



COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

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June 26, 2008

IN REPLY PLEASE
REFER TO FILE: WW-0

TO: Each Supervisor

FROM: Dean D. Efsthioiu 
Acting Director of Public Works

GOVERNOR SCHWARZENEGGER'S STATEWIDE DROUGHT PROCLAMATION (ITEM 69, AGENDA OF JULY 1, 2008)

On June 10, 2008, your Board approved a motion by Supervisor Knabe directing the Acting Director of Public Works to report back on July 1, 2008, with any actions needed in response to Governor Schwarzenegger's Statewide drought proclamation, including recommendations to ensure that the County is conserving water.

Background

On June 4, 2008, Governor Schwarzenegger proclaimed the first Statewide drought in 16 years because water supplies in California have been significantly depleted due to dry weather conditions. Demands and pressure on our imported water supply continues to mount. Recent court decisions have affected water exports from the Sacramento-San Joaquin Delta because of depleted fish populations. The Delta, which is the hub of the State Water Project (SWP) and Federal Central Valley project, "is in crisis" and "not sustainable over the long term." Lower than normal snowmelt runoff, depleted water storage in the State's major reservoirs, impacts of climate change, and an eight-year drought in the Colorado River Watershed have also contributed to the need for the Governor's action.

On June 10, 2008, the Metropolitan Water District of Southern California issued a Water Supply Alert in Southern California urging local agencies to pursue extraordinary conservation measures. Additionally, on June 12, 2008, the Governor proclaimed a state of emergency in nine Central Valley counties due to severe water shortages.

County Water Conservation Efforts and Accomplishments

Under the direction of your Board and the Chief Executive Office, the Department of Public Works and other County departments have achieved numerous water conservation accomplishments and are engaged in many conservation efforts that predate the Governor's proclamation and support the County's overall preparedness for droughts. These accomplishments and efforts include the following: establishment of the Office of Recycled Water; preparation of three Integrated Regional Water Management Plans; preparation of Green Building, Low Impact Development, and drought-tolerant landscaping standards; and management of a comprehensive water conservation program for the five Los Angeles County Waterworks Districts; and conservation of 280,000 acre-feet annually through operation of our groundwater recharge and sea water barrier programs.

Impacts of Drought on Los Angeles County

The water crisis is expected to impact all Southern California residents; however, regionally, the degree of impact will vary significantly. The County's residents are served by approximately 200 retail water agencies. Most of these agencies receive a portion of their water supplies from the State Water Project (SWP) through direct or indirect purchases from six SWP contractors serving Los Angeles County. The customers of retail water agencies that rely most heavily on SWP water are expected to experience the most significant impact of the drought. Approximately 90 percent of the SWP supplies in Los Angeles County come from the Metropolitan Water District of Southern California (MWD). MWD is expected to meet its member agencies' demands this calendar year by drawing water from its water storage reserves. However, if dry conditions persist, MWD will need to implement mandatory allocation reductions next year.

Impacts of Drought on Los Angeles County Waterworks Districts

The water crisis is not expected to significantly impact the five County Waterworks Districts this calendar year. However, if dry conditions persist, we expect the Districts to be impacted next calendar year with the largest impacts to Waterworks District Nos. 29, Malibu (WWD 29); and 40, Antelope Valley (WWD 40). WWD 29 obtains all of its water from MWD through the West Basin Municipal Water District. Any mandatory allocation reductions by MWD will result in a similar percentage reduction to WWD 29 and, therefore, require implementation of our Board-approved Phased Water Conservation Plan. WWD 40 relies on imported SWP water purchased from the Antelope Valley-East Kern Water Agency (AVEK) for 80 percent of its customers' demands. Shortages in SWP deliveries to AVEK will result in a similar percentage reduction to WWD 40 and, therefore, also require implementation of our Phased Water Conservation Plan.

Waterworks District No. 36, Val Verde, will not be impacted significantly if dry conditions persist in 2009 according to the Castaic Lake Water Agency, who supplies all the water for this District. Similarly, Waterworks District Nos. 21, Kagel Canyon, and 37, Acton, will not be significantly impacted because of their relatively lower water demands and reliance on local groundwater.

Recommended County Drought Response Actions

1. Declare a Countywide Water Supply and Conservation Alert urging County residents, businesses, and cities to intensify water conservation efforts to achieve a 15 to 20 percent reduction in water demand.
2. Update and adopt a Water Wasting Ordinance for unincorporated County areas and the Waterworks District's Phased Water Conservation Plan.
3. Direct all County departments to evaluate water usage, immediately implement conservation measures to reduce consumption by a target amount of 10 percent by December 31, 2008, and report back to your Board with recommended measures to reduce consumption by an additional 10 percent.
4. Send a five-signature letter to the Governor and leadership of the Legislature urging the State to expedite the award of bond funds from Propositions 84 and 1E to local agencies, including the County of Los Angeles.
5. Send a five-signature letter to the Governor and leadership of the Legislature expressing support for the Governor's *Delta Vision* which provides a comprehensive, sustainable management plan for the Delta that includes conveyance, expanded storage, ecosystem restoration, and conservation.
6. Direct the Chief Executive Officer through the Office of Recycled Water and the Energy and Environmental Policy Team in collaboration with ISD, DPW, DPR, Fire, Sheriff, and other appropriate departments to develop a recycled, nonpotable water infrastructure plan for County facilities; the planning process to include consultation with appropriate water purveyors and waste water treatment agencies. The recycled water infrastructure plan should establish priorities based upon amount of potable water saved and include a funding analysis and recommendations.

Each Supervisor
June 26, 2008
Page 4

7. Direct the Chief Executive Officer, working with the Energy and Environmental Policy Team and with input from water conservation specialists to ensure utilization of Best Management Practices, including LEED and LID, to develop a water conservation policy applicable to the retrofit, refurbishment, and new construction of County facilities and grounds.

DDE:dh

cc: Chief Executive Office (William T Fujioka, Lari Sheehan)
County Counsel
Executive Office, Board of Supervisors
Internal Services Department
Department of Parks and Recreation
Department of Regional Planning

**COUNTY OF LOS ANGELES
BOARD OF SUPERVISORS**

**Response to Governor Schwarzenegger's
Statewide Drought Proclamation**

July 1, 2008

Agenda Item No. 69

**RESPONSE TO GOVERNOR SCHWARZENEGGER'S
STATEWIDE DROUGHT PROCLAMATION**

July 1, 2008

On June 10, 2008, your Board approved a motion by Supervisor Knabe instructing the Acting Director of Public Works to report back on July 1, 2008, with any actions needed in response to Governor Schwarzenegger's statewide drought proclamation including recommendations to ensure that the County is conserving water.

