develop innovative solutions to protect the water supply. Working collaboratively with the partnership while implementing these solutions will set a precedent that local entities are committed to mitigating climate change and ensuring our community water supply is protected and prepared during times of drought. This project will also improve utilization and customization of data, allowing the District to create and implement customer water budgets and evaluate high usage to inform decisions and actions quickly and accurately.

Will the project make new information available to water managers? If so, what is that information, and how will it improve water management?

Yes, this project will make new information available to District staff. The decision support tools created in this project will provide specific and accurate data to the District to differentiate how customers are using water. District water managers can use this information to evaluate resource needs of customers to improve items such as indoor system and appliance efficiency, irrigation efficiency, and appropriate landscape plant materials.

Additional new information that will be available and is needed to develop outdoor water budgets, concerns customer landscapes. The hired consultant will perform mapping, assess current aerial imagery and weather data, and conduct historical hydrologic research to create the necessary analysis to design these water budgets. Additional methods to assess landscape area calculations made by the consultant may include reviewing tax assessor records, performing onsite evaluations to take physical measurements and document landscape attributes.

Sub-Criterion A.2.a: Climate Change

In addition to drought resiliency measures, does the proposed project include other natural hazard risk reductions for hazards such as wildfires or floods?

This project will reduce the risk for natural hazards such as wildfires by protecting the water source so that it is readily available when needed. Water is supplied 100% from groundwater sources in the South Lake Tahoe area; by improving efficiency of use we are adding to the supply that's available in times of emergencies. Demonstrated by the recent wildfires threatening the District's service area, South Lake Tahoe is at risk for natural hazards and the impacts of climate change. During the Caldor fire of 2021, District staff worked tirelessly to provide adequate water for the firefighters. The combination of fuel management, defensible space, and a reliable water system resulted in no homes being burned in Lake Tahoe during the Caldor fire.

Will the proposed project establish and use a renewable energy source? N/A

Will the proposed project reduce greenhouse gas emissions by sequestering carbon in soils, grasses, trees, and other vegetation? N/A

Does the proposed project include green or sustainable infrastructure to improve community climate resilience?

This project focuses on advancing data gathering, water management and building community support to eliminate water waste. These all contribute to protecting water resources and enhancing sustainability in times of water shortage. Saving water preserves the environment and ensures resources are available during emergencies like droughts and wildfires. The energy consumed will also be significantly reduced when water-saving efforts are made, and infrastructure improvements are installed (Energy Star, n.d., and Oasense, 2023).

Establishing a Community Drought Impact Partnership to collaboratively create goals, recommendations, and commitments to manage water usage, identify and address water waste, prepare for drought conditions, and meet future water budgets will ensure that groundwater is readily available to our community in the face of climate change and drought-related events, including explosive wildfire and unpredictable weather patterns.

Does the proposed project seek to reduce or mitigate climate pollution such as air or water pollution?

Pumping, transferring, heating, and treating water requires massive energy and creates pollution. By saving water, carbon emissions released into the atmosphere will be reduced.

Does the proposed project have a conservation or management component that will promote healthy lands and soils or serve to protect water supplies and their associated uses?

Yes, the goal of this project is to protect and preserve the water supply to ensure safe drinking water is available in times of drought, adequate supply is available during emergencies such as wildfire, and to protect groundwater-dependent ecosystems.

Does the proposed project contribute to climate change resiliency in other ways not described above?

As described in the District's Groundwater Management Plan, the Tahoe Valley South (TVS) Subbasin is the main source of groundwater in the project service area. There are 130 groundwater-dependent ecosystems (GDEs) within the Lake Tahoe Basin, of which 47 are within the TVS Subbasin. GDEs are areas that owe their biological and physical characteristics to the presence of surface or groundwater, generally along riparian corridors. GDE are affected by climate change, groundwater management practices, land use changes, and other disturbances. Protecting and preserving groundwater sources by advancing technology, improving efficiencies, and fostering community buy-in will help support the groundwater these ecosystems depend on and help create resiliency in the face of climate change.

Sub-Criterion A2.b: Environmental Benefits

Does the project seek to improve ecological climate change resiliency of a wetland, river, or stream to benefit to wildlife, fisheries, or habitats? Do these benefits support an endangered or threatened species?

The project will benefit streams to support wildlife in the project area by conserving groundwater resources. Groundwater discharged to stream channels along rivers and creeks provides a substantial portion of stream flow during late summer and fall, and groundwater pumping can reduce base flow to streams and impact wildlife dependent on those flows. Adequate groundwater supply supports surface water habitat for common and sensitive fish, amphibian, and invertebrate species, and adjoining meadow and wetland areas support numerous bird, mammal, and plant species.

What are the types and quantities of environmental benefits provided, such as the types of species and the numbers benefited, acreage of habitat improved, restored, or protected, or the amount of additional stream flow added? How were these benefits calculated?

The TVS Subbasin is in a unique environmental setting. Water supply operations using groundwater may affect ecological conditions or may be affected by changes in the

environment. Groundwater interactions with Lake Tahoe and the rivers and streams within the TVS Subbasin contribute to both groundwater discharge and recharge, depending on the location and the time of year. Management of groundwater resources will affect plant and animal ecological communities and interconnected surface flows.

Five specific types of fish in the project area require cool water temperatures year-round – rainbow trout, brown trout, brook trout, Lahontan cutthroat trout, and kokanee salmon. Groundwater contributions to streams help maintain suitable temperatures for these species. In the late summer and fall, stream flow is provided by baseflow from groundwater moving into the stream from a connected shallow aquifer. These baseflow contributions regulate higher temperatures in the summer and fall. The species that depend on them are impacted when these flows are interrupted. Project outcomes are intended to help keep the groundwater sources charged to avoid undesirable impacts on the five species.

Will the proposed project reduce the likelihood of a species listing or otherwise improve the species status?

Within the TVS Subbasin, groundwater dependent ecosystems (GDEs) primarily occur as riparian areas or meadows alongside stream channels or lakes. Lahontan cutthroat trout, federally listed as a threatened species, occur in the streams within the Subbasin, and the adjacent riparian ecosystems support populations of endangered Sierra Nevada yellow-legged frogs. GDEs are also home to species protected by California, including bald eagles, great gray owls, and Sierra Nevada red foxes. Decreasing stress on the groundwater sources serving these species will, in turn, reduce the risk of a negative change to these species' status.

Sub-Criterion A2.c: Other Benefits

Will the project assist States and water users in complying with interstate compacts?

All land surrounding Lake Tahoe, including the City of South Lake Tahoe and the project's service area, falls under the authority of the Tahoe Regional Planning Agency (TRPA), as defined in the Bi-State (Nevada and California) Tahoe Regional Planning Compact created in 1969. The Compact has been updated and revised several times since 1980. It gives the TRPA authority to adopt environmental quality standards, called thresholds, and enforce ordinances designed to achieve them. Under the Compact, environmental thresholds are environmental standards necessary to maintain significant scenic, recreational, educational, scientific, or natural values of the region or to maintain public health and safety within the region, including but not limited to standards for air quality, water quality, soil conservation, vegetation preservation, and noise.

