



WATER SUPPLY ASSESSMENT FOR THE RADFORD STUDIO CENTER PROJECT

Prepared by:

Water Resources Division

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References

1. California Department of Water Resources California's Groundwater Bulletin 118 (Update 2003)
2. Upper Los Angeles River Area Watermaster Report for 2017/2018 (Update December 2019)
3. Los Angeles Department of Water and Power's 2020 Urban Water Management Plan
4. Metropolitan Water District of Southern California's 2020 Urban Water Management Water Plan
5. California Code of Regulations Title 23. Waters, Division 2. Department of Water Resources, Chapter 2.7. Model Water Efficient Landscape Ordinance
6. City of Los Angeles' Department of Public Works Bureau of Sanitation (LASAN) Sewer Generation Rates Table (Updated 2012)

Appendices

- A. City of Los Angeles Department of City Planning letter, Request for Water Supply Assessment, received on October 17, 2023, and Scope Confirmation e-mail received on November 16, 2023
- B. Water Conservation Commitment Letter
- C. Project Location Map
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Introduction

Proposed major projects subject to certain requirements in the California Water Code Sections 10910-10915 require that a city or county identify any public water system that may supply water to the Radford Studio Center Project (Project) and request the public water system provide a Water Supply Assessment (WSA). The WSA is a determination by the water supplier that the demands associated with the Project were included in its most recently adopted 2020 Urban Water Management Plan (UWMP) showing that there is an adequate 20-year water supply. The Los Angeles Department of Water and Power's (LADWP) 2020 UWMP serves as the City of Los Angeles' (City) master plan for reliable water supply and resources management consistent with the LADWP's goals and policy objectives.

The City of Los Angeles Department of City Planning (Planning Department), serving as the lead agency as prescribed by the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.), for the Project, has identified LADWP as the public water system that will supply water to the Project site. In response to Planning Department's request for a WSA on October 17, 2023, LADWP has performed the assessment contained herein.

The WSA is prepared to meet the applicable requirements of state law as set forth in California State Water Code Sections 10910-10915. Significant references and data for this WSA are from LADWP's 2020 UWMP, adopted by the Board of Water and Power Commissioners (Board) on May 25, 2021. LADWP's 2020 UWMP is incorporated by reference and is available through LADWP's website, www.ladwp.com/uwmp.

LADWP's 2020 UWMP details LADWP's plans to meet all of the City's current and future water needs. Faced with increasing water demands and extended dry periods, LADWP is addressing the challenge of providing a reliable water supply for a growing population by expanding local water supply programs and reducing demands on purchased imported water. LADWP continues to make significant investments in local groundwater, recycled water, stormwater capture, and water conservation and use efficiency to diversify its water supply portfolio. In April 2019, LADWP, in conjunction with the City, developed short-term and long-term sustainability targets through LA's Green New Deal (Green New Deal), to form a more reliable and resilient water supply. For more information on the Green New Deal, it is available for download at http://plan.lamayor.org/sites/default/files/pLAn_2019_final.pdf.

Findings

The Project is estimated to increase the total net water demand within the site by 351 acre-feet (AF) annually based on review of information submitted by Planning Department. The total net water demand included additional water use efficiency measures that the Radford Studio Center, LLC (Applicant) has committed to include in the Project. LADWP finds adequate water supplies will be available to meet the total additional water demand of 351 AF annually for the Project. LADWP anticipates the projected water demand from the Project can be met during

normal, single-dry, and multiple-dry water years, in addition to the existing and planned future demands on LADWP.

The basis for approving WSAs for projects is LADWP's most recently adopted UWMP. LADWP's water demand forecast, as contained in LADWP's 2020 UWMP, uses long-term demographic projections for population, housing, and employment. The California Urban Water Management Planning Act requires water suppliers to develop a UWMP every five years to identify short-term and long-term water resources management measures to meet growing water demands during normal, single-dry, and multiple-dry years. If the projected water demand associated with the Project was not accounted for in the most recently adopted LADWP 2020 UWMP, the WSA must include a discussion with regard to whether LADWP's total projected water supplies available during normal, single-dry, and multiple-dry water years during a 20-year projection will meet the projected water demand associated with the Project, in addition to LADWP's existing and planned future uses.

The City's water demand projection in LADWP's 2020 UWMP was developed based on the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020 RTP/SCS) demographic projection by the Southern California Association of Governments (SCAG). The demographic projection was provided to LADWP from the Metropolitan Water District of Southern California (MWD), who collaborates with SCAG to aggregate demographic data for each of its 26 member agencies. LADWP's 2020 UWMP identified water supplies to meet projected water demands through 2045. Therefore, the City's water supply projections in LADWP's 2020 UWMP are sufficient to meet the water demand for projects that are determined by the CEQA lead agency to be consistent with the 2020 RTP/SCS by SCAG.

The Planning Department has indicated that a General Plan Amendment is required to conform with the City's General Plan. The Planning Department has also determined that the Project is consistent with the demographic projections for the City from the 2020 RTP/SCS. Based on the information provided by Planning Department, the anticipated water demand for the Project is within LADWP's 2020 UWMP projected water supplies for normal, single-dry, and multiple-dry years through the year 2045 and is also within the LADWP 2020 UWMP 25-year water demand growth projection. This WSA can be approved based on the fact that the Project's water demand falls within the LADWP 2020 UWMP projected increase in LADWP's service area water demands. Additionally, LADWP's 2020 UWMP contains a water shortage contingency plan (WSCP) that was adopted in May 2021. The WSCP complies with the California Water Code and is based on the City's Emergency Water Conservation Plan. The WSCP establishes six standard water supply shortage levels and corresponding shortage response actions, which the City can take in the event of a water supply shortage. Furthermore, the City has utilized ordinances as a tool to reduce water demand since 1988. See section 3.0 Water Conservation for more information on the City's water conservation efforts.

