

2004 Water Use Efficiency Proposal Solicitation Package

APPENDIX A: Project Information Form

Applying for:

Urban

Agricultural

1. (Section A) **Urban or Agricultural Water Use Efficiency Implementation Project**

(a) implementation of Urban Best Management Practice, # 1 and 2

(b) implementation of Agricultural Efficient Water Management Practice, # _____

(c) implementation of other projects to meet California Bay-Delta Program objectives, Targeted Benefit # or Quantifiable Objective #, if applicable

(d) Specify other: _____

2. (Section B) **Urban or Agricultural Research and Development; Feasibility Studies, Pilot, or Demonstration Projects; Training, Education or Public Information; Technical Assistance**

(e) research and development, feasibility studies, pilot, or demonstration projects

(f) training, education or public information programs with statewide application

(g) technical assistance

(h) other

3. Principal applicant
(Organization or affiliation):

Los Angeles County Waterworks Districts

4. Project Title:

Residential Water Use Audits Program

5. Person authorized to sign and submit proposal and contract:

Name, title

Manuel Del Real,
Assistant Deputy Director

Mailing address

Los Angeles County
Waterworks Districts.

P.O. Box 1460

Telephone

Alhambra, CA 91802-1460

Fax.

(626) 300-3300

E-mail

(626) 300-3385

mreal@ladpw.org

6. Contact person (if different):	Name, title.	David Rydman Associate Civil Engineer
	Mailing address.	Los Angeles County Waterworks Districts P.O. Box 1460
	Telephone	Alhambra, CA 91802-1460
	Fax.	(626) 300-3351
	E-mail	(626) 300-3385 drydman@ladpw.org

7. Grant funds requested (dollar amount): <i>(from Table C-1, column VI)</i>	\$773,279
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8. Applicant funds pledged (dollar amount):	\$627,103
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9. Total project costs (dollar amount): <i>(from Table C-1, column IV, row n)</i>	\$1,445,382
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10. Percent of State share requested (%) <i>(from Table C-1)</i>	53%
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11. Percent of local share as match (%) <i>(from Table C-1)</i>	47%
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12. Is your project locally cost effective? <i>Locally cost effective means that the benefits to an entity (in dollar terms) of implementing a program exceed the costs of that program within the boundaries of that entity.</i> <i>(If yes, provide information that the project in addition to Bay-Delta benefit meets one of the following conditions: broad transferable benefits, overcome implementation barriers, or accelerate implementation.)</i>	<input type="checkbox"/> (a) yes <input checked="" type="checkbox"/> (b) no
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11. Is your project required by regulation, law or contract? (a) yes
 If no, your project is eligible. (b) no
- If yes, your project may be eligible only if there will be accelerated implementation to fulfill a future requirement and is not currently required.

Provide a description of the regulation, law or contract and an explanation of why the project is not currently required.

The Districts are signatories to the California Urban Water Conservation Council. This project is consistent with the goals outlined in the voluntary MOU.

- | | |
|---|-----------------------------------|
| 12. Duration of project (month/year to month/year): | <u>Spring 2005 to Spring 2009</u> |
| 13. State Assembly District where the project is to be conducted: | <u>36, 37, 38, 41, 53</u> |
| 14. State Senate District where the project is to be conducted: | <u>20, 23, 17, 17, 17, 28</u> |
| 15. Congressional district(s) where the project is to be conducted: | <u>24, 25, 26, 27, 36</u> |
| 16. County where the project is to be conducted: | <u>Los Angeles</u> |
| 17. Location of project (longitude and latitude) | <u>34°, -117°</u> |
| 18. How many service connections in your service area (urban)? | <u>50,000</u> |
| 19. How many acre-feet of water per year does your agency serve? | <u>63,000</u> |
20. Type of applicant (select one):
- (a) City
 - (b) County
 - (c) City and County
 - (d) Joint Powers Authority
 - (e) Public Water District
 - (f) Tribe
 - (g) Non Profit Organization
 - (h) University, College
 - (i) State Agency
 - (j) Federal Agency

(k) Other

(i) Investor-Owned Utility

(ii) Incorporated Mutual Water Co.

(iii) Specify _____

21. Is applicant a disadvantaged community? If 'yes' include annual median household income.
(Provide supporting documentation.)

