

## Model Aquatic Health Code

The Model Aquatic Health Code (MAHC) is standards and best practices for the Aquatics Industry. The Model Aquatic Health Code covers design, construction, operation, and management of pools, hot tubes, and water play features.

The MAHC is not health department code- it is a set of standards that is recommended by the CDC to ensure safe aquatic facilities. <https://www.cdc.gov/mahc/index.html>

VivoAquatics uses the MAHC for industry standards and is a certified MAHC company.

The Model Aquatic Health Code has 100's of standards- here are a few that you need to be aware of:

MAHC #	Title	Standard
4.1.1.3	Approved Plans	No person shall begin to construct a new Aquatic Facility or shall substantially alter an existing aquatic facility without first having the construction plans detailing the construction or alteration submitted to and approved by AHJ (Authority having jurisdiction)
4.3.1	Accredited Standard	All equipment used or proposed for use in Aquatic Facilities governed under this code shall be: 1) of a proven design and construction 2) certified, listed, and labeled to a specific standard for the specific equipment use by ANSI-accredited certification organization.
4.5.1.2	Water Clarity	The water in an aquatic venue shall be sufficiently clear such that the bottom is visible while the water is static
4.5.19.1.1	Markings	Pool water depths shall be clearly and permanently marked at the following locations: 1) Minimum depth 2) Maximum depth 3) on both sides and at each end of the pool 4) at the break in the floor slope between the shallow and deep portions of the pool.
4.5.19.1.6	Twenty- Five Feet Intervals	Depth Markers shall be installed at not more than 25 foot intervals around the pool perimeter edge
4.5.19.4.1	Depths	For pool water depths 5 feet or shallower, all deck markers required by MAHC 5.5.19 shall be provided with "NO DIVING" warning signs along with the universal international symbol for "no diving."
4.6.4.1	High Temperature	Pool heating equipment, measures shall be taken to prevent bather exposure to water temperatures in excess of 104.
4.7.1.10	Flow Rates/Turnover Time	Activity pools- 2 hours or less; Diving pools- 8 hours or less; interactive water play- 0/5 hours or less; Lazy river- 2 hours or less; plunge pools- 1 hour or less; wading pools- 1 hour or less; all other pools- 6 hours or less.
4.7.3.1.1.1	Controller used	A chemical controller is required and used for monitoring and control disinfection and pH feed equipment.
4.7.3.2.1.2	Feeders & Devices	The aquatic facility shall be equipped with chemical feed equipment such as flow through chemical feeders, electrolytic chemical generators, mechanical chemical feeders, chemical feed pumps, and automated controllers.
4.8.6.1.1	Enclosed	All aquatic facilities, chemical storage spaces, and aquatic venue mechanical spaces shall be enclosed to prevent unauthorized entry.
4.8.6.3.5	Swing Outward	Exit gates shall swing away from the aquatic venue enclosure except where emergency code requires.

4.9.1.5.1.1	Piping Identified	All piping in the equipment room shall be permanently identified by its use and the aquatic venue and aquatic feature it serves.
4.9.2.1.3	Dedicated Space	At least one space dedicated to chemical storage space shall be provided to all safe storage of the chemicals present.
4.9.2.1.4	Eyewash	In all chemical storage spaces in which pool chemicals will be stored, an emergency eyewash station shall be provided.
4.9.2.4.1	Signage	All doors opening into chemical storage spaces shall be equipped with permanent signage: 1) warning against unauthorized entry 2) Specifying the expected hazard 3) Specifying the location of associated SDS forms 4) Product chemical hazard NFPA chart.
5.4.2.1.1	Preventive Maintenance Plan	A written comprehensive preventive maintenance plan for each aquatic venue shall be available.
5.7.2.1.2	Cleaned	Filters shall be backwashed, cleaned, and maintained according to the manufacturer's instructions.
5.7.2.2.4	Backwashing Frequency	Backwashing of each filter shall be performed at a differential pressure increase over the initial clean filter pressure, as recommended by the filter manufacturer, unless the system can no longer achieve the design flow.
5.7.2.4.4	Spare Cartridge	One full set of spare cartridges shall be maintained on site in a clean and dry condition.
5.7.3.1.1.2.1	Minimum Chlorine Concentration	Not using CYA- 1.0ppm; Using CYA- 2.0PPM; Spas- 3.0ppm
5.7.3.1.1.5	Maximum Chlorine Concentration	Shall not exceed 10.0ppm
5.7.3.4.1	pH levels	The pH of the water shall be maintained at 7.2-7.8ppm
5.7.3.7.3	Monitor	Automated controllers shall be monitored in person by visual observation at the start of the operating day to ensure proper functioning.
5.7.3.7.6	Calibration	Automated controllers shall be calibrated per manufacturer directions
5.7.4.4.1	Total Alkalinity Levels	Total Alkalinity shall be maintained in the range of 60-180ppm
5.7.5.2-3	Water Testing	For all aquatic venues Disinfection and pH using manual feed systems- every 2 hours Automatic Feed Systems- every 4 hours
5.7.5.5-8	Water Testing	Total Alkalinity- Weekly; Calcium Hardness- monthly; CYA- Monthly; Saturation Index- Monthly
5.8.5.4	Safety Equipment	Equipment needed without lifeguards: Throwing device with at least a quarter-inch thick rope whose length is 50 feet, Reaching pole 12 foot-16 foot in length, CPR posters, signage that a qualified lifeguard is not on duty.
6.1.1.1	Qualifications	A qualified operator of an aquatic facility shall have completed an operator training course.

For more codes: Check out the whole Model Aquatic Health Code: <https://www.cdc.gov/mahc/pdf/2018-MAHC-Code-Clean-508.pdf>