PART A
COVER PAGE

1) Specify:

XXX Agricultural Project
XXX Individual Application

2) PROJECT TITLE: Water Metering

3) APPLICANT: Stockton East Water District

4) Contact: Jeanette Thomas, Assistant General Manager

5) ADDRESS: P.O. Box 5157, Stockton, CA 95205-0157

6) PHONE: (209) 948-0333

7) FAX NUMBER: (209) 948-4219

8) E-MAIL: jrthomas76@hotmail.com

9) Funds Requested: $108,133.00

10) Applicant cost share: $35,746.00

11) Duration: 07/01 to 07/02

12) State Assembly and Senate districts and Congressional districts where the project is being conducted: The 10th State Assembly District, State Senate Assembly District 7 and District 12, Congressional District Number 11.

13) Location and Geographic Boundaries of the Project: The project is located in the eastern portion of San Joaquin County.

14) Name and Signatures of official representing the applicant.

Jeanette Thomas 2/15/01
Printed name of applicant Date

Michael J. Stephens for Jeanette Thomas
Signature of applicant

WATER USE EFFICIENCY PROGRAM
DEPARTMENT OF WATER RESOURCES

Request for Proposal

For

Water Use Efficiency Projects

METERING OF AGRICULTURAL WATER
EAST SAN JOAQUIN COUNTY, CALIFORNIA

February 15, 2001

Prepared by

STOCKTON EAST WATER DISTRICT
6767 East Main Street
P.O. Box 5157
Stockton, California 95205
(209) 948-0333

And

ENTRIX
2601 Fair Oaks Boulevard, Suite 200
Sacramento, CA 95864

PART A
COVER PAGE

1) Specify:

XXX Agricultural Project
XXX Individual Application

2) PROJECT TITLE: Water Metering

3) APPLICANT: Stockton East Water District

4) Contact: Jeanette Thomas, Assistant General Manager

5) ADDRESS: P.O. Box 5157, Stockton, CA 95205-0157

6) PHONE: (209) 948-0333

7) FAX NUMBER: (209) 948-4219

8) E-MAIL: jrthomas76@hotmail.com

9) Funds Requested: $108,133.00

10) Applicant cost share: $35,746.00

11) Duration: 07/01 to 07/02

12) State Assembly and Senate districts and Congressional districts where the project is being conducted: The 10th State Assembly District, State Senate Assembly District 7 and District 12, Congressional District Number 11.

13) Location and Geographic Boundaries of the Project: The project is located in the eastern portion of San Joaquin County.

14) Name and Signatures of official representing the applicant.

Jeanette Thomas
Printed name of applicant Date

Signature of applicant

SCOPE OF WORK

EXECUTIVE SUMMARY:

There are 22 agricultural surface water pumps at 15 locations in Eastern San Joaquin County that are currently not metered. Water use from these pumps is currently estimated based on the acreage that is farmed. Approximately 2.8 Acre Feet (AF) of water is estimated as used for each acre of agricultural land. The 22 non-metered pumps service approximately 1,500 acres of agricultural land. Based on this estimate, 4,200 AF of water per year is used. It is currently believed that this is a low estimate and that significantly higher volumes of water are actually being used. As part of the Stockton East Water District Water Conservation Plan, Stockton East Water District (SEWD) has been requested by the US Bureau of Reclamation (USBR) to install water meters on all agricultural pumps (175 total) serviced by the District. The District has installed or currently has plans to install all but 22 of the 175 water agricultural pump meters. Because of unfavorable piping configuration and/or pump locations, water meters cannot be installed on the remaining 22 water pumps. In order to install water meters on the remaining 22 water pumps, their locations and piping configuration will need to be changed.

STATEMENT OF CRITICAL ISSUES

Agricultural water pumps and associated piping were historically installed without meters, and designed without future metering needs in mind. This has resulted in a situation at 22 agricultural pumps where a water meter cannot be installed without the reconfiguration of piping or the relocation of the pump. Currently, only an estimate can be made of the amount of water that is pumped by agricultural users from these 22 surface water pumps. An estimate of 2.8 AF of water per acre of agricultural land is used. Water use estimates by agricultural land acreage provides no incentive for agricultural users to practice water conservation. In order to implement and monitor water conservation practices and methods, metering must be conducted. In order for SEWD to comply with the USBR New Hogan Water Master Plan, water meters must be installed on all agricultural pumps that are currently in use in the SEWD service area. Attachment A presents the locations of the proposed agricultural water meter installations.