(a) yes, \$38,471-Region 38 and \$36,662-Region 35 median household income (DISTRICT 40. See attached Census Tract Maps.)

(b) no

2004 Water Use Efficiency Proposal Solicitation Package
APPENDIX B: Signature Page

By signing below, the official declares the following:

The truthfulness of all representations in the proposal;

The individual signing the form has the legal authority to submit the proposal on behalf of the applicant;

There is no pending litigation that may impact the financial condition of the applicant or its ability to complete the proposed project;

The individual signing the form read and understood the conflict of interest and confidentiality section and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant;

The applicant will comply with all terms and conditions identified in this PSP if selected for funding; and

The applicant has legal authority to enter into a contract with the State.

Signature

Name and title

Date

STATEMENT OF WORK, SECTION 1: Relevance and Importance

INTRODUCTION

The Los Angeles County Waterworks Districts (Districts) propose to conduct a Residential Water Use Audits Program to increase water use efficiency and reduce wasteful water usage throughout the Districts' service area.

The Districts are the primary water retailer to five water districts within Los Angeles County, including 1) Kagel Canyon (District 21), 2) the City of Malibu, Topanga Canyon and the Marina Del Rey Water System (District 29), 3) Val Verde (District 36), 4) Acton (District 37), and 5) the Antelope Valley (District 40) See Map 1 for a location of Districts. These Districts, which provide potable water to about 150,000 people, use a combination of approximately 25 percent local groundwater for Districts 21, 36, 37, and 40 and imported water supplies from the State Water Project. District 29 uses 100 percent imported water.

GOALS AND OBJECTIVES OF PROJECT

The goal of this project is to reduce water use by 2,470 acre-feet over ten years. This assumes the average resident occupies a home for ten years. To meet this goal, the Districts will conduct residential water use audits for 20 percent of single-family and multi-family residential homes. The following is the estimated number of audits to be conducted by district:

- District No. 21: 48 audits
- District No. 29: 1358 audits
- District No. 36: 151 audits
- District No. 37: 189 audits
- District No. 40: 7,078 audits

This is a voluntary program, which will be marketed to all customers through advertisements on water bills, a quarterly newsletter, and the official Waterworks Districts Website <http://ladpw.org/wwd/conservation>. Excessive water users, identified through the Districts' water billing system, will be contacted directly by phone and mail.

A trained water use auditor will schedule a visit to each customer that requests an audit. The auditor will visit the home and will identify all indoor and outdoor water use with the customer, including bathroom, kitchen, laundry, irrigation, and swimming pool use. All data collected during each residential water use audit will be input into a database. The Districts will provide each customer with a report within one week after the audit. See Exhibit 1 for sample report. This report will describe the customer's water usage, suggest specific recommendations to increase water use efficiency, and calculate monthly and annual water and cost savings associated with each recommendation. Recommendations will include, but not be limited to:

- Installing low flow faucet aerators on bathroom and kitchen fixtures;

- Installing ultra low flush toilets, high efficiency washing machines, and high efficiency dishwashing machines;
- Turning the water off while not in use and installing hardware that will assist with this recommendation, including showerheads and hose nozzles with shut-off valves;
- Loading the dishwasher and washing machine with full loads, resulting in less loads per week;
- Demonstrating methods to identify and fix leaks for faucets, showerheads, toilets, hoses and sprinkler heads;
- Using a pool cover to prevent evaporation and minimize heating costs;
- Reducing the watering cycle on irrigation schedules;
- Adjusting irrigation schedules for seasonal conditions;
- Recommending more water efficient landscaping, such as native plants and rock gardens; and
- Sweeping driveways and sidewalks instead of hosing them down.

The Districts will track the changes in water use on a monthly basis for one year following each audit. Follow-up phone calls will be made to customers who do not exhibit a decrease in water use. If necessary, an additional assessment of water use will be conducted and discussed with the customer.

CONSISTENCY WITH CALFED PROGRAM ELEMENTS

If funded, this program will indirectly reduce demand on the San Francisco Bay/Sacramento-San Joaquin Delta (Bay Delta) estuary by reducing the Districts' demand on the State Water Project (SWP), a tributary of the Bay Delta. The Districts utilize two sources of water supply, groundwater and imported water drawn from the SWP. Because the Districts use a fixed amount of groundwater each year, any reduction in water use will result in a decreased demand on imported water from the SWP.