All these policies regulate the overuse of resources in the TVS Subbasin and align with water budgeting tools and efficiency goals to be created as an outcome of this project.

Will the project benefit multiple sectors and/or users (e.g., agriculture, municipal and industrial, environmental, recreation, or others)? Describe the associated sector benefits.

Commercial, Industrial, Institutional, and Residential users: This project will aid with the development of water budgets that will help these users maximize the efficiency of their landscape water use. An outdoor water budget is based on a customer's irrigated area, weather data, hydrologic conditions, elevation, and more. This project will also allow customers to optimize resources, compare accurate water consumption to water budget goals, become aware of leaks to address quickly, improve water management, maintain a water-wise landscape, and keep water bills low for the project's disadvantaged community. This approach also allows community leaders to come to the table to address challenges, provide input related to water budgeting, and set a precedent that water use efficiency is a priority in times of impending drought.

Recreation: The District provides water to the highest-elevation ski resort in Lake Tahoe – Heavenly Ski Resort. Climate change is turning much of Lake Tahoe's snowfall into rain, especially at lower elevations, shortening the ski season. Resorts are buying more powerful snowmaking equipment to compensate for natural snowfall. This project will help identify a reasonable water budget for this ski resort. This business employs hundreds of Lake Tahoe residents and brings much-needed tourism revenue to the disadvantaged community. In addition, protecting the groundwater source and keeping excessive water use in check will ensure adequate water supply in case of wildfire.

Will the project benefit a larger initiative to address sustainability?

Yes, this project is part of the District's initiative to guide customers and set parameters to ensure the most efficient use of water to prepare for upcoming drought periods. The tools developed in this project will allow the District to create customized water budgets for various categories of customers to manage the water supply sustainably.

Will the project help to prevent a water-related crisis or conflict? Is there frequent tension or litigation over water in the basin?

The Tahoe Valley South Subbasin is within the larger structural feature commonly referred to as the Lake Tahoe Basin. Preserving and recharging the groundwater supply may decrease the need to tap Lake Tahoe's water supply. As the largest alpine lake in North America and one of

two EPA-designated "Outstanding National Resources Waters" in California, conflict over protecting the lake dates back at least 150 years.

Evaluation Criterion B – Planning and Preparedness (20 points)

Explain how the applicable plan addresses drought. Proposals that reference plans clearly intended to address drought will receive the most points under this criterion.

South Tahoe Public Utility District's 2020 Water Shortage Contingency Plan (WSCP) complies with the California Water Code, requiring every urban water supplier to prepare and adopt a WSCP as part of its urban water management plan. The code also requires urban water suppliers, where feasible and appropriate, to follow the prescribed procedures and implement determined shortage response actions in its water shortage contingency plans. The WSCP guides the response to triggering events — whether from reduced supply, increased demand, or an emergency declaration — and identifies corresponding actions to be taken during the various stages of a water shortage. The plan includes voluntary and mandatory steps that are intended to be fair to all water customers and users while having the most negligible impact on business, employment, and quality of life for residents. The 2020 WSCP is a public document and can be found on at https://stpud.us/asset/9037/.

Does the drought plan contain drought-focused elements (e.g., a system for monitoring drought, drought projections that consider climate change, identification of drought mitigation projects, drought response actions, and an operational and administrative framework)?

Drought Monitoring, Projections, and Response Actions: Annual Assessment Procedures are one tool included in the Water Shortage Contingency Plan (WSCP) to determine if a water shortage is to be declared. An assessment of the water supply is conducted to update the yearly water budget and includes groundwater basin and infrastructure conditions. Next, a water demand assessment summarizes the current unconstrained water demand using the groundwater pumpage data and planned water demand for subsequent dry years. Then, a water supply reliability assessment is done to compare the supply and demand and determine if a supply shortage is anticipated and the level of shortage. The level of shortage triggers specific actions, compliance, and enforcement actions. Last, internal and external outreach protocols and communications actions are initiated as needed. The WSCP contains a Template for the Annual Water Supply and Demand Assessment to formalize the procedure and guide District staff each step of the way.

Operational and Administrative Framework: In addition to the Annual Water Supply and Demand Assessment Template that formally guides staff, the District has formalized Water

Shortage and Drought Response Standards in the District's Administrative Code, which is highlighted in the WSCP. The complete code can be found in the District's 2020 Urban Water Management Plan – the parent document of the WSCP.

Describe how the drought plan includes consideration of climate change impacts to water resources or drought.

The District monitors total precipitation measured at the National Resources Conservation Service SNOTEL station 508: Hagan's Meadow, CA. The total precipitation is an input used to calculate and predict groundwater recharge in the District's groundwater model. In this manner, the District directly considers climate change impacts on total precipitation and groundwater recharge on available water supply. It will affect how the District considers demand in the current year and the following year as a drought year.

When was the plan developed and how often is it updated?

The plan was created in 2019-2020 and is updated every five years.

Was the drought plan developed through a collaborative process? Describe who was involved in preparing the plan and whether the plan was prepared with input from stakeholders with diverse interests (e.g., water, land, or forest management interests; and agricultural, municipal, Tribal, environmental, and recreation uses)? Describe the process used for interested stakeholders to provide input during the development of the plan.

The WSCP requires specific collaborative coordination efforts. The District notified the following stakeholders of its intent to develop a Water Shortage Contingency Plan: El Dorado County, the City of South Lake Tahoe, Tahoe Regional Planning Agency, El Dorado Water Agency, and other local water purveyors within the service area. Meetings were held to solicit input from these stakeholders for the plan. Also, public notices were posted, and public hearings were held in early 2020 to review and gather feedback and comments from additional community stakeholders on the WSCP. On June 16, 2020, the District Board of Directors adopted the Plan. By July 1, 2020, the District submitted the Plan to the California Department of Water Resources, and within 30 days of adoption, a copy was sent to the State Library and El Dorado County.

If the plan was prepared by an entity other than the applicant describe whether and how the applicant was involved in the development of the plan. If the applicant was not involved in the development, explain why.

The plan was prepared by Kennedy Jenks, a leading water and industrial engineering firm. The District guided the development process and was involved in every aspect of the plan from start to finish.

Describe how your proposed drought resiliency project is supported by an existing drought plan. Does the drought plan identify the proposed project as a potential mitigation or response action? How is the proposed project prioritized in the drought plan?

The intent of the WSCP is not to identify specific projects. Instead, the WSCP provides guidance when drought events occur and identifies corresponding actions to be taken during the various stages of a water shortage. However, the project closely aligns with WSCP Section 4.4: Consumption Reduction Demand. The WSCP directs the District to use "other consumption reduction methods to reduce water use." This project expands public information efforts and will allow for targeted outreach to high-water users so that they can be connected with resources to reduce water use. The project will also aid with the development of accurate water budgets that will help users track efficiency and save water for times of drought.

Does the proposed project implement a goal or need identified in the drought plan? Is the supported goal or need prioritized within the plan?

