

DRAFT

March 31, 2020

Mr. Dennis Martin
Government Affairs
Building Industry Association - Bay Area
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Mr. Martin:

On behalf of the Building Industry Association, Bay Area (“BIA”), Development & Financial Advisory (“DFA”) conducted a review of the “Water, Wastewater and Recycled Water Capacity Fee Study” (“Fee Study”) for the Marina Coast Water District (“District”) prepared by Bartle Wells Associates (“BWA or Bartle Wells”) dated October 17, 2019 to evaluate the adequacy of its calculations of capacity fees. We further reviewed additional source documents including the District’s comprehensive annual financial reports (CAFR) cited in the Fee Study, the 2019 Water Master and Sewer Master Plans prepared by Akel Engineering Group, and the 2015 Urban Water Management Plan prepared by Schaaf and Wheeler Consulting Civil Engineers to evaluate the reasonableness of the assumptions used in the Fee Study.

Our review of the Fee Study focused on the soundness of factors used in the calculation of the proposed capacity fees. Our analysis demonstrates that the same factors used by BWA can result in different capacity fees. We conclude that the analysis conducted by Bartle Wells in regard to the determination of equivalent dwelling units for existing units and near-term (to 2035) development ignores certain engineering data in the 2019 Water and Sewer Master Plans. Additionally, the System Buy-in methodology utilized by BWA overstates the value of the existing system and allows for an improper allocation of future facility costs.

OUTCOMES

While we agree that water and sewer rates alone cannot pay for facility expansions, the path to implementing capacity fees must be based on sound analysis that is fair and equitable to all stakeholders. Our findings indicate that when the same engineering data used by the Fee Study is also used in our analysis, differences in capacity fees can result. Further reductions can be realized with a reduced estimate for the existing systems valuation and modified cost allocations of future facilities. We conclude that the calculations in the Fee Study must be revised to reflect engineering data, cost allocations and existing system valuation. Without considering these revisions, the proposed capacity fees remain unreasonable and unfairly allocate too high a cost to certain development. We recommend that the BIA work with the District to expeditiously resolve the concerns outlined in this review and to ensure the timely implementation of our recommendation to reduce the impact of the proposed and questionable capacity charges in the Fee Study.

SIGNIFICANT CONCERNS

No Distinction Between the Unique Average Day Water Demands and Wastewater Flows for Existing and Projected Equivalent Dwelling Units (EDUs) – The Fee Study assumes the same average day water demand of 0.28 acre-foot per year (AFY) for existing and projected EDUs. According to engineering data, which is also cited by the Fee Study, the average day water demands for existing and near-term (to 2035) EDUs are 0.28 AFY and 0.25 AFY, respectively. In addition, sewer flows differ in development horizons but was not used in the analysis of sewer capacity fees. It is important to recognize that average day water demands and sewer flows in different development horizons will be unique and not at steady state.

Existing System Valuation – The Fee Study incorrectly relies on the 2018 CAFR for the valuation of the existing system. This valuation method does not provide sufficient information or the required level of detail for inclusion in the Fee Study. A detailed listing of the types of improvements and respective improvement capacity needs to be provided in order to establish a valid “nexus” to new development. The CAFR valuation includes the entire system which encompass non-capacity improvements or improvements funded by other programs. The simple use of the CAFR valuation ignores critical factors that should be considered in establishing nexus findings and, when applied, places an excessive burden on new development inconsistent with nexus requirements.

Improper Allocation of Future Facility Costs – The System Buy-in method utilized by BWA in the Fee Study requires new development pay for a share in the existing system. Requiring new development to make a fair share contribution to the existing system means the District has defined both new and existing development as equal beneficiaries of the current system. As such, new developments and existing developments need for future system improvements should be allocated based on this identification of equal benefit determined pursuant to the System Buy-in. The Fee Study has failed to account for this equal share in the existing system and unfairly burdened new development with future facility costs.

