

ARTICLE II

Health Regulations for Swimming Pools, Spas, and Aquatic Facilities

1. Purpose:

- 1.1. It is hereby the intent of this chapter to regulate the operation of swimming pools, spas, and aquatic facilities as described herein as a business affecting the public health, safety, and general welfare.
- 1.2. All existing aquatic venues which are not in compliance with these regulations at the effective date of these regulations shall be exempt from compliance with those construction provisions which do not pertain directly to health and safety of the patrons. All aquatic venues, when renovated, shall comply with all applicable provisions of these regulations pertinent to the renovation, unless a variance is granted by the Regulatory Authority (RA). Any variance shall be granted in writing for a specific time period.

2. Definitions:

- 2.1. **AMERICAN DISABILITIES ACT (ADA):** The ADA is a civil rights law that prohibits discrimination against individuals with disabilities in all areas of public life, including jobs, schools, transportation, and all public and private places that are open to the general public. The purpose of the law is to make sure that people with disabilities have the same rights and opportunities as everyone else.
- 2.2. **ALTERATION/ RENOVATION:** The replacement of any portion of the recirculation system including pool/spa plumbing or perimeter overflow/skimmer equipment, pumps, filters, or disinfection units, or modification of the physical structure of the pool or spa, or any change that would not conform to the original specifications. This does not include repair of small sections of pipes due to leaking, or maintenance activities such as painting, plastering or acid washing.
- 2.3. **ASME/ANSI STANDARD:** A standard accredited by the American National Standards Institute and published by the American Society of Mechanical Engineers.
- 2.4. **ANTI-ENTRAPMENT DRAIN OR COVER:** A drain with a raised cover or design which allows horizontal flow of water into the drain rather than a vertical flow. The purpose of the design is to prevent the dangerous suction effect on a body, limb, hair entanglement or physical object which may come in contact with the drain.
- 2.5. **AQUATIC ESTABLISHMENT:** A physical place that contains one or more aquatic venues and support infrastructure.
- 2.6. **AQUATIC VENUE:** An artificially constructed structure 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 pools,

lazy rivers, surf pools, hot spas, float spas, therapy pools, water slides, spray pad and other interactive water venues.

- 2.7. **AUTOMATIC CONTROLLERS:** Integrated electrical/electronic equipment, connected to chemical feed equipment which continuously monitors and controls the pH level and chlorine/bromine residual of swimming pool water.
- 2.8. **AUTOMATIC PUMP SHUT-OFF SYSTEM:** A device designed to sense a drain blockage and shut off the pump system.
- 2.9. **BACKFLOW PREVENTER:** A device used to protect a potable water source from contamination or pollution.
- 2.10. **BACKWASH:** The process of thoroughly cleansing the filter media and/or elements by reversing the flow of water through the filter.
- 2.11. **BARRIER:** A wall, building, fence or any combination of these which control access to the pool area. This barrier shall be a minimum of four feet in height and of such construction as to provide reasonable protection for the safety of the public.
- 2.12. **BATHER/PATRON:** A person at an aquatic venue.
- 2.13. **BREAK POINT CHLORINATION:** The process of adding enough free chlorine to chemically oxidize and remove combined chlorine (chloramines) from pool or spa water, commonly referred to as shocking a pool. The additional free chlorine amount needed is typically calculated as follows: ten (10) times the combined chlorine (CC) amount minus the existing free chlorine (FC) residual. $(10 \times CC) - (FC) = \text{amount of additional chlorine needed to shock the pool.}$
- 2.14. **BOUYED SAFETY LINE:** A continuous line of rope attached to opposite sides of the swimming pool that divides shallow water (< 5ft.) from deep water (>5 ft.) and serves as a barrier to prevent non-swimmers from entering deep water.
- 2.15. **CARTRIDGE FILTER:** A filter that utilizes a replaceable and disposable porous element as the filter medium.
- 2.16. **CDC:** Centers for Disease Control and Prevention.
- 2.17. **CHLORINE DEMAND:** The materials in the water which use up chlorine such as bacteria, algae, debris, and swimmer wastes. The chlorine demand must be satisfied before chlorine residual is available to disinfect the pool water.
- 2.18. **CHLORINE RESIDUAL:** The chlorine level in the water after the chlorine demand has been satisfied. The free chlorine residual is the true measure of potential chlorine disinfection and is the active chlorine that kills bacteria and algae. The active form of chlorine in water is known as hypochlorous acid.
- 2.19. **COMBINED CHLORINE:** The amount of chlorine that has reacted with the organic substances in the water, forming compounds known as chloramines.

- 2.20. **CONTAMINANT:** A substance that soils, stains, corrupts, or infects another substance by contact or association.
- 2.21. **COPING:** The covering which joins the top of the pool wall with the decking and is considered part of the deck.
- 2.22. **CRITICAL ITEM:** Those aspects of operation or conditions of facilities or equipment, which if present, constitute the greatest hazards to health and safety, including imminent health hazards.
- 2.23. **CROSS CONNECTION:** Any physical arrangement connecting:
 - 2.23.1. A potable water system, directly or indirectly, with anything other than another potable water system or
 - 2.23.2. Pool water to any potable or non-potable water source capable of contaminating either the pool water, its components, or potable water source due to backflow.
- 2.24. **DEAD SPOTS:** Places in the aquatic venue where filtered/disinfected water does not reach because of poor circulation.
- 2.25. **FILL-AND-DRAW POOL OR SPA:** A pool or spa which is drained, cleaned and refilled after each individual use.
- 2.26. **FILTER:** A device that separates solid particles from pool water by recirculating through a porous substance (filter media or cartridge element).
- 2.27. **FILTER MEDIA:** The fine material which entraps suspended particles from the water. These include sand, diatomaceous DE and sand/DE substitutes.
- 2.28. **FILTER SEPTA:** That part of the filter element consisting of cloth, wire, screen or other porous material on which DE or similar media are deposited.
- 2.29. **FLOAT SPA/ISOLATION TANK:** A lightless, soundproof tank in which a bather floats on his or her back in a dense saline solution at skin temperature. Float spas may be used for meditation, relaxation, or alternative medicine.
- 2.30. **GENERAL PUBLIC:** All people without restriction.
- 2.31. **HOSE BIBB:** A water faucet with screw threads for attaching a hose.
- 2.32. **HYDROSTATIC RELIEF VALVE:** A device used to relieve ground water pressure imposed on the outer shell of the pool. Hydrostatic relief valves are usually installed in the main drain(s).
- 2.33. **IMMINENT HEALTH HAZARD:** Any condition, deficiency, or practice which, if not corrected, is very likely to result in illness, injury or loss of life to any person.

- 2.34. **INLET:** The fitting or opening through which filtered water enters the pool.
- 2.35. **LIFEGUARD:** An individual who has demonstrated competency in water safety and lifesaving, through a certification program approved by the Regulatory Authority
- 2.36. **MAIN DRAIN:** The suction outlet(s) typically at the bottom of the aquatic venue that are connected to the recirculation pump for water circulation and filtration. There are two types of drains:
- 2.36.1. Single Main Drain is a submerged suction outlet connected to one pump.
 - 2.36.2. Multiple Main Drain is a system that consists of two or more fully submerged suction outlets per pump.
- 2.37. **MINIMUM FLOW RATE (FR):** The least flow of water measured in gallons per minute (GPM) through the water treatment system that must be maintained to provide adequate treatment. Minimum flow rate is calculated by dividing the volume of the pool, in gallons, by the required turnover time, in minutes. $\text{Min. FR} = \text{pool volume (gal)} / \text{turnover time (min)}$
- 2.38. **OVERFLOW SYSTEM:** The perimeter type overflow, surface skimmers and surface water collection systems of various design and manufacture.
- 2.39. **PH:** The measure of the degree of acid or alkaline qualities a solution possesses, as determined by its hydrogen ion content.
- 2.40. **POOL DECK:** The surface area around the pool including the coping.
- 2.41. **POOL OPERATOR:** The person or persons responsible for the daily maintenance and operation of the pool or other related establishment.
- 2.42. **PRIVATE SWIMMING POOL (CATEGORY III):** Any swimming pool, spa, or aquatic venue which is built in connection with a single-family residence, subdivision, or apartment complex, and the use of which shall be confined to the residents, tenants, and their guests. The private pool must be located within the same property boundary as the family dwelling building which it serves.
- 2.43. **PUBLIC SWIMMING POOL (CATEGORY I):** Any swimming pool, spa, or aquatic venue that is open to the general public for swimming or recreative bathing whether or not a fee is charged for use thereof, and shall be classified as pools, outdoor or indoor, which are entirely of artificial construction. An on-duty lifeguard is required.
- 2.44. **RATE-OF-FLOW INDICATOR/FLOWMETER:** A device installed on the pool recirculation piping or backwash line to indicate recirculation flow of the pool or backwash flow in gallons per minute (GPM).
- 2.45. **READILY ACCESSIBLE:** An item or device that is capable of being reached and utilized quickly for operation, safety or inspection purposes without requiring those to whom use is essential, to climb over or remove obstacles and search for intended item/device, or anything else that requires undue time to utilize.