Yes, this project supports the goal of accurately monitoring metered water usage. The District's water use tracking systems currently lack the targeted information necessary (i.e., irrigable areas, hydrologic conditions, elevation impacts, etc.) to develop justified methodologies to understand how water budgets would impact different classes of water users. This project will use current data monitoring systems to fill these data gaps and, through partnerships with local and regional regulatory agencies, commercial, industrial, and residential customers, identify challenges of implementing water budgets to help monitor water use to prepare for times of drought.

Attach relevant sections of the plan that are referenced in the application, as an appendix to your application. These pages will be included in the total 125-page count for the application.

Evaluation Criterion C – Severity of Actual or Potential Drought or Water Scarcity Impacts to be addressed by the Project (25 points)

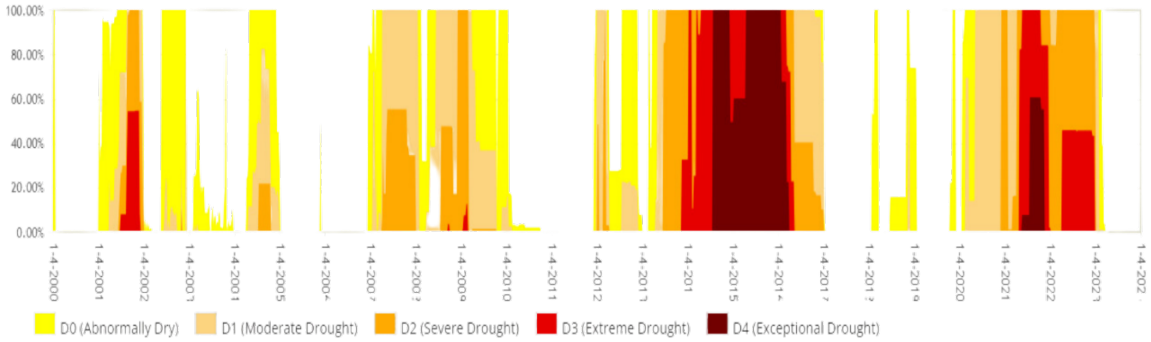
Describe the severity of the impacts that the project will address. Describe the project area's recent, existing, or potential drought or water scarcity conditions. Is the project in an area currently suffering from drought, or which has recently suffered from drought or water scarcity? Please describe existing conditions, including when and the period of time that the area has experienced drought or water scarcity conditions. Include information to describe the frequency, duration, and severity of current or recent conditions. You may also provide information relating

to historical conditions. Please provide supporting documentation (e.g., Drought Monitor, droughtmonitor.unl.edu).

According to the Center for Climate and Energy Solutions, California experienced an extended drought from December 2011 – March 2019, finally broken by a very wet winter in 2019. Dry conditions rose again in 2020 with widespread, prolonged drought exacerbated by heat waves that withered vegetation and intensified wildfires in the state. These dry conditions continued into 2022, with the driest January and February recorded across California since record-keeping began (UC Davis, 2022). El Dorado County has experienced levels of drought varying from abnormally dry to exceptional drought for the last twenty years (see graph below). And in March 2022, the National Weather Service Drought Monitor noted that 40% of California suffered from extreme drought, with severe drought conditions evident in the Lake Tahoe Basin. In the Lake Tahoe Basin and the project's service area, the impacts of drought are real and life-changing for area residents and visitors alike.

South Lake Tahoe is no stranger to rampant wildfire and smoke-filled summers. Over the last 15 years, two fires – Angora and Caldor – threatened the region's homes, businesses, infrastructure, and public safety. The most recent Caldor Fire occurred in August 2021 during a prolonged drought in California and the Basin. The fire was driven by winds and an extremely receptive fuel bed due to the extended drought. It began in the Middle Fork Consumnes Canyon, expanded rapidly, threatened over 30,000 structures, closed three significant highways, burned 221,835 acres, and heavily impacted South Lake Tahoe and many neighboring communities with evacuations and devastating loss (USDA Forest Service). Unfortunately, we anticipate climate change with increased dry, hot conditions will likely lead to more wildfires threatening our communities.

El Dorado County Drought Status – U.S. Drought Monitor



Describe any projected increases to the severity or duration of drought or water scarcity in the project area resulting from changes to water supply availability and climate change. Provide support for your response (e.g., reference a recent climate-informed analysis, if available).

The Integrated Vulnerability Assessment (IVA) of Climate Change in the Lake Tahoe Basin 2020 verifies that the average ambient temperature has risen over the past decade and is expected to intensify. The IVA relies on modeled projections and predictions prepared by UC Davis for two future greenhouse gas emissions scenarios. These models predict that between 2010 and 2100, average annual minimum and maximum temperatures will increase by 2 to 5 degrees Celsius (35.6 – 41 degrees Fahrenheit), similar to current conditions in Carson City, NV and San Jose, CA – two hot and dry cities. These warming temperatures enhance evaporation, reducing surface water and drying out soils and vegetation, leading to intensified hot and dry conditions, increased wildfire risk, and decreased snowpack (California Tahoe Conservancy & Catalyst Environmental Solutions, 2020).

Lake Tahoe is located in the Sierra Nevada mountain range. Most South Lake Tahoe groundwater basin recharge occurs in the Sierra Nevada and Carson range. Sierra Nevada means snowy mountain range, and while the area has been blessed with snowfall for most of American history, the range has seen far less snow accumulation in recent years (NASA Earth Observatory, n.d.). Global Climate Models agree that the snowpack will decline significantly due to precipitation mainly falling as rain instead of snow. These warming temperatures, leading to limited snowpack, will diminish the ability to recharge groundwater basins, cause undue stress on forests, increase tree mortality, and disrupt sensitive ecosystems.

While Lake Tahoe has an established pattern of hot, dry weather, some climate models find that warming temperatures increase precipitation variability, meaning there will be more extreme precipitation and drought periods (Center for Climate and Energy Solutions, n.d.). For example, last winter's significant storms brought one of the largest snowpacks recorded in the Sierra Nevada and an unusual amount of snow at low mountain elevations. A big snowpack coupled with precipitation falling as rain brings heavy runoff and increased risk for floods – yet another impact of rising temperatures that the region is charged with in the face of drought and climate change.

*What are the ongoing or potential drought or water scarcity impacts to specific sectors in the **project area** if no action is taken (e.g., impacts to agriculture, environment, hydropower, recreation, tourism, forestry, etc.), and how severe are those impacts? Impacts should be*

quantified and documented to the extent possible. For example, impacts could include, but are not limited to:

If action is not taken to mitigate the impacts of climate change and build resilience to drought in the project area, several effects could be detrimental to the community. As described above, drought and hot temperatures dry the vegetation, increasing the risk of explosive wildfire. It is imperative to have an abundant and reliable groundwater supply available to fight fires and protect the community.

If the District's water source were interrupted, it would be difficult to provide clean water to over 30,000 residents, as the other small water purveyors in the area can only serve up to 3,000 customers. The other option would be to tap into Lake Tahoe, which comes along with numerous legal and environmental challenges and regulations.

