

TITLE 310. OKLAHOMA STATE DEPARTMENT OF HEALTH
CHAPTER 321. PUBLIC BATHING PLACE FACILITY STANDARDS AND OPERATIONS

SUBCHAPTER 1. GENERAL PROVISIONS

310:321-1-1. Purpose

The purpose of this chapter is to:

(1) establish minimum requirements to provide a reasonable level of safety, health and general welfare to the public by regulating and controlling the design, construction, installation, quality of materials, location and maintenance or use of pools and spas.

(2) This chapter is to be used by engineers and other interested persons in the design and construction, including related piping, equipment and materials, alteration, movement, replacement, repair and maintenance and the submission to the State Department of Health of plans of public aquatic recreation facilities, pools and spas for a public bathing place.

(3) This chapter provides minimum design criteria and will be used as such by the State Department of Health. The pools and spas covered by this chapter are either permanent or temporary and include only those that are designed and manufactured to be connected to a circulation system and that are intended for swimming, bathing or wading.

(4) These rules do not apply to spray pads, spray grounds, or splash pads intended for use by children in which the water is supplied by a system of sprays and does not accumulate above ground, private residential swimming pools and hot tubs or spas serving a single family dwelling and used only by the residents of that dwelling and their guests, apartment complex pools, country club pools, subdivision pools (Home Owner's Associations) which are open only to residents of the subdivision and their guests, public or semipublic pools where the main objective is the external cleansing of the body, therapeutic Access (to) pools operated by a licensed medical facility or a licensed physical therapist, therapeutic chambers which are drained, cleaned, and refilled after each individual use, or religious ritual baths used solely for religious purposes.

(5) The operations and facility standards are based on the 2024 International Swimming Pool and Spa Code ("ISPSC") and should be construed in a manner consistent with the ISPSC.

310:321-1-2. General

(a) Existing installations. Any pool or spa and related mechanical, electrical and plumbing systems lawfully in existence at the time of the adoption of this chapter are permitted to have their use and maintenance continued if the use, maintenance or repair is in accordance with the original design and no hazard to life, health or property is created.

(b) Maintenance. Pools and spas and related mechanical, electrical and plumbing systems, both existing and new, and parts thereof, shall be maintained in proper operating condition in accordance with the original design in a safe and sanitary condition. Devices or safeguards that are required by this chapter shall be maintained in compliance with the law under which they were installed. The owner or the owner's authorized agent is responsible for maintenance of systems. To determine compliance with this provision, the Department has the authority to require any system to be reinspected.

(c) Alterations or repairs. Alterations or repairs to any pool, spa or related system shall conform to that required for a new system without requiring the existing systems to comply with the requirements of this chapter. Alterations or repairs shall not cause existing systems to become unsafe, unsanitary or overloaded. Minor alterations and repairs to existing systems is permitted in the same manner and arrangement as in the existing system, provided that such repairs or replacement are not hazardous and are approved.

(d) Historic buildings. The provisions of this chapter relating to the construction, alteration, repair, enlargement, restoration, relocation or moving of pools, spas or systems is not mandatory for existing pools, spas or systems identified and classified by the state of Oklahoma or a municipality in the state of Oklahoma as part of a historic structure where such pools, spas or systems are judged by the Department

to be safe and in the public interest of health, safety and welfare regarding any proposed construction, alteration, repair, enlargement, restoration, relocation or moving of such pool or spa.

(e) Moved pools and spas. Except as determined by paragraph (a) of this section, systems that are a part of a pool, spa or system moved into or within the state shall comply with the provisions of this chapter for new installations.

(f) Referenced codes and standards. The codes and standards referenced in this chapter are those that are listed in Appendix A and such codes and standards are considered to be part of the requirements of this chapter to the prescribed extent of each such reference. Where differences occur between provisions of this chapter and the referenced standards, the provisions of this chapter shall be the minimum requirements.

(g) Requirements not covered by this chapter. Any requirements necessary for the strength, stability or proper operation of an existing or proposed system, or for the public safety, health and general welfare, not specifically covered by this chapter shall be determined by the Commissioner.

(h) Other laws. The provisions of this chapter do not nullify any unrelated provisions of local, state or federal law.

(i) General design requirements. Paragraphs (a) through (e) of this section shall apply to all pools and spas.

(j) Glazing in hazardous locations. Hazardous locations for glazing shall be as defined in the International Building Code, as applicable in accordance with this chapter. Where glazing is determined to be in a hazardous location, the requirements for the glazing shall be in accordance with the International Building Code.

(k) Pool perimeter access. A deck or unobstructed access shall be provided for not less than 90 percent of the pool perimeter.

(l) Deck clearance. Decking not less than 4 feet (1219 mm) in width shall be provided on the sides and rear of any diving equipment. A deck clearance of 4 feet (1219 mm) shall be provided around all other deck equipment.

(m) Decks between pools and spas. Decks between pools, spas or any combination of pools and spas, shall have a width of not less than 6 feet (1829 mm).

(n) Deck covering. Walking surfaces of decks within 4 feet (1219 mm) of a pool or spa shall be slip resistant.

310:321-1-3. Definitions

When used in this Chapter, the following words or terms shall have the following meaning unless the context of the sentence requires another meaning:

"Access (to)" means that which enables a device, appliance or equipment to be reached by ready access or by a means that first requires the removal or movement of a panel or similar obstruction.

"Activity pool" means a pool designed primarily for play activity that uses constructed features and devices including lily pad walks, flotation devices, small slide features, and similar attractions.

"Air induction system" means a system whereby a volume of air is introduced into hollow ducting built into a spa floor, bench, or hydrotherapy jets.

"Alteration" means any construction or renovation to an existing pool or spa other than repair.

"Approved" means acceptable to the Department or authority having jurisdiction.

"Approved agency" means an established and recognized organization regularly engaged in conducting tests or furnishing inspection services, or furnishing product evaluation or certification where such organization has been approved by the Department.

"Aquatic recreation facility" means a facility that is designed for free-form aquatic play and recreation. The facilities may include, but are not limited to, wave or surf action pools, leisure rivers, sand bottom pools, vortex pools, activity pools, inner tube rides, body slides and interactive play attractions.

"Aquatic venue" means a constructed structure or modified natural structure containing water and intended for recreational or therapeutic use. Exposure to water in these structures may occur by contact.

ingestion or aerosolization. Examples include swimming pools, wave pools, lazy rivers, surf pools, spas, hot tubs, therapy pools, spray pads, waterpark pools and other interactive water venues.

"Backwash" means the process of cleansing the filter medium or elements by the reverse flow of water through the filter.

"Barrier" means a permanent fence, wall, building wall, or combination thereof that completely surrounds the pool or spa and obstructs access to the pool or spa. The term "permanent" shall mean not being able to be removed, lifted, or relocated without the use of a tool.

"Bather" means a person using a pool, spa or hot tub and adjoining deck area for the purpose of water sports, recreation, therapy or related activities.

"Bather load" means the number of persons in the pool or spa water at any given moment or during any stated period of time.

"Beach entry" means the sloping entry starting above the waterline at deck level and ending below the waterline. The presence of sand is not required. Also called "zero entry."

"Chemical feeder" means a floating or mechanical device for adding a chemical to pool or spa water.

"Chemical storage space" means a space in an aquatic facility used for the storage of pool or spa chemicals such as acids, salt, or corrosive or oxidizing chemicals.

"Circulation equipment" means the components of a circulation system.

"Circulation system" means the mechanical components that are a part of a recirculation system on a pool or spa. Circulation equipment may be, but is not limited to, categories of pumps, hair and lint strainers, filters, valves, gauges, meters, heaters, surface skimmers, inlet fittings, outlet fittings and chemical feeding devices. The components have separate functions, but where connected to each other by piping, perform as a coordinated system for purposes of maintaining pool or spa water in a clear and sanitary condition.

"Commissioner" means the Commissioner of the Oklahoma State Department of Health.

"Construction documents" mean written, graphic and pictorial documents prepared or assembled or describing the design, location and physical characteristics of the elements of a project necessary for obtaining a building permit.

"Copper alloy" means a homogeneous mixture of two or more metals in which copper is the primary component, such as brass and bronze.

"Deck" means an area immediately adjacent to or attached to a pool or spa that is specifically constructed or installed for sitting, standing, or walking.

"Deep area" means water depth areas exceeding 5 feet (1524 mm).

"Department" means the Oklahoma State Department of Health.

"Design professional" means an individual who is registered or licensed to practice his or her respective design profession as defined by the statutory requirements of the professional registration or licensing laws of the state of Oklahoma.

"Design rate of flow" means the rate of flow used for design calculations in a system.

"Design waterline" means the centerline of the skimmer or other point as defined by the designer of the pool or spa.

"Diving area" means the area of a swimming pool that is designed for diving.

"Diving board" means a flexible board secured at one end that is used for diving such as a spring board or a jump board.

"Diving platform" means a stationary platform designed for diving.

"Diving stand" means any supporting device for a springboard, jump board or diving board.

"Elevated pool" means any permanently installed pool, spa, cold plunge, catch basin, overflow trough, including any connected water feature, or body of water, or water feature, that is over a habitable, occupiable or unoccupied space that is:

(A) inside a thermal envelope,

(B) outside a thermal envelope, or

(C) a combination of inside and outside the thermal envelope.

"Equipment room" means a space intended for the operation of pool pumps, filters, heaters, and controllers. This space is not intended for the storage of hazardous pool or spa chemicals.

"Exercise spa" (also known as a swim spa) means variants of a spa in which the design and construction includes specific features and equipment to produce a water flow intended to allow recreational physical activity including, but not limited to, swimming in place. Exercise spas can include peripheral jetted seats intended for water therapy, heater, circulation and filtration system, or can be a separate distinct portion of a combination spa/exercise spa and can have separate controls. These spas are of a design and size such that they have an unobstructed volume of water large enough to allow the 99th Percentile Man as specified in the Pool & Hot Tub Alliance ("APSP") ASPA 16 to swim or exercise in place.

"Existing pool or spa" means pool or spa constructed prior to the date of adoption of this chapter, or one for which a legal building permit has been issued.

"Filter" means a device that removes undissolved particles from water by recirculating the water through a porous substance such as filter medium or elements.

"Filtration" means the process of removing undissolved particles from water by recirculating the water through a porous substance such as filter medium or elements.

"Flood hazard area" means the greater of the following two areas:

(A) the area within a flood plain subject to a 1 percent or greater chance of flooding in any year.

(B) the area designated as a flood hazard area on a community's flood hazard map, or otherwise legally designated.

"Flume" means a trough-like or tubular structure, generally recognized as a water slide, that directs the path of travel and the rate of descent by the rider.

"Gutter" means an overflow trough in the perimeter wall of a pool that is a component of the circulation system or flows to waste.

"Hair and lint strainer" means a device attached on or in front of a pump to which the influent line (suction line) is connected for the purpose of entrapping lint, hair, or other debris that could damage the pump.

"Handhold" means that portion of a pool or spa structure or a specific element that is at or above the design waterline that users in the pool grasp onto for support.

"Handrail" means a support device that is intended to be gripped by a user for the purpose of resting or steadying, typically located within or at exits to the pool or spa or as part of a set of steps.

"Hydrotherapy jet" means a fitting that blends air and water, creating a high-velocity turbulent stream of air-enriched water.

"Indoor aquatic facility" means a physical place that contains one or more pools or spas and the surrounding bather and spectator/stadium seating areas within a structure that meets the definition of "Building" in the International Building Code. It does not include equipment, chemical storage, or bather hygiene rooms or any other rooms with a direct opening to the aquatic facility. Also known as a natatorium.

"Interactive water play features" means any indoor or outdoor structure designed to allow for public recreational activities with recirculated, filtered, and treated water that includes sprayed, jetted or other water sources contacting bathers and not incorporating standing or captured water as part of the bather activity area. These installations are also known as splash pads, spray pads, and wet decks.

"Jump board" means a manufactured diving board that has a coil spring, leaf spring, or comparable device located beneath the board that is activated by the force exerted by jumping on the board's end.

"Jurisdiction" means the state of Oklahoma.

"Label" means an identification applied on a product by the manufacturer that contains the name of the manufacturer, the function and performance characteristics of the product or material, and the name and identification of an approved agency and that indicates that the representative sample of the product or material has been tested and evaluated by an approved agency.

"Labeled" means equipment, materials or products to which has been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, approved agency or other

organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

"Ladder" means a structure for ingress and egress that usually consists of two long parallel side pieces joined at intervals by crosspieces such as treads and classified and defined as follows:

(A) "Type A double access ladder" means an "A-Frame" ladder that straddles the pool wall of an above-ground pool and provides ingress and egress and is intended to be removed when not in use.

(B) "Type B limited access ladder" means an "A-Frame" ladder that straddles the pool wall of an above-ground/onground pool. Type B ladders are removable and have a built-in feature that prevents entry to the pool when the pool is not in use.

(C) "Type C ladder" means a "ground to deck" staircase ladder that allows access to an above-ground pool deck and has a built-in entry-limiting feature.

(D) "Type D in-pool ladder" means located in the pool to provide a means of ingress and egress from the pool to the deck.

(E) "Type E or F in-pool staircase ladder" means located in the pool to provide a means of ingress and egress from the pool to the deck.

"Lifeline" means an anchored line thrown to aid in rescue.

"Listed" means equipment, materials, products or services included in a list published by an organization acceptable to the Department and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose. Terms that are used to identify listed equipment, products, or materials include "listed," "certified," "classified" or other terms as determined appropriate by the listing organization.

"Maintained illumination" means the value, in foot-candles or equivalent units, below which the average illuminance on a specified surface is not allowed to fall. Maintained illumination equals the initial average illuminance on the specified surface with new lamps, multiplied by the light loss factor (LLF), to account for reduction in lamp intensity over time.

"Negative edge" means the same as "vanishing."

"Nonentry area" means an area of the deck from which entry into the pool or spa is prohibited.

"Onground storable pool" means a pool that can be disassembled for storage or transport. This includes portable pools with flexible or nonrigid walls that achieve their structural integrity by means of uniform shape, a support frame or a combination thereof, and that can be disassembled for storage or relocation.

"Overflow gutter" means the gutter around the top perimeter of the pool or spa, which is used to skim the surface.

"Owner" means any person, agent, operator, entity, firm or corporation having any legal or equitable interest in the property; or recorded in the official records of the state, county or municipality as holding an interest or title to the property; or otherwise having possession or control of the property, including the guardian of the estate of any such person, and the executor or administrator of the estate of such person if ordered to take possession of real property by a court.

"Permanent residential spa" means a spa, intended for use that is accessory to a residential setting and available to the household and its guests and where the water heating and water-circulating equipment is not an integral part of the product. The spa is intended as a permanent plumbing fixture and not intended to be moved.

"Permit" means an official document or certificate issued by the authority having jurisdiction that authorizes performance of a specified activity.

"Pool" means the definitions provided in "Public swimming pool" and "Residential swimming pool."

"Portable residential spa" means a spa intended for use that is accessory to a residential setting and available to the household and its guests and where it is either self-contained or nonself-contained.

"Power safety cover" means a pool cover that is placed over the water area and is opened and closed with a motorized mechanism activated by a control switch.

"Public spa" means a spa other than a permanent residential spa or portable residential spa that is intended to be used for bathing and is operated by an owner, licensee or concessionaire, regardless of whether a fee is charged for use.

"Public swimming pool" ("Public Pool") means as defined in ISPSC, a pool, other than a residential pool, that is intended to be used for swimming or bathing and is operated by an owner, lessee, operator, licensee or concessionaire, regardless of whether a fee is charged for use. Public pools shall be further classified and defined as follows:

(A) "Class A competition pool" means a pool intended for use for accredited competitive aquatic events such as Federation Internationale De Natation (FINA), USA Swimming, USA Diving, USA Synchronized Swimming, USA Water Polo, National Collegiate Athletic Association (NCAA), or the National Federation of State High School Associations (NFHS).

(B) "Class B public pool" means a pool intended for public recreational use that is not identified in the other classifications of public pools.

(C) "Class C semi-public pool" means a pool operated solely for and in conjunction with lodgings such as hotels, motels, apartments or condominiums.

(D) "Class D-1 wave action pool" means a pool designed to simulate breaking or cyclic waves for purposes of general play or surfing.

(E) "Class D-2 activity pool" means a pool designed for casual water play ranging from simple splashing activity to the use of attractions placed in the pool for recreation.

(F) "Class D-3 catch pool" means a body of water located at the termination of a manufactured waterslide attraction. The body of water is provided for the purpose of terminating the slide action and providing a means for exit to a deck or walkway area.

(G) "Class D-4 leisure river" means a manufactured stream of water of near-constant depth in which the water is moved by pumps or other means of propulsion to provide a river-like flow that transports bathers over a defined path that may include water features and play devices.

(H) "Class D-5 vortex pool" means a circular pool equipped with a method of transporting water in the pool for the purpose of propelling riders at speeds dictated by the velocity of the moving stream of water.

(I) "Class D-6 interactive play attraction" means a manufactured water play device or a combination of water-based play devices in which water flow volumes, pressures or patterns can be varied by the bather without negatively influencing the hydraulic conditions for other connected devices. These attractions incorporate devices or activities such as slides, climbing and crawling structures, visual effects, user-actuated mechanical devices and other elements of bather-driven and bather-controlled play.

(J) "Class E pools" means used for instruction, play or therapy and with temperatures above 86°F (30°C).

(K) "Class F pools" means wading pools and are covered within the scope of this chapter.

(L) "Public pools" means a diving or nondiving type. Diving types of public pools are classified into types as an indication of the suitability of a pool for use with diving equipment.

(i) "Type O" means a nondiving public pool.

(ii) "Types VI-IX" means public suitable for the installation of diving equipment by type.

"Ready access (to)" that which enables a device, appliance or equipment to be directly reached, without requiring the removal or movement of any panel or similar obstruction (see "Access (to)").

"Recessed treads" means a series of vertically spaced cavities in a pool or spa wall creating tread areas for step holes.

"Recirculation system" means the term as defined in "Circulation system."

"Registered design professional" means an architect or engineer, registered or licensed to practice professional architecture or engineering, as defined by the statutory requirements of the professional registration laws of the state of Oklahoma.

"Repair" means the reconstruction or renewal of any part of a pool or spa for the purpose of its maintenance or to correct damage.

"Residential" means it applies to detached one- and two-family dwellings and townhouses not more than three stories in height.

"Residential swimming pool" (Residential Pool) means a pool intended for use that is accessory to a residential setting and available only to the household and its guests. Other pools shall be considered to be public pools for purposes of this chapter.

"Return inlet" means the aperture or fitting through which the water under positive pressure returns into a pool.

"Ring buoy" means a ring-shaped floating buoy capable of supporting a user, usually attached to a throwing line.

"Rope and Float Line" means a continuous line not less than 1/4 inch (6 mm) in diameter that is supported by buoys and attached to opposite sides of a pool to separate the deep and shallow ends.

"Runout" means a continuation of water slide flume surface where riders are intended to decelerate and come to a stop.

"Safety cover" means a structure, fabric or assembly, along with attendant appurtenances and anchoring mechanisms, that is temporarily placed or installed over an entire pool, spa or hot tub and secured in place after all bathers are absent from the water.

"Secondary disinfection system" means a disinfection process or system installed in increased-risk aquatic venues in addition to the required primary disinfection system.

"Self-contained spa" means a factory-built spa in which all control, water heating and water-circulating equipment is an integral part of the product. Self-contained spas may be permanently wired or cord connected.

"Shall" means the term, where used in this chapter, that is construed as mandatory.

"Shallow areas" means portions of a pool or spa with water depths less than or equal to 5 feet (1524 mm).

"Shotcrete" means concrete, wet or dry, placed by a high-velocity pneumatic projection from a nozzle.

"Skimmer" means a device installed in the pool or spa that permits the removal of floating debris and surface water to the filter.

"Slip resistant" means a surface that has been treated or constructed to significantly reduce the chance of a user slipping. The surface shall not be an abrasion hazard.

"Slope break" means that it occurs at the point where the slope of the pool floor changes to a greater slope.

"Spa" means a product intended for the immersion of persons in temperature-controlled water circulated in a closed system, and not intended to be drained and filled with each use. A spa usually includes a filter, an electric, solar or gas heater, a pump or pumps, and a control, and can include other equipment, such as lights, blowers, and water-sanitizing equipment.

"Spray pool" means a pool or basin occupied by construction features that spray water in various arrays for the purpose of wetting the persons playing in the spray streams.

"Submerged vacuum fitting" means a fitting intended to provide a point of connection for suction side automatic swimming pool, spa, and hot tub cleaners.

"Suction outlet" means any appurtenance that provides a localized low-pressure area for the transfer of water from a pool to an individual suction system including but not limited to a suction outlet fitting assembly, skimmer or vacuum port fitting.

"Suction Outlet Fitting Assembly" (SOFA) means a fully submerged suction outlet composed of all components, including the cover and/or grate, adapters, supports, riser rings, a field-built sump or manufactured sump, and fasteners.

"Sun shelf" means an area of a pool that adjoins the pool wall with a water depth less than 12 inches (305 mm) and is used for seating and play.

"Surface skimming system" means a device or system installed in the pool or spa that permits the removal of floating debris and surface water to the filter.

"Surge capacity" means the storage volume in a surge tank, gutter, and plumbing lines.

"Surge tank" means a storage vessel within the pool recirculating system used to contain the water displaced by bathers.

