



WATER DEMAND CALCULATION
PACIFIC BEACH HOTEL
4545 MISSION BAY DRIVE, SAN DIEGO, CA, 92109

DATE

3/5/2026

Prepared for:

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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.



VICINITY MAP

NO SCALE

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.

[illegible]



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)



APPENDIX A: Project Utility Map



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 PROPERTY AREA
(APPROX. 0.64 ACRES)

27,862 SQ FT



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:
213-310-8676

Fax No:
n/a

E-mail Address:
fletcher.christian@kpff.com

Project Number for the Building Permits:
PRJ-1129794

Location of Hydrants:
4545 Mission Bay Drive

Cross Street:
Between Magnolia Ave & Bunker Hil

City:
San Diego

State:
CA

ZIP Code:
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



Printed on recycled paper. Visit our web site at www.sandiego.gov/development-services.

Upon request, this information is available in alternative formats for persons with disabilities.

Hydrant Data for H520793





APPENDIX C: Calculations



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)
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