5055 - ATT-BGCSA 102621
WATERSMART WATER AND ENERGY GRANT NARRATIVE

WaterSMART Grants: Water and Energy Efficiency Grants for FY 2021

Funding Opportunity Announcement No.
BOR-DO-21-F001

Applicant:
San Bernardino County
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WaterSMART Water and Energy Efficiency Program

Opportunity Number: BOR-DO-21-F001

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Executive Summary

September 2020
San Bernardino County Department of Public Works
Special Districts Water and Sanitation
222 W. Hospitality Lane, 2nd Floor
San Bernardino, CA 92415-0450
San Bernardino County, California

The San Bernardino County Department of Public Works, Special Districts Water and Sanitation Division (Division) has unincorporated region residents and businesses facing water conservation concerns due to the age and reliability of the current meters. Meters are failing in Oak Hills, Cedar Glen, Morongo valley, Hacienda/Morongo and Pioneertown. It is of immediate urgency that these meters be replaced. The Division is seeking funding assistance to pay for these meter replacements as well as Beacon endpoints that will allow for automatic remote readings. Presently, Division staff are currently reading municipal meters manually which is not time-efficient. The meters that currently provide inaccurate readings due to advanced age must be replaced to fully support this new technology and ensure water efficiency. Division leadership has done a thorough cost analysis and has determined that new meters will be the most cost-effective way to measure water deliveries, detect leaks and encourage water conservation. The project's estimated completion date is December 30, 2023. The project is not located at a federal facility.

Project Location

The Division promotes safe, healthy, enjoyable and dynamic communities by providing essential programs and municipal services that meet the current and future needs of the communities served. Special Districts provides direct administrative oversight to 94 dependent special districts (those governed by the Board of Supervisors). These districts provide a variety of municipal services throughout the County of San Bernardino, including water and sanitation, parks and recreation, road maintenance, television translator, and streetlight services.

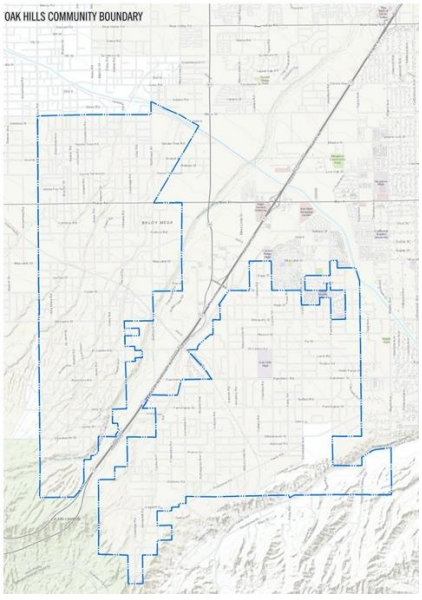
The District consists of nineteen (15) water and sewer county service area improvement zones collectively administered by the Division. The Division, staffed with 59 positions, provides administrative, billing, collections, and clerical support. The Department of Public Works provides direct management and administrative oversight of the districts through six divisions: regional operations, operations/maintenance, and project administration/engineering support to the water and sanitation districts. The districts' service base ranges between 310 and 14,715 customers. The Division's operation and maintenance functions are directed and performed on a regional basis. The main department office is located in San Bernardino, with a regional office located in Victorville. The Division

maintains four (4) sub-regional operations/maintenance yards located throughout the communities served.

Districts and County Service Areas (CSA's) are legal entities authorized under California law and formed by the Board of Supervisors to provide municipal-type services, capital improvements and financial planning and management. The services and financial arrangements are tailored to meet the needs of a local area or region. These services are known as "extended services" because they are in addition to those services customarily funded by the general property tax levy. The desire and ability to pay for extended services are primary considerations in the communities' decision to form and operate a special district.

