

**Water Use Efficiency Proposition 13 Urban Water Conservation Capital Outlay Grant
Proposal**

Submitted by: The City of Pasadena

**CII ZERO-CONSUMPTION URINAL DIRECT INSTALL
PROGRAM**

MARCH 2002

Consolidated Water Use Efficiency 2002 PSP

Proposal Part One:

A. Project Information Form

1. Applying for: (a) Prop 13 Urban Water Conservation Capital Outlay Grant
2. Principal Applicant: The City of Pasadena
3. Project Title: Commercial, Institutional, Industrial (CII) Zero-Consumption Urinal Direct Install Program
4. Person authorized to sign and submit proposal: Scott Ushijima, Marketing Manager
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5. Contact person: Jane Raftis raftis@ci.Pasadena.ca.us 626 744 6889
6. Funds Requested (dollar amount): \$ 909,000
7. Applicant funds pledged: \$ 180,000
8. Total project costs: \$ 1,089,000
9. Estimated total quantifiable project benefits \$ 2,019,120
- Percentage of Benefit to be accrued by Applicant \$
- Percentage of Benefit to be accrued by CALFED or others:
10. Estimated annual amount of water to be saved (acre-feet) 276
Estimated total amount of water to be saved (acre-feet) 5,520 AF
Over 20 years
- Estimated benefits to be realized in terms of water quality, Instream flow, other: N/A
11. Duration of Project (month/year to month/year) 7/1/02 to 7/1/05
12. State Assembly District where the project is to be conducted **44th District**
13. State Senate District where the project is to be conducted **21st District**

14. Congressional District where the project is to be conducted **27th District**
15. County where the project is to be conducted **Los Angeles County**
16. Date most recent Urban Water Management Plan submitted to the Department of Water Resources 2002
17. Type of applicant (a) City
18. Project Focus (b) Urban
19. Project type (a) Implementation of Urban BMP
20. Do the actions in this proposal involve physical changes in land use? (b) no

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Proposal Part One:

B. Signature Page

By signing below, the official declares the following:

The truthfulness of all representations in the proposal;

The individual signing the form is authorized to submit the proposal on behalf of the applicant; and

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.

Signature

Name and Title

Date

PROPOSAL PART TWO

Project Summary

As of July 1 2002, Pasadena Water and Power (PWP) is planning implementation of a commercial, institutional and industrial (CII) Direct Zero-Consumption Urinal Install Program for replacement of existing high consumption urinals with new zero-consumption urinals in order to meet its long-term water conservation goals. The proposed program will offer free zero-consumption urinals CII customers, specifically targeting older facilities which have greater than 1.6 gallons per flush water-fed urinals. The installations will be coordinated by City staff.

Approximately 1000 zero-consumption urinal installations will be targeted each year of the three-year program, at a projected average cost of \$289 per zero-consumption urinal installed.

The Pasadena Water and Power Agency and the City of Pasadena propose to operate a pilot project to provide zero consumption urinals installed at no cost to the end user. The most effective method to implement the pilot project is to operate within the existing CII rebate program. The proposed pilot project will encourage CII customers from varying sub-sectors to replace inefficient, older pre 1992 water-fed urinals with highly efficient and cost-effective zero-consumption urinals.

The primary objective is to save water in a cost effective manner that also meets the needs of the community. Water conservation and water use efficiency are consistent with PWP mission statement to provide a safe and reliable water supply at a reasonable cost. The adopted Urban Water Management Plan requires full implementation of all applicable BMPs of the Memorandum of Understanding of the CUWCC. This pilot program is an important component of the stated water conservation goals of the Urban Water Management Plan and is consistent with BMP 9 of the MOU.

CII Zero-Consumption Urinal DIRECT Install Program

A. Scope of Work-Relevance and Importance Nature, scope, and objectives of the project

A CII Zero-Consumption Urinal Direct Install Program will offer Pasadena Water and Power customers free zero consumption urinals with installation by District-contracted plumber(s). The program for urinal retrofit installation will be marketed primarily to existing CII customers who have greater than 1.6 gallon water-fed urinals, as they offer the highest water savings for urinal retrofit.

The proposed Urinal Direct Install Program will solicit proposals from G3 licensed plumbers to purchase and install waterfree urinals for a variety of commercial installations. All program participants will be issued vouchers by PWP that will be redeemable for a specific number of urinal installations from the contracted plumber(s), at a price contracted by PWP. PWP will pay the contracted plumber(s) the contracted price for each type of installation. The contracted price includes the cost of a zero-consumption urinal. There is no out-of-pocket expense to the CII customer, as PWP will administer the program as part of the existing CII rebate program. It should be noted that PWP will not include any plumbers who do not have a valid city business license.

The objective of the CII Urinal Direct Install Program is to reduce water and sewer discharge by PWP CII customers. A direct mailer will be sent to all CII customers to encourage participation in the program. All customers interested in the program will be provided a free cost benefit analysis of the retrofit. Other marketing efforts include a program brochure, web page, press releases and contractor(s) marketing program. The desired program will provide a meaningful, long-term implementation of a proven technology in the CII sector. The main program objective is to replace 1,000 high consumption urinals per year for a period of three years. Added objectives include obtaining water savings of over 92 Acre Feet per year, reduced demand on imported water for the City of Pasadena, reduced energy demand, greatly reduced sewage outflow, and helping to meet the goals of local, regional, and statewide water plans.

