

November 16, 2017

The Honorable City Council  
c/o Office of the City Clerk  
Room 395, City Hall  
Mail Stop 160

Attention: Councilmember Nury Martinez  
Chairperson, Energy, Climate Change, and Environmental  
Justice Committee

Honorable Members:

Subject: Council File No. 17-0930 – Proposed California WaterFix

This memo contains our full report and is in follow-up to our prior written preliminary responses to your Committee (dated October 16, 2017) regarding the City Council adopted motion on September 26, 2017 (Council File No. 17-0930). Our responses to the three requested items in the referenced motion are as follows:

1. A review of the Los Angeles Department of Water and Power's (LADWP) low-income/lifeline program, and ways to improve and increase enrollment and participation.

*Program Overview*

Addressing the energy burdens faced by limited- or low-income households is critical to achieving substantial energy savings and equitable outcomes. There remains a large potential to retool, reintroduce, implement, and track programs serving low-income and multifamily dwellings. In July 2017, LADWP established the Low-Income Customer Access (LICA) program to develop strategies and programs that assist low income customers, bring the homeless to sustainable living arrangements, and

provide access to renewable energy assistance for those on low or fixed income. LICA is matrixed across the LADWP organization to ensure programs for low-income customers use equity as a foundational principle for program implementation. The principle of equity acknowledges that there are historically underserved and underrepresented populations and that fairness regarding these unbalanced conditions is needed to achieve equitable opportunities for all groups.

Low Income Discount Program (LIDP)

LADWP offers a residential LIDP rate for customers within qualifying income levels. This rate reduces the cost of electricity, and water, for the participants' permanent, primary residence. As of October 2017, there are 157,622 customers enrolled in LIDP.

The Board of Commissioners adopted a Resolution on the annual adjustment to low-income eligibility criteria for fiscal year 2017-2018, effective July 1, 2017. The eligibility criteria are consistent with amounts adopted annually by the California Public Utilities Commission (CPUC). The eligibility requirements and criteria adopted also serve as the Board's definition of low-income residential class for the Sewer Service Charge low-income subsidy under the City of Los Angeles's Municipal Code Section 64.41.03(h). The LIDP provides an average 20 percent discount off the LADWP electric and/or water bill.

All such income may not exceed the following criteria:

Household Income Requirements (Since July 1, 2017)

| Members in Household    | Maximum Annual Gross Income |
|-------------------------|-----------------------------|
| 1                       | \$32,480                    |
| 2                       | \$32,480                    |
| 3                       | \$40,840                    |
| 4                       | \$49,200                    |
| 5                       | \$57,560                    |
| 6                       | \$65,920                    |
| 7                       | \$74,280                    |
| 8                       | \$82,640                    |
| Each additional member: | Add \$8,360 to income       |

The applicant must be the customer of record with LADWP and cannot be claimed on another person's Income Tax Return as a dependent. Proof of income for each member of the household must be included with the completed application.

Water Low-Income customers receive financial assistance of up to \$10 every two months plus \$2 per person for households over 3 persons, up to a maximum total assistance of \$20 per bill. The amount of assistance should not exceed the customer's water bill. Any customer whose total household income does not exceed the limits established by the Board of Water and Power Commissioners is eligible. Low-Income and Lifeline customers who are not billed for water service will automatically receive the Water Low-Income assistance on their electric bills in addition to their electric discount. The amount of assistance however, should not exceed the customer's electric bill.

#### Lifeline Program

The Lifeline Rate Application is processed by the City of Los Angeles, Office of Finance. The Utility User's Tax Exemption Electric and Water Lifeline Rate Application Program offers seniors and disabled citizens service discounts on their utility bills. Customers who are 62 years of age or older or permanently disabled may qualify, based solely on their income, to have a discount applied to their electric and/or water bills. The discount is available under provisions of the Los Angeles Municipal Code or the Revenue and Taxation Code of the State of California. As of October 2017, there are 94,279 customers enrolled in the Lifeline Program.

Those who qualify for the LADWP portion of the program may qualify for a Solid Resources Fee (trash fee) discount with the Los Angeles Department of Public Works Bureau of Sanitation (LASAN), with eligibility reviewed on a bi-annual basis. For new applicants, the LADWP Lifeline Discount Rate is effective the first full billing period after the approved application is received by LADWP.

Lifeline customers must meet all of the following to certify/recertify:

1. User of the utilities at the residential service address within the City of Los Angeles and is responsible for the payment of such utility bills which are under user's name.
2. Must be a:
  - a. Senior Citizen - 62 years of age or older, or a
  - b. Disabled Citizen - an individual shall be considered to be disabled if he or she is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which

can be expected to result in death or to be of long-continued and indefinite duration.

3. The combined adjusted gross income (as used for purposes of the California Personal Income Tax Law) of all members of the household in which the customer resides is less than \$36,050 for the prior calendar year.
4. The amount of tax imposed on the above utilities is not paid by a public agency or from funds received from a public agency specifically for the payment of such tax.

Water Lifeline customers receive a financial assistance of up to \$20 every two months on their water bill. However, the amount of assistance should not exceed the customer's water bill.

Electric Lifeline customers (also for Low Income) who are not billed for water service will automatically receive the Water Low Income financial assistance on their electric bills in addition to their electric discount. The amount of assistance again, should not exceed the customer's electric bill.

#### Other Customer Assistance Programs

LADWP offers additional customer assistance programs:

- Life Support Device Discount provides energy cost discounts to customers who regularly use an essential life-support device. There is no income eligibility requirements. As of October 2017, there are 5,680 customers enrolled.
- Physicians Certified Allowance Discount (PCAD) for paraplegic, hemiplegic, quadriplegic, multiple sclerosis, neuromuscular, or scleroderma patients. There is no income eligibility requirements. As of October 2017, there are 4,607 customers enrolled.
- Serving Our Seniors (SOS) allows LADWP employees to identify older customers who appear to be in need of assistance beyond paying their electric and/or water bill. LICA works closely with the Department of Aging for the "Purposely Aging" and other programs for low-income seniors. LICA also works with the Housing and Community Investment Department to identify opportunities to leverage resources to provide energy and water efficiency programs to low-income seniors.

- Payment Plans are offered to all customers who are having trouble paying their bills. Customers may opt for a payment extension or to make payments in installments.
- Share Project is administered by the United Way Greater Los Angeles and funded through donations from LADWP customers and LADWP employees. It assists customers currently enrolled in the low-income and lifeline programs to become eligible to receive a credit applied to their utility bill during specified time periods (e.g. Thanksgiving and other holidays). The program assists those in most need to reduce their energy burden and economic hardship and help them move out of poverty.

Discussions are underway to enhance the low-income customer assistance program and have it on an ongoing basis.

#### Efficiency Programs for Low-Income Customers

In addition to the standard low-income programs, LICA has identified existing programs that can help low-income customers reduce their energy burden, increase energy and water conservation, and improve their quality of life:

- Community Shared Solar
- Consumer Rebate Program
- Electric Vehicle Infrastructure
- Home Energy Improvement Program
- Low Income Home Energy Assistance Program (LIHEAP)
- Low Income Weatherization Incentive Program (LIWP)
- Partnership energy assistance programs with SoCal Gas
- Refrigerator Exchange Program
- Water Conservation Programs

#### Outreach and Education Plan

Using equity as its foundation, LICA seeks to establish a clear multi-pronged approach that will increase access for low and fixed income, and multifamily customers to efficiency and discount programs; improve customer experience; build ratepayers trust and support; and manage risks effectively.

