

A172588

COURT OF APPEAL OF
THE STATE OF CALIFORNIA
FIRST APPELLATE DISTRICT, DIVISION 3

Timothy James Dummer
Plaintiff and Appellant,

v.

City and County of San Francisco, et al.
Defendants and Respondents.

Appeal from the Alameda County Superior Court
Case No 23CV036826

The Honorable Karin Schwartz, Judge Presiding

**APPELLANT’S MOTION FOR JUDICIAL NOTICE OF
FOUR APPELLATE EXHIBITS, PURSUANT TO
CALIFORNIA RULES OF COURT, RULE 8.252**

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I. Motion

Plaintiff and Appellant Timothy Dummer (“Dummer”) respectfully moves this Court to take judicial notice of four government record exhibits for the fact the statements were made.

This motion is made under California Rules of Court, Rule 8.252(a),¹ Evidence Code §§452 and 459 permitting judicial notice of official government records and undisputed facts.

The attached exhibits are relevant to the statutory scheme addressed by the parties on appeal. Appellant does not offer them for the truth of the matter asserted, but rather the fact the statements were made. For the making of the statement itself shows how the State recognizes the distinction between Cal. Code Regs., tit. 17, §§ 7626 (“water supply permit”) and 7627 (“recreational use permit”).

¹ California Rules of Court, Rule 8.252(a), “(1) To obtain judicial notice by a reviewing court under Evidence Code section 459, a party must serve and file a separate motion with a proposed order. (2) The motion must state: (A) Why the matter to be noticed is relevant to the appeal; (B) Whether the matter to be noticed was presented to the trial court and, if so, whether judicial notice was taken by that court; (C) If judicial notice of the matter was not taken by the trial court, why the matter is subject to judicial notice under Evidence Code section 451, 452, or 453; and (D) Whether the matter to be noticed relates to proceedings occurring after the order or judgment that is the subject of the appeal.”

Evid. Code § 459(a), “The reviewing court may take judicial notice of any matter specified in Section 452. The reviewing court may take judicial notice of a matter in a tenor different from that noticed by the trial court.”

These exhibits were not included in the trial court record because it was assumed the record was already clear on the distinction between §§ 7626 and 7627.

These exhibits were not included in the trial court record because the distinction between Title 17 §§ 7626 and 7627 was not contested below. They are presented now because the Court's May 29, 2026 published Opinion *sua sponte* merged these two distinct regulatory permits. Judicial notice is respectfully requested to demonstrate that the Opinion's novel conflation of these permits conflicts with the established, statewide administrative practice of both the State Water Resources Control Board and other California municipalities.

So these government records are:

1. Relevant to the City's ministerial duties under Health & Safety Code § 117045;
2. Uncontestable (derived from official state sources); and
3. Useful to show the City's present ministerial duty is ripe and therefore Dummer is entitled to the requested writ.

II. Exhibits for Judicial Notice

Dummer is requesting judicial notice of the following exhibits:

Exhibit A – Respondents' current technical report (dated 2025) filed with the State Water Resources Control Board annually pursuant to Cal. Code Regs., tit. 17, § 7626 and Exhibit B. Citation: California State Water

Resource Control Board (fiscal year ending December 31, 2025). State Waterboard 2025 EAR. CA3810001 SAN FRANCISCO REGIONAL WATER SYSTEM. *[Section 116530 Health & Safety Code]*.

Evid. Code, § 452(c), “Judicial notice may be taken of the ... Official acts of the [] executive [] departments ... of any state of the United States.”

Evid. Code, § 452(h), “Judicial notice may be taken of ... Facts and propositions that are not reasonably subject to dispute and are capable of immediate and accurate determination by resort to sources of reasonably indisputable accuracy.”

Exhibit B – State Water Resources Control Board Order requiring Respondent to file the technical report annually per Health and Safety Code section 116530 and Cal. Code Regs., tit. 17, § 7626. Citation: STATE OF CALIFORNIA STATE WATER RESOURCES CONTROL BOARD DIVISION OF DRINKING WATER. (January 1, 2024). ORDER REQUIRING ONLINE TECHNICAL REPORTING DDW_HQ_2024_001. <https://www.waterboards.ca.gov/drought/resources-for-drinking-water-systems/docs/ddw-technical-order.pdf> The State Water Resources Control Board (State Water Board), acting by and through its Division of Drinking Water (Division) and pursuant to California Health and Safety Code section 116530, hereby issues Order No. DDW_HQ_2024_001 (Order).... WHEREAS since 2009, public water

systems have been required to submit reports to the Division using the eAR tool to facilitate the collection of annual technical reports from public water systems... By March 31st, of each year, all public water systems shall submit an Annual Inventory Report (AIR) via the Division's SAFER Clearinghouse...")

Evid. Code, § 452(c), "Judicial notice may be taken of the ... Official acts of the [] executive [] departments ... of any state of the United States."

Evid. Code, § 452(h), "Judicial notice may be taken of ... Facts and propositions that are not reasonably subject to dispute and are capable of immediate and accurate determination by resort to sources of reasonably indisputable accuracy."

Exhibit C – State Water Resources Control Board (November 15, 2000). Guidelines for Evaluating Applications for Recreational Use Permits at Domestic Water Supply Reservoirs, DRAFT – NOT FOR CITATION.

https://water.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/dwdocuments/reservoirguidelines-draft-11-15-00.pdf

Evid. Code, § 452(c), "Judicial notice may be taken of the ... Official acts of the [] executive [] departments ... of any state of the United States."

Evid. Code, § 452(h), "Judicial notice may be taken of ... Facts and propositions that are not reasonably subject to dispute and are capable of

immediate and accurate determination by resort to sources of reasonably indisputable accuracy.”

Exhibit D – City of San Diego (February 2019). *Final Program Environmental Impact Report for the Mission Trails Regional Park Master Plan Update*. City of San Diego Project No. 349988, SCH No. 2014041011.

https://www.sandiego.gov/sites/default/files/mission_trails_regional_park_final_peir_no._349988reduced.pdf

III. Conclusion

In the interests of justice, and because the review is de novo, this Court should consider that these statements were made because it supports a fair adjudication of Appellant’s constitutional and statutory rights.

Respectfully submitted,

June 12, 2026

/s/ Gregory J. Glaser
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Attorney for Appellant

PROOF OF SERVICE

Appellate Case # A172588
Superior Court Case No. 23CV036826

I, the undersigned, declare as follows: I am over the age of 18 years, and not a party to this action. My business address is 4399 Buckboard Drive, Box 423, Copperopolis, CA 95228. On June 12, 2026 I served the foregoing Document: APPELLANT'S MOTION FOR JUDICIAL NOTICE OF FOUR APPELLATE EXHIBITS, PURSUANT TO CALIFORNIA RULES OF COURT, RULE 8.252, to the following parties in this action addressed as follows:

Brian Crossman and Giulia Gualco-Nelson, Deputy
City Attorneys
City Hall, Room 234
1 Dr. Carlton B. Goodlett Place
San Francisco, California 94102-4682
Brian.Crossman@sfcityatty.org
Giulia.Gualco-Nelson@sfcityatty.org
Attorneys for Respondents/Defendants
CITY AND COUNTY OF SAN FRANCISCO,
DENNIS HERRERA, in his official capacity as
General Manager of SAN FRANCISCO PUBLIC
UTILITIES COMMISSION

X *(BY ELECTRONIC SERVICE)* Based on a court order or an agreement of the parties to accept service by electronic transmission, I caused the Documents to be sent to the Persons at their electronic notification addresses. I did not receive, within a reasonable time after the transmission, any electronic message or other indication that the transmission was unsuccessful.

The document was concurrently electronically filed with the First District Court of Appeal via TrueFiling.

This service complies with California Rules of Court, Rule 8.25 (Service of Documents in Appellate Division). The document served was a true and correct copy of the original filed with the court.

Executed on June 12, 2026, in Copperopolis, California. I declare under penalty of perjury under the laws of the State of California that the above is true and correct.

/s/ Gregory J. Glaser
Gregory J. Glaser

Exhibit A

State Waterboard 2025 EAR

[Return to Home](#)

Reporting Year 2025

CA3810001 SAN FRANCISCO REGIONAL WATER SYSTEM

To view last year's report, click [here](#).

1 Intro	2 Contacts	3 Population	4 Connections	5 Sources	6 Supply-Delivery	7 Recycled	8a Customer Charges	8b Income	8c Affordability	9 Rpts./Plans
10 Backflow	11 Certification	12 Improvements	13 Complaints	14 Treatment	15 Distribution & Storage	16 Emergency	17 Conservation	18 Climate Change	Finalize	

California State Water Resource Control Board
2025 electronic Annual Report (eAR) to the Division of Drinking Water
for the year ending December 31, 2025
[Section 116530 Health & Safety Code]

Mandatory Questions answer fields are shaded yellow. They must be answered to complete this report.

Conditionally Mandatory Questions answer fields are shaded salmon. Based on previous question(s) answers, the question may be required.

Any missed responses to Mandatory or Conditionally Mandatory questions will be shown in the Finalize Section and will need to be addressed prior to submitting the eAR.

A. WATER SYSTEM INFORMATION

Water System Number: CA3810001

Water System Name: SAN FRANCISCO REGIONAL WATER SYSTEM

Water System Classification: Community

Related Regulating Agency: DISTRICT 04 - SAN FRANCISCO

Water System Ownership:

☐ --Pick one--

☒ Local Government

☐ State or Federal Government

☐ Privately owned, PUC-regulated, for profit water company

☐ Privately owned, non-PUC-regulated (Community Water System)

☐ Privately owned Mutual Water Company or Association

☐ Privately owned business (non-community)

If the address recorded is a PO Box or similar, please update to a physical address that would most accurately describe the location of the water system.

Physical location: 525 GOLDEN GATE AVE

Address 1

Address 2

City: SAN FRANCISCO

Zip Code: 94102-3220

General Office Phone: (with area code)

Web site address:

REPORT STARTED BY

Name: Eddy So

Title: Senior Water Quality Engineer

Work phone: 6506523115

Cell phone: 16503023097

Email address: eso@sfwater.org

Please be aware that all comment boxes throughout this electronic annual report will be made publicly available WITH THE EXCEPTION of the comment box below. Only Waterboard staff and other people with your water system's login credentials will have access to this comment box. You are encouraged to provide any comments that you believe may help improve this annual report process.

PRIVATE COMMENTS:

Reporting Year 2025

CA3810001 SAN FRANCISCO REGIONAL WATER SYSTEM

To view last year's report, click [here](#).

2. Public Water System Contacts

IMPORTANT: Each water system **must have one and only one Administrative Contact AND one and only one Financial Contact**. The same person may be both the Administrative and Financial Contacts.

The Division of Drinking Water will send important information to the Administrative Contact email address. The Administrative Contact's address, business phone number, and email will be publicly accessible at: <https://sdwis.waterboards.ca.gov/PDWW/>

EXISTING CONTACTS: To edit a contact, select the "Edit Contact" checkbox, this will allow for editing all fields except the contact name. To indicate an individual should no longer be associated with the water system, select the "Remove Contact" checkbox.

NEW CONTACTS: To add a new contact for the water system scroll down to subsection B, "ADD NEW CONTACT HERE" header and enter the contact information for the new contact. All

contacts must have a form of communication provided and at least one role type selected.

A. EXISTING CONTACTS Contact Record	Phone Type ☐	Phone Number & Extension	Contact Type (Modify with checkbox)	
Contact 1 First Name, Middle Initial ANDREW Last Name DEGRACA	Business Home	(650) 652-3100 	☐ Remove Contact 1	☐ Edit Contact 1
			☒ Administrative	☐ Operator
Title WQD DIRECTOR	Facsimile	(650) 652-3142 	☒ Financial	☒ Emergency
Address 1 1657 ROLLINS RD Address 2	Mobile	 	☐ Designated Operator In Charge	☒ Sampler / Water Quality
City BURLINGAME State CA Zip Code 94010-2301	Emergency	(650) 872-5900 	☐ Contract Operator	☐ Legal
Email 1 ADEGRACA@SFWATER.ORG			☐ Owner	☐ Funding
Email 2 			☐ Carbon Copy	
Contact 2 First Name, Middle Initial EDDY Last Name SO	Business Home	(650) 652-3115 	☐ Remove Contact 2	☒ Edit Contact 2
			☐ Administrative	☐ Operator
Title SENIOR WATER QUALITY ENGINEER	Facsimile	(650) 652-3142 	☐ Financial	☐ Emergency
Address 1 1657 ROLLINS RD Address 2	Mobile	 	☐ Designated Operator In Charge	☒ Sampler / Water Quality
City BURLINGAME State CA Zip Code 94010-2301	Emergency	 	☐ Contract Operator	☐ Legal
Email 1 ESo@sfwater.org			☐ Owner	☐ Funding
Email 2 			☐ Carbon Copy	
Contact 3 First Name, Middle Initial KEN Last Name LEE	Business Home	(650) 871-3030 	☐ Remove Contact 3	☒ Edit Contact 3
			☐ Administrative	☐ Operator
Title WQD LAB DIRECTOR	Facsimile	 	☐ Financial	☒ Emergency
Address 1 1000 El Camino Real Address 2	Mobile	 	☐ Designated Operator In Charge	☒ Sampler / Water Quality
City MILLBRAE State CA Zip Code 94030	Emergency	(650) 872-5900 	☐ Contract Operator	☐ Legal
Email 1 klee@sfwater.org			☐ Owner	☐ Funding
Email 2 			☐ Carbon Copy	
Contact 4 First Name,			☐ Remove Contact 4	☒ Edit Contact 4

Middle Initial RYAN	Business			
Last Name GABRIEL	Home		☐ Administrative	☐ Operator
Title WSTD MANAGER	Facsimile		☐ Financial	☒ Emergency
Address 1 1000 El Camino Real	Mobile	(415) 582-7032 	☐ Designated Operator In Charge	☐ Sampler / Water Quality
Address 2				
City MILLBRAE	Emergency	(650) 872-5900 	☐ Contract Operator	☐ Legal
State CA				
Zip Code 94030				
Email 1 RGabriel@sfwater.org			☐ Owner	☐ Funding
Email 2 			☐ Carbon Copy	
Contact 5 First Name, Middle Initial ENIO	Business	(650) 652-3116 	☐ Remove Contact 5	☒ Edit Contact 5
Last Name SEBASTIANI	Home		☐ Administrative	☐ Operator
Title WQD ENGINEERING MANAGER	Facsimile		☐ Financial	☒ Emergency
Address 1 1657 ROLLINS RD	Mobile	(415) 309-0675 	☐ Designated Operator In Charge	☒ Sampler / Water Quality
Address 2				
City BURLINGAME	Emergency	(650) 872-5900 	☐ Contract Operator	☐ Legal
State CA				
Zip Code 94010-2301				
Email 1 esebastiani@sfwater.org			☐ Owner	☐ Funding
Email 2 			☐ Carbon Copy	
Contact 6 First Name, Middle Initial RYAN	Business	(650) 808-3815 	☐ Remove Contact 6	☒ Edit Contact 6
Last Name MACAULAY	Home		☐ Administrative	☐ Operator
Title Acting System Operations Manager	Facsimile	(650) 871-4192 	☐ Financial	☒ Emergency
Address 1 2901 Crystal Springs Rd	Mobile		☒ Designated Operator In Charge	☐ Sampler / Water Quality
Address 2				
City SAN BRUNO	Emergency	(650) 872-5900 	☐ Contract Operator	☐ Legal
State CA				
Zip Code 94066				
Email 1 mmacaulay@sfwater.org			☐ Owner	☐ Funding
Email 2 			☐ Carbon Copy	
Contact 7 First Name, Middle Initial JAMES	Business	(650) 872-5905 	☐ Remove Contact 7	☒ Edit Contact 7
Last Name MORASH	Home		☐ Administrative	☐ Operator
Title	Facsimile		☐ Financial	☒ Emergency