- 2.46. **REGULATORY AUTHORITY/HEALTH AUTHORITY:** Regulatory Authority means an agency, organization, office, or individual responsible for enforcing the requirements of a code or ordinance, or for approving equipment, materials, installations, or procedures. Regulatory Authority in this ordinance refers to the Cass County Health Department or a designated entity of the Director of Health.
- 2.47. **SAFETY VACUUM RELEASE SYSTEM (SVRS):** A release system which ceases operation of the pump, reverses the circulation flow or otherwise provides a vacuum release at a suction outlet when a flow blockage is detected and that has been tested by an independent third party and found to conform to ASME/ANSI standard A112.19.8.
- 2.48. **SECONDARY DISINFECTION SYSTEM:** The disinfection processes or systems installed in addition to the standard disinfection system required on all aquatic venues such as UV or copper/silver ions.
- 2.49. **SEMI-PUBLIC SWIMMING POOL (CATEGORY II):** Any swimming pool, spa, or aquatic venue that is not open to the general public, but open rather to members or registered guests, including but not limited to hotels, motels, and properties with that offer nightly or less than 30 days short-term rentals. No on duty lifeguard is required.
- 2.50. **SPECIAL USE POOL/ SPECIAL USE VENUE:** Any aquatic venue used for other special purposes, such as therapy or competition, require additional design consideration and should be handled on an individual basis.
- 2.51. **SURFACE SKIMMER:** A device used to remove surface debris from the pool over a self-adjusting weir.
- 2.52. **SURGE TANK:** A tank receiving the gravity flow water from the overflow gutter and main drain(s) from which the recirculation pump takes suction. This may also be referred to as a balance tank.
- 2.53. **TURBIDITY:** A cloudy condition of the water due to the presence of extremely fine particulate materials in suspension that interfere with the passage of light.
- 2.54. **TURNOVER:** The period of time (usually in hours) required to circulate a volume of water equal to the pool capacity.
- 2.55. **UNBLOCKABLE DRAIN COVER:** A drain of any size and shape that a human body cannot sufficiently block to create a suction entrapment hazard with minimum dimensions of 18"x23" or diagonal measure of 29" or larger or other documentation from manufacturer stating it is unblockable.
- 2.56. **VIRGINIA GRAEME BAKER POOL AND SPA SAFETY ACT:** Federal legislation requiring all aquatic venue drainage to be unblockable.
- 2.57. **WATER SLIDE:** A special purpose establishment which consists of one or more flumes, a plunge pool, pump reservoir, filtration, disinfection and chemical treatment facilities.

3. Plan Review and Compliance

3.1. Plans Required

3.1.1. Before work is commenced on any new construction or alteration of any aquatic venue, complete and detailed plans and specifications shall be submitted to the Cass County Health Department for review and approval. Plans for all aquatic venues shall be prepared by a professional engineer. All work shall be performed in compliance with local, state and federal regulations. All pools and spas shall also meet the federal requirements of the Virginia Graeme Baker Pool and Spa Safety Act and ADA. Private swimming pools (Category III) are exempt from this code.

3.2. Structural Design

3.2.1. All swimming pools shall be designed and constructed to withstand all anticipated loading for both full and empty conditions. A hydrostatic relief valve and/or a suitable underdrain system shall be provided. The designing professional engineer shall be responsible for certifying the structural stability and safety of the aquatic venue in both full and empty conditions. All aquatic venues, new and existing, and other related facilities shall comply with all appropriate local laws, rules and regulations.

3.3. Deviation from Plans

3.3.1. No part of the work shall be undertaken until the Regulatory Authority has granted written approval of said plans. No deviations from the approved plans shall be made unless the proposed changes have been submitted to, and approved by the Regulatory Authority.

3.4. Final Construction Inspection

3.4.1. No newly constructed or renovated aquatic establishment shall be placed into operation until a final inspection of the establishment has been conducted and written authorization to operate has been issued by the Regulatory Authority and/or the building department of that jurisdiction. Notification to the Regulatory Authority shall be made not less than ten (10) days prior to the need for a final construction inspection. In addition to the final inspection, a Regulatory Authority representative shall be notified at the start of construction and shall be notified to inspect the piping in place prior to covering. The final construction inspection shall be made by the Regulatory Authority in the presence of the pool owner and/or the contractor or the engineer for the project.

3.5. Instructions for Operation

3.5.1. Upon completion of the construction or alteration, the contractor shall provide the owner or the owner's designated representative with all manufacturers' information on each of the component parts of the recirculation, filtration, and disinfection systems.

3.6. Special Use Venues

- 3.6.1. Any pool, spa, or other aquatic venue that is intended to be used for other special purposes such as therapy, relaxation, or competition, may require additional design consideration and shall be handled on an individual basis. Technical information shall be submitted with individual requests.

3.7. New or Alternative Product Submission and Approval

- 3.7.1. The manufacturer or other sponsor proposing alternative equipment, products, or materials for use in an aquatic venue shall make a written request to the Regulatory Authority for acceptance of equipment, products or materials by the Regulatory Authority. Technical information, as required by the Regulatory Authority, to complete its review shall be submitted. Such information is typically as follows:

3.7.1.1. Equipment and Material Items

- 3.7.1.1.1. Technical documents, including approval or acceptance by other states, NSF approval information describing the proposed product and including catalog cut sheets, drawings, specifications, and promotional literature shall be submitted.

3.7.1.2. Chemical Products

- 3.7.1.2.1. Technical documents including information on chemical formulation, toxicity and efficacy studies and date, EPA registration manufacturer's proposed use and directions for and promotional literature shall be submitted.

4. Indoor Pool, Outdoor Pool, and Spa Health Permit Fees

- 4.1. The annual permit fee for pools, spas, and aquatic venues shall be based on assessed risk priority and inspection frequency.
 - 4.1.1. If an aquatic facility has more than one swimming pool, spa, and/or aquatic venue each swimming pool, spa, and/or aquatic venue must be permitted separately.
- 4.2. The annual permit cycle is May 1 – April 30.
- 4.3. Permit, reinspection, and plan review fees are listed on the current Environmental Health Fee Schedule.

5. Construction Details

- 5.1. Any construction detail conducted shall meet the requirements of the most current adopted International Swimming Pool and Spa Code.

6. Water

6.1. Water Supply

6.1.1. General

6.1.1.1. The water supply for all aquatic venues, bather preparation facilities, water recreation attractions, special use venues and drinking water facilities included as adjuncts to the pool shall be potable water that meets the United States

6.1.1.2. Environmental Protection Agency (EPA) Safe Drinking Water Act

6.1.1.2.1. Drinking Fountains

6.1.1.2.1.1. All drinking water shall be dispensed from angle jet fountains equipped with a protective mouth guard or from a single-service container. A suitable protective container must be provided for dispensing the cups.

6.1.1.2.2. Cross-connections

6.1.1.2.2.1. No piping arrangements shall exist which, under any conditions, will permit sewage or wastewater to enter the recirculation system or will permit water from the recirculation system or pool to enter the make-up water supply.