LICA has put forth the following strategies with corresponding key performance indicators or metrics to ensure low-income and efficiency programs are reaching the underserved customers.

- a. Establish an external Advisory Working Group to seek insights from experts from various agencies engaged in advocating and promoting low income programs. Key performance metrics include the number of meetings with the Advisory Working Group, number of distribution networks established for low-income and efficiency programs, and pilot programs implemented and monitored for outcomes.
- b. Broaden the scope of the outreach to increase customer understanding of the core low-income programs and the efficiency programs that can reduce their energy burden. Key performance indicators include the number of targeted outreach programs, surveys conducted and survey findings, and number of new low-income participants.
- c. Increase the impact of outreach efforts by engaging our low income partners and organizations that share the goal of serving low income and vulnerable customers. Key performance indicators include the number of external partners advocating for low-income programs who have leveraged their resources in terms of expanded outreach efforts and education.
- d. Provide access to resources, tools, and opportunities that will increase awareness and participation in low-income and efficiency programs. Key performance indicators include the type of resources and tools utilized and the number of participant usage of programs and tools.
- e. Pilot re-tooled low-income or efficiency programs with partners to identify barriers, best practices, and ability to scale up and be replicated across multiple low-income sectors in the city. Key performance indicators include the types of re-tooled programs, barriers identified and actions taken to overcome barriers, success stories of programs and documented benefits to participants

LICA's outreach plan utilizes the following channels to reach low-income customers:

- City and County libraries, senior centers, work source and family centers, and recreation centers
- Community events
- Customer Call Centers
- Customer Service Centers (branches)

- Delivery channels of partner agencies
- Direct mail in absence of bill inserts
- Email communications
- LADWP Speakers Bureau
- LADWP website
- Los Angeles Neighborhood Councils and Alliances
- Social Media

The goal is to complete a number of quick wins in terms of deliverable milestones by the end of Fiscal Year 2017-18 that can move the needle towards providing low-income ratepayers better access to LADWP programs, as follows:

1. A simplified online and onsite Application Process with a list of low-income programs for customers to choose.
2. Enhanced functionality of the LADWP website, including easier access to programs for income-qualified customers.
3. A brochure of LADWP Low-Income Programs for direct mail, online application, and placement/distribution at various places.
4. Establishment of a core group of trained speakers (from the Speakers Bureau) for speaking engagements at public workshops, forums, and assemblies in low-income neighborhoods.
5. Creation of a Master Calendar of public events that LADWP can leverage with lead agencies for tabling events and other outreach opportunities.

LICA works in consultation with Customer Support, Customer Care and Billing, the Corporate Performance team overseeing the Equity Metrics Data Initiative, Marketing, Communications Management and Community Affairs, as well as with the Mayor's Office, Housing and Community Investment Department, and the Department of Aging, and Neighborhood Councils and Alliances.

2. A review of LADWP's efforts to remediate the contaminated groundwater in the San Fernando Valley, including costs and funds identified.

#### Program Overview

Please refer to the enclosed LADWP report, titled "**Program Summary on the San Fernando Groundwater Basin Remediation Program,**" dated January 2017, for details, history of contamination, well field characterization, schedule, and cost estimate.

Program Funding

Funding for the remediation program will come from water rates, State's Proposition 1, Responsible Parties, and other state/federal programs.

Over the past three years, LADWP has made positive progress on working cooperatively with key identified responsible parties to enable their design of an expanded second Interim Remedy that yields a robust system that allows effective containment and cleanup of identified contaminants within the Superfund area while allowing LADWP to plan for the design, construction, and operation of its own groundwater cleanup facilities without undue interference. The estimated cost of the expanded second Interim Remedy will be roughly \$100 million.

Proposition 1, approved by voters in November 2014, authorized \$7.545 billion in General Obligation bonds, for water supply infrastructure projects, including surface and groundwater storage, drinking water protection, water recycling and advanced water treatment technology, water supply management and conveyance, wastewater treatment, drought relief, emergency water supplies, and ecosystem and watershed protection and restoration. Chapter 10 of Proposition 1 provided \$900 million in grants and loans for projects that prevent or clean up the contamination of groundwater that serves or has served as a source of drinking water. The Department of Water Resources is administering \$100 million of the total Proposition 1 Chapter 10 amount to fund projects that develop and implement groundwater plans. The State Water Resources Control Board (SWRCB) is responsible for administering the remaining \$800 million via the Groundwater Grant Program (Grant Program). After administrative and bond costs, approximately \$744 million is available to fund two types of projects through the Grant Program:

- Planning/Monitoring: Qualifying projects include, but are not limited to, site assessment; site characterization; modeling; remedial investigation (RI); feasibility study (FS); monitoring and reporting plans; responsible party search; and preliminary engineering design.
- Implementation: Qualifying projects will address groundwater cleanup or prevent the contamination of groundwater that serves or has served as a source of drinking water and will substantially reduce the contaminants in the drinking water aquifer. Examples of implementation projects are design, construction, pilot studies, and initial startup of facilities.

Grant recipients are required to provide a minimum local cost share of 50 percent of the total project cost. In late 2016 and early 2017, LADWP was invited to submit applications to the Grant Program for the following groundwater remediation projects:

- North Hollywood Central Remediation Planning Project
- North Hollywood West Implementation Project
- Pollock Remediation Planning Project
- Tujunga Remediation Planning Project

To date, LADWP has received preliminary grant awards for all four projects as follows:

| <b>Project</b>   | <b>Total Project Cost</b> | <b>Preliminary Award Amount</b> |
|--|---------------------------|---------------------------------|
| <b>North Hollywood Central Remediation Project (Planning)</b>    | \$2,839,748               | \$1,000,000*                    |
| <b>North Hollywood West Remediation Project (Implementation)</b> | \$92,030,824              | \$46,015,412                    |
| <b>Pollock Remediation Project (Planning)</b>                    | \$5,537,184               | \$1,000,000*                    |
| <b>Tujunga Remediation Project (Planning)</b>                    | \$5,015,642               | \$1,000,000*                    |
| <b>TOTAL</b>   | <b>\$105,423,398</b>      | <b>\$49,015,412</b>             |

\* Grant Program funding guidelines established a \$1,000,000 maximum grant award for planning/monitoring projects. However, Division of Financial Assistance may recommend increasing the planning grant cap from \$1 million. As such, the final award amount may differ from the preliminary amount noted above.

Authorization to enter into and fulfill functions related to the execution and administration of Grant Program funding agreements for the North Hollywood West Remediation Project, North Hollywood Central Remediation Project, and Tujunga Remediation Project was provided by the DWP Board at their meeting on August 15, 2017. Because the Pollock Remediation Project did not receive a preliminary award from the SWRCB until September 1, 2017, the DWP Board subsequently provided

authorization for the Pollock Remediation Project at their meeting on October 17, 2017.

LADWP intends to continue to seek Grant Program funding for the Remediation Program, including implementation grants for the planning/monitoring projects noted above.