The report contains the following: background information on the conditions contributing to the drought, current County water conservation efforts and accomplishments, information on bond funding for water projects, impacts of the drought on the County including its five Los Angeles County Waterworks Districts, drought response actions taken by other public agencies, and recommended County drought response actions.

I. BACKGROUND

On June 4, 2008, Governor Schwarzenegger signed Executive Order S-06-08, proclaiming the first statewide drought in sixteen years. Water supplies in California have been significantly depleted due to dry weather conditions. Demands for imported water, which accounts for two-thirds of Southern California's water supply, continue to mount. In addition, recent court decisions have affected the exports from the Sacramento-San Joaquin Bay Delta because of impacts of flow conditions on endangered fish populations. Lower than normal snowmelt runoff, depleted water storage in the State's major reservoirs, and an eight-year drought in the Colorado River Watershed have also contributed to the need for the Governor's action.

Less than a week later, on June 10th, the Metropolitan Water District of Southern California issued a Water Supply Alert in Southern California. The alert urges cities, counties, and regional and local water agencies to pursue extraordinary conservation measures, including adopting conservation and drought ordinances to preserve regional storage reserves. Additionally, on June 12th, the Governor proclaimed a state of emergency in the following nine Central Valley counties due to severe water shortages: Sacramento, San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and Kern.

Low Levels of Precipitation, Runoff, and Storage

The State has experienced two consecutive years of below-average precipitation with March and April 2008 being the driest period in the northern Sierra since 1921, the first year that records were kept. Statewide water runoff into streams and reservoirs is 55 to 65 percent of normal because water is being absorbed by parched soil due to last year's extremely dry weather. Lake Oroville and San Luis Reservoir, the State Water Project

(SWP) two largest reservoirs, are currently at 49 percent and 50 percent of operational capacity, respectively, substantially less than normal for this time of year. The Colorado River Watershed has experienced an eight-year drought, and the river system's storage is at approximately 50 percent of capacity.

Sacramento-San Joaquin Bay Delta Crisis

Flowing south, fed by runoff from the Northern Sierra Nevada Mountains and Southern Cascades, the Sacramento River meets the northbound San Joaquin River to form the Sacramento-San Joaquin Bay Delta Estuary, commonly referred to as the Bay Delta (Delta). The Delta is crucial to the State's overall water picture, and it is the hub of California's two largest surface water delivery projects, the SWP and the federal Central Valley Project (CVP). More than two-thirds of Californians rely on water conveyed through the Delta for at least some of their water supplies. The Delta is also a haven for fisheries and wildlife and a vital transportation corridor for the State's economy, supporting rail, freight, gas, oil, and truck traffic. It also supports a significant agricultural economy (approximately \$750 million per year).

The "Delta is in crisis" and "its ecosystem is not sustainable over the long-term" unless immediate action is taken, according to a November 30, 2007 Delta Vision Blue Ribbon Task Force's report known as the *Delta Vision*. The independent Task Force was established by the Governor on September 28, 2006 and charged with developing a durable vision for sustainable management of the Delta. The Governor's action was driven by a combination of events that included the Delta's Lower Jones Tract levee failure, the potential for a New Orleans Katrina-type flooding disaster, and the two in three chance of a 6.7 or greater magnitude earthquake in or near the Delta in the next 30 years. Any one of these events has the potential of disrupting our SWP supplies for many months or years.

Water deliveries from the SWP and CVP have been limited by a series of rulings by U.S. District Court Judge Oliver W. Wanger. The rulings were triggered by concerns related to five endangered fish species, including the Delta Smelt. On December 14, 2007, Judge Wanger issued an Interim Remedial Order that ordered modifications to the operations of the CVP and SWP while the U.S. Fish and Wildlife Service prepares a new biological opinion for operation of the two projects. The California Department of Water Resources estimates that the Interim Remedial Order will, under normal climatic conditions, reduce water exports from the Delta by 11 percent per year. Ultimately some long term reductions in water exports seem likely.

These issues have amplified the need for emergency actions. A sustainable management plan for the Delta must consist of both near-term and long-term action plans and must have elements of water supply conveyance, ecosystem restoration, storage development and flood control protection. The near-term actions also lay a foundation for any of Delta long-term actions.

Near-Term Action Plans

The near-term action plan must be undertaken in the very near future and should be focused on preparing for disasters in and around the Delta. It should include the following: establishing flood emergency management and preparation actions; improving current water conveyance and groundwater and surface water storage systems; pursuing high-priority ecosystem revitalization projects; acquiring title to floodplains and limiting urban encroachment on the Delta; setting standards for levee improvements; and incorporating expected sea level increases into all planning decisions.

Long-Term Action Plans

The long-term action plan should take a global and comprehensive approach to the conflicts and fundamental issues. It should be based on 12 integrated and linked recommendations outlined in the *Delta Vision* report. The report identifies that the Delta ecosystem and a reliable water supply for California are co-equal goals for sustainable management of the Delta. The three basic elements that must be addressed in the long-term action plan are Delta ecosystem restoration; water supply conveyance; and flood control protection and storage development. The report concludes that a "dual conveyance" system, which provides for conveyance of water through the Delta as well as around the Delta via an isolated canal, appears to be most promising. The Blue Ribbon Task Force is now developing a strategic plan to implement its vision for the Delta. This plan is expected to be completed by October 2008.

Impacts of Climate Change

Finally, climate change impacts are also expected to increase the Delta's vulnerability and further reduce the reliability of deliveries from the SWP. A 2007 report from the Intergovernmental Panel on Climate Change points to a body of research that clearly identifies risks to our water supplies. We are already seeing shifts in seasonal runoff patterns due to rising snowlines and earlier snowmelt. Rising sea levels will significantly impact the Delta, and more extreme weather could lead to higher water demands.

