



WATER SUPPLY ASSESSMENT FOR THE PALMETTO MIXED-USE PROJECT

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Prepared on

May 16, 2024

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References

1. California Department of Water Resources California's Groundwater Bulletin 118 (2003)
2. Upper Los Angeles River Area Watermaster Report for 2019/2020 (Update December 2021)
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 (2012)

Appendices

- A. City of Los Angeles Department of City Planning letter, Request for Water Supply Assessment, received on March 7, 2024, and Scope Confirmation e-mail received on March 27, 2024
- B. Water Conservation Commitment Letter
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Introduction

A Water Supply Assessment (WSA) includes an analysis of the sufficiency of a public water system to meet a proposed development's anticipated water demand. Per California Water Code (CWC) Sections 10910-10915, a WSA is required for specified types of development projects subject to the California Environmental Quality Act (CEQA) and is prepared by the public water system that supplies water to the proposed project. The water supplier will determine whether the projected water demand associated with the proposed project was accounted for in the water supplier's most recently adopted Urban Water Management Plan (UWMP) and that there is an adequate 20-year water supply. For the City of Los Angeles (City), the Los Angeles Department of Water and Power's (LADWP) 2020 UWMP serves as the City's master plan for reliable water supply and resources management consistent with the LADWP's goals and policy objectives.

On December 16, 2020, the City of Los Angeles Department of City Planning (Planning Department), which is the CEQA lead agency, requested LADWP to prepare a WSA for the Palmetto Mixed-Use Project (2021 Project), since LADWP is the water supplier for the project site. On May 11, 2021, the Board of Water and Power Commissioners (Board) approved the WSA for the 2021 Project (Resolution No. 021 213). It had a net additional water demand of 130 acre-foot per year (AFY).

Subsequently, on March 7, 2024, Planning Department submitted a request for a revised WSA for the Palmetto Mixed-Use Project with a modified scope of work. The revised Palmetto Mixed-Use Project's (2024 Project) primary differences from the 2021 Project are the residential unit mix and commercial use. In response to Planning Department's request for a revised WSA on March 7, 2024, and per CWC Section 10910(h) due to the new information about the 2021 Project, LADWP has performed the assessment contained herein. Therefore, this 2024 Project WSA supersedes the 2021 Project WSA approved on May 11, 2021.

The WSA is prepared to meet the applicable requirements of CWC Sections 10910-10915. Significant references and data for this WSA are from LADWP's 2020 UWMP, adopted by the 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 25-year projected 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.

Findings

The 2024 Project is estimated to increase the total net water demand within the site by 155 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 Colorado

Nour, LLC (Applicant) has committed to include in the 2024 Project. LADWP finds adequate water supplies will be available to meet the total additional water demand of 155 AF annually for the 2024 Project. LADWP anticipates the projected water demand from the 2024 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 water demands during normal, single-dry, and multiple-dry years. If the 2024 Project's projected water demand was not accounted for in the most recently adopted 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 2024 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 2024 Project is consistent with the demographic projections for the City from the 2020 RTP/SCS. Based on the information provided by the Planning Department, the 2024 Project's anticipated water demand is accounted 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 2024 Project's water demand falls within the LADWP 2020 UWMP projected demand in LADWP's service area. 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 evaluates and confirms that the City's long-term water supply and demand forecasts are able to accommodate the 2024 Project. The WSA 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 2024 Project. Also, this WSA is an informational document required to be prepared for use in the Planning Department's environmental review of the 2024 Project

under CEQA, and it assesses the adequacy of water supplies to serve the 2024 Project and cumulative demand. Approval of this WSA is not equivalent to approval of the 2024 Project.

The Palmetto Mixed-Use Project Description

The following project information was obtained from Planning Department's revised WSA Request Letter, dated March 7th, 2024 and the scope confirmation e-mail (Appendix A):

Project Name: Palmetto Mixed-Use Project

Lead Agency: Planning Department

Community Plan: Central City North Community Plan

The 2024 Project's scope of work includes the redevelopment of approximately 1.38-acre site of industrial land use within the Central City North Community Plan area of the City for residential and commercial land uses. The 2024 Project site is generally bounded by industrial buildings and warehouses to the north, Colyton Street to the east, Palmetto Street to the south, and Seaton Street to the west.

The 2024 Project site currently contains a 10,012 square-foot (sf) warehouse building occupied with light industrial uses. As part of the project, the warehouse buildings will be demolished. The existing water demand for the site is 0.4 AFY.

The 2024 Project is a mixed-use development. There will be 346 new live/work residential units, which consists of mixture of studio, 1-bedroom, and 2-bedroom units. There will be approximately 24,792 sf of neighborhood-serving commercial, retail, and restaurant spaces throughout the development. The residential space will include amenities such as 7,000 sf of outdoor common recreation areas, 1,000 sf of barbeque area, 10,257 sf of indoor health club/spa, and 1,088 sf of resident arts/production space. The 2024 Project will also include landscaping, covered parking, and a cooling tower for the building.