6.2. Pool Water Quality

6.2.1. Clarity of Water (Excessive Turbidity): The water must be sufficiently clear to plainly view the main drain(s) or bottom of pool from the opposite end of the deck of the pool at all times when the pool is open. The main drain shall be of contrasting color.

6.2.1.1. If the main drain is not located on the bottom of the pool and the pool is less than 10 feet in depth, a 4"x4" square of contrasting color shall be placed on the bottom of the pool in the deepest part of the pool. If the pool is 10 feet or deeper, an 8" x 8" square of contrasting color must be placed on the bottom of the pool in the deepest part of the pool.

6.2.2. Cleanliness of Water: The water shall be kept clean and free of debris, organic materials, and biofilm in accessible areas in the water and on all surfaces. Water levels in pools shall be maintained and operated to remove such material continuously. Vacuuming shall only be done when the aquatic venue is closed.

6.2.3. Pool Water Temperature: Pool water temperatures for indoor pools shall be maintained at a minimum of 70°F/21°C. All other requirements for water temperatures for indoor and outdoor pools shall be considered and planned based on risk, safety, priority usage, age of participants, while managing water quality concerns.

6.2.4. Spa Water Temperature: Spa water temperatures shall not exceed 104°F/40°C. Spa temperature controls shall be only accessible by the pool operator. All gas-fired heaters for pools or spas shall be American Gas Association (AGA) design Certified and be certified as meeting the most current ANSI standard.

6.2.5. Bacteriological Water Quality: The Regulatory Authority shall take samples for bacterial analysis whenever suspected water borne illness is reported. The presence of any coliform or E. coli in the sample will indicate unsatisfactory water quality and the aquatic venue shall be closed until a satisfactory water sample can be obtained. Other samples may be collected based on recommendations of the Centers for Disease Control and Prevention (CDC) or Missouri Department of Health and Senior Services (MODHSS).

6.2.6. Testing and Sampling of Pool Water: Chemical water quality testing shall be conducted and recorded by the pool operator at a minimum of twice daily, with the first daily test conducted before the aquatic venue is opened to bathers. The second test shall be taken during the aquatic venue's peak bather load. Records must be readily available at all times. Records must have at a minimum the date, time of test, free chlorine, combined chlorine, total chlorine, bromine (if used in lieu of chlorine), pH, alkalinity, cyanuric acid, temperature, and initials of pool operator conducting the test.

6.2.6.1. Test Equipment

6.2.6.1.1. All aquatic venues shall have an accurate N, N-diethyl-p-phenylenediamine (DPD) test kit for measuring free and combined chlorine or bromine concentration, pH, total alkalinity and cyanuric acid, if used.

6.2.6.1.2. DPD test kits shall be provided and capable of measuring the minimum and maximum allowable ranges for chemical operational parameters.

6.2.6.1.3. Reagents shall be date marked with the date of purchase and held according to manufacturer's guidelines.

6.2.6.1.4. The use of orthotolidine (OTO) tests and test strips for chlorine is prohibited.

6.2.6.1.5. Non-DPD colorimetric test kits must be capable of measuring all chemical levels as listed in 6.2.6.1.1 and approved by the Regulatory Authority.

6.3. Water Chemistry

6.3.1. General

6.3.1.1. All aquatic venues shall have continual disinfection 24 hours a day through either an automatic feeder or an automated system. Only bromine and chlorine products that are EPA-registered for use as sanitizers or disinfectants in aquatic venues in the United States shall be permitted for use as the primary disinfectant. Secondary disinfectants may be used in conjunction with a primary disinfectant upon approval by the Regulatory Authority. Use of compressed chlorine gas is prohibited.

6.3.2. Chlorine

6.3.2.1. Aquatic venues that do not use cyanuric acid (stabilizer) shall maintain a free available chlorine residual of 1 PPM (mg/L).

6.3.2.2. Venues that do use cyanuric acid shall maintain a free available chlorine residual of 2 PPM (mg/L).

6.3.2.3. A spa shall maintain a minimum free available chlorine residual of 3 PPM (mg/L).

6.3.2.4. Free available chlorine shall not exceed 10 PPM (mg/L) at any time the aquatic venue is open to bathers.

6.3.3. Combined Chlorine

6.3.3.1. Combined chlorine (chloramines) levels shall not exceed .4 PPM (mg/L).

6.3.3.2. If combined chlorine levels do exceed .4 PPM (mg/L), the venue must immediately be closed, and action taken to reduce the levels.

6.3.4. Bromine

6.3.4.1. Minimum Bromine levels for aquatic venues shall be maintained at 3 PPM (mg/L).

6.3.4.2. Minimum Bromine levels for spas shall be maintained at 4 PPM (mg/L). Bromine levels shall not exceed 10 PPM (mg/L) at any time the aquatic venue is open to bathers.

6.3.5. pH

6.3.5.1. The pH of the water shall be maintained at between 7.2 and 7.8.

6.3.6. Alkalinity

6.3.6.1. Total alkalinity shall be maintained in the range of 60-180 PPM (mg/L). Alkalinity shall be recorded once a day.

6.3.7. Cyanuric Acid

6.3.7.1. Cyanuric Acid shall not exceed 100 PPM (mg/L). Cyanuric Acid shall be recorded once a day.

6.3.8. Salt

6.3.8.1. Only pool grade salt shall be used, and saline content of the water shall be maintained in the required range as specified by the manufacturer. Salt levels shall be recorded once a week.

6.4. Make-up Water Facilities

6.4.1. All water shall enter the pool through one of the following:

6.4.1.1. An over-the-rim fill spout with an air gap 2 ½ times the pipe diameter above the pool coping level. The fill spout shall be rigid and properly located or shielded so as not to create a safety hazard. The open end should have no sharp edges and should not extend more than two inches beyond the edge of the pool. The fill

spout can be designed to be detachable and the plumbing plugged to prevent a trip hazard.

- 6.4.1.2. An automatic water fill control with a manual override may be provided to maintain the water level in the pool/spa at the proper level. The water supply must be protected at all times from backflow. An approved backflow preventer installation consists of a reduced pressure zone (RPZ) backflow preventer which has been accepted by the Regulatory Authority and which is installed where it is readily accessible for inspection and maintenance. The RPZ must be protected from freezing temperature wherever installed. This includes under buildings, inside buildings, or in an insulated box manufactured for maintenance purposes for the RPZ. Ample room is required for testing and/or maintenance. If installed out in the open, it shall be the responsibility of the plumbing contractor and/or the owner as the case may be, to provide proper freeze protection.
- 6.4.1.3. A hose bibb equipped with vacuum breaker. If make-up water is added to the surge tank through the pool/spa recirculation piping or through a dedicated fill line which allows water to enter at the pool water level, then the installation must comply with the above requirements for backflow prevention.

6.5. Sewage

6.5.1. The sewer system for all aquatic venues shall comply with the following:

6.5.1.1. Capacity

6.5.1.1.1. The sewer system shall have sufficient capacity to serve the establishment, including bathhouse, locker rooms, toilets, and related accommodations.

6.5.1.2. Connection

6.5.1.2.1. There shall be no direct physical connection between the sewer system and any drain from the aquatic venue or circulation system. Any deck drain, backwash or overflow from the circulation system, when discharged to the sewer system, or other approved natural drainage course, shall be discharged through a suitable air gap so as to preclude the possibility of backflow of sewage or waste water into the aquatic venue piping system.

6.5.1.3. Individual Sewage Disposal Systems

6.5.1.3.1. The sanitary sewer servicing the aquatic venue and auxiliary facilities shall discharge to a public sewer system wherever possible and in accordance with applicable requirements. Where no such sewer is available, the connection shall be made to a suitable waste water treatment system which has been designed and constructed and is operated and maintained in accordance with all local sewer and/or sewage disposal codes. An on-site sewage disposal system permit shall be approved before pool construction can begin. Filter backwash and pool drainage shall not be discharged into an onsite sewage disposal system.

