

City of Manhattan Beach

Annual Water Supply and Demand Assessment

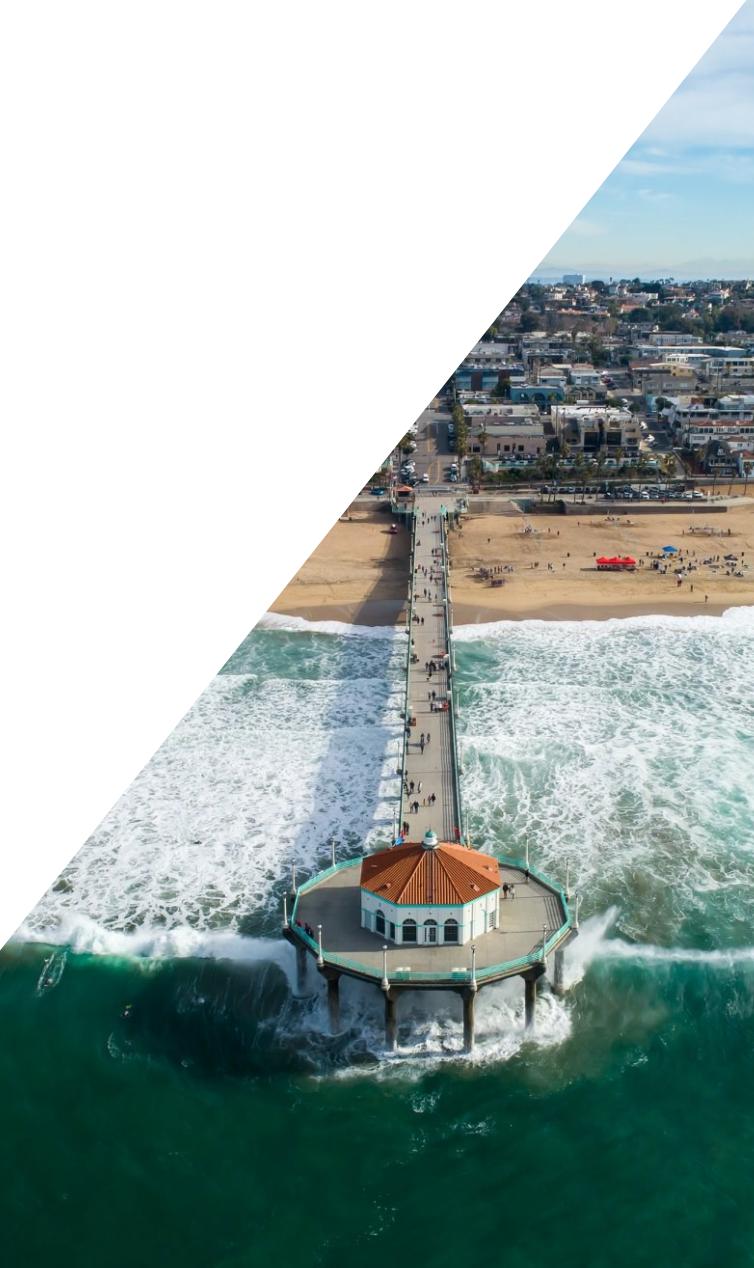
2022



Public Works Department

Mission Statement

To build, maintain, and protect our small beach town community with a passion for excellence