Statement of critical local, regional, Bay-Delta, State or Federal water issues.

Pasadena Water and Power imports over half of its water (54%) from the Metropolitan Water District (MWD), which receives water allocated from the Bay Delta and the Colorado River. The remaining water supply is from groundwater. Because MWD water is obtained from the Bay Delta through the State Water project and from the Colorado River, any water conserved by PWP directly improves the Bay Delta and the Colorado River Basin. In addition to local and regional benefits, the proposed program would help meet the overall CALFED goal to insure California's water supplies are used efficiently and achieve multiple benefits.

CALFED objectives of ecosystem quality, water supply, water quality, and levee system integrity would indirectly benefit from the efficient use of water in the Southern California region where MWD imports. PWP has had a water conservation program since 1989, and

has replaced nearly 20,000 toilets in ULFT rebate and distribution programs. Toilet replacements are an integral part of the PWP Future Water Supply Implementation Plan, which projects an overall city-wide water reduction of 5% in the year 2040 of its estimated demand over and above natural conservation through its Water Conservation Programs. Much of the anticipated future water savings are from the CII sector as the residential sector has begun to achieve market saturation due to successful rebate and replacement programs as well as natural replacement.

B. Scope of Work-Technical/Scientific Merit, Feasibility, Monitoring, and Assessment

Methods, Procedures, Facilities

Pasadena Water and Power staff will perform pre and post surveys of all sites receiving urinals from the Commercial Urinal Direct Install Program. Pre-site surveys will determine average water use per day from the existing high consumption urinals at each site, and post-site evaluations will determine average water savings from the new waterfree urinals, as well as verify proper urinal installation. Water savings from the program will be calculated based on the cumulative water savings from the average number of flushes per day at each site before and after urinal installation over the useful life of the urinal.

Task List and Schedule

The schedule below breaks out the key tasks for the three-year proposed project.

Task	Task Name	Task Description	Costs	Expected Start	Expected Finish
1	Project Planning		\$32,000	7/1/02	9/1/02
	CII customer identification	Mailing list of CII customers to participate in the program			
	RFP development	Develop RFP for contractor proposals for a variety of urinal installations for CII customers.			
	Contractor Selection	Selection list developed of the best contractor proposals for urinal installation.			
2	Program Administration		\$95,000	8/1/02	10/1/02
	Direct mail CII customers	Develop flier, brochure, and website for the program,			
	Promotional urinal site listing	List of urinal installations for potential participants to evaluate			
	Pre site survey and inspection	Perform water use site survey and confirm program eligibility			
	Issue vouchers for CII urinals	Develop program vouchers to issue to participant redeemable from contractor for urinals			
	Post site survey and inspection	Post site survey evaluating water conserving measures installed			
3	Direct Install Implementation		\$867,000	10-1-02	6-30-04
4	Data Collection		\$95,000	7-01-02	6-30-04
	Site Data	Develop ACCESS database for all participants. Data to include items listed in Section B6 below			
	Water Use Data	Develop water savings calculation for each site receiving urinals			
	Post Installation Questionnaire	Develop a post participation questionnaire to assess the program			
	Provide Data	All data collected will be provided to the CUWCC for use in their evaluation report			

Monitoring and Assessment

The monitoring of the program will be coordinated through the Agency's existing Commercial Conservation Program. Because this program will be an integral part of the California Urban Water Conservation Council (CUWCC) evaluation of CII programs, the data collected for the program will follow the guidelines of Best Management Practices (BMP) 9 of the CUWCC Memorandum of Understanding. Data to be collected as part of this project will include:

- The number of accounts and amount of water use within each CCII sector, participant information (account number, name and address and type of facility), number of urinals being replaced
- Number of CII urinals replaced or distributed per year by CII sub sector
- Total program costs per year, including labor, materials, marketing, and overhead services
- Total program budget per year
- Program funding sources per year, including intra-agency funding mechanisms, inter-agency cost sharing, state and federal financial assistance sources
- Descriptions of the program design and implementation, such as marketing and advertising method and levels, customer targeting methods, customer contact methods, use of outside services, and participation tracking/follow-up
- Description of the program acceptance/resistance by customers, obstacles to implementation, and other issues affecting the program implementation or effectiveness

The Direct install program will target the replacement of 1000 high-water-using urinals with zero-consumption urinals in the CII sectors each year, for a three-year period. Since water savings are dependant on the type of high consumption retrofitted with a zero consumption urinal, a conservative average savings of 30,000 gallons per year per urinal is being used. For the first year, the annual water savings is estimated to be 92 Acre Feet, 184 Acre Feet for the second year, and 276 Acre Feet for the third year. Therefore, the cumulative water savings for the 3000 CII urinal installations is 5,520 Acre Feet (30,000 gallons per urinal/year*3000 urinals*20 years) over the 20-year useful life of the urinals.

