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**WATER SUPPLY ASSESSMENT AND WRITTEN
VERIFICATION OF SUPPLY
FOR THE
AMENDED MAIN GATE SPECIFIC PLAN**

Prepared by

MARINA COAST WATER DISTRICT



and

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS

November 2018

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Table of Contents

Summary of Water Supply Assessment..... 5

Section 1 - Introduction..... 6

 1.1 Project Overview..... 6

 1.2 Purpose of Water Supply Assessment..... 6

 1.3 Project Subject to CEQA..... 7

 1.4 Project Requiring a Water Supply Assessment..... 7

 1.5 Requirements of a Written Verification of Supply 7

 1.6 Public Water Agency Serving the Project..... 8

 1.7 Relationship of WSA to MCWD Urban Water Management Plan..... 10

Section 2 - Project Description and Water Demands 11

 2.1 Project Description..... 11

 2.2 Land Use and Water Demands..... 14

 2.2.1 Residential..... 14

 2.2.2 Hotel..... 14

 2.2.3 Retail..... 14

 2.2.4 Dining 14

 2.2.5 Landscaping 14

 2.2.6 Recycled Water Use..... 15

 2.2.7 Project Total Water Demands 16

Section 3 - District Water Demands..... 17

 3.1 Historic and Current Water Demands 17

 3.2 Future Demands 18

 3.3 Dry-Year Demands 20

Section 4 - Water Supply 22

 4.1 Current Water Supply..... 22

 4.1.1 Groundwater 22

 4.1.2 Desalinated Water..... 24

 4.2 Future Water Supply 25

 4.2.1 Recycled Water..... 25

 4.2.2 Desalinated Water..... 25

 4.2.3 Conservation 26

 4.3 Regulatory Permits Necessary for Supply Delivery 26

Section 5 - Supply Sufficiency Analysis..... 27

 5.1 Comparison of Project Demands to Projected Supply..... 27

 5.2 Plans for Acquiring Additional Water Supplies..... 29

 5.3 Reliability of Water Supply..... 29

 5.4 Effect on Agricultural and Industrial Users Reliant on the Same Source 29

Section 6 - Conclusions..... 31

 6.1 Sufficiency of Water Supply for the Project 31

 6.2 Future Actions 31

Appendices

- A. Recycled Water Project Details
- B. Desalination Project Details
- C. References
- D. MCWD Board Resolution Approving the Water Supply Assessment for the Monterey Downs Specific Plan

List of Tables

Table i Acronyms Used in this Report..... iii

Table ii Units of Measure Used in this Report iv

Table 2-1: Land Use Comparison 11

Table 2-2: Summary of Estimated Water Demand..... 16

Table 3-1: Water Production by Service Area (AF) 17

Table 3-2: Water Use within the Seaside-Ord Community (AF) 18

Table 3-3: Water Demand Projection by Service Area (AF)..... 19

Table 3-4: Main Gate Elements compared to Elements in the 2015 UWMP 20

Table 3-5: Dry Year Demand Projections 21

Table 4-1: Existing Pumping Capacity 24

Table 5-1: FORA Allocations in the Ord Community..... 27

Table 5-2: City of Seaside Sub-Allocations..... 28

List of Figures

Figure 1.1: Marina Coast Water District Service Areas 9

Figure 2.1: 2007 Main Gate Site Plan..... 12

Figure 2.2: 2018 Main Gate Site Plan..... 13

Figure 4.1: Groundwater Basins 23

Table i. Acronyms Used in this Report

Acronym	Description
AFY, ac-ft/yr	Acre-feet/year
ccf, hcf	Hundred cubic feet
gpd	Gallons per day
gpcd	Gallons per capita day, or gallons per person per day
mgd	Million gallons per day
sq-ft	Square feet
BMP	Best management practice
CAW, CalAm	California American Water Company
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CSUMB	California State University – Monterey Bay
CWC	California Water Code
DDW	SWRCB Division of Drinking Water
DMM	Demand management measure
DWR	California Department of Water Resources
FORA	Fort Ord Reuse Authority
LAFCO	Local Agency Formation Commission
M1W	Monterey One Water (formerly MRWPCA)
MCWD, District	Marina Coast Water District
MCWRA	Monterey County Water Resources Agency
MPWMD	Monterey Peninsula Water Management District
OMC	Ord Military Community
POM	Presidio of Monterey
PWM	Pure Water Monterey Project
SB	California Senate Bill
SGMA	Sustainable Groundwater Management Act
SRDP	Salinas River Diversion Project
SVBGSA	Salinas Valley Basin Groundwater Sustainability Agency
SVWP	Salinas Valley Water Project
SVGB	Salinas Valley Groundwater Basin
SWRCB	State Water Resources Control Board
UCMBEST	University of California Monterey Bay Education, Science and Technology Center
UWMP	Urban Water Management Plan
WSA	Water Supply Assessment
WVS	Written Verification of Supply

Table ii. Units of Measure Used in this Report

Unit	Equals
1 acre-foot	= 43,560 cubic feet = 325,851 gallons
1 cubic foot	= 7.48 gallons
1 CCF	= 100 cubic feet = 748 gallons
1 MGD	= 1,000,000 gallons/day = 1,120 acre-feet/year (AFY)

Summary of Water Supply Assessment

Project: Main Gate Specific Plan, Seaside, California

The Main Gate Specific Plan was adopted by the City of Seaside in 2010. The estimated water demand for the Project was 213 AFY. The Project has not yet been constructed. The City is currently amending the adopted specific plan, and has requested that the water supply assessment be updated to reflect the revised project description.

Pursuant to Section 10910 of the California Water Code (CWC), and based on the analysis detailed in this report and the representations by the Project's proponents, the Marina Coast Water District (the District) has determined that its currently projected water supplies will be sufficient to meet the projected annual water demands of existing and previously approved uses and the implementation of the Main Gate Specific Plan during normal, single-dry, and multiple-dry years. The Project will add approximately 250.4 acre-feet per year (AFY) of new demand within the City of Seaside portion of the District's Ord Community Service Area, which is an increase of 37.4 AFY over the original Project. The City has an existing allocation of Salinas Valley Groundwater of 1,012 AFY, and has previously sub-allocated 825.7 AFY to projects, including 149.0 AFY to the original specific plan area, leaving 186.3 AFY available. The City also has the ability to purchase recycled water from the Regional Urban Water Augmentation Project, which is currently under construction. The City may sub-allocate an additional 101.4 AFY of groundwater supply to meet the amended project demand, or it may allocate up to 38.4 AFY of recycled water for non-potable landscape irrigation, and the remaining 63.1 AFY as potable groundwater. The City may also require the use of recycled water for toilet flushing, converting up to 14.6 AFY of indoor demand from potable to recycled water. The District can supply potable water immediately, and will be able to supply recycled water when the system construction is completed in 2019.

The City has multiple projects under consideration, and does not have sufficient potable and recycled water supply to fully develop all of them. Developments will need to be prioritized or phased so as not to exceed the allocated potable and recycled water supply. The District has two planned water supply projects it intends to implement under the Regional Urban Water Augmentation Project, which is intended to develop 2,400 AFY of new supply for the Ord Community. The Recycled Water Project will deliver up to 1,427 AFY for non-potable use. The initial phase of the Recycled Water Project is under construction, and will supply water starting in 2019. The Desalination Project will provide up to 1200 AFY of potable supply. As these projects come on-line, the Fort Ord Reuse Authority or its successor agency will allocate the supply among the Land Use Jurisdictions in the Ord Community.

Section 1 - Introduction

1.1 Project Overview

The City of Seaside in Monterey County, California, acting as the lead agency, is preparing an addendum to the Main Gate Specific Plan for a 49-acre project area located within the City of Seaside. The Main Gate Specific Plan was prepared in 2007-2008, and adopted by the City in 2010. The Project is located on the former Fort Ord. Potable water supply for the former Fort Ord is provided by the Marina Coast Water District. Further description of the Project is given in Section 2.0.

The Water Supply Assessment and Written Verification of Supply for the City of Seaside Main Gate Specific Plan was prepared by Byron Buck and Associates in 2007, and it tiered off the analysis in the Marina Coast Water District 2005 Urban Water Management Plan, also prepared by Byron Buck. This updated analysis builds off of the District's 2015 Urban Water Management Plan (UWMP), which was prepared by Schaaf & Wheeler.

1.2 Purpose of Water Supply Assessment

The California Water Code (§10910 et. seq.), based on Senate Bill 610 of 2001 (SB 610), requires a project proponent to assess the reliability of a project's water supply as part of the California Environmental Quality Act (CEQA) process. Under the California Government Code (§66473.7), based on Senate Bill 221 of 2001, proposed subdivisions adding 500 dwelling units are also required to receive written verification of the available water supply from the project's water supplier. This project includes the addition of up to 620 dwelling units, so both a water supply assessment and a written verification of supply are required.

This report is meant to serve as the Water Supply Assessment (WSA) and Written Verification of Supply (WVS) for the Project to meet the California Water and Government Code requirements. This WSA documents the District's existing and future water supplies for the Project area and compares them to the District's total projected water demands for the next twenty (20) years.

The SB 610 process requires the following several steps to identify the need and scope of a project's WSA:

1. Determine whether the project is subject to CEQA.
2. Determine whether the project meets the definition of a "project" per SB 610.
3. Determine the public water agency that will serve the project.
4. Determine whether any current Urban Water Management Plan considers the projected water demand for the project area.

