

# A-1 Urban Water Conservation Grant Application Cover Sheet

1. Applicant (Organization or affiliation): Los Osos Community Services District  
2. Project Title: LOCSD Water Conservation –Toilet Retrofit Program

3. Person authorized to sign and submit proposal:  
**Name, Title** Bruce Buel, General Manager  
**Mailing address** P.O. Box 6064, Los Osos, Ca 93412  
**Telephone** (805) 528-9375  
**Fax** (805) 528-9377  
**E-mail** \_\_\_\_\_

4. Contact person (if different):  
**Name, Title** \_\_\_\_\_  
**Mailing address** \_\_\_\_\_  
**Telephone** \_\_\_\_\_  
**Fax** \_\_\_\_\_  
**E-mail** \_\_\_\_\_

5. Funds requested (dollar amount): \$1,000,000  
6. Applicant funds pledged (local cost share) (dollar amount): \$668,056  
7. Total project costs (dollar amount): \$1,668,056

8. Estimated net water savings (acre-feet/year): 200 acre-feet/year  
Estimated total amount of water to be saved (acre-feet):  
Over 30 years 6000 acre feet  
  
Benefit/cost ratio of project for applicant: 2.88 to 1  
Estimated \$/acre-feet of water to be saved: \_\_\_\_\_

9. Project life (month/year to month/year): 30 plus years

10. State Assembly District where the project is to be conducted: 33<sup>rd</sup> District

11. State Senate District where the project is to be conducted: 18<sup>th</sup> District

12. Congressional District(s) where the project is to be conducted: 22<sup>nd</sup> District

13. County where the project is to be conducted: San Luis Obispo

14. Do the actions in this application involve physical changes in land use, or potential future changes in land use?  
(a) Yes \_\_\_\_\_  
(if yes, complete the land use check list at [http://www.calfed.water.ca.gov/adobe\\_pdf/Questionnaires\\_EC\\_Permits\\_LandUse.pdf](http://www.calfed.water.ca.gov/adobe_pdf/Questionnaires_EC_Permits_LandUse.pdf) and submit it with the proposal

(b) No X

## A-2 Application Signature Page

By signing below, the official declares the following:

The truthfulness of all representations in the application;

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

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 application on behalf of the applicant; and

The applicant will comply with all terms and conditions identified in this Application Package if selected for funding.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name and title

\_\_\_\_\_  
Date

## **A-3 Application Checklist**

Complete this checklist to confirm all sections of this application package have been completed.

### **Part A: Project Description, Organizational, Financial and Legal Information**

- \_\_\_\_\_ A-1 Urban Water Conservation Grant Application Cover Sheet
- \_\_\_\_\_ A-2 Application Signature Page
- \_\_\_\_\_ A-3 Application Checklist
- \_\_\_\_\_ A-4 Description of project
- \_\_\_\_\_ A-5 Maps
- \_\_\_\_\_ A-6 Statement of work, schedule
- \_\_\_\_\_ A-7 Monitoring and evaluation
- \_\_\_\_\_ A-8 Qualification of applicant and cooperators
- \_\_\_\_\_ A-9 Innovation
- \_\_\_\_\_ A-10 Agency authority
- \_\_\_\_\_ A-11 Operation and maintenance (O&M)

### **Part B: Engineering and Hydrologic Feasibility (construction projects only)**

- \_\_\_\_\_ B-1 Certification statement
- \_\_\_\_\_ B-2 Project reports and previous studies
- \_\_\_\_\_ B-3 Preliminary project plans and specifications
- \_\_\_\_\_ B-4 Construction inspection plan

### **Part C: Plan for Environmental Documentation and Permitting**

- \_\_\_\_\_ C-1 CEQA/NEPA
- \_\_\_\_\_ C-2 Permits, easements, licenses, acquisitions, and certifications
- \_\_\_\_\_ C-3 Local land use plans
- \_\_\_\_\_ C-4 Applicable legal requirements

### **Part D: Need for Project and Community Involvement**

- \_\_\_\_\_ D-1 Need for project
- \_\_\_\_\_ D-2 Outreach, community involvement, support, opposition

### **Part E: Water Use Efficiency Improvements and Other Benefits**

- \_\_\_\_\_ E-1 Water use efficiency improvements
- \_\_\_\_\_ E-2 Other project benefits

### **Part F: Economic Justification, Benefits to Costs Analysis**

- \_\_\_\_\_ F-1 Net water savings
- \_\_\_\_\_ F-2 Project budget and budget justification
- \_\_\_\_\_ F-3 Economic efficiency

### **Appendix: Benefit/Cost Analysis Tables**

- \_\_\_\_\_ Tables 1; 2; 3; 4a, 4b, 4c, 4d; and 5

## **A-4 Project Description**

The LOCSD's Toilet Retrofit Water Conservation Program involves a subsidized retrofit and a requirement (ordinance) mandating that bathrooms be retrofitted with low-flow toilets before hook-up to the new wastewater treatment facility.

