

Proposition 50 Proposal Section A

BRAC Cost Reduction: Metering & Urban Retrofit

Western Municipal Water District
January 2005



BRAC Cost Reduction Proposal

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BRAC Cost Reduction Proposal

1. Cover Letter



John V. Rossi
General Manager

S.R. Al Lopez
President

Kevin D. Jeffries
Vice President

Elizabeth L. Curnison
Secretary/Treasurer

Wayne H. Holcomb
Director

Donald D. Galleano
Director

January 10, 2005

Ms. Debra Gonzalez
Office of Water Use Efficiency
1416 Ninth Street, Room 338
Sacramento, California 95814

SUBJECT: BRAC COST REDUCTION: METERING & URBAN RETROFIT

Dear Ms. Gonzalez:

Western Municipal Water District, founded in 1954, is a non-profit public agency providing water supply, wastewater disposal and water resource management to a population of more than 600,000 people within 510 square miles of western Riverside County.

Among the customers receiving 100 percent of their water from the Bay-Delta in Western's service area is March Air Reserve Base, a former Strategic Air Command military base down-sized in 1995 to become the nation's largest air reserve base. Western assumed responsibility for retail water supply and wastewater treatment at the base in 2002.

In addition to the 452nd Air Mobility Wing of the Air Force Reserve, this fully operational air base is also home to CA National Guard refueling aircraft, Army Reserve units, Air Force Radio & Television, and US Customs responsible for air and border security throughout the southwest. With 8,629 employees and a payroll of \$154,000,000, the total economic impact of the base exceeds \$347 million annually.

The base is to be reviewed by the Base Realignment and Closure Commission (BRAC) for possible closure. Because closure of this base would cause economic collapse in the local communities, seriously damaging one of the most dynamic regional economies in the state, cost-effective operations are highly desirable for reasons that extend beyond the California Bay Delta need for water efficiency.

Currently, a single massive meter serves both the military base and the residential area. Metering independent from the military base will immediately reduce military base operating costs and reduce overall water use.

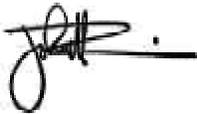
Western Municipal Water District
Grant application cover letter
Page 2

Residential units in Green Acres were built between World Wars I and II. Since down-sizing in 1995, these homes have been available as affordable housing rentals under March Joint Powers Authority, administered on behalf of the County of Riverside, and the cities of Riverside, Moreno Valley and Perris.

Western Municipal Water District is grateful for the opportunity to submit a grant application under Proposition 50. You are welcome to visit Western Municipal Water District for a tour of this vital military installation and to better understand the enormous contribution of this base to the regional economy and national security.

Thank you for considering the significant water savings to be gained by partnering with Western Municipal Water District in metering and retrofitting the residential portion of the nation's largest military air reserve base.

Sincerely,

A handwritten signature in black ink, appearing to read "John V. Rossi", with a horizontal line extending to the right from the end of the signature.

JOHN V. ROSSI
General Manager



BRAC Cost Reduction Proposal

2. Project Information Form [Section A-15a]

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, # **ii, iii, iv, x**
- (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):

4. Project Title:

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

Name, title

Mailing address

Telephone _____

Fax.

E-mail

12. Duration of project (month/year to month/year):

13. State Assembly District where the project is to be conducted:

14. State Senate District where the project is to be conducted:

15. Congressional district(s) where the project is to be conducted:

16. County where the project is to be conducted:

17. Location of project (longitude and latitude)

18. How many service connections in your service area (urban)?

19. How many acre-feet of water per year does your agency serve?

20. Type of applicant (select one):

- (a) City
- (b) County
- (c) City and County
- (d) Joint Powers Authority
- (e) Public Water District
- (f) Tribe
- (g) Non Profit Organization
- (h) University, College
- (i) State Agency
- (j) Federal Agency
- (k) Other
 - (i) Investor-Owned Utility
 - (ii) Incorporated Mutual Water Co.
 - (iii) Specify _____

21. Is applicant a disadvantaged community? If 'yes' include annual median household income.

- (a) X yes, 38,000 median household income
- (b) no

(Provide supporting documentation.)



BRAC Cost Reduction Proposal

3. Signature Page [Section A-15b]

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;

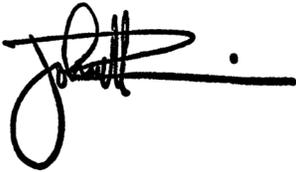
The individual signing the form has the legal authority to submit the proposal on behalf of the applicant;

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.

A handwritten signature in black ink, consisting of a large, stylized initial 'J' followed by a series of loops and a horizontal line ending in a dot.