5. Determine whether groundwater is used by the public water agency to serve the project area.

1.3 Project Subject to CEQA

CEQA applies to projects for which a public agency is directly responsible, funds, and/or requires the issuance of a permit. The City of Seaside determined that the Project is subject to the requirements of CEQA. An addendum to the adopted Environmental Impact Report (EIR) is currently being prepared.

1.4 Project Requiring a Water Supply Assessment

CWC §10912(a) defines a Project for WSA purposes as including any of the following¹:

- a proposed residential development of more than 500 dwelling units;
- a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- a mixed-use project that includes one or more of the projects identified in this list;
- a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The Main Gate Specific Plan proposes the addition of up to 620 dwelling units, 280 hotel rooms and 108,000 square feet of commercial space, so a water supply assessment is required.

1.5 Requirements of a Written Verification of Supply

Government Code §66473.7(b)(1) requires:

The legislative body of a city or county or the advisory agency, to the extent that it is authorized by local ordinance to approve, conditionally approve, or disapprove the tentative map, shall include as a condition in any tentative map that includes a subdivision a requirement that a sufficient water supply shall be available. Proof of the availability of a sufficient water supply shall be requested by the subdivision applicant or local agency, at the discretion of the local agency, and shall be based on written verification from the applicable public water system within 90 days of a request.

The public water system must determine if there is sufficient water supply for the subdivision, as defined in Government Code §66473.7(a)(2): *“Sufficient water supply” means the total water supplies available during normal, single-dry, and multiple dry years within a 20- year projection that will meet the projected demand associated with the proposed subdivision, in addition to existing and planned future uses, including, but not limited to, agricultural and industrial uses.*

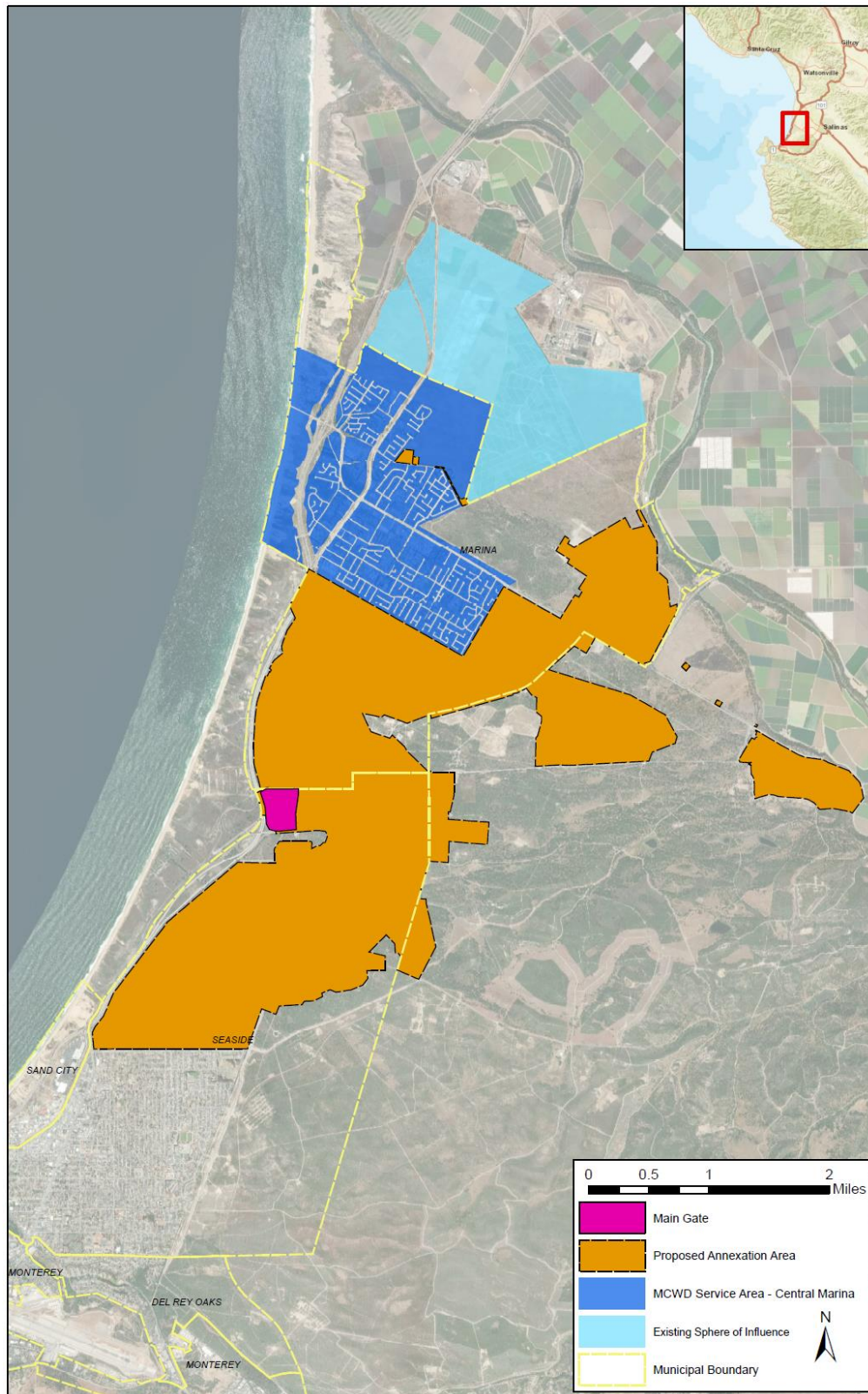
¹ There are additional uses that may qualify as a “project” under the CWC, but included here are the applicable categories.

1.6 Public Water Agency Serving the Project

The Marina Coast Water District, a county water district, serves the City of Marina and the former Fort Ord, which includes portions of the City of Marina, City of Seaside, City of Del Rey Oaks, City of Monterey and unincorporated Monterey County. The District has two service areas, Central Marina and the Ord Community. The Project is located in the Seaside portion of the MCWD Ord Community Service Area (see Figure 1.1).

MCWD provides water and wastewater service to the Ord Community as outlined in the Water/Wastewater Facilities Agreement between the Fort Ord Reuse Authority (FORA) and MCWD (1998) and as further described in the Assignment of Easements on Former Fort Ord and Ord Military Community, County of Monterey, and Quitclaim Deed for Water and Wastewater Systems, between FORA and MCWD, dated October 24, 2001. MCWD recently submitted an application to the Local Agency Formation Commission of Monterey County (LAFCO) to formally annex the served and entitled portions of the Ord Community service area into the District's jurisdictional boundaries. The area proposed to be annexed includes the Main Gate Specific Plan area.

Figure 1.1: Marina Coast Water District Service Areas



*Proposed Annexation Area is the current Ord Community Service Area

1.7 Relationship of WSA to MCWD Urban Water Management Plan

The California Urban Water Management Planning Act (§10610 et. seq. of the CWC) requires urban water suppliers providing over 3,000 acre-feet per year (AFY) of water or having a minimum of 3,000 service connections to prepare plans (urban water management plans or UWMPs) on a five-year, ongoing basis. An UWMP must demonstrate the continued ability of the provider to serve customers with water supplies that meet current and future expected demands under normal, single dry, and multiple dry year scenarios. These plans must also include the assessment of urban water conservation measures and wastewater recycling. Pursuant to Section 10632 of the CWC, the plans must also include a water shortage contingency plan outlining how the water provider will manage water shortages, including shortages of up to fifty percent (50%) of their normal supplies, and catastrophic interruptions of water supply. The Marina Coast Water District is required to prepare Urban Water Management Plans. The District's most recent Urban Water Management Plan (2015 UWMP) was adopted in June 2016. The 2015 UWMP projected demands for 20 years through the year 2035.

As provided for in the State law, this WSA incorporates by reference and relies upon many of the planning assumptions and projections of the 2015 UWMP in assessing the water demands of the proposed Project relative to the overall increase in water demands expected within the entire District service area. The 2015 UWMP projected a significant increase in water demand within the Ord Community due to the planned redevelopment of the former Fort Ord, as documented in the Fort Ord Base Reuse Plan, the General Plans of the various land use jurisdictions, and the approved specific plans within the Ord Community. The 2015 UWMP found that the projected Ord Community water demand of 8,293 AFY in year 2035 exceeded the 6,600 AFY supply available under the 1993 USA-MCWRA Zone 2/2A Annexation Agreement. Additionally, because the current water supply within the Ord Community has been allocated among the land use jurisdictions, some jurisdictions maintain a projected surplus, while others have projected shortages. The District is pursuing two water supply projects to address the projected shortfall. First, an urban recycled water system is being constructed, which will provide an initial 600 AFY for landscape irrigation, and ultimately provide up to 1,427 AFY of non-potable supply. Second, a seawater desalination project is proposed to provide up to 1,500 AFY of potable water supply. The District is currently considering alternative groundwater replenishment projects which, if feasible, may replace the desalination portion of the RUWAP.

Projected development within the City of Seaside was accounted for in the 2015 UWMP, spread across entitled areas, approved specific plan areas and remaining areas. The UWMP included the retail and hospitality uses from the 2010 Main Gate Specific Plan, projected to be constructed between the year 2020 and 2025. The projected demand for the site in the 2015 UWMP is 213 AFY.

