

**State of California
Proposition 50 Section B Grant Proposal**

**REGIONAL WATER EDUCATION CENTER
AND DEMONSTRATION GARDEN**



Submitted by

**East Bay Municipal Utility District
375 11th Street, Oakland, CA 94607**

January 11, 2005

Contact Information

Project Administrator: Richard Harris, Water Conservation Manager
Address: 2130 Adeline Street, Oakland, CA 94607
Phone: 510-287-1675
FAX: 510-287-1883
E-mail: rharris@ebmud.com

Table of Contents

PROJECT SUMMARY.....1

DISCUSSION.....3

STATEMENT OF WORK.....5

BUDGET INFORMATION.....19

REGULATORY COMPLIANCE.....19

FUNDING PLAN.....19

APPENDICES

APPENDIX A – Project Information Form

APPENDIX B – Signature Page

APPENDIX C – Project Costs Table

APPENDIX D –Detailed Project Schedule

**State of California
Proposition 50 Grant Section B Proposal**

PROJECT SUMMARY

- Title of Project:** Regional Water Education Center (RWEC) and Demonstration Garden.
- Project Description:** The goal of this project is to construct a state-of-the-art water conservation and education center with water efficient demonstration gardens to highlight water efficient plants and conservation practices. The gardens and educational resources will exemplify plants and landscapes from the new EBMUD book, *Plants and Landscapes for Summer-Dry Climates of the San Francisco Bay Region*. This project will be the flagship regional facility for East Bay customers, neighboring communities, K through 12 schools, colleges and universities, and professional colleagues. Visitors will be attracted to a great project on a great site at the San Pablo Reservoir and Recreation Area, with recreational, social and educational activities for all ages. Bay Area residents and visitors from around the state will be invited to enjoy the watershed and its recreational opportunities. The Center and Demonstration Garden will be designed as a sustainable living LEEDS-rated green building that will also be an educational tool for resource conservation.
- Project Cost:** \$4,000,000
- Cost Share:** \$3,500,000 (87.5%) applicant; \$500,000 (12.5%) State
- Participants/Supporters:** East Bay Municipal Utility District (EBMUD), Bay Area public agencies, community organizations, water conservation industry
- Project Timeframe:** 36 months
- Water Savings:** 18 million gallons each year
- Program Location:** Contra Costa County, San Pablo Recreation Area.
- Innovative Elements:** The RWEC demonstration garden will showcase the highly successful East Bay Municipal Utility District plant book, *Plants and Landscapes for Summer-Dry Climates of the San Francisco Bay Region*. Just published in 2004, this model guide will tie all the low water use gardening concepts to the demonstration garden using the book as a model. All of the major items in the book will be covered live at the garden including but not limited to plant

communities of the Bay Region, exploring plants, inspired drought-tolerant gardening.

Relevance and Importance:

Half of the potential water that can be saved with conservation is determined by behavior. Only by educating water users can we capture the behavioral conservation element. Visitors will learn the value of water by exploring the RWEC and demonstration garden. With improved appreciation for water, visitors will be provided with easy to understand ways to be more water efficient at work and at home.

Technical/

All of the latest in building and landscape technology will be on display.

Scientific Merit and Feasibility:

As a part of the exhibits, the building materials and technology exposed to demonstrate the latest in green building materials and seismic technology. A range of technology will be on display. From conventional irrigation systems to computer based irrigation technology using satellite based weather information to make intelligent choices about when and how much to water the landscape.

Monitoring and Assessment:

EBMUD will track visitors within the service area that visit the water education center and demonstration garden. Visitors will be asked to submit a questionnaire about their perceptions of water and how much they have changed after visiting the RWEC and demonstration gardens. By asking visitors to estimate the impact of their newly learned skills to be more water efficient, we can track water savings. In addition, by analyzing the actual water use of customers before and after their visit to the RWEC and demonstration garden, we can measure and report on the success of our educational efforts to the local and regional community.

DISCUSSION

1.0 PROJECT DESCRIPTION AND BACKGROUND

Purpose

The purpose of the Regional Water Education Center (RWEC) is to educate EBMUD customers, Bay Area residents and other visitors about water supply, quality, conservation and recycling using informational and interactive displays. The project will be located at the “great site” on the District’s premier reservoir at the San Pablo Recreation Area. The RWEC will compliment existing District water supply and demand management programs to increase their visibility, enhance customer service, and contribute to long-term supply reliability goals. In the near term, the RWEC will be used to showcase current conservation best practices and technology in support of residential and commercial water use, including the hosting of public and industry-related workshops and seminars. In the long-term, future expansion of the exhibits and maturing of District demand management programs will be used for more formal educational programs for schools, businesses, developers and gardeners.

Creative Strategy

The design and layout of the exhibits will be phased to follow along the broad *waterworks*, *watershed* and *waterworld* themes developed as part of the creative strategy for the “great project”. The approach (summarized in Table 1) will be modeled after four key display functions that include:

- **How to tips** – ways to save water and money, showcasing of products
- **Success stories** – “proof of concept” examples
- **Life cycle analyses** – return on investment data to support decision-making
- **The “why”** – expressing the need, purpose and plan for District supply reliability efforts

Project Creative Strategies

1. *The Great Project.* This project will be the flagship EBMUD presentation to East Bay customers, neighboring communities and water conservation professionals. The RWEC will be a regional and statewide destination point for visitors to enjoy.
2. *The Whole Site.* Visitors will be attracted to a great project on a great site, with recreational, social and educational activities for all ages. The RWEC will be designed to attract them, engage them, and send them away as believers.
3. *Inspired to Conserve.* The RWEC will capture these visitors and educate them about the value of water and the precious state of the environment around them. And then invite them to do their part to conserve.
4. *Fish where the Fish Are.* EBMUD has selected its largest, most recognized and most successful fishing reservoir as the prime location for the RWEC. The RWEC design will integrate state-of-the-art green building designs and technologies, and blend in

interactive exhibits and inspirational gardens, all within a natural watershed setting. It's easier to go where the people are than it is to attract them to a new destination.

5. *Recreational Links.* The project will create graceful and compelling links between recreation activities, California native flora and fauna, with water education values and principles.
6. *Our Watershed.* EBMUD is the guardian of public lands, and invites Bay Area residents and their guests to enjoy the watershed. The site is a jewel location within the EBMUD network, showcasing man-made marvels integrated with spectacular natural beauty.
7. *Green Building.* The RWEC will be designed as a state-of-the-art LEEDS rated building, drawing recognition from a wide range of communities.
8. *LIVE.* The RWEC will be a living and dynamic place constantly refreshed and active with programs and events. Every event, whether sponsored by EBMUD or rented by others is an opportunity to engage the community with the water conservation message.

The “great site”



EBMUD Water Education Center
San Pablo Reservoir Site

The San Pablo Reservoir is a spectacular site with a pre-existing pattern of diverse visitation from throughout the East Bay.