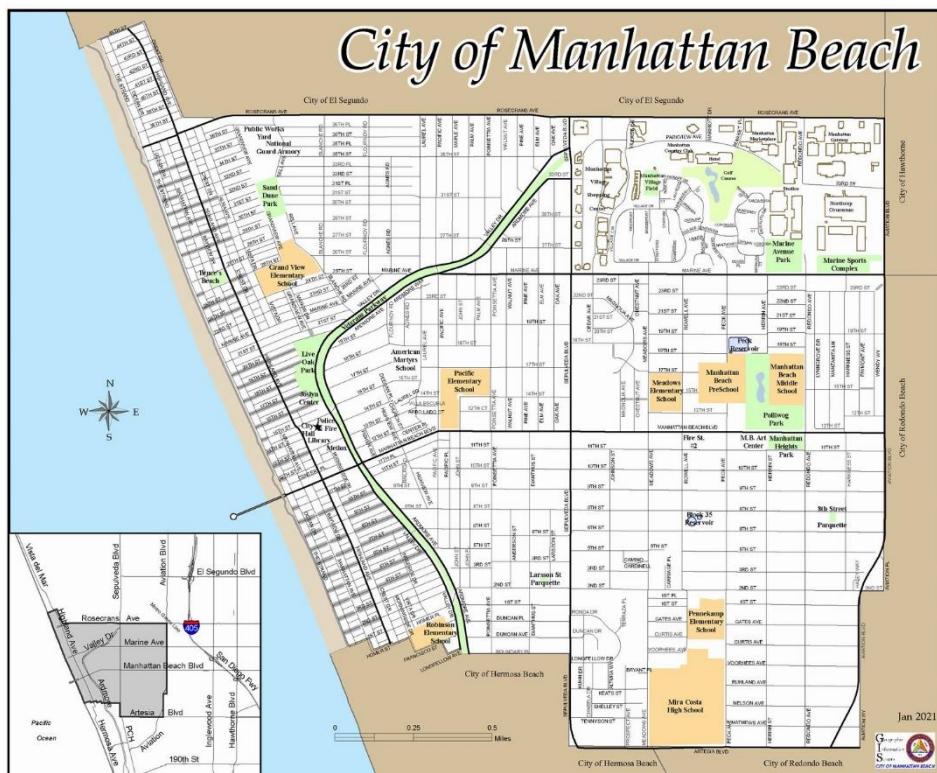
INTRODUCTION

The City completed the first Annual Water supply and Demand Assessment utilizing the Department of Water Resources (DWR) guidance and worksheets, the City's Urban Water Management Plan, the Electronic Annual Report (EAR) data, and the Manhattan Beach Actual Demand and Supply Data from Fiscal year 21/22. Furthermore, the Annual shortage report was prepared in accordance with new regulations enacted by the State Water Resources Control Board on May 24, 2022 and the drought emergency that has been declared statewide.

CITY BACKGROUND

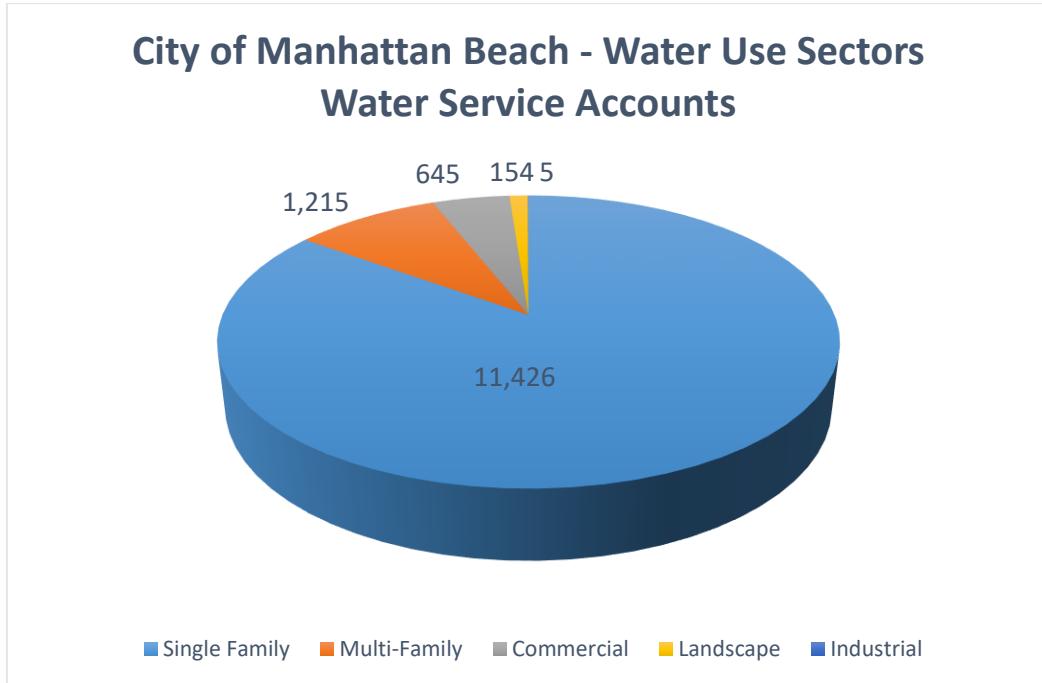
The City is located on the western edge of Los Angeles County, approximately 22 miles southwest of downtown Los Angeles. The City of El Segundo borders the City to the north, Hawthorne and Redondo Beach to the east, and the Cities of Redondo Beach and Hermosa Beach to the south. Currently, the City comprises approximately 3.9 square miles of primarily residential land use. Commercial land uses are located along Highland Avenue, Manhattan Beach Boulevard, Sepulveda Boulevard, and Manhattan Village, located southeast of Rosecrans Avenue and Sepulveda Boulevard. Industrial land uses primarily consist of the Northrop Grumman and Raleigh Studios, located northwest of Aviation Boulevard and Marine Avenue.

