Appendix 6.19-2: Water Availability Report

Kimley»Horn

TECHNICAL MEMORANDUM

To: Amanda Acuna and Lisa Kranitz, City of Gardena

From: Kiana Graham and Rita Garcia

Date: February 15, 2024

Subject: **1610 West Artesia Boulevard Project, Water Availability Report and Sewer Capacity Study Peer Review**

Kimley-Horn has conducted a follow-up third-party peer review of the Project's Water Availability Report and Sewer Capacity Study (Tait & Associates, Inc., February 2024) on behalf of the City of Gardena to verify that Kimley-Horn's third-party peer review recommendations have been incorporated. The revised February 2024 report addressed the third-party peer review comments and thus is in compliance with the recommendations. The analysis, as revised, meets the applicable provisions of CEQA and the State CEQA Guidelines and is adequate for inclusion in the Project SCEA.

Please do not hesitate to contact Rita Garcia at 714.939.1030 or rita.garcia@kimley-horn.com with any questions.

Water Availability Report

For

1610 West Artesia Boulevard

Gardena, CA

APN: 6106-013-049

February 14, 2024

Ryan Haskin, PE
Registered Civil Engineer No. C84850
Exp.: 3/31/2024

REGISTERED PROFESSIONAL ENGINEER
RYAN HASKIN
No.84850
Exp. 3/31/24
CIVIL
STATE OF CALIFORNIA

Prepared for:

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5000 Birch Street #600,
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(800) 745-1979

Prepared by:

TAIT
RISING TO THE CHALLENGE

Tait & Associates, Inc.
701 N. Parkcenter Drive
Santa Ana, CA 92705
(714) 560-8200

TAIT JOB # **SP8994**

Purpose of Report

The purpose of this report to the evaluate the availability of water for the proposed 3.43 acre development at 1610 West Artesia Boulevard in the City of Gardena. The project includes the demolition of an existing car wash and auto center for redevelopment. The proposed development consists of multi-family residential housing with 300 apartment units (55 studio, 151 one-bedroom, 94 two-bedroom) in a six-story, podium apartment building. Various apartment types (i.e., studios, and one- and two-bedroom units ranging from 515 SF to 1,413 SF are proposed on levels two through six, with various amenities (i.e., two pools, a clubhouse, courtyard, fitness center, spa, golf lounge, and business center/leasing office) on the podium level, and a lounge and deck on the roof.

Domestic Water Service

Based on research of as-built plans there is an existing GSWD 10" water main located in Artesia Blvd with a 1"-2" water service that serves the existing property. The proposed site design concept will abandon the existing service and assumes a new private, on-site water system for the apartment complex. A new dedicated 6"-8" domestic water connection will be made to the 10" public main in Artesia Blvd with a single meter and backflow device near the northeast corner of the site.

Fire Water Service

Fire Protection and Emergency Services for the City of Gardena are provided by the Los Angeles County Fire Department (LACFD). The City of Gardena has adopted the Los Angeles County Fire Code, including its associated fire flow requirements. Pursuant to County of Los Angeles Code Chapter 20.16.060, minimum fire flow requirements shall be determined by the Fire Chief or Fire Marshall based on land use, assuming a minimum operating pressure of 20 pounds per square inch (psi). Site specific fire flow requirements of 2,500 gpm at 20 psi have been provided by LACFD. A building fire sprinkler system and on-site hydrants will be included as part of the project capable of providing adequate pressures and flow for site fire protection. The site design concept assumes an on-site private fire water system with a single 8"-10" connection to the existing 10" line within Artesia Boulevard near the northwest corner of the site. Final sizing and design will be dependent on fire supply demands provided by the Fire Suppression Engineer and a fire flow analysis to be conducted by TAIT.

Landscape Service

A single maximum 2" connection will be made near the northwest corner of the site with a single meter and backflow device for landscape needs. Final sizing and design will be dependent on landscape demands provided by the Landscape Engineer. See attachments for preliminary irrigation date of the project.

Site Water Demands

The site's water demand is estimated based on 120% of the Los Angeles County Sanitation Districts (LACSD) wastewater generation factors using zoning based coefficients for the existing and proposed site's and domestic water demand. Landscape demands were provided by the Landscape Engineer's worksheet, attached. Pool demands were calculated based on pool water loss estimates provided in a

document titled, "Jump Into Pool Water Efficiency" by the EPA, see attachment for excerpts. The tables below summarize the existing site's sewage and water demand estimates.