7. Recirculation Systems and Equipment.

7.1. General

- 7.1.1. All pools, spas, or other related facilities shall be equipped with a circulation system consisting of at least a pump or pumps, hair and lint strainer(s), piping, a filter or filters, water treatment and disinfecting equipment and other accessory equipment. All system components shall meet the latest requirements of Standard 50 of the National Sanitation Foundation and shall bear their seal of approval. Pumps larger than those reviewed by NSF or UL testing standards shall be considered on a case-by-case basis.

7.2. Turnover

- 7.2.1. The capacity of the circulation system, when operating at the maximum allowable head loss on the filters, shall be sufficient to recirculate and disinfect the entire volume of the pool, spa, or other establishment water as follows:

Swimming/Competition Pool	6 hours
Wading Pool	1 hour
Wave Pools/Lazy Rivers	2 hours
Plunge pool/Runout slide	1 hour
Spray Ground	30 minutes
Spa	30 minutes
Special Purpose Pool	Case-by-case determined by RA

7.3. Separation

- 7.3.1. As of the date these regulations are adopted, any new or renovated wading pool or spa water shall not be interconnected with any other pool and all wading pools/spas shall have a separate recirculating system consisting of a filter, pump, piping and disinfection equipment.

7.4. Jet Systems

- 7.4.1. The return lines of spa jets shall be independent of the recirculation-filtration and heating system.

7.5. Pumping Equipment

7.5.1. Capacity

- 7.5.1.1. A pump or pumps shall be provided with adequate capacity for the required turnover rate of swimming pool/spa water as specified in Section 8.2.1 and whenever possible shall be so located as to eliminate the need for priming. If the pump or suction piping is located above the overflow level of the pool/spa, the pump shall be self-priming.

7.5.1.2. The pump shall be capable of providing a flow adequate for backwashing filters. Under normal conditions, the pump or pumps shall supply the required circulation rate of flow to obtain the turnover rate required, at a total dynamic head of at least:

7.5.1.2.1. 45 feet for all vacuum filters

7.5.1.2.2. 40 feet for pressure type sand filters

7.5.1.2.3. 50 feet for pressure type DE or cartridge filters

7.5.1.2.4. 40 feet total head for vacuum type DE filters with 20 inches of vacuum on the suction side.

7.5.1.2.5. When the recirculation equipment is installed below pool level, these head rates may be increased.

7.6. Pump Strainer

7.6.1. The circulation system shall include a strainer installed on the suction side of the pump to prevent hair, lint, and other debris from reaching the pump. Strainers shall be corrosion resistant with openings not more than $\frac{1}{4}$ inch in size, and shall provide a free flow area at least four times the cross-section area of the pump station line and be readily accessible for cleaning. A spare strainer basket should be provided.

7.7. Piping System

7.7.1. Piping shall be constructed of non-toxic material, shall be able to withstand the maximum internal and external operating temperatures and shall be designed to minimize friction loss. All plastic pipe used shall be NSF approved and shall be schedule 40 or greater. All valves and piping shall be permanently labeled, identified and marked with the direction of water flow as to their purpose. Pool piping shall be supported to preclude possible settlement, which would provide either dirt traps or air pockets. The flow velocity in the pressure piping shall not exceed ten (10) feet per second. The flow velocity in suction piping shall not exceed six (6) feet per second. Design calculations shall be required for projects greater than 3000 square feet of water surface.

7.8. Clean-outs

7.8.1. Clean-outs should be provided at such points in the recirculation system so as to allow obstructions and/or accumulations to be readily removed.

7.9. Main Drains

7.9.1. General

7.9.1.1. All facilities shall be provided with a main outlet at the deepest point to permit the

establishment to be completely and easily drained. Openings must be covered by proper grating. If no main drain is present, a sufficient number of inlets and skimmers must be present in order to achieve the appropriate turnover rate and chemical balance, and to eliminate dead spots in the pool.

7.9.2. Main Drain Flow Rate

7.9.2.1. The main drain(s) shall be designed for a flow rate based on a minimum 30% of the total flow in gallons per minute (GPM), not to exceed the maximum allowable filtration rate and shall not exceed the drain cover flow rating.

7.9.3. Hydrostatic Relief Valves

7.9.3.1. Each main drain shall be equipped with a hydrostatic relief valve except for spas/pools installed above ground level or if the spa/pool contains sidewall main drains. A sump pump or other approved method of removing ground water from under the pool shell shall be required on any below grade spa/pool that has sidewall main drains.

7.9.4. Spa Suction Fittings

7.9.4.1. On a spa, the main drain outlets shall be designed with dual suction fittings which have equal pipe diameter sizes. The system shall be designed so that neither of the main drain outlets can be cut out of the suction line by a valve or other means. The jet system for spas shall be equipped with two suction fittings of approved anti-entrapment design.

7.9.5. Safety

7.9.5.1. The combined areas of the openings of the grating shall be at least 4 times the area of the main outlet pipe and have sufficient area so that the maximum velocity of the water passing through the grate does not exceed 1 ½ ft. per second at maximum flow. The maximum width of grate openings shall be ¼ inch. Pools with a single main drain not meeting the above design shall have an anti-entrapment type cover.

7.9.5.2. Dual main drains shall be required on all new construction or renovation of pool main drain plumbing, unless plans have been approved that eliminate the need for a main drain.

7.9.5.3. The dual main drains must have a minimum of three-foot distance from center to center from each other.

7.9.5.4. All pool/spa outlet main drain grates, anti-entrapment covers, and inlet fittings shall have tamper-proof screws that cannot be removed except with tools.

7.9.6. Disablement of Main Drains

7.9.6.1. The main drain(s) may only be disabled if documentation is provided showing the

aquatic venue's chemical and water quality can be maintained in compliance with this ordinance. The main drain(s) shall be permanently disabled in a manner approved by the Regulatory Authority.

7.10. Inlets

7.10.1. General

7.10.1.1. Pool inlets shall be submerged and be located not less than six (6) inches or more than eighteen (18) inches below normal operating water level. Pool inlets shall be installed on a maximum of fifteen feet centers to produce a circulation of water throughout the pool without the existence of dead spots and to carry pool-bottom deposits to the outlets. Provisions shall be made for adjusting the volume of flow through each inlet.

7.10.2. Directional Inlets

7.10.2.1. Wall inlets shall be capable of adjusting the direction of flow and of producing sufficient velocity to impart a substantial circulatory movement to the pool water.

7.10.3. Recessed Stair Inlets

7.10.3.1. At least one inlet shall be located in each recessed stairwell or other space where water circulation might be impaired.

7.10.4. Floor Inlets

7.10.4.1. If inlets are to be placed on the bottom of the pool, the number of inlets shall be determined by dividing the perimeter of the pool (measured in feet), by 15. Any fraction thereof would require 1 additional inlet. Floor inlets shall be designed so as to not create a hazard.

7.10.5. Special requirements

7.10.5.1. Inlet requirements for special designs such as zero depth entry pools shall be evaluated on a case-by-case basis.

7.10.6. Wading Pools and Spas

7.10.6.1. Inlet requirements for wading pools and spas designed for six (6) or fewer bathers shall be one for every 50 square feet of water surface. Any additional fraction thereof would require one (1) additional inlet.

7.11. Rate-of-Flow/Flow Meter Indicator

7.11.1. All pools and other related facilities shall be provided with an operational rate-of-flow indicator that reads in gallons per minute (GPM). All rate-of-flow indicators shall be installed so as to meet manufacturers' installation requirements, such as upstream and downstream straight pipe lengths. Where the rate-of-flow indicator is installed between

the pump and the filter, periodic cleaning shall be performed to ensure accurate readings.

7.12. Winterizing

7.12.1. All equipment shall be properly winterized, if and when the pool/spa is closed for operation at the end of the season. When the pool/spa is closed it shall be properly covered and all gates shall be locked. Please see Section 6.5 of this code for drainage requirements.