This WSA approval addresses the City's long-term water supply and demand forecasts to accommodate the Project. It is not an approval for a water service connection. A separate request shall be made to LADWP requesting an evaluation of water service connection for the Project. Also, this WSA is an informational document required to be prepared for use in the Planning Department's environmental review of the Project under CEQA, and it assesses the adequacy of water supplies to serve the Project and cumulative demand. Approval of this WSA is not equivalent to approval of the Project.

The Radford Studio Center Project Description

The following project information was obtained from Planning Department's WSA Request Letter and the scope confirmation e-mail (Appendix A):

Project Name: Radford Studio Center Project

Lead Agency: Planning Department

Community Plan: Sherman Oaks–Studio City–Toluca Lake–Cahuenga Pass
Community Plan

The Project's scope of work includes redevelopment of approximately 55-acre site of commercial land use within the Sherman Oaks–Studio City–Toluca Lake–Cahuenga Pass Community Plan area of the City for commercial land use. The project site is generally bounded by the Los Angeles River and Tujunga Wash to the north and east, Colfax Avenue to the east, an alley to the south with various commercial uses across the alley fronting Ventura Boulevard, and Radford Avenue to the west.

The Project site currently contains approximately 1,179,110 square feet (sf) of studio-related uses. Approximately 646,120 sf of the existing site will be demolished. This includes 136,310 sf of sound stages, 170,370 sf of production support, 297,110 sf of production office, and 42,330 sf of creative office. The remaining 532,990 sf of the existing site would remain. The water demand associated with the existing area to be removed is approximately 20 acre-feet per year (AFY).

The Project has the following two options to expand of the Radford Studio Center by approximately 1,667,010 sf:

1. Proposed Development Option:
 - a. 226,580 sf of sound stages
 - b. 214,860 sf of production support
 - c. 572,050 sf of production office
 - d. 628,520 sf of creative office
 - e. 25,000 sf of retail/restaurant
2. Maximum Sound Stage Option:
 - a. 351,580 sf of sound stages
 - b. 89,860 sf of production support
 - c. 572,050 sf of production office
 - d. 628,520 sf of creative office
 - e. 25,000 sf of retail/restaurant.

Both options for the Project will also include mobility hub, landscaping, parking, and cooling towers.

Among both options, LADWP performed the water demand analysis and determined the net increase in water demand for the Project is 351 AFY.

A subsequent revised WSA may be required if one or more of the following occurs:

1. Changes in the Project result in a substantial increase in water demand for the Project
2. Changes in the circumstances or conditions substantially affecting the ability of LADWP to provide a sufficient supply of water for the Project
3. Significant new information becomes available which was not known and could not have been known at the time when WSA was prepared.

If deemed necessary, the Applicant may request a revised WSA through the Planning Department.

The Radford Studio Center Project Water Demand Estimate

Among both options for the Project, the projected total net water demand increase for the Project is estimated to be 351 AF annually. This amount took account of savings due to water conservation ordinances which are approximately 62 AFY, and savings due to additional voluntary conservation measures which are approximately 1 AFY.

In evaluating the Project's water demand, the Sewer Generation Factors (SGF), published by the City of Los Angeles Department of Public Works Bureau of Sanitation (LASAN) in 2012, are applied to the Project scope for calculating indoor water use. SGFs are factors of how much wastewater is generated (gallons per day) per unit (per sf, per dwelling unit, per seat, etc.). LASAN publishes a list of SGFs for approximately 175 different building use types in the City, and updates factors to make necessary adjustments due to water conservation efforts and increased efficiencies in new appliances and plumbing fixtures. Outdoor landscape water demand is estimated per California Code of Regulations Title 23 Division 2 Chapter 2.7 Model Water Efficient Landscape Ordinance. Historical billing records maybe used to estimate the existing baseline water demand on the property. LADWP also encouraged the Project to implement additional water conservation measures above and beyond the current water conservation ordinance requirements in order to reduce the Project's total proposed water demand.

The net increase in water demand, which is the projected additional water demand of the Project, is calculated by subtracting the existing baseline water demand and water saving amount from the total proposed water demand.

Table IA and Table IB show a breakdown of the existing and proposed new types of uses for the Project, and the corresponding estimated volume of water usage with the implementation of the required and voluntary conservation measures for this project. Types of use were derived from the WSA Request Letter and the scope confirmation e-mail in Appendix A.

Table II shows an estimation of the total volume of additional water conservation based on conservation measures the Applicant has committed for the Project (Appendix B).

TABLE IA Radford Studio Center Project - Proposed Development Option Calculated Total Additional Water Demand							
Existing Use to be Removed ¹		Quantity	Unit			Existing Water Use to be Removed	
						(gpd)	(af/y)
Sound Stages		136,310	sf				
Production Support		170,370	sf				
Production Office		297,110	sf				
Creative Office		42,330	sf				
Existing to be Removed Total²		646,120	sf			18,284	20.48
Proposed Use ¹		Quantity	Unit	Water Use Factor ³	Base Demand	Required Ordinances Water Savings ⁴	Proposed Water Demand
				(gpd/unit)	(gpd)	(gpd)	(gpd) (af/y)
Sound Stages		226,580	sf	0.05	11,329		
Production Support		214,860	sf	0.05	10,743		
Production Office		572,050	sf	0.12	68,646		
Creative Office		628,520	sf	0.12	75,422		
Retail/Restaurant ⁵		833	seat	30.00	25,000		
Mobility Hub ⁶		54,200	sf	0.05	2,710		
Base Demand Adjustment ⁷					1,062		
Commercial Total					194,912	9,231	185,681 208.00
Landscaping⁸		219,811	sf		21,577	11,868	9,710 10.88
Covered Parking⁹		1,736,730	sf	0.02	1,142	0	1,142 1.28
Cooling Tower		4,750	ton	35.64	169,290	33,858	135,432 151.71
Proposed Subtotal					386,921	54,957	331,965 371.87
					Less Existing to be Removed Total		-18,284 -20.48
					Less Additional Conservation ¹⁰		-791 -0.89
					Net Additional Water Demand		312,890 gpd 351 af/y

¹ Provided by City of Los Angeles Department of City Planning in the Request for Water Supply Assessment letter and Scope Confirmation e-mail. See Appendix A. Existing and proposed uses that do not have a water demand are not shown here.