CONSTR & MAINT SUP Address 1 1000 El Camino Real Address 2		Mobile	(415) 971-7994	☒ Designated Operator In Charge	☐ Sampler / Water Quality
City MILLBRAE State CA Zip Code 94030-2048		Emergency	(650) 872-5900	☐ Contract Operator	☐ Legal
Email 1 JMORASH@SFWATER.ORG				☐ Owner	☐ Funding
Email 2				☐ Carbon Copy	
Contact 8 First Name, Middle Initial		Business		☐ Remove Contact 8	☐ Edit Contact 8
Last Name		Home		☐ Administrative	☐ Operator
Title		Facsimile		☐ Financial	☐ Emergency
Address 1		Mobile		☐ Designated Operator In Charge	☐ Sampler / Water Quality
Address 2					
City		Emergency		☐ Contract Operator	☐ Legal
State					
Zip Code					
Email 1				☐ Owner	☐ Funding
Email 2				☐ Carbon Copy	
ADD NEW CONTACTS HERE					
B. NEW CONTACT Contact Record		Phone Type	Phone Number & Extension	Contact Type (Pick all that apply)	
New 1 First Name, Middle Initial		Business		☐ Administrative	☐ Operator
Last Name					
Title		Home		☐ Financial	☐ Emergency
Address 1		Facsimile		☐ Operator In Charge	☐ Sampler / Water Quality
Address 2		Mobile			
City		Emergency		☐ Contract Operator	☐ Legal
State					
Zip Code					
Email 1				☐ Owner	☐ Funding
Email 2				☐ Carbon Copy	
Add Additional Contact				(pick all that apply)	
New 2 First Name, Middle Initial		Business		☐ Administrative	☐ Operator
Last Name					
Title		Home		☐ Financial	☐ Emergency
Address 1		Facsimile			☐ Sampler / Water

Address 2 City State Zip Code	Mobile	 	☐ Operator In Charge	Quality
	Emergency	 	☐ Contract Operator	☐ Legal
Email 1 			☐ Owner	☐ Funding
Email 2 			☐ Carbon Copy	
Add Additional Contact			(pick all that apply)	
New 3 First Name, Middle Initial Last Name Title	Business	 	☐ Administrative	☐ Operator
	Home	 	☐ Financial	☐ Emergency
Address 1 Address 2 City State Zip Code	Facsimile Mobile	 	☐ Operator In Charge	☐ Sampler / Water Quality
	Emergency	 	☐ Contract Operator	☐ Legal
Email 1 			☐ Owner	☐ Funding
Email 2 			☐ Carbon Copy	
Add Additional Contact			(pick all that apply)	
New 4 First Name, Middle Initial Last Name Title	Business	 	☐ Administrative	☐ Operator
	Home	 	☐ Financial	☐ Emergency
Address 1 Address 2 City State Zip Code	Facsimile Mobile	 	☐ Operator In Charge	☐ Sampler / Water Quality
	Emergency	 	☐ Contract Operator	☐ Legal
Email 1 			☐ Owner	☐ Funding
Email 2 			☐ Carbon Copy	

COMMENTS (Note: Comments will be made publicly available):

Reporting Year 2025

CA3810001 SAN FRANCISCO REGIONAL WATER SYSTEM

To view last year's report, click [here](#).

3. Population Served

Total Population in DDW Records:

2700600

9/7/2022

Annual Operating Period

Population Type

Population Count

Begin Date

End Date

MM

DD

MM

DD

Residential

299

1

1

12

31

Wholesale

2700000

1

1

12

31

Method Used to Determine Population

☐ --Pick one--

☐ Most recent United States census data

☐ Multiplied number of service connections by 3.3

☐ Determined total number of dwelling units and multiplied by 2.8

☒ Other

If population is based on "Other", identify the methods or sources of how it was estimated:
Population was calculated using the number of service connections and the latest available (only 2024 and no 2025 data) household estimates from ACS.

List the names of communities served by the system identifying both incorporated and unincorporated areas:
All wholesale customers identified as the purchasing water systems in AIR, whereas the retail customers are sparsely located in Alameda County, Santa Clara County, and San Mateo County.

COMMENTS (Note: Comments will be made publicly available):

Reporting Year 2025

CA3810001 SAN FRANCISCO REGIONAL WATER SYSTEM

To view last year's report, click [here](#).

4. Number of Service Connections

A. Active Service Connections:

Total Active Potable Water Connections currently in Division of Drinking Water database:

256

The total number of Service Connections as of December 31, 2025 must be reported as either Unmetered or Metered for each Service Connection Type as appropriate.

TYPE	Potable Water		2025	2024
	Unmetered	Metered	Total*	Total*
<u>Single-family Residential:</u> single family detached dwellings	0	74	74	56
<u>Multi-family Residential:</u> Apartments, condominiums, town houses, duplexes and mobile home parks	0	5	5	5
<u>Commercial/Institutional:</u> Retail establishments, office buildings, laundries, schools, prisons, hospitals, dormitories, nursing homes, hotels, churches, campgrounds If you are a wholesaler: Enter the number of service connections, you have for downstream public water systems.	0	174	174	175
<u>Industrial:</u> All manufacturing	0	0		
<u>Landscape Irrigation:</u> Parks, play fields, cemeteries, median strips, golf courses	0	2	2	2

Agricultural Irrigation:

Irrigation of commercially-grown crops

0000

Do NOT report fire sprinkler connections and fire hydrants. These connections are not counted toward “service connections” for compliance purposes.

Total Active Connections*

255

255

238

* Calculated field

B. Number of Inactive Connections (all types)

Include only service connections that have been physically disconnected (e.g. meter removed) from the water system. All other service connections should be considered as “Active.”

0

COMMENTS (Note: Comments will be made publicly available):

Reporting Year 2025

CA3810001 SAN FRANCISCO REGIONAL WATER SYSTEM

To view last year’s report, click [here](#).

5. Source Inventory

Section A

(A) Small Water System Source Type

As a Small Water System, sources are listed in Section A tables by either groundwater or surface water. The existing inventory is prefilled for groundwater sources in table A1, and for surface water sources in table A3. You may view these sources at [Public Drinking Water Watch](#). You may suggest inventory updates for groundwater sources in table A2, and for surface water in table A4. For any source(s) not listed, please select “Email for Help on this page” at the bottom of this page to be connected with your Regulating Agency.

A1. Groundwater Source Inventory - Existing

Source ID	Source Name	Source Activity	Source Type, Availability
031	F STREET WELL (FKA COLMA BART WELL)	A	Well Emergency
032	B STREET WELL (FKA SERRA BOWL WELL)	A	Well Emergency
033	COLMA BOULEVARD WELL	A	Well Emergency
034	SERRAMONTE WELL	A	Well Emergency
035	HICKEY WELL	A	Well Emergency
036	LAKE MERCED GOLF CLUB WELL	A	Well Emergency
037	MILLBRAE YARD WELL	A	Well Emergency
042	MISSION WELL (GSR-MSW)	A	Well Emergency

A2. Groundwater Source Inventory - Updated

Add the Source listed from above and describe any changes. An example might be a change to activity or availability. Must include comment describing change listed.
Note: Please include Source ID and Source Name as displayed in table A1.

To add a new row, select the green plus sign in the upper right corner of the table. To remove a row, select the trash can at the end of a row. Save changes by selecting the green check mark at the end of the row.

Source ID	Name	Activity	Comments
Nothing Reported			

A3. Surface Water Source Inventory-Existing

Source ID	Source Name	Source Activity	Source Type, Availability
002	CALAVERAS RESERVOIR-RAW	A	Intake Permanent
003	CHERRY RESERVOIR-RAW	A	Intake Permanent
004	HETCH HETCHY RESERVOIR	A	Intake Permanent
006	LOWER CRYSTAL SPRINGS RESERVOIR	A	Intake Permanent
007	PILARCITOS RESERVOIR	A	Intake Permanent
009	SAN ANDREAS RESERVOIR	A	Intake Permanent
010	SAN ANTONIO RESERVOIR-RAW	A	Intake Permanent
012	SUNOL FILTERS-RAW FILTER GALLERY WATER	A	Intake Permanent
017	MOCCASIN RESERVOIR - RAW	A	Intake Permanent
018	LAKE ELEANOR (AT DAM) - RAW	A	Intake Permanent
025	EARLY INTAKE RESERVOIR - RAW	A	Intake Permanent
027	CHERRY CREEK	A	Intake Permanent
028	POND F3 EAST	A	Reservoir Permanent
029	POND F2	A	Intake Permanent

A4. Surface Water Source Inventory - Updated

Add the Source listed from above and describe any changes. An example might be a change to activity or availability. Must include comment describing change listed.

Note: Please include Source ID and Source Name as displayed in table A3.

To add a new row, select the green plus sign in the upper right corner of the table. To remove a row, select the trash can at the end of a row. Save changes by selecting the green check mark at the end of the row.

Source ID	Name	Activity	Comments
Nothing Reported			
A5. Source Inventory Comment			

Section B. Source Metering and Well Monitoring

1. Are your water sources metered?	☐ --Pick one-- ☒ Yes ☐ No
2. Do you have equipment on hand to monitor groundwater levels at all your wells?	☐ --Pick one-- ☒ Yes ☐ No ☐ Not Applicable (no wells)
3. Do you routinely monitor the <i>static</i> water levels in your wells?	☐ --Pick one-- ☒ Yes ☐ No ☐ Not Applicable (no wells)
4. Do you routinely monitor the <i>pumping</i> water levels in your wells?	☐ --Pick one-- ☒ Yes ☐ No ☐ Not Applicable (no wells)
5. Are these levels recovering, declining or steady?:	☐ --Pick one-- ☐ Recovering ☐ Declining ☒ Steady ☐ Not Applicable (no wells) ☐ Don't Know

Section C. Standby Source Use

If a standby source was used in 2025, provide the following information.

To add a new row, select the green plus sign in the upper right corner of the table. To remove a row, select the trash can at the end of a row. Save changes by selecting the green check mark at the end of the row.

Name of the Standby Source used in 2025:	No. of days the Standby Source was in operation:	Were customers notified? (Y/N)	Was the Division of Drinking Water notified? (Y/N)	Describe the reason the Standby Source was used:
Nothing Reported				
COMMENTS (Note: Comments will be made publicly available):				

Reporting Year 2025

CA3810001 SAN FRANCISCO REGIONAL WATER SYSTEM

To view last year's report, click [here](#).

6. Water Supply and Delivery

This section has been relocated to the SAFER Clearinghouse and is a required technical report submission. To complete this required report visit the SAFER Clearinghouse located at: <https://wbappsrv.waterboards.ca.gov>.

Note: If you do not have a SAFER Clearinghouse account, you will need to create one.

Reporting Year 2025

CA3810001 SAN FRANCISCO REGIONAL WATER SYSTEM

To view last year's report, click [here](#).

7. Recycled Water Use

Does your water system have recycled water use in its service area (provided by your water system or	☐ --Pick one-- ☒ Yes
--	--

another utility)?

- ☐ No
☐ Don't Know

Recycled Water (RW) Use Sites	Total No. of Approved Sites as of Dec. 31, 2025	Total No. of Approved Sites Actively Used in 2025	No. of New Sites Approved in 2025	No. of Sites Proposed for 2026
Irrigation, Agriculture	0	0	0	0
Irrigation, Landscape	1	1	0	0
Industrial	0	0	0	0
Dual-plumbed (In-building)	0	0	0	0
Dual-plumbed (Single-family lot)	0	0	0	0
Cooling Towers	0	0	0	0
Other	0	0	0	0
Total*	1	1	0	0

Name of the recycled water coordinator:	Heather Rodgers
Business Phone:	(415) 916-6811
Email address:	herodgers@sfwater.org
How many inspections of recycled water use sites were conducted in 2025?	0
How many pressure/shutdown tests were performed in 2025?	0
Do all of your recycled water uses sites have an on-site supervisor?	☐ --Pick one-- ☒ Yes ☐ No ☐ Don't know
How many recycled water uses sites do not have an on-site supervisor?	0

COMMENTS (Describe "Other" RW Use Sites, if mentioned in the above table and any additional comments. Note: Comments will be made publicly available): The associated recycled water treatment plant was out of service for upgrades from August through December of 2025.

Reporting Year 2025

CA3810001 SAN FRANCISCO REGIONAL WATER SYSTEM

To view last year's report, click [here](#).

8. Customer Charges

About water rates and financial data; Senate Bill 200 (2019) updated Section 116530 (a) of California's Health and Safety Code allowing for the State Water Board to request information regarding financial capacity. Technical, managerial and financial capacity of a water system are critical components of its sustainability and resiliency. California Health and Safety Code Section 116530 now states:

(a) A public water system shall submit a technical report to the state board as part of the permit application or when otherwise required by the state board. This report may include, but not be limited to, detailed plans and specifications, water quality information, physical descriptions of the existing or proposed system, information related to technical, managerial, and financial capacity and sustainability, and information related to achieving the goals of Section 106.3 of the Water Code, including affordability and accessibility.

A. Water Rates and Charges

A.1 Does your water system charge customers for water (residential, commercial, industrial, or institutional water customers)?	☐ --Pick one-- ☒ Yes ☐ No
A.2 Select applicable customer types:	☐ --Pick one-- ☐ Residential ☐ Non-Residential (typically includes commercial, industrial, institutional customers etc.) ☒ Both
A.2.1 Is your billing frequency for your Residential and Non-Residential customers the same?	☐ --Pick one-- ☒ Yes ☐ No
A.2.1a Please select your billing frequency for Residential and Non-Residential customers:	☐ --Pick one-- ☒ monthly ☐ bi-monthly ☐ quarterly ☐ annually ☐ other
A.2.1a.1 Average number of days between billing	

A.2.2 Is your most common Residential water rates structure the same as your most common Non-Residential rate structure? (This does not include the number of tiers associated with the rate structures)

☐ --Pick one--
☒ Yes
☐ No

A.2.2a. Please select the most common rate structure used for both Residential and Non-Residential customers:

Single or Flat Rate – Average, static rate charged per billing cycle independent of water usage.

Base Rate – Base rates are the charges applied for receiving drinking water service regardless of the amount of water consumed. Base rates are usually fixed amounts and may include charges like sourcewater protection fees, service fees, etc.

Usage Rate – Rates that are charged based on the amount of volume or water consumed.

Fixed or Uniform - Rates that remain unchanged per billing cycle throughout the year.

Variable - Rates that are changed depending on water usage.

- ☐ Single or Flat Rate (Often Unmetered)
☐ Base Rate (Fixed) + Usage Rate (Uniform)
☒ Base Rate (Fixed) + Usage Rate (Variable)
☐ Base Rate (Variable) + Usage Rate (Uniform)
☐ Base Rate (Variable) + Usage Rate (Variable)
☐ Allocation Based (California Water Code Sections 370-374; Specifically, California Water Code Section 372)
☐ Other (text box)

A.2.2a.1. Other Notes

A.2.2b Comments on rate structure, explain allocation rate if applicable:

A1. Residential Water Rates and Charges

A1.4. Please select the metric or unit of measure (UOM) used in Residential Water Rates:

☐ --Pick one--
☐ Gallons (Gal)
☒ Hundred Cubic Feet
☐ Thousand Gallons
☐ Million Gallons
☐ Acre Feet

A1.5. Please select any variances or factors used to determine or adjust residential water rates or allocations:

- ☐ Agricultural use (non-commercial or commercial)
☐ Drought factor
☐ Elevation
☐ Evaporative Coolers
☐ Fire protection - water to irrigate vegetation
☐ Home-based business
☐ Livestock or large animals
☐ Lot size
☐ Medical needs
☐ Meter size
☐ Mitigation of high levels of total dissolved solids
☐ Occupancy (All-year)
☐ Occupancy (Seasonal)
☐ Pressure zone
☐ Soil compaction and dust control
☐ Supplement ponds and lakes to sustain wildlife
☐ Other :
☒ None of the above

A1.6. Does your water system have multi-family AND single family billing classes?

Single-Family- Single family detached dwellings (houses).

☐ --Pick one--
☒ Yes
☐ No

Multi-Family- Apartments, condominiums, town houses, duplexes and mobile homes.

A1.7. What is the number of tiers or levels of charges?

A1.7b Single Family

☐ --Pick one--
☒ 2
☐ 3
☐ 4
☐ 5
☐ 6
☐ 7

A1.7c Multi-Family

☐ --Pick one--
☒ 2
☐ 3
☐ 4
☐ 5
☐ 6
☐ 7

A1.8. Residential Rates & Charges Table

Please complete the table below – taking into consideration the following:

- You have selected Billing Frequency, please submit your rate data based on this frequency.
- You have selected as your Unit Of Measure (UOM), please submit your rate data based on this.
- If your flat rate varies over the year, please use the average flat rate amount.
- Please report the most common rate for the majority of your residential customers.

