Appendix N
1. Water Utility Technical Report

700 South Flower Street, Suite 2100 Los Angeles, CA 90017 213.418.0201 kpff.com

676 MATEO STREET MIXED-USE PROJECT
UTILITY INFRASTRUCTURE TECHNICAL REPORT: WATER
SEPTEMBER 3, 2020

PREPARED BY:

KPFF Consulting Engineers

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Los Angeles, CA 90017

(213)418-0201

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Appendix

1. INTRODUCTION

1.1. PROJECT DESCRIPTION

The Project includes demolition of an existing warehouse and surface parking lot and the construction of an approximately 197,355 square foot mixed-use building including approximately 185 live/work units, approximately 15,320 square feet of open space for residents, approximately 23,380 square feet of commercial uses, and associated parking facilities. Eleven percent of the units would be deed-restricted for very low-income households. The proposed building would be approximately 110 feet in height and would include a three-level subterranean parking structure. The Project also proposes the ability to implement an increased commercial option that would provide the Project the flexibility to increase the commercial square footage provided by the Project within the same building parameters and, in turn, reduce the overall amount of live/work from 185 live/work units to 159 live/work units. Under this option, the 26 live/work units on the second floor would be replaced with 22,493 square feet of commercial space.

1.2. SCOPE OF WORK

As a part of the Environmental Impact Report for the Project, the purpose of this report is to analyze the potential impact of the Project to the existing water infrastructure systems.

2. REGULATORY FRAMEWORK

The City of Los Angeles Department of Water and Power (LADWP) is responsible for providing water supply to the City while complying with local, State, and Federal regulations.

Below are the State and Regional water supply regulations:

- California Code of Regulations (CCR), Title 20, Chapter 4, Article 4, Section 1605 establishes water efficiency standards for all new plumbing fixtures and Section 1608 prohibits the sale of fixtures that do not comply with the regulations.

- 2013 California Green Building Standards Code, CCR, Title 24, Part 11, adopted on January 1, 2014 (CALGreen), requires a water use reduction of 20% above the baseline cited in the CALGreen code book. The code applies to family homes, state buildings, health facilities, and commercial buildings.

- California Urban Water Management Planning Act of 1984 requires water suppliers to adopt an Urban Water Management Plan (UWMP).

- Metropolitan Water District (MWD) official reports and policies as outlined in its Regional UWMP, Water Surplus and Drought Management Plan, Water Supply Allocation Plan, and Integrated Resources Plan.

- LADWP's 2015 UWMP outlines the City's long-term water resources management strategy. The 2015 UWMP was approved by the LADWP Board of Water and Power Commissioners on June 7, 2016.

- Senate Bill 610 and Senate Bill 221, approved on October 9, 2001, require land use agencies to perform a detailed analysis of available water supply when approving large developments. Historically, public water suppliers (PWS) simply provided a "will serve" letter to developers. SB 610, Public Resources Code (PRC) and Section 10910-10915 of the State Water Code, requires lead agencies to request a Water Supply Assessment (WSA) from the local water purveyor prior to project approval. If the projected water demand associated with a proposed development is included in the most recent UWMP, the development is considered to have sufficient water supply per California Water Code Section 10910, and a WSA is not required. All projects that meet any of the following criteria require a WSA:

    1) A proposed residential development of more than 500 dwelling units.

    2) A proposed shopping center or business establishment of more than 500,000 square feet of floor space or employing more than 1,000 persons

    3) A proposed commercial office building of more than 250,000 square feet of floor space or employing more than 1,000 persons

    4) A proposed hotel or motel of more than 500 rooms

    5) A proposed industrial, manufacturing, or processing plant or industrial park of more than 40 acres of land, more than 650,000 square feet of floor area, or employing more than 1,000 persons

    6) A mixed use project that falls in one or more of the above-identified categories

    7) A project not falling in one of the above-identified categories but that would demand water equal or greater than the amount required by a 500-dwelling unit project.

    As this Project does not trigger any of the above thresholds, a WSA is not required for this Project.

