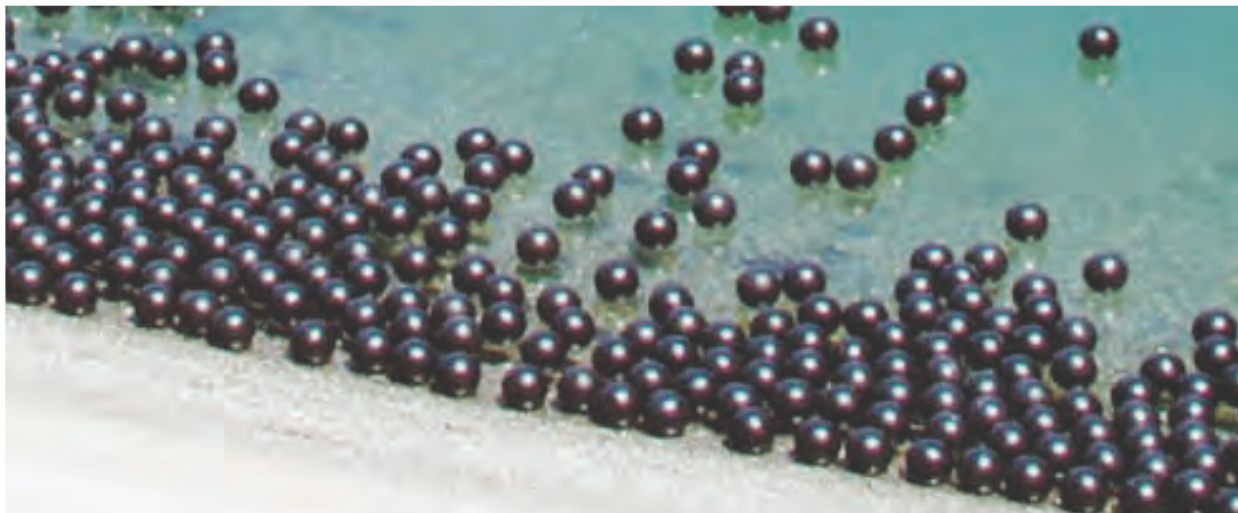




WATER SYSTEM

TEN-YEAR CAPITAL IMPROVEMENT PROGRAM

FOR THE FISCAL YEARS 2010-2019





WATER - POWER - LIGHT

CITY OF
LOS ANGELES



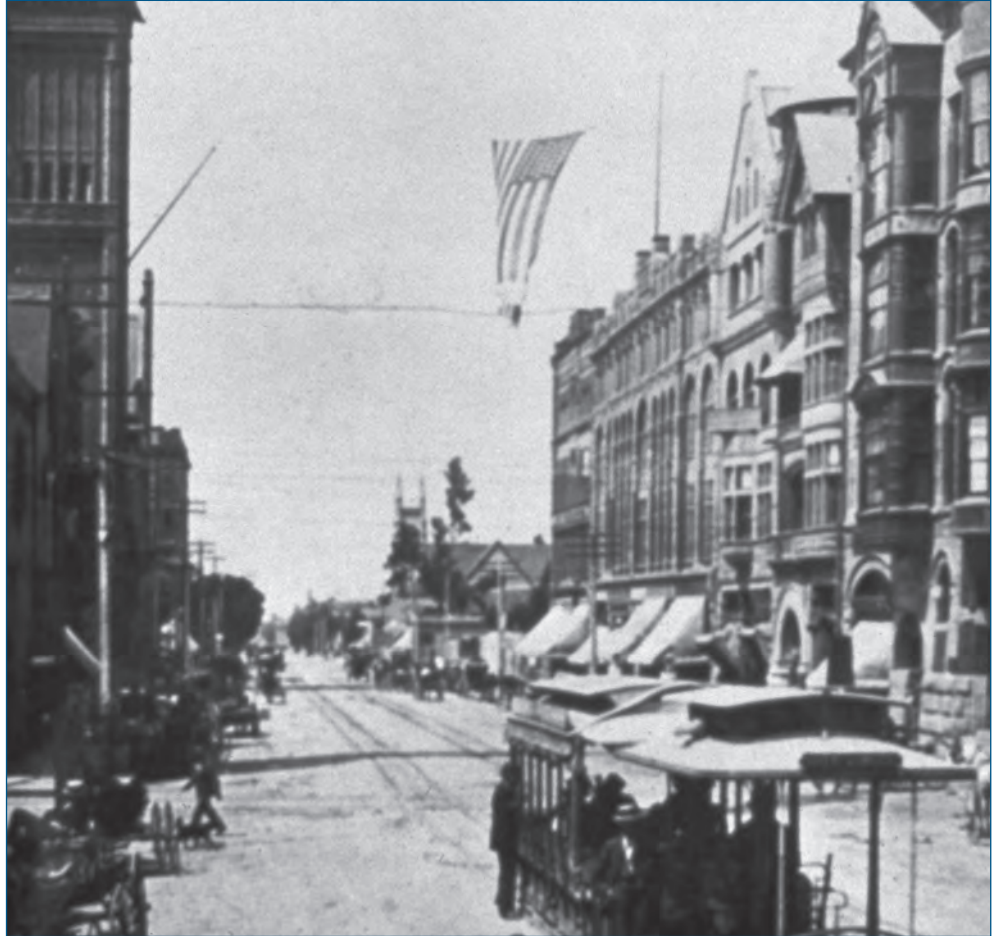
DEPT. OF WATER & POWER
CITY
OF
LOS ANGELES
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LADWP WATER SYSTEM BACKGROUND



Los Angeles circa 1902

HISTORY

The city of Los Angeles has grown from a small village with a population of 1,610 into a metropolis with a population now estimated at four million. No single factor has been as important to the establishment and growth of Los Angeles as water. In 1781, the main source of water for Los Angeles was the Los Angeles River. Water from the Los Angeles River was distributed by a series of open ditches managed by a private water company called The Los Angeles City Water Company. In 1902, the city purchased The Los Angeles City Water Company for \$2 million. That company has evolved into the present-day Los Angeles Department of Water and Power (LADWP), which houses the city's power and water systems.

During the 1900s, continued population growth coupled with drought conditions led the city to identify a new source of water in the Owens Valley more than 200 miles away. In 1907, the city began construction of the 233-mile Los Angeles Aqueduct. With a stable water supply, numerous adjacent communities voted to become a part of the city of Los Angeles, increasing the city's population and further expanding its need for water. In 1928, Los Angeles joined with other cities to form the Metropolitan Water District of Southern California (MWD). The MWD, a water wholesaler, would bring additional supplies from the Colorado River and the California Aqueduct to the city of Los Angeles and surrounding areas.

Los Angeles Today

The LADWP Water System is the largest municipally owned and operated retail water utility in the country. It provides customers with reliable, high quality and affordably-priced water services in a safe, public, and environmentally responsible manner.

Today, LADWP provides enough water to the city to fill the Los Angeles Coliseum from top to bottom twice daily. The Water System continues to successfully meet the challenges of fulfilling its mission to customers while planning for population growth and meeting increasingly stringent water quality standards.





WATER SYSTEM OVERVIEW

LADWP delivers water to its customers through a complex and expansive network of large and small pipes, with varied functions, measuring more than 7,200 miles in length. Trunk lines are pipes with a diameter greater than 20 inches that transport water from wells and aqueducts to reservoirs and enable the movement of water from one area of the city to another. Trunk lines connect to smaller pipes known as distribution mains that supply water to the customer's service connection. Water meters at the connection site then measure the customer's water usage. LADWP's water distribution system is so extensive, that if all the pipes from trunk lines and distribution mains were laid end to end in a straight line, they would stretch from Los Angeles to New York and back again.

Thirty years ago, 75% of L.A.'s water supply began as snowmelt on the slopes of the Eastern Sierra Nevada Mountains. An additional 15% of water came from local groundwater supplies and approximately 10% was purchased from Metropolitan Water District (MWD). However, today the city's traditional water sources continue to change.