Signature

Name and title

Date



BRAC Cost Reduction Proposal

4. Statement of Work [Section A-15c through A-15e]

Section c: Relevance & Importance

Section d: Technical Merit, Feasibility

Section e: Monitoring & Assessment

Section c: Relevance & Importance

Green Acres is located adjacent to the March Air Reserve Base. Recently realigned by the Base Realignment and Closure Commission, Green Acres was formerly U.S. Air Force officers' homes. The property of 110 freestanding homes is now public low-income family rental housing. The March Joint Powers Authority (JPA) owns and manages the Property. Western Municipal Water District acquired the water and sewer systems of both the remaining Air Reserve Base and the JPA property as part of the base realignment.

Although the water at the former air force base is metered as a whole, the 110 rental homes do not have individual water meters. The approximately 40 acres of common landscape area are also not individually metered. As such, the JPA and Air Force must estimate JPA water use and pay Western accordingly. One of the goals of this project is to provide March Air Reserve Base the ability to better calculate its water consumption separate from the JPA area. In doing so, the Air Reserve Base will have better control over its costs and be placed in a better standing during the next round of base realignment and closures (BRAC).

The JPA factors a fixed monthly water-use cost into tenant rents because of the current inability to measure the actual per home use. Another goal of the project is to give the tenant better control of their monthly costs and encourage efficient water use. The current lack of individual water-use knowledge on the part of the tenant and the inability to influence the cost does not encourage efficient water-use. This project also includes replacement of all indoor non-conserving fixtures with low-flow devices.

Western seeks Prop 50 funding to install 110 individual meters to the units as well as 45 landscape meters on the approximately 40 acres of common landscape area. The age of the buildings, concrete streets and the layout of the established landscape, prevents cost-effective consolidation of the landscape water distribution system into fewer meters. Following metering, Western will bill the individual tenants directly, as well as the JPA for landscape water used, on a monthly basis.

Section d: Technical Merit

A water metering study, done in Davis, California (*Effects of Metering on Residential Water Demand, Maddaus, 2001*) suggests that installing a meter on a single family residence coupled with volumetric pricing would yield a water savings of nearly 20-percent. Water use estimates for the individual homes is approximately 144 units each annually. Based on the Davis study, meter installation should yield an annual water savings of approximately seven acre-feet for all single family units in the Green Acres project.

Western is also requesting funding to completely retrofit the housing units with low-flow toilets, low-flow shower heads and faucet aerators which will result in additional water savings of approximately 4 acre-feet per year for all residences. Combined the metering and indoor retrofits will generate 11 acre-feet of water annually. Over the 30 year life of the meter and the 10 year life of the toilet (largest indoor savings) the total water saved is over 246 acre-feet. As this housing community receives 100-percent imported water from the state water project, this proposed project has a direct impact on the Bay-Delta.

The largest water savings, however; would result from the installation of 45 proposed landscape water meters. The annual historic Evapotranspiration rate for western Riverside County, as measured at CIMIS station #44, is 56.65 inches. The Metropolitan Water District of Southern California has stated that urban landscapes are over irrigated by as much as 100-percent. Although the Green Acres property is not over-irrigated on that order, there is plenty of room for savings.

Accounting for the maturity of the landscape and local climate factors metering will allow the irrigation schedule to be based on local CIMIS data and yield a water savings of approximately two acre feet per acre per year. Total landscape water savings would equate to approximately 80 acre-feet annually.

The combined metering and indoor/outdoor savings would be 90 acre-feet per year.

Section d: Feasibility

The homes, built between World War 1 and World War 2, are surrounded by large expanses of turf grass. The proposed metering and fixture retrofit is minimally invasive and fairly straight forward. Meters will be installed in the existing grass landscape. New pipe will be installed in trenches cut through the turf. There is little concrete or other obstacles to impede installation. Meters will be installed in concrete boxes with “touch-read” lids.

The home metering portion of the project will commence approximately four months after contract execution and be completed three months later. The landscape metering portion will commence at approximately the same time but will require an additional month to complete. The indoor fixture retrofit component will begin with the release of a request for bid almost immediately following contract execution. Indoor fixture replacement will commence upon the completion of the home meter installation. All construction and retrofits will be completed within 12 months of the contract execution.

Throughout the construction period, quarterly progress and expense reports will be submitted to the Department of Water Resources as required. Progress reports will include results of the fixture retrofit installation bid process as well as final device costs.

Following installation, meters will be read monthly. Usage data will be reported to the state quarterly and annually for five years as required.

The installation of water meters on an existing pipeline in an existing neighborhood as well as the replacement of non-conserving fixtures with ultra-low flow models is not considered a “project” under the California Environmental Quality Act. Actions in this proposal are categorically exempt under Class 1 - Existing Structures.

