

Excerpts from Rule R392-302. Design, Construction and Operation of Public Pools.

As in effect on December 1, 2017

R392-302-1. Authority and Purpose of Rule.

This rule is authorized under Sections 26-1-5, 26-1-30(23) and 26-15-2. It establishes minimum standards for the design, construction, operation and maintenance of public pools and provides for the prevention and control of health hazards associated with public pools which are likely to affect public health.

R392-302-2. Definitions.

The following definitions apply in this rule.

- (1) "AED" means automated external defibrillator.
- (2) "Backwash" means the process of cleaning a swimming pool filter by reversing the flow of water through the filter.
- (3) "Bather Load" means the number of persons using a pool at any one time or specified period of time.
- (4) "Cleansing shower" means the cleaning of the entire body surfaces with soap and water to remove any matter, including fecal matter, that may wash off into the pool while swimming.
- (5) "Collection Zone" means the area of an interactive water feature where water from the feature will be collected and drained for treatment.
- (6) "CPR" means Cardiopulmonary Resuscitation.
- (7) "Department" means the Utah Department of Health.
- (8) "Executive Director" means the Executive Director of the Utah Department of Health, or his designated representative.
- (9) "Facility" means any premises, building, pool, equipment, system, and appurtenance which appertains to the operation of a public pool.
- (10) "Float Tank" means a tank containing a skin-temperature solution of water and Epsom salts at a specific gravity high enough to allow the user to float supine while motionless and require a

deliberate effort by the user to turn over and that is designed to provide for solitary use and sensory deprivation of the user.

(11) "Gravity Drain System" means a pool drain system wherein the drains are connected to a surge or collector tank and rather than drawing directly from the drain, the circulation pump draws from the surge or collector tank and the surface of the water contained in the tank is maintained at atmospheric pressure.

(12) "High Bather Load" means 90% or greater of the designed maximum bather load."

(13) "Hydrotherapy Pool" means a pool designed primarily for medically prescribed therapeutic use.

(14) "Illuminance Uniformity" means the ratio between the brightest illuminance falling on a surface compared to the lowest illuminance falling on a surface within an area. The value of illuminance falling on a surface is measured in foot candles.

(15) "Interactive Water Feature" means a recirculating water feature designed, installed or used for recreational use, in which there is direct water contact from the feature with the public, and when not in operation, all water drains freely so there is no ponding.

(16) "Lamp Lumens" means the quantity of light, illuminance, produced by a lamp.

(17) "Lifeguard" means an attendant who supervises the safety of bathers.

(18) "Living Unit" means one or more rooms or spaces that are, or can be, occupied by an individual, group of individuals, or a family, temporarily or permanently for residential or overnight lodging purposes. Living units include motel and hotel rooms, condominium units, travel trailers, recreational vehicles, mobile homes, single family homes, and individual units in a multiple unit housing complex.

(19) "Local Health Officer" means the health officer of the local health department having jurisdiction, or his designated representative.

(20) "Onsite Septic System" means an approved onsite waste water system designed, constructed, and operated in accordance with Rule 317-4.

(21) "Pool" means a man-made basin, chamber, receptacle, tank, or tub, above ground or in-ground, which, when filled with water, creates an artificial body of water used for swimming, bathing, diving, recreational and therapeutic uses.

(22) "Pool Deck" means the area contiguous to the outside of the pool curb, diving boards, diving towers and slides.

(23) "Pool Shell" means the rigid encasing structure of a pool that confines the pool water by resisting the hydrostatic pressure of the pool water, resisting the pressure of any exterior soil, and

transferring the weight of the pool water (sometimes through other supporting structures) to the soil or the building that surrounds it.

(24) "Private Residential Pool" means a swimming pool, spa pool or wading pool used only by an individual, family, or living unit members and guests, but not serving any type of multiple unit housing complex of four or more living units.

(25) "Public Pool" means a swimming pool, spa pool, wading pool, or special purpose pool facility which is not a private residential pool and may be above ground or in-ground.

(26) "Saturation Index" means a value determined by application of the formula for calculating the saturation index in Table 5, which is based on interrelation of temperature, calcium hardness, total alkalinity and pH which indicates if the pool water is corrosive, scale forming or neutral.