2.0 STATEMENT OF WORK

Section One – Relevance and Importance

This proposal for grant funds is for the first phase of the project to design and construct approximately one acre of demonstration and inspiration gardens that will integrate with exhibits and highlight the District’s new book, *Plants and Landscapes for Summer-Dry Climates of the San Francisco Bay Region*. Figures 1 and 2 provide concepts for the gardens that will be integral to the overall educational experience for promoting water conservation at the RWEC.



The purpose of these gardens and hardscaping is to provide live and scalable landscapes that both residential and commercial customers can put into use in their own landscaping projects. These gardens will appeal as a destination for garden clubs, landscape architecture and design classes, professional horticultural groups, and tours from botanical gardens, to name a few. Visitors can see vignettes that showcase alternatives to turf such as meadow grasses and tough ground covers, low maintenance gardens, California Native gardens, and gardens for dryish shade.

There will be examples of hydrozoning, which is grouping plants by their water needs and irrigating each group on separate valves. Each vignette will use a different kind of mulch, the “secret weapon” of water conservation in the landscape. There will be numerous examples of permeable hardscape, which allows water to percolate through it and is a valuable tool in addressing the increasing environmental problem of urban runoff.

Visits to these gardens will be enhanced by interpretive signage and useful brochures. The gardens will be a key element in the education seminars and regularly scheduled “how to” workshops for irrigation, landscaping, and hardscaping, which will be conducted at the center by staff and industry experts. Irrigation and ETS controllers, piping, emitters, soils, amendments, mulches, plants, planting, climate, solar exposure, moisture content, hard surfacing, and other related topics will be core curriculum in the educational program at the center which will be demonstrated in the gardens and garden exhibits for this first phase of the project under this grant.

REGIONAL WATER EDUCATION CENTER AND DEMONSTRATION GARDEN

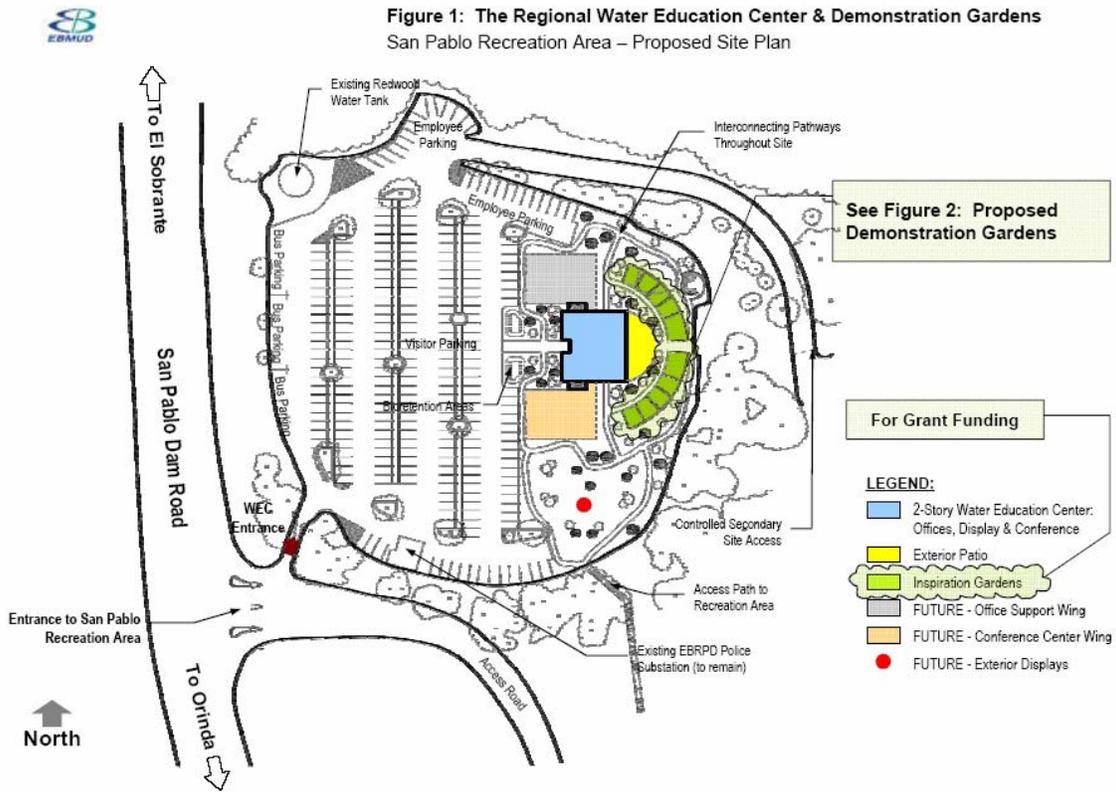
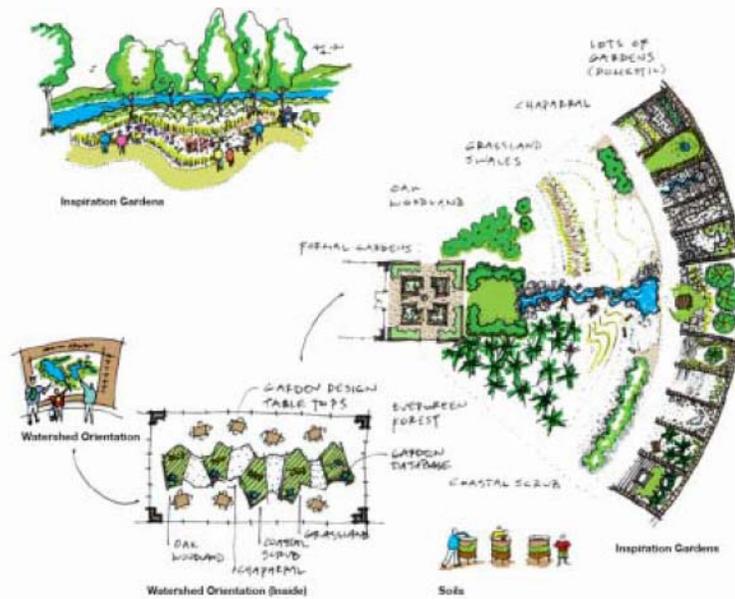


Figure 2: Regional Water Education Center & Demonstration Gardens San Pablo Recreation Area - Proposed Demonstration Gardens for Grant Funding



Section Two: Technical and Scientific Merit/Feasibility

Existing staff resources will complete site layouts, schematic design of the building, the County LUP application, and environmental studies and documentation. Certification of the environmental documentation and approval of an architectural services agreement for final design is scheduled for June 2005. Staff anticipates an 18-month construction schedule with a fall 2007 move in date. A detailed schedule is included in Appendix E:

The work needed to satisfy the objectives of this proposal includes the tasks listed below.