Two or more tiers must be defined for the Base Rate Structure.
Two or more tiers must be defined for the Usage Rate Structure.
All selected tiers must be defined for the Base Rate Structure.
All selected tiers must be defined for the Cost per Unit of Measure (UOM).
All tiers must be defined for either the Base Rate Structure, Usage Rate Structure, or both.
Metrics for Base Rate Structure must be in ascending order.
One or more values for Base Rate are missing.
Metrics for Usage Rate Structure must be in ascending order.
One or more values for Cost per Unit of Measure are missing.

Customer Class & Billing Tiers	Flat Rate		Base Rate	Usage Rate: Maximum Volume of Water per Tier	Usage Rate: Cost per Unit of Measure (UOM) per Tier
		Base Rate: Maximum Volume of Water per Tier			
ResidentialSingle-family - Tier 1			17.48	4	10.85
Tier 2					12.05
Tier 3					
Tier 4					
Tier 5					
Tier 6					
Tier 7					
Multi-family - Tier 1			17.48	3	10.70
Tier 2					11.49
Tier 3					
Tier 4					
Tier 5					
Tier 6					
Tier 7					

A1.9 Did your rates change in the reporting year?*

☐ No Change

☐ Yes, inflation adjustment

☒ Yes, increment of multi-year approved increase

☐ Yes, imposition of new or increased fees

☐ Yes, other:

A1.9a Other Notes

A1.10. Date of most recent update to the rate structure (this does not include regularly scheduled rate changes, rather actual changes to your rate structure): MM/DD/YYYY

07/01/2023

A1.11. If you recently updated your rate structure, please briefly describe the changes that were made:

A1.12. Provide a direct link to a web page that explains water rates and fees, if available.

<https://sfpuuc.org/accounts-services/water-power-sewer-rates/rates>

☐ Not Available Online

A1.13. Upload rate structure documentation.

A1.13. Upload rate structure documentation

Choose File No file selected

Upload

(Uploaded files:)

Delete Rates_Schedule_Water_Sewer_2025.pdf

0%

A1.14 Comments on the allocation of ResidentialSingle-Family and Multi-Family rate.

A1.15 Does your residential customer bills include any non-drinking water charges (i.e. wastewater, stormwater, electricity, telecommunications, property tax etc.)?

--Pick one--
☐ Yes
☒ No

A2. RESIDENTIAL SERVICE CONNECTIONS

A2.1

What is the average charge* for a brand-new ResidentialSingle-Family connection (based on the most common meter size)?

* Also known as: Connection Fees; Advances in Construction, or Contributions in Aid for Construction.

2266

☐ No service charge for brand new connections

A2.2

When was the connection charge* for a brand-new ResidentialSingle-Family connection last updated (based on the most common meter size reported above)?

* Also known as: Connection Fees; Advances in Construction, or Contributions in Aid for Construction.

07/01/2024

A2.3

What is the one-time fee or deposit needed to create a new water service account for an existing ResidentialSingle-Family home (based on the most common meter size reported above)?

123

A2.4

What is the average charge* for a brand-new Multi-Family connection (based on the most common meter size)?

* Also known as: Connection Fees; Advances in Construction, or Contributions in Aid for Construction.

2266

A2.5. Check all costs covered by a new ResidentialSingle-Family and Multi-Family connection fee:

☒	Existing infrastructure buy-in (e.g., water treatment/ conveyance/sewage treatment)
☐	Upgrades to infrastructure (seismic retrofits, pipe replacements, etc.)
☐	Storm water management system
☐	Debt service charge
☐	Development of new water supplies
☐	Other :

A2.6. Comments on ResidentialSingle-Family and Multi-Family connections (publicly available):

A3. Non-Residential Water Rates & Charges

A3.1. Please select the metric or unit of measure (UOM) used for Non-Residential Water Rates:	☐ --Pick one-- ☐ Gallons (Gal) ☒ Hundred Cubic Feet (HCF) ☐ Thousand Gallons ☐ Million Gallons ☐ Acre Feet
---	--

A3.5. Select all applicable Non-Residential connection types:*

☒	Commercial (Retail, Offices, Gas Stations, etc.)
☐	Institutional (Schools, Hospitals, Hotels, etc.)
☐	Industrial (Manufacturing, Chemical, etc.)
☐	Landscape Irrigation (Parks, Golf Courses, etc.)
☐	Agricultural Irrigation (Crops, Aquaculture, etc.)
☐	Other

A3.5a. Other Notes

A3.6. Do your rates change for different levels of water consumption?	☐ --Pick one-- ☐ Yes ☒ No Tiers or Levels
---	--

A3.6.1. What is the number of tiers or levels of charges?

A3.6.1a Commercial	☒ --Pick one-- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
A3.6.1b Institutional	☒ --Pick one-- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
A3.6.1c Industrial	☒ --Pick one-- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
A3.6.1d Landscape Irrigation	☒ --Pick one-- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
A3.6.1e Agriculture Irrigation	☒ --Pick one-- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
A3.6.1fOther	☒ --Pick one-- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

A3.7. Non-Residential Rates & Charges Table

Please complete the table below – taking into consideration the following:

- You have selected Billing Frequency, please submit your rate data based on this frequency.
- If your flat rate varies over the year, please use the average flat rate amount.

- Please report the most common rate for the majority of your residential customers.

	Flat Rate	Base Rate Structure	Usage Rate Structure		
Customer Class & Billing Tiers		Top Metric/ Unit of Measure (UOM) for Base Rate	Base Rate	Top Metric/ Unit of Measure (UOM)	Cost per Unit of Measure (UOM)
Commercial - Tier 1			17.48	0	11.68
Tier 2					
Tier 3					
Tier 4					
Tier 5					
Tier 6					
Tier 7					
Institutional - Tier 1			17.48	0	11.68
Tier 2					
Tier 3					
Tier 4					
Tier 5					
Tier 6					
Tier 7					
Industrial - Tier 1			17.48	0	11.68
Tier 2					
Tier 3					
Tier 4					
Tier 5					
Tier 6					
Tier 7					
Landscape Irrigation - Tier 1					
Tier 2					
Tier 3					
Tier 4					
Tier 5					
Tier 6					
Tier 7					
Agricultural Irrigation - Tier 1			17.48	0	11.68
Tier 2					
Tier 3					
Tier 4					
Tier 5					
Tier 6					
Tier 7					
Other - Tier 1					
Tier 2					
Tier 3					
Tier 4					
Tier 5					
Tier 6					
Tier 7					

Reporting Year 2025

CA3810001 SAN FRANCISCO REGIONAL WATER SYSTEM

To view last year's report, click [here](#).

Please make sure to complete the Customer Charges section before completing this section.

8(B) Income

B0. Financial Reporting Period

B0.1 For the Total Income section of the EAR, water systems may report their data by fiscal year or calendar year. Please indicate if the information provided in this section represents your water system's fiscal or calendar year financial data?*

- ☐ Calendar Year
☒ Fiscal Year

B0.2 Please select fiscal year start-date (mm/dd/yyyy)

07/01/2024

B1. Total Revenue Generated from Different Sources*

Instructions: Purpose of this section is to calculate total annual revenue generated. No revenue should be double counted.

*Mobile homes, parks, and other types of community water systems that do not charge their customers directly for water should provide their total revenues received from rent, fees, operating contracts, and/or any other source of revenue used to support the operations and maintenance of the water system in question B1.7

B1.1 Total revenue collected from Residential (Single and multi-family) customers' rates and charges that cover water services, including usage fares, and basic rates for the reporting year.* 0701164.00

*Do not include any other charges (i.e. connection fees, service fees, etc.) associated with your water rates. Other charges for Residential customers will be recorded in B1.3.

You have reported \$0, please explain why:*

*Do not include any other charges (I.e. connection fees, service fees, etc.)

B1.2 Total revenue collected from Non-Residential customers' rates and charges that cover water services, including usage charges, and basic rates for the reporting year.* 370359002.00

*Do not include any other charges (i.e. connection fees, service fees, etc.) associated with your water rates. Other Non-Residential charges will be recorded in B1.4.

B1.3 Total revenue generated exclusively from other fees and charges* from all Residential customer types during the reporting year (includes single-family and multi-family customers).* 0.00

*Other fees and charges:

Include: Late fees, notice fees, penalties, shutoff fees, reconnection fees, and bounced check fees.

Do Not Include: Revenue generated by your water rates on your typical Non-Residential customer bill.

B1.4 Total revenue generated exclusively from other fees and charges* from all Non-Residential customer types during the reporting year.*

*Other fees and charges:

Include: Late fees, notice fees, penalties, shutoff fees, reconnection fees, bounced check fees, and any additional fees that were associated with water rates that are collected and approved in the fee schedule. 0.00

Do Not Include: Revenue generated by your water rates in the above question.

Total Non-Residential Water Rate Revenue Gained from Other Fees and Charges(+):

B1.5 Did you collect/receive revenue from interfund (from wastewater or stormwater utility) or governmental transfers (i.e. property taxes or fees, sales taxes or fees, etc. – typically from City/County General Fund)?* --Pick one--
Yes
No

B1.6 Total revenue lost from interfund or governmental transfers (if \$0, enter \$0)* 0.00

Total interfund or governmental Revenue Gained (-):

B1.7 Total revenue generated from non-customer sources that have not already been accounted for (i.e. cell towers, lawsuits and settlements, energy generation, land leases, rent, interest income, other service fees, etc.)* 0.00

Total Other Revenue Gained (+):

B1.7a Other Notes

B1.8 Total Annual Revenue for the Reporting Year* 377430166.00

You have reported \$0, please explain why:*

B1.9 Approximation of Total Residential Charges

- You selected Hundred Cubic Feet as your Unit Of Measure (UOM) this table is converting your rate structure from 8A1.8.
- If numbers look incorrect review your answers for questions 8A2.1a, 8A2.2a, and 8A1.4.

Consumption	Drinking Water Charge: Water Bill	Other Charges from Interfund Transfer: Fees	Taxes / Total Drinking Water Cost to Customer: dollars/month	Provide Alternative Amount	Alternative Amount	Comments
6 HCF	84.98	0.00	84.98	☐		
9 HCF	121.13	0.00	121.13	☐		
12 HCF	157.28	0.00	157.28	☐		
24 HCF	301.88	0.00	301.88	☐		

Drinking Water Charge: Water Bill ? 0

Please revisit and confirm your answers to questions in the Customer Charges section: A.1 through A.2.2a; and A1.1 through A1.8. This field is calculated by taking the rate data inputted from question A1.8 and converting it into dollars/month as well as converting the UOM into HCF. Depending on how you answered certain questions in the Customer Charges section, there may be some questions you do not see. If the information you provided is incorrect, please fix and the figures in this table will refresh.

Total Drinking Water Cost to Customer ? 0

Please revisit and confirm your answers to questions in the Customer Charges section: A.1 through A.2.2a; and A1.1 through A1.8. This section converts drinking water charges into dollars/month: The column auto-calculates by adding Drinking Water Charges to Other Charges from Interfund Transfer for each consumption volume (6, 9, 12, and 24 HCF). Depending on how you answered certain questions in the Customer Charges section, there may be some questions you do not see. If the information you provided is incorrect, please fix and the figures in this table will refresh.

B1.10 Days of cash-on-hand* at the end of the reporting year.*

*How much cash your system has saved up, including reserve funds, that isn't earmarked for anything else (unrestricted cash) and estimates the number of days your system can pay its daily operation and maintenances costs before running out of this cash.

Number of Days 239

B1.11

Comments on water system revenues:

Comment

Revenues are collected for SFPUC as a whole, not for a particular water system. Allocation above is a best attempt to proportionally allocate revenues related to customers in this particular water system. Data for other fees and charges in B1.3 and B1.4 do not delineate between residential and non-residential customers, so all fees are reported under non-residential. Days cash on hand is reported as the same value for the SFPUC as a whole across all its water systems, as the fund balance for this water system

is combined in a single fund with the rest of the SFPUC.

B2.Total Expenses

Instructions: Purpose of this section is to calculate total annual expenses. No expense should be double counted.

B2.1 Total annual operations and maintenance expenses*

* Expenses incurred during the system’s normal operation. This can include salaries, benefits for employees, utility bills, system repair and maintenance, supplies (e.g., treatment chemicals), insurance, and water purchased for resale.

Total Operations and Maintenance Expenses (-): 159074008.00

B2.2 Total annual expenses from investing or capital expenditures*

* Expenses incurred from purchase of property and equipment; construction of new assets (i.e. treatment, distribution etc.)

Total Investment Expenses (-): 315738947.00

B2.3 Total annual expenses from financing activities*

* Expenses incurred from retirement of long-term debt, purchase of securities, interest expenses etc.

Total Financing Activity Expenses (-): 151646092.00

B2.4 Total Other annual expenses*

Total Other Expenses (-): 0.00

B2.4a Other Notes

B2.5 Total annual expenses*

Total Annual Expenses (-): 626459047.00

B2.6

Comments on Total Expenses:

Comment

Expenditures are recorded for the SFPUC as a whole, not for individual water systems. Allocation above is a best attempt to proportionally allocate expenditures related to customers in this particular water system.

Reporting Year 2025

CA3810001 SAN FRANCISCO REGIONAL WATER SYSTEM

To view last year’s report, click [here](#).

Please make sure to complete the Customer Charges section before completing this section.

8(C) Affordability

C1. Shut-offs

Senate Bill 3 (2023) extended Senate Bill 998 requirements to all community water systems.

Community water systems shall report the number of annual discontinuations of residential service for inability to pay to the board and on the water system’s internet website (if a website exists).

A community water system that serves 200 or more service connections shall have a written policy on discontinuation of residential service for nonpayment available in English, Spanish, Chinese, Tagalog, Vietnamese, Korean, and any other language spoken by at least 10 percent of the people residing in its service area.

A community water system that serves fewer than 200 service connections shall have a written policy on disconnection of residential service for nonpayment available in English, any language spoken by at least 10 percent of the people residing in its service area, and, upon request of a customer, in Spanish, Chinese, Tagalog, Vietnamese, and Korean.

"Residential service" means water service to a residential connection that includes single-family residences, multifamily residences, mobilehomes, including, but not limited to, mobilehomes in mobilehome parks, or farmworker housing.

"Urban and community water system" means a public water system that supplies water to more than 200 service connections.

C1.1.1. What is the average amount owed at the time of shut-off? \$

☐ Data not collected. System will begin collecting. Grace period 2023 and 2024 eAR.

C1.3. What is the average duration of the shut-offs (in days) for continuously occupied ResidentialSingle-Family and Multi-Family service accounts?

			Occupied Accounts	Unoccupied Accounts	Unknown Accounts	Total
C1.3a.1	Residential Accounts	1 Day				0
C1.3a.2		2-3 Days				0
C1.3a.3		4-7 Days				0
C1.3a.4		8-30 Days				0
C1.3a.5		1 month or more				0
C1.3b.1	Single Family Accounts	1 Day				0
C1.3b.2		2-3 Days				0
C1.3b.3		4-7 Days				0
C1.3b.4		8-30 Days				0
C1.3b.5		1 month or more				0

C1.3c.1		1 Day						0
C1.3c.2		2-3 Days						0
C1.3c.3	Multi-Family Accounts	4-7 Days						0
C1.3c.4		8-30 Days						0
C1.3c.5		1 month or more						0

☐ Data not collected. System will begin collecting. Grace period 2023 and 2024 eAR.

C1.4 How many of these shut-offs are returned to service within one-day (or 24 hours)?

☐ Data not collected. System will begin collecting. Grace period 2023 and 2024 eAR.

C1.4.1 This answer covers:
☒ --Pick one--
☐ Single family
☐ Multi-family
☐ Single and multi-family

C1.7 Do you offer an extended repayment or other customer payment assistance plan?
☐ --Pick one--
☒ Yes
☐ No

C1.7.1. How many occupied Residential Single-Family and Multi-Family customer accounts participated in your extended payment of other customer payment assistance plan?

C1.7.1a Residential Accounts	
C1.7.1b. Single-Family Accounts	0
C1.7.1c. Multi-family Accounts	0
C1.7.1d Total:	0

☐ Data not collected. System will begin collecting. Grace period 2023 and 2024 eAR.

C1.8. What is the number of residential accounts (single-family, multi-family, and mixed use that include residential) that were missing one or more required water bill payments at the end of your year?