3. EXISTING CONDITION

3.1. DOMESTIC INFRASTRUCTURE

The existing Project Site is currently developed with an industrial building constructed in 1978 as a warehouse and office building that occupies approximately 26,740 sq. ft. and an associated surface parking lot. LADWP maintains water infrastructure to the Project Site.

Based on available record data provided by the City, there is a 12-inch water main in Mateo Street and a 6-inch water main in Imperial Street. In addition, there are two domestic water meters that serve the existing site.

Water consumption estimates have been prepared based on 120 percent of the City of Los Angeles Bureau of Sanitation (BOS) sewerage generation factors and are summarized in Table 1 below.

Table 1 – Estimated Existing Water Consumption

Land Use	Units	Consumption Rate (gpd/unit)[1]	Total Water Consumption (gpd)
Existing			
Warehouse	26,740 SF	36/1000 SF	963
		Subtotal Existing	**963**

SF = square feet

gpd = gallons per day

DU = dwelling unit

[1] The average daily flow based on 120% of City of Los Angeles BOS sewerage generation factors.

3.2. FIRE INFRASTRUCTURE

There is existing fire infrastructure serving the Project Site. Based on a water service map provided by the City, there is a 12–inch water main in Mateo Street and a 6-inch water main in Imperial Street. Exhibit 2 shows the locations of six hydrants within the vicinity of the Project.

4. SIGNIFICANCE THRESHOLDS

Appendix G of the State of California's California Environmental Quality Act (CEQA) Guidelines (CEQA Guidelines) provides a set of sample questions that address impacts with regard to water supply. These questions are as follows:

Would the project:

- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?

- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

In the context of the above questions from the Appendix G of the CEQA Guidelines, the City of Los Angeles CEQA Thresholds Guide (*L.A. CEQA Thresholds Guide*) states that the determination of significance with regard to impacts on water shall be made on a case-by-case basis, considering the following factors:

- The total estimated water demand for the project;

- Whether sufficient capacity exists in the water infrastructure that would serve the project, taking into account the anticipated conditions at project buildout;

- The amount by which the project would cause the projected growth in population, housing or employment for the Community Plan area to be exceeded in the year of the project completion; and

- The degree to which scheduled water infrastructure improvements or project design features would reduce or offset service impacts.

Based on these factors, the Project would have a significant impact if the City's water supplies would not adequately serve the Project or water distribution capacity would be inadequate to serve the proposed use after appropriate infrastructure improvements have been installed.

5. METHODOLOGY

The methodology for determining the significance of a project as it relates to a project's impact on water supply and distribution infrastructure is based on the *L.A. CEQA Thresholds Guide*. This methodology involves a review of the project's environmental setting, project impacts, cumulative impacts, and mitigation measures (if required). The following has been considered as part of the determination for this Project:

Environmental Setting

- Description of major water infrastructure serving the Project Site, including the type of facilities, location and sizes, and any planned improvements.

- Description of the water conditions for the Project area and known improvement plans.

Project Impacts

- Evaluate the Project's water demand, taking into account design or operational features that would reduce or offset water demand.
- Determine what improvements would be needed, if any, to adequately serve the Project.
- Describe the degree to which presently scheduled off-site improvements offset impacts.

This report analyzes the potential impacts of the Project on the existing public water infrastructure by comparing the estimated Project demand with the calculated available capacity of the existing facilities.

The existing and proposed water demand is based upon available site and Project information, and utilizes 120 percent of the BOS sewerage generation factors.

LADWP performed a hydraulic analysis of their water system to determine if adequate fire flow is available to the fire hydrants surrounding the Project Site. LADWP's approach consists of analyzing their water system model near the Project Site. Based on the results, LADWP determines whether they can meet the Project fire hydrant flow needs based on existing infrastructure. See Exhibit 2 for the results of the Information of Fire Flow Availability Request (IFFAR).

In addition, LADWP performed a flow test to determine if available water conveyance exists for future development. LADWP's approach consists of data ranging from available static pressure (specifically, how much pressure is available at the source before applying the Project's demand), to the available pressure at the maximum demand needed for the project. Based on the results, LADWP determines whether they can meet the project needs based on existing infrastructure. See Exhibit 1 for the results of the Service Advisory Request (SAR).

