

Model Aquatic Health Code

Facility Maintenance and Operation Code Section Modified after the First 60-day Review that Closed on 12/29/2011

Informational Copy: NOT Currently Open for Public Comment

This version of the MAHC Facility Maintenance and Operation Module has been modified based on the first round of public comments received. It is being re-posted so users can view how it was modified but is not currently open to public comment. The complete draft MAHC, with all of the individual module review comments addressed will be posted again for a final review and comment before MAHC publication. This will enable reviewers to review modules in the context of other modules and sections that may not have been possible during the initial individual module review. The public comments and MAHC responses can be viewed on the web at <http://www.cdc.gov/healthywater/swimming/pools/mahc/structure-content/index.html>

The MAHC committees appreciate your patience with the review process and commitment to this endeavor as we all seek to produce the best aquatic health code possible.

This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy.

MAHC Facility Maintenance and Operation Module Abstract

Aquatic facility operation and maintenance is a critical component of maintaining health and safety. Past outbreaks have commonly found operation and maintenance lapses to be critical contributors to disease outbreaks and injuries. The Facility Maintenance and Operation Module lays the foundation for operational improvement by containing requirements for:

- 1) Closure and reopening guidance for long and short term closures.
- 2) Comprehensive plans for preventive maintenance, equipment inventorying, and development of an operations manual to be maintained at the facility.
- 3) Reducing and mitigating excessive glare and reflection on the pool surface through design and adjustments to windows and lighting equipment.
- 4) Comprehensive daily records of pool operation & maintenance and of operational items inspected daily.

The following chart shows the context of Facility Maintenance and Operation module in the overall Model Aquatic Health Code's Strawman.

MAHC Table of Contents

- 1.0 Preface
- 2.0 User Guide
- 3.0 Definitions
- 4.0 Design Standards and Construction
- 5.0 Facility Maintenance and Operation
- 6.0 Policies and Management
- 7.0 Index
- 8.0 Annexes
- 9.0 Summary of Changes

4.0 Design Standards and Construction

5.0 Facility Maintenance and Operation

- 5.1 Plan Submittal [N/A]
- 5.2 Materials [N/A]
- 5.3 Equipment Standards [N/A]
- 5.4 Recreational Water Venue Operations and Facility Maintenance**
 - 5.4.1 Closure and Reopening**
 - 5.4.1.1 Long and Short Closures**

"This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy."

- 5.4.1.2 **Reopening**
- 5.4.2 **Preventive Maintenance Plan**
 - 5.4.2.1 **Written Plan**
 - 5.4.2.2 **Facility Documentation**
- 5.4.3 **General Operations**
- 5.5 **Pool Structure (Shell)**
- 5.6 **Indoor/Outdoor Environment**
 - 5.6.1 **Lighting**
 - 5.6.1.1 **Lighting Maintained**
 - 5.6.1.2 **Glare**
 - 5.6.2 **Ventilation**
 - 5.6.3 **Electrical**
 - 5.6.3.1 **Electrical Repairs**
 - 5.6.3.2 **Electrical Receptacles**
 - 5.6.3.3 **Ground Fault Circuit Interrupter**
 - 5.6.3.4 **Grounding**
 - 5.6.3.5 **Bonding**
 - 5.6.3.6 **Extension Cords**
 - 5.6.3.7 **Portable Electrical Devices**
 - 5.6.3.8 **Communication Devices and Dispatch Systems**
 - 5.6.4 **Heating**
 - 5.6.4.1 **Facility Heating**
 - 5.6.4.2 **Water Heating**
 - 5.6.5 **First Aid Room**
 - 5.6.6 **Emergency Exit**
 - 5.6.7 **Plumbing**
 - 5.6.7.1 **Water Supply**
 - 5.6.7.2 **Drinking Fountains**
 - 5.6.7.3 **Waste Water**
 - 5.6.8 **Solid Waste**
 - 5.6.8.1 **Storage**
 - 5.6.8.2 **Disposal**
 - 5.6.9 **Decks**
 - 5.6.9.1 **Food Preparation and Consumption**
 - 5.6.9.2 **Glass**
 - 5.6.9.3 **Deck Maintenance**
 - 5.6.10 **Aquatic Facility Maintenance**
 - 5.6.10.1 **Diving Boards and Platforms**
 - 5.6.10.2 **Steps and Guardrails**
 - 5.6.10.3 **Starting Blocks**
 - 5.6.10.4 **Deck Slides**
 - 5.6.10.5 **Fencing and Barriers**
 - 5.6.10.6 **Aquatic Venue Cleaning**
- 5.7 **Recirculation and Water Treatment**
- 5.8 **Decks and Equipment**
- 5.9 **Filter/Equipment Room**

"This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy."