"Swimout" means an underwater seat area that is placed completely outside of the diving envelope of the pool. Where located at the deep end, swimouts are permitted to be used as the deep-end means of entry or exit to the pool.

"Tempered water" means water having a temperature range between 85°F (29°C) and 110°F (43°C).

"Tube ride" A gravity flow attraction found at a waterpark designed to convey riders on an inner-tube-like device through a series of chutes, channels, flumes or pools.

"Turnover rate" means the period of time, usually in hours, required to circulate a volume of water equal to the pool or spa capacity.

"Underwater bench" means an underwater seat that can be recessed into the pool wall or placed completely inside the perimeter shape of the pool, such as a sun shelf.

"Underwater ledge" means a narrow shelf projecting from the side of a vertical structure whose dimensions are defined in the appropriate standard.

"Vanishing edge" means a water-feature detail in which water flows over the edge of not fewer than one of the pool walls and is collected in a catch basin and is also called "Negative edge."

"Waterline" means the term as defined in "Design waterline."

"Wave pool caisson" means a large chamber used in wave generation. This chamber houses pulsing water and air surges in the wave generation process and is not meant for human occupancy.

"Zero entry" means the term as defined in "Beach entry."

SUBCHAPTER 2. PERMITS AND DESIGNS

310:321-2-1. Permit requirement

Any owner, or owner's authorized agent who desires to construct, enlarge, alter, repair, move, or demolish a pool or spa or to erect, install, enlarge, alter, repair, remove, convert or replace any system, the installation of which is regulated by this chapter, or to cause any such work to be performed, shall first make application to the Department and obtain the required permit for the work. A permit shall not be required for replastering or resurfacing of an existing pool or spa.

310:321-2-2. Application for permit

Each application for a permit, with the required fee, set forth on APPENDIX B shall be filed with the Department on a form furnished for that purpose and shall contain a general description of the proposed work and its location. The application shall be signed by the owner or the owner's authorized agent. The permit application shall contain other information required by the Department.

310:321-2-3. Time limitation of application

An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing unless such application has been pursued in good faith or a permit has been issued; except that the Department is authorized to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

310:321-2-4. Permit issuance

The application, construction documents and other data filed by an applicant for a permit shall be reviewed by the Department. If the Department finds that the proposed work conforms to the requirements of this chapter and laws applicable thereto, and that the fees specified herein have been paid, a permit shall be issued to the applicant.

310:321-2-5. Approved construction documents

(a)When the Department issues the permit where construction documents are required, the construction documents shall be endorsed in writing and stamped "APPROVED." Such approved construction documents shall not be changed, modified or altered without authorization from the Department. Work shall be done in accordance with the approved construction documents.

(b)The Department shall have the authority to issue a permit for the construction of a part of a system before the entire construction documents for the whole system have been submitted or approved, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this chapter. The holders of such permit shall proceed at their own risk without assurance that the permit for the entire system will be granted.

(c) Construction documents, engineering calculations, diagrams and other such data shall be submitted in two or more sets with each application for a permit. The Department shall require construction documents, computations and specifications to be prepared and designed by a registered design professional. Construction documents shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code.

(d) One set of approved construction documents shall be retained by the Department for a period of not less than 180 days from date of completion of the permitted work. One set of approved construction documents shall be returned to the applicant, and the set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.

310:321-2-6. Validity

(a)The issuance of a permit or approval of construction documents shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this chapter or any other applicable laws of Oklahoma. Any permit presuming to give authority to violate or cancel the provisions of this chapter shall not be valid.

(b)The issuance of a permit based on construction documents and other data shall not prevent the Department from thereafter requiring the correction of errors in said construction documents and other data or from preventing building operations being carried on thereunder where in violation of this chapter or of other laws of the state of Oklahoma.

310:321-2-7. Expiration

Every permit issued shall become invalid unless the work authorized by such permit is commenced within period of 180 days after the time the work is commenced. The Department is authorized to grant, in writing, one or more extensions of time, for a period of not more than 180 days. The extension shall be requested in writing and justifiable cause demonstrated.

310:321-2-8. Extensions

Any permittee holding an unexpired permit shall have the right to apply for an extension of the time within which the permittee will commence work under that permit when work is unable to be commenced within the time required by this section for good and satisfactory reasons. The Department shall extend the time for action by the permittee for a period not exceeding 180 days if there is reasonable cause. The fee for an extension shall be one-half the amount required for a new permit for such work.

310:321-2-9. Suspension or revocation of permit

The Department shall revoke a permit or approval issued under the provisions of this chapter in case of any false statement or misrepresentation of fact in the application or on the construction documents on which the permit or approval was based.

310:321-2-10. Approval

After the prescribed tests and inspections indicate that the work complies in all respects with this chapter, a notice of approval shall be issued by the Department.

310:321-2-11. Revocation

The Department is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this chapter wherever the notice is issued in error, or on the basis of the incorrect information supplied, or where it is determined that the building or structure, premise, system or portion thereof is in violation of any ordinance or regulation or any of the provisions of this chapter.

310:321-2-12. Fees

(a) Approval. After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the Commissioner.

(b) Revocation. The Commissioner is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this chapter wherever the notice is issued in error, or on the basis of the incorrect information supplied, or where it is determined that the building or structure, premise, system or portion thereof is in violation of any ordinance or regulation or any of the provisions of this chapter.

(c) Schedule of permit fees. A permit shall not be valid until the fees prescribed by law on Appendix. E have been paid. An amendment to a permit shall not be released until the additional fee, if any, has been paid.

(1) Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the Department.

(2) Permit valuations. The applicant for a permit shall provide an estimated value of the work for which the permit is being issued at the time of application. Such estimated valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as mechanical equipment and permanent systems. Where, in the opinion of the Department, the valuation is underestimated, the permit shall be denied unless the applicant can show detailed estimates to the Department. The Department shall have the authority to adjust the final valuation for permit fees.

(3) Work commencing before permit issuance. Any person who commences any work on a mechanical system before obtaining the necessary permits shall be subject to a fee as established by the Department that shall be in addition to the required permit fees.

(4) Related fees. The payment of the fee for the construction, alteration, removal or demolition for work done in connection to or concurrently with the work authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law.

(5) Refunds. The Department is authorized to establish a refund policy.

310:321-2-13. Service Utilities

(a) Temporary connection. The Department shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, power, water system or sewer system for the purpose of testing systems or for use under a temporary approval.

(b) Connection of service utilities. A person shall not make connections from a utility, source of energy, fuel, power, water system or sewer system to any building or system that is regulated by this chapter for which a permit is required until authorized by the Department.

(c) Authority to provide utility companies reason to disconnect service utilities. The Department shall have the authority to issue a Stop Work Order as provided in OAC 310:321-2-17 when it believes

disconnection of utility service to the building, structure or system regulated by this chapter and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by OAC 310:321-2-13 (a) and (b). In each of the circumstances set forth above, the Department shall notify the servicing utility, and wherever possible the owner or the owner's authorized agent and occupant of the building, structure or service system if the utility company decides to disconnect the utility service. If not notified prior to the utility company's decision to disconnect utilities, the owner, the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

310:321-2-14. Temporary structures, equipment and systems

The Department is authorized to issue a permit for temporary structures, equipment or systems. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The Department is authorized to grant extensions for demonstrated cause.

(1) **Conformance.** Temporary structures, equipment and systems shall conform to the requirements of this chapter as necessary to ensure health, safety and general welfare.

(2) **Temporary service utilities.** The Department is authorized to give permission to temporarily supply service utilities.

(3) **Termination of approval.** The Department is authorized to terminate such permit for temporary structures, equipment, or systems and to order the same to be discontinued.

310:321-2-15. Inspections

(a) **General.** Construction or work for which a permit is required shall be subject to inspection by the Department and such construction or work shall remain visible and able to be accessed for inspection purposes until approved. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this chapter or of other ordinances of the local municipality. Inspections presuming to give authority to violate or cancel the provisions of this chapter or of other ordinances of the applicable jurisdiction shall not be valid. It shall be the duty of the permit applicant to cause the work to remain available and exposed for inspection purposes. Neither the Department nor the state of Oklahoma shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

(b) **Preliminary inspection.** Before issuing a permit, the Department is authorized to examine or cause to be examined buildings, structures and sites for which an application has been filed.

(c) **Required inspections and testing.** Pool and spa installations or alterations thereto, including equipment, piping, and appliances related thereto, shall be inspected by the Department to ensure compliance with the requirements of this chapter.

(d) **Other inspections.** In addition to the inspections specified in subparagraphs (b) and (c) of this section the Department is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this chapter and other laws that are enforced.

(e) **Inspection request.** It shall be the duty of the holder of the permit or their duly authorized agent to notify the Department when work is ready for inspection. It shall be the duty of the permit holder to provide access to and means for inspections of such work that are required by this chapter.

(f) **Approval required.** Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the Department. The Department, upon notification, shall make the requested inspection and shall either indicate the portion of the construction that is satisfactory as completed, or notify the permit holder or his or her agent wherein the same fails to comply with this chapter. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the Department.

(g) **Approved agencies.** Test reports submitted to the Department for consideration shall be developed by approved agencies that have satisfied the requirements as to qualifications and reliability.

(h) Evaluation and follow-up inspection services. Prior to the approval of a closed, prefabricated system and the issuance of a permit, the Department shall require the submittal of an evaluation report on each prefabricated system indicating the complete details of the system, including a description of the system and its components, the basis on which the system is being evaluated, test results and similar information, and other data as necessary for the Department to determine conformance to this chapter.

(i) Evaluation service. The Department shall designate the evaluation service of an approved agency as the evaluation agency and review such agency's evaluation report for adequacy and conformance to this chapter.

(j) Follow-up inspection. Except where ready access is provided to systems, service equipment and accessories for complete inspection at the site without disassembly or dismantling, the Department shall conduct the frequency of in-plant inspections necessary to ensure conformance to the approved evaluation report or shall designate an independent, approved inspection agency to conduct such inspections. The inspection agency shall furnish the Department with the follow-up inspection manual and a report of inspections on request, and the system shall have an identifying label permanently affixed to the system indicating that factory inspections have been performed.

(k) Test and inspection records. Required test and inspection records shall be available to the Department at all times during the fabrication of the system and the installation of the system, or such records as the Department designates shall be filed.

(l) Special inspections. Special inspections of alternative engineered design systems shall be conducted in accordance with subparagraphs (m) and (n) of this section.

(m) Periodic inspection. The registered design professional or designated inspector shall periodically inspect and observe the alternative engineered design to determine that the installation is in accordance with the approved construction documents. Discrepancies shall be brought to the immediate attention of the contractor for correction. Records shall be kept of inspections.

(n) Written report. The registered design professional shall submit a final report in writing to the Department upon completion of the installation, certifying that the alternative engineered design conforms to the approved construction documents. A notice of approval for the system shall not be issued until a written certification has been submitted.

(o) Testing. Systems shall be tested as required by this chapter. Tests shall be made by the permit holder and the Department shall have the authority to witness such tests.

(p) New, altered, extended or repaired systems. New systems and parts of existing systems that have been altered, extended or repaired shall be tested as prescribed by this chapter.

(q) Equipment, material and labor for tests. Equipment, material and labor required for testing a system or part thereof shall be furnished by the permit holder.

(r) Reinspection and testing. Where any work or installation does not pass any initial test or inspection, the necessary corrections shall be made to comply with this chapter. The work or installation shall then be resubmitted to the Department for inspection and testing.

310:321-2-16. Violations

(a) Unlawful acts. It shall be unlawful for any person, firm or corporation to erect, construct, alter, repair, remove, demolish or utilize any system, or cause same to be done, in conflict with or in violation of any of the provisions of this chapter.

(b) Notice of violation. A violation of any provision of this Chapter is grounds for the Department to issue a notice of violation; citing the factual allegations and particular standard or rule violated, affording the Respondent an opportunity to demonstrate compliance, and indicating a time frame of no less than fifteen (15) days after receipt of the notice in which any needed correction shall be made. The fifteen (15) day notice period may be reduced, as in the opinion of the Department, may be necessary to render an order of compliance reasonably effectual.

(c) Violation penalties. Any person who violates a provision of this chapter or fails to comply with any of the requirements thereof or who shall erect, install, alter or repair a pool or spa in violation of the approved construction documents or directive of the Department will have their permit revoked or

application for a permit denied or other penalty appropriate for the noncompliance. The following factors may be considered in determining the penalty specified in an Administrative Compliance Order:

- (1) the value of efforts to comply with the regulations cited in the notice of violation;
- (2) the economic benefit to the violator of noncompliance with the regulations in question; and
- (3) an additional amount for deterrence purposes, based upon
 - (A) the likelihood of the development of adverse health effects caused by the violation;
 - (B) the severity of environmental degradation or public health effects caused or placed at risk by the violation;
 - (C) the degree of variance from the applicable standards;
 - (D) costs of correction of damage, and
 - (E) bad faith of the Respondent.

(d) **Failure to comply with the notice of violation.** After the issuance of a notice of violation, if an individual continues to operate out of compliance with applicable laws, rules, and standards, the Commissioner or his designee shall have the power and duty to initiate an individual proceeding by issuing an administrative compliance order pursuant to Title 63 O.S. §1-1701 *et seq.* These proceedings must be conducted in accordance with the Oklahoma Administrative Procedures Act, Title 75 O.S. §§ 250 through 323 and OAC 310:321-2-1 through 5.

(d) **Unsafe systems.** Any system regulated by this chapter that is unsafe or that constitutes a fire or health hazard, unsanitary condition, or is otherwise dangerous to human life is hereby declared unsafe. Any use of a system regulated by this chapter constituting a hazard to safety, health or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage or abandonment is hereby declared an unsafe use. Any such unsafe system will be abated by repair, rehabilitation, demolition or removal.

(e) **Authority to condemn a system.** Where the Department determines that any system, or portion thereof, regulated by this chapter has become hazardous to life, health or property or has become unsanitary, the Department will order in writing that such system either be removed or restored to a safe or sanitary condition. A time limit for compliance with such order shall be specified in the written notice. A person shall not use or maintain a defective system after receiving such notice. Where such a system is to be disconnected, written notice shall be given. In cases of immediate danger to life or property, such disconnection shall be made immediately without such notice.

(f) **Authority to notify utility of basis for disconnection of service utilities.** The Department has the authority to notify the particular utility company of the Department's belief that disconnection of utility service is required to protect safety, health and the general welfare of the public.

(g) **Connection after utility company orders the applicant to disconnect the utilities.** When any system is maintained in violation of this chapter, and in violation of any notice issued pursuant to the provisions of this section, the Department shall institute any appropriate action to prevent, restrain, correct or abate the violation consistent with the terms of OAC 310:321-2-16.

310:321-2-17. Stop work order

(a) **Authority.** Where the Department finds any work regulated by this chapter being performed in a manner contrary to the provisions of this chapter or in a dangerous or unsafe manner, the Department is authorized to issue a stop work order.

(b) **Issuance.** The stop work order shall be in writing and shall be given to the owner of the property, the owner's authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume.

(c) **Emergencies.** Where an emergency exists, the Department shall not be required to give written notice prior to stopping the work.

(d) **Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the Department.

310:321-2-18. General structural design requirements

(a) Glazing in hazardous locations. Hazardous locations for glazing shall be as defined in the International Building Code as applicable in accordance with this chapter. Where glazing is determined to be in a hazardous location, the requirements for the glazing shall be in accordance with that code, as applicable.

(b) Colors and finishes. The colors, patterns, or finishes of the pool and spa interiors shall not obscure objects or surfaces within the pool or spa. The interior finish coating floors and walls shall be white or light-colored.

(c) Munsell gray scale. Finishes shall be not less than 8.0 on the Munsell gray scale except the following listed are not required to comply with this section:

- (1) Competitive lane markings.
- (2) Floors of dedicated competitive diving wells.
- (3) Step or bench edge markings.
- (4) Pools shallower than 24 inches (609.6 mm).
- (5) Water line tiles.
- (6) Wave and surf pool depth change indicator tiles.
- (7) Depth change indicator tiles where a rope and float line is provided.
- (8) Features such as rock formations, as approved.

(d) Designs or logos. Any design or logo on the pool floor or walls shall be such that it will not hinder the detection of a human in distress, algae, sediment, or other objects in the pool.

(e) Roofs or canopies. Roofs or canopies over pools and spas shall be in accordance with the International Building Code and shall be constructed so as to prevent water runoff into the pool or spa.

(f) Accessibility. An accessible route to public pools and spas shall be provided in accordance with the International Building Code. Accessibility within public pools and spas shall be provided as required by the accessible recreational facilities provisions of the International Building Code. Pool and spa lifts providing an accessible means of entry into the water shall be listed and labeled in accordance with UL 60335-2-1000 and be installed in accordance with ICC A117.1 and NFPA 70.

(g) Specific design and material requirements. The specific design and material requirements in this chapter apply to all public pools and spas as defined in this chapter.

(h) Pool perimeter access. A deck or unobstructed access shall be provided for not less than 90 percent of the pool perimeter.

(i) Deck clearance. Decking not less than 4 feet (1219 mm) in width shall be provided on the sides and rear of any diving equipment. A deck clearance of 4 feet (1219 mm) shall be provided around all other deck equipment.

(j) Decks between pools and spas. Decks between pools, spas or any combination of pools and spas, shall have a width of not less than 6 feet (1829 mm).

(k) Deck covering. Walking surfaces of decks within 4 feet (1219 mm) of a pool or spa shall be slip resistant.

310:321-2-19. Materials

Pools and spas and appurtenances thereto shall be constructed of materials that are nontoxic to humans and the environment; that are generally or commonly regarded to be impervious and enduring; that will withstand the design stresses; and that will provide a watertight structure with a smooth and easily cleanable surface without cracks or joints, excluding structural joints, or that will provide a watertight structure to which a smooth, easily cleaned surface/finish is applied or attached. Material surfaces that come in contact with the user shall be finished, so that they do not constitute a cutting, pinching, puncturing or abrasion hazard under casual contact and intended use.

310:321-2-20. Beach pools

Clean sand or similar material, where used in a beach pool environment, shall be used over an impervious surface. The sand area shall be designed and controlled so that the circulation system, maintenance, safety, sanitation, and operation of the pool are not adversely affected.

310:321-2-21. Compatibility

Assemblies of different materials shall be chemically and mechanically compatible for their intended use and environment.

310:321-2-22. Materials and structural design

Pools and spas shall conform to one or more of the standards indicated in Table 1 below. The structural design of pools and spas shall be in accordance with the International Building Code except pools and spas constructed with reinforced concrete or reinforced shotcrete with a minimum compressive strength of 2,500 pounds per square inch (175.8 kg/cm²) as designed by a design professional and approved shall be permitted.

TABLE 1. RESERVOIRS AND SHELLS

<u>MATERIAL</u>	<u>STANDARD</u>
<u>Fiberglass reinforced plastic</u>	<u>IAPMO Z124.7</u>
<u>Plastic</u>	<u>IAPMO Z124.7</u>
<u>Reinforced concrete</u>	<u>ACI 318</u>
<u>Reinforced shotcrete</u>	<u>ACI 318</u>
<u>Stainless steel (Types 316, 316L, 304, 304L)</u>	<u>ASTM A240</u>
<u>Tile</u>	<u>ANSI A108/A118/A136.1</u>
<u>Vinyl</u>	<u>ASTM D1593</u>

310:321-2-23. Installation

Equipment for pools and spas shall be supported to prevent damage from misalignment and settling and located so as to allow access for inspection, servicing, removal and repair of component parts.

310:321-2-24. Freeze protection

In climates subject to freezing temperatures, outdoor pool and spa shells and appurtenances, piping, filter systems, pumps and motors, and other components shall be designed and constructed to provide protection from damage from freezing.

310:321-2-25. Surface condition

The surfaces within public pools and spas intended to provide footing for users shall be slip resistant and shall not cause injury during normal use.

310:321-2-26. Plaster

The plastering of pools and permanently installed concrete spas shall be in accordance with APSP/NPC/ICC-12.

310:321-2-27. Design of elevated pools

Elevated pools shall be designed and constructed in accordance with PHTA 10.

310:321-2-28. Dimensional design

(a) Floor slope. The floor slopes shall comply with the following minimum standards:

(1) All slopes shall be uniform.

(2) The slope of the floor from the point of the first slope change to the deep area shall not exceed one unit vertical in three units horizontal (33-percent slope).

(3) Shallow end. The slope of the floor from the beginning of the shallow end to the deep area floor slope transition point, shall not exceed 1 unit vertical in 7 units horizontal.

(4) Shallow to deep transition. The shallow to deep area floor slope transition point, shall occur at a depth not less than 33 inches (838 mm) below the design waterline and at a point not less than six (6) feet (1829 mm) from the beginning of the shallow end, and shall not exceed one (1) foot in twelve (12) feet to the point of the first slope change.

(5) Deep end. The slope of the floor in the deep end, shall not exceed a slope of 1 unit vertical in 3 units horizontal (33-percent slope).

(6) Shallow end water depths. The design water depth as measured at the shallowest point in the shallow area shall be not less than 33 inches (838 mm) and not greater than 4 feet (1219 mm). Shallow areas designed in accordance with beach and sloping entries, steps and sloping entries and architectural features as described in this chapter shall be exempt from the minimum depth requirement.