The purpose of the plan is to enable the District to live within its local water resources, reducing or deferring the need for imported water (State water from the Bay Delta); to comply with the S.W.R.C.B.'s requirement to secure low interest loans and compliance orders, and to save money for consumers in terms of lower water and electricity cost.

The program will enhance the community's ability to serve its build-out population without importing additional water supplies, reduce the demand for pumping (energy costs), avoid the cost of supplemental water and reduce wastewater disposal costs.

Implementation of the toilet retrofit program will reduce the projected need for delivery of water supplies by up to 180,000 gallons per day or 200 acre feet acre-feet/year. It will reduce indoor consumption by 14.5 % by the year 2010. The range of water savings is 30-40 gpd per retrofitted toilet. This amounts to a 52 percent savings in the toilet use in a home. The LOCSD Urban Water Management Plan concluded that the benefits from conservation are significant (about \$1,400,00 per acre foot) and will result in a direct savings of \$280,000 in imported water costs as a result of implementation of the toilet retrofit program.

The program will retrofit roughly 4800 single- family residences within the community of Los Osos/Baywood, and replace roughly 9,000 toilets. It is intended to take place over a five-year period beginning July 1, 2003 and run through June 30, 2008. The district will cover the cost of the toilets and the homeowner will be responsible for the cost of installation. The homeowner can purchase a new low-flow toilet and submit the receipt to the District for a rebate (up to \$80), or the District will provide them with a voucher from a local plumbing supplier to obtain a standard white low-flow toto toilet. Homeowners who choose to purchase an upgrade such as a colored low-flow toilet will be entitled to a rebate of \$80. The District will cover the cost of retrofitting a maximum of 2 bathrooms per residence.

The District will track homeowners who participate in the fixture replacement program on a computer database, based on address and assessor parcel numbers with linking fields to the San Luis Obispo County Planning Department data base. Every residence located within the prohibition zone is required to connect to the community wastewater treatment facility. Those properties connecting to the wastewater treatment facility will be required to retrofit their homes as a condition of approval for sewer hook up. Therefore, property owners must have a Water Conservation Certificate and be signed off on the District's computer database prior to connecting to the wastewater treatment facility. All properties within the prohibition zone will be tracked for compliance with penalties applied to those who are not in compliance.

The most important aspect of the program will be the education and a media campaign component. The District will distribute water conservation handouts and participate in local TV and radio spots on the benefits and importance of water conservation.

The total cost to run the program is estimated at \$1,668,056.

## **A-6 Statement of Work, Schedule**

The program will require the homeowner to replace their existing high flow fixtures with low flow fixtures at no material cost to the homeowner. The district will cover the cost of the materials and the homeowner will be responsible for the cost of installation. The homeowner can either purchase a new low-flow toilet, and submit the receipt to the District for reimbursement (up to \$80), or the District will provide them with a voucher from a local plumbing supplier to obtain a standard white low-flow toilet. Homeowners who choose to purchase an upgrade such as a colored low-flow toilet will receive a rebate of \$80 when a receipt is provided to the District. The District will cover the cost of retrofitting a maximum of 2 bathrooms per residence.

The homeowner can either install the devices themselves or hire a plumber to do it for them. The LOCSD will hold a series of workshops for plumbers and installers to inform them of the District's requirements of the program and to provide them with standard compliance forms. The District will also certify plumbers and installers who chose to participate in the program. Those who are certified will be placed on a recommended list of certified contractors and installer and distributed to the community.