(27) "Spa Pool" means a pool which uses therapy jet circulation, hot water, cold water, bubbles produced by air induction, or any combination of these, to impart a massaging effect upon a bather. Spa pools include, spas, whirlpools, hot tubs, or hot spas.

(28) "Special Purpose Pool" means a pool with design and operational features that provide patrons recreational, instructional, or therapeutic activities which are different from that associated with a pool used primarily for swimming, diving, or spa bathing.

(29) "Splash Pool" means the area of water located at the terminus of a water slide or vehicle slide.

(30) "Swimming Pool" means a pool used primarily for recreational, sporting, or instructional purposes in bathing, swimming, or diving activities.

(31) "Surge Tank" means a tank receiving the gravity flow from an overflow gutter and main drain or drains from which the circulation pump takes water which is returned to the system.

(32) "Turnover" means the circulation of a quantity of water equal to the pool volume through the filter and treatment facilities.

(33) "Vehicle Slide" means a recreational pool where bathers ride vehicles, toboggans, sleds, etc., down a slide to descend into a splash pool.

(34) "Unblockable Drain" means a drain of any size or shape such that a representation of the torso of a 99 percentile adult male cannot sufficiently block it to the extent that it creates a body suction entrapment hazard.

(35) "Wading Pool" means any pool or pool area used or designed to be used by children five years of age or younger for wading or water play activities.

(36) "Waste Water" means discharges of pool water resulting from pool drainage or backwash.

(37) "Water Slide" means a recreational facility consisting of flumes upon which bathers descend into a splash pool.

R392-302-3. General Requirements.

(1) This rule does not require a construction change in any portion of a public pool facility if the facility was installed and in compliance with law in effect at the time the facility was installed, except as specifically provided otherwise in this rule. However if the Executive Director or the Local Health Officer determines that any facility is dangerous, unsafe, unsanitary, or a nuisance or menace to life, health or property, the Executive Director or the Local Health Officer may order construction changes consistent with the requirements of this rule to existing facilities.

(2) This rule does not regulate any private residential pool. A private residential pool that is used for swimming instruction purposes shall not be regulated as a public pool.

(3) This rule does not regulate any body of water larger than 30,000 square feet, 2,787.1 square meters, and for which the design purpose is not swimming, wading, bathing, diving, a water slide splash pool, or children's water play activities.

(4) This rule does not regulate float tanks.

(5) All public pools shall meet the requirements of this rule unless otherwise specified in R392-302. . .

R392-302-6. Construction Materials.

(1) Each public pool and the appurtenances necessary for its proper function and operation must be constructed of materials that are inert, non-toxic to humans, impervious, enduring over time, and resist the effects of wear and deterioration from chemical, physical, radiological, and mechanical actions.

(2) All public pools shall be constructed with a pool shell that meets the requirements of this section R392-302-6. Vinyl liners that are not bonded to a pool shell are prohibited. A vinyl liner that is bonded to a pool shell shall have at least a 60 mil thickness. Sand, clay or earth walls or bottoms are prohibited.

(3) The pool shell of a public pool must withstand the stresses associated with the normal uses of the pool and regular maintenance. The pool shell shall by itself withstand, without any damage to the structure, the stresses of complete emptying of the pool without shoring or additional support.

(4) In addition to the requirements of R392-302-6(3), the interior surface of each pool must be designed and constructed in a manner that provides a smooth, easily cleanable, non-abrasive, and slip resistant surface. The pool shell surfaces must be free of cracks or open joints with the

exception of structural expansion joints. The owner of a non-cementitious pool shall submit documentation with the plans required in R392-302-8 that the surface material has been tested and passed by an American National Standards Institute (ANSI) accredited testing facility using one of the following standards that is appropriate to the material used:

(a) for a fiberglass reinforced plastic spa pool, the International Association of Plumbing and Mechanical Officials (IAPMO) standard IAPMO/ANSI Z 124.7-2013;

(b) for a fiberglass reinforced plastic swimming pool, the IAPMO IGC 158-2000 standard;

(c) for pools built with prefabricated pool sections or pool members, the International Cast Products Association (ICPA) standard ANSI/ICPA SS-1-2001; or

(d) a standard that has been approved by the Department based on whether the standard is applicable to the surface and whether it determines compliance with the requirements of this section R392-302-6.

(5) The pool shell surface must be of a white or light pastel color. . .