(7) Slope for specific pool types. Except where required to meet the accessibility requirements in this chapter, the slope of the floor in the shallow area of a pool shall not exceed 1 unit vertical in 10 units horizontal (10-percent slope) for Class C pools and 1 unit vertical in 12 units horizontal (8-percent slope) for Class B pools. The slope limit shall apply in any direction to the point of the first slope change, where a slope change exists. The point of the first slope change shall be defined as the point at which the floor slope exceeds 1 unit vertical in 10 units horizontal (10-percent slope) for Class C pools and 1 unit vertical in 12 units horizontal (8-percent slope) for Class B pools.

(b) Walls. Walls shall intersect with the floor at an angle or a transition profile. Where a transitional profile is provided at water depths of 3 feet (914 mm) or less, a transitional radius shall not exceed 6 inches (152 mm) and shall be tangent to the wall and is permitted to be tangent to or intersect the floor. Onground storable pools are excluded from this requirement.

(c) Shape. This code is not intended to regulate the shape of a pool or spa other than to take into account the effect that a given shape will have on the safety of the occupants and to maintain the minimum required level of circulation to ensure sanitation.

(d) Waterline. The design waterline shall have a maximum construction tolerance at the time of completion of the work of plus or minus $\frac{1}{4}$ inch (6.4 mm) for pools and spas with adjustable weir surface skimming systems, and plus or minus $\frac{1}{8}$ inch (3.2 mm) for pools and spas with nonadjustable surface skimming systems.

(e) Electrically operated equipment. Electrically operated equipment shall be listed and labeled in accordance with applicable product standards.

(f) Treatment and circulation system equipment. Treatment and circulation system equipment for public pools and spas shall be listed and labeled in accordance with NSF 50 and other applicable standards.

(g) Suction entrapment avoidance. Suction entrapment avoidance for pools and spas shall be provided in accordance with APSP 7 (ANSI/PHTA/ICC 7), except as to:

(1) Portable spas and portable exercise spas listed and labeled in accordance with UL 1563 or CSA C22.2 No. 218.1.

(2) Suction entrapment avoidance for wading pools shall be provided in accordance with OAC 310:321-3-2 of this chapter.

(h) Depth markers. Depth markers shall be installed at the maximum and minimum water depths and at all points of slope change. Depth markers shall be installed at water depth increments not to exceed 2 feet (607 mm). Depth markers shall be spaced at intervals not to exceed 25 feet (7620 mm).

(1) Marking of depth. The depth of water in feet (meters) shall be plainly and conspicuously marked on the vertical pool wall at or above the waterline. Pools with a vanishing edge and rim flow gutters are excluded from this requirement.

(2) Depth accuracy. Depth markers shall indicate the actual pool depth within ± 3 inches (76 mm), at normal operating water level where measured 3 feet (914 mm) from the pool wall or at the tangent point where the cove radius meets the floor, whichever is deeper.

(3) Position on pool wall. Depth markers on the vertical pool wall shall be positioned to be read from the waterside. Depth markers shall be placed so as to allow as much of the numbers to be visible above the waterline as possible.

(4) Position on deck. Depth markers on the deck shall be located within 18 inches (457 mm) of the water edge and positioned to be read while standing on the deck facing the water.

(5) Horizontal markers. Horizontal depth markers shall be slip resistant.

(6) Uniform distribution. Depth markers shall be distributed uniformly on both sides and both ends of the pool.

(7) Numbers and letters. Depth markers shall be not less than 4 inches (102 mm) in height. The color of the numbers shall contrast with the background on which they are applied and the color shall be of a permanent nature. The lettering shall spell out the words "feet" and "inches" or abbreviate them as "Ft." and "In." respectively. Where displayed in meters in addition to feet and inches, the word meter shall be spelled out or abbreviated as "M."

(8) No diving symbol. Where the pool depth is 5 feet (1524 mm) or less, the "No Diving" symbol shall be displayed. The symbol shall be placed on the deck at intervals of not greater than 25 feet (7620 mm) and directly adjacent to a depth marker. Additional signage shall be in accordance with NEMA Z535.

(i) Dimensional tolerances. Finished pool dimensions, for other than Class A pools, shall be held within the construction tolerances shown in Table 2 below. Other dimensions, unless otherwise specified, shall have a tolerance of ± 2 inches (51 mm). Class A pools shall be designed and constructed with the dimensions determined by the authority that provides the accreditation of the pool for competitive events.

TABLE 2. CONSTRUCTION TOLERANCES

DESIGN ASPECT	CONSTRUCTION TOLERANCE
Depth-deep area, including diving area	± 3 inches
Depth-shallow area	± 2 inches
Length-overall	± 3 inches
Step treads & risers	$\pm \frac{1}{2}$ inch
Wall slopes	± 3 degrees
Waterline-pools with adjustable weir skimmers	$\pm \frac{1}{4}$ inch
Waterline-pools with nonadjustable skimming systems (gutters)	$\pm \frac{1}{8}$ inch
Width-overall	± 3 inches
All dimensions not otherwise specified herein	± 2 inches

For SI: 1 inch = 25.4 mm, 1 degree = 0.017 radians.

310:321-2-29. Variances

(a) The Department may grant a variance to the requirements of this chapter.

(b) Applying for a Variance. The owner or its agent seeking a variance shall apply in writing with the appropriate forms to the Department.

(c) Application Components. The application shall include, but not be limited to:

(1) The name of the pool permit establishment;

(2) A citation of the chapter and section to which the variance is requested;

(3) A description of the deviation request, including the nature and duration of the variance requested and including a statement as to why the applicant is unable to comply with the chapter section to which the variance is requested; and

(4) A statement of how the intent of the chapter will be met and the reasons why the public health and safety would be protected and preserved and not be jeopardized if the variance was granted.

(d) Revocation. Each variance shall be revoked when the permit attached to it is revoked.

(e) Not Transferable. A variance shall not be transferable unless otherwise provided in writing at the time the variance is granted.

SUBCHAPTER 3. DECKS, DECK EQUIPMENT AND DIVING

310:321-3-1. Decks in general

Decks shall comply with the "General Operations Requirements and Compliance" provisions of subchapter 4 of this chapter, except as otherwise required in this chapter.

(1) The structural design and installation of decks around pools and spas shall be in accordance with the International Building Code, as applicable in accordance with this chapter.

(2) **Slip resistant.** Decks, ramps, coping, and similar step surfaces shall be slip resistant and cleanable. Where surfaces are evaluated for slip resistance, such surfaces shall have, when tested wet, a minimum pendulum slip rating classification of P4 if tested in accordance with SA AS4586 or a minimum Dynamic Coefficient of Friction (DCOF) of 0.42 if tested in accordance with ANSI A326. The design professional shall determine the appropriate classification and level of slip resistance necessary based on surface type, placement environment, and pedestrian traffic. Special features in or on decks such as markers, brand insignias, and similar materials shall be slip resistant.

(3) **Step risers and treads.** Step risers for decks of public pools and spas shall be uniform and have a height not less than 3³/₄ inches (95 mm) and not greater than 7¹/₂ inches (191 mm). The tread distance from front to back shall be not less than 11 inches (279 mm).

(4) **Deck steps handrail required.** Public pool and spa deck steps having three or more risers shall be provided with a handrail.

(5) **Slope.** The minimum slope of decks shall be in accordance with Table 3 below. The maximum slope of decks shall be not greater than 1/2 inch per foot (1 mm per 24 mm). The minimum slope of decks in Table 3 below shall not be required where an alternative drainage method is provided that prevents the accumulation or pooling of water deeper than 1/8 inch (3.2 mm), 20 minutes after the cessation of the addition of water to the deck and the minimum slope of decks in Table 3 shall not be required where the decking is gapped in accordance with this subchapter.

TABLE 3

<u>SURFACE</u>	<u>MINIMUM DRAINAGE SLOPE (INCH PER FOOT)</u>
<u>Carpet</u>	<u>1/2</u>
<u>Exposed aggregate</u>	<u>1/4</u>
<u>Textured, hand-finished concrete</u>	<u>1/8</u>
<u>Travertine/brick-set pavers, public pools or spas</u>	<u>3/8</u>
<u>Travertine/brick-set pavers, residential pools or spas</u>	<u>1/8</u>
<u>Wood</u>	<u>1/8</u>
<u>Wood/plastic composite</u>	<u>1/8</u>

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

(6) **Deck drainage.** Decks shall be sloped to drain away from the pool or toward the deck drains. Where site conditions require, deck drains shall be permitted to be placed at the back side of the pool structure or coping.

(7) **Site drainage.** Site drainage shall direct all perimeter deck drainage, general site, and roof drainage away from the pool area with the exception of the first 3 feet (914 mm) of decking immediately surrounding perimeter flow pools.

(8) **Gaps.** Gaps not less than 1/8 inch and not greater than 1/2 inch shall be provided between wood deck boards for drainage. Gaps between manufactured deck boards shall be in accordance with the manufacturer's installation instructions, except gaps are not required between wood deck boards installed on decks sloped in accordance with Table 3.

(9) **Maximum gap.** The open gap between pool decks and adjoining decks or walkways, including joint material, shall be not greater than $\frac{3}{4}$ inch (19.1 mm). The difference in vertical elevation between the pool deck and the adjoining sidewalk shall be not greater than $\frac{1}{4}$ inch (6.4 mm).

(10) **Concrete joints.** Isolation joints that occur where the pool coping meets the concrete deck shall be watertight.

(11) **Joints at coping.** Joints that occur where the pool coping meets the concrete deck shall be installed to protect the coping and its mortar bed from damage as a result of the anticipated movement of adjoining deck.

(12) **Crack control.** Joints in a deck shall be provided to minimize visible cracks outside of the control joints caused by imposed stresses or movement of the slab.

(13) **Movement control.** Areas where decks join existing concrete work shall be provided with a joint to protect the pool from damage caused by relative movement.

(14) **Deck edges.** The edges of decks shall be radiused, tapered, or otherwise designed to eliminate sharp corners.

(15) **Valves under decks.** Valves installed in or under decks shall be provided access for operation, service, and maintenance. Where access through the deck walking surface is required, an access cover shall be provided for the opening in the deck. Such access covers shall be slip resistant and secured.

(16) **Hose bibbs.** Hose bibbs shall be provided for rinsing down the entire deck and shall be installed in accordance with the International Plumbing Code or referenced codes and standards, as applicable, and shall be located not greater than 150 feet (45 720 mm) apart. Water-powered devices, such as water-powered lifts, shall have a dedicated hose bibb water source.

310:321-3-2. Pool perimeter access

A deck or unobstructed access shall be provided for not less than 90 percent of the pool perimeter.

310:321-3-3. Deck clearance

Not less than 4 feet (1219 mm) in width shall be provided on the sides and rear of any diving equipment. A deck clearance of 4 feet (1219 mm) shall be provided around all other deck equipment.

310:321-3-4. Decks between pools and spas

Decks between pools, spas or any combination of pools and spas, shall have a width of not less than 6 feet (1829 mm).

310:321-3-5. Deck covering

Walking surfaces of decks within 4 feet (1219 mm) of a pool or spa shall be slip resistant.

310:321-3-6. Distances above diving boards

A completely unobstructed minimum distance above the tip of the diving board shall be specified by the diving equipment manufacturer.

310:321-3-7. Dimensional requirements

Public pools with diving equipment of 39 inches (991 mm) or greater in height, and pools designed for springboard or platform diving, shall comply with the dimensional design requirements of the diving equipment manufacturer or the Department or other authority that governs such pools.

310:321-3-8. Diving equipment

Diving equipment shall be installed in accordance with the manufacturer's specifications.

310:321-3-9. Label

A label shall be permanently affixed to the diving equipment or jump board in a readily visible location and shall include all of the following:

- (1) The minimum diving water envelope required for each diving board and diving stand combination.
- (2) Manufacturer's name and address.
- (3) Manufacturer's identification and date of manufacture.
- (4) The maximum allowable weight of the user.

310:321-3-10. Use instructions

The diving equipment manufacturer shall provide diving equipment use instructions.

310:321-3-11. Tread surface

Diving equipment shall have slip-resistant tread surfaces.

310:321-3-12. Supports for diving equipment

Supports, platforms, stairs, and ladders for diving equipment shall be designed to carry the anticipated loads. Stairs and ladders shall be of corrosion-resistant materials, shall be easily cleanable and shall have slip-resistant treads. Diving stands higher than 21 inches (533 mm), measured from the deck to the top back end of the board, shall be provided with stairs or a ladder. Step treads shall be self-draining.

310:321-3-13. Guardrails

Diving equipment 39 inches (991 mm) or greater in height shall be provided with a top guardrail. Such guardrail shall extend not less than 30 inches (762 mm) above the diving board and extend to the edge of the pool wall.

310:321-3-14. Starting blocks

In new construction or substantial alteration, starting blocks intended for competitive swimming shall be located at a water depth of not less than 5 feet (1524 mm).

310:321-3-15. Swimming pool slides

Swimming pool slides shall comply with the requirements of 16 CFR, Part 1207. The manufacturer of the slide shall provide installation and use instructions for the slide. Slides shall be installed in accordance with the manufacturer's instructions.

310:321-3-16. Play and water activity equipment

Play and water activity equipment shall be installed in accordance with the manufacturer's instructions.

310:321-3-17. Diving in general and manufactured and fabricated diving equipment

- (a) This subchapter section covers diving requirements for Class B, Class C, and Class E pools. Manufactured and fabricated diving equipment and appurtenances shall not be installed on Type O pools.
- (b) Manufactured and fabricated diving equipment shall be in accordance with this section and shall be designed for swimming pool use.

310:321-3-18. Installation

The installation of manufactured diving equipment shall be in accordance with this section through the section below governing springboard fall protection guards. Manufactured diving equipment shall be located in the deep area of the pool so as to provide the minimum dimensions shown in Table 4 below and shall be installed in accordance with the manufacturer's instructions. Installation and use instructions for manufactured diving equipment shall be provided by the manufacturer and shall specify the minimum diving water envelope dimensions required for each diving board and diving stand combination. The manufacturer's instructions shall refer to the water envelope type by dimensionally relating their products to Point A on the diving water envelopes shown in Table 4 below. The diving

board manufacturer shall specify which boards fit on the design pool geometry types as indicated in Table 3.

310:321-3-19. Slip resistance

Diving equipment shall have slip-resistant walking surfaces.

310:321-3-20. Point A

For the application of Table 4, Point A shall be the point from which dimensions of width, length and depth are established for the minimum diving water envelope. If the tip of the diving board or diving platform is located at a distance of WA (see Appendix A, Figure 1) or greater from the deep end wall and the water depth at that location is equal to or greater than the water depth requirement at Point A, the point on the water surface directly below the center of the tip of the diving board or diving platform shall be identified as Point A.

310:321-3-21. Location of pool features in a diving pool

Where a pool is designed for use with diving equipment, the location of steps, pool stairs, ladders, underwater benches, underwater ledges, special features and other accessory items shall be outside of the minimum diving water envelope. See Appendix A, Figure 1.

310:321-3-22. Stationary diving platforms and diving rocks

Where stationary diving platforms and diving rocks are built on site, flush with the wall and located in the diving area of the pool, Point A shall be in front of the wall at the platform or diving rock centerline.

310:321-3-23. Location of diving equipment

Manufactured and fabricated diving equipment shall be located so that the tip of the board or platform is located directly above Point A as defined by OAC 310:321-20.

310:321-3-24. Elevation

The maximum elevation of a diving board above the design waterline shall be in accordance with the manufacturer's instructions.

310:321-3-25. Platform height above waterline

The height of an approved stationary diving apparatus, platform, or diving rock above the design waterline shall not exceed the limits of the manufacturer's specifications or the limits of the design prepared by a design professional.

310:321-3-26. Clearance

The diving equipment manufacturer shall specify the minimum headroom required above the tip of the board.

310:321-3-27. Water envelopes

The minimum diving water envelopes shall be in accordance with Table 4.

**TABLE 4
MINIMUM DIVING WATER ENVELOPES (See Appendix A Figure 1 and Appendix B Figure 2.)**

<u>POOL</u>	<u>MINIMUM DIMENSIONS</u>	<u>MINIMUM WIDTH OF POOL AT:</u>
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<u>TYPE</u>	<u>D₁</u>	<u>D₂</u>	<u>R</u>	<u>L₁</u>	<u>L₂</u>	<u>L₃</u>	<u>L₄</u>	<u>L₅</u>	<u>Pt. A</u>	<u>Pt. B</u>	<u>Pt. C</u>
<u>VI</u>	<u>7'-0</u>	<u>8'- 9'</u>	<u>5'- 6"</u>	<u>2'- 6"</u>	<u>8'-0"</u>	<u>10'- 6"</u>	<u>7'- 0"</u>	<u>28'- 0"</u>	<u>16'-0"</u>	<u>18'- 0"</u>	<u>18'- 0"</u>
<u>VII</u>	<u>7'-6"</u>	<u>9'-0</u>	<u>6'- 0"</u>	<u>3'- 0"</u>	<u>9'-0"</u>	<u>12'- 0"</u>	<u>4'- 0"</u>	<u>28'- 0"</u>	<u>18'-0"</u>	<u>20'- 0"</u>	<u>20'- 0"</u>
<u>VIII</u>	<u>8'-6"</u>	<u>10'- 0"</u>	<u>7'- 0"</u>	<u>4'- 0"</u>	<u>10'-0"</u>	<u>15'- 0"</u>	<u>2'- 0"</u>	<u>35'- 0"</u>	<u>20'-0"</u>	<u>20'- 0"</u>	<u>22'- 0"</u>
<u>IX</u>	<u>11'- 0"</u>	<u>12'- 0"</u>	<u>8'- 6"</u>	<u>6'- 0"</u>	<u>10'-6"</u>	<u>21'- 0"</u>	<u>0</u>	<u>37'- 6"</u>	<u>22'-0"</u>	<u>24'- 0"</u>	<u>24'- 0"</u>

For SI: 1 inch=25.4 mm, 1 foot=304.8 mm

310:321-3-28. Ladders for diving equipment

Ladders shall be provided with two grab rails or two handrails. There shall be a uniform distance between ladder treads, with a 7-inch (178 mm) minimum distance and a 12-inch (305 mm) maximum distance. Exception: The distance between treads for the top and bottom riser can vary but shall be not less than 7 inches (178 mm) and not greater than 12 inches (305 mm).

310:321-3-29. Springboard fall protection guards

Springboards located at a height greater than 5 feet (1524 mm) above the pool deck shall have a fall protection guard on each side of the springboard. The design and the selection of the materials for construction of the fall protection guards shall be determined by the manufacturer of the springboard support structure. The installation and maintenance of the fall protection guards shall be in accordance with the fall protection guard manufacturer's instructions.

310:321-3-30. Maximum bather load

The maximum bather load of Class B and Class C pools shall be in accordance with Table 5.

**TABLE 5
MAXIMUM BATHER LOAD**

<u>POOL/DECK AREA</u>	<u>SHALLOW INSTRUCTIONAL OR WADING AREAS</u>	<u>DEEP AREA (NOT INCLUDING THE DIVING AREA)</u>	<u>DIVING AREA (PER EACH DIVING BOARD)</u>
Pools with minimum deck area	15 sq. ft. per user	20 sq. ft. per user	300 sq. ft.

Pools with deck area at least equal to water surface area	12 sq. ft. per user	15 sq. ft. per user	300 sq. ft.
Pools with deck area at least twice the water surface area	8 sq. ft. per user	10 sq. ft. per user	300 sq. ft.

For SI: 1 square foot = 0.09 square meters.

310:321-3-31. Rest ledges

Rest ledges along the pool walls are permitted. They shall be not less than 4 feet (1220 mm) below the water surface. Where a ledge is provided, the width of the ledge shall be not less than 4 inches (102 mm) and not greater than 6 inches (152 mm).

310:321-3-32. Wading pools

Class F wading pools shall be separate pools with an independent circulation system, shall be physically separated from the main pool and shall be constructed in accordance with subparagraphs (1) through five (5) of this section.

(1) **Nonentry areas.** The areas where the water depth at the edge of the pool exceeds 9 inches (229 mm) shall be considered to be nonentry areas.

(2) **Floor slope.** The floors of wading pools shall be uniform and sloped with a maximum slope of 1 unit vertical in 12 units horizontal (8-percent slope).

(3) **Maximum depth.** The water depth shall not exceed 18 inches (457 mm).

(4) **Distance from deck to waterline.** The maximum distance from the top of the deck to the waterline shall not exceed 6 inches (152 mm).

(5) **Suction entrapment avoidance.** Suction outlet fitting assemblies shall not be located in wading pools where bathers have access to such outlets. Where suction outlets cannot be located to avoid bather access, skimmers or overflow gutters shall be installed and shall accommodate 100 percent of the circulation system flow rate.

310:321-3-33. Decks and Deck Equipment General

Decks shall comply with the provisions of this subchapter, except as otherwise required in this section.

310:321-3-34. Pool perimeter access

A deck or unobstructed access shall be provided for not less than 90 percent of the pool perimeter.

310:321-3-35. Deck clearance

Decking not less than 4 feet (1219 mm) in width shall be provided on the sides and rear of any diving equipment. A deck clearance of 4 feet (1219 mm) shall be provided around all other deck equipment.

310:321-3-36. Decks between pools and spas

Decks between pools, spas or any combination of pools and spas, shall have a width of not less than 6 feet (1829 mm).

310:321-3-37. Deck covering

Walking surfaces of decks within 4 feet (1219 mm) of a pool or spa shall be slip resistant.

310:321-3-38. Distances above diving boards

A completely unobstructed minimum distance above the tip of the diving board shall be specified by the diving equipment manufacturer.