Section e: Monitoring & Assessment

The basic premise of Western's proposal is to facilitate better monitoring of water use through the installation of meters in a low-income single-family housing area. Current water use is estimated by past military data and home size.

Following installation, Western's operations team will read the new meters on a monthly basis and the finance team will prepare monthly water service bills. Meter reading is done monthly by Western and therefore no costs for collection of data will be expensed against funds received from Proposition 50.

The landscape meters will be read and usage data will be plotted against Evapotranspiration data recorded by CIMIS station #44 to increase landscape water efficiency. In addition, the Riverside-Corona Resource Conservation District, annually funded by Western to conduct large-landscape and agricultural water audits, will conduct a pre and post inspection of the property and irrigation systems to document base line conditions and improvements to further increase efficiency.

Following the installation of the indoor fixtures residents will be asked to complete simple water-use and awareness surveys. Only general occupant data will be collected. No personal information will be collected. Water use data will be reported to the Department of Water Resources electronically on a quarterly basis as required. Annual reports of benefits and costs will also be submitted.



BRAC Cost Reduction Proposal

5. Qualifications of the Applicants & Cooperators [Section A-15f]

Qualifications

Brenda S. Meyer, P.E. Civil Engineer, has been employed by Western Municipal Water District since 2004 and has more than 20 years of experience in general engineering applications for water, wastewater and hazardous waste. She is responsible for compliance issues for Western's water and wastewater systems. Prior to joining Western, she managed construction and environmental projects throughout Southern California gaining extensive project management experience. Her experience includes managing construction projects on Department of Defense and, specifically, Air Force facilities. She understands the potential complexities of dealing with infrastructure on facilities operated over many decades with varying degrees of maintenance and documentation. She received her Master's in Engineering from the University of Utah in Salt Lake City.

Jeffrey D. Sims, Principal Engineer, has more than eighteen years of civil engineering experience related to water and wastewater facility design and land development planning. He has been employed by Western Municipal Water District for eight years. Prior to joining Western Municipal Water District, Mr. Sims worked for the consulting civil engineering firm of J. F. Davidson Associates, Inc. for ten and one half years. Mr. Sims is a registered civil engineer in the State of California with a Bachelor of Science in Civil Engineering from California Polytechnic State University at Pomona and a Masters in Public Administration from California State University at San Bernardino.

John E. Shipley, Operations Superintendent, has been employed by Western Municipal Water District for 25 years. He is responsible for operation, maintenance and security of all Western Municipal Water District water and wastewater facilities. He supervises a workforce of over 40 people. His experience, background and certification include water distribution, treatment, cross-connection control and telemetry systems.

Melodie D. Johnson, Public Information Officer, has been employed by Western Municipal Water District since 1990 and has more than 20 years of extensive experience in the communication field in both the public and private sectors, including sole proprietorship of a communication services company and with TRW Inc. Johnson leads the strategic communication planning efforts and programs at Western Municipal Water District in order to meet the goals of the business. She is responsible for managing the District's communication, media relations, conservation, governmental affairs and public outreach efforts. She has received numerous awards for her communication work and was selected by TRW for the YWCA Women in Achievement Award. Johnson attended the University of Utah in Salt Lake City.

Qualifications

Jeffrey L. Minkler, Chief Financial Officer, has more than thirty-eight years accounting and management experience. He has been employed by Western Municipal Water District for less than two years. He has a background in both real estate development and manufacturing. He worked for Kaiser Development Company for over twenty years and was most recently with Aldila, Inc. Mr. Minkler's thirty year water background comes from an association with Rancho California Water District as an elected Treasurer and Director. He has a Bachelor of Science in Accounting from California State University at Long Beach.

Timothy T. Barr, Communication Specialist, has been employed full-time by Western Municipal Water District since 1991. Prior to 1991, he worked for two years as a college intern supporting Western's school education program and water conservation garden, *Landscapes Southern California StyleSM*. Barr has spent the last 13 years refining Western's landscape water conservation message. He is responsible for ensuring that the water-wise landscape principles demonstrated in the water conservation center are applied at the District's 21 landscaped offices, reservoir sites and booster stations. Barr is also responsible for Western's residential, commercial and landscape conservation programs administering hundreds of thousands of dollars annual in water conservation incentives. He received his BS in Business Administration from the University of California, Riverside, and is certified by the American Water Works Association as a Water Conservation Practitioner. Additionally, Barr completed coursework at the Designer/Manager School of Irrigation at Cal Poly San Luis Obispo's Irrigation Training & Research Center.



