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WATER SUPPLY ASSESSMENT AND WRITTEN VERIFICATION OF SUPPLY

FOR THE

MONTEREY DOWNS SPECIFIC PLAN

Prepared by

MARINA COAST WATER DISTRICT

and

Schaaf & Wheeler

CONSULTING CIVIL ENGINEERS

November 2012

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Prepared by

MARINA COAST WATER DISTRICT

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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
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CSUMB	California State University – Monterey Bay
CWC	California Water Code
DMM	Demand management measure
DWR	California Department of Water Resources
FORA	Fort Ord Reuse Authority
LAFCO	Local Agency Formation Commission
MCWD, District	Marina Coast Water District
MCWRA	Monterey County Water Resources Agency
MPWMD	Monterey Peninsula Water Management District
MRWPCA	Monterey Regional Water Pollution Control Agency
OMC	Ord Military Community
POM	Presidio of Monterey
SB	California Senate Bill
SRDP	Salinas River Diversion Project
SVWP	Salinas Valley Water Project
SVGB	Salinas Valley Groundwater Basin
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

Summary of Water Supply Assessment

Project: Monterey Downs Specific Plan, Seaside, California

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 not be sufficient to meet the projected annual water demands of existing and previously approved uses and the implementation of the Monterey Downs Specific Plan during normal, single-dry, and multiple-dry years. The Project will add approximately 852.5 acre-feet per year (AFY) of new demand to the District's Ord Community Service Area, with the City of Seaside and unincorporated Monterey County. These two jurisdictions have existing allocations of Salinas Valley Groundwater of 1,012 AFY and 710 AFY, respectively. They have previously sub-allocated 812.3 AFY and 527.5 AFY to other projects, leaving 382.2 AFY available. If the two jurisdictions sub-allocate all of this supply to the Monterey Downs Specific Plan Area, there will still be a resulting shortfall of 470.3 AFY. The District can supply water to an initial phase of the project, up to the amount sub-allocated by the City and/or County.

The District has two planned water supply projects it intends to implement in the next decade, the Recycled Water Project and the Desalination Project. These two projects are intended to develop 2,400 AFY of new supply for the Ord Community. As these projects come on-line, the Fort Ord Reuse Authority will allocate the supply among the Land Use Jurisdictions in the Ord Community. At that time, additional phases of the development may be approved.

Section 1 - Introduction

1.1 Project Overview

The City of Seaside in Monterey County, California, acting as the lead agency, is preparing the Monterey Downs Specific Plan for a 710-acre project area located within the City of Seaside and unincorporated Monterey County. 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.

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 over 1,500 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 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 following[1]:

- 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 Monterey Downs Specific Plan proposes the addition of over 1,500 dwelling units and 700,000 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.*

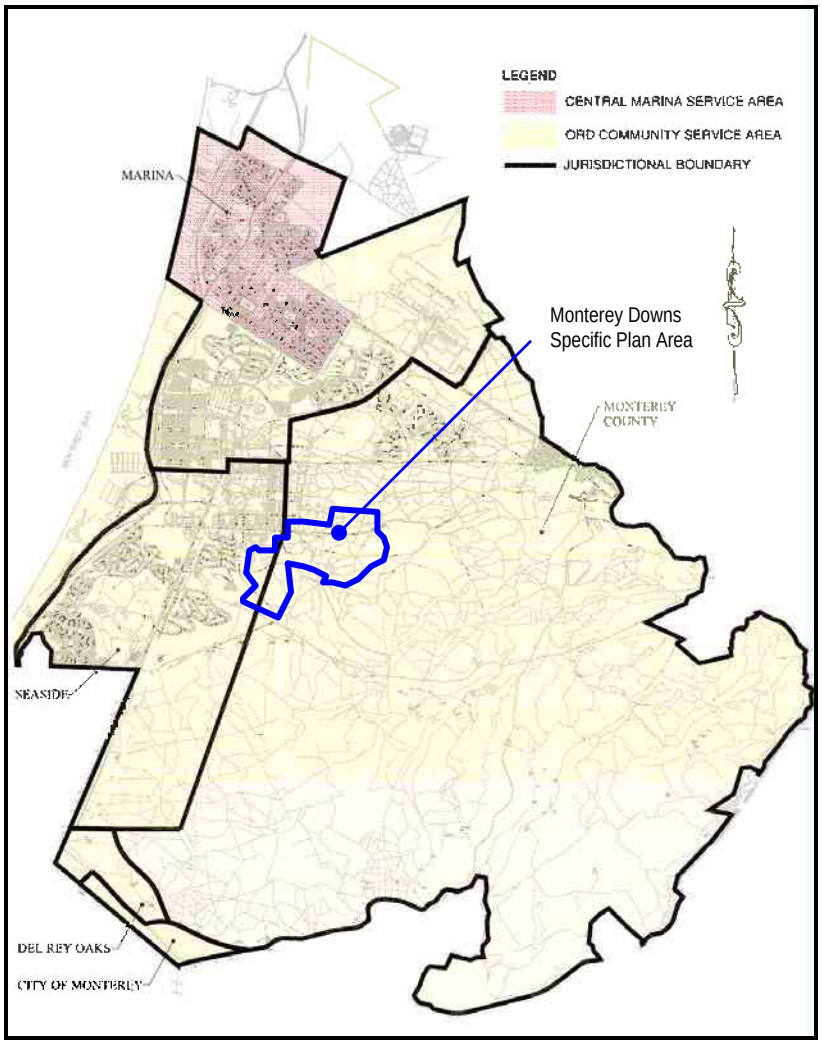
The public water system must determine if there is sufficient water supply for the subdivision, as defined in Government Code §66473.7(a)(2): *''Sufficient water supply'' means the total water supplies available during normal, single-dry, and multiple dry years within a 20- year projection that will 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.*

1.6 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 Seaside and unincorporated Monterey County in the MCWD Ord Community Service Area (see Figure 1.1).

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

Figure 1.1: Marina



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 (2010 UWMP) was adopted in June 2011. The 2010 UWMP projected demands for 20 years through the year 2030.

As provided for in the State law, this WSA incorporates by reference and relies upon many of the planning assumptions and projections of the 2010 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 2010 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 2010 UWMP found that the projected Ord Community water demand of 8,172 AFY in year 2030 exceeded the currently available supply of 6,600 AFY. Additionally, because the current water supply within the Ord Community has been allocated among the land use jurisdictions, some jurisdictions maintained a projected surplus, while others had greater shortages. The District is pursuing two water supply projects to address the projected shortfall. First, an urban recycled water system has been planned, which will provide up to 1,727 AFY for landscape irrigation. Second, a seawater desalination project is proposed to provide up to 1,500 AFY of potable water supply.