310:321-3-39. Dimensional requirements

Public pools with diving equipment of 39 inches (991 mm) or greater in height, and pools designed for springboard or platform diving, shall comply with the dimensional design requirements of the diving equipment manufacturer or the authority that governs such pools.

310:321-3-40. Diving equipment

Diving equipment shall be installed in accordance with the manufacturer's specifications.

310:321-3-41. Label

A label shall be permanently affixed to the diving equipment or jump board in a readily visible location and shall include all of the following:

- (1) The minimum diving water envelope required for each diving board and diving stand combination.
- (2) Manufacturer's name and address.
- (3) Manufacturer's identification and date of manufacture.
- (4) The maximum allowable weight of the user.

310:321-3-42. Use instructions

The diving equipment manufacturer shall provide diving equipment use instructions.

310:321-3-43. Tread surface

Diving equipment shall have slip-resistant tread surfaces.

310:321-3-44. Supports for diving equipment

Supports, platforms, stairs, and ladders for diving equipment shall be designed to carry the anticipated loads. Stairs and ladders shall be of corrosion-resistant materials, shall be easily cleanable and shall have slip-resistant treads. Diving stands higher than 21 inches (533 mm), measured from the deck to the top back end of the board, shall be provided with stairs or a ladder. Step treads shall be self-draining.

310:321-3-45. Guardrails

Diving equipment 39 inches (991 mm) or greater in height shall be provided with a top guardrail. Such guardrail shall extend not less than 30 inches (762 mm) above the diving board and extend to the edge of the pool wall.

310:321-3-46. Starting blocks

In new construction or substantial alteration, starting blocks intended for competitive swimming shall be located at a water depth of not less than 5 feet (1524 mm).

310:321-3-47. Swimming pool slides

Swimming pool slides shall comply with the requirements of 16 CFR, Part 1207. The manufacturer of the slide shall provide installation and use instructions for the slide. Slides shall be installed in accordance with the manufacturer's instructions.

310:321-3-48. Play and water activity equipment

Play and water activity equipment shall be installed in accordance with the manufacturer's instructions.

SUBCHAPTER 4. GENERAL OPERATIONS REQUIREMENTS AND COMPLIANCE

310:321-4-1. General

(a) The Commissioner shall enforce the provisions of this chapter. The Commissioner has the authority to determine compliance with this chapter, to render interpretations of this chapter and to adopt policies and procedures in order to clarify the application of its provisions.

(b) **Listed compliance.** Where this chapter or a referenced standard requires equipment, materials, products or services to be listed and a listing standard is specified, the listing shall be based on the specified standard. Where a listing standard is not specified, the listing shall be based on an approved listing criteria. Listings shall be germane to the provision requiring the listing. Installation shall be in accordance with the listing and the manufacturer's instructions, and where required to verify compliance, the listing standard and manufacturer's instructions shall be made available to the Department.

(c) **Tests.** Where there is insufficient evidence of compliance with the provisions of this chapter, the Department has the authority to require tests as evidence of compliance. Test methods shall be as specified in this chapter or by other recognized test standards. In the absence of recognized test standards, the Department will approve the testing procedures. Such tests shall be performed by a party acceptable to the Department.

(d) **Alternative materials, design and methods of construction and equipment.** The provisions of this chapter are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this chapter, provided that any such alternative is not specifically prohibited by this chapter and has been approved. Performance-based alternative materials, designs or methods of construction and equipment complying with the International Code Council Performance Code are excluded from this requirement.

(e) **Equivalency criteria.** An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this chapter with respect to all of the following, as applicable:

- (1) Quality
- (2) Strength
- (3) Effectiveness
- (4) Durability
- (5) Safety, other than fire safety
- (6) Fire safety

(f) **Tests.** Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration.

(g) **Modifications.** Where there are practical difficulties involved in carrying out the provisions of this chapter, the Commissioner shall have the authority to grant modifications for individual cases provided that the Commissioner shall first find that one or more special individual reasons make the strict letter of this chapter impractical, that the modification is in compliance with the intent and purpose of this chapter, and that such modification does not lessen health, accessibility, life and fire safety or structural requirements. The details of the written request for and action granting modifications shall be maintained by the Department.

(h) **Flood hazard areas.** The Department shall not grant modifications to any provision required in flood hazard areas as established by Section 1612.3 of the International Building Code unless a determination has been made that:

- (1) A showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the site render the elevation standards of Section 1612 of the International Building Code inappropriate.
- (2) A determination that failure to grant the variance would result in exceptional hardship by rendering the lot undevelopable.
- (3) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety or extraordinary public expense; cause fraud on or victimization of the public; or conflict with existing laws or ordinances.

(4) A determination that the variance is the minimum necessary to afford relief, considering the flood hazard.

(5) Submission to the applicant of written notice specifying the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation, and stating that construction below the design flood elevation increases risks to life and property. The Department shall receive applications, review construction documents and issue permits, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this chapter. For applications for reconstruction, rehabilitation, repair, alteration, addition or other improvement of existing buildings or structures located in flood hazard areas, the Department shall determine if the proposed work constitutes substantial improvement or repair of substantial damage. Where the Department determines that the proposed work constitutes substantial improvement or repair of substantial damage, and where required by this chapter, the Department shall require the building to meet the requirements of Section 1612 of the International Building Code.

310:321-4-2. Electrical, plumbing, mechanical and fuel gas requirements

(a) **Electrical.** Electrical requirements for aquatic facilities shall be in accordance with NFPA 70, as applicable. Electrically operated equipment shall be listed and labeled in accordance with applicable product standards.

(b) **Water service and drainage.** Piping and fittings used for water service, makeup and drainage piping for pools and spas shall comply with the International Plumbing Code. Fittings shall be approved for installation with the piping installed.

(c) **Pipe, fittings and components.** Pipe, fittings and components shall be listed and labeled in accordance with NSF 50 or NSF 14. Plastic jets, fittings, and outlets used in public spas shall be listed and labeled in accordance with NSF 50. Onground storable pools supplied by the pool manufacturer as a kit that includes all pipe, fittings and components are excluded from this requirement.

(d) **Suction outlet fitting assembly sumps.** Sumps shall be inspected for dimensional conformance to APSP 16 as specified by the suction outlet fitting assembly installation instructions.

(e) **Concealed piping inspection.** Piping, including process piping, that is installed in trenches, shall be inspected prior to backfilling.

(f) **Backflow protection.** Water supplies for pools and spas shall be protected against backflow in accordance with the International Plumbing Code.

(g) **Wastewater discharge.** Where wastewater from pools or spas, such as backwash water from filters and water from deck drains discharge to a building drainage system, the connection shall be through an air gap in accordance with the International Plumbing Code.

(h) **Tests.** Tests on water piping systems constructed of plastic piping shall not use compressed air for the test.

(i) **Maintenance.** Pools and spas shall be maintained in a clean and sanitary condition, and in good repair.

(j) **Manuals.** An operating and maintenance manual in accordance with industry-accepted standards shall be provided for each piece of equipment requiring maintenance.

310:321-4-3. Energy requirements

(a) **Energy consumption of pools and permanent spas.** The energy consumption of pools and permanent spas shall be controlled by the requirements in paragraphs (a) through (d) of this section.

(b) **Heaters.** The electric power to heaters shall be controlled by an on-off switch with ready access that is an integral part of the heater, mounted on the exterior of the heater or external to and within 3 feet (914 mm) of the heater. Operation of such switch shall not change the setting of the heater thermostat. Such switches shall be in addition to a circuit breaker for the power to the heater. Gas-fired heaters shall not be equipped with continuously burning ignition pilots.

(c) **Time switches.** Time switches or other control methods that can automatically turn off and on heaters and pump motors according to a preset schedule shall be installed for heaters and pump motors. Heaters and pump motors that have built-in time switches shall be in compliance with this section. The exceptions are:

(1) Where public health standards require 24-hour pump operation.

(2) Pumps that operate solar- or waste-heat recovery pool heating systems.

(d) **Covers.** Outdoor heated pools and outdoor permanent spas shall be provided with a vapor-retardant cover or other approved vapor-retardant means in accordance with this chapter. Where more than 75 percent of the energy for heating, computed over an operating season of not fewer than 3 calendar months, is from a heat pump or an on-site renewable energy system, covers or other vapor-retardant means shall not be required.

(e) **Portable spas.** The energy consumption of electric-powered portable spas shall be controlled by the requirements of APSP 14.

310:321-4-4. Flood hazard areas

(a) **General.** The provisions of this section shall control the design and construction of pools and spas installed in flood hazard areas.

(b) **Determination of impacts based on location.** Pools and spas located in flood hazard areas indicated within the International Building Code shall comply with this section. Pools and spas located in riverine flood hazard areas that are outside of designated floodways and pools and spas located in flood hazard areas where the source of flooding is tides, storm surges or coastal storms are excluded from this requirement.

(c) **Pools and spas located in designated floodways.** Where pools and spas are located in designated floodways, documentation shall be submitted to the Department that demonstrates that the construction of the pools and spas will not increase the design flood elevation at any point within the jurisdiction.

(d) **Pools and spas located where floodways have not been designated.** Where pools and spas are located where design flood elevations are specified but floodways have not been designated, the applicant shall provide a floodway analysis that demonstrates that the proposed pool or spa and any associated grading and filling, will not increase the design flood elevation more than 1 foot (305 mm) at any point within the jurisdiction.

(e) **Pools and spas in coastal high-hazard areas and coastal A zones.** Pools and spas installed in coastal high-hazard areas and coastal A zones shall be designed and constructed in accordance with ASCE 24.

(f) **Protection of equipment.** Equipment shall be elevated to or above the design flood elevation except equipment for pools, spas and water features shall be permitted below the required elevation provided that the equipment is elevated to the highest extent practical, is anchored to prevent flotation and resist flood forces, and is protected to prevent water from entering or accumulating within the components during conditions of flooding.

(g) **GFCI protection.** Electrical equipment installed below the design flood elevation shall be supplied by branch circuits that have ground-fault circuit interrupter protection for personnel.

310:321-4-5. Barrier requirements

(a) **General.** The provisions of this section shall apply to the design of barriers for restricting entry into areas having pools and spas. Where spas or hot tubs are equipped with a lockable safety cover complying with ASTM F1346 and swimming pools are equipped with a powered safety cover that complies with ASTM F1346, the areas where those spas, hot tubs or pools are located shall not be required to comply with Section OAC 310:321-2-10 through OAC 310:321-4-4(d).

(b) **Construction fencing required.** The construction sites for in-ground swimming pools and spas shall be provided with construction fencing to surround the site from the time that any excavation occurs up to the time that the permanent barrier is completed. The fencing shall be not less than 4 feet (1219 mm) in height.

(c) Outdoor swimming pools and spas. Outdoor pools and spas and indoor swimming pools shall be surrounded by a barrier that complies with OAC 310:321-4-4, subchapter 3 of this chapter and OAC 310:321-1-2(i).

(d) Barrier height and clearances. Barrier heights and clearances shall be in accordance with all of the following:

(1) The top of the barrier shall be not less than 48 inches (1219 mm) above grade where measured on the side of the barrier that faces away from the pool or spa. Such height shall exist around the entire perimeter of the barrier and for a distance of 3 feet (914 mm) measured horizontally from the outside of the required barrier.

(2) The vertical clearance between grade and the bottom of the barrier shall not exceed 2 inches (51 mm) for grade surfaces that are not solid, such as grass or gravel, where measured on the side of the barrier that faces away from the pool or spa.

(3) The vertical clearance between a surface below the barrier to a solid surface, such as concrete, and the bottom of the required barrier shall not exceed 4 inches (102 mm) where measured on the side of the required barrier that faces away from the pool or spa.

(4) Where the top of the pool or spa structure is above grade, the barrier shall be installed on grade or shall be mounted on top of the pool or spa structure. Where the barrier is mounted on the top of the pool or spa, the vertical clearance between the top of the pool or spa and the bottom of the barrier shall not exceed 4 inches (102 mm).

(e) Openings. Openings in the barrier shall not allow passage of a 4-inch-diameter (102 mm) sphere.

(f) Solid barrier surfaces. Solid barriers that do not have openings shall not contain indentations or protrusions that form handholds and footholds, except for normal construction tolerances and tooled masonry joints.

(g) Screen enclosure as a barrier. A swimming pool screen enclosure shall be permitted to be utilized as part, or all, of a required barrier provided that the enclosure complies with the requirements of paragraph (c) of this section. Such screen enclosures shall be designed by a registered design professional. Walls of such screen enclosures shall not be considered to be dwelling walls.

(h) Mesh for screen enclosures. The mesh utilized in the barrier portion of the screen enclosure shall have a tensile strength of not less than 100 pounds per square foot (20.5 kg/m²) when tested in accordance with ASTM D5034 and a ball burst strength of not less than 150 pounds per square foot (30.7 kg/m²) when tested in accordance with ASTM D3787.

(i) Mesh fence as a barrier. Mesh fences, other than chain link fences in accordance with paragraph (m) of this section, shall be installed in accordance with the manufacturer's instructions and shall comply with ASTM F2286 and where a hinged gate is used with a mesh fence, the gate shall comply with paragraph (p) of this section.

(j) Setback for mesh fences. The inside of a mesh fence shall be not closer than 20 inches (508 mm) to the nearest edge of the water of a pool or spa.

(k) Closely spaced horizontal members. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is less than 45 inches (1143 mm), the horizontal members shall be located on the pool or spa side of the fence. Spacing between vertical members shall not exceed 1³/₄ inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1³/₄ inches (44 mm) in width.

(l) Widely spaced horizontal members. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches (1143 mm) or more, spacing between vertical members shall not exceed 4 inches (102 mm). Where there are decorative cutouts within vertical members, the interior width of the cutouts shall not exceed 1³/₄ inches (44 mm).

(m) Chain link dimensions. The maximum opening formed by a chain link fence shall be not more than 1³/₄ inches (44 mm). Where the fence is provided with slats fastened at the top and bottom that reduce the openings, such openings shall be not greater than 1³/₄ inches (44 mm).

(n) Diagonal members. Where the barrier is composed of diagonal members, the maximum opening formed by the diagonal members shall be not greater than 1³/₄ inches (44 mm). The angle of diagonal members shall be not greater than 45 degrees (0.79 rad) from vertical.

(o) Clear zone. Where equipment, including pool equipment such as pumps, filters and heaters, is on the same lot as a pool or spa and such equipment is located outside of the barrier protecting the pool or spa, such equipment shall be located not less than 36 inches (914 mm) from the outside of the barrier.

(p) Doors and gates. Doors and gates in barriers shall comply with the requirements of paragraphs (q) through (s) of this section and shall be equipped to accommodate a locking device. Pedestrian access doors and gates shall open outward away from the pool or spa, shall be self-closing and shall have a self-latching device. Doors and gates shall not swing over stairs.

(q) Utility or service doors and gates. Doors and gates not intended for pedestrian use, such as utility or service doors and gates, shall remain locked when not in use.

(r) Double or multiple doors and gates. Double doors and gates or multiple doors and gates shall have not fewer than one leaf secured in place and the adjacent leaf shall be secured with a self-latching device.

(s) Latch release. For doors and gates in barriers, the door and gate latch release mechanisms shall be in accordance with the following:

(1) Where door and gate latch release mechanisms are accessed from the outside of the barrier and are not of the self-locking type, such mechanism shall be located above the finished floor or ground surface in accordance with the following:

(2) At public pools and spas, not less than 52 inches (1219 mm) and not greater than 54 inches (1372 mm).

(3) Where door and gate latch release mechanisms are of the self-locking type such as where the lock is operated by means of a key, an electronic opener or the entry of a combination into an integral combination lock, the lock operation control and the latch release mechanism shall be located above the finished floor or ground surface in accordance with the following:

(A) At public pools and spas, not less than 34 inches and not greater than 48 inches (1219 mm).

(B) At private pools, where the only latch release mechanism of a self-latching device for a gate is located on the pool and spa side of the barrier, the release mechanism shall be located at a point that is at least 3 inches (76 mm) below the top of the gate.

(t) Barriers adjacent to latch release mechanisms. Where a latch release mechanism is located on the inside of a barrier, openings in the door, gate and barrier within 18 inches (457 mm) of the latch shall not be greater than 1/2 inch (12.7 mm) in any dimension.

(u) Structure wall as a barrier. Where a wall of a dwelling or structure serves as part of the barrier and where doors, gates or windows provide direct access to the pool or spa through that wall, one of the following shall be required:

(1) Operable windows having a sill height of less than 48 inches (1219 mm) above the indoor finished floor, doors and gates shall have an alarm that produces an audible warning when the window, door or their screens are opened. The alarm shall be listed and labeled as a water hazard entrance alarm in accordance with UL 2017.

(2) In dwellings not required to be Accessible units, Type A units or Type B units, the operable parts of the alarm deactivation switches shall be located at not less than 54 inches (1372 mm) above the finished floor.

(3) In dwellings that are required to be Accessible units, Type A units or Type B units, the operable parts of the alarm deactivation switches shall be located not greater than 54 inches (1372 mm) and not less than 48 inches (1219 mm) above the finished floor.

(4) In structures other than dwellings, the operable parts of the alarm deactivation switches shall be located not greater than 54 inches (1372 mm) and not less than 48 inches (1220 mm) above the finished floor.

(5) A safety cover that is listed and labeled in accordance with ASTM F1346 is installed for the pools and spas.

(6) An approved means of protection, such as self-closing doors with self-latching devices, is provided. Such means of protection shall provide a degree of protection that is not less than the protection afforded by Item 1 or 2.

(v) **Natural barriers.** In the case where the pool or spa area abuts the edge of a lake or other natural body of water, public access is not permitted or allowed along the shoreline, and required barriers extend to and beyond the water's edge not less than 18 inches (457 mm), a barrier is not required between the natural body of water shoreline and the pool or spa.

(w) **Natural topography.** Natural topography that prevents direct access to the pool or spa area shall include but not be limited to mountains and natural rock formations. A natural barrier approved by the Department shall be acceptable provided that the degree of protection is not less than the protection afforded by the requirements of paragraphs (b) and (c).

(x) **Means of egress.** Outdoor public pools provided with barriers shall have means of egress as required by Chapter 10 of the International Building Code.

SUBCHAPTER 5. CIRCULATION SYSTEMS AND CIRCULATION SYSTEM PIPE MATERIAL STANDARD

310:321-5-1. Circulation systems general

(a) The provisions of this section shall apply to circulation systems for pools and spas except onground storable pools supplied by the pool manufacturer as a kit that includes circulation system equipment that is in accordance with circulation system requirements for residential swimming pools.

(b) **System design.** A circulation system consisting of pumps, piping, return inlets and outlets, filters, and other necessary equipment shall be provided for the complete circulation of water. Wading pools and spas shall have separate dedicated filtering systems.

(c) **Servicing.** Circulation system components that require replacement or servicing shall be provided with access for inspection, repair, or replacement and shall be installed in accordance with the manufacturer's specifications.

(d) **Equipment anchorage.** Pool and spa equipment and related piping shall be designed and installed in accordance with the manufacturer's instructions.

(e) **Water velocity** in suction and return piping shall comply with this paragraph (f) of this section.. The water velocity in copper and copper alloy piping shall not exceed 8 fps (2.4 mps). All water velocity calculations shall be based on the design flow rate specified for each recirculation system.

(f) **Public pools and spas.** For public pools and spas, suction piping water velocity shall not exceed 6 fps (1.8 mps) and return piping water velocity shall not exceed 8 fps (2.4 mps).

(g) **Piping and fittings.** Plastic pipe and fittings used in circulation systems shall be nontoxic and shall be able to withstand the design operating pressures and conditions of the pool or spa. Plastic pipe shall be listed and labeled as complying with NSF 14. Circulation system piping shall be listed and labeled as complying with one of the standards in Table 6 below.

TABLE 6. CIRCULATION SYSTEM PIPE MATERIAL STANDARD

MATERIAL	STANDARD
<u>Acrylonitrile butadiene styrene (ABS) plastic pipe</u>	<u>ASTM D1527</u>
<u>Chlorinated polyvinyl chloride (CPVC) plastic pipe and tubing</u>	<u>ASTM D2846; CSA B137.6</u>
<u>Copper or copper-alloy tubing</u>	<u>ASTM B88; ASTM B447</u>
<u>Polyvinyl chloride (PVC) hose</u>	<u>ASTM D1785; ASTM D2241; ASTM D2672; CSA B137.3</u>
<u>Polyvinyl chloride (PVC) plastic pipe</u>	<u>ASTM D1785; CSA B137.3</u>
<u>Stainless steel pipe, Types 304, 304L, 316, 316L</u>	<u>ASTM A312</u>

(i) **Suction Entrapment Avoidance.** Suction entrapment avoidance for pools and spas shall be provided in accordance with APSP 7 (ANSI/PHTA/ICC 7) except:

(1) Portable spas and portable exercise spas listed and labeled in accordance with UL 1563 or CSA C22.2 No. 218.1.

(2) Suction entrapment avoidance for wading pools shall be provided.

(j) **Turnover rate.** The equipment shall be sized to turn over the volume of water that the pool or spa is capable of containing as specified in this Subchapter 5 for the specific installation. Circulation equipment shall be sized to turn over the entire water capacity of the pool as specified in Table 7 below. The system shall be designed to provide the required turnover rate based on the maximum pressure and flow rate recommended by the manufacturer of the filter with clean filter media. Circulation system equipment shall be designed to turn over 100 percent of the nominal pool water volume in the amount of time specified in Table 8 below. The system shall be designed to give the required turnover time based on the manufacturer’s recommended maximum pressure and flow of the filter in clean media condition.