Section 2 - Project Description and Water Demands

2.1 Project Description

The Main Gate Specific Plan for the City of Seaside, California, describes the planned development of approximately 49-acres within the former Fort Ord. The land is currently undeveloped, bounded by Highway 1 on the west, 2nd Avenue on the east, 1st Street on the north and Light Fighter Drive on the south.

The original specific plan included a mix of retail, entertainment and visitor-serving uses. Two options for the retail center were included, one centered on an anchor department store and one centered on a multiplex theater. A significant portion of the site is dedicated to parking space. A site plan showing the department store option is at Figure 2.1.

The revised project reduces the retail component, increases the number of hotel rooms and adds a mix of single-family, multi-family and student residential use. The development density is significantly increased. A site plan showing the proposed revision is at Figure 2.2. Table 2-1, below, presents the usage quantities of the two options in the original specific plan and the proposed revision.

Table 2-1: Land Use Comparison

Use Type	Unit	Original Plan, Version 1	Original Plan, Version 2	Proposed Revised Plan
Retail	SF	368,500	368,500	95,000
Restaurant	SF	79,000	79,000	13,000
Department Store	SF	120,000		
Theater	SF		51,500	
Hotel	Rm	250	250	280
Spa	SF	24,000	24,000	
Conference Facility	SF	27,000	27,000	
Landscape	AC	10.41	10.41	
Single Family Residential	DU			140
Multi-Family Residential	DU			150
Student Apartment	DU			330
Gas Station	Pump			16

Figure 2.1: 2007 Main Gate Site Plan



THE STRAND, SEASIDE

CLARK / GENERAL

Overall Site Plan

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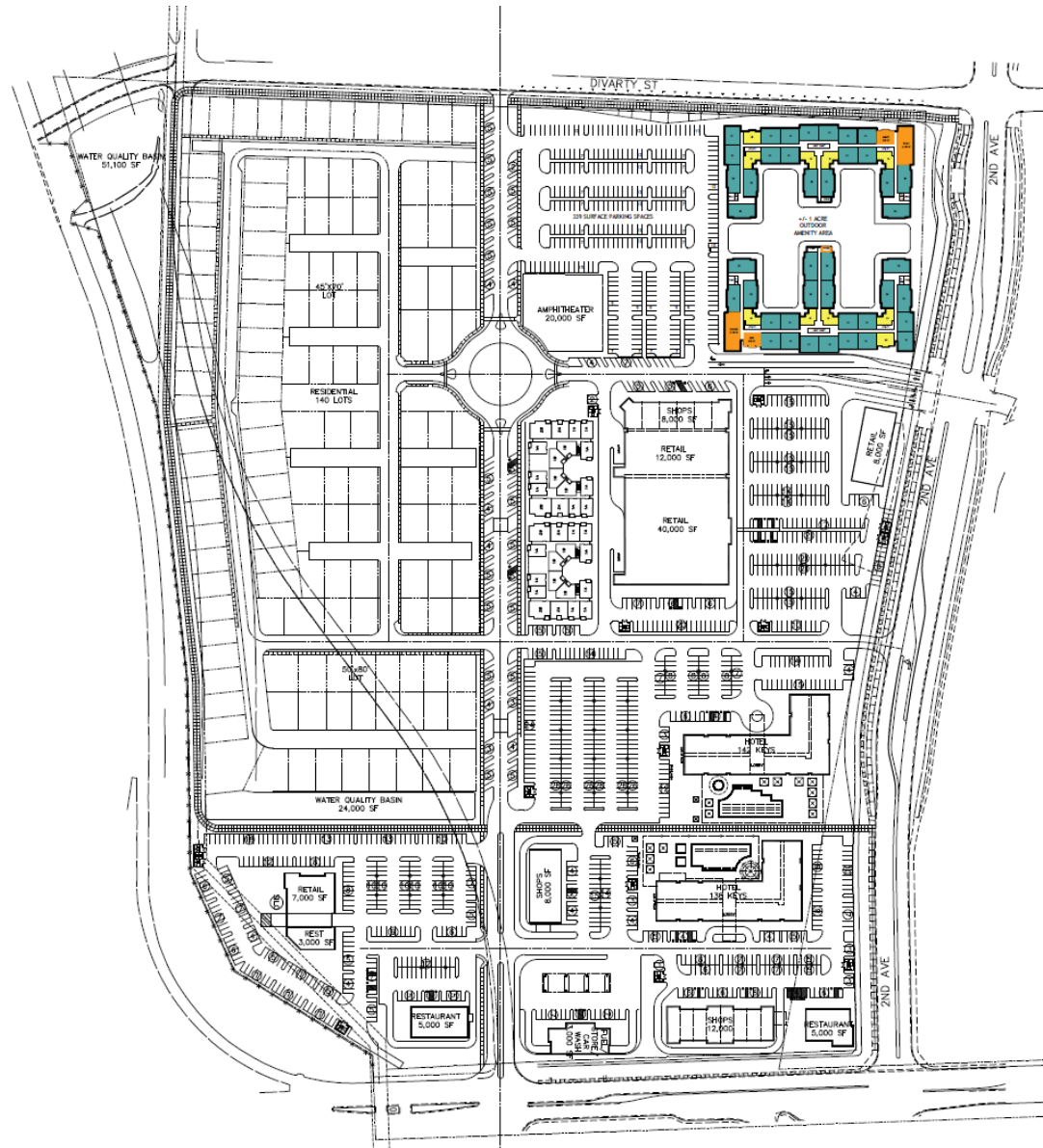
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A01

Figure 2.2: 2018 Main Gate Site Plan



2.2 Land Use and Water Demands

The Amended Main Gate Specific Plan consists of several elements including medium- to high-density residential, retail and visitor serving businesses, as detailed below.

2.2.1 Residential

Single-family residential densities will range from 10 to 15 units per acre for detached lots. The MCWD 2015 UWMP uses a demand factor of 0.25 acre-feet/year/dwelling unit (AFY/DU) for single-family residential at densities above 8-units/acre. Multi-family residential units will consist of multi-story apartment buildings and apartments on upper floors of mixed-use commercial buildings. The MCWD 2015 UWMP uses a demand factor of 0.25 AFY/DU for all multi-family residential development. The project also includes student apartments, which are assumed to have the same demand as the multi-family apartments. The number of units by housing type is initially assumed to be 140 single-family, 150 multi-family and 330 student apartments. The residential water demand is estimated to be $155.0 \text{ AFY} = (620 \text{ DU}) \times (0.25 \text{ AFY/DU})$.

2.2.2 Hotel

The specific plan includes several hotel sites with a total of 280 rooms. The MCWD demand factor for hotels is 0.17 AFY/room, so the estimated demand for the hotels is 47.6 AFY. Landscape irrigation is estimated separately, below.

2.2.3 Retail

The specific plan includes 95,000 square-feet of retail space. The plan does not further divide the usage by type, so it is assumed this will be a mix of grocery, markets and dry goods/apparel shops. The MCWD 2015 UWMP uses a demand factor of 0.00021 AFY/SF for general retail. The estimated water demand for the retail component is 20.0 AFY. Landscape irrigation is estimated separately, below.

The site plan shows one gas station with four pump islands. A typical island has four pumps. For a total of sixteen. MCWD uses a demand factor of 0.1051 AFY/gas pump, so the estimated demand for the gas station is 1.7 AFY. This would include an associated convenience store.

2.2.4 Dining

The specific plan includes 13,000 square-feet of space to be used for restaurants and food incubators. The plan does not further divide the usage by type. The MCWD 2015 UWMP uses a demand factor of 0.00145 AFY/SF for restaurants, for a total of 18.9 AFY. Landscape irrigation is estimated separately, below.

2.2.5 Landscaping

The conceptual site plan includes assumes 3.5 acres of irrigated non-turf landscaping along street frontages and within commercial landscaped areas. A demand factor of 2.1 AFY/AC is used for

non-turf landscaping, based on the local evapotranspiration factor of 39 inches/year. The estimated landscaping demand for the specific plan area is 7.4 AFY.

2.2.6 Recycled Water Use

The 2007 WSA did not estimate the potential use of recycled water within the Main Gate Project. MCWD in cooperation with Monterey One Water is currently constructing the Pure Water Monterey Project, a portion of which will provide recycled water for urban use. The City of Seaside intends for the revised project to maximize the use of recycled water. The California Code of Regulations and the California Plumbing Code allow for the use of tertiary-treated and disinfected recycled water for commercial and residential outdoor landscape irrigation, and for water closet and urinal flushing in certain structures. The list of allowable structures excludes single-family residential use, but hotels, apartments, condominiums, retail and dining establishments may be dual-plumbed to allow toilet flushing with recycled water.

MCWD's current recycled water distribution permit only addresses outdoor water use for landscape irrigation. Before recycled water may be provided for indoor use, the permit must be updated to add indoor toilet flushing as an approved use, and to document the controls (cross-connection, signage and inspection) required for sites using recycled water indoors. Enforcement of the plumbing code requirements will be the responsibility of the building official of the land use jurisdiction. For this reason, indoor recycled water demand is estimated and presented separately from landscape irrigation.