3. A review of LADWP's water supply and delivery infrastructure for the Valley, and ways LADWP will help reduce the valley's reliance on water imported from the State Water Project.

#### Current Water Supplies Serving the San Fernando Valley

The sources of water supplies serving the San Fernando Valley primarily come from imported water from the Owens Valley and Mono Basin through the Los Angeles Aqueducts (LAA), purchased imported water from the Metropolitan Water District of Southern California (MWD), Local Groundwater, and Recycled Water. MWD supply serving the Valley is imported from the Delta in Northern California through the California Aqueduct or the State Water Project (SWP).

Customers in the San Fernando Valley make up approximately 42 percent of the City's total water demand, based on the recent five fiscal years average, or about 210,800 acre-feet per year (AFY).

#### Existing Water System Delivery Infrastructure for the Valley

Supplies from the LAA and MWD's LA-35 raw water (SWP water) connection are treated at the Los Angeles Aqueduct Filtration Plant (LAAFP) and either stored or distributed throughout the Valley and the Metro Area. With its close proximity and higher elevation, the Valley receives mostly blended LAA and SWP water from the LAAFP. Within the Valley, LADWP operates three major active reservoirs and many smaller storage facilities, all of which create operational flexibility to balance water supplies and customer demands. The three major active reservoirs are the Los Angeles Reservoir, Lower Van Norman Bypass Reservoir, and Green Verdugo Reservoir.

Supplies are distributed to customers via trunk lines and distribution mainlines. Trunk lines are pipes greater than 20 inches in diameter. They provide the transmission capacity to move large amounts of water around the Valley – from reservoirs and tanks to the smaller distribution mainlines. There are approximately 52 miles of trunk lines throughout the Valley. They constitute the backbone of

LADWP's water distribution system. The trunk lines have connections to distribution mainlines at different locations. Distribution mainlines are pipes 20 inches or less in diameter. There are approximately 159 miles of mainline throughout the Valley.

The Valley also receives supplies from LADWP's groundwater system that consists of the San Fernando Valley Groundwater Basin and the Sylmar Basin. Within the San Fernando Valley Groundwater Basin, LADWP has eight major well fields containing 115 wells. Out of these eight well fields, five well fields provide supply to the Valley and include the Tujunga Wells, Rinaldi-Toluca Wells, Aeration Wells, North Hollywood East Collector, and North Hollywood West Collector. The Sylmar Basin has the Mission Wells.

Another source of supply to the Valley is Recycled Water for non-potable reuse. This is highly treated wastewater that has gone through multiple levels of treatment at LASAN's Donald C. Tillman Reclamation Plant. Recycled water is used for irrigation and industrial purposes.

*Mayor's Sustainable City pLAN Goals and San Fernando Valley Water Supply Reliability*

In response to recent multi-year drought in California, Mayor Eric Garcetti issued Executive Directive No. 5 (ED5) in October 2014 and his Sustainable City Plan (pLAN) in April 2015 setting goals for water use reduction and development of more sustainable local water supplies to address the City's heavy reliance on imported water supplies.

Expanded from ED5, the pLAN sets a number of water resources goals, including 25 percent reduction of average per capita potable water use by 2035, 50 percent reduction of imported water purchases from MWD by 2025, and expanding all local sources of water so that they account for at least 50 percent of the total supply by 2035.

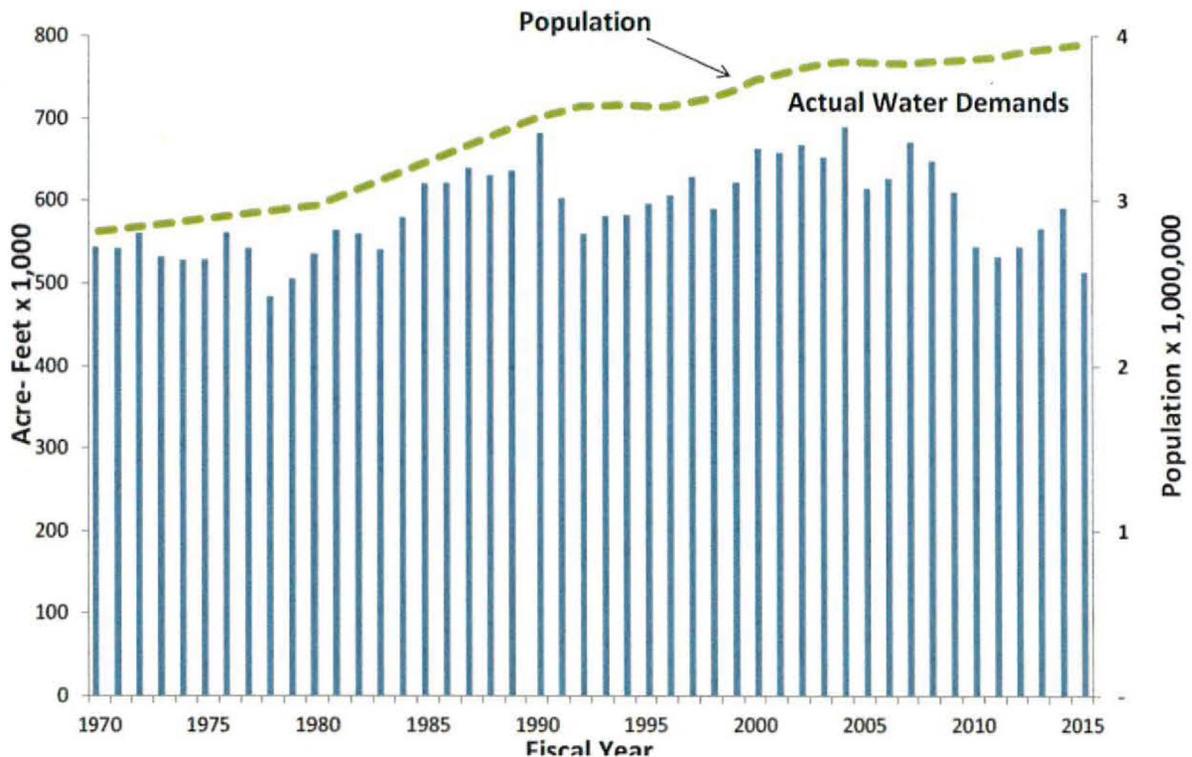
LADWP's 2015 Urban Water Management Plan (UWMP) incorporated the Mayor's pLAN goals and long-term water supply strategy, focusing on:

- Cleaning up the groundwater in San Fernando Basin (SFB)
- Enhancing stormwater capture
- Expanding water conservation
- Expanding water recycling

Water Conservation

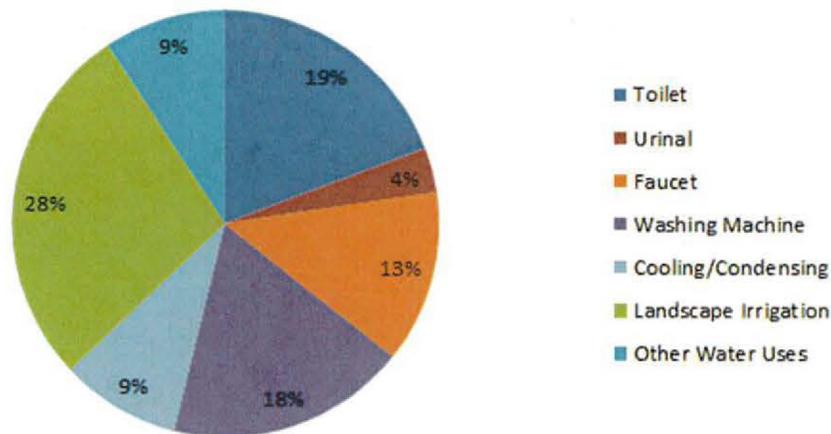
Historically, LADWP's Water Conservation Program has been very successful in managing the City's demand. Since the formation of the Water Conservation Program in 1977, over 128,000 AFY in water savings has been achieved from LADWP's rebate programs, and in just the last ten years alone, LADWP has invested over \$350 million in its Water Conservation Program to provide rebates and expand outreach and education.