Table 1. Key Project Design Tasks

Task.	Description	Activity/Responsibility
1	Complete site layouts, schematic design of the building, County LUP application and environmental studies and documentation.	Existing staff resources
2	Develop exhibits	EBMUD staff and consultants
3	Design gardens and interface with watershed	EBMUD will contract with a consultant to survey public agencies and water utilities to address landscape development.
4	Define school curriculum for all ages.	EBMUD will contract with a consultant to develop curriculum.
5	Begin Construction	EBMUD staff

EBMUD has developed a conceptual plan to construct a Regional Water Education Center (RVEC) and Demonstration Gardens for the “Great Project” that will ultimately include:

- 5,400 square feet (s.f.) of interior educational displays and public areas;
- 7,400 s.f. conference center;
- 4,000 s.f. of support offices;
- 53,000 s.f. of exterior displays and demonstration gardens; and
- 35,000 s.f. of site improvements and parking area.

A listing of detailed project costs and a detailed schedule are included in Appendix C and D respectively.

The RVEC and Demonstration Gardens builds its educational concept on three main components:

- *Water Works* - introduces visitors to the EBMUD drinking water supply and wastewater system as an example of the inner workings of a public utility. This area is all about “how it works” with practical tips for conserving water at home and work, as well as advice on water saving appliances, leave visitors with specific and actionable tasks.
- *Our Watershed*- serves as a an orientation to watersheds, providing an overview of regional habitats, introducing visitors to the diversity and fragile

interdependence of living organisms within them, and demonstrating the range of best practices required to sustain them. This thematic area extends seamlessly to the outdoors to the Inspiration Gardens, where dozens of constantly changing domestic scale garden lots are designed to celebrate the diverse micro-climates and plant communities of the Bay Area. The District's new book, *Plants and Landscapes for Summer-Dry Climates of the San Francisco Bay Region*, will be exhibited through live inspirational gardens that energize the visitor with new low water use landscaping and hardscaping. At the center of the gardens, young children play safely and learn about the ecosystem of streams while parents explore the gardens.

- *Water World*- is a place for dialogue and the front door to an always lively workshop and conference center. An illustrated, dimensional timeline of Water in the West will provide a dynamic educational backdrop. Adjacent meeting rooms and a conference hall will be used by middle school to college students for interactive mock debates on the future of water in the West. The conference center (accommodating 200 people) will also be available for community gatherings, all of whom will have the opportunity to explore and learn about global and regional water issues.

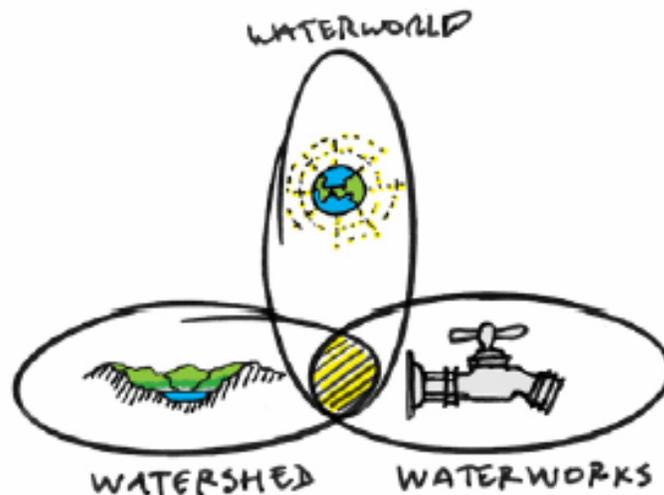


Table 2. Water Education Center Thematic Concepts

OUR WATERSHED	THE WATERWORKS	WATERWORLD
<p><i>Use it like your own backyard</i></p> <ul style="list-style-type: none"> • Recreation on the Watershed • Watershed Management • Weather: 3 Seasons • Plant Communities of the Bay Region • Exploring Wildlife & Plants • The Water Cycle • Water shapes the Earth • Clean Streams • Water Lab: Testing Water • Inspired Drought-tolerant Gardening 	<p><i>Managing the East Bay Waterworks & conserving water at home & work</i></p> <ul style="list-style-type: none"> • Water Supply • Wastewater • Recycled Water • Stormwater Management • Leak Detection • Runoff and pollutants (PBT's) • Water Conservation at Home • Water Conservation at Work • Best Practices & Products 	<p><i>A global and regional dialogue on water issues</i></p> <ul style="list-style-type: none"> • Global Perspective, why should we care? • Water & The West • Mapping California over time • The Bay Estuary • Local Heritage & Water Stories • Water Pollution/Contamination • Balancing Growth with Natural Resources • Government & Citizenship Issues • Getting Involved in your community

Table 3. Potential Exhibit Phasing

Strategy	Topic	Exhibit Idea	Message
<p>Waterworks <u>Managing the East Bay Waterworks & conserving water at home & work</u></p>	<ul style="list-style-type: none"> • water supply • water conservation at home and work • best practices & products • wastewater • recycled water • stormwater management • water waste • runoff and pollutants 	<ul style="list-style-type: none"> • water consumption facts • water-efficient products • leak detection/repair tips • top 10 tips • water smart gardening • success stories • water/wastewater treatment and distribution • interactive “water flow” displays 	<ul style="list-style-type: none"> • info about indoor and outdoor water use and how to save • how to use meter to find leaks • water conveyance and pumping • water quality • water used in manufacturing, food products, etc. • before/after garden retrofit photos • retrofit payback examples • new technology testing • drought response tips • water, energy and waste savings
<p>Watershed <u>Use it like</u></p>	<ul style="list-style-type: none"> • recreation on 	<ul style="list-style-type: none"> • information about 	<ul style="list-style-type: none"> • promote community

<p><u>your own backyard</u> -</p>	<p>the watershed</p> <ul style="list-style-type: none"> • watershed management • weather: 3 seasons • plant communities of the bay region • exploring wildlife & plants • the water cycle • water shapes the earth • clean streams • water lab testing • inspired drought-tolerant gardening 	<p>trails, hiking, boating, fishing</p> <ul style="list-style-type: none"> • fire suppression activities • local/regional flora and fauna • interpretive gardens • live video cam from Camanche hatchery 	<p>awareness</p> <ul style="list-style-type: none"> • showcase environmental stewardship • educate customers on fish protections • showcase plant book in live gardens
<p>Waterworld <u>A global and regional dialogue on water issues</u></p>	<ul style="list-style-type: none"> • global perspective • water & the west • mapping California w/time • the Bay Estuary • local heritage & stories • water pollution • balancing growth • government & citizenship Issues 	<ul style="list-style-type: none"> • <i>conference center</i> 	<ul style="list-style-type: none"> • <i>available for community gatherings, and for rental to local businesses and for private events, all of whom will have the opportunity to explore and learn about global and regional water issues</i>

Visitor Activities: Activity Segmentation

Visitors will use the site for diverse reasons. The challenge will be to first meet their specific needs, and then capture and inspire them with things to do and engaging, relevant content.

