

APPENDIX A

**MINUTE ORDER FOR ADOPTION OF
THE URBAN WATER MANAGEMENT PLAN**

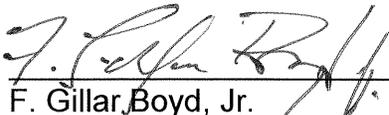
**A MINUTE ORDER OF THE BOARD OF DIRECTORS
OF THE DESERT WATER AGENCY
FOR ADOPTION OF
2005 URBAN WATER MANAGEMENT PLAN**

Following a duly noted public hearing, on motion by Director Byrne, seconded by Director Boyd, and unanimously carried, the 2005 Urban Water Management Plan was adopted on December 6, 2005.



Ronald E. Starrs
President

ATTEST:



F. Gillar Boyd, Jr.
Secretary-Treasurer

I, Janis L. Tefteller, Assistant Secretary of the Desert Water Agency, hereby certify that the above Minute Order reflects the unanimous vote of the Board of Directors of Desert Water Agency at their duly called and held meeting at the office of said Agency on the 6th day of December 2005.



Assistant Secretary of the Desert Water Agency



APPENDIX B

- **ORDINANCE NO. 31 - PROHIBITING THE WASTE OF WATER**
- **ORDINANCE NO. 45 - RESTRICTING WATER USE DURING WATER SUPPLY EMERGENCIES**

ORDINANCE NO. 31

AN ORDINANCE OF THE BOARD OF DIRECTORS
OF DESERT WATER AGENCY PROHIBITING THE
WASTE OF WATER

WHEREAS, Desert Water Agency (hereinafter "Agency"), is a public agency organized under the Desert Water Agency Law, Water Code Appendix 100-1, et seq., to provide water service among other purposes to the water users within the boundaries of the Agency; and

WHEREAS, the Agency's chief water sources are stream diversions, groundwater extractions within the Whitewater River Subbasin of the Upper Coachella Valley groundwater basin, and water obtained under its State Water Contract through an exchange agreement with The Metropolitan Water District; and

WHEREAS, during the past four years, total water production within the Whitewater River Subbasin, including surface diversions and pumped groundwater, has averaged slightly more than 104,000 acre feet per year. Production within the Desert Water Agency area has approximated one-third of such production, with the balance being produced for use within the Coachella Valley Water District. Such production, together with that pumped or diverted by other water producers in the basin, would have resulted without groundwater replenishment in an annual overdraft of approximately 36,000 acre feet per year within the basin; and

WHEREAS, since 1973, the Agency and Coachella Valley Water District have replenished the Whitewater River Subbasin with approximately 116,000 acre feet of imported Colorado River water, and as a result annual groundwater overdraft has been reduced though not eliminated; and

WHEREAS, while it is anticipated that imported water may eventually and for a limited period of time offset groundwater overdraft on an annual basis, continued growth in population will create water requirements which are likely to place further demands on groundwater in storage. The extent of annual overdraft in the future will depend on consumer demands and uses, and on the availability of local and imported supplies; and

WHEREAS, cumulative groundwater overdraft within the Whitewater River Subbasin has been estimated to be at least 400,000 acre feet. Although groundwater replenishment will reduce annual groundwater overdraft, it will have little effect on cumulative groundwater overdraft which has been occurring for more than 30 years within the basin. The Upper Coachella Valley groundwater basin is overdrawn and will remain so even with importation of water from outside the basin. Continued groundwater overdraft will increase pump lifts and could possibly cause aquifer subsidence. It could also adversely affect water quality by altering basin conditions, such as groundwater gradients and groundwater flow lines; and

WHEREAS, energy costs for pumping groundwater have increased 200% over the past 10 years, and are likely to continue to increase in the future; and

WHEREAS, pursuant to the directive of Article X, Section 2 of the California Constitution establishing the State's policy of water conservation and prohibition against waste, and pursuant to the statutory authority granted by Sections 375-377 and Section 1009 of the California Water Code, and by Section 100 15(13) of the Appendix to the California Water Code, the Agency has engaged in a vigorous and ongoing program of water conservation, and this Ordinance is part of the Agency's Water Conservation Program; and

WHEREAS, the Agency finds that it is necessary and in the public interest to prohibit the waste of Agency water in order to conserve water supplies for the greatest public benefit, to protect and conserve the natural groundwater resources, to prevent or reduce future shortages of water, and

WHEREAS, the Agency further finds that the specific rules, regulations and restrictions established herein are necessary in order to prevent the waste of Agency water supplies, and are in addition to any voluntary conservation programs undertaken by water users within the service area of the Agency;

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE DESERT WATER AGENCY AS FOLLOWS:

SECTION 1: DEFINITIONS.

1.1 "Agency" -- Desert Water Agency.

1.2 "Board" -- The Board of Directors of the Desert Water Agency.

1.3 "General Manager: -- The General Manager of the Desert Water Agency.

1.4 "Water users" -- Any person, firm, partnership, association, corporation or political entity using water obtained from the water system of the Desert Water Agency.

1.5 "Waste" -- Any unreasonable or non-beneficial use of water, or any unreasonable method of use of water, including, but not limited to, the specific uses prohibited and restricted by this Ordinance as hereinafter set forth.

1.6 "Water" -- Water supplied by the Desert Water Agency.

SECTION 2: PROHIBITIONS ON WASTE.

2.1 No water user shall waste any water supplied through the distribution facilities of the Agency. The following uses of water are specifically found and determined to constitute waste:

(a) The use of water for any purpose, including landscape irrigation, which consumes or for which

there is applied substantial amounts of excess water beyond the reasonable amount required by such use, whether such excess water remains on the site, evaporates, percolates underground, goes into the sewer system, or is allowed to run off the property. Every water user is deemed to have under his control at all times the water distribution lines and facilities, other than Agency facilities, through which water is being supplied and used, and to know the manner and extent of his water use and excess run-off.

(b) The excessive use, loss, or escape of water through breaks, leaks or malfunctions in the water user's plumbing or distribution facilities for any period of time after such escape of water should reasonably have been discovered and corrected.

(c) The use of spray-type sprinklers or other irrigation devices in such a manner, or under such weather conditions, as to permit or cause overspray into the street, gutter or other hard surface, or the escape or flow of water into the street or gutter, in such amounts or frequencies as to create a hazardous condition for pedestrians or vehicular traffic, or to impede vehicular or pedestrian traffic, or to cause damage to the public streets, curbs or gutters. Because prolonged periods of windy weather may cause the loss of landscaping materials unless spraying or other irrigation methods are used, the occasional overspray which necessarily occurs during such weather conditions shall be an exception to this section.

SECTION 3: APPEALS AND EXCEPTIONS.

3.1 Application for Exception Permit. The General Manager of the Agency may grant permits for uses of water otherwise prohibited hereby if he finds and determines that special circumstances make compliance not reasonably possible, or that the restrictions herein would either:

(a) Cause an unnecessary and undue hardship to the water user or to the public; or

(b) Cause an emergency condition affecting the health, sanitation, fire protection or safety of the water user or of the public; or

(c) Prohibit operation of an efficient automatic or drip irrigation system which would use less water than alternative methods or irrigation.

(d) Require extensive construction, reconstruction, redesign, or equipment changes to an existing system or systems at a cost which is unreasonable in relation to the water and energy savings intended to be achieved by such changes.

Such exceptions may be granted only upon application in writing therefor. Upon granting any such exception permit, the General Manager may impose any conditions he determines to be just and proper, including a condition that such exceptional use be brought into compliance within a reasonable period of time.

SECTION 4: CONCURRENT AUTHORITY.

4.1 The Desert Water Agency, its manager and designated employees, have the duty and are authorized to enforce all provisions of this Ordinance, with the qualification that the City of Palm Springs through enforcement of Sections 14.24.020-14.24.060 of the Palm Springs Municipal Code, the City of Cathedral City, and the County of Riverside as to unincorporated territory within the Agency, are recognized to have concurrent authority for, and shall have the primary responsibility for the control of water flowing in the streets where such occurs within their respective jurisdictions.

SECTION 5: ENFORCEMENT.

5.1 First Violation. For a first violation, the Agency shall issue a written notice of violation to the water user violating the provisions of this Ordinance.

5.2 Second Violation; 25% Surcharge. For a second violation of this Ordinance within a 12-month period, a one-month surcharge is hereby imposed in an amount equal to 25% of the previous month's water bill for the meter through which the wasted water was supplied.

5.3 Third Violation; 50% Surcharge; Installation of Flow Restrictor. For a third violation of this Ordinance within a 12-month period, a one-month penalty

surcharge is hereby imposed in an amount equal to 50% of the previous month's water bill for the meter through which the wasted water was supplied. In addition to the surcharge, the Agency may at its discretion install a flow-restricting device at such meter with a one-eighth inch orifice for services up to one and one-half inch size, and comparatively sized restrictors for larger services, on the service of the customer at the premises at which the violation occurred for a period of not less than 48 hours. The charge for installing a flow-restricting device shall be based upon the size of the meter and the cost of installation but shall not be less than \$25. The charge for removal of the flow-restricting device and restoration of normal service shall be \$25 if restoration of normal service is performed during the hours of 8:00 a.m. to 4:00 p.m. on regular working days. If the removal of the flow-restricting device and restoration of normal service is made after regular working hours, on holidays or weekends, the restoration service charge shall be \$40.

5.4 Subsequent Violations; Discontinuance of Service. For any subsequent violation of this Ordinance within the 24 calendar months after a first violation as provided in Section 5.1 hereof, the penalty surcharge provided in Section 5.3 hereof shall be imposed and the Agency shall discontinue water service to that customer at the premises or to the meter where the violation occurred. The charge for reconnection and restoration of normal service

shall be \$25. Such restoration of service shall not be made until the General Manager of the Agency has determined that the water user has provided reasonable assurances that future violations of this Ordinance by such user will not occur.

SECTION 6: NOTICE.

6.1 For a first violation, written notice thereof may be given to the customer personally or by regular mail.

6.2 If the penalty assessed is a surcharge for a second or third violation, notice may be given by regular mail.

6.3 If the penalty assessed is, or includes, the installation of a flow restrictor or the discontinuance of water service to the customer for any period of time whatever, notice of the violation shall be given in the following manner:

(a) By giving written notice thereof to the customer personally; or

(b) If he be absent from his place of residence and from his assumed place of business, by leaving a copy with some person of suitable age and discretion at either place, and sending a copy through the United States mail addressed to the customer at either his place of business or residence; or

(c) If such place of residence and business cannot be ascertained, or a person of suitable age or discretion there cannot be found, then by affixing a copy in a conspicuous place on the property where the failure to comply is occurring and also by delivering a copy to a person there residing, if such person can be found, and also sending a copy through the United States mail addressed to the customer at the place where the property is situated.

Said notice shall contain, in addition to the facts of the violation, a statement of the possible penalties for each violation and a statement informing the customer of his right to a hearing on the violation.

SECTION 7: HEARING.

Any customer against whom a penalty is levied pursuant to this section shall have a right to a hearing, in the first instance by the General Manager, with the right of appeal to the Board of Directors, on the merits of the alleged violation upon the written request of that customer within 15 days of the date of notification of the violation.

SECTION 8: RESERVATION OF RIGHTS.

The rights of the Agency hereunder shall be cumulative to any other right of the Agency to discontinue service. All monies collected by the Department pursuant to

any of the penalty provisions of this Chapter shall be deposited in the Operating Fund as reimbursement for the Agency's costs and expenses of administering and enforcing this Ordinance.

SECTION 9: SEVERABILITY.

If any section, subsection, sentence, clause or phrase of this Ordinance is for any reason held to be unconstitutional or invalid, such decision shall not affect the validity of the remaining portions of this Ordinance.

SECTION 10: The Clerk of the Desert Water Agency shall attest to the passage of this Ordinance and shall cause the same to be published in a newspaper of general circulation, in the City of Palm Springs.

ADOPTED this 16th day of February, 1982

Walter H. Hutchinson
President

ATTEST:

Robert E. Hird
Secretary

ORDINANCE NO. 45

ORDINANCE OF THE BOARD OF DIRECTORS OF
DESERT WATER AGENCY RESTRICTING WATER
USE DURING WATER SUPPLY EMERGENCIES

WHEREAS, Desert Water Agency (hereinafter "Agency") is a public agency organized under the Desert Water Agency Law, Water Code Appendix Section 100-1, et seq., to provide water service among other purposes to the water users within the boundaries of the Agency; and

WHEREAS, the Agency is authorized by Water Code Appendix Section 100-15 (13) to restrict the use of Agency water during a threatened or existing water shortage, and to prohibit the waste or the use of Agency water during such periods for any purpose other than domestic uses or such other uses as may be determined by the Agency to be necessary; and,

WHEREAS, the Agency is further authorized by Water Code §350 et seq. to declare a water shortage emergency and by Water Code §375-377 to adopt water conservation programs; and

WHEREAS, the Agency finds and determines that the adoption of water conservation rules and regulations is necessary to (1) protect the health, safety and welfare of the inhabitants of the district, (2) assure the maximum beneficial use of the water supplies of the Agency, and (3) ensure that there will be sufficient water supplies to meet

the basic needs of human consumption, sanitation and fire protection; and

WHEREAS, the Agency further finds that the specific rules, regulations and restrictions established herein are necessary in the event of an emergency which is the cause of a water supply shortage;

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE DESERT WATER AGENCY AS FOLLOWS:

SECTION 1: DEFINITIONS.

1.1 "Agency" -- Desert Water Agency.

1.2 "Board" -- The Board of Directors of the Desert Water Agency.

1.3 "Emergency Supply Shortage" -- Any water shortage caused by an earthquake, loss of electrical power, pipe line breakage, or any other threatened or existing water shortage caused by a disaster or facility failure which results in Agency inability to meet the water demands of its customers.

1.4 "General Manager" -- The General Manager of the Desert Water Agency.

1.5 "Waste" -- Any unreasonable or nonbeneficial use of water, or any unreasonable method of use of water, including, but not limited to, the specific uses prohibited and restricted by this Ordinance as hereinafter set forth.

1.6 "Water users" -- Any person, firm, partnership, association, corporation or political entity using water obtained from the water system of the Desert Water Agency.

1.7 "Water" -- Water supplied by the Desert Water Agency.

SECTION 2: NOTICED PUBLIC HEARING PRIOR TO MANDATORY CONSERVATION.

Except when an emergency is caused by the breakage or failure of a dam, pump, pipe line or conduit, a noticed public hearing shall be held prior to the adoption of stages 2, 3, or 4 of the Water Supply Plan for Emergency Supply Shortage as set forth in Sections 3.2, 3.3, and 3.4 below. Notice of the time and place of hearing shall be published at least seven days prior to the date of hearing in a newspaper printed, published, and circulated within the area in which the water supply is distributed, or if there is no such newspaper, in any newspaper printed, published, and circulated in the County in which the area is located.

SECTION 3: WATER SUPPLY PLAN FOR EMERGENCY SUPPLY SHORTAGE.