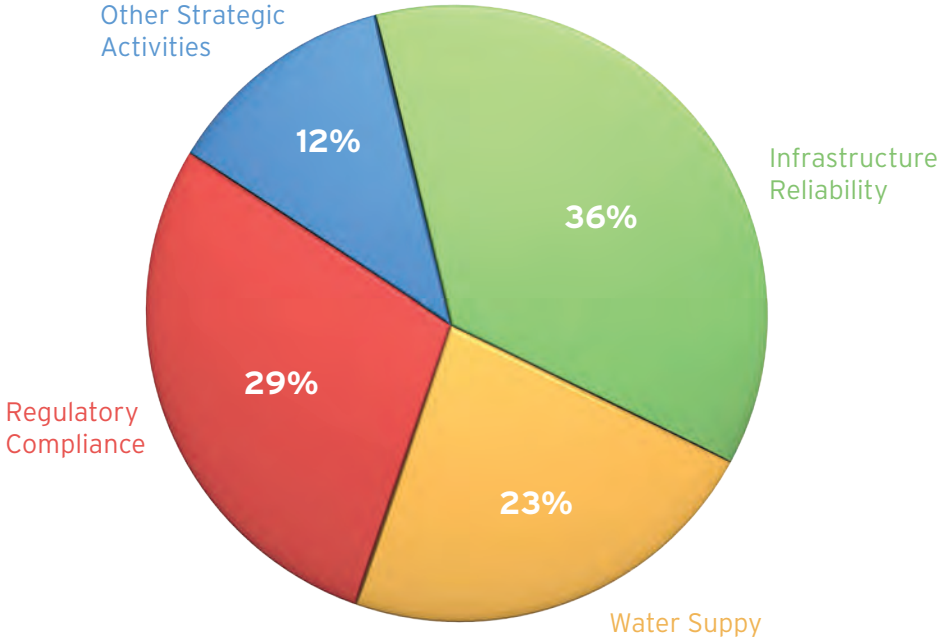
As a result of several significant environmental restoration projects in the Owens Valley, LADWP has reduced the amount of water delivered from the Eastern Sierra Nevada Mountains via the Los Angeles Aqueduct from 75% to approximately 35%. These projects include restoring Mono Lake, controlling dust pollution at Owens Dry Lake, and re-watering the Lower Owens River.

In addition to a shrinking supply from the Eastern Sierra, L.A.'s growing water demand, and extended periods of drought have led LADWP to augment its water supply by increasing its water purchases from MWD. Over the last several years, LADWP has seen its annual average purchase of water from MWD increase from 15% to 53%, and its groundwater supply decrease from 15% to 11%. In an effort to supplement these sources, Los Angeles is increasing its use of recycled water - currently representing about 1% of the total water supply. The Water System is also moving aggressively to meet the city's growing demand for water through increased water conservation, watershed management, groundwater banking, stormwater capture and water transfers.

CAPITAL IMPROVEMENT PROGRAM OVERVIEW

EXECUTIVE SUMMARY

BREAKDOWN OF TEN-YEAR CAPITAL BUDGET BY PERCENT \$6.6 BILLION



The Water System’s Capital Improvement Program is a ten-year plan focused on maintaining or replacing existing components of the Water System, and constructing new facilities to ensure LADWP fulfills its mission of providing reliable and high quality water to the residents of Los Angeles.

Many facilities pre-date World War II and are near the end of their useful lives. In addition to aging infrastructure, existing and anticipated changes in state and federal water quality regulations affect the way LADWP stores and treats water that arrives at the tap. LADWP is responding to these changes and improving its water quality by eliminating daily dependence on large in-city open reservoirs. LADWP is also instituting more comprehensive monitoring programs to ensure that the water delivered is the highest quality and meets all state and federal drinking water regulations.

The Capital Improvement Program budget is segmented into four major categories:

1. Infrastructure Reliability
2. Water Supply
3. Regulatory Compliance
4. Other Strategic Activities

A brief, yet detailed, description of what is included in each budget category is provided in subsequent sections of this document. Figure 1 above illustrates the percentage each category represents of the total ten-year capital budget. The total capital budget is estimated to exceed \$6 billion dollars over the next ten years. Table 1 provides a year-by-year summary of the ten-year capital budget described in this document. LADWP aggressively seeks grants, low interest loans, and other types of assistance from federal, state, or city agencies to reduce costs to its ratepayers.

TABLE 1 - SUMMARY OF CAPITAL BUDGET FOR FISCAL YEARS 2010 - 2019 (X \$1,000)

Capital Improvement Program Category	2009-10 Final Budget	2010-11 Approved Budget	Program Year 2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Ten-Year Proposed Budget
Infrastructure Reliability											
Capital Expenses	125,273.7	208,287.0	204,907.6	225,654.6	268,820.2	277,639.5	275,619.1	295,064.8	303,515.2	330,737.2	2,515,518.9
Projected Reimbursements	(17,832.9)	(19,380.5)	(15,885.0)	(15,885.0)	(15,460.0)	(15,460.0)	(15,460.0)	(15,460.0)	(15,400.0)	(15,400.0)	(161,623.4)
Total Infrastructure Reliability less reimbursements	107,440.8	188,906.5	189,022.6	209,769.6	253,360.2	262,179.5	260,159.1	279,604.8	288,115.2	315,337.2	2,353,895.5
Water Supply											
Capital Expenses	44,826.5	76,370.0	94,162.0	78,926.2	97,156.0	117,996.8	390,719.6	400,443.2	158,015.0	68,639.4	1,527,254.7
Projected Reimbursements	-	-	-	-	-	-	-	-	-	-	-
Total Water Supply less reimbursements	44,826.5	76,370.0	94,162.0	78,926.2	97,156.0	117,996.8	390,719.6	400,443.2	158,015.0	68,639.4	1,527,254.7
Regulatory Compliance											
Capital Expenses	231,671.1	211,786.1	246,230.7	269,226.7	173,432.0	148,025.1	148,282.9	148,171.1	175,240.8	195,446.5	1,947,513.0
Projected Reimbursements	-	-	(36,000.0)	-	-	-	-	-	-	-	(36,000.0)
Total Regulatory Compliance less reimbursements	231,671.1	211,786.1	210,230.7	269,226.7	173,432.0	148,025.1	148,282.9	148,171.1	175,240.8	195,446.5	1,911,513.0
Other Strategic Activities											
Capital Expenses	102,211.8	106,463.2	121,291.5	106,387.0	104,123.3	107,336.1	109,229.2	100,674.0	100,043.4	87,695.3	1,045,454.8
Projected Reimbursements	(28,002.7)	(27,781.8)	(29,430.6)	(26,269.0)	(26,668.7)	(30,244.8)	(30,528.0)	(27,709.1)	(28,273.2)	(28,746.4)	(283,654.3)
Total Other Strategic Activities less reimbursements	74,209.1	78,681.4	91,860.9	80,118.0	77,454.6	77,091.3	78,701.2	72,964.9	71,770.2	58,948.9	761,800.5
Ten Year Capital Budget											
Capital Expenses	503,983.1	602,906.3	666,591.8	680,194.5	643,531.5	650,997.5	923,850.8	944,353.1	736,814.4	682,518.4	7,035,741.4
Total Projected Reimbursements	(45,835.6)	(47,162.3)	(81,315.6)	(42,154.0)	(42,128.7)	(45,704.8)	(45,988.0)	(43,169.1)	(43,673.2)	(44,146.4)	(481,277.7)
Total Ten Year Budget less reimbursements	458,147.5	555,744.0	585,276.2	638,040.5	601,402.8	605,292.7	877,862.8	901,184.0	693,141.2	638,372.0	6,554,463.7

INFRASTRUCTURE RELIABILITY

Infrastructure projects provide LADWP customers with a reliable source of water by replacing or upgrading major system components that are outdated, malfunctioning, or susceptible to seismic activity. The Infrastructure Reliability budget is 36% of the ten-year capital budget, comprised mostly of work on distribution mains, major system connections, and reservoir improvements. In addition to reliability, many projects also have water quality benefits. The meter replacement program, for example, is the first of its kind in the country providing Los Angeles residents with lead-free meters.