The City provides water service to an area with a current population of about 35,031.



WATER USE CHARACTERIZATION

The City provides water service to individual “water use sectors.” These water use sectors include single-family and multi-family residential, commercial, industrial, and landscape.



WATER DEMAND

Over the past ten years, the City’s total water demands (including potable and recycled water) have ranged from 4,878 AFY to 5,924 afy, with an average of 5,308 afy. The City currently measures its water use through meter data and billing records.

Additionally, the City conducts an annual water loss audit to identify distribution system water losses. Water losses can result from pipeline leaks and inaccurate metering due to faulty meters. Water loss estimates are incorporated into the City’s projected water demands.

The City’s water demand projections incorporate water savings resulting from the implementation of the new Automated Meter Infrastructure, along with consumer awareness of the need to conserve water.

Based on analysis developed as part of its Urban Water Management Plan (UWMP), the City will be able to provide sufficient water supplies to meet the projected water demands of its customers, including during a five consecutive year drought period.

WATER SUPPLY RELIABILITY

The City’s water supply sources include treated imported water from the Metropolitan Water District of Southern California (MWD), treated groundwater through the West Coast Basin, and recycled water from West Basin Municipal Water District (WBMWD). MWD is the regional wholesaler of imported water for most of Southern California, providing water to its member agencies through a regional distribution system. WBMWD is one of MWD’s

member agencies that provides imported water to agencies in the South Bay portion of Los Angeles County, including the City. WBMWD provides imported water to the City at connection WB-04, located at Manhattan Beach Boulevard and Redondo Avenue. The City maintains a metered connection with WBMWD to receive treated imported water. The capacity of this connection is 15 cubic feet per second (cfs). Currently, the City gets imported water from the Colorado River.

The City owns two wells in the West Coast Basin and extracts groundwater supplies from the two active wells. Per the West Coast Basin Judgement, the City has an adjudicated pumping right of 1,131 acre-feet per year (afy) from the West Coast Basin and allowance to pump up to 20 percent more of its annual entitlement. The City's total annual groundwater production cannot exceed 1,357 afy. In addition, the City is allowed to lease West Coast Basin water rights from other West Coast Basin producers.

Currently, the City uses approximately 298 afy of recycled water supplied by the WBMWD's recycled water system. The recycled water system is owned, operated, and maintained by WBMWD.

CLIMATE CHARACTERISTICS

In Manhattan Beach, the climate is warm and temperate, the summers are comfortable, arid, and clear, and the winters are long, cool, wet, and partly cloudy. Over the course of the year, the temperature typically varies from 50°F to 74°F and is rarely below 45°F or above 82°F. The City of Manhattan's annual precipitation averages 13.6 inches.

The weather conditions can directly impact the City's source of supply. The Colorado River Aqueduct has been suffering from multi-year drought conditions with record low precipitation that can impact the water supply to the City of Manhattan Beach. Therefore, proactive actions by the City and WBMWD are needed to address any potential water shortage due to climate change.