- 5.10 Hygiene Facilities (Bathhouse)
- 5.11 Water Supply/Wastewater Disposal
- 5.12 **Specific Venues - Special Requirements**
 - 5.12.1 **Water Slides**
 - 5.12.2 **Wave Pools**
 - 5.12.3 **Moveable Floors**
 - 5.12.4 **Bulkheads**
 - 5.12.5 **Spraygrounds**
 - 5.12.6 **Wading Pools**
- 6.0 Policies and Management
 - 6.1 Operator Training
 - 6.2 Lifeguard Training
 - 6.3 Facility Staffing
 - 6.4 **Facility Management**
 - 6.4.1 **Operations**
 - 6.4.1.1 **Operations Manual**
 - 6.4.1.2 System Check Program
 - 6.4.1.3 **Recordkeeping**
 - 6.4.2 Patron Related Management Aspects
 - 6.5 Fecal/Blood/Vomit Contamination Response
 - 6.6 Inspections

DRAFT

Acronyms in this Module

AHJ	authority having jurisdiction
ASTM	American Society for Testing and Materials
GFCI	ground-fault circuit interrupter
MAHC	Model Aquatic Health Code
NEC	National Electrical Code

Glossary Terms in this Module

“Aquatic Facility” means a physical place that contains one or more aquatic venues and support infrastructure under a single management structure

“Aquatic Venue” means an artificially constructed or modified natural structure where the general public is exposed to water intended for recreational or therapeutic purpose. Such structures do not necessarily contain standing water, so water exposure may occur via contact, ingestion, or aerosolization. Examples include swimming pools, wave pool, river, spas (including spa pools and hot tubs), therapeutic pools, spray pads/interactive water venues.

“Authority Having Jurisdiction” (AHJ) means an agency, organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

“Bather” means a person at an aquatic venue who has contact with water either through spray or partial or total immersion. The term Bather as defined, also includes staff members, and refers to those users who can be exposed to contaminated water as well as potentially contaminate the water.

“Chlorine” means an element that at room temperature and pressure is a heavy green gas with characteristic odor and is extremely toxic. It can be compressed in liquid form and stored in heavy steel tanks, but most aquatic venues now add other chlorine compounds (e.g. hypochlorite) that similar to the liquid form release hypochlorous acid when dissolved in water. Chlorinating agents are the most commonly used disinfectants for aquatic venues.

“Code” means a systematic statement of a body of law, especially one given statutory force.

“Contamination Response Plan” means a plan for handling contamination from formed-stool, diarrheal-stool, vomit, and contamination involving blood.

“This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy.”

“Contaminant” means a substance that soils, stains, corrupts, or infects another substance by contact or association.

“Deck” means surface areas serving the pool, beyond perimeter deck, which is expected to be regularly trafficked and made wet by pool users.

- **“Perimeter Deck”** means the hardscape surface area immediately adjacent to and within 4 feet (1.22 m) of the edge of the swimming pool.
- **“Pool Deck”** means surface areas serving the aquatic venue, beyond perimeter deck, which is expected to be regularly trafficked and made wet by bathers.

“Diaper-changing station” means a hygiene station that includes a safe and approved diaper-changing unit, adjacent hand-washing sink, soap and dispenser, hand drying device or paper towels and dispenser, and trash receptacle, and disinfectant products to clean the changing surface after use.

“Diaper-changing unit” means a safe and approved diaper-changing surface that is part of a diaper-changing station.

“Disinfection” means a treatment that kills microorganisms (e.g., bacteria, viruses, and parasites); in water treatment, a chemical (commonly chlorine, chloramine, or ozone) or physical process (e.g., ultraviolet radiation) can be used.

“Generally Accepted Practice” means a technique or methodology that is widely used but may or may not be the “best practice.”

“Ground-Fault Circuit Interrupter” means a device for protection of personnel that de-energizes an electrical circuit or portion thereof in the event of excessive ground current.

“Occupant” means bathers plus anyone who is not in the water.

“Perimeter Deck” means the hardscape surface area immediately adjacent to and within 4 feet (1.22 m) of the edge of the swimming pool.