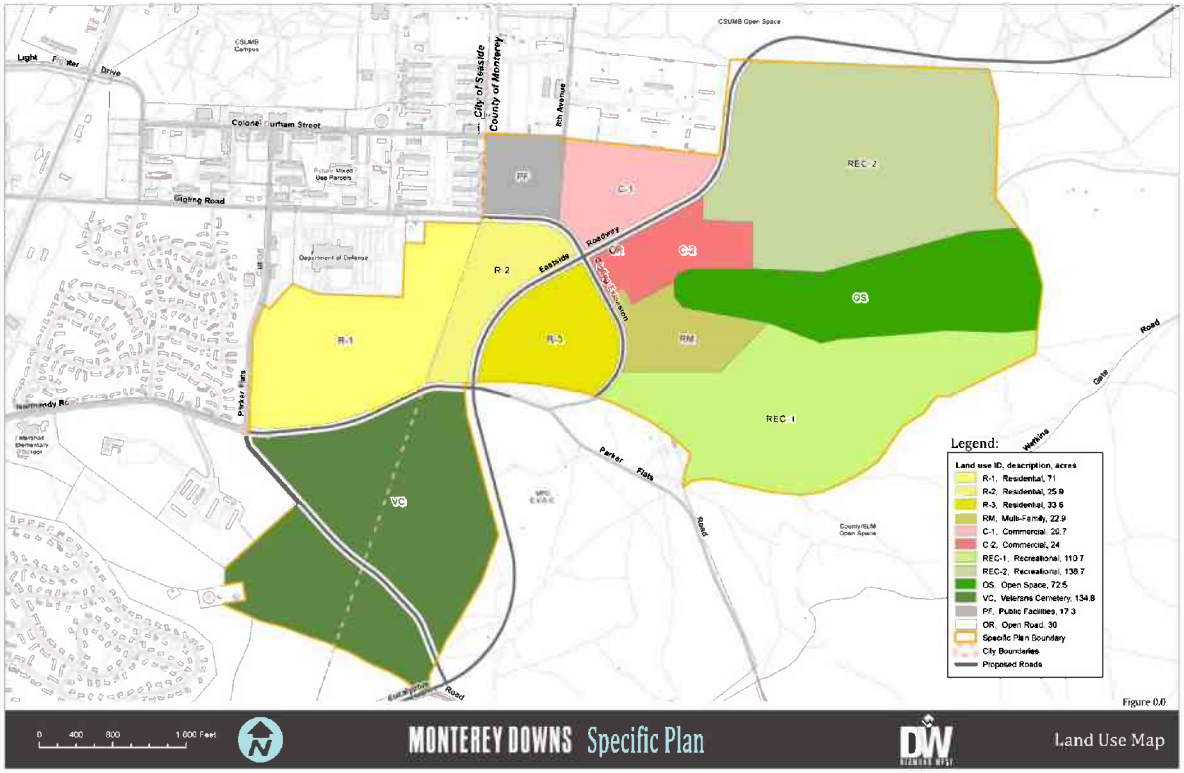
Portions of the Monterey Downs Specific Plan project were accounted for in the 2010 UWMP, although the overall project size and phasing differs in this specific plan. The UWMP included 2,040 dwelling units, 200 hotel rooms and approximately 630,000 sq-ft of commercial/light industrial space, with a total projected water demand of 738.4 AFY. The project as described in the specific plan includes 1,548 dwelling units, 400 hotel rooms, 425,000 sq-ft of commercial/light industrial space, and equestrian and swim facilities, with a total projected demand of 852.5 AFY. This is a net increase of 114.1 AFY over the UWMP projection.

Section 2 - Project Description and Water Demands

2.1 Project Description

The Monterey Downs Specific Plan for the City of Seaside, California, describes the planned development of approximately 710-acres, whose boundaries are shown in Figure 2.1. The Project is composed of three primary components: the proposed Monterey Downs master-plan community, the California Central Coast Veterans Cemetery (CCCVC) and the Seaside Corporation Yard. The Project Area encompasses portions of Seaside and unincorporated Monterey County, and is located within the District's Ord Community service area. The Specific Plan proposes annexing the entire project area into the City of Seaside.

Figure 2.1: Project Area



(Figure prepared by Diamond West, 2012)

The Monterey Downs is a phased master-planned community on approximately 550 acres of land north of Parker Flats Road and west of Parker Flats Cutoff. The Monterey Downs community includes an equestrian training facility with a track for training and potentially racing; a grandstand and sports area/entertainment center; a commercial mixed-use center; a horse park comprised of a visitors center and office space, veterinary clinic, and horse stables; habitat area; staging areas, trails and trail access; open space and parks; affordable workforce

lodging; various residential uses; neighborhood parks; an aquatic center with a tennis and swim club; a fire station site, and hotel and office uses.

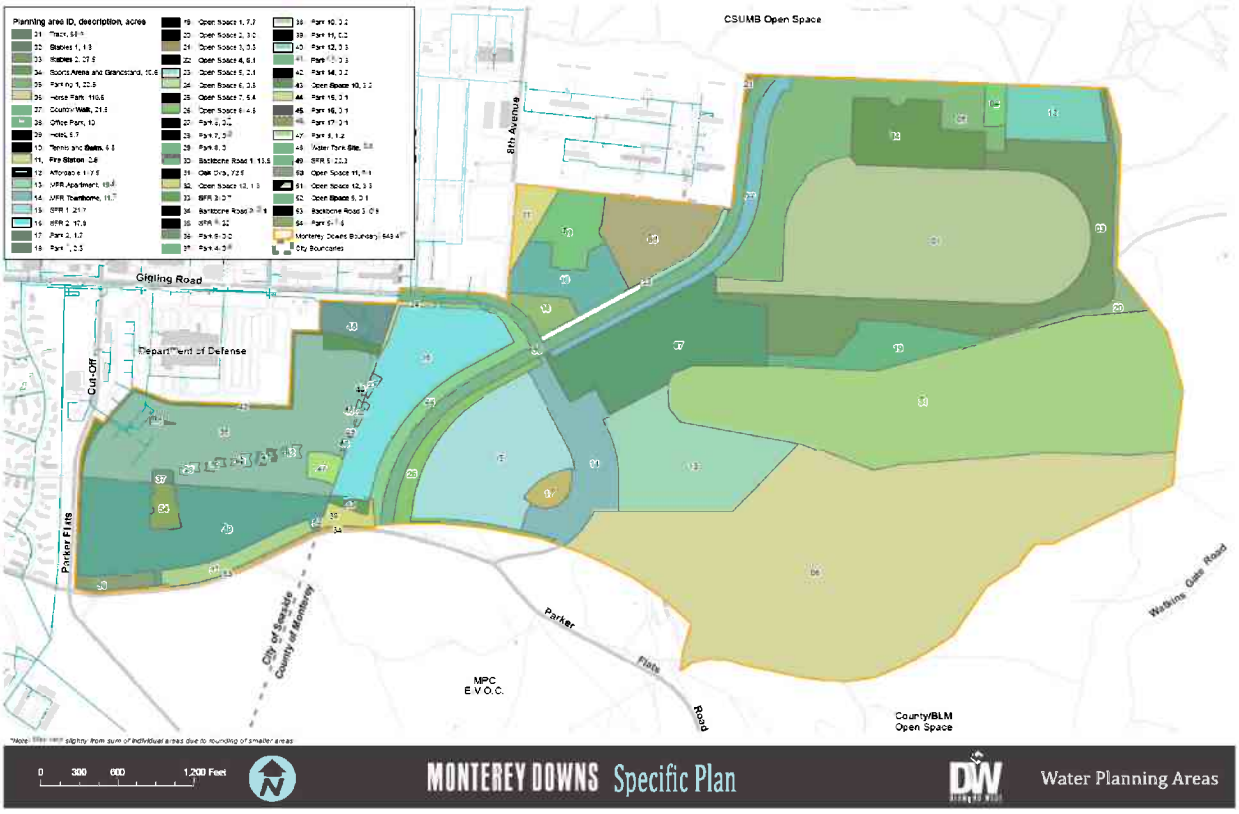
The California Central Coast Veterans Cemetery (CCCVC) will be located on approximately 136 acres south of Parker Flats Road. This portion of the Project includes the veterans cemetery, ancillary uses such as a veterans hall, non-denominational chapel and an amphitheater, and includes a separate development parcel with habitat mitigation opportunities.

The Seaside Corporation Yard will be located on approximately 17 acres bounded by Giggling Road, Col. Durham Road, 7th Avenue and 8th Avenue. The site is currently developed as a parking / storage lot.

2.2 Monterey Downs Land Use and Water Demands

The Monterey Downs master-planned community consists of several elements including medium- to high-density residential, equestrian training and boarding facilities, and visitor serving businesses, as detailed below. The planning areas are shown in greater detail on Figure 2.2, below.

Figure 2.2: Monterey Downs Water Planning Areas



(Figure prepared by Diamond West, 2012)

2.2.1 Sports Arena and Equine Training Facility

The current design for the Monterey Downs Training Facility ("Training Facility") includes a track, infield, stable areas (backstretch), equine veterinarian clinic, amenity pond/irrigation water storage, sports arena, recreational vehicle ("RV") facilities, and parking facilities. The track is planned to have both turf and dirt surfaces on which horses can train to run in races at other tracks. The training center will be modeled after Del Mar Thoroughbred Club in Del Mar, California, with a proposed water feature in the middle of the track (the in-field) where reclaimed water may be stored and used for irrigation for both the project and the region.