3.1 Stage No. 1. Normal Conditions: Voluntary Conservation Measures.

Normal conditions shall be in effect when the Agency is able to meet all the water demands of its customers in the immediate future. During normal conditions, all

water users should continue to use water wisely, to prevent the waste or unreasonable use of water, and to reduce water consumption to that necessary for ordinary domestic and commercial purposes.

3.2 Stage No. 2. Water Shortage Alert:
Mandatory Conservation Measures.

In the event of a sudden and unexpected water supply shortage which could prevent the Agency from meeting the water demands of its customers, the Board of Directors shall immediately hold a public hearing at which consumers of the water supply shall have the opportunity to protest and to present their respective needs to the Board. No public hearing shall be required in the event of a breakage or failure of a dam, pump, pipe line or conduit causing an immediate emergency. The Board may then declare a water shortage emergency condition to prevail, and the following rules and regulations shall be in effect immediately following such declaration.

(1) washing driveways, parking lots, or other hard surfaced area, or building exteriors at any time, except to alleviate immediate fire hazards is prohibited;

(2) parks, golf courses and school grounds are to be irrigated during nighttime hours only, between sunset and sunrise;

(3) lawn watering and landscape irrigation, including construction meter use, is prohibited between the hours of 10:00 a.m. to 5:00 p.m.;

(4) running water shall not be used for washing privately owned vehicles. A bucket may be used for the washing of vehicles and only hoses equipped with shut-off nozzles may be used for rinsing;

(5) restaurants are requested not to provide drinking water to patrons except by request;

(6) commercial nurseries shall use water only during the hours from midnight to 6:00 a.m. Irrigation of propagation beds and watering of livestock is permitted as necessary during any hours.

(7) Golf courses using reclaimed water are exempted from these restrictions.

3.3 Stage No. 3. Water Shortage Warning. The Board of Directors may, following a public hearing as set forth in Section 2.2, declare that an emergency water supply shortage exists, and that the Agency is unable to meet all the water demands of its customers. Immediately thereafter, the following water conservation measures shall apply:

(1) parks and schools shall be watered on alternate days during the hours between sunset to sunrise; The schedule of which shall be set following the public hearing.

(2) golfcourses which utilize domestic water from Desert Water Agency's domestic system may irrigate greens only during the hours between sunset to sunrise. Golf courses utilizing reclaimed water are exempted from this restriction;

(3) other lawn watering and landscape irrigation, including construction meter use are restricted as follows: customers with even numbered street addresses may water only on even numbered days, customers with odd numbered street addresses may water only on odd numbered days, and no watering or irrigation shall be done between the hours of 10:00 a.m. and 5:00 p.m. on any day;

(4) washing down of driveways, parking lots, or other paved surfaces is prohibited;

(5) washing of vehicles is restricted to commercial car wash establishments which recycle their water;

(6) filling or adding water to swimming pools, wading pools, spas, ornamental ponds, fountains and artificial lakes is prohibited;

(7) restaurants shall not serve drinking water to patrons except by request;

(8) no new construction meter permits shall be issued by the Agency;

(9) construction metered water shall not be used for earth work or road construction purposes;

(10) watering of livestock is permitted as necessary during any hours;

(11) commercial nurseries may use water only between the hours of 6:00 p.m. and 6:00 a.m. Irrigation of propagation beds is permitted as necessary during any

hours. Commercial nurseries utilizing reclaimed water are exempted from this restriction.

3.4 Stage No. 4. Mandatory Compliance. Water Shortage Emergency.

Following a declaration by the Board of Directors that an emergency water supply shortage due to a major failure in a supply or distribution facility exists, the following water conservation measures shall apply:

(1) watering of parks, school grounds and golfcourses is prohibited, except for reclaimed water;

(2) lawn watering and landscape irrigation is prohibited;

(3) washing down of driveways, parking lots, or other paved surfaces is prohibited;

(4) washing of vehicles is prohibited, except when done by commercial car wash establishments using recycled or reclaimed water;

(5) filling or adding water to swimming pools, wading pools, spas, ornamental ponds, fountains and artificial lakes is prohibited;

(6) restaurants shall not serve drinking water to patrons except by request;

(7) no new construction meter permits shall be issued by the Agency;

(8) all existing construction meters shall be turned off and locked;

(9) commercial nurseries shall discontinue all watering and irrigation. Those utilizing reclaimed water are exempted from this restriction. Watering of livestock is permitted as necessary.

SECTION 4. BOARD DISCRETION TO MODIFY CONSERVATION MEASURES UPON A SHOWING OF NECESSITY THEREFOR.

The specific requirements of each mandatory conservation stage shall be effective upon adoption by the Board following a public hearing, except that the Board may modify or amend such requirements at the time of adoption upon a showing of the need for such modification or amendment.

SECTION 5. IMPLEMENTATION AND TERMINATION OF MANDATORY COMPLIANCE STAGES.

5.1 The General Manager of the Agency shall monitor the supply and demand for water on a daily basis to determine the level of conservation required by the implementation or termination of the Water Conservation Stages, and shall notify the Board of the necessity for the implementation or termination of each stage. Each declaration of the Board implementing or terminating a water conservation stage shall be published at least once in a newspaper of general circulation, and shall remain in effect until the Board of Directors otherwise declares, as provided herein.

SECTION 6. EXCEPTIONS.

6.1 Application for Exception Permit. The General Manager of the Agency may grant permits for uses of water otherwise prohibited thereby if he/she finds and determines that special circumstances make compliance not reasonably possible, or that restrictions herein would either:

(a) Cause an unnecessary and undue hardship to the water user or the public; or

(b) Cause an emergency condition affecting the health, sanitation, fire protection or safety of the water user or of the public.

Such exceptions may be granted only upon application therefor. Upon granting any such exception permit, the General Manager may impose any conditions he/she determines to be just and proper.

SECTION 7. CRIMINAL PROCEEDINGS FOR VIOLATION.

7.1 The Board of Directors hereby declares that, pursuant to Water Code Section 377, it shall be a misdemeanor for any person to use or apply water contrary to or in violation of any mandatory restriction or requirement established by this ordinance and, upon conviction thereof, that person, firm or corporation shall be punished by imprisonment in the county jail for not more than thirty (30) days or a fine of not more than one thousand dollars (\$1000) or by both such fine and imprisonment.

SECTION 8. CIVIL PROCEEDINGS FOR VIOLATION.

In addition to criminal penalties, violators of the mandatory provisions of this Ordinance shall be subject to civil action initiated by the Agency.

8.1 First Violation. For a first violation, the Agency shall issue a written notice of violation to the water user violating the provisions of this Ordinance.

8.2 Second Violation: 25% Surcharge. For a second violation of this Ordinance within a 12-month period, a one-month surcharge is hereby imposed in an amount equal to 25% of the previous month's water bill for the meter through which the wasted water was supplied.

8.3 Third Violation: 50% Surcharge; Installation of Flow Restrictor. For a third violation of this Ordinance within a 12-month period, a one-month penalty surcharge is hereby imposed in an amount equal to 50% of the previous month's water bill for the meter through which the wasted water was supplied. In addition to the surcharge, the Agency may at its discretion install a flow-restricting device at such meter with a one-eighth inch orifice for services up to one and one-half inch size, and comparatively sized restrictors for larger services, on the service of the customer at the premises at which the violation occurred for a period of not less than 48 hours. The charge for installing a flow-restricting device shall be based upon the size of the meter and the cost of installation but shall not

be less than \$25. The charge for removal of the flow-restricting device and restoration of normal service shall be \$25 if restoration of normal service is performed during the hours of 8:00 a.m. to 4:00 p.m. on regular working days. If the removal of the flow-restricting device and restoration of normal service is made after regular working hours, on holidays or weekends, the restoration service charge shall be \$40.

8.4 Subsequent Violations; Discontinuance of Service. For any subsequent violation of this Ordinance within the 24 calendar months after a first violation as provided in Section 6.1 hereof, the penalty surcharge provided in Section 6.3 hereof shall be imposed and the Agency shall discontinue water service to that customer at the premises or to the meter where the violation occurred. The charge for reconnection and restoration of normal service shall be \$25. Such restoration of service shall not be made until the General Manager of the Agency has determined that the water user has provided reasonable assurances that future violations of this Ordinance by such user will not occur.

8.5 Notice. For a first violation, written notice may be given to the customer personally or by regular mail.

If the penalty assessed is a surcharge for a second or third violation, notice may be given by regular mail.

If the penalty assessed is, or includes, the installation of a flow restrictor or the discontinuance of water service to the customer for any period of time whatever, notice of the violation shall be given in the following manner:

(a) By giving written notice thereof to the customer personally; or

(b) If he/she is absent from his/her place of residence and from his/her assumed place of business, by leaving a copy with some person of suitable age and discretion at either place, and sending a copy through the United States mail addressed to the customer at either his/her place of business or residence; or

(c) If such place of residence and business cannot be ascertained, or a person of suitable age or discretion there cannot be found, then by affixing a copy in a conspicuous place on the property where the failure to comply is occurring and also by delivering a copy to a person there residing, if such person can be found, and also sending a copy through the United States mail addressed to the customer at the place where the property is situated.

Said notice shall contain, in addition to the facts of the violation, a statement of the possible penalties for each violation and a statement informing the customer of his right to a hearing on the violation.

SECTION 9. HEARING.

9.1 Any customer against whom a penalty is levied pursuant to Section 5 and 6 shall have a right to a hearing, in the first instance by the General Manager, with the right of appeal to the Board of Directors, on the merits of the alleged violation upon the written request of that customer within fifteen (15) days of the date of infraction of the violation.

SECTION 10. RESERVATION OF RIGHTS. The rights of the Agency hereunder shall be cumulative to any other right of the Agency to discontinue service. All monies collected by the Department pursuant to any of the penalty provisions of this Chapter shall be deposited in the Operating Fund as reimbursement for the Agency's costs and expenses of administering and enforcing this Ordinance.

SECTION 11. CONCURRENT AUTHORITY.

11.1 The Desert Water Agency, its manager and designated employees, have the duty and are authorized to enforce all provisions of this Ordinance, with the qualification that the City of Palm Springs through enforcement of Sections 14.24.020-14.24.060 of the Palm Springs Municipal Code, the City of Cathedral City, and the County of Riverside as to unincorporated territory within the Agency, are recognized to have concurrent authority for, and shall have the primary responsibility for the control of water flowing in the streets where such occurs within their respective jurisdictions.

SECTION 12. NO REPEAL OR AMENDMENT OF ORDINANCE

31. This ordinance shall be in addition to Ordinance 31 (prohibiting the waste of water). In the event of conflicting provisions, this ordinance shall prevail.

SECTION 13. SEVERABILITY.

13.1 If any section, subsection, sentence, clause or phrase of this Ordinance is for any reason held to be unconstitutional or invalid, such decisions shall not affect the validity of the remaining portions of this Ordinance.

SECTION 14. The Clerk of the Desert Water Agency shall attest to the passage of this Ordinance and shall cause the same to be published in a newspaper of general circulation, which is printed, published and circulated in the district within 10 days after its adoption.

ADOPTED this 18th day of October, 1988

F. Gillar Boyd, Jr.
President

Attest:

Secretary

APPENDIX C

**WATER CONSERVATION PROGRAM OF THE
DESERT WATER AGENCY
JANUARY, 1977**

WATER CONSERVATION PROGRAM

of the

DESERT WATER AGENCY

January, 1977
Palm Springs, California

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OVERVIEW

The Desert Water Agency's water conservation efforts have been in two directions:

1. Since 1974, working on a one-to-one basis with large volume users teaching conservation techniques.
2. Since 1975, a Residential Pilot Program conceived to measure the effectiveness of a water conservation program based on a general public information approach.

The large-volume user program has been conducted by Mr. William Scarlott of the Agency's staff and is covered in the second section of this report.

The Residential Pilot Program has been conducted by Mr. Ron Baetz, also of the Agency's staff.

The arid desert climate and tourist orientation of the Palm Springs area provide extreme challenges in approaching water conservation.

As every water distribution system faces different challenges, Staff realized that every effort must be made to truly know our consumers. By selecting eight widely-varied cross sections of the community to work with, We feel that the Agency can now pursue a Public Information Water Conservation Program intelligently and at a reasonable cost. We know that we would have made very costly errors, had we plunged blindly into an expensive, uncontrolled program a year ago.

The "Grass-Roots" approach of working directly with 160 consumers is undeniably the best method to understand consumptive use patterns and people's response to water conservation information. One of the "Test" information releases concerned water use in the bathroom. When asked "How has the water conservation program affected your water use?", one man answered ... "I feel guilty when I brush my teeth!"

We're very pleased with the consumers interest and attitude toward water conservation. Some people made terrific efforts to reduce water consumption during a month's period, only to find that someone left a hose running overnight, which wiped out the prior savings. Learning can be painful.

The Residential Pilot Program aimed at making water conservation a topic of discussion in the home, affecting all members. This was accomplished.

We learn in steps. By this report, the research phase is concluded and we now begin the Public Awareness Phase with a General Information Program covering the entire service area of the Agency.

We are dealing with changing basic social values among our consumers. This will require patience and untiring effort for a long time.

RONALD L. BAETZ

Project Supervisor
Residential Pilot Program

CONCLUSIONS

The concept of measuring the effectiveness of a water conservation program by the use of "Test" and "Control" groups has proven successful during the Residential Pilot Program. We will be unable to continue effectiveness measurements once a full scale program is begun as all consumers will then be exposed to water conservation information.

Per capita water consumption within the Desert Water Agency varies widely depending upon household population, socio-economic status, the employment of gardeners, whether served by sewer system or septic tank and service pressure.

Differing sections of the community are responsive to different approaches. Some are motivated with the thought of saving money. Others respond to the moral values of conserving a valuable natural resource. A few don't respond to any approach.

Conclusive reductions in water consumption cannot be expected on a short-term basis except under crisis conditions.

With a voluntary water conservation program, the Desert Water Agency's initial goal to reduce water use by 5% will be easily reached in a relatively short period of time with a general public information program using local radio and newspaper media. A higher goal, 10% or 15% could be established.

Twenty-five percent to thirty percent reductions in water use can be expected in the long term in some socio-economic sections of the community.

Irrigation consumption should be the primary target of future water conservation programs of the Desert Water Agency as 60% to 80% of the total water use at the average home is for irrigation.

Retro-Fit should be encouraged, but future program direction should be coordinated with the results of the State Department of Water Resources' San Diego test.

The greatest impact is probably made on youngsters attending school at the grade level. Reaching the impressionable youngster will often result in multiplication of the message when the youngster takes the message home and shares it with other members of his household.

The large volume user program has proven very successful with condominiums, city parks and other users who can be easily reached on a one-to-one basis. This program should be continued and expanded upon.

Residential and other lower-volume users cannot effectively or economically be reached on a one-to-one basis. Therefore, a Public Information Water Conservation Program should be pursued to reach all sections of the community.

The current drought conditions in the state add impetus to the implementation of an aggressive water conservation program.

STATEMENT OF POLICY

THE DESERT WATER AGENCY

REGARDING: WATER CONSERVATION

SEPTEMBER, 1975

The Directors of the Desert Water Agency are concerned by the past increases in the cost of supplying water to the greater Palm Springs area, the anticipated future increase in this cost, and that water pumping requirements have exceeded available and replenishable supplies.