BRAC Cost Reduction Proposal

6. Outreach, Community Involvement & Acceptance [Section A-15g]

Outreach, Community Involvement & Acceptance

This project is ultimately designed to reduce the cost of annual water used for the March Joint Powers Authority as well as the March Air Reserve Base. The Base and the money it brings to the local economy has a significant impact on the surrounding communities. The next round of Base Realignment and Closures (BRAC) is a threat to the local economy. Anything Western can do to increase the water efficiency of the base effects base operating costs and improves the chances that the military will remain in western Riverside County.

This proposal links the community of Green Acres directly to Western and opens the door to dissemination of water information including CALFED Bay-Delta issues directly to the residents. Western's community outreach programs provide a variety of opportunities to increase public awareness of water.

The following is a list of the stakeholders in this proposal:

- The residents of Green Acres,
- The March Joint Powers Authority,
- The March Air Reserve Base,
- The Riverside-Corona Resource Conservation District,
- The Metropolitan Water District of Southern California,
- The Western Municipal Water District of Riverside County,
- and The Department of Water Resources.

As well as the citizens, businesses and property owners in the region potentially impacted by BRAC action to close or realign the base (an annual economic impact of \$347 million), and the 8,629 base employees.



BRAC Cost Reduction Proposal

6. Innovation [Section A-15h]

Innovation

Although the March Reserve Base and adjacent JPA property are metered as a whole, there is currently no precise method to measure individual uses on the site. The ability to measure and charge the individual users a volumetric rate would allow the effected parties to take control of their own costs as well as impact water use efficiency.

To Western Municipal Water District the project is more than just metering to measure consumption. The goal is to reduce demand and further to give the residents of these low-income homes the tools to use water efficiently.

The proposal includes the retrofit of indoor devices, many that are more than 40 years old, to ensure demand reduction. There is nothing innovative about water meters or ultra-low-flow plumbing. However, revitalizing a community through the efficient use of water probably could be considered innovative.



BRAC Cost Reduction Proposal

8. Benefits & Costs [Section A-15i]

Project Benefits & Costs

Western Municipal Water District supplies the Green Acres housing area with water purchased from the Metropolitan Water District of Southern California. Metropolitan receives this imported water from the California State Water Project and treats it to drinking water standards at the Henry J. Mills Filtration Plant in Riverside. One hundred percent of the water delivered through the Mills plant comes from the Bay-Delta.

The Green Acres housing area receives 100-percent of its water from Western Municipal Water District. A reduction in water use at Green Acres is a direct reduction in demand on the Bay Delta.

The climate factors of western Riverside County dictate that the majority of demand reduction, as a result of this project, would be in the warmer months of April through September. The annual direct water savings benefit to the Bay Delta, as a result of this project, would exceed 90 acre-feet.

Cost tables C-1 through C-8 are attached.

Table C-1: Project Costs (Budget) in Dollars)

	Category (I)	Project Costs \$ (II)	Contingency % (ex. 5 or 10) (III)	Project Cost + Contingency \$ (IV)	Applicant Share \$ (V)	State Share Grant \$ (VI)	Life of investment (years) (VII)	Capital Recovery Factor (VIII)	Annualized Costs \$ (IX)
	Administration ¹								
	Salaries, wages	\$45,641	0	\$45,641	\$0	\$45,641	30	0.0726	\$3,314
	Fringe benefits	\$22,821	0	\$22,821	\$0	\$22,821	30	0.0726	\$1,657
	Supplies	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
	Equipment	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
	Consulting services	\$47,035	0	\$47,035	\$0	\$47,035	10	0.1359	\$6,392
	Travel	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
	Other	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(a)	Total Administration Costs	\$115,497		\$115,497	\$0	\$115,497			\$11,362
(b)	Planning/Design/Engineering	\$91,283	2	\$93,109	\$0	\$93,109	30	0.0726	\$6,760
	Equipment								
(c)	Purchases/Rentals/Rebates/Vouchers	\$48,900	5	\$51,345	\$13,200	\$38,145	30	0.0726	\$3,728
(d)	Materials/Installation/Implementation	\$47,850	5	\$50,243	\$0	\$50,243	10	0.1359	\$6,828
(e)	Implementation Verification	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(f)	Project Legal/License Fees	\$3,200	0	\$3,200	\$0	\$3,200	30	0.0726	\$232
(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	\$163,000	5	\$171,150	\$0	\$171,150	30	0.0726	\$12,425
(k)	Other	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(l)	Monitoring and Assessment	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(m)	Report Preparation	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(n)	TOTAL	\$469,730		\$484,543	\$13,200	\$471,343			\$41,335
(o)	Cost Share -Percentage				3	97			

1- excludes administration O&M.