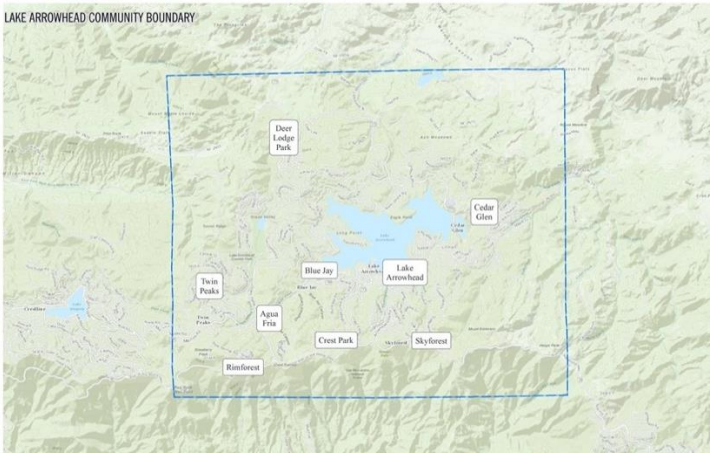
The following CSA's are project locations which grant funds are being requested:

CSA 70 J - OAK HILLS (34.383120, -117.381350)



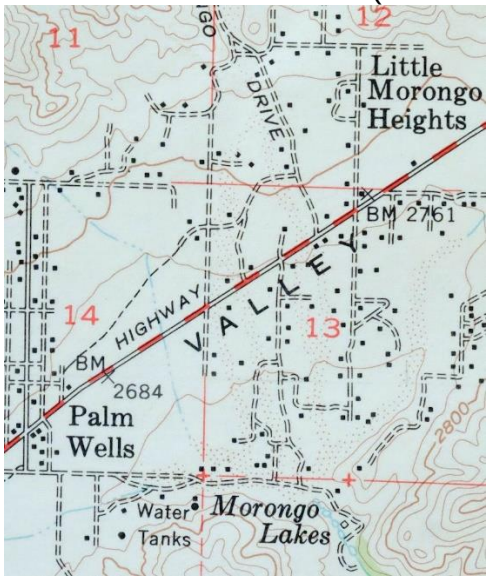
The Oak Hills CSA, established in 1971, provides services to approximately 12,428 customers in the Oak Hills community SOI through 3,359 metered water connections, and maintains five wells, eight booster stations, ten water storage reservoirs, and 148 miles of water pipelines. It is mainly funded by user fees and services charges.

CSA 70 CG – CEDAR GLEN (34.202090, -117.418030)



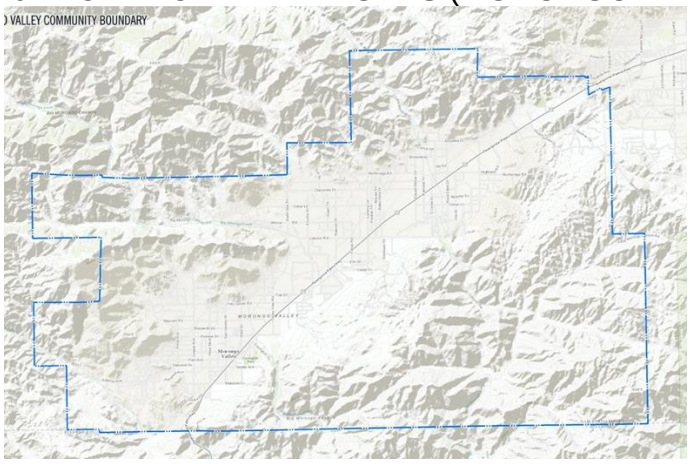
The Cedar Glen CSA was established in 2005 and provides operation and maintenance of water connections for 1,228 customers. The district is funded through user fees, service charges, and special assessments. Water is purchased from the Crestline-Lake Arrowhead Water Agency. Cedar Glen is locally serviced by CSA 70 Zone CG, which serves as the retail water purveyor. Cedar Glen maintains two in-service groundwater supply wells and approximately 22 miles of pipeline for water deliveries. Total population in the service area is 1,253 per LAFCO MSR data with 342 single family residential connections (no multi family or commercial/industrial connections).

CSA 70 F – LITTLE MORONGO HEIGHTS (34.047210, -116.580360)