Table 4. Potential Visitor Activities

ACTIVITY SEGMENT		THINGS TO DO
Recreational Users	<ul style="list-style-type: none"> Fisherman Boaters: Renters Boaters: Owners Kayakers Joggers Walkers Stroller Brigade Cyclists Bird Watchers Artists Plant Lovers 	<ul style="list-style-type: none"> Fishing, Cleaning Fish, Supplies, Snacks, Lunch Boating, Paddle Boats, Row Boats, Lessons, Wildlife guides Kayak Lessons, Kayak races Jogging paths, exercise courses, marked trails Paved paths, interpretive signs, Plant & Wildlife guides Paved, level paths, benches, toddler playground, cafe Dedicated cycle trails, family mountain biking Interpretive Guides & Panels Benches, designated scenic viewpoints, classes Native Plant Guides, Guided Walks
Organised Groups	<ul style="list-style-type: none"> Summer Campers Families/Parties Company Parties Community Groups Environmental Societies/Clubs NGO's 	<ul style="list-style-type: none"> Picnic tables, barbecue pits, benches Load/Unload Area Outdoor Amphitheatre Shaded Pavilion Meeting Rooms (10-100 persons?) Group activities: Scavenger hunts, team challenges
Event Planners	<ul style="list-style-type: none"> Weddings Birthdays, Anniversaries, etc. 	<ul style="list-style-type: none"> 150-200 persons (Privacy during opening hours) Catering Kitchen (outside caterers)
EBMUD Staff	<ul style="list-style-type: none"> EBMUD Conferences EBMUD Public Meetings Professional Conferences 	<ul style="list-style-type: none"> 50-300 person conference Hall w/media systems Breakout Rooms (15-50 persons) Catering Kitchen
EBMUD Customers	<ul style="list-style-type: none"> Plan Review Commercial Reviews Water Conservation Homeowners 	<ul style="list-style-type: none"> Plan Review Counter Work Tables Resource Library Wireless internet Access
Professionals	<ul style="list-style-type: none"> Architects Landscape Architects Landscapers Other Public agencies 	<ul style="list-style-type: none"> Indoor Plumbing Workshop/Leak Detection Community Gardens, Hardscape Gardening Video conference Facility, Meeting Rooms, Conference Hall Catering Kitchen, Coffee Break area, Wireless Cafe Engineers Workshop



Viewing Deck



Meeting Hall with Video Conference

Visitor Activities: Lifestage Segmentation

Each segment of visitors inspires distinctive experiences. Content may be modulated to appeal and effectively communicate to these diverse groups. A Lifestage segmentation model suggests that the site must offer a wide range of activities and amenities.

Table 5. Anticipated Visitor Programs by Age Group

VISITOR SEGMENT	THINGS TO DO
<p>Young Families</p> 	<ul style="list-style-type: none"> • Educational Adventures, Nature Walks, Run the kids, • Scavenger hunts, Mazes, Animal Homes, Listening posts, Climbing structures, Interactive Water Features, Climbing Bronze animals • Contained play areas, Looped Pathways • Craft Projects & Storytelling
<p>Older Families</p> 	<ul style="list-style-type: none"> • Riskier Adventure Playground . . . a faster pace • Ongoing Habitat Restoration • Live Entertainment - Musicians & Street performers • Multimedia interactive displays • Challenging "What would you do?" interactives • Customized experiences • Body Humor (Nickelodeon & Natural Gases)
<p>Multi-generational families</p> 	<ul style="list-style-type: none"> • Group activities with varied levels of participation • Contained active & adjacent Passive Zones • Benches, picnic tables, barbecue pits, shade areas • Load/unload area, Level pathways, Shuttle service • A cool theater with engaging 10-15 min. shows • Engineering challenges for Dad • Local Heritage stories
<p>Singles</p> 	<ul style="list-style-type: none"> • Jogging paths, Mountain Biking trails & Kayaking • Cafe with Wireless Internet Access • Monthly social events • Current Issues & Open Dialogue, NGO activities
<p>DINKS</p> 	<ul style="list-style-type: none"> • Same as Singles, plus . . . • Inspirational Gardens, Beginning Gardening, Smaller-gardens, Hardscape Gardens, Drip Irrigation, Soils Analysis, Fire Prevention Workshops • Indoor Plumbing Workshop/Leak Detection
<p>Empty Nesters</p> 	<ul style="list-style-type: none"> • Similar to DINKS, with slight shift in emphasis . . . • Community Gardens, Garden Clubs, Larger Gardens • Local Heritage Stories

Schoolgroups and the California Curriculum

Aligning to the California curriculum will guarantee that teachers will organize school trips. The WEC will be the place to extend classroom learning in an informal hands-on setting.