The proposed Residential Water Use Audits Program will increase water use efficiency and promote water conservation. Water conservation and water use efficiency are interrelated and interdependent with all aspects of the CALFED Bay-Delta Program. The goal of this program is to reduce water use by 247 acre-feet per year throughout the Districts' service area, thereby reducing the Districts' demand on the SWP.

NEED FOR THE PROJECT

The Districts serve some of the fastest growing areas in Los Angeles County. Since both the Districts' imported water and groundwater supplies are limited, there is a critical need for this project. Conserving water is critical in order to meet the growing demands associated with population growth.

The Districts' largest service area is District 40 within the Antelope Valley, which has a high desert climate. According to the Southern California Association of Governments, the population of the Antelope Valley is expected to more than double in the next 20 years. The Districts' water use data demonstrates many residents living in the Antelope

Valley use significantly more water than the average use for these desert areas. In addition to the Districts' quarterly newsletter, official website, public events, and printed messages on customer water bills, District 40 has used radio advertisements to promote water conservation. To expand these efforts, we believe the only effective way to stimulate efficient water use is through in-person contact, reaching customers in their homes where they are using the water. The Districts plan to accomplish this goal through the proposed Residential Water Use Audits Program. As more people move into the desert areas, it is imperative that they understand how to use water efficiently in order to conserve the supply of both groundwater and imported water.

The Districts also serve a large portion of residential customers that are supplied entirely with imported water. These customers, served by District 29, are highly motivated about protecting the environment due to their close proximity to the Santa Monica Bay. State regulations in the form of Total Maximum Daily Load (TMDL) requirements and the National Pollutant Discharge Elimination System (NPDES) Permit require nuisance dry weather flows in storm drains to be treated prior to reaching the ocean. Field investigations have revealed that much of these nuisance flows result from residential over-irrigating.

By investing time and resources in face-to-face water audits with the residents that either over irrigate or use excessive amounts of water, the Districts will promote the importance of efficient water use by helping residents a) recognize how wasting water negatively affects the environment, b) understand the behavioral adjustments they can make to use water more efficiently, and c) recommend tools and methods that will result in water conservation. We anticipate that the implementation of the Residential Water Use Audits Program will help eliminate dry weather nuisance flows in the storm drains and reduce water demand, thereby improving the local and Bay Delta environment.

CONSISTENCY WITH WATER MANAGEMENT PLANS

The Districts are signatories to the California Urban Water Conservation Council (CUWCC) Memorandum of Understanding (MOU). The purpose of the MOU is to expedite implementation of reasonable water conservation measures in urban areas to conserve water, which could be used for the protection of streams, wetlands and estuaries and/or urban water supply reliability.

One primary responsibility of the signatories is to implement water conservation best management practices (BMP) set forth by the CUWCC. Signatories also submit BMP reports annually. The CUWCC defines a BMP as "an established and generally accepted practice among water suppliers that results in more efficient use or conservation of water." This project is "BMP 1" in the CUWCC MOU.

Urban Water Management Plans (UWMP) are a requirement by the California Urban Water Management Planning Act of 1984. The Act requires urban water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to prepare and adopt an UWMP. The UWMP,

which must be updated at least once every five years, must address water supply, use, reliability, shortage, recycling, and other water related issues over 20 years.