Plumbing contractors and installers may fax or deliver to the District office completed retrofit forms certifying that all fixtures have been retrofitted throughout the residence. Throughout the program random field checks will be conducted by the water conservation coordinator to verify the accuracy of the information provided by the plumbing contractors. Once confirmation of fixture replacement has occurred, and the standard retrofit forms have been received, the District will issue a Water Conservation Certificate to the property owner and the property will be signed off on the computer database as having met the condition. The District will provide homeowners with a list of fixture suppliers and installers who are enrolled in LOCSD's fixture replacement program. Suppliers and installers who choose to participate in the District's Fixture Replacement Program are willing to offer a discounted price for goods and services to the homeowner.

Homeowners who choose to install the devices themselves will be required to contact the Water Conservation Coordinator for a home inspection and verification of compliance for issuance of a Water Conservation Certificate. The District could inspect the home prior to hook up of the sewer lateral. This inspection could occur at the same time as the septic tank inspection, or when the sewer from the house to the main was inspected, so that there would be minimal added inspection cost to the homeowner.

The District will track homeowners who participate in the fixture replacement program on a computer database, based on address and assessor parcel numbers with linking fields to the San Luis Obispo County Planning Department data base. Every residence located within the prohibition zone is required to connect to the community wastewater treatment facility. Those properties connecting to the wastewater treatment facility will be required to retrofit their homes as a condition of approval for sewer hook up. Therefore, property owners must have a Water Conservation Certificate and be signed off on the District's computer database prior to connecting to the wastewater treatment facility. All properties within the prohibition zone will be tracked for compliance with penalties applied to those who are not in compliance. Any person who fails to comply shall be guilty of an infraction, with fines determined by the court. Commercial properties will also be required to retrofit bathroom fixtures but at there own expense.

The water conservation coordinator will be responsible for inputting the data from the retrofit forms into a database, and for random field checks. Properties that have complied with the retrofit requirement will be signed off on the database, and a Water Conservation Certificate will be mailed to the homeowner, a copy of the certificate will also be kept on file in the District's office.

The District will also provide a roll off box at the District's Water yard located at 8<sup>th</sup> Street and El Morro, for plumbing contractors and homeowners to dispose of recycled toilets. This will lessen the overall costs to plumbing contractors and homeowners. Mission Country Disposal will haul off the bin when it reaches 10 tons and recycle the old toilets at Cold Canyon landfill where they will be ground and reused for base material.

The District and the County of San Luis Obispo Planning and Building Department are working on an agreement to allow the District to administer building permits to Los Osos homeowners for installation of their sewer later hook ups. That way the District can keep track of those properties that have complied with the fixture replacement program and those that haven't on a relational database. The District will monitor and assess the progress and success of the fixture replacement program on an annual basis by evaluating the meter readings and water usage of its customers. The program is expected to go into affect July 1 2003 and run through June 2008. Customer water usage will be monitored throughout that time and for a number of years after the program is in place in order to determine the success of the program. Each homeowner within the District's Prohibition Zone is required to decommission their septic systems and hook up to the community wastewater treatment facility with severe penalties for those homeowners who do not comply. Therefore, it is anticipated that the District will achieve 90 percent participation rate within the prohibition zone.

### **Education and Advertising**

Public education is the most important element of the program. The public must be made aware of the importance of water conservation and the role they play in it. Public information efforts should be expanded to not only address specific water conservation measures, but also cultural/social aspects of establishing a water conservation ethic within the community. Program geared toward public education include community gardens utilizing recycled water, storefront displays, theatrical productions by school children, poster contests, T-shirt design contests, speakers to employee and community groups, presentations and tours with hands-on demonstrations, radio and television time, and printed educational material such as bill inserts. The most effective way to reach the public is through the media especially through entertaining news segments on TV and radio. Clever radio ads will be placed emphasizing the need and importance of water conservation. Direct mailers are also an effective way of reaching homeowners.

### Task List and Schedule

Tasks	Deliverables	Due Dates	Projected Cost
Coordinate the acquisition and distribution of low-flow toto toilets With a local supplier	RFB for pricing, signed contract with local supplier for toilets, shower heads and aerators	February 2003 – February 2008	\$ 1,153,056
Prepare Toilet Retrofit Ordinance	Toilet Retrofit Ordinance	January 2003 March 2003	\$ 10,000
Prepare and print vouchers and Water Conservation Certificates	Vouchers and Water Conservation Certificates	June 2004-2008	\$ 15,000
Distribute Rebate Program forms and Toilet Replacement forms	Standardized forms	May 2004-2008	\$ 10,000
Set up account with Mission Country Disposal for a roll off box for recycled toilets	Roll off box placed in District's yard. On-going removal and hauling by Mission Country	June 2003- 2008	\$ 200,000
District to hire a Water Conservation Coordinator	Administration and oversight of Fixture Replacement Program, database management and Water Conservation Certificates	March 2003-2008	\$ 200,000
Program Outreach and Marketing. Promotion of water conservation issues	Public info handouts and flyers, KSBY, KCBX , direct mail	March 2003-2008	\$ 80,000
			Projected Total Cost Est.: \$1,668,056

