



*Georgia Department of Public Health*

Rules and Regulations  
**Public Swimming Pools, Spas,  
and Recreational Water Parks**  
Chapter 511-3-5



*We Protect Lives.*

**RULES  
OF  
DEPARTMENT OF PUBLIC HEALTH**

**CHAPTER 511-3-5  
SWIMMING POOLS, SPAS  
AND RECREATIONAL WATER PARKS**

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**511-3-5-.01 Definitions.** The following definitions shall apply in the interpretation and enforcement of this chapter.

(a) "Abrasion Hazard" means a sharp or rough surface that would scrape the skin by chance during normal use.

(b) "Accessible" means easily exposed for inspection and the replacement of materials and/or parts with the use of tools.

(c) "Air Induction System" means a system whereby a volume of air (only) is induced into a hollow ducting in a spa floor, bench or other location. The air induction system is activated by a separate air power blower.

(d) "Air Pump Assist Backwash" means the compressing of a volume of air in the filter effluent chamber (by means of an air compressor or by the water pressure from the recirculating pump) which when released, rapidly decompresses and forces water in the filter chamber through the elements in reverse, dislodging the filter aid and accumulated dirt, carrying it to waste.

(e) "Alkalinity" means the amount of bicarbonate, carbonate or hydroxide compounds present in water solution. See also "Total Alkalinity."

(f) "Backwash" means the process of thoroughly cleansing the filter medium and/or elements and the contents of the filter vessel by the reverse flow of water through the filter.

(g) "Barrier" means a fence, safety cover, wall, building wall or a combination thereof, which completely surrounds or covers the swimming pool or spa and obstructs access to the swimming pool, spa or recreational water park.

(h) "Bather" means any person using a swimming pool, spa or recreational water park and adjoining deck area for the purpose of water sports, recreation therapy or related activities.

(i) "Bather Load" means the number of persons in the pool/spa area at any given moment or during any stated period of time.

(j) "Beginner's Area" means those water areas in pools which are three feet or less in water depth.

(k) "Booster Pump System" means a system whereby one or more hydrotherapy jets are activated by the use of a pump which is completely independent of the filtration and heating system of a spa. It may also mean a device used to provide hydraulic support for

certain types of equipment such as cleaning systems, gas chlorinators and solar systems.

(l) "Breakpoint Chlorination" means the addition of a sufficient amount of chlorine to water to destroy the combined chlorine present.

(m) "Brominator" means a device to apply or to deliver a bromine disinfectant to water at a controlled rate.

(n) "Cartridge" means a depth, pleated, or surface-type filter component with fixed dimensions that is designed to remove suspended particles from water flowing through the filter.

(o) "Chemical Feeder" means a mechanical device for applying chemicals to pool or spa water.

(p) "Chloramine" means a compound formed when chlorine combines with nitrogen or ammonia that causes eye and skin irritation and has a strong, objectionable odor.

(q) "Chlorinator" means a device to apply or to deliver a chlorine disinfectant to water at a controlled rate.

(r) "Chlorine Generator" means equipment that generates chlorine, hypochlorous acid or hypochlorite on site for disinfection and oxidation of water contaminants.

(s) "Circulation Equipment" means the mechanical components that are part of a circulation system in 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/outlet fittings and chemical feeding devices. The components have separate functions, but when connected to each other by piping, perform as a coordinated system for purposes of maintaining pool and spa water in a clear, sanitary and desirable condition.

(t) "Circulation System" means an arrangement of mechanical equipment or components, connected by piping to a pool or spa in a closed circuit. The function of a

circulation system is to direct water from the pool or spa, causing it to flow through the various system components for purposes of clarifying, heating, purifying and returning the water back to the original body of water.

(u) "Clarifier" means a chemical that coagulates and neutralizes suspended particles in water. There are two types: inorganic salts of aluminum or iron and water-soluble organic polyelectrolyte polymers. Also called coagulant or flocculent.

(v) "Contact Concentration" means the concentration of a chemical in a flow of water. This concentration depends on the rate of addition, the flow rate of the water and the efficiency of the mixing. It is calculated using the equation (assumes complete mixing):  
Amount of Chemical (gpm)/Water Flow Rate (gpm) x 4.41 = Contact Concentration (mg/L).

