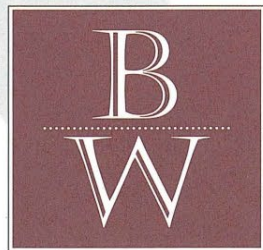


Marina Coast Water District

Water, Wastewater and Recycled Water Capacity Fee Study Draft June 25, 2019



Marina Coast Water District
& MCWD Groundwater Sustainability Agency



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June 25, 2019

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RE: **Draft** Water, Wastewater and Recycled Water Capacity Fee Study

Bartle Wells Associates (BWA) is pleased to submit the attached *Water, Wastewater and Recycled Water Capacity Fee Study*. The report develops updated water, wastewater and recycled capacity fees that are designed to equitably recover the costs of infrastructure and assets benefiting new development. Results were developed in conjunction with the 2019 Master Plan provided by Akel Engineering.

The District's prior capacity fee study was completed in September 2013 and recommended fees based on Equivalent Dwelling Unit for both water and wastewater. Recycled water assets and capital were included in the total for the water capacity fee. BWA has updated the fee calculation using the existing methodology.

A summary of proposed fees is shown on Table 10 of this report. The proposed fee calculation includes total fixed assets and shared capital plan divided among all projected users in the near-term (2035) plus expansion-related capital projects divided by future users in the near-term.

Proposed Fees

Central Marina

- Water, \$/EDU: \$8,379
- Sewer, \$/EDU: \$2,791

Ord Community

- Water, \$/EDU: \$23,494
- Sewer, \$/EDU: \$6,516

We have enjoyed working with the District on this assignment and appreciate the input and assistance received from District staff throughout the project. Please contact us anytime if you have questions about this report or related impact fee issues.

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1 Introduction, Background, and Government Code

1.1 Background

The Marina Coast Water District (District) retained AKEL Engineering to update its water, sewer and recycled water master plans. As subconsultants to AKEL, Bartle Wells Associates (BWA) has been retained to update the District's water, wastewater and recycled water capacity fees based on the new master plans. The current set of capacity fees were adopted in 2013 and have not been increased.

The District operates public water and sewer utilities that provide service to approximately 38,000 residents and associated public and commercial activities within the District's service area. Customers are located in two service areas, Central Marina (Marina) and the Ord Community (Ord). District operations are further split between water and sewer, resulting in four cost centers, Marina Water, Marina Sewer, Ord Water and Ord Sewer. The cost centers are maintained as separate enterprises and have distinct user rates and capacity fees. This report documents the methodology and assumptions used to develop updated capacity fees for the four enterprises.

1.2 Government Code

Capacity fees are governed by California Government Code Section 66000 et. seq. This section of the Code was initially established by Assembly Bill 1600 (AB 1600) and is commonly referred to as the Mitigation Fee Act. Pursuant to the Code, a capacity fee is not a tax or special assessment but is instead a fee levied to defray the cost of public facilities needed to serve a new development.

Section 66013 of the Code specifically governs water and wastewater capacity fees. This section of the Code defines a “capacity charge” to mean “a charge for public facilities in existence at the time a charge is imposed or charges for new public facilities to be acquired or constructed in the future that are of proportional benefit to the person or property being charged.” The Code distinguishes “capacity charges” from “connection fees” which are defined as fees for the physical facilities necessary to make a water or wastewater connection, such as costs related to installation of meters and pipelines from a new building to a water or wastewater main.

According to the Section 66013, a water or wastewater capacity fee “shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed” unless approved by a two-thirds vote of the electorate. As such, the capacity fees calculated in this report represent the maximum fees that the District can levy. Section 66013 does not detail any specific methodology for calculating capacity fees.

Section 66016 of the Code identifies the procedural requirements for adopting or increasing water and wastewater capacity fees and Section 66022 summarizes the general process by which the fees can be legally challenged.

2 Capacity Fee Methodology

2.1 Current Capacity Fees

The District’s current capacity fees were last evaluated by Carollo Engineers in a September 2013 report which calculated fees using a combined buy-in and future cost approach. Recycled water infrastructure and capital are included in the water capacity fee calculation. Current fees are shown in Table 1.

Table 1: Current Capacity Fees

Residential Fees		
<u>Water Capacity Fees</u>	<u>Marina</u>¹	<u>Ord</u>¹
Water Capacity Fee (per EDU)	\$4,526	\$8,010
Sewer Capacity Fee (per EDU)	\$2,333	\$3,322

1 Last updated 2013, does not include regional wastewater fees

2.1.1 EDU Calculation Methodology

The District’s current capacity fees are charged based on an Equivalent Dwelling Unit (EDU) Evaluation of each customer per the District’s Appendix C document (attached). Each residential connection including single family, multiple dwelling, condominium, trailer spaces and mobile homes is equal to one EDU. Non-residential wastewater EDUs are calculated based on plumbing fixture units at a current conversion rate of 20 fixture units per EDU. For each hotel/motel unit, a minimum of one EDU per room is applied. Each non-residential connection is a minimum of one EDU.

Because the precise number of EDUs for each zone in the District was not available at the time of this study, BWA estimated EDUs based on an AKEL Engineering and District updated estimation of current average demand at 0.28AF/yr/EDU.

2.2 Facility Cost Valuation

There are a number of widely used methods for valuing infrastructure and assets for cost recovery via capacity fees. BWA developed the capacity fees in this report using an asset valuation approach known as Replacement Cost New Less Depreciation (RCNLD) – This approach escalates the depreciated accounting book value of each asset escalated into current dollars based on the change in the Engineering News-Record (ENR) Construction Cost Index from each asset’s acquisition date. The ENR index is a widely used index for determining construction cost inflation.

2.3 Capacity Fee Calculation Overview

While the current fee calculation methodology is a widely used and generally appropriate way to recover the future share of the District’s utility system assets and development costs, BWA proposes that the District adopt a more comprehensive cost recovery approach as summarized below.

Current Methodology: Average Cost

$$\frac{\text{Existing Asset Value} + \text{Total CIP}}{\text{Total Units}}$$

Proposed Methodology: Hybrid Buy-In + Marginal Future Cost

$$\frac{\text{Existing Asset Value} + \text{Shared CIP}}{\text{Total Units}} + \frac{\text{Future User Share of CIP}}{\text{Future Units}}$$

2.3.1 Current Methodology: Average Cost Approach

BWA can confirm that the *average cost approach* from the District’s prior report is an appropriate way to calculate capacity fees given the District’s existing system, future projects and buildout projections. Under this approach, new connections pay an average cost of the total value of the system escalated to current dollars and the total Capital Improvement Plan. The fees are calculated based on the total cost of facilities plus total CIP divided by the total capacity the District is projected to serve through build-out. This is a widely used and accepted approach for calculating capacity fees but may not comprehensively recover the future share of existing assets and development from future users. BWA recommends that the District adopt the proposed methodology for capacity fees in the future, as summarized in Section 2.3.2.

