3131 Camino Del Rio North, Suite 1800 San Diego, CA 92108 213.418.0201 kpff.com

WATER DEMAND CALCULATION

PACIFIC BEACH HOTEL

4545 MISSION BAY DRIVE, SAN DIEGO, CA, 92109

DATE

3/5/2026

Prepared for:

Ketan T. Patel

(858) 550-4004

Ketan@palaciohotels.com

Prepared By:

KPFF CONSULTING ENGINEERS

LA: 700 South Flower Street, Suite 2100

Los Angeles, CA, 90017

SD: 3131 Camino Del Rio North, Suite 1080

San Diego, CA, 92108

KPFF Job #2400816

213.418.0201

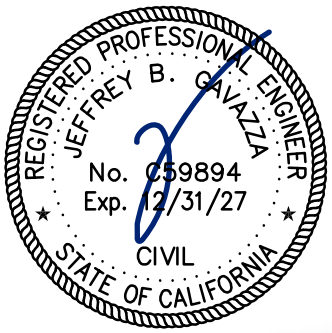


TABLE OF CONTENTS

1. PROJECT LOCATION AND SCOPE

1.1 PROJECT LOCATION

The 0.85-acre Pacific Beach Hotel project is located on the northeasterly side of Mission Bay Drive in the City of San Diego, California. Access to the project site is provided on Mission Bay Drive. A site vicinity map is shown in Figure 1 below. The Pacific Beach Hotel project also includes improvements to the fire road located just south of the project site.

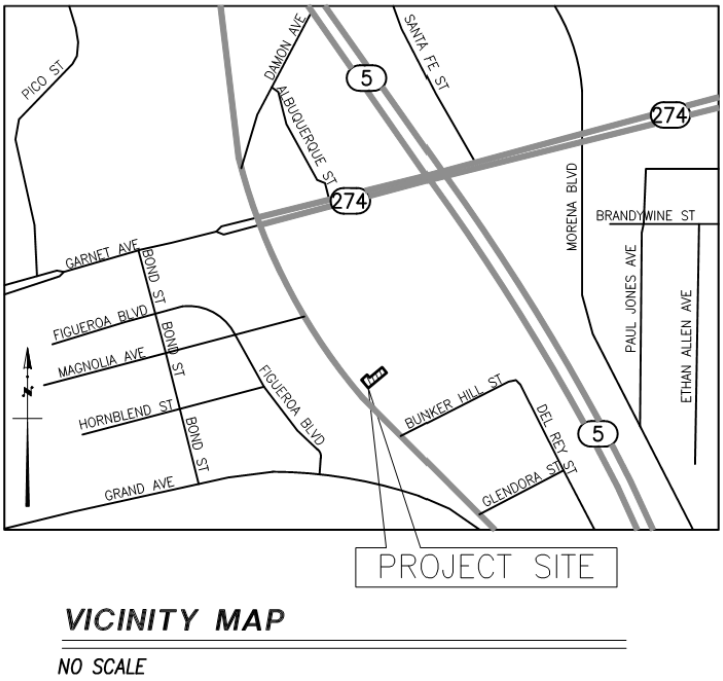


Figure 1: PB Hotel Project Vicinity Map

1.2 SCOPE OF REPORT

This report will focus on calculating the water demand of the proposed development on existing water system.

2. STUDY OBJECTIVES

The specific objectives of this water report are:

- Accessing the existing water system around the Pacific Beach Hotel site and reviewing the results of hydrant flow tests.
- Calculating the net increase in water demand under the proposed conditions and identifying potential Points of Connection (POCs) for Fire Water, Domestic Water, and Irrigation services.