WATER SUPPLY

Water Supply projects ensure that LADWP has adequate sources and supply of water for the city of Los Angeles. Projects under this budget category involve maintaining groundwater supplies, increasing recycled water supplies, developing new sources of water supply, enhancing water conservation, and ensuring efficient environmental restoration activities in the Eastern Sierra. Water Resources projects represent approximately 23% of the ten-year capital budget, with nearly half allocated for environmental activities in the Owens Valley.

REGULATORY COMPLIANCE

Twenty-nine percent (29%) of the total capital budget is allocated to the many water quality improvement projects required to meet increasingly stringent water quality standards that will be in effect during the next ten years.

The Regulatory Compliance budget underscores LADWP's commitment to comply with local, state, and federal regulations. These projects also affect the taste, smell, and appearance of the water supply. Major changes related to

storing water in open reservoirs must be implemented to comply with state and federal regulations.

As part of this compliance effort, a citywide expansion of chloramine disinfection as LADWP's primary disinfectant is underway. The switch from chlorination to chloramines is one of the water quality improvement programs driven by changes in regulation. The Water System's chloramination program is ambitious and the Water System continues to explore other innovative treatment solutions.

In addition to the chloramination program, the Water System is undertaking a project to add ultraviolet (UV) light treatment at the Los Angeles Aqueduct Filtration Plant as another means of reducing disinfection byproducts and comply with the recent regulations. The UV facility will be added after the filtration process and provide the final disinfection.

OTHER STRATEGIC ACTIVITIES

Other strategic activities comprise the remaining 12% of the capital budget and include support functions that play a critical role in providing the necessary tools and equipment for improved employee productivity and customer service. These projects include costs relating to facilities, furniture, lab equipment, computer software and hardware, and other items necessary for the day-to-day operations of the Water System. The Water System's information technology budget includes equipment for individual users, as well as larger systems that control and monitor the water system. Transportation vehicles, heavy construction equipment, and related fueling and maintenance facilities are also included in this category.



PLAN DETAIL

INFRASTRUCTURE RELIABILITY

Infrastructure projects utilize the largest allocation of funds. Individual project areas include:

1. Los Angeles Northern and Southern Aqueduct System Improvements
2. Pump Stations
3. Seismic Improvement
4. Regulator Stations
5. Trunk Lines
6. Distribution Mainlines
7. Services and Meters
8. Reservoir Improvements (including tanks)
9. Griffith Park Improvements

Many structural components and facilities are 50 to 90 years old and are near the end of their useful lives, resulting in higher operation and maintenance costs and increasing the risk of leaks and other system failures. Compromises to the Water System's infrastructure can potentially lead to higher costs associated with repairing damaged streets and private property, and cause significant disruption to customers.

In 2004, the Water System began the development of an Asset Management Program aimed at addressing the long-term sustainability of its major facilities and infrastructure. The program involves refining operations and

maintenance practices and procedures for each asset type; evaluating the condition and expected life of each asset; and developing a scheduling strategy for the rehabilitation and replacement of these assets.

This Program seeks to leverage ongoing infrastructure reliability programs. In support of this effort, the Water System has secured an asset management support services contract. This contract provides for the development of asset inventories, asset valuation, condition assessments, and a five-year Asset Management plan.

This Program provides managers with the critical information necessary to better prioritize and schedule expansion and replacement projects in a systematic and cost effective manner. This information will be used to determine staffing levels needed for appropriate operations and maintenance and to determine the long-term funding needs to sustain the Water System's infrastructure.

Infrastructure funds provide for necessary improvements and new installations to the water distribution system, allowing LADWP to continuously deliver high quality water to its customers in a reliable manner.



TABLE 2 – SUMMARY OF INFRASTRUCTURE CAPITAL BUDGET FOR FISCAL YEARS 2010 – 2019 (X \$1,000)

Capital Improvement Program Category	2009-10 Final Budget	2010-11 Approved Budget	Program Year 2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Ten-Year Proposed Budget
LA Aqueduct A & B South	7,120.8	10,497.1	9,167.6	7,327.3	7,571.5	8,072.9	8,152.1	8,126.2	8,246.4	8,510.7	82,792.6
LA Aqueduct A & B North	9,075.3	6,815.0	2,226.0	1,816.1	2,051.6	2,150.6	2,198.6	2,265.5	2,328.8	2,407.7	33,335.2
Pump Stations	3,682.2	17,057.2	31,850.5	40,093.4	39,959.8	35,309.0	34,202.8	41,523.2	53,120.4	63,317.8	360,116.3
Seismic Improvements	2,539.5	21,219.7	14.3	685.2	601.4	512.3	552.0	588.5	2,727.5	4,392.1	33,832.5
Regulator Stations	1,838.0	2,426.0	2,608.9	2,967.8	2,948.2	8,579.6	7,847.2	2,368.2	1,043.5	1,081.6	33,709.0
Trunk Lines & Major System Connections	4,403.3	11,710.5	18,023.9	22,181.0	54,850.7	57,542.4	52,774.0	49,899.0	77,849.6	87,167.8	436,402.2
Distribution Mains	50,880.3	54,473.5	65,890.0	71,349.1	73,195.4	76,529.6	78,884.2	81,484.5	83,831.8	86,453.8	722,972.2
Services, Meters, and Hydrants	39,239.8	41,689.4	43,566.4	45,565.0	47,544.7	49,809.1	51,241.2	52,908.9	54,414.0	56,296.0	482,274.5
Reservoir Improvements	6,376.9	41,648.5	30,660.9	32,757.1	37,367.4	35,061.0	35,101.1	47,165.0	14,641.5	14,988.5	295,767.9
Griffith Park Improvements	117.6	750.1	899.1	912.6	2,729.5	4,073.0	4,665.8	8,735.7	5,311.7	6,121.2	34,316.3
Total Infrastructure Reliability	125,273.7	208,287.0	204,907.6	225,654.6	268,820.2	277,639.5	275,619.0	295,064.7	303,515.2	330,737.2	2,515,518.7
Reimbursements	(17,832.9)	(19,380.5)	(15,885.0)	(15,885.0)	(15,460.0)	(15,460.0)	(15,460.0)	(15,460.0)	(15,400.0)	(15,400.0)	(161,623.4)
Total Infrastructure less reimbursements	107,440.8	188,906.5	189,022.6	209,769.6	253,360.2	262,179.5	260,159.0	279,604.7	288,115.2	315,337.2	2,353,895.3

LOS ANGELES AQUEDUCT SYSTEM A&B NORTH AND SOUTH IMPROVEMENTS



The Los Angeles Aqueduct Additions and Betterments (A&B) North and Los Angeles Aqueduct A&B South refer to capital projects for the Los Angeles Aqueduct and related structures (such as reservoirs, corrosion protection systems, etc.) owned by the Water System. Work on Los Angeles Aqueduct A&B North is handled by Aqueduct Northern District and work on the Los Angeles Aqueduct A&B South is handled by Aqueduct Southern District. The Haiwee Reservoir outlets divide Northern and Southern Districts.

A large portion of work on the 100-year-old original Los Angeles Aqueduct in the Southern District is dedicated to the rehabilitation of large diameter steel pipelines and covered concrete conduits. Among the programs that support pipe rehabilitation are internal lining and external coating of the pipelines, structural support rehabilitation, and cathodic protection system rehabilitation to protect pipes from corrosion. The main program involved in rehabilitating the covered conduit section is the removal of the decaying

old roof. As large sections of new roof are installed on top of the old roof, the demolition of the old roof must be completed from below. Continued rehabilitation work ensures uninterrupted service.