Recycled water demand for residential toilet flushing is estimated as 2,336 gallons/person/year, based on 5 flushes per person per day and 1.28 gallons per flush. Rates by housing type is calculated using the following occupancies:

Multi-family: $3.3 \text{ persons/DU} \times 2,336 \text{ gallon/year} \div 325,851 \text{ gal/acre-ft} = 0.024 \text{ AFY/DU}$

Students: $2.5 \text{ persons/DU} \times 2,336 \text{ gallon/year} \div 325,851 \text{ gal/acre-ft} = 0.018 \text{ AFY/DU}$

Hotel: $1.5 \text{ persons/room} \times 2,336 \text{ gallon/year} \div 325,851 \text{ gal/acre-ft} = 0.011 \text{ AFY/DU}$

Recycled water demand for toilet flushing in commercial establishments is estimated as 5% of the indoor water demand. Note that MCWD requires the use of waterless urinals in all new construction.

Recycled water demand for residential landscaping is estimated at 0.05 AFY/DU, and is applied to single family, multi-family and apartments. Commercial landscaping is included in the 3.5 acres of overall site landscape.

Applying the above factors, the estimated outdoor (landscape) recycled water demand for the specific plan area is 38.4 AFY, and the indoor (potable) demand is 212.1 AFY. Of the indoor demand, up to 14.6 AFY could be met using recycled water for toilet flushing, potentially reducing the potable demand to 197.5 AFY.

2.2.7 Project Total Water Demands

The total water demand projected for the project is 250.4 AFY, as shown in Table 2-2, below. As stated in Section 2.2.6. Potential Indoor Recycled Water Demand reflects toilet flushing, where allowed, and Landscape Irrigation includes both residential and non-residential landscapes. Use of recycled water requires special certification of irrigation system operators and annual cross-connection inspections, which must be pointed out in the development conditions of approval. The land use jurisdiction may need to update their code of ordinances to reflect the need for annual compliance inspections of dual-plumbed buildings by the health or building official.

Table 2-2: Summary of Estimated Water Demand

	Land Use	Quantity	Unit	Demand Factor (afy/unit)	Potable Demand (afy)*	Indoor Recycled (afy)**	Landscape Recycled (afy)	Total Demand (afy)	Notes
A	Single Family Homes	140	DU	0.25	28.00		7.00	35.00	1, 2
B	Multi-Family Apartments	150	DU	0.25	30.00	3.60	7.50	37.50	2
C	Hotel	280	Rooms	0.17	47.60	3.08		47.60	
D	Student apartments	330	DU	0.25	66.00	5.94	16.50	82.50	3
E	Retail	95,000	SF	0.00021	19.95	1.00		19.95	4, 5
F	Restaurant	13,000	SF	0.00145	18.85	0.94		18.85	4, 5
G	Gas Station	16	pump	0.1051	1.68	0.08		1.68	6
	Irrigated Landscape (Non-Turf)	3.5	AC	2.1			7.35	7.35	7
					212.08	14.64	38.35	250.43	

Notes

- * Potable calculated as Total Demand minus Landscape Demand
- ** Indoor Recycled Demand is toilet flushing. Requires dual-piping per the plumbing code.
- 1 SFR Density ranges from 10 to 15 per acre. Demand factor is the same as multi-family
- 2 Number of units based on conceptual site plan.
- 3 Assume apartments with kitchens and not traditional dormitories.
- 4 Gross square footage from conceptual site plan
- 5 Assume 5% of demand is toilet flushing.
- 6 Assume 16 pumps based on site plan. Factor from MCWD code of ordinances.
- 7 Assume all landscaping will be non-turf and irrigated with recycled water

Section 3 - District Water Demands

3.1 Historic and Current Water Demands

Table 3-1 shows the District's water production over the period 2006-2015. The District's average production over that period was 4,104 AFY, with 1,697 AFY in the Central Marina service area and 2,407 AFY in the Ord Community service area.

Table 3-1: Water Production by Service Area (AF)²

Year	Central Marina	Ord Community	Total
2006	1,786	2,509	4,295
2007	1,622	2,941	4,563
2008	1,833	2,269	4,102
2009	1,962	2,076	4,038
2010	1,744	2,389	4,133
2011	1,698	2,348	4,047
2012	1,814	2,360	4,174
2013	1,467	2,964	4,431
2014	1,619	2,407	4,026
2015	1,420	1,808	3,228

The City of Seaside is served by three water providers: the City's municipal water system and California American Water serve the portion of the City outside the former Fort Ord, and Marina Coast Water District serves the portion within the former Fort Ord. Within the Ord Community, there are three land use jurisdictions within the City of Seaside, each separately managing their allocation of water supply. Those jurisdictions are the U.S. Army (Presidio of Monterey Annex), California State University, Monterey Bay (CSUMB) and the City of Seaside. Water use within the City of Seaside portion of the Ord Community (excluding CSUMB and U.S. Army) is provided in Table 3-2.

² Source: 2015 UWMP, Table 4.1

Table 3-2: Water Use within the Seaside-Ord Community (AF)³

Use Category	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Notes
Single family	277.13	244.67	230.47	223.61	236.78	255.68	219.95	172.6	160.69	179.24	1
Multi-family	59.81	59.83	60.25	69.17	66.54	64.4	44.95	48.7	57.89	58.66	2
Commercial	26.2	33.87	65.87	29.58	27.88	16.92	16.64	23.93	22.65	20.75	3
Industrial	0	0	0	0	0	0	0	0	0	0	
Institutional/Governmental	71.81	68.13	83.2	62.66	64.81	72.38	25.99	40.55	39.1	22.87	4
Landscape	11.67	10.82	350.44	440.15	271.16	467.58	536.5	147.48	9.3	8.5	5
Agriculture	0	0	0	0	0	0	0	0	0	0	
Total	446.62	417.32	790.23	825.17	667.17	876.96	844.03	433.26	289.63	290.02	

Notes:

1. Includes Seaside Highlands and Bay View Mobile Home Park
2. Includes Sun Bay Apartments
3. Includes construction meters and all uses not listed elsewhere.
4. All schools (MPUSD, Chartwell, MCL, MCP)
5. Includes only Soper Field and Bayonet/Blackhorse Golf Course. Golf course use was only in years 2010-2015.

3.2 Future Demands

Table 3-3 shows projected water demands for the District through 2035. The projection is based on Table 3.5 of the 2015 UWMP, with two modifications. The original table included demand projections for the Monterey Downs Specific Plan Area, which was located in Seaside and unincorporated Monterey County. The developer for that project has since withdrawn their planning application, so that project was removed from the demand projection. The 2015 UWMP also assumed that Bayonet/Blackhorse Golf Course would convert from existing irrigation wells in the Seaside Groundwater Basin to the RUWAP recycled water project, so that irrigation demand was included in the demand projection. The City has since notified MCWD that the golf course irrigation will remain on the existing irrigation wells, so that demand was removed from this projection.

³ Source: MCWD Quarterly Water Consumption Reports

Table 3-3: Water Demand Projection by Service Area (AF)⁴

	Jurisdiction	2012*	2015**	2020	2025	2030	2035	Notes	Allocation
Ord	U.S. Army	620	633	663	825	825	825		1,577
	CSUMB	404	404	442	632	755	779		1,035
	Del Rey Oaks	0	0	186	551	551	551		243
	City of Monterey	0	0	0	130	130	130		65
	County of Monterey	8	52	377	539	539	539		720
	UCMBEST	3	3	94	299	515	515	3	230
	City of Seaside	657	657	592	783	1,097	1,560	1, 2	1,012
	State Parks and Rec.	0	0	12	18	20	25		45
	Marina Ord Comm.	264	285	901	1,572	1,702	1,704		1,325
	Assumed Line Loss	395	348	348	348	348	348		348
Marina	Armstrong Ranch	0	0	0	680	680	680		920
	Cemex	0	0	0	0	0	500		500
	Marina Central	1,823	1,823	2,184	2,491	2,606	2,725	4	3,320
Subtotal - Ord		2,351	2,382	3,616	5,698	6,482	6,976		6,600
Subtotal - Marina		1,823	1,823	2,184	3,171	3,286	3,905		4,740
Total		4,174	4,204	5,800	8,868	9,768	10,881		11,340

*Actual demands from calendar year 2012 used to represent a non-drought year.

** Projected demands. Actual use was lower due to mandatory drought restrictions.

1 Includes Seaside Resort Golf Course use in 2012 and 2015 (temporary use).

2. Revised values shown in italics. Removes Monterey Downs and Golf Course irrigation.

3. MBEST commented that they may develop up to 230 AFY as soon as the market allows it.

4. Allocation includes 3020 AFY groundwater and 300 AFY existing pilot desalination plant.

The demand projection for the City of Seaside includes the build-out of two projects, Seaside Resort and The Projects at Main Gate (original), and estimates for the remaining redevelopment parcels within the City. The California Central Coast Veterans Cemetery is located within the City, but the water allocation was provided by the U.S. Army, so it is included in the Army demand projection. Elements of the Main Gate Specific Plan as included in the UWMP are compared to the current plan in Table 3-4 (below). As can be seen, the proposed project has been scaled so that the indoor water demand matches the estimated water demand in the original specific plan, and the outdoor demand is met using recycled water.