While the District provides services to over 30,000 residents of the South Lake Tahoe area, the region relies heavily on tourism to keep our economy strong. During peak tourism, the District provides for an estimated 88,000 individuals. If the water source were compromised, the recreation and environmental tourism industry would be heavily impacted, with adverse effects financially trickling down to areas in the project that are already disadvantaged.

Evaluation Criterion D – Presidential and DOI Priorities (15 points)

Disadvantaged or Underserved Communities

Please use the White House Council on Environmental Quality's interactive Climate and Economic Justice Screening Tool, available online at Explore the map – Climate & Economic Justice Screening Tool (https://screeningtool.geoplatform.gov) to identify the disadvantaged communities that will benefit from your project.

Tract numbers 06017031600 and 06017030302 have been identified as disadvantaged communities by the Climate and Economic Justice Screening Tool and lie within the District's service area.

If applicable, describe how the proposed project will serve or benefit a disadvantaged or underserved community, identified using the tool described above. For example, will the project improve public health and safety by addressing water quality, adding new water supplies, provide economic growth opportunities, or provide other benefits in a disadvantaged or underserved community?

The District is a publicly owned agency, which means ratepayers often absorb added expenses without project funding like this, including costly repairs, emergency response, high water use, and new infrastructure. The District is always conscious of strategies to keep costs low while providing reliable and clean water to the community. This project will allow the District to create accurate water budgets, water loss records, and reporting tools, improve access to water conservation tools, and protect and preserve the groundwater source to help keep bills low for disadvantaged community members.

Tribal Benefits

Does the proposed project directly serve and/or benefit a Tribe? Benefits can include, but are not limited to, public health and safety by addressing water quality, new water supplies, economic growth opportunities, or improving water management.

This project does not directly serve a Tribe, however, the District partners with the Washoe Tribe of Nevada and California on a variety of water improvement and conservation projects. The Washoe Tribe is a member of the Tahoe Sierra Integrated Regional Water Management partnership of which the District is the lead agency and is consulted on projects that have impacts on tribal ties to the Lake Tahoe Basin. Additionally, as Lake Tahoe directly impacts flows to the Truckee River and Nevada, the Paiute Tribe at Pyramid Lake benefits from projects that ensure continued water flow to Pyramid Lake (see more below).

Does the proposed project support Reclamation's Tribal trust responsibilities or a Reclamation activity with a Tribe?

This project protects the current groundwater resources in the Tahoe South Water Basin and Lake Tahoe. This will ultimately help Reclamation meet trust responsibilities to the Paiute Tribe at Pyramid Lake. Water supply sustainability in the Tahoe Basin has a direct benefit to the Paiute Tribe and the Cui-ui and Lahontan Cutthroat Trout fisheries they manage at Pyramid Lake. The Truckee River surface flows from the Tahoe Basin to Pyramid Lake have been recognized for their importance in protecting the cultural and recreational value of the fisheries which exist there. Any decrease of the in-stream flow of the Truckee River and water level in Pyramid Lake is of critical importance to the Tribe, Pyramid Lake Reservation and the threatened and endangered species found there (Springmeyer et al. 2011). Source: Don Springmeyer, Wolf, Rifkin, Shapiro, Schulman, Rabkin, 2011. "The Pyramid Lake Paiute Tribe, The Truckee River and Pyramid Lake- Decades of Battles for Better Instream Flow, Quantity and Quality."

Evaluation Criterion E – Readiness to Proceed and Project Implementation (10 points)

Describe the implementation plan of the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. Milestones may include but are not limited to, the following: design, environmental and cultural resources compliance, permitting, construction/installation.

Task 1: Project Management/Community Drought Impact Partnership

1.1: Manage the Grant Agreement, including grant compliance, and preparation and submission of supporting grant documents, preparation of financial reports and reimbursement requests, and relevant supporting documentation.

Deliverables: Grant Agreement execution and compliance; financial reports and reimbursement requests

1.2: Prepare and submit progress reports describing activities and accomplishments for each task during the reporting period, milestones achieved, and any problems encountered during the Agreement's performance period.

Deliverables: Progress reports

1.3: Complete a draft and final report to submit to the Program Manager at the completion of the project.

Deliverables: Draft and final report

1.4: Develop the Community Drought Impact Partnership to identify challenges and community resources necessary to ensure the successful implementation of a water budget program.

Deliverables: Partnership Directory; meeting schedule

1.5: Develop specific methodologies to implement with residential and CII customers to assist them in meeting their future water budgets.

Deliverables: Draft methodologies

Task 2: Develop a Request for Proposals (RFP) for a Data Infrastructure Software Development Consultant

2.1: Develop and publish an RFP for a consultant to develop Decision Support Tools to aid in developing methodologies to implement future customer water budgets.

Deliverables: Request for Proposal

2.2: Prepare and execute a draft and final contract with the chosen consultant, incorporating the scope of work, budget, and performance measures.

Deliverables: Executed contract with consultant

Task 3: Design Decision Support Tools

3.1: Utilizing existing district software and data, the consultant will analyze data, conduct research, and identify data gaps to develop methodologies for water budgets.

3.2: Consultant will research data gaps, collect missing data, and input it into appropriate software.

Deliverables: Data gap report

3.3: Consultant will develop Decision Support Tools to help the District evaluate how water is being used by each customer class.

Deliverables: Decision Support Tools summary and usage guide

Task 4: Implementation of Decision Support Tools

4.1: Using Decision Support Tools, evaluate how water is being used by each customer class, differentiating between indoor and outdoor use. Identify top water users in the CII class and perform additional evaluation to define their water usage, including appliances, fixtures, and systems.

Deliverables: Water use evaluation report

4.2: Develop methodologies that customers can use in the implementation of future water budgets, categorized by customer class, usage type, industry, and other categorizations as appropriate.

Deliverables: Table of methodologies

Proposed Schedule

Milestone / Task / Activity	Planned Start Date	Planned Completion Date
Task 1: Project Mgmt/ Community Drought Impact Partnership	10/01/24	09/30/26
Task 2: Develop RFP for Data Infrastructure Software Design Consultant	10/01/24	12/31/24
Task 3: Design Decision Support Tools	01/01/25	06/30/26
Task 4: Implementation of Decision Support Tools	04/01/26	09/30/26

Describe any permits or approvals that will be required (e.g., water rights, water quality, stormwater, or other regulatory clearances). Include information on permits or approvals already obtained. For those permits and approvals that need to be obtained, describe the process, including estimated timelines for obtaining such permits and approvals.

This project does not require additional permits or approvals as there are no construction activities and utilizes existing District Resources.

Identify and describe any engineering or design work performed specifically in support of the proposed project.

The District will contract with a data infrastructure development consultant to design Decision Support Tools. These tools will utilize current water use software and identify missing data needed to create methodologies to implement customer water budgets.

Describe any land purchases that must occur before the project can be implemented. None.

Describe any new policies or administrative actions required to implement the project. None.

Evaluation Criterion F – Nexus to Reclamation (5 points)

Describe the nexus between the proposed project and a Reclamation project or Reclamation activity.