- The *2000 Urban Water Management Plan for Los Angeles County Waterworks District 29* was prepared solely by the Districts for the Malibu, Topanga and Marina Del Rey water systems. This plan addresses the above mentioned requirements and discusses the need for water conservation due to District 29's total reliability on imported water. This plan discusses the District's commitment to implement water conservation best management practices as outlined in the CUWCC MOU described above. The updated *2005 UWMP for Los Angeles County Waterworks District 29* will be closely coordinated with our water wholesaler, West Basin Municipal Water District, to ensure coordinated plans regarding water conservation and water demand management.
- The *2000 Urban Water Management Plan Los Angeles County Waterworks District 40* was prepared solely by the Districts for the District 40 service area. This plan addresses the above-mentioned requirements and identifies water conservation as a primary method to ensure water supply reliability. Implementation of water conservation best management practices by satisfying the requirements of the CUWCC MOU "increases the Districts' commitment toward implementing water conservation projects to prepare the service area for potential water shortages." The Residential Water Use Audits Program is consistent with our commitment.
- The updated *2005 Integrated Urban Water Management Plan for the Antelope Valley*, which has not yet been adopted, is being developed. This UWMP will be unique compared to previous plans in that it will serve as the UWMP for several agencies, including Los Angeles County Waterworks District 40, the Quartz Hill Water District, the Littlerock Creek Irrigation District, the Rosamond Community Services District, the Antelope Valley East Kern Agency, and the County Sanitation Districts of Los Angeles County for the entire Antelope Valley. See Map 2 for a map of District 40 and unofficial boundaries of the entire Antelope Valley. The Districts will work closely with the above agencies to develop the *2005 Integrated UWMP for the Antelope Valley* to incorporate water conservation and water use efficiency as important strategies for water demand management measures and water supply reliability. In addition to water conservation, this joint effort will address, but not be limited to, aquifer storage and recovery, in-lieu groundwater recharge, and the distribution of recycled water.

The Residential Water Use Audits Program is consistent with the Districts' goals to address water conservation best management practices.

The *North Santa Monica Bay Watersheds Regional Watersheds Implementation Plan* is still in the development phase. The purpose of the plan will be to identify and implement projects to comply with regulatory requirements related to storm water and urban runoff including, the National Pollutant Discharge Elimination System (NPDES) Permit and Total Maximum Daily Loads (TMDLs). Waterworks District 29 is a stakeholder of the North Santa Monica Bay Watersheds and is a member of the Task

Force responsible for preparing the plan. The Task Force has identified water conservation as an essential component of protecting beneficial uses of water bodies and reducing storm water pollution.

HOW THIS PROJECT WILL FURTHER IMPLEMENT EXISTING WATER MANAGEMENT ACTIVITIES

The Districts are already committed to implementing water conservation and water use efficiency programs. The Districts track and analyze all water use, consumption, and water supply on a monthly basis. Leak detection is an integral part of the Districts operations to locate water use efficiency problems in our systems. In addition, the Districts have many public outreach efforts currently in place, including:

- “Splash” quarterly newsletter
- Radio advertisements
- Public service announcements
- Landscaping brochures
- Kids water conservation activity books
- Water conservation materials distributed at District field offices and public events i.e., toothbrushes with a useful message, “Save Gallons. Turn the water off while brushing your teeth”; hose nozzles with automatic shut-off valves; landscaping moisture sensors; toilet tummies; leak detection dye tablets; and low-flow shower heads with shut off valves .
- Public events such as environmental fairs and garden shows
- Official Waterworks Website linked to the County of Los Angeles environmental resources website www.888CleanLA
- Water conservation messages on 888CleanLA hotline
- District 29 monthly water use banner displayed near Malibu City Hall
- Seasonal news releases
- Public workshops for County of Los Angeles Smart Gardening Program
- Water conservation complaints procedure (field staff coordinates site visit with customers where an over-irrigating complaint has been made).

The Residential Water Use Audits Program will enhance existing public outreach programs by providing more one-on-one interaction with many customers. During audits, customers will be made aware of existing programs and will be encouraged to take advantage of these resources.

STATEMENT OF WORK, SECTION 2: Technical/Scientific Merit/Feasibility

Project Plan

Audits will be conducted for a minimum of 20 percent of single-family and multi-family residential accounts.

Each audit will require a one-hour site visit consisting of personal interaction with customers and collecting data on both indoor and outdoor water use. Each audit will include:

- i. Verifying customer name, address, account number, and phone number;
- ii. Determining the approximate year the residence was constructed;
- iii. Checking for leaks in all toilets, faucets, and spigots by observation, distributing new toilet flappers (provided by the Districts) for leaking toilets, and explaining to customers how to replace washers in faucets and spigots;
- iv. Recording the number of leaks observed at each residence during the audit;
- v. Measuring all showerhead and sink flow rates, and offering to replace or install shower heads or sink aerators with low-flow devices, as appropriate;
- vi. Checking toilet tank volumes and offering to install displacement devices;
- vii. Distributing ULFT and high efficiency washing machine rebate materials and a vendor list to customers with high volume toilets or low efficiency washing machines;
- viii. Obtaining the number of residents, the number of showers taken per week, the average length of showers, and the number of loads of laundry done per week per household;
- ix. Determining whether the resident has a warm season or cool season lawn, the type of soil, and the appropriate application rate to irrigate the lawn;
- x. Observing outdoor irrigation systems to check for sufficient coverage and overspray and checking timers for appropriate watering schedule;
- xi. Measuring total outdoor landscaped area and observing and recording the types of plant material and the area of coverage for each;
- xii. Reviewing or developing customer irrigation schedules and assisting customers in setting their irrigation controllers, stressing the benefits of irrigating in the early morning hours;
- xiii. Entering the information into an electronic form linked to a database that will enable the Districts to estimate each customer's normal monthly water use and total potential water and cost savings. Each customer will be given a report displaying the results for their residence.

PROJECT PLAN, TASK LIST, AND COST

See Exhibit II. The expected program start date is Spring 2005.

Preliminary Plans and Specifications and Certification Statements (for construction projects only)

This is not a construction project.

Environmental Documentation

The proposed program is not subject to the California Environmental Quality Act as the proposed program does not meet the definition of a project and it can be seen with certainty that this program will not result in a direct or reasonably foreseeable indirect physical change in the environment (Public Resources Code Section 21065; Section 15061(b)(3) of the California Environmental Quality Act Guidelines).

STATEMENT OF WORK, SECTION 3: Monitoring and Assessment

The Districts' goal is to reduce residential water use by 2,470 acre feet over ten years by conducting voluntary audits for 20 percent of residential accounts. The 20 percent is based on the baseline year of 1998, a requirement outlined in the CUWCC MOU. As a result of the requirement, 8,776 audits will be conducted. It is assumed based on published data (*Water Use and Water Conservation*, Amy Vickers 2001), that each audit will reduce water use by 25 gallons per day per household. From an analysis based on Districts' records, each household is assumed to contain 3.5 residents. Audits for 20 percent of residential customers is estimated to result in annual water savings of 247 acre feet valued at \$145,597 (see Table C-9). In ten years, the Districts will save 2,470 acre feet of water reducing the demand on the SWP and Bay Delta. When analyzing annual savings, the Districts will consider weather conditions such as temperature and rainfall data for that year, along with population growth. Statistical analysis will be used to report water conservation benefits.

Currently, the Districts track all the water consumption for each customer. Since the data from each audit will be entered into and stored in Microsoft Access and Excel databases, it will be relatively easy for the Districts to compare and track the water usage and reduction for each customer on both a monthly and an annual basis. Staff will be dedicated to tracking this information for one year after the completion of the audit. As part of this project, follow-up phone calls will be made to customers who do not display a decrease in water use; and, if necessary, an additional audit will be conducted to help ensure the overall success. Tracking and analysis are not included in the budget. Only the follow-up phone calls and follow-up audits are built into the Districts' administrative costs.

Information collected as a result of this program will be reported to the Department of Water Resources on a quarterly basis. The data will be available to other interested parties as requested.

QUALIFICATIONS OF THE APPLICANTS AND COOPERATORS

1. Resume of Project Manager (See attached)
2. External Cooperators

The Districts will manage and oversee the program and will hire a consultant to conduct the work. The Districts will follow the County of Los Angeles procedures and guidelines for hiring a consultant. The project will be advertised as an open bid. Interested and qualified consultants will submit proposals to the County. A selection committee consisting of qualified professionals will be established to evaluate the proposals. Proposals will be evaluated based on price, references, and work plan. The proposal with the lowest proposed cost may not necessarily be awarded the contract. Consideration will be given to consultants with the most experience in water conservation projects and water use audit programs and a detailed and relevant work plan. The most qualified consultant will be selected based on the overall evaluation criteria, scoring, and an optional interview.

3. Water Use Efficiency Projects In Which the Applicant Has Participated

No prior grants for water use efficiency projects have been awarded to the Districts. However, the Districts have implemented and are currently conducting many public outreach efforts targeting water conservation and water use efficiency projects as previously noted.