II. IMPACTS OF DROUGHT ON LOS ANGELES COUNTY

The water crisis is expected to impact all Los Angeles County and Southern California residents; however, the degree of impact will vary significantly regionally. The County's residents are served by approximately 200 different retail water agencies. Most of these agencies receive a portion of their water supplies from the SWP through direct or indirect purchases from the following six SWP Contractors serving Los Angeles County: Antelope Valley-East Kern Water Agency, Castaic Lake Water Agency, Littlerock Creek

Irrigation District, Metropolitan Water District of Southern California, Palmdale Water District, and San Gabriel Valley Municipal Water District. The customers of retail water agencies that rely most heavily on SWP water are expected to experience the most significant impact of the drought. In order to minimize the impact of future actions, cities and the County need to do more to ensure reductions in current water use.

Following is a summary of the near-term and long-term impacts of drought on the customers served by the SWP Contractors serving Los Angeles County:

Metropolitan Water District of Southern California

Approximately 90 percent of the SWP supplies in the Los Angeles County come from Metropolitan Water District of Southern California (MWD). As of January 2007 MWD had approximately 2.87 million acre-feet water storage reserves. In order to meet current demands, MWD anticipates this amount to be reduced to 1.77 million acre-feet by January 2009. In a recently adopted Water Supply Alert Resolution, MWD urged cities, counties, and member agencies to proactively implement extraordinary water conservation measures, to reduce pressure on storage supplies and to avoid the need for reduced allocations to its member agencies. The Resolution also stated that if dry conditions persist into 2009, MWD will need to implement its Water Supply Allocation Plan, which calls for mandatory allocation reductions. Should a water purveyor exceed their allocation, they will be assessed a severe financial penalty.

Antelope Valley-East Kern Water Agency

The Antelope Valley-East Kern Water Agency (AVEK), serving the northern portion of Los Angeles County, relies on SWP water to meet its customers' demands. Because of AVEK's reliance on a single water supply source, and lack of surface storage and groundwater basin bank, reductions in SWP water deliveries will result in significant impacts to its ability to meet its customers' demands if dry conditions persist in 2009, which would result in the need for mandatory water conservation measures.

Castaic Lake Water Agency

Castaic Lake Water Agency (CLWA), serving the Santa Clarita Valley, relies on SWP water to supplement its member agencies groundwater supplies. CLWA anticipates that there will be no significant impact to its member agencies from reductions in their SWP water deliveries through 2009. CLWA plans to rely on its banked water supplies to meet its customers' demands in 2009 if necessary.

Upper San Gabriel Valley Municipal Water District

The Upper San Gabriel Valley Municipal Water District (District), serving Alhambra, Monterey Park, Azusa, and Sierra Madre, provides 10,000 and 12,000 acre-feet of SWP water to replace water over-extracted from the adjudicated Main San Gabriel Groundwater Basin. Additionally, the District has 24,000 acre-feet in storage.

According to the District, with the anticipated reduction in District's SWP deliveries, this amount will allow them to adequately provide the needed water supply for the four cities over the next two years. The District indicated that any need for mandatory water conservation measures would have to be initiated and implemented by the four cities.

Palmdale Water District

The Palmdale Water District (PWD), serving two-thirds of the City of Palmdale's residents, relies on SWP water, groundwater, and local surface water from Littlerock Reservoir to its customers' demands. Due to the diversity of their water supply portfolio, a reduction in SWP deliveries may not have a severe impact. However, PWD could resort to implementation of mandatory water conservation if dry conditions persist.

Littlerock Creek Irrigation District

The Littlerock Creek Irrigation District (LCID), serving the unincorporated Littlerock area of Los Angeles County, relies on groundwater, local surface water from Littlerock Reservoir, and some SWP water to meet its customers' demands. Due to the diversity of LCID's water supply portfolio and its relatively small customer demands, reductions in SWP water deliveries may not have a significant impact on its customers.

III. IMPACTS OF DROUGHT ON LOS ANGELES COUNTY WATERWORKS DISTRICTS

The water crisis is not expected to significantly impact the five County Waterworks Districts this calendar year. However, if dry conditions persist, we expect the Districts to be impacted to varying degrees next calendar year with the largest impact to Waterworks District No. 40, Antelope Valley (WWD 40). WWD 40 has approximately 54,000 connections serving 165,000 people and relies on imported SWP (SWP) water purchased from the Antelope Valley-East Kern Water Agency (AVEK) for 80 percent of its customers' demands, which total approximately 60,000 acre-feet. Based on the 2008 SWP water allocation, we expect that 39,000 acre-feet of SWP water from AVEK will be available to the District in 2008, compared to 61,000 acre-feet during a normal precipitation year. We plan to meet the District's remaining 2008 demands of 21,000 acre-feet with higher-than-normal pumping from the District's wells and by very aggressively emphasizing water conservation measures. If dry conditions continue into next year, we estimate that less than 10,000 acre-feet of SWP water from AVEK will be available to WWD 40 in 2009. Of the remaining 50,000 acre-feet of demand, approximately 25,000 acre-feet could be pumped from the District's wells, 10,000 acre-feet could be purchased from the anticipated State Dry-Year Program, and the remaining 15,000 acre-feet deficit will result in the need for implementation of the District's Phased Water Conservation Plan that was approved by your Board in 1991. The Plan includes severe financial penalties for customers that do not achieve the required reduction in water use.

Waterworks District No. 29, Malibu (WWD 29), which has a water demand of approximately 11,000 acre-feet, obtains all its water from Metropolitan Water District through the West Basin Municipal Water District (West Basin). WWD 29 will also be impacted by any shortages in SWP deliveries in 2009. The Metropolitan Water District has a Water Supply Allocation Plan for distribution of its available water supply during shortages that will likely reduce supply to the West Basin by a percentage similar to the overall reduction of imported water supply. Such a reduction will also result in the need for implementation of the Phased Water Conservation Plan for WWD 29. The Plan includes severe financial penalties for customers that do not achieve the required reductions in water use.

Waterworks District No 36, Val Verde, which has a water demand of approximately 1,400 acre-feet, will not be impacted significantly if dry conditions persist into 2009, according to the Castaic Lake Water Agency's staff. The Agency informed us that it plans to rely on its banked water supplies to meet its customers' demands in 2009.

Waterworks District Nos. 21, Kagel Canyon, and 37, Acton, may be impacted by the drought in 2009 but to a lesser extent due to their considerably lower overall water demands and the availability of local water supplies to meet their customers' demands.