2.3.2 Proposed Methodology: Hybrid Buy-In + Marginal Future Cost Methodology

Under the proposed approach, new connections buy in to the District's current system based on an average share of the total system, including the value of each enterprise's assets escalated to current dollars and the present value of CIP benefiting all users. New connections also pay for the future cost of expansion by adding the present value of future CIP to the fee basis. The fees are calculated based on the total cost of facilities plus shared CIP divided by the total capacity the District is projected to serve through the near-term (2035) plus future CIP divided by future capacity in the near-term. This fee would comprehensively recover the development share of existing facilities and CIP benefiting future users.

3 Capacity Fee Calculation

3.1 System Buy-In Component – Existing Assets

Under the methodology described in Section 2, updated capacity fees are designed to recover the cost of existing water, wastewater and recycled water system facilities and assets (in current dollars) as well as the cost of system upgrades and expansion needed to serve the District through 2035. Since a detailed list of assets was not available at the time of this study, BWA used the District's FY 2018 Comprehensive Annual Financial Report (CAFR) for the current value of each system's fixed assets by escalating the values in the latest audit to current dollars for the FY 2019 Fiscal Year. Non-depreciable assets such as water rights and easements are not included in the asset valuation.

3.2 Future Cost Component – Capital Improvement Projects

The District's 2019 Master Plan outlines the capital improvements needed for each utility to reach near-term buildout in 2035. These projects include upgrades, expansions, regular maintenance, and new facilities. The Master Plan divides project costs into two benefit groups: current customers and future customers. The present value of capital improvements benefiting future customers is included in the capacity fee calculation. Capital Improvement Projects are summarized in Table 2 and provided in the Master Plan developed by Akel Engineering.

Table 2: Capital Improvement Plan Summary

	Nearterm 2035 CIP		
	Allocation to Existing	Allocation to Future	Total to Nearterm
Marina Water CIP	\$1,678,000	\$3,289,000	\$4,967,000
Marina Share Combined Water CIP	\$13,891,560	\$5,095,440	\$18,987,000
Ord Water	\$7,914,500	\$31,780,500	\$39,695,000
Ord Share Combined Water CIP	\$5,769,390	\$3,843,160	\$9,612,550
Total Water CIP	\$29,253,450	\$44,008,100	\$73,261,550
Marina Recycled Water (Adjusted) ¹	\$8,162,000	\$5,723,458	\$13,885,458
Ord Recycled Water (Adjusted) ¹	\$7,238,000	\$41,231,891	\$48,469,891
Total Recycled CIP	\$15,400,000	\$46,955,349	\$62,355,349
Total Marina Water²	\$23,731,560	\$14,107,898	\$37,839,458
Total Ord Water²	\$20,921,890	\$76,855,551	\$97,777,441
Marina Wastewater	\$5,033,148	\$2,166,654	\$7,199,802
Marina Share Combined Wastewater CIP	\$91,520	\$0	\$91,520
Ord Wastewater	\$14,850,151	\$21,841,121	\$36,691,272
Ord Share Combined Wastewater CIP	\$124,780	\$0	\$124,780
Total Wastewater CIP	\$20,099,599	\$24,007,775	\$44,107,374
Total Marina Wastewater	\$5,124,668	\$2,166,654	\$7,291,322
Total Ord Wastewater	\$14,974,931	\$21,841,121	\$36,816,052

Table 3 summarizes the adjustments made to the Recycled Water Capital Plan. Capital contributions and grants have been removed from the total project cost and the future user portion of interest costs on three proposed loans have been added to the total project cost. Existing users will pay their share of interest costs on the proposed loans through rates rather than capacity fees. Rates and debt service are paid annually whereas capacity fees are paid upfront for the entirety of the project, so total future interest costs are included in the project cost.

Table 3: Recycled Water CIP Detail

Nearterm 2035 Recycled Water CIP			
Recycled Water Groundwater Injection Barrier Project			
	Central Marina	Ord Community	Total
Existing Users	\$8,162,000	\$7,238,000	\$15,400,000
Future Users	\$2,438,000	\$2,162,000	\$4,600,000
	\$10,600,000	\$9,400,000	\$20,000,000
Recycled Water - All Other Projects			
	Central Marina	Ord Community	Total
Existing Users	\$0	\$0	\$0
Future Users			
<i>Capital Improvement Project Cost</i>	\$3,164,723	\$37,634,141	\$40,798,864
<i>Plus Future Interest Costs¹</i>	\$996,206	\$11,846,641	\$12,842,847
<i>(Less Capital Contributions & Grants)</i>	(\$875,471)	(\$10,410,891)	(\$11,286,362)
Total Future Users	\$3,285,458	\$39,069,891	\$42,355,349
	\$3,285,458	\$39,069,891	\$42,355,349
Total Recycled Water Capital Improvement Plan (Nearterm)			
	Central Marina	Ord Community	Total
Existing Users	\$8,162,000	\$7,238,000	\$15,400,000
Future Users	\$5,723,458	\$41,231,891	\$46,955,349
	\$13,885,458	\$48,469,891	\$62,355,349
1 - 3 loans to fund RW projects, 30 year terms: \$18m @ 1.8% interest Year 1, \$11.5m @ 2.5% interest Year 6, \$4.5m @ 3% interest Year 12 respectively Source: MCWD Source - 2019 Master Plan, AKEL Engineering			

3.3 Proposed Updates to the EDU Assignments

3.3.1 Water System EDUs

Marina Coast WD currently defines a water equivalent dwelling unit as the amount a typical residential dwelling would use in a year or 0.33 AF per year. For non-residential development, the District utilizes “Appendix C, Assigned Water Use Factors for Determining Water Capacity Charges” to estimate the annual water use for various types of customers.

The District recently reviewed and updated its water use factors based on 0.28 AF per year. The updated Appendix C is provided following this report.

3.3.2 Estimated Sewer Flow per EDU

Table 4 summarizes the sewer flow per person in the District between 2010 and 2016. The sewer flow trend is downward during this period and the average sewer flow per person is 63 gallons. The District estimates a typical household population of 2.8 persons. Thus, the typical sewer flow from a single-family home is estimated at 174 gallons per day. BWA recommends that the District establish 174 gallons per day as the flow for one EDU.

Table 4: Estimated Sewer Flow per EDU

Estimated population per household: **2.8** people.