Therefore, the Directors wish to have the Desert Water Agency staff undertake a study to determine the consumption patterns of the consumers in the Desert Water Agency area. This study would determine the consumption in typical households and businesses throughout the community. Hopefully, the study would identify ways in which consumption can be effectively reduced. This study should take into consideration the types and number of plumbing facilities within the household or business, the amount of yard area and the type of landscaping involved, the use of automatic devices for the control of irrigation, and any other items which might seem pertinent to the study.

Should this study conclude that there are proven ways of conserving water, the Directors would further request that staff suggest a reasonable goal as to the overall average reduction that could be anticipated in a given period of time.

In order to achieve this goal, the staff should outline a plan to educate consumers as to how to best achieve same.

PRELIMINARY PLANNING

Program Goals

1. Investigate water consumption patterns within the Desert Water Agency's boundaries.
2. Analyze indoor and outdoor water consumption patterns.
3. Determine the most effective ways to reduce water consumption
4. Set a reasonable goal for reduction of water consumption in the average home.
5. Formulate a plan to educate consumers on how they can conserve water in their home and garden.

Information Solicitation

To assist with the development of our program, information was gathered and reviewed from every known source.

Most notable are the following publications:

"Residential Water Conservation", published by University of California, Davis.

"Water Conservation in California", published by The State of California, Department of Water Resources.

"North Marin's Little Compendium of Water Saving Ideas", published by North Marin County Water District.

Plant and Irrigation Analysis

At the Agency's request, a local landscape architect prepared a list of plant material generally utilized in landscape design in the Palm Springs area, categorized to irrigation demand.

This information has been incorporated in the forms used for the Consumptive Use Survey.

It has been observed that in the desert area, most people water trees and shrubs the same as they water lawns, even though trees and shrubs require considerably less water.

No specific studies on water requirements for ornamental landscaping have been conducted by any of the universities or trade organizations.

CONSUMPTIVE USE SURVEY

Questionnaire Preparation

Questionnaire was prepared by Staff with input by Agency's Consulting Engineer, as well as a local landscape architect.

In its final form, the questionnaire provided raw data covering household occupancy, inventory of water-using appliances, lot size, house size, outside use (inventory of plant material and irrigation systems).

Establish Zones

We established eight different zones that are assumed to represent different water use areas.

- Zone 1 - Desert Highlands Estates - Low Assessed Value Area
- Zone 2 - Las Palmas (Original Area) - High Assessed Value Area
- Zone 3 - Las Palmas (New Area) - High Assessed Value Area
- Zone 4 - Desert Palms Estates - Average Assessed Value Area
- Zone 5 - Vista Del Cielo - Low Assessed Value Area
- Zone 6 - Canyon Country Club - High Assessed Value Area
- Zone 7 - Dream Homes - Low Assessed Value Area
- Zone 8 - Cathedral City - Average Assessed Value Area

Field Survey

In each of the eight survey zones, a block of 100 accounts was selected that were geographically together and would seem to be representative of homes in the area. Out of each of the 100 account blocks, 20 questionnaires were completed. The procedure was to start at one geographic end of the block and speak with the first 20 individuals that responded to a knock on the door. In many areas, less than one-half of the residents were home.

The total number of consumptive use questionnaires completed was 160, which is 1.2% of our total present active consumers. This survey, however, was limited to residential consumers and represents 1.5% of them. This small sampling number was selected because without prior available history on this type of survey, a sampling could reveal data that would indicate the need of change in the survey procedure.

The surveyors noted that the majority of the people contacted were cooperative in supplying data and indicated some interest in the survey and water conservation. Only one resident contacted refused to cooperate in the survey, several showed a strong interest in the survey and conservation, and a few were concerned that the survey would increase their water rates. One responded with "stop these silly surveys and reduce the rates."

Data Analysis

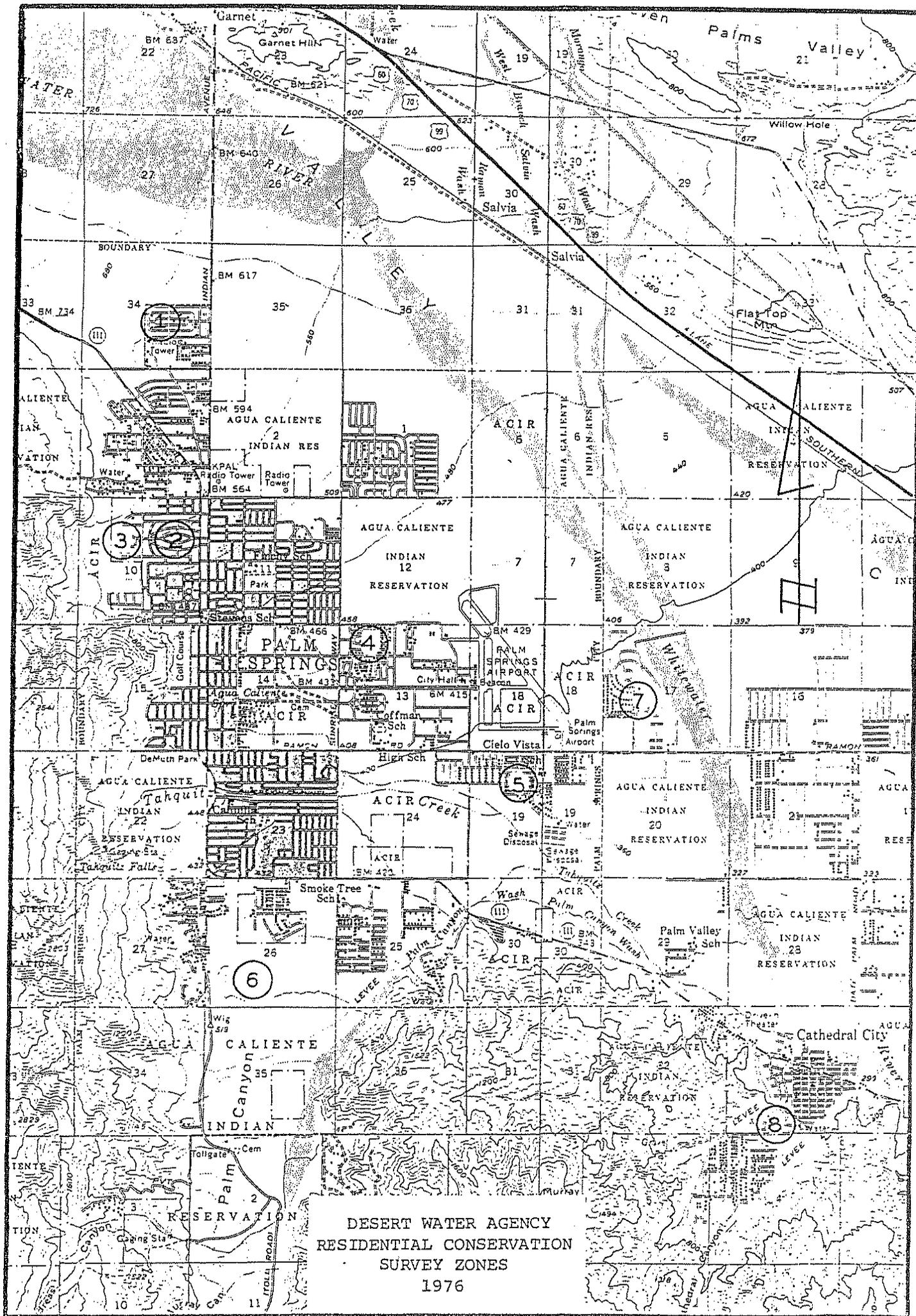
1. Water use by customer varied from between 54% and 138% of the average in one area to between 11% and 399% of the average in another area.
2. House sizes within separate geographic areas varied from a minimum of 67% of the average for one area to a maximum of 185% of the average for another area.
3. House sizes averaged 16% of their lot sizes and ranged between 10% and 23% with Dream Homes (Zone 7) having small houses relative to lot sizes and Canyon Country Club (Zone 6) having large houses relative to lot sizes.
4. House sizes approximated lawn sizes and ranges within 20 percent of the area's average except for Desert Highlands (Zone 1) and new Las Palmas (Zone 3) areas where house sizes were two-thirds and twice lawn sizes, respectively.

5. Larger lots with larger houses had the most medium-high demand shrubs and trees while smaller houses on smaller lots had the most medium-low demand shrubs and trees. Few houses, regardless of size, had majorities of low natural shrubs and trees.

The above results represent conclusions based on averages developed from the survey data. Wide variations were found within and between the various separate geographic areas.

WATER USE RELATIONSHIPS BETWEEN THE STUDY ZONES
FOR CALENDAR YEAR 1975

<u>ZONE</u>	<u>AREA</u>	<u>GENERAL ASSESSED VALUE</u>	<u>AVERAGE WATER CONSUMPTION PER ACCOUNT</u>
1	Desert Highlands Estates	Low	0.58 Acre Feet
2	Las Palmas (Original Area)	High	1.95 Acre Feet
3	Las Palmas (New Area)	High	1.21 Acre Feet
4	Desert Palms Estates	Average	0.78 Acre Feet
5	Vista Del Cielo	Low	0.67 Acre Feet
6	Canyon Country Club	High	2.03 Acre Feet
7	Dream Homes	Low	0.85 Acre Feet
8	Cathedral City	Average	0.44 Acre Feet



DESERT WATER AGENCY
 RESIDENTIAL CONSERVATION
 SURVEY ZONES
 1976

JULY 1976

SUN	MON	TUES	WEDS	THUR	FRI	SAT
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
		Establish Test & Control Groups from Return Cards				
18	19	20	21	22	23	24
	Compile Water Use Records on All 160 Accounts					
25	26	27	28	29	30	31
			Initial "Test" Contacts			

AUGUST 1976

SUN	MON	TUES	WEDS	THUR	FRI	SAT
1	2	3	4	5	6	7
			Prepare Introduction Contact Materials			
8	9	10	11	12	13	14
	Introduction Contacts			1st Mailing		
15	16	17	18	19	20	21
	Retro-Fit Contacts			2nd Mailing		
22	23	24	25	26	27	28
			3rd Mailing			
29	30					
	4th Mailing					

SEPTEMBER 1976

SUN	MON	TUES	WEDS	THUR	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11
		Water Use Analysis Contact				
12	13	14	15	16	17	18
	5th Mailing					
19	20	21	22	23	24	25
		6th Mailing				
26	27	28	29	30		
	Leak Survey Contact & Poll No. 1					

OCTOBER 1976

SUN	MON	TUES	WEDS	THUR	FRI	SAT
					1	2
3	4 7th Mailing	5	6	7	8	9
10	11	12 13 14 Water Use Analysis Phone Contact			15	16
17	18	19	20 8th Mailing	21	22	23
24 31	25	26 27 28 29 Yard Survey Contact				30

NOVEMBER 1976

SUN	MON	TUES	WEDS	THUR	FRI	SAT
	1	2	3 9th Mailing	4	5	6
7	8 9 10 Water Use Analysis Phone Contact			11	12	13
14	15 10th Mailing	16	17	18	19	20
21	22 23 24 Poll No. 2 Contact			25	26	27
28	29	30				

DECEMBER 1976

SUN	MON	TUES	WEDS	THUR	FRI	SAT
			1 2 3 In-House Pilot Program Eval.			4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

PILOT PROGRAM - RESIDENTIAL

Establish Test and Control Groups

The eight consumptive use "Zones" were divided into:

"Test Groups - Consumers with whom we worked.

"Control" Groups - Consumers whose water use was compared with
"Test" Group's. No contact was made with
these groups.

Letters requesting participation of ten consumers in each zone were mailed out to establish the "Test" Groups. Of the 85 letters mailed, 34% responded. The majority of the responses were from the zones with the highest per-account use; Zones 2 and 6. Additional contacts completed the establishment of the "Test" Groups; ten consumers in each of the eight zones.

The remaining ten consumers in each zone from the "Consumptive Use Survey" became the "Control" Groups.

Field Contacts

Implementation of the Residential Pilot Program was designed to determine what quantity of water savings can actually be accomplished, and to determine to what extent our consumers will cooperate in participating in a voluntary program.

Contacts were made with each participant at least weekly, either personally, by mail or by telephone. It was always stressed that this is a "voluntary" program.

The various approaches used during the field contacts are outlined below:

A. Program Introduction

A personal "at-the-home" contact explained to the resident the purpose of the Pilot Program and how it works. (See "Introduction Contact - Information To Resident")

The surveyor confirmed resident's name, correct address and phone number.

B. Retro-Fit

A personal "at-the-home" contact explained Retro-Fit devices. (See "Retro-Fit Contact - Information to Resident")

Various water-saving devices were offered to the residents for use in the home. Some used everything; others used only one or two items. In general, the devices and their potential savings were enthusiastically received.

The devices were supplied at no cost to the resident and installed by Agency personnel.

The devices distributed included:

Low-flow plastic shower heads

Three types of flow controllers for showers and sinks

Plastic bottles for toilet tanks

A dye tablet test was conducted for all toilets to indicate small hidden leaks. Several were discovered and the residents were advised to make necessary repairs.

C. Water Use Analysis

Water use records covering the months of August, September and October, 1976, were analyzed each month and discussed with each resident.

The "Water Use Analysis" form (see example) showed each consumer his water use comparing the past month's use "This Year" with "Last Year". Most important, the form compared the last six month's trend in water use.

The first "Water Use Analysis" contact was a personal "At-the-door" discussion. The two following contacts were via telephone with a follow-up mailing.

D. Leak and Yard Survey

This "At-the-home" contact required the resident's attention during an inspection of all indoor and outdoor plumbing fixtures for obvious leaks. The resident was instructed on how to read the water meter and use it to help determine leakage. The significance of "small" leaks was stressed.

"Over-watering" of the yard was discussed. Irrigation systems were checked, time clocks' timing accuracy, adjustment of sprinkler emitters, and length of water application timing were noted.

The resident was encouraged to maintain proper soil mulch to retain moisture and to experiment by reducing the time clock application cycles a little bit at a time to reduce water consumption.

E. Mailings and Information Releases

At each "At-the-home" contact, water conservation literature (information releases) of various forms were left with the resident. Between contacts, information releases were mailed to the home, thus the resident was supplied with printed educational material at least once a week.

The information releases (see examples) included printed material published by the American Water Works Association and the State of California, Department of Water Resources, as well as single page items, each describing a different water conservation practice.

F. POLLS

The purpose of the two polls, was to determine:

1. Which portions of the program have the most meaning to the test group.
2. If people are relating to the program.
3. How much they have learned from the program.
4. Reaction to Retro-fit devices.

The number of questions used for each poll was kept to a maximum of seven. The questions often stimulated the resident to talk at great length about water conservation. A large majority of the test group residents responded favorably to the pilot program activities.

Printed material had the most effect according to 73% of those polled. The Water Use Analysis had the next highest score with a 16% response. The remaining 11% responded to the "Personal Explanations" and yard and leak surveys. Retro-fit received the lowest response with less than 1%.