NATURE, SCOPE, AND OBJECTIVES OF PROJECT

The objective of this project is to conserve agricultural water, which will increase available water in the Calaveras River. The installation of water meters can result in water conservation by making the user aware of the exact amount of water that is being used. Water meters will also provide for the ability to implement quantifiable water conservation measures. Completed quantifiable objectives of this project for Sub-Region 8 include:

- Number 66 - Provide flow to improve aquatic ecosystem conditions on the Calaveras River.

- Number 71 - Decrease nonproductive ET to increase water supply for beneficial uses.

Increased flow on the Calaveras River will be realized, resulting from water conservation measures that will be introduced at the locations proposed for water meter installations.

METHODS AND PROCEDURES

Water meters and associated piping required to allow the proper installation of the water meters will be installed at agricultural pumps that currently are not metered. In some instances, the locations of the water pumps will be moved to facilitate installation of the new piping and meters. In order to provide laminar flow to the water meters, a minimum length of five feet of piping is required between the water pump and the water meter. A shorter length of piping may result in turbulent flow entering the water meter and subsequent erroneous water metering results. Excavation of some piping will be required because of inadequate pipe length for meter installation and because of the tendency of PVC piping to become oval in shape when buried. The oval shape of the pipe does not allow a water meter to be installed in the pipe section.

The duel use of surface and groundwater in common piping by agricultural users also presents metering difficulties. Because only surface water is required to be metered, piping must be split from the surface water source and the ground water source in order to provide an accurate accounting of surface water usage.

Attachment B presents photographs of the pumps and associated piping. A total of 22 water meters will be installed on 22 water pumps at 15 agricultural locations.

Permitting.

It is not currently anticipated that permits will be required. However, to ensure that the project is in compliance with all permitting requirements, a review of all actions to be taken, as part of the meter installation at each location will be assessed to ensure that permit requirements are identified and obtained if required.

Engineering Design and Services

Design plans and specifications will be prepared for each of the new meters prior to construction and installation. Materials that will be used include 24” and 36” meter extensions, water meters, and piping.

SCHEDULE

Attachment C presents the proposed schedule with tasks, delivery items, due dates, and projected costs for each task. Also included is a quarterly expenditure projection.

MONITORING AND ASSESSMENT

Following the installation of the meters, SEWD will record water use on a monthly basis. This information will then be available for monitoring water use, assessments of water conservation practices, and used for regional water use planning. The information will be incorporated into the Water Districts Water Conservation Plan. A comparison will be made between the 2.8 AF of water per acre that was assumed usage prior to the installation of meters, and the actual metering quantities to determine the percentage of water that was saved as the result of the meter installation and total water quantities that were saved. Water meters will be monitored during conservation efforts to determine the success of the conservation efforts.

C. OUTREACH, COMMUNITY INVOLVEMENT, AND INFORMATION TRANSFER

OUTREACH EFFORTS

Training, Employment, and Capacity Building

A Delta College engineering student is currently conducting an internship with SEWD. This student will assist in engineering services and construction oversight of the proposed project. Approximately three full time SEWD employees will participate in the project in some capacity.

Information Transfer

Water metering information from this project will be made available to interested parties. Interested parties could require this information for the development of regional water use and conservation plans, watershed planning on the Calaveras River, and water usage assessments related to agriculture.

Information obtained from this project will be transferred on an as needed basis.

Notification to Other Interested Parties

Because SEWD is the project proponent, and land use entities involved are part of the District, no other interested parties are directly involved in this project. The District passed an ordinance in 1998 requiring all agricultural pumps to be metered.

D. APPLICANT QUALIFICATIONS

The project applicant is SEWD, a major water supplier in San Joaquin County. The project manager will be Ms. Jeanette Thomas, SEWD Assistant General Manager.