Year	Sewer Flow	
	Population	gpdc
2010	30,840	68
2011	31,141	67
2012	31,445	64
2013	31,752	64
2014	32,062	61
2015	32,375	56
2016	33,346	<u>58</u>
Average		63

ADWF sewer flow per day per person, the average from 2010 to 2016 is 63 gpdc.

The sewer flow trend is downward from approximately 68 gpdc in 2010 to 58 gpdc in 2016.

Source: AKEL Engineering

3.4 Current and Projected Customers to Near-Term

Table 5 shows current and projected customers in EDUs. Water EDUs were calculated using AKEL Engineering and District updated estimates of average day demand at 0.28AF/yr/EDU and average day demand growth factors from present day to near-term growth in 2035.

Wastewater EDUs were calculated using 0.195 AFY/EDU (or 174 gallons per day per BWA's findings in Section 3.3.2) and average day demand growth factors from present day to near-term growth in 2035.

The District is expecting significant growth to near-term buildout in 2035 per the projections in the latest Sewer Master Plan. BWA evaluated several methodologies for customer growth and

concluded that the most reasonable methodology to apply is the projected change in average day demand from 2019 to near-term buildout, representing 24% growth in Marina and 79% growth in Ord between now and 2035. Average Day Water Demand projections are also shown in Table 5.

Table 5: Water Demand Projections & EDUs to Near-Term

Average Day Demands - Water				
Development Horizon	Central Marina (mgd)	Ord Community (mgd)	Total (mgd)	
Existing (2019)	1.98	1.26	3.24	
Nearterm (to 2035)	2.46	2.25	4.71	
Buildout (to 2050)	2.46	5.81	8.27	
% Growth to Near Term	24%	79%	45%	
% Growth to Buildout	24%	361%	155%	
		Estimated EDUs @	0.28 250	AFY/EDU gpd
Development Horizon	Central Marina (EDU)	Ord Community (EDU)	Total (EDU)	
Existing (2018)	7,921	5,041	12,962	
Nearterm (to 2035)	9,841	9,001	18,842	
Buildout (to 2050)	9,841	23,243	33,084	
% Growth to Near Term	24%	79%	45%	
% Growth to Buildout	24%	361%	155%	
Average Day Use - Wastewater				
Development Horizon	Central Marina (mgd)	Ord Community (mgd)	Total (mgd)	
Existing (2018)	1.10	0.90	2.00	
Nearterm (to 2035)	1.29	1.58	2.87	
Buildout (to 2050)	1.29	3.76	5.05	
% Growth to Near Term	17%	76%	44%	
% Growth to Buildout	17%	318%	153%	
		Estimated EDUs @	0.195 174	AFY/EDU gpd
Development Horizon	Central Marina (EDU)	Ord Community (EDU)	Total (EDU)	
Existing (2018)	6,322	5,172	11,494	
Near Term (to 2035)	7,414	9,080	16,494	
Buildout (to 2050)	7,414	21,609	29,023	
% Growth to Near Term	17%	76%	44%	
% Growth to Buildout	17%	318%	153%	

Source: Akel Engineering flow & use estimates, MCWD use factors



Water and Wastewater EDUs were both estimated using these demand projections. EDU growth projections are summarized in Table 6.

Table 6: Projected EDUs to Near-Term

Current FY 2019 EDUs	Units	% Growth to Nearterm 2035¹	# Growth to Nearterm 2035	Est. Total EDUs to Nearterm 2035
<u>City of Marina</u>				
7,921	<i>Water EDUs</i>	24%	1,920	9,841
6,322	<i>Wastewater EDUs</i>	17%	1,092	7,414
<u>Ord Community</u>				
5,041	<i>Water EDUs</i>	79%	3,961	9,001
5,172	<i>Wastewater EDUs</i>	76%	3,908	9,080
<u>Total System</u>				
12,962	<i>Water EDUs</i>	45%	5,881	18,842
11,494	<i>Wastewater EDUs</i>	44%	5,000	16,494

1 - Source: Table 3

3.5 Wastewater Capacity Fee Calculation

Table 7 shows the detailed calculation of the District’s updated capacity fees using the methodology described in Section 2.3.2 and updated information described in above in Section 3. Recycled Water assets and CIP are included in the water capacity fee featuring adjustments described in Section 3.2. Fees were calculated using EDUs to near-term as a dividing factor. Additional tables which provide further detail are provided following this report.

Table 7: Proposed Capacity Fee Calculation – Hybrid Buy-In + Marginal Future Cost

	<i>recovers development share of existing facilities + future CIP</i>			
System Capacity Charge	Marina Water	Ord Water	Marina Sewer	Ord Sewer
Existing Asset Component - Applies to All Users				
1 Total Replacement Cost of Existing System Infrastructure	\$ 28,093,716	\$ 114,218,909	\$ 11,079,378	\$ 38,169,820
2 Less Accumulated Deprecation on Existing Infrastructure Assets	\$ (16,040,062)	\$ (10,352,520)	\$ (5,099,592)	\$ (3,648,242)
3 RCNLD of Water Infrastructure in Service (sum of 1 to 2)	\$ 12,053,654	\$ 103,866,389	\$ 5,979,786	\$ 34,521,578
Value of Other Depreciable Assets				
4 Total Value of Water/Sewer Rights and Easement Assets		\$ (71,550,000)		\$ (26,100,000)
5 Total Value of Capital Assets (3 + 4)	\$ 12,053,654	\$ 32,316,389	\$ 5,979,786	\$ 8,421,578
Existing and Future Customer Base- EDUS				
6 Total Existing EDUs	7,921	5,041	6,322	5,172
7 Number of Future EDUs to Nearterm - 2035	<u>1,920</u>	<u>3,961</u>	<u>1,092</u>	<u>3,908</u>
8 Total Number of EDUs to Nearterm (6 + 7)	9,841	9,001	7,414	9,080
9 Buy In Capacity Fee Component (5/8) \$/EDU	\$ 1,225	\$ 3,590	\$ 807	\$ 927
Shared CIP Component - Applies to All Users				
CIP allocated to All Users - Nearterm 2035				
10 Recycled Water Master Plan - Groundwater Injection Barrier Project	\$ 10,600,000	\$ 9,400,000		
11 Total Value of Shared CIP to Nearterm (10)	\$ 10,600,000	\$ 9,400,000	\$ -	\$ -
Existing and Future Customer Base- EDUS				
12 Total Number of EDUs to Nearterm (8)	9,841	9,001	7,414	9,080
13 Shared CIP Capacity Fee Component (11/12) \$/EDU	\$ 1,077	\$ 1,044	\$ -	\$ -
Future Cost Component - Applies to Future Users Only				
CIP allocated to Future Users - Nearterm 2035				
14 Water Master Plan	\$ 8,384,440	\$ 35,623,660	\$ -	\$ -
15 Sewer Master Plan	\$ -	\$ -	\$ 2,166,654	\$ 21,841,121
16 Recycled Water Master Plan ¹	\$ 3,285,458	\$ 39,069,891	\$ -	\$ -
17 Total Value of Future CIP to Nearterm (14+15+16)	\$ 11,669,898	\$ 74,693,551	\$ 2,166,654	\$ 21,841,121
Future Customer Base- EDUS				
18 Number of Future EDUs to Nearterm - 2035 (18)	1,920	3,961	1,092	3,908
19 Expansion Capacity Fee Component (17/18) \$/EDU	\$ 6,077	\$ 18,860	\$ 1,984	\$ 5,589
System Capacity Charge Results - EDUs				
20 Estimated System Capacity Charge (9+13+19) \$/EDU	\$ 8,379	\$ 23,494	\$ 2,791	\$ 6,516
21 Current Capacity Charge \$/EDU	\$ 4,526	\$ 8,010	\$ 2,333	\$ 3,322
22 Difference (20-21)	\$ 3,853	\$ 15,484	\$ 458	\$ 3,194