Inconsistencies in the Treatment of Certain Development – A multifamily residential unit is arbitrarily assigned a sewer EDU of 0.80 without regard to actual sewer flow measurements. Further, the Fee Study assumes one hotel room has the same EDU as a single family residential unit (1.00 EDU) even though engineering estimates have concluded that water demand in one hotel room is less than a single family residential unit (0.11 AFY for a hotel room compared to 0.28 AFY for a single family residential unit).

We thank you for your attention to this matter. Should you have any questions, please call our office at (916) 297-7655.

Sincerely,

Michael F. Whipple

Michael F. Whipple
Vice President

I. REVIEW OF THE WATER, WASTEWATER AND RECYCLED WATER CAPACITY FEE STUDY

A. PROPOSED CAPACITY FEES

The Water, Wastewater and Recycled Capacity Fee Study (“Fee Study”) proposed an update to the Marina Coast Water District’s existing capacity fees, which was updated in 2013. The Fee Study revised the water and sewer capacity fees each for the Central Marina and the Ord Community service areas. Adjustments to the capacity fees ranged from 19.6% for the sewer capacity fee for Central Marina to 141.5% for the water capacity fee for the Ord Community. Water and sewer capacity fees for each service area are summarized as follows:

Table 1. Current and Proposed Capacity Fees, \$/EDU

	Current	Proposed	Change in Amount	Change in Percent
Central Marina				
Water Capacity Fee	\$4,526	\$5,741	\$1,215	26.8%
Sewer Capacity Fee	\$2,333	\$2,791	\$458	19.6%
Ord Community				
Water Capacity Fee	\$8,010	\$19,343	\$11,333	141.5%
Sewer Capacity Fee	\$3,322	\$6,516	\$3,194	96.1%

B. CAPACITY FEE COMPONENTS

The current capacity fees revised in 2013 were calculated using the average cost methodology in which new connections pay an average cost of the total value of the system escalated to current dollars and total capital improvements. The proposed 2019 capacity fees were revised to reflect the hybrid buy-in plus marginal future cost methodology.

Current Methodology:
Average Cost

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

Proposed Methodology:
Hybrid Buy-In + Marginal Future Cost

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

System Asset Values and Capital Improvement Costs. The Fee Study utilized the system buy-in and future cost components to calculate the cost of recovering existing water, wastewater and recycled water system facilities and the cost of system upgrades and expansions. The current values of each system’s fixed assets were derived from the Fiscal Year 2018 Comprehensive Annual Financial Report (CAFR) and escalated by the Construction Cost Index (CCI) as published by Engineering News Record (ENR). Non-depreciable assets such as water rights and easements were not included in the valuation of the assets. The future cost component was derived from calculating the present value of capital improvements benefiting future and existing customers.

Determination of Equivalent Dwelling Units for Water Capacity Fees Using Water Demand. Equivalent dwelling units (EDUs) associated with water capacity fees were determined using existing and projected water demand. The Fee Study used 0.28 AFY/EDU (equivalent to 250 gallons per day per EDU) to calculate EDUs for existing (2018), near term (to 2035) and buildout (to 2050) developments.

Determination of Equivalent Dwelling Units for Sewer Capacity Fees Using Sewer Flow. Equivalent dwelling units associated with sewer capacity fees were determined using existing and projected sewer flows. The Fee Study used the seven-year average (from 2010 to 2016, inclusive), to calculate an average sewer flow of 62 gallons per day per capita (gpcd).

Table 2. Sewer Flow

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	58
Average		62.57

Using the average sewer flow of 62 gpcd and the factor of 2.80 persons per household, sewer EDUs were calculated using 174 gpd/EDU (174 gpd/EDU = 0.195 AFY/EDU; 62 gpcd x 2.8 persons per household = 174 gpd/EDU).

According to the 2019 Water and Sewer Master Plans, the average total water demand and sewer flow in 2019 were 3.24 million gallons per day (mgd) and 2.00 mgd, respectively. The breakdown of water demand and sewer flow by service area and by development horizon are summarized in the table below.