R392-302-10. Walls.

(1) Pool walls must be vertical or within 11 degrees of vertical for a minimum distance of 2 feet 9 inches, 83.82 centimeters, below the water line in areas with a depth of 5 feet, 1.52 meters, or greater. Pool walls must be vertical or within 11 degrees of vertical for a minimum distance equal to or greater than one half the pool depth as measured from the water line.

(2) Where walls form an arc to join the floors, the transitional arc from wall to floor must:

(a) have its center no less than 2 feet 9 inches, 83.82 centimeters, below the normal water level in areas with a depth greater than 5 feet, 1.52 meters;

(b) have its center no less than 75% of the pool depth beneath the normal water level, in areas of the pool with a depth of 5 feet, 1.52 meters, or less;

(c) be tangent to the wall;

(d) have a radius at least equal to or greater than the depth of the pool minus the vertical wall depth measured from the water line, as described in Subsection R392-302-9(1), minus 3 inches, 7.62 centimeters, to allow draining to the main drain. Radius minimum = Pool Depth - Vertical wall depth - 3 inches, 7.62 centimeters, where the water depth is greater than 5 feet, 1.52 meters; and

(e) have a radius which may not exceed a length greater than 25% of the water depth, in areas with a water depth of 5 feet, 1.52 meters, or less.

(3) Underwater ledges are prohibited except when approved by the local health officer for a special purpose pool. Underwater ledges are prohibited in areas of a pool designed for diving. Where underwater ledges are allowed, a line must mark the extent of the ledge within 2 inches, 5.08 centimeters, of its leading edge. The line must be at least 2 inches, 5.08 centimeters, in width and in a contrasting dark color for maximum visual distinction.

(4) Underwater seats and benches are allowed in pools so long as they conform to the following:

(a) Seats and benches shall be located completely inside of the shape of the pool. Where seats and benches are not located on the perimeter walls of the pool, seats and benches shall have a wall on the back of the seats and benches that extend above the operating level of the pool and is clearly visible to users.

(b) The horizontal surface shall be a maximum of 20 inches, 51 centimeter, below the water line;

(c) An unobstructed surface shall be provided that is a minimum of 10 inches, 25 centimeters, and a maximum of 20 inches front to back, and a minimum of 24 inches, 61 centimeters, wide;

(d) Seats and benches shall not transverse a depth change of more than 24 inches, 61 centimeters;

(e) The minimum horizontal separation between sections of seats and benches shall be five feet, 1.52 meters.

(f) The pool wall under the seat or bench shall be flush with the leading edge of the seat or bench and meet the requirements of R392-302-10(1) and (2);

(g) Seats and benches may not replace the stairs or ladders required in R392-302-12, but are allowed in conjunction with pool stairs;

(h) Underwater seats may be located in the deep area of the pool where diving equipment (manufactured or constructed) is installed, provided they are located outside of the minimum water envelope for diving equipment; and

(i) A line must mark the extent of the seat or bench within 2 inches, 5.08 centimeters, of its leading edge. The line must be at least 2 inches, 5.08 centimeters, in width and in a contrasting dark color for maximum visual distinction.

(5) Recessed footholds are allowed so long as they are at least four feet, 1.21 meters, under water and meet the requirements of R392-302-12(5)(b) and (c). . .

R392-302-16. Circulation Systems.

(1) A circulation system, consisting of pumps, piping, filters, water conditioning and disinfection equipment and other related equipment must be provided. The operator shall maintain the normal water line of the pool at the overflow rim of the gutter, if an overflow gutter is used, or at the midpoint of the skimmer opening if skimmers are used whenever the pool is open for bathing. An exemption to this requirement may be granted by the department if the pool operator can demonstrate that the safety of the bathers is not compromised.

(a) The circulation system shall meet the minimum turnover time listed in Table 1.

(b) If a single pool incorporates more than one the pool types listed in Table 1, either:

(i) the entire pool shall be designed with the shortest turnover time required in Table 1 of all the turnover times for the pool types incorporated into the pool or

(ii) the pool shall be designed with pool-type zones where each zone is provided with the recirculation flow rate that meets the requirements of Table 1.

(c) The Health Officer may require the pool operator to demonstrate that a pool is performing in accordance with the approved design.