### A-7 Monitoring and Evaluation

Data necessary to forecast water savings include specific data on water use, demographics, market penetration, and unit water savings. Customer billing data will be analyzed to compare water usage prior to and after initiation of the toilet retrofit program. Statistical data and spreadsheets will be developed to quantify water use patterns and illustrate the results numerically and graphically. The models will identify two baselines of water use; the average monthly use per account for the entire period of record, and the average of specific winter periods which represent indoor consumption.

### **A-8 Qualification of the Applicant and Cooperators**

Resume of the General Manger of the Los Osos Community Services District attached as Exhibit A.

### **A-9 Innovation**

The District is linking the retrofit requirement with the installation of the community- wide wastewater treatment facility. Information will be shared and coordination will occur between the District and the County Planning Department regarding issuance of building permits for installation of sewer laterals and compliance with the toilet retrofit program. All properties will be tracked on a Geographic Information System (GIS) with linking fields to other county departments.

### **A-10 Agency Authority**

1. Enclosed Resolution by the Board authorizing the General Manager to enter into a funding contract with the State (Exhibit B).
2. The Los Osos Community Services District was approved by the voters in November 1998 and began operations in 1999 under the Community Services District Law of the California, Government Code Section 61000.
3. The District is not required to hold an election before entering into a funding contract with the State.
4. No the funding agreement between the District and the State will not be subject to review by any other government agency.
5. There is no pending litigation against the District that would impact the financial condition of the District.

### **A-11 Operations and Maintenance**

Not Applicable since the proposed project is not a construction project.

### **B-2 Project Reports and Previous Studies**

A copy of the LOCSD's Urban Water Management Plan, Draft Environmental Impact Report for the LOCSD's Wastewater Treatment Facility Project, and copy of the LOCSD's Wastewater Facilities Project Engineering Report have been submitted with this application.

### **B-3 Preliminary Project Plans and Specifications**

Not applicable

### **B-4 Construction Inspection Plan**

Not applicable

## **C-1 California Environmental Quality Act and National Environmental Policy Act**

The proposed toilet retrofit program has been evaluated in the EIR for the Wastewater Treatment Facility Project. The program will also be included in the project description in the Land Use Permit from the County of San Luis Obispo for the Wastewater Treatment Facility. A complete and thorough environmental review will be conducted at time of issuance of the land use permit. The LOCSO anticipates submitting for a land use permit from the County of San Luis Obispo in January 2003. The county approval process is estimated to take roughly 8-10 months. During that time environmental review will be conducted and an initial study will be generated. The County Planning Department has requested that all aspects related to the overall project (wastewater treatment facility) be incorporated into the project description for the land use permit. Since the retrofit program has already been evaluated in the EIR it is anticipated that the county will most likely issue a negative declaration for the land use permit. A copy of the initial study and negative declaration will be forwarded as soon as it is available. A copy of the Certified EIR attached, as Exhibit C. All County documents will be submitted prior to contract execution.

The project is not subject to NEPA since there are no Federal funds involved or federal approvals required.

## **C-2 Permits, Easements, Licenses, Acquisitions and Certifications**

The program will involve the creation of an ordinance authorizing the LOCSO to mandate a toilet retrofit program. The LOCSO will be responsible for setting up a certification program for licensed plumbers and inspectors.

## **C-3 Local Land Use Plans**

The County of San Luis Obispo's Estero Area Plan is the local land use plan for Los Osos. The County is currently in the process of updating the Estero Area Plan and the revisions call for the construction of the wastewater treatment facility in conjunction with the community-wide water conservation toilet retrofit program.