Table 3. Water Demand and Sewer Flow

Average Water Demand			
Development Horizon	Central Marina (mgd)	Ord Community (mgd)	Total (mgd)
Existing (2019)	1.98	1.26	3.24
Near term (to 2035)	2.46	2.25	4.71
Buildout (to 2050)	2.46	5.81	8.27
Average Sewer Flow			
Development Horizon	Central Marina (mgd)	Ord Community (mgd)	Total (mgd)
Existing (2019)	1.10	0.90	2.00
Near term (to 2035)	1.29	1.58	2.87
Buildout (to 2050)	1.29	3.76	5.05

C. PROPOSED CAPACITY FEES

The water use factor of 0.28 AFY/EDU and sewer flow factor of 0.195 AFY/EDU were used to determine EDUs. To calculate the buy-in component of the capacity fee, the value of the existing assets less the values of easements and water rights were divided by the total number of equivalent dwelling units determined from water demands and sewer flows using existing and future EDUs to 2035. To calculate the future cost of expansion of the capacity fee, the cost of capital improvements for each service area

was divided by the number of equivalent dwelling units determined from water demands and sewer flows using future EDUs to 2035.

Table 4. Calculation of Proposed Capacity Fees

Buy-In Capacity Fee Component – All Users	Marina Water	Ord Water	Marina Sewer	Ord Sewer
Total Value of Capital Assets	\$12,053,654	\$32,316,389	\$5,979,786	\$8,421,578
Total Existing EDUs	7,921	5,041	6,322	5,172
Number of Future EDUs to Near Term - 2035	1,920	3,961	1,092	3,908
Total Number of EDUs to Near Term	9,841	9,001	7,414	9,080
Buy-In Capacity Fee Component, \$/EDU	\$1,225	\$3,590	\$807	\$927
Expansion Fee Component – Future Users				
Total Value of Future CIP to Near Term	\$8,672,898	\$62,389,551	\$2,166,654	\$21,841,121
Number of Future EDUs to Near Term - 2035	1,920	3,961	1,092	3,908
Expansion Fee Component, \$/EDU	\$4,517	\$15,753	\$1,984	\$5,589
Total Capacity Fee	\$5,741	\$19,343	\$2,791	\$6,516

II. FINDINGS AND RECOMMENDATIONS

Our recommendations are set forth below. They are the result of our review of source documents and analysis of the Fee Study’s calculations.

A. METHODOLOGY

As shown in Section IB of this report, the Fee Study revised the formula used in the calculation of current capacity fees from an average cost method to a hybrid buy-in plus marginal future cost method which results in an over allocation of future facility costs to new development. The Fee Study does not provide a reasonable explanation of the preference for the proposed methodology other than the current capacity fee methodology is widely used but “*may not* comprehensively recover the future share of existing assets and development of future users.” The Fee Study must provide a more reasonable discussion of why the proposed methodology is *now* preferred over the existing one that is widely accepted.

Recommendation:

Provide a reasonable discussion of the change in preference in methodology and demonstrate the advantage of the proposed, new method by showing contrasting calculations of both methods. The statement that the current methodology “*may not*” recover the future share of existing assets and development of future users and conclusively uses an alternative methodology without reasonable explanation is blatantly dictatorial.

B. CAPACITY FEE FACTORS

System Assets and Capital Improvements. Fee Study Tables 2, 3 and 7 lack transparency as to how the cost figures are derived. The footnote in Table 2 refers to the 2019 Master Plan for details of costs. However, Fee Study cost allocations to existing and near-term 2035 CIP do not coincide with costs shown in the referenced master plans. Also absent from the Fee Study is detail regarding the capacity of the CIP facilities. The Fee Study uses near term buildout (2035) EDUs to calculate fees; however, the Fee Study does not identify the specific facilities and capacity provided by the respective facilities. To illustrate, Table 6 of the Fee Study estimates \$62.4 million of Ord Water costs shall be funded by 3,961 EDUs.

Discrepancies exist between costs shown in the Fee Study and the respective master plans and the capacity provided by these facilities is not disclosed. As a result, the Fee Study lacks material information and the accuracy of the fee calculations are questionable.

The Fee Study further states CAFR data was used in the determination of the system's valuation because "detailed list of assets was not available at the time of this study." Without identifying the actual facilities being included in the determination of capacity fees, there are no practical means for confirming if the facilities included in the capacity fee calculation either adds or improves capacity or alternative funding sources are already paying for them. This catch-all and complacent approach disregards the intent of the nexus requirement.