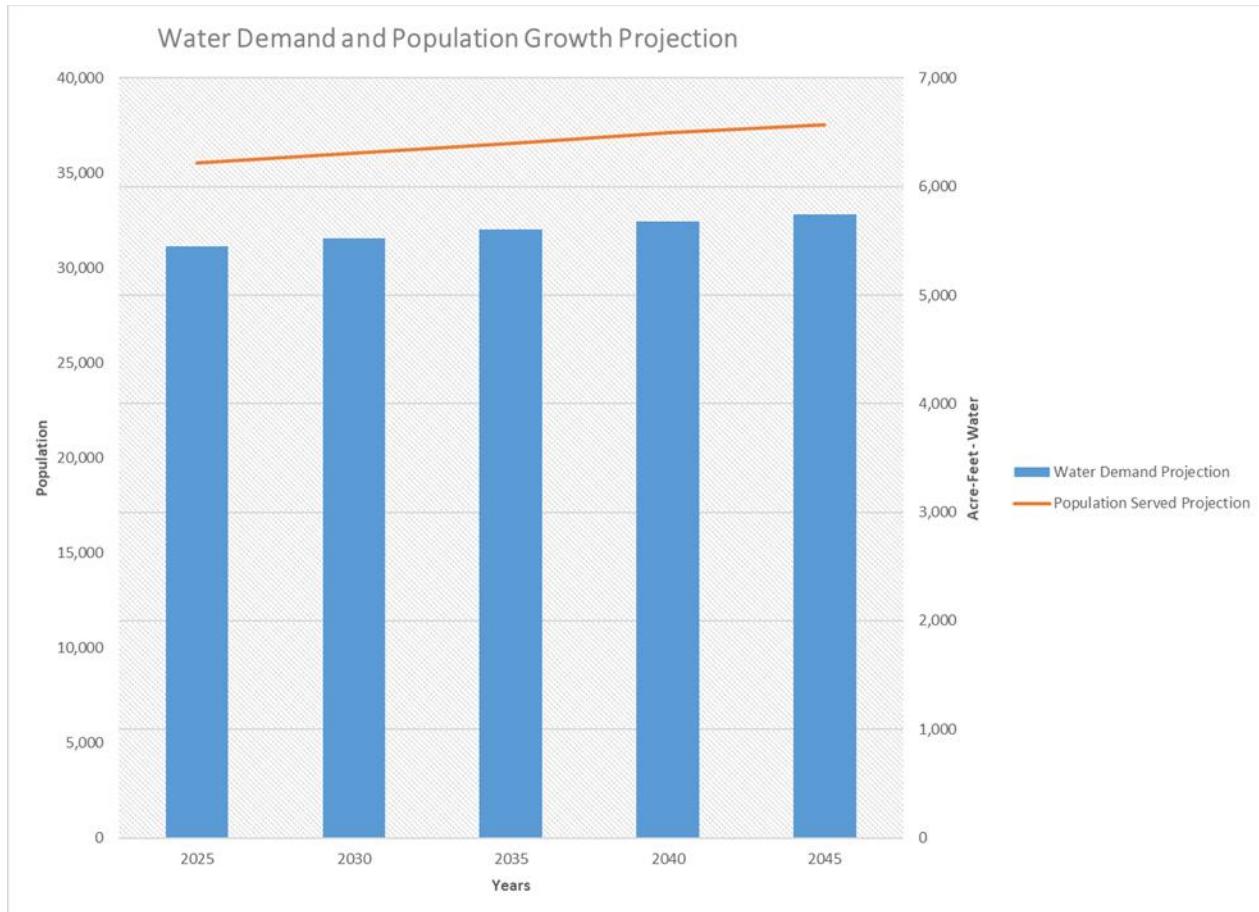
POTENTIAL SHORTAGE CONDITIONS

Since 85% of the City's water supply is from the Colorado River, there is a potential of a water shortage associated with this source. For the first time, a Tier 1 water shortage declared in August 2021 at Lake Mead has resulted in federal allocation cutbacks to Arizona, Nevada, and Mexico. If drought conditions persist in the Colorado River, Tier 2 will be triggered, and California will experience its first allocation cutback. This restriction can potentially negatively impact the City's largest water source.

PROJECTED POPULATION GROWTH

The City has grown significantly since its incorporation in 1912; however, over the last few years, the population has decreased and is closer to what it was ten years ago. Although the population has varied over the previous ten years, the City's Community Development Department expects a steady population growth of about 2 percent over the next ten years.

Demand estimates will consider potential growth and resulting new demands for the current year. To the extent available, updates will be requested from the City's Community Development Department on anticipated development within the City's water service area for the current year. In the absence of current development data, the City shall estimate growth-related demand increases based on the long-range projections made in the current UWMP.



ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES

The Annual Assessment will be conducted annually on or before July 1st and submitted to the DWR beginning July 1, 2022. The Annual Assessment should include information for anticipated shortages, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's WSCP.

This section describes the specific steps and timing to complete the Annual Assessment, such that it can easily be consistently followed each year by City staff.

Given the City's reliance on imported water supplies, the City intends to follow the recommendations from WBMWD and plans to declare a Stage 2 water shortage stage, effective June 21, 2022.