8. Overflow Systems

8.1. General

8.1.1. Overflow System Required

8.1.1.1. All pools/spas shall be provided with a surface overflow system which shall be an integral part of the circulation system and which shall consist of built-in-place gutters, prefabricated gutters, and/or recessed automatic surface skimmers.

8.1.2. Combination Gutter/Skimmer System

8.1.2.1. Nothing in this section shall preclude use of a surface overflow system which combines both a gutter and a recessed automatic surface skimmer. All pools with a water surface greater than 3,000 square feet shall be equipped with gutters or a combination of gutters and skimmers.

8.2. Perimeter Overflow (Gutters)

8.2.1. Whenever a built-in-place perimeter overflow system or a prefabricated perimeter overflow system is provided, it shall be designed and installed according to the following:

8.2.1.1. Capacity

8.2.1.1.1. The system shall be capable of handling 100 percent of the circulation flow (based upon the required turnover rate) without the overflow troughs being flooded for any substantial period of time.

8.2.1.2. Surge Capacity

8.2.1.2.1. A surge capacity shall be provided either in the system and/or by use of a surge tank. The total surge capacity shall be at least equal to one gallon/square foot of swimming pool water surface area.

8.2.1.3. Water Level

8.2.1.3.1. The water level of the swimming pool/spa shall be maintained at or slightly

higher than the level of the overflow rim of the perimeter overflows, except for the time needed to transfer all of the water which may be in surge capacity back into the swimming pool after a period of use, provided that this transfer time shall not be greater than 20 minutes.

8.2.1.4. Overflow Gutters

8.2.1.4.1. Gutters shall extend entirely around the perimeter of the pool and have the necessary slope to prevent accumulations of debris, dirt, etc., be of ample size to carry off normal amounts of water introduced into them, and be easily accessible for cleaning. Drainage outlets shall be provided at least every 15 feet and shall be covered by removable grating.

8.2.1.5. Overflow Rim

8.2.1.5.1. When installed, the tolerance of the overflow rim shall not exceed $\frac{1}{4}$ inch as measured between the highest point and the lowest point of the overflow rim.

8.2.1.6. Automatic Skimming

8.2.1.6.1. During non-use, the overflow system shall be capable of providing continuous and automatic skimming action to the water at the surface of pool.

8.2.1.7. Overflow Troughs

8.2.1.7.1. The overflow troughs shall be installed completely around the perimeter of the swimming pool, except at steps, recessed ladders and stairs.

8.2.1.7.1.1. Hand Hold

8.2.1.7.1.1.1. The exposed surfaces of the overflow trough shall be capable of providing a firm and safe handhold.

8.2.1.7.1.2. Easily Cleaned

8.2.1.7.1.2.1. The overflow trough shall be capable of being cleaned easily and shall be of such configuration as to minimize accidental injury and provide for adequate water depth marking.

8.3. Recessed Automatic Surface Skimmers

8.3.1. NSF Conformance Required

8.3.1.1. When recessed automatic surface skimmer is installed, it shall be designed and constructed in accordance with the current NSF standards pertaining to recessed automatic surface skimmers.

8.3.2. Skimmer Design and Material

8.3.2.1. The recessed skimmer shall be of a grade designed for commercial pools; be of substantial, durable, reasonably corrosion resistant material; and be equipped with an automatic skimmer weir with removable strainer basket and flat lid which is flush with deck and securely attached at all times.

8.3.3. Skimmer Flow Rate

8.3.3.1. The skimmer shall be designed for a flow rate based on manufacturer's specifications.

8.3.4. Skimmer Flow Adjustment Valve

8.3.4.1. All skimmers shall have an integral trimmer valve.

8.3.5. Skimmer Minimum Required

	Quantity	Minimum Number
Swimming Pool	1 per 500 sq. ft.	2*
Wading Pool	1 per 500 sq. ft.	1
Water Slide	1 per 500 sq. ft.	2 Skimmers-Plunge Pool; 1 Skimmer-Pump
Therapy Pool/Swim	1 per 500 sq. ft.	1

*Note: Minimum number of skimmers may be reduced as determined by the Regulatory Authority.

8.3.6. Skimmer Location

8.3.6.1. On outdoor pools/spas the recessed automatic surface skimmer(s) shall be so located as to take into consideration the direction of prevailing winds.

8.3.7. Skimmer Recessed

8.3.7.1. A recessed automatic skimmer shall not protrude into the pool.

8.3.8. Skimmer Weir

8.3.8.1. The weir in the skimmer shall adjust automatically and operate freely to variations in water level over a minimum range flow of four inches. The floating basket design is approved in lieu of weirs.

8.3.9. Equalizer

8.3.9.1. All skimmers must be equipped with an equalizer valve or float valve to prevent air being drawn into the filter when the water level drops below the skimmer inlet.

9. Filtration Systems and Equipment

9.1. General

9.1.1. Filter Required

9.1.1.1. All pools/spas shall be equipped with a filtration system for the purpose of clarifying the water. The filtration system shall be an integral part of the circulation system and shall consist of sand-type filters, DE type filters, or cartridge filters.

9.1.2. Design

9.1.2.1. All aquatic venues filter units shall be designed and constructed in accordance with applicable NSF/ANSI standards pertaining to swimming pool/spa filters. The filter system shall be designed and installed with all the necessary valves and piping which may be needed to isolate, backwash or drain an individual filter unit for maintenance and/or repair.

9.1.3. System Capacity

9.1.3.1. The filtration system shall have the capacity to meet the flow rate required for the prescribed number of turnovers without exceeding the maximum allowable filtration rate.

9.1.4. Rate of Flow Control

9.1.4.1. All filter installations shall be equipped with a rate of flow control valve (ball, gate and other control valve types) on the discharge side of the pump.

9.1.5. Accessibility

9.1.5.1. All filters shall be designed and installed so as to provide easy accessibility for cleaning, operating, maintaining and servicing.

9.1.6. Gauges

9.1.6.1. Filters shall be equipped with an approved pressure gauge or gauges. Vacuum filters shall be equipped with a vacuum gauge(s). All gauges shall be kept in proper working order.

9.1.7. Drainage

9.1.7.1. All filters shall be designed and installed with all the valves and piping needed to drain the filters completely for servicing or winterizing.

9.1.8. Bypass

9.1.8.1. Provisions shall be made to bypass the filter and empty the pool water to waste.

9.1.9. Air Relief

9.1.9.1. All pressure filters shall be designed and installed with an air relief valve or valves which shall be located at or near the high point of the filters and be capable of being operated manually. Automatic air-relief valves on top of the filters with manual air-relief capabilities are acceptable.

9.1.10. Filter Backwash

9.1.10.1. Backwash from the filter(s) shall be piped to a sanitary sewer. In all cases of filter backwash discharge, an air-gap shall be provided with a minimum of six (6) inches between the discharge pipe and top of the sump or sewer piping. Both the sump and the exit pipe shall be sized to accommodate the backwash flow.

9.2. Sand Filters

9.2.1. General

9.2.1.1. When a sand-type filter(s) is installed, it may be either gravity or a pressure, or a vacuum, sand-type filter media that shall comply with the filter manufacturer's specifications. Options shall include:

9.2.1.1.1. Rapid-rate sand-type filter, which shall be designed for filtration rates not in excess of 3GPM/square foot of sand bed area, or

9.2.1.1.2. High rate sand-type filter, which shall be designed: with filtration rates not in excess of 15 GPM/square feet of sand bed area pools using a 6-hour turnover rate. (Section 7.2.1)

9.2.2. Single Filter Flow Control

9.2.2.1. If a single filter unit is provided on pools designed and constructed prior to the adoption of these regulations, the pump shall be sized at 15 GPM/square foot of filter area to provide the necessary backwash flow rate of 15GPM/square foot of filter bed area. A valve to control flow shall be provided to limit the normal filtration rate to 7.5 gallons per minute per square foot of filter area. Flow control valves shall be required on existing facilities utilizing single sand filters on a 7.5 GPM/sq. ft. rate. Any filter renovation of pools prior to the adoption of these regulations will require preliminary review to determine existing piping size and design considerations.