“pH” means a symbol that expresses the negative log of the concentration of hydrogen ions. When water ionizes, it produces hydrogen ions (H⁺) and hydroxide ions (OH⁻). If there is an excess of hydrogen ions the water is acidic. If there is an excess of hydroxide ions the water is basic. pH ranges from 0 to 14. Pure water has a pH of 7.0. If pH is higher than 7.0, the water is said to be basic, or alkaline. If the water’s pH is lower than 7.0, the water is acidic. As pH is raised, more ionization occurs and chlorine disinfectants decrease in effectiveness.

“Pool” means a subset of aquatic venue designed to have impounded/standing water for total or partial bather immersion.

“This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy.”

“Pool Deck” means surface areas serving the aquatic venue, beyond perimeter deck, which is expected to be regularly trafficked and made wet by bathers.

“Qualified Person” means a person who has the proper and/or necessary skills, training, or credentials to carry out the tasks associated with a particular function.

“Sprayground” (also referred to commonly as spray pads or splash pads) means the specific areas consisting of the play surface, spray features, and drains, upon which the patrons stand and are sprayed with water.

“Storage” means the condition of remaining in one space for one hour or more. Materials in a closed pipe or tube awaiting transfer to another location shall not be considered to be stored.

***Preface:** This document does not address all health and safety concerns, if any, associated with its use. It is the responsibility of the user of this document to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to each use.*

DRAFT

Model Aquatic Health Code
5.0 Maintenance and Operation
Facility Maintenance and Operation Module Code

Keyword	Section	Code	Grade
	5.0	Facility Maintenance and Operation	
	5.4	Recreational Water Venue Operations and Facility Maintenance	
<i>Closure and Reopening</i>	5.4.1	Closure and Reopening	A
<i>Short Closures</i>	5.4.1.1	Short Closures	
<i>Short Closures</i>	5.4.1.1.1	The water in an AQUATIC VENUE closed for seven days or less shall be recirculated and treated to assure water quality parameters meet the criteria of this CODE.	
<i>Safe Condition</i>	5.4.1.1.2	The AQUATIC VENUE closed for less than seven days shall be maintained free of hazards to workers and secured during off hours.	
<i>Long Closures</i>	5.4.1.2	Long Closures	
<i>Drain / Cover</i>	5.4.1.2.1	The water in an AQUATIC VENUE with uncontrolled access and closed for more than seven days shall be drained or an approved safety cover that meets ASTM F1346-91 shall be installed.	
<i>Long Closures</i>	5.4.1.2.2	The water in an AQUATIC VENUE with uncontrolled access closed for more than seven days that is not drained shall be recirculated and treated to assure water quality parameters meet the criteria of this CODE.	
<i>Reopening</i>	5.4.1.2.3	An owner or operator of an AQUATIC VENUE closed for more than seven days shall verify that the facility meets all criteria of this CODE before reopening the AQUATIC VENUE.	
<i>Preventive Maintenance Plan</i>	5.4.2	Preventive Maintenance Plan	A
<i>Written Plan</i>	5.4.2.1	Written Plan	

“This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy.”

Keyword	Section	Code	Grade
Maintenance Plan Available	5.4.2.1.1	A written comprehensive preventive maintenance plan shall be available at the AQUATIC FACILITY for each AQUATIC VENUE.	
Contents	5.4.2.1.2	The AQUATIC FACILITY preventive maintenance plan shall include details and frequency of owner's or operator's planned routine facility inspection, maintenance or servicing, and recirculation and water treatment component replacement.	
Facility Documentation	5.4.2.2	Facility Documentation	
Original Plans and Specifications Available	5.4.2.2.1	A copy of the approved plans and specifications shall be available at the AQUATIC VENUE for each AQUATIC FACILITY constructed after the adoption of this CODE.	
Equipment Inventory	5.4.2.2.2	A comprehensive inventory of all mechanical equipment associated with each AQUATIC VENUE shall be available at the AQUATIC FACILITY.	
Inventory Details	5.4.2.2.3	This inventory shall include: <ol style="list-style-type: none"> 1) Equipment name and model number, 2) Manufacturer and contact information, 3) Local vendor/supplier & technical representative, if applicable, and 4) Replacement or service dates and details. 	
Equipment Manuals	5.4.2.2.4	Operation manuals for all mechanical equipment associated with each AQUATIC VENUE shall be available at the AQUATIC FACILITY.	
No Manual	5.4.2.2.4.1	If no manufacturer's operation manual is available, then the aquatic facility should create a written document that outlines standard operating procedures for maintaining and operating the piece of equipment.	
General Operations	5.4.3	General Operations	
	5.5	Shell	
	5.6	Indoor/Outdoor Environment	

"This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy."