⁴ Source: Table 3.5 of the 2015 MCWD Urban Water Management Plan

Table 3-4: Main Gate Elements compared to Elements in the 2015 UWMP⁵

	2015 UWMP				2018 Specific Plan			
	Qty	Unit	Factor (afy/unit)	Demand (afy)	Qty	Unit	Factor (afy/unit)	Demand (afy)
SF Residential (8-15 du/ac)	-	DU	0.25	0.0	140	DU	0.25	35.0
MF Residential (>15 du/ac)	-	DU	0.25	0.0	150	DU	0.25	37.5
Student Apartments (>15 du/ac)	-	DU	0.25	0.0	330	DU	0.25	82.5
Retail	368,500	SF	0.00005	18.4	95,000	SF	0.00021	20.0
Restaurant	79,000	SF	Note 1	102.3	13,000	SF	0.00145	18.9
Conference Center	27,000	SF	0.0002	5.4				
Spa	24,000	SF	0.0003	7.2				
Hotel Rooms	250	RM	0.17	42.5	280	RM	0.17	47.6
Theater	51,500	SF	Note 2	11.2				
Parks/Landscaping	10.41	AC	2.5	26.0	3.5	AC	2.1	7.4
Gas Station					16	Pu	0.1051	1.7
TOTAL				213.0				250.4

Notes:

1. Demand per 2007 WSA: 650 in-line food service seats at 0.038 AFY/seat plus 3879 restaurant seats at 0.02 AFY/seat
2. Theater based on 8000 seats at 0.0014 AFY/seat
3. Demand rates for retail and restaurant in the 2018 Plan reflect the standard factors used in the 2015 UWMP.

The demand estimate in Tables 2-2 and 3-4 use a larger demand factor for retail development than in the 2007 WSA. This is because the retail use in the current plan does not specify the type of use (dry goods and apparel vs. grocery or market), so an averaged demand rate is applied. The non-turf landscape demand factor of 2.1 AFY/acre is used in the current estimate, consistent with the land use plan. The higher demand factor used in 2007 is applicable to turf lawns and playing fields, which are not typical in high-density areas.

3.3 Dry-Year Demands

Section 10631 of the Water Code requires that water demands be estimated for an average water year, a single dry water year and multiple dry water years. As discussed in the District's 2015 Urban Water Management Plan, the MCWD service area has a cool summer-type Mediterranean climate, with rain occurring in October through May, and advection fog enveloping the coast in the summer in response to inland heating. Due to these cool summer conditions, the area does not experience the significant increases in summer irrigation demands common to areas further inland in the Salinas River Valley. Periods of below normal rainfall do not reduce the coastal fog, resulting in very minor demand fluctuations between average and dry years.

In the 2015 UWMP, the demand increase during a single-dry year or the first of multiple dry years was calculated to be 1%, based on the system demand increase from 2012 to 2013 (start of

⁵ Source: Table C-3, 2015 UWMP

the recent drought). Due to mandatory water conservation measures, water demands declined in subsequent years, by 12% in the second dry year and 25% in the third dry year. The projected demands during single dry years and multiple dry years are provided in Table 3-5, with the maximum demand being 215.1 AFY. This methodology may over-estimate the savings during mandatory conservation periods if all of the landscape irrigation uses recycled water. Recycled water systems are typically not subject to the same use restrictions as potable supplies.

Table 3-5: Dry Year Demand Projections

	Average Year	Single Dry Year	1st Dry Year	2nd Dry Year	3rd Dry Year
Factor		1.01	1.01	0.88	0.75
Projected Demand (AFY)	250.4	252.9	252.9	220.4	187.8

MCWD has sufficient supply and well capacity to meet all customer demands during peak (single dry year) conditions.

Section 4 - Water Supply

4.1 Current Water Supply

The District's primary source of water supply is the Salinas Valley Groundwater Basin, and it also has a small desalination plant in the Central Marina Service Area, which is permitted but currently inactive. Under the Regional Urban Water Augmentation Project, the District has secured entitlement to 1,427 AFY of advanced treated water from the Pure Water Monterey Project, of which the first 600 AFY will become available in 2019. The District is working jointly with FORA and M1W to identify additional water supply options to supply an additional 973 AFY for the Ord Community. None of the District's current supply is purchased under wholesale contract.

4.1.1 Groundwater

The District supplies groundwater from the Salinas Valley Groundwater Basin. Under the "Agreement between the United States of America and the Monterey County Water Resources Agency concerning Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency, Agreement No. A-06404", dated September 21, 1993, the District (successor to the United States) may withdraw up to 6,600 acre-feet per year from the Salinas Valley Groundwater Basin for use in the District's Ord Community service area. In 2001, the Army through FORA deeded to MCWD all of the 6,600 acre-feet per year except for reserving 1,577 acre-feet per year to meet Federal water demands within the former Fort Ord. Under an exclusive potable water contract, the Army provides its reserved water right to MCWD to meet Army and other Federal Agency potable water demands within the former Fort Ord.

Under the "Annexation Agreement and Groundwater Mitigation Framework for Marina Area Lands" dated March 1996, by and between the MCWRA, the Marina Coast Water District, J.G. Armstrong Family Members, RMC Lonestar, and the City of Marina, the District may withdraw up to 3,020 AFY from the Salinas Valley Groundwater Basin for use in the District's Central Marina service area. Under that agreement, additional groundwater supply will be made available to the District for use within the Armstrong Ranch and the RMC Lonestar (now CEMEX) properties north of Marina, if and when the City annexes and develops those areas.

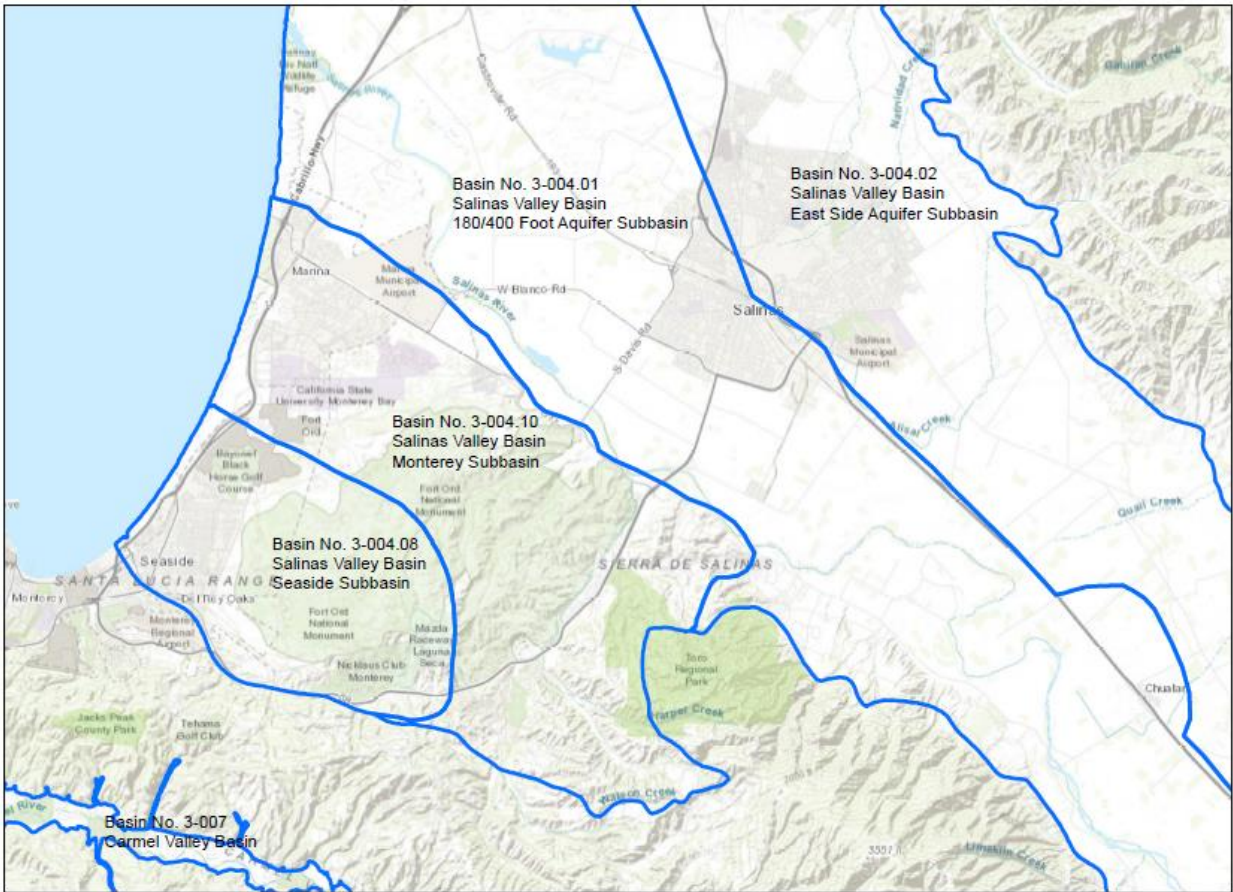
Consequently, MCWD owns or manages on behalf of the Army a combined total of 9,620 AFY of potable groundwater for its Central Marina and Ord Community service areas. MCWD interconnected the potable water systems within the Central Marina and Ord Community service areas to provide a more efficient and reliable system and, in 2007, MCWD was issued a water supply permit for the combined system by the State of California.

In 2016, the California Department of Water Resources (DWR) published an Interim Update to Bulletin 118, California's Groundwater. Bulletin 118 defines groundwater basin and subbasin boundaries used for planning and groundwater management. The update reflects changes

submitted to and approved by DWR under the Sustainable Groundwater Management Act (SGMA). Within northern Monterey County, the changes include redefining the boundaries of the Seaside and Corral De Tierra subbasins to reflect the defined boundary of the adjudicated Seaside Groundwater Basin and named that area the Seaside Subbasin. DWR then merged the remaining portion of the Seaside subbasin with the Corral de Tierra subbasin, and named that area the Monterey Subbasin). The revised boundaries are shown in Figure 4.1.