1 - excludes CIP amount included in Shared CIP Component (16), Capital Contributions and Grants. Includes Interest Cost, See Table 3

3.6 Estimated Plumbing Fixture Units per EDU

Many agencies including the District assign non-residential sewer EDUs based on the count of plumbing fixture units in a new building. Plumbing fixtures are defined in Chapter 7 of the California Plumbing Code (CPC) and various plumbing units are assigned fixture unit counts based on the relative flow associated with that unit. For example, a clothes washer is assigned 3 fixture units and a kitchen sink is assigned 2 fixture units. The District currently equates one EDU with 20 fixture units. As shown in Table 8, a typical single-family home with two bathrooms is currently rated at 19 DFUs based on Table 702.1 of the 2016 CPC. BWA recommends that the District update its fixture unit allocation per EDU to 19 fixture units.

Table 8: Estimated Plumbing Fixture Units per EDU

Fixture Type	Quantity	DFU (1)	Total DFU
Bathtub(with or without shower)	1	2	2
Clothes Washer	1	3	3
Dishwasher	1	2	2
Lavatory	2	1	2
Shower (single)	1	2	2
Kitchen Sink	1	2	2
Toilet (1.6 gal per flush)	2	3	6
Fixture Units in a Typical Single Family Residence =			19

3.7 Capacity Fees for Accessory Dwelling Units

Recently enacted state law, Government Code Section 65852.2 (SB 1069) effective January 1, 2018, requires that the capacity fees charged to ADUs must proportionately account for impact on services based on the ADU’s size or number of plumbing fixtures. Table 9 summarizes an example calculation for a hypothetical ADU containing a kitchen sink, bathroom (lavatory) sink, 1.6 gpf toilet and a shower. The ADU in this example would have a rating of 8 fixture units.

Table 9: Example Fixture Unit Calculation for Accessory Dwelling Unit

Fixture Type	Quantity	DFU (1)	Total DFU
Bathtub(with or without shower)	0	2	0
Clothes Washer	0	3	0
Dishwasher	0	2	0
Lavatory	1	1	1
Shower (single)	1	2	2
Kitchen Sink	1	2	2
Toilet (1.6 gal per flush)	1	3	3
Fixture Units in Example ADU			8

