



## Technical Memorandum

June 1, 2023

### Summary of Water Supply Requirements for Housing

Typically, a water supply/demand analysis would examine future residential water demand based on population<sup>1</sup>, because people use water not houses, but this year is the beginning of the 6<sup>th</sup> Cycle of the Regional Housing Needs Allocation (RHNA) effort, so this memorandum will focus on how much residential water is needed to meet typical housing needs and the RHNA goals. However, it is important to acknowledge that a full supply and demand forecast such as the District's 2022 Adopted Supply and Demand Forecast also include non-residential (such as commercial) water needs going forward to meet job growth and economic expansion.

#### **Residential Water Need – What Do Housing Types Use?**

The District has a long-established residential fixture unit count methodology that is captured in its Rules and Regulations, Rule 24. The data is statistically based on engineering, design, and plumbing standards for residential housing units, and is updated to current standards regularly. The methodology examines architectural floor plans and determines (“counts”) the number of fixtures in the proposed structure or dwelling unit and, based on the installed fixtures, determines the capacity of the dwelling unit to use water.

For purposes of forecasting future needs, the District has applied its fixture unit counts to determine the following for typical or standard capacity for water use, in acre-feet per unit:

	Acre- Feet Required	Multi-Family: 1 to 2 Bedroom 1 Bathroom	Multi-Family: 2 to 3 Bedroom 2 Bathroom	Single-Family: 1 Master Bath 1 Standard Bath 1 Half-Bath
Standard Bathroom(s)	0.043	0.043	0.086	0.043
Half Bathroom	0.023			0.023
Master Bathroom	0.053			0.053
Kitchen	0.015	0.015	0.015	0.015
Clothes Washer	0.010	0.010	0.010	0.010
Landscaping & Other <sup>2</sup>	Varies	(see footnote 2)	(see footnote 2)	0.036
Total per Unit		0.068	0.111	0.180

<sup>1</sup> The District's Adopted 2022 Supply and Demand Forecast adopted relies upon the AMBAG Regional Growth Forecast 25-year population projection to estimate the annual growth rate in residential water use. Use of RHNA dwelling units will result in a higher number than population estimates.

<sup>2</sup> “Other” may include other fixtures such as utility sink, bar sink, vegetable sink, bidet, custom tub or showers. Overall project landscaping will be added.

**How do these Capacity Factors Apply to RHNA Categories?**

RHNA requirements are allocated to four categories of housing based on affordability, but each category may be a mix of housing types. Therefore, the District assumes a mixture of housing types for each category.

RHNA Housing Type Category	Assumption of Housing Mix	Resulting Water Use Factor (AF)
Very Low Income	50% 1-Bath & 50% 2-Bath (100% Multi-Family)	0.0895 AF
Low Income	50% 1-Bath & 50% 2-Bath (100% Multi-Family)	0.0895 AF
Moderate Income	50% Single-Family & 50% Multi-Family	0.1347 AF
Above Moderate	67% Single-Family & 33% Multi-Family	0.1501 AF

**Based on the RHNA Goals and the Capacity Factors, What is the RHNA Water Need?**

Based on the District’s computed capacity factors by RHNA category, the Monterey Peninsula future residential water need can be forecast as 765 acre-feet, computed as follows. However, the total must be adjusted for jurisdictions whose housing need will be served in part by another water provider, which will include old Fort Ord land and certain self-sourced developments in the Carmel Valley and elsewhere, resulting in a need of 670 AF:

	Monterey	Pacific Grove	Carmel-by-the-Sea	Seaside	Del Rey Oaks	Sand City	County*	Total Units	Avg. Use per Unit	Water Required (AF)
Very Low Income	1,177	362	113	86	60	59	90	1,947	0.0895	174
Low Income	769	237	74	55	38	39	59	1,271	0.0895	114
Moderate	462	142	44	156	24	49	43	920	0.1347	124
Above Moderate	1,246	384	118	319	62	113	108	2,350	0.1501	353
Total Allocation	3,654	1,125	349	616	184	260	300	6,488	0.1179	765
Served by Others	(365)			(308)	(37)		(90)	(800)	(0.1179)	(94)
Net	3,289	1,125	349	308	147	260	210	5,688		670
Water for Net RHNA (AF)	380	130	40	45	17	32	25			

\*: Assumption of 300 new RHNA units in the unincorporated County of the Cal-Am/MPWMD water service area. County housing element may differ, but currently unavailable.