- *Does the applicant have a water service, repayment, or O&M contract with Reclamation?* No.
- *If the applicant is not a Reclamation contractor, does the applicant receive Reclamation water through a Reclamation contractor or by any other contractual means?* No.
- *Will the proposed work benefit a Reclamation project area or activity?*
  See description of benefits to Paiute Tribe at Pyramid Lake described in Section D above.

- *Is the applicant a Tribe?* No.

Evaluation Criterion G – Stakeholder Support for Proposed Project (5 points)

Describe the level of stakeholder support for the proposed project. Are letters of support from stakeholders provided? Are any stakeholders providing support for the project through cost-share contributions or through other types of contributions to the project?

We anticipate that a representative from the City of South Lake Tahoe, El Dorado Water Agency, and the Tahoe Water Suppliers Association will participate in the Community Drought Impact Partnership, and their letters of support are attached to this application. If selected for funding, the District will perform additional community outreach to gather leaders from local and regional regulatory agencies, commercial, industrial, and institutional consumers, and representatives of residential consumers to participate in the Partnership.

Explain whether the project is supported by a diverse set of stakeholders, as appropriate, given the types of interested stakeholders within the project area and the scale, type, and complexity of the proposed project. For example, is the project supported by entities representing agricultural, municipal, Tribal, environmental, or recreation uses?

The project is supported by the City of South Lake Tahoe – the local government in the project area, the El Dorado Water Agency – an entity that ensures an integrated water management approach to ensure the county has reliable, accessible, and affordable water to meet urban and agricultural water supply needs, and the Tahoe Water Suppliers Association – a Lake Tahoe based partnership comprised of California and Nevada municipal water agencies dedicated to providing clean and safe drinking water. We will be targeting additional community leaders outlined above to participate in the Partnership.

Environmental and Cultural Resource Considerations

Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

The proposed project will not impact the surrounding environment. No earth disturbance or work will affect the air, water, or animal habitat.

Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

No listed or proposed to be listed as a federally threatened or endangered species or designated critical habitat will be negatively impacted by this project.

Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States?" If so, please describe and estimate any impacts the proposed project may have.

Although the District's service area does contain surface areas that are "Waters of the United States," this project creates Decision Support Tools and has no physical impact on the environment.

When was the water delivery system constructed?

The original water system was constructed in 1950. The District has since purchased other smaller water systems within the service area.

Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

The proposed project will not result in any modifications or effects to an irrigation system's individual features.

Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

The project has no impact on any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places.

Are there any known archeological sites in the proposed project area?

The project has no impact on archeological sites in the area.

Will the proposed project have a disproportionately high and adverse effect on low-income or minority populations?

The project is located in a disadvantaged community and will not negatively impact low-income or minority populations. The project is designed to benefit these populations in the ways described in the evaluation section of this application.

Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on Tribal lands?

The project will not limit access to ceremonial use of Indian sacred sites or result in any impacts on Tribal lands.

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

The proposed project does not utilize any construction and has no vegetation impacts.

Project Budget

Table 1. Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. South Tahoe Public Utility District Capital Improvement Funds/General Funds	$195,185
Non-Federal Subtotal	**$195,185**
REQUESTED RECLAMATION FUNDING	**$195,185**

Budget Summary

Summary			
6. Budget Object Category	**Total Cost**	**Federal Estimated Amount**	**Non-Federal Estimated Amount**
a. Personnel	**$114,078**		
b. Fringe Benefits	**$26,292**		
c. Travel	**$0**		
d. Equipment	**$0**		
e. Supplies	**$0**		
f. Contractual	**$250,000**		
g. Construction	**$0**		
h. Other Direct Costs	**$0**		
i. Total Direct Costs	**$390,370**		
j. Indirect Charges	**$0**		
Total Costs	**$390,370**	**$195,185**	**$195,185**
Cost Share Percentage		**50%**	**50%**

Personnel					
Position Title	**Time (Hrs or %)**	**Rate (Hr or Salary)**	**Total Cost**	**Rate Basis**	**Comments** (as needed)
Project Manager (Water Conservation Specialist Lauren Benefield) Y1	400	40.78	**$16,312**	Current Salary	Task 1: Project Management/Community Drought Impact Partnership
Project Manager (Water Conservation Specialist Lauren Benefield) Y2	400	41.60	**$16,640**	Current Salary + 2% increase	Task 1: Project Management/Community Drought Impact Partnership
Water Efficiency Technician Y1	550	25.33	**$13,932**	Current Salary	Task 1: Project Management/Community Drought Impact Partnership
Water Efficiency Technician Y2	550	25.84	**$14,212**	Current Salary + 2% increase	Task 1: Project Management/Community Drought Impact Partnership
Information Technology Manager Y1	35	81.89	**$2,866**	Current Salary	Task 2: Develop RFP for Data Infrastructure Software Development Consultant
Information Technology Manager Y2	35	83.52	**$2,923**	Current Salary + 2% increase	Task 2: Develop RFP for Data Infrastructure Software Development Consultant
Business Information System Analyst Y1	20	49.71	**$994**	Current Salary	Task 2: Develop RFP for Data Infrastructure Software Development Consultant
Business Information System Analyst Y2	20	50.70	**$1,014**	Current Salary + 2% increase	Task 2: Develop RFP for Data Infrastructure Software Development Consultant
Project Manager (Water Conservation Specialist Lauren Benefield) Y1	100	40.78	**$4,078**	Current Salary	Task 2: Develop RFP for Data Infrastructure Software Development Consultant
Project Manager (Water Conservation Specialist Lauren Benefield) Y2	100	41.60	**$4,160**	Current Salary + 2% increase	Task 2: Develop RFP for Data Infrastructure Software Development Consultant
Information Technology Manager Y1	125	81.89	**$10,236**	Current Salary	Task 4: Implementation of Decision Support Tools
Information Technology Manager Y2	125	83.52	**$10,440**	Current Salary + 2% increase	Task 4: Implementation of Decision Support Tools
Business Information System Analyst Y1	80	49.71	**$3,977**	Current Salary	Task 4: Implementation of Decision Support Tools
Business Information System Analyst Y2	80	50.70	**$4,056**	Current Salary + 2% increase	Task 4: Implementation of Decision Support Tools
Project Manager (Water Conservation Specialist Lauren Benefield) Y1	100	40.78	**$4,078**	Current Salary	Task 4: Implementation of Decision Support Tools
Project Manager (Water Conservation Specialist Lauren Benefield) Y2	100	41.60	**$4,160**	Current Salary + 2% increase	Task 4: Implementation of Decision Support Tools
		Total	**$114,078**		
Additional Narrative/Comments: A thorough description of all tasks listed above is included in the following Budget Narrative.					