As a result of these investments, the graph below illustrates the City's per capita water use has remained flat for the last 40 years despite an increase of over one million residents. This extraordinary accomplishment has greatly reduced the City's reliance on imported State Water Project and Colorado River Aqueduct supplies.



Building upon the historic success, LADWP continues to pursue water conservation to meet the pLAN's aggressive 2025 and 2035 goals. In September 2017, LADWP completed its Water Conservation Potential Study (WCPS), which determined that there is enough remaining conservation potential to meet the goals. The follow pie chart presents the City's water conservation potential for the major water uses:

### Total City Conservation Potential by 2035



Going forward, LADWP will use the WCPS findings to develop its long-term conservation strategy. Meeting the Mayor's pLAN goals will require over 100,000 AFY of additional conservation, which will require additional investments to modify and/or add conservation programs.

#### Water Recycling

Recycled water is a critical element of LADWP's local water supply strategy. Since 1960, the City has recognized the potential for water reuse and invested in recycled water treatment that meets Federal and State standards (Title 22) for non-potable water uses, including irrigation, industrial and environmental uses, and in infrastructure (commonly known as purple pipes) to convey recycled water to customers.

The Donald C. Tillman Water Reclamation Plant located in Van Nuys provides recycled water deliveries to customers in the Valley. During Fiscal Year 2016-17, recycled water deliveries reached more than 3,000 acre feet (AF) to customers in the Valley, such as the Valley Generating Station, and golf courses at Woodley Lake, Balboa, Encino, and Hansen Dam. Recycled water is also used for environmental purposes within the Valley, for Balboa Lake, Japanese gardens, and Wildlife Lake.

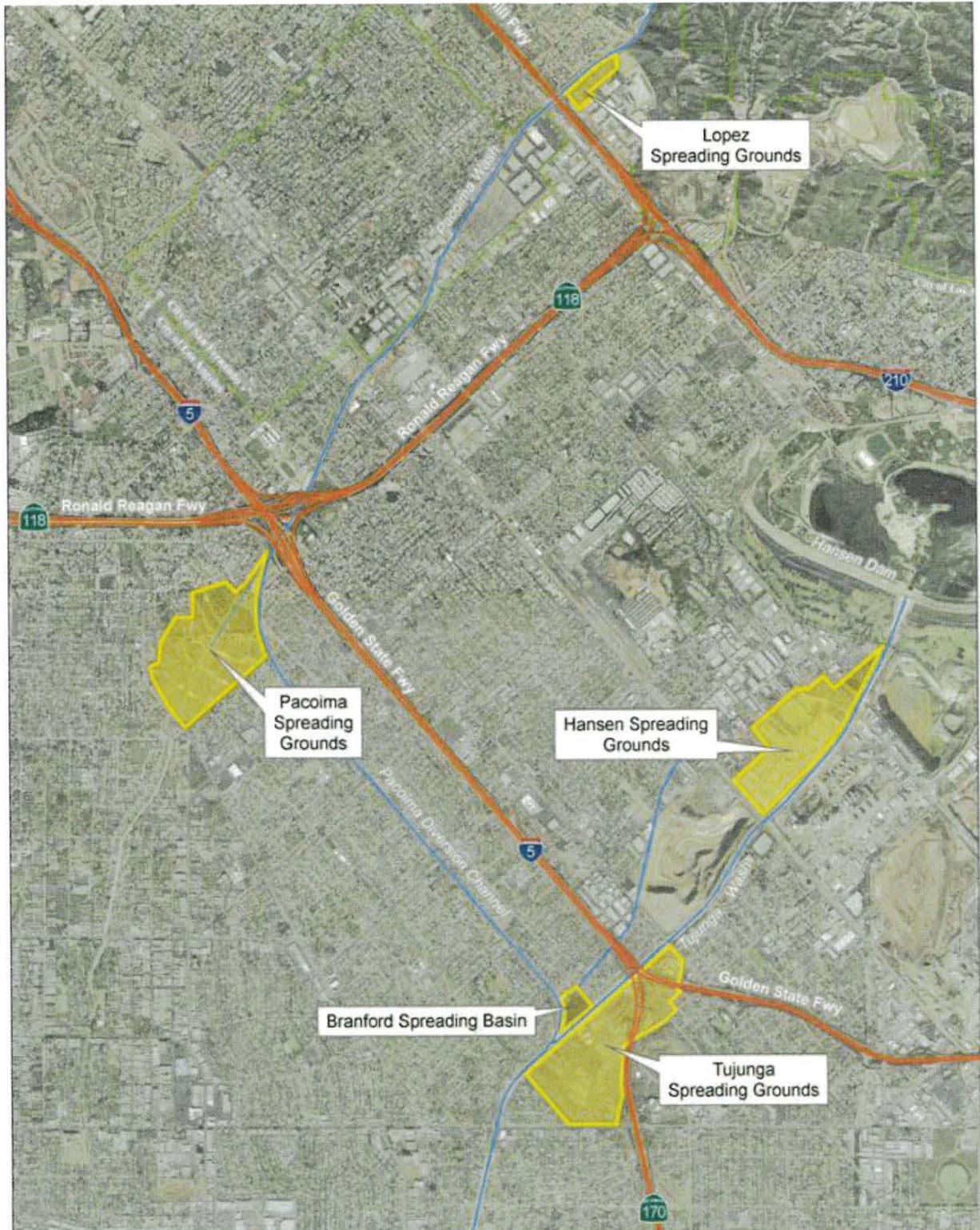
The future expansion of recycled water use to offset potable demands has been included as one method that will help achieve the Mayor's pLAN goals to reduce imported water purchases. LADWP is working in conjunction with LASAN and Bureau of Engineering (BOE), to develop non-potable reuse (NPR) projects for irrigation and industrial uses. Potential NPR customers within the Valley include Caltrans, Los Angeles Unified School District, North Hollywood Park, Sepulveda Basin Sports Complex, Woodbury University, and more. In addition, the City is pursuing a groundwater replenishment (GWR) project to replenish the SFB with highly treated recycled water. The Environmental Impact Report for the GWR Project was adopted by the Board of Water and Power Commissioners in December 2016. Project completion is expected in 2024.

Recycled water use is projected to increase by more than 7 folds from the current 10,000 AFY to 75,400 AFY, by 2040 citywide. In the Valley area, NPR projects is projected to increase from the current 3,000 AFY to 16,000 AFY.