(d) The operator shall run circulation equipment continuously except for periods of routine or other necessary maintenance. Pumps with the ability to decrease flow when the pool has little or no use are allowed as long as the same number of turnovers are achieved in 24 hours that would be required using the turnover time listed in Table 1 and the water quality standards of R392-302-27 can be maintained. The circulation system must be designed to permit complete drainage of the system.

(e) Piping must be of non-toxic material, resistant to corrosion and be able to withstand operating pressures.

(f) Plumbing must be identified by a color code or labels.

(2) The water velocity in discharge piping may not exceed 10 feet, 3.05 meters, per second, except for copper pipe where the velocity for piping may not exceed 8 feet, 2.44 meters, per second.

(3) Suction velocity for all piping may not exceed 6 feet, 1.83 meters, per second.

(4) The circulation system must include a strainer to prevent hair, lint, etc., from reaching the pump.

(a) Strainers must be corrosion-resistant with openings not more than 1/8 inch, 3.18 millimeters, in size.

(b) Strainers must provide a free flow capacity of at least four times the area of the pump suction line.

(c) Strainers must be readily accessible for frequent cleaning.

(d) Strainers must be maintained in a clean and sanitary condition.

(e) Each pump strainer must be provided with necessary valves to facilitate cleaning of the system without excessive flooding.

(5) A vacuum-cleaning system must be provided.

(a) If this system is an integral part of the circulation system, connections must be located in the walls of the pool, at least 8 inches, 20.32 centimeters, below the water line. This requirement does not apply to vacuums operated from skimmers.

(b) The number of connections provided must facilitate access to all areas of the pool through hoses less than 50 feet, 15.24 meters, in length.

(6) A rate-of-flow indicator, reading in gallons per minute, must be properly installed and located according to manufacturer recommendations. The indicator must be located in a place and position where it can be easily read.

(7) Pumps must be of adequate capacity to provide the required number of turnovers of pool water as specified in Subsection R392-302-16, Table 1. The pump or pumps must be capable of providing flow adequate for the backwashing of filters. Under normal conditions, the pump or pumps must supply the circulation rate of flow at a dynamic head which includes, in addition to the usual equipment, fitting and friction losses, an additional loss of 15 feet, 4.57 meters, for rapid sand filters, vacuum precoat media filters or vacuum cartridge filters and 40 feet, 12.19 meters, for pressure precoat media filters, high rate sand filters or cartridge filters, as well as pool inlet orifice loss of 15 feet, 4.57 meters.

(8) A pool equipped with heaters must meet the requirements for boilers and pressure vessels as required by the State of Utah Boiler and Pressure Vessel Rules, R616-2, and must have a fixed thermometer mounted in the pool circulation line downstream from the heater outlet. The heater must be provided with a heatsink as required by manufacturer's instructions.

(9) The area housing the circulation equipment must be designed with adequate working space so that all equipment may be easily disassembled, removed, and replaced for proper maintenance.

(10) All circulation lines to and from the pool must be regulated with valves in order to control the circulation flow.

(a) All valves must be located where they will be readily and easily accessible for maintenance and removal.

(b) Multiport valves must comply with NSF/ANSI 50-2015.

(11) Written operational instructions must be immediately available at the facility at all times.

TABLE 1

Pool Type	Min. Number of Wall Inlets	Min. Number of Skimmers per 3,500 square ft. or less	Circulation
			Min. Turnover Time
1. Swim	1 per 10 ft., 3.05 m.	1 per 500 sq. ft., 46.45 sq. m.	8 hrs.
2. Swim, high bather load	1 per 10 ft., 3.05 m.	1 per 500 sq. ft., 46.45 sq. m.	6 hrs.
3. Wading pool	1 per 20 ft., 6.10 m. min. of 2 equally spaced	1 per 500 sq. ft. 46.45 sq. m.	1 hr.
4. Spa	1 per 20 ft., 6.10 m.	1 per 100 sq. ft., 9.29 sq. m.	0.5 hr.
5. Wave	1 per 10 ft., 3.05 m.	1 per 500 sq. ft., 46.45 sq. m.	6 hrs.
6. Slide	1 per 10 ft., 3.05 m.	1 per 500 sq. ft., 46.45 sq. m.	1 hr.
7. Vehicle slide	1 per 10 ft., 3.05 m.	1 per 500 sq. ft., 46.45 sq. m.	1 hr.
8. Special Purpose Pool	1 per 10 ft., 3.05 m.	1 per 500 sq. ft., 46.45 sq. m.	1 hr.