C1.8.1. What is the sum of outstanding uncollected residential (single-family, multi-family, and mixed use that include residential) bills at the end of your most recent year? ☐ Not determined

C1.9. Comments on Shut-offs (publicly available):

C1.10 Does your water system transfer customer arrearages (unpaid water bill debt) to a third-party after a certain period of delinquency?*

☐ --Pick one--
☐ Yes, to the County (Teeter Plan)
☐ Yes, to a third-party debt collector (not County)
☒ No, customer arrearages are not transferred away from the water system
☐ Other

C1.11: Enter website address where the number of annual single-family and multi-family residential service connections/accounts water shut-off information (refer to question C.1.1) for the inability to pay is posted:

<https://www.sfpuc.gov/accounts-services/account-services/water-service-shut-offs-and-liens>

C1.12: Check the box, if you do not have a website available. ☐

C1.13: Does your water system have a written policy on discontinuation of residential services for inability to pay?

☐ --Pick one--
☒ Yes
☐ No

C1.14: Enter website address where written policy is posted:

<https://www.sfpuc.gov/accounts-services/account-services/water-service-shut-offs-and-liens>

C1.15: Check the box, if you do not have a website available. ☐

C1.16 Enter the language(s) the written policy is provided to customers in:

English, Chinese, Spanish, Korean, Tagalog, Vietnamese

C2. Residential Customer Assistance

C2.1 In the reporting year, did you offer any of the following types of bill assistance to customers?

☒ Low-income water rate assistance
☒ Flexible payment terms
☒ Alternative payment terms
☐ Temporary assistance
☐ Special medical need
☒ Other types of assistance
☐ None

C2.3. How is low-income water rate assistance program funded?

C2.4. How much funding was allocated to your low-income water rate assistance program in the reporting year?

C2.5 Does your program provide benefits to single-family only, or single-family and multi-family? (select answer)
☐ --Pick one--
☒ Single-family customers only
☐ Single-family and Multi-family customers

C2.6. What was the average benefit amount in one month?

		Metric or Unit of Measure (UOM)	Average Benefit Amount
C2.6a	Single-Family Accounts	☐ --Pick one-- ☐ Dollars ☒ Percentage of Bill ☐ Volume	91
C2.6b	Multi-Family Accounts	☐ --Pick one-- ☐ Dollars ☐ Percentage of Bill ☐ Volume	

☐ --Pick one--

C2.7 Does your system partner with an outside entity (e.g. United Way) to provide assistance to low-income households? ☐ Yes ☒ No

C2.8 Do you offer bill forgiveness under certain circumstances? ☐ --Pick one-- ☒ Yes ☐ No

Historically, the SFPUC has participated in the California Water & Wastewater Arrearage Payment Program (CWWAPP), which forgives bills for customers with accrued debts during the COVID-19 pandemic. In FY 2022-23, the State did not renew the program and did not administer any funds to utilities. In FY 2023-24, the State extended to cover water debt from residential and commercial customers accrued between March 4, 2020 and December 31, 2022. SFPUC disbursed funds from the program in May 2024 (FY 2023-24).

C2.8.1 Number of accounts:

☒ Information Not Collected

C2.8.2 Average Amount Forgiven:

☒ Information Not Collected

C2.9 Comments on Affordable Drinking Water Assistance (publicly available): Data reported in Section C2 is for FY 2024-25. Data for dividing discount recipients by water system is not currently available, so all funding in C2.4 for the SFPUC is reported under water system CA3810011.

Reporting Year 2025

CA3810001 SAN FRANCISCO REGIONAL WATER SYSTEM

To view last year's report, click [here](#).

9. Regulatory Reports/Plans (aka Water Quality)

A. (NEW) BACTERIOLOGICAL SAMPLE SITING PLAN (BSSP)

On July 1, 2021, the California Revised Total Coliform Rule (RTCR) became effective which requires a BSSP be submitted by October 1, 2022 and complies with RTCR. Information on the RTCR can be found at: https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/rtcr.html

A.1. Date of Current Approved Bacteriological Sample Siting Plan on File:

B. EMERGENCY NOTIFICATION PLAN (ENP)

B.1. Date of Current Emergency Notification Plan on File:

Please contact your District or County representative for the current template and instructions on providing a new/updated ENP to your regulator.

C. EMERGENCY DISINFECTION PLAN (EDP)

Do you have current Emergency Disinfection Plan(s) for your water system? ☐ --Pick one-- ☒ Yes ☐ No ☐ N/A

Date of current Emergency Disinfection Plan (EDP)*:

D. WATERSHED SANITARY SURVEY REPORT

Provide your watershed sanitary survey report date if available, and the date of next planned. If you have a surface water source, you must provide answers.

Note: If you do not have surface water sources, answers are not required, and you may proceed to the next section.

Date of last watershed sanitary survey report:

Date planned to complete next watershed sanitary survey report*:

COMMENTS (Note: Comments will be made publicly available): This water system has multiple treatment facilities, which have their own operations plan. Each treatment plant's operations plan has a section about emergency disinfection; and these plans have different dates.

Reporting Year 2025

CA3810001 SAN FRANCISCO REGIONAL WATER SYSTEM

To view last year's report, click [here](#).

10. Backflow–Cross Connection Control

A. Backflow Prevention Assemblies and Air Gaps

Total Number Reported in 2024	Total Number in System	Number Installed	Number Tested in	Number Failed in	Number Repaired/
-------------------------------	------------------------	------------------	------------------	------------------	------------------

	in 2025	in 2025	2025	2025	Replaced
Backflow Prevention Assemblies on the Service Connections or Meter (Reduced Pressure Principle and Double Check Valve assemblies)	81	79	0	73	26
Backflow Assemblies On-site but not on the Service Connections or Meter (Reduced Pressure Principle and Double Check Valve assemblies)	123	128	5	128	017
Pressure Vacuum Breakers		5	0	0	0
Air-gap Separation on the Service Connection or Meter	0	0	0		

No. of Inactive Backflow Prevention Assemblies in water system in 2025: 0

B. Cross Connection Control Program

Number of Hazard Assessments Completed in the Reporting Year: 0

Approximate percentage of initial hazard assessments completed for public water system: 0

Date of current Cross-Connection Control Plan on File: 9/16/2025

Cross Connection Control Program Coordinator

Name: Kenneth Payne

Business Phone: (650) 652-3132 Email Address: kpayne@sfwater.org

List the name of trainings or certifications received: AWWA Certification

Certification Number (if applicable): 10296

Describe any incidents of known or suspected backflow that occurred during the reporting year:

COMMENTS (Note: Comments will be made publicly available):

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To view last year's report, click [here](#).

11. Operator Certification

Please list the State Certified Drinking Water Operators employed by your water system that supervise and direct the operation of your distribution system and water treatment plants where applicable in the reporting year of this report. To find information about your operator certification license(s), Click [HERE](#) and scroll to the bottom of webpage to select the appropriate certification you are seeking information about.

A. DISTRIBUTION SYSTEM CERTIFIED OPERATORS

Your Distribution System Classification is: D4

Do your Chief and Shift Distribution System Operators have the minimum level required?

- ☐ --Pick one--
- ☒ Yes
- ☐ No
- ☐ Not Applicable (transient non-community water system)

☐ Check this box if your public water system does not have a designated Chief Distribution Operator.

Name of Chief Distribution Operator (First name Last name): James Morash

Grade of Chief Distribution Operator (D1, D2, D3, D4 or D5): ☐ --Pick one--
☐ D1
☐ D2
☐ D3
☒ D4
☐ D5

Distribution Operator Number (3, 4 or 5 digits): 42452

Distribution Certification Expiration Date (MM/DD/YYYY): 05/01/2026

If your public water system has additional certified distribution system operators, enter the information in the table below.

Click [here](#) to download, update, and/or upload an Excel spreadsheet of your water system's certified distribution operators.

Distribution Operator Name (First name Last name)	Grade of Distribution Operator (D1, D2, D3, D4, or D5)	Chief, Shift or Neither ¹ (C, S or X)	Distribution Operator Number (3, 4 or 5 digits)	Distribution Certification Expiration Date (MM/DD/YYYY)
Adam Artzer	D2	S	58663	
Alan Magrini	D3	X	31823	
Alan Wong	D4	X	36641	
Anthony Cunha	D4	S	43931	

Distribution Operator Name (First name Last name)	Grade of Distribution Operator (D1, D2, D3, D4, or D5)	Chief, Shift Operator or Neither ¹ (C, S or X)	Distribution Operator Number (3, 4 or 5 digits)	Distribution Certification Expiration Date (MM/DD/YYYY)
Brent Marquardt	D2	S	25513	
Bryan Hernandez	D2	S	52094	
Caleb Mason	D2	S	50639	
Chris Orr	D2	X	53990	
Dennis Edwards	D3	X	46039	
Donald Do	D5	X	31847	
Enio Sebastiani	D5	X	24980	
Eric Chez	D1	X	25170	
Eric Gribben	D2	X	33963	
Frank Sepulveda	D2	X		
Gary Bryant	D3	X	56885	
Jacquelyne Cho	D4	X	41681	
James Giambruno	D3	S	25150	
James Morash	D4	C	28834	
James Sutter	D3	X	42452	
Jennifer Sandoval Edwards	D2	X	30257	
John Marshall	D2	S	34037	
Jose Torres	D1	X	44271	
Kenneth Payne	D4	X	56401	
Larry Shores	D3	X	25167	
Mark Johnson	D3	X	28914	
Mark Morello	D2	X	48945	
Matthew Harray	D3	X	32519	
Megan Cheng	D2	X	34233	
Melvin Palmer	D2	X	53032	
Michael Dean	D3	X	33330	
Mike Agelopoulos	D3	X	33702	
Pat Bell	D3	X	33658	
Patrick Kerrisk	D4	X	33229	
Paul Harrison	D2	S	16909	
Ray Malaspina	D4	S	53028	
Reiber Medina	D2	X	47647	
Roberto Gonzales	D3	X	57843	
Ronaldo Gallega	D3	X	28886	
Roselle Ferrer	D3	X	48296	
Ryan Gabriel	D4	X	25154	
Ryan Williams	D2	X	37534	
Samuel Kenny	D3	S	57954	
Sean Duffy	D4	X	41986	
Sean Reidy	D2	S	21413	
Sean Ruybal	D3	S	45485	
Shahram Sabaghpour	D2	X	48273	
Shailendra Talati	D2	X	36494	
Steve Inferrera	D4	S	25937	
Susan Soteriou	D3	X	25048	
Weldon Ng	D3	X	36587	
Breanna Oliveros	D2	X	31733	
			57480	05/01/2027

¹Use "C" for Chief Operator and "S" for Shift Operator. If neither, put an "X". Do not leave blank.

B. TREATMENT PLANT CERTIFIED OPERATORS

Your Highest Treatment System Classification is: **T5** .

Do your Chief and Shift Treatment Plant Operators have the minimum level required?

- ☐ --Pick one--
☒ Yes
☐ No
☐ No treatment facility except precautionary disinfection

☐ Check this box if your public water system does not have a designated Chief Treatment Operator.

Name of Chief Treatment Operator (First name Last name):	Ryan Macaulay
Grade of Chief Treatment Operator (T1, T2, T3, T4 or T5):	☐ --Pick one-- ☐ T1 ☐ T2 ☐ T3 ☐ T4 ☒ T5
Treatment Operator Number (3, 4 or 5 digits):	26042
Treatment Certification Expiration Date (MM/DD/YYYY):	01/01/2027

If your public water system has additional certified treatment plant operators, enter their information in the table below. .

[Click here](#) to download, update, and/or upload an Excel spreadsheet of your water system's certified water treatment operators.

Treatment Operator Name (First name Last name)	Grade of Treatment Operator (T1, T2, T3, T4, or T5)	Chief, Shift or Neither ¹ (C, S or X)	Treatment Operator Number (3, 4 or 5 digits)	Treatment Certification Expiration Date (MM/DD/YYYY)
Adam Artzer	T2	S	47000	04/01/2027
Ahmad Moghbel	T3	X	26751	04/01/2028
Alan Wong	T4	X	19813	11/01/2026
Anthony Moraga	T3	S	23690	02/01/2028
Anthony Ratzlaff	T3	X	41850	09/01/2027
Anthony Scott	T5	C	16067	01/01/2029
Anthony Vallergera	T3	S	36842	06/01/2026
Brent Marquardt	T3	S	30353	12/01/2028
Brett Barton	T2	X	43068	07/01/2028
Bruce Mott	T3	S	34310	08/01/2026
Caleb Mason	T3	S	42894	11/01/2027
Christopher Regnart	T5	S	29716	12/01/2027
Clyde Bradshaw	T4	S	33748	11/01/2028
Daniel Smith	T3	S	23734	09/01/2027
David Calvo	T5	C	23085	04/01/2029
David Luong	T3	X	46660	03/01/2028
Davin Clark	T3	S	35343	12/01/2026
Donald Do	T3	X	21945	05/01/2028
Enrulkayes Akter	T5	S	21088	08/01/2027
Enio Sebastiani	T4	X	21048	11/01/2028
Frank Calvo	T4	S	14040	01/01/2027
Frank Lozano	T4	S	41657	10/01/2027
Gary Bryant	T3	S	33749	07/01/2028
Jacquelyne Cho	T4	X	22047	11/01/2026
Jaemin Lee	T2	X	48333	08/18/2028
James Hutton	T4	S	43442	05/01/2027
James Koster	T2	S	34013	01/01/2027
James Miranda	T3	S	35838	12/01/2028
James Sparks	T5	C	33309	06/01/2028
Jason Weiskopf	T3	S	43677	03/01/2028
Jeffrey Clark	T4	S	27083	12/01/2027
Jim Myint	T4	S	26121	04/01/2028
Jon Myers	T3	S	41004	08/01/2026
Jordy Mittry	T2	X	44716	10/01/2027
Joseph White	T4	S	26528	12/01/2026
Joshua Kinder	T3	S	32749	02/01/2028
Justin Sibbring	T5	C	29720	09/01/2028
Justine James	T5	C	23250	01/01/2027
Keith Wilkinson	T5	S	36520	04/01/2026
Kevin Rigling	T2	X	48427	09/01/2028
Mark Johnson	T2	X	42983	02/01/2028
Matthew Harray	T2	X	27659	07/01/2027
Matthew Kamelamela	T3	S	30351	04/01/2027
Matthew Vann	T4	S	31285	07/01/2028
Matthew Woodworth	T3	S	37638	08/01/2027
Megan Cheng	T2	X	45173	04/01/2028
Michael Evans	T5	S	23069	06/01/2026
Michael Murphy	T5	C	33796	12/01/2026
Michael Slane	T5	S	25646	10/01/2028
Odell Gibbs	T4	S	25877	05/01/2028
Paul Harrison	T2	X	43271	07/01/2028
Richard Nelson	T3	S	37127	12/01/2027
Richard Shults	T4	S	16397	12/01/2026
Robert Moore	T4	S	22475	10/01/2026
Ryan Gabriel	T2	X	32516	01/01/2029
Ryan Macaulay	T5	C	26042	01/01/2027
Seth Kline	T4	S	22120	08/01/2026
Stephen Kelley	T3	S	21088	05/01/2028
Walter Lee	T3	S	23508	06/01/2028

¹Use “C” for Chief Operator and “S” for Shift Operator. If neither, put an "X". Do not leave blank.

COMMENTS (Note: Comments will be made publicly available): □

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12. Water System Improvements ^o

The California Waterworks Standards (Section 64556) requires an amended permit for any of the following improvements or modifications. Check all boxes that apply for any improvements or modifications during 2025, or any planned improvements or modifications for 2026. If any improvements or modifications during 2025 were not permitted, please indicate so in the comments box.