The polls indicated that the residents did become more aware of where their greatest water use is. The percent that indicated "yard use" as highest rose between the polls from 43% to 57%.

Eighty-four percent said that they would participate in future programs, indicating that they had enjoyed and gained from the experience.

Program Evaluation

The time involved in conducting this type of a program must not be underestimated. Detailed planning of the program paid high dividends in the validity of the program's achievements.

The detailed "Instructions to the Surveyor" outlining each step of each contact allowed flexibility of available personnel. All efforts were made to have the same surveyor visit the accounts each time to maintain continuity.

Timing was equally important. The schedule provided the participants with a year's "information exposure" during four months.

The concept of the "Grass-Roots" approach of dealing on a one-to-one basis with the participants is a sound one. The rapport which developed gave us the understanding of how our consumers feel about water conservation and how they will react to a water conservation program.

FINDINGS

Potential Savings

The initial goal to reduce water use by 5% is very conservative. A review of the "Consumptive Use Comparisons" chart reveals that water reductions between 10% to 20% can be expected from some sections of the community.

Percentage wise, the Test Groups in Zone 3 (Las Palmas, New Area), Zone 5 (Vista Del Cielo) and Zone 8 (Cathedral City) demonstrated the largest reductions in use compared to the control groups in the same zones. It is important to note that these three zones represent a cross-section of the entire community.

Overall, the "All Zones" comparison shows the Test Groups reducing water consumption by 18% during the five-month Pilot Program, while the Control Groups increased use by 9%, a difference of 27%.

Actual water use reduction will be related to the intensity of the conservation program.

Consumer Education

As revealed during the polls, the participants favored printed material over any other approach to water conservation education. This supports the concept of using printed advertising in the local media as the foundation of the water conservation program.

The printed "Information Releases" were prepared in various formats. Some were designed simply with an extremely short, to-the-point message. Others were more sophisticated and lengthy. From the participants comments, future material should be prepared as simply and to-the-point as possible. Most of the participants said that they already knew most of the material presented.

The key then, is motivation. Revolve future program material around the concept of "Reminders". Avoid under-estimating what the consumer already knows.

Domestic Consumption

Extensive studies conducted prior to our investigation have analyzed domestic (indoor) water consumption in the average home as follows:

- 45% - Toilet flushing
- 30% - Bathing
- 20% --Laundry and Dishwashing
- 5% - Drinking and Cooking

Seventy-five percent of all household use occurs within the confines of the bathroom, namely the toilet and shower.

New legislation, which requires low-use toilets in all new construction, will have a considerable impact in the future by reducing the amount of water used for toilet flushing.

Our results with Retro-Fit devices were mixed. Displacement bottles inserted in toilet tanks were eagerly received by the participants. By the end of the Pilot Program, approximately 10% of the Test Group had removed the bottles because the toilets were not flushing adequately, sometimes requiring two or more flushes to remove solids, thus defeating the idea of reducing water consumption.

Low-flow shower heads and inserts had more success. No negative comments were expressed.

Retro-Fit should be encouraged as the consumer is not required to change any of his social habits to use the devices and the amount of savings is fairly predictable.

Irrigation Consumption

Between 60% and 80% of the total water use at the average home is for irrigation.

The fact that water in our desert has been plentiful and relatively cheap, the tendency to overwater has grown to become a fact of life. This is true of the homeowners as well as the professional gardeners.

Poor irrigation system maintenance also contributes to water waste. In most of the systems we checked, many spray heads were overspraying into the street and small leaks were abundant.

Soil condition takes it's toll. The prevalence of sand in our area absorbs water faster than a sponge. Proper mulching, which helps the soil retain moisture, is seldom practiced.

Direct consumer participation will be involved to change the existing habit patterns and affect a voluntary water use reduction in irrigation use.

Low water use and native plant materials are seldom used in landscaping designs. Its incongruous that tropical and sub-tropical plant material, which require large amounts of water, continue to be used in our arid climate.

Whitewater Mutual Water Company, which serves irrigation water to portions of the northern section of Palm Springs, influences total consumption to a limited degree. Much of Whitewater's service is provided through a non-pressurized gravity system so that the consumer is restricted to flood irrigation and the water is available only on certain days of the week. We noted no significant difference in water use patterns between properties with and without Whitewater service in the same neighborhood.

Conservation Benefits

Water is a non-replenishable resource, which will become more difficult to replace as time goes on. Present supplies must be used carefully.

Water conservation will result in energy conservation in that it will reduce the Agency's pumping energy requirements as well as customers' heating energy requirements for hot water.

Water Conservation will permit some deferral of source of supply plant (well pumping plant) development.

Rapidly rising energy costs, which are expected to continue to increase over future decades, will undoubtedly create the need for periodic increases in water rates; reduced water use should offset some of the increasing costs.

Wastewater treatment plants will benefit from reduced volumes as a by-product of water conservation in the home. This will reduce the power required to operate the plant.

Coordination With Other Conservation Programs

The energy utilities, (gas and electric) are presently conducting conservation programs. Our efforts should be designed to take advantage of the water conservation spin-off from their programs. They stress water conservation related to hot water use.

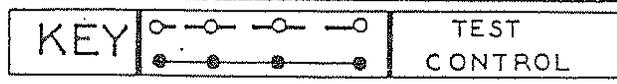
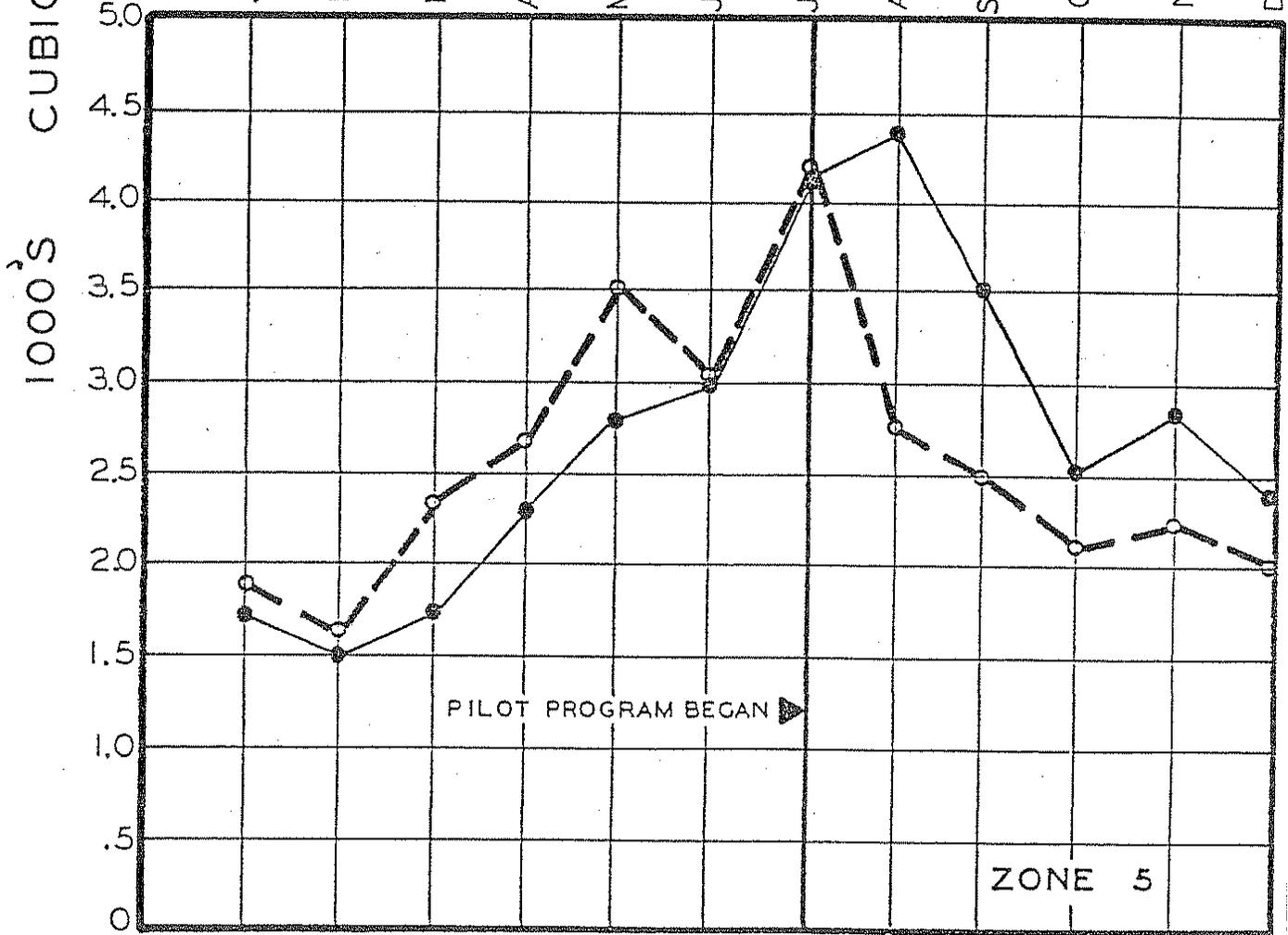
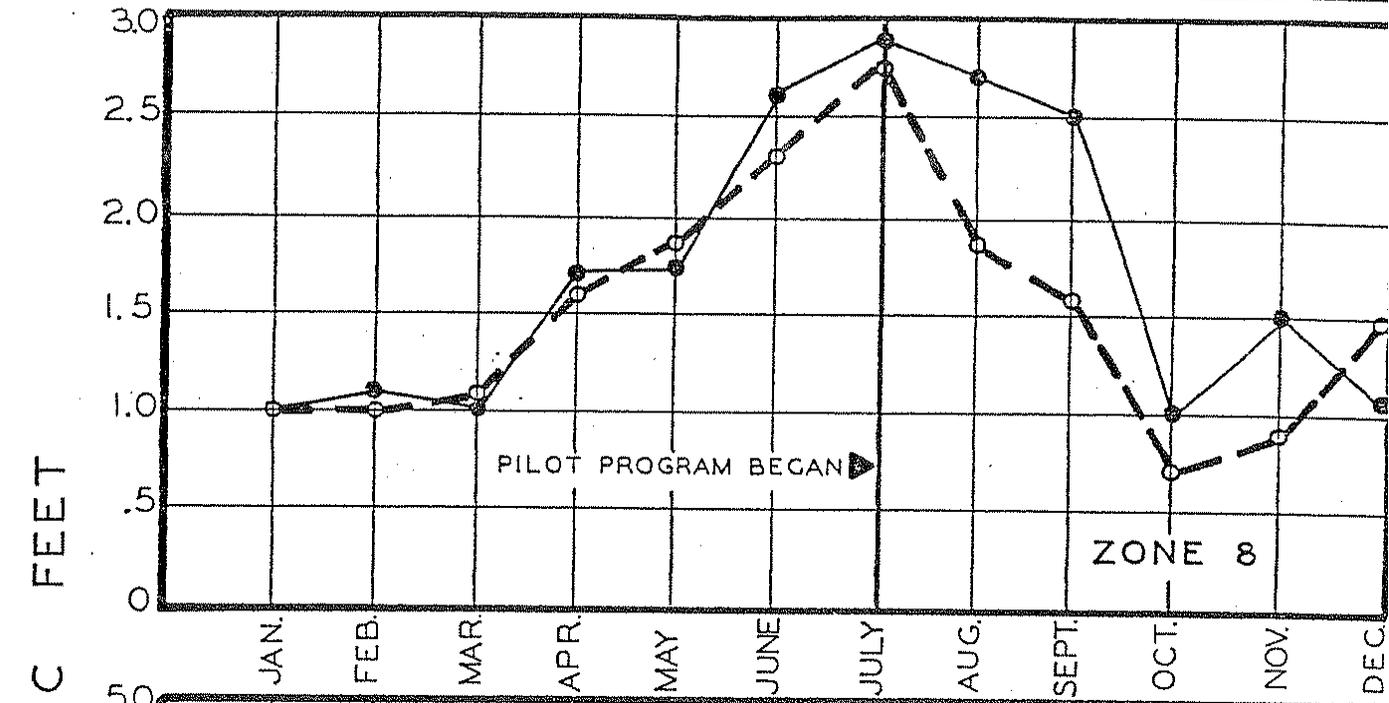
The State of California, Department of Water Resources (D.W.R.) is presently conducting a Retro-Fit test program in San Diego. This is a large-scale test of ways to reduce residential water use, sewage flows and related energy consumption.

Any program directed towards Retro-Fit should be coordinated with the results of the D.W.R.'s San Diego test.

Continuous monitoring and evaluation of any and all water conservation programs should continue.

DESERT WATER AGENCY
 Residential Pilot
 Water Conservation
CONSUMPTIVE USE COMPARISONS

		PERCENT CHANGE IN CONSUMPTION 1976 to 1975			
		FULL 12 MONTHS		PILOT PROGRAM 5 MONTHS	
ZONE	AREA	TEST GROUP	CONTROL GROUP	TEST GROUP	CONTROL GROUP
1	Desert Highland Estates	-6%	-7%	-17%	-12%
2	Las Palmas (Original Area)	+17%	+13%	+8%	+5%
3	Las Palmas (New Area)	-5%	+18%	-12%	+33%
4	Desert Palms Estates	-11%	-4%	-23%	-23%
5	Vista Del Cielo	-2%	+20%	-20%	+21%
6	Canyon Country Club	+5%	+3%	-1%	-5%
7	Dream Homes	-0-	-4%	-13%	-19%
8	Cathedral City	-5%	+4%	-33%	+4%
ALL ZONES		+2%	+6%	-18%	+9%



COMPARITIVE WATER USE 1976
 TEST AND CONTROL GROUPS
 RESIDENTIAL WATER CONSERVATION
 PILOT PROGRAM

DESERT WATER AGENCY

CONTINUING PROGRAM RECOMMENDATION

Periodic Review

The Pilot Program "Test" and "Control" groups water use records should be monitored for the remainder of 1977 to determine the residual influences of the "Pilot Program".

Water use trends should be analyzed annually by type of account, (residential, multiple unit, commercial, etc) to identify changes in use patterns. This would help to direct the emphasis of the Agency's water conservation efforts.

In-House Program

The Agency should lead by example. Maintaining diligence in locating and repair all leaks; in the distribution system, the offices and the irrigation systems maintained by the Agency.

Encourage Agency employees to implement water conservation programs in their own homes. Develop landscape plans for all Agency properties (well sites, reservoir sites, offices and storage yards), utilizing the maximum amount of native and low water use plant material as is practical to individual site conditions. (Soil conditions, wind and sun patterns and blow-sand conditions must be considered in plant material selection).

General Consumer Education

The "Pilot Program" has confirmed the idea that consumer education is a practical, but long term program with the emphasis on repetition. Much time, effort and repetition will be necessary if the introduction of water conservation into our community is to be successfully adopted.

The power of advertising in making and shaping public attitudes and opinions is undeniable. It is inevitable that in the future the nation will see more and more money spent on public relations on behalf of water conservation.