#### Stormwater Capture

Stormwater capture can help to increase infiltration into groundwater basins (i.e., groundwater recharge) and by onsite capture and reuse of stormwater for landscape irrigation (i.e., direct use). Capturing and reusing more stormwater is a natural way to replenish local groundwater aquifers while improving water quality in our ocean, rivers and other water bodies.

Urbanization has encroached onto historical waterway floodplains resulting in channelization of these waterways, which once recharged the San Fernando Basin (SFB) groundwater aquifers with large volumes of stormwater runoff. As these floodplains were undergoing rapid development, LADWP and the Los Angeles County Flood Control District (LACFCD) reserved several parcels of land for use as stormwater spreading facilities. The figure below illustrates the location of these facilities are adjacent to some of the largest tributaries of the Los Angeles River, and the Pacoima and Tujunga Washes.



During average and below average weather years, these spreading facilities are very effective at capturing a large portion of the stormwater flowing down the tributaries. The table below illustrates the historical average annual and high spreading through 2015 at the five facilities.

| Facility | Location              | Annual Spreading (AF) |                            |
|----------|-----------------------|-----------------------|----------------------------|
|          |                       | Average <sup>1</sup>  | Historic High <sup>2</sup> |
| Branford | Mission Hills, CA     | 552                   | 2,142                      |
| Hansen   | Sun Valley, CA        | 13,647                | 35,192                     |
| Lopez    | Lake View Terrace, CA | 587                   | 3,922                      |
| Pacoima  | Pacoima, CA           | 6,851                 | 24,164                     |
| Tujunga  | Sun Valley, CA        | 5,034                 | 31,479                     |
| Total    |                       | 26,671                | 96,899                     |

1. Historic average through December 2015
2. Historic high at each facility was determined independently

LADWP also completed the Stormwater Capture Master Plan (SCMP) in 2015 to comprehensively evaluate future stormwater capture potential within the City. Stormwater capture can be achieved by increasing infiltration into groundwater basins (i.e., groundwater recharge) and by onsite capture and reuse of stormwater for landscape irrigation (i.e., direct use). Conservatively, additional stormwater capture projects will increase groundwater recharge by 66,000 AFY and direct use by 2,000 AFY, using both centralized and distributed projects and programs. Currently, the average stormwater capture is about 64,000 AF annually. By 2035, the annual stormwater capture is expected to increase 2 to 3 folds to between 132,000 AF (conservative case) and 178,000 AF (aggressive case).

Groundwater Remediation

Refer to our response to Item No. 2, regarding LADWP's efforts to remediate the contaminated groundwater in the San Fernando Valley.

*MWD's Commitment to Local Projects*

MWD's Integrated Water Resources Plan (IRP) is the framework for the long-term water resources development plan for MWD's service area. The recent 2015 IRP update continues to set the region on a path of developing diversified water resources in imported supply, local resources, conservation and storage and transfers and recognizes the importance of solidifying and increasing the region's base of local resources and developing conservation with an emphasis on outdoor water efficiency. The 2015 IRP update supports and advances regional reliability by increasing targets for additional local supplies and conservation. Development of new local supplies, protection of existing supplies, and improving water conservation are major components to maintaining the region's future reliability.

MWD continues to be well-situated as an agency to ensure that regional investments and financing of local resources and conservation result in regional benefits for all of its member agencies, and adopted in 2017, the following policy principles to help guide MWD's role in the regional implementation of its IRP targets for local resources and conservation:

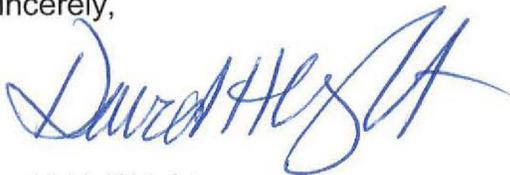
1. MWD should take an active role in identifying and evaluating local resource and conservation opportunities within its service area.
2. MWD should have multiple approaches and avenues available for developing and implementing local resources and conservation in cooperation with local agencies and entities.
3. MWD should evaluate the feasibility and effectiveness of direct investment and development of regionally beneficial local resources and conservation where appropriate.
4. MWD should include the consideration of sustaining and/or recovering production from existing projects and programs in its approaches to developing local resources and conservation.
5. Evaluations of regional investments in local resources and conservation should, at a minimum, include consideration of:

- Impacts, positive or negative, to existing MWD system investments and developed system capacity
  - Impacts, positive or negative, to MWD system redundancy or emergency risk
  - Measurable water supply yield or demand reduction
  - MWD financial exposure and revenue recovery
  - Total cost elements
  - Type and source of water supply
6. MWD's operational and administrative policies should not adversely impact regional efforts to develop local resources and conservation.
7. State and federal mandates should not impact MWD's participation in local resource and conservation development provided that the effect of the mandate is consistent with regional IRP targets.

LADWP will continue to be engaged at MWD to ensure that its Local Resources Programs (LRP) and conservation program are adequately funded and that the program requirements are updated accordingly to achieve activity and participation levels necessary to reach local resource targets.

If you have any questions or require further information, please contact me at (213) 367-1338, or have a member of your staff contact Ms. Winifred J. Yancy, Director of Legislative and Intergovernmental Affairs, at (213) 367-0025.

Sincerely,



David H. Wright  
General Manager

DDK:yrp  
Enclosures

The Honorable City Council  
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November 16, 2017

c/enc: Councilmember Paul Koretz, Vice-Chair, Energy, Climate Change, and  
Environmental Justice Committee  
Councilmember Paul Krekorian, Member  
Councilmember, Gilbert A. Cedillo, Member  
Councilmember, Mitch O'Farrell, Member  
Ms. Zina Cheng, Legislative Assistant  
Ms. Winifred J. Yancy

ENERGY, CLIMATE CHANGE AND ENVIRONMENTAL JUSTICE COMMITTEE REPORT  
relative to the proposed California Waterfix Project.

Recommendations for Council action, as initiated by Motion (Martinez - Ryu):

1. REQUEST the Los Angeles Department of Water and Power (LADWP) to provide comment and request confirmation and assurances from the Metropolitan Water District (MWD) that the City's financial, environmental, and local water principles are protected as follows:
  - a. The project cost will be based on either the \$16.7 billion estimate provided in MWD's white papers or the amount validated by the Department of Water Resources, whichever is lower.
  - b. MWD participation, if any, shall be capped at 26 percent of this project cost.
  - c. MWD financial investment shall come LAST and only after all other participants have committed.
  - d. Any increase in MWD's participation rate above these amounts should be approved by ballot measure.
  - e. Any purchase of additional water supply should only come AFTER the project is fully financed, rather than serve to further subsidize construction costs at the expense of local ratepayers.
  - f. Any participation by MWD shall be contingent on the California EcoRestore Initiative being fully funded.
  - g. MWD will increase their financial investment in local water, including local stormwater capture and related initiatives.
  - h. MWD will invest resources to remediate contaminated groundwater in the San Fernando Valley.
2. INSTRUCT the LADWP to report back with the following:
  - a. A review of LADWP's low-income/lifeline program, and ways to improve and increase enrollment and participation.
  - b. A review of LADWP's efforts to remediate the contaminated groundwater in the San Fernando Valley, including costs and funds identified.
  - c. A review of LADWP's water supply and delivery infrastructure for the valley, and ways LADWP will help reduce the valley's reliance on water imported from the State Water Project.