3. PRE-DEVELOPMENT CONDITIONS

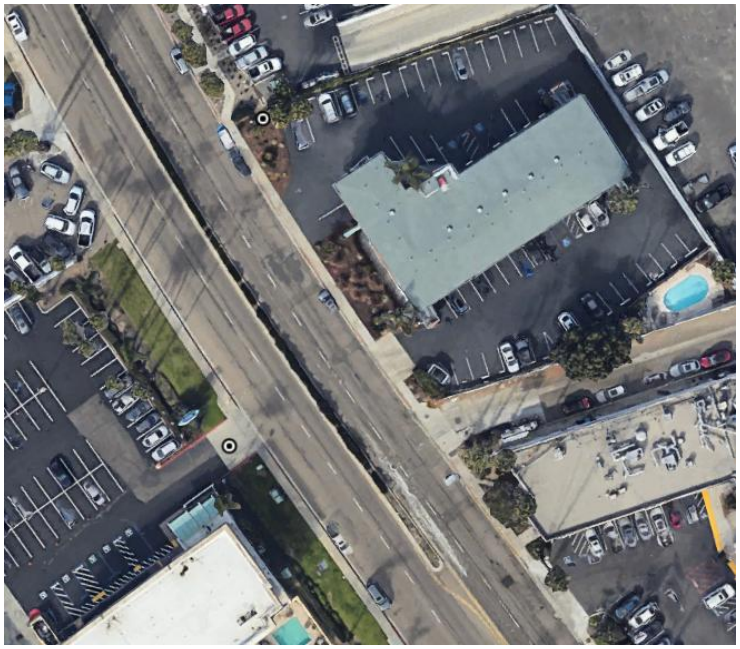
The existing improvements to the Pacific Beach Hotel project site include a three-story hotel building, a surface parking lot, a pool, and trash receptacles.

Existing Water System Surrounding Campus

Along Mission Bay Drive, there is a 12" AC main that runs from north to south between Magnolia Avenue and Bunker Hill Street. See Appendix A for existing public water mains on Mission Bay Drive.

Hydrant Flow Test

To better understand the available water supply pressure around campus, we requested hydrant flow tests at the two locations shown below:



See Appendix B for the completed Hydrant Flow Request forms, provided by the City of San Diego.

Existing Water Meter Data

The existing estimated water usage data is summarized in the table below. The existing average annual water demand is calculated to be 11,667 gallons per day. This was

TABLE 1: EXISTING AVERAGE ANNUAL WATER DEMANDS (TABLE 2-2 UNIT WATER DEMANDS)

Segment	Zone*	Net Area (Acres)	Land use Category	Residential - Unit Water Demand (gal/person-day)	Hotel - Unit Water Demand (gallons/net acre-day)	Population Density (Persons/net acre)	Population (Persons)	Residential Water Demand (gpd)	Other Water Demands (gpd)	Average Annual Water Demand (gpd)
Sure Stay	CC-3-8	0.38	Residential-MU	150	6555	161	61.18	9,177.00	2,490.90	11,667.90
Total										11,667.90

determined based on the estimations by land use given in the City of San Diego's Water Facility Design Guide.

4. POST-DEVELOPMENT CONDITIONS

The proposed development will consist of a single 3-story hotel building with subterranean parking and a pool. The existing hotel building and surrounding parking lot will be demolished and excavated to make way for the proposed development.

PROPOSED POINTS OF CONNECTION

The proposed water connection to the public main will occur on the southeast side of the site along Mission Bay Drive. Two 2" domestic water laterals will connect to the existing 12" public water main. The proposed water demand from these connection is 36,538 gallons per day. This demand was calculated using the table below. This was determined based on the estimations by land use given in the City of San Diego's Water Facility Design Guide.

TABLE 2: PROPOSED AVERAGE ANNUAL WATER DEMANDS (TABLE 2-2 UNIT WATER DEMANDS)

Segment	Zone*	Net Area (Acres)	Land use Category	Residential - Unit Water Demand (gal/person-day)	Hotel - Unit Water Demand (gallons/net acre-day)	Population Density (Persons/net acre)	Population (Persons)	Residential Water Demand (gpd)	Other Water Demands (gpd)	Average Annual Water Demand (gpd)
Proposed	CC-3-8	1.19	Residential-MU	150	6555	161	191.59	28738.5	7,800.45	36,538.95
Total										36,538.95

5. FIRE DEMANDS

Using table 2-3 from section 2.6 in the City of San Diego Water Facility Design Guide, a Fire water demand of 3000 GPM was determined. Since there is no designation for Hotel development type on this chart it was assumed that the "condominiums and apartments" development type demand would be sufficient. See table 2-3 below.

Table 2-3
Fire Demands for Design Purposes

Development Type	Fire Demand (gpm)
Single family residential up to Fourplexes	1,500
Condominiums and apartments	3,000
Commercial	4,000
Industrial	6,000

6. PROJECT IMPACTS

The anticipated water demand of the pre- and post-development conditions at the Pacific Beach Hotel project site was calculated using the density conversion table in the City of San Diego

Water Facility Design Guide. The anticipated net increase in water demand is summarized in the table below.