Water demands for the track and training facility were estimated using demand factors based upon similar facilities (Golden Gate Fields in Berkeley and Del Mar Thoroughbred Club). The water demand for stable facilities is 75 gallons per day (gpd) per horse, which is 15 gpd for drinking and 60 gpd for horse and stable washing. The annual water demand for the stabling facilities was estimated based on the average occupancy for each type of facility. Recycled water, when it becomes available, may be used for facility wash-down inside the stables. Under the current Public Health Code, potable water must be used for horse drinking and animal washing.

The training facilities will require watering for dust control. Watering at 0.1 inch per day, 200 days per year produces an annual demand factor of 1.67 AFY. The remaining facilities were estimated using the District's standard demand factors. Details are provided in Appendix A.

For all non-residential areas, estimates are included for interior water demands that may be met using recycled water (labeled as "Potential Non-Potable Demand" in the tables). The Public Health Code allows the use of recycled water for toilet flushing through dual-plumbed systems, except in private residences and facilities that produce or process food or beverages (i.e., restaurants). We have assumed that 20% of the typical interior building demand is toilet flushing and may be met using recycled water.

2.2.2 Mixed Use Pedestrian Village (Country Walk)

Located in the center of Monterey Downs will be a mixed use commercial center known as Country Walk. It is currently designed to be a village center with an open-air pedestrian court down the center and buildings aligned on each side. Anticipated uses will include restaurants, movie theaters, offices, museum/cultural facilities, hotel, and retail. Country Walk is intended to be a prime staging area for hikers, bikers, equestrians and dog enthusiasts enjoying the adjacent system of County/BLM open space and trails.

Water demand estimates for the Country Walk facilities use the District's standard demand factors for indoor water demands. For landscape irrigation demands, it was assumed that 15% of the non-building areas would be landscaped. The non-turf demand factor of 2.1 AFY/AC was applied.

2.2.3 Monterey Horse Park

Several components are planned within The Monterey Horse Park. The majority of the site will be dedicated to sand-based outdoor arenas, a Grand-Prix sized field, and other equine facilities, as well as permanent and temporary stalls to house horses. In addition, the Monterey Horse Park will include a visitor center, care taker residences, office space, RV facilities, and a veterinarian clinic. Facilities will offer programs for the public, such as riding programs for the disabled, local equestrian teams and youth-oriented programs are also planned.

Within or near the Horse Park will be a staging area and stabling facility. The facility will be designed to offer up to 100 horse stalls for regular and temporary use. Users of the facility will be able to board their horses at the facility and have easy access to the adjacent BLM and County open spaces.

Water demands for the horse park are similar to those for the Equine Training Facility, based upon a demand factor of 75 gpd per horse and the estimated stable occupancy throughout the year. The Horse Park has multiple outdoor training facilities requiring watering for dust control, estimated at 200 days per year. Details are provided in Appendix A.

2.2.4 Habitat Area

The proposed project site includes a 73-acre Habitat Area. This piece of land was set-aside as open space as part of the East Garrison/Parker Flats Land Use Modification Memorandum of Understanding between FORA, MPC, County of Monterey, Bureau of Land Management and the Army. Among various proposed land use modifications, the subject 73-acre property was designated as an Oak Woodland Habitat Reserve.

The habitat area will not have any irrigation or water-using facilities.

2.2.5 Open Space/Trails

The proposed project includes a well-connected network of open space and trails. A design theme of the project is to provide large open space buffers along the major road corridors. These buffers will provide for a scenic drive along Parker Flats Road and the future Eastside Parkway, while at the same time providing a noise/air quality buffer for the residential uses. These areas will allow for the oak habitat preservation and mitigation. It is also anticipated that multi-use trails and parks will be designed within these buffer areas.

The majority of the open space will not be irrigated. Parks, where they occur, are discussed in section 2.2.8. Two sites totaling approximately 9 acres have been identified as potential storm-water retention basins. To allow for the planting of screening landscape on the perimeter of these basins, 3.7 AFY of irrigation supply is included in the estimate. Approximately 4-acres adjacent to the residential area is the MCWD Reservoir C1 site, which will remain as-is.

2.2.6 Affordable Workforce Lodging

In order to provide the necessary housing needed for future workers of the Training Facility and to meet affordable housing requirements, 256 low-income worker housing units are planned. Because workers travel up and down the state during the horse racing season, furnished hotel-style living will be provided. The units will be provided directly adjacent to the backstretch of the Training Facility for the workers who must live on-site to care for horses.

The high-density affordable units are intended to operate as an extended stay hotel rather than as traditional apartments. Therefore, the District's standard demand factor for hotel rooms, 0.17 AFY/unit, was applied, resulting in a demand estimate of 43.5 AFY.

2.2.7 Residential

A wide-range of residential housing types and levels of affordability are proposed within Monterey Downs. Approximately 800 single family homes of various sizes are proposed for this area. 400 apartment units are anticipated adjacent to the Country Walk to create a lively village center. In addition, approximately 76 courtyard style homes are planned. Fenced multi-use trails will connect the housing to the Monterey Horse Park and County and BLM open spaces.

The 2010 California Green Building Standards Code mandates a 20% reduction in indoor water use, and reduces the allowable flow rates from water fixtures sold in the state. In estimating the water demands for residential uses, the state indoor water use target of 55 gallons per person per day was applied. These values are less than the District's standard residential demand factors, which pre-date the 2010 Code update. The high-density affordable units (34 du/ac) will operate as an extended stay hotel to support those working at the equestrian training facility, so the hotel demand factor was used for that housing type.

Table 2-1: Residential Indoor Water Demands

Type	No. Units	Assumed Avg. No. Bedrooms	Avg. No. Persons	Demand per DU (gpd)	Demand per DU (AFY)	Total Demand (AFY)
MFR, 34 du/ac	256	1	NA	NA	0.17	43.5
MFR, 20 du/ac	412	2	3	165	0.18	76.1
MFR, 9 du/ac	82	2.5	3.5	193	0.22	17.7
SFR, 9 du/ac	798	2.8	3.8	209	0.23	186.8
Total Indoor:	1,548					324.2

MFR = Multi-Family Residential, SFR = Single Family Residential

Residential outdoor water use was estimated based upon the landscape ratio and irrigation factors provided by Diamond West. Residential landscape was estimated to be 30% turf and 70% non-turf. The residential front yards will be irrigated using recycled water when it becomes available, and maintained by an HOA. Residential back yards may only be irrigated using

potable water. The average residential landscape is 1,050 sf, requiring 2.22 AFY per acre, for a total residential landscape demand of 48.6 AFY.

2.2.8 Neighborhood Parks

In addition to the Open Space and Habitat Areas described above, a variety of neighborhood parks will be provided within the proposed residential areas. A landscape water demand factor of 2.05 AFY per acre was developed for parks based on a typical mix of hardscape, turf, non-turf and non-irrigated land use.

2.2.9 Hotel / Office / Government

Several uses are planned at the northeast corner of 8th street and Gigling Road. These uses include a Hotel site, Office uses, Tennis and Swim Facilities, an Aquatic Center, a Park and a Fire Station. Water demands were estimated for these facilities using the building sizes provided by Diamond West and the District's standard indoor water demand factors. Irrigation demands use the 2.1 AFY per acre demand factor and assume 15% of the total land area is landscaped.

2.2.10 Monterey Downs Water Demand Estimate

The total water estimated demand for the Monterey Downs Community is 840.3 AFY, as detailed in Table 2-2, below. Tables 2 and 3 in Appendix A provide a more detailed breakdown of the estimating methods used.