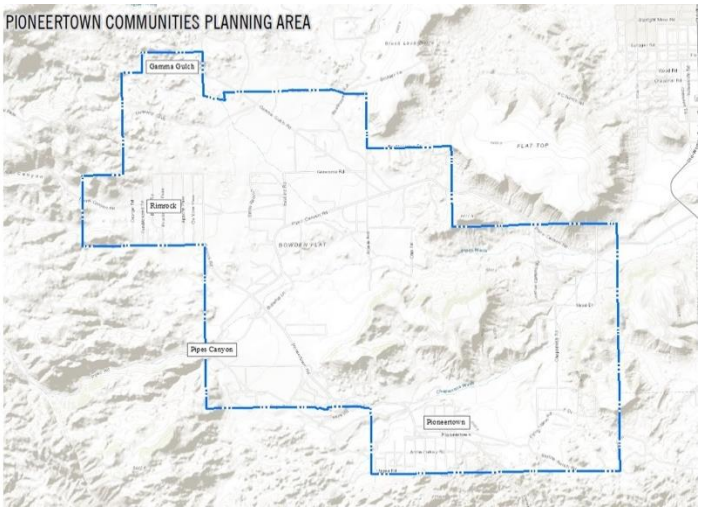
The Little Morongo Heights CSA in Morongo Valley was established in 1971. The district currently services 310 customers using three wells, one booster station, and a reservoir that stores 220,000 gallons of water. The area uses user fees and service charges, and also includes requirements to fund and transfers.

CSA 70 W-3 HACIENDA HEIGHTS (MORONGO VALLEY)



The Hacienda CSA was established in 1976 and provides operation and water maintenance for 610 customers. The zone maintains two wells, two booster stations, and two storage reservoirs. Its main funding sources are user fees and service charges. Hacienda Heights is in the Morongo Valley.

CSA 70 W-4 – PIONEERTOWN



The Pioneertown CSA was established in 1980 and provides water to 444 customers, maintains two wells and two storage reservoirs. These are funded through user fees and service charges. Pioneertown is north of Yucca Valley.

CalEnviroScreen 3.0 identifies California communities by census tract that are disproportionately burdened by, and vulnerable to, multiple sources of pollution, developed through Office of Environmental Health Hazard Assessment (OEHHA), on behalf of the California Environmental Protection Agency (CalEPA). CalEnviroScreen 3.0 identifies the census tracts within all five project locations to as shown below:

Project Location	CalEnviroScreen 3.0 Percentile	Population	Census Tract	Pollution Burden Percentile	Population Characteristics Percentile
Oak Hills	55-60%	14,798	6071010017	41%	61%
Cedar Glen	30-35%	3,714	6071010902	26%	36%
Little Morongo Heights	45-50%	3,251	607101417	18%	69%
Hacienda Heights (Morongo Valley)	60-65%	5,322	6037408504	72%	51%
Pioneertown	45-50%	1,966	6071010424	29%	58%

The chart below reflects the sources of water for the affected CSA's:

Project Location	**Sources of Water**
Oak Hills	Well 1 West, Well 2 East, Well 3
Cedar Glen	Two in-service groundwater supply wells and approximately 22 miles of pipeline for water deliveries
Little Morongo Heights	Three wells, one booster station, and a reservoir
Hacienda Heights (Morongo Valley)	Two wells, two booster stations, and two storage reservoirs
Pioneertown	Two wells and two storage reservoirs