Table 3: NET WATER DEMAND INCREASE

Condition	Demand
Existing	11,667.90
Proposed	36,538.95
TOTAL INCREASE	**24,871.05**

The density conversions of 161 persons/net-acre were used for the hotel building to estimate the equivalent populations. Then a per-capita sewage generation rate of 150 gallons per person per day was applied to calculate the average water demand. The City of San Diego Water Facilities Design Guide did not provide a density conversion for parking structures, therefore the water demand from existing and proposed Parking Structures were assumed to be negligible.

Please refer to the table in Appendix C for the detailed breakdown of water demand calculations.

Finally, a Fire water demand of 3000 GPM will be required for the site.

7. REFERENCES

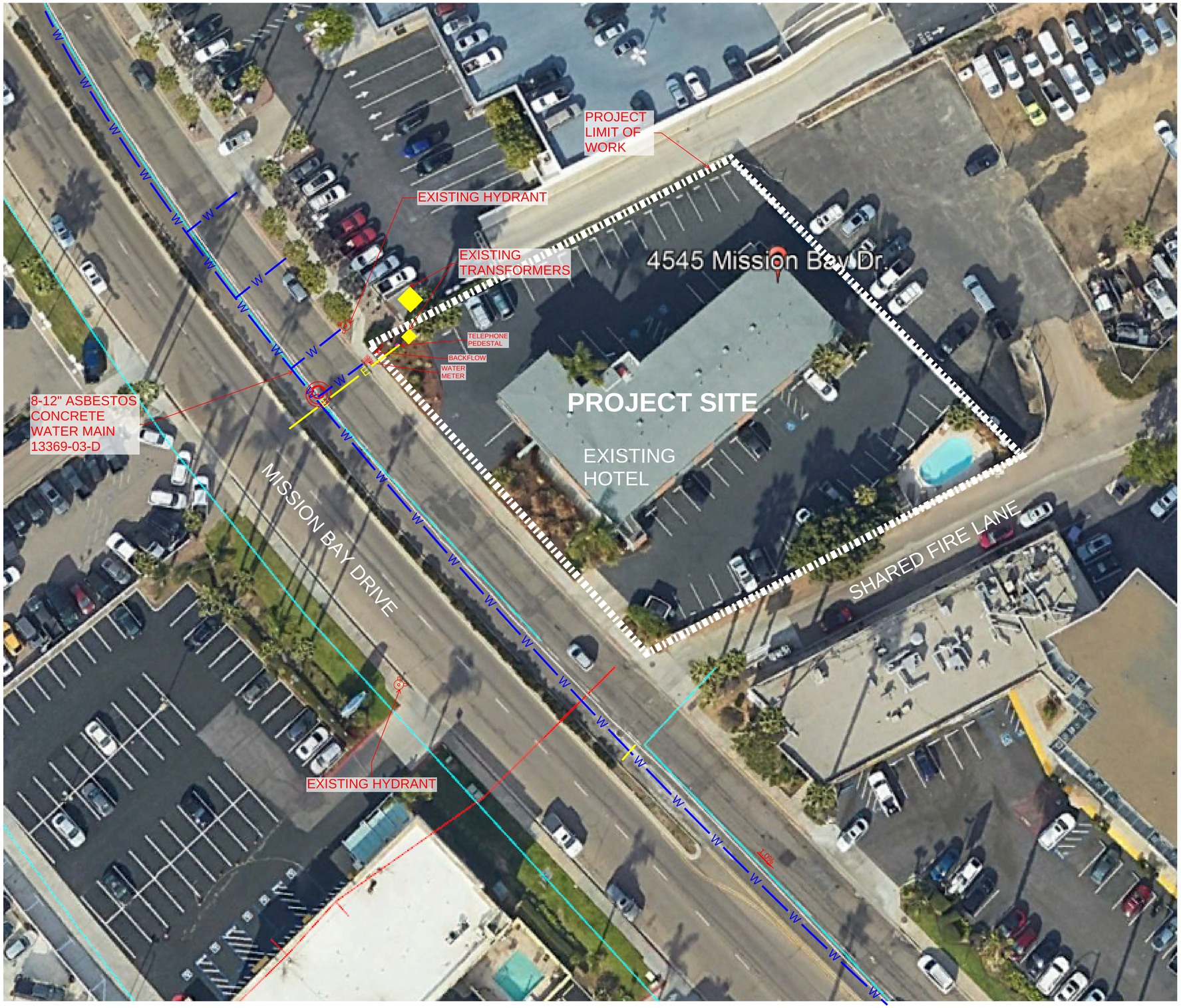
City of San Diego Water Facility Design Guidelines – Chapter 2, 2-1, 2-2