² Total Existing Use is 1,179,110 sf. Existing Use to be Removed is 646,120 sf, and Existing Use to Remain is 532,990 sf.

³ Approximately 57 percent of the existing water demand is estimated to be removed based on the square footage and uses associated with the existing uses to be removed. The existing water demand to be removed is estimated by applying 57 percent to the LADWP billing data from October 2018 to September 2023.

⁴ Indoor water uses are based on 2012 City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates table available at <https://engpermitmanual.lacity.org/sewer-s-permits/technical-procedures/sewage-generation-factors-chart>

⁵ The proposed development land uses will conform to City of Los Angeles Ordinance No. 186488, 184248, 2020 Los Angeles Plumbing Code, and 2020 Los Angeles Green Building Code.

⁶ Conservative assume 1 seat per 30 sf, or 833 seats per 25,000 sf. Retail/Restaurant is assumed to be 100% Restaurant for a conservative water demand estimate.

⁷ Mobility Hub areas are not included in the total floor area.

⁸ Base Demand Adjustment is the estimated savings due to Ordinance No. 180822 accounted for in the current version of Bureau of Sanitation Sewer Generation Rates.

⁹ Landscaping water use is estimated per California Code of Regulations Title 23. Division 2. Chapter 2.7. Model Water Efficient Landscape Ordinance.

¹⁰ Auto parking water uses are based on City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates table, and 12 times/year cleaning assumption.

¹¹ The Applicant has agreed to additional water conservation, with a combination of some or all of the measures listed in the water conservation commitment letter. (See Appendix B of the Water Supply Assessment)

Abbreviations:

sf- square feet gpd - gallons per day af/y - acre feet per year

TABLE IB Radford Studio Center Project - Maximum Sound Stage Option Calculated Total Additional Water Demand						
Existing Use to be Removed ¹	Quantity	Unit			Existing Water Use to be Removed	
					(gpd)	(af/y)
Sound Stages	136,310	sf				
Production Support	170,370	sf				
Production Office	297,110	sf				
Creative Office	42,330	sf				
Existing to be Removed Total²	646,120	sf			18,284	20.48
Proposed Use ¹	Quantity	Unit	Water Use Factor ³	Base Demand	Required Ordinances Water Savings ⁴	Proposed Water Demand
			(gpd/unit)	(gpd)	(gpd)	(gpd) (af/y)
Sound Stages	351,580	sf	0.05	17,579		
Production Support	89,860	sf	0.05	4,493		
Production Office	572,050	sf	0.12	68,646		
Creative Office	628,520	sf	0.12	75,422		
Retail/Restaurant ⁵	833	seat	30.00	25,000		
Mobility Hub ⁶	54,200	sf	0.05	2,710		
Base Demand Adjustment ⁷				1,062		
Commercial Total				194,912	9,231	185,681 208.00
Landscaping⁸	219,811	sf		21,577	11,868	9,710 10.88
Covered Parking⁹	1,736,730	sf	0.02	1,142	0	1,142 1.28
Cooling Tower	4,750	ton	35.64	169,290	33,858	135,432 151.71
Proposed Subtotal				386,921	54,957	331,965 371.87
Less Existing to be Removed Total					-18,284	-20.48
Less Additional Conservation ¹⁰					-791	-0.89
Net Additional Water Demand					312,890 gpd	351 af/y

¹ Provided by City of Los Angeles Department of City Planning in the Request for Water Supply Assessment letter and Scope Confirmation e-mail. See Appendix A. Existing and proposed uses that do not have a water demand are not shown here.

² Total Existing Use is 1,179,110 sf. Existing Use to be Removed is 646,120 sf, and Existing Use to Remain is 532,990 sf.

³ Approximately 57 percent of the existing water demand is estimated to be removed based on the square footage and uses associated with the existing uses to be removed. The existing water demand to be removed is estimated by applying 57 percent to the LADWP billing data from October 2018 to September 2023.

⁴ Indoor water uses are based on 2012 City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates table available at <https://engpermitmanual.lacity.org/sewer-s-permits/technical-procedures/sewage-generation-factors-chart>

⁵ The proposed development land uses will conform to City of Los Angeles Ordinance No. 186488, 184248, 2020 Los Angeles Plumbing Code, and 2020 Los Angeles Green Building Code.

⁶ Conservative assume 1 seat per 30 sf, or 833 seats per 25,000 sf. Retail/Restaurant is assumed to be 100% Restaurant for a conservative water demand estimate.

⁷ Mobility Hub areas are not included in the total floor area.

⁸ Base Demand Adjustment is the estimated savings due to Ordinance No. 180822 accounted for in the current version of Bureau of Sanitation Sewer Generation Rates.

⁹ Landscaping water use is estimated per California Code of Regulations Title 23. Division 2. Chapter 2.7. Model Water Efficient Landscape Ordinance.

¹⁰ Auto parking water uses are based on City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates table, and 12 times/year cleaning assumption.