Keyword	Section	Code	Grade
<i>Lighting</i>	5.6.1	Lighting	A
<i>Lighting Maintained</i>	5.6.1.1	Lighting Maintained	
<i>Light Levels</i>	5.6.1.1.1	Lighting systems, including emergency lighting, shall be maintained in all OCCUPANT areas and maintenance areas, to ensure the required lighting levels are met as specified in MAHC 4.6.1.	
<i>Main Drain Visible</i>	5.6.1.1.2	The AQUATIC FACILITY shall not be open if light levels are such that the main drain is not visible from poolside.	
<i>Underwater Lighting</i>	5.6.1.1.3	Underwater lights shall be operational and maintained as designed.	
<i>Cracked Lenses</i>	5.6.1.1.4	Cracked lenses that are physically intact on lights shall be replaced before the POOL reopens to BATHERS.	
<i>Intact lenses</i>	5.6.1.1.5	The aquatic venue shall be immediately closed if cracked lenses are not intact and the lenses shall be replaced before re-opening.	
<i>Glare</i>	5.6.1.2	Glare	
<i>Assessments</i>	5.6.1.2.1	The operator shall assess glare conditions throughout operating hours to insure the bottom and objects in the pool are clearly visible.	
<i>Reduction</i>	5.6.1.2.2	Windows and lighting equipment shall be adjusted to minimize glare and excessive reflection on the POOL surface.	
<i>Ventilation</i>	5.6.2	Ventilation	
<i>Electrical</i>	5.6.3	Electrical	A
<i>Electrical Repairs</i>	5.6.3.1	Electrical Repairs	
<i>Local Codes</i>	5.6.3.1.1	Repairs or alterations to electrical equipment and associated equipment shall preserve compliance with the NEC, or with applicable local CODES prevailing at the time of construction, or with subsequent versions of those CODES.	

“This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy.”

Keyword	Section	Code	Grade
Immediately Repaired	5.6.3.1.2	All defects in the electrical system shall be immediately repaired.	
Wiring	5.6.3.1.3	Electrical wiring, whether permanent or temporary, shall comply with the National Electrical Code (NEC) Article 225 and Article 680 and other applicable sections, or with applicable local CODE.	
Electrical Receptacles	5.6.3.2	Electrical Receptacles	
New Receptacles	5.6.3.2.1	The installation of new electrical receptacles shall be subject to electrical-construction requirements of this CODE and applicable local CODE.	
Repairs	5.6.3.2.2	Repairs or maintenance to existing receptacles shall maintain compliance with the NEC, especially NEC Article 680.22, and with CFR 1910.304(b) (3) (ii).	
Replacement	5.6.3.2.3	Replacement receptacles shall be of the same type as the previous ones, e.g. grounding-type receptacles shall be replaced only by grounding-type receptacles, with all grounding conductors connected and proper wiring polarity preserved.	
Substitutions	5.6.3.2.4	Where the original-type of receptacle is no longer available, a replacement and installation shall be in accordance with applicable local CODE.	
Ground-Fault Circuit Interrupter	5.6.3.3	Ground-Fault Circuit Interrupter	
Manufacturer's Recommendations	5.6.3.3.1	Where receptacles are required to be protected by GFCI devices, the GFCI devices shall be tested following the manufacturer's recommendations.	
Permanent Facilities	5.6.3.3.2	For permanent aquatic facilities, required GFCI devices shall be tested monthly as part of scheduled maintenance.	
Testing	5.6.3.3.3	Required GFCI devices shall be tested as part of scheduled maintenance on the first day of operation, and monthly thereafter, until the body of water is drained and the equipment is prepared for STORAGE.	
Grounding	5.6.3.4	Grounding	

"This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy."

Keyword	Section	Code	Grade
Maintenance and Repair	5.6.3.4.1	Maintenance or repair of electrical circuits or devices shall preserve grounding compliance with the NEC, especially Article 250 Grounding and Bonding, Article 680 Swimming Pools, Fountains, and Similar Installations, and Chapter 3, or with applicable local CODES.	
Grounding Conductors	5.6.3.4.2	Grounding conductors that have been disconnected, except for minor repairs, shall be re-inspected by the local building CODE authority prior to AQUATIC FACILITY being used by BATHERS.	
Damaged Conductors	5.6.3.4.3	Damaged grounding conductors and grounding electrodes shall be repaired immediately.	
Damaged Conductor Repair	5.6.3.4.4	Damaged grounding conductors or grounding electrodes, associated with recirculation or DISINFECTION equipment or with underwater lighting systems, shall be repaired by a QUALIFIED PERSON.	
Public Access	5.6.3.4.5	The public shall not have access to the body of water until such grounding conductors or grounding electrodes are repaired by a QUALIFIED PERSON.	
Venue Closure	5.6.3.4.6	The AQUATIC VENUE with damaged grounding conductors or grounding electrodes, that are associated with recirculation or DISINFECTION equipment or with underwater lighting systems, shall be closed until repairs are completed and inspected by the local building CODE authority.	
Bonding	5.6.3.5	Bonding	
Local Codes	5.6.3.5.1	Maintenance or repair of all metallic equipment, electrical circuits or devices, or reinforced concrete structures shall preserve bonding compliance with the NEC, or with applicable local CODES.	
Bonding Conductors	5.6.3.5.2	Bonding conductors shall not be disconnected except where they will be immediately reconnected.	
Disconnected Conductors	5.6.3.5.3	The AQUATIC FACILITY shall not be used by BATHERS while bonding conductors are disconnected.	