(12) Each air induction system installed must comply with the following requirements:

(a) An air induction system must be designed and maintained to prevent any possibility of water back-up that could cause electrical shock hazards.

(b) An air intake may not introduce contaminants such as noxious chemicals, fumes, deck water, dirt, etc. into the pool.

(13) The circulation lines of jet systems and other forms of water agitation must be independent and separate from the circulation-filtration and heating systems.

R392-302-17. Inlets.

(1) Inlets for fresh or treated water must be located to produce uniform circulation of water and to facilitate the maintenance of a uniform disinfectant residual throughout the entire pool.

(2) If wall inlets from the circulation system are used, they must be flush with the pool wall and submerged at least 5 feet, 1.52 meters, below the normal water level or at the bottom of the vertical wall surface tangent to the arc forming the transition between the vertical wall and the floor of the pool. Except as provided in Subsections R392-302-31 (2)(l) and (3)(e), wall inlets must be placed every 10 feet, 3.05 meters, around the pool perimeter.

(a) The department or the local health officer may require floor inlets to be installed in addition to wall inlets if a pool has a width greater than 50 feet, 4.57 meters, to assure thorough chemical distribution. If floor inlets are installed in addition to wall inlets, there must be a minimum of one row of floor inlets centered on the pool width. Individual inlets and rows of inlets shall be spaced a maximum of 15 feet, 4.57 meters, from each other. Floor inlets must be at least 15 feet, 4.57 meters, from a pool wall with wall inlets.

(b) Each wall inlet must be designed as a non-adjustable orifice with sufficient head loss to insure balancing of flow through all inlets. The return loop piping must be sized to provide less than 2.5 feet, 76.20 centimeters, of head loss to the most distant orifice to insure approximately equal flow through all orifices.

(3) If floor inlets from the circulation system are used, they must be flush with the floor. Floor inlets shall be placed at maximum 15 foot, 4.46 meter, intervals. The distance from floor inlets to a pool wall shall not exceed 7.5 feet, 2.29 meters if there are no wall inlets on that wall. Each floor inlet must be designed such that the flow can be adjusted to provide sufficient head loss to insure balancing of flow through all inlets. All floor inlets must be designed such that the flow cannot be adjusted without the use of a special tool to protect against swimmers being able to adjust the flow. The return supply piping must be sized to provide less than 2.5 feet, 76.20 centimeters, of head loss to the most distant orifice to insure approximately equal flow through all orifices.

(4) The department may grant an exemption to the inlet placement requirements on a case by case basis for inlet designs that can be demonstrated to produce uniform mixing of pool water.

R392-302-18. Outlets.

(1) No feature or circulation pump shall be connected to less than two outlets unless the pump is connected to a gravity drain system or the pump is connected to an unblockable drain. All pool outlets shall meet the following design criteria:

(a) The grates or covers of all submerged outlets in pools shall conform to the standards of ANSI/APSP-16 2011.

(b) The outlets must be constructed so that if one of the outlets is completely obstructed, the remaining outlets and related piping will be capable of handling 100 percent of the maximum design circulation flow.

(c) All pool outlets that are connected to a pump through a single common suction line must connect to the common suction line through pipes of equal diameter. The tee feeding to the common suction line from the outlets must be located approximately midway between outlets.

(d) An outlet system with more than one outlet connected to a pump suction line must not have any valve or other means to cut any individual outlet out of the system.

(e) At least one of the circulation outlets shall be located at the deepest point of the pool and must be piped to permit the pool to be completely and easily emptied.

(f) The center of the outlet covers or grates of multiple main drain outlets shall not be spaced more than 30 feet, 9.14 meters, apart nor spaced closer than 3 feet, 0.914 meters, apart.

(g) Multiple pumps may utilize the same outlets only if the outlets are sized to accommodate 100 percent of the total combined design flow from all pumps and only if the flow characteristics of the system meet the requirements of subsection R392-302-18(2) and (3).

(h) There must be one main drain outlet for each 30 feet, 9.14 meters, of pool width. The centers of the outlet covers or grates of any outermost main drain outlets must be located within 15 feet, 4.57 meters, of a side wall.