TABLE 7. TURNOVER RATE

SWIMMING POOL CATEGORY	TURNOVER RATE IN HOURS
Class A, B, and C pools	Hours equal 1½ times the average depth of pool in feet not to exceed 6 hours
Wading pools	1

For SI: 1 foot = 304.8 mm.

(1) **Continuous water removal.** The design of a gutter system shall accommodate continuous removal of water from the pool's upper surface at a rate of not less than 100 percent of the required total recirculation flow rate as determined by the design professional.

(2) **Gutter outlets.** At a gutter flow condition of not less than 100 percent of the total recirculation flow as determined by the design professional, gutter outlets such as drop boxes, converters, return piping, or flumes shall be designed to prevent flooding of the gutter that would result in skimmed water reentering the pool.

(3) **Adequate mixing.** Pools shall have wall or floor inlets or both to provide for adequate mixing. Inlets shall be hydraulically sized to provide the design flow rates for each area of the pool proportional to the turnover rate and the area covered by the inlet.

(4) **Pool circulation.** The filtration circulation system shall be designed with sufficient flexibility to achieve a hydraulic apportionment that will ensure effective distribution of treated water throughout the pool.

(5) **Inlets.** Effective distribution of treated water shall be accomplished by either a continuous perimeter overflow system with integral inlets or by means of directionally adjustable inlets adequate in design, number, and location.

(6) **Adequate mixing.** Pools shall have wall or floor inlets or both to provide for adequate mixing. Inlets shall be hydraulically sized to provide the design flow rates for each area of the pool proportional to the turnover rate and the area covered by the inlet.

(7) **Floor inlets.** Floor inlets shall be required for pools that are at the widest point 50 feet (15.2 m) or greater. The spacing between floor inlets shall not exceed 20 feet (6.1 m). Pools having only floor inlets shall have such inlets located within 15 feet (4.6 m) of the perimeter waterline. Where wall inlets are used in combination with floor inlets, the floor inlets shall be located not greater than 25 feet (7.6 m) from the nearest side walls.

(8) **Wall inlets.** The spacing between wall inlets shall not exceed 20 feet (6.1 m), measured along the perimeter waterline. Circulation system equipment shall be designed to turn over 100 percent of the nominal pool water volume in the amount of time specified in Table 8 below. The system shall be designed to give the required turnover time based on the manufacturer’s recommended maximum pressure and flow of the filter in clean media condition.

TABLE 8. TURNOVER TIME

CLASS OF POOL	MAXIMUM TURNOVER TIME^a (hours)
D-1	2

D-2 with less than 24 inches water depth	<u>1</u>
D-2 with 24 inches or greater water depth	<u>2</u>
D-3	<u>1</u>
D-4	<u>2</u>
D-5	<u>1</u>
D-6	<u>1</u>

For SI: 1 inch = 25.4 mm.

Pools with a sand bottom require a 1-hour turnover time.

(9) 24-hour circulation required. Circulation systems shall circulate treated and filtered water for 24 hours a day.

(10) Reduced circulation rate. The circulation rate shall be permitted to be reduced during periods that the pool is closed for use provided that acceptable water clarity conditions are met prior to reopening the pool for public use. The reduced circulation rate shall not be zero.

(11) Surface skimming systems. Surface skimming systems shall be in accordance with Table 9 below.

TABLE 9. SURFACE SKIMMING SYSTEMS

<u>CLASS OF POOL</u>	<u>SURFACE SKIMMING SYSTEM</u>
D-1	Zero-depth trench located at static water level or other skimming systems
D-2	Auto skimmer, zero-depth trench or gutters
D-3	Auto skimmer, zero-depth trench or perimeter device
D-4	Single or multiple skimmer devices for skimming flow
D-5	Skimmers prohibited in side area
D-6	Auto skimmer, zero-depth trench, or gutters

The installation of skimmers in the side areas of Class D-5 pools shall be prohibited.1

For SI: 1 foot = 304.8 mm.

310:321-5-2. Fittings

Fittings used in circulation systems shall be listed and labeled as complying with one of the standards in Table 10. Exceptions:

(1) Suction outlet fitting assemblies and manufacturer-provided components that conform to APSP 16.

(2) Skimmers and manufacturer-provided components.

(3) Gutter overflow grates and fittings installed above or outside of the overflow point of the pool or spa.

TABLE 10. CIRCULATION SYSTEM FITTINGS

<u>MATERIAL</u>	<u>STANDARD</u>
Acrylonitrile butadiene styrene (ABS) plastic pipe	ASTM D1527
Chlorinated polyvinyl chloride (CPVC) plastic pipe and tubing	ASTM D2846; ASTM F437; ASTM F438; ASTM F439; CSA B137.6
Copper or copper-alloy tubing	ASME B16.15
Polyvinyl chloride (PVC) plastic pipe Polyvinyl chloride (PVC) plastic pipe	ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3
Stainless steel pipe, Types 304, 304L, 316, 316	ASTM A182; ASTM A403

310:321-5-3. Joints

Joints shall be made in accordance with the manufacturer's instructions.

310:321-5-4. Piping subject to freezing

Piping subject to damage by freezing shall have a uniform slope in one direction and shall be equipped with valves for drainage or shall be capable of being evacuated to remove the water.

310:321-5-5. Suction outlet fitting assemblies

Suction outlet fitting assemblies shall conform to APSP 16. Manufactured suction outlet fitting assemblies shall be listed and labeled. Suction outlet fitting assemblies other than the manufactured type shall be certified as conforming by a design professional.

310:321-5-6. System draining

Equipment shall be designed and fabricated to drain the water from the equipment, together with exposed face piping, by removal of drain plugs, manipulating valves, or by other methods. Drainage shall be in accordance with manufacturer's specifications.

310:321-5-7. Pressure or vacuum gauge

Gauges shall be provided on the circulation system for public pools. Gauges shall be provided with ready access.

(1) A pressure gauge shall be located downstream of the pump and between the pump and filter.

(2) A vacuum gauge shall be located between the pump and filter and upstream of the pump.

310:321-5-8. Flow measurement

Public swimming pools and wading pools shall be equipped with a flow-measuring device that indicates the rate of flow through the filter system. The flow rate measuring device shall indicate gallons per minute (lpm) and shall be selected and installed to be accurate within plus or minus 10 percent of actual flow.

310:321-5-9. Instructions

Written operation and maintenance instructions shall be provided for the circulation system of public pools.

310:321-5-10. Hydrostatic pressure test

Circulation system piping, other than that integrally included in the manufacture of the pool or spa, shall be subjected to a hydrostatic pressure test of 25 pounds per square inch (psi) (172.4 kPa). This pressure shall be held for not less than 15 minutes.

310:321-5-11. Filters

(a) The provisions of this section apply to filters for pools and spas with the exception of onground storable pools supplied by the pool manufacturer as a kit that includes a filter that is in accordance with this subchapter 5.

(b) **Design.** Filters shall have a flow rating equal to or greater than the design flow rate of the system. Filters shall be installed in accordance with the manufacturer's instructions. Filters shall be designed so that filtration surfaces can be inspected and serviced.

(c) **Internal pressure.** For pressure-type filters, a means shall be provided to allow the release of internal pressure.

(d) **Air release.** Filters incorporating an automatic means of internal air release as the principal means of air release shall have one or more lids that provide a slow and safe release of pressure as a part of the design and shall have a manual air release in addition to an automatic release.

(e) **Separation tanks.** A separation tank used in conjunction with a filter tank shall have a manual method of air release or a lid that provides for a slow and safe release of pressure as it is opened.

(f) **Pumps and motors general.** The provisions of this section apply to pumps and motors for pools and spas with the exception of onground storable pools supplied by the pool manufacturer as a kit that includes a pump and motor.

(g) **Performance.** A pump shall be provided for circulation of the pool water. The pump shall be capable of providing the flow required for filtering the pool water and filter cleaning, if applicable, against the total dynamic head developed by the complete system.

(h) Intake protection. A cleanable strainer, skimmer basket, or screen shall be provided for pools and spas, upstream or as an integral part of circulation pumps, to remove solids, debris, hair, and lint on pressure filter systems.

(i) Location. Pumps and motors shall be provided with access for inspection and service in accordance with the manufacturer's specifications.

(j) Safety. The design, construction, and installation of pumps and component parts shall be in accordance with the manufacturer's specifications.

(j) Isolation valves. Shutoff valves shall be installed on the suction and discharge sides of pumps that are located below the waterline. Such valves shall be provided with access.

(k) Emergency shutoff switch. An emergency shutoff switch shall be provided to disconnect power to recirculation and jet system pumps and air blowers. Emergency shutoff switches shall be: provided with access; located within sight of the pool or spa; and located not less than 5 feet (1524 mm) horizontally from the inside walls of the pool or spa with one exception, onground storable pools.

(l) Motor performance. Motors shall comply with UL 1004-1, UL 1081, CSA C22.2 No. 108 or the relevant motor requirements of UL 1563 or CSA C22.2 No. 218.1, as applicable.

310:321-5-12. Return and suction fittings general

(a) The provisions of this section apply to return and suction fittings for pools and spas.

(b) Entrapment avoidance. Entrapment avoidance means shall be provided in accordance with §§ 310:321-2-26(g) and 310:321-5-4.

(c) Flow distribution. The suction outlet fitting assemblies, where installed, and the skimming systems shall each be designed to accommodate 100 percent of the circulation turnover rate.

(d) Multiple systems. Where multiple systems are used in a single pool to meet this requirement, each subsystem shall proportionately be designed such that the maximum design flow rates cannot be exceeded during normal operation.

(e) Return inlets. One return inlet shall be provided for every 300 square feet (27.9 m²) of pool surface area, or fraction thereof except for onground storable pools.

(f) Design. Return and suction fittings for the circulation system shall be designed so as not to constitute a hazard to the bather.

(g) Vacuum fittings. Where installed, access shall be provided to submerged vacuum fittings and such fittings shall be located not greater than 12 inches (305 mm) below the water level.

310:321-5-13. Skimmers general

(a) The provisions of this section apply to skimmers for pools and spas except for onground storable pools supplied by the pool manufacturer as a kit that includes a skimming system that is in accordance with this subchapter.

(b) Required. A surface skimming system shall be provided for public pools and spas. Surface skimming systems shall be listed and labeled in accordance with NSF 50. Where installed, surface skimming systems shall be designed and constructed to create a skimming action on the pool water surface when the water level in the pool is within operational parameters, except:

(1) Class D public pools designed in accordance with Tables 9 and 11.

(2) Skimmers that are an integral part of a spa that has been listed and labeled in accordance with UL1563 shall not be required to be listed and labeled in accordance with NSF 50.

(c) Circulation systems. Public pool circulation systems shall be designed to process not less than 100 percent of the turnover rate through skimmers.

(d) Skimmer sizing. Where automatic surface skimmers are used as the sole overflow system, not less than one surface skimmer shall be provided for the square foot (square meter) areas, or fractions thereof, indicated in Table 9 below. Skimmers shall be located to maintain effective skimming action.

TABLE 11. SKIMMER SIZING TABLE

<u>POOL OR SPA</u>	<u>AREA PER SKIMMER (SQ. FT)</u>
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Public pool	500
Spas (all types)	150

For SI: 1 square foot = 0.0929m²

(e) **Perimeter coverage.** Where a perimeter-type surface skimming system is used as the sole surface skimming system, the system shall extend around not less than 50 percent of the pool or spa perimeter.

(f) **Surge capacity.** Where perimeter surface skimming systems are used, they shall be connected to a circulation system with a system surge capacity of not less than 1 gallon for each square foot (40.7 liters per square meter) of water surface. The capacity of the perimeter overflow system and related piping is permitted to be considered as a portion of the surge capacity.

(g) **Equalizers.** Equalizers on skimmers are prohibited.

(h) **Hazard.** Skimming devices shall be designed and installed so as not to create a hazard to the user.

310:321-5-14. Pumps and Motors

(a) **General.** The provisions of this section apply to pumps and motors for pools and spas.

(b) **Performance.** A pump shall be provided for circulation of the pool water. The pump shall be capable of providing the flow required for filtering the pool water and filter cleaning, if applicable, against the total dynamic head developed by the complete system.

(c) **Intake protection.** A cleanable strainer, skimmer basket, or screen shall be provided for pools and spas, upstream or as an integral part of circulation pumps, to remove solids, debris, hair, and lint on pressure filter systems.

(d) **Location.** Pumps and motors shall be provided with access for inspection and service in accordance with the manufacturer's specifications.

(e) **Safety.** The design, construction, and installation of pumps and component parts shall be in accordance with the manufacturer's specifications.

(f) **Isolation valves.** Shutoff valves shall be installed on the suction and discharge sides of pumps that are located below the waterline. Such valves shall be provided with access.

(g) **Emergency shutoff switch.** An emergency shutoff switch shall be provided to disconnect power to recirculation and jet system pumps and air blowers. Emergency shutoff switches shall be: provided with access; located within sight of the pool or spa; and located not less than 5 feet (1524 mm) horizontally from the inside walls of the pool or spa except as to onground storable pools.

(h) **Motor performance.** Motors shall comply with UL 1004-1, UL 1081, CSA C22.2 No. 108 or the relevant motor requirements of UL 1563 or CSA C22.2 No. 218.1, as applicable.

(i) **Return and suction fittings.** The provisions of this section apply to return and suction fittings for pools and spas.

(j) **Entrapment avoidance.** Entrapment avoidance means shall be provided in accordance with OAC 310:321-3-32(5).

(k) **Flow distribution.** The suction outlet fitting assemblies, where installed, and the skimming systems shall each be designed to accommodate 100 percent of the circulation turnover rate.

(l) **Multiple systems.** Where multiple systems are used in a single pool to meet this requirement, each subsystem shall proportionately be designed such that the maximum design flow rates cannot be exceeded during normal operation.

(m) **Return inlets.** One return inlet shall be provided for every 300 square feet (27.9 m²) of pool surface area, or fraction thereof except as to onground storable pools.

(n) **Design.** Return and suction fittings for the circulation system shall be designed so as not to constitute a hazard to the bather.

(n) **Vacuum fittings.** Where installed, access shall be provided to submerged vacuum fittings and such fittings shall be located not greater than 12 inches (305 mm) below the water level.

SUBCHAPTER 6. HEATERS

310:321-6-1. General

The provisions of this section apply to heaters for pools and spas.

310:321-6-2. Certification

(a) Heaters and hot water storage tanks shall be listed and labeled in accordance with the applicable standard indicated in Table 12. Hot water heating systems and components shall comply with the applicable standard indicated in Table 13.

TABLE 12. WATER HEATERS

<u>DEVICE</u>	<u>STANDARD</u>
Electric water heater	UL 1261, UL 1563 or CSA C22.2 No. 218.1
Gas-fired water heater	ANSI Z21.56/CSA 4.7a
Heat exchanger	AHRI 400
Heat pump water heater	AHRI 1160 and one of the following: CSA C22.2 No. 236, UL 1995, or UL/CSA 60335-2-40

TABLE 13. WATER HEATING SYSTEMS AND COMPONENTS

<u>SYSTEM</u>	<u>STANDARD</u>
Solar water heater	ICC/APSP 902/SRCC 400

(b) **Sizing.** Heaters shall be sized in accordance with the manufacturer's specifications.

(c) **Installation.** Heaters shall be installed in accordance with the manufacturer's specifications and the International Fuel Gas Code, International Mechanical Code, International Energy Conservation Code or, NFPA 70, as applicable in accordance with this section. Solar water heating systems shall be installed in accordance with paragraph (i) of this section.

(d) **Access prohibited.** For public pools and spas, public access to controls shall be prohibited.

(e) **Heater circulation system.** Heater circulation systems shall comply with paragraphs (g) and (h) of this section.

(f) **Water flow.** Water flow through the heater bypass piping, back-siphonage protection, and the use of heat sinks shall be in accordance with the heater manufacturer's specifications.

(g) **Pump delay.** Where required by the manufacturer, heaters shall be installed with an automatic device that will ensure that the pump continues to run after the heater shuts off for the time period specified by the manufacturer.

(h) **Solar water heating systems.** Solar water heating systems utilized for pools and spas shall comply with paragraphs (j), (k) and (l) of this section.

(i) **Installation.** Solar thermal water heaters shall be installed in accordance with the International Mechanical Code.

(j) **Certification of collectors.** Solar thermal collectors shall be listed and labeled in accordance with ICC 901/SRCC 100.

(k) **Marking of collectors and modules.** Solar thermal collectors and photovoltaic modules shall be permanently marked with the manufacturer's name, model number, and serial number. Such markings shall be located on each collector in a position that is readily viewable after installation.

(l) **Air blower and air induction system general.** This section applies to devices and systems that induce or allow air to enter Class A pools and spas either by means of a powered pump or passive design.

(1) **Backflow prevention.** Air blower systems shall be equipped with backflow protection as specified in UL 1563 or CSA C22.2 No. 218.1.

- (2) Air intake source. Air intake sources shall not induce water, dirt or contaminants.
- (3) Sizing. Air induction systems shall be sized in accordance with the manufacturer's specifications.
- (4) Inspection and service. Air blowers shall be provided with access for inspection and service.
- (m) Temperature general. A means shall be provided to monitor water temperature. This paragraph pertains to fuel-fired and electric appliances used for heating spa or exercise spa water.
- (1) Water temperature controls. Components provided for water temperature controls shall be suitable for the intended application.
- (2) Water temperature regulating controls. Water temperature regulating controls shall comply with UL 873 or UL 372. A means shall be provided to indicate the water temperature in the spa, except water temperature regulating controls that are integral to the heating appliance and listed in accordance with the applicable end use appliance standard.
- (3) Water temperature limiting controls. Water temperature limiting controls shall comply with UL 873 or UL 372. Water temperature at the heater return outlet shall not exceed 140°F (60°C).

SUBCHAPTER 7. WATER SUPPLY

310:321-7-1. Makeup water

Makeup water to maintain the water level and water used as a vehicle for sanitizers or other chemicals, for pump priming, or for other such additions, shall be from a potable water source. The temperature of the incoming makeup water shall not exceed 104°F.

310:321-7-2. Protection of potable water supply

Potable water supply systems shall be designed, installed and maintained so as to prevent contamination from nonpotable liquids, solids or gases being introduced into the potable water supply through cross-connections or other piping connections to the system. Means of protection against backflow in the potable water supply shall be provided through an air gap complying with ASME A112.1.2 or by a backflow prevention assembly in accordance with the International Plumbing Code.

310:321-7-3. Over-the-rim spouts

Over-the-rim spouts shall be located under a diving board, adjacent to a ladder, or otherwise shielded so as not to create a hazard. The open end of such spouts shall not have sharp edges and shall not protrude more than 2 inches (51 mm) beyond the edge of the pool. The open end shall be separated from the water by an air gap of not less than 1.5 pipe diameters measured from the pipe outlet to the rim.

310:321-7-4. Sanitizing equipment standards

Sanitizing equipment installed in public pools and spas shall be capable of introducing the quantity of sanitizer necessary to maintain the appropriate levels under all conditions of intended use.

310:321-7-5. Chemical feeders

Public pools and spas shall be equipped with chemical feed equipment such as flow-through chemical feeders, electrolytic chemical generators, mechanical chemical feeders, chemical feed pumps, and automatic controllers that are listed and labeled in compliance with NSF 50. Chemical feed systems shall be installed in accordance with the manufacturer's specifications. Chemical feed pumps shall be wired so that they cannot operate unless there is adequate return flow to disburse the chemical throughout the pool or spa as designed.

310:321-7-6. Secondary disinfection systems

Secondary disinfection systems shall be installed for the following increased-risk aquatic venues in addition to the required primary disinfection system:

- (1) Wading pools.
- (2) Interactive water play features.
- (3) Therapy pools.
- (4) Other aquatic venues designed primarily for children under the age of 5.
- (5) The secondary disinfection system shall be listed and labeled to NSF 50 and installed in accordance with the manufacturer's specifications. Where electrically powered, such equipment shall additionally be listed and labeled in accordance with UL 1081 or UL 1563.

310:321-7-7. Supplemental treatment systems

Supplemental treatment systems in public pools and spas shall be certified to NSF 50 and installed in accordance with the manufacturer's specifications. Where electrically powered, such equipment shall additionally be listed and labeled in accordance with UL 1081 or UL 1563.

310:321-7-8. Wastewater disposals

(a) Backwash water or draining water. Backwash water and draining water shall be discharged to the sanitary or storm sewer, or into an approved disposal system on the premise, or shall be disposed of by other means approved by the state or municipality. Direct connections shall not be made between the end of the backwash line and the disposal system. Drains shall discharge through an air gap.

(b) Water salvage. Filter backwash water shall not be returned to the vessel except where the backwash water has been filtered to remove particulates, treated to eliminate coliform bacteria and waterborne pathogens, and such return has been approved by the state or local authority.

(c) Waste post treatment. Where necessary, filter backwash water and drainage water shall be treated chemically or through the use of settling tanks to eliminate or neutralize chemicals, diatomaceous earth, and contaminants in the water that exceed the limits set by the state or local effluent discharge requirements.

SUBCHAPTER 8. LIGHTING AND SAFETY

310:321-8-1. General

The provisions of OAC 310:321-9-2 and OAC 310:321-9-5 shall apply to lighting for public pools and spas.