A large portion of work on the Northern District of the original Los Angeles Aqueduct is dedicated to the replacement of the concrete sidewall lining, fencing, and joint sealing.

Other projects related to the both Northern and Southern Districts include construction of water control and measurement structures, replacement of hydrographic and pumping equipment, installation of new valves, rehabilitation of open channel linings equipment access holes, platforms, piers and spillways, and road improvements.

PUMP STATIONS



The goals of the Pump Station Refurbishment Program are to purchase and install replacement equipment, make renovations and alterations at various existing pump stations as necessary, and replace damaged and obsolete equipment, including switchboards, control devices, pumping equipment, and automatic telemeters. The Pump Station Refurbishment Program also analyzes pump-tank system infrastructure, identifies, plans, and constructs improvements, as well as works on the five highest priority

stations to improve their reliability and to increase the amount of water that the station can deliver to the water distribution system. The goal of this program is to replace an average of 25 pump and/or motor units per year.

SEISMIC IMPROVEMENTS

To improve facilities' seismic resistance, two important hazard mitigation projects have been identified: relocating the Second Los Angeles Aqueduct at Terminal Hill into a tunnel to bypass poor rock conditions and improving soil conditions under the High Speed and Bypass Channels. The Terminal Hill Tunnel Project is currently underway, and the High Speed and Bypass Channels will proceed in the near future. Analyses are underway to identify other potential system vulnerabilities that should be mitigated.

REGULATOR STATIONS



Regulator Station

An assessment of all 220 of the Water System's regulator stations and its 79 relief stations was started in February 2009 and completed in June 2010. This assessment focused on the condition of the vaults, valves, and mechanical and electrical systems. It also reviewed and documented the operation and maintenance process as well as the type and make of valves being utilized at each regulator station. The condition assessments found that many stations have been retrofitted with new valves and that the overall operation and maintenance program

has worked to keep the most critical stations performing properly. A list of the stations in poor condition will be reviewed for possible retrofit, rehabilitation, or replacement projects.

TRUNK LINES & MAJOR SYSTEM CONNECTIONS



The Water System operates approximately 500 miles of trunk lines in its water distribution system. These trunk lines range in size from 20 inches in diameter to 144 inches in diameter. Approximately 161 miles of these trunk lines are constructed out of steel, and were installed before 1940. The Trunk Line Condition Assessment Program (TCAP) assesses the condition of and prioritizes the work on those trunk lines most at-risk of failure and in need of replacement. Topping the at-risk trunk line priority list are the riveted steel trunk lines. Riveted steel trunk lines are most at-risk due to their age, method of fabrication, and loss of protective coating on the exterior of the pipe to protect them from the surrounding corrosive soil. There are approximately 75 miles of riveted steel trunk lines in the system.

As a follow-up to the TCAP, the Water System had a program to assess the at-risk riveted and welded steel pipelines to further refine the replacement priority list. Approximately half of the 75 miles of riveted steel trunk lines were assessed and have been rehabilitated, replaced, or prioritized for replacement. The remaining unassessed trunk lines will be reviewed and prioritized by Asset Management for rehabilitation or replacement over the next several years.



Water Main Replacements

DISTRIBUTION MAINLINES

The Water Main Replacement Program was established to replace distribution mains that have a high frequency of leaks, have deteriorated due to external or internal corrosion, restrict fire or domestic water supplies, negatively impact water quality, create conflicts with critical city public works improvement projects, or are located in unstable soil. The water mains in the LADWP water distribution system vary in age, materials, and manufacturing processes. Although the majority of pipe was installed by LADWP construction crews, there are also large sections of pipe that have been acquired from other agencies when new areas were annexed to the city. The intended benefits of this program are to minimize main leaks, customer service interruptions, and potential property damage. Other long term benefits include reduced water main maintenance costs, improved water quality, reduction of water loss due to leakage, and improved water flow for fire emergencies.

Over the next five years LADWP will increase mainline replacement activities from 90,000 linear feet up to 180,000 linear feet annually.

SERVICES, METERS, AND HYDRANTS

Service and meter projects directly affect customer water quality and provide an accurate measure of their water usage. The Water System continues to focus on its service connection renewal efforts by replacing substandard services. Substandard services include galvanized services, which have a higher rate of corrosion failure, and double-cast-iron services, which serve two properties through one service connection. LADWP performs an average of 2,200 service installations, 1,200 service renewals, and 1,200 service adjustments each year. LADWP also installs new services. The need for new services typically fluctuates with the economy.

The Water System has launched another initiative to improve overall water quality in Los Angeles by removing components containing lead from the distribution system. After finding that one of the alloys used in manufacturing water meters contained traces of lead, LADWP embarked on a goal to replace all 700,000 water meters with meters that are entirely lead-free. Since no such meters

existed, the Water System spearheaded the effort for meter manufacturers to begin producing lead-free meters. An average of 25,000 leaded meters is replaced each year. To date, more than 271,529 meters have been replaced, and the Water System will continue its efforts until the entire distribution system has lead-free meters.

To assist the city's emergency response efforts, the Water System has adopted the state-wide standard for fire hydrant design to enable fire fighters from other jurisdictions to connect their equipment to LADWP hydrants when they assist the city's fire fighters. This is part of the California Disaster and Civil Defense Mutual Aid Agreement.

External Corrosion Control/Protection Program

In order to continue protecting existing steel water mains, a preliminary anode replacement plan has been developed. An anode is a piece of readily corrodible sacrificial metal that is attached to the steel pipe for protection. The anode corrodes first and generally dissolves nearly completely before the protected metal will corrode. In order to ensure the pipe is protected, these anodes must be replaced periodically. The plan recommends a ten-year program, which would allow for the replacement of approximately 3,100 anodes per year at an annual cost of \$4.7 million.

RESERVOIR IMPROVEMENTS

The 1971 San Fernando and 1994 Northridge Earthquakes illustrated the importance of seismic reliability for water system dams and reservoirs. The reliability and seismic safety of dams and facilities are being improved through seismic stability evaluations.

Seismic stability evaluations have been completed on all of the high hazard dams and are continuing on all remaining low hazard dams. Recent evaluations of the North Haiwee and

Tinemaha Dams showed that seismic improvements of approximately \$116 million and \$32 million respectively are necessary. An evaluation of Bouquet Reservoir Dam No. 1 will be completed in the near future. A preliminary evaluation indicates that the dam will require strengthening to ensure adequate seismic resistance.

The Water System has an on-going program to address the dams requiring additional evaluation to ensure safe and reliable operation. These evaluations may identify vulnerabilities that should be mitigated in the near future.

Eagle Rock Reservoir is currently operating at a self-imposed restricted operating elevation to control water pressures in the right abutment. Improvements are needed to relieve the operating restriction.

As a result of the 2005 storms, the Hollywood Reservoir Complex sustained numerous large landslides that threatened facilities and homes around the reservoirs. Extensive work repairing and improving the slopes has been ongoing since 2005 and will be completed within a few years.

GRIFFITH PARK IMPROVEMENTS

The Los Angeles Department of Water and Power is now constructing a new and improved water system in Griffith Park. The Los Angeles City Council requested that LADWP take ownership of and replace the failing Griffith Park water system, previously owned and operated by the Los Angeles Department of Recreation and Parks (LADRP). The scope of the project includes installing a new distribution system including distribution mains, tanks, pump stations, and other facilities. The project is estimated to cost a total of \$70 million, of which will be spent \$35 million over the next ten years.



WATER SUPPLY

Water Supply projects help ensure LADWP has sufficient water to meet the needs of the citizens of Los Angeles. These projects involve maintaining groundwater supplies, increasing recycled water supplies, and environmental restoration activities in the Eastern Sierra. Water Supply projects are divided into the following four categories:

1. Resource Development
2. Water Recycling
3. Groundwater Management
4. Watershed/Stormwater Capture

Approximately 14% of the ten-year capital budget is allocated to Water Supply projects.