Applicant:

Western Municipal Water District

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

Table C-2: Annual Operations and Maintenance Costs

Operations (1) (I)	Maintenance (II)	Other (III)	Total (IV) (I + II + III)
\$19,291	\$13,060	\$0	\$32,351

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

Table C-3: Total Annual Project Costs

Annual Project Costs (1) (I)	Annual O&M Costs (2) (II)	Total Annual Project Costs (III) (I + II)
\$41,335	\$32,351	\$73,686

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

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

Table C- 4: Capital Recovery Table (1)

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

(1) Based on 6% discount rate.

Applicant: **Western Municipal Water District**

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

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

	Qualitative Description - Required of all applicants ¹				Quantitative Benefits - where data are available 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 Direct ³ Indirect ⁴ or Both	Quantified Benefits (in-stream flow and timing, water quantity and water quality)
Bay Delta	See attached Exhibit 1A				
Local	See attached Exhibit 1B			Not applicable.	See attached Exhibit 1B

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

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

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

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

Applicant:

Western Municipal Water District

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

Table C-6 Project Annual Local Monetary Benefits

ANNUAL LOCAL BENEFITS	ANNUAL QUANTITY	UNIT OF MEASUREMENT	ANNUAL MONETARY BENEFITS
(a) Avoided Water Supply Costs (Current or Future Source)	90	Acre-feet	\$42,300
(b) Avoided Energy Costs	0		\$0
(c) Avoided Waste Water Treatment Costs	0		\$0
(d) Avoided Labor Costs	0		\$0
(e) Other (describe)	0		\$0
(f) Total [(a) + (b) + (c) + (d) + (e)]			\$42,300

Table C-7 Project Local Monetary Benefits and Project Costs

(a) Total Annual Monetary Benefits [(Table C-6, row (f))]	\$42,300
(b) Total Annual Project Costs (Table C-3, column III)	\$73,686

Table C-8 Applicant's Cost Share and Description

Applicant's cost share %: (from Table C-1, row o, column V)	3
Describe how the cost share (based on relative balance between Bay-Delta and Local Benefits) is derived. (See Section A-7 for description.)	
Provide Description in a narrative form.	See Attached Exhibit 2

Exhibit 1A Bay-Delta Qualitative and Quantitative Benefits Narrative

Western Municipal Water District's proposal would reduce annual demand on the Bay-Delta system by approximately 90 acre-feet. One hundred percent of the water served to this community is imported from the Bay-Delta. Approximately 10 acre-feet would come from the installation of single family meters and the replacement of non-conserving plumbing fixtures with ultra-low flow toilets, showerhead and faucet aerators. This demand reduction would occur fairly evenly throughout the year. An 80 acre-foot annual demand reduction would come from the installation of landscape water meters on approximately 40 acres of turf grass. The ability to measure landscape water consumption coupled with irrigation scheduling based on local CIMIS evapotranspiration data would yield an estimated two acre-foot reduction per acre of landscaping. The majority of the landscape water savings would occur in spring, fall and winter as unchecked landscape irrigation typically exceeds Eto during these seasons. For the purposes of capital cost recovery a life span of 30 years was used for all costs associated with the water meters and 10 years for the indoor retrofits.

Exhibit 1B Local Qualitative and Quantitative Benefits Narrative

Residents in the Green Acres community are considered low-income by definition in the 2004 Water Use Efficiency PSP. These residents would be given new plumbing fixtures as well as a method to control their own monthly expenses.

Exhibit 2 Cost Share Narrative

Western Municipal Water District is requesting a 97-percent State cost share to install individual water meters and replace non-conserving indoor fixtures. In addition to meeting the criteria for a disadvantaged community, the project is not locally cost effective, the community is served 100-percent Bay Delta water and the base itself is metered just not the individual homes. Western will leverage local fixture incentive funds to offset the purchase and installation of water efficient plumbing.



BRAC Cost Reduction Proposal

9. Attachments

Western Municipal Water District



Western Municipal Water District provides water supply, wastewater disposal, and water resource management to the public in a safe, reliable, environmentally-sensitive, and financially-responsible manner.

History of Western

The District was formed in 1954 under the Municipal Water District Act of 1911 for the purpose of bringing supplemental water from the Metropolitan Water District to growing western Riverside County.

Western Today

Today, Western serves more than 18,000 retail and eight wholesale customers with water from both the Colorado River and the State Water Project.

As a member agency of the Metropolitan Water District of Southern California, Western provides supplemental water to the cities of Corona, Norco, and Riverside and the water agencies of Elsinore Valley, Rancho California and Lee Lake. Western directly serves customers in the unincorporated areas of El Sobrante, Eagle Valley, Temescal Creek, Woodcrest, Lake Mathews, as well as March Air Reserve Base and portions of the city of Riverside.

Western's General District

Western's general district consists of...

...a 510 square mile area of western Riverside County.

...an assessed valuation of \$57 billion.