310:321-8-2. Artificial lighting required

When a pool is open during periods of low natural illumination, artificial lighting shall be provided so that all areas of the pool, including all suction outlets on the bottom of the pool, will be visible. Illumination shall be sufficient to enable a lifeguard or other persons standing on the deck or sitting on a lifeguard stand adjacent to the pool edge to determine if a pool user is lying on the bottom of the pool and that the pool water is transparent and free from cloudiness. These two conditions shall be met when all suction outlets are always visible from the edge of the deck, when artificial lighting is illuminated and when an 8-inch-diameter (152 mm) black disk, placed at the bottom of the pool in the deepest point, is visible from the edge of the pool deck at all times when artificial lighting is illuminated.

310:321-8-3. Pool and deck illumination

Overhead lighting, underwater lighting or both shall be provided to illuminate the pool and adjacent deck areas. The lighting shall be listed and labeled. The lighting shall be installed in accordance with NFPA 70.

310:321-8-4. Illumination intensity

For outdoor pools, any combination of overhead and underwater lighting shall provide maintained illumination not less than 10 horizontal foot-candles (10 lumens per square foot) [108 lux] at the pool water surface. For indoor pools, any combination of overhead and underwater lighting shall

provide maintained illumination of not less than 30 horizontal foot-candles (30 lumens per square foot) [323 lux] at the pool water surface. Deck area lighting for both indoor and outdoor pools shall provide maintained illumination of not less than 10 horizontal foot-candles (10 lumens per square foot) [108 lux] at the walking surface of the deck.

310:321-8-5. Underwater lighting

Underwater lighting shall provide not less than 8 lamp lumens per square foot of pool water surface area except the requirement of this section shall not apply where overhead lighting provides not less than 15 foot-candles (15 lumens per square foot) [161 lux] of maintained illumination at the pool water surface, the overhead lighting provides visibility, without glare, of all areas of the pool, and the requirements of OAC 310:321-9-4 are met or exceeded.

310:321-8-6. Emergency illumination

Public pools and public pool areas that operate during periods of low illumination shall be provided with emergency lighting that will automatically turn on to permit evacuation of the pool and securing of the area in the event of power failure. Emergency lighting facilities shall be arranged to provide initial illumination that is not less than 0.1 foot-candle (0.1 lumen per square foot) [1 lux] measured at any point on the water surface and at any point on the walking surface of the deck, and not less than an average of 1 foot-candle (1 lumen per square foot) [11 lux]. At the end of the emergency lighting time duration, the illumination level shall be not less than 0.06 foot-candle (0.06 lumen per square foot) [0.65 lux] measured at any point on the water surface and at any point on the walking surface of the deck, and not less than an average of 0.6 foot-candle (0.6 lumen per square foot) [6.46 lux]. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded.

310:321-8-7. Safety

(a) **Handholds required.** Where the depth below the design waterline of a public swimming pool exceeds 24 inches (610 mm), handholds along the perimeter shall be provided. Handholds shall be located at the top of deck or coping except as follows:

(1) Handholds shall not be required where an underwater bench, seat or swimout is installed.

(2) Handholds shall not be required for wave action pools and action rivers.

(b) **Height above water.** Handholds shall be located not more than 12 inches (305 mm) above the design waterline.

(c) **Handhold type.** Handholds shall be one or more of the following:

(1) Top of pool deck or coping.

(2) Secured rope.

(3) Rail.

(4) Rock.

(5) Ledge.

(6) Ladder.

(7) Stair step.

(8) Any design that allows holding on with one hand while at the side of the pool.

(d) **Handhold spacing.** Handholds shall be horizontally spaced not greater than 4 feet (1219 mm) apart.

(e) **Handrails.** Where handrails are installed, they shall conform to this section.

(f) **Height.** The top of the gripping surface of handrails for public pools and public spas shall be 34 inches (864 mm) to 38 inches (965 mm) above the ramp or step surface as measured at the nosing of the step or finished surface of the slope.

(g) **Material.** Handrails shall be made of corrosion-resistant materials.

(h) **Nonremovable.** Handrails shall be installed so that they cannot be removed without the use of tools.

(i) **Leading edge distance.** The leading edge of handrails for stairs, pool entries and exits shall be located not greater than 18 inches (457 mm) from the vertical face of the bottom riser.

(j) **Diameter.** The outside diameter or width of handrails shall be not less than 1¹/₄ inches (32 mm) and not greater than 2 inches (51 mm).

(k) **Obstructions and entrapment avoidance.** There shall not be obstructions that can cause the user to be entrapped or injured. Types of entrapment include, but are not limited to, wedge or pinch-type openings and rigid, nongiving cantilevered protrusions.

310:321-8-8. Specific safety features

(a) **Handholds.** Handholds shall comply with the provisions of OAC 310:321-8-7.

(b) **Depth markers.** Depth markers shall be provided in accordance with this section and OAC 310:321-2-26(h).

(1) **Where required.** Depth markers shall be installed at the maximum and minimum water depths and at all points of slope change. Depth markers shall be installed at water depth increments not to exceed 2 feet (607 mm). Depth markers shall be spaced at intervals not to exceed 25 feet (7620 mm).

(2) **Marking of depth.** The depth of water in feet (meters) shall be plainly and conspicuously marked on the vertical pool wall at or above the waterline except pools with a vanishing edge and rim flow gutters.

(3) **Depth accuracy.** Depth markers shall indicate the actual pool depth within ± 3 inches (76 mm), at normal operating water level where measured 3 feet (914 mm) from the pool wall or at the tangent point where the cove radius meets the floor, whichever is deeper.

(4) **Position on pool wall.** Depth markers on the vertical pool wall shall be positioned to be read from the waterside. Depth markers shall be placed so as to allow as much of the numbers to be visible above the waterline as possible.

(5) **Position on deck.** Depth markers on the deck shall be located within 18 inches (457 mm) of the water edge and positioned to be read while standing on the deck facing the water.

(6) **Horizontal markers.** Horizontal depth markers shall be slip resistant.

(7) **Uniform distribution.** Depth markers shall be distributed uniformly on both sides and both ends of the pool.

(8) **Numbers and letters.** Depth markers shall be not less than 4 inches (102 mm) in height. The color of the numbers shall contrast with the background on which they are applied and the color shall be of a permanent nature. The lettering shall spell out the words "feet" and "inches" or abbreviate them as "Ft." and "In." respectively. Where displayed in meters in addition to feet and inches, the word meter shall be spelled out or abbreviated as "M."

(9) **No diving symbol.** Where the pool depth is 5 feet (1524 mm) or less, the "No Diving" symbol shall be displayed. The symbol shall be placed on the deck at intervals of not greater than 25 feet (7620 mm) and directly adjacent to a depth marker. Additional signage shall be in accordance with NEMA Z535.

(c) **Lifesaving equipment.** Public pool Classes A, B, and C shall be provided with lifesaving equipment in accordance with OAC 310:321-9-8(c)(1) through (3) below. Such lifesaving equipment shall be visually conspicuous and conveniently located at all times.

(1) **Accessory pole.** A swimming pool accessory pole not less than 12 feet (3658 mm) in length and including a body hook shall be provided.

(2) **Throwing rope.** A throwing rope attached to a ring buoy or similar flotation device shall be provided. The rope shall be not less than 1/4 inch (6.4 mm) in diameter and shall have a length of not less than 1 1/2 times the maximum width of the pool or 50 feet (15 240 mm), whichever is less. A ring buoy shall have an outside diameter of not less than 15 inches (381 mm).

(3) **Emergency response units.** Pools covered by this chapter shall be provided with first aid equipment, including a first aid kit. First aid equipment and kits shall be located to allow access.

310:321-8-9. Dressing facilities and sanitary facilities

(a) **Dressing facilities.** Adequate dressing facilities for pools, spas and recreational water parks shall be provided adjacent to the pool unless adequate dressing facilities are provided elsewhere on the general

premises in close proximity to the pool. Facilities that have less than 7500 gross square feet (697 m²) of water area available for bather access shall have dressing facilities and not less than one cleansing shower for males and one cleansing shower for females. Facilities that have 7500 gross square feet (697 m²) or more of water area available for bather access shall have dressing facilities and not less than one cleansing shower for males, and one cleansing shower for females for every 7500 square feet (697 m²) or portion thereof. Where the result of the fixture calculation is a portion of a whole number, the result shall be rounded up to the nearest whole number.

(1) Handicapped accessible dressing and sanitary facilities shall meet the requirements of the Americans with Disabilities Act of 1990, as amended, in addition to state and local requirements, and may be included as part of the required total number of water closets, shower heads, and lavatories. Dressing rooms may be combined with sanitary facilities, so long as all other requirements of this Chapter are met.

(2) Dressing facilities, when provided, shall have separations for each sex with no interconnection. The rooms shall be well-lighted, drained, ventilated, and of good construction with impervious materials. All plumbing fixtures and appurtenances in the dressing area shall have a smooth, hard, easy-to-clean, impervious-to-water surface and be installed to permit thorough cleaning. They shall be developed and planned so that good sanitation can always be maintained throughout the building.

(3) In addition to the requirement for cleansing showers not less than one rinse shower shall be provided on the deck of or at the entrance of each pool.

(4) At each cleansing showerhead, the heated shower water temperature shall be not less than 90°F (32°C) and not greater than 120°F (49°C). Water supplied to rinse showers shall not be required to be heated.

(5) Soap dispensers shall be provided at each lavatory and cleansing shower. Soap dispensers shall dispense liquid or powdered soap. Reusable cake soap is prohibited. Soap dispensers and soap shall not be provided at rinse showers. Soap dispensers shall be made of metal or plastic. Glass materials shall be prohibited.

(b) Sanitary facilities. Minimum sanitary facilities shall be provided as required in Table 2902.1.2 of the 2024 International Building Code.

(1) 2024 International Building Code Table 2902.1:

**2024 INTERNATIONAL BUILDING CODE TABLE 2902.1
PUBLIC SWIMMING POOL—REQUIRED FIXTURE PER OCCUPANT LOAD**

<u>MEN'S RESTROOM</u>	<u>MEN'S RESTROOM</u>	<u>WOMEN'S RESTROOM</u>	<u>WOMEN'S RESTROOM</u>	<u>Drinking fountain</u>	<u>Other</u>
<u>WC</u>	<u>Lavatory</u>	<u>WC</u>	<u>Lavatory</u>		
<u>1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500</u>	<u>1 per 200</u>	<u>1 per 1,250 for first 10,000, 1 per 2,500 for remainder exceeding 10,000</u>	<u>1 per 150</u>	<u>1 per 1,000</u>	<u>1 service sink</u>

(2) To determine the occupant load of each sex, the total occupant load shall be divided in half. To determine the required number of fixtures, the fixture ratio or ratios for each fixture type shall be applied to the occupant load of each sex in accordance with the 2024 International Building Code Table 2902.1 above. Fractional numbers resulting from applying the fixture ratios of Table 2902.1 shall be rounded up to the next whole number. For calculations involving multiple occupancies, such fractional numbers for each occupancy shall first be summed and then rounded up to the next whole number. Except the total occupant load shall not be required to be divided in half where approved statistical data indicates a distribution of the sexes of other than 50 % of each sex and where multiple-user facilities are designed to serve all genders, the minimum fixture count shall be calculated 100%, based on total occupant load.

(A) The plumbing fixtures located in single-user toilet facilities, shall contribute toward the total number of required plumbing fixtures. The number of fixtures in single-user toilet facilities, shall be deducted proportionately from the required gender ratios of Table 2902.1. Single-

user toilet facilities shall be identified as being available for use by all persons regardless of their sex. The total number of fixtures shall be based on the required number of separate facilities or separate facilities or based on the aggregate of any combination of single-user or separate facilities.

(B) Separate facilities shall be provided for each sex.

(C) All non-plumbing fixtures and appurtenances in the dressing area shall have a smooth, hard, easy-to-clean, impervious-to-water surface and be installed to permit thorough cleaning.

(3) Tempered water for public hand-washing facilities shall be delivered from lavatories and group wash fixtures located in public toilet facilities. Tempered water shall be delivered through a water-temperature limiting device.

(4) Soap dispensers shall be provided for public lavatories.

(5) A toilet paper holder shall be provided at each water closet.

(6) Where mirrors are provided, they shall be shatter resistant.

(7) Public restrooms shall be visually screened from outside entry or exit doorways to ensure user privacy within the restroom. This provision shall also apply where mirrors would compromise personal privacy.

Exception: Visual screening shall not be required for single-occupant toilet rooms with a lockable door.

(8) Sanitary napkin receptacles shall be provided in each water closet compartment for females and in the cleansing area of the showers for female use only. A sanitary napkin dispenser shall be provided in each toilet facility for females.

(9) Baby-changing tables shall be provided in toilet facilities having two or more water closets.

(10) Each water closet utilized by the public shall occupy a separate compartment with walls or partitions and a door enclosing the fixtures to ensure privacy.

(11) Construction materials and dimensions shall comply with Sections 1210.1 through 1210.5 of the 2024 International Building Code and local building codes.

(12) Lavatories and toilets shall be provided for all public pools and spas and shall be located no more than 300 feet from the entrance; provided, however, that an increased risk pool shall have sanitary facilities no more than 200 feet from the entrance.

Exception: Where a swimming pool serves only a designated group of residential dwelling units including hotel rooms and not the general public, poolside sanitary facilities are not required if all living units are within a 200-foot horizontal radius of the nearest water's edge, are not over three stories in height unless serviced by an elevator, and are each equipped with private sanitary facilities.

(c) Bathhouse requirements for facilities not open to the general public.

(1) For motels, hotels, apartment complexes constructed after November 1, 2022 where all units are less than 300 ft. away from the pool or spa, and similar establishments, pool side bath or sanitary facilities are not required, providing the following conditions are met:

(A) All lodging units include bath and toilet facilities.

(B) Use of bathing facilities is restricted to tenants and their guests.

(C) Nothing in this section shall be construed to allow openings directly into the pool enclosure without a suitable effective barrier.

(2) Bathing places not open to the general public, such as Home Owner Associations and apartments, constructed after November 1, 2022 where units are more than 300 ft. away from the pool or spa, shall have a bathhouse located adjacent to the pool walkway with the following items separately provided for each sex: one (1) water-flush toilet, one (1) lavatory, and one (1) shower. At least one (1) drinking fountain located so that it is available to both sexes, shall be provided.

310:321-8-10. Entry and exit

(a) Pools shall have not less than two means of entry and exit that are located so as to serve both ends of a pool. Pool lifts, transfer walls and transfer systems that provide for pool entry and exit by persons with

physical disabilities in accordance with OAC 310:321-2-16(f) shall not be counted as the means of entry or exit that is required by this section.

(b) **Natural entry.** Where areas have water depths of 24 inches (607 mm) or less at the pool wall, such areas shall be considered to be providing their own natural mode for entry and exit except as to wading pools as outlined in OAC 310:321-3-32.

(c) **Shallow area.** A means of entry and exit shall be provided in shallow areas of pools and shall consist of pool stairs, a ramp or a beach entry.

(d) **Deep area.** The means of entry and exit in the deep area of pools shall consist of one of the following:

(1) Steps/stairs.

(2) Ladders.

(3) Grab rails with recessed treads.

(4) Ramps.

(5) Beach entries.

(6) Swimouts.

(7) Other designs that provide the minimum utility as specified in this chapter.

(e) **Pools greater than 30 feet wide.** Swimming pools greater than 30 feet (9144 mm) in width shall be provided with entries and exits on each side of the deep area of the pool. The entries and exits on the sides of the deep area of a pool shall be located not more than 82 feet (25 m) apart.

(f) **Diving envelope.** Where the pool is designed for use with diving equipment, the entries and exits, pool stairs, ladders, underwater benches, special features and other accessories shall be located outside of the minimum diving water envelope indicated in Appendix A, Figure 1.

(g) **Treads.** Treads shall have slip-resistant surfaces.

(h) **Pool stairs.** The design and construction of stairs extending into the pool in either shallow or deep water, including recessed pool stairs, shall comply with OAC 310:321-9-8.

(i) **Tread dimensions and area.** Treads shall be not less than 24 inches (607 mm) at the leading edge. Treads shall have an unobstructed surface area of not less than 240 square inches (0.154 m²) and an unobstructed horizontal depth of not less than 10 inches (254 mm) at the centerline.

(j) **Risers.** Risers, except for the bottom riser, shall have a uniform height of not greater than 12 inches (305 mm) measured at the centerline. The bottom riser height is allowed to vary to the floor.

(k) **Top tread.** The vertical distance from the pool coping, deck, or step surface to the uppermost tread shall be not greater than 12 inches (305 mm).

(l) **Bottom tread.** Where stairs are located in water depths greater than 48 inches (1219 mm), the lowest tread shall be not less than 48 inches (1219 mm) below the deck and shall be recessed in the pool wall.

(k) **Outlined edges.** The leading horizontal and vertical edges of stair treads shall be outlined with slip-resistant contrasting tile or other permanent marking of not less than 1 inch (25.4 mm) and not greater than 2 inches (50.8 mm).

(l) **Shallow end detail for beach and sloping entries.** Sloping entries used as a pool entrance shall have a maximum slope of 1 unit vertical in 10 units horizontal (10-percent slope).

(m) **Benches and steps.** Where benches are used in conjunction with sloping entries, the vertical riser distance shall not exceed 12 inches (305 mm). Where steps are used in conjunction with sloping entries, the requirements of OAC 310:321-9-(h) through (l) shall apply.

(n) **Vertical drops.** A vertical drop exceeding 12 inches (305 mm) within a sloping entry shall be provided with a handrail.

(o) **Surfaces.** Beach and sloping entry walking surfaces at water depths up to 36 inches (914 mm) shall be slip resistant.

(p) **Pool ladder design and construction.** The design and construction of ladders shall comply with subchapter 10.

(q) **Underwater seats, benches, and swimouts.** The design and construction of underwater seats, benches, and swimouts shall comply with OAC 310:321-9-10(q) through (s).

(r) **Swimouts.** Swimouts, located in either the deep or shallow area of a pool, shall comply with all of the following:

- (1) The horizontal surface shall be not greater than 20 inches (508 mm) below the waterline.
- (2) An unobstructed surface shall be provided that is equal to or greater than that required for the top tread of the pool stairs in accordance with OAC 310:321-9-8.
- (3) Where used as an entry and exit access, swimouts shall be provided with steps that comply with the pool stair requirements of OAC 310:321-9-8.
- (4) The leading edge shall be visibly set apart.

(s) Underwater seats and benches. Underwater seats and benches, whether used alone or in conjunction with pool stairs, shall comply with all of the following:

- (1) The horizontal surface shall be not greater than 20 inches (508 mm) below the waterline.
- (2) An unobstructed surface shall be provided that is not less than 10 inches (254 mm) in depth and not less than 24 inches (607 mm) in width.
- (3) Underwater seats and benches shall not be used as the required entry and exit access.
- (4) Where underwater seats are located in the deep area of the pool where manufactured or constructed diving equipment is installed, such seats shall be located outside of the minimum diving water envelope for diving equipment.
- (5) The leading edge shall be visually set apart.
- (6) The horizontal surface shall be at or below the waterline.
- (7) A tanning ledge or sun shelf used as the required entry and exit access shall be located not greater than 12 inches (305 mm) below the waterline.

(t) Safety signage. Safety signage advising on the danger of diving into shallow areas and on the prevention of drowning shall be provided as required by the authority that governs such pools. Safety signage shall be as shown in Appendix B, Figure 2 or similar thereto.

(u) Emergency telephone signs. A sign indicating the location of the nearest landline telephone that can be used to call emergency services shall be posted within sight of the main entry into a pool facility. The sign shall indicate the telephone numbers, including area code, that can be called for emergency services including, but not limited to, police, fire, ambulance and rescue services. If "9-1-1" telephone service is available for any of those services, "9-1-1" shall be indicated next to the telephone number for such services. The sign shall include the street address and city where the pool is located. The nearest landline telephone indicated by the sign shall be one that can be used free of charge to call for emergency services. A sign with the telephone number and address information required by this section shall be posted within sight of the landline telephone.

(v) Sign placement. Signs shall be positioned for effective visual observation by users as required by the authority that governs such pools.

(w) Emergency shutoff switch. Signs shall be posted that clearly indicate the location of the pump emergency shutoff switch. Such switch shall be clearly identified as the pump emergency shutoff switch.

SUBCHAPTER 9. LADDERS AND RECESSED TREADS

310:321-9-1. General

Ladders and recessed treads shall comply with the provisions of this section and the applicable provisions for public swimming pools.

310:321-9-2. Outside diving envelope

Where installed, steps and ladders shall be located outside of the minimum diving water envelope as indicated in Appendix B, Figure 2 and Appendix C, Figure 3.

310:321-9-3. Ladders

Ladder treads shall have a uniform horizontal depth of not less than 2 inches (51 mm). There shall be a uniform distance between ladder treads, with a distance of not less than 7 inches (178 mm) and not greater than 12 inches (305 mm). The top tread of a ladder shall be located not greater than 12 inches (305 mm) below the top of the deck or coping. Ladder treads shall have slip-resistant surfaces.

310:321-9-4. Wall clearance

There shall be a clearance of not less than 3 inches (76 mm) and not greater than 4 inches (101.6 mm) between the pool wall and the ladder.

310:321-9-5. Handrails and handholds

Ladders shall be provided with two handholds or two handrails. The clear distance between ladder handrails shall be not less than 17 inches (432 mm) and not greater than 24 inches (610 mm).