Interest Costs. Section 3.2 of the Fee Study alludes to "three proposed loans" without identifying the source of funds of the loan. The lack of transparency in the identification of the source of funds of the loan either appears intentional or the District has not identified the source of funds. The loan scenario appears more theoretical than realistic. In addition, per the footnote in Table 3, the Fee Study merely shows the terms to repay the loan based on a 30-year payment period and variable interest rates for each arbitrary payment year (i.e., 1.8% interest rate in Year 1, 2.5% interest rate in Year 6, and 3.0% interest rate in Year 12) without demonstrating the validity of the payment plan to pay back the loan through rates.

Recommendation:

Provide adequate details in Tables 2, 3 and 7 of the Fee Study that show the derivation of capital improvement costs. For example, Table 2A does not demonstrate a connection to the source documents referred to in the footnote. This lack of transparency and the use of arbitrarily chosen factors are prevalent in the Fee Study.

C. WATER DEMAND

The Fee Study relied on water demand data used in the 2019 Water Master Plan, as shown in Table 2, above. The Fee Study indicated that water demand in 2019 was 1.98 mgd and 1.26 mgd in the Central Marina and Ord Community service areas, respectively, for a total of 3.24 mgd. Using estimated population data of 36,438 for 2019, this equates to 88.92 gpdc or 249.95 gpd/EDU (0.28 AFY/EDU). The average day demand factor of 249.95 gpd/EDU was used to calculate the number of EDUs for each service area for existing and near-term development.

Table 5. Water Demand Factors – Fee Study

Existing (2019)	Total / Avg
Water Demand (gpd)	3,240,000
Service Area Population (2019)	36,438
Water Demand (gpdc)	88.92
Population per Household	2.80
Water Demand (gpd/EDU)	249.95
AFY/EDU	0.28

Note: Water demand of 3.24 mgd is actually from 2017 consumption data, per the 2019 Water Master Plan.

Existing and near-term EDUs were then calculated using 249.95 gpd/EDU gpd (rounded by the Fee Study to 250 gpd/EDU).

Table 6. Fee Study EDU Calculations

Existing (2019)	Marina Water	Ord Water
Water Demand (gpd)	1,980,000	1,260,000
Total Water Demand (gpd/EDU), 2019	249.95	249.95
EDU Count Using 2017 Water Demand	7,921	5,041
Near Term (to 2035)		
Water Demand (gpd)	2,460,000	2,250,000
Total Water Demand (gpd/EDU), 2019	249.95	249.95
EDU Count Using 2017 Water Demand	9,841	9,001

Recommendation:

While the Mitigation Fee Act does not explicitly define a formula for calculating development impact fees, the derivation of impact fees must be reasonable. Existing water use in 2019 was used to calculate the number of EDUs for near-term development (to 2035). It is recommended that the calculation for the number of EDUs for near-term development use the estimated water demand in 2035. The water demand factor of 249.95 gpd/EDU applies only to existing development and its use in the derivation of EDUs for 2035 would be inconsistent. The Fee Study used existing 2019 water demand and disregarded quantifying the available capacity required for future development. This is an important finding in that the purpose of the water master plan was to design requirements based on *projected* demands to the water system. Water demand in 2035 is estimated at 4.71 mgd and the application of this value to determine EDUs in 2035 is more appropriate than using current water demand at 3.24 mgd. Water demand at 4.71 mgd is equivalent to 225.54 gpd/EDU.

Table 7. Water Demand Factors – Recommended

Near-term (to 2035)	Systemwide
Water Demand (mgd)	4,710,000
Service Area Population (2035)	58,473
Water Demand (gpdc)	80.55
Population per Household	2.80
Water Demand EDU Factor (gpd/EDU)	225.54
AFY/EDU	0.25

The use of the near-term water demand factor of 225.54 gpd/EDU results in different EDUs from the Fee Study’s use of the existing water demand factor of 249.95 gpd/EDU.