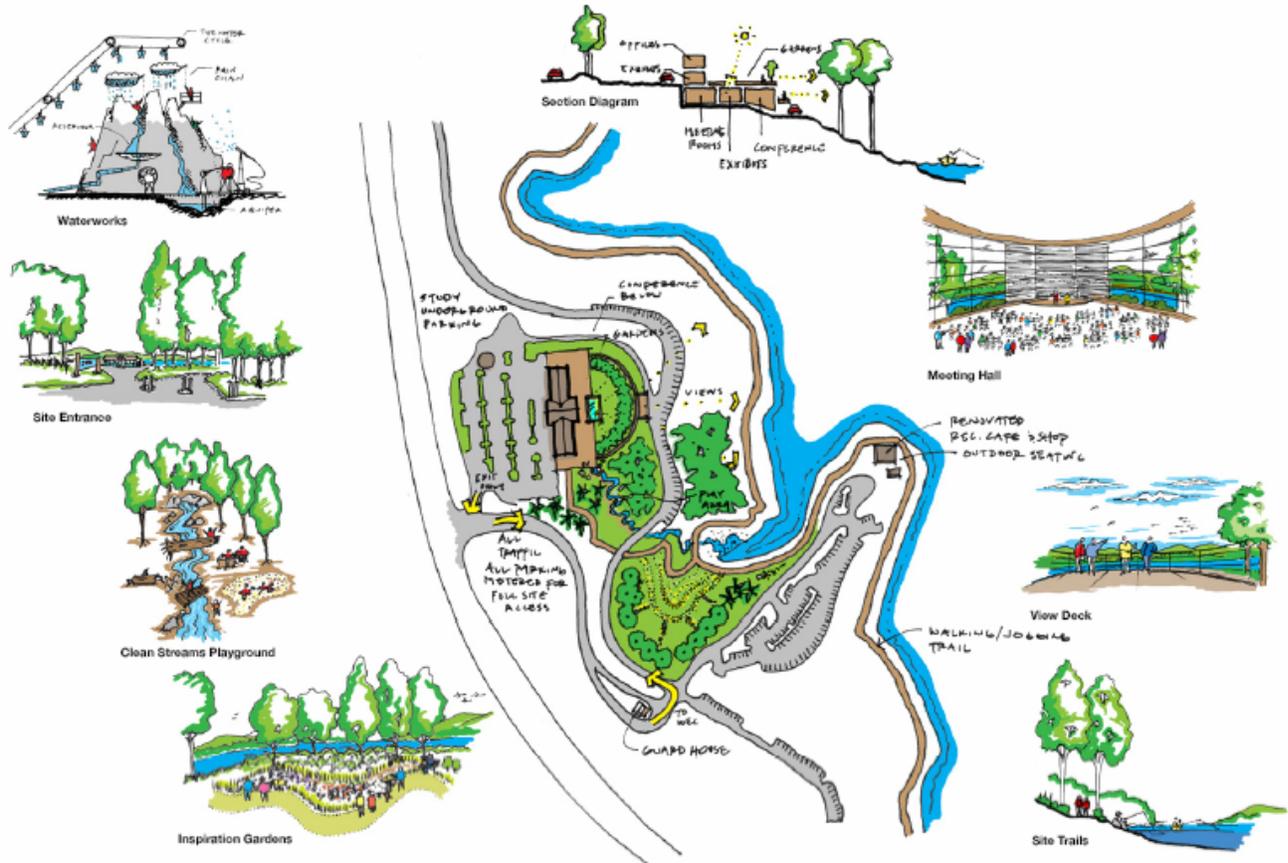
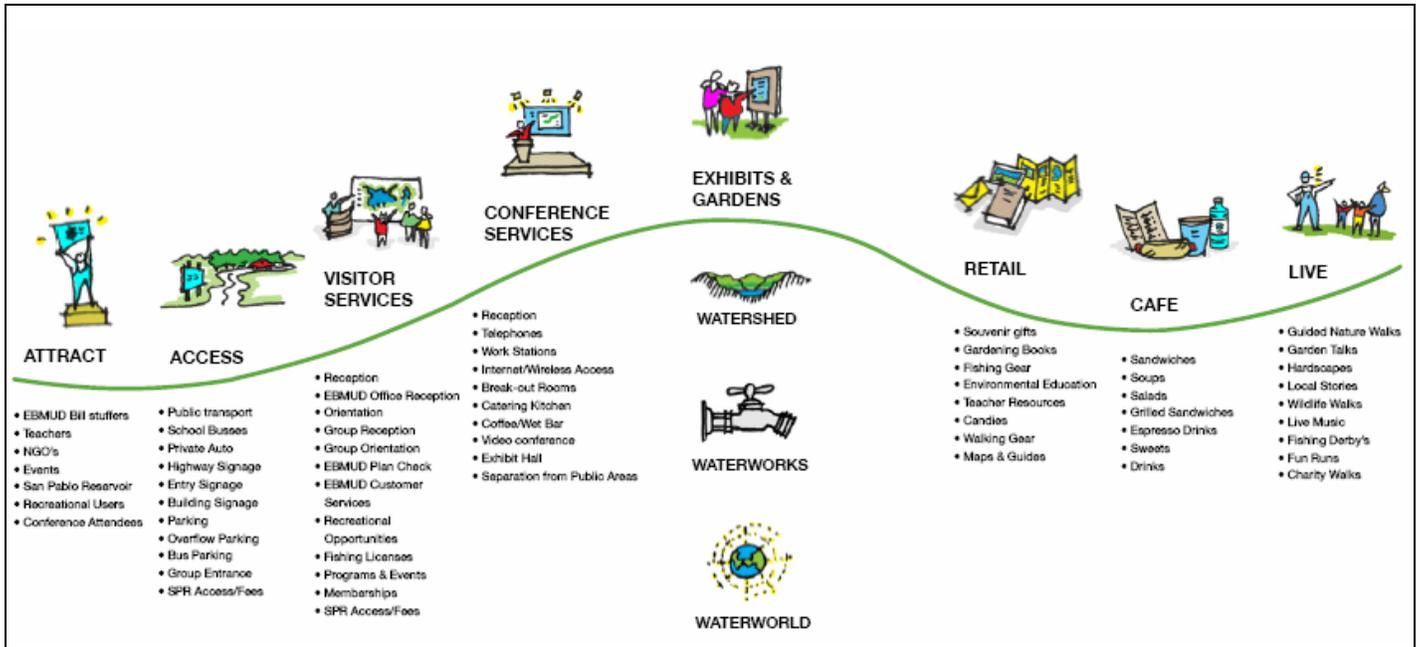
Table 6. Candidate School Curriculum Activities

	Science	History-Social Science
Kindergarten	<ul style="list-style-type: none"> Life Sciences: different types of plants & animals Earth Sciences: characteristics of land, air & water, and weather; re sources from the Earth 	
Grade One	<ul style="list-style-type: none"> Plants & animals in their environments Plants & animals need water, animals need food, etc. Weather: observed, measured, described 	
Grade Two	<ul style="list-style-type: none"> Plant & animal life cycles Earth: made of materials with distinct properties; rocks; soil; fossils; water 	
Grade Three		<ul style="list-style-type: none"> Physical & Human geography, local/regional emphasis, using maps, tables, photos; People, places & environments. ID geographic features, Organize historical events using historical & community resources Understanding of economy of local region, use of natural resources, tradeoffs
Grade Four	<ul style="list-style-type: none"> Organisms: energy & matter to grow; food chains/food webs; Ecosy tems: interdependence of organisms; living/non-living Rocks & Minerals reflect processes that formed them Wave, wind, water & ice shape & reshape Earth's land surface 	<ul style="list-style-type: none"> California: ID regions, characteristics & physical environment ID geographic features, ocean, rivers, valleys, etc. using maps, charts, etc. Spanish Mission/Mexican Rancho/Gold Rush, 1850's - 20th c. Trace evolution of CA water system into network of dams, aqueducts, etc.
Grade Five	<ul style="list-style-type: none"> Water moves between oceans & land—evaporation/condensation Salt Water/Fresh Water (Water Cycle) Weather 	
Grade Six	<ul style="list-style-type: none"> Plate tectonics, earthquakes, volcanoes, mountain building - CA Geology Shaping Earth's surface - water running downhill & California's landscape Ecology: organisms in ecosystems, categorization 	
Grade Seven	<ul style="list-style-type: none"> Biological Evolution: diversity of species, environmental factors Evidence from Rocks allows us to understand evolution of life on Earth Rock Cycle - formation of new sediment; rocks in layers; fossils Anatomy & physiology of plants & animals; levels of organization 	
Grade Eight		<ul style="list-style-type: none"> US History & Geography: post 1800-Westward expansion Great rivers and the struggle over water rights in the west Industrial Revolution: impact and effects on urbanization, immigration, etc.
Grades 9-12:		
Biology/Life Sciences	<ul style="list-style-type: none"> Ecology: Ecosystems: balance between competing effects; biodiversity; ana lyze changes resulting from climate, human activity, non-native species Fluctuations in population size determined by birth, immigration, etc. 	<ul style="list-style-type: none"> Grade 11 US History & Geography Industrialization & growth of cities; 1920's; Great Depression & the New Deal Post WWII economic boom
Earth Sciences	<ul style="list-style-type: none"> Plate tectonics: plates, rocks, earthquakes, volcanoes Climate: change over time, computer modeling, greenhouse gases CA geology: resources, importance of water to society, origins of CA fresh water; mapping 	

Visitor Experience

The Water Story is complemented by a series of experiences that serve a wide diversity of visitor needs. Each service offered requires expertise, some of which may be provided by EBMUD staff, others which may be contracted with concise specifications as to the quality and range of products and services to be provided. Any service provided on an EBMUD site reflects on the EBMUD brand, either extending a positive experience or if poorly delivered, detracting from it.