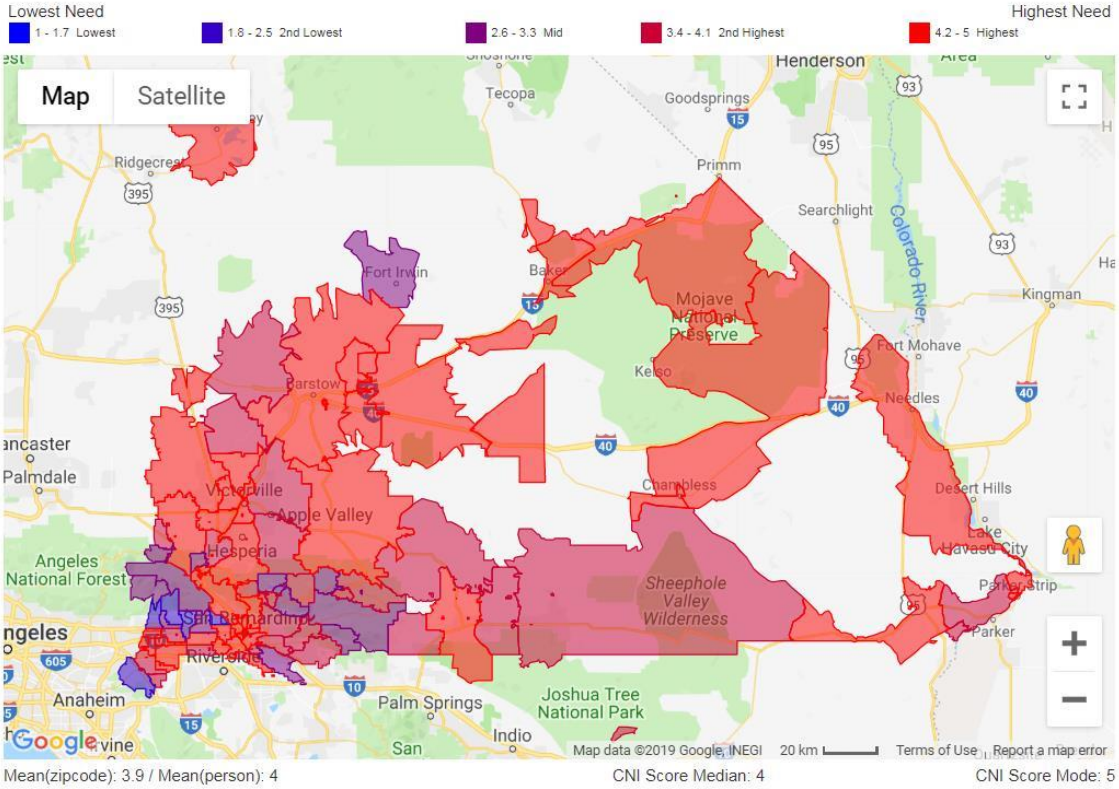
San Bernardino County depends on both local and imported water sources to supply customers. Many commercial and residential customers rely on groundwater pumping and direct extraction from surface water bodies, including lakes and rivers. In addition, the State Water Project delivers water from the Sierra Nevada Mountains to San Bernardino County. Unfortunately, Southern California is highly prone to drought conditions that reduces these vital water sources. In addition to affecting human water supply, drought can have a significant impact on biological resources such as pinyon-juniper woodlands, conifer forests, grasslands, and marshes and seasonal wetlands.

County Health Profile

In 2004 Dignity Health and Truven Health jointly developed a Community Needs Index (CNI) to assist in the process of gathering vital socio-economic factors in the community. Based on the wide array of demographic and economic statistics, the CNI provides a score for every populated Zip Code in the United States on a scale of 1.0 (least need) to 5.0 (most need). The five barriers associated with the needs index scoring are listed below:

1. Income Barrier
2. Cultural Barriers (related to language or citizenship barriers)
3. Education Barrier
4. Insurance Barrier
5. Housing Barrier

In addition to scoring the needs of community, the maps also list community resources like Schools, Parks, Hospitals, Higher Education, Community Centers, Shelters, Farmers Markets, Imaging Centers, Urgent Care Centers, Community Clinics, Primary Care Providers, Grocery Stores, and Mobile Health and Dental Clinics Stops. Based on the CNI score, San Bernardino County's average score is 4.



Water reliability has a direct link to poverty and in the areas proposed for water meter improvements in this proposal, the ability to have reliable, up to date and non-leaking meters will lead to long term community viability in the future.

Technical Project Description

The San Bernardino County Department of Public Works, Special Districts Water and Sanitation Division proposes to install and repair residential meters for these six independent CSA projects. In order to find a cost effective and time efficient method of water metering, the Division has researched different technologies of water reading and found that connecting its meters to the mobile radio technology (AMR) uses technology most effectively to minimize labor costs in comparison to the Manual Read, Touch Read and Fixed Network Radio.

The AMR system mobile radio technology is a field proven technology in use at a number of large municipal utilities. It enables the meter reader to collect meter readings while walking or driving by a meter equipped with a radio frequency (RF) reading device. The mobile reading system requires the addition of an RF reading device (also called a meter interface unit or MIU) to the encoder meter register. A battery powers the RF device. The number of potential reads per day using the drive-by system increases significantly compared to a manual read or touch read system. Although, compared to the other technologies, a mobile read system has relatively high capital costs, but this cost is offset by the relatively low labor costs over time due to the efficiency in reading. The AMR system can provide productivity in the range of 5,000 to 10,000 reads per day, which is in excess of the number of connections that the Division currently services.

The Division has already undergone an in depth analysis to include public outreach and technical research surrounding potential concerns in water efficiency and quality. The San Bernardino Countywide Plan has a section focused primarily on water, wastewater and hydrology conditions. In that plan, each CSA is discussed, highlighting the CSA's in need of immediate meter replacements due to their current status as manual readers in addition to other useful life limitations. While some of the District CSA's have already undergone a conversion to AMR meters, several have not and those scheduled for replacement in the proposed water meter improvement project are those with the greatest immediate need.

