California Approves Water Demand Calculator® as Alternate Standard for Sizing Water Supply Piping

Ontario, Calif. (March 5, 2024) — The California Building Standards Commission has approved the adoption of IAPMO’s Uniform Plumbing Code (UPC®) Appendix M — the Water Demand Calculator® — into the California Plumbing Code (CPC) as an alternative methodology for sizing water pipes in single- and multifamily buildings. The alternative approach will be available for statewide use on a voluntary basis starting July 1, 2024.

A revolutionary tool, the Water Demand Calculator accurately predicts peak water demand in single-family homes and apartment buildings, reducing the carbon footprint of the structure and saving consumers on both their water and water heating-related energy utility bills for the entire life of the plumbing system. At the same time, proper sizing greatly minimizes the potential threat of bacterial growth within the system, which can lead to such serious health risks as Legionnaires’ disease.

In 2021, the Statewide Utility Codes and Standards Team submitted a Title 24 Petition to adopt Appendix M into the CPC during the 2022 Intervening Code Adoption Cycle. The California Water Efficiency Partnership (CalWEP) — a state chapter of the Alliance for Water Efficiency (AWE) of which IAPMO is a member — and 15 member agencies supported the petition.

“IAPMO is grateful to our partners and volunteers who worked tirelessly to support the adoption of the Water Demand Calculator in California,” said Vice President of Technical Services and Research Christoph Lohr, P.E. “We also commend and thank the Statewide Utility Codes and Standards Team and California Building Standards Commission for their forward-looking vision in promoting a critical plumbing system innovation. With California adopting the Water Demand Calculator we are seeing a continued trend in more western states using right-sizing as another tool in their arsenal in promoting water conservation. We look forward to seeing that trend continue and appreciate the example and precedent that California and other states have set.”

The Water Demand Calculator addresses water quality issues attributed to lower flows in oversized premise plumbing while simultaneously using less water and energy and reducing construction costs, representing the most impactful innovation in pipe sizing in nearly a century. It is the result of a multiyear effort to develop a new statistically based pipe-sizing method stemming from a need to address profound water safety and wasted water and energy concerns resulting from oversized water supply pipes in homes and buildings.

California becomes the 10th state to adopt Appendix M into its codes and standards, joining Hawaii, Montana, Nevada, New Jersey, New Mexico, North Dakota, Oregon, Washington and Wisconsin, as well as such major cities as Houston, San Jose, Seattle and Vancouver, British Columbia.

IAPMO will host a California Water Demand Calculator Webinar at noon PDT July 1. To register, visit https://iapmo-org.zoom.us/webinar/register/WN_NjEwxyptT0KN-sQPPR_TsA.

The Water Demand Calculator version 2.2 and user guide, as well as IAPMO Senior Director of Workforce Training and Development Randy Lorge’s presentation at the organization’s 2023 Education and Business Conference, a webinar he hosted Feb. 21, and other related videos, are available at https://www.iapmo.org/we-stand/water-demand-calculator/water-demand-calculator-california. For specific information about the Water Demand Calculator or to provide feedback, please contact Lohr at christoph.lohr@iapmo.org.

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