Fringe Benefits				
Position Title	**Compensation**	**Quantity**	**Total Cost**	**Comments** (as needed)
Water Conservation Specialist Y1	24.35%	$16,312	**$3,972**	less than 35% of compensation rate/Task 1: Project Management/Community Drought Impact Partnership
Water Conservation Specialist Y2	24.17%	$16,640	**$4,022**	less than 35% of compensation rate/Task 1: Project Management/Community Drought Impact Partnership
Water Efficiency Technician Y1	7.77%	$13,932	**$1,083**	less than 35% of compensation rate/Task 1: Project Management/Community Drought Impact Partnership
Water Efficiency Technician Y2	7.77%	$14,212	**$1,104**	less than 35% of compensation rate/Task 1: Project Management/Community Drought Impact Partnership
Information Technology Manager Y1	34.67%	$2,866	**$994**	less than 35% of compensation rate/Task 2: Develop RFP for Data Infrastructure Software Development Consultant
Information Technology Manager Y2	34.49%	$2,923	**$1,008**	less than 35% of compensation rate/Task 2: Develop RFP for Data Infrastructure Software Development Consultant
Business Information System Analyst Y1	29.63%	$994	**$295**	less than 35% of compensation rate/Task 2: Develop RFP for Data Infrastructure Software Development Consultant
Business Information System Analyst Y2	29.38%	$1,014	**$298**	less than 35% of compensation rate/Task 2: Develop RFP for Data Infrastructure Software Development Consultant
Water Conservation Specialist Y1	24.35%	$4,078	**$993**	less than 35% of compensation rate/Task 2: Develop RFP for Data Infrastructure Software Development Consultant
Water Conservation Specialist Y2	24.17%	$4,160	**$1,005**	less than 35% of compensation rate/Task 2: Develop RFP for Data Infrastructure Software Development Consultant
Information Technology Manager Y1	34.67%	$10,236	**$3,549**	less than 35% of compensation rate/Task 4: Implementation of Decision Support Tools
Information Technology Manager Y2	34.49%	$10,440	**$3,601**	less than 35% of compensation rate/Task 4: Implementation of Decision Support Tools
Business Information System Analyst Y1	29.63%	$3,977	**$1,178**	less than 35% of compensation rate/Task 4: Implementation of Decision Support Tools
Business Information System Analyst Y2	29.38%	$4,056	**$1,192**	less than 35% of compensation rate/Task 4: Implementation of Decision Support Tools
Water Conservation Specialist Y1	24.35%	$4,078	**$993**	less than 35% of compensation rate/Task 4: Implementation of Decision Support Tools
Water Conservation Specialist Y2	24.17%	$4,160	**$1,005**	less than 35% of compensation rate/Task 4: Implementation of Decision Support Tools
		Total	**$26,292**	
Additional Narrative/Comments: A thorough description of all tasks listed above is included in the following Budget Narrative.				

Contracts

Contractor Name	Purpose and Contracting Method	Total Cost	Description of costs	Basis of cost
Data Infrastructure Consultant	Design decision support tools for water use evaluation	$250,000	Costs include consultant hours to design decision support tools, as well consultant hours to conduct research and provide mapping.	Cost basis is from similar contracts the District has held with Data Consultants
	Subtotal	**$250,000**		

Additional Narrative/Comments: A thorough description of the consultant services is included in the following Budget Narrative.

Subawards

If known, identify the recipient of each subaward. Describe the activities to be performed under each subaward and indicate the applicability or necessity of each to the project. Provide a separate detailed budget for each subaward, regardless of dollar value. A detailed estimate may be included with the application in lieu of a description of budgeted costs. Identify who prepared the estimate (subrecipient, applicant personnel, etc.) and indicate the basis used to estimate each cost. Include any indirect/overhead costs anticipated to be paid and the rate used. If the subrecipient has a Federal negotiated indirect cost rate agreement (NICRA), include a copy of the NICRA with the application.

Subrecipient Name	Description of Activites	Total Cost	Description of budgeted costs	Basis of Cost
		$0		
		$0		
	Subtotal	**$0**		

Additional Narrative/Comments:

TOTAL CONTRACTUAL	$250,000

Budget Narrative

6a: Personnel (calculated by hourly rate)

Project Manager (Water Conservation Specialist Lauren Benefield):

The Water Conservation Specialist will oversee the performance of all tasks for each budget year as described below and will ensure all reporting requirements are met by providing necessary information for quarterly reports, invoices, and final reports. The Specialist will also help develop the Community Drought Impact Partnership by convening local and regional regulatory agencies, commercial, industrial, and institutional consumers, and representatives of residential consumers to help identify challenges of future water budget implementation. The partnership may also recommend community resources necessary to ensure the successful implementation of a water budget program. The Water Conservation Specialist will maintain all partnership communication and meeting information, set meeting times, places, and agenda items, and act as the group lead and mediator as necessary. In addition, the Project Manager will serve on the Request for Proposal team for the data infrastructure software development consultant, review the final product (decision support tools), and provide any information necessary to develop the support tools. The hourly rate for year two includes a 2% increase, which is the average annual increase in compensation for all employees. The hourly rate is the actual current rate of compensation for this position. Compensation rates are consistently applied to Federal and non-Federal activities.

Task 1:	400hrs Y1 x $40.78hr +	400hrs Y2 x $41.60hr =	$32,952
Task 2:	100hrs Y1 x $40.78hr +	100hrs Y2 x $41.60hr =	$ 8,238
Task 4:	100hrs Y1 x $40.78hr +	100hrs Y2 x $41.60hr =	$ 8,238
Total:	**$24,468 Y1**	**$24,960 Y2**	**$49,428**

Water Efficiency Technician

The Water Efficiency Technician will assist the Project Manager in developing a Community Drought Impact partnership and provide the current water use meter data for partners to evaluate best management practices for meeting future water budget parameters. The Technician will be responsible for attending all partnership meetings, researching water use data for distribution, and providing any other relevant information. The hourly rate for year two includes a 2% increase, which is the average annual increase in compensation for all employees. The hourly rate is the actual current rate of compensation for this position. Compensation rates are consistently applied to Federal and non-Federal activities.

Task 1: 550hrs Y1 x $25.33hr + 550hrs Y2 x $25.84hr = $28,144
Total: $13,932 Y1 $14,212 Y2 $28,144

Information Technology Manager

The Information Technology Manager will oversee the development of a Request for Proposal for the data infrastructure software development consultant and will work with the Business Information System Analyst and Project Manager to publish the RFP, evaluate proposal submissions, and prepare all draft and final contracts. The IT Manager will oversee the scope of work, budget, and performance measurements for the consultant during the contract term to ensure that all necessary deliverables have been reviewed and approved. The IT Manager will also provide the consultant with any information needed to develop the final product (decision support tools). The hourly rate for year two includes a 2% increase, which is the average annual increase in compensation for all employees. The hourly rate is the actual current rate of compensation for this position. Compensation rates are consistently applied to Federal and non-Federal activities.

Task 2: 35hrs Y1 x $81.89hr + 35hrs Y2 x $83.52 = $5,789
Task 4: 125hrs Y1 x $81.89hr + 125hrs Y2 x $83.52 =$20,676
Total: $13,102 Y1 $ 13,363 Y2 $26,465

Business Information System Analyst

The Business Information System Analyst will be part of the Request for Proposal team for development, review, and contracting with the data infrastructure software development consultant. The Analyst will work with the contractor to provide any District data information necessary for the successful implementation of the project. The Analyst will help test the new decision support tools for any interface issues and provide feedback as necessary. The hourly rate for year two includes a 2% increase, which is the average annual increase in compensation for all employees. The hourly rate is the actual current rate of compensation for this position. Compensation rates are consistently applied to Federal and non-Federal activities.