Because of its reliance on imported water, the City's primary factor triggering a water shortage determination would be a determination of water shortage and related water supply curtailments made by WBMWD. The City's Annual Assessment will depend on coordination with WBMWD to evaluate imported water supply conditions, and unconstrained demands. Additionally, considering weather, population growth, and policies to meet demand objectives are also part of this process.

TIMELINE FOR ANNUAL ASSESSMENT ACTIONS

Target Day	Action
July to December	Monitor water supply and drought conditions
	Monitor water demand
January to February	Obtain updates on WBMWD supply projections
	Start water demand and supply assessment
	Project potential next shortage levels
March to April	Make recommendation to City Manager
	Confirm WBMWD supply assessment and evaluate City's potential supply shortfall based on WBMWD's anticipated water supply condition/stage
	Initiate public outreach, coordinate drought messaging with neighboring retail water agencies and WBMWD as appropriate
May to June	Prepare draft Annual Assessment and present to City Council for approval
	Finalize Annual Assessment and submit to DWR
	Potentially declare water shortage and implement demand reduction and other shortage response actions
July to June	Monitor customer response to water shortage messaging and other actions

By starting to plan in July, the City will get an early snapshot of conditions, assess the resources necessary to mitigate a supply shortage, and begin outreach to customers to manage demand. In February, significant actions are proposed when an initial estimate of a potential supply shortage is made. After confirming the supply assessment from WBMWD, updates will be provided to the City Manager in April, and the annual assessment will be finalized to present to the City Council in June. Depending on the findings, a water shortage may be declared by the City Council, with demand reductions implemented in accordance with the City's ordinance and the stages outlined in this WSCP.

KEY DATE INPUTS AND ASSESSMENT METHODOLOGY

This section describes the key data inputs and the Annual Assessment methodology used to evaluate the City's water supply reliability for the coming year, considering the following year would be a dry hydrologic year.

EVALUATION CRITERIA

Given the City's reliance on WBMWD water supply, the primary factor triggering a water shortage determination by the City during its Annual Assessment would be if WBMWD declared a water shortage that would result in curtailment of WBMWD supplies. The City will coordinate closely with WBMWD to obtain updates on WBMWD supply projections early on and evaluate the City's potential supply shortfall based on WBMWD's anticipated water supply or shortage conditions.

CURRENT YEAR WATER SUPPLY

Current and future City water supplies are based on volumes purchased from WBMWD to meet actual customer demands. As part of the Annual Assessment, the City will obtain WBMWD water supply projections to assess the City's current year water supply. The City anticipates being able to purchase adequate WBMWD supplies to meet its demands during average, single-dry, and multiple-dry years. WBMWD projections take into account hydrological and regulatory conditions that may affect the availability of imported water supplies.

However, as noted above, the City will evaluate the potential for a water supply shortfall based on WBMWD's anticipated water supply conditions.

UNCONSTRAINED DEMAND

DWR guidance for the Annual Assessment considers the expected water use in the current year, based on recent water use, and before any triggered water shortage level.

Generally, expected customer demands will be estimated in line with the methodologies and assumptions described in the City's UWMP unless more current data or improved methodologies are available. The data used for the unconstrained water used will be estimated based on demands of the most recent Fiscal Year with unconstrained demands. Influenced factors, such as weather, growth, policies to manage supplies, or other factors, will also be considered.

DEMAND ESTIMATES

Currently, the City is 98 percent reliant on imported water supplies from WBMWD; therefore, infrastructure considerations within the City's system are focused on the distribution of water available supply. According to the City's 2021 Risk and Resilience Assessment, the City was generally resilient in compliance with the 2018 America's Water Infrastructure Act (AWIA).

Capital improvement projects are either underway or planned for maintenance and/or improved system reliability; however, infrastructure-related constraints on supplying water are not an immediate concern under normal operating conditions.

To improve water supply reliability and reduce the City's dependence on imported water supply, the City is in the process of utilizing more of its local groundwater supply starting in 2022; this capacity and reliability of that water supply are taken into consideration for the City's Annual Assessment.