¹¹ The Applicant has agreed to additional water conservation, with a combination of some or all of the measures listed in the water conservation commitment letter. (See Appendix B of the Water Supply Assessment)

Abbreviations:

sf- square feet gpd - gallons per day af/y - acre feet per year

TABLE II					
Radford Studio Center Project					
Estimated Additional Water Conservation					
Conservation Measures ¹	Quantity ²	Units	Water Saving Factor ³	Water Saved	
			(gpd/unit)	(gpd)	(af/y)
Toilet - 1.1 gpf	170	ea	3.92	666	
Showerhead - 1.5 gpm	16	ea	7.50	120	
Dishwasher - 3.0 gallons per cycle	10	ea	0.50	5	
Total Additional Water Conserved =				791	0.89

¹ Water conservation measures agreed to by the Applicant. See Appendix B.

² Plumbing fixture quantities were provided by the Applicant.

³ Based on LADWP estimates.

Abbreviations: af/y - acre feet per year ea – each gpd - gallons per day gpf - gallons per flush gpm – gallons per minute

Los Angeles Department of Water and Power – 2020 UWMP

The California Urban Water Management Planning Act (first effective on January 1, 1984) requires every urban water supplier prepare and adopt a UWMP every five years in compliance with state guidelines and requirements. The main goals of UWMPs are to forecast future water demands and water supplies under average and dry hydrologic conditions, identify future water supply projects, and provide a reliability assessment under average, single dry year, and multi-dry years, and assess near term drought risk management.¹

¹ *City of Los Angeles Department of Water and Power 2020 Urban Water Management Plan*, at ES-2.

Water Supplies

The Los Angeles Aqueducts (LAA), local groundwater, purchased water from MWD, and recycled water are the primary sources of water supplies for the City. Table III shows LADWP water supplies from FYE 2018 to FYE 2022 from these sources.

TABLE III
LADWP Water Supply

Fiscal Year Ending	Los Angeles Aqueducts (AF)	Local Groundwater (AF)	MWD (AF)	Recycled Water (AF)	Transfer, Spread, Spills, and Storage (AF)	Total (AF)
2018	307,671	21,760	182,706	9,778	-200	522,116
2019	312,456	32,233	137,775	7,512	1,710	488,266
2020	292,095	34,363	152,647	9,641	1,155	487,591
2021	128,268	51,070	316,627	11,455	-938	508,359
2022	69,183	53,057	366,690	12,022	208	500,743

Note: Units are in AF.

1.0 Los Angeles Aqueduct

The City receives surface water and groundwater from the Eastern Sierra Nevada Mountains through the Los Angeles Aqueduct (LAA). LADWP constructed the first LAA in 1913 to convey water from the Eastern Sierra to the City. In 1940, the LAA was extended 40 miles north from the Owens River to the Mono Basin. To meet additional water demands from the City, a second barrel of the LAA was constructed and completed in 1970. The second LAA increased the City's capacity to deliver water from the Mono Basin and the Owens Valley from 485 cubic feet per second (cfs) to 775 cfs. The value of the City's historical investment in the LAA system is substantial because the City has benefited from the LAA's delivery of high-quality, cost-effective water supplies from the Eastern Sierra for over a century.

The City's water rights in the Eastern Sierra Nevada are comprised of riparian rights, pre-1914 appropriations, and post-1914 appropriation licenses held on various streams in the Mono Basin and Owens Valley. The most significant basis for export of surface water from the Eastern Sierra Nevada is an appropriation claim in 1905 to divert up to 50,000 miner's inches (1,250 cfs) from the Owens River. Up to 16,000 AFY can be supplied from Mono Basin, which is permitted by the 1994 Mono Lake Basin Water Right Decision 1631. Decision 1631 set a limit on LADWP water exports from the Mono Basin, which were set to a range of 0 to 16,000 AFY based on Mono Lake's water elevation. Aside from the primary surface water rights, the groundwater right in the Owens Valley is managed under the 1991 Long Term Water Agreement (LTWA) and uses vegetation water demand and available soil moisture to determine whether groundwater

wells can be pumped. Since 1991, the average annual pumping from Owens Valley wellfields has been less than 75,000 AF compared to 107,000 AF from 1974 to 1990.

Annual water deliveries from the LAA to the City are impacted by hydrologic variability in the Eastern Sierra Nevada and water set aside for environmental projects. At its peak in fiscal year ending (FYE) 1984, the LAA delivered 531,729 AF to the City. Concerns over environmental impacts have required the City to reallocate approximately one-half of the LAA water supply to other uses within the Owens Valley and Mono Basin. Between 1992 and 2020, LADWP reduced deliveries to the City by approximately 177,000 AF to supply water for a variety of environmental projects throughout the Eastern Sierra. Environmental enhancement and mitigation projects in the Mono Basin and Owens Valley that utilize water from the Eastern Sierra include Mono Basin releases, Lower Owens River Project, Owens Lake Dust Mitigation Program, as well as other environmental enhancement and mitigation projects and uses. The expected annual long term LAA delivery from 2020 to 2045 will range from approximately 184,200 AFY to 192,000 AFY for average years.

The sole reliance on LAA supply with impacts due to natural variability and water set aside for environmental projects is not sufficient to meet the City's annual water demands; therefore, LADWP has implemented, and continues to increase, stormwater capture, local groundwater, water conservation, water use efficiency, and water recycling programs to mitigate the reduction of LAA supplies. Additionally, LADWP can purchase supplemental imported water from MWD to meet the City's remaining water demands.

For additional information, refer to Chapter 4 "Los Angeles Aqueduct System" of LADWP's 2020 UWMP.

2.0 Local Groundwater Supplies

Local groundwater provided approximately 8 percent of LA's total water supply, from FYE 2018 to FYE 2022. This amount significantly differs from fifty years ago when local groundwater provided up to 23 percent of total supply during extended dry periods. In recent years, contamination issues have impacted LADWP's ability to fully utilize its local groundwater entitlements and provide groundwater supplies to support annual water demands. In response to this issue and to address the hydrologic variability impacts to imported water supplies, LADWP has a focus on sustainable management of its local groundwater basins. LADWP continues to invest in stormwater recharge projects to restore local groundwater basin levels as well as advanced treatment systems to produce purified recycled water for groundwater replenishment. Furthermore, LADWP has, and will continue to, conjunctively use this large groundwater basin within the City to store wet year LAA flows to supply water during dry periods.