The MCWRA designation of groundwater subbasins within the Salinas Valley Groundwater Basin differs from DWR. MCWRA combines DWR’s 180/400 Foot Aquifer Subbasin, the new Monterey Subbasin and the revised Seaside Subbasin into the Pressure Subarea.

Figure 4.1: Groundwater Basins⁶



All of the District’s wells are located within the Monterey Subbasin of the Salinas Valley Groundwater Basin. MCWD has been designated as an exclusive Groundwater Sustainability Agency (GSA) within its LAFCO service area, and it participates in the Salinas Valley Basin

⁶ Boundaries from the DWR Groundwater Basin Boundary Assessment Tool, <https://gis.water.ca.gov/app/bbat/>

GSA as a member of the Advisory Committee. A portion of the District's Ord Community service area overlays the Seaside Subbasin of the Salinas Valley Groundwater Basin, which is an adjudicated basin managed by the Seaside Water Master Board.

MCWD in coordination with the Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) is preparing a Groundwater Sustainability Plan (GS Plan) for the Monterey Subbasin, which includes the Main Gate Specific Plan Area. The GS Plan will identify the sustainable yield of the subbasin, in accordance with Section 10721 of the California Water Code. The GS Plan is required to be implemented not later than January 31, 2022, but the District intends to complete it not later than January 31, 2020, concurrent with the SVBGSA completion of the GS Plan for the 180/400 Foot Aquifer Subbasin. Until those plans are completed and adopted, the groundwater pumping limits in the previous Zone 2/2A Annexation Agreements are assumed to be fully reliable.

There are three defined aquifers within the Marina Coast Water District service area, the 180-foot, the 400-foot and the 900-foot or Deep Aquifer. The District operates eight wells, with three in Central Marina and five in the Ord Community. The service areas are interconnected for reliability, with meters at the points of connection to facilitate managing the two well-fields to ensure each service area remains within its authorized withdrawal limit. Table 4-1 summarizes the existing pumping capacity of the District wells. As can be seen, the District has sufficient well capacity to meet the maximum day demands with the largest well out-of-service.

Table 4-1: Existing Pumping Capacity

Location	Well #	Aquifer	Estimated Capacity	
			(AFY)	(GPM)
Marina	10	Deep	2,670	1,654
	11	Deep	3,561	2,206
	12	Deep	3,264	2,022
Ord	29	400 foot	2,885	1,787
	30	400 foot	3,624	2,245
	31	400 foot	3,625	2,246
	34	Deep	3,326	2,000
	35	400 foot	3,326	2,000

4.1.2 Desalinated Water

The District has a desalination plant located near Marina State Beach, which can contribute up to 300 AFY of potable water supply to the Central Marina service area. The plant was constructed in 1997 as a pilot project but is not currently in use.

4.2 Future Water Supply

The District is working towards developing new sources of water supply to meet projected demand increases due to redevelopment within the Ord Community, as well as taking actions to address groundwater wells impacted by seawater intrusion. The two major water supply projects described below are (1) reclaimed wastewater, and (2) desalinated water, which make up the Regional Urban Water Augmentation Project. MCWD is currently investigating alternative sources of potable supply, which may be less costly than desalination.

4.2.1 Recycled Water

Recycled water refers to sanitary sewage which undergoes treatment and disinfection, typically for non-potable uses such as agricultural and landscape irrigation. The Monterey One Water (M1W, formerly Monterey Regional Water Pollution Control Agency) operates a regional wastewater treatment facility in north Marina and produces reclaimed water for agricultural irrigation in the Castroville area. Through prior agreements with the M1W, the District is entitled to receive recycled water from the regional plant, up to the volume of wastewater generated within the District and sent to the plant. In 2007, MCWD began detailed design of the recycled water distribution system, and has now constructed several portions of the transmission main. In 2012, M1W began planning the Pure Water Monterey Groundwater Replenishment Project, which will develop additional sources of water supply and produce advanced treated water for injection into the Seaside Groundwater Basin for indirect potable reuse. In 2016, MCWD and M1W entered into an agreement entitling MCWD to 1,427 AFY of advanced treated water from the Pure Water Monterey Project. MCWD is completing construction of the transmission main, which will be used to deliver advanced treated water for urban irrigation within MCWD and for groundwater injection into the Seaside Subbasin and recovery for indirect potable reuse within the Monterey Peninsula.

Under the initial phase of the project, MCWD will receive 600 AFY of advanced treated water. In later phases, the project will be expanded, subject to financing and demand, by an additional 827 AFY, or a total of 1,427 AFY, which was the amount of non-potable demand within the Ord Community analyzed in the RUWAP EIR.

4.2.2 Desalinated Water

Given readily available saline and brackish waters near the District's service area, desalinated water has been considered as another potential water supply. The District's existing 300 AFY desalination plant is relatively small, but a larger facility to serve the District is planned as a supplemental water supply. The Regional Urban Water Augmentation Project EIR includes a 1,500 AFY desalination facility for the District. The facility was sized to provide up to 1,200 AFY of new supply to the Ord Community and 300 AFY to Central Marina, allowing the District to retire the existing pilot desalination plant. As part of the current joint water supply planning effort by MCWD, M1W and FORA, additional sources of potable water supply are

being considered. If an alternative source of potable supply is identified, the RUWAP EIR may be amended to reflect the replacement project.

4.2.3 Conservation

The Marina Coast Water District has an active water conservation program. Under the District's water conservation ordinance, all new construction is required to incorporate water saving devices over and above the requirements of the state building code. Additionally, the District has adopted the State's Model Water Efficient Landscape Ordinance. The District requires developers to install water conserving fixtures during construction, landscapes which require high irrigation are discouraged, and a tiered water rate structure discourages water waste. The District offers rebate incentives to replace less efficient water fixtures, for installing smart irrigation controllers, and for replacing lawns and sprinklers.

The State of California has established a goal of reducing per person water use by 20% by the year 2020, compared to the 2008 baseline demands. Toward that end, the California Building Code was updated in 2010, with the goal of reducing indoor water use to 55 gallons per person per day. In the 2010 UWMP, the District identified a year 2020 conservation target of 117 gallons per person per day (system-wide potable average). It is anticipated that the Main Gate Specific Plan area will meet that goal, based upon the new indoor plumbing fixture codes and the planned use of recycled water to meet non-potable demands. The Specific Plan Area could potentially use up to 53.0 AFY of recycled water, which is 21% of the projected overall water demand.

4.3 Regulatory Permits Necessary for Supply Delivery

The Marina Coast Water District is a public water system, permitted by the State Water Resources Control Board, Division of Drinking Water, System No. 2710017. The recycled water distribution system is permitted as System No. 2790009. Permits required for the construction and operation of new facilities are obtained on a project-by-project basis.

Section 5 - Supply Sufficiency Analysis

5.1 Comparison of Project Demands to Projected Supply

Within the Ord Community, the 6,600 AFY of existing groundwater supply has been allocated among the land use jurisdictions by the Fort Ord Reuse Authority (FORA), as shown in Table 5-1, below. The municipal jurisdictions (Cities and Monterey County) formally sub-allocate this supply to developments. Until additional water supplies are developed and allocated within the Ord Community, MCWD will only allow new service connections up to the usage totals allocated by the respective jurisdictions. For the City of Seaside, this is in accordance with Subsection 3a of the May 31, 2001 Implementation Agreement between FORA and the and the City of Seaside, which provides that in using, developing, or approving development on property received from FORA, the City “shall not commit (or cause the commitment of) water resources that are unavailable to the [City] (whether through FORA allocations or otherwise).”

FORA has also formally allocated the recycled water supply from the Phase 1 Recycled Water Project. Those allocations are also included in Table 5-1.

Table 5-1: FORA Allocations in the Ord Community

Land Use Jurisdiction	Existing Groundwater Allocation (AFY)	Future Recycled Allocation (AFY)
City of Del Rey Oaks	243	280
City of Marina (Ord)	1,325	345
City of Monterey	65	0
City of Seaside	1,012	453
County of Monterey	710	134
Marina Sphere (existing use)	10	0
CA State Parks and Rec.	45	0
CSU Monterey Bay	1,035	87
Univ. of California MBEST	230	60
U.S. Army	1,577	0
Assumed Line Loss	348	68
Total – Ord Community	6,600	1,427

The City of Seaside has sub-allocated portions of their existing groundwater allocation, as detailed in Table 5-2, including 149.0 AFY to the original Main Gate Specific Plan Area⁷. The remaining unallocated supply totals 186.3 AFY, which is sufficient to meet the remaining 101.4 AFY of supply required for the Amended Main Gate Specific Plan. To make up the total 101.4

⁷ Note that the City only allocated water supply for the Retail Lifestyle Mall portion of the Main Gate Project, and not the full 213 AFY required for the full specific plan build-out.

AFY, the City may choose to allocate 38.4 AFY of recycled water for non-potable landscape irrigation, and allocate the remaining 63.1 AFY as groundwater. The City may also require the use recycled water for toilet flushing, converting up to 14.6 AFY of indoor demand from potable to recycled water. The Project may be phased, and the first phase supplied up to the amount currently allocated by the City. The City is currently considering other development projects which require water supply allocations as well. A Water Supply Assessment was recently prepared for the Campus Town Specific Plan, with an estimated total demand of 487.4 AFY. The City has not yet allocated any water supply to that project, and the City does not currently have sufficient existing water supply to support both specific plans.