Table 2-2: Monterey Downs Community Water Demand Estimate

Plan Area	Potable demand (AF/Y)	Potential Non-Potable demand (AF/Y)	Outdoor Non-Potable demand (AF/Y)	Total demand (AF/Y)
Training Track	40.7	37.9	88.3	166.8
Horse Park	34.3	16.4	78.7	129.3
Country Walk	82.9	13.5	1.6	98.0
Office Park/Hotel	44.3	10.3	2.6	57.3
Affordable MFR (34 du/ac)	43.5	0.0	0.5	44.1
MFR (20 du/ac)	72.0	0.0	1.4	73.4
MFR (9 du/ac)	20.2	0.0	2.2	22.4
SFR (9 du/ac)	204.9	0.0	21.4	226.2
Parks/Open Space	0.0	0.0	22.8	22.8
Total:	**542.9**	**78.0**	**219.4**	**840.3**

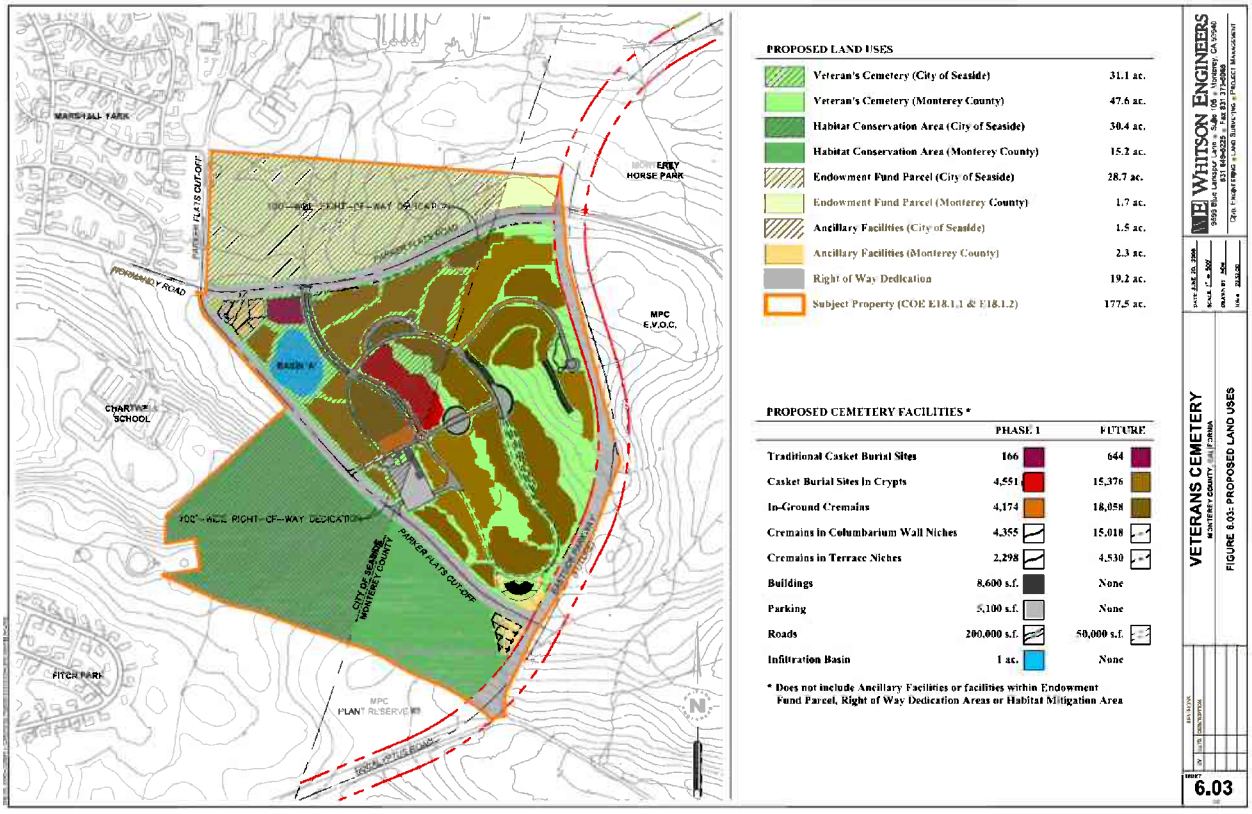
2.3 CCCVC Land Use and Water Demands

In September 2008, the California Central Coast Veterans Cemetery Fort Ord Development Master Plan (the "Cemetery Plan") was completed. The Plan describes the proposed Veterans Cemetery and ancillary facilities (see Figure 2.3). This site straddles the City of Seaside –

Monterey County boundary. The proposed Eastside Parkway is planned along the east edge of the property.

The cemetery facilities will consist of burial sites, an administration office, a maintenance yard and building, and memorial areas. The proposed ancillary facilities consist of a veterans hall and non-denominational chapel, located on 1.5 acres in Seaside, an amphitheater, located on 2.3 acres in Monterey County, an endowment parcel (now included in the Monterey Downs portion of the project) and a development area with habitat restoration opportunity. In the Cemetery Plan infrastructure section, it is assumed that the opportunity parcel will become a habitat restoration area, so no water use is assumed for this area.

Figure 2.3: Proposed Land Uses, CCCVC Master Plan



(Figure prepared by Whitson Engineers. 2008)

Table 2-3 below summarizes the facilities in the Cemetery Plan. Site acreage is as listed within the Cemetery Plan. Building dimensions were taken from the scaled drawings and are approximate. The Cemetery Plan states that all plantings shall be drought tolerant and the graves shall be covered with crushed granite instead of grass, allowing for minimal landscape irrigation demands. Area landscaping was assumed around the chapel and veterans hall.

Figure 2.3 shows an endowment parcel associated with the CCCVC. Proceeds from the sale of this parcel will partially fund the CCCVC project. The endowment parcel is incorporated into the Monterey Downs master-planned community. Water demands for the endowment parcel are shown in Table 2 of Appendix A.

Table 2-3: CCCVC Water Demand Estimate

Land Use	Notes	Quantity	Unit	Demand Factor (AFY/Unit)	Potable Water Demand (Acre-Ft/Year)	Potential Recycled Demand (Acre-Ft/Year)	Recycled Water Demand (Acre-Ft/Year)	Total Demand (Acre-Ft/Year)
Office	1	4,000	SF	0.00012	0.4	0.1		0.5
Maintenance Building	2	5,000	SF	0.00001	0.0	0.0		0.1
Chapel	3	7,500	SF	0.0001	0.6	0.2		0.8
Veterans Hall	3	11,250	SF	0.0001	0.9	0.2		1.1
Amphitheater	4		SF	0	0.0	0.0		0.0
Landscape within CCCVC	5	0.5	AC	2.1			1.1	1.1
Landscape, Chapel/Vets Hall	6	0.225	AC	2.1			0.5	0.5
Total					1.9	0.5	1.5	3.9

Notes

1. Assumed area based on 2008 CCCVC Development Master Plan, General Office demand factor
2. Assumed area based on 2008 CCCVC Development Master Plan, Warehouse/Storage demand factor
3. Scaled dimensions from figure 2-6 in 2008 CCCVC Development Master Plan, Meeting Hall demand factor
4. Amphitheater assumed to have no water fixtures
5. Assumed area based on 2008 Development Master Plan, Non-turf demand factor
6. Assumed 15% of total parcel, non-turf demand factor
7. Potentialrecycled is indoor toilet flushing, assumed 20% of total

Acreage:

Veterans Cemetery area	78.7	AC
Chapel/Veterans Hall area	1.5	AC
Amphitheater area	2.3	AC
Habitat Conservation area	45.6	AC
ROW dedication	7.7	AC
Total CCCVC area	135.8	AC

2.4 Seaside Corporation Yard Land Use and Water Demands

The City of Seaside developed a Corporation Yard Master Plan in 2006, based upon a proposed site south of Gigling Road. This Specific Plan proposes instead constructing the city corporation yard on a nearby site north of Gigling Road between 7th and 8th Avenues. The previous site would be incorporated into the Monterey Downs portion of the Project.

The planned corporation yard would include an administration building, an equipment maintenance building, a crew facility, parking and storage yards and the police impound lot. The table below summarizes the facilities in the master plan. Building dimensions were taken from the 2006 master plan and assumed to be applicable to the new site. The gross area of the proposed corporation yard is 17.3 acres, but that total includes the street rights-of-way for Col. Durham Road, 7th avenue and 8th Avenue. Deducting 2.3 acres for the ROW, the net corporation yard area is 15.0 acres. Water demands for the corporation yard use the MCWD standard demand factors from the District's Code of Ordinances (see Table 2-4, below).