The City's total adjudicated water rights are approximately 109,809 AFY, which are located within the San Fernando Basin (SFB), Sylmar Basin, Central Basin, and West Coast Basin. There are additional groundwater basins near and within the Los Angeles area, such as the unadjudicated Hollywood, Santa Monica, and northern Central Basins that may provide additional groundwater supplies for the City.

The SFB is the primary source of local groundwater for the City. It is located in the Upper Los Angeles River Area (ULARA) and spans 112,000 acres. The ULARA encompasses the San Fernando and Sylmar Basin. It is managed by a court-appointed Watermaster and administrative committee that oversees the operation of GW system and report the groundwater elevations and water quality. The average SFB groundwater rights is approximately 87,000 AFY. LADWP is implementing its SFB Groundwater Remediation Program to help restore the capacity of SFB as a drinking water source and groundwater storage. LADWP is implementing the following groundwater remediation facilities:

1. North Hollywood West Response Action is expected to be operational in early 2024.
2. Tujunga Response Action is expected to be operational in summer 2024.
3. North Hollywood Central Response Action is expected to be operational in summer 2024.

LADWP receives additional SFB water through the Los Angeles-Burbank Interim Interconnection Pipeline. In 2015, the City of Los Angeles and the City of Burbank entered into an agreement to construct and operate the Los Angeles-Burbank Interim Interconnection and began delivery of a minimum of 500 AF of blended water in August 2019. The blended water consists of SFB groundwater treated at the Burbank Operable Unit and Metropolitan Water District of Southern California imported water supply. This connection began service in August 2019 and will operate for five years.

The Central Basin is another source of groundwater supply for the City. The Central Basin Watermaster oversees this area that is located in the southeastern part of the Los Angeles Coastal Plan in Los Angeles County. The City has approximately 17,236 AFY of groundwater rights in this basin. With additional carryover and storage of unused water rights, the City has accrued a total of 22,943 AF of stored water as of FYE 2020. LADWP has completed the

Manhattan Wells Improvement Project and it began operation in March 2022. LADWP is also implementing the 99th St. Filtration Plant Project to address several issues such as water quality matters, deteriorating groundwater pumps, and necessary upgrades. This project is expected to be completed in 2025.

Besides the SFB and Central Basin, the City holds water rights in the following local groundwater basins:

1. The Sylmar and Eagle Rock basins are adjudicated basins, managed by the ULARA, that provides 3,570 AF and 500 AF, respectively. The majority of the Sylmar Basin's groundwater production facilities are inoperable due to high levels of contamination and deteriorated facilities. The Mission Wellfield facility underwent continued improvements since the early 2000's to replace the existing deteriorated facilities and restore Sylmar Basin groundwater production capacity. The facility has been in operation since early 2022. And, although the City has the right to produce groundwater from Eagle Rock Basin, there are no current plans to establish groundwater production facilities here.
2. The West Coast Basin is managed by the West Coast Basin Watermaster and is located in the southwestern part of the Los Angeles Coastal Plain in Los Angeles County. LADWP has the right to pump 1,503 AF. In 2014, the West Coast Basin Judgment was amended to increase certain parties', like LADWP's, pumping capacity to 5,000 AFY of unused West Coast Basin rights out of the Central Basin. This basin has groundwater quality problems related to TDS, chloride, and hydrocarbon pollutants; therefore, LADWP has discontinued use of West Coast Basin facilities in 1980 until further studies are completed to restore groundwater pumping.

Groundwater produced by the City from the San Fernando, Sylmar, and Central Basins for the last available five years are shown in Table IV.

Table IV
Historical Local Groundwater Production by Basin

Fiscal Year (July-June)	San Fernando (AF)	Sylmar (AF)	Central (AF)
2017-2018	22,259	0*	1*
2018-2019	36,870	1*	5*
2019-2020	35,949	2*	10*
2020-2021	53,625	1,368*	2,247
2021-2022	48,408	3,018	4,562

*Small quantities pumped from Sylmar and Central Basin were for water quality testing purposes, not water supply

LADWP also has groundwater rights outside the of City. There are 3,975 AF of groundwater rights in the Antelope Valley Groundwater Basin. This basin only allows the native water rights to be used locally; however, LADWP would have the ability to store water it imports into the basin for future export. LADWP would be able to recover imported and stored water for export to the City at times when it is necessary to manage seasonal peak demand or augment supplies during dry periods, emergencies, or natural disasters.

The Central and West Los Angeles areas of the City overlie the unadjudicated groundwater basins from Hollywood Basin, Santa Monica Basin, and the northerly area of Central Basin located outside of the adjudicated Central Basin boundary. LADWP is considering and exploring opportunities to develop groundwater resources in these manners that is locally sustainable and in cooperation with its regional partners to increase the City's use of local resources. Since the Sustainable Groundwater Management Act (SGMA) took effect on January 1, 2015, LADWP had been working with regional partners towards implementing a SGMA Groundwater Sustainability Plan (GSP) for the Santa Monica Basin. In September 2017, Department of Water Resources (DWR) approved the formation of the Santa Monica Basin Groundwater Sustainability Agency (SMGSA), which consisted of LADWP and four other local agencies. The SMGSA submitted the final GSP to DWR in January 2022.

For additional information, refer to Chapter 5 "Local Groundwater" of LADWP's 2020 UWMP.