City of Manhattan Beach - Water Demand and Supply

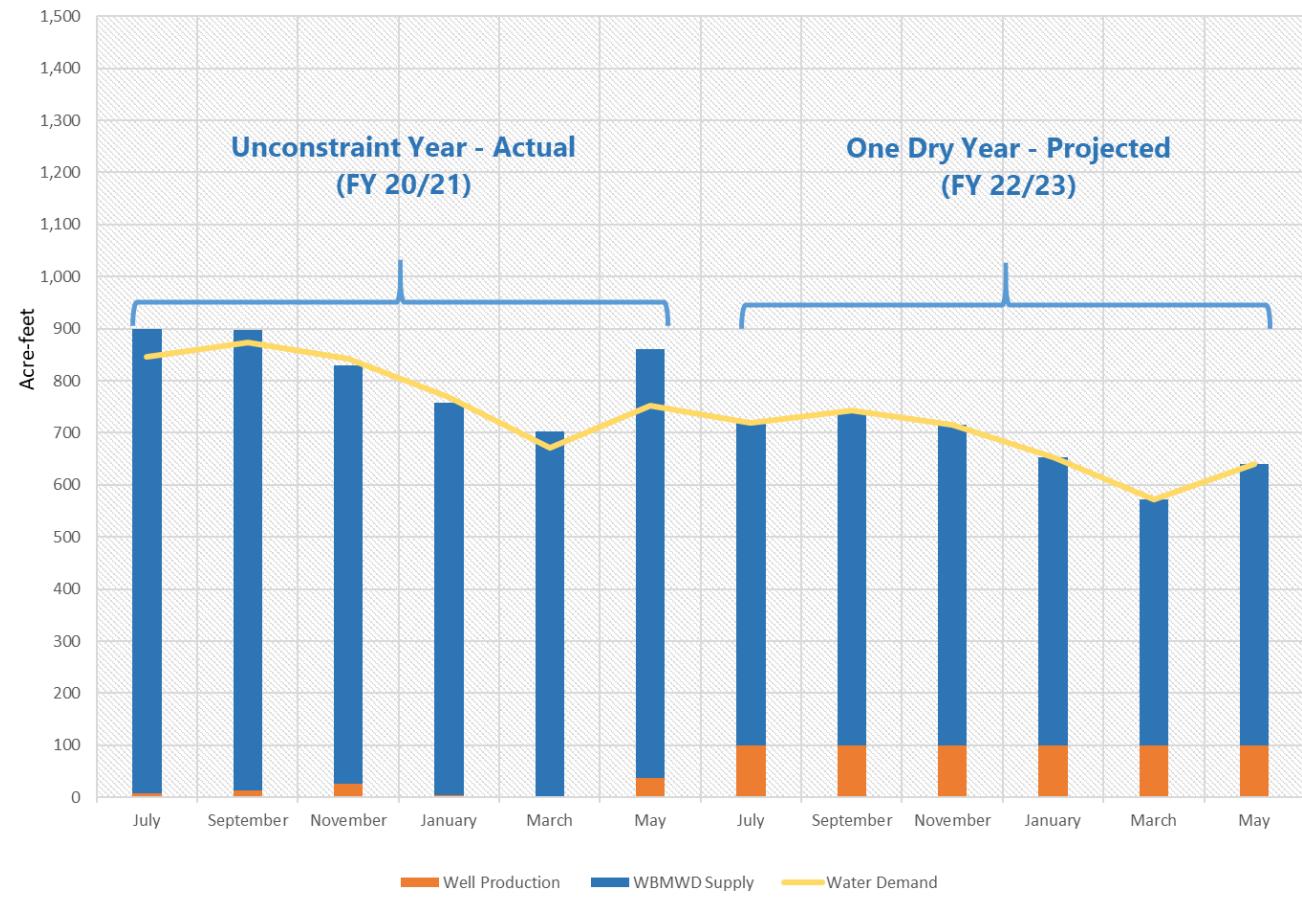


Table 1. Annual Assessment Information

Annual Assessment Information (Required)	
Year Covered By This Shortage Report	
Start: July 1,	2022
End: June 30,	2023
Supplier's Annual Assessment Planning Cycle	
Start Month:	July
End Month:	June
Data Reporting Interval Used: Monthly	
Volume Unit for Reported Supply and Demand: <i>(Must use the same unit throughout)</i>	AF
Water Supplier's Contact Information	
Water Supplier's Name:	Manhattan Beach Public Works Utilities
Contact Name:	Lourdes Vargas
Contact Title:	Utilities Manager
Street Address:	2136 Bell Ave
ZIP Code:	90266
Phone Number:	310-802-5320
Email Address:	lvargas@manhattanbeach.gov
Report Preparer's Contact Information <i>(if different from above)</i>	
Preparer's Organization Name:	
Preparer's Contact Name:	
Phone Number:	
Email Address:	
Supplier's Water Shortage Contingency Plan	
WSCP Title	Manhattan Beach Water Shortage Contingency Plan
WSCP Adoption Date	11/2/2021
Other Annual Assessment Related Activities (Optional)	
Activity	Timeline/ Outcomes / Links / Notes
Annual Assessment/ Shortage Report Title:	Optional
Annual Assessment / Shortage Report Approval Date:	MM/DD/YYYY
Other Annual Assessment Related Activities:	Optional
(Add rows as needed)	

= From prior tables
= Auto calculated

Table 2: Water Demands¹

Use Type			Start Year:		2022	Volumetric Unit Used ² :		AF								
Drop-down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool (Add additional rows as needed)	Additional Description (as needed)	Level of Treatment for Non-Potable Supplies	Projected Water Demands - Volume ³													
			Drop-down list	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total by Water Demand Type
Demands Served by Potable Supplies																
Single Family				380.97	228.45	366.57	229.57	361.02	213.53	319.05	203.61	278.67	198.37	329.22	222.50	3331.53
Multi-Family				27.17	35.39	25.65	36.83	27.21	35.40	25.35	33.48	24.89	33.89	28.67	35.16	369.09
Commercial				65.96	47.39	73.02	45.28	60.57	29.49	50.27	21.69	52.22	26.99	65.42	33.95	572.25
Industrial				43.17	0.00	48.60	0.00	41.77	0.00	65.10	0.00	35.40	0.00	39.81	0.00	273.85
Landscape				34.58	9.21	39.35	8.18	31.46	6.55	23.58	5.67	16.66	5.98	23.79	7.85	212.86
															0.00	
															0.00	
															0.00	
															0.00	
															0.00	
Total by Month (Potable)			551.85	320.44	553.19	319.86	522.03	284.97	483.35	264.45	407.84	265.23	486.91	299.46	4759.58	
Demands Served by Non-Potable Supplies																
All Demands				59.49	0.00	56.63	0.00	44.12	0.00	29.97	0.00	26.29	0.00	55.33	0.00	271.83