It is recommended that a public information water conservation program be immediately implemented to include at least the following activities:

1. Prepare and provide news releases to the local media on the Agency's water conservation activities.
2. Prepare and publish "Water Conservation Techniques" in the local newspaper.
3. Prepare and broadcast "Water Conservation Techniques" on local radio stations.
4. Continue the Agency's existing program of consulting with and explaining water conservation to consumers such as condominiums, the City of Palm Springs, Department of Parks and Golf Course, hotels, and other multi-unit complexes and large volume water users. This would be a continuation and expansion of our existing program dealing with condominium users.

It is further recommended that the Agency develop a long range program to additionally include the following activities:

5. Prepare and broadcast "Water Conservation Techniques" on local television stations.
6. Revise the water bill format to include a comparative water use analysis.
7. Prepare and present slide shows and movies to interested groups, such as landlord associations, condominium associations, schools, environmental groups, service organizations, and commercial establishments.
8. Prepare water conservation handbooks for home landscape and garden use, oriented to our desert climate and soils. Native plants should be stressed together with several typical low-water-use landscape plans.
9. Develop a school program aimed at integrating the concept of water conservation into every area of study (mathematics, reading, and science) of school children in the district.

Special Programs

Timed to stimulate and renew interest in water conservation; special programs can become the key element to success in the long term.

These special programs should be supported by advance publicity and news releases to insure community participation and support.

Imagination is the only limiting factor in the planning of special programs.

The following ideas are submitted for future consideration:

Contests - (Slogans - Posters - Essays)

Facility tours

Lectures to civic organizations

Programs oriented to trades:

Poolmen

Gardeners

Plumbers

Nursery men

Plumbing suppliers

Multiple unit managers

Commercial consumers

Community Planners

"Save Water" public forums

Displays in public buildings, banks, etc.

Billboard advertisements

In the schools, programs oriented to contests (slogans, posters, essays) are very effective.

Time Table

A specific time table would be inappropriate for a long range water conservation program.

Program timing should be based on a continual review of water consumption patterns by type of account (residential, multiple unit, commercial, etc.).

This information will show where the program is working and where more emphasis is needed

CONDOMINIUM

AND

LARGE USER

WATER CONSERVATION PROGRAM

WATER CONSERVATION STUDY FOR LANDSCAPE SPRINKLER SYSTEMS

The Desert Water Agency began a water conservation program in 1974. The program started in conjunction with investigation of cross connections between meters serving domestic water to irrigation sprinkler systems for landscaping.

The Agency serves domestic water to over 60 condominium developments in their service area. The average condominium will have 6 separate meters serving their common open landscaped areas. The need for an educational program on water conservation to the gardeners and homeowners became apparent when a pattern of defects, mis-use and over-watering developed in our investigations.

In the Palm Springs desert area, a combination of dry climatic conditions plus an absorbant sandy soil creates a ratio of almost 3 to 1 for domestic water use for irrigation over domestic interior water use. This ratio is typical of residential property and is even higher for a condominium with open landscaped area.

A mutual benefit program was explained to the condominium owners in that a substantial savings was possible to them in their water billing. The Agency would save in power pumping costs through a reduction in pumped well water.

With permission from the condominium owners, a study was made with their full-time gardener or with a gardening service representative. As the owners are responsible for the water billing, it was found direction from this level down was necessary to initiate a program.

Exhibit "A" is a typical condominium study and report mailed to the owners from the Agency. Exhibit "B" & "C" are typical sprinkler study forms. The Agency monitors monthly water use and reports patterns to the owners. In investigation of all sprinkler systems for large water users, it was found that maintenance of the system was the basic cause for wasted water. Wasted

water is the term given to sprinkler heads that are improperly turned spraying water on sidewalks, into the street and running down the gutter. The Agency was surprised to find the number of sprinkler heads either completely or partially broken off with waster water flowing freely from the pipe.

Over-watering was found to be due to either a supposition on required watering time, improper design of the sprinkler system or defects in the sprinkler system time clock control.

Other large domestic water use for irrigation was found at hotels and some commercial malls; investigation found typical defects as noted in Exhibit "A". A study was made for estimated water savings potential and a typical report was mailed to hotels and malls. Monitoring of water use patterns is also under way for these large irrigation water users.

The Desert Water Agency is a special independent State of California water utility, as such, they are independent of the city minicipality. In this area, the Agency is working with the City of Palm Springs parks department on a water conservation program. The Palm Springs Unified School District entered into a comprehensive water conservation program at all their schools after a study by the Agency. Each school maintains an extensive sprinkler system for grass playing fields and landscaping.

To make people aware of the need for water conservation, the Agency maintains a slide program, which is adjusted for all age groups. This program was presented to all the maintenance personnel from each school in the district. The slide program covers the history of water in the unique desert area of Palm Springs. With a better understanding of water in our area, and in general, a real interest is created to conserve water. This interest by the school maintenance personnel was given as an important factor in the outstanding results the school district is experiencing in their conservation program.

Educational programs on water conservation, proper watering and maintenance of sprinkler systems were presented to the Association of the Desert Condominiums representing 26 owner associations. Individual condominium boards and owner meetings have also been presented programs.

In a conservative estimate from a study of 6 key condominiums, it is estimated an annual savings of 5,597,000 cubic feet of water will be realized.

TYPICAL 20-ACRE CONDOMINIUM DEVELOPMENT

The City of Palm Springs Policy Resolution limits development of condominiums to 8,500 square feet of building coverage per net acre and a maximum of 6 units per net acre.

EXHIBIT A condominium development has the following statistical breakdown:

Gross Acreage	20 acres
Net Acreage	17.3 acres
Building Coverage (100 Units)	21.8%
Streets	6.9%
Drives	<u>3.5%</u>
Total Building Coverage with Private Enclosed Patios	32.2%
Total Open Area for Landscaping	67.8%

A study of the sprinkler system found the following:

Total 2" Irrigation Water Meters	6
Total Sprinkler Time Clocks	8
Total stations on Clocks	65
Average Station per Clock	8
Average Length of Watering Time Per Station	12-1/2 minutes
(Assumed Time per Gardner)	10 minutes)

Irrigation Watering Cycle - Winter: Once Daily, Three Times a Week.

Irrigation Watering Cycle - Summer: Twice Daily, Seven Days a Week.

Two irrigation time clocks were selected at random and the combined 16 stations were inspected through their complete cycle.

- Total sprinkler heads inspected - 547
- Total bubbler heads inspected - 128
- Total rainbird heads inspected - 18

It was found there was no regular maintenance program to the sprinkler system. Two hundred and thirty six sprinkler heads were below level of grass so that spray was deflected and heads became submerged causing insufficient coverage and extra watering time required.

Twelve heads were found broken with water running freely. Seventy eight bubbler heads were found to be adjusted too far open for time clock setting, overflowing plant wells.

Calculations were made on water savings from a reduction of watering time from the average 12-1/2 minutes to the assumed 10 minutes. This time has been set by the gardeners as minimum through their experience. The annual savings for this condominium are estimated at 1,181,400 cubic feet.

Water saved from reduction of bubbler watering time, correction of broken and leaking sprinkler heads and raising sprinkler heads or installation of pop-ups will also effect the annual water savings figure to a large amount. This indefinite savings figure was not included in the above calculated cubic footage.

Other common defects found in the six key study condominium sprinkler systems were as follows:

Poor design of sprinkler head coverage and/or improper adjustment so that the water spray overlapped to excess causing an over-watering condition.

Many bubblers were found too far from shrub or plant causing an overwatering condition for water to reach plant area.

Many sprinkler heads in need of direction adjustment, 1/2-heads spraying sidewalk, 1/4-heads spraying walls, etc.

Rainbird sprinkler heads and sprinkler spray heads on same station. Water time adjusted for rainbirds, overwatering condition on spray head area.

Readjustment of watering time on one station for entire area due to one dry lawn area, causing overwatering rather than correction to lawn or earth problem.

Control and setting of time clock watering time was recommended to be under one supervisor. Adjustments were found to be as far off as five minutes. No set pattern of watering time or length was found on one condominium due to any gardner helper setting his own estimated watering need.

Project: _____

Date: _____

Address: _____

Index No. _____

Met With: _____

Phone: _____

Total Meters: _____ Domestic _____ Irrigation _____ Both _____

Total Time Clocks: _____

Stations Per Time Clock: _____

Winter Irrigation Cycle: _____

Summer Irrigation Cycle: _____

Solenoid Valves: Brass _____ Plastic _____ Other _____

Sprinkler Heads: Brass _____ Plastic _____ Other _____

Washing of: Patio _____ Driveways _____

Inspection of System: _____

Accessibility to Clocks: _____

Excessive Run-off: _____

Accuracy of Clocks: _____

Total Sprinklers Inspected: _____

Total Bubblers Inspected: _____

Total Sprinkler Heads Low: _____

Total Heads Broken: _____

Average Length of Running Times per Station: _____

Special Conditions: _____

<u>CONSUMPTION - (SEE #5)</u>	<u>CUBIC FEET</u>	<u>COST=BASED ON \$.30/100 C.F.</u>
1 Station per minute (See #3 & #4)	_____	\$ _____
___ Station(s) per min. (See #3 & #4)	_____	\$ _____
___ Stations/Month (Est. Average Irrig. 20 Day/Month) (See 1 & 2)	_____	\$ _____
___ Stations 20 Day/Month 12 Months/Year (See #1 & #2)	_____	\$ _____

By reducing or turning back each station by _____ minutes from _____ minutes to _____ minutes as shown below, this could result in an approximate _____% reduction in consumption on _____ meter(s).

<u>CONSUMPTION</u>	<u>CUBIC FEET</u>	<u>COST=BASED ON \$.30/100 C.F.</u>
1 Station per minute (See #3 & #4)	_____	\$ _____
___ Station(s) per min. (See #3 & #4)	_____	\$ _____
___ Stations/Month (Est. Average Irrig. 20 Day/Month) (See 1 & 2)	_____	\$ _____
___ Stations 20 Day/Month 12 Months/Year (See #1 & #2)	_____	\$ _____

	<u>CU. FT.</u>	<u>GALLONS</u>	<u>COST</u>
Present estimated consumption	_____	_____	_____
Proposed estimated reduction	_____	_____	_____
Annual est. Potential savings	_____	_____	_____
Total time clocks _____			
Total Stations _____			
Total Irrigation Meters _____			
Average Length of Running Time Per Station _____			

Formula Used:

1. Total C.F. used per year ÷ 12 gives you total of C.F. per month.
2. Total C.F. per month ÷ 20 days per month (Est. total watering days per month/annually) = total C.F. used per day.
3. Total C.F. used per day ÷ # of stations = C.F. used per station per day.
4. Total C.F. per station per day ÷ by average length of running time per station per cycle = total C.F. used per station per minute.
5. Based on an annual average of billing of _____ irrigation meters.

APPENDIX D

2003 AND 2004 CUWCC BMP REPORTS

BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit: **Desert Water Agency** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

- | | |
|--|------------|
| 1. Based on your signed MOU date, 10/15/1991, your Agency STRATEGY DUE DATE is: | 10/14/1993 |
| 2. Has your agency developed and implemented a targeting/marketing strategy for SINGLE-FAMILY residential water use surveys? | no |
| a. If YES, when was it implemented? | |
| 3. Has your agency developed and implemented a targeting/marketing strategy for MULTI-FAMILY residential water use surveys? | no |
| a. If YES, when was it implemented? | |

B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi-Family Units
1. Number of surveys offered:	0	0
2. Number of surveys completed:	0	0
Indoor Survey:		
3. Check for leaks, including toilets, faucets and meter checks	no	no
4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary	no	no
5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary	no	no
Outdoor Survey:		
6. Check irrigation system and timers	no	no
7. Review or develop customer irrigation schedule	no	no
8. Measure landscaped area (Recommended but not required for surveys)	no	no
9. Measure total irrigable area (Recommended but not required for surveys)	no	no
10. Which measurement method is typically used (Recommended but not required for surveys)		None
11. Were customers provided with information packets that included evaluation results and water savings recommendations?	no	no
12. Have the number of surveys offered and	no	no

completed, survey results, and survey costs been tracked?

- a. If yes, in what form are surveys tracked? None
- b. Describe how your agency tracks this information.

C. Water Survey Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? yes

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

Desert Water Agency studies have realized that as much as 80% of all residential water use is for landscape irrigation. Therefore, we have concluded that it is more cost effective for us to concentrate the bulk of our efforts on reducing water consumption in the landscape. We, therefore, have chosen to direct our resources into performing BMP #5. (See Water Conservation Program of the Desert Water Agency on file with the CUWCC).

BMP 02: Residential Plumbing Retrofit

Reporting Unit:

BMP Form Status:

Year:

Desert Water Agency

100% Complete

2003

A. Implementation

1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts? no
 - a. If YES, list local jurisdictions in your service area and code or ordinance in each:

2. Has your agency satisfied the 75% saturation requirement for single-family housing units? no
3. Estimated percent of single-family households with low-flow showerheads: %
4. Has your agency satisfied the 75% saturation requirement for multi-family housing units? no
5. Estimated percent of multi-family households with low-flow showerheads: %
6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.

B. Low-Flow Device Distribution Information

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? no
 - a. If YES, when did your agency begin implementing this strategy?
 - b. Describe your targeting/ marketing strategy.

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	0	0
3. Number of toilet-displacement devices distributed:	0	0
4. Number of toilet flappers distributed:	0	0
5. Number of faucet aerators distributed:	0	0
6. Does your agency track the distribution and cost of low-flow devices? no <ol style="list-style-type: none">a. If YES, in what format are low-flow devices tracked?b. If yes, describe your tracking and distribution system :		

C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? yes

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

In January 1977, Desert Water Agency published the results of a residential pilot program to analyze the Agency's customer water use habits, and to establish the focus of a water conservation program (copy on file with the CUWCC). From the study, it was determined that in our service area, 60 to 80% of all residential water use is for landscape irrigation. This is due to our arid desert environment where temperatures reach as high as 123F. The study did involve the installation of devices such as low flow showerheads and toilet displacement devices by Agency personnel. Public acceptance of the showerheads was favorable; however, the toilet devices did not operate as well. Since such a large percentage of water was found to be used for landscape irrigation, it was felt that future programs should be directed toward customers reducing water use in the landscape as it has the highest potential for savings and is the most cost effective.

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit: **Desert Water Agency** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

1. Has your agency completed a pre-screening system audit for this reporting year? no
2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:
 - a. Determine metered sales (AF)
 - b. Determine other system verifiable uses (AF)
 - c. Determine total supply into the system (AF)
 - d. Using the numbers above, if $(\text{Metered Sales} + \text{Other Verifiable Uses}) / \text{Total Supply}$ is < 0.9 then a full-scale system audit is required. 0.00
3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production? yes
4. Did your agency complete a full-scale audit during this report year? no
5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit? no
6. Does your agency operate a system leak detection program? no
 - a. If yes, describe the leak detection program:

B. Survey Data

1. Total number of miles of distribution system line. 366
2. Number of miles of distribution system line surveyed. 0

C. System Audit / Leak Detection Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? yes
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."
Desert Water Agency informs all customers of possible on-site leaks when excessive consumption occurs when compared to the prior year's usage. Desert Water Agency performs water audits by metering all customer connections and water used for construction purposes through fire hydrants. Water used for other purposes such as city street washing and fire fighting is also recorded. The combined usage is calculated and the % unaccounted for determined. We do not have a leak detection program as we feel it is more cost effective to fund an aggressive main replacement

program. Additionally, the soils in our area are comprised of coarse sand. This allows water from a leak to surface quickly where it is easily detected. All leaks are repaired as soon as they are discovered to prevent damage and waste of water. All leaks are tracked on maps and on a pipeline inventory computer program. Mains with a history of leaks are budgeted for replacement, as are aging mains.

BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit: **Desert Water Agency** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

1. Does your agency require meters for all new connections and bill by volume-of-use? yes
2. Does your agency have a program for retrofitting existing unmetered connections and bill by volume-of-use? no
 - a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed?
 - b. Describe the program:
Desert Water Agency has no unmetered services.
3. Number of previously unmetered accounts fitted with meters during report year. 0

B. Feasibility Study

1. Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? no
 - a. If YES, when was the feasibility study conducted?
(mm/dd/yy)
 - b. Describe the feasibility study:
Landscape water audits conducted and consumptive use mailings have shown that the majority of applicable developments within DWA's service area were fitted with dedicated irrigation meters at the time of construction.
2. Number of CII accounts with mixed-use meters. 0
3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period. 0

C. Meter Retrofit Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit:
Desert Water
Agency

BMP Form Status:
100% Complete

Year:
2003

A. Water Use Budgets

- | | |
|--|----|
| 1. Number of Dedicated Irrigation Meter Accounts: | 0 |
| 2. Number of Dedicated Irrigation Meter Accounts with Water Budgets: | 0 |
| 3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF): | 0 |
| 4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF): | 0 |
| 5. Does your agency provide water use notices to accounts with budgets each billing cycle? | no |

B. Landscape Surveys

- | | |
|--|------------|
| 1. Has your agency developed a marketing / targeting strategy for landscape surveys? | yes |
| a. If YES, when did your agency begin implementing this strategy? | 07/01/1989 |
| b. Description of marketing / targeting strategy:
(Please note that the correct entry in A.1. is NOT DETERMINED. As your system will not accept this, I have utilized a "0" in its place. | |
| 2. Number of Surveys Offered. | 0 |
| 3. Number of Surveys Completed. | 0 |
| 4. Indicate which of the following Landscape Elements are part of your survey: | |
| a. Irrigation System Check | yes |
| b. Distribution Uniformity Analysis | yes |
| c. Review / Develop Irrigation Schedules | yes |
| d. Measure Landscape Area | yes |
| e. Measure Total Irrigable Area | yes |
| f. Provide Customer Report / Information | yes |
| 5. Do you track survey offers and results? | yes |
| 6. Does your agency provide follow-up surveys for previously completed surveys? | yes |
| a. If YES, describe below:
Follow-up surveys are performed after a period of five years following the initial survey, or as requested by a customer. The follow-up surveys consist of a complete reevaluation of the site, a comparison with the data from the prior evaluation, and any recommendations. | |

C. Other BMP 5 Actions

- | | |
|--|-----|
| 1. An agency can provide mixed-use accounts with ETo-based | yes |
|--|-----|

landscape budgets in lieu of a large landscape survey program.
Does your agency provide mixed-use accounts with landscape budgets?

2. Number of CII mixed-use accounts with landscape budgets. 0
3. Do you offer landscape irrigation training? no
4. Does your agency offer financial incentives to improve landscape water use efficiency? no

Type of Financial Incentive:	Budget (Dollars/ Year)	Number Awarded to Customers	Total Amount Awarded
a. Rebates			
b. Loans			
c. Grants			

5. Do you provide landscape water use efficiency information to new customers and customers changing services? yes

a. If YES, describe below:

Desert Water Agency provides all new customers and customers changing service with a comprehensive, easy-to-read brochure which includes all facets of our functions, along with water conservation information.

6. Do you have irrigated landscaping at your facilities? yes
- a. If yes, is it water-efficient? yes
- b. If yes, does it have dedicated irrigation metering? yes
7. Do you provide customer notices at the start of the irrigation season? no
8. Do you provide customer notices at the end of the irrigation season? no

D. Landscape Conservation Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	18000	18000
2. Actual Expenditures	0	

E. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

F. Comments

Desert Water Agency is evaluating the cost effectiveness of our landscape water audit program in terms of actual water saved. (No audits were performed, and hence, no actual expenditures). As of this submission, staff is reviewing with our board a revised program, which may include funding customer site improvements to increase the water efficiency of their project. We have interested parties, and are working out the details of the program.

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:

Desert Water Agency

BMP Form Status:

100% Complete

Year:

2003

A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers? no

a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.

2. Does your agency offer rebates for high-efficiency washers? no

3. What is the level of the rebate?

4. Number of rebates awarded.

B. Rebate Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Desert Water Agency studies have realized that as much as 80% of all residential water use is for landscape irrigation. Therefore, we have concluded that it is more cost effective for us to concentrate the bulk of our efforts on reducing water consumption in the landscape. We, therefore, have chosen to direct our resources into performing BMP #5. (See Water Conservation Program of the Desert Water Agency on file with the CUWCC).

BMP 07: Public Information Programs

Reporting Unit:

Desert Water Agency

BMP Form Status:

100% Complete

Year:

2003

A. Implementation

1. Does your agency maintain an active public information program to promote and educate customers about water conservation? yes

a. If YES, describe the program and how it's organized.

Public education has played an expanding role in the Agency's formal Water Conservation Program since adoption by its board of directors in 1982. The program utilizes both staff personnel and contract consultants. All aspects of the Agency's functions are communicated to the public utilizing the items checked below.

2. Indicate which and how many of the following activities are included in your public information program.

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	no	
b. Public Service Announcement	no	
c. Bill Inserts / Newsletters / Brochures	yes	3
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	yes	2
f. Special Events, Media Events	yes	2
g. Speaker's Bureau	yes	15
h. Program to coordinate with other government agencies, industry and public interest groups and media	yes	

B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	97200	85800
2. Actual Expenditures	148906	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

BMP 08: School Education Programs

Reporting Unit:

BMP Form Status:

Year:

Desert Water Agency

100% Complete

2003

A. Implementation

1. Has your agency implemented a school information program to promote water conservation? yes

2. Please provide information on your school programs (by grade level):

Grade	Are grade-appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	yes	5	150	0
Grades 4th-6th	yes	60	1750	0
Grades 7th-8th	yes	35	1380	0
High School	no	0	0	0

3. Did your Agency's materials meet state education framework requirements? yes

4. When did your Agency begin implementing this program? 05/01/1989

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	17000	0
2. Actual Expenditures	17000	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Please note that the entity Desert Water Agency contracted with to perform its in-classroom school education program (Palm Springs Desert Museum) elected to dissolve its Natural Science Education Program effective July 1, 2004. The Agency's board of directors is exploring options for a suitable replacement program.

BMP 09: Conservation Programs for CII Accounts

Reporting Unit: **Desert Water Agency** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

1. Has your agency identified and ranked COMMERCIAL customers according to use? no
2. Has your agency identified and ranked INDUSTRIAL customers according to use? no
3. Has your agency identified and ranked INSTITUTIONAL customers according to use? no

Option A: CII Water Use Survey and Customer Incentives Program

4. Is your agency operating a CII water use survey and customer incentives program for the purpose of complying with BMP 9 under this option? no

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered			
b. Number of New Surveys Completed			
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)			
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)			
CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit			
f. Evaluation of all water-using apparatus and processes			
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives			
Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
h. Rebates			
i. Loans			

j. Grants

k. Others

Option B: CII Conservation Program Targets

- | | |
|---|-----|
| 5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option? | yes |
| 6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings? | no |
| 7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991. | 0 |
| 8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991. | 0 |

B. Conservation Program Expenditures for CII Accounts

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

Please note that Desert Water chooses to perform neither Option A, nor Option B. The explanation for doing so is contained in the Comments, below. ("Yes" was checked for Option B as CII accounts are tracked for purposes of the mailings listed below, but not specifically for BMP #9).

BMP 09a: CII ULFT Water Savings

Reporting Unit:

Desert Water Agency

BMP Form Status:

100% Complete

Year:

2003

1. Did your agency implement a CII ULFT replacement program in the reporting year?
If No, please explain why on Line B. 10.

No

A. Targeting and Marketing

1. What basis does your agency use to target customers for participation in this program? Check all that apply.

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

2. How does your agency advertise this program? Check all that apply.

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

B. Implementation

1. Does your agency keep and maintain customer participant information? (Read the Help information for a complete list of all the information for this BMP.)

2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency?

3. What is the total number of customer accounts participating in the program during the last year ?

CII Subsector	Number of Toilets Replaced			
	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount
4.				
a. Offices				
b. Retail / Wholesale				
c. Hotels				
d. Health				
e. Industrial				
f. Schools: K to 12				
g. Eating				

- h. Govern-
ment
- i. Churches
- j. Other

5. Program design.

6. Does your agency use outside services to implement this program?

a. If yes, check all that apply.

7. Participant tracking and follow-up.

8. Based on your program experience, please rank on a scale of 1 to 5, with 1 being the least frequent cause and 5 being the most frequent cause, the following reasons why customers refused to participate in the program.

- a. Disruption to business
- b. Inadequate payback
- c. Inadequate ULFT performance
- d. Lack of funding
- e. American's with Disabilities Act
- f. Permitting
- g. Other. Please describe in B. 9.

9. Please describe general program acceptance/resistance by customers, obstacles to implementation, and other issues affecting program implementation or effectiveness.

10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and budgeting?

Desert Water Agency studies have realized that as much as 80% of all residential water use is for landscape irrigation. Therefore, we have concluded that it is more cost effective for us to concentrate the bulk of our efforts on reducing water consumption in the landscape. We, therefore, have chosen to direct our resources into performing BMP #5. (See Water Conservation Program of the Desert Water Agency on file with the CUWCC).

C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
a. Labor		
b. Materials		
c. Marketing & Advertising		
d. Administration & Overhead		
e. Outside Services		

f. Total	0	0
----------	---	---

2. CII ULFT Program: Annual Cost Sharing

a. Wholesale agency contribution

b. State agency contribution

c. Federal agency contribution

d. Other contribution

e. Total		0
----------	--	---

BMP 11: Conservation Pricing

Reporting Unit:
Desert Water Agency

BMP Form
Status:
100% Complete

Year:
2003

A. Implementation

Rate Structure Data Volumetric Rates for Water Service by Customer Class

1. Residential

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Non-volumetric Flat Rate
c. Total Revenue from Volumetric Rates	\$8992366
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$717818

2. Commercial

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	\$3653915
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

3. Industrial

a. Water Rate Structure	Service Not Provided
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$0
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

4. Institutional / Government

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	\$602907
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

5. Irrigation

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$439092
d. Total Revenue from Non-Volumetric	\$0

BMP 12: Conservation Coordinator

Reporting Unit: **Desert Water Agency** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

1. Does your Agency have a conservation coordinator? yes
2. Is this a full-time position? yes
3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ?
4. Partner agency's name:
5. If your agency supplies the conservation coordinator:
 - a. What percent is this conservation coordinator's position? 38%
 - b. Coordinator's Name Michael F. Bergan
 - c. Coordinator's Title Administrative Services Officer
 - d. Coordinator's Experience and Number of Years 24
 - e. Date Coordinator's position was created (mm/dd/yyyy) 01/02/1977
6. Number of conservation staff, including Conservation Coordinator. 1

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	59400	85800
2. Actual Expenditures	40187	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

BMP 13: Water Waste Prohibition

Reporting Unit: **Desert Water Agency** BMP Form Status: **100% Complete** Year: **2003**

A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area? yes
 - a. If YES, describe the ordinance:
Desert Water Agency's Board of Directors adopted Ordinance No. 31, An Ordinance Prohibiting the Waste of Water. It defines "waste," discusses actions to be taken, spells out customers' rights, and states exemptions.
2. Is a copy of the most current ordinance(s) on file with CUWCC? yes
 - a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

Desert Water Agency	Typically, violators have been cooperative in eliminating waste after being sent a letter informing them of the situation.
---------------------	--

B. Implementation

1. Indicate which of the water uses listed below are prohibited by your agency or service area.
 - a. Gutter flooding yes
 - b. Single-pass cooling systems for new connections no
 - c. Non-recirculating systems in all new conveyor or car wash systems yes
 - d. Non-recirculating systems in all new commercial laundry systems no
 - e. Non-recirculating systems in all new decorative fountains no
 - f. Other, please name no
2. Describe measures that prohibit water uses listed above:
 - a. In cases such as gutter flooding, written notice is sent to the subject customer, or a blanket mailing is conducted throughout neighborhoods with high incidents of waste.
 - b. In areas where Desert Water Agency is responsible for sewage collection, plans are checked to insure that a recirculating system is used.

Water Softeners:

3. Indicate which of the following measures your agency has supported in developing state law:
 - a. Allow the sale of more efficient, demand-initiated regenerating DIR models. no
 - b. Develop minimum appliance efficiency standards that:
 - i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used. no
 - ii.) Implement an identified maximum number of gallons discharged per gallon of soft water no

produced.

c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse effect on the reclaimed water or groundwater supply. no

4. Does your agency include water softener checks in home water audit programs? no

5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models? no

C. Water Waste Prohibition Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Please note that Water Waste Prohibition Program costs are included in the Conservation Staff Program Expenditures, BMP 12.

BMP 14: Residential ULFT Replacement Programs

Reporting Unit:
Desert Water Agency

BMP Form Status:
100% Complete

Year:
2003

A. Implementation

	Single-Family Accounts	Multi- Family Units
1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?	no	no
Number of Toilets Replaced by Agency Program During Report Year		
Replacement Method	SF Accounts	MF Units
2. Rebate	0	0
3. Direct Install	0	0
4. CBO Distribution	0	0
5. Other	0	0
<hr/>		
Total	0	0

6. Describe your agency's ULFT program for single-family residences.

7. Describe your agency's ULFT program for multi-family residences.

8. Is a toilet retrofit on resale ordinance in effect for your service area? no

9. List local jurisdictions in your service area in the left box and ordinance citations in each jurisdiction in the right box:

B. Residential ULFT Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Desert Water Agency studies have realized that as much as 80% of all residential water use is for landscape irrigation. Therefore, we have concluded that it is more cost effective for us to concentrate the bulk of our efforts on reducing water consumption in the landscape. We, therefore, have chosen to direct our resources into performing BMP #5. (See Water Conservation Program of the Desert Water Agency on file with the CUWCC).

BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit: **Desert Water Agency** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

- | | |
|--|------------|
| 1. Based on your signed MOU date, 10/15/1991, your Agency STRATEGY DUE DATE is: | 10/14/1993 |
| 2. Has your agency developed and implemented a targeting/marketing strategy for SINGLE-FAMILY residential water use surveys? | no |
| a. If YES, when was it implemented? | |
| 3. Has your agency developed and implemented a targeting/marketing strategy for MULTI-FAMILY residential water use surveys? | no |
| a. If YES, when was it implemented? | |

B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi-Family Units
1. Number of surveys offered:	0	0
2. Number of surveys completed:	0	0
Indoor Survey:		
3. Check for leaks, including toilets, faucets and meter checks	no	no
4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary	no	no
5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary	no	no
Outdoor Survey:		
6. Check irrigation system and timers	no	no
7. Review or develop customer irrigation schedule	no	no
8. Measure landscaped area (Recommended but not required for surveys)	no	no
9. Measure total irrigable area (Recommended but not required for surveys)	no	no
10. Which measurement method is typically used (Recommended but not required for surveys)		None
11. Were customers provided with information packets that included evaluation results and water savings recommendations?	no	no

12. Have the number of surveys offered and completed, survey results, and survey costs been tracked? no no

a. If yes, in what form are surveys tracked? None

b. Describe how your agency tracks this information.

C. Water Survey Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? yes

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

Desert Water Agency studies have realized that as much as 80% of all residential water use is for landscape irrigation. Therefore, we have concluded that it is more cost effective for us to concentrate the bulk of our efforts on reducing water consumption in the landscape. We, therefore, have chosen to direct our resources into performing BMP #5. (See Water Conservation Program of the Desert Water Agency on file with the CUWCC).

BMP 02: Residential Plumbing Retrofit

Reporting Unit:

BMP Form Status:

Year:

Desert Water Agency

100% Complete

2004

A. Implementation

1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts? no
- a. If YES, list local jurisdictions in your service area and code or ordinance in each:
2. Has your agency satisfied the 75% saturation requirement for single-family housing units? no
3. Estimated percent of single-family households with low-flow showerheads: %
4. Has your agency satisfied the 75% saturation requirement for multi-family housing units? no
5. Estimated percent of multi-family households with low-flow showerheads: %
6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.

B. Low-Flow Device Distribution Information

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? no
- a. If YES, when did your agency begin implementing this strategy?
- b. Describe your targeting/ marketing strategy.

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	0	0
3. Number of toilet-displacement devices distributed:	0	0
4. Number of toilet flappers distributed:	0	0
5. Number of faucet aerators distributed:	0	0
6. Does your agency track the distribution and cost of low-flow devices? no		
a. If YES, in what format are low-flow devices tracked?		
b. If yes, describe your tracking and distribution system :		

C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? yes

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

In January 1977, Desert Water Agency published the results of a residential pilot program to analyze the Agency's customer water use habits, and to establish the focus of a water conservation program (copy on file with the CUWCC). From the study, it was determined that in our service area, 60 to 80% of all residential water use is for landscape irrigation. This is due to our arid desert environment where temperatures reach as high as 123F. The study did involve the installation of devices such as low flow showerheads and toilet displacement devices by Agency personnel. Public acceptance of the showerheads was favorable; however, the toilet devices did not operate as well. Since such a large percentage of water was found to be used for landscape irrigation, it was felt that future programs should be directed toward customers reducing water use in the landscape as it has the highest potential for savings and is the most cost effective.

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit: **Desert Water Agency** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

1. Has your agency completed a pre-screening system audit for this reporting year? no
2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:
 - a. Determine metered sales (AF)
 - b. Determine other system verifiable uses (AF)
 - c. Determine total supply into the system (AF)
 - d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. 0.00
3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production? yes
4. Did your agency complete a full-scale audit during this report year? no
5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit? no
6. Does your agency operate a system leak detection program? no
 - a. If yes, describe the leak detection program:

B. Survey Data

1. Total number of miles of distribution system line. 368
2. Number of miles of distribution system line surveyed. 0

C. System Audit / Leak Detection Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? yes
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."
Desert Water Agency informs all customers of possible on-site leaks when excessive consumption occurs when compared to the prior year's usage. Desert Water Agency performs water audits by metering all customer connections and water used for construction purposes through fire hydrants. Water used for other purposes such as city street washing and fire fighting is also recorded. The combined usage is calculated and the % unaccounted for determined. We do not have a leak detection program as we feel it is more cost effective to fund an aggressive main replacement

program. Additionally, the soils in our area are comprised of coarse sand. This allows water from a leak to surface quickly where it is easily detected. All leaks are repaired as soon as they are discovered to prevent damage and waste of water. All leaks are tracked on maps and on a pipeline inventory computer program. Mains with a history of leaks are budgeted for replacement, as are aging mains.

BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit: **Desert Water Agency** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

1. Does your agency require meters for all new connections and bill by volume-of-use? yes
2. Does your agency have a program for retrofitting existing unmetered connections and bill by volume-of-use? no
 - a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed?
 - b. Describe the program:
Desert Water Agency has no unmetered services.
3. Number of previously unmetered accounts fitted with meters during report year. 0

B. Feasibility Study

1. Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? no
 - a. If YES, when was the feasibility study conducted? (mm/dd/yy)
 - b. Describe the feasibility study:
Landscape water audits conducted and consumptive use mailings have shown that the majority of applicable developments within DWA's service area were fitted with dedicated irrigation meters at the time of construction.
2. Number of CII accounts with mixed-use meters. 0
3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period. 0

C. Meter Retrofit Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit:
Desert Water
Agency

BMP Form Status:
100% Complete

Year:
2004

A. Water Use Budgets

- | | |
|--|----|
| 1. Number of Dedicated Irrigation Meter Accounts: | 0 |
| 2. Number of Dedicated Irrigation Meter Accounts with Water Budgets: | 0 |
| 3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF): | 0 |
| 4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF): | 0 |
| 5. Does your agency provide water use notices to accounts with budgets each billing cycle? | no |

B. Landscape Surveys

- | | |
|--|------------|
| 1. Has your agency developed a marketing / targeting strategy for landscape surveys? | yes |
| a. If YES, when did your agency begin implementing this strategy? | 07/01/1989 |
| b. Description of marketing / targeting strategy:
(Please note that the correct entry in A.1. is NOT DETERMINED. As your system will not accept this, I have utilized a "0" in its place. | |
| 2. Number of Surveys Offered. | 5 |
| 3. Number of Surveys Completed. | 5 |
| 4. Indicate which of the following Landscape Elements are part of your survey: | |
| a. Irrigation System Check | yes |
| b. Distribution Uniformity Analysis | yes |
| c. Review / Develop Irrigation Schedules | yes |
| d. Measure Landscape Area | yes |
| e. Measure Total Irrigable Area | yes |
| f. Provide Customer Report / Information | yes |
| 5. Do you track survey offers and results? | yes |
| 6. Does your agency provide follow-up surveys for previously completed surveys? | no |
| a. If YES, describe below:
Follow-up surveys are performed following customer implimentation of recommended changes, or as requested by the customer. | |

C. Other BMP 5 Actions

- | | |
|---|-----|
| 1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program. | yes |
|---|-----|

- Does your agency provide mixed-use accounts with landscape budgets? 0
2. Number of CII mixed-use accounts with landscape budgets. 0
3. Do you offer landscape irrigation training? no
4. Does your agency offer financial incentives to improve landscape water use efficiency? no

Type of Financial Incentive:	Budget (Dollars/Year)	Number Awarded to Customers	Total Amount Awarded
a. Rebates	0	0	0
b. Loans	0	0	0
c. Grants	0	0	0

5. Do you provide landscape water use efficiency information to new customers and customers changing services? yes

a. If YES, describe below:

Desert Water Agency provides all new customers and customers changing service with a comprehensive, easy-to-read brochure which includes all facets of our functions, along with water conservation information.

6. Do you have irrigated landscaping at your facilities? yes
- a. If yes, is it water-efficient? yes
- b. If yes, does it have dedicated irrigation metering? yes
7. Do you provide customer notices at the start of the irrigation season? no
8. Do you provide customer notices at the end of the irrigation season? no

D. Landscape Conservation Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	12500	0
2. Actual Expenditures	5100	

E. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:
Desert Water Agency

BMP Form Status:
100% Complete

Year:
2004

A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers? no
 - a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.
2. Does your agency offer rebates for high-efficiency washers? no
3. What is the level of the rebate?
4. Number of rebates awarded.

B. Rebate Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Desert Water Agency studies have realized that as much as 80% of all residential water use is for landscape irrigation. Therefore, we have concluded that it is more cost effective for us to concentrate the bulk of our efforts on reducing water consumption in the landscape. We, therefore, have chosen to direct our resources into performing BMP #5. (See Water Conservation Program of the Desert Water Agency on file with the CUWCC).

BMP 07: Public Information Programs

Reporting Unit:

BMP Form Status:

Year:

Desert Water Agency

100% Complete

2004

A. Implementation

1. Does your agency maintain an active public information program to promote and educate customers about water conservation? yes

a. If YES, describe the program and how it's organized.

Public education has played an expanding role in the Agency's formal Water Conservation Program since adoption by its board of directors in 1982. The program utilizes both staff personnel and contract consultants. All aspects of the Agency's functions are communicated to the public utilizing the items checked below. Additionally, this year, the Agency redesigned and expanded its Web site. It is now more user friendly, and several items were added in order to better serve the public.

2. Indicate which and how many of the following activities are included in your public information program.

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	no	
b. Public Service Announcement	no	
c. Bill Inserts / Newsletters / Brochures	yes	2
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	yes	2
f. Special Events, Media Events	yes	1
g. Speaker's Bureau	yes	15
h. Program to coordinate with other government agencies, industry and public interest groups and media	yes	

B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	58500	0
2. Actual Expenditures	184237	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

BMP 08: School Education Programs

Reporting Unit:

Desert Water Agency

BMP Form Status:

100% Complete

Year:

2004

A. Implementation

1. Has your agency implemented a school information program to promote water conservation? yes

2. Please provide information on your school programs (by grade level):

Grade	Are grade-appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	no	0	0	0
Grades 4th-6th	no	0	0	0
Grades 7th-8th	no	0	0	0
High School	no	0	0	0

3. Did your Agency's materials meet state education framework requirements? no

4. When did your Agency begin implementing this program? 05/01/1989

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Please note that the entity Desert Water Agency contracted with to perform its in-classroom school education program (Palm Springs Desert Museum) elected to dissolve its Natural Science Education Program effective July 1, 2004. The Agency's board of directors is exploring options for a suitable replacement program.

BMP 09: Conservation Programs for CII Accounts

Reporting Unit: **Desert Water Agency** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

- | | |
|--|----|
| 1. Has your agency identified and ranked COMMERCIAL customers according to use? | no |
| 2. Has your agency identified and ranked INDUSTRIAL customers according to use? | no |
| 3. Has your agency identified and ranked INSTITUTIONAL customers according to use? | no |

Option A: CII Water Use Survey and Customer Incentives Program

- | | |
|---|----|
| 4. Is your agency operating a CII water use survey and customer incentives program for the purpose of complying with BMP 9 under this option? | no |
|---|----|

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered			
b. Number of New Surveys Completed			
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)			
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)			
CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit			
f. Evaluation of all water-using apparatus and processes			
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives			
Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
h. Rebates			
i. Loans			

- j. Grants
- k. Others

Option B: CII Conservation Program Targets

- 5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option? yes
- 6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings? no
- 7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991. 0
- 8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991. 0

B. Conservation Program Expenditures for CII Accounts

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

- a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

Please note that Desert Water chooses to perform neither Option A, nor Option B. The explanation for doing so is contained in the Comments, below. ("Yes" was checked for Option B as CII accounts are tracked for purposes of the mailings listed below, but not specifically for BMP #9).

BMP 09a: CII ULFT Water Savings

Reporting Unit:

Desert Water Agency

BMP Form Status:

100% Complete

Year:

2004

1. Did your agency implement a CII ULFT replacement program in the reporting year? No
If No, please explain why on Line B. 10.

A. Targeting and Marketing

1. What basis does your agency use to target customers for participation in this program? Check all that apply.

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

2. How does your agency advertise this program? Check all that apply.

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

B. Implementation

1. Does your agency keep and maintain customer participant information? (Read the Help information for a complete list of all the information for this BMP.)

2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency?

3. What is the total number of customer accounts participating in the program during the last year ?

CII Subsector	Number of Toilets Replaced			
	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount
4.				
a. Offices				
b. Retail / Wholesale				
c. Hotels				
d. Health				
e. Industrial				
f. Schools: K to 12				
g. Eating				

- h. Govern-ment
- i. Churches
- j. Other

5. Program design.

6. Does your agency use outside services to implement this program?

a. If yes, check all that apply.

7. Participant tracking and follow-up.

8. Based on your program experience, please rank on a scale of 1 to 5, with 1 being the least frequent cause and 5 being the most frequent cause, the following reasons why customers refused to participate in the program.

- a. Disruption to business
- b. Inadequate payback
- c. Inadequate ULFT performance
- d. Lack of funding
- e. American's with Disabilities Act
- f. Permitting
- g. Other. Please describe in B. 9.

9. Please describe general program acceptance/resistance by customers, obstacles to implementation, and other issues affecting program implementation or effectiveness.

10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and budgeting?

Desert Water Agency studies have realized that as much as 80% of all residential water use is for landscape irrigation. Therefore, we have concluded that it is more cost effective for us to concentrate the bulk of our efforts on reducing water consumption in the landscape. We, therefore, have chosen to direct our resources into performing BMP #5. (See Water Conservation Program of the Desert Water Agency on file with the CUWCC).

C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
a. Labor		
b. Materials		
c. Marketing & Advertising		
d. Administration & Overhead		
e. Outside Services		

f. Total	0	0
----------	---	---

2. CII ULFT Program: Annual Cost Sharing

a. Wholesale agency contribution

b. State agency contribution

c. Federal agency contribution

d. Other contribution

e. Total		0
----------	--	---

BMP 11: Conservation Pricing

Reporting Unit:
Desert Water Agency

BMP Form
Status:
100% Complete

Year:
2004

A. Implementation

Rate Structure Data Volumetric Rates for Water Service by Customer Class

1. Residential

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Non-volumetric Flat Rate
c. Total Revenue from Volumetric Rates	\$9136703
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$2155873

2. Commercial

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	\$3706689
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

3. Industrial

a. Water Rate Structure	Service Not Provided
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$0
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

4. Institutional / Government

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	\$588258
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

5. Irrigation

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$490926
d. Total Revenue from Non-Volumetric	\$0

BMP 12: Conservation Coordinator

Reporting Unit: **Desert Water Agency** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

1. Does your Agency have a conservation coordinator? yes
2. Is this a full-time position? yes
3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ?
4. Partner agency's name:
5. If your agency supplies the conservation coordinator:
 - a. What percent is this conservation coordinator's position? 38%
 - b. Coordinator's Name Michael F. Bergan
 - c. Coordinator's Title Administrative Services Officer
 - d. Coordinator's Experience and Number of Years 25
 - e. Date Coordinator's position was created (mm/dd/yyyy) 01/02/1977
6. Number of conservation staff, including Conservation Coordinator. 1

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	85800	0
2. Actual Expenditures	43651	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

BMP 13: Water Waste Prohibition

Reporting Unit: **Desert Water Agency** BMP Form Status: **100% Complete** Year: **2004**

A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area? yes
 - a. If YES, describe the ordinance:
Desert Water Agency's Board of Directors adopted Ordinance No. 31, An Ordinance Prohibiting the Waste of Water. It defines "waste," discusses actions to be taken, spells out customers' rights, and states exemptions.
2. Is a copy of the most current ordinance(s) on file with CUWCC? yes
 - a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

Desert Water Agency	Typically, violators have been cooperative in eliminating waste after being sent a letter informing them of the situation.
---------------------	--

B. Implementation

1. Indicate which of the water uses listed below are prohibited by your agency or service area.
 - a. Gutter flooding yes
 - b. Single-pass cooling systems for new connections no
 - c. Non-recirculating systems in all new conveyor or car wash systems yes
 - d. Non-recirculating systems in all new commercial laundry systems no
 - e. Non-recirculating systems in all new decorative fountains no
 - f. Other, please name no
2. Describe measures that prohibit water uses listed above:
 - a. In cases such as gutter flooding, written notice is sent to the subject customer, or a blanket mailing is conducted throughout neighborhoods with high incidents of waste.
 - b. In areas where Desert Water Agency is responsible for sewage collection, plans are checked to insure that a recirculating system is used.