...a population of more than 600,000 people.



Western currently sells approximately 105,000 acre feet of water annually. This is equal to about 34 billion gallons. (One acre foot is enough water to cover a football field one foot deep.)

About two-thirds of the water Western sells is treated; the balance is untreated or raw water. About one-quarter of our water sales are for agricultural uses; the balance are for domestic purposes. One-quarter of our sales are to retail customers; the rest wholesale.

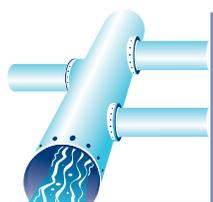
About one-fifth of the water Western purchases from the Metropolitan Water District comes from the Colorado River Aqueduct; most of our supply comes from the State Water Project, which transports water from Northern California via the California Aqueduct.

The Colorado River Aqueduct, operated by Metropolitan, runs through the District and flows into Lake Mathews, which is also physically located within Western's boundaries. In addition, Metropolitan's Henry J. Mills Treatment Plant is located within the District. The Mills plant treats State Water Project water.

The District operates 130 pumps, with a total approximate connected horsepower of 23,412. The system encompasses 422.45 miles of pipeline. The pipes range in diameter from 4 to 60 inches. The 30 water storage tanks have a capacity of 75.65 million gallons. The largest is the Orangecrest tank, which can store up to 12.5 million gallons of water. The District also has 13 sewer lift stations.

How Western is Governed

Western is governed by a five person Board of Directors,



elected to four year terms by the registered voters in the five election divisions in the Western Municipal Water District. The Directors are responsible for policy decisions which govern the operations of the District. They meet regularly the first and third Wednesdays of each month at 9:30 AM in Western's headquarters office Board Room.

Board of Directors

Wayne H. Holcomb
Division 1

Elizabeth L. Cunnison
Division 2

Kevin D. Jeffries
Division 3

Donald D. Galleano
Division 4

S. R. Al Lopez
Division 5

Appointed by Western's Board of Directors, John M. Mylne III represents Western on the Metropolitan Water District Board of Directors.

Western's staff consists of 86 full-time employees, 38 of whom are office staff performing engineering services, clerical, administration, support, and management functions, and 48 in field operations.

John V. Rossi
General Manager

District Finance

A major portion of Western's revenue is derived from water and wastewater rates and charges, as well as general revenue taxes. During the fiscal year 2004 - 2005, Western expects its operating expenses to total approximately \$60 million.



Wholesale Water Service

Wholesale customers that buy water from Western and in turn sell the water to their own customers are:

- Box Springs Mutual Water Co
- City of Corona
- City of Norco
- City of Riverside
- Eagle Valley Mutual Water Co
- Elsinore Valley Municipal Water District
- Lee Lake Water District
- Rancho California Water District

Retail Water Service

Western supplies water directly to agricultural and domestic users in service areas near Woodcrest, Lake Mathews and March Air Reserve Base, Orangecrest, Mission Grove and the Hillcrest areas of Riverside.

Water Reclamation

The District operates and maintains domestic and industrial wastewater collection and con-veyance systems for retail and contract services customers in Lake Hills, March Air Reserve Base, Home Gardens, Corona, and Norco.

Water Resource Management

Western's provides court-appointed Watermaster duties with responsibilities for reporting compliance with water quality and quantity provisions of court orders regarding water rights issues in the Santa Ana watershed.

Western is one of the five member agencies of the Santa Ana Watershed Project Authority (SAWPA), a regional water resources planning and project implementation organization.



Western Municipal Water District

Contract O&M Services

Western provides contract operation and maintenance services for neighboring jurisdictions. These include SAWPA's SARI line, a 30-million gallons per day industrial brine disposal system; the Box Springs Mutual Water Co. operations and administrative support; the Western Riverside County Regional Wastewater Authority's wastewater treatment facilities operations and administrative transactions, and engineering support to the Murrieta County Water District. Western also operates a 6.7 million gallons a day reverse osmosis water treatment plant, the Arlington Desalter. The plant produces high quality potable water and is helping reclaim the groundwater in the Arlington Basin and provide high quality drinking water to the city of Norco.

Water Conservation

Western is committed to encouraging water conservation. Visitors to our headquarters office may obtain useful free materials that will help them in their own conservation efforts. In addition, the following programs are designed to bring water resource education and conservation information to the community.

Western's Landscapes Southern California StyleSM

Since 1989, Western's Landscapes Southern California StyleSM, a unique conservation education center. The goal of Landscapes Southern California StyleSM is to assist in conserving California's water resources by increasing the public's acceptance, desire for, and use of, water-efficient landscaping.