“This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy.”

Keyword	Section	Code	Grade
Removable Covers	5.6.3.5.4	Removable covers protecting bonding conductors, e.g. at ladders, shall be kept in place except during bonding conductor inspections, repair or replacement.	
Scheduled Maintenance	5.6.3.5.5	Bonding conductors, where accessible, shall be inspected semi-annually as part of scheduled maintenance.	
Corrosion	5.6.3.5.6	Bonding conductors and any associated clamps shall not be extensively corroded.	
Continuity	5.6.3.5.7	Continuity of the bonding system associated with recirculation or DISINFECTION equipment or with underwater lighting systems shall be inspected by the local building CODE authority following installation and any major construction around the facility.	
Extension Cords	5.6.3.6	Extension Cords	
No Substitute	5.6.3.6.1	Temporary extension cords and power connectors shall not be used as a substitute for permanent wiring	
Minimum Distance from Water	5.6.3.6.2	All parts of an extension cord shall be restrained at a minimum of 6 feet (1.8m) away when measured along the shortest possible path from a body of water during times when the AQUATIC FACILITY is open.	
Exception	5.6.3.6.3	An extension cord may be used within 6 feet (1.8m) of the nearest edge of a body of water if a permanent wall exists between the body of water and the extension cord.	
GFCI Protection	5.6.3.6.4	The circuit supplying an extension cord shall be protected by a GFCI device when the extension cord is to be used within 6 feet (1.8m) of a body of water.	
Local Code	5.6.3.6.5	<i>An extension cord incorporating a GFCI device may be used if that is acceptable under applicable local CODE.</i>	
Compliance	5.6.3.6.6	The use of extension cords shall comply with CFR 1910.304	
Portable Devices	5.6.3.7	Portable Electric Devices	

"This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy."

Keyword	Section	Code	Grade
Near water	5.6.3.7.1	Portable line-powered electrical devices, such as radios or drills, shall not be used within 6 feet (1.8m) horizontally of the nearest inner edge of a body of water, unless connected to a GFCI-protected circuit.	
Communication Devices	5.6.3.8	Communication Devices and Dispatch Systems	
Compliance	5.6.3.8.1	The maintenance and repair of Communication Devices and Dispatch Systems shall preserve compliance with the NEC.	
Facility Heating	5.6.4	Heating	A
Facility Heating	5.6.4.1	Facility Heating	
Maintenance and Repair	5.6.4.1.1	Maintenance, repairs, and alterations to facility-heating equipment shall preserve compliance with applicable CODES.	
Defects	5.6.4.1.2	Defects in the facility-heating equipment shall be immediately repaired.	
Temperature	5.6.4.1.3	Air temperature of a natatorium shall be controlled to the original specifications or in the absence of such, a minimum of 2° above the POOL water temperature to prevent condensation from forming.	
Combustion Device	5.6.4.1.7	Items shall not be stored within the combustion device manufacturer's specified minimum clearance distance.	
Pool Water Heating	5.6.4.2	Water Heating	
Maintenance and Repair	5.6.4.2.1	Maintenance, repairs, and alterations to POOL-water heating equipment shall preserve compliance with applicable CODES.	
First Aid Room	5.6.5	First Aid Room	
Emergency Exit	5.6.6	Emergency Exit	
Plumbing	5.6.7	Plumbing	
Water Supply	5.6.7.1	Water Supply	
Water Pressure	5.6.7.1.1	All plumbing shall be maintained in good repair with no	

"This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy."