(i) Devices or methods used for draining pools shall prevent overcharging the sanitary sewer.

(j) No operator shall allow the use of a pool with outlet grates or covers that are broken, damaged, missing, or not securely fastened.

(2) Notwithstanding Section R392-302-3, all public pools must comply with Subsections R392-302-18(2) and (3). The pool operator shall not install, allow the installation of, or operate a pool with a drain, drain cover, or drain grate in a position or an application that conflicts with any of

the following mandatory markings on the drain cover or grate under the standard required in R392-302-18(1)(a):

(a) whether the drain is for single or multiple drain use;

(b) the maximum flow through the drain cover; and

(c) whether the drain may be installed on a wall or a floor.

(3) The pool operator shall not install, allow the installation of, or operate a pool with a drain cover or drain grate unless it is over or in front of:

(a) the sump that is recommended by the drain cover or grate manufacturer;

(b) a sump specifically designed for that drain by a Registered Design Professional as defined in ANSI/APSP-16 2011; or

(c) a sump that meets the ANSI/APSP-16 2011 standard.

(4) Notwithstanding Section R392-302-3, all public pools must comply with this subsection R392-302-18(4). The pool owner or certified pool operator shall retrofit by December 19, 2009 each pool circulation system on existing pools that do not meet the requirements of subsections R392-302-18(1) through R392-302-18(1)(g) and R392-302-18(2) through (3)(c). The owner or operator shall meet the retrofit requirements of this subsection by any of the following means:

(a) Meet the requirements of R392-302-18(1)(a) and R392-302-18(2) through (3)(c) and install a safety vacuum release system which ceases operation of the pump, reverses the circulation flow, or otherwise provides a vacuum release at a suction outlet when it detects a blockage; that has been tested by an independent third party; and that conforms to ASME standard A112.19.17-2010 or ASTM standard F2387-04(2012);

(i) To ensure proper operation, the certified pool operator shall inspect and test the vacuum release system at least once a week but no less often than established by the manufacturer. The certified pool operator shall test the vacuum release system in a manner specified by the manufacturer. The certified pool operator shall log all inspections, tests and maintenance and retain the records for a minimum of two years for review by the Department and local health department upon request.

(ii) The vacuum release system shall include a notification system that alerts patrons and the pool operator when the system has inactivated the circulation system. The pool operator shall submit to the local health department for approval the design of the notification systems prior to installation. The system shall activate a continuous clearly audible alarm that can be heard in all areas of the pool or a continuous visible alarm that can be seen in all areas of the pool. A sign that meets the requirements of a "2 Inch Safety Sign" in R392-302-34(1),(2) and (3)(b) shall be posted next to the sound or visible alarm source. The sign shall state, "DO NOT USE THE POOL IF THIS ALARM IS ACTIVATED." and provide the phone number of the pool operator.

(iii) No operator shall allow the use of a pool that has a single drain with a safety vacuum release system if the safety vacuum release system is not functioning properly.

(b) Install an outlet system that includes no fewer than two suction outlets separated by no less than 3 feet, 0.914 meters, on the horizontal plane as measured from the centers of the drain covers or grates or located on two different planes and connected to pipes of equal diameter. The outlet system shall meet the requirements of R392-302-18(1)(a) through R392-302-18(1)(g) and 18(2) through (3)(c);

(c) Meet the requirements of R392-302-18(1)(a) and R392-302-18(2) through (3)(c) and installing (or having an existing) gravity drain system;

(d) Install an unblockable drain that meets the requirements of R392-302-18(1)(a) and R392-302-18(2) through (3)(c); or

(e) Any other system determined by the federal Consumer Products Safety Commission to be equally effective as, or better than, the systems described in 15 USC 8003 (c)(1)(A)(ii)(I), (III), or (IV) at preventing or eliminating the risk of injury or death associated with pool drainage systems.

R392-302-19. Overflow Gutters and Skimming Devices.

(1) A pool having a surface area of over 3,500 square feet, 325.15 square meters, must have overflow gutters. A pool having a surface area equal to or less than 3,500 square feet, 325.15 square meters, must have either overflow gutters or skimmers provided.

(2) Overflow gutters must extend completely around the pool, except at steps, ramps, or recessed ladders. The gutter system must be capable of continuously removing pool water at 100 percent of the maximum flow rate. This system must be connected to the circulation system by means of a surge tank.