(w) "Coping" means the cap on the pool or spa wall that provides a finishing edge around the pool or spa. Can be formed, cast in place, pre-cast, or pre-fabricated from metal or plastic materials.

(x) "Country Club" means a location with facilities for golf, other outdoor sport and social activities for which members pay a membership fee other than a daily fee, periodically for the use of facilities and services by them and their guests. Fraternal organizations may be included in this definition.

(y) "Cove" means the radius between the pool or spa wall and the pool or spa floor.

(z) "Cover" means something that protects and/or shelters, a swimming pool or spa.

(aa) "Cyanuric Acid" means a chemical that helps reduce the excess loss of chlorine in water due to the ultraviolet rays of the sun. It is also called stabilizer, isocyanuric acid, conditioner or triazinetrione.

(bb) "Decks" means those areas immediately adjacent to or attached to a pool or spa that are specifically constructed or installed for use by users for sitting, standing or walking.

(cc) "Deep Areas" means water depths in excess of five feet (5') (1.42m).

(dd) "Department" means the Georgia Department of Public Health.

(ee) "Diatomite" means the filtering medium of a diatomaceous earth filter composed of microscopic fossil skeletons of the "diatom," a tiny freshwater marine plankton.

(ff) "Disinfectant" means energy or chemicals to kill undesirable or pathogenic (disease-causing) organisms that have a measurable residual at a level adequate to make the desired kill.

(gg) "Diving Board" means a recreational mechanism for entering a swimming pool, consisting of a semirigid board that derives its elasticity through the use of a fulcrum mounted below the board.

1. Jump Board - A recreational mechanism that has a coil spring, leaf spring or comparable device located beneath the board which is activated by the force exerted in jumping on the board.

2. Stationary Diving Platform - Stationary diving platforms are used for diving and are constructed or located on site. They may be natural or artificial rocks, pedestals or other items.

(hh) "DPD (Diethyl-p-phenylene diamine)" means a reagent and test method that specifically measure bromine or free available and total chlorine; producing a series of colors from pale pink to dark red.

(ii) "Effective Filter Area" means total surface area through which the designed flow rate will be maintained during filtration.

(jj) "Effluent" means the water that flows out of a filter, pump or other device.

(kk) "Feet of Head" means a basis for indicating the resistance in a hydraulic system, equivalent to the height of a column of water that would cause the same resistance (100 feet of head equals 43 pounds per square inch).

(ll) "Filter" means a device that removes undissolved particles from water by recirculating the water through a porous substance (a filter medium or element).

(mm) "Filter Element" means a device within a filter tank designed to entrap solids and conduct water to a manifold, collection header, pipe, or similar conduit and return it to the pool or spa. A filter element usually consists of a septum and septum support or a cartridge.

(nn) "Free Available Chlorine (FAC)" means that portion of the total chlorine remaining in chlorinated water that has not combined with ammonia or nitrogen compounds and will react chemically with undesirable or pathogenic organisms.

(oo) "Handhold/Handrail" means a device that can be gripped by a user for the purpose of resting and/or steadying him/herself. It is not limited to but may be located inside or outside the pool or spa or as part of a set of steps or deck-installed equipment.

(pp) "Hardness" means the amount of calcium and magnesium dissolved in water; measured by a test kit and expressed as parts per million (ppm) of equivalent calcium carbonate.

(qq) "Health Authority" means the Georgia Department of Public Health - Environmental Health Section or the County Board of Health - Environmental Health Office; whoever has immediate jurisdiction.

(rr) "Hydrotherapy Spa" means a unit that may have a therapeutic use but which is not drained, cleaned or refilled for each individual. It may include, but not be limited to, hydrotherapy jet circulation, hot water/cold water mineral baths, air induction bubbles or any combination thereof. Industry terminology for a spa includes, but is not limited to, "therapeutic pool," "hydrotherapy pool," "whirlpool," "hot spa," etc.

(ss) "Influent" means the water entering a filter or other device.

(tt) "Multiple Filter-Control Valve" means a multiport valve having a number of control positions for various filter operations that combines in one unit the function of two or more single valves.

(uu) "Nonswimming Area" means any portion of a pool where water depth, offset ledges or similar irregularities would prevent normal swimming activities.

(vv) "Organic Matter" means perspiration, urine, saliva, suntan oil, cosmetics, lotions, dead skin and similar debris introduced to water by users and the environment.