4 Conclusion and Recommendations

4.1 Summary of Proposed Fees

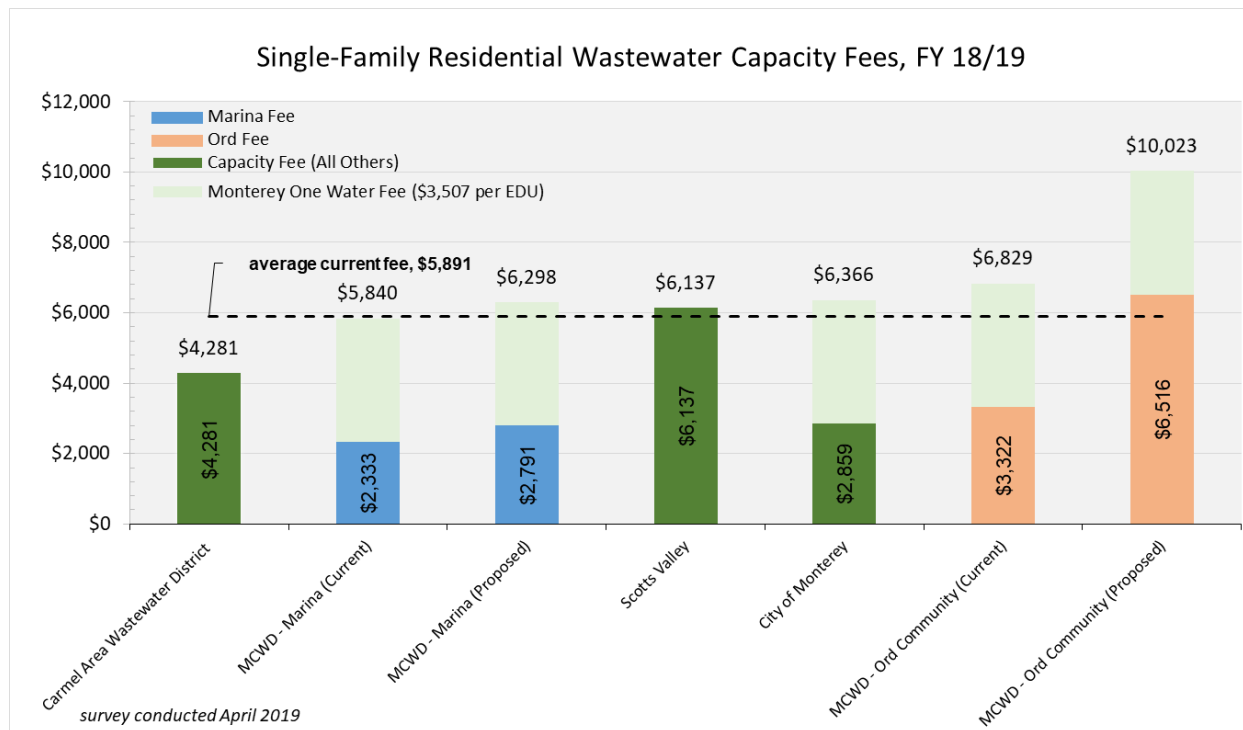
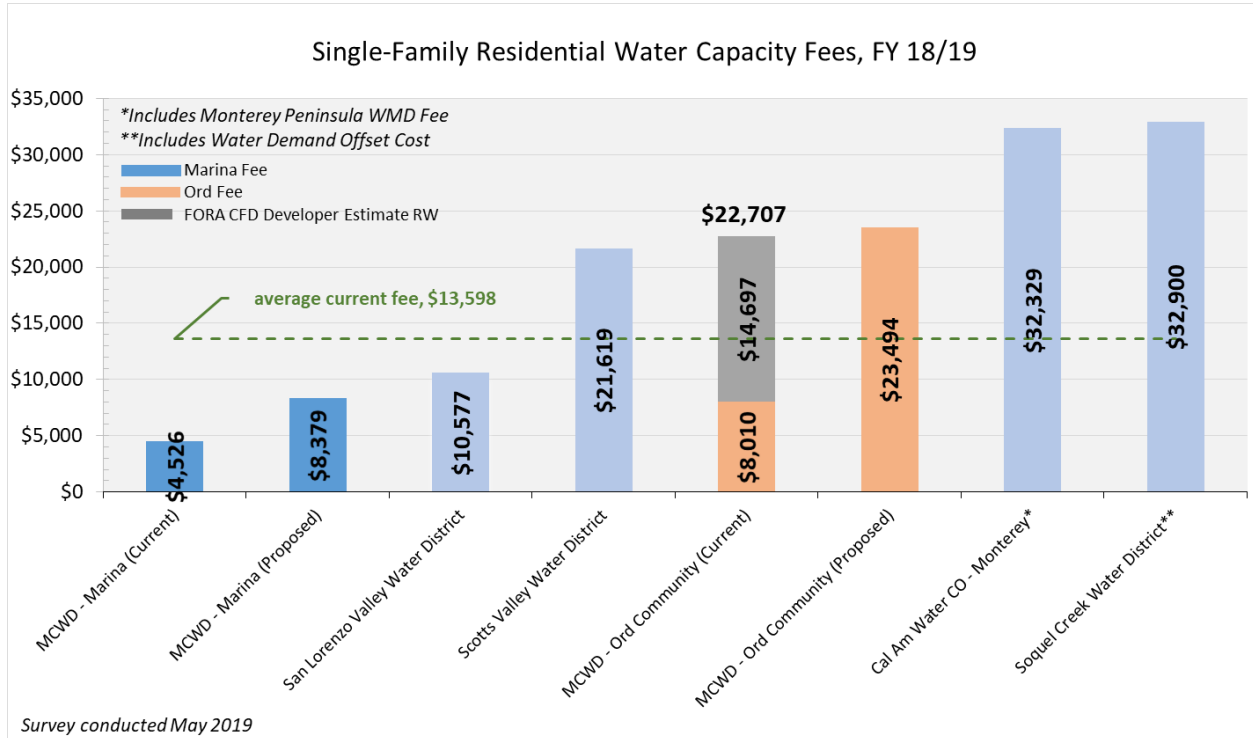
Table 10 provides a summary of findings per the methodology and District information detailed in this report. BWA has calculated fees on a \$/EDU basis using the proposed methodology described in Section 2.3.2 and calculated in Table 7.

Table 10: Summary of Proposed Fees

Marina Central			
Proposed Capacity Fees - Hybrid Approach (Nearterm)	Current	Proposed	\$ Increase (Decrease)
Water Capacity Fee - \$/EDU	\$4,526	\$8,379	\$3,853
Sewer Capacity Fee - \$/EDU	\$2,333	\$2,791	\$458
Total Capacity Fee	\$6,859	\$11,170	\$4,311
Ord Community			
Proposed Capacity Fees - Hybrid Approach (Nearterm)	Current	Proposed	\$ Increase (Decrease)
Water Capacity Fee - \$/EDU	\$8,010	\$23,494	\$15,484
Sewer Capacity Fee - \$/EDU	\$3,322	\$6,516	\$3,194
Total Capacity Fee	\$11,332	\$30,010	\$18,678
<p><i>Each residential connection (single-family, multiple dwelling, condominium, trailer space, or mobile home) is one (1) EDU.</i></p> <p><u>Non Residential Water Fees</u> Each EDU is equivalent to 0.28 Acre foot water use per year. Refer to MCWD "Appendix C" for assigned water use factors</p> <p><u>Non Residential Sewer Fees</u> Each nineteen (19) fixture units are equivalent to one (1) equivalent dwelling unit (EDU). For each hotel/motel unit a minimum of one (1) EDU per room will be applied. Each nonresidential connection is a minimum of one (1) EDU. Updated Sewer Flow per EDU = 62gpd * 2.8 persons/household = 174gpd/EDU</p>			

4.2 Capacity Fee Survey of Surrounding Agencies

BWA conducted a capacity fee survey of surrounding water and wastewater agencies to compare with the District's proposed fees. The results are shown below.



4.3 Conclusion

BWA finds that the proposed fees follow generally accepted fee design criteria and adhere to the substantive requirements of government code. BWA recommends that the District adopt the fees enclosed in this report by following the procedure to increase capacity fees as follows:

1. Create a nexus study to determine equitable capacity fees (Done by BWA)
2. Set notice the date of a public hearing as required in Government Code
3. Send notice of hearing to developers if specifically requested in writing
4. Hold public hearing and adopt new capacity fees via Resolution
5. Fees may become effective not less than 30 days after adoption

4.4 Future Fee Adjustments

In future years, BWA recommends that the District update its capacity fees annually by adjusting the fees by the change in the Engineering News-Record Construction Cost Index (20-Cities Average) to account for future construction cost inflation. Additionally, the District should review and consider updating its capacity fees when substantial revisions are made to anticipated capital improvement costs or to substantial changes in projected demand. In general, BWA recommends that capacity fees be independently reviewed and/or updated approximately once every five years.

Marina Coast WD



Water, Wastewater & Recycled Water Capacity Fee Draft Tables

6/21/2019



BARTLE WELLS ASSOCIATES

Independent Public Finance Advisors

Table 1
Marina Coast WD
Current Capacity Fees

Residential Fees

<u>Water Capacity Fees</u>	<u>Central Marina</u> ¹	<u>Ord Community</u> ¹
Water Capacity Fee (per EDU)	\$4,526	\$8,010
Sewer Capacity Fee (per EDU)	\$2,333	\$3,322

1 Last updated 2013, does not include regional wastewater fees

Each residential connection (single-family, multiple dwelling, condominium, trailer space, or mobile home) is one (1) EDU.