IV. COUNTY WATER CONSERVATION EFFORTS AND ACCOMPLISHMENTS

Under the direction of your Board and the Chief Executive Office, the Department of Public Works including the Los Angeles County Waterworks Districts, Los Angeles County Flood Control District, and other County departments have achieved numerous water conservation accomplishments and are engaged in a myriad of active water conservation efforts that support the County's overall preparedness for droughts. Following is a summary of our on-going efforts and recent accomplishments:

Department of Public Works

- Office of Water Recycling – Establishment of the County Office of Water Recycling on July 1, 2007, to assist in efforts to double the amount of recycled water used within the County, from 167,400 acre-feet to 333,600 acre-feet, by 2030. The Office is charged with implementing 27 recommendations governing recycled water activities. It is working in partnership with the Department of Parks and Recreation and Internal Services Department to retrofit numerous County facilities for use of recycled water for landscape irrigation. County facilities that currently use recycled water for landscape irrigation include Bonelli Regional County Park, Schabarum Regional County Park, Vector Control Offices in Santa Fe Springs, Norwalk County Library, and the County Recorder's Office in Norwalk.

- Integrated Regional Water Management Planning – Preparation of three Integrated Regional Water Management Plans (IRWMPs): the Antelope Valley IRWMP, the Greater Los Angeles County IRWMP, and Upper Santa Clara River Watershed IRWMP. The IRWMPs identify and prioritize projects that address water supply, water conservation, water quality, flood control, environmental resources, and planning for the next 20 to 30 years.
- Spreading Grounds and Rubber Dams – Operation of 26 spreading grounds and 10 rubber dams in the Los Angeles Basin that allow the percolation of stormwater runoff, imported water, and recycled water to underground aquifers, conserving an average of 280,000 acre-feet of water annually, an amount to sustain 560,000 families for one year. Since 1985, the Department has undertaken a modernization program at the spreading grounds. A total of \$52 million has been spent to increase groundwater recharge by an average annual 5,500 acre-feet.
- Seawater Barriers – Operation of three seawater barrier projects along the coastline to protect and conserve coastal groundwater from seawater intrusion. Also, we are working with the water community, including the Water Replenishment District and regulatory agencies, to utilize 100 percent recycled water for the barrier projects. Modernization of these facilities over the past 20 years has increased the average annual recharge of the aquifers they protect by 2,700 acre-feet at a cost of \$26 million.
- Dams – Operations at County dams are performed to conserve as much stormwater as possible. This stored water is later released and used to recharge the groundwater aquifers. Since 1985, \$155 million has been spent in needed seismic retrofit project that have also increased the total available storage at the dams by 8,000 acre-feet. On average, this additional storage will be filled five times over the course of a storm season.
- Weather Modification (Cloud Seeding) – Reactivation of the Cloud Seeding Program was approved by your Board on June 10, 2008. Cloud seeding generators are used to release silver iodide into the air, which can increase the amount of rainfall from storm clouds by 10 to 15 percent. The additional rainfall is collected in our reservoirs and later transferred to our spreading grounds for recharge of underground aquifers.
- Smart Gardening Program – Administration of a Smart Gardening Program, developed in collaboration with the Department of Parks and Recreation, to promote environmental practices related to water and fire-wise gardening, composting, and grass recycling. For water-wise gardening, residents are taught to conserve water with proper selection of plants, proper irrigation, use of compost, installation of groundcover, and grouping plants with similar water needs (hydrozoning). The workshops are held at the Program's 11 Smart Gardening Learning Centers, typically located at County parks, and at off-site locations in coordination with cities.

- Flood Control District Capital Improvements – The following water conservation construction projects have recently been completed or are under construction.
 - San Gabriel River Rubber Dams (\$6.7 million) – Construction of two rubber dams, to allow for in-stream recharge. The project, which was partially funded by State grants and the Water Replenishment District, is completed.
 - Big Tujunga Dam Seismic Rehabilitation and Spillway Modifications (\$88.5 million) – An integrated resources management project that involves the placement of new concrete on the downstream face of the existing arch dam to create a thick-arch. The rehabilitation of the dam will provide an additional 4,500 acre-feet of water for downstream recharge and later extraction, in addition to providing downstream flood protection and flow releases to enhance habitat. The project, which is partially funded by the Federal Emergency Management Agency and Los Angeles Department of Water and Power, is under construction.
 - Hansen Spreading Ground Improvements (\$7.3 million) – Reconfiguration of spreading basin to increase storage capacity by 1,100 acre-feet. The construction contract has been awarded. This project is cost shared by the City of Los Angeles Department of Water and Power.
 - Irwindale/Manning Spreading Grounds Interbasin Drain (\$1.4 million) – Construction of a drain from Irwindale Spreading Basin to Manning Pit to allow optimization of groundwater recharge. The construction contract has been awarded.
- Cooperative Agreements/Regional Partnerships – We continue to work in developing cooperative agreements with other local water management agencies to further advance water conservation, water recycling, and groundwater storage programs. Partnerships to date include Water Replenishment District of Southern California, Los Angeles City Department of Water and Power and West Basin Municipal Water District. The following projects are being pursued in partnership with the City of Los Angeles:
 - East Valley Recycling Project – Mayor Antonio Villaraigosa intends to renew efforts to deliver up to 25,000 acre-feet of highly treated recycled water from the Tillman Water Reclamation Plant to the County's Hansen Spreading Grounds for recharging the groundwater aquifers in the San Fernando Valley.
 - Tujunga Spreading Grounds Enhancement Project – Reconfiguration to increase capacity at the grounds, simplify operations, and improve data collection.