6. PROJECT IMPACTS

6.1. CONSTRUCTION

Water demand for construction of the Project would be required for dust control, cleaning of equipment, excavation/export, removal and re-compaction, etc. Based on a review of construction projects of similar size and duration, a conservative estimate of construction water use ranges from 1,000 to 2,000 gallons per day (gpd). While temporary construction water use would be more than the existing water consumption at the Project

Site, this estimated construction-period demand is significantly less than the Project's estimated operational demand, which as described below, can be accommodated by the existing infrastructure. It is therefore anticipated that the existing water infrastructure would similarly meet the limited and temporary water demand associated with construction of the Project. Impacts on the water infrastructure due to construction activity would therefore be less than significant.

The Project will require construction of new, on-site water distribution lines to serve the new building. Construction impacts associated with the installation of water distribution lines would primarily involve trenching in order to place the water distribution lines below surface and would be limited to on-site water distribution, and minor off-site work associated with connections to the public main. Prior to ground disturbance, Project contractors would coordinate with LADWP to identify the locations and depth of all lines. Further, LADWP would be notified in advance of proposed ground disturbance activities to avoid water lines and disruption of water service. Therefore, Project impacts on water infrastructure associated with construction activities would be less than significant.

6.2. OPERATION

6.2.1. INFRASTRUCTURE CAPACITY

When analyzing the Project for infrastructure capacity, the projected demands for both fire suppression and domestic water are considered. Although domestic water demand is the Project's main contributor to water consumption, fire flow demands have a much greater instantaneous impact on infrastructure, and therefore are the primary means for analyzing infrastructure capacity. Nevertheless, conservative analysis for both fire suppression and domestic water flows has been completed by LADWP for the Project. See Exhibits 1 and 2 for the results of the SAR and IFFAR, respectfully, which together demonstrate that adequate water infrastructure capacity exists.

6.2.2. FIRE WATER DEMAND

Based on fire flow standards set forth in Section 57.507.3 of the LAMC, the Project falls within the industrial and commercial category, which has a required fire flow of 6,000 to 9,000 gallons per minute (gpm) from four to six adjacent hydrants flowing simultaneously with a residual pressure of 20 pounds per square inch (psi). Hydrants can typically deliver up to 1,500 gpm which is consistent with the requirement for 9,000 gpm from 6 hydrants simultaneously. Therefore, an IFFAR identifying 6 adjacent public hydrants was submitted to LADWP to confirm that LADWP's infrastructure is capable of delivering the required flow of 9,000 gpm, while maintaining a minimum pressure of 20 psi. The completed IFFAR, attached as Exhibit 2, shows the six hydrants flowing simultaneously for a combined flow of 9,000 gpm at 20 psi. As such, adequate fire flow is available to demonstrate compliance with Section 57.507.3 of the LAMC.

Furthermore, LAMC Section 57.513, Supplemental Fire Protection, states that:

Where the Chief determines that any or all of the supplemental fire protection equipment or systems described in this section may be substituted in lieu of the requirements of this chapter with respect to any facility, structure, group of structures or premises, the person owning or having control thereof shall either conform to the requirements of this chapter or shall install such supplemental equipment or systems. Where the Chief determines that any or all of such equipment or systems is necessary in addition to the requirements of this chapter as to any facility, structure, group of structures or premises, the owner thereof shall install such required equipment or systems.

The Project will incorporate a fire sprinkler suppression system to reduce or eliminate the public hydrant demands, which will be subject to Fire Department review and approval during the design and permitting of the Project. Based on Section 94.2020.0 of the LAMC that adopts by reference NFPA 14-2013 including Section 7.10.1.1.5, the maximum allowable fire sprinkler demand for a fully or partially sprinklered building would be 1,250 gpm. As noted, an SAR was submitted to LADWP in order to determine if the existing public water infrastructure could meet the demands of the Project. The approved SAR is attached as Exhibit 1. The SAR for the 12-inch main in Mateo Street shows a static pressure of 79 pounds per square inch and that a flow of up to 2,500 gpm can be delivered to the Project Site with a residual pressure of 73 pounds per square inch, which exceeds the 20 pounds per square inch requirement for the surrounding public hydrants. As shown by the SAR, and through compliance with LAFD and LADWP requirements, the Project's fire flow impacts to water infrastructure would be less than significant.