The chart below illustrates parts to be purchased through Badger Meter, Inc:

Meter Data Plan Endpoint Description	Replacement Quantity
Orion Cellular	1,396
Orion	1,396
¾"	204
1"	46
1.5"	1
2"	2
3"	1
6"	1
8"	1

Most of the cost of installation will be done by current Division staff. One Maintenance Worker I and two Maintenance Worker II's will be responsible for the installation of the meters. It is anticipated that the larger, industrial meters will be contracted out for service installation.

Evaluation Criteria

E.1.1. Evaluation Criterion A—Quantifiable Water Savings (30points)

In addition to modernizing the entire system of District maintained meters, the unreliability of the existing meters is of huge concern. There are large percentages of water lost each year due to inefficient and failing meters.

The chart below illustrates the most recently calculated annual water loss percentages for each CSA affected by this water improvement project:

DISTRICT	Water Loss Percentage
CSA 70 CG – Cedar Glen	57.19%
CSA 70 J – Oak Hills	9.9%
CSA 70 F – Little Morongo	56.79%
CSA 70 W-3 – Morongo (Hacienda Heights)	53.63%
CSA 70 W-4 – Pioneertown	44.21%
CSA 42 – Oro Grande	17.84%

Leaks, theft and age of meters are three top reasons for the above referenced water loss percentages.

E.1.2. Evaluation Criterion B—Water Supply Reliability (18 points)

Adequate water will be available to sustainably meet the needs of San Bernardino County residents and businesses through 2040 only if water users continue to improve water-use efficiency efforts and the public; state; regional and local government leaders; and developers are willing to collaborate and invest in projects that will store, reuse, protect and convey water supplies.

That was the conclusion of a 2018 update of a complete inventory of the County's water resources presented today at the Annual San Bernardino County Water Conference in Ontario. The inventory is a product of the Countywide Vision Water Element Group's efforts to bring together the leaders of all County water agencies and other experts to work cooperatively on solutions to a potential imbalance between population growth and water supply.

The inventory shows that the combined current and projected supplies of County water agencies will meet the demand of the County's growing population in normal years and drought years through 2040. A projected increase of water supplies of 44,000 Acre Feet per Year (AFY) to a total of 819,000 AFY by 2040 assumes substantial investment in enhancements to the State Water Project, stormwater capture and recycled water.

Per-capita water demand (total water use divided by population) is projected to decrease about 8% from 2020 to 2040 as more residents and businesses make conservation a way of life. As a result, while the population is projected to grow from 2.18 million in 2020 to 2.78 million by 2040, the combined Urban and Agricultural water demand within the county is expected to increase at a much slower pace – from a total of about 600,000 AFY in 2020 to about 700,000 AFY in 2040. With these numbers, the CSA's can no longer afford to lose water.

The Countywide Vision Water Element Group is made up of leaders from County water agencies, business representatives and other stakeholders. It was formed in January 2012 to develop a long-range plan to ensure water sustainability for San Bernardino County's future.

The Vision Water Element group will continue to use the information contained in the inventory to promote partnerships among water agencies and other stakeholders within the County, improve water management and efficiency, protect and conserve water resources, and identify the most important next steps the group should take to embrace the environment in which we live.

E.1.5. Evaluation Criterion E—Department of the Interior Priorities (10 points)

This project meets the objective of the grant by significantly increasing water conservation and efficiencies with systemic improvements. Moreover, the proposed improvements supports each of the Department of the Interior's priorities. The project creates a conservation stewardship legacy because contemporary date meters utilize science directly to improve management of water resources.

The project will encourage the communities in which they are installed to know that they now have a reliable source of information regarding water production and usage. This project will reduce the administrative burden on the District Water Department Staff who have to conduct manual reads and tend to leaking, failing or stolen meters on a consistent basis.