Fiscal Impact Statement: Neither the City Administrative Officer nor the Chief Legislative Analyst has completed a financial analysis of this report.

Community Impact Statement: Yes

For If Amended: Historic Highland Park Neighborhood Council.

Summary:

At a meeting held on September 19, 2017, the Energy, Climate Change and Environmental Justice Committee considered reports from the LADWP and the Office of Public Accountability in response to Motion (Martinez - Ryu) relative to the proposed California Waterfix Project. During the discussion of this item, representatives from the LADWP provided a thorough overview of the project and responded to various related questions posed by the Committee members. After providing an opportunity for public comment, the Committee recommended that Council approve the above recommendations. This matter is now submitted to Council for its consideration.

Respectfully Submitted,

ENERGY, CLIMATE CHANGE AND ENVIRONMENTAL JUSTICE COMMITTEE

| <u>MEMBER</u> | <u>VOTE</u> |
|---------------|-------------|
| MARTINEZ:     | YES         |
| KORETZ:       | YES         |
| CEDILLO:      | YES         |
| KREKORIAN:    | YES         |
| O'FARRELL:    | YES         |

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**-NOT OFFICIAL UNTIL COUNCIL ACTS-**

# Program Summary

San Fernando Groundwater Basin  
Remediation Program

January 2017

Los Angeles  Department of Water & Power



## Program Overview

The City of Los Angeles Department of Water and Power (LADWP) is undertaking a program to respond to releases of hazardous substances at one of the largest contaminated groundwater areas in the United States: the San Fernando Groundwater Basin (SFB). The SFB Remediation Program (Program) will result in a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - quality groundwater cleanup that restores the beneficial use of SFB as a natural resource. The program will consist of several separate response actions, and will leverage work being implemented under the oversight of state and federal regulatory agencies that focus on controlling the certain sources of the pollution and higher concentration plumes near those sites.

Groundwater provides an important local renewable water source to supplement surface water supplies. Future recharge to the SFB will augment this local water resource. The efforts contemplated by LADWP for remediation of the basin with enhanced recharge will be transformative for the City's sustainability and resiliency:

- Enhancing sustainability by reducing reliance on imported water.
- Increasing water supply resiliency to major earthquakes that could cause temporary seismic damage to the State Water Project California Aqueduct, Los Angeles Aqueduct or Colorado River Aqueduct systems - each of which cross major faults.

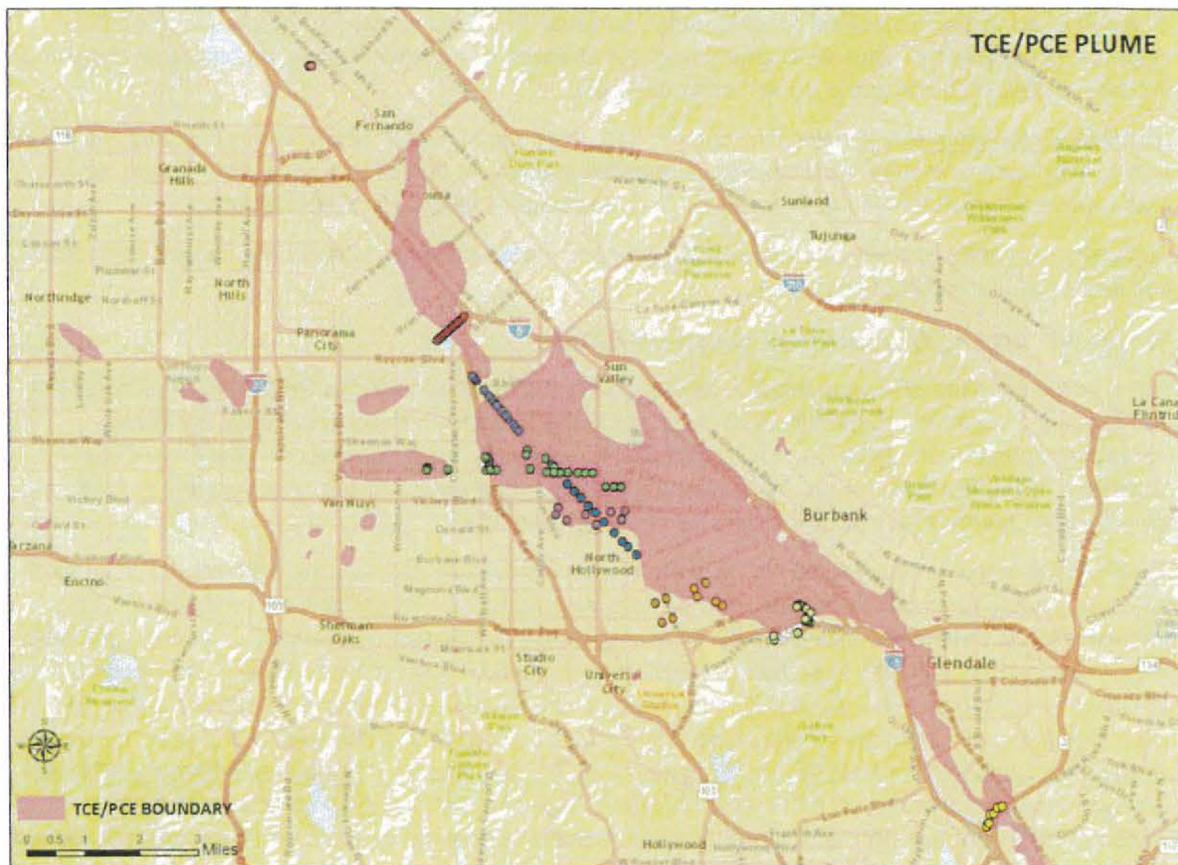
The LADWP Well Fields in the SFB are shown in the figure below.



The City encompasses an area of 465 square miles with a population of nearly 4 million residents and an annual average water consumption of approximately 215 billion gallons. The SFB is an aquifer that can provide sufficient drinking water to over 800,000 residents within the City of Los Angeles with 52 active wells in seven well fields. The production wells in the SFB are connected to major LADWP water mains. In the event of a drought or other emergencies and as the City of LA becomes less reliant on imported water, the SFB well fields could provide water to much more than 800,000 residents. The number of active SFB wells in use has dropped by approximately 50% because of groundwater contamination.

Local groundwater had provided as much as 25 percent of the total supply during extended dry periods when imported water has been less reliable. However, over the last five years which includes a severe dry period that would normally be a time of increased reliance on groundwater, local groundwater only provided approximately 12 percent of the total water supply for Los Angeles. This observed reduction in the groundwater component of total supply is the result of the beneficial use of groundwater having been impaired. The City plans to obtain 50 percent of water locally by 2035. (City of Los Angeles Sustainable LA Plan 2015). The primary source of local water is groundwater, and the primary source of local groundwater is the SFB.

The figure below shows the extent of mapped volatile organic compounds (VOC) groundwater contamination within the SFB and LADWP's wells. The mapped plume boundary for both Trichloroethylene (TCE) and Tetrachloroethylene, also known as perchloroethylene (PCE), two of the main SFB contaminants, are shown to provide a sense of the size and location of contamination with respect to LADWP's production wells.



