



Cambria Community Services District's Bureau of Reclamation Grant Application

BOR-DO-20-F006: Small-Scale Water Efficiency Projects

Project:

Residential Water Loss Control Program: Flume Flow Sensor Rebates for Residential Leak Detection

Applicant:

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I. Technical Proposal and Evaluation Criteria

a. Executive Summary

Submission Date: March 3, 2020

Applicant: Cambria Community Services District, Cambria, CA

The Residential Water Loss Control Program will address measures that can be taken on the customer's side of the meter to reduce leakage and foster awareness of water use efficiency in the home and garden. Funds will offset the cost of a Flume Smart Water System to bring the purchase price for Cambria Community Services District (CCSD) customers down from \$199 to \$49.

California Water Use Efficiency Bills SB 606 and AB 1668 direct state regulators to establish water use efficiency standards for each water agency over 3,000 connections. These standards will be based on the combination of indoor water use, outdoor water use, and water losses. The Intelligent Leak Detection Rebate Project will provide CCSD with substantial benefits in the form of data, public outreach, and education. These benefits will greatly assist CCSD in preparing to comply with the standards.

The project contributes to accomplishing the goals of funding opportunity number BOR-DO-20-F006 by leveraging flow sensor technology within a drought sensitive community to better equip water consumers to address leaks and foster more efficient water use habits. The project will run from March 16, 2020 through June 30, 2020. The project is not located on a Federal facility.

b. Background Data

The CCSD was established in 1976 and has water delivery authority in an unincorporated portion of northern San Luis Obispo County, California. The service area is approximately 4.5 square miles and supplies water to 4034 connections. CCSD's Water Department operates and maintains 67 miles of distribution lines, two 490,000-gallon storage tanks, one 320,000-gallon tank, one 212,000-gallon tank, one 125,000-gallon tank, and one 120,000-gallon tank. There are three distribution system pumping stations, each with a 400 gallon per minute capacity. CCSD's water comes from wells drilled into aquifers in the San Simeon and Santa Rosa Creek basins. These are thin, narrow groundwater basins that supply nearly all the water used for local agricultural and municipal purposes. Rainfall in Cambria is seasonal, with little to no precipitation from May through October, and both creeks usually stop flowing during the summer dry season. Annual diversion is a significant fraction of basin storage capacity, and the water supply is vulnerable to drought. In September 2013 the San Simeon wells were pumped down to within two feet above sea level and operations were suspended to avoid the seawater intrusion. In response to this event the CCSD Board of Directors declared a Stage 3 Water Shortage Emergency to conserve the water supply for human consumption, sanitation, and fire protection. In March 2017 this was downgraded to a Stage 2 Water Shortage Condition after sufficient rainfall and groundwater recharge, but the potential for shortfalls in water supply remains an issue.

c. Project Location

Cambria is located in the northwestern corner of San Luis Obispo County on California's central coast:

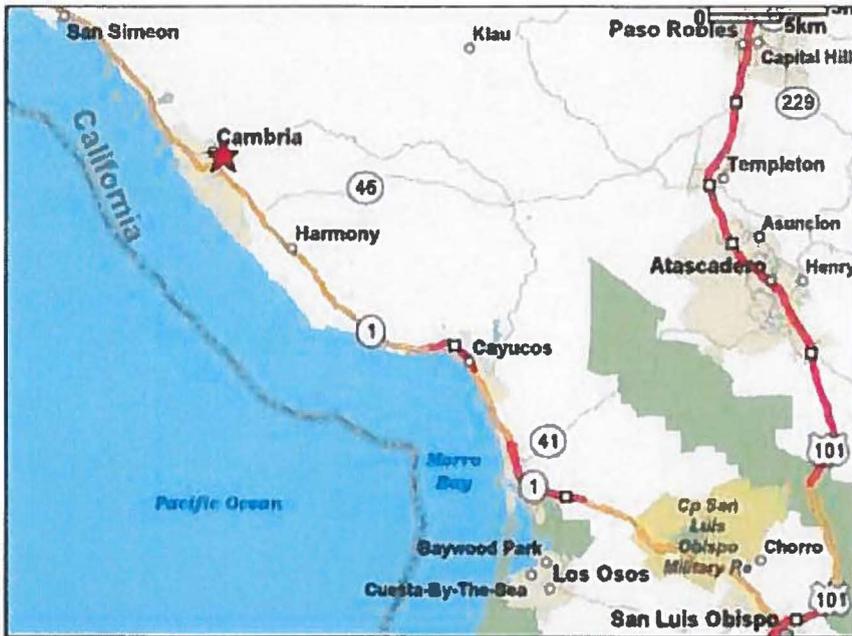


Figure 1 CCSD Location Map

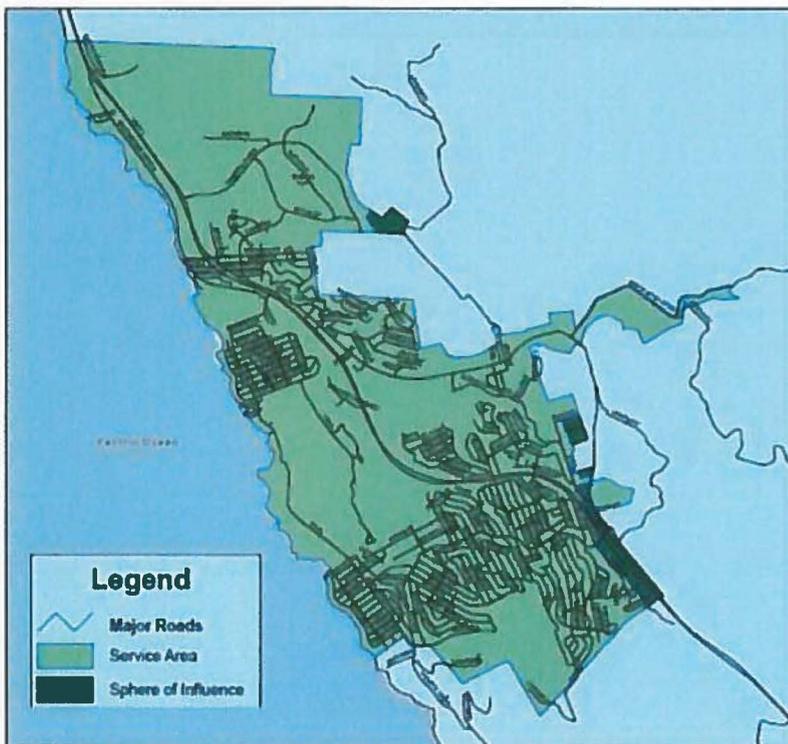


Figure 2 CCSD Service Area and Sphere of Influence Area

d. Technical Project Description and Milestones

Intelligent Leak Detection Project Description

As a State of California Department of Water Resources (“DWR”) defined urban retail water supplier, the CCSD is subject to current and future regulations under the 2017 legislative framework *Making Water Conservation a California Way of Life* (SB 606 and AB 1668). This includes the primary goals of using water more wisely and eliminating water waste. Eliminating water waste will eventually be regulated via urban retail water loss standards set and enforced by the DWR. Using water more wisely will eventually be regulated via DWR’s urban retail water use efficiency standards and objectives for both indoor and outdoor use. The indoor standard has been set at 55 gallons per capita daily (GPCD) until January 1, 2025 when it will drop to 52.5 GPCD for five years and then drop once more to 50 GPCD effective January 1, 2030.

In order to address both state goals, the CCSD will need to take action to lower system water losses and ensure consumption stays within regulatory objectives. Since water loss after the customer meter is both billed and tracked, it has not been a significant concern outside of periods of extreme drought when every drop counts. With the new focus on water use efficiency standards, the CCSD has more reason than ever to empower consumers to monitor their usage, address leaks quickly, and respond to voluntary and mandatory reductions in consumption.