- Pacoima Spreading Grounds Enhancement Project – Reconfiguration to increase capacity at the grounds, simplify operations, and improve data collection.
- Sun Valley Watershed Management Project - Proposes 15 multiuse projects that will conserve an average of 8123 acre-feet of water annually. Additional benefits include 50 year flood protection, water quality improvement, recreational facilities and habitat restoration. Funding partners include the City of Los Angeles, State agencies, Federal agencies, and non governmental organizations. Total costs are estimated at \$270 million dollars over a twenty-year period.
- Los Angeles County Waterworks Districts – The Department of Public Works is responsible for the management of five County Waterworks Districts, serving the areas of Malibu, Topanga, Marina del Rey, Kagel Canyon, Val Verde, Acton, and the Antelope Valley, which are engaged in the following water conservation activities for its existing and new customers, as applicable.
 - Implementation of Best Management Practices – Implementation of 14 Best Management Practices for water conservation specified in the California Urban Water Conservation Council's Memorandum of Understanding (MOU) regarding Urban Water Conservation in California. The Waterworks Districts became a signatory to the MOU in April 1996.
 - Phased Water Conservation Plan – Established a Phased Water Conservation Plan, which was adopted by your Board on May 23, 1991, that can be implemented for a severe water shortage to reduce customer demands by up to 40 percent in 5 percent increments.
 - Free Water Use Survey Program – Initiated a Free Water Use Survey Program for the Waterworks Districts' residential, commercial, industrial, institutional, and large-landscape customers to identify opportunities for water conservation. Over 3,000 surveys have been completed to date, resulting in an average of 10 percent reduction in water consumption for the participating customers.
 - Tiered-Water Rates – Implemented tiered-water rate structures for Waterworks District Nos. 40, Antelope Valley, and 29, Malibu and the Marina del Rey Water System, together accounting for 95 percent of the Districts' customers, to encourage water conservation.
 - Public Education – Planned implementation of a summer public education program consisting of 719 television ads, 816 radio announcements, 10 newspaper ads, 3 billboards, and regular press releases; a new customer rebate program for water-saving devices; partnerships and materials to promote the use of native plants; an on-going program of

participation in community events, which has reached more than 800 customers so far in 2008; publication of quarterly *Splash* newsletters sent to all the Districts' customers; and enhancement of our website, which receives more than 350 hits per month, with water conservation information.

- Aquifer Storage and Recovery – Implemented a Lahontan Regional Water Quality Control Board permitted Aquifer Storage and Recovery groundwater basin recharge program to inject up to 6,800 acre-feet of surplus treated SWP water annually.
- Optimization of Improved Water Use – Conservation of up to 5,000 acre-feet of groundwater annually by maximizing the use of surplus imported SWP water when available in-lieu of pumping groundwater.
- Recycled Water – Completed a Facilities Planning Report for a 38-mile recycled water backbone system and prepared environmental documents for the system; participated in the construction of 24,000 linear feet of 24-inch-diameter recycled water line in partnership with the City of Lancaster; participated with the Cities of Lancaster and Palmdale to explore the use of recycled water for groundwater basin recharge; amended the Rules and Regulations of the Waterworks Districts to include provision for the use of recycled water; and negotiated a recycled water agreement with the County Sanitation Districts of Los Angeles County for the for the annual purchase of up to 13,500 acre-feet of recycled water.
- Water Supply Reliability Charges – Establishment of the Water Supply Reliability Charges, which were approved by your Board on May 25, 2005, to provide funding to improve the reliability of the Districts' water supplies. The charges include components for water banking, groundwater supply, and recycled water.
- In-Lieu Water Storage – Negotiated and executed an agreement, which was authorized by your Board on June 19, 2007, with the Antelope Valley-East Kern Water Agency, Palmdale Water District, and Antelope Valley State Water Contractors Association for the in-lieu storage of 420 acre-feet of SWP water.
- Regional Water Conservation Coalition – Participated in the establishment of the Antelope Valley Water Conservation Coalition that includes the cities of Lancaster and Palmdale, Antelope Valley-East Kern Water Agency, Antelope Valley Building Industry Association, and other interested parties.

- Water Wasting Advisory Notice Program – Administration of a program to notify the District's customers of incidents of water wasting (i.e., broken sprinkler heads, irrigation runoff, etc.) and encourage water conservation.
- Water Conservation Customer Rebate Program – Established a Water Conservation Customer Rebate Program, approved by your Board on June 4, 2008, to provide financial incentives to the Districts' customers to purchase and install pre-approved products to improve their water-use efficiency. The Program includes rebates for installation of high efficiency clothes washers, ultra low flow toilets, dual flush toilets, waterless urinals, smart weather-based sprinkler controllers, and rotating sprinkler nozzles.
- Upper Amargosa Creek Recharge Project – Participation with the City of Palmdale in a project to design and construct five off-channel and two in-channel recharge basins to allow for storage of surplus SWP water when it is available.

Department of Parks and Recreation

- Water and Environmental Planning Section – In anticipation of the serious water conservation and water quality issues facing the region and County, the Department of Parks and Recreation developed a Water and Environmental Planning Section, which is working in collaboration with other County departments and outside agencies on the following: park-watershed planning, lake planning and management, Stormwater management in parks, recycled/reclaimed water, and water conservation and alternative energy planning.
- Water Conservation Task Force – As led by the Department of Parks and Recreation Water and Environmental Planning Section, the Department of Parks and Recreation created a task force consisting of Water Purveyors (Metropolitan Water District, West Basin Water District, Central Basin Water District, Upper San Gabriel Valley Municipal Water District, Rowland Water District, and Antelope Valley Sanitation District), Department of Public Works (Office of Water Recycling), Department of Parks and Recreation-Golf Course Division, Department of Parks and Recreation-Management Services, and Department of Parks and Recreation-Field Agencies. The goal of this group is to expand the Recycled Water Master Program to all County park facilities for 100 percent use of recycled water for irrigation.
 - Water Conservation and Recycled Water Use – Reduction in usage of potable water by converting facilities to recycled water for irrigation, utilizing 2,000 acre- feet of recycled water annually.
 - Other County Parks Currently on Recycled Water – Cerritos, Countrywood, Alondra, Del Aire, Lennox, Sorenson, Sunshine, Whittier Narrows Recreation Area, and Apollo.

- County Golf Courses Currently on Recycled Water – Mountain Meadows, Diamond Bar, Lakewood, Victoria, Chester Washington, and Whittier Narrows Recreation Area Golf Course recycled water project is currently underway.
- Expanded Use of Native and Drought Tolerant Plants – Department of Parks and Recreation developed policies and procedures for the use of native and drought tolerant plants to be implemented at County parks and recreational facilities. Most recently, native and drought tolerant plants have been installed at Cerritos Regional Park and Pickens Park. However, there are 23 County parks currently with drought tolerant and/or native plant material.