OUTREACH, COMMUNITY INVOLVEMENT, AND ACCEPTANCE

In order to reach our goal of saving 2,470 acre-feet of water over a ten-year period, the Districts will develop the Residential Water Use Audit Program, which will focus on extensive public outreach. Because the program is voluntary, the Districts will advertise optional participation in the program through flyers distributed with customer water bills, on a message line printed on the water bills, the Districts' quarterly newsletter, radio announcements, press releases, and posting on the official Waterworks Districts Website. The Districts will encourage customers to join this effort by offering free water conservation kits in return for their participation. Typical cost savings will also be published in order to peak interest.

Once the customers agree to participate in the program, they will be visited in their homes and given in-person training on water conservation and water efficiency tools and methods that can be undertaken on an individual basis. In addition, each customer will be informed of the direct economic benefits they will receive by implementing water efficiency practices and how their individual actions impact the environment.

The Districts will continue to work closely with other agencies to meet water conservation goals and objectives set by the community. Staff from the Districts will discuss this program opportunity at meetings with watershed groups, such as the North

Santa Monica Bay Task Force. The Districts may attend community meetings if needed.

The attached letters of support demonstrate the Districts' ongoing efforts to promote water conservation and water use efficiency to the community. Letters of support were provided by City of Malibu, Resource Conservation District of the Santa Monica Mountains, Las Virgenes Municipal Water District, Antelope Valley East Kern Water Agency, and the City of Lancaster. These letters demonstrate our consistency with other agencies' efforts.

INNOVATION

Innovation takes many forms. First, this program is innovative to the Los Angeles County Waterworks Districts because no similar program has been implemented in any of our Districts service areas.

Second, and more importantly, the program is innovative since it will change the way of thinking of thousands of Districts' customers. There will a shift in personal priorities among our customers. Water conservation and water use efficiency will become as second nature as recycling. Common practices of over-irrigation, leaving the water on while not in use, (e.g. washing dishes and sudsing in the shower) will diminish. Water conservation practices and water efficiency hardware not used or thought of before will be commonplace. Some of the technology that will be provided will include:

- Dye tablets
- Hose nozzles
- Low flow faucet aerators
- Low-flow shower heads with shut off valves
- New toilet flappers
- Toilet displacement bags
- Moisture sensors

In addition to traditional water conservation items, the Districts will offer information on more innovative technology, available water conservation techniques, and water conservation programs, including:

- Evapotranspiration controllers for irrigation
- Ultra low-flow toilets (including rebate programs)
- High efficiency washing machines (including rebate programs)
- Native landscaping and Smart Gardening Workshops
- Waterless lawns/Alternative lawns

BENEFITS AND COSTS TABLES NEXT PAGE

Applicant:

THE TABLES ARE FORMATTED WITH FORMULAS: **FILL IN THE SHADED AREAS ONLY**

Section A projects must complete Life of investment, column VII and Capital Recovery Factor Column VIII. Do not use 0.

Table C-1: Project Costs (Budget in Dollars) RESIDENTIAL WATER USE AUDITS-LOS ANGELES COUNTY WATERWORKS DISTRICTS

	Category (I)	Project Costs \$ (II)	Contingency % (ex. 5 or 10) (III)	Project Cost + Contingency \$ (IV)	Applicant Share \$ (V)	State Share Grant \$ (VI)	Life of investment (years) (VII)	Capital Recovery Factor*** (VIII)	Annualized Costs \$ (IX)
	Administration ¹								
	Salaries, wages	\$210,624	10	\$231,686	\$107,734	\$123,952	4	0.2886	\$66,865
	Fringe benefits	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
	Supplies	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
	Equipment	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
	Consulting services	\$1,103,360	10	\$1,213,696	\$564,369	\$649,327	4	0.2886	\$350,273
	Travel	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
	Other	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(a)	Total Administration Costs	\$1,313,984		\$1,445,382	\$672,103	\$773,280			\$417,137
(b)	Planning/Design/Engineering	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(c)	Equipment Purchases/Rentals/Rebates/Vouchers	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(d)	Materials/Installation/Implementation	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(e)	Implementation Verification	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(f)	Project Legal/License Fees	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(g)	Structures	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(h)	Land Purchase/Easement	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(i)	Environmental Compliance/Mitigation/Enhancement	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(j)	Construction	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(k)	Other	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(l)	Monitoring and Assessment*	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(m)	Report Preparation	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(n)	TOTAL	\$1,313,984		\$1,445,382	\$672,102.82	\$773,279.58			\$417,137
(o)	Cost Share -Percentage **				46.5	53.5			

1- excludes administration O&M.