The Project has the potential to use up to 53.0 AFY of recycled water. The City of Seaside has a FORA recycled water allocation of 453 AFY, or 31.74% of the 1,427 AFY total. Once the recycled water distribution system is operational, potable water use that is replaced with recycled water may be reallocated to new projects. Recycled water is planned for use at MPUSD schools for landscapes and play fields (30 to 40 AFY) and within Seaside Highlands for parks and common area landscapes (43.1 AFY).

Table 5-2: City of Seaside Sub-Allocations

Project or Existing Water User	Existing Groundwater Allocation (AFY)
SunBay Apartments	120.0
Brostram Park (Bay View MHP)	84.8
Seaside Highlands	168.5
Seaside Resort	161.4
MPUSD	81.0
Monterey College of Law	2.6
Monterey Peninsula College	9.0
Chartwell School	6.4
Main Gate "Retail Lifestyle Mall"	149.0
American Youth Hostile	5.5
State Parks transfer for AYH	-5.5
Seaside Senior Living	40.0
Other Existing Use	3.0
City of Seaside Total	825.7
FORA Allocation	1012.0
City of Seaside Unallocated	186.3

The initial phase of the recycled water project will provide up to 600 AFY starting in 2019. This supply is being made available to customers on a first come, first served basis. If the City fails to opt into the initial phase of the project, other jurisdictions may use up the Phase 1 project, forcing the City to wait until the Phase 2 expansion is funded and constructed.

5.2 Plans for Acquiring Additional Water Supplies

Under the provisions of Section 10911 of the California Water Code, if the water supplier concludes that water supplies will be insufficient for the proposed project, the water supplier shall provide its plans for acquiring additional water supplies. The Marina Coast Water District is currently pursuing two water supply projects, the Recycled Water Project and the Desalination Project, which are intended to allow the District to develop 2,400 AFY of new supply to meet the projected Ord Community demand. Detailed descriptions of these projects are provided in Appendices B and C.

5.3 Reliability of Water Supply

The Salinas Valley Groundwater Basin has a large storage volume, and is recharged by the Salinas River, which is augmented by upstream reservoirs managed by MCWRA. Consequently, the aquifer does not experience wide level variations due to climatic conditions. Water levels vary by 20 to 30 feet seasonally, and decline an additional 10 to 20 feet during drought periods. The District's demands accounted for less than one percent of the total groundwater pumped from the Salinas groundwater basin in 2015, the latest year reported. Therefore, the District's supply is considered reliable on a quantity basis. The upper aquifers in the Salinas Valley Groundwater Basin (180-foot aquifer and 400-foot aquifer) along the coast are experiencing high salinity due to seawater intrusion. The District's wells in Central Marina are in the Deep Aquifer, which has not experienced signs of seawater intrusion and is considered to have reliable quality. In the Ord Community, the District has one well in the deep aquifer and four wells in the upper aquifers, but outside the area currently affected by seawater intrusion. The District is closely monitoring the quality in these wells.

The planned additional sources of supply are recycled wastewater and seawater desalination. The source of supply for recycled water is wastewater return flows, which originate from indoor water use. Indoor water use is not subject to the same levels of curtailment during drought periods as outdoor water use, so the source of recycled water supply is considered drought-proof. The SVRP treatment plant operated by Monterey One Water has reliably produced recycled water meeting the requirements of Title 22 for over a decade. The Pure Water Monterey Advanced Water Purification Plan is currently under construction, and is scheduled to begin delivering advance treated water in 2019. Similarly, seawater desalination is considered a reliable source of supply. Reverse osmosis technology is a proven method of desalinating seawater and brackish groundwater.

5.4 Effect on Agricultural and Industrial Users Reliant on the Same Source

There are no agricultural water users within the MCWD service area, nor are there industrial users with privately-owned wells. Agricultural users in the Salinas Valley rely on the same basin-wide supply from the Salinas Valley Groundwater Basin, accounting for 92.9% of the groundwater pumping in 2015. In the local area, 12,000 acres of irrigated agriculture are

supplied with recycled water from the Castroville Seawater Intrusion Project. As described in Section 4.1.1., the SVBGSA is preparing a Groundwater Sustainability Plan for the 180/400 Foot Aquifer Subbasin, which will determine the sustainable yield of the subbasin. The sustainable yield determination may require cutbacks in pumping in that subbasin. MCWD hopes to work with those pumpers to develop joint groundwater recharge projects that will benefit areas on both sides of the Salinas River.

Section 6 - Conclusions

6.1 Sufficiency of Water Supply for the Project

The City of Seaside has sufficient existing water supply to achieve the complete build-out of the planned Main Gate Specific Plan Area, and will have access to non-potable water supply when the recycled water system (currently under construction) is completed in 2019. If the project is phased, the initial phase could proceed using the 149 AFY previously sub-allocated by the City to the original Project. However, the City has multiple projects under consideration and insufficient supply to approve them all, so the City must determine how to prioritize and phase them so as not to exceed the City's FORA allocations of potable and recycled water supply. Once a determination is made, the City must notify MCWD so that they may provide the water supply to the Project.

6.2 Future Actions

Section 10911(b) of the Water Code states "The City or County shall include the water assessment provided pursuant to Section 10910, in any environmental document prepared for the Project pursuant to [CEQA]." The City of Seaside will need to adopt this WSA as part of the CEQA environmental review for the proposed Project, including the findings described above.

The City of Seaside may take certain additional actions to guarantee the availability of the water supplies for the Main Gate Specific Plan and other projects under consideration:

- To offset urban irrigation demands within the Seaside portion of the Ord Community with recycled water and then apply the existing potable supply towards the Main Gate and/or Campus Town Specific Plan areas, the project EIR should clearly describe that intent and the resulting allocation of potable and recycled water supply. The Seaside Highlands development was constructed with recycled water mains to supply the landscape irrigation systems. This system is currently fed with potable water, but recycled water will be available within the next few years. Providing recycled water for irrigation of that project would make up to 43.1 AFY⁸ of potable supply available for reallocation from Seaside Highlands. An additional 10 AFY may be made available by converting the City's Soper Field sports complex (adjacent to Seaside Highlands) to recycled water.
- The City may require dual-plumbing of buildings to use recycled water for sanitary fixture flushing (toilets and urinals), which will offset potable water demand with recycled water.

⁸ The City of Seaside water allocation to the Seaside Highlands project states that 43.1 AFY of irrigation demand will be converted to recycled water when it becomes available.

- The City may determine that certain sub-allocation areas are fully developed, and reallocate the unused portion of existing allocations to a new project. In doing this, the City should use the maximum water use from the last 10 years as the basis of comparison.
- The City may enter into an agreement with another land-use jurisdiction in the Ord Community to allocate currently unused water supply to a portion of this Project.

Appendix A: Recycled Water Project Details

In 2004-2005, the District prepared engineering studies for the Regional Urban Water Augmentation Project (RUWAP). This project was intended to develop 2,400 AFY of additional water supply for the Ord Community, to meet projected demands identified in the Fort Ord Base Reuse Plan. The RUWAP has two components, urban use of recycled water and a desalination facility. The final capacity of the two components may be adjusted during final design, but the total amount of new supply will be 2,400 AFY.

In 2012, the Monterey One Water (M1W, formerly the Monterey Regional Water Pollution Control Agency) and the Monterey Peninsula Water Management District began planning the Pure Water Monterey Groundwater Replenishment Project, which includes the advanced treatment of recycled water for indirect potable reuse. On April 8, 2016, MCWD and M1W entered into an agreement which would provide up to 1,427 AFY of advanced treated water for urban landscape irrigation instead of the tertiary treated recycled water planned under the RUWAP. The Pure Water Monterey Project required a pipeline running parallel to MCWD's planned RUWAP pipeline, so the agencies agreed to share a single pipeline, realizing a cost savings to each project. The project is currently under construction, and scheduled to begin operation in 2019.

1. Source of Supply: Tertiary treated wastewater available at the M1W Regional Wastewater Treatment Plant in North Marina. Under the annexation agreement between MCWD and M1W, the District has the right to purchase recycled water, subject to annual and seasonal limits. The Advanced Water Purification Facility (AWPF) is currently being constructed, with a design capacity of 5.0 mgd. The plant will produce advanced-treated recycled water meeting the Title 22 standards for indirect potable reuse (injection into a groundwater aquifer and recovery at other wells).
2. Expected Supply Capability: The Phase 1 project will have an initial yield of 4,100 AFY, of which 600 AFY would be available to MCWD. The remaining 3,500 AFY would be conveyed to an injection wellfield in the Ord Community and stored in the Seaside Groundwater Basin. Future Phases of the project will increase MCWD's yield to 1,427 AFY.
3. Project Facilities:
 - Advanced water purification facility and pump station, located within the M1W plant in North Marina
 - Product water transmission and distribution pipelines within Marina and the Ord Community

- Recycled water storage tank within the Ord Community

4. Historical Record:

- MCWD operated a recycled water system from 1996 to 1998. Thereafter the Marina Wastewater Treatment Plant was retired and the local sanitary sewer system was connected to the Regional wastewater collection system.
- MCWD prepared engineering studies for the Regional Urban Water Augmentation Project (RUWAP), which included a recycled water component. The District approved the CEQA EIR for the RUWAP in 2005, and amended the findings in 2006 and 2007 as detailed planning progressed.
- In 2004, MCWD published standards for recycled water infrastructure and began requiring the construction of recycled water pipelines in new subdivisions.
- MCWD constructed 3.5 miles of recycled water pipelines within the Ord Community during on-going road construction projects, in cooperation with the Fort Ord Reuse Authority and California State University Monterey Bay.
- MCWD is currently constructing the shared product water transmission main and storage reservoir. The transmission main connects the AWP in north Marina to the injection wellfield in Seaside.
- M1W is currently constructing the Pure Water Monterey AWP and the injection wellfield.
- MCWD is currently completing design of the recycled water distribution system, which connects customers to the transmission system.
- MCWD obtained a pipeline easement for the recycled water main across the Armstrong Ranch in 2007. MCWD obtained a pipeline easement from the City of Seaside for the recycled water main from Normandy Ave to the water tank site in 2010. The District obtained ownership of the recycled water tank site in 2010 (previously held as an exclusive easement). MCWD finalized the recycled water main easements with the Presidio of Monterey in 2012. MCWD finalized the recycled water main easements with CSUMB in 2018.