(ww) "Orthotolidine (OTO)" means a colorless reagent that reacts with chlorine or bromine to produce a series of yellow-to-orange colors which indicate the amount of chlorine or bromine in water.

(xx) "Overflow System" means a system for the removal of pool/spa surface water through the use of overflows, surface skimmers and surface water collection systems of various design and manufacture.

(yy) "pH" means a value expressing the relative acidity or basicity of a substance, such as water, as indicated by the hydrogen ion concentration.

(zz) "Pool" means any artificial water holding structure with a closed-loop circulation of water through a water treatment system with a return to the structure.

1. "Private Pool" means any constructed pool, permanent or nonportable, that is intended for noncommercial use as a swimming pool by not more than one (1) owner family and their guests.

2. "Public Swimming Pool" means any structure, chamber, or tank containing an artificial body of water used by the public for swimming, diving, wading, recreation or therapy, together with buildings, appurtenances and equipment used in connection with the body of water, regardless of whether a fee is charged for its use. The term includes municipal, school, hotel, or motel pools and any pool to which access is granted in exchange for payment of a daily fee. The term shall also include pools and spas operated by or

servicing camps, churches, day care centers, group home facilities of twelve or more clients, institutions, parks, state agencies, condominiums, mobile home parks, recreational vehicle parks, associations, health clubs, special purpose pools and recreational water park attractions.

3. "Therapeutic Pool" means a pool used in physical programs operated by medical facilities licensed by the Department and operated by a licensed physical therapist.

4. "Permanently Installed Swimming Pool" means a pool that is constructed in the ground or in a building in such a manner that it cannot be readily disassembled for storage.

5. "Inground Swimming Pool" means any pool where the sides rest in partial or full contact with the earth.

(aaa) "Potable Water" means any water, such as an approved domestic water supply, which is bacteriologically safe and otherwise suitable for drinking.

(bbb) "PPM" means an abbreviation for parts per million. The unit of measurement used in chemical testing which indicates the parts by weight in relation to one million parts by weight of water. It is essentially identical to the term milligrams per liter (mg/L).

(ccc) "Precipitate" means a solid material which is forced out of a solution by some chemical reaction and which may settle out or remain as a haze in suspension (turbidity).

(ddd) "PSI" means an abbreviation for pounds per square inch.

(eee) "Rate of Flow" means the quantity of water flowing past a designated point within a specified time, such as the number of gallons flowing in one minute (gpm).

(fff) "Rated Pressure" means that pressure that is equal to or less than the designed pressure and appears on the data plate of the equipment.

(ggg) "Recreational Water Park" means a facility or area together with associated buildings, appurtenances and equipment, that is designated for public bathing or swimming.

(hhh) "Rehabilitation" means the activity of restoring all or part of a pool or spa structure and its component parts back into good condition including the rebuilding and/or replacing of worn and broken parts or components.

(iii) "Removable" means capable of being disassembled with the use of only simple tools such as a screwdriver, pliers or wrench.

(jjj) "Return Inlet" means the opening or fitting through which the water under positive pressure returns into a pool or spa.

(kkk) "Return Piping" means that piping through which water is returned to the pool.

(lll) "Ring Buoy" means a ring-shaped floating buoy capable of supporting a user.

(mmm) "Shallow Area" means portions of a pool or spa with water depths five feet or less.

(nnn) "Shock Treatment" means the practice of adding significant amounts of an oxidizing chemical to water to destroy ammonia and nitrogenous and organic contaminants in water.

(ooo) "Skimmer Weir" means the part of a skimmer which adjusts automatically to small changes in water level to assure a continuous flow of water to the skimmer.

(ppp) "Slip Resistant" means a surface that has been treated or constructed so as to significantly reduce the chance of a user slipping. The surface shall not be an abrasion hazard.

(qqq) "Sodium Hypochlorite (NaOCl)" means a clear liquid form of an inorganic chlorine compound obtainable in concentrations of 5 to 16% available chlorine.

(rrr) "Spa" means a hydrotherapy pool of irregular or geometric shell design. See also "Hydrotherapy Spa."