The center is one acre in size with more than 250 species of water-wise plants. It is also home to the "Recycle H₂O Zone", an educational pavilion dedicated to water re-use. It is located adjacent to the District's head-quarters office. Resources are available at no charge to visitors. The garden is open daily, 10:00 AM to 4:00 PM., closed holidays.

Headquarters office
450 Alessandro Boulevard
Riverside, CA 92508
951.789.5000
951.780.3837 (FAX)
E-mail: western@wmwd.com
Web: www.wmwd.com

Headquarters Office hours
Monday through Friday
8:00 AM to 5:00 PM

Operations office
16451 El Sobrante Road
Riverside, CA 92504
Operations office and after-hours
emergency number
951.789.5100

Operations office hours
Monday through Friday
8:00 AM to 4:30 PM

Mailing address for all offices
P. O. Box 5286
Riverside, CA 92517-5286



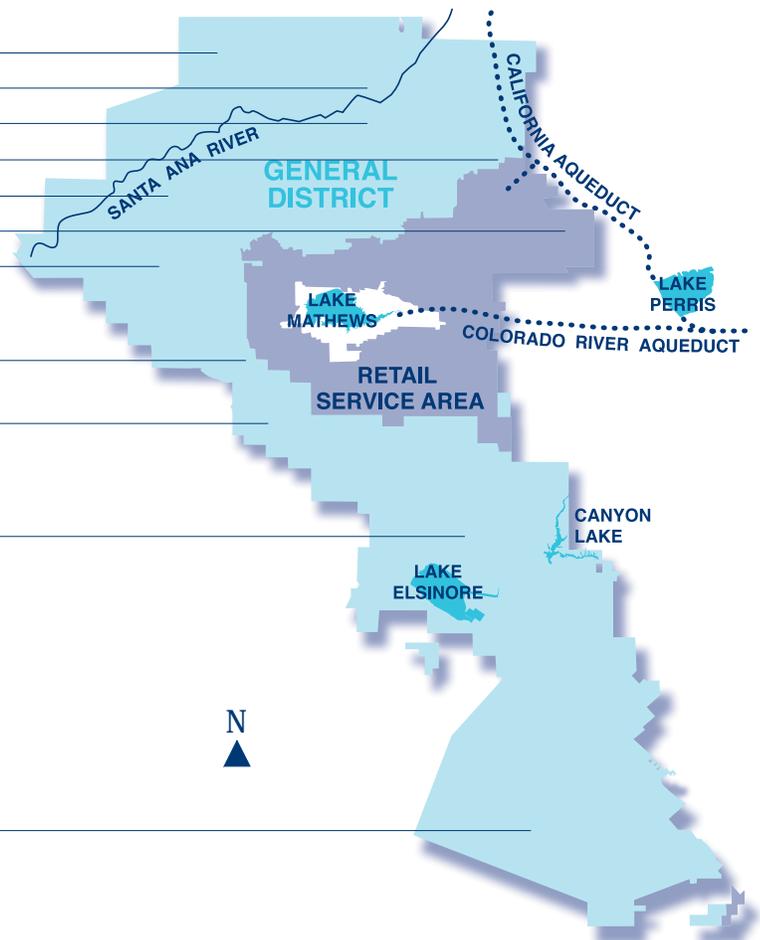
Western Municipal Water District General District Service Area

- Jurupa Community Saervices District
- Rubidoux Community Services District
- City of Riverside
- Box Springs Mutual Water Company
- City of Norco
- March Air Reserve Base
- City of Corona

- Eagle Valley Mutual Water Co.

- Lee Lake Water District

- Elsinore Valley Municipal Water District



Rancho California Water District

*A Brief History of
The Western Municipal Water District*



"It is the mission of the Western Municipal Water District to provide water supply, wastewater disposal, and water resource management to the public in a safe, reliable, environmentally sensitive, and financially-responsible manner."

“There’s gold in them thar hills!”



The first Colorado River water delivery to a Western Municipal Water District of Riverside County customer took place on May 12, 1956, to the Bedford Heights Mutual Water Company

It wasn’t gold, exactly, but it was the next best thing in Southern California: A readily-available and plentiful supply of water.

Since 1879, the easterly portion of the interior basin of the Santa Ana River was considered one of the best “watered” areas in Southern California. Water – and plenty of it – would always be there for the taking – or so certain communities in Riverside and San Bernardino counties thought.

The first hint that this might not always hold true came in the late 1920s when the State Division of Water Resources warned Riverside and San Bernardino that they would eventually run short of water.

This first warning was ignored. The next wasn’t.

A post-World War II population boom began to catch up with nature’s ability to replenish stream flow and pumped underground waters of the basin. The water tables began to recede rapidly as drought added to the ever-increasing need for water.