5. Written Contracts and Agreements:

- In the annexation agreement between MCWD and M1W, MCWD retained the right to obtain recycled water in an amount not to exceed the volume of wastewater flows originating from the District.
- MCWD entered into an agreement with the Fort Ord Reuse Authority in 2005 to develop the RUWAP water supplies.
- MCWD executed two memoranda of understanding with M1W and MCWRA (one in 2009 and one in 2010) to work cooperatively towards the RUWAP, and to specify quantities, (seasonal) availability, and roles and responsibilities.
- MCWD entered into the Pure Water Delivery and Supply Project Agreement with M1W in 2016 to participate in the Pure Water Monterey Project and receive advanced

- treated water instead of tertiary treated and disinfected recycled water for the RUWAP.
- In agreements with developers of new subdivisions for the construction of water infrastructure, the District requires the installation of recycled water pipelines for the irrigation of public and commercial landscapes.
6. Estimated Costs and Financing: The Pure Water Monterey Project overall cost is estimated at approximately \$70 million. This includes both the MCWD and M1W Facilities. Both agencies have received State Revolving Fund Loans to cover a majority of the construction costs. The Fort Ord Reuse Authority has budgeted \$37 million for the Regional Urban Water Augmentation Project. A portion of that funding will be applied to this project.
7. Timeframes: The District began constructing recycled water pipelines in conjunction with road construction projects by other jurisdictions (Fort Ord Reuse Authority and CSU Monterey Bay) and private developers beginning in 2004. Construction of the transmission main and water tank began in December 2017, and are projected to be complete by November 2018. Construction of the AWP and injection wellfield began in 2017, and are projected to be complete by early 2019.
8. Federal, State and Local Permits for Construction:
- The project is subject to the California Environmental Quality Act (CEQA) and also the National Environmental Policy Act (NEPA) because the SVRP facility is partially funded by the U.S. Department of the Interior, Bureau of Reclamation. The CEQA EIR for the RUWAP Phase 1 Project with supporting NEPA studies has been completed. CEQA actions for a future RUWAP Phase 2 expansion have not been initiated.
 - The CEQA EIR for the Pure Water Monterey Project with supporting NEPA studies has been completed.
 - The project pump stations and pipelines are outside the Coastal Zone and therefore a Coastal Commission Permit is not required.
 - Encroachment permits and easements for pipeline construction have been coordinated with the City of Marina, the City of Seaside, CSU Monterey Bay, Monterey Peninsula Unified School District and the Presidio of Monterey (Ord Military Community).
 - A Monterey County Conditional Use Permit was obtained for the pipeline crossing agricultural land (Armstrong Ranch).
 - M1W has obtained a Water System Permit with the California State Water Resources Control Board, Division of Drinking Water for the advanced treated water system.
 - The District's Water System Permit with the California State Water Resources Control Board, Division of Drinking Water will need to be updated to include the recycled water distribution system before the system can be placed into operation.

The Title 22 Engineering Report for that addition has been submitted and a recycled water system number has been assigned.

Appendix B: Desalination Project Details

In 2004-2005, the District prepared engineering studies for the Regional Urban Water Augmentation Project (RUWAP). This project was intended to develop 2,400 AFY of additional water supply for the Ord Community, to meet projected demands identified in the Fort Ord Base Reuse Plan. The RUWAP has two components, urban use of recycled water and a desalination facility. The final capacity of the two components may be adjusted during final design, but the total amount of new supply will be 2,400 AFY.

The Desalination Project was originally studied as a stand-alone facility, located at the former Fort Ord Wastewater Treatment Plant. In 2008, the District began working cooperatively with California American Water, which was planning a larger desalination facility to serve their Monterey Service Area (adjacent to the Ord Community). The two agencies jointly planned a Regional Desalination Facility to be located in North Marina adjacent to the M1W Regional Wastewater Treatment Plant. This location facilitated the use of the existing wastewater outfall pipeline for brine disposal from the desalination plant. In 2011, the agreement between MCWD, American Water and Monterey County Water Resources Agency was terminated. MCWD is now pursuing a smaller desalination facility, as sized in the RUWAP EIR, located on the North Marina site.

As mentioned in the report, MCWD is jointly studying with FORA and M1W alternative sources of potable water supply. If a preferred source of potable supply is identified, the RUWAP may be amended at that time.

The following details are provided as required per Water Code §10911.

1. Source of Supply: Seawater-intruded groundwater in the 180-foot aquifer of the Salinas Valley Groundwater Basin, Pressure Subbasin. Source wells will capture seawater within the aquifer which is currently migrating inland.
2. Expected Supply Capability: 1,500 AFY (average annual yield). Of this total, 1,200 AFY would be for the Ord Community, and 300 AFY would replace the capacity of the District's existing pilot desalination plant, which would then be retired.
3. Project Facilities:
 - Source wells in the intruded portion of the 180-ft aquifer
 - A reverse-osmosis desalination plant located in North Marina,
 - Product water pipeline from the plant to the MCWD service area,

- Brine disposal pipeline from the plant to the Monterey One Water effluent disposal pipeline (deep ocean outfall)
 - Water storage tanks within the MCWD service area
4. Historical Record:
- MCWD constructed a pilot desalination plant in Marina in 1996.
 - MCWD prepared engineering studies for the Regional Urban Water Augmentation Project (RUWAP), which included a seawater desalination component.
 - The District approved the CEQA EIR for the RUWAP in 2005, and amended the findings in 2006 and 2007 as detailed planning progressed.
 - CAWC prepared engineering studies for the Coastal Water Project (CWP) in 2005-2008, which included a seawater desalination facility, and submitted a CEQA EIR to the California Public Utilities Commission in 2009.
 - MCWD and CAWC worked cooperatively to develop a regional desalination facility as an alternative to two separate facilities, as reflected in the CWP EIR.
 - The CPUC approved the CWP EIR in 2010.
 - The Water Purchase Agreement was terminated by CAWC in September 2011.
 - MCWD issued an RFQ for Design-Build Services for the Desalination Project in September 2012, but did not award a contract. The project was placed on hold to focus on the recycled water project
5. Written Contracts and Agreements:
- MCWD entered into an agreement with the Fort Ord Reuse Authority in 2005 to develop the RUWAP water supplies.
 - MCWD entered into an option agreement with the Armstrong Family Trust in 1998 to purchase land for a future water facility. The District executed that option in 2010 for the Regional Desalination Facility site.
 - MCWD entered into an agreement with M1W in 2009 for shared use of the effluent disposal pipeline.
 - MCWD, CAWC and MCWRA entered in the Water Purchase Agreement in 2010. This agreement established project responsibilities between the three agencies. This agreement was terminated by CAWC in September 2011.
6. Estimated Costs and Financing: The Regional Desalination Project is estimated to cost approximately \$80 million. The District will pursue State and Federal grants for portions of the project cost. The Fort Ord Reuse Authority has budgeted \$37 million for the Regional Urban Water Augmentation Project. A portion of that funding will be applied to this project.
7. Timeframe: Preliminary studies are complete. Assuming a traditional design-bid-build delivery model, it would take from 4 to 6 years to complete design, permitting and construction.

8. Federal, State and Local Permits for Construction:

- The project is subject to the California Environmental Quality Act (CEQA) and also the National Environmental Policy Act (NEPA) because the facility may be partially funded by the U.S. Department of the Interior, Bureau of Reclamation. CEQA EIRs with supporting NEPA studies for the RUWAP Desalination Project and for the Regional Desalination Project have been completed. The RUWAP EIR must be amended to reflect the new MCWD facility location and brine disposal method.
- A Coastal Development Permit from the California Coastal Commission may be required for some project facilities if brackish water source wells are located in the Coastal Zone.
- Encroachment permits for pipelines will be required from Monterey County, City of Marina, and possibly CALTRANS.
- MCWD must amend their Water System Permit with the California Department of Public Health to add the desalination facility as a new source of supply before the system can be placed into operation.
- A Regional Water Quality Control Board discharge permit (NPDES) for the desalination plant will be required.
- A Monterey County Building Permit will be required for the desalination plant
- A permit from the Monterey Bay Unified Air Pollution Control District will be required for the desalination facility
- Monterey County Environmental Health must approve permits for (1) construction of the groundwater wells, and (2) construction of the desalination facility

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**Appendix D: MCWD Board Resolution Approving the Water Supply Assessment for the
Amended Main Gate Specific Plan**