RWEC Site Activities



Section Three: Monitoring and Assessment

3.0 QUALIFICATIONS OF APPLICANTS AND COOPERATORS

EBMUD is a public retail water district formed in 1923 under the State Municipal Utility District Act. EBMUD serves approximately 1.3 million people in two counties and 22 cities and delivers approximately 250,000 AF of water annually. EBMUD has a staff of around 1600 employees and an annual operating budget of around \$240 million serving the water system. Since the early 1970's EBMUD and its customers have continued to make important strides in reducing water use and enhancing overall water supply reliability through demand management.

EBMUD's Water Conservation Division (WCD) has a full-time staff of 22 and an annual budget of approximately \$5 million. EBMUD is one of the first water utilities to develop a comprehensive Water Conservation Master Plan to guide demand management programs designed to achieve an additional 39,000 acre-feet (or nearly 13 billion gallons) of water by the year 2020. In addition, EBMUD has implemented numerous conservation measures, conducted many studies and is actively involved in a number of cooperative efforts. By submitting this grant application, EBMUD has committed to providing the staff and resources necessary to work with the WSP to achieve the project goals and objectives.

Long Term Water Supply

Strategies: Preserve entitlements and future supplies, Water Conservation, and Water Recycling

- Education & Marketing
- Partnerships for benchmarking, research and testing new technologies
- Forum for educational, regulatory and legislative initiatives to promote water conservation

Water Quality & Environmental Protection

Strategies: Manage watersheds and protect natural resources, Minimize impacts to the environment by conserving natural resources.

EBMUD will serve as project administrator for the grant and will enter into agreements with qualified consultants to manage the project and develop the proposed work products. A Project Advisory Committee (PAC) will be formed to help guide the process and provide peer review for all phases of the project.

Project Administrator: EBMUD

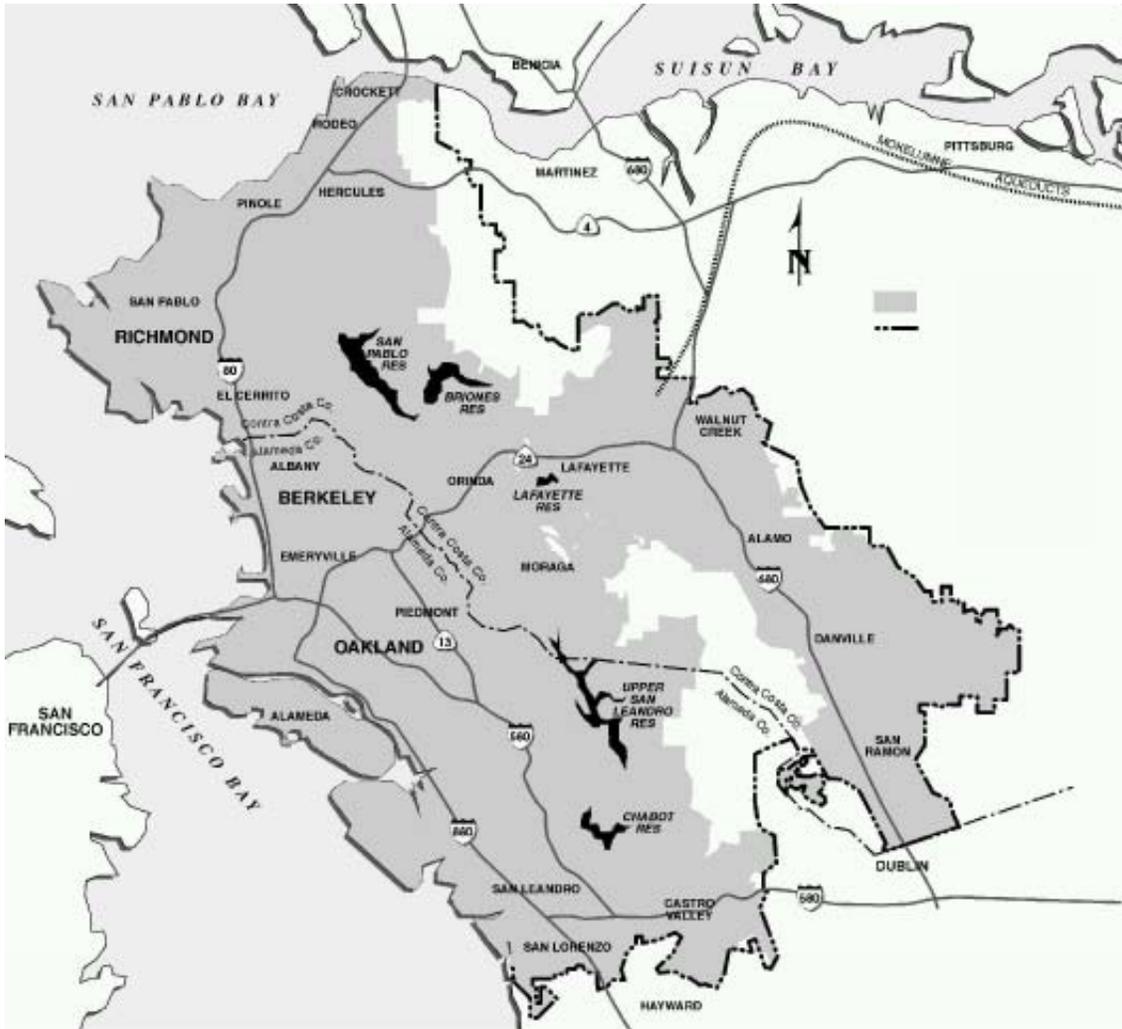
Project Manager: EBMUD

Technical Research: Consultant(s)