Existing Sewage Flow Estimate					
Zoning Area	Area (acre)	Zoning Ordinance	Zoning coefficient (cfs/Acre)	Flows (cfs)	Flows (GPD)
PIQ	3.43	C-R	0.016	0.055	35470
Existing Water Demand Estimate				120% sewage	**42564**

Proposed Sewage Flow Estimate					
	# UNITS	Coefficient (GPD/D.U.)	Avg. Daily Flow (GPD)	Peak Factor	Peak Flow (GPD)
0-STUDIO	54	150	8250	2.5	20625
1-BEDROOM	168	200	30200	2.5	75500
2-BEDROOM	78	250	23500	2.5	58750
SUBTOTAL:	300	600	61950		154875
Flows from each unit are calculated based on each units room size for total site flow.					
Proposed Domestic Water Demand Estimate				120% Ave. Daily Sewage	74340
Landscape Demand*					1176
Pool Demand**					514
*Values from Landscape Engineer Worksheet converted from gallons per year, see attachment **EPA published "Jump Into Pool Water Efficiency" estimates 31,000 gal/500 sf loss of pool water per year. Total project pool surface area = 24'x75' + 24'x40' + 22'x12' = 3024 sf. Therefore, project pool loss = 187,488 GPY = 514 GPD					
TOTAL WATER DEMAND:				Avg. GPD	**76030**

Conclusion

The proposed project is estimated to increase water demand for the property by 33,466 GPD. A will serve letter (attached) has been received from Golden State Water District (GSWD) that indicates service can be provided to the site from the existing water main in Artesia Boulevard. Fire flow test results (attached) show a 72 psi static pressure and an available flow of 8,378 gpm at 20 psi within the public water system in Artesia Boulevard, which is anticipated to meet the project needs.

Attachments:

- Golden State Water Company Will Serve Letter
- Fire Flow Test Results
- Preliminary Irrigation Water Use
- Excerpts from EPA published "Jump Into Pool Water Efficiency"

Golden State
Water Company
A Subsidiary of American States Water Company

December 11, 2023

Ryan Haskin (contractor)
701 N. Parkcenter Drive
Santa Ana, CA 92705
rhaskin@TAIT.COM

Re: Will Serve Letter for 1610 W. Artesia Blvd., Gardena CA 90248

To Whom it May Concern:

This letter is to inform you that water service is available to the above referenced address from Golden State Water Company's (GSWC) Southwest District water system located in Los Angeles County. Service to the address can be provided from our existing water facilities within W. Artesia Boulevard.

Upon completion and execution of an agreement between Golden State Water Company (GSWC) and the applicant that contains satisfactory financial arrangements and other provisions governing the extension of water service under the Water Service Agreement, GSWC will begin providing water service for the referenced address once all owner obligations have been satisfied. Analysis of more detailed development plans may require the owner to participate in the construction of special facilities prior to the Company providing water service.

GSWC is committed to providing water service to all customers within its service area, consistent with the company's obligations under rules, statutes and regulations of both the California Department of Public Health and the California Public Utilities Commission.

Unless modified or extended by GSWC, this Will Serve Letter shall terminate and be of no further force and effect one year from the date indicated above.

If you have any questions concerning the issues addressed in this letter, please let us know.

Sincerely,

Joseph Zhao, P.E., PhD.
Operations Engineer Southwest District

1600 W. Redondo Beach Blvd., Suite 101, Gardena, CA 90247
Tel: (310) 767-8200 Fax: (310) 436-6065

FORM 196
Rev. 09/20

COUNTY OF LOS ANGELES FIRE DEPARTMENT
FIRE PREVENTION DIVISION

Fire Prevention Engineering
5823 Rickenbacker Road
Los Angeles, CA 90040
Telephone (323) 890-4125 Fax (323) 890-4129

Information on Fire Flow Availability for Building Permit

For All Buildings Other Than One and Two Family Dwellings (R-3), Townhomes, and Accessory Dwelling Unit's

INSTRUCTIONS:

Complete parts I & II:

Verifying fire flow, fire hydrant location and fire hydrant size.

PROJECT INFORMATION
(To be completed by applicant)

PART I

Building Address: 1610 Artesia Boulevard, Gardena, CA

City or Area: Gardena APN: 6106-013-049

Nearest Cross Street: Denker Ave.