The Residential Water Loss Control Program will address measures that can be taken on the customer’s side of the meter to reduce leakage and foster awareness of water use efficiency in the home and garden. The Intelligent Leak Detection Rebate Project is a joint marketing effort between Flume and the CCSD. Customers will be offered a rebate of \$150 to purchase a Flume Smart Water System which retails at \$199. The Flume Smart Water System enable customers to detect leaks and monitor water usage in real time across their entire property, both indoors and outdoors. With Flume, customers gain unprecedented understanding of their water use, helping them conserve water, save money and protect their home from costly leaks. The Flume Smart Water System includes:

- the Flume Water Sensor, which straps onto an existing meter and measures flow rate to a tested accuracy of 99.9%;
- the Flume Bridge, which plugs into a power outlet and connects to a home WiFi network to transmit signals from the Flume Water Sensor to a secure cloud database; and
- the Flume App, which runs on iOS or Android smartphones and accesses real-time water usage data from the cloud. It shows usage in real time down to the minute, notifies users of existing leaks, and sends alerts when abnormal usage is detected.

Project Milestones

The project is proposed to launch during the EPA’s *Fix A Leak Week* which runs from March 16 through 22, 2020. Customers will be directed to flumtech.com/ccsd to purchase their discounted Flume Smart Water Systems. A total of 50 Flume systems will be available for purchase during the first round of the project. Continued marketing efforts including a CCSD-staffed booth at the local farmer’s market, social media campaigns, and radio advertisements will occur through the month of March and into April 2020.

If this application for funding is successful, another 50 Flume systems will be available for purchase during the second round of the project in May and June 2020. Once all systems are claimed, the project will be closed.

e. Evaluation Criteria

Project Benefits

The Intelligent Leak Detection Project will result in the following beneficial outcomes:

- **Early leak detection.** Customers will learn of large leaks within minutes and will be able to implement immediate measures to curtail the volume of water lost, saving them money on their utility bills and saving the CCSD staff time to investigate a suspected leak or process a bill modification request. Small leaks will be detected, and the real-time flow information will assist customers in pinpointing the source of small leaks and making necessary repairs.
- **Enhanced customer awareness.** Customers will gain real-time information on their household water consumption. This can spark behavioral changes that typical rebate programs do not address. The Flume App encourages customers to set usage goals and budgets which will assist the CCSD's efforts to enforce State-mandated water use efficiency standards.
- **Enhanced utility awareness.** Participation in the Intelligent Leak Detection Project requires customers to release their real-time consumption data to the CCSD via Flume's utility portal. This data will help inform future conservation projects and fuel conversations with other regional utilities participating in similar rebate program and data collection projects.
- **Regulatory compliance.** The project provides customers with real tools and information needed to make conservation a California way of life. Early leak detection and enhanced customer awareness will directly assist the CCSD in reaching compliance with AB 1668 and SB 606, the state's conservation framework.
- **Watershed stewardship.** Drought is an ongoing issue in the community of Cambria, making water use efficiency a critical component of the CCSD's operations. Municipal diversion draws from two shallow creek aquifers which are associated with protected coastal resources and home to several listed species such as the California Red Legged Frog, Coastal Steelhead, and Tidewater Goby. Reduction in municipal withdrawals, especially in response to severe drought, has environmental benefits for both points of diversion, and increases reliability of supply for upstream riparian and agricultural users.

Planning Efforts Supporting the Project

The Residential Water Loss Control Program is supported by the CCSD's 2013 Water Use Efficiency Plan which was adopted by the Board of Directors at their February 28, 2013 regular meeting. Measures identified within the plan include:

1. Reduce System Water Losses
2. Use Automatic Meter Reading (AMR) System to Identify Customer Leaks
3. Single Family Surveys

The Residential Water Loss Control Program addresses part of measure 1. Measure 2 is partially addressed via the CCSD's current AMR infrastructure; however, leak detection is limited to leaks that occur at the time the meter is read, which only takes place once every 60 days. Due to limited staffing, measure 3 is only offered by customer request. The Intelligent Leak Detection Project will support all three measures by providing real-time leak detection for residential customers, as well as informing consumers and CCSD conservation staff about water consumption habits that can be further explored within a Single Family Survey. Due to this project's ability to address multiple measures with one device, it has been prioritized above other conservation measures proposed within the plan.