Administrative Plan: Consultant

Workshops: CUWCC

4.0 OUTREACH, COMMUNITY INVOLVEMENT AND ACCEPTANCE



EBMUD Service Area

REGIONAL WATER EDUCATION CENTER AND DEMONSTRATION GARDEN

Event	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Residential Landscape Rebate Program 2-month as first step in incentive program eligibility; program description; best practices; <i>[general homeowner audience]</i>	2	2	2	2	2	2	2	2	2	2	2	2	24
Outdoor Irrigation Practices (Res/Bus) IRIS; ET controller; gardening practices; Large Landscape Irrigation Upgrade Rebate Program; <i>[garden clubs, landscape contractors, city parks & rec. staff]</i>	0	1	1	1	1	1	1	1	1	0	0	0	8
WaterSmart Certification Program Breakfast Awards event, training and success stories; <i>[City customers; new development; city planners]</i>	1	0	0	1	0	0	1	0	0	1	0	0	4
Commercial/Industrial Workshops Topic-specific Cooling processes; medical; food services; car wash; dry cleaners; <i>[facility mgrs, buyers, mid-mgmt, consultants, vendors]</i>	0	1	0	1	0	1	0	1	0	1	0	1	6
Committee Meetings (CUWCC, BACC) Small to large interagency groups; Plenary mtgs; R&D; education; <i>[bay area and statewide water utilities; environmental stakeholders; vendors]</i>	0	0	0	1	1	0	0	0	0	0	1	1	4
StopWaste/Green Business Partners Sustainability; best practices; technology showcase; <i>[ACWMA, PG&E, Bay Area CBI]</i>	0	0	1	0	0	0	0	0	1	0	0	0	2
Business Forum Luncheon Water Conservation Achievement, Pollution Prevention awards; District water supply issues; legislation; <i>[top 1,000 business customers]</i>	0	1	0	0	0	0	0	0	0	0	0	0	1
EBMUD Staff Meetings SMT retreats; Dept./Div mtgs; training	4	4	4	4	4	4	4	4	4	4	4	4	48
Community Stakeholders Meetings/Misc. <i>[CoCo City Watershed Forum; Mayors conf.; Aquatic Outreach Inst.;</i>	2	2	2	2	2	2	2	2	2	2	2	2	24
Total	9	11	10	12	10	10	10	10	10	10	8	10	121

Calendar of Events

5.0 INNOVATIVE ELEMENTS OF THE PROPOSAL

The most innovative element of the RWEC and Demonstration Garden will be the measurement and quantification of water savings from educational programs and exhibits. Currently, water saving estimates are very soft for the behavioral component of water conservation. Water conserving devices/appliances/hardware are always given more credit for water savings than educational programs. By analyzing program performance with education, the Regional water education center and Demonstration Garden will provide some of the most innovative information to date on water savings with educational programs.

The construction and development of RWEC and Demonstration Gardens exhibits, educational activities, conferences, events and recreational activities will combine to create a memorable place that will serve as a flagship presentation for the regional water conservation industry.

The construction of a regional water education center and Demonstration Garden would promote better understanding and implementation of all of the Best Management Practices. The following list shows how each of the BMP’s would be supported at the Regional water education center and Demonstration Garden:

1. Through a better understanding of water use in the home, visitors will request water surveys while visiting the center.

2. Visitors will be able to obtain low flow devices, showerheads and aerators, in person at the Regional water education center and Demonstration Garden.
3. Displays will explain the water supply system and efforts to identify and mitigate system losses.
4. Water meters will be on display to explain history and latest technology and how they relate to overall system water management.
5. Landscape exhibits will highlight the special needs of plants and how different seasons affect water use. Visitors can make a free appointment on site.
6. The most efficient clothes washers will be on display with explanations of how they work better with less water.
7. The Regional water education center and Demonstration Garden will be an excellent source of information for visitors on water issues.
8. Big yellow school busses will be delivering loads of school age children to enhance their understanding of water and the environment.
9. Displays and exhibits will cover all commercial type water use and offer ways to help visitors save water and money.

6.0 PROJECTS BENEFITS

Water Savings and Program Cost-effectiveness

All conservation consists of a behavioral element. Thru education, the District intends to capture this important avenue. EBMUD provides water service to more than 1.3 million customers over a 330 square mile area. EBMUD's San Pablo Reservoir draws visitors from around the greater 9-county Bay Area and is labeled as a premier recreational destination with more than 200,000 visitors each year. Drawing from EBMUD's Water Conservation Program 100,000 visitors each year times average use of 100 gpd @ 5% savings per visitor equals 18,250,000 million gallons each year.

Benefit to the California Bay-Delta Program Goals

Construction of the proposed EBMUD RWEC and Demonstration Garden has the potential to positively impact the Bay-Delta system by reducing the overall reliance on Bay-Delta and tributary system water exports. The District's water conservation efforts are an important component of a long-term, integrated resources plan; a comprehensive effort to reliably meet the regional water needs of District customers and reduce pressure on the Bay-Delta system to meet regional and statewide water needs. One of the fundamental objectives of the CALFED Bay-Delta Program is to reduce the mismatch between Bay-Delta water supplies and current and projected beneficial uses dependent on the Bay-Delta system. Water use efficiency projects are one of the cornerstone strategies the CALFED Bay-Delta program is deploying to achieve this objective.

The CALFED Bay-Delta Program includes strategies to address ecosystem health, water supply reliability, water quality, and levee system integrity. Water use efficiency is critical to the successful implementation of all aspects of the CALFED Program.

As a signatory to the California Urban Water Conservation Council's (CUWCC) Memorandum of Understanding, EBMUD is committed to implementing the urban Best Management Practices

(BMPs) to reduce impacts of urban water use on the Bay-Delta. This project would promote better understanding of all BMP's and new water use efficiency technology.

This project will allow EBMUD to emphasize public outreach, public information and education on all aspects of water. Educational topics will stress the "value" of water through watershed protection; appropriate gardening practices (i.e. planting, watering, chemical application, and reduced runoff).

7.0 PROJECT COSTS

It is estimated that the project tasks can be completed for \$4,000,000. EBMUD will fund 87.5% of the project cost, or \$3,500,000.

The project will be built in phases as funding is available. Figure 1 provides the preliminary layout for phased build-out for the project. The first phase that is currently funded at \$3.5 M is for a 7,800 square foot two-story building with 3,300 square feet of office space for 23 employees and 4,350 square feet of open and flexible space for a reception area and reference library, education exhibits and displays, meetings and conferences, and plan check counter. The two-story structure will provide panoramic views of the watershed. Parking for staff, visitors, bus tours and attendees at education seminars and workshops is provided in over 225 spaces.

8.0 REGULATORY COMPLIANCE

EBMUD will be the lead agency for the preparation of the Initial Study and resultant environmental documentation for compliance with the California Environmental Quality Act (CEQA). Contra Costa County will be a responsible agency for the CEQA documentation. This activity is scheduled to be completed in June 2005.