Table 8. Water EDU Counts Using Near-Term (2035) Water Demand

Near Term (to 2035)	Marina Water	Ord Water
Water Demand (gpd)	2,460,000	2,250,000
Water Demand EDU Factor (gpd/EDU)	225.54	225.54
EDU Count Using 2035 Water Demand (225.54 gpd/EDU)	10,907	9,976
EDU Count Using 2019 Water Demand (249.95 gpd/EDU)	9,841	9,001
Difference in EDU Count	1,066	975

It is also recommended that FYE 2018 and an estimate of FYE 2019 water demands be used to reflect the most recent water demand factors (note that water demand of 3.24 mgd is actually from 2017 water consumption data per the 2019 Water Master Plan).

D. SEWER FLOW

The Fee Study used 0.195 AFY/EDU (174 gpd/EDU) as the flow rate to calculate sewer EDUs for existing units and near-term development. This was derived from the seven-year flow average of 62 gpdc

(from 2010 to 2016, inclusive; 62 gpcd x 2.8 persons per household = 174 gpd/EDU), as previously shown.

Table 9. Fee Study Wastewater Flow Factors and EDU Counts

	Marina Sewer	Ord Sewer
Wastewater Flow Rate – Existing (gpd)	1,100,000	900,000
Wastewater Flow EDU Factor (gpd/EDU)	174.00	174.00
EDU Count for Existing Units (2017)	6,322	5,172
Wastewater Flow Rate – Near-Term (to 2035)	1,290,000	1,580,000
Wastewater Flow EDU Factor (gpd/EDU)	174.00	174.00
EDU Count for Near-Term (to 2035)	7,414	9,080

Recommendation:

The use of sewer flow rates for each service area and for each development horizon is more reasonable to use in calculating sewer flow factors. Hence, for 2019, a sewer flow rate of 2.0 mgd and a population of 36,438 is equivalent to 54.89 gpcd (or 153.69 gpd/EDU = 54.89 gpcd x 2.8 persons per household). This approach is applied to determine the recommended sewer EDUs shown in the table below.

Table 10. Recommended Wastewater Flow Factors

	Existing	Near-Term (2035)
Sewer Flow Rate (mgd)	2,000,000	2,870,000
Service Population (2019)	36,438	58,473
Sewer Flow Rate (gpcd)	54.89	49.08
Persons per Household	2.80	2.80
Sewer Flow EDU Factor (gpd/EDU)	153.69	137.43

When the sewer flow EDU factors of 153.69 gpd/EDU and 137.43 gpd/EDU for existing units and near-term development, respectively, the resulting number of EDUs for each service area are as follows:

Table 11. Recommended Wastewater EDU Counts

Existing Units	Marina Sewer	Ord Sewer
Sewer Flow Rate (gpd)	1,100,000	900,000
Sewer Flow EDU Factor (gpd/EDU)	153.69	153.69
EDU Count, Recommended	7,157	5,856
EDU Count, Fee Study	6,322	5,172
Difference in EDU Count	835	684
Near-Term (to 2035)		
Sewer Flow Rate (gpd)	1,290,000	1,580,000
Sewer Flow EDU Factor (gpd/EDU)	137.43	137.43
EDU Count, Recommended	9,387	11,497
EDU Count, Fee Study	7,414	9,080
Difference in EDU Count	1,973	2,417

E. CAPACITY FEES

The total number of EDUs to near-term development calculated in the previous sections allows for the determination of capacity fees. The Fee Study’s proposed capacity fees and our recommended capacity fees are compared in the following table.

Table 12. Summary of EDU Counts

<i>Fee Study</i>	Marina Water	Ord Water	Marina Sewer	Ord Sewer
Total Existing EDUs	7,921	5,041	6,322	5,172
Number of Future EDUs to Near-Term (2035)	1,920	3,961	1,092	3,908
Total Number of EDUs to Near-Term	9,841	9,001	7,414	9,080
Recommended				
Total Existing EDUs	7,921	5,041	7,157	5,856
Number of Future EDUs to Near-Term (2035)	2,986	4,935	2,229	5,641
Total Number of EDUs to Near-Term	10,907	9,976	9,387	11,497

Recommendation:

The adjustments of water and wastewater EDU factors in the previous sections reasonably demonstrate an approach that uses the same engineering data in the Fee Study. By using the recommended factors, the following capacity fees are derived. The table also contrasts between the Fee Study capacity fees and the recommended capacity fees.