9.2.3. Multiple Filters

9.2.3.1. If two or more filters are used to achieve the required filter area, they must be of the same size.

9.2.4. Inspection Port

9.2.4.1. Internal components of the filter shall be accessible through an inspection port as

required by NSF.

9.2.5. Freeboard

9.2.5.1. A freeboard between the top of the filter media and the lowest draw off point of the upper distribution system shall be provided and be of sufficient height, so no media is lost during backwash.

9.3. Diatomaceous Earth Filters

9.3.1. Filter Type

9.3.1.1. When a DE type filter is installed, it may be either a pressure or a vacuum type and it may be designed to operate either with or without continuous slurry feed. A DE filter with a continuous slurry feed shall be used for filtration rates not in excess of 2.5 GPM/ square foot filter area. A DE filter which operates without continuous slurry feed shall be used for filtration rates not in excess of 2 GPM/square foot of filter area.

9.3.2. Cleaning

9.3.2.1. When a DE filter is installed, it shall be designed and installed with provisions for cleaning by one or more of the following methods:

9.3.2.1.1. Backwashing

9.3.2.1.2. Spray Wash (either mechanical or manual)

9.3.2.1.3. Soaking

9.3.2.1.4. Agitation

9.3.2.2. The water used in cleaning a DE filter shall be discharged to waste or other approved means.

9.3.3. Precoat

9.3.3.1. Precoating of the septa shall be in accordance with manufacturer's recommendations to ensure adequate coating of DE prior to filtering water through the system. A precoat pot may be installed on the suction side of the pump to ensure adequate coating of the filter septa. No additional precoat equipment is needed on vacuum systems since the DE can be placed directly in the filter tank.

9.3.4. Filter Piping

9.3.4.1. The system piping shall be such that during precoat procedures the filtered effluent shall be refiltered or wasted without passing into the pool until the effluent is clear of suspended matter.

9.3.5. DE Substitutes

9.3.5.1. Synthetic substitutes such as cellulose products manufactured as DE replacements may be utilized.

9.4. Cartridge Filters

9.4.1. Number

9.4.1.1. One extra complete set of cartridges per filter shall be kept on the premises at all times. Replacement of cartridge elements shall be done whenever the requirements of Section 7.2.1, cannot be maintained.

9.4.2. Cleaning

9.4.2.1. Cartridge filters must be cleaned by soaking in an approved cleaning solution and/or by pressure spraying.

9.4.3. Filter Rate

9.4.3.1. Cartridge filters must filter at a rate not in excess of .375 GPM per square foot.

9.5. Other Filters

9.5.1. Any filters other than those described above must be approved by the NSF and the Regulatory Authority before they can be considered for use in the recirculation system for aquatic venues.

10. Equipment and Equipment Rooms

10.1. Access to Equipment

10.1.1. Filters and other equipment shall be easily accessible for maintenance and service. The equipment room shall be adequately drained and ventilated. The room(s) and equipment shall be maintained clean and in good repair. The equipment room and chemical storage room shall be kept locked at all times unless the pool operator is present to prevent unauthorized entry.

10.2. Chemical Storage

10.2.1. Chemicals shall be kept in the original containers and shall be used and stored in accordance with label instructions. All rooms used for storage of pool chemicals shall be plainly marked at the entry as such by any combination of words, pictures or symbols. Adequate space shall be provided for the storage of chemicals, separate from the operating equipment. No food or drink shall be allowed in rooms that contain pool chemicals.

10.3. Ventilation for Equipment Rooms

10.3.1. Equipment room ventilation shall address combustion requirements, heat dissipation from equipment, humidity, ventilation to the outside, and air quality. All equipment rooms shall be properly vented according to all local, state, and federal regulations.

10.4. Lighting

10.4.1. Lights in equipment rooms shall be lighted to provide a minimum of 30-foot candles (323 lux) of illumination at the floor.

10.5. Cleaning Equipment

10.5.1. Equipment shall be provided to remove sediment, sludge and other accumulations from all areas of the aquatic venues bottom and walls. Equipment must be maintained in good, working order. Aquatic facilities that contain more than one aquatic venue may use common cleaning equipment, but caution must be taken to properly clean and disinfect the cleaning equipment following a fecal or vomit accident.

10.5.1.1. Minimum Requirements

10.5.1.1.1. The minimum equipment required for pool/spa cleaning includes:

10.5.1.1.1.1. One (1) vacuum head and hose or portable vacuum

10.5.1.1.1.2. One (1) wall brush suitable for use on pool/spa material

10.5.1.1.1.3. One (1) leaf net

10.5.1.1.1.4. One (1) telescoping pole

10.5.1.1.1.5. One (1) deck scrubbing brush

10.6. Automatic Disinfectant Feeders

10.6.1. All automatic disinfectant feeders shall be designed and constructed in accordance with applicable NSF or UL standards. The disinfectant shall provide a continual residual in the water so that it can be monitored. Chemical feed system components shall incorporate failure-proof features, so the chemicals cannot feed directly into the aquatic venue, the venue piping system not associated with the recirculation system, source water supply system, or area within proximity of the aquatic venue deck, under any type of failure, low flow, or interruption of operation of the equipment to prevent bather exposure to high concentrations of treatment chemicals.

10.7. Automated Chemical Controllers

10.7.1. All automated chemical controllers for pH and disinfectant monitoring/control shall be listed and labeled to NSF/ANSI 50 by an ANSI-accredited certification organization. Operation manuals or other instructions that give clear directions for cleaning and

calibrating the automated controller probes and sensors shall be provided in close proximity to the automated controller.

10.8. Secondary Disinfectant Feeders

10.8.1. Secondary disinfection systems shall be listed and labeled to ANSI/NSF 50 by an ANSI-accredited certification organization approved by the Regulatory Authority.

10.9. Feed Rate

10.9.1. Disinfection feeders shall have the capacity to feed 10 PPM chlorine or bromine to the 24-hour recirculation flow of the filtration system.

10.10. Positive Feed of Hypo chlorinators and Chemical Feeders

10.10.1. General

10.10.1.1. A chemical feeder must be used in conjunction with a hypo chlorinator feeding chlorine in order to maintain pH of pool/spa water. It shall be a positive displacement type feeder. This same type feeder can also be used to feed acid, granular chlorine for super-chlorination, and soda ash.

10.10.2. Positive Feed Required

10.10.2.1. Feed shall be positive and constant under all conditions of pressure in the circulating system.

11. Safety

11.1. General Safety

11.1.1. No glass bottles, sharp objects or any other debris, which might cause injury or accidents, shall be in or around any aquatic establishment. Food and/or drinks are prohibited in the water and only allowed in designated areas away from the water. No operational activities or conditions of facilities which are likely to cause illness or injury shall be allowed to exist in an aquatic establishment.

11.2. Barrier and Entry Requirements

11.2.1. General

11.2.1.1. All aquatic facilities and aquatic venues shall be enclosed to prevent unauthorized entry. The barrier may be any fence, wall or permanent structure which prevents entry except through self-closing, self-latching and lockable gates or doors. The gate or door shall self-close from any open position. The barrier shall surround all four sides of the aquatic venue and not block visual observation of the pool. In any new construction of an outside pool or spa, an adjacent building may only serve as one barrier side. In existing construction, each entry from any adjacent building to the pool area must contain either an

alarm on the door, cardkey access, or another approved means of preventing unauthorized entry into an aquatic venue. Shrubbery shall be maintained and not constitute an acceptable barrier or block visual observation of the aquatic venue. Gates or doors shall be designed in such a way that they do not prevent egress in the event of an emergency.

11.2.2. Barrier Design

11.2.2.1. The barrier shall not be less than four (4) feet in height. The topography outside the barrier shall be considered during the construction phase to ensure the barrier will provide a minimum four (4) feet. Barriers shall not have open spaces greater than four (4) inches horizontally. There shall not be more than four (4) inches of space between the bottom of the barrier and the ground's surface or the pool deck. A barrier shall be provided to separate a wading pool from other pools unless the wading pool is separated by a distance of 15 feet (4.6 m) from other bodies of water. The barrier shall be maintained in good repair at all times and at any point there is a breach in the barrier system, the breach must be barricaded in a manner that will prevent unauthorized entry.