Keyword	Section	Code	Grade
		leaks or discharge.	
Availability	5.6.7.1.2	Potable water shall be available at all times to OCCUPANTS.	
Drinking Fountains	5.6.7.2	Drinking Fountains	B
Good Repair	5.6.7.2.1	Drinking fountains shall be in good repair.	
Clean	5.6.7.2.2	Drinking fountains shall be clean.	
Catch Basin	5.6.7.2.3	Drinking fountains shall be adjusted so that waste water does not go outside the catch basin.	
Backflow	5.6.7.2.4	Drinking fountains shall be adjusted so that waste water does not fall back into the drinking water stream.	
Water Pressure	5.6.7.2.5	Drinking fountains shall have sufficient water pressure to allow correct adjustment.	
Waste Water	5.6.7.3	Waste Water	B
Waste Water Disposal	5.6.7.3.1	AQUATIC VENUE waste water, including backwash water and cartridge cleaning water, shall be disposed of in accordance with local CODES.	
Drainage	5.6.7.3.2	Waste water and backwash water shall not be returned to an AQUATIC VENUE or the AQUATIC FACILITY'S water treatment system.	
Filters	5.6.7.3.3	Filters shall be backwashed, cleaned and maintained according to the manufacturer's instructions.	
Drain Lines	5.6.7.3.4	Filter backwash lines, DECK drains, and other drain lines connected to the AQUATIC FACILITY or the AQUATIC FACILITY recirculation system shall be discharged through an approved air gap.	
No Standing Water	5.6.7.3.5	No standing water shall result from any discharge, nor shall they create a nuisance, offensive odors, stagnant wet area, or create an environment for the breeding of insects.	
Solid Waste	5.6.8	Solid Waste	B

"This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy."

Keyword	Section	Code	Grade
<i>Storage Receptacles</i>	5.6.8.1	<i>Storage Receptacles</i>	
<i>Good Repair and Clean</i>	5.6.8.1.1	Outside waste and recycling containers shall be maintained in good repair and clean condition.	
<i>Storage</i>	5.6.8.1.2	Outside waste and recycling containers shall be stored as specified in this CODE.	
<i>Areas</i>	5.6.8.1.3	Outside waste and recycling STORAGE areas shall be maintained in good repair and clean condition.	
<i>Disposal</i>	5.6.8.2	<i>Disposal</i>	
<i>Frequency</i>	5.6.8.2.1	Solid waste and recycled materials shall be removed at a frequency to prevent attracting vectors or causing odor.	
<i>Local Code Compliance</i>	5.6.8.2.2	Solid waste and recycled materials shall be disposed of in compliance with local CODES.	
<i>Decks</i>	5.6.9	<i>Decks</i>	
<i>Food</i>	5.6.9.1	<i>Food Preparation and Consumption</i>	
<i>Preparation</i>	5.6.9.1.1	Food preparation and cooking shall only be permitted in designated areas as specified in this CODE.	
<i>Eating</i>	5.6.9.1.2	OCCUPANTS shall not eat while in or partially in the AQUATIC FACILITY'S body of water.	
<i>Drinking</i>	5.6.9.1.3	OCCUPANTS shall not drink while in or partially in the AQUATIC FACILITY'S body of water except in designated areas.	
<i>Glass</i>	5.6.9.2	<i>Glass</i>	
<i>Containers</i>	5.6.9.2.1	Glass food and beverage containers shall be prohibited in OCCUPANT areas of aquatic facilities.	
<i>Tables</i>	5.6.9.2.2	Glass tables shall not be used in AQUATIC FACILITY.	
<i>Deck Maintenance</i>	5.6.9.3	<i>Deck Maintenance</i>	
<i>Free from Obstructions</i>	5.6.9.3.1	The PERIMETER DECK shall be maintained free from	B

"This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy."