C. Qualifications of the Applicant and Cooperators

1. Resumes of Project Managers

See attached Resume.

2. External Cooperators and Partnerships

PWP will utilize local plumbing firms to implement the program. Since there will be several plumbing firms on the approved list, the amount of work each receives from the program will vary. Therefore, contractors marketing the program will directly benefit from the work they will receive. This will improve the cost effectiveness of the marketing.

D. Benefits and Costs

1. Budget Summary

The budget for the program is listed in the table below. The total cost for the project is \$1,089,000. PWP is expecting to continue to utilize existing MWD funds which total \$60.00 per urinal, for a total of \$180,000. The total requested from Proposition 13 funding is \$909,000.

2. Budget Justification

The primary item in the budget is the professional service cost of \$289 per retrofit. This estimate includes the cost of a zero-consumption urinal. It is felt that this is conservatively low for installation costs. We compared our proposed program to the City of Santa Rosa CII ULFT Direct Install Program, and found their average cost per installation was \$350 per retrofit. This includes retrofits to both flushometer and tank-style toilets. Because our program intends to target urinals only, the average cost is considerably lower. The salary and benefits costs assume labor of 1 ½ hours per participating customer. This includes the labor for marketing the program, pre and post-inspections, and labor coordinating with the plumbers. The supplies include the costs for marketing materials.

Budget Item	Average Cost per Retrofit	Total Cost Est. for 3,000 retrofits (1000 per year)	PWP/MWD Share	Prop 13 Funding
Overhead (clerical)	\$12	\$36,000		36,000
Salaries	\$40	\$120,000		120,000
Benefits	\$12	\$36,000		36,000
Supplies (marketing materials)	\$10	\$30,000		30,000
Equipment	0	0	180,000	
Professional Services (plumber and urinal)	\$289	\$867,000		687,000
Travel	0	0		
Total	\$363	\$1,089,000	180,000 (16%)	909,000 (84%)

3. Benefit Summary and Breakdown

Quantifiable Project Outcomes and Benefits

It is anticipated that the 3,000 CII urinal retrofits will result in water savings of approximately 5,520 acre-feet, cumulatively over the 20 year life of the toilets. In addition, participants will receive a water use survey to determine any other cost-effective water saving changes that could be implemented.

Non-quantifiable Project Outcomes and Benefits

There are numerous project benefits that cannot be qualified. These are listed below.

Non-quantifiable Outcomes and Benefits	Beneficiary
Economic savings to customers from less water used and lower sewer costs as a result of installation of the urinal	All
Increased water efficiency will have a direct benefit for the availability of water resources in the Delta	All
Sustained economic health of the local business community from a reliable supply of water	All

Energy savings as a result of less water pumped into the system	PWP
Economic savings to customers from less water used as a result of the installation of water saving equipment	PWP Customers
Receive information regarding commercial customer attitudes towards zero-consumption urinals. This will provide valuable data at the end of the 3-year pilot program and can be used by all signatories of the CUWCC.	All

4. Assessment of Costs and Benefits

a. Assumption in Calculating Costs and Benefits

Average Cost of all zero-consumption urinals installed through program will be \$289

Assume average savings from a CII urinal retrofit to be 82 gpd.

CII urinal water saving assumptions based on the CUWCC estimates of reliable water savings developed as part of the *CII ULFT Savings Study performed by Hagler Bailly Services Incorporated, August 5, 1997.*

PWP avoided costs of water is \$431 per AF, based on cost of fully treated water from MWD

Customer avoided cost of water is \$2.09 per HCF or \$910.49 per AF

b. Benefits and Costs

The costs for the program and the benefits for the quantifiable savings are listed below.

Participant	Costs	Benefits	
	Program costs (\$)	Program Life Savings (Water in AF)	Program Life Savings (\$)
PWP/MWD	\$180,000	5,520 AF	\$2,019,120
Prop 13 Funding	\$909,000	5,520 AF	\$1,650,120
Customer	\$0	5,520 AF	\$9,738,519
Water (\$2.09 HCF)			(\$5,023,200)
Sewer (\$1.96 HCF)			(\$4,715,319)

Locally cost effective demonstration: (Projects funded through the Prop 13 Urban Grant program must be locally cost effective, that is benefits to the applicant must be equal to or greater than the costs.) The above table clearly demonstrate the cost effectiveness of this proposal, both to PWP and to it customers.

E. Outreach, Community Involvement, and Acceptance

1. Outreach Efforts

This program will include the creation of a list of plumbers willing to install urinals at a given price. Solicitation for the plumbers will include minority and woman-owned businesses. Sites targeted to retrofit will include those in PWP's low income communities.

2. Training and Employment

This program will improve the local economy in several ways. Plumbers who wish to be on the list will see an increase in work during the term of the program.

3. Acceptance

The data from the program will be collected and used as part of the CUWCC BMP 9. The results of the evaluation will be provided to all CUWCC signatories as well as to CalFed.