(sss) "Special Purpose Pool" means any pool operated for recreational play and other special purposes, including, but not limited to, wave or surf-action pools, activity pools/interactive pools, wading pools and play areas. These include, but are not limited to the following:

1. Activity/Interactive/Wading Pool. A pool which does not exceed 24 inches in depth and contains any number of water features within the pool area.
2. Continuous Water Course. A riding water course where ingress and egress is effectively limited to designated points of entry and exit. This is also known as a lazy river.
3. Dual Use Pool. A pool that is normally used as a swimming pool, but has no more than one water slide or other feature other than diving boards, that uses the main body of water as its landing or activity area.
4. Falling-Entry Pools. This includes, but is not limited to slides, flumes, lily pad walks, log rolls, cable, rope, or boom drops and any other falling entry features. These types of pools allow for the bather to drop into the pool area from a height of one to four feet above the water surface and in various positions of entry.
5. Wading Pool. A shallow pool not exceeding 24 inches that is void of any water activity features.
6. Wave Pool. This is a large body of water that has a mechanism for generating an oscillating wave-form at one end and ending at the other end with a zero-depth-entry.
7. Zero-Depth-Entry Pools. This may be any type of pool that in place of a wall at one end, may have a sloping edge or beach.
8. Zero-Depth-Pool. A pad which contains various fountains and/or interactive water spray or waterfall features. The pad slopes to one or more drains which empties into a reservoir which is recirculated and disinfected before its return to the water features.

(ttt) "Suction Outlet" means the opening or fitting through which the water under negative pressure is drawn from the pool or spa.

(uuu) "Suction Piping" means that piping through which water is removed from the pool.

(vvv) "Surface Skimming System" means perimeter-type overflows, surface skimmers and surface water collection systems of various design and manufacture which permit the continuous removal of floating debris and surface water to the filter.

(www) "Test Kit" means a device used to monitor specific chemical or agent residual or demands in pool or spa water.

(xxx) "Time Clock" means a mechanical device that automatically controls the periods that a pump, filter, chlorinator, heater, blower and other electrical devices are running.

(yyy) "Total Alkalinity" means the ability or capacity of water to resist change in pH; also known as the buffering capacity of water. Measured with a test kit and expressed as ppm.

(zzz) "Total Available Chlorine (TAC)" means the sum of both the free available and combined chlorines.

(aaaa) "Turbidity" means the cloudy condition of water due to the presence of extremely fine particulate materials in suspension that interfere with the passage of light.

(bbbb) "Turnover Rate" means the period of time (usually in hours) required to circulate a volume of water equal to the pool or spa capacity.

(cccc) "Vacuum" means the reduction of atmospheric pressure within a pipe, tank, pump or other vessel. Vacuum is measured in inches of mercury. One inch (1") of mercury is equivalent to one and thirteen hundredths feet (1.13') of head. The practical maximum vacuum is thirty inches (30") of mercury or thirty three and nine tenths feet (33.9') of head.

(dddd) "Waterline". The waterline shall be defined in one of the following ways:

1. Skimmer System. The waterline shall be at the midpoint of the operating range of the skimmers when there are no users in the pool or spa.

2. Overflow System. The waterline shall be at the top of the overflow rim.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled "Definitions" adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

#### **511-3-5-.02 Scope.**

(1) These rules prescribe minimum design, construction and operation requirements that are intended to protect the health and safety of the public in swimming pools, spas and recreational water parks.

(2) These rules are intended to cover certain aspects of the design, equipment, operation, installation, new construction and rehabilitation of swimming pools, spas and recreational water parks. Where adequate standards do not exist and these rules do not provide sufficient guidance for consideration of innovations in design, construction and operation of proposed pools, spas or recreational water parks, the Department will establish requirements necessary to protect the health and safety of the pool patrons.

(3) These rules shall not apply to private swimming pools and hot tub/spas, apartment complex pools, country club pools, subdivision pools which are open only to residents of the subdivision and their guests, therapeutic pools, therapeutic chambers drained, cleaned and refilled after each individual use nor to religious ritual baths used solely for religious purposes.

(4) All pools, existing and newly constructed, shall meet these rules except as allowed for below.

(5) Public swimming pools constructed or remodeled prior to December 31, 2000, that do not meet specific design and construction requirements of this Chapter, shall not be

required to comply with design and construction requirements other than requirements related to the abatement of suction hazards.