City of San Diego Plumbing Code – Chart A 103.1(1)

3131 Camino Del Rio North, Suite 1800 San Diego, CA 92108 213.418.0201 kpff.com

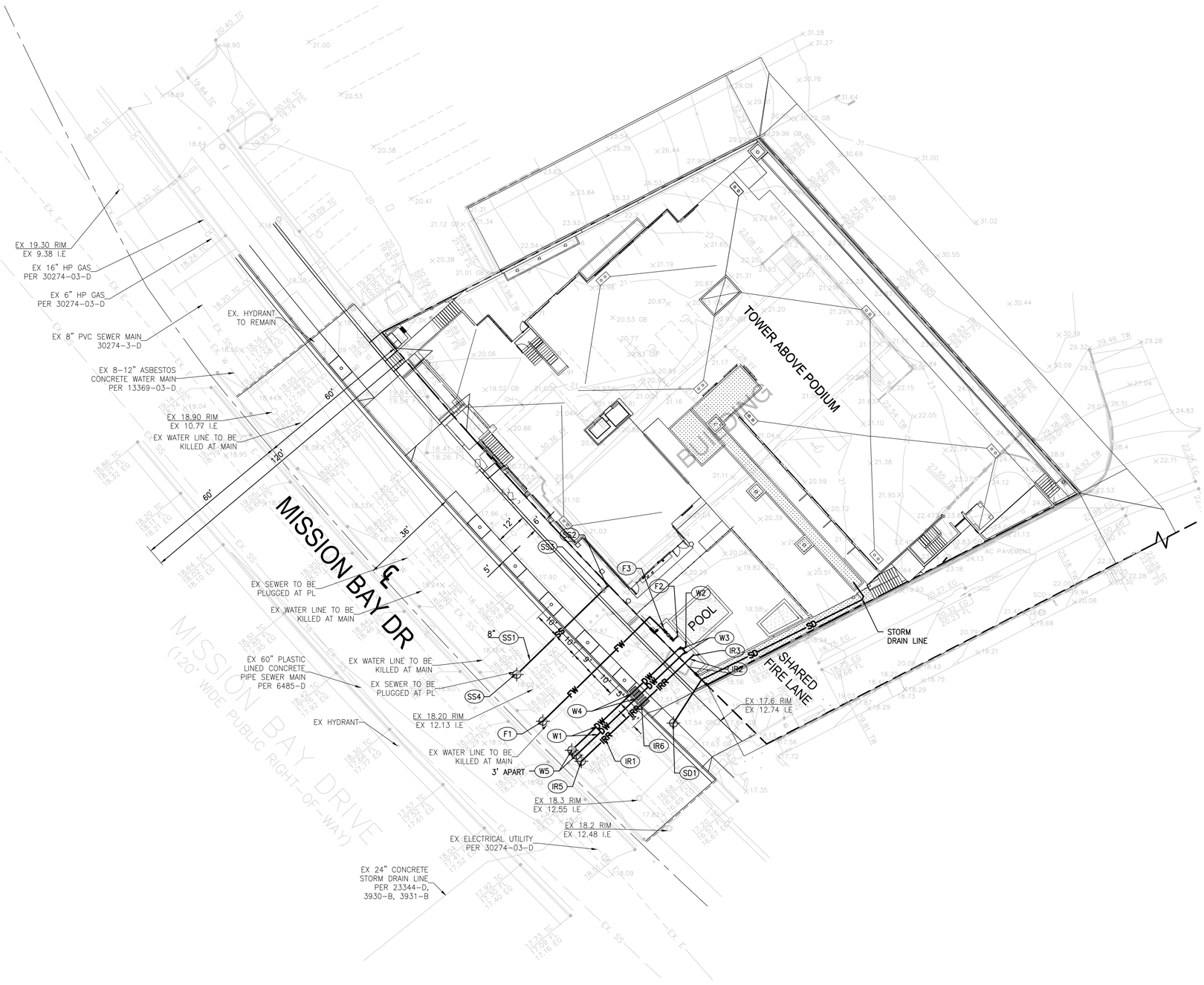
APPENDIX A: Project Utility Map

EXISTING CONDITIONS



kpff
700 S. Flower, Suite 2100
Los Angeles, CA 90017
O:213.418.0201
www.kpff.com

PROJECT ADDRESS:	4545 MISSION BAY DRIVE, PACIFIC BEACH, SAN DIEGO, CA, 92109
APN:	424-140-03-00
CURRENT ZONING:	CC-3-8
MAX BLDG HEIGHT(ZONING):	PER COSTAL
PROPOSED USE:	HOTEL
OCCUPANCY GROUP:	R-1
TOTAL NUMBER OF STORIES:	4
PROPOSED GROSS BLDG AREA:	77,100 SF
PROPOSED F.A.R. BLDG AREA:	55,500 SF
PROPOSED AREA PER FLOOR:	17,600 SF
PROPOSED F.A.R.:	2.0
GROSS PROPOERTY AREA (APPROX. 0.64 ACRES)	27,862 SQ FT



UTILITY CONSTRUCTION NOTES:

STORM DRAIN

(SD1) CONNECT TO EXISTING 24" CONCRETE SD LINE.

SANITARY SEWER

(SS1) PVC, SDR-35 SANITARY SEWER PIPE. SIZE AND SLOPE PER PLAN.

(SS2) POINT OF CONNECTION 5 FEET FROM BUILDING FACE. SEE PLUMBING DRAWINGS FOR CONTINUATION.

(SS3) SEWER CLEANOUT PER SDS-103.

(SS4) 8" SEWER LATERAL. CONNECTION VIA MANHOLE

DOMESTIC WATER

(W1) (2)-2" WATER SERVICES.

(W2) POINT OF CONNECTION 5 FEET FROM BUILDING FACE. SEE PLUMBING DRAWINGS FOR CONTINUATION.

(W3) BACKFLOW PREVENTION DEVICE PER SDW-114. (WILKINS 375DA) PER SEPARATE PERMIT.

(W4) WATER METER PER SDW-114.

(W5) POINT OF CONNECTION TO EXISTING WATER MAIN.