Table 2-4: Seaside Corporation Yard Water Demand Estimate

Land Use	Notes	Quantity	Unit	Demand Factor (AFY/Unit)	Potable Water Demand (Acre-Ft/Year)	Potential Recycled Demand (Acre-Ft/Year)	Recycled Water Demand (Acre-Ft/Year)	Total Demand (Acre-Ft/Year)
Administration, 1st floor	1	8,100	SF	0.0003	1.9	0.5		2.4
Administration, 2nd floor	2	8,100	SF	0.00012	0.8	0.2		1.0
Maintenance	3	21,300	SF	0.00007	1.2	0.3		1.5
Crew Facilities	4	14,700	SF	0.00012	1.4	0.4		1.8
Landscape	5	0.75	AC	2.1			1.6	1.6
Total					5.3	1.3	1.6	8.2

Notes

1. Assumes 60x135 bldg based on 2006 Conceptual Plan, 1st Floor as Gov't Bldg
2. Assumes 60x135 bldg based on 2006 Conceptual Plan, 2nd floor as General Office
3. Assumes 96x222 bldg based on 2006 Conceptual Plan, Auto Shop demand rate
4. Assumes 70x210 bldg based on 2006 Conceptual Plan, General Office demand rate
5. Assumes 5% of 15.0 AC site is landscaped, MCWD standard factor for non-turf
6. Potential recycled demand is indoor toilet flushing, assumed 20% of total

2.5 Project Total Water Demands

The total water demand projected for the project is 852.5 AFY, as shown in Table 2-5, below. As stated in Section 2.2.1, Potential Non-Potable Water Demands are interior demands (toilet flushing and horse stall washing) that may be met using recycled water, but will require the buildings to be dual-plumbed. The Recycled Water Demand reflects exterior uses for landscape irrigation and dust control. The residential front yards will be maintained by an HOA, so those irrigation demands are included in the recycled water demand total.

Table 2-5: Summary of Estimated Water Demand

Plan Area	Potable Water Demand	Potential Non-Potable Water Demand	Recycled Water Demand	Total Water Demand	Land Area
	(afy)	(afy)	(afy)	(afy)	(ac)
Monterey Downs	542.9	78.0	219.4	840.3	548.2
CCCVC	1.9	0.5	1.5	3.9	135.8
Seaside Corp Yard	5.3	1.3	1.6	8.2	17.3
Road ROW*					9.2
Total	550.1	79.8	222.5	852.5	710.5

Notes:
Recycled water demand includes only Commercial irrigation, HOA Irrigation and dust control.
Potential non-potable demand includes non-residential toilet flushing and stable wash-down
* Road ROW is area outside the listed sub-areas.

Section 3 - District Water Demands

3.1 Historic and Current Water Demands

Table 3-1 shows the District's water production over the period 2001-2010. The District's average production over that period was 4,329 AFY, with 2,018 AFY in the Central Marina service area and 2,311 AFY in the Ord Community service area.

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

Year	Central Marina	Ord Community	Total
2001	2,285	2,228	4,513
2002	2,306	2,137	4,443
2003	2,185	2,144	4,330
2004	2,262	2,423	4,685
2005	2,195	1,994	4,188
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

Source: 2010 UWMP, Table 4.1

3.2 Future Demands

Table 3-2 shows projected water demands for the District through 2030, taken from the 2010 UWMP. The demand estimates for the City of Seaside and Monterey County include projections for elements within the Monterey Downs Specific Plan, including the all of the residential units, one of the two hotels, the Seaside Corporation Yard, and allocations for office, retail and light industrial space. The Project elements are shown in Table 3-3 (below), and total 738.4 AFY. Note that the CCCVC was not projected for construction during the planning period, so that demand was not included in the UWMP.

Water demands for the Monterey Downs Specific Plan Project were estimated using the planning factors from the 2010 UWMP, Appendix C of the MCWD Code of Ordinances, and the facility-specific estimating factors presented in the Monterey Downs Water Demand Study prepared by Diamond West, Inc., as detailed in Section 2 and Appendix A. The total projected water demand for the Specific Plan area is 852.5 AFY, which is an increase of 114.1 AFY over the UWMP projection.

Table 3-2: 2010 UWMP Water Demands by Service Area (AF)

	Jurisdiction	2010	2015	2020	2025	2030	Notes
Ord	CSUMB	403	441	631	754	778	
	Del Rey Oaks	0	326	527	527	527	
	City of Monterey	0	0	92	92	92	
	County of Monterey	4	627	1,087	1,087	1,087	
	UCMBEST	2	93	276	474	474	
	City of Seaside	792	1,130	1,351	1,664	2,093	1
	U.S. Army	752	792	838	997	997	
	State Parks and Rec.	0	12	18	20	25	
	Marina Ord Comm.	281	812	1,537	1,738	1,739	
	Marina Sphere	10	10	10	10	10	
	FORA Strategic Res.	0	0	0	0	0	
	Assumed Line Loss	348	348	348	348	348	
Marina	Armstrong Ranch	0	0	550	680	680	
	RMC Lonestar	0	0	0	0	500	
	Marina Central	1,962	2,324	2,630	2,746	2,864	

Subtotal - Ord	2,592	4,591	6,715	7,712	8,172
Subtotal - Marina	1,962	2,324	3,181	3,426	4,044
Total	4,554	6,915	9,896	11,137	12,216

1. 2010 demands include Seaside Resort Golf (temporary allocation)

Source: Table 3.5 of the 2010 MCWD Urban Water Management Plan

Table 3-3: Monterey Downs Elements included in the 2010 UWMP

2010 UWMP Element	Qty	Unit	Factor	Demand
			(afy/unit)	(afy)
County of Monterey				
SF Residential (5-8 du/ac)	943	DU	0.33	311.2
Office	50,000	SF	0.000135	6.8
Light Industrial	135,000	SF	0.00015	20.3
Retail	420,000	SF	0.00021	88.2
Hotel Rooms	200	RM	0.17	34.0
City of Seaside				
MF Residential (>15 du/ac)	1,097	DU	0.25	274.3
Veterans Cemetery				0.0
Corporation Yard (LT IND)	25,320	SF	0.00015	3.8
TOTAL				**738.4**

Source: Table C-3, 2010 UWMP

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 2010 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. The demand estimates used in the UWMP reflect full irrigation demands.

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. Under the Regional Urban Water Augmentation Project, the District is working to develop recycled water and a larger desalination plant to meet the projected demands of 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, which is managed by the Monterey County Water Resources Agency (MCWRA). The groundwater basin and the MCWRA management activities, including the Salinas Valley Water Project, are described in Chapter 4 of the 2010 UWMP.

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. 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 properties north of Marina, if and when the City annexes and develops those areas.

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	Deep	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. Under a 2006 agreement among the District, Cypress Marina Heights, L.P., Marina Community Partners, L.L.C., and Cypress Knolls, L.L.C., the yield of this plant is dedicated to meeting the needs of the three developments in the Marina portion of the Ord Community service area. The developers may opt to terminate the agreement once new supply available to the Ord Community from the Regional Urban Water Augmentation Project or the Regional Desalination Project.

4.2 Future Water Supply

The District is working towards developing new sources of water 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 (i) reclaimed wastewater, and (ii) desalinated water. Additionally, the District recently completed the construction of Wells 34 and 35, located further inland and completed in the Deep Aquifer to protect against the impacts of seawater intrusion.

4.2.1 Recycled Water

Recycled water, also referred to as reclaimed water, refers to sanitary sewage which undergoes treatment and disinfection, typically for non-potable uses such as agricultural and landscape irrigation. The Monterey Regional Water Pollution Control Agency (MRWPCA) 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 MRWPCA, the District is entitled to receive recycled water from the regional plant, up to the volume of wastewater generated within the City and sent to the plant. The District and the MRWPCA have designed the distribution system to provide water from the plant to the District, and construction is slated to occur within the next two to five years. In the 2006 Basis of Design Report for the

recycled water system, 2,635 AFY of urban irrigation demand which may utilize recycled water was identified in the Ord Community service area. Phase 1 of the Recycled Water Project was sized to deliver up to 1,727 AFY, based upon the quantity available to urban users from the MRWPCA. Phase 2 of the Project would deliver additional supplies, but will require developing a means of storing recycled water during the low demand months in the winter for delivery during the peak demand summer months.

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 1,200 AFY of new supply to the Ord Community and 300 AFY to Central Marina, allowing the District to retire the existing plant.

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, and has recently started a rebate program for smart irrigation controllers.