(6) No single drain, single-suction outlet public swimming pool shall be allowed to operate unless a protective cover is properly installed.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled “Scope” adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

### **511-3-5.03 Provisions.**

#### **(1) Permit.**

(a) It shall be unlawful for any person to operate a public pool, spa or recreational water park, without having first obtained a valid operating permit from the health authority pursuant to this Chapter.

(b) Permits are invalidated by change of ownership.

(c) Each individually treated pool will operate under a separate permit.

(d) Prior to the issuance of a permit to new or existing public pools, spas or recreational water park attractions, the applicant shall provide evidence of satisfactory compliance with the provisions of these rules and all other provisions of laws which apply to the location, construction and maintenance of the pool, spa or recreational water park and the safety of persons therein.

(e) The permit shall be prominently displayed at all times, as close to the main entrance as practicable, as determined by the health authority.

(f) The permit shall be the property of the health authority and shall be returned within seven days to the local health authority when the pool, spa or recreational water park ceases to operate, has a change of ownership or where the permit is revoked.

(g) An operating permit shall not be valid for more than twelve (12) months.

**(2) Application for Initial Operating Permit.**

(a) The management of a public pool, spa or recreational water park shall submit to the health authority an application to operate a swimming pool, spa or recreational water park attraction at least fourteen (14) days prior to the start of construction.

(b) The application shall be prepared in duplicate on forms provided by the Department. The original shall be forwarded to the health authority and a copy retained by the management.

**(3) Plans.**

(a) Submission of Plans. Properly prepared plans and specifications must be submitted to the local health authority for review, approval and issuance of a construction permit when a public swimming pool, spa or recreational water park attraction is constructed or extensively remodeled or renovated or when an existing structure is converted to use as a public pool, spa or recreational water park attraction.

(b) Plans and Specifications. The plans and specifications shall be submitted to the health authority of the county in which the pool, spa or recreational water park is constructed at least fourteen (14) days prior to beginning construction. The plans shall indicate, at a minimum, the proposed layout, the mechanical plans, the construction materials and the type and model of proposed equipment.

(c) A minimum of two (2) sets of drawings of the construction project shall be submitted, containing complete details so as to clearly document to the health authority the work to be undertaken. Additional sets of drawings may be required. Drawings shall be complete and shall comply with standard architectural/engineering practice. The maximum bathing load shall be stated on the plans.

(d) Complete specifications of the project shall accompany the prints including manufacturer's cut sheets and/or specifications on all equipment and hydraulics analysis.

- (e) Any additional data required by the health authority for purpose of clarification, anticipated use or to support any changes in design or scope of the project must be submitted prior to issuance of a permit to construct.
- (f) One (1) signed and approved set of the construction plans shall remain at the construction site at all times during construction.
- (g) The swimming pool, spa or recreational water park shall be built in compliance with the plans as approved unless subsequent written approval of changes has been given by the health authority.
- (h) The swimming pool, spa or recreational water park owner or agent shall notify the health authority at specific, predetermined stages of construction and at the time of completion of the pool to allow inspections.
- (i) A construction permit is valid for twelve (12) months from the date of issue. After this time the health authority may require resubmission of plans and specifications and issuance of a new construction permit if the project has not begun or has not been completed.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled "Provisions" adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

#### **511-3-5-.04 Structural Design.**

- (1) The structural design and materials used shall be in accordance with generally accepted good structural engineering practices.
- (2) Sand or earth shall not be permitted as an interior finish in a swimming pool or spa.
- (3) In climates subject to freezing temperatures, the pool or spa shell appurtenances, piping, filter system, pump and motor and other components shall be designed and constructed to facilitate protection from damage due to freezing.

(4) The surfaces within the pool or spa intended to provide footing for users shall be designed to provide a slip-resistant surface that is rigid and puncture and tear resistant.

(5) The roughness or irregularity of such surfaces shall not be constructed so as to cause injury or discomfort to the feet during normal use.

(6) The colors, patterns or finishes of the pool interior shall not obscure the existence or presence of objects or surfaces within the pool.