Task 2: 20hrs Y1 x $49.71hr + 20hrs Y2 x $50.70 = $2,008
Task 4: 80hrs Y1 x $49.71hr + 80hrs Y2 x $50.70 = $8,033
Total: $4,971 Y1 $5,070 Y2 $10,041

6b. Fringe Benefits (calculated by hourly rate) Fringe benefits below are less than 35% of the hourly rate:

Project Manager (Water Conservation Specialist Lauren Benefield):

Task 1: 24.35% Y1 x $16,312 + 24.17% Y2 x $16,640 = $7,994
Task 2: 24.35% Y1 x $4,078 + 24.17% Y2 x $4,160 = $1,998
Task 4: 24.335% Y1 x $4,078 + 24.17% Y2 x 4,160 = $ 1,998
Total: $5,958 Y1 $6,032 Y2 $11,990

Water Efficiency Technician

Task 1: 7.77% Y1 x $13,932 + 7.77% Y2 x $14,212 = $2,187
Total: $1,083 Y1 $1,104 Y2 $2,187

Information Technology Manager

Task 2: 34.67% Y1 x $2,866 + 34.49% Y2 x $2,923 = $2,002
Task 4: 34.67% Y1 x $10,236 + 34.49% Y2 x $10,440 = $7,150
Total: $4,543 Y1 $4,609 Y2 $9,152

Business Information System Analyst

Task 2: 29.63% Y1 x $295 + 29.38% Y2 x $298 = $593
Task 4: 29.63% Y1 x $3,977 + 29.38% Y2 x $4,056 = $2,370
Total: $1,473 Y1 $1,490 Y2 $2,963

6c. Travel

Not applicable

6d. Equipment

Not applicable

6e. Supplies

Not applicable

6f. Contractual

The District will contract with a data infrastructure software development consultant to design decision support tools. These tools will utilize current water use software and identify missing data necessary to create methodologies to implement future customer water budgets. The District utilizes an Advanced Meter Infrastructure (AMI) system - an integrated system of smart meters, data management systems, and communication networks that enable two-way communication between STPUD and customers (and the STPUD water delivery system.) WaterSmart Software (a customer engagement and analytics platform) is interfaced with the AMI system to provide more real-time water use information. However, as water budgeting is a near future reality to combat drought impacts, the data from these two systems lacks the targeted information necessary (i.e. irrigable areas, hydrologic conditions, elevation impacts, etc.) to develop justified methodologies the District needs to understand how a water budget would impact the different classes of water customers The consultant will help to fill these data gaps, as well as develop decision support tools for use in ongoing evaluation of all pertinent data. The consultant is expected to spend approximately 18 months on this project with a total of 700 hours @325 per hour (including any travel costs for on-site inspection services of existing conditions) and an additional estimate of $22,500 in mapping and hydrologic historical research expenses as necessary by the consultant. The total consultant contract is estimated to be $250,000. This estimate is based on the costs incurred for previous similar data development projects.

Task 3: Mapping and research costs Y1 11,250 + Y2 11,250 = $22,500
Task 3: Consultant 350hrs Y1 x $325hr + 350hrs Y2 x $325 = $227,500

Total:	**$125,000 Y1**	**$125,000 Y2**	**$250,000**

6g. Construction

Not applicable

6h. Other Direct Costs

Not applicable

Total Direct Costs:

Task 1: 950hrs Y1 x $37.16hr + 950hrs Y2 x $37.87hr =	$71,277
Task 2: 155hrs Y1 x $65.94hr + 155hrs Y2 x $67.15 =	$20,628
Task 3 $125,000 Y1 + $125,000 Y2 =	$250,000
Task 4: 305hrs Y1 x $78.73hr + 305hrs Y2 x $80.15 =	$48,465
Total: $194,534Y1 + $195,836Y2 =	**$390,370**

6j. Indirect Costs

Not applicable

Appendix 1

Letters of Support

CITY OF
SOUTH LAKE TAHOE

City Manager's Office

October 25, 2023

Bureau of Reclamation
Drought Response Program: Drought Resiliency
Projects for Fiscal Year 2024
Funding Number: R24AS00007, Assistance Number: 15.514

Re: South Tahoe Public Utility District Drought Response Program: Drought Resiliency Grant Application

Dear Bureau of Reclamation,

I am writing to express my support for South Tahoe Public Utility District's Bureau of Reclamation Drought Resiliency grant application to improve community water management.

The City of South Lake Tahoe is the most populous city in El Dorado County and in the Sierra Nevada mountains. We are working to achieve ambitious greenhouse gas reduction goals and water conservation plays a key role. The South Tahoe Public Utility District provides drinking water to most of our residents and is the Groundwater Sustainability Agency for our region's aquifer.

South Lake Tahoe has experienced severe drought conditions for much of the past twenty years, specifically between 2011 to 2019, and then again in 2022. Water budgeting is critical to combat drought impacts and secure water supplies. This project will enhance and optimize existing water use technology to aid in the development of water budgets and efficiency measures for residential and commercial, industrial, and institutional (CII) water users.

Some of the benefits of this grant proposal include:

- Improvement of water efficiency and sustainability of water use in South Lake Tahoe.
- Engagement of community stakeholders at all levels.
- Ensuring vital targeted information is collected to understand irrigable areas, hydrologic conditions, and elevation impacts to inform program development.
- Groundwater savings are crucial for drought resiliency.

South Tahoe Public Utility District's project is imperative for improving community water through the development of the Community Stakeholder partnership. By working with regional water users, our community will be able to more accurately develop water budgets and identify feasible solutions for increasing water efficiency. The City of South Lake Tahoe expresses our support for the project and the grant application.

Sincerely,

Joseph D. Irvin, ICMA-CM
City Manager

El Dorado Water Agency

October 24, 2023

Bureau of Reclamation
Drought Response Program: Drought Resiliency
Projects for Fiscal Year 2024
Funding Number: R24AS00007
Assistance Number: 15.514

SUBJECT: Letter of Support - South Tahoe Public Utility District Drought Response Program: Drought Resiliency Grant Application

Dear Bureau of Reclamation,

I am writing to express my support for South Tahoe Public Utility District's Bureau of Reclamation Drought Resiliency grant application to improve community water management.

The El Dorado Water Agency works to ensure El Dorado County has adequate and affordable water to maintain economic prosperity, protect the environment and support the rural-agricultural way of life. We also work with South Tahoe Public Utility District as co-leads of the Groundwater Sustainability Agency for the Tahoe South Groundwater Subbasin.

South Lake Tahoe has experienced severe drought conditions for much of the past twenty years, specifically between 2011 to 2019, and then again in 2022. Water budgeting is critical to combat drought impacts and secure water supplies. This project will enhance and optimize existing water use technology to aid in the development of water budgets and efficiency measures for residential and commercial, industrial, and institutional (CII) water users.