(3) Overflow gutters must be designed and constructed in compliance with the following requirements:

(a) The opening into the gutter beneath the coping or grating must be at least 3 inches, 7.62 centimeters, in height with a depth of at least 3 inches, 7.62 centimeters.

(b) Gutters must be designed to prevent entrapment of any part of a bather's body.

(c) The edge must be rounded so it can be used as a handhold and must be no thicker than 2.5 inches, 6.35 centimeters, for the top 2 inches, 5.08 centimeters.

(d) Gutter outlet pipes must be at least 2 inches, 5.08 centimeters, in diameter. The outlet grates must have clear openings and be equal to at least one and one-half times the cross sectional area of the outlet pipe.

(4) Skimmers complying with NSF/ANSI 50-2015 standards or equivalent are permitted on any pool with a surface area equal to or less than 3,500 square feet, 325.15 square meters. At least one skimming device must be provided for each 500 square feet, 46.45 square meters, of water surface area or fraction thereof. Where two or more skimmers are required, they must be spaced to provide an effective skimming action over the entire surface of the pool.

(5) Skimming devices must be built into the pool wall and must meet the following general specifications:

(a) The piping and other components of a skimmer system must be designed for a total capacity of at least 80 percent of the maximum flow rate of the circulation system.

(b) Skimmers must be designed with a minimum flow rate of 25 gallons, 94.64 liters, per minute and a maximum flow rate of 55 gallons, 208.12 liters, per minute. The local health department may allow a higher maximum flow through a skimmer up to the skimmer's NSF rating if the piping system is designed to accommodate the higher flow rates. Alternatively, skimmers may also be designed with a minimum of 3.125 gallons, 11.83 liters, to 6.875 gallons, 26.02 liters, per lineal inch, 2.54 centimeters, of weir.

(6) Each skimmer weir must be automatically adjustable and must operate freely with continuous action to variations in water level over a range of at least 4 inches, 10.16 centimeters. The weir must operate at all flow variations. Skimmers shall be installed with the normal operating level of the pool water at the midpoint of the skimmer opening or in accordance with the manufacturer's instructions.

(7) An easily removable and cleanable basket or screen through which all overflow water passes, must be provided to trap large solids.

(8) The skimmer must be provided with a system to prevent air-lock in the suction line. The anti-air-lock may be accomplished through the use of an equalizer pipe or a surge tank or through any other arrangement approved by the Department that will assure a sufficient amount of water for pump suction in the event the pool water drops below the weir level. If an equalizer pipe is used, the following requirements must be met:

(a) An equalizer pipe must be sized to meet the capacity requirements for the filter and pump;

(b) An equalizer pipe may not be less than 2 inches, 5.08 centimeters, in diameter and must be designed to control velocity through the pipe in accordance with section R392-302-16(3);

(c) This pipe must be located at least 1 foot, 30.48 centimeters, below a valve or equivalent device that will remain tightly closed under normal operating conditions. In a shallow pool, such as a wading pool, where an equalizer outlet can not be submerged at least one foot below the skimmer valve, the equalizer pipe shall be connected to a separate dedicated outlet with an anti-entrapment outlet cover in the floor of the pool that meets the requirements of ANSI/APSP-16 2011; and

(d) The equalizer pipe must be protected with a cover or grate that meets the requirements of ANSI/APSP-16 2011 and is sized to accommodate the design flow requirement of R392-302-19(5).

(9) The operator shall maintain proper operation of all skimmer weirs, float valves, check valves, and baskets. Skimmer baskets shall be maintained in a clean and sanitary condition.

(10) Where skimmers are used, a continuous handhold is required around the entire perimeter of the pool except in areas of the pool that are zero depth and shall be installed not more than 9 inches, 2.86 centimeters, above the normal operating level of the pool. The decking, coping, or other material may be used as the handhold so long as it has rounded edges, is slip-resistant, and does not exceed 3.5 inches, 8.89 centimeters, in thickness. The overhang of the coping, decking, or other material must not exceed 2 inches, 5.08 centimeters, nor be less than 1 inch, 2.54 centimeters beyond the pool wall. An overhang may be up to a maximum of 3 inches to accommodate an automatic pool cover track system.