- ☐ Addition of a new distribution reservoir
☐ Modification or extension of the existing distribution system
☐ Adding a new source
☐ Changing the status of an existing source (for example, active to standby)
☐ Changing or altering a source, such that the quality or quantity of water supply could be affected
☐ Addition or change in treatment, including design capacity and process
☐ Expansion of the existing service area by 20 percent or more of the number of service connections specified in your current permit
☐ Other

COMMENTS (Note: Comments will be made publicly available): **In CY 2025, projects in upcountry through Tesla locations included: 1. Continued construction on Mountain Tunnel Flow Control Facility. 2. Continued Mountain Tunnel lining repairs as part of the Mountain Tunnel rehabilitation project. 3. Replacement of in line and crossover valves at Pelican, Roselle and Emery Crossover stations. 5. Replacement of Red Mountain Bar Slide Gate and installation of trim valve. 6. Construction and commissioning of bulkheads for slide gates at O'Shaughnessy Dam. 7. Replacement of surge tower at Oakdale Portal on SJPL. 3. For HTWTP: • Completed Ozone system improvements including - o Replaced all diffusers in Ozone Contactor 1B and 2B. o Cleaned all dielectrics and replaced damaged dielectrics with new ones on Ozone Generator #1. o Replaced two ozone ambient air monitoring units. o Replaced flow switches for ozone gallery vent air ducts. o Replaced Ozone Destruct Motors #1 and #2. • Commissioned new turbidimeters on combined filter effluent, TWR effluent, Filters 1, 3, and 15. • Extended existing Zetasizer Analyzer pre-floc sample lines in the upper and lower applied water channels. • Repair and replacement of drain for wash water line after isolation valve V-25. For West Bay Field improvements: • Pulgas Dechloramination Facility - o Install flushing ports on 1-in supply and return lines for sodium bisulfite system in each leak detection box. o Install flushing ports on 1.5-in supply and return lines for sodium bisulfite system in each leak detection box. o Retrofit plumbing for sodium bisulfite tank room to enable isolating 1-in and 1.5-in feed and recirc lines. o Upgrade potable water heater to tankless water heater. o Replaced air handling unit for the building. • Retrofit both supply and exhaust fans in the carbon dioxide injection room at Pulgas Pump Station. • Replaced standby generator at Pulgas Valve Lot. For East Bay Field improvements: • Completed Surge Tower installation for influent pipeline at Tesla Treatment Facilities. • Continued installation of pump and controls at Sunol Valley Chloramination Facilities. • Continued construction of Motor Control Centers Upgrade work at San Antonio Pump Station. For SVWTP: • Continued work on Short Term Improvements - sedimentation basins, valves, and chlorine contact tanks. • Continued work on Chlorine Contact Tanks Chemical Injection manifold is being replaced and updating. • Continued work on Ozone Project - addition of treatment utilizing ozone at SVWTP. For transmission pipeline system: • Completed sliplining of Bay Division Pipelines 3 and 4 at Lafayette Street location.**

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13. Complaints Reported (Written or Verbal) ^o

Type of Complaint	No. of Complaints Reported by Customers	No. of Complaints Investigated	No. of Complaints reported to the Division of Drinking Water or Local County Staff	Brief Description of Cause and Corrective Action taken
Taste and Odor	1	1	0	<u>A customer complained of odor at service turnout. Staff flushed the service for 3-4 hours and resolved the issue.</u>
Color	0	0	0	
Turbidity	0	0	0	
Visible Organisms	0	0	0	
Pressure (High or Low)	1	1	0	<u>Upon investigation, our inspector confirmed that the low pressure was from the customer side. SFPUC feed was at normal pressure.</u>
Water Outages	0	0	0	
Illnesses (Waterborne)	0	0	0	
Other (Specify)	0	0	0	
Total No. of Complaints*	2	2		

*Calculated field

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To view last year’s report, click [here](#).

Section 14. Treatment Plants

Water system treatment plants are listed in Table A for Groundwater treatment (Chlorinator only treatment plants are not listed), and Table B for Surface Water treatment. You may also view your Water System Facilities (treatment plant inventory) at the [CA Drinking Water Watch](#) website.

A. GROUNDWATER TREATMENT

To edit the operations plan date or current status, select the blue pencil symbol at the end of each row. To cancel the edit, select the red X at the end of a row. Save changes by selecting the green check mark at the end of the row.

If you have questions or concerns about your treatment facility inventory, you should contact your regulating agency representative or select the link “Click Here To Get Assistance with this Section” at the bottom of this page.

WSF ID	Groundwater Treatment Plant Name	Date of Operations Plan	Is Operations Plan Current? (Y/N)
--------	----------------------------------	-------------------------	-----------------------------------

Nothing Reported

Did the water system have any incidents in 2025 that substantially affected the ground water treatment plant(s) performance AND/OR had significant modifications or maintenance due to any of the following? Select all that apply.

- ☐ Degradation of source water quality
- ☐ Decrease in source availability
- ☐ Change in wells used/well operations
- ☐ Treatment plant process failure, including power outages
- ☐ Treatment plant unplanned shutdown lasting more than 5 days
- ☐ Treatment plant unplanned staffing shortages
- ☐ Shortage of treatment chemicals
- ☐ Change in treatment plant design capacity
- ☐ Change in one or multiple treatment processes
- ☐ Other: Please Describe

B. SURFACE WATER TREATMENT

To edit the operations plan date or current status, select the blue pencil symbol at the end of each row. To cancel the edit, select the red X at the end of a row. Save changes by selecting the green check mark at the end of the row.

If you have questions or concerns about your treatment facility inventory, you should contact your regulating agency representative or select the link “Click Here To Get Assistance with this Section” at the bottom of this page.

WSF ID	Surface water Treatment Plant Name	Date of Operations Plan	Is Operations Plan Current? (Y/N)
001	ALAMEDA EAST PORTAL TERMINUS	05/01/2016	Y
015	SUNOL VALLEY WATER TREATMENT PLANT	06/27/2025	Y
016	HARRY TRACY WATER TREATMENT PLANT	04/01/2025	Y
019	TESLA DISINFECTION FACILITY	06/27/2025	Y
022	ROCK RIVER LIME STATION	07/01/2010	Y
023	SUNOL VALLEY CHLORAMINATION FACILITY	06/27/2025	Y

Did the water system have any incidents in 2025 that substantially affected the surface water treatment plant(s) performance AND/OR had significant modifications or maintenance due to any of the following? Select all that apply.

- ☐ Degradation of raw source water quality
- ☐ Decrease in raw source water availability
- ☐ Change in raw source water(s) used
- ☐ Treatment plant process failure, including power outages
- ☐ Treatment plant unplanned shutdown lasting more than 5 days
- ☐ Treatment plant unplanned staffing shortages
- ☐ Shortage of treatment chemicals
- ☐ Change in treatment plant design capacity
- ☐ Change in one or multiple treatment processes
- ☐ Other: Please Describe

C. CHEMICAL ADDITIVES

Please complete the following table for each chemical used by this water system. Only include chemicals that your water system adds. If you are not sure whether a chemical you are using meets this standard, contact the manufacturer or distributor of the chemical.

The table below is prefilled with direct chemical additives reported on site from previous year eAR. To add a new row, select the green plus sign in the upper right corner of the table. To edit a row, select the pencil image to the right of the row. To remove a row, select the trash can image at the end of a row. Make sure to **save changes** by selecting the green check mark at the end of the row.

Click here to upload an Excel spreadsheet of your water system’s direct chemical additives.

Name of Chemical	Name of Manufacturer	Purpose of using chemical	Chemical is ANSI/NSF Standard 60 certified (Y/N)	Use initiated in current year (Y/N)
Sodium hypochlorite	Univar	Disinfection / Chloramination	Y	N
Hydrofluosilic acid	Catalynt Solutions	Fluoridation	Y	N
Sodium hydroxide	Univar	pH adjustment	Y	N
Aqueous ammonia	Hills Brothers Chemical Co.	Chloramination	Y	N
Sodium bisulfite	Univar	Dechlorination	Y	N
Ferric chloride	Catalynt Solutions	Primary coagulant	Y	N
Cationic Polymer (C308P)	Polydyne	Primary Coagulant	Y	N
Liquid Oxygen	Airgas	Ozone generation	Y	N
Clarifloc C318 (Cationic Polymer)	Polydyne	Coagulation aid	Y	N
Clarifloc N3300P (Nonionic Filter Aid)	Polydyne	Filter aids	Y	N
Lime	Lhoist North America	Corrosion control	Y	N
Calcium thiosulfate	Univar	Dechlorination / ozone quenching	Y	N
Powder Activated Carbon	Atlas Carbon LLC.	Taste & odor removal	Y	N
Ammonium sulfate	Heritage Systems	Coagulant	Y	N
Carbon dioxide	Westair/West Air Gases	pH Control	Y	N

D. INDIRECT ADDITIVES

As of March 9, 2008, a water system shall not use any chemical, material, lubricant, or product in the production, treatment or distribution of drinking water that comes in contact with the drinking water that does not have certification of meeting NSF/ANSI standard 61.

D.1. Does your water system have procedures to ensure all future equipment and materials meet this standard?

--Pick one--

Yes

No

N/A

If you have any questions on the requirements related to indirect additives, you may contact your local regulatory agency.

COMMENTS (Note: Comments will be made publicly available):

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To view last year's report, click [here](#).

15. Distribution System and Storage Tanks

A. SYSTEM PROBLEMS

Type of Problem	No. of Problems	No. of Problems Investigated	No. of Problems Reported to the Division of Drinking Water or Local County Staff	Brief Description of Cause and Corrective Action Taken
Service Connection Breaks/ Leaks	1	1	0	2" meter leak at meter coupling in South San Francisco
Main Breaks/Leaks	1	1	0	BDPL4 (PCCP) leak on main. No actions taken other than monitoring of the leakage rate.
Water Outages	0	0		
Boil Water Orders	0	0		
Total*	2	2	0	

Comments on SYSTEM PROBLEMS (publicly available):

B. INFRASTRUCTURE AND PIPELINE MATERIALS

Pipe Material in Distribution System

1. Which materials does your distribution system pipe consist of? Please check all that apply:

Pipeline Material	Percentage of distribution pipe system composed of the materials selected	Average Age (in years)
☐ Plastic (Including Poly Vinyl Chloride and HDPE)		
☒ Steel	75.1	69
☒ Cast Iron	2.8	120
☐ Galvanized Iron		
☐ Ductile Iron		
☒ Cement Concrete	18.9	40
☐ Asbestos Cement		
☒ Other	3.2	139

Please describe other pipeline materials in your distribution system:
Brick-lined (1.1%) and unknown material 2.1%.

C1. DEAD-END FLUSHING PROGRAM

If unknown, please enter 0 and explain why in the comments box.

Total No. in System	No. with Blowoffs	No. Flushed in 2025	Frequency of Flushing

Comments on DEAD-END FLUSHING PROGRAM (publicly available):

C2. ALL FLUSHING OPERATIONS

Units of Measure for total volume reported below:

--Pick one--

Gallons

Million Gallons

Acre-feet (AF)

100 cubic feet

No Flushing

Total Volume in units of measure selected above; include all types of flushing, not just dead-end flushing:

75000

Comments on ALL FLUSHING OPERATIONS (publicly available): Total estimate of 69,500,000 gallons including all flushing for projects, repair/replacement, and disinfections.

D. VALVE EXERCISE PROGRAM

If unknown, please enter 0 and explain why in the comments box.

Total No. in System	Size Range of Valves	No. Exercised in 2025	Frequency of Valve Exercising
375	2" - 144"	140	18 months

Comments on VALVE EXERCISE PROGRAM (publicly available):

E. STORAGE TANK/RESERVOIR INSPECTION/CLEANING PROGRAM

The table below is prefilled with storage tank and reservoir inventory submitted in last year's eAR. To edit a row, select the pencil image to the right of the row. To add a new row, select the green plus sign in the upper right corner of the table. To remove a row, select the trash can at the end of a row. Save changes by selecting the green check mark at the end of the row.

If you have many storage tanks and completing the table below will take too long, [click here](#) to use a template and upload.

Tank name	Capacity	Capacity Units	Year installed	Date of last inspection	Date of last cleaning	Date re-lined or coated	Corrosion protection(*)	Material of construction
Pulgas Balancing Reservoir 60		Million Gallons	1975	03/31/2021	03/31/2021	09/30/2012	N/A-not metal	Concrete

COMMENTS (Note: Comments will be made publicly available):

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To view last year's report, click [here](#).

16. Emergency Preparedness and Response

NEW

No later than January 1, 2024, Community water systems serving less than 3,000 service connections and Non-Transient Non-Community Systems that are schools shall ensure continuous operations during power failures by providing adequate backup electrical supply.

A.3. During a power outage, with your current backup electrical power supply setup, can your system maintain continuous operations such that it meets current water quality requirements and is sufficient to meet average daily demand?

--Pick one--

Yes

No

In progress

☐

Check this box if you have funding available to achieve this.

A.4 Do you have at least one backup source of water supply, or a water system intertie, that can maintain continuous operations and meets current water quality requirements and is sufficient to meet average daily demand?

Yes

No

A.5 Do you routinely monitor for water loss due to leakages?

Yes

No

A.6 Do you have the source, treatment, and distribution system capacity to meet fire flow requirements?

Yes

No

B. EMERGENCY RESPONSE PLANS

PUBLIC WATER SYSTEMS WITH AT LEAST 3,300 OR MORE PERSONS SHOULD REVIEW AND REVISE THEIR EMERGENCY RESPONSE PLAN TO ENSURE THAT THE PLANS ARE SUFFICIENT TO ADDRESS POSSIBLE DISASTER SCENARIOS.

B.1. Do you have an Emergency Response Plan (ERP) that addresses the procedures for the restoration of water service for your water system?

--Pick one--

Yes

No

B.2. Date of your current Emergency Response Plan:

6/24/2025

B.3. Referring to the emergency notification plan (ENP) in Section 9 - Rpts/Plans, when was your ENP last exercised with a tabletop or other activity? If the ENP has not been exercised in the last year, please leave the field blank.

2/19/2026

C. WATER PARTNERSHIPS

C.2. Do you have an active membership in a mutual aid organization? *

- ☒ Yes
☐ No

COMMENTS (Note: Comments will be made publicly available):

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To view last year's report, click [here](#).

17. Water Conservation

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Section questions are for one water system per Urban Water Supplier.

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To view last year's report, click [here](#).

18. Climate Change Adaptation and Resiliency for Water Utilities

A. CLIMATE THREATS, SENSITIVITY, AND MAGNITUDE OF IMPACTS * A minimum of one climate threat must be identified by checking the corresponding box		
☒ Drought	Groundwater depletion (decreasing well levels, overdrafted groundwater basins, reduced groundwater recharge, etc.)	Choose an item ☐ --Pick one-- ☐ High or Already Experiencing ☐ Medium Sensitivity ☒ None to Low Sensitivity
	Decreased surface water storage (decreasing lake, reservoir, and/or river levels)	Choose an item ☐ --Pick one-- ☐ High or Already Experiencing ☒ Medium Sensitivity ☐ None to Low Sensitivity
	Reduction in surface water (decreases in seasonal runoff, and/or loss of snowmelt)	Choose an item ☐ --Pick one-- ☐ High or Already Experiencing ☒ Medium Sensitivity ☐ None to Low Sensitivity
	Reliance on surface water diverted from the Delta, imported from Colorado River, or other climate-sensitive areas	Choose an item ☐ --Pick one-- ☐ High or Already Experiencing ☐ Medium Sensitivity ☒ None to Low Sensitivity
☒ Water Quality Degradation	Salt-water intrusion into aquifers	Choose an item ☐ --Pick one-- ☐ High or Already Experiencing ☐ Medium Sensitivity ☒ None to Low Sensitivity
	Altered water quality during storm events (turbidity shifts, debris flows)	Choose an item ☐ --Pick one-- ☐ High or Already Experiencing ☒ Medium Sensitivity ☐ None to Low Sensitivity
	Surface water quality issues related to eutrophication, algal blooms, invasive species	Choose an item ☐ --Pick one-- ☐ High or Already Experiencing ☒ Medium Sensitivity ☐ None to Low Sensitivity
☒ Flooding ☒ Sea Level Rise	High flow events and flooding	Choose an item ☐ --Pick one-- ☐ High or Already Experiencing ☐ Medium Sensitivity ☒ None to Low Sensitivity
	Inundation due to sea level rise, high tides, and/or coastal storm surges	Choose an item ☐ --Pick one-- ☐ High or Already Experiencing ☐ Medium Sensitivity ☒ None to Low Sensitivity
	Aging flood protection infrastructure (levees), or insufficient impoundment capacity	Choose an item ☐ --Pick one-- ☐ High or Already Experiencing ☐ Medium Sensitivity ☒ None to Low Sensitivity
	Peak demand volume surges (due to extreme heat, temperature trends, etc.)	Choose an item ☐ --Pick one-- ☐ High or Already Experiencing ☐ Medium Sensitivity ☒ None to Low Sensitivity