(7) Swimming pools and spas as well as all appurtenances shall be constructed of materials which are: nontoxic to man and the environment; impervious and enduring; withstanding of design stresses; and will provide a watertight structure with a smooth and easily cleaned surface without cracks or joints, excluding structural joints, or to which a smooth, easily cleaned surface finish is applied or attached. Materials of manufacture for swimming pools and spas shall be capable of fulfilling the design, installation and intended use requirements in these rules. The materials of manufacture, components and accessories used in public spas shall comply with the following:

(a) **Plumbing.** All plumbing shall be sized, installed, and maintained according to applicable State Regulations and/or local plumbing codes. Written evidence shall be provided from a licensed plumbing contractor or the plumbing inspector, as required by the local health authority, of compliance with the plumbing code.

(b) **Electrical Systems.** All electrical wiring, equipment, and installation, including the grounding of pool components, shall conform with the national, state and local electrical codes. Written evidence shall be provided from a licensed electrical contractor or electrical inspector, as required by the local health authority, of compliance with all electrical codes.

(c) **Recirculation and Treatment Systems and other Components.** All recirculation and treatment system equipment and all other components such as filters, recessed automatic surface skimmers, ionizers, ozone generators, heaters, disinfection feeders,

and chlorine generators must be tested and approved using the current NSF Standard Number 50, Circulation System Components and Related Materials for Swimming Pool, Spas/Hot Tubs." If standards do not exist for a specific product, the manufacturer must work with NSF or the American National Standards Institute (ANSI) or other approved agency to develop such standards to the approval of the local health authority. Written evidence shall be provided from the designing engineer that all recirculation and treatment systems and all components used in the installation meet these standards.

(d) **Material Surfaces.** All 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. All materials shall be maintained in accordance with manufacturer's instructions.

(e) **Compatibility.** Combinations of different materials shall be chemically and mechanically compatible for their intended use and environment.

(8) Roofs or canopies over pools or spas shall be constructed so that water run-off does not drain into the spa.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled "Structural Design" adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

#### **511-3-5-.05 Dimensional Design.**

(1) No limits are specified for the shape of swimming pools, spas or recreational water park attractions except that consideration shall be given to shape from the standpoint of safety and circulation of the water.

(a) There shall be no protrusions, extensions, means of entanglement or other obstructions in the swimming area which can cause the entrapment or injury of the user.

(b) There shall be construction tolerances allowed on all dimensional designs. Overall length, width and depth in the deep end of a swimming pool may vary plus or minus

three inches ( $\pm 3''$ ). All other overall dimensions in a swimming pool and in a spa may vary plus or minus two inches ( $\pm 2''$ ), unless otherwise specified. The designed waterline shall have a maximum construction tolerance at the time of completion of the work of plus or minus one-fourth inch ( $\pm 1/4''$ ) for pools and spas with adjustable weir surface skimming systems and of plus or minus one-eighth inch ( $\pm 1/8''$ ) for pools and spas with nonadjustable surface skimming systems.

(c) The size of pools shall be governed by the requirements of the activities for which the installation is intended.

(2) **Walls.** Walls shall not be greater than eleven degrees ( $11^\circ$ ) from plumb for a minimum depth of two feet nine inches (2'9") from the waterline in deep areas or two feet three inches (2'3") in the shallow areas. Below these depths the wall may be radiused to join the floor.

(3) **Floor Slopes.** Floor slopes in pools shall, at a minimum, be in compliance with the following:

(a) All slopes shall be uniform.

(b) The slope of the floor from the shallow end wall towards the deep end shall not exceed one foot in twelve feet (1':12') to the point of the first slope change.

(c) The point of the first slope change shall be defined as the point at which the floor slope exceeds one foot in twelve feet (1':12') and shall not occur at a depth greater than five (5') feet.

(d) The slope of the floor from the point of the first slope change to the deep end shall not exceed one foot in three feet (1':3'). Such slopes are not intended to provide any less water depth than those specified if the pool is intended for diving.

(e) Transitional radius from wall to floor where floor slopes join the wall shall comply with the following:

1. The radius shall have its center no less than two feet nine inches (2'9") below the waterline in deep areas or two feet six inches (2'6") in the shallow area.
2. The radius shall be tangent at the point where the radius either meets the wall or the floor.
3. The radius (R) shall be at least equal to or greater than the depth of the pool minus the vertical wall depth measured from the waterline or tolerance allowed in Rule .05(2) minus three inches (-3") to allow draining to the main drain. (R minimum = Pool depth - Vertical wall depth - 3")

(4) **Water depths.** Water depths at the shallow end of the swimming area shall be a maximum of three feet six inches (3'6") except for racing pools which must have a minimum depth of three feet six inches (3'6").