															0.00	
															0.00	
															0.00	
															0.00	
Total by Month (Non-Potable)			59.49	0.00	56.63	0.00	44.12	0.00	29.97	0.00	26.29	0.00	55.33	0.00	271.83	
Notes: List considered factors impacting demands																
¹ Projections are based on best available data at time of submitting the report and actual demand volumes could be different due to many factors.																
² Units of measure (AF, CCF, MG) must remain consistent.																
³ When opting to provide other than monthly volumes (bi-monthly, quarterly, or annual), please see directions on entering data for Projected Water Demand in the Table Instructions.																

Optional (for comparison purposes)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Last year's total demand	552	320	553	320	522	285	483	264	408	265	487	299	4,760
Two years ago total demand	477	303	558	326	566	276	391	261	406	247	459	296	4,567
Three years ago total demand	496	307	565	297	529	307	447	259	372	254	486	295	4,614
Four years ago total demand	553	307	570	286	507	294	451	253	444	271	483	299	4,718

	= From prior tables
	= Auto calculated

Table 3: Water Supplies¹

Water Supply	Start Year:	Volumetric Unit Used ² :												AF	Water Quality	Total Right or Safe Yield* (optional)
Drop-down List May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool (Add additional rows as needed)	Additional Detail on Water Supply	Projected Water Supplies - Volume ³												Drop-down List		
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total by Water Supply Type		
Potable Supplies																
Purchased/Imported Water		458.70	455.60	428.90	417.80	385.50	388.20	365.30	326.90	376.30	401.00	423.7	431.2	4859.1		
Groundwater (not desal.)		5.76	7.46	5.41	18.69	7.02	4.79	0	0	0	36.99	0	1.46	87.58		
														0		
														0		
														0		
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														0		
														0		
Total by Month (Potable)		464.46	463.06	434.31	436.49	392.52	392.99	365.3	326.9	376.3	437.99	423.7	432.66	4946.68		0
Non-Potable Supplies																
Recycled Water		60.86		56.63		44.13		33.68		26.23		57.79		279.32		
														0		
														0		
														0		
														0		
Total by Month (Non-Potable)		60.86	0	56.63	0	44.13	0	33.68	0	26.23	0	57.79	0	279.32		0

Notes: List hydrological and regulatory conditions, infrastructure capabilities, and plausible constraints which may impact the water supplies

¹Projections are based on best available data at time of submitting the report and actual supply volumes could be different due to many factors.