FIRE WATER

(F1) 6" FIREWATER SERVICE.

(F2) POINT OF CONNECTION 5 FEET FROM BUILDING FACE. SEE PLUMBING DRAWINGS FOR CONTINUATION.

(F3) BACKFLOW PREVENTION DEVICE PER SDW-105 PER SEPARATE PERMIT.

(F4) THRUST BLOCK.

IRRIGATION WATER

(IR1) 1" IRRIGATION WATER SERVICE.

(IR2) BACKFLOW PREVENTION DEVICE PER SDW-155.

(IR3) POINT OF CONNECTION 5 FEET FROM BUILDING FACE. SEE PLUMBING DRAWINGS FOR CONTINUATION.

(IR4) THRUST BLOCK

(IR5) POINT OF CONNECTION TO EXISTING WATER MAIN.

(IR6) IRRIGATION METER PER SDW-150.

NOTE:
STORMWATER WILL BE CAUGHT IN ROOF/AREA DRAINS AND PIPED VIA GRAVITY TO THE BIOFILTRATION PLANTERS. AFTER THE WATER IS TREATED IT WILL BE PIPED VIA GRAVITY TO THE EXISTING 24" CONCRETE STORM DRAIN LINE.

NOTE:
PRIOR TO THE INSTALLATION OF ALL STORM DRAIN AND SEWER MAIN LINE CONNECTIONS, THE CONTRACTOR SHALL POTHOLE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF THE MAIN LINE. IF CONDITIONS DIFFER FROM THOSE ON THE PLAN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND SHALL NOT BEGIN CONSTRUCTION UNTIL THE CHANGED CONDITION HAS BEEN EVALUATED.

NOTE:
IF A 3" OR LARGER METER IS REQUIRED FOR THIS PROJECT, THE OWNER/PERMITTEE SHALL CONSTRUCT THE NEW METER AND PRIVATE BACK FLOW DEVICE ON SITE, ABOVE GROUND, WITHIN AN ADEQUATELY SIZED WATER EASEMENT, IN A MANNER SATISFACTORY TO THE PUBLIC UTILITIES DEPARTMENT AND THE CITY ENGINEER.