RESOURCE DEVELOPMENT

Water Resource Development Projects include construction of the Neenach Pump Station in the Antelope Valley. This facility will allow water supplies from the California Aqueduct to be pumped into the Los Angeles Aqueduct and flow to Los Angeles. This operational capability will facilitate water purchases to replace a portion of the water supplies diverted to the Owens Lake Dust Mitigation. LADWP will also investigate groundwater banking for water storage to supplement water supplies to the city of Los Angeles during dry years and emergencies.

WATER RECYCLING

By 1960, the City recognized the potential for water reuse and invested in infrastructure that processed water to tertiary quality, a high treatment standard for wastewater which meets

federal and State standards (Title 22) for non-potable water uses. The use of this process resulted in the building of wastewater treatment plants that produce tertiary treated Title 22 water. These system enhancements paved the way for the City to expand recycled water projects to supplement local and imported water supplies.

LADWP's water recycling program is dependent on the City's wastewater treatment infrastructure, which consists of approximately 6,500 miles of major interceptors and mainline sewers, more than 11,000 miles of house-sewer connections, 46 pumping plants, and four treatment plants. The city's Department of Public Works Bureau of Sanitation operates the wastewater program, while LADWP operates recycled water projects using a portion of the treated effluent from the wastewater plants to meet recycled water demands.

Recycled water was first used in Los Angeles in 1979 for park and landscape irrigation. LADWP continues to increase water recycling in the City. Presently, approximately 7,000 acre-feet per year (AFY) of recycled water is being delivered for irrigation, industrial, and seawater barrier use.

LADWP currently serves recycled water to approximately 120 separate customers in the city and each year additional customers are added as the recycled water system is expanded. The City of Los Angeles Department of Recreation and Parks is one of the largest recycled water customers, utilizing recycled water to irrigate portions of Griffith Park, Wilson-Harding, Lakeside, Westchester, Van

TABLE 3 - SUMMARY OF WATER SUPPLY CAPITAL BUDGET FOR FISCAL YEARS 2010 - 2019 (X \$1,000)

Capital Improvement Program Category	2009-10 Final Budget	2010-11 Approved Budget	Program Year 2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Ten-Year Proposed Budget
Resource Development	1,711.4	3,726.8	961.6	-	5.2	8.9	3.7	-	-	-	6,417.6
Water Recycling	29,599.3	47,671.4	55,663.4	47,932.9	46,370.6	52,756.3	54,109.6	56,948.7	56,665.2	62,685.1	510,402.5
Groundwater Management	12,185.3	22,910.9	33,948.3	20,563.1	40,079.4	62,719.9	334,497.6	341,395.4	99,261.7	5,794.7	973,356.3
Conjunctive Use Capital	-	999.6	998.2	-	-	-	-	-	-	-	1,997.8
Watershed-Stormwater Capture	1,330.5	1,061.3	2,590.5	10,430.2	10,700.8	2,511.7	2,108.7	2,099.1	2,088.1	159.6	35,080.5
Total Water Supply/ Resources	44,826.5	76,370.0	94,162.0	78,926.2	97,156.0	117,996.8	390,719.6	400,443.2	158,015.0	68,639.4	1,527,254.7
Reimbursements	-	-	-	-	-	-	-	-	-	-	-
Total Water Supply less Reimbursements	44,826.5	76,370.0	94,162.0	78,926.2	97,156.0	117,996.8	390,719.6	400,443.2	158,015.0	68,639.4	1,527,254.7



Nuys, Woodley, Balboa and Encino Golf Courses, Balboa Sports Complex, and Taylor Yard Park. Additional customers using recycled water include Dominquez Gap Barrier, Loyola Marymount University, Los Angeles International Airport, Valley Generating Station, Playa Vista Development, Mount Sinai Memorial Park, Forest Lawn Mortuary, NBC Universal, and freeway landscaping.

LADWP also sells approximately 30,000 AFY year of recycled water to West Basin Municipal Water District and uses approximately 30,000 AFY of recycled water for environmental purposes, including Lake Balboa, a 27-acre lake filled with water reclaimed from the Tillman Water Reclamation Plant, the Japanese Garden, the Wildlife Lake and the Los Angeles River.



The City of Los Angeles' Water Supply Action Plan titled "Securing L.A.'s Water Supply" was released in May 2008. The Plan calls for a goal of 50,000 AFY of recycled water use in-lieu of potable water. A detailed Recycled Water Master Planning Document is currently being prepared and will be completed in 2011. This document will outline projects to achieve the goal of 50,000 AFY along with how to maximize recycled water use into the future. This goal will be achieved by expanding irrigation and industrial use along with implementing groundwater replenishment with purified recycled water utilizing advanced treatment for recharging the San Fernando Groundwater Basin. Recently completed projects include:

- The first phase of the Hansen Tank Water Recycling Project, a seven million gallon tank and piping project, was completed in July 2007 and is designed to provide sufficient storage for future users in the San Fernando area.
- The Valley Generating Station, owned by LADWP and located in Sun Valley, consists of four power-generating units and uses recycled water in their cooling towers.

- Key projects that are currently underway include:
- Pilot studies of the advanced treatment options to purify recycled water for groundwater replenishment is on-going and will be completed in 2011. These studies will identify the most effective treatment processes to be implemented.
- Harbor Refineries Pipeline Project. Approximately half of the 40,000 feet of recycled water piping have been installed in the Harbor Area to serve large industrial and irrigation customers. This project is anticipated to be completed in 2013.
- The Hansen Dam Golf Course Water Recycling Project, which consists of additional piping, pumps and storage for recycled water, is designed to deliver water to the Hansen tank and is anticipated to be completed by mid-2013.
- The Central City/Elysian Water Recycling Project, which consists of piping, pumps and storage for recycled water, is designed to deliver up to 1,000 AFY to Elysian Park, Taylor Yard, and other uses between these sites. The project, located near the eastern boundary of the Los Angeles River, is expected to be completed in two phases with Taylor Yard coming on-line in 2011 and Elysian Park by the middle of 2014.
- Other projects in the western portion of the city include delivering recycled water to the cooling towers at the Los Angeles International Airport, phase 2 of the Playa Vista development for outdoor residential use, and at westside schools.

LADWP is pursuing Federal Title XVI funding from the Federal Bureau of Reclamation, integrated regional water management funding from the California Department of Water Resources and local funding from MWD in order to finance its recycling projects.



San Fernando Basin

GROUNDWATER MANAGEMENT

Local groundwater has always been an integral component of the LADWP water supply portfolio, comprising approximately 15% of the supply during normal years and up to 30% in drought years. Local groundwater has also been heavily relied upon in the event of emergencies, such as the 1994 Northridge Earthquake, when delivery systems were temporarily disrupted. The San Fernando Groundwater Basin (SFB) is the largest of these resources, accounting for nearly 80% of all local groundwater pumped by LADWP. While local groundwater has historically provided Los Angeles with a high-quality, reliable water supply, existing groundwater contamination in the SFB has impacted LADWP's ability to utilize

this valuable resource. Recent years have seen a decrease in groundwater's contribution to LA's water supply from 15% to 11%.

The primary contaminants of concern include trichloroethylene (TCE), perchloroethylene (PCE), nitrates, perchlorate, hexavalent chromium, and emerging contaminants. To date, more than 47% of LADWP's production wells in the SFB have been removed from service due to contamination issues. With the discovery of new contamination sites and the migration of existing contaminant plumes, it is expected that more of LADWP's production wells will be curtailed, thereby forcing LADWP to increase dependence on already fragile imported supplies.

LADWP is advocating strongly for the various regulatory agencies to identify and hold the responsible parties accountable for cleaning up the SFB. LADWP is also pursuing a parallel track to explore other administrative or legal remedies available to expedite cleanup, including the pursuit of monetary compensation for water lost due to contamination and the resulting pumping limitations.