6.2.3. DOMESTIC WATER DEMAND

Water consumption estimates have been prepared based on 120 percent of the City of LA Bureau of Sanitation sewerage generation factors for commercial categories, and residential categories were provided by the City of Los Angeles. A summary of the Project demands are shown in Table 2 below. The Project proposes to connect to the existing 12-inch main in Mateo Street for the domestic service. There are two types of connections that can be made to the City main. One type of connection is a combo service, which has one connection to the main and splits to serve both fire and domestic. The second type of connection is to have independent connections for fire and domestic. Refer to Exhibit 1 for the approved SAR for Mateo Street. DWP added a note that a combo service would be allowed. In addition, the services will include backflows and be metered separately per City requirements. The approved SAR confirms that sufficient infrastructure capacity is available for the Project. Therefore, the Project's impacts on water supply would be less than significant.

Table 2 – Estimated Proposed Water Consumption				FLEX OPTION	
Land Use	**Units**	**Consumption Rate[1] (gpd/unit)**	**Total Water Consumption (gpd)**	**Units**	**Total Water Consumption(gpd) Under Flex Option**
Existing					
Warehouse	26,740 SF	36/1000 SF	963	26,740 SF	963
		Subtotal Existing	**963**	**-**	**963**
Proposed					
Residential: 1 Bedroom	159 DU	185/DU[2]	29,415	135 DU	24,975
Residential: 2 Bedroom	26 DU	225/DU[2]	5,850	-	-
Residential: 3 Bedroom	-	265/DU[2]	-	24 DU	6,360
Commercial	23,380 SF	60/1000 SF	1,403	45,873 SF	2,752
Open Space	15,320 SF	60/1000 SF	919	15,320 SF	919
		Subtotal Proposed	**37,587**		**35,006**
		Net Increase	**36,624**		**34,043**

SF = square feet

gpd = gallons per day

DU = dwelling unit

[1] Average Daily Flow Based on 120% of Generation Rates per Bureau of Sanitation – Sewer Generation Factors for Residential and Commercial Categories.

[2] Generation rates provided by the City of Los Angeles to account for Live/Work

6.3. CUMULATIVE IMPACTS

The geographic context for the cumulative impact analysis on water supply is the LADWP service area, which includes the entirety of the City. LADWP, as a public water service provider, is required to prepare and periodically update an Urban Water Management Plan (UWMP) to plan and provide for water supplies to serve existing and projected demands. The 2015 UWMP prepared by LADWP accounts for existing development within the City, as well as projected growth through the year 2040.

Additionally, under the provisions of Senate Bill 610, LADWP is required to prepare a comprehensive water supply assessment for every new development "project" (as defined by Section 10912 of the Water Code) within its service area that reaches certain thresholds. The types of projects that are subject to the requirements of Senate Bill 610 tend to be larger projects that may or may not have been included within the growth projections of the 2015 UWMP. The water supply assessment for projects would evaluate the quality and reliability of existing and projected water supplies, as well as alternative sources of water supply and measures to secure alternative sources if needed.

Furthermore, through LADWP's 2015 UWMP process and the City's Securing L.A.'s Water Supply, the City will meet all new demand for water due to projected population growth to the year of 2040, through a combination of water conservation and water recycling. These plans outline the creation of sustainable sources of water for the City of Los Angeles to reduce dependence on imported supplies. LADWP is planning to achieve

these goals by expanding its water conservation program. To increase recycled water use, LADWP is expanding the recycled water distribution system to provide water for irrigation, industrial use, and groundwater recharge.