LADWP staff performed the water demand analysis and estimated the net increase in water demand for the 2024 Project is 155 AFY.

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

1. Changes in the 2024 Project result in a substantial increase in water demand for the 2024 Project
2. Changes in the circumstances or conditions substantially affecting the ability of LADWP to provide a sufficient supply of water for the 2024 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 Palmetto Mixed-Use Project Water Demand Estimate

The projected total net water demand increase for the 2024 Project is estimated to be 155 AF annually. This amount took account of additional savings due to voluntary conservation measures, which is estimated at approximately 2 AFY.

In evaluating the 2024 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 2024 Project scope for calculating indoor water use. SGFs are factors of how much wastewater is generated (gallons per day) per unit of development (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 was used to estimate the existing water demand on the property. LADWP also encouraged the Applicant to implement additional water conservation measures above and beyond the current water conservation ordinance requirements in order to reduce the 2024 Project's total proposed water demand.

The net increase in water demand, which is the projected additional water demand of the 2024 Project, is calculated by subtracting the existing water demand and water conservation savings amount from the total proposed water demand.

Table I shows a breakdown of the existing and proposed new types of uses for the 2024 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 selected for the 2024 Project (Appendix B).

TABLE I Palmetto Mixed-Use Project Calculated Total Additional Water Demand							
Existing Use to be Removed ¹		Quantity	Unit			Existing Water Use to be Removed	
						(gpd)	(af/y)
Industrial Warehouse		10,012	sf				
Existing to be Removed Total²		10,012	sf			338	0.38
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)
Residential Live/Work: Studio		155	du	150.00	23,250		
Residential Live/Work: 1 bdr		119	du	185.00	22,015		
Residential Live/Work: 2 bdr		72	du	225.00	16,200		
Base Demand Adjustment (Residential Units) ⁵					4,147		
Residential Units Total		346	du		65,612	7,465	58,147 65.14
Outdoor Common: Community/Club Room/Gym ⁶		7,000	sf	0.20	1,400		
Barbeque Area ⁶		1,000	sf	0.13	129		
Indoor Amenities/Health Club/Spa ⁷		10,257	sf	0.65	6,667		
Restaurant: Full Service ⁸		1,653	seat	30.00	49,590		
Resident Arts/Production Space		1,088	sf	0.12	131		
Amenities and Commercial Total					57,917	2,336	55,581 62.26
Landscaping, Pool/Spa⁹		18,484	sf		1,797	876	921 1.03
Covered Parking¹⁰		145,855	sf	0.02	96	0	96 0.11
Cooling Tower		900	ton	35.64	32,076	6,415	25,661 28.75
Proposed Subtotal					157,498	17,092	140,406 157.29
Less Existing to be Removed Total						-338	-0.38
Less Additional Conservation ¹¹						-1,583	-1.77
Net Additional Water Demand						138,485 gpd	155 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 The existing water demand is based on the LADWP billing data from March 2019 to February 2024.

³ 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>

⁴ Water savings for plumbing fixtures and appliances due to current codes

⁵ 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.

⁶ For a conservative water demand estimate, outdoor common areas are assumed to be community/club room/gym except the 1,000 sf barbeque area.

⁷ For a conservative water demand estimate, indoor amenities are assumed to be health club/spa.

⁸ For a conservative water demand estimate, 24,792 sf Retail/Restaurant is assumed to be 100% Restaurant.

⁹ Landscaping water use is estimated per California Code of Regulations Title 23, Division 2, Chapter 2.7, Model Water Efficient Landscape Ordinance. Landscaping, Pool/Spa includes 17,929 sf of irrigated landscaping areas and 555 sf of swimming pool/spa.

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 Water conservation due to additional conservation measures to be incorporated by the Applicant. See Table II.

Abbreviations:

sf- square feet bdr - bedroom du - dwelling unit gpd - gallons per day af/y - acre feet per year

TABLE II Palmetto Mixed-Use Project Estimated Additional Water Conservation					
Conservation Measures ¹	Quantity ²	Units	Water Saving Factor ³	Water Saved	
			(gpd/unit)	(gpd)	(af/y)
Toilet - Residential: Live/Work Studio - 1.1 gpf	155	du	1.11	172	0.19
Toilet - Residential: Live/Work 1 bdr - 1.1 gpf	119	du	1.11	132	0.15
Toilet - Residential: Live/Work 2 bdr - 1.1 gpf	72	du	2.60	187	0.21
Showerhead - Residential: Live/Work Studio - 1.5 gpm	155	du	1.59	246	0.28
Showerhead - Residential: Live/Work 1 bdr - 1.5 gpm	119	du	1.59	189	0.21
Showerhead - Residential: Live/Work 2 bdr - 1.5 gpm	72	du	3.98	286	0.32
Residential Unit Conservation Total				1,212	1.36
Toilet - 1.1 gpf	28	ea	3.92	110	0.12
Showerhead - 1.5 gpm	4	ea	7.50	30	0.03
Amenities and Commercial Total				140	0.15
Landscaping Total Conservation ⁴				231	0.26
Total Additional Water Conserved =				1,583	1.77

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.