310:321-9-6. Recessed treads

Recessed treads shall have a depth of not less than 4.5 inches (114 mm) and a width of not less than 12 inches (305 mm). The vertical distance between the pool coping edge, deck, or step surface and the uppermost recessed tread shall be not greater than 12 inches (305 mm) measured at the wall. The tread shall not protrude more than 2.5 inches (64 mm) from the wall. Recessed treads shall have slip-resistant surfaces.

310:321-9-7. Vertical spacing

Recessed treads at the centerline shall have a uniform vertical spacing of not less than 7 inches (178 mm) and not greater than 12 inches (305 mm).

310:321-9-8. Drainage

Recessed treads shall drain into the pool.

310:321-9-9. Handrails and grab rails

Recessed treads shall be provided with a handrail or grab rail on each side of the treads. The clear distance between handrails and grab rails shall be not less than 17 inches (432 mm) and not greater than 24 inches (610 mm).

SUBCHAPTER 10. EQUIPMENT ROOMS

310:321-10-1. General

The provisions of this section apply to public pools and spas and aquatic recreation facilities.

310:321-10-2. Requirements

The equipment area or room floor shall be of concrete or other suitable material having a smooth slip-resistant finish and have positive drainage, including a sump drain pump, if necessary. Floors shall have a slope toward the floor drain or sump drain pump adequate to prevent standing water at all times. The opening to the equipment room or area shall be designed to provide access for all anticipated equipment. At least one hose bibb with backflow preventer shall be located in the equipment room or allow for access within an adequate distance of the equipment room so that a hose can service the entire room.

310:321-10-3. Construction

The size of the equipment room or area shall provide working space to perform routine operations and equipment service. Equipment rooms also intended for storage shall have adequate space provided for such storage, without reducing the working spaces. Equipment rooms or areas shall be lighted to provide 30 foot-candles (323 lux) of illumination at floor level.

310:321-10-4. Electrical

All electrical wiring shall be installed in accordance with NFPA 70.

310:321-10-5. Ventilation

Equipment room ventilation shall address all of the following:

- (1) Combustion requirements.
- (2) Heat dissipation from equipment.
- (3) Humidity from surge or balance tanks.
- (4) Ventilation to the outside.
- (5) Air quality.

310:321-10-6. Markings

All piping shall be marked with directional arrows as necessary to determine flow direction and all valves shall be clearly identified by number with a brass tag, plastic laminate tag or permanently affixed alternative. Valves shall be described as to their function and referenced in the operating instruction manual. All piping in the equipment room shall be permanently identified by its use and the pool or spa it serves. Identification shall be provided for all of the following:

- (1) Main drains and skimmer lines.
- (2) Filtered water.
- (3) Make-up water
- (4) Chlorine (or disinfection) feeds.
- (5) Acid (or pH) feeds.
- (6) Compressed air lines.
- (7) Gutter lines.
- (8) Chemical sample piping.
- (9) Pool heating lines.

310:321-10-7. Separation from chemical storage spaces

Combustion equipment, air-handling equipment, and electrical equipment shall not be exposed to air contaminated with corrosive chemical fumes or vapors. Spaces containing combustion equipment, air-handling equipment or electrical equipment and spaces sharing air distribution with spaces containing such equipment shall not be used as chemical storage spaces at the same time unless the equipment is listed and labeled for use in that atmosphere. Spaces containing combustion equipment, air-handling equipment, or electrical equipment and spaces sharing air distribution with spaces containing such equipment shall be isolated from chemical storage space air.

310:321-10-8. Doors and openings

A door or doors shall not be installed in a wall between such equipment rooms and an interior chemical storage space. There shall be no ducts, grilles, pass-throughs, or other openings connecting such equipment rooms to chemical storage spaces, except as permitted by the International Fire Code. Spaces containing combustion equipment, air-handling equipment, or electrical equipment and spaces sharing air distribution with spaces containing such equipment shall be isolated from indoor aquatic facility air unless the equipment is listed for the atmosphere. There shall be no ducts, grilles, pass-throughs, or other openings connecting such spaces to an indoor aquatic facility. Ducts that connect the indoor aquatic facility to the duct connections of air handlers shall not be construed as connecting the air-handler space to the indoor aquatic facility unless HVAC equipment is rated for indoor aquatic facility atmosphere and serves only that indoor aquatic facility. Where building construction leaves any openings or gaps between floors and walls, or between walls and other walls, or between walls and ceilings, such gaps shall be permanently sealed against air leakage.

310:321-10-9. Indoor aquatic facility access

Where a door or doors are installed in a wall between an equipment room and an indoor aquatic facility, the floor of the equipment room shall slope back into the equipment room in such a way as to prevent any equipment room spills from running under the door into the indoor aquatic facility. This requirement shall be accomplished by one of the following:

- (1) A floor all of which is at least 4 inches (102 mm) below the level of the nearest part of the indoor aquatic facility floor.
- (2) A continuous dike not less than 4 inches (102 mm) high located entirely within the equipment room, which will prevent spills from reaching the indoor aquatic facility floor.
- (3) **Water velocity.** The water velocity in suction and return piping shall comply with Subchapter 5. The water velocity in copper and copper alloy piping shall not exceed 8 fps (2.4 mps). All water velocity calculations shall be based on the design flow rate specified for each recirculation system.

SUBCHAPTER 11. RETURN, SUCTION FITTINGS AND AIR SYSTEMS

310:321-11-1. General

The provisions of this section apply to return and suction fittings for pools and spas.

310:321-11-2. Entrapment avoidance

Entrapment avoidance means shall be provided. Suction entrapment avoidance for pools and spas shall be provided in accordance with APSP 7 (ANSI/PHTA/ICC 7), except:

- (1) Portable spas and portable exercise spas listed and labeled in accordance with UL 1563 or CSA C22.2 No. 218.1.
- (2) Suction entrapment avoidance for wading pools shall be provided in accordance with Subchapter 5.

310:321-11-3. Flow distribution

- (a) The suction outlet fitting assemblies, where installed, and the skimming systems shall each be designed to accommodate 100 percent of the circulation turnover rate.
- (b) **Multiple systems.** Where multiple systems are used in a single pool to meet this requirement, each subsystem shall proportionately be designed such that the maximum design flow rates cannot be exceeded during normal operation.
- (c) **Return inlets.** One return inlet shall be provided for every 300 square feet (27.9 m²) of pool surface area, or fraction thereof, except onground storable pools.
- (d) **Design.** Return and suction fittings for the circulation system shall be designed so as not to constitute a hazard to the bather.
- (e) **Vacuum fittings.** Where installed, access shall be provided to submerged vacuum fittings and such fittings shall be located not greater than 12 inches (305 mm) below the water level.

310:321-11-4. Air blower and air induction system

- (a) **General.** This section applies to devices and systems that induce or allow air to enter Class A pools and spas either by means of a powered pump or passive design.
- (b) **Backflow prevention.** Air blower systems shall be equipped with backflow protection as specified in UL 1563 or CSA C22.2 No. 218.1.
- (c) **Air intake source.** Air intake sources shall not induce water, dirt or contaminants.
- (d) **Sizing.** Air induction systems shall be sized in accordance with the manufacturer's specifications.
- (e) **Inspection and service.** Air blowers shall be provided with access for inspection and service.

SUBCHAPTER 12. WATER SUPPLY AND SANITATION

310:321-12-1. Makeup water

Makeup water to maintain the water level and water used as a vehicle for sanitizers or other chemicals, for pump priming, or for other such additions, shall be from a potable water source.

310:321-12-2. Protection of potable water supply

Potable water supply systems shall be designed, installed and maintained so as to prevent contamination from nonpotable liquids, solids or gases being introduced into the potable water supply through cross-connections or other piping connections to the system. Means of protection against backflow in the potable water supply shall be provided through an air gap complying with ASME A112.1.2 or by a backflow prevention assembly in accordance with the International Residential Code or the International Plumbing Code, as applicable in accordance with Section 102.7.1.

310:321-12-3. Over-the-rim spouts

Over-the-rim spouts shall be located under a diving board, adjacent to a ladder, or otherwise shielded so as not to create a hazard. The open end of such spouts shall not have sharp edges and shall not protrude more than 2 inches (51 mm) beyond the edge of the pool. The open end shall be separated from the water by an air gap of not less than 1.5 pipe diameters measured from the pipe outlet to the rim.

310:321-12-4. Sanitizing Equipment and Chemical Feeders

(a) **Equipment standards.** Sanitizing equipment installed in public pools and spas shall be capable of introducing the quantity of sanitizer necessary to maintain the appropriate levels under all conditions of intended use.

(b) **Chemical feeders.** Public pools and spas shall be equipped with chemical feed equipment such as flow-through chemical feeders, electrolytic chemical generators, mechanical chemical feeders, chemical feed pumps, and automatic controllers that are listed and labeled in compliance with NSF 50. Chemical feed systems shall be installed in accordance with the manufacturer's specifications. Chemical feed pumps shall be wired so that they cannot operate unless there is adequate return flow to disburse the chemical throughout the pool or spa as designed.

(c) **Secondary disinfection systems.** Secondary disinfection systems shall be installed for the following increased-risk aquatic venues in addition to the required primary disinfection system:

(1) Wading pools.

(2) Interactive water play features.

(3) Therapy pools.

(4) Other aquatic venues designed primarily for children under the age of 5. The secondary disinfection system shall be listed and labeled to NSF 50 and installed in accordance with the manufacturer's specifications. Where electrically powered, such equipment shall additionally be listed and labeled in accordance with UL 1081 or UL 1563.

(d) **Supplemental treatment systems.** Supplemental treatment systems in public pools and spas shall be certified to NSF 50 and installed in accordance with the manufacturer's specifications. Where electrically powered, such equipment shall additionally be listed and labeled in accordance with UL 1081 or UL 1563.

310:321-12-5. Waste water disposal

(a) **Backwash water or draining water.** Backwash water and draining water shall be discharged to the sanitary or storm sewer, or into an approved disposal system on the premise, or shall be disposed of by other means approved by the state or local authority. Direct connections shall not be made between the end of the backwash line and the disposal system. Drains shall discharge through an air gap.

(b) **Water salvage.** Filter backwash water shall not be returned to the vessel except where the backwash water has been filtered to remove particulates, treated to eliminate coliform bacteria and waterborne pathogens, and such return has been approved by the Department.

(c) **Waste post treatment.** Where necessary, filter backwash water and drainage water shall be treated chemically or through the use of settling tanks to eliminate or neutralize chemicals, diatomaceous earth, and contaminants in the water that exceed the limits set by the state or local effluent discharge requirements.

SUBCHAPTER 13. PUBLIC SPAS AND EXERCISE SPAS

310:321-13-1. Scope

(a) This subchapter governs the design, installation, construction and repair of public spas and exercise spas regardless of whether a fee is charged for use. In addition to the requirements of this subchapter, public spas and public exercise spas shall comply with the requirements of Subchapter 3.

(b) **Pumps and motors.** Pumps and motors shall be listed and labeled for use in spas.

(c) **Water depth.** The maximum water depth for spas shall be 4 feet (1219 mm) measured from the design waterline except for spas that are designed for special purposes and approved by the Department. The water depth for exercise spas shall not exceed 6 feet 6 inches (1981 mm) measured from the design waterline.

(d) **Multilevel seating.** Where multilevel seating is provided, the maximum water depth of any seat or sitting bench shall be 28 inches (711 mm) measured from the design waterline to the lowest measurable point.

(e) **Floor slope.** The slope of the floor shall not exceed 1 unit vertical in 12 units horizontal (8.3-percent slope). Where multilevel floors are provided, the change in depth shall be indicated.

(f) **Pumps and motors emergency shutoff switch.** One emergency shutoff switch shall be provided to disconnect power to circulation and jet system pumps and air blowers. Emergency shutoff switches shall be provided with access. Such switches shall be located within sight of the spa and shall be located not less than 5 feet (1524 mm) but not greater than 10 feet (3048 mm) horizontally from the inside walls of the spa.

(g) **Alarms.** Emergency shutoff switches shall be provided with an audible alarm rated at not less than 80 decibel sound pressure level and a light near the spa that will operate continuously until deactivated when the shutoff switch is operated. The following statements shall appear on a sign that is posted in a location that is visible from the spa:

ALARM INDICATES SPA PUMPS OFF. DO NOT USE SPA WHEN ALARM SOUNDS AND LIGHT IS ILLUMINATED UNTIL ADVISED OTHERWISE.

(h) **Timer.** The operation of the hydrotherapy jets shall be limited by a cycle timer having a maximum setting of 10 minutes. The cycle timer shall be located not less than 5 feet (1524 mm) away, adjacent to, and within sight of the spa.

(i) **Return fittings.** Return fittings shall be provided and arranged to facilitate a uniform circulation of water and maintain a uniform sanitizer residual throughout the entire spa or exercise spa.

(j) **Suction fittings.** Suction fittings shall be in accordance with paragraphs (i) through (m) of this section.

(k) **Required conformance.** Suction outlet fittings shall be in accordance with Subchapter 5.

(l) **Installation.** Suction fittings shall be sized and installed in accordance with the manufacturer's specifications. Spas and exercise spas shall not be used or operated if the suction outlet cover is missing, damaged, broken or loose.

(m) **Outlets per pump.** Suction fittings shall be provided in accordance with Subchapter 5.

(n) **Submerged vacuum fittings.** Submerged vacuum fittings shall be in accordance with Subchapter 5.

310:321-13-2. Heater and temperature requirements

(a) **General.** This section pertains to fuel-fired and electric appliances used for heating spa or exercise spa water.

(b) **Water temperature controls.** Components provided for water temperature controls shall be suitable for the intended application.

(c) **Water temperature regulating controls.** Water temperature regulating controls should comply with UL 873 or UL 372. A means shall be provided to indicate the water temperature in the spa with the exception of water temperature regulating controls that are integral to the heating appliance and listed in accordance with the applicable end use appliance standard.

(d) **Water temperature limiting controls.** Water temperature limiting controls shall comply with UL 873 or UL 372. Water temperature at the heater return outlet shall not exceed 140°F (60°C).

310:321-13-3. Water supply

(a) Water temperature. The temperature of the incoming makeup water shall not exceed 104°F (40°C).

(b) Depth markers. Public spas shall have permanent depth markers with numbers not less than 4 inches (102 mm) in height that are plainly and conspicuously visible from obvious points of entry and in conformance to this section.

(1) Number. There shall be not less than two depth markers for each spa, regardless of spa size or shape.

(2) Spacing. Depth markers shall be spaced at not more than 25-foot (7620 mm) intervals and shall be uniformly located around the perimeter of the spa.

(3) Marking. Spas and exercise spas shall have the maximum water depth clearly marked on the required surfaces and such markers shall be positioned on the deck within 18 inches (457 mm) of the design. Depth markers shall be positioned to be read while standing on the deck facing the water.

(4) Slip resistant. Depth markers in or on the deck surfaces shall be slip resistant.

(c) Clock. Public facilities shall have a clock that is visible to spa users.

SUBCHAPTER 14. AQUATIC RECREATION FACILITIES

310:321-14-1. General

(a) This subchapter 14 covers facilities commonly known as water parks. This chapter covers public pools and water containment systems used for aquatic recreation and provides specifications for the design, equipment, operation, signs, installation, sanitation, new construction, and rehabilitation of public pools for aquatic play. This subchapter covers Class D-1 through Class D-6 public pools whether they are provided as stand-alone attractions or in various combinations in a composite attraction.

(b) Combinations. Where combinations of Class D-1 through Class D-6 pools exist within a facility, each element in the facility shall comply with the applicable code sections as if the element functioned as a part of a freestanding pool of Class D-1 through Class D-6.

(c) General compliance. In addition to the requirements of this chapter, aquatic recreation facilities shall comply with the requirements of subchapter 3 of this chapter.

(d) Floor slope. In water depths of less than 5 feet (1524 mm), the floor slope shall be not greater than 1 unit vertical in 12 units horizontal (8.3-percent slope) except where the function of the attraction requires greater slopes in limited area, except the slope of the floor in Class D-3 pools shall not exceed 1 unit vertical in 7 units horizontal (14-percent slope).

310:321-14-2. Markings and indicators

Markings in areas of deep water shall comply with subchapters 3 and 10 of this chapter except where the function of the pool dictates otherwise.

(a) Class D-2 pools. Where a Class D-2 pool has a bather depth greater than 4½ feet (1372 mm), the floor shall have a distinctive marking at the 4½ feet (1372 mm) water depth.

apps

(b) Shallow-to-deep-end rope and float line. Where a pool has a water depth ranging from less than 5 feet (1524 mm) to greater than 5 feet (1524 mm), a rope and float line shall be located 1 foot (305 mm) horizontally from the 5-foot (1524 mm) depth location, toward the shallow end of the pool.

(c) Nozzles. Pools having nonflush propulsion nozzles in the floor shall have a distinctive marking at the location of such nozzles.

310:321-14-3. Circulation systems general

(a) General. A circulation system consisting of pumps, piping, return inlets and suction outlets, filters, and other necessary equipment shall be provided for complete circulation of water with the pool.

(b) Turnover. Circulation system equipment shall be designed to turn over 100 percent of the nominal pool water volume in the amount of time specified in Table 14. The system shall be designed to give the

required turnover time based on the manufacturer’s recommended maximum pressure and flow of the filter in clean media condition.

TABLE 14. TURNOVER TIME

<u>CLASS OF POOL</u>	<u>MINIMUM TURNOVER TIME^a (hours)</u>
<u>D-1</u>	<u>2</u>
<u>D-2 with less than 24 inches water depth</u>	<u>1</u>
<u>D-2 with 24 inches or greater water depth</u>	<u>2</u>
<u>D-3</u>	<u>1</u>
<u>D-4</u>	<u>2</u>
<u>D-5</u>	<u>1</u>
<u>D-6</u>	<u>1</u>

For SI: 1 inch = 25.4 mm.

a. Pools with a sand bottom require a 1-hour turnover time.

(c) 24-hour circulation required. Circulation systems shall circulate treated and filtered water for 24 hours a day.

(d) Reduced circulation rate. The circulation rate shall be permitted to be reduced during periods that the pool is closed for use provided that acceptable water clarity conditions are met prior to reopening the pool for public use. The reduced circulation rate shall not be zero.

(e) Surface skimming systems. Surface skimming systems shall be in accordance with Table 15.

TABLE 15. SURFACE SKIMMING SYSTEMS

<u>CLASS OF POOL</u>	<u>SURFACE SKIMMING SYSTEM</u>
<u>D-1</u>	<u>Zero-depth trench located at static water level or other skimming systems</u>
<u>D-2</u>	<u>Auto skimmer, zero-depth trench or gutters</u>
<u>D-3</u>	<u>Auto skimmer, zero-depth trench or perimeter device</u>
<u>D-4</u>	<u>Single or multiple skimmer devices for skimming flow</u>
<u>D-5</u>	<u>Skimmers prohibited in side area</u>
<u>D-6</u>	<u>Auto skimmer, zero-depth trench, or gutters</u>

(f) Class D-5 pool skimmers. The installation of skimmers in the side areas of Class D-5 pools shall be prohibited.

310:321-14-4. Handholds and ropes

(a) Handholds shall be provided in accordance with this section except handholds shall not be provided for wave action and action rivers.

(b) Rope and float line. A rope and float line shall be provided for all of the following situations except Class D-1 pools or any other pool where the designer indicates that such a line is not required or that the line would constitute a hazard :

- (1) Separation of activity areas.
- (2) Identification of a break in floor slope at water depths of less than 5 feet (1524 mm).
- (3) Identification of a water depth greater than 4½ feet (1372 mm) in constant floor slope in Class D-2 pools.

(c) Location. The rope and float line shall be located 1 foot (305 mm) toward the shallow end in each location.

(d) Caisson wall rope and float line. For Class D-1 pools, a rope and float line shall be installed to restrict bather access to the wave pool caisson wall. The location of the rope and float line shall be in accordance with the wave equipment manufacturer's instructions.

(e) **Fastening.** Rope and float lines shall be securely fastened to wall anchors made of corrosion-resistant materials. Wall anchors shall be of the recessed type and shall not have projections that will constitute a hazard when the rope and float line is removed.

(f) **Size.** Rope and float lines shall be not less than $\frac{5}{8}$ inch (15.9 mm) in diameter and shall be made of polypropylene material.

310:321-14-5. Depths

(a) **Class D-6 depth.** The captured or standing water depth in Class D-6 pools shall be not greater than 12 inches (305 mm).

(b) **Spray pools.** The water depths in spray pools shall be not greater than 6 inches (152 mm).

310:321-14-6. Barriers

Multiple pools and spas within a single complex shall be permitted without barriers where a barrier separates the single complex from the surrounding property in accordance with Subchapter 3 of this chapter.

SUBCHAPTER 15. NUMBER OF OCCUPANTS

310:321-15-1. Occupant load

(a) The occupant load for the pools or spas in the facility shall be calculated in accordance with Table 16. The occupant load shall be the combined total of the number of users based on the pool or spa water surface area and the deck area surrounding the pool or spa. The deck area occupant load shall be based on the occupant load calculated where a deck is provided or based on an assumed 4-foot-wide (1219 mm) deck surrounding the entire perimeter of the pool or spa, whichever is greater.