²Units of measure (AF, CCF, MG) must remain consistent.

³When opting to provide other than monthly volumes (bi-monthly, quarterly, or annual), please see directions on entering data for Projected Water Supplies in the Table Instructions.

Optional (for comparison purposes)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
eAR Reported Total Water Supplies	465	463	435	437	392	393	364	327	377	401	422	422	4,897

= Auto calculated
= From prior tables
= For manual input

Table 4(P): Potable Water Shortage Assessment¹

	Start Year: 2022											Volumetric Unit Used ² :			AF	
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun ³	Total			
Anticipated Unconstrained Demand	551.9	320.4	553.2	319.9	522.0	285.0	483.4	264.5	407.8	265.2	486.9	299.5	4759.58			
Anticipated Total Water Supply	464.5	463.1	434.3	436.5	392.5	393.0	365.3	326.9	376.3	438.0	423.7	432.7	4946.68			
Surplus/Shortage w/o WSCP Action	-87.4	142.6	-118.9	116.6	-129.5	108.0	-118.1	62.4	-31.5	172.8	-63.2	133.2	187.1			
% Surplus/Shortage w/o WSCP Action	-16%	45%	-21%	36%	-25%	38%	-24%	24%	-8%	65%	-13%	44%	4%			
State Standard Shortage Level	2	0	3	0	3	0	3	0	1	0	2	0	0			
Planned WSCP Actions																
Benefit from WSCP: Supply Augmentation															0.0	
Benefit from WSCP: Demand Reduction	82.8	48.1	83.0	48.0	78.3	42.7	72.5	39.7	61.2	39.8	73.0	44.9	713.9			
Revised Surplus/Shortage with WSCP	-4.6	190.7	-35.9	164.6	-51.2	150.8	-45.5	102.1	29.6	212.5	9.8	178.1	901.0			
% Revised Surplus/Shortage with WSCP	-1%	60%	-6%	51%	-10%	53%	-9%	39%	7%	80%	2%	59%	19%			

¹Assessments are based on best available data at time of submitting the report and actual volumes could be different due to many factors.

²Units of measure (AF, CCF, MG) must remain consistent.

³When optional monthly volumes aren't provided, verify Tables 2 and 3 use the same columns for data entry and are reflected properly in Table 4 and make sure to use those same columns to enter the benefits from Planned WSCP Actions. Please see directions on the shortage balancing exercise in the Table Instructions. If a shortage is projected, the supplier is highly recommended to perform a monthly analysis to more accurately identify the time of shortage.

= Auto calculated
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Table 4(NP): Non-Potable Water Shortage Assessment¹

	Start Year: 2022											Volumetric Unit Used ² :			AF	
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun ³	Total			
Anticipated Unconstrained Demand: Non-Potable	59.5	0.0	56.6	0.0	44.1	0.0	30.0	0.0	26.3	0.0	55.3	0.0	271.83			
Anticipated Total Water Supply: Non-Potable	60.9	0.0	56.6	0.0	44.1	0.0	33.7	0.0	26.2	0.0	57.8	0.0	279.3			
Surplus/Shortage w/o WSCP Action: Non-Potable	1.4	0.0	0.0	0.0	0.0	0.0	3.7	0.0	-0.1	0.0	2.5	0.0	7.5			
% Surplus/Shortage w/o WSCP Action: Non-Potable	2%		0%		0%		12%		0%		4%		3%			
Planned WSCP Actions																
Benefit from WSCP: Supply Augmentation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Benefit from WSCP: Demand Reduction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Revised Surplus/Shortage with WSCP	1.4	0.0	0.0	0.0	0.0	0.0	3.7	0.0	-0.1	0.0	2.5	0.0	7.5			
% Revised Surplus/Shortage with WSCP	2%		0%		0%		12%		0%		4%		3%			

¹Assessments are based on best available data at time of submitting the report and actual volumes could be different due to many factors.

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City of Manhattan Beach - AWSDA

Table 5: Planned Water Shortage Response Actions