

DEPARTMENT: Public Works

By: Michael Edwards Phone: 966-5356
Director

RECOMMENDED ACTION AND JUSTIFICATION: (Policy Item: Yes___ No X)

Resolution authorizing purchase of water supply tank control system components for the Coulterville service area.

Multiple components of the existing water supply tank control system have failed over several years and are in need of replacement to restore design operational capabilities. None of the components required to repair the control system exceed \$3,000. Therefore, the County's policy for the purchase by informal bid process applies.

The existing control system is comprised of multiple mercury floats, multiple relays, transformers and other components. Most of the components have damage typically caused by voltage surge and lightning. This has occurred over a period of several years. Considerable expense is now being incurred by the district to constantly repair the system.

The two least-expensive repair options are:

Option 1:

Similar replacement components to restore this system to full functionality at an estimated cost of \$3,500. Estimated savings in average monthly labor would be \$240.

Electrical voltage/current surge and lightning protection against future damage is estimated at \$250.

The total estimated cost of Option 1 is \$3,750. The total payback period on this repair investment is approximately 15 months. This option is not recommended as the components are of dated technology, not as reliable and has a longer payback than Option 2.

Option 2:

Public Works recommends replacing the existing control system with components of current technology. These components include:

One sonic level transmitter: Replaces multiple floats and wires; no maintenance required after installation and is currently in use throughout the water and wastewater industry. Cost is \$950.

One MM4300A wide-ranging DC-to-DC isolated transmitter: Boosts signal from sonic transmitter, eliminates ground loops and common mode signals for voltage/current scaling or conversion, isolation, buffering and noise reduction. Cost is \$225.

One 24-VDC power supply: Provides power to the sonic transmitter. Cost is \$105.

One Programmable Logic Controller (PLC): Represents multiple interlocking components. Receives input from level transmitter and water pump and electric power source then generates output to operate, monitor and protect water well pump while maintaining appropriate water tank levels according to instruction. Enables the water pump to be operated according to time of use (during

most efficient (PG&E rate). The operation of the system can be monitored and altered from a remote location via modem. Restarts automatically after power failure. Has expandable capabilities to operate water treatment equipment, monitor water well level and production and operate energy-efficient motor starting equipment. Cost is \$2,400.

Soft start and interface: Energy-efficient motor-starting equipment. Estimated energy savings \$50 per month. Cost is \$945.

The cost for electrical voltage/current surge and lightning protection is estimated at \$250.

The total estimated cost of the recommended control system is \$4,875. Monthly PG&E savings would be approximately \$125. Estimated savings in average monthly labor would be \$750, for a total estimated savings average monthly cost to the district of \$925. The total payback period on repair investment is approximately five months with the added benefit of continued PG&E savings.

The system would be installed by Facilities Maintenance personnel and installation labor funded from the district operations budget.

BACKGROUND AND HISTORY OF BOARD ACTIONS:

The Board recently approved the purchase and installation of a new water well pump and components for Coulterville. The pump and related components have been installed and are functional. Longevity of the installed pump may be compromised by PG&E power supply problems. PG&E has been notified and is working on the problem.

LIST ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

1. No action. Continued decrease in longevity of the new water well pump and no cost savings in operations and maintenance by the special district.
2. Select Option 1. This would cost the district less in the very short term, but considerably more in the long term.

<p>COSTS: () Not Applicable</p> <p>A. Budgeted current FY \$-0- B. Total anticipated costs \$4,875 C. Required additional funding \$-0- D. Internal transfers \$4,875</p> <p>SOURCE: (X) 4/5th Vote Required</p> <p>A. Unanticipated revenues \$ _____ B. Reserve for contingencies \$ _____ C. Source description: Utility Capital Balance in Reserve Contingencies, if approved: \$ _____</p>	<p>SPECIAL INSTRUCTIONS: List the attachments and number the pages consecutively:</p> <p>1. Budget Action _____ _____ _____</p>
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<p>CLERK'S USE ONLY</p> <p>Res. No.: <u>95-344</u> Ord. No. _____ Vote - Ayes: <u>5</u> Noes: _____ Absent: _____ Abstained: _____ <input checked="" type="checkbox"/> Approved () Denied <input type="checkbox"/> Minute Order Attached () No Action Necessary</p> <p>The foregoing instrument is a correct copy of the original on file in this office. Date: _____ ATTEST: MARGIE WILLIAMS, Clerk of the Board County of Mariposa, State of California By: _____ Deputy</p>	<p>ADMINISTRATIVE OFFICER'S RECOMMENDATION: This item of agenda as:</p> <p><input checked="" type="checkbox"/> Recommended <input type="checkbox"/> Not Recommended <input type="checkbox"/> For Policy Determination <input type="checkbox"/> Submitted with Comment <input type="checkbox"/> Returned for Further Action</p> <p>Comment: _____ _____ A.O. Initials: <u> <i>W</i> </u></p>
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COUNTY OF
MARIPOSA

BUDGET ACTION FORM

DEPT/DIV: Public Works

CONTACT: Michael D. Edwards

DATE: June 30, 1995

PHONE: 966-5356

ACTION REQUESTED: (Check All That Apply)

- Budget appropriation by Board of Supervisors (4/5ths Vote Required): Amending the total amount available in the County Budget, or in any one fund of the budget, or appropriating Reserve for Contingencies;
- Transfer by Board of Supervisors (3/5ths Vote Required): Moving existing appropriation from one budget to another, or between categories within a budget unit;
- Transfer by Administrator: Moving existing appropriations within a single budget category between line items (i.e. services and supplies, etc.);
- Transfer by Auditor: Moving salaries between line items to accommodate variances internal to salaries; OR transfers within the County budget under \$50.00 to accommodate minor variations from the budget.

<u>FUND/DEPT/ACCT NO.</u>	<u>LINE ITEM DESCRIPTION</u>	<u>AMOUNT (FROM)/TO</u>
361-1400-820-0787	Coulterville U.C. Transfer Out	\$4,875
061-0903-309-1600	Coulterville Transfer In	\$4,875
061-0903-309-1600	Coulterville Transfer In	\$4,875
061-0903-852-0679	Water Tank Control System	\$4,875

Justification: See attached Board item.

Department Head Signature:  Date: 6/30/95

Approved By: Res. No. 95-344 Clerk: ms Date: 7-18-95

Administrator: _____ Date: _____

Auditor: _____ Date: _____

AUDITOR'S USE ONLY:

Description: _____ Transfer No.: _____

_____ B.R. No.: _____