3.0 Water Conservation

Water conservation and water use efficiency have significant effects on the City's water use patterns and their benefit to reducing water demands and pressure on other water supplies have become a permanent part of LADWP's water management philosophy. The City's water usage today is the same as over fifty years ago despite an increase in population of over one million people, reflecting the success and importance of the City's water conservation strategies. In the future, conservation will continue to be an important part of maintaining long term supply reliability and is a key component of LADWP's goals to reduce potable water use per capita by 22.5 percent and 25 percent by 2025 and 2035, respectively. Also, LADWP will comply with the State's water use requirements of Assembly Bill 1668 (2018) and Senate Bill 606 (2018) once finalized and adopted.

LADWP has developed many progressive water conservation and use efficiency programs in conjunction with state and local conservation ordinances and plumbing codes to achieve water conservation throughout its service area and customer classes. Since inception of LADWP's conservation program, the estimated cumulative annual active savings is over 150,000 AF. Additional savings are passive savings, achieved from codes, ordinances, and changes in customer behavior due to outreach and educational programs.

The state and local conservation ordinances and plumbing codes help LADWP to achieve water conservation throughout its service area and customer classes. Since 1988, the City has utilized ordinances as a tool to reduce water waste, beginning with the adoption of its first version of a plumbing retrofit ordinance. The latest applicable ordinances are: 2009 City's "High Efficiency Plumbing Fixture", 2016 Citywide Water Efficiency Standards Ordinance, 2015 Model Water Efficient Landscape Ordinance (MWELO), and the 2016 Emergency Water Conservation Plan (Conservation Ordinance). The Conservation Ordinance was developed for the City to implement water demand management measures in case of a water supply shortage and to respond to ongoing dry conditions. For a full list of Conservation Ordinance prohibited water uses for various phases, please refer to LADWP's 2020 UWMP.

LADWP also achieves and maintains water use reductions through the application of tiered volumetric water rates. Since 1993, LADWP has used an ascending tier rate structure that is entirely volumetric based pricing. LADWP's tiered volume water rates, which were last amended by the City's Water Rate Ordinance (Ordinance No. 184130) with the effective date of April 15, 2016, incorporate and further reinforce foundational water conservation, water use efficiency, and financial principles. A lower first tier rate is applied to water within a specified allocation, and higher successive tier rate is applied to every billing unit exceeding the first tier allocation.

LADWP offers rebates and incentives to promote the installation of water-efficient fixtures and appliances. In 2008, MWD's region-wide SoCal Water\$mart Program for residential and commercial water use efficiency rebates replaced previous LADWP rebate programs. This program administers uniform rebate amounts across the MWD service area to all MWD member agencies like LADWP. LADWP takes full advantage of regional programs for many product rebates offered through MWD for the residential and Commercial, Industrial, and Institutional (CII) sector, and adds supplemental funding to increase the rebate amount provided for LADWP customers for many qualifying products. Also, since 1992, LADWP has continued the Technical Assistance Program to promote innovative solutions to saving water. The program provides

customized incentives for retrofitting water-intensive equipment in the CII or multi-family customer sector.

LADWP plans its future water conservation programs, focusing on obtaining additional active and passive water savings in the water end uses that have the most non-conserving devices still remaining for each of the customer sectors. LADWP has recently launched or is currently developing the following programs:

- CalConserve Loan Program
- Flume Direct Distribution program for Single-Family Residential Customers
- Home Water Use Reports all Single-Family Residential Customers Real-Time Monitoring Devices for Customers

LADWP will continue to actively monitor the per capita water use, particularly in the context of all existing and new standards to ensure that target reductions are met in the future. Additional information on water conservation programs can be found in Chapter 3 “Water Conservation” of LADWP’s 2020 UWMP and at www.ladwp.com/uwmp.

4.0 Stormwater Capture

Stormwater runoff from urban areas is an underutilized local water resource. Within the City, the majority of stormwater runoff is directed to storm drains and ultimately channeled into the ocean. This unused stormwater carries many pollutants that are harmful to marine life and public health. In addition, local groundwater aquifers that could be replenished by stormwater are receiving less recharge than in past historical times due to increased urbanization. Urbanization has increased the City’s hardscape, which has resulted in less infiltration of stormwater and a decline in groundwater elevations. In response, LADWP completed a Stormwater Capture Master Plan in 2015 to comprehensively evaluate stormwater capture potential within the City. Stormwater capture can be achieved by increasing infiltration into groundwater basins and by onsite capture and reuse of stormwater for landscape irrigation (i.e., direct use). The total baseline amount of stormwater captured is 64,000 AF. Through the implementation of additional centralized and distributed stormwater capture projects and programs, in development and in construction, it will provide for increased groundwater recharge in the amount of 66,000 AFY and increased direct use in the amount of 2,000 AFY. Under LADWP’s current implementation strategy, the total estimated stormwater capture capacity is projected to be 155,000 AFY by 2035. This amount is between the conservative estimate of 132,000 AFY and aggressive scenario of up to 178,000 AFY by 2035.

LADWP utilizes various strategies to respond to hydrologic variability to maintain supply reliability. One of the strategies, known as conjunctive use, is storing supplies when available to help minimize the impacts of water shortages during future dry periods. Since the 1930’s, LADWP has recognized the greater operational flexibility provided by a storage program. LADWP has operated its groundwater resources conjunctively by reducing groundwater pumping and diverting water from the LAA into the Tujunga and Pacoima Spreading Grounds. Another strategy is to capture a large portion of stormwater flows, especially during wet years, through the centralized stormwater capture projects. The captured stormwater is a major source for replenishing groundwater supplies through spreading basins where it is infiltrated into

underlying groundwater aquifers. Groundwater recharge will address the overall long-term decline in groundwater basin elevations, protect the safe yield of the groundwater basin, and ensure the long-term water supply reliability of the San Fernando Basin (SFB). The 2020 UWMP projects that by 2045 there will be a minimum of 15,000 AFY of increased groundwater pumping in the SFB due to increased groundwater recharge through centralized stormwater infiltration. Anticipating that stored groundwater will rebound in response to enhanced groundwater recharge, LADWP will work with the ULARA Watermaster to continue observing actual basin elevations and re-evaluate basin safe yield to allow additional increases in groundwater production over time as SFB elevations rebound.