Distance of Nearest Cross Street to Property Line: 50 feet

Applicant: Ryan Haskin Telephone: (714) 560-8627

Address: 701 N Parkcenter Dr, Santa Ana, CA 92705

City: Santa Ana

Occupancy (Use of Building): residential apartment Fire Sprinklered: Yes ☒ No ☐

Type of Construction: 5 levels type IIIA residential over 2 levels type-I podium parking structure

Square Footage: 354,334 residential, 234,667 garage Number of Stories: 6 + 1 basement

Ryan Haskin

Applicant's Signature

7/28/2023

Date

PART II **INFORMATION ON FIRE FLOW AVAILABILITY**
(Part II to be completed by Water Purveyor)

Location of hydrant On W. Artesia Blvd ~647' E/o S. Western Ave

Hydrant Number 422

Distance from Nearest Property Line ~375' Size of Hydrant 6" Size of Water main 8"

Static PSI 72 Residual PSI 66 Orifice size 4 Pitot 37psi

Fire Flow at 20 PSI 8378 gpm Duration 4 Hours [x] Flow Test Date / Time 2/7/23 11:25PM

[ ] Hydraulic model

Location of hydrant

Hydrant Number

Distance from Nearest Property Line Size of Hydrant Size of Water main

Static PSI Residual PSI Orifice size Pitot

Fire Flow at 20 PSI Duration [ ] Flow Test Date / Time

[ ] Hydraulic model

[ ] (Check box if Simultaneous/ Dual flow test was performed) Combined flow at 20 psi

---

Location of hydrant

Hydrant Number

Distance from Nearest Property Line Size of Hydrant Size of Water main

Static PSI Residual PSI Orifice size Pitot

Fire Flow at 20 PSI Duration [ ] Flow Test Date / Time

[ ] Hydraulic model

[ ] (Check box if Simultaneous/ Triple flow test was performed) Combined flow at 20 psi

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Golden State Water Company
Water Purveyor

Signature

310-767-8200 8/9/2023
Phone Number Date

Operations Engineering Assistant
Title

This Information is Considered Valid for Twenty Four Months

Fire Department approval of building plans shall be required prior to the issuance of a Building Permit by the jurisdictional Building Department. Any deficiencies in water systems will need to be resolved by the Fire Prevention Division only prior to this department's approval of building plans.

Project Address: 1610 W. Artesia Blvd

Golden State Water Company
A Subsidiary of American States Water Company

FIRE FLOW TEST APPLICATION FF-1

Golden State Water Company (GSWC) charges $300.00 for each fire flow test that is performed by GSWC personnel. Discounts for multiple tests being requested are not available. The $300.00 fee is due in advance of GSWC performing the fire flow test.

(This section is to be completed by the Applicant (One fire flow test request per Application Form)

Print Applicant or Contact First and Last Name: Include Company Name if Applicable

Ryan Haskin . Tait & Associates

Print Applicant or Contact Mailing Address: Street or PO Box

701 N Parkcenter Dr

Print Applicant or Contact City, State, Zip

Santa Ana, CA 92705

Print Applicant or Contact Phone Number and E-mail Address

(714) 560-8627 & rhaskin@tait.com

Print Address/Location where Fire Flow Test is requested (Use back of page section for additional location information)

1610 Artesia Boulevard, Gardena, CA

Check the appropriate box below and provide the information needed to indicate how the test results are to be sent by GSWC. Please note that some local fire agencies require original signed forms, in which case the test results will be returned by mail.

☒ One and Two Family Dwellings, Townhomes, and Accessory Dwelling Units total building size more than 3600 ft^2

☐ One and Two Family Dwellings, Townhomes, and Accessory Dwelling Units total building size less than 3600 ft^2

Mailing Address: 701 N Parkcenter Dr, Santa Ana, CA 92705

E-Mail: rhaskin@tait.com

_____ 7/28/2023

Signature Date

PRELIMINARY IRRIGATION WATER USE

WATER EFFICIENT WORKSHEET

Site Information

Site Name → 1610 Artesia
Site Type → Residential **Allowed ETAF:** 0.55
Annual Eto (inches/yr) → 49.6

Hydrozone or Planting Description	Plant Factor (PF)		Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Hydrozone Area (sqft.)	ETAF x Area	Estimated Total Water Use (gal./yr.)
Regular Landscape Areas								
Area 1 (GL seast)								
1 - Shrubs	0.2	Low	Drip	0.89	0.2	6,185	1,389	42,739
rea 2 (GL nwest)								
1 - Shrubs	0.5	Medium	Drip	0.89	0.6	9,247	5,194	159,744
Area 3 (pool)								
1 - Shrubs	0.5	Medium	Drip	0.89	0.6	7,556	4,244	130,532
					SUBTOTAL	22,988	13,721	356,158
Special Landscape Areas								
Pool deck								
Pool/Spa	1.00	High	other	1	1.0	3,147	3,147	96,770
					SUBTOTAL →	3,147	3,147	96,770
							Estimated Total Water Use (ETWU) →	429,411
							Maximum Allowed Water Allowance (MAWA) →	442,008

ETAF Calculations

Regular Landscape Areas
Total ETAF x Area 13,721
Total Area 22,988
Average ETAF

All Landscape Areas
Total ETAF x Area 16,868
Total Area 26,135
Sitewide ETAF 0.16

Notes:

ETWU meets MAWA requirement.