The capital budget for the Groundwater Management Program is \$973 million over the next ten years, primarily focusing on projects to treat the groundwater and increase groundwater recharge and well production in the SFB. A key study by an outside consultant, the Groundwater System Improvement Study, involves an

evaluation of the groundwater quality in the SFB and recommendations for treatment options, including a centralized groundwater treatment facility and/or wellhead treatment, to maximize the utility of the groundwater supply. LADWP is also investigating opportunities for increased storage of groundwater in local and outside basins, creating a cost-effective, environmentally friendly reserve of water resources in case of extreme drought or other emergencies. Some of the projects being worked on include a conjunctive use storage project involving the replacement or rehabilitation of the Manhattan and 99th Street Well Fields, and increased storage along the Los Angeles Aqueduct in the Owens and the Antelope Valleys.

Pollock Wells Treatment Facility



The Groundwater Management Program also includes the development of centralized groundwater treatment facilities to handle the migration of contaminants and address increasingly stringent water quality standards. The installation of new wells and additional booster pumping capacity are also planned for the Central and Sylmar Basins to improve well field production and the ability to fully utilize groundwater entitlements in those basins during the high demand times of the year.

WATERSHED/STORMWATER CAPTURE

LADWP's Watershed Management Group has several goals and objectives. The primary goal is to increase stormwater capture by enhancing existing centralized facilities and promoting widespread distributed infiltration. Additional goals include improved coordination between LADWP, other city departments, the Los Angeles County Flood Control District (LACFCD), and various non-profit and stakeholder organizations. While working toward increased stormwater capture and improved coordination, other watershed benefits can be achieved such as increased water conservation, improved water quality, and open space enhancements.

LADWP is currently working with the LACFCD to enhance existing facilities, develop additional facilities, and to increase stormwater capture and subsequent groundwater recharge by more than 20,000 acre-feet per year. These facilities have the potential to provide a total managed recharge average of close to 50,000 acre-feet per year into the San Fernando Groundwater Basin.

Incidental rainfall and runoff from rooftops, roadways, parking lots, and other impervious surfaces are directed to the storm drain system. This system is designed to protect life and property from flooding. Efforts are underway to

promote infiltration of rainfall runoff as close as possible to the point of origin, which would in turn reduce downstream volume and pollutant loading.

The Watershed Management Group is developing various types of infiltration demonstration projects in the Eastern San Fernando Valley. These projects include LADWP facility retrofits, power line easement projects, neighborhood retrofit projects, median retrofit projects, and parkway infiltration projects, among others.

In addition to developing a suite of distributed infiltration demonstration projects, the Group is partnering on many programs and initiatives to assist with source control. These programs and initiatives include the development of a Low Impact Development ordinance requiring new and redevelopment projects to manage stormwater onsite. Other programs in which LADWP is heavily involved include the Water Augmentation Study, the Sun Valley Watershed Management Plan, the Tujunga/Pacoima Watershed Plan, and the Los Angeles River Revitalization Master Plan. An estimated additional 15,000 acre-feet could be captured for groundwater recharge in the San Fernando Groundwater Basin through these various methods.



REGULATORY COMPLIANCE

Regulatory Compliance includes funds identified for water quality improvement projects. These projects ensure that the Water System continues to be a trusted supplier of reliable, high quality water. The Water System considers its water high quality when it continuously surpasses public health standards and meets customer expectations for taste and appearance. For budgeting purposes, efforts to protect and improve water quality are divided into seven categories:

1. Chloramination Station Installation
2. Water Treatment Improvements
3. Water Quality Improvement Projects - Reservoirs
4. Water Quality Improvement Projects - Trunklines

5. Resource Management
6. Owens Valley Dust Mitigation
7. Supplemental Dust Control

The Water System regularly monitors for more than 110 regulated and 60 unregulated compounds. The budget for Regulatory Compliance through water quality improvements over the next ten years is \$1.9 billion. These expenditures are necessary to ensure continued success in meeting the more stringent water quality standards slated to be in effect over the next several years, as well as to position LADWP to meet future standards now under consideration. Table 4 provides a year-by-year summary of the ten-year budget allocation for water quality improvements.

TABLE 4 - SUMMARY OF REGULATORY CAPITAL BUDGET FOR FISCAL YEARS 2010 - 2019 (X \$1,000)

Capital Improvement Program Category	2009-10 Final Budget	2010-11 Approved Budget	Program Year 2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Ten-Year Proposed Budget
Chloramination Station Installations	32,279.3	11,923.5	12,775.9	19,719.6	7,959.5	280.9	185.0	137.6	-	-	85,261.3
Water Treatment Improvements	5,468.8	7,787.8	6,468.2	9,877.2	12,548.7	15,025.0	16,997.8	24,828.4	78,392.3	129,172.7	306,566.9
Cement Lining-Water Mains	5.8	86.2	-	-	-	-	-	-	-	-	92.0
Water Quality Improvement Projects - Reservoirs	31,750.7	32,811.8	27,941.8	34,880.6	51,501.6	77,217.0	100,213.6	93,681.9	82,921.6	61,518.3	594,438.9
Water Quality Improvement Projects - Trunklines	72,403.4	130,731.9	188,430.7	196,485.5	97,011.8	51,329.9	26,835.3	25,343.2	9,512.1	190.3	798,274.1
Resources Management - Capital	3,719.9	4,779.7	3,591.5	3,110.8	2,292.8	2,029.7	2,059.0	2,116.5	2,185.8	2,263.1	28,148.8
Owens Valley Dust Mitigation	8,835.4	8,512.6	7,022.6	5,153.0	2,117.6	2,142.6	1,992.2	2,063.5	2,229.0	2,302.1	42,370.6
Supplemental Dust Control	77,207.8	15,152.6	-	-	-	-	-	-	-	-	92,360.4
Total Regulatory Compliance	231,671.1	211,786.1	246,230.7	269,226.7	173,432.0	148,025.1	148,282.9	148,171.1	175,240.8	195,446.5	1,947,513.0
Reimbursements	-	-	(36,000.0)	-	-	-	-	-	-	-	(36,000.0)
Total Regulatory Compliance less reimbursements	231,671.1	211,786.1	210,230.7	269,226.7	173,432.0	148,025.1	148,282.9	148,171.1	175,240.8	195,446.5	1,911,513.0



North Hollywood Ammoniation Station

CHLORAMINATION STATION INSTALLATIONS

The purpose of the Chloramination Station Installation program is to ensure compliance with the stringent water quality standards established for disinfection byproducts under the Federal Stage 2 Disinfectants and Disinfection ByProduct (D/DBP) Rule. Delaying or failing to complete these projects will result in an inability to utilize chloramine disinfection throughout the city's water supply to chloramine disinfection and possible violations of standards established under the federal D/DBP Rule. These regulations are being met by the design and construction of ammoniation/ chloramination stations that will allow for the expanded use of a chloramine residual disinfection for the entire Los Angeles water supply. Chloramines, a combination of chlorine and ammonia, produce less disinfection byproducts than using chlorine alone.

WATER TREATMENT IMPROVEMENTS

Internal Corrosion Control/ Protection Program

The Lead and Copper Rule (LCR) requires corrosion of lead and copper be minimized without causing violations in other drinking water regulations. LADWP's plan to comply with the LCR was approved by the California Department of Health Services in August 1999. LADWP identified zinc orthophosphate as the most effective corrosion inhibitor for controlling lead, copper and iron in its treated water. Additional corrosion testing since 1994 has revealed a lime addition could serve as an alternative to zinc-based treatment in areas where there may be zinc restrictions. The Los Angeles Department of Public Works Bureau of Sanitation's (BOS) wastewater treatment and bio-solids management system is sensitive to the effects of zinc addition. LADWP is working in partnership with BOS on a demonstration test of zinc orthophosphate to establish the operational parameters of inhibitor addition.