As a result, in early 1952, following conferences between private water companies and San Bernardino and Riverside counties, Chambers of Commerce, the Upper Santa Ana River Water Study Committee was established. The committee retained two well-known Southern California water engineers, Harold Conkling and Donald Baker, to study and report on the “Adequacy of Present Water Supply of Easterly Portion of Interior Basin of Santa Ana River.”

The Conkling-Baker Report concluded that the area’s demand for water averaged 60,000 acre feet more per year than nature had historically supplied.

Faced with a pressing need for a source of supplemental water, the study committee looked to the Metropolitan Water District of Southern California and its Colorado River Aqueduct. The Aqueduct had been constructed in the midst of the Depression to transport Colorado River water 242 miles to Metropolitan members agencies in the Southern California coastal plain. The Aqueduct’s terminal reservoir, Lake Mathews, was located in the heart of Riverside County.

To negotiate with Metropolitan, the Riverside County members of the study sponsored formation of the Western Municipal Water District Committee of Riverside County. The new District’s boundaries, if approved by the voters, would include the cities of Riverside and Corona and the habitable lands near these cities within the same watershed. Because Elsinore Valley was experiencing serious water shortages, the Elsinore Valley and Temescal Canyon portions of western Riverside County were also included.

On January 19, 1954, the electorate, by majority vote, agreed to the formation of the Western Municipal Water District of Riverside County. Once the public voted to create the District, the Citizens Committee for Water campaigned for annexation to the Metropolitan Water District. Annexation was approved by the voters the following September, and the District became a Metropolitan member agency on November 12, 1954.

Once the District joined Metropolitan, the Western Board turned its attention to the actual delivery of imported water.

The first meeting of the Board of Directors, who had been elected concurrently with the formation election, was held January 26, 1954 at the District office at 3614 Ninth Street, Riverside. The District subsequently relocated to Riverside Avenue and then, in 1986, moved to its current headquarters on Alessandro Boulevard.

In October, 1954, shortly after Western's annexation to Metropolitan, the Elsinore Valley Municipal Water District became an agency for the distribution of supplemental water within Western's boundaries. Western's first delivery of Colorado River water was made on May 12, 1956 to the Bedford Heights Mutual Water Company. This water was used for the irrigation of newly-planted citrus trees. Eventually, the District would supply irrigation water for 9,000 acres of citrus. Today, less than 3,000 acres remain.

It wasn't until the 1960s that the District began operating its own retail domestic system. Western's first system for the delivery of drinking water directly to the homeowner was constructed in the Rainbow Canyon area south of Temecula. This small area was annexed to Western in 1959 and water service started to 27 customers in 1962, as part of an agreement that allowed the Metropolitan Water District to construct a pipeline through the area.



Construction of a potable water delivery system for the Woodcrest area of Riverside County began in 1960. This connection at the Val Verde channel on the Aqueduct allowed for the delivery of Colorado River water to the District's new retail customers

The first major retail improvement district, ID-1, began water service to 300 customers in 1962. The property owners in this improvement district, which incorporates the Woodcrest area of Riverside County, relied on wells that had periodically run dry for their drinking water prior to Western's arrival. Along with construction of the backbone water delivery facility, the District's Cajalco Treatment Plant for purification of Colorado River water for drinking, an intake on the Colorado River Aqueduct, and three storage tanks were also built. The Cajalco Treatment Plant was used for treatment of Colorado River water for Western's retail domestic customers until 1993.

Today, the District provides retail water service to more than 16,000 customers in not only Woodcrest, but the lands surrounding Lake Mathews, as well as Orangecrest Hills, the Hillcrest area of Riverside, March Air Reserve Base, and Air Force Village West.



Until the late 1970s, the District's sole source of imported water was the Colorado River. However, because of the mineral content of this water source, many communities within Western's District had increasingly come under pressure to improve the quality of effluent discharged into the Santa Ana River Basin. One solution was to begin importing Northern California water, with its lower salt content, which had become available with construction of the State Water Project. Western began supplying Northern California water, treated at Metropolitan's Henry J. Mills Filtration Plant in Riverside, in 1979.



Water Resource Management

During the years since Western was approved by the voters, the District has served a leadership role in groundwater management and water resources protection.

Western has worked to educate the public about the importance of conserving water resources.

These programs are an important component of Western's role as a supplier of imported water. Without a reliable imported supply of water, western Riverside County's homes, industry, and agriculture would not be as they are today. Yet, because this water is imported, conservation and responsible management of it and all local water resources are vital. Since 1954, Western Municipal Water District of Riverside County had provided both.

The District has developed a variety of unique water-conservation education programs for schoolchildren in Riverside County, including many that utilize concepts demonstrated in the District's water conservation garden, Landscapes Southern California StyleSM

Western Municipal Water District

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