Source: EPA 2014

## History of Contamination

### Sources of Contamination

Groundwater contamination in the SFB was likely caused by improper storage, handling, and disposal of hazardous chemicals used in the aircraft manufacturing industry, as well as commercial and heavy industrial activities dating back to the 1940s. Potentially responsible parties are still being identified.

### Description of Contaminants of Concern

Chlorinated solvents such as TCE and PCE account for the majority of this groundwater contamination. However, perchlorate, 1,4-dioxane, and hexavalent chromium, among others, are contaminants of concern in several well fields.

TCE is used as a degreaser for metal parts and as a precursor chemical especially in the manufacture of the refrigerant HFC-134a. It has also been used as an extraction solvent for greases, oils, fats, waxes and tars; in dry cleaning operations; and as a component of adhesives, lubricants, paints, varnishes, paint strippers, pesticides and cold metal cleaners.

PCE is used as a dry cleaning agent and metal degreasing solvent. It is also used as a starting material for making other chemicals and is used in some consumer products.

Perchlorate salts are mainly used for propellants, with properties as powerful oxidizing agents and are present in bleach and some fertilizers.

1,4-Dioxane is a likely contaminant at many sites impacted with certain chlorinated solvents because of its widespread use as a stabilizer for chlorinated solvents. It is used in many products, including paint strippers, dyes, greases, varnishes, and waxes. 1,4-Dioxane is also found as an impurity in antifreeze and aircraft deicing fluids and in some consumer products.

Hexavalent chromium exists in the environment from the erosion of natural chromium deposits and it can also be produced by industrial processes, such as the production of stainless steel, textile dyes, wood preservatives, leather tanning, anti-corrosion and conversion coatings, and electroplating.

Carbon tetrachloride was used as a dry cleaning agent, fire extinguisher, solvent, degreaser, refrigerant and as a chlorofluorocarbon feedstock.

### Previous/Ongoing Groundwater Clean-Up Efforts

Efforts to clean up the SFB were initiated by the United States Environmental Protection Agency (EPA) through their Superfund program in 1980. Adjacent to the North Hollywood East Wells, the North Hollywood Operable Unit (NHOU) groundwater treatment facility began operation in the City of Los Angeles in 1989. The Burbank Operable Unit (BOU) began operation in the City of Burbank in 1996, and the Glendale Operable Unit (GOU) in the City of Glendale in 2000.

The EPA's selected remedy for the NHOU was constructed to treat approximately 4.5 cfs (2000 gpm) of the contaminated groundwater. However, the changing groundwater conditions and additional VOC contamination in the aquifer limited the ability of the remedy to fully contain the VOC plume in the NHOU. The contamination continued to spread to other areas of the SFB and forced LADWP to shut down groundwater wells previously serving drinking water to Los Angeles residents. In response to this, EPA has undertaken new containment and remediation efforts by planning for the NHOU 2nd Interim Remedy, which may include the North Hollywood East well field. The 2nd Interim Remedy will address VOCs, as well as hexavalent chromium and 1,4-dioxane, which have emerged as additional contaminants of concern. This 2nd Interim Remedy is anticipated to contain concentrated areas of the plumes, but will not address contamination that has migrated to other well fields.

Since groundwater monitoring first detected concentrations of a variety of constituents of concern in the SFB in the 1980s, the EPA, LADWP, the cities of Glendale and Burbank, and other agencies, such as the State Water Resources Control Board, Division of Drinking Water (DDW) and the Los Angeles Regional Water Quality Control Board (LARWQCB), have joined in efforts to identify and remediate the contamination. Though some progress has been made in identifying, containing, and removing contaminants, full containment has not been achieved and some contaminant plumes are expanding. The EPA is currently in the planning stage of a Pollock Operable Unit to address contamination in the vicinity of the LADWP Pollock wells.

Without comprehensive containment and groundwater basin remediation, the City will lose the ability to use this valuable local resource.

## Well Field Characterization, Production and Water Rights

### Characterization

LADWP undertook an extensive well field characterization and treatment master planning evaluation from 2009 through 2015. The 6-year \$11.5 million study characterized the groundwater basin contamination in the SFB. Twenty-six new monitoring wells were installed and sampled in support of the groundwater characterization at a cost of approximately \$22 million. These new wells, along with a network of more than 70 existing wells, were used to characterize groundwater quality (and continue to be sampled to gather additional groundwater data) in the Northern portion of the SFB, which contains the City's most productive well fields:

- Tujunga
- North Hollywood West
- Rinaldi-Toluca
- North Hollywood East (offline due to high concentrations of COCs)

The Sylmar sub-basin has groundwater contamination to be characterized and evaluated for the Mission Well Field.

Efforts are underway to better characterize contamination of the Southern SFB well fields along the River Supply Conduit (RSC) pipeline, including the following well fields:

- Erwin
- Whitnall
- Verdugo
- Headworks (no active wells, planned for future development)
- Pollock

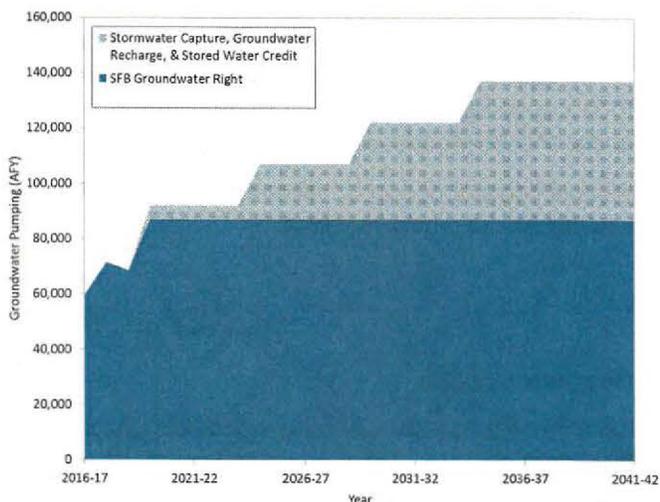
LADWP plans to complete one or more response actions for each well field in substantial compliance with the National Contingency Plan (NCP). The NCP provides the organizational structure and procedures for responding to releases and threatened releases of hazardous substances, pollutants, and contaminants. For a remedial action as defined in CERCLA, the NCP involves preparation of a Remedial Investigation (RI), preparation of a Feasibility Study (FS), and various public participation steps, including the publication of a Proposed Plan. Following a public comment period and meeting, a response action is selected, which is documented in a Remedial Action Plan or Record of Decision.

### Water Rights

The SFB was adjudicated in 1979 and includes the water-bearing sediments beneath the San Fernando Valley, Tujunga Valley, Browns Canyon, and the alluvial areas surrounding the Verdugo Mountains near La Crescenta and Eagle Rock. The Upper Los Angeles River Area (ULARA) Watermaster is Court appointed to assist in the administration and enforcement of the provisions of the adjudication. Four

basins comprise the ULARA – the SFB, Sylmar Basin, Verdugo Basin, and Eagle Rock Basin. The SFB is the largest of the four – at approximately 112,000 acres, it comprises 91.2 percent of the total valley fill.