The following additional water conservation efforts are in progress:

- Recycled Water Master Program – Development of a Countywide Recycled Water Master Program for County parks and golf facilities; the goal is to establish 100 percent use of recycled water for irrigation.
- Energy and Water Conservation Pilot Project – Development of one energy and water conservation pilot project that will serve as a model for other facilities and incorporate successful results into County Park and Facilities Design Guidelines and Standards.
- Multi-Benefit Projects – Development of four multi-benefit projects (stormwater quality projects) in collaboration with the Department of Public Works.
- Evapotranspiration (ET) Irrigation Systems – Design of efficient ET irrigation systems for disadvantaged parks to comply with Assembly Bill No. 2717, the Water Smart California Landscape Ordinance for immediate and long-term water conservation incorporate into County Park and Facilities Design Guidelines and Standards.
- Case Study of Energy Conservation System – Perform a case study of various energy conservation systems (solar-powered internal lighting, solar heating, high efficiency indoor water devices, high efficiency outdoor water devices, drought tolerant plant material, and stormwater retention systems) for the development of park standards and incorporate successful results into County Park and Facilities Design Guidelines and Standards.
- Stormwater Management System – Develop and design a stormwater management system for the most disadvantaged park that will incorporate stormwater runoff and/or “first flush” filter strips, retention basins, bioswales, dry wells, and/or cisterns for groundwater recharge and irrigation.

- Water Conservation Grant/Funding Applications Pending – Applied for grants available through Proposition 84, Metropolitan Water District, and proposition 50 for water conservation projects at over 80 Department of Parks and Recreation facilities (Smart Irrigation Systems).
- Implementing suction pumps to draw water from swimming lakes to chlorinate rather than purchasing potable water and installing waterless urinals at park facilities
- Implementing Synthetic Soccer fields, which will result in water use decrease

Department of Regional Planning

- Drought Tolerant Landscaping – Preparation of an ordinance, with support and input from the Department of Public Works, that establishes minimum standards for the design and installation of landscaping using drought-tolerant and native plants that require minimum water and ensure that the County will continue to realize the benefits of landscaping that is appropriate to the particular project and the region's climate. The drought-tolerant landscape ordinance will reduce the need for imported water by 65 percent compared to conventional landscapes. Additionally, drought tolerant landscaping is being incorporated for all County facilities with landscaping plans approved after February 15, 2007. To-date, landscaping plans incorporating native or drought tolerant plants have been approved for 37 County facilities.
- Low Impact Development (LID) – Preparation of the Ordinance, with support and input from the Department of Public Works that establishes minimum standards to manage stormwater and other urban runoff. LID aims to protect surface and groundwater quality, maintain the integrity of aquatic living resources and ecosystems, and preserve the physical integrity of receiving streams by controlling rainfall, stormwater, and other urban runoff at the source. Key design features include: reducing the amount of stormwater and urban runoff by providing onsite storage measures, maximizing permeable surfaces on a lot, disconnecting impervious surfaces to reduce runoff, and treating runoff by routing it through vegetation.
- Green Building Program – Preparation of a report, with input from the Department of Public Works, entitled *Green Building Standards for the Unincorporated Areas of Los Angeles County*, which provides guidance for the implementation of Leadership in Energy and Environmental Design (LEED) standards or similar requirements in the County's development standards for all appropriate industrial, commercial, and residential development. A draft ordinance and standards manual has been presented to the Regional Planning Commission.

Internal Services Department

Internal Services Department (ISD) provides in-house, contracted and advisory services in the areas of alterations and improvements, facilities maintenance and operations, energy management and custodial and grounds maintenance services. ISD operates building systems and provides maintenance and repair services to over 200 County facilities consisting of approximately 21,000,000 square feet.

Current Water Conservation Measures – The measures listed below are standard procedures currently used by Internal Services Department to ensure water conservation.

- Monitor and maintain flush valves on existing toilets and urinals – Maintaining flush valves on a routine basis ensures that leaks are discovered quickly, thus reducing the amount of water wasted and ensure all valves operate properly.
- Maintain aerators and flow restrictors on faucets – Repair or replacement of aerators and flow restrictors control the stream of water to prevent splashing and limit the amount of water used during hand washing.
- Monitor pumps and seals for leaks – Various types of pumps are used to provide domestic water to all plumbing fixtures and are used to circulate comfort heating and cooling water used for air conditioning. With proper maintenance, energy costs are reduced and leaks are repaired preventing wasted water and possible building damage.
- Service cooling towers to maintain maximum efficiency and float levels to prevent overflow – Cooling towers use water to transfer building heat to the atmosphere to maintain a comfortable environment of a building. They work similar to a car radiator.
- Check water make-up meters on closed loop chilled and hot water systems for excessive water use – Make-up meters are used to measure the amount of water lost during equipment operation. Measuring the amount of water consumed can reveal hidden water leaks or equipment failure.
- Regular irrigation checks – Inspect irrigation system to ensure time clocks, control valves and sprinkler heads are functioning properly for correct time of day and length of watering cycles for type of plants installed.

- Retro-Commissioning buildings to provide more efficient air conditioning systems – Retro-Commissioning is a systematic, documented process that identifies low-cost operational and maintenance improvements in existing buildings and brings the buildings systems that use heated and chilled water to optimal performance. Retro-commissioning typically focuses on energy-using equipment and optimizes existing system performance, rather than relying on major equipment replacement. It typically results in improved indoor air quality, comfort, controls, energy efficiency and water conservation.
- Continually monitor water bills – Check for unusual spikes in water consumption indicating possible leaks or problems. Coordinate with County departments to promote ways to conserve water and detect water leaks, or excessive water consumption.
- Installing new water saving devices – Installing waterless and lo-flow fixtures when replacing existing fixtures significantly reduces the amount of water used.
- Landscape with drought tolerant plants and vegetation – The installation of drought tolerant plants at County facilities is used when replacement of plants is required.
- Replace faucets with touch-less type when existing cannot be repaired – Touch-less type faucets limit the amount of water per use.
- Install touch-less faucets and water-less urinals in all remodel projects

Proposed Conservation Measures – Items proposed for future improvements in conservation measures.