Flood control facilities are the primary means to divert native runoff into the spreading basin facilities. LADWP coordinates stormwater capture related activities, such as collection and delivery of large stormwater runoff to spreading basins, with Los Angeles County Flood Control District to effectively recharge the SFB. Completed in November 2021, the Tujunga Spreading Grounds Upgrade Project increased stormwater capture capacity by 8,000 AFY to a total of 16,000 AFY.

LADWP's Stormwater Capture Parks Program (Parks Program) has identified nine City-owned parks suitable for stormwater capture projects. The primary objective of the Parks Program is to recharge the San Fernando Valley Groundwater Basin by capturing urban runoff and diverting stormwater from the Tujunga Wash Central Branch storm drain. The anticipated Parks Program capture capacity is 3,088 AFY. The Parks Program provides multiple benefits, such as improvements to the Los Angeles River water quality, reducing localized flooding, raising public awareness, and providing open space enhancements through active and passive recreation space.

The other method to capture stormwater is through distributed stormwater capture facilities. Distributed stormwater/runoff capture refers to capturing localized dry and wet weather runoff. While centralized stormwater capture plays a key role in groundwater recharge in the City, space constraints limit opportunities for new large centralized facilities, and the City has changed the focus towards distributed stormwater capture. Distributed stormwater capture includes stormwater management Best Management practices that utilize vegetation, soils, and natural processes to manage stormwater runoff close to the source. Distributed facilities also aim to conserve water by capturing stormwater for uses that reduce potable water demand.

For additional information, refer to Chapter 6 "Watershed Management" of LADWP's 2020 UWMP.

5.0 Water Recycling

As early as 1960, the City recognized the potential for water recycling and invested in infrastructure that produced water of tertiary quality, a high treatment standard for wastewater. In 1979, LADWP began delivering tertiary quality recycled water to the Department of Recreation and Parks for irrigation of various areas in Griffith Park. Today LADWP serves approximately 179 sites in the City with recycled water for irrigation, industrial, and environmental beneficial uses. There are approximately 200 individual customer service accounts, with several projects containing multiple customer accounts at a single location. Recycled water produced for FYE 2021 was 37,060 AFY, inclusive of municipal and industrial, and environmental reuse.

LADWP is committed to maximizing use of recycled water in the City's water supply portfolio. Expansion of recycled water use to offset potable demands has been recognized as one method that will help LADWP achieve its goal of improving the local sustainability of its water supply. LADWP is working in conjunction with LASAN to develop non-potable reuse projects for irrigation and industrial uses. In addition, the City is pursuing a groundwater replenishment project to replenish the San Fernando Groundwater Basin with highly treated recycled water. LADWP's recycled water use is projected to reach 50,900 AFY by FYE 2025 by adding 8,000 AFY of planned municipal/industrial use and 7,000 AFY of indirect potable reuse (groundwater replenishment), and further increase to 67,600 AFY through FYE 2045. Environmental reuse is expected to remain relatively constant at approximately 26,600 AFY. For more information on the latest LADWP's existing and planned recycled water pipelines and projects, please see Recycled Water Annual Report available at the following link: www.ladwp.com/recycledwaterreport.

For additional information, refer to Chapter 7 "Recycled Water" of LADWP's 2020 UWMP.

6.0 Metropolitan Water District of Southern California

MWD is the largest water wholesaler for supplemental domestic and municipal water uses in California. As one of the twenty-six member agencies of MWD, the City, through LADWP, purchases water from MWD to supplement its water supplies from the LAA, local groundwater, and recycled water. Between FYE 2018 to FYE 2022, LADWP purchased an average of 231,289 AFY from MWD or approximately 46 percent of the City's total water supply.

MWD imports water from two principal sources: northern California via the California Aqueduct and the Colorado River via the Colorado River Aqueduct (CRA). MWD also manages and owns in-basin surface storage facilities, stores groundwater within the basin via contracts, engages in groundwater storage outside the basin, and conducts water transfers to provide additional supplies for its member agencies. All member agencies have preferential rights to purchase water from MWD, pursuant to Section 135 of MWD Act. As of FYE 2022, LADWP has a preferential right to purchase 17.69 percent of MWD's total water supply.

MWD is a contractor for water from Northern California through the State Water Project's (SWP) California Aqueduct. MWD holds a contract for 1.912 million acre-feet (MAF) per year, or 46 percent of the total contracted amount of the 4.173 MAF ultimate delivery capacity of the SWP. However, this amount varies annually due to many factors. DWR annually approves the amount of contract allocations SWP receives, which is shown in DWR's "Table A."

MWD owns and operates the CRA. Since 1942, the CRA has delivered water from the Colorado River to Southern California. The Colorado River supplies come from watersheds of the Upper Colorado River Basin in the states of Colorado, Utah, and Wyoming. Under a permanent service contract with the U.S. Secretary of the Interior, MWD is entitled to receive water from the Colorado River and its tributaries. California is apportioned 4.4 MAF, annually, plus one-half of any surplus that may be available for use, collectively, in Arizona, California, and Nevada. Of the California apportionment, MWD holds the fourth priority right to 550,000 AFY under the 1931 priority system governing allotments to California. Beyond the basic apportionment, MWD holds a fifth priority right to 662,000 AF of water.