Ms. Thomas received her BS from the University of California, Davis. For the past 19 years, Ms. Thomas has worked for Stockton East Water District (SEWD). She has held positions of increasing responsibilities - Laboratory Technician, Laboratory Technician II, and Water Quality Supervisor. Currently, her position is Assistant General Manager.

In addition since 1993, she has held the position of Water Conservation Coordinator for the District. She has been implementing the Water Conservation Plan, prepared for USBR in response to the Central Valley Improvement Act of 1992, since it was approved in 1996. She has been in charge of the meter installation program for the District.

As Water Quality Supervisor and Assistant General Manager she has been the project manager or administrator for numerous projects. The following are examples: Calaveras/Stanislaus River Sanitary Survey, Calaveras River Watershed Management Plan, Urban Water Management Plan, 205(j) Groundwater Quality Study, Groundwater Quality Management Strategies for East San Joaquin County, and FEMA Storm Disaster Repairs.

E. COSTS AND BENEFITS

BUDGET SUMMARY

	Total Budget	Match Share	Grant Share
1. Personnel Services	$00.00	$00.00	$00.00
2. Operating Expenses	$00.00	$00.00	$00.00
3. Materials	$48,025.00	$25,350.00	$22,675.00
a. Equipment	$0.00	$0.00	$0.00
b. Furniture	$0.00	$0.00	$0.00
c. Portable assets	$0.00	$0.00	$0.00
d. Electronic data	$0.00	$0.00	$0.00
e. Processing equip.	$0.00	$0.00	$0.00
f. Other	$0.00	$0.00	$0.00
4. Engineering Services	$38,104.00	$4,140.00	$33,964.00
5. Construction Expenses	$57,750.00	$6,256.00	$51,494.00
6. Permits	$0.00	$0.00	$0.00
7. Overhead (%)	$00.00	$00.00	$000.00
TOTAL BUDGET	$143,879.00	$35,746.00	$108,133.00

Budget Justification

A breakdown of specific budget items is presented in Attachment D. SEWD personnel at each of the proposed meter installation locations conducted a careful review of labor, material, and design needs. Engineering and construction services that will be required as part of this project were estimated based on similar projects that have been conducted.

BENEFITS SUMMARY

Quantifiable Benefits

Quantifiable benefits for this project will be realized once the water meters are installed. Quantifiable benefits will be precise figures on water usage that can be applied to water conservation applications. The quantity of water from these measures cannot be determined at this time. However, the installation of meters as a water conservation measure has resulted in water savings of up to 42% at other locations in California. Installation of the water meters will also facilitate the use of other water conservation practices that can not be quantified at this time.

Non-Quantifiable Benefits

Water savings will occur as a result of this project. This will result in an increase in the availability of water for down-stream users in the Delta, including fish and wildlife. Water conservation practices that will be implemented as the result of the ability to monitor water usage are not quantifiable at this time.

Assessment of Cost and Benefits

A realization of savings of water by installing water meters of up to 42% has occurred in some locations in California. Approximately 1,500 acres of agricultural land is currently serviced by the 22 pumps that meters will be installed. Given a current monetary value for water of $15 per AF, an assumed current use of 2.8 AF of water per acre, and a total projected project cost of approximately $144,000, approximately 9,600 AF of water will need to be saved in order to make this project cost effective. If current water use is estimated at 4,200 AF per year, and water consumption can be reduced by 42%, then current water use could be reduced by a total of
1,764 AF of water per year. This would equal cost savings of $26,460 per year. With the proposed project costing approximately $144,000, the initial cost benefit of the project could be realized in less than 6 years. However, the main purpose of the installation of the water meters is to be able to monitor other water conservation efforts, therefore the total benefit that could be realized by implementation of the project could be greater.

ATTACHMENT A

SITE LOCATION FIGURE

PROPOSED METER INSTALLATION LOCATIONS

ATTACHMENT B

PHOTOGRAPHS OF PROPOSED METER INSTALLATIONS

ATTACHMENT C

PROPOSED SCHEDULE

ATTACHMENT D

PROPOSED COST ESTIMATE