Keyword	Section	Code	Grade
		obstructions, including OCCUPANT seating, to preserve space required for lifesaving and rescue.	
<i>Diaper Changing</i>	5.6.9.3.2	Diaper changing shall only be done at a designated DIAPER-CHANGING STATION.	
<i>Prohibited</i>	5.6.9.3.2.1	Diaper changing shall be prohibited on the POOL DECK.	
<i>Vermin</i>	5.6.9.3.3	DECK areas shall be cleaned daily and kept free of debris, vermin, and vermin harborage.	
<i>Original Design</i>	5.6.9.3.4	DECK surfaces shall be maintained to their original design slope and integrity.	
<i>Standing Water</i>	5.6.9.3.5	DECK areas shall be free from standing water.	
<i>Drains</i>	5.6.9.3.6	DECK drains shall be cleaned and maintained to prevent blockage and pooling of stagnant water.	
<i>Wet Areas</i>	5.6.9.3.7	Wet areas shall not have absorbent materials that cannot be removed for cleaning and DISINFECTION daily.	
<i>Circulation Path</i>	5.6.9.3.8	Fixed equipment, loose equipment, and DECK furniture shall not intrude upon the AQUATIC VENUE circulation path.	
<i>Aquatic Facility Maintenance</i>	5.6.10	Aquatic Facility Maintenance	
<i>Diving Boards and Platforms</i>	5.6.10.1	Diving Boards and Platforms	B
<i>Slip-Resistant Finish</i>	5.6.10.1.1	The finish and profile of surfaces of diving boards and platforms shall be maintained to prevent slips and falls.	
<i>Loose Bolts and Cracked Boards</i>	5.6.10.1.2	Diving boards shall be inspected daily for cracks and loose bolts with cracked boards removed and loose bolts tightened immediately.	
<i>Steps / Guardrails</i>	5.6.10.2	Steps and Guardrails	
<i>Immovable</i>	5.6.10.2.1	Steps and guardrails shall be secured so as not to move during use.	B
<i>Maintenance</i>	5.6.10.2.2	The profile and surface of steps shall be maintained to	

"This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy."

Keyword	Section	Code	Grade
		prevent slips and falls.	
<i>Starting Blocks</i>	5.6.10.3	<i>Starting Platforms</i>	
<i>Good Repair</i>	5.6.10.3.1	The profile and surface of starting platform steps shall be in good repair to prevent slips, falls, and pinch hazards.	B
<i>Restrictions</i>	5.6.10.3.2	Starting platforms shall only be used for swimmer training or competitive swimming activities.	
<i>Covers or Cones</i>	5.6.10.3.2.1	Covers or cones shall be used to deter access and designate when use of permanent starting platforms is prohibited.	
<i>Removed Blocks</i>	5.6.10.3.2.2	Starting platforms designed to be removable shall be removed at all times when use is prohibited.	
<i>Deck Slides</i>	5.6.10.4	<i>Deck Slides</i>	
<i>Maintenance</i>	5.6.10.4.1	Slides shall be maintained and operated to manufacturer's/designer's specifications.	
<i>Slime and Biofilm</i>	5.6.10.4.2	Slime and biofilm layers shall be removed on all accessible slide surfaces.	B
<i>Flow Rates</i>	5.6.10.4.3	Slide water flow rates shall be checked before venue opening to be within designer or manufacturer's specifications.	
<i>Fencing</i>	5.6.10.5	<i>Fencing and Barriers</i>	
<i>Maintenance</i>	5.6.10.5.1	Required fencing, barriers, and gates shall be maintained at all times.	A
<i>Tested Daily</i>	5.6.10.5.2	Gates, locks and alarms, if required, shall be tested daily prior to opening.	
<i>Aquatic Facility Cleaning</i>	5.6.10.6	<i>Aquatic Venue Cleaning</i>	
<i>Cleaning</i>	5.6.10.6.1	The AQUATIC FACILITY shall be kept clean of debris and organic materials from the water and surfaces.	B
<i>Vacuuming</i>	5.6.10.6.2	Vacuuming shall only be done when the AQUATIC VENUE is closed.	

"This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy."

Keyword	Section	Code	Grade
Port Openings	5.6.10.6.3	Vacuum port openings shall be covered with an approved device cover when not in use.	
Damaged	5.6.10.6.3.1	Pools with missing or damaged vacuum port openings shall be closed and repairs made before re-opening.	
Slime and Biofilm	5.6.10.6.4	All accessible surfaces shall be scrubbed and cleaned as necessary to minimize the formation of slime and biofilm layers.	
	5.7	Recirculation and Water Treatment	
	5.8	Decks and Equipment	
	5.9	Filter and Equipment Room	
	5.10	Hygiene Facilities	
	5.11	Water Supply/ Wastewater Disposal	
Specific Venues	5.12	Specific Venues, Special Requirements	
Slides	5.12.1	Water Slides	
Signage	5.12.1.1	Warning signs shall be provided in accordance with manufacturer's recommendations.	
Wave Pools	5.12.2	Wave Pools	
Life Jackets	5.12.2.1	Life jackets shall be provided free for use by BATHERS who request them.	
Moveable Floors	5.12.3	Moveable Floors	
Bulkheads	5.12.4	Bulkheads	
Open Area	5.12.4.1	If a bulkhead is operated with an open area underneath, no one shall be allowed to swim beneath the bulkhead.	
Spraygrounds	5.12.5	Spraygrounds	
Cracks	5.12.5.1	Cracks in the SPRAYGROUND shall be repaired when they may be a potential for leakage, present a tripping hazard, a potential cause of lacerations, or impact the ability to properly clean and maintain the SPRAYGROUND area.	