## **C-4 Applicable Legal Requirements**

The RWQCB Basin Plan and Resolution 83-13 Prohibits the use of septic tanks with leach fields within the Prohibition Zone of Los Osos and requires the District to demonstrate progress on a wastewater project by meeting a series of delivery dates. The District has met the delivery dates so far and continues working towards meeting the dates set in the order. The Toilet retrofit program is a component of the LOCSO's wastewater treatment project.

## **D-1 Need For The Project**

Los Osos derives all of its drinking water from groundwater supplies. The community's drinking water system is comprised of a series of groundwater wells. Monitoring data indicates much of the shallow groundwater in the most densely developed areas exceeds 45mg/l, the drinking water standards for nitrates. For this reason, many of the shallow water supply wells have been removed from service and demand has shifted to the deeper aquifer. Dependence upon the deeper aquifer has exacerbated the surface water

problems because the community's water supply, formerly drawn from the upper aquifer, is now drawn from the deeper aquifer and recharged (after use) to the upper aquifer causing groundwater levels to rise and flood more septic systems.

In a December 1995 study by the RWQCB titled assessment of Nitrate Contamination in ground Water Basins of the Central Coast Region Preliminary Working Draft, nitrate contour maps depict significant increases in nitrate concentrations over time in both the upper and lower basins.

The Los Osos Community Services District in conjunction with Cal Cities and S & T Mutual Water Company provide domestic water service to 100 percent of the population of Los Osos. The water agencies must plan water services to not only meet current demand, but to anticipate growth following the cessation of the building moratorium and installation of the wastewater treatment facility, and in future years to come. The total area of the District is 5.38 square miles. Its current population is 14,768, and the projected population at build out is 19,653.

A detailed Groundwater analysis prepared for the LOCSD Water Master Plan determined that the Los Osos Valley groundwater basin under existing conditions is estimated to have a yield of 3,500 acre-feet per year (AFY). It also indicated the safe urban purveyor yield of the basin, with the District's wastewater project, to be 2,860 AFY. Given that the demand to the basin is estimated at approximately 2,960 AFY, an additional source of water supply, and or water conservation, will be necessary for the community of Los Osos. The LOCSD's Urban Water Management Plan projects 200 AFY of water savings with implementation of community fixture replacement and water conservation programs. There is an urgent need to conserve water. If conservation measures aren't implemented then the community of Los Osos will need to import water. The cost of imported water is much greater on an annual basis than the overall cost of implementing the toilet retrofit program.

In addition, the Morro Bay National Estuary Program has selected Water Conservation as a high priority action item in their CCMP for protecting the health of the Morro Bay State and National Estuary.

## **D-2 Outreach, Community Involvement, Support, Opposition**

The LOCSD and the water companies that serve the Los Osos area (Cal Cities Water Company, S & T Mutual Water Company) entered into a Groundwater Management Agreement in 1994. The terms of the agreement are that the water purveyors shall exercise good faith efforts in developing groundwater management strategies, which include water conservation. The existing MOU provides a basis for cooperation between water purveyors who have a vested interest in participating in the toilet retrofit program.

The LOCSD and the County Planning and Building Department have met several times to discuss the idea of enabling the District to administer the toilet retrofit program as a sub-component of the wastewater treatment facility. Forrest Wermuth Chief building inspector stated that he could see a way that the District could issue building permits for sewer lateral hook ups at the LOCSD headquarters so Los Osos residents wouldn't have to drive all the way to San Luis Obispo to pick up their permits.

The LOCSD has also met with Shirley Bianchi the San Luis Obispo County Board of Supervisor's to discuss the toilet retrofit program and she is in support of the program. Her letter of support has been included in this application.

A key component to the fixture replacement program is the public information section. This would be an expansion of Cal Cities existing public information efforts. It will not only address specific measures, but also cultural/social aspects of establishing a water conservation ethic within the community. Most importantly, it will convey to the public an understanding of why water conservation is important. Programs include community gardens, utilizing recycled water, store front displays, theatrical productions by school children, poster contests, T-shirt design contests, presentations to employee and community groups, presentations and tours with hands-on demonstrations, radio and television ads, and printed educational material such as bill inserts. Water agencies will put water use from the previous year on customer water bills as a point of comparison. Public education will continue to be used to raise awareness of other conservation measures available to Water Agency customers.

Cal Cities and the City of San Luis Obispo have entered into a Statewide MOU regarding g urban water conservation and Cal Cities has agreed to implement 14 "Best Management Practices". Two of Cal Cities BMP's deal with toilet replacement. Cal Cities has a vested interest in participating with the LOCSD to implement a fixture replacement program as an incentive to lower their overall costs.