Non Residential Water Fees

Each EDU is equivalent to 0.33 Acre foot water use per year.
Refer to MCWD "Appendix c" for assigned water use factors

Non Residential Sewer Fees

Each twenty (20) fixture units are equivalent to one (1) equivalent dwelling unit (EDU).
For each hotel/motel unit a minimum of one (1) EDU per room will be applied.
Each nonresidential connection is a minimum of one (1) EDU.

Table 2
Marina Coast WD
Capital Improvement Plan Summary

	Nearterm 2035 CIP			Buildout 2050 CIP		
	Allocation to Existing	Allocation to Future	Total to Nearterm	Allocation to Existing	Allocation to Future	Total to Buildout
Marina Water CIP	\$1,678,000	\$3,289,000	\$4,967,000	\$1,678,000	\$3,289,000	\$4,967,000
Marina Share Combined Water CIP	\$13,891,560	\$5,095,440	\$18,987,000	\$14,119,830	\$7,460,870	\$21,580,700
Ord Water	\$7,914,500	\$31,780,500	\$39,695,000	\$8,670,950	\$72,402,050	\$81,073,000
Ord Share Combined Water CIP	\$5,769,390	\$3,843,160	\$9,612,550	\$5,553,820	\$19,636,530	\$25,190,350
Total Water CIP	\$29,253,450	\$44,008,100	\$73,261,550	\$30,022,600	\$102,788,450	\$132,811,050
Marina Recycled Water (Adjusted) ¹	\$8,162,000	\$5,723,458	\$13,885,458	\$8,162,000	\$5,723,458	\$13,885,458
Ord Recycled Water (Adjusted) ¹	\$7,238,000	\$41,231,891	\$48,469,891	\$7,238,000	\$41,231,891	\$48,469,891
Total Recycled CIP	\$15,400,000	\$46,955,349	\$62,355,349	\$15,400,000	\$46,955,349	\$62,355,349
Total Marina Water²	\$23,731,560	\$14,107,898	\$37,839,458	\$23,959,830	\$16,473,328	\$40,433,158
Total Ord Water²	\$20,921,890	\$76,855,551	\$97,777,441	\$21,462,770	\$133,270,471	\$154,733,241
Marina Wastewater	\$5,033,148	\$2,166,654	\$7,199,802	\$5,033,148	\$2,166,654	\$7,199,802
Marina Share Combined Wastewater CIP	\$91,520	\$0	\$91,520	\$91,520	\$0	\$91,520
Ord Wastewater	\$14,850,151	\$21,841,121	\$36,691,272	\$16,235,440	\$42,485,732	\$58,721,172
Ord Share Combined Wastewater CIP	\$124,780	\$0	\$124,780	\$124,780	\$0	\$124,780
Total Wastewater CIP	\$20,099,599	\$24,007,775	\$44,107,374	\$21,484,888	\$44,652,386	\$66,137,274
Total Marina Wastewater	\$5,124,668	\$2,166,654	\$7,291,322	\$5,095,538	\$2,166,654	\$7,291,322
Total Ord Wastewater	\$14,974,931	\$21,841,121	\$36,816,052	\$16,297,830	\$42,485,732	\$58,845,952

1 - Includes future interest costs, excludes capital contributions and grants See Table 2B

2 - Includes Water & Recycled Water CIP

See 2019 Master Plan, AKEL Engineering for Detail

Table 3
Recycled Water CIP Detail

Nearterm 2035 Recycled Water CIP			
Recycled Water Groundwater Injection Barrier Project			
	Central Marina	Ord Community	Total
Existing Users	\$8,162,000	\$7,238,000	\$15,400,000
Future Users	\$2,438,000	\$2,162,000	\$4,600,000
	\$10,600,000	\$9,400,000	\$20,000,000
Recycled Water - All Other Projects			
	Central Marina	Ord Community	Total
Existing Users	\$0	\$0	\$0
Future Users			
<i>Capital Improvement Project Cost</i>	\$3,164,723	\$37,634,141	\$40,798,864
<i>Plus Future Interest Costs¹</i>	\$996,206	\$11,846,641	\$12,842,847
<i>(Less Capital Contributions & Grants)</i>	(\$875,471)	(\$10,410,891)	(\$11,286,362)
Total Future Users	\$3,285,458	\$39,069,891	\$42,355,349
	\$3,285,458	\$39,069,891	\$42,355,349
Total Recycled Water Capital Improvement Plan (Nearterm)			
	Central Marina	Ord Community	Total
Existing Users	\$8,162,000	\$7,238,000	\$15,400,000
Future Users	\$5,723,458	\$41,231,891	\$46,955,349
	\$13,885,458	\$48,469,891	\$62,355,349

1 - 3 loans to fund RW projects, 30 year terms:

\$18m @ 1.8% interest Year 1, \$11.5m @ 2.5% interest Year 6, \$4.5m @ 3% interest Year 12 respectively

Source: MCWD

Source - 2019 Master Plan, AKEL Engineering

Table 4
Marina Coast WD
Master Plan - Water Demand and Wastewater Flow Projection

Average Day Demands - Water

Development Horizon	Central Marina (mgd)	Ord Community (mgd)	Total (mgd)
Existing (2019)	1.98	1.26	3.24
Nearterm (to 2035)	2.46	2.25	4.71
Buildout (to 2050)	2.46	5.81	8.27
% Growth to Near Term	24%	79%	45%
% Growth to Buildout	24%	361%	155%

Estimated EDUs @ **0.28** **AFY/EDU**
250 **gpd**

Development Horizon	Central Marina (EDU)	Ord Community (EDU)	Total (EDU)
Existing (2018)	7,921	5,041	12,962
Nearterm (to 2035)	9,841	9,001	18,842
Buildout (to 2050)	9,841	23,243	33,084
% Growth to Near Term	24%	79%	45%
% Growth to Buildout	24%	361%	155%

Average Day Use - Wastewater

Development Horizon	Central Marina (mgd)	Ord Community (mgd)	Total (mgd)
Existing (2018)	1.10	0.90	2.00
Nearterm (to 2035)	1.29	1.58	2.87
Buildout (to 2050)	1.29	3.76	5.05
% Growth to Near Term	17%	76%	44%
% Growth to Buildout	17%	318%	153%

Estimated EDUs @ **0.195** **AFY/EDU**
174 **gpd**

Development Horizon	Central Marina (EDU)	Ord Community (EDU)	Total (EDU)
Existing (2018)	6,322	5,172	11,494
Near Term (to 2035)	7,414	9,080	16,494
Buildout (to 2050)	7,414	21,609	29,023
% Growth to Near Term	17%	76%	44%
% Growth to Buildout	17%	318%	153%