MWD has been developing plans and making efforts to provide additional water supply reliability for the entire Southern California region. LADWP coordinates closely with MWD to ensure implementation of these water resource development plans. MWD's actions have been focused on the following: continuing water conservation, developing water supply management programs outside of the region, developing storage programs related to the SWP and the Colorado River, developing storage and groundwater management programs within the Southern California region, increasing water recycling, groundwater recovery, stormwater, and seawater desalination and pursuing long-term solutions for the ecosystem, regulatory and water supply issues in the California Bay-Delta.

MWD's water reliability assessments are presented in MWD's 2020 UWMP, which can be found at the following link: <http://www.mwdh2o.com/AboutYourWater/Planning/Planning-Documents>

7.0 Summary of Water Demand and Supply Projections for 20 years

LADWP's 2020 UWMP projects yearly water demand to reach 710,500 AF by FYE 2045 with existing water conservation prior to FYE 2014 already subtracted from projected demands, and with new water conservation savings achieved included as a supply source. Demographic data from 2020 SCAG RTP/SCS for LADWP's service area, as well as billing data for each major customer class, price of water, median household income, household size, economy, and dry period conservation effect were factors used in forecasting future water demand growth. Further details on LADWP's water demand forecast methodology can be found in Chapter 2 "Water Demand" of LADWP's 2020 UWMP. Table V tabulates the service reliability assessment for average weather year.

Table V
Service Area Reliability Assessment for Average Weather Year

Demand and Supply Projections (in acre-feet)	Average Year Fiscal Year Ending (FYE) on June 30				
	2025	2030	2035	2040	2045
Total Water Demand¹	642,600	660,200	678,800	697,800	710,500
Post-Conservation Demand	509,500	526,700	536,100	554,500	565,800
Existing / Planned Supplies					
Conservation (Additional Active ² and Passive ³ after FYE 14)	133,100	133,500	142,700	143,300	144,700
Los Angeles Aqueduct ⁴	190,400	188,900	187,300	185,800	184,200
Groundwater					
- Entitlements ⁵	109,400	109,400	109,400	108,800	108,800
- Groundwater Replenishment	7,000	11,000	11,000	11,000	11,000
- Stormwater Recharge (Increased Pumping)	4,000	8,000	15,000	15,000	15,000
Recycled Water- Irrigation and Industrial Use	17,300	29,200	29,700	29,800	30,000
Subtotal	461,200	480,000	495,100	493,700	493,700
MWD Water Purchases					
With Existing/Planned Supplies	181,400	180,200	183,700	204,100	216,800
Total Supplies	642,600	660,200	678,800	697,800	710,500

¹ Total Demand with existing passive conservation prior to FYE 14

² Cumulative hardware savings since late 1980s reached 110,822 AFY by FYE 14

³ Additional non-hardware conservation inclusive of retained passive savings from the dry period ending in 2017

⁴ Los Angeles Aqueduct supply is estimated to decrease 0.1652 percent per year due to climate impacts.

⁵ LADWP Groundwater Remediation projects in the San Fernando Basin are expected to be in operation by FYE 2023. Sylmar Basin production will increase to 4,170 AFY from FYE 2021 to 2036 to avoid the expiration of stored water credits, then revert to entitlement amounts of 3,570 AFY in 2037.

Service area reliability assessments for single-dry year and multiple-dry year conditions are shown in LADWP 2020 UWMP Exhibits 11F through 11G. Demands are met by the available supplies under all scenarios.

Water System Financing Program

Capital costs to finance facilities for the delivery of water supply to LADWP's service area are supported through customer-billed water rates. The Board sets rates subject to approval of City Council by ordinance. The Board is obligated by City Charter to establish water rates and collect charges in an amount sufficient to service the water system indebtedness and to meet its expenses for operation and maintenance.

The current water rates and its structures provide for modest rate increases each year over a five-year period for infrastructure improvements, meeting regulatory water quality requirements, and expanding the local water supply, which includes recycled water, stormwater capture, conservation, water efficiency, and groundwater remediation. LADWP's water rates incorporate and further reinforce foundational water conservation, water use efficiency, and financial principles. For example, the current water rate structure contains four tiers for single-family residential customers. The four tiers build on the previous two tier structure, providing a first-tier indoor water use base allocation, a second-tier allocation based on California Friendly Landscaping efficient outdoor use, a third-tier allocation capturing high outdoor water use, and a fourth-tier allocation for excessive use. In keeping with cost of service principles, the incremental pricing for the tiers is based on the cost of water supply.

In addition, LADWP will utilize a combination of the following funding sources:

- MWD – Currently provides funding through their Local Resources Program for the development of water recycling, groundwater recovery and seawater desalination.
- Grants and loans – LADWP continues to proactively seek government funding to offset potential impacts to ratepayers. Local funds, such as Measure W's "Safe, Clean Water Program," provide funding for stormwater capture projects. State funds, such as Propositions 1, 50, and 84, provide funding for recycling, groundwater, conservation and stormwater capture projects. And Federal funds, such as the Water Resource Development Act and the US Bureau of Reclamation's Title XVI program, provide funding for water recycling projects.

Conclusion

The Project is estimated to increase the total water demand within the site by 351 AF annually. This additional water demand for the Project site has been accounted for in the City's overall total demand projections in the LADWP's 2020 UWMP using a service area-wide approach that does not rely on individual development demand. The LADWP's 2020 UWMP utilized SCAG's 2020 RTP/SCS data that provide for more reliable water demand forecasts, considering changes in population, housing units, and employment.

Based on the Planning Department's determination that the Project is consistent with the demographic forecasts for the City from the SCAG's 2020 RTP/SCS, LADWP has determined that the Project's water demand is included in the LADWP's 2020 UWMP, which forecasts adequate water supplies to meet all projected water demands in the City through the year 2045. LADWP concludes that the projected 351 AFY increase in the total water demand for this Project is accounted for in the LADWP's 2020 UWMP 25-year water demand projections. LADWP has determined that it will be able to meet the proposed water demand of the Project as well as existing and planned future water demands of its service area.