The SFB is bounded on the north and northwest by the Santa Susana Mountains, on the north and northeast by the San Gabriel Mountains, on the east by the San Rafael Hills, on the south by the Santa Monica Mountains and Chalk Hills, and on the west by the Simi Hills. The valley is drained by the Los Angeles River and its tributaries. The SFB groundwater gradient flows from the northwest (above Tujunga well field) to the southeast at the Glendale narrows, where groundwater empties into the Central Basin just downgradient of the Pollock well field.



LADWP's baseline adjudicated water right is 87,000 acre-feet per year (AFY). LADWP is projected to increase drinking water production in the SFB to 137,000 AFY over the next 30 years (see figure above) from the implementation of this Program in conjunction with LADWP's Stormwater Capture Master Plan and recycled water projects for increased groundwater recharge. (Source: LADWP 2015 Urban Water Management Plan).

Groundwater recharge will be accomplished with distributed stormwater projects and a combination of increased stormwater and advanced treated recycled water recharge into the spreading grounds in the northeastern portion of the SFB.

### Remediation Facilities - Treatment Approach

LADWP has begun evaluating potential response actions to restore the beneficial use of groundwater in the vicinity of various well fields. These efforts include the study and other analysis and activities as required by the NCP to evaluate appropriate response actions. While additional work is required to evaluate the appropriate interim and final response actions for each area, one potential set of alternatives would consist of a series of local and centralized treatment facilities that produce water for potable use. Some facts that suggest this approach could be appropriate include the size and location of the plumes, the beneficial uses of the groundwater and reliability concerns over long-term availability of alternative water sources and their high cost, that could be required if such groundwater treatment did not occur.

The information LADWP will evaluate includes an analysis of pump rates and treatment capacity that would be appropriate to capture contaminant mass and help to restore the beneficial use of the aquifer for that well field, based on fate and transport modeling and other analysis. LADWP also plans to evaluate ways to minimize the volume of water that requires treatment by prioritizing pumping from wells with higher levels of contamination to minimize the potential for contamination to spread to wells that currently do not contain levels of contamination that would require treatment. This analysis will also evaluate other alternatives.

LADWP will leverage its actions with current and planned response actions in the basin by LADWP and other parties, such as remedial actions undertaken by or overseen by the state or federal regulatory agencies, as well as other feasible alternatives, such as source control, in situ treatment or pumping from other areas. Generally, other agencies are focusing on source control and other hot spot areas, while

LADWP tends to focus more on restoring the beneficial uses of water in the vicinity of production wells that has already migrated from the source areas.

To provide information about these potential response action alternatives, LADWP has completed a rough preliminary analysis of the scope and anticipated project costs. Preliminary analysis indicates that production of major SFB well fields, either alone or in conjunction with other response actions, could reach a maximum of over 300 cfs ultimate well production capacity. LADWP would anticipate that the treatment systems would have modularity for addressing additional treatment capacity that may be needed due to regulatory changes or plume migration. Design and construction costs for this set of alternatives are estimated to be approximately \$600 million, with remediation treatment costs of up to \$50 million per year. This estimate assumes that the facilities would be designed to utilize multiple best-available technologies to clean up the contaminants including TCE, PCE and 1,4-dioxane, restoring LADWP's highest producing well fields in the northern SFB. The potential treatment facilities that are part of this potential approach are shown in the figure below.



The City's SFB groundwater remediation falls into three categories by geographic area:

1. Northern SFB: Well fields characterized and prioritized for treatment
2. Southern SFB: Initiate characterization, then move into design and construction
3. Syllmar Basin: Initiate characterization, then move into design and construction

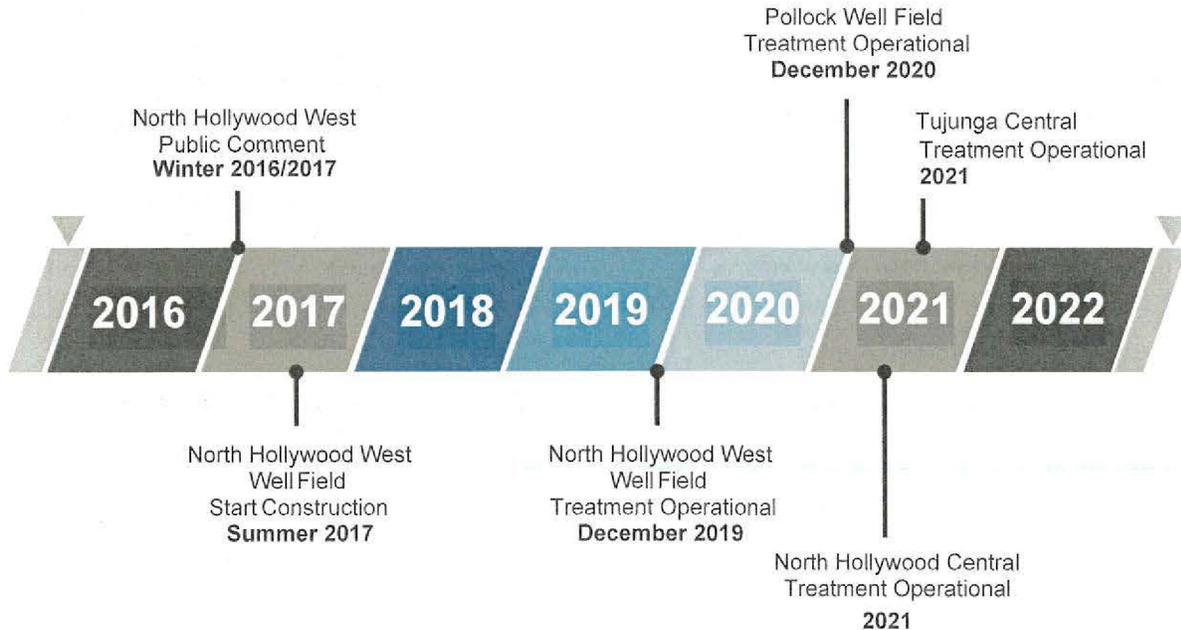
LADWP will initially focus on response actions within the most productive well fields (North Hollywood West, Rinaldi-Toluca, Tujunga) where the impacts of the contamination on the beneficial use of the aquifer is most severe, and wells where groundwater leaves the SFB (Pollock). North Hollywood East will not be part of this approach because it will be addressed through targeted treatment to be implemented by potentially responsible parties under the oversight of the USEPA.

## Path Forward

The figure below depicts a timeline showing how the various potential interim or final response actions could proceed in the Northern SFB and Pollock well fields, assuming that this set of treatment options is selected as an element of the response action following the completion of the NCP process. The nature of treatment required for each wellfield would depend on the contaminants present in the wells that are pumped as part of the response action. Information gathered indicates that methods are available that would permit treating the water to meet or exceed state and federal drinking water standards and guidelines, and to levels that will be fully protective of public health and the environment. Treatment can be designed to provide the highest quality water for LADWP customers, following the DDW permitting process for extremely impaired sources, and providing beneficial use of this important resource for the City of Los Angeles.

## Program Timeline

Pending the selection of response actions



Los Angeles  Department of Water and Power

For more information go to:

 [www.ladwp.com/remediation](http://www.ladwp.com/remediation)