☒ Extreme Heat ☒ Fire	Increases in agricultural water demand or energy sector needs	Choose an item ☐ --Pick one-- ☐ High or Already Experiencing ☐ Medium Sensitivity ☒ None to Low Sensitivity
	Increased fire risk and altered vegetation, e.g., wildfires	Choose an item ☐ --Pick one-- ☐ High or Already Experiencing ☒ Medium Sensitivity ☐ None to Low Sensitivity
	Disruption of power supply	Choose an item ☐ --Pick one-- ☐ High or Already Experiencing ☒ Medium Sensitivity ☐ None to Low Sensitivity
☐ Other	Other	Choose an item ☒ --Pick one-- ☐ High or Already Experiencing ☐ Medium Sensitivity ☐ None to Low Sensitivity
☐ None	Active Water Resource Threat Monitoring	Choose an item ☒ --Pick one-- ☐ Yes ☐ No ☐ I don't know
B. ADAPTATION MEASURES ☐		
Install new and deeper drinking water wells, or modify existing wells to increase pumping capacity		Choose an item ☐ --Pick one-- ☐ Completed ☐ In Progress ☐ Plan to Implement ☒ Will not Implement ☐ N/A
Develop local supplemental water supply, enhanced treatment, or increased storage capacity (e.g. recycled water, storm runoff for groundwater recharge, desalination, new reservoir)		Choose an item ☐ --Pick one-- ☐ Completed ☒ In Progress ☐ Plan to Implement ☐ Will not Implement ☐ N/A
Interconnection with other utilities (transfers, mutual aid agreements with neighboring utilities)		Choose an item ☐ --Pick one-- ☒ Completed ☐ In Progress ☐ Plan to Implement ☐ Will not Implement ☐ N/A
Relocate facilities, construct or install redundant facilities		Choose an item ☐ --Pick one-- ☐ Completed ☒ In Progress ☐ Plan to Implement ☐ Will not Implement ☐ N/A
Modify facilities (e.g., install barrier or levee, raise a wall, seal a door, elevate construction)		Choose an item ☐ --Pick one-- ☐ Completed ☐ In Progress ☒ Plan to Implement ☐ Will not Implement ☐ N/A
Conservation measures (demand management, enhanced communication and outreach)		Choose an item ☐ --Pick one-- ☐ Completed ☒ In Progress ☐ Plan to Implement ☐ Will not Implement ☐ N/A
Fire prevention – brush management, partnerships		Choose an item ☐ --Pick one-- ☐ Completed ☒ In Progress ☐ Plan to Implement ☐ Will not Implement ☐ N/A
Alternative or backup energy supply		Choose an item ☐ --Pick one-- ☐ Completed ☒ In Progress ☐ Plan to Implement ☐ Will not Implement ☐ N/A
On-site energy generation		Choose an item ☐ --Pick one-- ☐ Completed ☐ In Progress ☐ Plan to Implement ☐ Will not Implement ☒ N/A
		Choose an item ☐ --Pick one--

Enhance monitoring program, budget for additional testing and treatment, chemicals	Completed In Progress Plan to Implement Will not Implement N/A
Other	Choose an item --Pick one-- Completed In Progress Plan to Implement Will not Implement N/A

COMMENTS (Note: Comments will be made publicly available):

Reporting Year 2025

CA3810001 SAN FRANCISCO REGIONAL WATER SYSTEM

To view last year's report, click [here](#).

Finalize

Disclosure: Be advised that Sections 116725 and 116730 of the California Health and Safety Code states that any person who knowingly makes any false statement on any report or document submitted for the purposes of compliance may be liable for a civil penalty not to exceed five thousand dollars (\$5,000) for each separate violation for each day that the violation continues. In addition, the violators may be prosecuted in criminal court and upon conviction, be punished by a fine of not more than \$25,000 for each day of the violation, or be imprisoned in county jail not to exceed one year, or both the fine and imprisonment.

Please indicate the total number of hours spent to complete this report. This information will be utilized to characterize the level of effort required to complete this report

☒ By checking this box you acknowledge that any information submitted in this report is publicly accessible and may be used by the State of California to determine compliance with applicable laws and regulations. Knowingly submitting false information in this report is a misdemeanor, and by submitting this information you certify that the contents are, to the best of your knowledge, complete and correct.

REPORT SUBMITTED BY

The fields below are intentionally blank. Once you select "Submit", your eAR Reporter contact details are recorded below.

Name: Eddy So
Title: Senior Water Quality Engineer
Work phone: 6506523115
Cell phone: 16503023097
Email address: eso@sfwater.org

Exhibit B



STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
DIVISION OF DRINKING WATER

Issued: January 1, 2024

**ORDER REQUIRING ONLINE TECHNICAL REPORTING
DDW_HQ_2024_001**

The State Water Resources Control Board (State Water Board), acting by and through its Division of Drinking Water (Division) and pursuant to California Health and Safety Code section 116530, hereby issues Order No. DDW_HQ_2024_001 (Order).

FINDINGS AND AUTHORITIES

1. **WHEREAS** there are various statutory and other requirements for public water systems to submit technical information to the State Board in response to issues relating to conservation, drought, lead service lines, water system management, discontinuation of service, and others as set forth below; and
2. **WHEREAS** the Division uses this information to ensure that all public water systems that it regulates are in compliance with the California Safe Drinking Water Act and related legal requirements, and to ensure that public water systems are taking appropriate steps to meet their legal obligations to provide an adequate supply of safe and reliable drinking water to their consumers; and

3. **WHEREAS** the Division seeks to increase the ease and efficiency of reporting by public water systems by combining all such related reporting into two online reporting websites and through this Order requires all future reports that fall within the scope of this Order are done through the Division's online reporting portals, the SAFER Clearinghouse and the electronic Annual Report (eAR), as described in the Directives section of this Order; and
4. **WHEREAS** the Division has the authority to issue this Order pursuant to the California Safe Drinking Water Act, specifically, section 116530 of the California Health and Safety Code relating to technical reports; and
5. **WHEREAS** since 2009, public water systems have been required to submit reports to the Division using the eAR tool to facilitate the collection of annual technical reports from public water systems; and
6. **WHEREAS** the data collected in the eAR is necessary to assess compliance by public water systems with legal requirements, including but not limited to those relating to:
 - a. statewide surveys of large, medium, and small public water systems concerning the current cost of drinking water paid by residential, business, and industrial consumers. (Health & Saf. Code, § 116355, subd. (b)(9).)
 - b. lead service line inventories and provision of timelines for replacement, if applicable. (Health & Saf. Code, § 116885, subds. (a)-(b).)
 - c. for certain water systems, the number of annual discontinuations of residential service for nonpayment. (Health & Saf. Code, § 116918.)
 - d. small water suppliers and nontransient noncommunity water systems that are schools are required to report annual water supply information (Wat. Code, § 10609.61.); and
 - e. technical, managerial, and financial capacity. (Health & Saf. Code, § 116530.).

7. **WHEREAS** the California Legislature found and declared in Senate Bill 552, signed into law by Governor Gavin Newsom on September 23, 2021, that “droughts are predicted to become more frequent, longer, and more severe as climate change progresses, putting drinking water supplies at risk of running dry or becoming contaminated,” that “there are currently varying levels of water contingency planning and coverage across counties for small water suppliers and self-supplied communities, leaving hundreds of thousands of people at risk of going without water to meet their basic household and drinking water needs during the next drought,” and that “California can take basic steps to implement more proactive drought planning that would benefit the communities most at risk, and by doing so help prevent catastrophic impacts on drinking water for the communities most vulnerable to the impacts of climate change.” (Wat. Code, § 10609.50.); and
8. **WHEREAS** Senate Bill 552 requires small water suppliers and non-transient non-community schools to enhance their advance drought planning, including reporting requirements under Water Code Section 10609.61 for water supply condition information such as inventory and assessment of sources, source delivery parameters, water system monthly total demand, and average and peak flowrate demand. Senate Bill 552 also requires, by January 1, 2023, subject to funding availability, the implementation of monitoring systems sufficient to detect production well groundwater levels; and
9. **WHEREAS** urban water suppliers are required to report conservation and usage information to the State Water Board pursuant to section 991 of title 23 of the California Code of Regulations; and
10. **WHEREAS** public water systems are required at all times to have source capacity available to meet their maximum day demand, in accordance with section 64554 of title 22 of the California Code of Regulations; and
11. **WHEREAS** public water systems are required to install a flow meter at a location between each water source and the entry point to the distribution system, measure the

quantity of water flow from each source, and record the total monthly production thereof, per section 64561 of title 22 of the California Code of Regulations.

12. **WHEREAS** in response to the drought, the Division developed a data model to assist Division staff in identifying public water systems vulnerable to future water shortages, which model considers multiple factors including but not limited to: system size, number of sources, source type, location, groundwater basin status, surface water availability, source capacity violation history, risk assessment score, and water system self-reported drought vulnerability in the eAR.

13. **WHEREAS** using the reported data, data model, and staff expertise, the Division can determine that certain public water systems are vulnerable to future water shortages, and will require more frequent and enhanced reporting of certain data by such vulnerable public water systems.

DIRECTIVES

THEREFORE, the State Water Board hereby orders that beginning on January 1, 2024, all public water systems comply with the reporting requirements set forth below:

All Public Water Systems

1. By March 31st, of each year, all public water systems shall submit an Annual Inventory Report (AIR) via the Division's SAFER Clearinghouse (<https://wbappsrv.waterboards.ca.gov/safer/>) consistent with the instructions at the State Water Board's SAFER Clearinghouse webpage ([Drought and Conservation Reporting | California State Water Resources Control Board](#)), which are incorporated by reference in this Order, including any future changes not inconsistent with this Order. The AIR includes, but is not limited to, information concerning

drinking water source and facility inventories, drinking water flow paths, and annual drinking water supply and demand.

2. By April 1st of each year, all public water systems shall complete and submit the eAR for the prior reporting year to the Division via the eAR Portal (<https://ear.waterboards.ca.gov>) consistent with the instructions at the State Water Board's eAR webpage (https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/ear.html), which are incorporated by reference in this Order, including any future changes not inconsistent with this Order.

All Community Water Systems as well as Schools that are Non-Transient Non-Community Water Systems

3. By the end of the month following the end of each calendar quarter, all community water systems and non-transient non-community schools (excluding urban retail water suppliers) shall submit the system's monthly Drought and Conservation Reports to the Division via the SAFER Clearinghouse (<https://wbappsrv.waterboards.ca.gov/safer/>), consistent with the instructions at the State Water Board's SAFER Clearinghouse webpage ([Drought and Conservation Reporting | California State Water Resources Control Board](#)), which are incorporated by reference in this Order, including any future changes not inconsistent with this Order. The Drought and Conservation Report includes, but is not limited to, water shortage data for each of the three months in the reporting calendar quarter, source water data, and supply and demand data, as described in the instructions at the State Water Board's SAFER Clearinghouse webpage. The first Drought Conservation Reports required by this Order are due on April 30, 2024, and includes data for the first calendar quarter of 2024 (January, February, and March).

Urban Retail Water Suppliers

4. By the end of every month, all Urban Retail Water Suppliers shall submit an Urban Drought and Conservation Report to the Division via the via the SAFER Clearinghouse (<https://wbappsrv.waterboards.ca.gov/safer/>), consistent with the instructions at the State Water Board's SAFER Clearinghouse webpage ([Drought and Conservation Reporting | California State Water Resources Control Board](#)), which are incorporated by reference in this Order, including any future changes not inconsistent with this Order. The Urban Drought and Conservation Report includes, but is not limited to, the data required to be reported by section 991 of title 23 of the California Code of Regulations for the prior reporting month, as described in the instructions at the State Water Board's SAFER Clearinghouse webpage.

Water Systems Experiencing a Water Outage or a Potential Water Outage

5. No later than the seventh day of every month, public water systems that the Division identifies as having potential to experience a water outage shall submit a Monthly Potential Water Outage Report to the Division via the SAFER Clearinghouse (<https://wbappsrv.waterboards.ca.gov/safer/>) for the prior reporting month, consistent with the instructions at the State Water Board's SAFER Clearinghouse webpage ([Drought and Conservation Reporting | California State Water Resources Control Board](#)), which are incorporated by reference in this Order, including any future changes not inconsistent with this Order. Identified public water systems subject to this reporting requirement will be notified by the Division that a Monthly Potential Water Outage Report is required. The information required by the Monthly Potential Water Outage Report includes, but is not limited to, data concerning the water system's drinking water sources, demand, forecasted water

shortages, demand reduction measures, and supply augmentation efforts, as described in the instructions at the State Water Board's SAFER Clearinghouse webpage. A public water system that the Division notifies is subject to this reporting requirement may seek the Division's review of its determination that the system has the potential to experience a water outage by emailing the Division at clearinghouse-reporting@waterboards.ca.gov and providing supporting information.

6. No later than the seventh day of every week, public water systems that the Division identifies as experiencing a water outage or severe water shortage, shall submit a Weekly Water Outage Report to the Division via the SAFER Clearinghouse (<https://wbappsrv.waterboards.ca.gov/safer/>), consistent with the instructions at the State Water Board's SAFER Clearinghouse webpage ([Drought and Conservation Reporting | California State Water Resources Control Board](#)), which are incorporated by reference in this Order, including any future changes not inconsistent with this Order. Identified community water systems subject to this reporting requirement will be notified by the Division that a Weekly Water Outage Report is required. The information required by the Weekly Water Outage Report includes, but is not limited to, data concerning the water system's drinking water sources, demand, forecasted water shortages, demand reduction measures, and supply augmentation efforts, as described in the instructions at the State Water Board's SAFER Clearinghouse webpage. A public water system that the Division notifies is subject to this reporting requirement may seek the Division's review of its determination that the system is experiencing a water outage or severe water shortage, by emailing the Division at ddw-drought@waterboards.ca.gov and providing supporting information.

PREVIOUS REPORTING ORDERS SUPERCEDED

The following Technical Reporting Orders are hereby rescinded and superseded by this Order:

- ORDER DDW_HQ_EAR2023_001 (issued March 13, 2023))
- ORDER DDW_HQ_DROUGHT2023_001 (issued January 1, 2023)

AMENDMENTS TO THIS ORDER

The State Water Board reserves the right to make modifications to this Order as it may deem necessary. Such modifications may be issued as amendments to this Order.

FUTURE TECHNICAL REPORTING ORDERS

By issuing this Order, the State Water Board does not waive its authority to issue individual technical reporting orders to public water systems.

PARTIES BOUND

This Order shall apply to and be binding upon the public water system and its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

SEVERABILITY

If any provision of this Order is held invalid or the application that provision to any person or circumstance is held invalid, that invalidity shall not affect other provisions or applications of this Order that can be given effect without the invalid provision or application, and to this end the provisions of this Order are severable.

FURTHER ENFORCEMENT ACTION

The California SDWA authorizes the State Water Board to issue a citation with monetary penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder. Failure to comply with this Order may subject the System to a citation with monetary penalty.

The California SDWA also authorizes the State Water Board to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Water Board, and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the State Water Board. The State Water Board does not waive any enforcement action by issuance of this Order.



Darrin Polhemus, Deputy Director
Division of Drinking Water

12/21/2023

Date

Exhibit C

Guidelines for Evaluating Applications for Recreational Use Permits at Domestic Water Supply Reservoirs

BACKGROUND INFORMATION

A. Legal Authority

The California Code of Regulations (CCR) prohibits recreational use of a domestic water supply reservoir unless it is specifically authorized in a water supply permit¹. The CCR also establishes minimum data requirements to accompany an application for recreational use².

The California Health and Safety Code (HSC) establishes as State policy that all public waters are to be used for multiple purposes, to the extent that the uses are consistent with public health and safety³. The HSC prohibits body contact recreation in a reservoir where water is stored for domestic use, but makes exceptions for all reservoirs in San Diego County, the Nacimiento Reservoir in San Luis Obispo County, and the Modesto Reservoir in Stanislaus County⁴. The California Water Code makes an additional exception for reservoirs constructed and operated as part of the State Water Project by providing that body contact recreation shall be permitted on all such reservoirs to the extent that it is compatible with public health and safety requirements⁵.

The above laws do not specifically address reservoirs that store water for multiple purposes, including domestic water supplies. In these cases, a domestic water supplier or group of suppliers generally does not control activities on the reservoir. They should, however, seek to establish an agreement with the entity that does control such activities to implement the guidelines outlined in this document.