*Monitoring and Assessment included in Administrative Costs

**Applicant Share < 50% due to District 40, Regions 35 & 38 (disadvantaged community-no cost share required)

***Capital Recover Factor of 0.2886 was used based on a 4-year investment. The program will be conducted over four years

Administration

\$100/hour (includes overhead)
8,776 Surveys at 2.4 hours per survey
10% of Consultant Hours
\$210,624

Consulting Services

\$125/Survey x 8776 surveys
\$5,000 Create Flyers and Manual
\$1,360 Quarterly meetings with Districts

Applicant: **LOS ANGELES COUNTY WATEWORKS DISTRICTS**

THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY

Table C-5 Project Annual Physical Benefits (Quantitative and Qualitative Description of Benefits)

	Qualitative Description - Required of all applicants ¹				Quantitative Benefits - where data are available
	Description of physical benefits (in stream flow and timing, water quantity and water quality) for:	Time pattern and Location of Benefit	Project Life: Duration of Benefits	State Why Project Bay Delta benefit is Direct ³ Indirect ⁴ or Both	Quantified Benefits (in-stream flow and timing, water quantity and water quality)
Bay Delta	The Districts import approximately 75% of its water supply. This project would result in less water being used by the Districts' customers. Therefore, The State Water Project and Bay Delta will indirectly benefit by having less water exported to this region.	There would be indirect benefits to the Bay Delta as recommendations are being implemented. These will be identified bi-monthly after the project begins.	10 Years	The Bay Delta benefit is indirect. If water is conserved, the dependency on the Bay Delta is reduced. There is no direct dependency on the Bay Delta by our Districts. Sources of water for the Districts are groundwater supplemented by imported water via the State Water Project provided by wholesale water agencies.	2,470 acre-feet
Local	This project would reduce the demand for imported water.	The benefits would reduce water demand daily by residential customers throughout all of the Districts' service area.	10 Years	Not applicable.	0

¹ The qualitative benefits should be provided in a narrative description. Use additional sheet.

² Direct benefits are project outcomes that contribute to a CALFED objective within the Bay-Delta system during the life of the project.

³ Indirect benefits are project outcomes that help to reduce dependency on the Bay-Delta system. Indirect benefits may be realized over time.

⁴ The project benefits that can be quantified (i.e. volume of water saved or mass of constituents reduced) should be provided.

ble²

Applicant:

LOS ANGELES COUNTY WATEWORKS DISTRICTS

THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY

Table C-2: Annual Operations and Maintenance Costs

Operations (1) (I)	Maintenance (II)	Other (III)	Total (IV) (I + II + III)
\$0	\$0	\$0	\$0

(1) Include annual O & M administration costs here.

Table C-3: Total Annual Project Costs

Annual Project Costs (1) (I)	Annual O&M Costs (2) (II)	Total Annual Project Costs (III) (I + II)
\$417,137	\$0	\$417,137

(1) From Table C-1, row (n) column (IX)

(2) From Table C-2, column (IV)

Applicant:

LOS ANGELES COUNTY WATEWORKS DISTRICTS

THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY

Table C-6 Project Annual Local Monetary Benefits

ANNUAL LOCAL BENEFITS	ANNUAL QUANTITY	UNIT OF MEASUREMENT	ANNUAL MONETARY BENEFITS
(a) Avoided Water Supply Costs (Current or Future Source)	247	AF	\$78,422
(b) Avoided Energy Costs	0		\$0
(c) Avoided Waste Water Treatment Costs	0		\$0
(d) Avoided Labor Costs	0		\$0
(e) Other (Avoided O & M costs)	0		\$67,174
(f) Total [(a) + (b) + (c) + (d) + (e)]			\$145,596

Table C-7 Project Local Monetary Benefits and Project Costs

(a) Total Annual Monetary Benefits [(Table C-6, row (f))		\$145,596
(b) Total Annual Project Costs (Table C-3, column III)		\$417,137

Table C-8 Applicant's Cost Share and Description

Applicant's cost share %: (from Table C-1, row o, column V)	46.50
Describe how the cost share (based on relative balance between Bay-Delta and Local Benefits) is derived. (See Section A-7 for description.)	
Provide Description in a narrative form.	