11.2.3. Multiple Facilities

11.2.3.1. Where multiple facilities are located within a common pool area (i.e., pool, spa, and/or wading pool) provisions shall be made to prevent access to any pool or spa, which is closed for maintenance, repair or as the result of non-compliance. This requirement does not apply to lifeguarded facilities. Locking spa covers and portable fencing which meet the above criteria are acceptable options for closure. Floating spa covers are not acceptable. Signs shall be posted indicating which aquatic venue is closed. The need for separate fencing for water recreation attractions, such as water theme parks, shall be evaluated on a case-by-case basis.

11.2.4. Gates

11.2.4.1. Gates shall be at least equal in height at top and bottom to the barrier of which they are a component. Quantity, location, and width(s) for exit gates shall be provided consistent with local building and fire codes and applicable accessibility guidelines. Exit gates shall swing away from the aquatic venue enclosure except where emergency egress codes require them to swing into the aquatic venue enclosure. For unguarded aquatic venue enclosures, self-latching mechanisms must be located not less than 3 ½ feet (1.1 m) above finished grade and self-latching mechanisms shall not be operable by small children on the outside of the enclosure around the aquatic venue.

11.2.5. Windows

11.2.5.1. Windows on a building that forms part of an enclosure around an aquatic venue shall have a maximum opening width not to exceed four inches (10.2 cm). If designed to be opened, windows shall also be provided with a non-removable screen.

11.2.6. Indoor Pools/Spas

- 11.2.6.1. The area must be secured by self-closing and self-latching doors for dedicated pool/spa rooms or by barriers as required above, wherever the pool/spa are located where guest rooms or lobbies open onto the pool area. Some means of access control (such as room key or card) shall be provided to prevent entry by unattended children.

11.2.7. Access

- 11.2.7.1. The Regulatory Authority must have access to aquatic venue, to conduct inspections to determine whether the provisions of these Rules and Regulations are being complied with. If the aquatic venue is gated or locked, in a way that would prohibit entry to the inspector, arrangements must be made to provide access to the aquatic venue. This includes, but is not limited to: providing a key, code, card, or other method of access to the Regulatory Authority.

11.3. Emergency Communications

- 11.3.1. The aquatic establishment or each aquatic venue shall have a functional telephone or other communication system or device that is hard wired and capable of directly dialing 911 or an attendant. The telephone number of the emergency service, as well as any instructions necessary to operate the communication system shall be posted in a conspicuous place near the emergency communication system. For existing outdoor aquatic venues that do not have the means to have a hardwired communication system, an alarm that sounds in the area with a minimum of 75 decibels shall be allowed. Video surveillance is not approved for monitoring bathers in place of an emergency communication system.

11.4. Accident Report

- 11.4.1. All deaths or serious injuries shall be reported in to the Regulatory Authority immediately.

11.5. Life Saving and Safety Equipment

11.5.1. Required Equipment

- 11.5.1.1. Aquatic venues whose depth exceeds two feet (*61.0 cm*) of standing water shall provide and maintain both of the following items:
 - 11.5.1.1.1. A reaching pole of 12 feet (*3.7 m*) to 16 feet (*4.9 m*) in length, non-telescopic, light in weight, and with a securely attached Shepherd's Crook with an aperture of at least 18 inches (*45.7 cm*) and;
 - 11.5.1.1.2. A U.S. Coast Guard-approved aquatic rescue throwing device, with at least a quarter-inch (*6.3 mm*) thick rope whose length is 50 feet (*15.2 m*) or 1.5

times the width of the POOL, whichever is less.

- 11.5.1.1.3. Equipment shall be located in the immediately vicinity of the aquatic venue and shall have a sign posted that equipment is for emergency use only. Reaching pole shall be made of a non-conductive material.

11.5.1.2. Buoyed Safety Line

- 11.5.1.2.1. All pools in which the maximum pool depth exceeds five (5) feet, a safety rope shall be located one foot before the slope from the shallow area to the deep area. The line of the rope shall not be less than $\frac{1}{4}$ inch in diameter, supported by brightly colored buoys, no less than 12 inches apart and tight enough to support the weight of an adult. Aquatic venues with a lifeguard present shall be exempt from this requirement. Pools which provide lane swimming, may remove a safety line during periods of lap swimming or routine maintenance. The safety line shall be replaced following any maintenance activities or lap swimming to ensure safety for recreational swimming. Dive wells shall always have a safety rope in place separating the well from the rest of the swimming pool, if connected. The safety line shall be maintained in good condition. For all new construction, the connections for the safety line shall be recessed in the pool walls.

11.5.1.3. Marking of Boundary Line Between Shallow and Deep Areas

- 11.5.1.3.1. For pools deeper than five feet (*1.5 m*), a line of contrasting color, not less than two inches (*5.1 cm*) and not more than six inches (*15.2 cm*) in width, shall be clearly and permanently installed on the pool floor at the shallow side of the break in the floor slope, and extend up the pool walls to the waterline.

11.6. First Aid Equipment

- 11.6.1. Each pool and other related establishment shall have basic first aid kit to care for minor injuries. The first aid kit must be prominently mounted in the swimming pool enclosure.

11.7. Electrical Requirements

- 11.7.1. Wiring and grounding for lights and all electrical power for pool equipment must conform to the codes of the International Electrical Code and/or other applicable local and state codes. Junction boxes must be above the pool water level and not be a trip hazard. All electrical work shall be done by a licensed and insured electrician.

11.8. Spa Timers and Emergency Shut-Off Switch

- 11.8.1. A maximum setting of 15 minutes for the timer to activate the jet system shall be installed on spas and shall be located at a distance that would require the bather to exit the spa to restart. An emergency shut-off switch shall also be accessible for all spas.

11.9. Signs and Safety Markings

11.9.1. All signs and depth markers must be in contrasting color and clearly legible at all times.

11.9.2. Hours of Operation

11.9.2.1. Hours of operation shall be placed on each entry door and/or gate to the aquatic establishment or aquatic venue. All pools shall close at 10 pm unless otherwise approved by the Regulatory Authority.

11.9.3. Pool Rules

11.9.3.1. *Location and maintenance.* All pool use rules shall be located at conspicuous places and be legible.

11.9.3.2. *Contents.* The posted rules shall include:

11.9.3.2.1. Persons with infections not permitted.

11.9.3.2.2. No food, drink, gum or tobacco permitted in pool or on deck.

11.9.3.2.3. No containers made of glass or shatterable plastic.

11.9.3.2.4. Shower before entering and after use of toilet facilities.

11.9.3.2.5. No running or rough play.

11.9.3.2.6. No pets allowed.

11.9.3.2.7. Do not leave small or young children unattended.

11.9.3.3. *Additional rules.* Whenever additional rules needed to protect the health and safety of patrons, the management shall post and enforce such rules.

11.9.3.4. *Warning signs.* Whenever the pool area is opened for use and no lifeguard service is required or provided, warning signs shall be placed in plain view to the entrances and inside the pool area which state "WARNING--NO LIFEGUARD ON DUTY" with clearly legible letters at least four inches high. Signage shall also indicate that children shall not use pool/spa without an adult in attendance.

11.9.4. Spa Rules

11.9.4.1. *Caution signs.* A legible sign visible from the spa shall be provided. It shall state: "Caution. Any person having an acute or chronic disease such that use of the spa might adversely affect their health should consult a physician before using this spa. Do not use the spa immediately following exercise or while under the influence of alcohol. Do not use the spa alone or without supervision. Do not use the spa longer than ten minutes. Children shall be accompanied by an adult. Spa temperature should not be over 104F."

11.9.5. Water Slide Safety Signs

11.9.5.1. Signs indicating riding instructions, warnings, and requirements in accordance with the manufacturer recommendations shall be posted at the waterslide entry.