There are 85 related projects, which consist of residential, commercial, schools, retail, restaurants, museums, hotels, offices, industrial, medical offices, gyms, cinemas, and event space. The total increase in water demand for the related projects is approximately 7.75 million gallons per day (mgpd). Combined with the Project, the net increase in water demand is approximately 7.79 mgd. Refer to Exhibit 3 for a breakdown of the related projects and associated water consumption. The 2015 Urban Water Management plan has estimated a water demand of 475 mgd by the year 2025, which means the Project combined with the related projects would account for approximately 1.6 percent of the total daily demand. Based on the above, LADWP would be able to supply the water demands of the Project as well as future growth. Therefore, cumulative impacts on water supply would be less than significant.

7. LEVEL OF SIGNIFICANCE

Based on the analysis contained in this report no significant impacts have been identified to water infrastructure for this Project.

EXHIBIT 1

City of Los Angeles

Los Angeles Department of Water and Power - Water System

SAR NUMBER **61585**

Fire Service Pressure Flow Report

SERVICE NUMBER **624123**

For: **676 MATEO ST** Approved Date: **7-27-2017**

Proposed Service **8 INCH** off of the

12 inch main in **MATEO ST** on the **EAST** side approximately

330 feet **NORTH** of **NORTH** of **SEVENTH ST** The System maximum pressure is

100 psi based on street curb elevation of **249** feet above sea level at this location.

The distance from the DWP street main to the property line is **48** feet

System maximum pressure should be used only for determining class of piping and fittings.

Residual Flow/Pressure Table for water system street main at this location

Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)
0	79				
950	78				
1380	77				
1720	76				
2010	75				
2265	74				
2500	73				

These values are subject to change due to changes in system facilities or demands.

Meter Assembly Capacities

Domestic Meters	
1 inch =	56 gpm
1-1/2 inch =	96 gpm
2 inch =	160 gpm
3 inch =	220 gpm
4 inch =	400 gpm
6 inch =	700 gpm
8 inch =	1500 gpm
10 inch =	2500 gpm

Fire Service	
2 inch =	250 gpm
4 inch =	600 gpm
6 inch =	1400 gpm
8 inch =	2500 gpm
10 inch =	5000 gpm

FM Services	
8 inch =	2500 gpm
10 inch =	5000 gpm

Notes: OK to sell combo (8-in FS W/ 6-in DS)

This information will be sent to the Department of Building and Safety for plan checking.

This SAR is valid for one year from 07-27-17. Once the SAR expires, the applicant needs to re-apply and pay applicable processing fee.

For additional information contact the Water Distribution Services Section **CENTRAL (213) 367-1216**

AIDA FITTON	**AIDA FITTON**	**124-216**
Prepared by	**Approved by**	**Water Service Map**

EXHIBIT 2

City of Los Angeles
Los Angeles Department of Water and Power - Water System

INFORMATION OF FIRE FLOW AVAILABILITY

LAFD Fire Flow Requirement: 6,000 - 9,000 GPM (6 Hydrants)

Water Service Map No. 124-216

LAFD Signature:

Date Signed:

Applicant: Daniel Haefeli

Company Name: KPFF Consulting Engineers

Address: 700 South Flower Street, Suite 2100, Los Angeles, CA 90017

Telephone: 213-418-9179

Email Address: daniel.haefeli@kpff.com

	16291	8772	8771
Location:	Southwest corner of Mateo St. and Industrial St. intersection	Northwest corner of Jesse St. and Imperial St.	40 ft north of intersection of Mateo St. and Jesse St. on western sidewalk
Distance from Neareast Pipe Location (feet):	~~40~~ 20 feet	~~25~~ 15 feet	~~25~~ 15 feet
Hydrant Size:	4D	4D	4D
Water Main Size (in):	8 inch	6 inch	12 inch
Static Pressure (psi):	99	99	99
Residual Pressure (psi):	79	80	79
Flow at 20 psi (gpm):	1500	1500	1500

NOTE: Data obtained from hydraulic analysis using peak hour.