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 Monterey Downs 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 302 AFY of recycled water, which is 35% 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 California Department of Public Health, System No. 2710017. 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 Salinas Valley 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. FORA has also formally allocated the recycled water supply from the Phase 1 Recycled Water Project. Although this project is not yet constructed, the allocations are included in Table 5-1 for reference.

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 Monterey Downs Specific Plan area includes portions of the City of Seaside and Monterey County. Both of these jurisdictions have sub-allocated portions of their existing groundwater allocation, as detailed in Table 5-2. The remaining unallocated supply totals 382.2 AFY, which is not sufficient to meet the total projected 852.5 AFY water demand for the specific plan area. The Project may be phased, however, and the first phase supplied up to the amount allocated by the jurisdictions. Later phases cannot be approved until additional water supplies are developed for the Ord Community.

The Project is projected to use up to 302 AFY of recycled water. The City of Seaside and Monterey County have a combined allocation of 587 AFY from the Phase 1 Recycled Water Project. However, the City of Seaside has committed to supply recycled water for irrigation of Bayonet/Blackhorse Golf Courses, which are currently being irrigated with Salinas Valley Groundwater. The annual irrigation demand for the golf course is approximately 430 AFY,

leaving about 157 AFY available for allocation to this Project, once the recycled water project is constructed.

Table 5-2: Seaside and Monterey County Sub-Allocations

Land Use Jurisdiction	Existing Groundwater Allocation (AFY)
City of Seaside	
Sunbay Apts	120.0
Brostram Park (Bay View)	84.8
Seaside Highlands	188.0
Seaside Resort	161.4
MPUSD	81.0
Monterey College of Law	9.0
Monterey Peninsula College	9.7
Chartwell School	6.4
Main Gate "Retail Lifestyle Mall"	149.0
Other	3.0
City of Seaside Total	**812.3**
FORA Allocation	**1012.0**
City of Seaside Unallocated	**199.7**
County of Monterey	
East Garrison 1	470.0
Monterey Peninsula College	52.5
Ord Market	5.0
Monterey County Total	**527.5**
FORA Allocation	**710.0**
Monterey County Unallocated	**182.5**
Total Unallocated	**382.2**

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. The District's demands accounted for less than one percent of the total groundwater pumped from the Salinas groundwater basin in 2009, 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 two wells in the deep aquifer and three 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 for 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 the MRWPCA has reliably produced recycled water meeting the requirements of Title 22 for over a decade. 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

Agricultural users in the Salinas Valley rely on the same basin-wide supply from the Salinas Valley Groundwater Basin, accounting for 90.5% of the groundwater pumping in 2010. These uses are taken into account in the basin planning of the MCWRA as part of developing a water balance for the Basin. Additional demands in the Central Marina and Ord Community area are not expected to affect the agricultural users, provided the District groundwater pumping to meet new demands remains consistent with the MCWRA agreements.

Section 6 - Conclusions

6.1 Sufficiency of Water Supply for the Project

The City of Seaside and the County of Monterey do not have sufficient existing water supply to achieve the complete build-out of the planned Monterey Downs Specific Plan Area. If the project is phased, the initial phase could be authorized up to 382.2 AFY from the existing Salinas Valley Groundwater allocations. Later phases must be deferred until the District is able to develop additional sources of water supply for the Ord Community.

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 Monterey Downs Specific Plan:

- 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 Monterey Downs Specific Plan area, the project EIR should clearly describe that intent and the resulting allocation of potable and recycled water supply. The Seaside Highlands development, including Soper Field, was constructed with recycled water mains to supply the landscape irrigation systems. This system is currently delivering potable water. Providing recycled water for irrigation of that project would make 43.1 AFY of potable supply available for allocation.
- 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, such as the California Central Coast Veterans Cemetery.

Appendix A: Water Demand Estimate Tables

Monterey Downs Specific Plan
Water Supply Assessment

Table 1. Summary of Estimated Water Demand

Plan Area	Potable Water Demand	Potential Non-Potable Water Demand	Recycled Water Demand	Total Water Demand	Land Area
	(afy)	(afy)	(afy)	(afy)	(ac)
Monterey Downs	542.9	78.0	219.4	840.3	548.2
CCCVC	1.9	0.5	1.5	3.9	135.8
Seaside Corp Yard	5.3	1.3	1.6	8.2	17.3
Road ROW*					9.2
Total	550.1	79.8	222.5	852.5	710.5

Notes:
Recycled water demand includes only Commercial irrigation, HOA Irrigation and dust control.
Potential non-potable demand includes non-residential toilet flushing and stable wash-down
* Road ROW is area outside the listed sub-areas.

Table 2. Monterey Downs Water Demand Estimate

Planning Area ID	Description	Land Area (ac)	Bldg Area (sf)	Dwelling Units	Parking spaces	Stalls / Seats / Rooms	Demand factor (AFY/unit)	Demand factor unit	Potable demand (AF/Y)	Potential Non-Potable demand (AF/Y)	Outdoor Non-Potable demand (AF/Y)	Total demand (AF/Y)	Notes
	County of Monterey												
Training Track													
1	Track	55.3											
	Turf	11.0					2.5	per ac			27.5	27.5	
	Dust Control	10.0					1.67	per ac			16.7	16.7	0.1 inch/day, 200 days/year
	Landscaping (15% of remainder)	5.1					2.1	per ac			10.8	10.8	
	Hose Bibs (30)									8.3		8.3	Assume 300 gpd, 300 days/year
2 & 3	Stables 1 & 2	28.8											
	Horse Use @ 75 gpd					1,500	0.084	per horse	25.9	25.9		51.8	Average 750 horses, 300 days/year (50% washdown)
	Dust Control	7.2					1.67	per ac			12.0	12.0	0.1 inch/day, 200 days/year
	Landscaping (15% of total)	4.3					2.1	per ac			9.1	9.1	
4	Sports Arena and Grandstand	10.6											
	Building		225,000			6,500	0.0003	per sf	14.8	3.7		18.5	Used 100 days/yr, assume 20% is toilet flushing
	Dust Control (45,000 SF)	1.0					1.67	per ac			1.7	1.7	0.1 inch/day, 200 days/year
	Landscaping (15% of total)	1.6					2.1	per ac			3.3	3.3	
5	Parking (15% Landscaping)	22.5			2,119		2.1	per ac			7.1	7.1	Landscape area = 3.38 ac
Horse Park													
6	Horse Park	110.6		12			multiple		34.3	16.4	78.7	129.3	See Horse Park Table
Country Walk													
7	Commercial	21.5											
	Retail		85,000				0.00021	per ac	14.3	3.57		17.9	Assume 20% toilet flushing
	Museum/cultural		30,000				0.0002	per af	4.8	1.2		6.0	Assume 20% toilet flushing
	Restuaraunt		20,000				0.00145	per sf	29.0			29.0	RW not allowed in restuaraunts
	Office		60,000				0.000135	per sf	6.5	1.62		8.1	Assume 20% toilet flushing
	Theater		35,000			1,000	0.0014	per seat	1.1	0.28		1.4	Assume 20% toilet flushing
	Hotel		100,000			200	0.17	per room	27.2	6.8		34.0	Assume 20% toilet flushing
	Parking (15% Landscaping)	5.2			900		2.1	per ac			1.6	1.6	Landscape area = 0.78 ac
Office Park/Hotel													
8	Office Park	10.0											
	Building		100,000				0.000135	per sf	10.8	2.7		13.5	Assume 20% toilet flushing
	Parking (15% Landscaping)	2.6			450		2.1	per ac			0.8	0.8	Landscape area = 0.39 ac
9	Hotel	5.7											
	Building		100,000			200	0.17	per room	27.2	6.8		34.0	Assume 20% toilet flushing
	Parking (15% Landscaping)	1.3			220		2.1	per ac			0.4	0.4	Landscape area = 0.20 ac
10	Tennis and Swim	6.8											
	Building		5,000				0.000135	per sf	0.5	0.135		0.7	Assume 20% toilet flushing
	Pool		15,848				0.0002	per sf	3.2			3.2	Two pools: 164'x82' and 60'x80'
	Landscaping (10% of total)	0.7					2.1	per ac			1.4	1.4	
11	Fire Station	2.8	11,000				0.0003	per sf	2.6	0.66		3.3	Assume 20% toilet flushing
Affordable													
12	Affordable 34 du/ac	7.5											
	Building			256			0.17	per du	43.5			43.5	Use hotel room factor
	Parking (15% Landscaping)	1.6			282		2.22	per ac			0.5	0.5	Landscape area = 0.24 ac
Residential													
13	MFR Apartment (20 du/ac)	19.8											
	Building			400			0.18	per du	72			72.0	Indoor demand only, Avg 2 bedroom
	Parking (15% Landscaping)	4.1			720		2.22	per ac			1.4	1.4	Landscape area = 0.62 ac
14	MFR Courtyard Homes (9 du/ac)	11.7											
	Homes			82			0.22	per du	18.0			18.0	Average 2.5 bedroom
	Landscaping	2.0					2.22	per ac	2.2		2.2	4.4	Average 1050 SF/DU, 50% HOA
15 &16	SFR 1 & 2 (9.0 du/ac)	39.5											
	Homes			318			0.23	per du	73.1			73.1	Average 2.8 bedroom
	Landscaping	7.7					2.22	per ac	8.5		8.5	17.0	Average 1050 SF/DU, 50% HOA
Park / Retention / Open Space													
18	Park 1	2.3					2.05	per ac			4.7	4.7	
17	Park 2	1.7					2.05	per ac			3.5	3.5	
19	Open Space 1	7.7					0.42	per ac			3.2	3.2	Screening for percolation area
20-26	Open Space 2-8	22.1										0.0	
27-29	Park 6, 7, 8	0.4					2.05	per ac			0.8	0.8	
Backbone Road													
30	Backbone Road 1	13.9										0.0	
Habitat Preservation Area													
31	Oak Oval	72.5										0.0	