- Investigate power plant modifications for use of recycled water in make-up water – Make-up water is used to cool the power plants equipment.
- Partner with Public Works Wastewater Division and Sanitation District to develop a “retro-commissioning” program for water and wastewater systems.
- Complete Leadership in Energy and Environmental Design Existing Building (LEED EB) studies which include water conservation measures.
- Upgrade urinals and toilets – Replace flush type urinals with lo-flow or waterless and replace high consumption toilets with lo-flow. - By converting urinals to waterless and all toilets to lo-flow in the Hall of Administration the County will save approximately 378,840 gallons of water per month or more than 4.5 million gallons per year.

Energy and Water Efficiency Program – Management of an Energy and Water Efficiency Program with support from multiple other Departments to further reduce County facilities' energy and water consumption through the establishment of specific reduction targets. The Program includes initiatives for an Energy Management Program, Facility Retrofitting Program, County Purchasing Policy (P-1050), Integrated Regional Water Management Planning (Department of Public Works), and Recycled Water Task Force (Department of Public Works).

V. BOND FUNDING FOR WATER PROJECTS

Following is a summary of the various bond funding available for water projects and the status of grant applications submitted for projects within Los Angeles County.

Proposition 50 Integrated Regional Water Management Plans

Proposition 50, the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002, Chapter 8, provides a framework to develop integrated regional water management plans to protect and enhance regional water supplies. This Chapter:

- Authorized \$373.5 million in general obligation bonds to fund projects in adopted IRWMPs that address drought, water quality, and water supply reliability. It authorized grants for both planning and project implementation. It is administered jointly by the SWRCB and DWR.
- DWR awarded \$14.7 million in Planning Grants. Of that amount, the Greater Los Angeles County Region received a Planning Grant of \$1.5 million.
- Awarded implementation grants in two Rounds.

Round 1 – Originally, Round 1 was expected to award grants totaling \$150 million. The Antelope Valley Region and the Upper Santa Clara River Watershed Region did not apply for this round of funding because additional time was needed to establish their regional coalitions of stakeholders. After the evaluation process was completed and submitted to DWR and SWRCB for approval, the two agencies increased the amount of funding for this round from \$150 million to \$307 million. The Greater Los Angeles County Region received \$25 million. The \$157 million was an advance of the money allocated to Round 2.

Round 2 – As a result of Round 2 funds being advanced to fund Round 1 applications, funds available for Round 2 implementation grants were reduced from over \$220 million to \$64.5 million. The State then further reduced the funding for Round 2 again by reallocating \$6.4 million from the IRWMP program to the AB 303 Local Groundwater Assistance Grant Program. The total amount remaining for Round 2 was \$58.1 million. Consequently five out of nine proposals were not funded, including the Antelope Valley Region.

Currently, the Antelope Valley Leadership Group is working with representatives from Orange County and San Luis Obispo County as well as advocates from the Sanitation Districts and the City of Lancaster to see if it is possible to advance funds from Proposition 84 to fund all unfunded proposals from Proposition 50, Round 2.

- Of the \$25 million available in Local Groundwater Assistance Funding the Flood Control District applied previously and received a total of \$470,000 in funding. The Waterworks District also applied for \$250,000 but was denied funding. The District is in the process of appealing.

Propositions 84 and 1E

Propositions 84 and 1E were approved by the voters in November 2006. Proposition 84 provides an additional \$1 billion for IRWMP projects, of which \$900 million is allocated to 11 "funding areas" based primarily on population. Each funding area may have multiple IRWMP regions within its boundaries, which must divide the funding allocated for that funding area.

- \$215 million is allocated to the funding area that includes the Greater Los Angeles County Region, the Upper Santa Clara River Watershed Region, and Ventura County.
- \$27 million is allocated to the Lahontan Region funding area, which has four IRWMP groups. This is the smallest funding allocation in the state.
- Prop 84 also includes \$100 million unallocated IRWMP funds for "multi-regional needs" and "issues of statewide significance."

Proposition 1E provides \$300 million for Stormwater Flood Management Projects, \$500 million in funds for State Flood Control Subventions, and \$290 million for Flood Protection Corridors and Floodplain Evaluations. (A total of \$1.09 billion)

To date, DWR has held workshops to describe potential guidelines and receive feedback. DWR has also asked for written comments on the Proposition 84 and 1E guideline concepts presented at their workshops.

DWR expects to release the guidelines before the end of the year. Currently, DWR expects to combine the application process for Prop 84 and 1E. DWR expects to release a request for Planning Grant proposals the beginning of 2009. They do not expect to release a request for Implementation Grant proposals until late 2009. DWR's plan is based on the Legislature's approval of their budget.

Currently, there are bills in both the Senate and the Assembly that could appropriate funding for these programs. However, due to the budget priority differences between the Republicans and the Democrats in response to the State budget crises, it is unclear how much money will be allocated to DWR to implement the IRWM program.

VI. DROUGHT RESPONSE ACTIONS BY OTHER PUBLIC AGENCIES

Following is a summary of the types of actions taken by a sampling of other public water agencies in response to the drought.

Metropolitan Water District of Southern California

On June 10, 2008, the Board of Directors of the Metropolitan Water District of Southern California adopted a Water Supply Alert Resolution urging cities, counties, member agencies, and retail water agencies to pursue extraordinary conservation measures by immediately adopting and enforcing conservation and drought ordinances. The ordinances are recommended to include the following: tiered rate structures, restrictions on the hours of outdoor watering, prohibitions on landscape irrigation runoff, provisions for water efficient landscapes in new construction and landscape retrofits, mandatory retrofits to install low-flow toilets during resale of properties, hotlines or other mechanisms for the public to report inefficient or prohibited water use, restrictions on use of potable water for street cleaning, new or enhanced rebate programs for water saving devices, and new or enhanced incentives to maximize the use of recycled water.

Los Angeles Department of Water and Power

In May 2008, Mayor Antonio Villaraigosa released the City of Los Angeles Water Supply Action Plan entitled *Securing L.A.'s Water Supply*. As part of this effort, the City is preparing a mandatory water conservation plan, which will include expanding prohibited uses of water, enforcement provisions, and local and regional outreach efforts.