TABLE 16. OCCUPANT LOAD

	<u>SHALLOW OR WADING AREAS</u>	<u>DEEP AREA (NOT INCLUDING THE DIVING AREA)</u>	<u>DIVING AREA (PER EACH DIVING BOARD)</u>	<u>DECK AREA</u>
<u>Vessel water surface area</u>	<u>8 sq. ft per user</u>	<u>10 sq. ft. per user</u>	<u>300 sq. ft. per user</u>	--
<u>Deck area</u>	--	--	—	<u>1 user per 15 sq. ft.</u>

For SI: 1 square foot = 0.0929 m².

(b) **Facility capacity.** For multiple pools and spas in a single aquatic recreation facility, the total facility occupant capacity shall not be limited by the number of occupants calculated in accordance with paragraph (a) of this Section.

310:321-15-2. General dressing and sanitary facilities

(a) Dressing and sanitary facilities shall be provided in accordance with the minimum requirements of the International Building Code and International Plumbing Code and Sections OAC 310:321-15-1 through OAC:321-15-9.

(b) **Number of fixtures.** The minimum number of required water closets, urinals, lavatory, and drinking fountain fixtures shall be provided as required by the International Building Code and International Plumbing Code and the dressing facilities and number of cleansing and rinse showers shall be provided in accordance with paragraphs (a) through (c) of this Section.

(c) **Water area less than 7500 square feet.** Facilities that have less than 7500 gross square feet (697 m²) of water area available for bather access shall have dressing facilities and not less than one cleansing shower for males and one cleansing shower for females except this requirement shall not apply to Class C semipublic pools.

(d) Water area 7500 square feet or more. Facilities that have 7500 gross square feet (697 m²) or more of water area available for bather access shall have dressing facilities and not less than one cleansing shower for males, and one cleansing shower for females for every 7500 square feet (697 m²) or portion thereof. Where the result of the fixture calculation is a portion of a whole number, the result shall be rounded up to the nearest whole number.

(e) Showers. Showers shall be in accordance with paragraphs (f) through (h) of this Section.

(f) Rinse shower. In addition to the requirement for cleansing showers in paragraphs (d) and (e) of this section, not less than one rinse shower shall be provided on the deck of or at the entrance of each pool.

(g) Water heater and mixing valve. Bather access to water heaters and thermostatically controlled mixing valves for showers shall be prohibited.

(h) Temperature. At each cleansing showerhead, the heated shower water temperature shall be not less than 90°F (32°C) and not greater than 120°F (49°C). Water supplied to rinse showers shall not be required to be heated.

(i) Soap dispensers. Soap dispensers shall be in accordance with paragraphs (j) and (h) of this Section.

(j) Liquid or powder. Soap dispensers shall be provided at each lavatory and cleansing shower. Soap dispensers shall dispense liquid or powdered soap. Reusable cake soap is prohibited. Soap dispensers and soap shall not be provided at rinse showers.

(k) Metal or plastic. Soap dispensers shall be made of metal or plastic. Glass materials shall be prohibited.

(l) Toilet tissue holder. A toilet paper holder shall be provided at each water closet.

(h) Lavatory mirror. Where mirrors are provided, they shall be shatter resistant.

(i) Sanitary napkin receptacles. Sanitary napkin receptacles shall be provided in each water closet compartment for females and in the cleansing area of the showers for female use only.

(j) Sanitary napkin dispensers. A sanitary napkin dispenser shall be provided in each toilet facility for females.

(k) Infant care. Baby-changing tables shall be provided in toilet facilities having two or more water closets.

310:321-15-3. Special features

(a) Locations. Entry and exit locations shall be in accordance with Table 17. The primary means of entry and exit shall consist of ramps, beach entries, pool stairs, or ladders.

TABLE 17. ENTRY AND EXIT LOCATIONS

CLASS OF POOL	ENTRY AND EXIT LOCATIONS
<u>D-1</u>	<u>Entry at beach end only; exit at beach end, sides or end wall</u>
<u>D-2</u>	<u>Entry and exit determined by the pool designer</u>
<u>D-3</u>	<u>Entry prohibited from deck areas; exit by ladders, steps or ramps as determined by pool designer</u>
<u>D-4</u>	<u>Entry and exit determined by the pool designer</u>
<u>D-5</u>	<u>Entry and exit determined by the pool designer</u>
<u>D-6</u>	<u>Entry and exit determined by the pool designer</u>

(b) Secondary entry and exit means. Where secondary means of entry and exit are provided, they shall consist of one of the following:

- (1) Steps.
- (2) Stairs.
- (3) Ladders with grab rails.
- (4) Recessed treads.
- (5) Ramps.
- (6) Beach entries.
- (7) Swimouts.
- (8) Designs that provide the minimum utility as specified in this code.

- (c) Provisions for diving.** Where diving facilities are part of the attraction or pool complex, entries, exits, pool stairs, ladders, underwater benches, special features, and other accessories shall be located outside of the minimum diving water envelope in accordance with Appendix A, Figure 1.
- (d) Beach entry, zero-depth entry, and sloping entries.** The shallow end for beach entries and sloping entries shall be in accordance with paragraphs (e) through (h) of this Section.
- (e) Maximum entry slope.** The slope of sloping entries used as a pool entry shall not exceed 1 unit vertical in 12 units horizontal (8.3-percent slope).
- (f) Benches.** Where benches are used in conjunction with sloping entries, the vertical riser height shall not exceed 12 inches (305 mm).
- (g) Steps.** Where steps are used in conjunction with sloping entries, all of the requirements of paragraph (j) of this Section shall apply.
- (h) Slip-resistant surfaces.** Beach and sloping entry walking surfaces at water depths up to 36 inches (914 mm) shall be slip resistant.
- (i) Pool steps.** The design and construction of steps for stairs into the shallow end and recessed pool stairs shall be in accordance with paragraphs (j) through (o) of this Section.
- (j) Uniform height of 9 inches.** Except for the bottom riser, risers at the centerline shall have a maximum uniform height of 9 inches (229 mm). The bottom riser height shall be permitted to vary from the other risers.
- (k) Distance from coping or deck.** The vertical distance from the pool coping, deck, or step surface to the uppermost tread shall be not greater than 9 inches (229 mm).
- (l) Color to mark leading edge.** The leading edge of steps shall be distinguished by a color contrasting with the color of the steps and the pool floor.
- (m) Stairs in water depths over 48 inches.** Stairs that are located in water depths greater than 48 inches (1219 mm) shall have the lowest tread located below the deck at a distance of not less than 48 inches (1219 mm) below the deck.
- (1) Tread horizontal depth.** Treads shall have an unobstructed horizontal depth of not less than 11 inches (279 mm).
 - (2) Tread surface area.** Treads shall have an unobstructed surface area of not less than 240 square inches (.017 m²).
- (n) Swimouts.** Swimouts shall be located completely outside of the water current or wave action of the pool or spa and can be located in shallow or deep areas of water.
- (1) Surface area.** An unobstructed surface equal to or greater than that required for the top tread of the pool stairs shall be provided in accordance with paragraphs (m)(1) and (m)(2) of this Section.
 - (2) Step required.** Where a swimout is used as an entry and exit access point, it shall be provided with a step that meets the pool stair requirements).
 - (3) Maximum depth.** The horizontal surface of a swimout shall be not greater than 20 inches (508 mm) below the waterline.
 - (4) Color marking.** The leading edge of a swimout shall be visually set apart by a stripe having a width of not less than ³/₄ inch (19 mm) and not greater than 2 inches (51 mm). The stripe shall be of a contrasting color to the adjacent surfaces.
- (o) Underwater benches.** Underwater benches shall comply with this section.
- (1) Location.** Underwater benches shall only be located in areas where the pool water depth does not exceed 5 feet (1.5 m).
 - (2) Surface dimensions.** Underwater benches shall have an unobstructed surface dimension of not less than 16 inches (406 mm) and not greater than 22 inches (559 mm) in depth measured front to back and not less than 26 inches (660 mm) in width.
 - (3) Not an entry or exit.** Underwater benches shall not be used as an entry or exit for a pool.
 - (4) Depth.** The horizontal surface of benches shall be not greater than 20 inches (508 mm) below the waterline.

(5) Color marking. The leading edge of benches shall be visually set apart by a stripe having a width not less than $\frac{3}{4}$ inch (19 mm) and not greater than 2 inches (51 mm). The stripe shall be of a contrasting color to the adjacent surfaces.

(6) Slip resistant. The top surface of benches shall be slip resistant.

(p) Objects permitted. The design, construction, and operation of decorative objects and structures intended for climbing, walking, and hanging on by a bather are not covered by this chapter.

(q) Floating devices. Floating devices not intended to be mobile shall be anchored in a manner to restrict movement to the range established by the designer. The anchoring of such floating devices shall be configured to minimize the possibility of entrapment of bathers, bodies, hair, limbs, and appendages should they come in contact with any element of the floating device or its anchors.

310:321-15-4. Signage

(a) Posting of signs. Signs stating rules, instructions, and warnings shall be posted. Signs for suction entrapment warning in accordance with OAC 310:321-2-28(g) and this section shall be posted. Signs shall be placed so that they squarely face approaching traffic. The center of the message panel shall be located not less than 66 inches (1676 mm) above the walking surface.

(b) Prohibited mounting. Signs shall not be mounted on fences and gates alongside of guest walkways and staircases.

(c) Message delivery. Messages delivered on signs shall comply with all of the following:

(1) Messages shall be pertinent to the activity being performed or to be performed.

(2) Messages shall be specific by providing details about the activity.

(3) Messages shall be short and concise.

(4) Messages shall be direct without humor or embellishments.

(d) Text font and size. The message text shall be in a clear, bold font such as Arial. The character height shall be proportional to 1 inch (25 mm) for 10 feet (3048 mm) of intended viewing distance but not less than 1 inch (25 mm).

(e) Distinct sign classes. Facility signs shall be categorized into four sign classes in accordance with paragraphs (f) through to (i) of this Section.

(f) General information. General information signs shall be posted facility-wide and shall not be attraction specific.

(g) Directional signs. Directional signs shall identify the location of services and attractions in the park and shall include directional arrows. Directional signs shall be posted at various crossroads in the facility.

(h) Rule signs. Rule signs shall inform guests of the qualifications that they must meet to allow them to participate on a specific ride or attraction. Rules shall include, but are not limited to, limits for weight and height, proper attire and ride (and ride vehicle) stipulations. Rule signs shall be located at a point where the guests make the initial commitment to participate on the ride.

(i) Instructional signs. Instructional signs shall inform guests of specific instructions for the use of the ride. Instructions shall include, but are not limited to, riding posture, prohibited activity, and user exit requirements at the ride termination. Instructional signs shall be located along the queue approaching the ride dispatch area.

(1) Materials. Sign panels shall be durable for the weather conditions and shall be resistant to damage from guests. The message surface shall be clean and smooth and shall readily accept paint or precut lettering adhesives.

(2) Shape and size consistency. The panel shape and size for each class of signs shall be the same. Where the total message to be indicated is larger than what can be placed on one sign, multiple signs of the same size shall be used to display the message.

(3) Pictograms. Pictograms shall always be accompanied by text indicating the same message. Pictograms shall be designed to illustrate one clear and specific meaning to all individuals.

(4) Theming or artwork. Theming or artwork applied to signs shall not invade the message panel. Signs shall have a distinct border.

(j) Shallow water. Safety signs shall be in accordance with OAC 310:321-8-10.

(k) **Cold water.** Where a pool could have a water temperature below 70°F (21°C), a cold water warning sign shall be posted at the point of entry to the pool or at the attraction using such water.

310:321-15-5. Interactive water play features

(a) **General.** Interactive water play features shall comply with this section.

(b) **Safety hazards.** Parts of the interactive water play feature that can be accessed by the users of the feature shall be designed and constructed to not present safety hazards to the users.

(c) **Decking.** A deck of not less than 4 feet (1296 mm) in width shall be provided around the perimeter of the interactive water play feature. The deck shall be sloped away from the interactive water play feature.

(d) **Splash pad zone.** The splash pad zone shall comply with paragraphs (e) through (h) of this section.

(e) **Surface.** Splash pad zone surfaces shall have a slip-resistant and cleanable surface. The manufacturer of manufactured zone surfaces shall certify that such surfacing is suitable for aquatic and chlorinated environments. Direct suction outlets from interactive water play features shall be prohibited.

(f) **Slope and water collection.** Splash pad zone surfaces shall slope to one or more drain points so that only water from the splash pad zone flows back to a gravity-fed collection tank. The slope shall prevent the accumulation or pooling of water and shall not exceed 1/2 inch per foot (41.6 mm/m).

Drain openings in the splash pad zone surfaces that can be accessed by users shall not allow a 1/2-inch (12.7 mm) diameter dowel rod to be inserted into the opening. Drain covers in splash pad zone surfaces shall be flat and flush with the zone surface and shall require tools for removal. The manufacturer of such drain covers shall certify that the covers comply with the physical testing and finger-and-limb entrapment requirements in Sections 3 and 6, respectively, of APSP 16.

(g) **Nozzles within the interactive water play feature splash pad zone.** Nozzles that spray water from the interactive water play feature splash pad zone shall be flush with the zone surface. Openings in such nozzles shall not allow a 1/2 inch (12.7 mm) diameter dowel rod to be inserted into the opening. The water velocity from the orifice of any water nozzle shall not exceed 20 feet (6.1 m) per second.

(h) **Other nozzles.** Nozzles, other than those on walking surfaces within the interactive water play feature splash pad zone, shall be designed to be clearly visible.

(i) **Water sanitation.** The water sanitation shall consist of the equipment covered in paragraphs (j) through (n) of this section.

(j) **Water collection and treatment tank.** Interactive water play features shall drain to a collection and treatment tank. The inside of the tank shall be provided access for cleaning and inspection. The access hatch or lid shall be locked or require a tool to open.

(k) **Filtration pump.** The filtration pump shall be sized to turn over the surge basin capacity in 30 minutes or less. The intake for the pump shall be located to draw water from the lowest elevation in the treatment tank.

(l) **Spray nozzle and water feature water disinfection.** Spray nozzles and water features shall be supplied by water from the water collection and treatment tank that is equipped with filtration and sanitizing equipment required by Subchapter 4 and this section. Where separate water feature pumps are installed, controls shall prevent those pumps from operation when the filtration pump is not operating.

(m) **Disinfection system.** In addition to any filtration and sanitizing equipment requirements of Subchapter 4 and this chapter, all water supplied to spray nozzles or other water that can be accessed by a user shall pass through a secondary disinfection system before discharge to the user. The secondary disinfection system shall be listed and labeled to NSF 50 as having a single-pass, three-log reduction of the cryptosporidium surrogate.

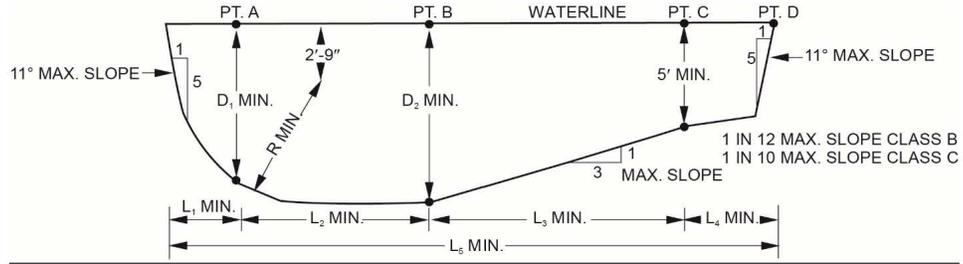
(n) **Make-up water system.** The water collection and treatment tank shall be provided with a make-up water system that is supplied with potable water.

(o) **Operating instructions.** In addition to the documentation and instructions requirements of Subchapter 2, the operating instructions for an interactive water play feature shall require that the circulation system be operated continuously for not less than four turnovers prior to operation of the pumps for the spray nozzles and other water features systems.

(p) Lighting. Where an interactive water play feature will be in operation at night or during periods of inadequate natural lighting, artificial lighting shall be provided in accordance with the same requirements for pool deck area lighting in OAC 310:321-8-3.

APPENDIX A. CLASS B AND C DIVING ENVELOPES [NEW]

Figure 1.



(MINIMUM DIVING WATER ENVELOPES) CONSTRUCTION DIMENSIONS FOR WATER ENVELOPES FOR CLASS B AND CLASS C POOLS

APPENDIX B. MINIMUM WATER DIVING ENVELOPE [NEW]

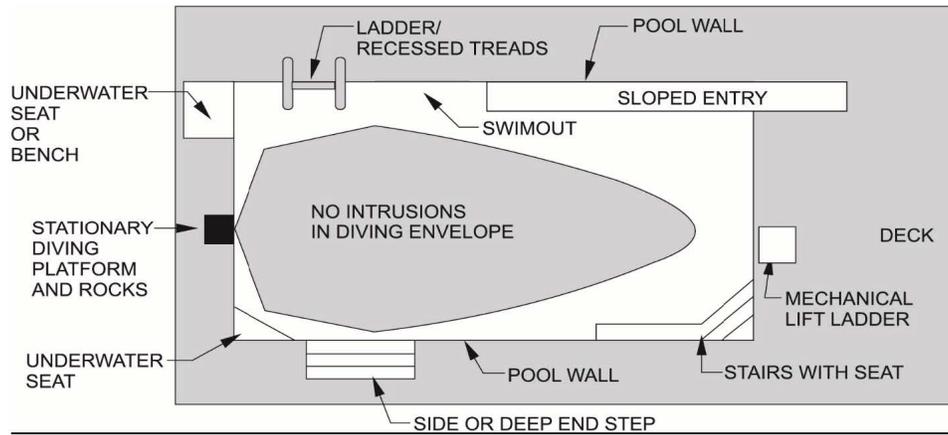


FIGURE 3. MINIMUM WATER DIVING ENVELOPE

APPENDIX C. SIGNAGE [NEW]

FIGURE 2. SIGNAGE



APPENDIX D. REFERENCED STANDARDS [NEW]

ACI

American Concrete Institute
388 Country Club Drive ACI 318—19
Farmington Hills MI 48331-3439

AHRI

Air Conditioning, Heating & Refrigeration Institute
2311 Wilson Boulevard
Suite 400
Arlington, VA 22201

ANSI

American National Standards Institute
25 West 43rd Street, 4th Floor
New York, NY10036

APSP

Pool & Hot Tub Alliance (formerly The Association of Pool & Spa Professionals)
2111 Eisenhower Avenue, Suite 500
Alexandria, VA 22314

ASCE/SEI

American Society of Civil Engineers
Structural Engineering Institute
1801 Alexander Bell Drive
Reston, VA 20191-4400

ASHRAE

180 Technology Parkway
Peachtree Corners, GA30092

ASME

American Society of Mechanical Engineers
Two Park Avenue
New York, NY10016-5990

ASTM

ASTM International
100 Barr Harbor
P.O. Box C700
West ConshohockenPA19428-2959

CPSC

Consumer Product Safety Commission
4330 East-West Highway
Bethesda, MD 20814

CSA

CSA Group
8501 East Pleasant Valley Road
Cleveland, OH 44131-5516

IAPMO

4755 E. Philadelphia Street
Ontario, CA 91761-USA

ICC

International Code Council, Inc.
200 Massachusetts Avenue, NW
Suite 250
Washington, DC 20001

NEMA

National Electrical Manufacturers Association
1300 North 17th Street
Suite 900
RosslynVA22209

NSF

NSF International
789 N. Dixboro Road
P.O. Box 130140
Ann Arbor, MI 48105

PHTA

Pool and Hot Tub Alliance
2111 Eisenhower Avenue
Suite 500
Alexandria, VA 22314

SA

Standards Australia
Level 10, The Exchange Centre
20 Bridge Street
Sydney, Australia

UL

UL LLC
333 Pfingsten Road
Northbrook, IL 60062

APPENDIX E. PUBLIC BATHING PLACES FEES [NEW]

License classifications and associated fees for Public Bathing Places:

- (a) Public Bathing Category I "Indoor Facility"
- (b) Public Bathing Places Initial License Fee - \$125.00
- (c) Public Bathing Places Renewal License Fee - \$75.00
- (d) Public Bathing Places Re-inspection Fee - \$250.00

Public Bathing Category O "Outdoor Facility":

- (a) Public Bathing Places Initial License Fee - \$125.00
- (b) Public Bathing Places Renewal License Fee - \$75.00
- (c) Public Bathing Places Re-inspection Fee - \$250.00

Pool Category M "Municipality of 5,000 or less population":

- (a) Public Bathing Places Initial and Annual License Fee - \$50.00
- (b) Public Bathing Places Re-inspection Fee - \$50.00

Each filter system for a construction project shall require a separate permit:

- (a) One project may contain several construction items and require more than one permit. The maximum fee for each public bathing place construction permit will be \$2000.00

New Construction:

- (a) Pool - Rounded to the nearest 5000 gallons volume - \$100.00 per 5000 gallons (minimum \$500.00 fee)
- (b) Spray Pool - Rounded to the nearest 5000 gallons volume - \$100.00 per 5000 gallons (minimum \$500.00 fee)
- (c) Spas - Rounded to nearest 100 gallons volume - \$50.00 per 100 gallons (minimum \$250.00 fee)

Modification to Existing Permit

- (a) Pool - Rounded to the nearest 5000 gallons volume - \$50.00 per 5000 gallons (minimum \$250.00 fee)
- (b) Spray Pool - Rounded to the nearest 5000 gallons volume - \$50.00 per 5000 gallons (minimum \$250.00 fee)
- (c) Spas - Rounded to the Nearest 100 gallons volume - \$25.00 per 100 gallons (minimum \$125.00 fee)