B. Health Department Study and Previous Guidelines

In 1959 the California Legislature, which had been grappling with the issue of recreational use of reservoirs used as sources of domestic water, appropriated funds for the State Department of Public Health to study the impact of recreation on such reservoirs. The study, which was completed in 1961, drew the following general conclusions:

- Most of the reservoirs surveyed that were open for recreational use showed physical evidence of varying degrees of abuse and pollution (e.g., trash, human feces, etc.)
The study found a direct correlation between such abuse and poor, inattentive

¹ CCR, Title 17, §7626

² CCR, Title 17, §7627

³ HSC, §115825

⁴ *ibid.*

⁵ California Water Code, §12944(a)

management practices on the part of the entities responsible for the reservoir. Specifically, the report cited inadequate provision and maintenance of sanitation facilities, and insufficient personnel to supervise and control recreational activities, as being problems at most reservoirs that permitted recreation.

- Notwithstanding the physical evidence, the study found that concentrations of indicator organisms (i.e., total coliform, fecal coliform, and fecal streptococci bacteria) were not significantly greater at the heavily used reservoirs than at those that were closed to recreation. Also, there were not significant differences between the heavily used parts of an open reservoir and the parts of the same reservoir that were less heavily used.
- The report concluded that non-body contact recreation would not adversely impact the quality of water in domestic water supply reservoir provided that adequate sanitation facilities and control of recreation activities were provided.

Based in part upon the concerns identified in the 1961 report, in 1974 the Water Sanitation Section of the California Department of Health developed a set of guidelines for controlling recreational and other development at reservoirs used for domestic water supply. The guidelines covered both reservoirs primarily used for domestic supply and reservoirs providing water storage for a variety of purposes, including domestic supply. The guidelines address water intake protection, sewage collection and disposal facilities, toilets, refuse disposal, water-oriented recreation, equestrian activities, and other aspects of recreation management.

C. Recent Developments

In the 1980s and 1990s two pathogenic organisms were identified as important causative agents in waterborne disease - *Giardia* and *Cryptosporidium*. These pathogens are very difficult to detect using standard analytical techniques (e.g., recovery rates from spiked samples collected pursuant to California's implementation of the federal Information Collection Rule ranged from less than 1% to 4%), and show poor correlation with commonly used indicator organisms. As a result, recognition has grown among water suppliers and regulatory agencies that indicator organisms are of limited usefulness in predicting the safety of water sources.

In 1995 the Metropolitan Water District of Southern California (MWD) took a new approach for determining the appropriate level of recreational activity for its new Eastside Reservoir in Riverside County. Using published data and a flow model for the new reservoir, MWD hired a group of experts to perform microbiological risk assessments of various recreation use proposals. The assessment was made as follows:

- Using published data, rates of pathogen release were estimated for recreators in various age groups.
- These rates were applied to the projected numbers of recreators for each age group for the various use proposals to determine the range of pathogen loads that could be anticipated.

- These loads were used as part of model calculations to estimate the range of pathogen concentrations in the reservoir outflow, taking into account die-off in the reservoir.
- These concentrations were used to estimate the additional risk of infection posed by the various recreation use proposals for those using the treated water for drinking, taking into account the reduction of pathogens by the treatment process.

The assessment was evaluated by an independent scientific peer review panel, which agreed with the methodology employed and recommended some refinements. MWD used the assessment as a basis for its decision to restrict body contact recreation on the Eastside Reservoir. A paper on the study has been published in the scientific literature⁶.

Contra Costa Water District (CCWD) used MWD's methodology and some of the results of the Eastside Reservoir assessment to perform a similar assessment of recreational use of Contra Loma Reservoir, which it uses intermittently as a source of supply. This reservoir is much smaller than the Eastside Reservoir (2,457 acre-foot capacity vs. 800,000 acre-feet) and is very intensively used for swimming (approximately 80,000 visitors in 1997). CCWD's assessment indicated that the incremental risk posed by the recreational use is 4 to 67 times higher than U.S. EPA's target of 1/10,000 annual risk of infection for treated surface water⁷.

D. Purpose, Scope and Organization of Current Guidelines

The purpose of these guidelines is to help ensure the safety of California's potable water supply by controlling sources of contamination on reservoirs used by public water systems. The guidelines incorporate the criteria from the 1974 version, expanding on or modifying them where applicable. In particular, the guidelines provide for the incorporation of a microbiological risk assessment in a recreational use permit application when body contact recreation is allowed. This is necessary because many reservoirs are excluded from the statutory prohibition of body contact recreation, and are subject to contamination by *Giardia*, *Cryptosporidium*, and enteric viruses from such activities.

The guidelines provided below generally follow the outline set forth in the CCR for data that must be submitted with an application for a recreational use permit.

⁶ Anderson, *et al.* 1998. "Modeling the Impact of Body-Contact Recreation on Pathogen Concentrations in a Source Drinking Water Reservoir"

⁷ U.S. EPA, 1989, Final Surface Water Treatment Rule; *Federal Register* 54, 124, 27486

PROPOSED GUIDELINES

A. Reservoir and Watershed Information

The permit application must include maps showing the reservoir and its surroundings. The information provided should include the following:

- the location of water works facilities (i.e., reservoir inlets or tributaries, reservoir outlets, controls, any treatment works, etc.),
- the topography of the reservoir (including subsurface) and its immediate watershed (i.e., within approximately 1 mile of the shoreline),
- the location of the shoreline at anticipated high and low water levels,
- prevailing currents in the lake,
- the areas to be open for different types of recreational use,
- locations of any intakes used to supply water for recreational use areas,
- locations of activities and/or facilities that have the potential to contaminate the water supply (e.g., horse stables),
- the location of wastewater collection, treatment, or disposal facilities in the proximity of the reservoir, including information on the degree of treatment provided and any reliability features,
- locations of toilets to be provided for the public, and
- information on the quality of the water in the reservoir (i.e., results of any microbiological, chemical, turbidity, and radiological monitoring).

The application must also include data on the reservoir. The information provided should include the following:

- the physical dimensions of the reservoir,
- the range of water level fluctuations,
- its storage capacity and shoreline length at anticipated high and low water levels,
- the residence time for water stored in the reservoir at anticipated high and low water levels,
- the topography of the reservoir site, and
- the occurrence of wind-induced currents, natural or man-induced turbulence, thermal gradients, a thermocline, or other factors that may affect the quality of the stored water and movement of possible contaminants to the water intake from various points in the reservoir.

B. Protection of the Reservoir Outlet

The application must include data on the protective zone (i.e., the area in which recreational activities are prohibited) to be provided around the reservoir outlet. Information provided should include the following:

- the extent of the protective zone, and the basis for determining the extent (i.e., conformance with standard guidance or a site-specific study of flow dynamics)

- the distance from the protective zone to various areas of recreational use (e.g., swimming areas, boat docks, etc.), and
- a description of the program to prevent encroachment into the protective zone (i.e., physical barriers, postings, informational brochures, and patrolling).

The protective measures for the outlet must, as a minimum, meet the following criteria:

- Provide a closed zone around the outlet within which all recreational use is prohibited. Mark the zone with buoys and a cable line to prevent boats from entering. Provide posting and patrol to prevent public access. Prohibit anchoring of boats on the buoy line.
- The closed zone should extend for a minimum distance of 500 feet from the reservoir outlet works.
- Close the shoreline area extending 500 feet on either side of the outlet by fencing. The area should be posted, both in the water and along the shoreline. The area should be patrolled at least daily and more often during peak use periods.
- Streams or drainage ways flowing into the reservoir within the closed zone should be protected by closing their tributary watersheds to recreational development or cattle grazing within 500 feet of the reservoir shoreline.

A site-specific study of flow dynamics may be undertaken to determine whether the standard 500-foot setbacks provided above are either adequate or necessary.

C. Recreational Activities

The application will provide information on the recreational activities that will be allowed on or around the reservoir. Information provided should include the following:

- a description of the various types of recreational use that will be allowed (e.g., camping, hiking, boating, fishing, skiing, personal water craft, swimming, horseback riding), and
- the maximum daily number of persons, cars, vehicles or boats that will be allowed in the area during peak periods, and
- the average, minimum, and maximum total number of persons, cars, vehicles or boats that use the area on an annual basis.

D. Control Program

The application will include a description of the program to control recreation activities on the reservoir. Information provided should include the following:

- the control policies and objectives that the program will implement,
- the entity responsible for carrying out the program,
- the governmental agency responsible for regulatory oversight of the program,
- the numbers and qualifications of personnel who will control recreation activities,

- the times when such personnel will be present,
- a description of the activities and duties of control personnel including a tabulation of how much time will be spent performing these and other tasks (if any),
- how the control program will be financed,
- a description of the types of sanitation facilities provided and their placement with respect to use areas, the waterline of the reservoir, etc.
- a description of how sanitary and recreational facilities will be maintained in a sanitary and aesthetically acceptable condition, including a maintenance schedule for these facilities.

Program Policies

The program should implement the following restraints on recreational activities and the facilities that support them:

1) Boating Activities

If boating in other than agency-owned and operated boats is allowed, the agency responsible for the operation of the recreation area should adhere to the following requirements:

- a) Vessels with any form of portable toilet capable of being emptied into the reservoir must be prohibited. In some cases, the Department of Health Services (DHS) may request that all boats with any form of toilet or sink be excluded from the reservoir.
- b) The reservoir must be open to boating only when the operating agency can maintain an adequate patrol.
- c) Boat-washing facilities should be provided for rental and private boats. All waste from such facilities must be removed to an on-shore disposal system.
- d) A responsible person must be on duty at all times at the launching ramps when the ramps are in operation to inspect all boats being launched to ensure compliance with applicable regulations.
- e) Containment features must be provided at all fuel-loading facilities to prevent fuel spillage into the reservoir. Storing fuel in containers over the water must be prohibited.
- f) Floating restaurants, snack bars, or other similar types of facilities that require disposal of sewage or other waste should be prohibited.
- g) Patrol personnel must enforce the provisions of the California Harbor and Navigation Code and all applicable local regulations.
- h) A safety inspection program must be implemented to ensure that boats are equipped with a life preserver for each passenger and to regulate the number of persons that can be carried by each boat.
- i) Fish cleaning facilities with adequate water supply and waste disposal systems must be provided. These facilities should be set back from the high water line by at least 100 feet. Prevent the overflow of waste from this facility into the reservoir.

2) Swimming

At reservoirs where swimming is allowed, the following precautions must be observed:

- a) In order to maximize pathogen attrition in the reservoir, swimming areas should be located as far from the reservoir outlet as possible, and situated where prevailing currents will not allow rapid transport of water from the swimming area to the outlet. A site-specific analysis of flow dynamics is strongly encouraged.
- b) In order to reduce the introduction of fecal matter into the reservoir, diaper-wearing infants should be prohibited from water contact.
- c) Dogs and other domestic animals should be prohibited from swimming areas.

3) Toilets

Toilets must be sufficient in number, conveniently located, readily accessible to the public, and maintained in a clean, sanitary fashion at all times.

- a) Toilets must be provided for each sex in proportion to the number of visitors expected. The recreational facility manager may either perform a study to determine the appropriate number of toilets, or may use the following criteria:
 - Picnic areas, playgrounds, beaches, and other general use areas: 50 persons per toilet. The facilities must be centrally located and easily accessible.
 - Camping areas: 20 persons per toilet. Each campsite must be no more than 400 feet from a toilet.
 - Designated shore-fishing areas: 70 persons per toilet. The toilets must be located no more than 500 feet apart at regular intervals along the shoreline.
- b) Toilet facilities must be convenient and available to the boating public in all areas of the reservoir that are open to recreation. Only parts of the shoreline where toilet facilities are available within a 5-minute walk (or, alternatively, within 500 feet) should be open for recreation.
- c) Toilet facilities must be available within two miles of any point of the reservoir, and provided with a dock for easy access.
- d) Toilets must be emptied and cleaned daily in developed areas during the recreation season. At other times, and in remote areas, toilets must be emptied and cleaned at least once a week.
- e) The following types toilets are permitted for use at reservoir areas, subject to the indicated constraints:
 - **Water flush toilets** are preferred by the public, and should be provided wherever possible. Such toilets must be set back least 200 feet from the high water line of reservoirs and lakes, unless otherwise approved by the health officer. A dike should be placed around the facility to prevent overflow to the reservoir. An alarm system to alert maintenance personnel of an overflow condition is strongly recommended.
 - **Chemical toilets** are recommended to supplement water flush facilities during peak-use periods. They should also be provided in limited and seasonal use areas, and in gently sloping areas where the fluctuating water levels can cause wide variations in the shoreline. The toilets should be located at least 50 feet (horizontal distance) from the existing water line of lakes and reservoirs and anchored to prevent overturning. The tank must be

emptied before filled within 12 inches of the seat, using procedures designed to prevent spillage. The toilets must be moved to higher ground when the water level begins to rise in the reservoir.

- **Vault and pit privies** may be used in remote areas where recreational use is limited. The toilets should be set back at least 100 feet from the high water level of the reservoir. When the pit is filled within 18 inches of the floor slab, empty or move the privy and adequately cover the pit.
- **Floating restrooms** should be prohibited unless special approval is obtained from DHS.

4) Trailer Sanitation Stations

Camping areas that allow van conversions, trailers, or recreational vehicles must provide sanitation stations to receive the discharge of sewage holding tanks. At least one such facility must be provided for every 100 vehicles. Sanitation stations must be set back at least 200 feet from the reservoir high water line, and must be approved by the local health department. In all areas open for recreation vehicles with sewage drains must be prohibited within 50 feet of the reservoir shore.

5) Individual, Onsite Sewage Disposal Systems

Where residential or commercial sewage disposal is by means of individual septic tanks and leaching systems, the following is required:

- a) Onsite sewage disposal systems must be designed by a registered Civil Engineer on the basis of percolation tests conducted at the site.
- b) An alternative disposal system must be available if the regular system fails to function.
- c) An overflow tank at the terminus of the leaching system must be provided and inspected at least weekly to warn if the system is failing.
- d) Onsite sewage disposal systems must be set back from the reservoir high water line at least 200 feet, and must be at least 10 feet above the high water line. Such systems must be prohibited from the shoreline portion of the closed zone at the reservoir outlet.
- e) Plans for onsite sewage disposal systems must be submitted to the local health department for review and approval by prior to construction.

6) Sewerage Systems

Where sewage is handled by an integrated collection and disposal system, the following is required:

- a) Sewers and appurtenances must be at least 10 feet above and over 200 feet away from the high water line of the reservoir or lake.
- b) Sewerage facilities must be designed and built to prevent overflow or leakage. Sewer lines and manholes must be durable and watertight. Manhole structures must have watertight covers.
- c) Sewage pumping stations and force mains must be designed on a fail-safe basis. Pump stations must be provided with at least two pumps, failure alarms, emergency storage, and standby power or portable, independently powered pumps.

- d) All failure alarms on the various portions of the sewerage system must have an independent power source (e.g., a battery). The alarms must be connected to a station that is manned 24 hours a day.
 - e) A public agency must operate and maintain the sewerage system.
 - f) A Grade IV California Wastewater Treatment Plant Operator must be designated to operate the sewerage system.
 - g) All portions of the sewerage system must be outside the closed zone at the reservoir outlet.
 - h) New sewage treatment plants and effluent disposal areas must be located at least 1 mile away from the shoreline the reservoir, and if possible, off the watershed.
 - i) If an existing sewage treatment plant is located on the watershed, the following restrictions apply:
 - The treatment plant must be set back at least 500 feet from the reservoir high water line.
 - The plant site must be enclosed by a dike, or another means must be provided to contain any overflow.
 - The treatment plant must be designed on a fail-safe basis with dual facilities, failure alarms, a minimum of 24 hours emergency storage, and standby power.
 - j) If an existing effluent disposal area is located on the watershed, the following restrictions apply:
 - Effluent disposal to the reservoir must be prohibited.
 - The effluent disposal area must be set back at least 1,000 feet from the reservoir high water line.
 - Surface drainage from adjacent areas must be diverted around the disposal area. Adequate facilities must be provided to prevent any runoff or overflow from the disposal area. Effluent storage requirements are ten days for spray disposal, and three days for subsurface percolation.
- 7) Refuse Disposal
Dumping of refuse into the water or along the shoreline of the reservoir and tributary streams must be prohibited. Conveniently located, covered, and anchored refuse containers must be provided in all areas open for recreation. A sufficient number of such containers must be provided to accommodate refuse generated during peak use periods. An approved waste collection and disposal entity must transport refuse off the watershed for disposal.
- 8) Equestrian Activities
Equestrian activities must be subject to the following controls:
- a) Prior to construction the local health department must approve the location and operating plans for all corrals, stables, staging areas, and trails.
 - b) Before an area is open to equestrian use a suitable ordinance or regulation acceptable to the local health department must be established to control the equestrian activities.