Some of the benefits of this grant proposal include:

- Improvement of water efficiency and sustainability of water use in South Lake Tahoe.
- Engagement of community stakeholders at all levels.
- Ensuring vital targeted information is collected to understand irrigable areas, hydrologic conditions, and elevation impacts to inform program development.
- Groundwater savings are crucial for drought resiliency.

(530) 621-5392
1107 Investment Blvd, Suite 240, El Dorado Hills, CA 95762
edcwa@edcgov.us
EDWaterAgency.org

South Tahoe Public Utility District's project is imperative to improve community water through the development of the Community Stakeholder partnership. By working with regional water users, our community will be able to more accurately develop water budgets and identify feasible solutions for increasing water efficiency. The El Dorado Water Agency express our support for the project and grant application.

Please contact me if you have any questions regarding our support of this project.

Sincerely,

Rebecca Guo, P.E.
General Manager

October 24, 2023

Bureau of Reclamation
Drought Response Program: Drought Resiliency

Projects for Fiscal Year 2024

Funding Number: R24AS00007

Assistance Number: 15.514

Re: South Tahoe Public Utility District Drought Response Program: Drought Resiliency Grant Application

Dear Bureau of Reclamation,

I am writing to express my support for South Tahoe Public Utility District's Bureau of Reclamation Drought Resiliency grant application to improve community water management. The Tahoe Water Suppliers Association is a Lake Tahoe based partnership comprised of California and Nevada municipal water agencies, dedicated to providing clean and safe drinking water. Lake Tahoe has experienced drought conditions for much of the past twenty years, specifically between 2011 to 2019, and then again in 2022. Water budgeting is critical to combat drought impacts and secure water supplies. This project will enhance and optimize existing water use technology to aid in the development of water budgets and efficiency measures for residential and commercial, industrial, and institutional (CII) water users.

Some of the benefits of this grant proposal include:

- Improvement of water efficiency and sustainability of water use in South Lake Tahoe.
- Engagement of community stakeholders at all levels.
- Ensuring vital targeted information is collected to understand irrigable areas, hydrologic conditions, and elevation impacts to inform program development.
- Groundwater savings are crucial for drought resiliency.

South Tahoe Public Utility District's project is imperative for improving community water through the development of the Community Stakeholder partnership. By working with regional water users, our community will be able to more accurately develop water budgets and identify feasible solutions for increasing water efficiency. IVGID and the Tahoe Water Suppliers Association express our support for the project and the grant application.

Sincerely, Madonna Dunbar

Resource Conservationist, Public Works, Incline Village General Improvement District
Executive Director, Tahoe Water Suppliers Association
Phone: 775-832-1284 / email: mod@ivgid.org

Required Permits and Approvals

As described in Evaluation Criterion E.1.5 - Readiness to Proceed and Project Implementation, this project does not require additional permits or approvals as there are no construction activities and utilizes existing District Resources.

Overlap or Duplication of Effort Statement

The proposed project has a slight overlap with another active project in terms of activities, costs, or commitment of key personnel. South Tahoe Public Utility District currently has an active grant award from the California Department of Water Resources Urban and Multibenefit Drought Relief Grant Program for a project titled Water Use Efficiency/Water Loss Data System Implementation. A small portion of the funding for the State project will be used for data upgrades similar to those described in the Improving Community Water Management Project. However, funding sources are not dependent upon each other for implementation of the project.

Conflict of Interest Disclosure Statement

Financial Assistance Interior Regulation per 2 CFR §1402.112: No actual or potential conflict of interest exists at the time of submission of this application.

General Procurement Standards per 2 CFR §200.318: The District has and uses documented procurement procedures consistent with State, local, and tribal laws and regulations for acquiring property or services required under a Federal award or subaward. The District maintains written standards of conduct covering conflicts of interest and governing the actions of its employees engaged in the selection, award, and administration of contracts. No employee, officer, or agent may participate in the selection, award, or administration of a contract supported by a Federal award if he or she has a real or apparent conflict of interest. Such a conflict of interest would arise when the employee, officer, or agent, any member of his or her immediate family, his or her partner, or an organization that employs or is about to employ any of the parties indicated herein, has a financial or other interest in or a tangible personal benefit from a firm considered for a contract.

Notification Requirements per 2 CFR §200.318: If funded, the District will notify in writing any conflict of interest to the Bureau of Reclamation.

Restrictions on Lobbying pursuant to 43 CFR §18 and 31 USC §1352: The District will not use funds under this grant for lobbying activities and will provide the required certifications and disclosures.

Uniform Audit Reporting Statement

The District spent $750,000 or more in federal award funds in the previous fiscal year and completed a Single Audit report.

Employer Identification Number: 94-1337914

The District's Single Audit report for fiscal year 2021-2022 is available through the Federal Audit Clearinghouse website. The Single Audit report for the fiscal year 2022-2023 is currently being finalized and will be available through the Federal Audit Clearinghouse website in mid-December 2023.

RESOLUTION NO. 3259-23

A RESOLUTION BY THE BOARD OF DIRECTORS
OF THE SOUTH TAHOE PUBLIC UTILITY DISTRICT
BUREAU OF RECLAMATION WaterSMART DROUGHT RESPONSE PROGRAM:
DROUGHT RESILIENCY PROJECTS FOR FISCAL YEAR 2024

NOW, THEREFORE, BE IT RESOLVED, by the South Tahoe Public Utility District (STPUD) Board of Directors that the General Manager, and/or the Chief Financial Officer is hereby authorized and directed to sign and file, for and on behalf of STPUD, a Financial Assistance Application for a Financing Agreement from the Bureau of Reclamation for the planning, design, and construction of the following project: Improving Community Water Management Project; and

BE IT FURTHER RESOLVED, that STPUD hereby agrees and further does authorize the aforementioned representative or his/her designee to certify that the Agency has and will comply with all applicable state and federal statutory and regulatory requirements related to any financing or financial assistance received from the Bureau of Reclamation; and

BE IT FURTHER RESOLVED, that STPUD Board of Directors supports the submission of an application under the Bureau of Reclamation WaterSMART Grant Program and certifies that STPUD is capable of providing the amount of funding and in-kind contributions specified in the funding application; and

BE IT FURTHER RESOLVED, that STPUD will work with the Bureau of Reclamation to meet established deadlines for entering into a grant or cooperative agreement.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of South Tahoe Public Utility District hereby formally adopts the above-mentioned Resolution No. 3259-23 for the effective date of October 19, 2023.

WE, THE UNDERSIGNED, do hereby certify that the above and foregoing Resolution No. 3259-23 was duly and regularly adopted and passed by the Board of Directors of the South Tahoe Public Utility District at a Regular meeting held on the 19th day of October, 2023, by the following vote:

AYES: Haven, Romsos, Sheehan, Exline

NOES: None

ABSENT: Peterson

for David Peterson, Board President
South Tahoe Public Utility District

ATTEST:
Melonie Guttry, Clerk of the Board/
Executive Services Manager
South Tahoe Public Utility District