Water Softeners:

3. Indicate which of the following measures your agency has supported in developing state law:
 - a. Allow the sale of more efficient, demand-initiated regenerating DIR models. no
 - b. Develop minimum appliance efficiency standards that:
 - i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used. no
 - ii.) Implement an identified maximum number of gallons discharged per gallon of soft water no

produced.

c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse effect on the reclaimed water or groundwater supply. no

4. Does your agency include water softener checks in home water audit programs? no

5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models? no

C. Water Waste Prohibition Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Please note that Water Waste Prohibition Program costs are included in the Conservation Staff Program Expenditures, BMP 12.

BMP 14: Residential ULFT Replacement Programs

Reporting Unit: **Desert Water Agency** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

	Single-Family Accounts	Multi-Family Units
1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?	no	no
Number of Toilets Replaced by Agency Program During Report Year		
Replacement Method	SF Accounts	MF Units
2. Rebate	0	0
3. Direct Install	0	0
4. CBO Distribution	0	0
5. Other	0	0
Total	0	0

- 6. Describe your agency's ULFT program for single-family residences.
- 7. Describe your agency's ULFT program for multi-family residences.
- 8. Is a toilet retrofit on resale ordinance in effect for your service area? no
- 9. List local jurisdictions in your service area in the left box and ordinance citations in each jurisdiction in the right box:

B. Residential ULFT Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

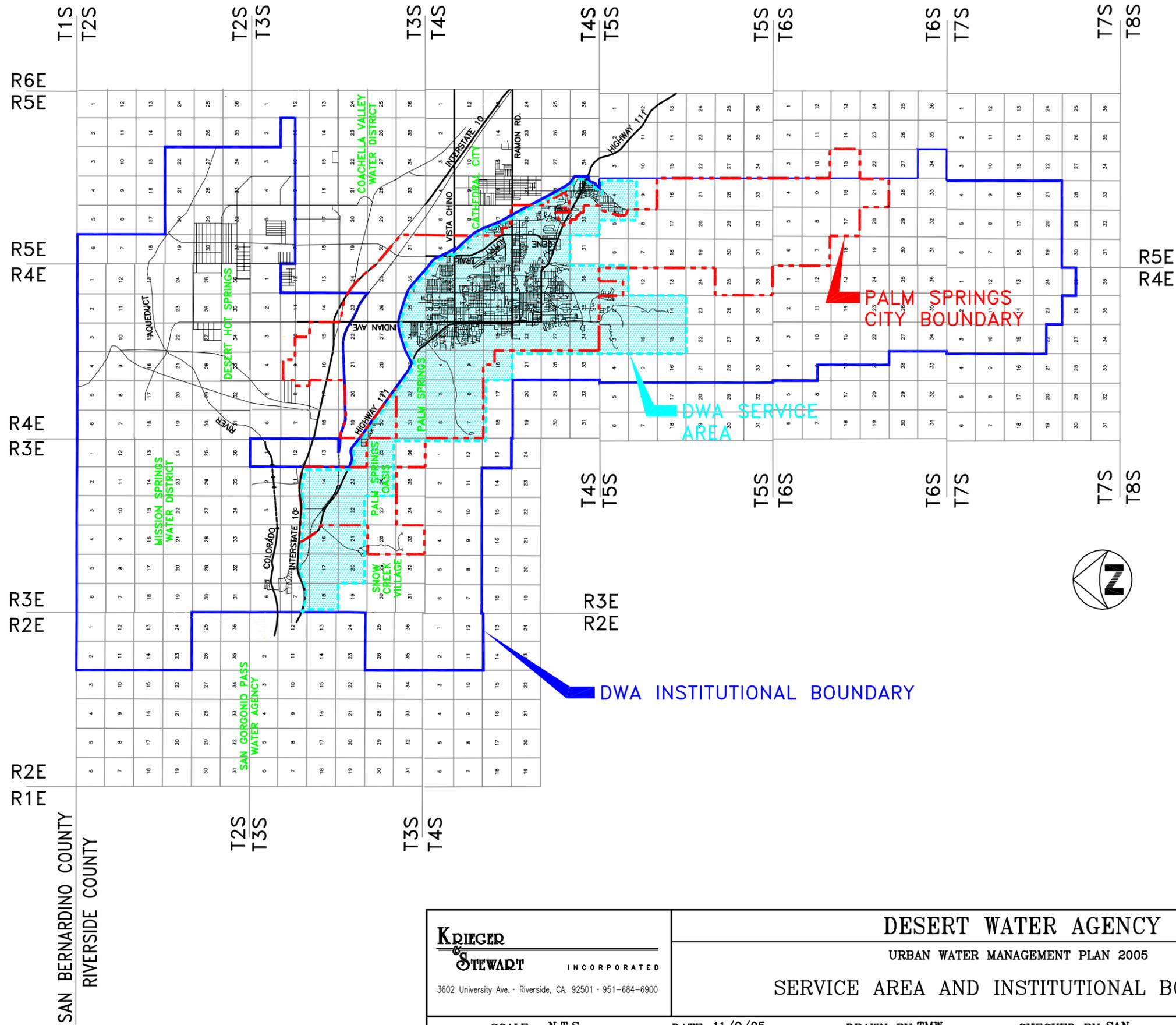
- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Desert Water Agency studies have realized that as much as 80% of all residential water use is for landscape irrigation. Therefore, we have concluded that it is more cost effective for us to concentrate the bulk of our efforts on reducing water consumption in the landscape. We, therefore, have chosen to direct our resources into performing BMP #5. (See Water Conservation Program of the Desert Water Agency on file with the CUWCC).

APPENDIX E

FIGURES

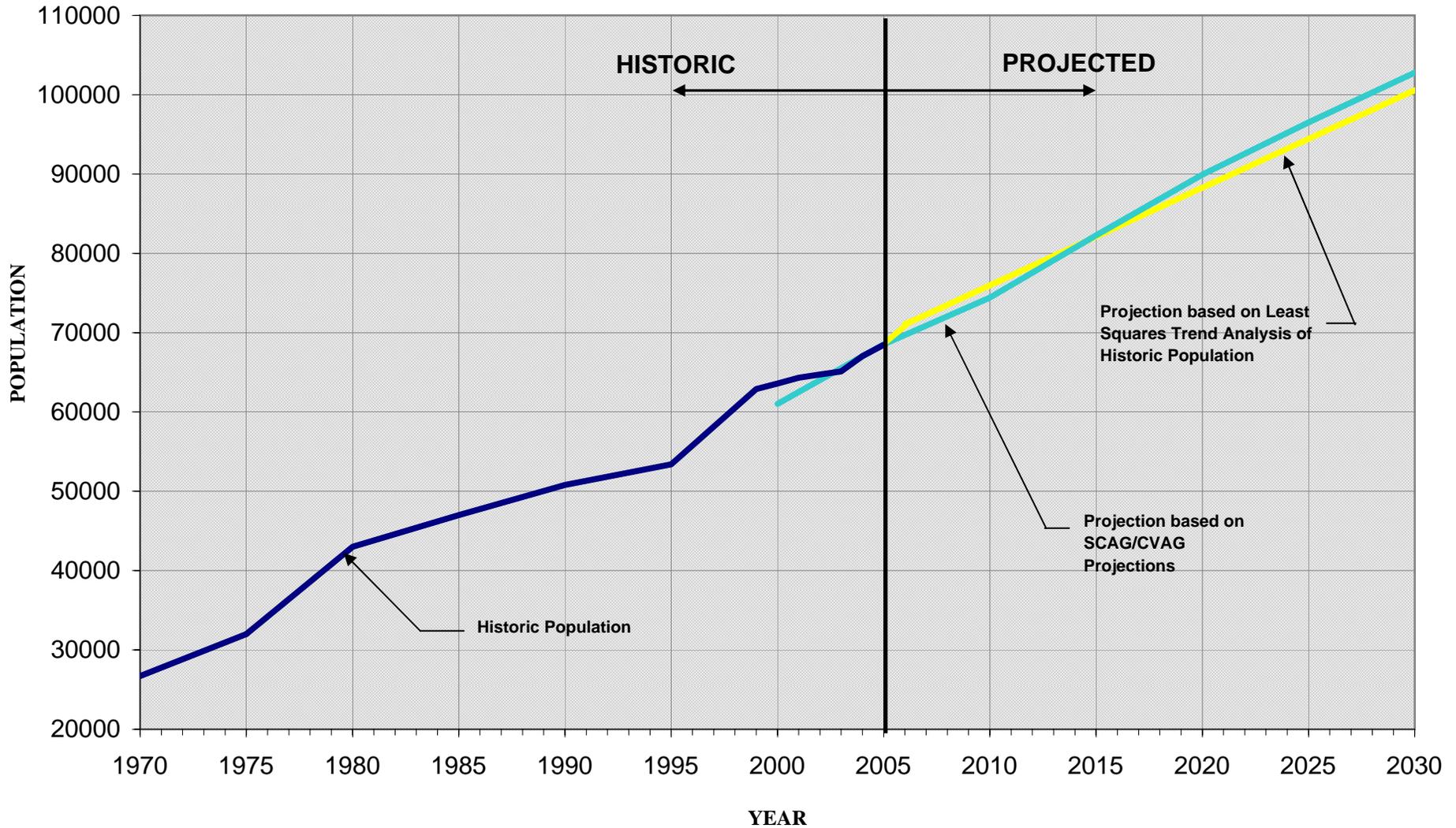


SAN BERNARDINO COUNTY
RIVERSIDE COUNTY

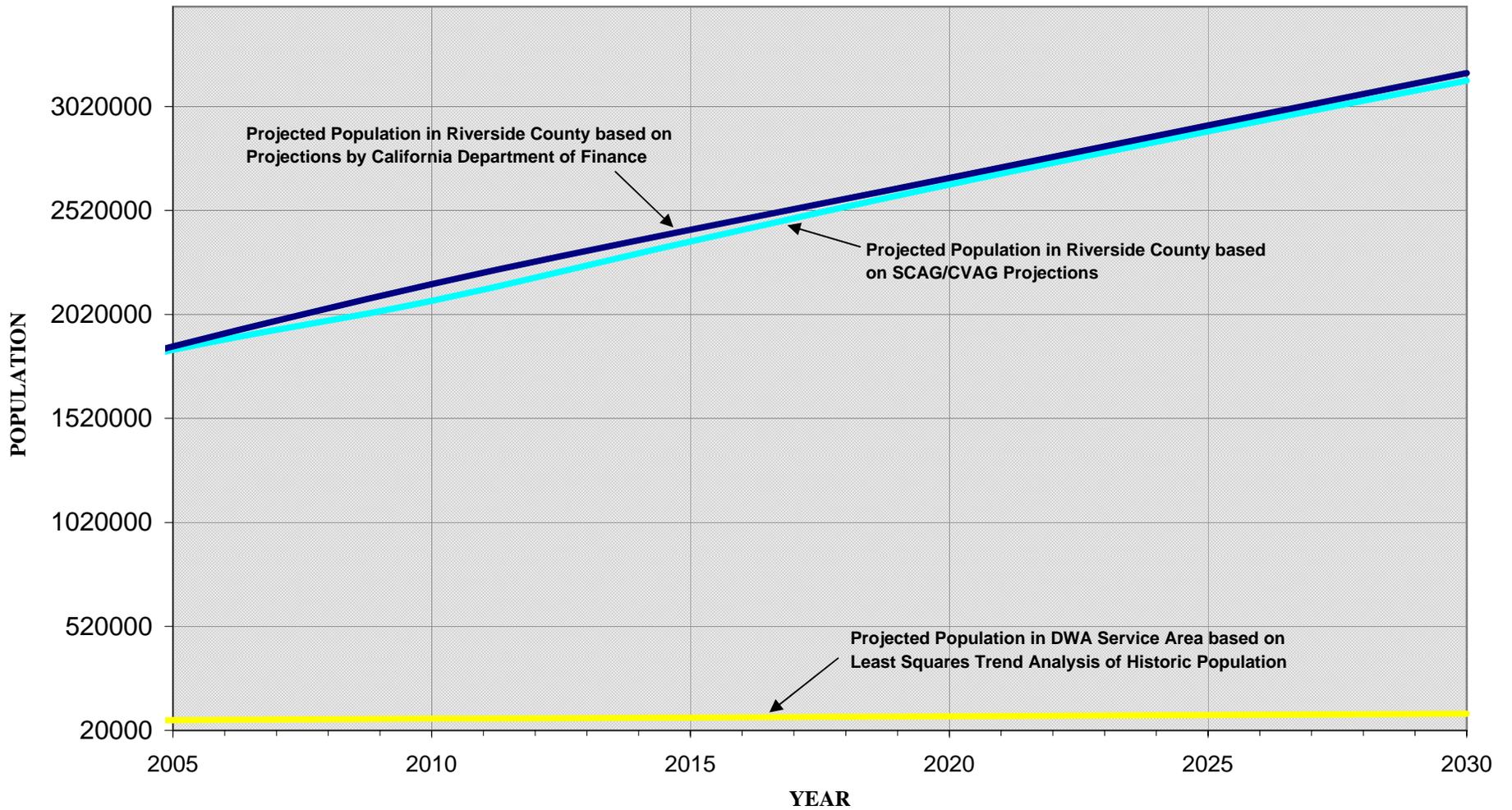
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DESERT WATER AGENCY
URBAN WATER MANAGEMENT PLAN 2005
SERVICE AREA AND INSTITUTIONAL BOUNDARY

**FIGURE 2
DESERT WATER AGENCY
URBAN WATER MANAGEMENT PLAN
POPULATION GROWTH WITHIN DWA SERVICE AREA**



**FIGURE 3
DESERT WATER AGENCY
URBAN WATER MANAGEMENT PLAN
POPULATION PROJECTIONS
DWA IN COMPARISON WITH RIVERSIDE COUNTY**



**FIGURE 4
DESERT WATER AGENCY
URBAN WATER MANAGEMENT PLAN**

HISTORIC AND PROJECTED WATER DELIVERIES (AF/YR) AND WATER METERS (EA)