This project is not locally cost effective. The cost to implement exceeds the benefits (See Table C-7). Therefore, this project is eligible for a 50% match. Two regions in District 40, Regions 35 and 38, are exempt because they are considered disadvantaged communities (at least 80 percent of the annual median income is less than \$38,000). These regions make up 7% of the population of the Districts, which was subtracted from the eligible cost share match.

Table C-9

Residential Water Use Audit Program Benefits

(A)	(B)	(C)	(D)	(E)	(F)	(G)
District-Region	Projected # of Surveys (20 % of residents in baseline year)	Rate (includes O&M costs) \$/HCF	Benefit per Year (includes O&M)	Cost to Purchase (excludes O&M) \$/AF	Annual Benefit to Districts (excludes O&M)	Gallons Saved
21	48	\$ 4.56	\$ 2,670	\$ 1,293	\$ 1,738	438,000
36	151	\$ 1.44	\$ 2,653	\$ 183	\$ 774	1,377,875
37	189	\$ 1.04	\$ 2,398	\$ 280	\$ 1,482	1,724,625
40-4	5434	\$ 0.77	\$ 51,048	\$ 270	\$ 41,090	49,589,261
40-24	82	\$ 0.84	\$ 845	\$ 270	\$ 624	752,612
40-27	442	\$ 0.84	\$ 4,532	\$ 270	\$ 3,344	4,035,673
40-33	126	\$ 0.84	\$ 1,287	\$ 270	\$ 950	1,146,059
40-34	541	\$ 1.36	\$ 8,981	\$ 270	\$ 4,093	4,939,775
40-35	24	\$ 1.05	\$ 304	\$ 270	\$ 179	216,571
40-38	391	\$ 0.86	\$ 4,104	\$ 270	\$ 2,958	3,569,435
40-39	37	\$ 1.46	\$ 655	\$ 270	\$ 278	335,403
(Malibu & Topanga) 29	1350	\$ 4.00	\$ 65,877	\$ 550	\$ 20,793	12,318,990
(Marina Del Rey) 29	8	\$ 2.50	\$ 243	\$ 540	\$ 121	72,760
Total	8,776		\$ 145,597		\$ 78,422	80,517,041

Assumptions

Each audit will reduce water use by 25 gpd per household, (*Water Use and Conservation*, Amy Vickers 2001)

3.5 capita/household

Operations and Maintenance is the difference between Column (D) total and Column (F) total \$ 67,174

Calculations

Column (D): 25 gallons/day x 365 days/year x HCF/748 gallons x Column (B) x Column (C)

Column (H): 25 gallons/day x 365 days/year x AF/325851 gallons x Column (B) x Column (E)

Column (I): 25 gallons/day x 365 days/year x Column (B)

Savings per year

80,517,041	Gallons
107,643	HCF
247	AF

Table C- 4: Capital Recovery Table (1)

Life of Project (in years)	Capital Recovery Factor
1	1.0600
2	0.5454
3	0.3741
4	0.2886
5	0.2374
6	0.2034
7	0.1791
8	0.1610
9	0.1470
10	0.1359
11	0.1268
12	0.1193
13	0.1130
14	0.1076
15	0.1030
16	0.0990
17	0.0954
18	0.0924
19	0.0896
20	0.0872
21	0.0850
22	0.0830
23	0.0813
24	0.0797
25	0.0782
26	0.0769
27	0.0757
28	0.0746
29	0.0736
30	0.0726
31	0.0718
32	0.0710
33	0.0703
34	0.0696
35	0.0690
36	0.0684
37	0.0679
38	0.0674
39	0.0669
40	0.0665
41	0.0661
42	0.0657
43	0.0653
44	0.0650
45	0.0647
46	0.0644
47	0.0641
48	0.0639
49	0.0637
50	0.0634

(1) Based on 6% discount rate.