SEWER LATERAL TABLE

LOT NO.	INV ELEV. AT MAIN	DROP TO MAIN	LENGTH (FT)	INV ELEV. AT PL	SLOPE	FS ELEV	DEPTH BELOW FS AT PL	SEWER LATERAL STATION

0 10' 20'
SCALE: 1"=20'

JEFF GAVAZZA R.C.E. NO. C59894 EXP. 12-31-25 DATE

kpff
700 South Flower Street
Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
F: 213.266.5294
www.kpff.com

PROJECT

PACIFIC BEACH HOTEL :
Entitlements

4545 MISSION BAY DRIVE
SAN DIEGO, CALIFORNIA 92108

ISSUE DATES

No.	Date	Description
1	1/10/25	ENTITLEMENTS - INITIAL SUBMITTAL
2	5/15/25	ENTITLEMENTS - RESUBMITTAL
3	10/29/25	ENTITLEMENTS - RESUBMITTAL
4	12/12/25	ENTITLEMENTS - RESUBMITTAL

SHEET TITLE

PUBLIC UTILITY PLAN

DRAWING I.D.

Project No.: JBA-24005

Date: 1/10/2025

SHEET NO. *6*

C1.30

SHEET *6* OF 7

3131 Camino Del Rio North, Suite 1800 San Diego, CA 92108 213.418.0201 kpff.com

APPENDIX B: Hydrant Flow Request Forms

City of San Diego
Development Services
Attention: **Hydrant Flow Request**
1222 First Ave., MS-401
San Diego, CA 92101
(619) 446-5000

Hydrant Flow Request

FORM DS-160
OCTOBER 2016

Fill out the information below completely for all sprinkler system flow requests, including NFPA 13, 13D and 13R systems. E-mail form to: DSDHydrantFlow@sandiego.gov, or mail request to the above address.

Please print or type legibly.

Company Requesting Hydrant Flow:
KPFF Consulting Engineers

Telephone No:	Fax No:	E-mail Address:
213-310-8676	n/a	fletcher.christian@kpff.com

Project Number for the Building Permits:
PRJ-1129794

Location of Hydrants:
4545 Mission Bay Drive

Cross Street:	City:	State:	ZIP Code:
Between Magnolia Ave & Bunker Hil	San Diego	CA	92109

FOR CITY USE ONLY

Facility Sequence Number: (FSN): 520793

Static: 101.8 PSI

Elevation: 20 FEET

Pitot: -- PSI

Residual: 88.7 PSI

Date: 06.25.2025

Flow: 1,542.33 GPM

Researched in database by: Derek R Duval

The information provided above is based upon a water model. It is the contractor's responsibility to confirm the available static pressure at the system point of connection. If a discrepancy is noticed at that time, notify DSDHydrantFlow@sandiego.gov as soon as possible.

Please draw an accurate map for fire hydrant data

Hydrant Data for H520793

3131 Camino Del Rio North, Suite 1800 San Diego, CA 92108 213.418.0201 kpff.com

APPENDIX C: Calculations

3131 Camino Del Rio North, Suite 1800 San Diego, CA 92108 213.418.0201 kpff.com

TABLE 1: EXISTING AVERAGE ANNUAL WATER DEMANDS (TABLE 2-2 UNIT WATER DEMANDS)

Segment	Zone*	Net Area (Acres)	Land use Category	Residential - Unit Water Demand (gal/person-day)	Hotel - Unit Water Demand (gallons/net acre-day)	Population Density (Persons/net acre)	Population (Persons)	Residential Water Demand (gpd)	Other Water Demands (gpd)	Average Annual Water Demand (gpd)
Sure Stay	CC-3-8	0.38	Residential-MU	150	6555	161	61.18	9,177.00	2,490.90	11,667.90
Total										11,667.90

TABLE 2: PROPOSED AVERAGE ANNUAL WATER DEMANDS (TABLE 2-2 UNIT WATER DEMANDS)

Segment	Zone*	Net Area (Acres)	Land use Category	Residential - Unit Water Demand (gal/person-day)	Hotel - Unit Water Demand (gallons/net acre-day)	Population Density (Persons/net acre)	Population (Persons)	Residential Water Demand (gpd)	Other Water Demands (gpd)	Average Annual Water Demand (gpd)
Proposed	CC-3-8	1.19	Residential-MU	150	6555	161	191.59	28738.5	7,800.45	36,538.95
Total										36,538.95

Table 3: NET WATER DEMAND INCREASE

Condition	Demand
Existing	11,667.90
Proposed	36,538.95
TOTAL INCREASE	**24,871.05**