- c) Horses must be prohibited from entering the reservoir or any tributary stream within 200 feet of the reservoir shoreline. The operator of the equestrian recreation facility must implement a program of fencing, posting, and patrol to accomplish this objective.
- d) All trails must be set back at least 100 feet from the reservoir high water level.
- e) The operator of the equestrian facilities must provide the public with copies of all applicable ordinances in a brochure that prominently states that the reservoir is a source of domestic water supply and must be protected.
- f) Stables or corrals should not be located on the reservoir watershed. If this is not possible, the following restrictions apply:
 - These facilities must be set back at least 1,000 feet from the high water level of the reservoir.
 - The maintenance program for stables and corrals must provide daily collection of manure at all corrals and stable areas, and transportation to a storage or disposal area off the watershed.
 - Storm water drainage from stables and corrals must be prevented entering the reservoir insofar as feasible. Storm water from adjacent areas should be diverted away from stables and corrals.

9) Visitor Limitation

In order to prevent overuse of the area and creation of health or safety hazards, the number of persons, boats and trailers, that are allowed to use a recreation area must be limited to avoid exceeding the capacity of sanitation and other support facilities. These limits must, at a minimum, conform to the criteria provided above for refuse containers, toilets, and trailer sanitation stations.

As noted on page 1, some domestic supply reservoirs are exempted from the statutory prohibition of body contact recreation. If such recreation is allowed on a domestic supply reservoir, the number of visitors must be further limited in order to prevent the contamination of the raw water supply with excessive numbers of pathogenic organisms. The following table⁸ provides some guidelines for determining the appropriate limits. Reservoirs that allow numbers of visitors exceeding these guidelines should be evaluated using a biological risk assessment, as described in section E. below.

Type of body contact recreation allowed on reservoir	Annual number of visitors per acre-foot in storage capacity⁹
water skiing/personal watercraft; no swimming	3.2
swimming	2.1

It should be noted that the values given in the above table assume there is no thermocline effect. If such a condition is known to exist during the period when body-

⁸ Adapted from method used by Anderson, 1999. "Estimated Pathogen Concentrations in the Contra Loma Reservoir and Associated Risks to Consumers and Recreators"

⁹ Average volume above thermocline during peak visitation period

contact recreation takes place, only the volume of water above the thermocline should be used in calculating the visitor capacity.

10) Water Quality Monitoring

If body-contact recreation is allowed, the reservoir must be monitored for microbial quality. This monitoring should consist of the following elements:

- **Parameters:** At a minimum, samples should be collected for total and fecal coliform bacteria. Samples for *E. coli* and enterococcus bacteria are also recommended. In addition, samples should be collected for protozoa (i.e., *Giardia* and *Cryptosporidium*).
- **Frequency:** Bacteriological samples should be collected at least weekly, and during a peak use period (usually a weekend afternoon.) Protozoa samples should be collected at least monthly.
- **Locations:** At least one sample should be collected for bacteriological analysis from each swimming or dock area, and from the reservoir inlet(s) and outlet(s). Protozoa samples should be collected from the reservoir outlet.

11) Reservoir Area Closure

The recreation administrator or manager must be authorized to close a reservoir to recreation under conditions such as the following:

- a) When the safety of the stored domestic water supply may be jeopardized.
- b) When the number of visitors is too small to justify providing the necessary supervision.

In addition, the Department's draft "Guidance for Freshwater Recreational Areas" provides criteria for posting and closing a recreational area due to excessive microbiological hazard to bathers. While not directly related to protection of the water quality for domestic purposes, these criteria are provided below for the reader's convenience.

A recreation area should be posted (or closed, at the discretion of the local health officer) when water quality monitoring indicates that levels of indicator organisms exceed any of the following values:

Parameter	Single Sample	30-day Average
Total coliform	10,000/100 ml	1,000/100 ml
Fecal coliform	400/100 ml	200/100 ml
<i>E. coli</i>	235/100 ml	126/100 ml
Enterococcus	61/100 ml	33/100 ml

12) Reservoir Patrol

Full-time patrol personnel must be provided to supervise and control visitors, and prevent nuisance conditions and unsafe activities. The number of personnel provided should depend upon the number of visitors according to the following criteria:

Body Contact Recreation Prohibited	Body Contact Recreation Allowed
1 per 500 persons or less	1 per 200 persons or less
2 per 1,500	2 per 1,000
3 per 2,500	3 per 1,500
4 per 4,000	4 per 2,000
5 per 5,000	5 per 2,500
	6 per 3,000

Additional personnel should be provided for larger crowds or large recreation developments, especially during peak use periods, to assure proper supervision and control of the visitors in all areas open to recreational use.

Boat patrols must be provided at reservoirs where boating is permitted. The number of boat patrols should be sufficient to police the entire reservoir at least twice daily. Boat patrols should be provided with radio communication equipment or cell phones. If high-speed boats are permitted to use the reservoir, the patrol boat should be capable of pursuit.

13) Emergency Plan

The agency responsible for the operation of the reservoir should develop an emergency plan to be implemented if there is an actual or threatened water contamination incident. The emergency plan must include notification of the State and local health departments as well as the water purveyor(s) taking water from the reservoir.

14) Public Health Surveillance

The local health agency of jurisdiction should provide public health surveillance of recreation activities at a reservoir. The reservoir operator should negotiate a contract with the local health department to provide this service. This contract should provide for at least one inspection per month of the recreation area by a registered Environmental Health Specialist. A detailed inspection form should be completed during the inspection, with copies furnished to the operator and DHS.

15) Public Notification

Visitors must be effectively informed that the reservoir is used for drinking water purposes and must be protected. The information program should have the following elements:

- Indicate on all informational bulletins that the reservoir is a source of domestic water supply and shall not be polluted.
- Provide all persons entering the recreation area with copies of ordinances or similar informational material relating to the protection of the water supply.
- Locate large permanent signs throughout the recreation area indicating that the reservoir is a source of domestic water supply. Signs in swimming areas should also indicate that domestic animals are not allowed, and that diaper-wearing infants must be kept out of the water.

- Provide decals for posting inside all rental and all private boats indicating the need for protection of the stored water supply.

E. Biological Risk Assessment

In cases where the annual number of visitors exceeds the guidelines provided in Section D.9 above, the application should include a numerical analysis and estimate of the anticipated densities of critical pathogenic organisms (i.e., *giardia* cysts, *Cryptosporidium* oocysts, and enteric viruses) at the reservoir outlet, and how these concentrations vary with recreational use patterns, reservoir levels, and flow conditions. This is especially appropriate when body-contact recreation is allowed in a reservoir. The analysis should take into account the information provided pursuant to items A through D above. The analysis must be carried out by persons with expertise in microbiological risk assessment and reservoir flow modeling, and should use the following general format:

- Estimate the average number of infected recreators (pathogen carriage).
- Estimate the amount of fecal material and the concentration of the critical pathogens in the feces that will be introduced by an infected recreator in contact with the water. The latter should take into account both the shedding of residual fecal material and the occasional accidental fecal release (AFR).
- Estimate the numbers of pathogens entering the water at various locations based on the number of recreators, their age distribution, the percent infected, and the number of pathogens that would be introduced through shedding and AFRs.
- Develop a hydraulic model of the reservoir that will predict the transport of pathogens from their point of entry to the outlet, taking into account pathogen attrition in the reservoir.
- Estimate the range of densities of pathogens in the reservoir outlet, taking into account daily, weekly, and seasonal variations in recreational use, water level, flow patterns, and water temperature.
- Determine the pathogen reduction efficiency for the water treatment plant(s) drawing water from the reservoir.
- Estimate the infective pathogen concentration in the potable water supplies based upon the raw water pathogen densities and the treatment plant efficiencies.
- Estimate the risk of infection based on the concentration of infective pathogens in the potable water supply, infective dose, and quantity of water consumed.

Evaluating the Risk Assessment

1) Assumptions

The risk assessment outcome is highly dependent upon the initial assumptions made regarding infected populations, pathogen concentrations in fecal material, the rate at which fecal material/pathogens are released during body-contact recreation, and the survival rates for the various pathogens. The following table lists some of the rates

assumed in the MWD Eastside Reservoir study, which reflect comments received from a scientific peer review panel.

Parameter	Values used in MWD Study
<i>Giardia</i> Infection Rate	0 – 10%
<i>Cryptosporidium</i> Infection Rate	0 – 5%
Rotavirus Infection Rate	5 – 20%
Poliovirus Infection Rate	5 – 20%
Feces shed per person	10^{-3} – 10^1 g
Accidental fecal release (AFR)	1 AFR per 1,000 recreators 50 – 200 g/AFR
<i>Giardia</i> per gram of feces	10^5 – 10^7
<i>Cryptosporidium</i> per gram of feces	10^5 – 10^7
Rotavirus per gram of feces	10^7 – 10^9
Poliovirus per gram of feces	10^6 – 10^8

The MWD assessment used the following rates for pathogen attrition in the Eastside Reservoir:

Zone	Crypto.	Giardia	Rotavirus	Poliovirus
Epilimnion	0.016 – 0.15 day ⁻¹	1.1 – 1.65 day ⁻¹	0.1 – 0.5 day ⁻¹	0.28 – 0.88 day ⁻¹
Hypolimnion	0.008 – 0.020 day ⁻¹	0.04 – 0.13 day ⁻¹	0.05 – 0.25 day ⁻¹	0.14 – 0.44 day ⁻¹

The above rates reflect the current state of the science and will probably be used in other risk assessments. Assessments using rates that differ greatly from the ranges listed above should be questioned.

Finally, the USEPA has recently determined that a water system that meets the requirements of the Long-Term Surface Water Treatment Rule can reliably provide the following pathogen reduction rates:

Pathogen	Reduction Rate
<i>Giardia</i>	99.67% (2.5 logs)
<i>Cryptosporidium</i>	99.9% (3 logs)
viruses	99.99% (4 logs)

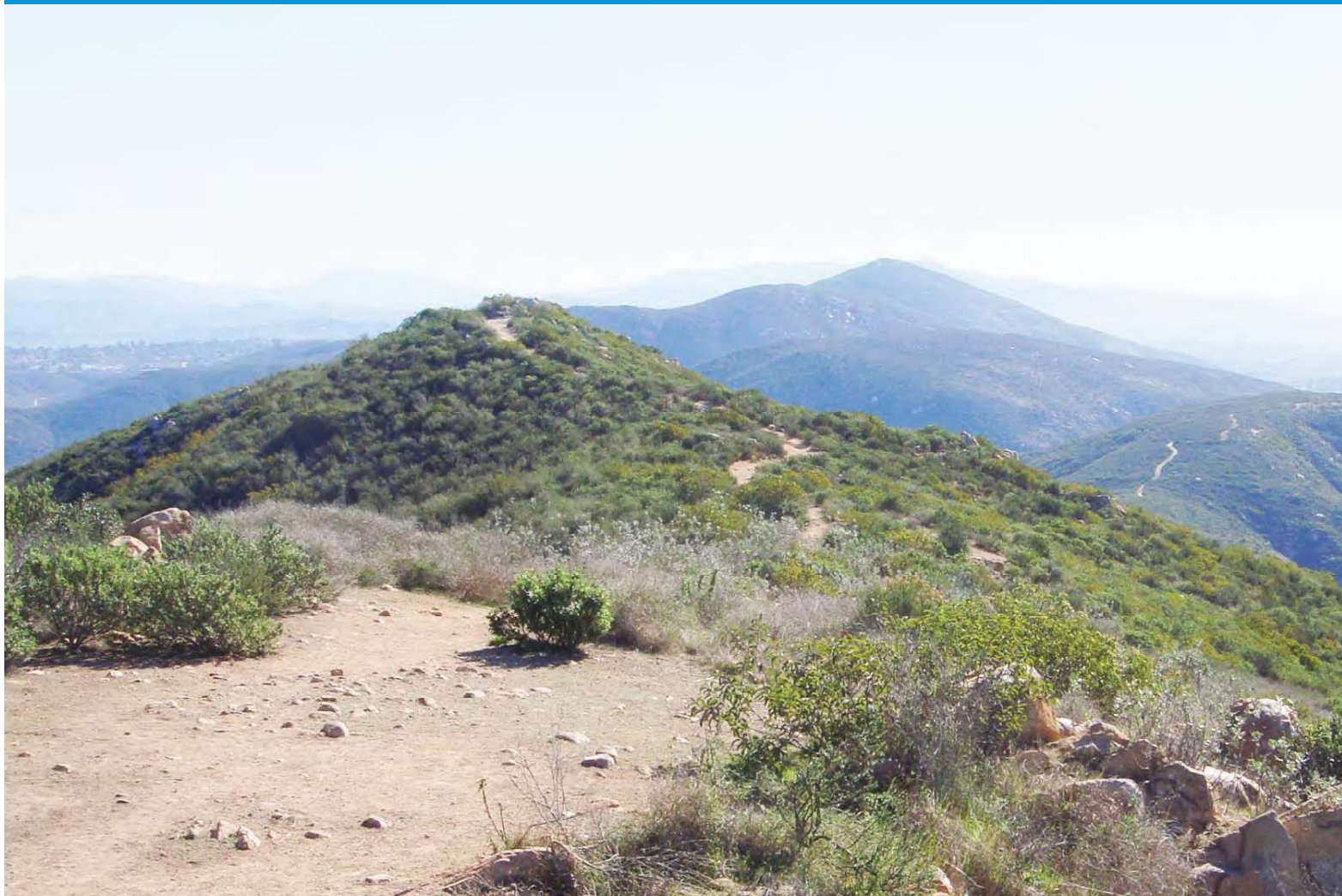
2) Interpreting the Results

The range for a given parameter can cover several orders of magnitude, making a deterministic evaluation of risk very difficult. One way to overcome this difficulty is to run a number of statistical simulations in which one or more parameters are varied to develop a range of possible risks. A typical way to interpret these results is to determine an upper confidence level (usually 90th-99th percentile) within which most of the results fall.

In promulgating the Surface Water Treatment Rule, the USEPA established a risk goal of one infection per 10,000 people per year (i.e., 10^{-4} annual risk of infection). The risk assessment should produce a result comparable to this number at the 90%+ confidence level. If it does not, some adjustments to the restrictions on body-contact recreation should be considered (e.g., providing a separate impoundment for swimming). Alternatively, some modification of reservoir operation (e.g., drawing from below the thermocline during summer months) or upgrading the treatment process to increase pathogen reduction could achieve the same effect in certain situations.

Infrequent events that result in a high concentration of pathogens reaching the reservoir outlet (e.g., an AFR near the outlet) challenge the treatment system, and pose an acute significant risk of infection that will not necessarily be reflected in the annual risk analysis. The risk analysis should assess the possible risk of infection from such events on a daily, rather than an annual basis. If the assessment indicates an unacceptably high degree of risk, steps should be taken to abate it (e.g., providing a larger closed zone around the reservoir outlet).

Exhibit D



Final Program Environmental Impact Report for the Mission Trails Regional Park Master Plan Update

City of San Diego
Project No. 349988
SCH No. 2014041011
February 2019

LETTER

RESPONSE

B6-5

This comment does not address the adequacy or accuracy of the environmental document. It should be noted, however, that multiple public workshops were held in 2010-2011 during development of the MPU which provided an opportunity for input by the Conservancy (see MPU Section 4). Additionally, the public notice of preparation (NOP), and the notice of availability (NOA) for the Draft PEIR, Draft MPU, NRMP and CPA were mailed to the San Diego River Conservancy; however, no comments were received by the end of public review.

B6-6

Certain types of recreational activities are allowed at Murray Reservoir, based on the assessment of the State Water Resources Control Board (SWRCB), Division of Drinking Water [DDW] and the Public Utilities Department, that the specific activities are compatible with the primary function of the reservoir to serve as a drinking source water supply. In accordance with the Reservoir Recreation Permit issued by the SWRCB-DDW, the allowed activities are picnicking, walking, jogging, biking, special events (e.g., the annual 4th of July celebration), fishing, and boating. Additionally, as required by the City's Domestic Water Supply Permit, also issued by DDW, Murray Reservoir is routinely monitored for constituents of concern to the drinking water system including bacteria, protozoans, and a suite of chemicals.

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