⁴ Landscaping water conservation is estimated per California Code of Regulations Title 23, Division 2, Chapter 2.7, Model Water Efficient Landscape Ordinance.

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 2019 to FYE 2023 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)
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
2023	184,320	28,170	219,406	9,428	468	440,855

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 2019 to FYE 2023. This amount declined considerably since 1970 when local groundwater provided up to 23 percent of the total water 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 capture projects, as well as advanced treatment systems to produce purified recycled water, to replenish local groundwater basin levels. Furthermore, LADWP has, and will continue to, conjunctively use the groundwater basin within the City to store wet year LAA flows as future supply 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 Basins. 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 City's average SFB groundwater rights is approximately 87,000 AFY. LADWP is implementing its SFB Groundwater Remediation Program to help restore the access to SFB as a drinking water source and groundwater storage. The treatment improvements to the SFB groundwater remediation facilities are expected to be complete and operational by 2025.

LADWP receives some 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 until June 30, 2025.

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 is 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 of annual groundwater rights, 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 restore Sylmar Basin groundwater production capacity. The facility has been in operation since early 2022. 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. The City has the right to pump 1,503 AF per year. 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)
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
2022-2023	24,804	1,858	3,298

*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 a manner 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 final GSP for the Santa Monica Basin was approved in October 2023.

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. Water conservation has become a permanent part of LADWP's water management philosophy. The City's total water usage today is about 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 and water use efficiency strategies. Conservation will continue to be an important part of maintaining long term water 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 water use efficiency programs in conjunction with state and local conservation ordinances and plumbing codes throughout its diverse service area and customer classes. Since inception of LADWP's conservation program, the estimated cumulative annual active savings are over 150,000 AF. Additional passive water conservation savings are achieved because of plumbing code mandates, local conservation ordinances, and changes in customer behavior due to outreach and educational programs.

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 levels, 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) effective April 15, 2016, incorporate and further reinforce foundational water conservation and water use efficiency.

LADWP offers customer rebates and incentives to promote the installation of water-efficient fixtures and appliances. The rebates and incentives are administered through MWD's SoCal Water\$mart Program. This program delivers 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 conserve water. The program provides customized incentives for retrofitting water-intensive equipment in the CII and multi-family customer sectors.

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 launched and/or is currently developing the following programs:

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

LADWP actively monitors the per capita water use metric, 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 may be harmful to marine life and public health. In addition, local groundwater aquifers that are historically replenished by stormwater are receiving less recharge because of 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 City’s total baseline amount of stormwater captured is 64,000 AF per year. Under LADWP’s current implementation strategy, the total estimated stormwater capture capacity is projected to be 155,000 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 for groundwater recharge. Another strategy is to capture large stormwater flows 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 helps 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 parks suitable for stormwater capture projects. The primary objective of the Parks Program is to recharge the SFB by capturing and diverting stormwater from local storm drain and channel. The anticipated Parks Program stormwater 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.

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 also uses 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 recycled water of tertiary quality, a higher 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 non-potable uses. The quantities of recycled water delivered by LADWP to our customers in the prior years are shown in Table III.

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 local water supply development goal. 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 increase to 67,600 AFY through FYE 2045, which is inclusive of municipal/industrial use, indirect potable reuse (groundwater replenishment), and environmental reuse.

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 water in Southern California. As one of the twenty-six member agencies of MWD, the City, through LADWP, purchases water from MWD to supplement its water supplies. Between FYE 2019 to FYE 2023, LADWP purchased an average of 197,264 AFY from MWD or approximately 41 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 2023, LADWP has a preferential right to purchase 17.52 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 up to 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 demands. 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 2025. 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 and groundwater recovery.
- 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

This revised WSA is prepared for the 2024 Project to supersede the 2021 Project's WSA due to changes to the 2021 Project. The 2024 Project is estimated to increase the net total water demand within the site by 155 AF annually. This net additional water demand for the 2024 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 for water demand forecasts, considering changes in population, housing units, and employment.

Based on the Planning Department's determination that the 2024 Project is consistent with the demographic forecasts for the City from the SCAG's 2020 RTP/SCS, LADWP has determined that the 2024 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 concluded that the projected 155 AFY increase in the net total water demand for this 2024 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 2024 Project as well as existing and planned future water demands of its service area.