LADWP's plan to comply with the LCR involves the seasonal addition of lime at the Los Angeles Aqueduct Filtration Plant, and the addition of zinc orthophosphate in the areas south of the Santa Monica Mountains. The initial zinc dose will be set to increase the pH levels in the system, and may be reduced after a period of one to two years, further reducing the zinc load at the Hyperion Treatment Plant. As of yet, the Los Angeles Harbor area cannot be treated, but anticipated wastewater treatment process changes at Terminal Island should eventually allow a zinc ortho phosphate addition there as well. Compliance monitoring will initially be done by means of home tap samples twice a year, but may eventually be reduced to fewer samples, once every three years. LADWP also monitors lead, copper and iron corrosion inhibition at proprietary corrosion test stations

located at strategic points in the distribution system.

WATER QUALITY IMPROVEMENT PROJECTS - RESERVOIRS

Reservoir Improvement projects involve the construction of new facilities and/or removal of existing facilities from the Water System to bring reservoirs into compliance with the Long Term 2 Enhanced Surface Water Treatment Rule and the Stage 2 Disinfectants and Disinfection ByProducts Rule (D/DBP). The Long-Term 2 Enhanced Surface Water Treatment Rule requires that the remaining in-city open reservoirs be covered, include treatment of the reservoir outflow, or removed from service once the water supply have been converted from chlorine to a chloraminated system.

A major portion of the water quality budget is set aside to address necessary changes to the large open reservoirs that have historically been relied on for water distribution. Water quality legislation over the past three decades has effectively targeted the vulnerabilities of open distribution reservoirs, which are prone to degradation by algae, small aquatic organisms, microbes, airborne

particles, and birds. Where there were 750 open reservoirs throughout the country in 1975, only 138 remain today; six of these are in Los Angeles. Two of the six reservoirs, Ivanhoe and Silver Lake, will be removed from service. The four reservoirs remaining in service (Santa Ynez, Upper Stone, Elysian, and Los Angeles Reservoirs) will be covered or receive treatment of the reservoir outflow.

Open Reservoirs

To comply with the Long-Term 2 Enhanced Surface Water Treatment Rule, LADWP has taken action by covering, abandoning, or replacing these open distribution reservoirs. To date, nine of the 15 reservoirs that were open to the environment have been bypassed, replaced, or covered. Encino and Lower Stone are now in compliance, and Upper and Lower Hollywood and Rowena have been removed from service. Green Verdugo and Eagle Rock have been covered, and Silver Lake will be removed from service by 2014. Covers for Elysian and Upper Stone are in the planning phase. Replacement covers are being considered for Upper and Lower Franklin. In one of the nation's largest efforts, shade balls are being used for improving water quality at Ivanhoe and Elysian Reservoirs.



In 2008, LADWP received an \$11.57 million construction loan at zero percent interest and a construction grant for \$1 million from the Safe Drinking Water Revolving Fund (SDWSRF) for the Santa Ynez Reservoir Project. Subsequently in 2009, LADWP received an additional \$10 million grant from the American Recovery and Reinvestment Act (ARRA) for the same project for a total of \$22.6 million in loans and grant funding. Construction of a floating cover for the Santa Ynez Reservoir began in late 2009.

In 2010, LADWP decided to pursue the installation of UV disinfection treatment for the outflow from the Los Angeles Reservoir. Shade balls



Upper Stone Canyon Reservoir

will be placed on the reservoir's water surface to help reduce algal growth and the formation of bromate and disinfection byproducts. The UV disinfection system will provide the necessary treatment to bring the reservoir into compliance with the Long Term 2 Enhanced Surface Water Treatment Rule while also reducing the use of chlorine and, consequently, the presence of disinfection byproducts.

Safe Drinking Water

The Safe Drinking Water category includes a number of diverse projects that will allow LADWP to meet a variety of upcoming regulations and operational concerns. These include projects to meet near-term water quality regulations and improve arsenic removal from the Los Angeles Aqueduct.

The Water System is studying options for additional treatment facilities at the existing Los Angeles Aqueduct Filtration Plant. Enhanced coagulation will reduce the precursor agents in the water flowing into the plant that cause disinfection by-products. Of even greater future significance, the enhanced coagulation process will effectively reduce naturally occurring arsenic in the Los Angeles Aqueduct supply. Current efforts to treat and remove arsenic along the aqueduct enable the Water System to provide water with less than half of the arsenic allowed by current standards. An advanced process will be necessary to further reduce the arsenic level to improve the safety of the water and to meet more stringent arsenic standards that are likely to be adopted in the future.

The Water System is also studying the impact of other pending drinking water regulations such as the Radon Rule and the Groundwater Rule as well as implementing projects to maintain compliance with the Total Coliform Rule and the Lead and Copper Rule.

WATER QUALITY IMPROVEMENT PROJECTS - TRUNKLINES

As a result of recent Water Quality Regulations, additional trunk lines are necessary to ensure that sufficient quantities of water can be moved from one area of the city to another as needed. These trunk line projects include First Street, City Trunk Line Units 2, 3, 4, 5 and 6; River Supply Conduit Lower Reach Units 1A, 1B, 3 and 4; River Supply Conduit Upper Reach Units 5, 6, and 7, and Silver Lake Reservoir Bypass Tunnel and Regulator Station.



In 2008, LADWP received a \$46,842,500 construction loan at zero percent interest and a \$1 million grant from the Safe Drinking Water State Revolving Fund for the River Supply Conduit Trunk Line (RSC) Lower Reach Unit 4.

Subsequently in 2009, LADWP received an additional \$10 million each in grant funding from the American Recovery and Reinvestment Act for City Trunk Line South Unit 2 and RSC Lower Reach Unit 3 respectively for a total of \$46.8 million in loans and \$21 million in grant funding for the combined two years.

RESOURCES MANAGEMENT

Decision 1631 restricted water exports from the Mono Basin from exceeding 16,000 AFY until Mono Lake reaches a target elevation of 6,391 feet above mean sea level. As required by Decision 1631, the LADWP is undertaking certain restoration activities in the Mono Basin including implementing an extensive monitoring program and improving stream conditions, fisheries, and waterfowl habitats. With reduced diversions from the Mono Basin and favorable hydrologic conditions, Mono Lake's elevation has risen. Once elevation reaches 6,391 feet above mean sea level, a moderate increase in water exports will be permitted by Decision 1631. Currently, LADWP is using up

to 74,000 AFY for environmental restoration in Mono Basin.

Inyo/Los Angeles Long-Term Groundwater Management Plan

LADWP currently manages its groundwater resources in the Owens Valley in accordance with the Water Agreement, a long-term groundwater management plan prepared jointly by the LADWP and Inyo County. The Owens Valley Environmental Impact Report (EIR) and the Water Agreement were approved by the California 3rd District Court of Appeal in June 1997. Under the Water Agreement, LADWP seeks to avoid any significant effect on the environment that cannot be acceptably mitigated while providing a reliable supply of water for export to the city and for use in Inyo County. In addition, LADWP is preparing and implementing various land management plans identified in a memorandum of understanding with certain parties identified by the Court. LADWP is participating in a cooperative study with Inyo County to revise the Green Book, the technical appendix to the Water Agreement. Revisions to the Green Book are expected to improve groundwater management in the Owens Valley.

OWENS VALLEY DUST MITIGATION

Dust mitigation in the Owens Valley in addition to Owens Lake includes projects near the towns of Laws and Independence. LADWP is currently providing approximately 37,000 AFY of water to various enhancement and mitigation projects throughout Owens Valley in addition to the water used for the Owens Lake Dust Mitigation Program. The enhancement and mitigation projects, including the Lower Owens River Project (LORP) in the Owens Valley are identified in the Water Agreement. LORP began full operation in December 2006 when more than 40 cubic feet per second of water were released at an intake facility from the Los Angeles Aqueduct located south of Tinemaha Reservoir. The majority of the releases to the LORP are recovered at the LORP Pump Station. Transit losses for the LORP are approximately 20,000 AFY. The water used for LORP and the enhancement and mitigation projects is in addition to the releases that provide environmental benefits in the Mono Basin and Owens Lake.