Remarks:
Run all six (6) hydrants simultaneously (See sheet 2)

ECMR No. W2018111100017

Water Purveyor: **Los Angeles Department of Water & Power** *Date:* 11/30/2018

Signtature: [signature] *Title:* Civil Engineering Associate

City of Los Angeles
Department of Water and Power - Water System
Water Distribution Engineering
CENTRAL DISTRICT

Requests must be made by submitting this completed application, along with a** $230.00 **check payable to:
"Los Angeles Department of Water and Power", and mailed to:
Los Angeles Department of Water and Power
Distribution Engineering Section - Water
Attn: Business Arrangements
P.O. Box 51111 - Room 1425
Los Angeles, CA 90051-5700

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NOV 06 2018

* If you have any questions, please contact us at (213) 367-2130 or visit our web site at http://www.ladwp.com.

City of Los Angeles
Los Angeles Department of Water and Power - Water System

INFORMATION OF FIRE FLOW AVAILABILITY

LAFD Fire Flow Requirement: 6,000 - 9,000 GPM (6 Hydrants)

Water Service Map No. 124-216

LAFD Signature:

Date Signed:

Applicant: Daniel Haefeli

Company Name: KPFF Consulting Engineers

Address: 700 South Flower Street, Suite 2100, Los Angeles, CA 90017

Telephone: 213-418-9179

Email Address: daniel.haefeli@kpff.com

	16995	16253	8775
Location:	90 ft west of northwest corner of Mateo St. and 7th St. intersection	West side of Mateo St., 400 feet north of Mateo St. and Jesse St. Intersection	Southwest corner of Jesse St. and Santa Fe Ave. Intersection
Distance from Neareast Pipe Location (feet):	~~70~~ 18 feet	~~50~~ 15 feet	~~25~~ 15 feet
Hydrant Size:	4D	4D	4D
Water Main Size (in):	16 inch	12 inch	8 inch
Static Pressure (psi):	100	97	98
Residual Pressure (psi):	80	78	79
Flow at 20 psi (gpm):	1500	1500	1500

NOTE: Data obtained from hydraulic analysis using peak hour.

Remarks:
Run all six (6) hydrants simultaneously (See sheet 1)

ECMR No. W20181110017

Water Purveyor: Los Angeles Department of Water & Power

Date: 11/30/2018

Signtature: [signature]

City of Los Angeles
Department of Water and Power-Water System
Water Distribution Engineering
CENTRAL DISTRICT

Title: Civil Engineering Associate

Requests must be made by submitting this completed application, along with a $230.00 check payable to:
"Los Angeles Department of Water and Power", and mailed to:

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Distribution Engineering Section - Water
Attn: Business Arrangements
P.O. Box 51111 - Room 1425
Los Angeles, CA 90051-5700

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* If you have any questions, please contact us at (213) 367-2130 or visit our web site at http://www.ladwp.com.

EXHIBIT 3

Related Projects Water Consumption			
Land Use	**Units**	**Consumption Rate[2] (gpd/unit)**	**Total Consumption (gpd)**
Residential	23,127 DU[1]	180/DU	4,162,860
Commercial	1,217,353 SF	60/1000 SF	73,042
School	1,457 Students	14/Student	20,398
Retail	2,256,478 SF	60/1000 SF	135,389
Restaurant	24,074 Seats[3]	36/Seat	866,664
Museum	123,000 SF	36/1000 SF	4,428
Hotel	2,603 Rooms	144/Room	374,832
Library	15,000 SF	60/1000 SF	900
Office	13,961,494 SF	144/1000 SF	2,010,455
Industrial	281,849 SF	36/1000 SF	10,147
Medical Office	27,500 SF	270/1000 SF	7,425
Gym	118,772 SF	30/1000 SF	3,563
Cinema	793 Seat	5/Seat	3,965
Event Space	558,824 SF	144/1000 SF	80,471
		TOTAL	**7,754,539**

SF = square feet

gpd = gallons per day

DU = dwelling unit

[1] Assumes all units as 2-bedroom units.

[2] Consumption Rates Based on 120% of Bureau of Sanitation Sewer Generation Factors for Residential and Commercial Categories.

[3] Assumes 30 square feet per seat.