Source: Akel Engineering flow & use estimates, MCWD use factors

**Table 5
Marina Coast WD
Growth Projections**

Current FY 2019 EDUs	Units	% Growth to Nearterm 2035¹	# Growth to Nearterm 2035	Est. Total EDUs to Nearterm 2035
<u>City of Marina</u>				
7,921	Water EDUs	24%	1,920	9,841
6,322	Wastewater EDUs	17%	1,092	7,414
<u>Ord Community</u>				
5,041	Water EDUs	79%	3,961	9,001
5,172	Wastewater EDUs	76%	3,908	9,080
<u>Total System</u>				
12,962	Water EDUs	45%	5,881	18,842
11,494	Wastewater EDUs	44%	5,000	16,494

1 - Source: Table 3

Current FY 2019 EDUs	Units	% Growth to Buildout 2050¹	# Growth to Buildout 2050	Est. Total EDUs to Buildout 2050
<u>City of Marina</u>				
7,921	Water EDUs	24%	1,920	9,841
6,322	Wastewater EDUs	17%	1,092	7,414
<u>Ord Community</u>				
5,041	Water EDUs	361%	18,202	23,243
5,172	Wastewater EDUs	318%	16,437	21,609
<u>Total System</u>				
12,962	Water EDUs	463%	20,123	33,084
11,494	Wastewater EDUs	480%	17,529	29,023

1 - Source: Table 3

Table 6
Marina Coast WD
Capacity Fee Methodologies Overview

Current Methodology: Average Cost

$$\frac{\textit{Existing Asset Value} + \textit{Total CIP}}{\textit{Total Units}}$$

Proposed Methodology: Hybrid Buy-In + Marginal Future Cost

$$\frac{\textit{Existing Asset Value} + \textit{Shared CIP}}{\textit{Total Units}} + \frac{\textit{Future User Share of CIP}}{\textit{Future Units}}$$

Table 7 - Proposed Fee Calculation

Marina Coast WD

Preliminary Draft 2019 Capacity Charge Calculation - Hybrid Buy-In + Marginal Future Cost Methodology (to Nearerterm 2035)

	<i>recovers development share of existing facilities + future CIP</i>			
System Capacity Charge	Marina Water	Ord Water	Marina Sewer	Ord Sewer
Existing Asset Component - Applies to All Users				
1 Total Replacement Cost of Existing System Infrastructure	\$ 28,093,716	\$ 114,218,909	\$ 11,079,378	\$ 38,169,820
2 Less Accumulated Deprecation on Existing Infrastructure Assets	\$ (16,040,062)	\$ (10,352,520)	\$ (5,099,592)	\$ (3,648,242)
3 RCNLD of Water Infrastructure in Service (sum of 1 to 2)	\$ 12,053,654	\$ 103,866,389	\$ 5,979,786	\$ 34,521,578
Value of Other Depreciable Assets				
4 Total Value of Water/Sewer Rights and Easement Assets		\$ (71,550,000)		\$ (26,100,000)
5 Total Value of Capital Assets (3 + 4)	\$ 12,053,654	\$ 32,316,389	\$ 5,979,786	\$ 8,421,578
Existing and Future Customer Base- EDUS				
6 Total Existing EDUs	7,921	5,041	6,322	5,172
7 Number of Future EDUs to Nearerterm - 2035	<u>1,920</u>	<u>3,961</u>	<u>1,092</u>	<u>3,908</u>
8 Total Number of EDUs to Nearerterm (6 + 7)	9,841	9,001	7,414	9,080
9 Buy In Capacity Fee Component (5/8) \$/EDU	\$ 1,225	\$ 3,590	\$ 807	\$ 927
Shared CIP Component - Applies to All Users				
CIP allocated to All Users - Nearerterm 2035				
10 Recycled Water Master Plan - Groundwater Injection Barrier Project	\$ 10,600,000	\$ 9,400,000		
11 Total Value of Shared CIP to Nearerterm (10)	\$ 10,600,000	\$ 9,400,000	\$ -	\$ -
Existing and Future Customer Base- EDUS				
12 Total Number of EDUs to Nearerterm (8)	9,841	9,001	7,414	9,080
13 Shared CIP Capacity Fee Component (11/12) \$/EDU	\$ 1,077	\$ 1,044	\$ -	\$ -
Future Cost Component - Applies to Future Users Only				
CIP allocated to Future Users - Nearerterm 2035				
14 Water Master Plan	\$ 8,384,440	\$ 35,623,660	\$ -	\$ -
15 Sewer Master Plan	\$ -	\$ -	\$ 2,166,654	\$ 21,841,121
16 Recycled Water Master Plan ¹	\$ 3,285,458	\$ 39,069,891	\$ -	\$ -
17 Total Value of Future CIP to Nearerterm (14+15+16)	\$ 11,669,898	\$ 74,693,551	\$ 2,166,654	\$ 21,841,121
Future Customer Base- EDUS				
18 Number of Future EDUs to Nearerterm - 2035 (18)	1,920	3,961	1,092	3,908
19 Expansion Capacity Fee Component (17/18) \$/EDU	\$ 6,077	\$ 18,860	\$ 1,984	\$ 5,589
System Capacity Charge Results - EDUs				
20 Estimated System Capacity Charge (9+13+19) \$/EDU	\$ 8,379	\$ 23,494	\$ 2,791	\$ 6,516
21 Current Capacity Charge \$/EDU	\$ 4,526	\$ 8,010	\$ 2,333	\$ 3,322
22 Difference (20-21)	\$ 3,853	\$ 15,484	\$ 458	\$ 3,194

1 - excludes CIP amount included in Shared CIP Component (16), Capital Contributions and Grants. Includes Interest Cost, See Table 3

Table 8
Marina Coast WD
Estimated Sewer Flow Per EDU

Estimated population per household: **2.8** people.

Year	Population	Sewer Flow gpcd
2010	30,840	68
2011	31,141	67
2012	31,445	64
2013	31,752	64
2014	32,062	61
2015	32,375	56
2016	33,346	<u>58</u>
Average		63

ADWF sewer flow per day per person, the average from 2010 to 2016 is 63 gpcd.
The sewer flow trend is downward from approximately 68 gpcd in 2010 to 58 gpcd in 2016.