(a) The beginners' area of a pool shall be visually set apart from, but may be adjoined to, the shallow area and shall not adjoin the deep area.

(b) The transition point or point of slope change of the pool from the beginners' area to the shallow area and from the shallow area to the deep area and at the points of separation of diving, slide and amusement areas shall be visually set apart with a rope and float line, depth markers and a four inch (4") minimum width row of floor tile, painted line or similar means of a color contrasting with the bottom. In diving pools with a constant slope, the shallow area shall be visually set apart from the deep area with a rope and float line, depth markers and a four inch (4") minimum width row of floor tile, painted line or similar means of a color contrasting with the bottom. The health authority may waive the need for a rope and float line in swim-out areas or similar construction where deemed necessary.

(5) Diving areas in pools shall conform to the minimum water depths, areas, slopes and other dimensions shown in Rule .05(6). If a wall exists, then it shall conform with the 5:1 slope in the Point D dimension and the L<sub>1-2-3-4</sub> dimensions.



(b) Minimum dimensions for points given in diagram (a).

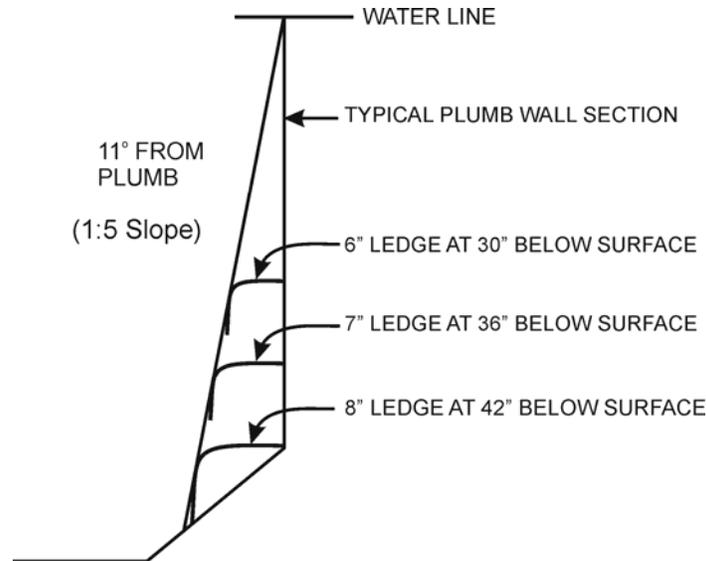
| RELATED DIVING EQUIPMENT |                             | MINIMUM DIMENSIONS |                |       |                |                |                |                |                | MINIMUM WIDTH OF POOL AT: |        |        |
|--------------------------|-----------------------------|--------------------|----------------|-------|----------------|----------------|----------------|----------------|----------------|---------------------------|--------|--------|
| MAX DIVING BOARD LENGHT  | MAX BOARD HEIGHT OVER WATER | D <sub>1</sub>     | D <sub>2</sub> | R     | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | PT.A                      | PT.B   | PT.C   |
| 10'                      | 26"(2/3meter)               | 7'-0"              | 8'-6"          | 5'-6" | 2'-6"          | 8'-0"          | 10'-6"         | 7'-0"          | 28'-0"         | 16'-0"                    | 18'-0" | 18'-0" |
| 12'                      | 30"(3/4 meter)              | 7'-6"              | 9'-0"          | 6'-0" | 3'-0"          | 9'-0"          | 12'-0"         | 4'-0"          | 28'-0"         | 18'-0"                    | 20'-0" | 20'-0" |
| 16'                      | 1 Meter                     | 8'-6"              | 10'-0"         | 7'-0" | 4'-0"          | 10'-0"         | 15'-0"         | 2'-0"          | 31'-0"         | 20'-0"                    | 22'-0" | 22'-0" |
| 16'                      | 3 Meter                     | 11'-0"             | 12'-0"         | 8'-6" | 6'-0"          | 10'-6"         | 21'-0"         | 0              | 37'-6"         | 22'-0"                    | 24'-0" | 24'-0" |

1. L<sub>2</sub>, L<sub>3</sub>, and L<sub>4</sub> combined, represent the minimum distance from the tip of the board to pool wall opposite diving equipment.