E.1.6. Evaluation Criterion F—Implementation and Results (6 points):

E.1.6.1. Subcriterion F.1— Project Planning

The Countywide Vision was developed in 2010-11 in an effort to identify a common goal for all county communities and residents. The Vision was created from information received during 18 community meetings, an online survey, more than two dozen expert roundtables, and data from the county and all 24 cities and towns. It can be viewed here:

http://cms.sbcounty.gov/cao-vision/Elements/Water.aspx

The Vision highlights various community driven concerns and plans for the future. Community outreach has long been one of the County's main methods of accessing data from residents to make improvements. The County has many conservation fairs to express to residents how important it is to conserve water as a community to make the type of impact necessary for water efficiency. In order for the District to do its part, meters must be upgraded. Other outreach has been conducted as a part of a very detailed countywide plan update to be approved by the San Bernardino County Board of Supervisors in November of 2020. Each CSA has their own community highlight section which addresses plans for water efficiency planning to include the mention of upgraded meters.

Oak Hills has an existing Community Plan, adopted in 2013, and intended to guide the future use, character, and independent identity of the community. As part of Countywide Plan, the County is consolidating goals and policies from both the overall 2007 General Plan and the 2007/2013 Community Plans into a single source of policy direction called the County Policy Plan. Consolidating policy into one document alleviates consistency issues and avoids redundancy between the General Plan and Community Plans. As a result, the policy direction is easier to navigate, understand, and implement. Morongo Valley's current plan was adopted in 2007 and is undergoing a similar update.

Water availability is a critical element to life in Pioneertown communities with the prosperity of the community dependent upon access to adequate clean water supplies. A water management committee consisting of engaged community members is set up to advocate for the sustainability of community water supplies and to provide input to the County of San Bernardino on solutions to water accessibility.

These are just three examples of the local planning efforts in effect in the individual CSA's and on a larger scale through the San Bernardino Countywide plan.

E.1.6.2. Subcriterion F.2— Performance Measures

This municipal metering project that replaces failing meters with new, properly functioning meters producing accurate reads and eliminating leaks will significantly improve each CSA's ability to detect leaks and conserve water that is currently being lost. The replacement meters will produce more accurate measurements that are less vulnerable to human error and are not impacted by the extended time restrictions of manual metering improperly working meters. Currently, the CSA's featured in this project have a water loss percentage ranging from 17-57%. Most of them are on the higher side of this range. Present measurement technology that is in place and to be upgraded through this installation of new meters will improve the Districts ability to account for water loss and provide a cost savings associated with reading meters manually and the constant necessity to service those that are producing false reads, leaking or have been stolen.

E.1.6.3. Subcriterion F.3— Readiness to Proceed

The Project will not require any permits to be obtained due to the nature of meter installation. The Division has completed other similar projects of scope and size, even one previously awarded through the WaterSMART program in 2017.

ACTIVITY	LEAD PARTY	DELIVERABLE	START/END DATE
PHASE 1 START			1/2/2021
Grant Award Agreement Execution	SB SDD	Signed Grant Documents	1/2/2021
Project Kick-Off	SB SDD	Meeting Notes	4/1/2021
Quarterly Program Meetings	SB SDD	Meeting Notes	QUARTERLY
Quarterly Progress/Financial Reports	SB SDD	Quarterly Report Documents	QUARTERLY
Issue Purchase Order for Equipment procurement	SB SDD /Badger	Purchase Order & Invoice	4/1/2021-6/30/2021
Phase 1 Equipment procurement	SB SDD /Badger	Confirmation of shipment receipt	7/1/2021-07/30/2021
PHASE 1 END			9/1/2021
PHASE 2 START			9/30/2021
Phase 2 Meter Installation	SB SDD	Meters Installed By staff	9/30/2021-10/31/2023
Final Program Financial Report	SB SDD	Final Report Documents	10/1/2023-12/30/2023
PROJECT END			12/30/2023

No Environmental Compliance measures will be required for the project.

E.1.7. Evaluation Criterion G— Nexus to Reclamation Project Activities (4 Points)

The project, if funded, will be a part of the Southern California Area Bureau of Reclamation Office. In 2017, the County of San Bernardino was awarded a WaterSMART grant in the amount of $74,987 for a water meter replacement project that resulted in 40% less water usage. This project affected meters in other CSA's, not covered by this project. Additionally, in 2014, the City of Yucaipa which is in San Bernardino County was awarded $300,000 to improve 1,450 acre-feet through a ground water basin recharge project.

Over the years, the County has built a great relationship with Bureau of Reclamation staff. In fact, the San Bernardino Municipal Water Department has operated a water reclamation plant since 1973. The WRP is a 33 MGD regional secondary treatment facility that provides trusted, quality wastewater treatment services for many unincorporated San Bernardino County Areas.