Average ETAF meets requirement for this site type.

EPA WaterSense

JUMP Into

Pool Water Efficiency

Thoughtful residential swimming pool design and ongoing maintenance can help save pool owners water, energy, and money. Addressing issues related to evaporation, water quality, leaks, or pool usage can all save water. The U.S. Environmental Protection Agency's (EPA's) WaterSense® program developed this guide to help residential pool owners and maintenance professionals understand and minimize pool water use. Commercial pool owners can find additional information in *WaterSense at Work: Best Management Practices for Commercial and Institutional Facilities* at www.epa.gov/watersense.

Introduction

Pools provide a fun and relaxing way to keep cool during warmer months. However, if not adequately maintained, your pool could be sending water and money down the drain. Pools can consume water through evaporation, pool cleaning, leaks, and splashing. Investing in new equipment or employing targeted maintenance techniques can save water, energy (for heated pools), and money.

This guide provides an overview of design considerations, retrofits, and maintenance practices that are aimed to improve the water efficiency of residential pools. WaterSense developed this guide with a focus on in-ground and above-ground residential pools, but many of the practices also apply to commercial pools or spas. For more information, consult the additional resources listed at the end of this document.

Evaporation

Evaporation is one of the leading causes of water loss in residential pools, especially in hot, drier climates where pools are most prevalent. The rate of evaporation from a pool is dependent on a number of variables, including temperature, humidity, and wind speed. EPA estimates that, depending on climate, an uncovered 500-square-foot swimming pool could lose between 12,000 and 31,000 gallons of water per year due to evaporation, with this number being even higher for heated pools. Not only does this contribute to water waste, but it can also cost homeowners money! Reducing water loss from evaporation is the best way to reduce overall water usage in your pool.

Size Pools for Use

A pool's surface area directly impacts the volume of evaporation that may occur. In effect, the larger a pool, the more water that is likely to be lost due to evaporation. Further, a deeper pool requires more water to fill and more resources to maintain (e.g., filtration, chemicals, heating).

Therefore, when planning a new pool installation, consider how you want to use the pool and select a size and design that will meet your needs while minimizing potential water usage. A smaller pool design can result in lower maintenance costs and helps reduce water consumption.

Cover Up

Pool covers are the most effective method of reducing water losses from evaporation. When in use, solid pool covers can reduce evaporation by more than 90 percent and, in the case of heated pools, save between 50 and 70 percent of pool heating costs.[1] Any pool can

Cover Your Bases

According to data collected as part of the 2016 *Residential End Uses of Water* study, only 15 percent of pool owners have and regularly use a pool cover.[2]

[1] Minos, 2021
[2] DeOreo et. al., 2016

References and Additional Resources

The following are resources that were used in the development of this guide:

1st Direct Pool. 11 January 2021. "How Often Should You Replace Your Swimming Pool Filter?" www.1stdirectpools.com/blog/post/how-often-should-you-replace-swimming-pool-filter.

Association of Pool & Spa Professionals (APSP). 6 January 2017. ANSI/APSP/ICC-13 2017 *American National Standard for Water Conservation Efficiency in Residential and Public Pools, Spas, Portable Spas, and Swim Spas.* American National Standards Institute. https://webstore.ansi.org/Standards/APSP/ANSIAPSPICC132017.

APSP. 2014. "Copper-Silver Ionizers." www.phta.org/pub/?id=082CD55C-1866-DAAC-99FB-D9CCF4026297.

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ASTM International (ASTM). February 2018. ASTM F1346 - 91(2018), *Standard Performance Specification for Safety Covers and Labeling Requirements for All Covers for Swimming Pools, Spas and Hot Tubs*. www.astm.org/f1346-91r18.html.

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Muleta, Misgana. January 2016. "Cal Poly Study: Effectiveness of Pool Covers to Reduce Evaporation from Swimming Pools." National Plasterers Council (NPC), www.npconline.org/page/cal-poly-study.

Pool & Hot Tub Alliance. Certification. www.phta.org/certification/.

Water – Use It Wisely. "Saving Water Outdoors." https://wateruseitwisely.com/saving-water-outdoors/swimming-pools/.

WaterSense. *WaterSense at Work: Best Management Practices for Commercial and Institutional Facilities*. www.epa.gov/watersense/best-management-practices.