Planning Area ID	Description	Land Area (ac)	Bldg Area (sf)	Dwelling Units	Parking spaces	Stalls / Seats / Rooms	Demand factor (AFY/unit)	Demand factor unit	Potable demand (AF/Y)	Potential Non-Potable demand (AF/Y)	Outdoor Non-Potable demand (AF/Y)	Total demand (AF/Y)	Notes
	Endowment Parcel												
Park / Retention / Open Space													
32	Open Space 12	1.3					0.42	per ac			0.5	0.5	Screening for percolation area
Residential													
33	SFR (9.0 du/ac)	0.7											
	Homes			7			0.23	per du	1.6			1.6	Average 2.8 bedroom
	Landscaping	0.2					2.22	per ac	0.2		0.2	0.4	Average 1050 SF/DU, 50% HOA
Backbone Road													
34	Backbone Road 2	0.1										0.0	
	County subtotal	475.8	786,848	1,075	4,691				421.4	78.0	196.8	696.2	
	City of Seaside												
Residential													
35	SFR (9.0 du/ac)	32.0											
	Homes			274			0.23	per du	63.0			63.0	Average 2.8 bedroom
	Landscaping	6.6					2.22	per ac	7.3		7.3	14.7	Average 1050 SF/DU, 50% HOA
Park / Retention / Open Space													
37	Park 4	0.4					2.05	per ac			0.8	0.8	
47	Park 3	1.2					2.05	per ac			2.5	2.5	
43	Open Space 10	3.2										0.0	
36, 38-42, 44-46	Park 9-17	1.7					2.05	per ac			3.5	3.5	
MCWD													
48	Water Tank Site	3.6										0.0	
	Endowment Parcel												
Residential													
49	SFR (9.0 du/ac)	22.3											
	Homes			199			0.23	per du	45.8			45.8	Average 2.8 bedroom
	Landscaping	4.8					2.22	per ac	5.3		5.3	10.6	Average 1050 SF/DU, 50% HOA
Park / Retention / Open Space													
54	Park 5	1.6					2.05	per ac			3.3	3.3	
50	Open Space 11	2.1										0.0	
51	Open Space 12	3.3										0.0	
52	Open Space 9	0.1										0.0	
Backbone Road													
53	Backbone Road 3	0.9										0.0	
	Seaside subtotal	72.4	0	473	0				121.4	0.0	22.7	144.1	
	Total	**548.2**	**786,848**	**1,548**	**4,691**				**542.9**	**78.0**	**219.4**	**840.3**	
	Endowment Parcel Totals	32.6		206					52.9	0.0	9.3	62.2	

Use:	**Demand Factor**		
Retail	0.00021	AFY/SF	
Museum/cultural	0.0002	AFY/SF	
Restauraunt	0.00145	AFY/SF	
Office	0.000135	AFY/SF	
Theater	0.0014	AFY/Seat	
Hotel	0.17	AFY/Room	
Pool	0.0002	AFY/SF of surface	
Government Bldg	0.0003	AFY/SF	
Commercial Bldg	0.0003	AFY/SF	
Turf Grass	2.5	AFY/AC	
General (Non-Turf) Landscaping	2.1	AFY/AC	
Dust Control	1.67	AFY/AC	Assumes 0.1 inch, 200 days/year
Parks	2.05	AFY/AC	Assumes 65% turf, 20% general, 15% hardscape
Open Space	0.42	AFY/AC	Assumes 20% general for screening
Residential Landscape	2.22	AFY/AC	Assume 30% turf and 70% general
Horse	0.08	AFY/horse	75 gpd for full year (15 gpd drinking, 60 gpd washing/other)

Note: Potential Non-potable uses require dual-plumbing of buildings. If not dual-plumbed, potable water must be used.

Table 3: Horse Park Water Demand Estimate

	Land Use	Quantity	Unit	Demand Factor (afy/unit)	Potable (afy)	Potential Recycled (afy)	Recycled (afy)	Total Demand (afy)	Notes
1	Apartment Units	11	DU	0.2	2.20			2.20	Assume 2 bedroom, 100 sf landscape
2	Manager Residence	1	DU	0.27	0.27			0.27	Assume 3 bedroom, 100 sf landscape
3	Barn Manager	850	SF	0.00012	0.08	0.02		0.10	general office factor
4	Show Office	1,000	SF	0.00012	0.10	0.02		0.12	general office factor
5	Visitor Center	5,000	SF	0.00012	0.48	0.12		0.60	general office factor
6	Veterinarian and Farrier	2,000	SF	0.00026	0.42	0.10		0.52	veterinarian demand factor
7	Maintenance Building	4,600	SF	0.00001	0.04	0.01		0.05	warehouse demand factor
8	Restrooms	14	EA	0.2704	1.89	1.89		3.79	Assume 4 toilets per RR, 0.0676 AFY/toilet, 50% is flushing demand
9	RV Parking	34	Stalls	0.11	3.74			3.74	100 gpd per RV stall per UPC
10	Temporary Vendor Area	23,000	SF	0	0.00			0.00	no water fixtures in this area
11	Arena	3.17	AC	1.67			5.29	5.29	dust control, 0.1 in, 200 days/year
12	Fenced Arena	2.92	AC	1.67			4.88	4.88	dust control, 0.1 in, 200 days/year
13	Grand Prix Field	2.63	AC	1.67			4.39	4.39	dust control, 0.1 in, 200 days/year
14	Warm Up	2.73	AC	1.67			4.56	4.56	dust control, 0.1 in, 200 days/year
15	Horse Stalls	680	Stalls						
	Year-round use	70	Horses	0.084	2.94	2.94		5.88	Assume 50% of 140 permanent use stalls (50% for wash down)
	Event Use	268	Avg Day Horses	0.084	11.26	11.26		22.51	Remaining 610 stalls used for 40 events, 4-days each
	Overflow Stabling (events)	228	Avg Day Horses	0.042	9.58			9.58	520 overflow spaces, events only, 37.5 gpd/horse
16	Horse Camping (15 sites)	24.7	Avg Day Horses	0.0168	0.41			0.41	15 sites, assume 3 horses/site, 200 days/yr, drinking only
17	Public Stabling (day-use)	54.8	Avg Day Horses	0.0168	0.92			0.92	100 stalls used 200 days per year, drinking water only
18	Irrigated Landscape (Non-Turf)	24.9	AC	2.1			52.29	52.29	
19	Irrigated Landscape (Turf)	2.9	AC	2.5			7.25	7.25	
20	Native Drought Tolerant Landscape	39	AC	0			0.00	0.00	
					34.32	16.37	78.66	129.35	