9.0 FUNDING PLAN AND BOARD RESOLUTION

EBMUD has an approved budget for FY05 that includes capital funds for this project. Capital funds for construction are in the proposed FY06 capital budget. The Board has adopted Resolution No. 33021-02 authorizing the General Manager to submit grant applications. The proposal for funding and the terms of agreement shall be submitted to the Board of Directors for approval subsequent to grant proposal approval.

APPENDIX A

Project Information Form

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, # _____

(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):

East Bay Municipal Utility District

4. Project Title:

Water Education Center (WEC) and Demonstration Garden

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

Name, title Dennis M. Diemer
General Manager

Mailing address 375 Eleventh Street

Oakland, CA 94607

Telephone 510-287-0101

Fax. 510-287-0188

E-mail dennisd@ebmud.com

6. Contact person (if different):	Name, title.	Richard Harris Manager of Water Conservation
	Mailing address.	P.O. Box 24055-MS: 48 Oakland, CA 94623
	Telephone	510-287-1675
	Fax.	510-287-1883
	E-mail	rharris@ebmud.com

7. Grant funds requested (dollar amount): **\$500,000**
(from Table C-1, column VI)

8. Applicant funds pledged (dollar amount): \$ 3,500,000

9. Total project costs (dollar amount): **\$4,000,000**
(from Table C-1, column IV, row n)

10. Percent of State share requested (%): **12.5%**
(from Table C-1)

11. Percent of local share as match (%): **87.5%**
(from Table C-1)

12. Is your project locally cost effective?
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.
(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.)

(a) yes
 (b) no

11. Is your project required by regulation, law or contract?
If no, your project is eligible.
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.

(a) yes
 (b) no

	08/2004 – 12/2007
12. Duration of project (month/year to month/year):	
13. State Assembly District where the project is to be conducted:	District 16
14. State Senate District where the project is to be conducted:	District 9
15. Congressional district(s) where the project is to be conducted:	California 9 th District
16. County where the project is to be conducted:	Alameda
17. Location of project (longitude and latitude)	37° 48' 04" N 122° 16' 15" W
18. How many service connections in your service area (urban)?	378,000
19. How many acre-feet of water per year does your agency serve?	250,000 AF
20. Type of applicant (select one):	<input type="checkbox"/> (a) City <input type="checkbox"/> (b) County <input type="checkbox"/> (c) City and County <input type="checkbox"/> (d) Joint Powers Authority <input checked="" type="checkbox"/> (e) Public Water District <input type="checkbox"/> (f) Tribe <input type="checkbox"/> (g) Non Profit Organization <input type="checkbox"/> (h) University, College <input type="checkbox"/> (i) State Agency <input type="checkbox"/> (j) Federal Agency <input type="checkbox"/> (k) Other <input type="checkbox"/> (i) Investor-Owned Utility <input type="checkbox"/> (ii) Incorporated Mutual Water Co. <input type="checkbox"/> (iii) Specify _____
21. Is applicant a disadvantaged community? If 'yes' include annual median household income. (Provide supporting documentation.)	<input type="checkbox"/> (a) yes, _____ median household income <input checked="" type="checkbox"/> (b) no

APPENDIX B

Signature Page

**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;

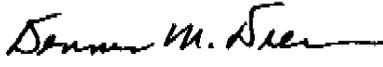
The individual signing the form has the legal authority to submit the proposal on behalf of the applicant;

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

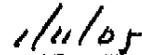
The applicant has legal authority to enter into a contract with the State.



Signature

Dennis M. Diemer, General Manager

Name and title



Date

APPENDIX C

Project Costs Table

REGIONAL WATER EDUCATION CENTER AND DEMONSTRATION GARDEN

Applicant: East Bay Municipal Utility District RVEC and Demonstration Gardens

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

	Category	Project Costs	Contingency 10%	Project Cost + Contingency	Applicant Share	State Share Grant	Life of investment (years)	Capital Recovery Factor	Annualized Costs
	(I)	\$ (II)	(III)	\$ (IV)	\$ (V)	\$ (VI)	(VII)	(VIII)	\$ (IX)
	Administration ¹								
	Salaries, wages	\$65,000	0	\$65,000	\$65,000	\$0	0	0.0000	\$0
	Fringe benefits	\$35,000	0	\$35,000	\$35,000	\$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	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
	Travel	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
	Other	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(a)	Total Administration Costs	\$100,000		\$100,000	\$100,000	\$0			\$0
(b)	Planning/Design/Engineering	\$800,000	0	\$800,000	\$700,000	\$100,000	0	0.0000	\$0
	Equipment								
(c)	Purchases/Rentals/Rebates/Vouchers	\$0	0	\$0	\$0	\$0	10	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
	Environmental								
(i)	Compliance/Mitigation/Enhancement	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(j)	Construction	\$2,818,000	281,800	\$3,100,000	\$2,700,000	\$400,000	0	0.0000	\$0
(k)	Other (Specify)	\$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	5	\$0	\$0	\$0	0	0.0000	\$0
(n)	TOTAL	\$3,718,000		\$4,000,000	\$3,500,000	\$500,000			\$0
(o)	Cost Share -Percentage				88	13			

1- excludes administration O&M.

APPENDIX C: Project Costs

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

QUALITATIVE DESCRIPTION - REQUIRED OF ALL APPLICANTS¹				QUANTITATIVE BENEFITS –(where data are available) ²
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 Direct³, Indirect⁴ or Both	Quantified Benefits (in-stream flow and timing, water quantity and water quality)
Bay-Delta: Indirect benefits from accrued local and regional implementation (see below).	Indirect public education and potential water savings from teaching the value of water and Bay-Delta programs.	In perpetuity as local benefits translate consumer behaviors into broader indirect CALFED benefits.	<u>Indirect</u> market transformation will eventually result in <u>direct</u> local, regional and statewide water supply benefits.	Quantifiable benefits to occur over time through education, hands-on workshops, product and gardening demonstrations--related products and services tied to statewide BMPs, potential BMPs, & naturally occurring savings at local and potentially regional levels.
Local: Water savings help to reduce local EBMUD and even broader Bay Area water diversions and timing of demand thereby improving in-stream flow, quantity & quality of water supplies at local and regional, (Bay-Delta) levels for affected utilities.	EBMUD and Bay Area agency Local savings in perpetuity, regional,	Natural and local incentive water savings over long term.	Not Applicable	Quantifiable benefits to occur over time through education, hands-on workshops, product and gardening demonstrations--related products and services tied to statewide BMPs, potential BMPs, & naturally occurring savings at local and potentially regional levels. Up to 18 million gallons per day.

¹The qualitative benefits should be provided in a narrative description. Use additional sheets to describe the benefits.

²The project benefits that can be quantified (i.e. volume of water saved or mass of constituents reduced) should be provided.

³Direct benefits are project outcomes that contribute to a CALFED objective within the Bay-Delta system during the life of the project.

⁴Indirect benefits are project outcomes that help to reduce dependency on the Bay-Delta system. Indirect benefits may be realized over time.