### **E-1 Water Use Efficiency Improvements**

The toilet retrofit program will reduce indoor water use which in turn will alleviate Los Osos from having to import water for its urban users. It will also reduce wastewater flows by an estimated 150,000 gpd. If the incremental cost of water is assumed to be imported water then the savings from conservation is significant (about \$1,400,00 per acre-foot).

The program will have a benefit-cost ratio of roughly 2.88 to1. This means that over 30 years, the community will benefit \$2.88 for every \$1 invested in conservation. Another way to look at this is the avoided cost, or savings, from not importing water. In 2010, for example, the Plan will be saving 180,000 gallons a day. This translates to nearly 200-acre feet of savings a year, at an imported water value of approximately \$280,000 per year. The Plan will also reduce disposal cost of up to \$80,000 per year. The Plan will continue saving water indefinitely, so the benefits will continue even after the money on the program has been spent.

### **E-2 Other Project Benefits**

The toilet replacement program will allow the community to utilize less over the life of the program and beyond. Less demand will mean that less water will need to be pumped from the aquifer. Los Osos's upper aquifer has experienced salt-water intrusion. Water supplies are currently being drawn from the lower aquifer where salt-water intrusion is not an issue. However, over time increased demands from the lower aquifer could transfer the salt-water intrusion problem to the lower aquifer as well. In order for the community to meet its goal of water resource sustainability, it needs to implement conservation measures to reduce water demand to a quantity equal to the safe yield of the groundwater basin.

## F-1 Net Water Savings

**Benefit Cost Analysis Table- Comparison of Ground Water, Supplemental Water and Wastewater Disposal Costs**

Measures	Water Savings (mgd) 1	Cost of Savings (\$/mg) 1	Benefit Cost Ratios- Groundwater Total Community		Benefit Cost Ratio Assuming Supplemental Water	
			No add Disposal Cost	Additional Disposal Cost	No Add Disposal	Additional Disposal Costs
BMP 2 Res. Retrofit	0.0022	731.76	0.7	1.1	3.7	4.1
BMP 7 Public Info.	0.048	334.54	2.4	3.6	9.1	10.3
BMP 14a ULFT Replacement Rebate	0.066	1,273.97	0.2	0.8	2.0	2.6
BMP 14b ULFT Replacement Ordinance	0.066	12.79	22.1	83.6	194.3	255.9
Community Toilet Retrofit Program	0.104	845.01	0.5	1.3	3.1	4.1
Community Retrofit Ordinance	.086	9.20	28.8	109.1	253.4	333.7

Notes:

- 1) Averaged over 30 years
- 2) Supplemental Water of 1,400Acre Foot
- 3) Disposal Costs means and additional cost of wastewater disposal for the amount of \$1,469/mg on top of the \$270/mg operating and maintenance costs
- 4) ULFT: Ultra low flow toilets

## F-2 Project Budget and Budget Justification

Task	Budget	Justification
a. Land Purchase	N/A	
b. Planning/Design/Engineering	\$115,000	Requires coordination with County Planning Dept. & creation of an ordinance as well as a certification program
c. Materials/ Installation	\$4,000	Recycling of old toilets
d. Structures		
e. Equipment Purchases	\$1,153,056	Cost of toilets
f. Environmental Mitigation/ Enhancement	N/A	
g. Construction/Administration/ Overhead	\$386,000	Cost of a water conservation coordinator
h. Project/Legal/ License Fees	\$5,000	Certification program
i. Contingency	\$5,000	
Total	\$1,668,056	

## F-3 Economic Efficiency

The toilet retrofit program will have a benefit-cost ratio of roughly 2.88 to 1. This means that over 30 years, the community will benefit \$2.88 for every \$1 invested in conservation. Another way to look at this is the avoided cost, or savings, from not importing water. In 2010, for example, the Plan will be saving 180,000 gallons a day. This translates to nearly 200-acre feet of savings a year, at an imported water value of approximately \$280,000 per year. The Plan will also reduce disposal cost of up to \$80,000 per year. The Plan will continue saving water indefinitely, so the benefits will continue even after the money on the program has been spent.