Source: AKEL Engineering

Table 9
Marina Coast WD
Calculation of Typical Single Family Residence (2 bathroom) Fixture Units

Fixture Type	Quantity	DFU (1)	Total DFU
Bathtub(with or without shower)	1	2	2
Clothes Washer	1	3	3
Dishwasher	1	2	2
Lavatory	2	1	2
Shower (single)	1	2	2
Kitchen Sink	1	2	2
Toilet (1.6 gal per flush)	2	3	6
Fixture Units in a Typical Single Family Residence =			19

1. DFU=Drainage Fixture Units as defined in Chapter 7

Table 10
Marina Coast WD
Example Calculation of ADU (1 bathroom) Fixture Units

Fixture Type	Quantity	DFU (1)	Total DFU
Bathtub(with or without shower)	0	2	0
Clothes Washer	0	3	0
Dishwasher	0	2	0
Lavatory	1	1	1
Shower (single)	1	2	2
Kitchen Sink	1	2	2
Toilet (1.6 gal per flush)	1	3	3
Fixture Units in Example ADU			8

1. DFU=Drainage Fixture Units as defined in Chapter 7 of the California Plumbing Code

Table 11
Marina Coast WD
Proposed Capacity Fees

Residential Fees

Marina Central			
Proposed Capacity Fees - Hybrid Approach (Nearterm)	Current	Proposed	\$ Increase (Decrease)
Water Capacity Fee - \$/EDU	\$4,526	\$8,379	\$3,853
Sewer Capacity Fee - \$/EDU	\$2,333	\$2,791	\$458
Total Capacity Fee	\$6,859	\$11,170	\$4,311

Ord Community			
Proposed Capacity Fees - Hybrid Approach (Nearterm)	Current	Proposed	\$ Increase (Decrease)
Water Capacity Fee - \$/EDU	\$8,010	\$23,494	\$15,484
Sewer Capacity Fee - \$/EDU	\$3,322	\$6,516	\$3,194
Total Capacity Fee	\$11,332	\$30,010	\$18,678

Each residential connection (single-family, multiple dwelling, condominium, trailer space, or mobile home) is one (1) EDU.

Non Residential Water Fees

Each EDU is equivalent to 0.28 Acre foot water use per year.
 Refer to MCWD "Appendix C" for assigned water use factors

Non Residential Sewer Fees

Each nineteen (19) fixture units are equivalent to one (1) equivalent dwelling unit (EDU).
 For each hotel/motel unit a minimum of one (1) EDU per room will be applied.
 Each nonresidential connection is a minimum of one (1) EDU.
 Updated Sewer Flow per EDU = 62gpd * 2.8 persons/household = 174gpd/EDU

Proposed Marina Coast Water District Water Use Factors for
Determining Capacity Charges

Type of Use	Basis	Existing Assigned Water Use Rate By Acre-Ft	Proposed Assigned Water Use Rate By Acre-Ft
<u>Residential</u>			
Multi Family - Apartment	DU	x 0.33	0.21
Apartment (senior complex)	DU	x	0.12
Group Housing (boarding, dormitory, convalescent)	Occupant	x	0.062
Condominium/Townhouse	DU	x 0.33	0.24
Mobile Home	DU	x 0.33	0.21
Multi-Family - Duplex to Fourplex	DU	x 0.33	0.24
Single Family 0<lot<0.08 acres (13 or more units per acre)	DU	x 0.33	0.25
Single Family 0.08<=lot<0.12 acres (9-12 Units/Acre)	DU	x 0.33	0.28
Single Family 0.12<=lot<0.22 (5-8 Units /Acre)	DU	x 0.33	0.33
Single Family 0.22<=lot<0.67 (2- 4 Units/acre)	DU	x 0.33	0.52
Single Family (lot>= 0.67 acres)	acres	x	0.89
Accessory Dwelling Unit < 640 sq. ft.	DU	x	0.17
Accessory Dwelling Unit 641 to 800 sq. ft.	DU	x	0.21
Accessory Dwelling Unit 841-1200 sq. ft.	DU	x	0.25
<u>Non-Residential</u>			
Auto Sales/Repair Shops (Gross Floor Area)	sq. ft.	x 0.00007	0.00006
Bank	sq. ft.	x	0.00030
Bakery	sq. ft.	x	0.00027
Bar (w/o restaurant)	sq. ft.	x 0.024/seat	0.00023
Beauty shop/barber shop	stations	x 0.059	0.050
Car Wash w/ recycle	sq. ft.	x *	*
Child Care	sq. ft.	x 0.0072	0.0061
Dry Cleaners (onsite cleaning)	sq. ft.	x 0.00040	0.00040
Gas Station (w/o minimart or restaurant)	pumps	x 0.1051	0.1051
Gym, Health Club (w/o aquatics)	sq. ft.	x	0.000117
Hotel/Motel/Bed & Breakfast (Guest room portion only)	units	x 0.170	0.110
Laundromat (self-serve)	washers	x 0.202	0.202
Laundry - Commercial	sq. ft.	x 0.1735	*
Office - General (nonmedical, includes chiropractor)	sq. ft.	x 0.00012	0.000102
Office - Government, Education	sq. ft.	x	0.000092
Office - Dental	sq. ft.	x 0.00029	
Office - Medical, Dental	sq. ft.	x 0.00018	0.000162
Manufacturing (other than food, beverage, chemical)	sq. ft.	x	0.056
Manufacturing (food, beverage, chemical)	sq. ft.	x	*
Meeting Halls, Churches, School Room	sq. ft.	x 0.0001	0.000092
Nursing Home (care portion only)	bed	x 0.142/room	0.12
Laboratory	sq. ft.	x	0.000082
Laboratory - Photographic	sq. ft.	x 0.003	0.003
Landscape (non-turf)	acres	x 2.1	2.1
Landscape (turf)	acres	x 2.5	2.5
Plant Nursery	sq. ft.	x 0.00009	0.00009

Proposed Marina Coast Water District Water Use Factors for
Determining Capacity Charges

Type of Use	Basis	Existing Assigned Water Use Rate By Acre-Ft	Proposed Assigned Water Use Rate By Acre-Ft
Public Restroom	toilets	x 0.0676	0.058
Restaurant (incl. fast food, deli, sandwich shop)	seats	x 0.029	
Restaurant (full service - 3 meals, dish washing)	sq. ft.	x	0.00125
Restaurant (Fast-food/casual with onsite prep)	sq. ft.	x	0.00051
Restaurant (take out w/ minimal onsite prep)	sq. ft.	x 0.0027	0.00027
Store - General Retail (Department Store)	sq. ft.	x 0.00005	0.00005
Store - Grocery and Markets	sq. ft.	x 0.00039	0.00033
Swimming Pool (per 100 sq. ft. pool area)		x 0.020	0.02
Theater	seats	x 0.0014	0.0012
Veterinary	sq. ft.	x 0.00026	0.00022
Warehouse, Distribution, Self Storage	sq. ft.	x 0.00001	0.00001