11.9.5.1.1. Always slide feet first and only after previous slider has cleared the area.

11.9.5.1.2. No jumping or diving from slide.

11.9.5.1.3. Only one person at a time allowed on the slide.

11.9.6. Depth Markers

11.9.6.1. Pool water depths shall be clearly and permanently marked at the following locations:

11.9.6.1.1. Minimum depth,

11.9.6.1.2. Maximum depth,

11.9.6.1.3. On both sides and at each end of the pool and,

11.9.6.1.4. At the break in the floor slope between the shallow and deep portions of the pool.

11.9.6.1.5. Depth Markers shall be a minimum of four (4) inches in height and of a contrasting color. Depth markers shall be installed at not more than 25-foot (7.6 m) intervals around the pool perimeter edge and according to the requirements of this section. In addition, for water less than five feet (1.5 m) in depth, the depth shall be marked at one-foot (30.5 cm) depth intervals.

11.9.7. No Diving Markers

11.9.7.1. For pool water depths 5 feet (1.5 m) or shallower, all deck depth markers required by MAHC Section 4.5.19 shall be provided with “NO DIVING” warning signs along with the universal international symbol for “NO DIVING”.

11.9.8. Warning – No Lifeguard on Duty

11.9.8.1. This sign shall be posted at pools and other related facilities where lifeguard service is not provided. The sign shall be in clearly legible letters at least four (4) inches high.

11.9.9. For Emergency Use Only

11.9.9.1. All life-safety equipment, including the emergency phone, shall be marked “For Emergency Use Only” and have instructions posted if applicable.

11.10. Supervision of Minors

- 11.10.1. No children under the age of 14 are allowed in the pool area without a responsible person of the age 16 or older.

11.11. Lifeguard Requirements

11.11.1. Number of Lifeguards

- 11.11.1.1. For aquatic facilities with less than 2,000 square feet of water surface area, no lifeguard is required, regardless of pool depth. For aquatic facilities with water surface area of 2,000 square feet or more, lifeguards shall be required according to the number of lifeguard chairs required per square footage of water surface.

11.11.2. Lifeguard Chairs

- 11.11.2.1. One (1) elevated lifeguard chair or platform shall be provided for pools having over 2000 square feet up to 4000 square feet of pool water surface. One (1) additional lifeguard chair or platform shall be provided for each 2000 square feet or major fraction thereof of pool water surface area above 4000 square feet. The lifeguard chair(s) or platform(s) shall be located to allow a clear and unobstructed view of the pool bottom in the area of surveillance.

11.11.3. Lifeguard Certification

- 11.11.3.1. Lifeguards must be 15 years of age or older and shall have current certification through a nationally recognized lifeguard training course that is approved by the Regulatory Authority, and be in good physical condition and competent in techniques. The certificate of such competency shall be posted in a conspicuous area.

12. Operations Management

12.1. General

- 12.1.1. Every pool shall be under the supervision of a manager who is fully capable of and who shall assume responsibility for compliance with all ordinances, rules and regulations relating to pool operation, maintenance, and safety of bathers. Any pool may be subject to immediate closure whenever a critical item(s) is noted. These include, but are not limited to the following:

- 12.1.1.1. Failure or lack of filtration, sanitizing and cleaning equipment

- 12.1.1.2. Insufficient or critically high disinfectant

- 12.1.1.3. Excessive turbidity, main drain not visible

- 12.1.1.4. Life safety violations, including but not limited to:

- 12.1.1.4.1. Main drain cover in disrepair
- 12.1.1.4.2. Emergency 911 phone and/or alarm not working
- 12.1.1.4.3. Gates not self-closing or latching
- 12.1.1.4.4. Life safety equipment missing or in disrepair

12.1.1.5. Water temperature out of range

12.1.1.6. Cross connection, back siphonage

12.1.1.7. Unapproved water supply

12.1.1.8. Absence or lack of required supervisory personnel

12.1.1.9. Lack of restriction of employees with infection

12.1.1.10. Sewage, liquid waste disposal

12.1.1.11. Disinfectant and/or pH out of range

12.1.2. In the case of voluntary pool closure, one or more signs shall be posted conspicuously stating Pool Closed, or No Swimming, or similar language. The pool/gate entry shall be locked to prevent any unauthorized entry. If there are multiple aquatic venues, the closure signs shall be specific on which aquatic venue is closed. If entry cannot be prevented on only one aquatic venue when there are multiple aquatic venues present, the entire aquatic establishment shall be closed.

12.1.3. When the aquatic venue is closed by the Regulatory Authority for noncompliance, the Regulatory Authority shall post POOL CLOSED sign(s) and the pool gates shall be locked to prevent unauthorized entry. Only the Regulatory Authority may remove the issued signage and the establishment shall not reopen until an inspection has been conducted by the Regulatory Authority indicating compliance.

12.1.4. It is required that the operator shall have proper knowledge to successfully operate the aquatic venue(s) to satisfy all requirements of this code.

12.2. Operational Records

12.2.1. Records shall be retained by the aquatic venue owner/manager on site for review upon request by the Regulatory Authority. Such mandatory records include but not limited to: chemical and water quality records, operational manuals for equipment, main drain documentation, Virginia Graeme Baker Act compliancy documentation, and any and all lifeguard and employee training documentation and/or certificates.

12.3. Inspections

12.3.1. Results of inspections shall be recorded on the Regulatory Authority's form(s) which

summarize the requirements of these Rules and Regulations. A copy of this report will be left at the establishment after the inspection is complete. All items should be corrected as soon as possible, but in any event by the time of the next inspection and/or revisit inspection. If the violation cannot be corrected by the next scheduled inspection, the report shall specify a reasonable period of time for correction determined by the Regulatory Authority. A follow-up inspection, when required, shall be conducted to ensure compliance.

12.4. Establishment Closure or Abandonment

12.4.1. A pool or other related establishment for which no operational permit is in effect and which is not in use for two (2) weeks or longer shall be covered, drained, locked, and/or maintained by the owner in a condition which prevents creating a hazard to health or safety. If drained, care should be taken to ensure that the establishment is not damaged by subsurface hydro-static pressure and that access by animals and humans is restricted.

12.4.2. If a public swimming pool/spa is to be permanently closed, the pool/spa shall be filled in or removed and the water and drainage connections removed. Written notification must be made to the Regulatory Authority. Any public swimming pool/spa left in a state of disrepair or out of service for more than one (1) swimming season shall be kept drained and secured so as to not create an imminent health hazard or nuisance.

12.5. Permit Required

12.5.1. No bathing establishment, swimming pool or aquatic venue shall operate unless the operator has applied for and received an operating permit from the Health Department. Permits shall expire on April 30th of each year unless previously revoked for a violation of this Ordinance section of the Health Department. The Health Department will exercise the right to close swimming pools, bathing facilities and aquatic venues not operated in conformance with these regulations. The operating permit shall be posted in a conspicuous place, easily visible to patrons and inspectors.

12.6. Transfer of Ownership

12.6.1. Pool permits are non-transferrable. Each holder of a permit for operation shall notify the Regulatory Authority upon sale, lease, or other transfer of responsibility for the establishment and shall supply the Regulatory Authority with the name and address of the new owner/operator. The new owner must submit a Pool Operating Permit Application, pass a pre-operational inspection, and be given approval by the Regulatory Authority to operate before opening to the public.

12.7. Food Service Operations

12.7.1. Any food service operations conducted at the pool establishment shall meet the requirements of the most current adopted Food Code and must have a current Cass County Health Department Food Service Permit. The aquatic venue shall have a designated eating and/ or drinking areas away from the body of water if food and/or

drink are allowed in the aquatic facility.

12.8. Communicable Disease

- 12.8.1. No person suffering from an open cut, rash, skin lesion, any skin disease or any possible communicable disease transmitted via water shall be permitted to patronize the pool.
- 12.8.2. No person having a communicable disease shall work at any pool in a function in which there is likelihood that they will transmit the disease to any other person.

12.9. Animals Prohibited in Aquatic Facility

- 12.9.1. Except for service animals, animals are not allowed in the enclosure or water at any aquatic venue unless prior authorization from the regulatory authority has been obtained.