E.1.8. Evaluation Criterion H— Additional Non-Federal Funding (4 points)

San Bernardino Special Districts will provide $501,311.95 from its CSA Water funds and $41,808 of in-kind match. The total project cost is $1,086,239.91. The District is contributing a Non-Federal Fund ration of 50% to the total project cost and has confirmed match availability for each of the CSA project areas.

Project Budget

Total Project Cost	BOR Grant Request	County of San Bernardino, Department of Public Works
$ 1,086,239.91	**$ 543,119.95**	**$ 543,119.95**

Funding Plan

TABLE	AMOUNT	SOURCE
Cost to be reimbursed with the requested federal funding	$543,119.95	Bureau of Reclamation
Costs to be paid by the applicant	$381,829.95	CSA's Water Funds
Value of third-party contributions	$161,290	Use of existing Department staff and vehicles to install/replace the meters
TOTAL PROJECT COST	**$1,086,239.91**	

Project Cost Estimate by CSA:

CSA 70 J - OAK HILLS

Blue - Waterscope - 768	
Green - Beacon - 2549	
No Remote - 39	
Parts	$116,067.23
Labor est.	$84,700.00
Total	$200,767.23

CSA 70 CG – CEDAR GLEN

Blue - Waterscope - 45	
Green - Beacon - 119	
Orange - Hand Held - 174	
Parts	$72,060.91
Labor est.	$40,900.00
Total	$112,960.00

CSA 70 F - MORONGO VALLEY

Green - Waterscope - 76	
Blue - Beacon - 6	
No Remote - 2	
Parts	$13,280.53
Labor	$7,700.00
Total	$20,980.53

CSA 70 W-3 HACIENDA/MORONGO

Blue - Waterscope - 174	
Green - Beacon - 17	
Parts	$26,073.86
Labor	$17,400.00
Total	$43,473.86

CSA 70 W-4 - PIONEERTOWN

Orange - Hand Held Reads 119	
Parts	$24,408.91
Labor	$14,600.00
Total	$39,008.91

Finance leadership has confirmed that each CSA has ample funding set aside through their water funds to support the 50% cost share associated with this grant.

The non-Federal share of project costs will be obtained through each of the CSA's while the Division will contribute in-kind match through the use of County vehicles for the installation.

Total Project Budget Estimate can be seen in Exhibit A.

Budget Narrative

Salaries and Wages

Salary and wage costs associated with this project are considered in-kind as current Special District's staff will conduct the work necessary as a part of their daily work to complete half of the installation of the new meters. The salaries implemented in this budget are actuals based on Ordinance No. SD 20-06, 2020-21 Adoption of Fees and Charges. Two Mechanical Worker I and one Mechanical Worker II will be assigned to conduct the installation of this project. Fringe benefits will be charged to the grant at 30%, an average for this employment classification. It is anticipated that it will take a total of 4,160 hours to complete the project in its entirety.

Travel

No travel outside of Special District limits is required as a component of this project. However, it has been budgeted as a component of the in-kind match. The vehicle costs implemented in this budget are actuals based on Ordinance No. SD 20-06, 2020-21 Adoption of Fees and Charges. It is anticipated that three pick up trucks with a utility bed will be utilized and run 10% of the hours conducting installation work. The total hourly cost per the fee schedule for these vehicles is $33.50.

Equipment

The District will utilize existing equipment for the installation of the replacement meters.

Materials and Supplies

Materials will be purchased from Badger and supplies will be obtained through on hand inventory to help minimize additional costs and contingency spending. Staff conducted an in-depth analysis of meters needing replacement and all cost estimates were based on quotes received.

Contractual

There will be contractual work associated with this project for the installation of the larger industrial meters. The contract for the installation work will be procured through a competitive bidding process.

Indirect Costs

The Water Departments actual indirect cost is 33%, however because it is not federally approved yet, the District has budgeted only 10% for this project. The additional 23% is considered unbudgeted in-kind cost that will be absorbed by the District.

Environmental and Cultural Resources Compliance

Therefore, the project will be categorically exempt from CEQA, and will also be exempt from NEPA.

Required Permits or Approvals

The San Bernardino County Special Districts Department does not anticipate any required permits for the project as all work will take place in CSA's governed by the District.

Official Resolution

An official resolution will be submitted within 30 days of the date of this application. A draft pending the Board of Supervisors approval has been attached to this application as Exhibit B.