SUPPLEMENTAL DUST CONTROL

Historically, the Owens River was the main source of water for Owens Lake. Diversion of water from the river, first by farmers in the Owens Valley and then by the city, resulted in the lake drying up completely by the late 1920s. The exposed lakebed became a significant source of windblown dust, causing the United States Environmental Protection Agency (EPA) to classify the southern Owens Valley as a serious non-attainment area for particulates (dust) in 1991. The EPA required the Great Basin Unified Air Pollution Control District (GBUAPCD) to prepare a State Implementation Plan to bring the region into compliance with federal air quality standards by 2006.

Since 2001, LADWP has diverted water from the Los Angeles Aqueduct to the lakebed as part of the Owens Lake Dust Mitigation Program. In November 2003, the GBUAPCD adopted a revised State Implementation Plan that ordered control of dust emissions from 29.8 square miles of the lakebed, including some areas already controlled by LADWP. LADWP has completed its multi-phase, multi-year program to implement the requirements of the 2003 State Implementation Plan with dust control measures that include approximately 26 square miles of shallow flooding, 3.7 square miles of managed vegetation, and 0.1 square miles of gravel on the Owens Lake playa.

In November 2006, LADWP entered into an agreement with GBUAPCD to control an additional 12.7 square miles of the lakebed and for the project to be completed by April 2010. In exchange for controlling additional areas, the agreement allows LADWP new opportunities for water savings equal to or greater than the capital cost of the dust control project. LADWP has completed construction on 9.2 square miles of additional shallow flooding dust control measures on the lakebed with a capital cost of approximately \$120 million. In total, LADWP estimates that it will need to divert up to 95,000 AFY from the Los Angeles Aqueduct for the Owens Lake Dust Mitigation Program.



OTHER STRATEGIC ACTIVITIES/SUPPORT FUNCTIONS

The support functions of Water System consist of four areas:

1. Facilities
2. Other Capital Projects
3. Information Technology
4. Joint System Capital Expenditures

The total budget for this section is \$761.8 million for the next ten years. Other Strategic Activities provides the necessary funding for equipment needed for supporting the Water System and LADWP's daily activities as well as increased security for Water System facilities and its water supply.



TABLE 5 - SUMMARY OF OTHER STRATEGIC ACTIVITIES CAPITAL BUDGET FOR FISCAL YEARS 2010 - 2019 (X \$1,000)

Capital Improvement Program Category	2009-10 Final Budget	2010-11 Approved Budget	Program Year 2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Ten-Year Proposed Budget
Central District HDQ	-	-	-	-	-	-	-	22.7	-	-	22.7
Facilities	11,615.6	11,471.2	13,065.8	9,164.2	9,470.3	21,479.0	29,558.6	28,180.5	26,995.9	15,145.9	176,147.0
Tools and Equipment	1,833.7	1,483.7	1,534.8	1,549.1	1,613.0	1,708.4	1,731.7	1,773.7	1,809.6	1,877.7	16,915.4
Other WS Capital Projects	23,561.4	25,223.9	33,555.7	29,996.5	30,414.2	20,763.1	16,963.5	12,617.2	12,355.5	10,726.8	216,177.8
Information Technology	7,334.0	8,551.3	6,298.2	6,103.5	6,213.8	6,302.2	6,429.3	6,622.3	6,725.7	6,954.7	67,535.0
Joint System Capital Expenditures	57,867.1	59,733.1	66,837.0	59,573.7	56,412.0	57,083.4	54,523.4	51,480.3	52,156.7	52,990.2	568,656.9
Total Other Strategic Activities/Support Functions	102,211.8	106,463.2	121,291.5	106,387.0	104,123.3	107,336.1	109,206.5	100,696.7	100,043.4	87,695.3	1,045,454.8
Reimbursements	(45,835.6)	(47,162.3)	(81,315.6)	(42,154.0)	(42,128.7)	(45,704.8)	(45,988.0)	(43,169.1)	(43,673.2)	(44,146.4)	(481,277.7)
Total Other Strategic Activities/Support Functions less reimbursements	56,376.2	59,300.9	39,975.9	64,233.0	61,994.6	61,631.3	63,218.5	57,527.6	56,370.2	43,548.9	564,177.1

FACILITIES

Water System Facilities include office buildings, district headquarters for operations and maintenance crews, warehouses, shops, laboratories, and parking structures. These expenditures help improve employee productivity by purchasing more efficient equipment, improving working facilities, and providing a safe and efficient working environment for employees. The majority of this budget includes expenditures for a new water quality lab, renovation of the Western District Headquarters, and for additions and improvements to bring structures into compliance with current California building codes, specifically the newer earthquake codes. Facilities also include necessary retrofits and improvements at the Water Quality Laboratory in Pasadena and at other Water Quality and Operation facilities in addition to the installation of a Waterworks Mechanics Workshop and renovation of Sylmar West.

OTHER CAPITAL PROJECTS

Security Measures

Other Water System Capital Projects include measures to protect and safeguard the water supply. Perimeter protection, access upgrades, water quality monitoring enhancements, and other improvements to Water System facilities that are being made for security purposes. Controlled access to Water System infrastructure is necessary to minimize the possibility of water contamination.

Projects planned include continued work on the re-keying, re-doing the Vulnerability Assessment, implementation of the on-line water quality monitoring program, purchase of the mobile water quality lab, and purchase/installation of fire hydrant caps.

The purchase of the mobile water quality lab and implementation of the on-line water quality monitoring

program are partially funded by the Urban Area Security Initiative. The purchase/installation of hydrant caps is partially funded by Proposition 50.

INFORMATION TECHNOLOGY

These costs include modifications and upgrades to the information technology infrastructure to that support the Water System. Costs for telecommunications, computer hardware, software, and maintenance, as well as technology support, such as Help Desk and Trouble Tickets are also included.

The Los Angeles Water System – Data Acquisition and Control (LAWSDAC) system is the 24/7 Control Center for Water System operations. The LAWSDAC computer system is used to provide daily distribution system monitoring and control of changes and treatment adjustments, to manage facility and system outages, and to respond to natural disasters and security threats. The LAWSDAC system has been designed to become the central data repository for all Water System operational and quality information. An upgrade, expected to be completed in 2011, will provide a more efficient and reliable system to replace the existing one allowing for future expansion to include new facilities and expected regulatory requirements.

JOINT SYSTEM CAPITAL EXPENDITURES

The Water Revenue Fund shares a portion of Power-funded Capital projects and programs performed by Joint System organizations. The Water Revenue Fund portion of these project costs is generally 30% of the total.

CONCLUSION

The Capital Improvement Program exists to initiate, organize, monitor, and control capital projects that improve the Water System infrastructure, increase its water resources, enhance the quality of water it distributes, and improve the security of the water supply. The Capital Improvement Program accomplishes this by replacing and/or adding to the Water System infrastructure, complying with and/or exceeding all state and federal water regulations, looking for new sources of water supply as well as conserving those already in existence, and adopting new and improved security measures to ensure the safety of the city's water.

LADWP operations are financed from the sale of water and electric services. Water System Capital projects are financed through the sale of bonds and/or government loans and grants, e.g. the Safe Drinking Water State

Revolving Fund (SDWSRF) and the American Recovery and Reinvestment Act (ARRA). No tax support is received for the Water System's Capital Improvement Program.

By the year 2020, L.A.'s population is projected to reach 4.8 million with a projected increase in water usage of 20 percent. It is imperative that LADWP continue its multi-faceted approach of conservation, water recycling, emphasis on infrastructure, as well as developing new sources of supply to meet the future water demands of the citizens of Los Angeles. Through the Water System's Capital Improvement Program, LADWP will spend in excess of \$6 billion over the next ten years to continue to provide our customers with reliable, high quality and competitively priced water services in a safe, public, and environmentally responsible manner well into the next millennium.



WATER SYSTEM

TEN-YEAR CAPITAL IMPROVEMENT PROGRAM
for the Fiscal Years 2010-2019