"This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy."

Keyword	Section	Code	Grade
Cleaning	5.12.5.2	When cleaning the SPRAYGROUND CONTAMINANTS shall be removed or washed to the sanitary sewer. If no sanitary sewer drain is available then debris shall be washed/rinsed to the nearest deck drain or removed in a manner that prevents CONTAMINANTS from reentering the SPRAY GROUND.	
Wading Pools	5.12.6	Wading Pools	

DRAFT

Model Aquatic Health Code 6.0 Policies and Management Facility Operation and Maintenance Module

Keyword	Section	Code	Grade
<i>Policies and Management</i>	6.0	Policies and Management	
<i>Facility Management</i>	6.4	Facility Management	
<i>Operations</i>	6.4.1	Operations	
<i>Operations Manual</i>	6.4.1.1	<i>Operations Manual</i>	
<i>Develop</i>	6.4.1.1.1	Each AQUATIC FACILITY shall develop an operations manual to keep at the facility in both printed and electronic formats.	B
<i>Include</i>	6.4.1.1.2	The manual shall at minimum include, but not be limited to the following items: <ol style="list-style-type: none"> 1) Basic information, 2) Chemical data, and 3) Operation and maintenance policies and instructions, including fecal/vomit and body fluid CONTAMINATION RESPONSE protocols, about each POOL, spa and spray ground feature at the facility. 	
<i>System Check Program</i>	6.4.1.2	<i>System Check Program</i>	
<i>Recordkeeping</i>	6.4.1.3	<i>Recordkeeping</i>	
<i>Schedule</i>	6.4.1.3.1	Operating records shall be logged on a minimum schedule as prescribed in the following MAHC sections and be: <ol style="list-style-type: none"> 1) Kept for a minimum of three (3) years, and 2) Be available upon request by the AHJ. 	

“This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy.”

- Additional* 6.4.1.3.2 Local CODES may require additional documentation and forms.
- Monitoring and Testing Records* 6.4.1.3.3 Monitoring and testing records shall include, but are not limited to the following:
- 1) pH, disinfectant residuals, and combined CHLORINE concentrations logged when measured,
 - 2) Operating pressures of water recirculation pumps and filters and the corresponding rate of flow meter readings, logged daily,
 - 3) Amounts of chemicals used,
 - 4) Kind and amount of chemicals received at facility,
 - 5) If used, cyanuric acid levels,
 - 6) Maintenance and malfunctioning of equipment, including dates and time of all equipment calibration,
 - 7) If heated, POOL water temperature when sanitizer & PH tests run,
 - 8) The time of filter backwash or cleaning-logged weekly,
 - 9) Calcium hardness,
 - 10) Total alkalinity,
 - 11) Saturation Index,
 - 12) Microbiological testing, if applicable, – dates/times samples were taken and results,
 - 13) Any equipment failure, power outage or error resulting in the interruption of the circulation, filtration or DISINFECTION systems for more than one hour, and
 - 14) The daily attendance at the facility is to be recorded. In POOLS where attendance is not ordinarily recorded, a guest sign in book can be used to track attendance.
- Daily Inspection Results* 6.4.1.3.4 Inspection results including, but not limited to the following, shall be recorded before the POOL opens:
- 1) Skimmer baskets, weirs, lids, flow adjusters, and suction outlet lines are free of any blockage,
 - 2) Inlet and return covers any other fittings are in place, secure, and unbroken,
 - 3) Safety warning signs are in place around the

“This information is distributed solely for the purpose of pre dissemination public viewing under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy.”

- POOL or spa, including emergency instructions and phone numbers, and
4) Entrapment prevention system is operational.

Requirements 6.4.1.3.5 Check all information required in MAHC section 6.4.1.3.4 of this regulation before filling a POOL or spa with water, after periodic maintenance, and after POOL or filter cleaning procedures.

Injury/Incident Report 6.4.1.3.6 An Injury/Incident report shall be made for each occurrence that:

- 1) Results in death,
- 2) Requires resuscitation,
- 3) Results in immediate transport to a hospital or emergency medical facility,
- 4) Results in an illness connected to the water/air quality at the facility, or
- 5) Is reported by an OCCUPANT to the facility after the incident.

Staff Certifications on File 6.4.1.3.8 Proof of staff certifications shall be kept on file at the POOL and available for inspection by appropriate agencies.