Additionally, the Los Angeles Department of Water and Power re-launched its Drought Buster program, originally initiated during the severe drought of the early 1990s, to raise awareness about the continuing need for water conservation. The Drought Busters team consists of six full-time customer service employees who patrol the City's streets looking for prohibited water use and educating customers about the importance of practicing conservation. At this time, the Drought Busters program is focused on education and increasing awareness about the prohibited uses of water and the need for water conservation. However, the City is prepared to significantly increase its Drought Buster program's staffing to enforce prohibited water uses if dry conditions persist.

Las Virgenes Municipal Water District

On June 24, 2008, the Board of Directors of the Las Virgenes Municipal Water District will consider adopting mandatory conservation measures that would become effective on July 1, 2008. The measures include prohibiting irrigation between the hours of 10 a.m. and 5 p.m., banning the use of hoses to clean sidewalks and driveways unless a flow restricted "water broom" is used, mandating that restaurants only serve water if requested, and having hotels encourage guests to retain towels and linens during multiple-night stays.

Long Beach Water Department

On September 13, 2007, the Board of Commissioners of the Long Beach Water Department declared that a water supply shortage for the City of Long Beach is imminent and activated the Department's Emergency Water Supply Shortage Plan. The Plan's activation implements additional water use prohibitions throughout the City of Long Beach including watering driveways, sidewalks, parking areas, patios or other outdoor cemented or paved areas with a garden hose, unless it is attached to a pressurized "water broom", irrigating any landscape with potable water between 7:00 a.m. and 6:00 p.m., and irrigating any landscape more than three days per week. The City's actions were intended as a proactive measure to forestall or lessen the impact of an expected water supply shortage.

City of Santa Monica, Utilities (Water) Division

On May 27, 2008, the City of Santa Monica introduced for first reading an ordinance modifying its Municipal Code Chapter 7.16 to update and amend water conservation requirements. The ordinance would give the City Council the authority to determine and declare a water supply shortage, adopt a Water Shortage Response Plan, and clarifies terms related to water conservation requirements and water conservation goals.

VII. RECOMMENDED COUNTY DROUGHT RESPONSE ACTIONS

The following actions are recommended for your consideration in response to the Governor's statewide drought proclamation.

1. Declare a Countywide Water Supply and Conservation Alert.

Adopt a resolution declaring a Countywide Water Supply Alert, urging County residents, businesses, local water purveyors, and cities to intensify water conservation efforts in order to achieve a 15 to 20 percent reduction in overall water demands. Additionally, the resolution should urge cities to update and adopt water wasting ordinances and prepare for enforcement of the ordinances, if necessary. This action would compliment the Metropolitan Water District's resolution to establish a Countywide alert.

2. Update and Adopt a Water Wasting Ordinance for Unincorporated County Areas and the Waterworks District's Phased Waterworks Conservation Plan.

Direct the Acting Director of Public Works to update Ordinance No. 91 pertaining to Water Conservation Requirements for the Unincorporated Los Angeles County Area and the Waterworks District's Rules and Regulations pertaining to their Phased Water Conservation Plan and submit the revised versions to your Board for consideration. On March 21, 1991, your Board adopted Ordinance No. 91-0046U to prohibit water wasting in the County unincorporated area in response to the severe drought in 1991. The provisions of the 1991 Ordinance were codified in Title 11, Health and Safety, Chapter 11.38, Water and Sewers, of the County Code; however, the Ordinance terminated on January 1, 1993, in accordance with its adopted language. Similarly, the Waterworks District's Rules and Regulations containing their Phased Water Conservation Plan have not been updated since 1991. Several provisions must be modified to reflect current conditions.

3. Direct County Departments to Evaluate Water Usage, Immediately Implement Conservation Measures to Reduce Consumption by a Target Amount of 10 percent by December 31, 2008, and Report Back to your Board with Recommended Measures to Reduce Consumption by an Additional 10 percent.

Direct all County Departments, working in conjunction with their local water suppliers, if appropriate, to perform an evaluation of water usage at County facilities, immediately implement conservation measures to reduce consumption by a target amount of 10 percent by December 31, 2008 and report back to your Board with recommended measures to reduce consumption by an additional 10 percent

4. Send a Five-Signature Letter to the Governor and Members Leadership of the Legislature Urging the State to Expedite the Award of Bond Funds from Propositions 84 and 1E to Local Agencies including the County of Los Angeles.

Send a five-signature letter to the Governor, Senate President Pro Tem, Senate Minority Leader, Speaker of the Assembly, and Assembly Minority Leader, with a copy to the Director of DWR, to advance funds from Propositions 84 and 1E for ready-to-go projects in Los Angeles County that provide short and long-term drought relief.

5. Send a Five-Signature Letter to the Governor and Leadership of the Legislature Expressing Support for the Governor's Delta Vision which Provides a Comprehensive, Sustainable Management Plan for the Delta.

Send a five-signature letter to the Governor, Senate President Pro Tem, Senate Minority Leader, Speaker of the Assembly, and Assembly Minority Leader in support of the Governor's *Delta Vision*, which provides a comprehensive, sustainable management plan for the Delta that provides for reliable deliveries of high quality water to Southern California, including the County of Los Angeles. The plan must invest in a wide range of management tools including new conveyance, expanded storage, ecosystem restoration and conservation.

6. Direct the Chief Executive Officer through the Office of Recycled Water and the Energy and Environmental Policy Team in collaboration with ISD, DPW, DPR, Fire, Sheriff, and other appropriate departments to develop a recycled, nonpotable water infrastructure plan for County facilities; the planning process to include consultation with appropriate water purveyors and waste water treatment agencies. The recycled water infrastructure plan should establish priorities based upon amount of potable water saved and include a funding analysis and recommendations.

Form an ad hoc committee comprised of representatives from the Chief Executive Officer, the Internal Services Department, the Department of Public Works, the Department of Parks and Recreation, the Fire Department, the Sheriff's, and other appropriate departments, and input with local water purveyors, to develop a strategic plan for constructing the infrastructure necessary to convert County facilities to recycled water for nonpotable uses. The strategic plan shall include a schedule for converting County facilities prioritized based upon the amount of potable water offset by using recycled water, a financial analysis of the plan, and recommendations for financing implementation of the plan.

7. Direct the Chief Executive Officer, working with the Energy and Environmental Policy Team and with input from water conservation specialists to ensure utilization of Best Management Practices, including LEED and LID, to develop a water conservation policy applicable to the retrofit, refurbishment, and new construction of County facilities and grounds.

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