Project Implementation

Thanks to the collaboration with Flume, implementation of this project can be broken into a few simple steps:

1. Contract Execution
 - a. The CCSD will enter into a contractual agreement with Flume to execute the Intelligent Leak Detection Project. Upon execution, Flume will create the landing page from which CCSD customers will purchase the discounted Flume Smart Water Systems. The District will provide its logo, a current list of customer account identification numbers (to determine rebate eligibility) and will deposit funds to cover the cost of 50 Flume systems (Phase I). Flume will mail the Flume systems directly to the customers and will provide technical support for installation and use.
2. Marketing & Outreach
 - a. The CCSD will conduct an initial email campaign using a template provided by Flume. The campaign will inform customers of record about the program and direct them to the purchasing URL. Additional marketing efforts will include social media outreach facilitated by community volunteers, CCSD-staffed booths at the local farmer's market, and radio ads on local stations that do not charge for the airtime.
3. Project Midpoint Evaluation and Report
 - a. After two months of project efforts, an evaluation of community participation and data collection will take place. If this application for funding is successful, another 50 Flume systems will be made available for rebate. Results of the midpoint evaluation will be taken into consideration and adjustments in marketing and outreach strategy will be made to more effectively spread the word about the rebate opportunity. All reports and data will be generated automatically through the Flume utility portal.
4. Project Closure
 - a. Once all Flume systems are claimed, the landing page will be updated to reflect the closure of the project.

Nexus to Reclamation

No Reclamation projects or activities are impacted by this project.

DOI or Bureau of Reclamation Priorities

The Intelligent Leak Detection Project addresses several DOI & Bureau of Reclamation priorities including:

- **Modernizing our infrastructure.** Although a minor component of public infrastructure, water treatment and distribution is one of the primary services provided by the CCSD. Modernizing the CCSD’s leak detection efforts using state-of-the-art technology is a cost-efficient measure to improve the overall water supply system in this rural coastal community.
- **Leverage Science and Technology to Improve Water Supply Reliability to Communities.** The project uses state-of-the-art flow sensor and mobile application technology to empower consumers to address leaks and use water more wisely.
- **Address Ongoing Drought.** The CCSD relies on a three-stage Emergency Water Conservation Program to carry the community through times of drought. All three stages impose water use allotments based on the number of permanent residents per household. The project provides a tool for consumers to monitor their usage in real time, enabling them to stay within their water allotments and avoid costly surcharges for excessive use.

II. Project Budget

a. Funding Plan

The non-Federal share of project costs will be obtained from the CCSD’s enterprise fund for the Water Department. Conservation efforts, including rebate programs and giveaways, are regularly budgeted each year. The funds are available for immediate disbursement.

Table 1 Funding Plan

Account No.	Account Description	2019/2020 Budget	2019/2020 Actual	2019/2020 Balance Available
6611	Rebate Program	\$7,725	\$0	\$7,725

b. Budget Proposal

Table 2 Total Project Cost

Source	Amount
Costs to be reimbursed with the requested Federal Funding	\$7,500
Costs to be paid by applicant	\$7,500
Value of third-party contributions	\$0
TOTAL PROJECT COST	\$15,000

Table 3 Budget Proposal

Budget Item	Computation		Quantity Type	Total Cost
	\$/Unit	Quantity		
Salaries & Wages				
N/A	-	-	-	-
Fringe Benefits				
N/A	-	-	-	-
Contractual				
Rebate Funds	\$150	100	Each	\$15,000
Total Estimated Project Costs				\$15,000

c. Budget Narrative

Salaries & Wages: Because conservation program coordination is a regular part of the Management Analyst’s (Project Manager) job duties, salary and benefits are not included in the budget proposal. All other labor costs are included within the contractual agreement with Flume.