In December 2000 the LOCS D adopted the Urban Water Management Plan. The Urban Water Management Plan evaluates existing water system and supplies, and recommends programs to meet the District's water source area for existing and future needs. The Community Fixture Replacement Program is one of the programs identified in the Plan. The Water Management Plan was prepared in accordance with the 1993 State Water Resources Control Board Water Conservation Guidelines (Appendix F of the State Revolving Fund Loan Program), and the California Water Code Sections 110631, 10632 and 10633.

The scope of the Plan includes future population projections, and identification of water use characteristics of developed and undeveloped land areas for existing and future build-out of the service area; a review of historical production and consumption records to estimate existing average day, maximum day, and peak hour demands; project future basin water requirements, and evaluated the water supply and distribution system requirements to meet existing and future demands at average day, maximum day, and peak hour demands

In order to determine existing and future population of the LOCSD water service area, a detailed analysis of vacant properties was performed. Based on the survey, 470 additional units may be developed within the LOCSD water service area at build-out. Population within the LOCSD water services area is projected to increase 14.4 percent at build-out. The total population is expected to reach 19,692 at build-out, which is anticipated to occur around Year 2015.

Estimating the current basin yield was based on analytical and modeling methods. The safe yield of the ground water basin was estimated by using the hydrologic balance equation. The equation in its simplest form, is basin inflow- basin outflow = change in basin storage. If more water enters the ground water basin than exits the basin over a period of time, the storage water level in the basin will rise in proportion to the extra volume of water it is storing. Conversely, when more water leaves the basin than comes in, the average water level in the basin will drop. The approach used was to focus on what information is known and to adapt the hydrologic equation to fit the available information. The two most reliable and extensive data sets available include water levels and production.

**The table below summarizes existing and future water production.**

Water Purveyor	Existing Average Daily Production		Build-Out Average Daily Production	
	(mgd)	(AFY)	(mgd)	(AFY)
LOCSD	0.98	1,100	1.21	1,358
Cal Cities	0.92	1,030	1.29	1,452
S & T Mutual	0.14	150	0.14	150
Total Purveyor Production	2.04	2,280	2.64	2,960

**The table below is a summary of future water demands.**

Demand Condition	LOCSD Water System Demands	
	Existing (MGD)	Build-Out (MGD)
ADD	0.98	1.21
MDD	1.96	2.42
PHD	3.43 (2,382 gpm)	4.24 (2,946 gpm)
Notes:	1.Existing Demand based on historical records	
	2. Build-out demand based on 130 gpcd	
	3. MDD = ADD X 2.0	
	4. PHD = ADD X 3.5	

Water production data is based on actual purveyor use from 1994 through 1999, and is used to forecast future water demand.

**Benefit Cost Analysis Table- Comparison of Ground Water, Supplemental Water and Wastewater Disposal Costs**

Measures	Water Savings (mgd) <sup>1</sup>	Cost of Savings (\$/mg) <sup>1</sup>	Benefit Cost Ratios- Groundwater Total Community		Benefit Cost Ratio Assuming Supplemental Water	
			No add Disposal Cost	Additional Disposal Cost	No Add Disposal	Additional Disposal Costs
BMP 2 Res. Retrofit	0.0022	731.76	0.7	1.1	3.7	4.1
BMP 7 Public Info.	0.048	334.54	2.4	3.6	9.1	10.3
BMP 14a ULFT Replacement Rebate	0.066	1,273.97	0.2	0.8	2.0	2.6
BMP 14b ULFT Replacement Ordinance	0.066	12.79	22.1	83.6	194.3	255.9
Community Fixture Replacement Program	0.104	845.01	0.5	1.3	3.1	4.1
Community Retrofit Ordinance	.086	9.20	28.8	109.1	253.4	333.7

Notes:

- 5) Averaged over 30 years
- 6) Supplemental Water of 1,400Acre Foot
- 7) Disposal Costs means and additional cost of wastewater disposal for the amount of \$1,469/mg on top of the \$270/mg operating and maintenance costs
- 8) ULFT: Ultra low flow toilets

You will note from the tables above that in order to accommodate future growth and development an additional source of water will need to be obtained or water conservation efforts will need to be implemented in order to accommodate future demand.

## Exhibit A -Resume

Bruce Buel, General Manager of the Los Osos Community Services District

Los Osos Community Services District

Toilet Retrofit and Rebate Program

Application for 2003 Urban Water Conservation Program  
Grant

December 2, 2002