Table 13. Recommended Capacity Fees vs. Fee Study Capacity Fees

Buy-In Capacity Fee Component – All Users	Marina Water	Ord Water	Marina Sewer	Ord Sewer
Total Value of Capital Assets	\$12,053,654	\$32,316,389	\$5,979,786	\$8,421,578
Total Number of EDUs to Near-Term, Recommended	10,907	9,976	9,387	11,497
Buy-In Capacity Fee, \$/EDU, Recommended	\$1,105	\$3,239	\$637	\$733
Buy-In Capacity Fee, \$/EDU, Fee Study	\$1,225	\$3,590	\$807	\$927
Difference in Buy-In Capacity Fees	(\$120)	(\$351)	(\$170)	(\$195)
Expansion Fee Component – Future Users				
Total Value of Future CIP to Near Term	\$8,672,898	\$62,389,551	\$2,166,654	\$21,841,121
Number of EDUs to Near-Term, Recommended	2,986	4,935	2,229	5,641
Expansion Capacity Fee, \$/EDU, Recommended	\$2,905	\$12,642	\$972	\$3,872
Expansion Capacity Fee, \$/EDU, Fee Study	\$4,517	\$15,753	\$1,984	\$5,589
Difference in Expansion Capacity Fees	(\$1,611)	(\$3,110)	(\$1,012)	(\$1,717)
Total Capacity Fees, \$/EDU, Recommended	\$4,010	\$15,881	\$1,609	\$4,605
Total Capacity Fees, \$/EDU, Fee Study	\$5,741	\$19,343	\$2,791	\$6,516
Difference in Total Capacity Fees	(\$1,731)	(\$3,460)	(\$1,182)	(\$1,912)

E. NON-RESIDENTIAL CONNECTIONS – HOTELS AND MULTIFAMILY RESIDENTIAL UNITS

The Fee Study categorizes hotels as non-residential and assigns a hotel room a minimum of 1.00 EDU, which is equivalent to the water demand of a single-family residential unit, or 0.28 AFY. This is in contrast to the findings of the 2015 Urban Water Management Plan, which identified that one hotel room uses 0.11 AFY per room. The Fee Study further assigned 1.00 EDU as having 19 fixture units, which is unlikely for one hotel room. Lastly, the assignment of 0.80 EDU for multifamily residential units is arbitrary.

Recommendation:

An EDU factor of 0.39 EDU (0.11 AFY/0.28 AFY = 0.39 EDU) for a hotel room more accurately reflects its lower water demand than its arbitrary assignment of 1.00 EDU. The EDU assignment for a multifamily residential connection must be based on sewer flow rates as prescribed in master plans prepared by a professional engineer rather than assigning an arbitrary value. The 2019 Sewer Master Plan did not separate sewer flow data each for single family and multifamily residential units but rather combined their sewer flows.

III. SUMMARY OF RECOMMENDED CAPACITY FEES

Our findings detailed above allow for the adjustment of the capacity fees proposed in the Fee Study. The table below compares the current capacity fees (fees prior to the Fee Study), the capacity fees proposed in the Fee Study, and our recommended capacity fees.

Table 14. Comparison of Capacity Fees

	Current	Fee Study	Recommended	Fee Study Change in Percent from Current	Recommended Change in Percent from Current
Central Marina					
Water Capacity Fee	\$4,526	\$5,741	\$4,010	+ 26.8%	- 11.4%
Sewer Capacity Fee	\$2,333	\$2,791	\$1,609	+ 19.6%	- 31.0%
Ord Community					
Water Capacity Fee	\$8,010	\$19,343	\$15,881	+ 141.5%	+ 98.3%
Sewer Capacity Fee	\$3,322	\$6,516	\$4,605	+ 96.1%	+ 38.6%