No labor costs for reporting or compliance are anticipated.

No travel costs are anticipated.

No equipment costs are anticipated.

No materials and supplies costs are anticipated.

Contractual: A consultant services agreement will be in place with Flume for the Intelligent Leak Detection Project. Flume will set up and administer a co-branded website at flumetech.com/ccsd. CCSD customers will be directed to this site where they can purchase their discounted Flume systems. Before the launch of the program, Flume will host periodic meetings with the Project Manager regarding the design of the site and other program related details. Flume will provide all customer support for the end-user customers. Flume will exercise due diligence to verify any suspicious orders with the Project Manager before they are fulfilled. This will help prevent non-CCSD customers from ordering systems through the project landing page. Flume will ship systems directly to the customers. Flume will provide a no-cost return option for customers who are unable to install their systems after contacting Flume support. Flume will provide the CCSD with a complete list of their customers who have a Flume system upon request. Flume may also market the CCSD program via digital marketing and other means.

No third-party in-kind contributions are anticipated.

No environmental and regulatory compliance costs are anticipated.

III. Environmental and Cultural Resource Compliance

There are no known environmental or cultural resource compliance issues associated with this project.

IV. Required Permits or Approvals

There are no known required permits or approvals for this project.

V. Official Resolution

Due to the timing of the CCSD's regularly scheduled Board of Directors meetings, a fully executed resolution could not be obtained by the application due date. The Board of Directors will be presented with the official resolution at the March 12, 2020 regular meeting. Once executed, it will be submitted within the 30-day window following the application deadline.

RESOLUTION 08-2020

March 12, 2020

A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE CAMBRIA COMMUNITY SERVICES DISTRICT (CCSD)
AUTHORIZING AN APPLICATION FOR A WATERSMART GRANT

WHEREAS, the United States Department of the Interior's Bureau of Reclamation has made funding available through the WaterSMART Grant: Small-Scale Water Efficiency Projects; and

WHEREAS, procedures established by the Bureau of Reclamation require the Applicant's Governing Body to certify by resolution the approval of the Application before submission or within 30 days of application to the Bureau; and

WHEREAS, due to the grant application deadline and the timing of the CCSD's regularly scheduled Board of Directors meetings, a Grant Application was necessarily submitted by CCSD staff on March 3, 2020 without a fully executed resolution. Accordingly, the Board of Directors is now being presented with this Resolution for consideration and adoption, to be submitted within the 30-day window following the application deadline; and

WHEREAS, if awarded the Water SMART Grant, the CCSD will enter into a Funding Agreement with the U.S. Department of the Interior's Bureau of Reclamation for the project.

NOW, THEREFORE BE IT RESOLVED by the Board of Directors of the Cambria Community Services District as follows:

1. The filing of an Application for federal assistance funds from the Bureau of Reclamation for the Small-Scale Water Efficiency Project, a copy of which is attached hereto as Exhibit A and incorporated herein by reference, is hereby approved; and
2. The Board of Directors hereby certifies the Applicant District has sufficient funds to operate and maintain the project; and
3. The Board of Directors hereby certifies it has reviewed, understands, and supports the Application submitted; and
4. The Board of Directors hereby certifies that the Applicant District will work with the Bureau of Reclamation to meet established deadlines for entering into a grant or cooperative agreement; and

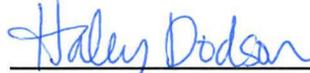
5. Hereby designates the General Manager as the official with legal authority to enter into the grant to cooperative agreement.

Resolution 08-2020 was adopted at a Regular Meeting of the Board of Directors of the Cambria Community Services District on March 12, 2020.



Harry Farmer
President, Board of Directors

ATTEST:



Haley Dodson
Deputy District Clerk

APPROVED AS TO FORM:



Timothy J. Carmel
District Counsel