Table 4: California Central Coast Veterans Cemetery Water Demand Estimate

Land Use	Notes	Quantity	Unit	Demand Factor (AFY/Unit)	Potable Water Demand (Acre-Ft/Year)	Potential Recycled Demand (Acre-Ft/Year)	Recycled Water Demand (Acre-Ft/Year)	Total Demand (Acre-Ft/Year)
Office	1	4,000	SF	0.00012	0.4	0.1		0.5
Maintenance Building	2	5,000	SF	0.00001	0.0	0.0		0.1
Chapel	3	7,500	SF	0.0001	0.6	0.2		0.8
Veterans Hall	3	11,250	SF	0.0001	0.9	0.2		1.1
Amphitheater	4		SF	0	0.0	0.0		0.0
Landscape within CCCVC	5	0.5	AC	2.1			1.1	1.1
Landscape, Chapel/Vets Hall	6	0.225	AC	2.1			0.5	0.5
Total					1.9	0.5	1.5	3.9

Notes

1. Assumed area based on 2008 CCCVC Development Master Plan, General Office demand factor
2. Assumed area based on 2008 CCCVC Development Master Plan, Warehouse/Storage demand factor
3. Scaled dimensions from figure 2-6 in 2008 CCCVC Development Master Plan, Meeting Hall demand factor
4. Amphitheater assumed to have no water fixtures
5. Assumed area based on 2008 Development Master Plan, Non-turf demand factor
6. Assumed 15% of total parcel, non-turf demand factor
7. Potentialrecycled is indoor toilet flushing, assumed 20% of total

Acreage:

Veterans Cemetery area	78.7	AC
Chapel/Veterans Hall area	1.5	AC
Amphitheater area	2.3	AC
Habitat Conservation area	45.6	AC
ROW dedication	7.7	AC
Total CCCVC area	135.8	AC

Table 5: Seaside Corporation Yard Water Demand Estimate

Land Use	Notes	Quantity	Unit	Demand Factor (AFY/Unit)	Potable Water Demand (Acre-Ft/Year)	Potential Recycled Demand (Acre-Ft/Year)	Recycled Water Demand (Acre-Ft/Year)	Total Demand (Acre-Ft/Year)
Administration, 1st floor	1	8,100	SF	0.0003	1.9	0.5		2.4
Administration, 2nd floor	2	8,100	SF	0.00012	0.8	0.2		1.0
Maintenance	3	21,300	SF	0.00007	1.2	0.3		1.5
Crew Facilities	4	14,700	SF	0.00012	1.4	0.4		1.8
Landscape	5	0.75	AC	2.1			1.6	1.6
Total					5.3	1.3	1.6	8.2

Notes

1. Assumes 60x135 bldg based on 2006 Conceptual Plan, 1st Floor as Gov't Bldg
2. Assumes 60x135 bldg based on 2006 Conceptual Plan, 2nd floor as General Office
3. Assumes 96x222 bldg based on 2006 Conceptual Plan, Auto Shop demand rate
4. Assumes 70x210 bldg based on 2006 Conceptual Plan, General Office demand rate
5. Assumes 5% of 15.0 AC site is landscaped, MCWD standard factor for non-turf
6. Potential recycled demand is indoor toilet flushing, assumed 20% of total

Gross area		17.3	AC
Street ROW (assume 40-ft)	98,400 SF	2.3	AC
(7th, 8th and Col Durham)	Net area:	15.0	AC

Table 6: Comparison of Demand Projections
in 2010 UWMP and 2012 Monterey Downs Specific Plan

	2010 UWMP					2012 Specific Plan			
	Qty	Unit	Factor	Demand		Qty	Unit	Factor	Demand
			(afy/unit)	(afy)				(afy/unit)	(afy)
SF Residential (5-8 du/ac)	943	DU	0.33	311.2			DU	0.33	0.0
SF Residential (8-15 du/ac)	-	DU	0.33	0.0		798	DU	0.28	223.4
MF Residential (8-15 du/ac)	-	DU	0.33	0.0		82	DU	0.27	22.1
MF Residential (>15 du/ac)	1,097	DU	0.25	274.3		412	DU	0.23	94.8
MF Residential (>30 du/ac)	-	DU	0.25	0.0		256	DU	0.17	43.5
Office	50,000	SF	0.000135	6.8		60,000	SF	0.000135	8.1
Light Industrial	135,000	SF	0.00015	20.3			SF	0.00015	0.0
Retail	420,000	SF	0.00021	88.2		85,000	SF	0.00021	17.9
Hotel Rooms	200	RM	0.17	34.0		400	RM	0.17	68.0
Theater						1,000	seat	0.0014	1.4
Museum						30,000	SF	0.0002	6.0
Restuaraunt						20,000	SF	0.00145	29.0
Equestrian - Arena						225,000		multiple	0.0
Equestrian - Horse Park								multiple	126.9
Tennis & Swim								multiple	3.8
Fire Station						11,000	SF	0.00003	0.3
Parks/Landscaping									195.1
Veterans Cemetery				0.0				multiple	3.9
Corporation Yard (LT IND)	25,320	SF	0.00015	3.8		52,800	SF	multiple	8.2
TOTAL				**738.4**					**852.5**

Net Increase: **114.1** afy

Notes:

1. 2010 UWMP data includes all facilities with the Specific Plan footprint
2. CCCVC was not projected for construction within the UWMP planning horizion.

Appendix B: 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.

The Recycled Water Project is a joint project among the Marina Coast Water District, the Monterey Regional Water Pollution Control Agency (MRWPCA) and the Monterey County Water Resources Agency (MCWRA). The following details are provided as required per Water Code §10911.

1. Source of Supply: Tertiary treated wastewater available at the MRWPCA Regional Wastewater Treatment Plant in North Marina. The Salinas Valley Reclamation Project (SVRP) facility currently produces recycled water meeting Title 22 standards, which is used for agricultural irrigation. The plant has a 29.6 mgd capacity. Current agricultural use averages 14,000 AFY. Under the annexation agreement between MCWD and MRWPCA, the District has the right to recycled water from the facility, subject to annual and seasonal limits.

2. Expected Supply Capability: The Phase 1 project will have an initial yield of 1,727 AFY, of which 1,427 would be available to MCWD. The remaining 300 AFY would be conveyed to other users south of the Ord Community. This volume of supply may be realized without constructing seasonal storage to carry winter surplus flows into the summer peak demand months. The preliminary design report identified additional urban irrigation demands (including demands outside MCWD) that could be met by a future Phase 2 expansion up to 3,000 AFY.

3. Project Facilities:
    - Recycled water pump station at or near the MRWPCA plant in North Marina
    - Recycled water backbone distribution pipelines within Marina and the Ord Community
    - Recycled water booster pump station within 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 has completed 90% design of the recycled water distribution system, water storage tank, and booster pump station. MCWRA has completed 90% design of the recycled water pump station.
- 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.

5. Written Contracts and Agreements:

   - In the annexation agreement between MCWD and MRWPCA, 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 MRWPCA 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.
   - 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 Phase 1 Project (1,727 AFY) cost is estimated at approximately $40 million. This includes only the MCWD and MRWPCA Facilities. The project is phased by segment over five years in the District's Capital Improvements Program. The District is on the priority list to receive a State Revolving Fund Loan for a portion 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, and has completed approximately

four miles of pipeline to date. The District is currently coordinating encroachment permits, easements and construction permits for the remaining pipelines. Construction can begin as early FY 2013/14.

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 Phase 1 Project with supporting NEPA studies has been completed. CEQA actions for a future Phase 2 expansion have not been initiated.
   - 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 are being 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 is required for the pipeline crossing agricultural land (Armstrong Ranch).
   - The District's Water System Permit with the California Department of Public Health 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 is drafted but awaiting completion of the construction design.

Appendix C: 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 MRWPCA 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.

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 Sub-Area. 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 180-ft aquifer
    - A reverse-osmosis desalination plant located in North Marina,
    - Product water pipeline from the plant to the MCWD and CAWC service areas,
    - Brine disposal pipeline from the plant to the Monterey Regional Water Pollution Control Agency 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.

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 MRWPCA 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. Contracts may be let for final design and construction in early 2013. The project is projected to come on-line as early as 2016.

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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