2. Placement of boards shall observe the following minimum dimensions. With multiple board installations minimum pool widths must be increased accordingly.

- Deck Level Board to Pool Side 8'
- 1 Meter Board to Pool Side 10'
- 3 Meter Board to Pool Side 11'
- 1 Meter or Deck Level Board to 3 Meter Board 10'
- 1 Meter or Deck Level Board to another 1 Meter or Deck Level Board 8'
- 3 Meter to another 3 Meter Board 10'

(7) **Offset Ledges.** When provided, offset ledges shall fall within eleven degrees (11°) from plumb starting at the junction of the pool wall and waterline and shall have a slip-resistant surface. The outer two inch (2") edge shall be painted a contrasting color. The maximum width shall be eight inches (8"). The typical allowable dimensions are based on the depths shown below.



(8) **Underwater Seat Benches.** Underwater seat benches in pools, when provided, shall have a maximum horizontal seat bench depth of twenty inches (20") below the waterline, be visually set apart by having the outer two inches (2") of each seat painted in a contrasting color, have a slip-resistant surface, and shall be located fully outside of the required minimum diving water envelope if the pool is intended for use with diving equipment. Underwater seat benches shall be permitted in the deep end of the pool only if they are either completely recessed, shaped to be compatible with the shape of the pool wall, or in a corner of the pool.

(9) **Maximum User Load and Pool Size.** Maximum user load at all public pools except spas, shall follow the standards given in table (a) below. Tables (b)1. and (b)2. are to be used only to establish the minimum pool size allowable:

(a) The user load shall be the maximum number of people allowed in the swimming pool at one time. Use of the table in calculating the bathing load shall be cumulative.

|   | Shallow Instruction or Wading Area | Deep Area (not including the Diving Area) | Diving Area (per each diving board) | Entry Area for all other devices including slides. |
|---|------------------------------------|---|-------------------------------------|--|
| Pools with minimal deck area (smaller than the pool surface area)                               | 18 square feet per user            | 20 square feet per user                   | 300 square feet per user            | 150 square feet per device                         |
| Pools with deck area at least equal to water surface, up to twice the surface area of the water | 15 square feet per user            | 18 square feet per user                   | 300 square feet per user            | 150 square feet per device                         |
| Pool with deck area at least twice the water surface area                                       | 12 square feet per user            | 15 square feet per user                   | 300 square feet per user            | 150 square feet per device                         |

(b) Maximum bathing load per number of living or dwelling units shall be used only to establish the minimum pool size allowable. The use of these tables in calculating the bather load shall be cumulative. These tables do not apply to spas.

**1. Swimming Pools with Transient Bathers.**

| <u>Number of Units</u> | <u>Bathers per Unit</u> |
|------------------------|-------------------------|
| 0 - 100                | 0.65 bathers/unit       |
| 101 - 250              | 0.50 bathers/unit       |
| 251 - 500              | 0.15 bathers/unit       |
| 501 - plus             | 0.05 bathers/unit       |

**2. Swimming Pools with Non-Transient Bathers.**

| <u>Number of Units</u> | <u>Bathers per Unit</u> |
|------------------------|-------------------------|
| 0 - 100                | 0.75 bathers/unit       |
| 101 - 200              | 0.65 bathers/unit       |
| 201 - 300              | 0.40 bathers/unit       |
| 301 - 500              | 0.15 bathers/unit       |
| 501 - plus             | 0.10 bathers/unit       |

(c) The maximum user load in a spa at one time shall not exceed one (1) person per nine (9) square feet of surface area.

(10) **Wading Pool Water Depth.** Wading pools shall be separate and physically set apart from beginning or shallow water areas of swimming pools by at least six feet (6') of deck. Where a wading pool is adjacent to any deep water area, a minimum four foot (4') high barrier shall be installed separating the two pools.

(a) Wading pools shall have a maximum water depth of eighteen twenty-four inches (24"). The water depth at the perimeter shall not exceed eighteen inches (18"). Water depths may be reduced from the above maximums and brought to zero at the most shallow point.

(b) Walls in wading pools shall be vertical or within  $11^{\circ}$  of vertical except for the lower six inches (6") which shall be radiused to the floor. Walls shall not extend more than six inches (6") above the waterline at any point.

(c) Floors of wading pools shall be uniform, sloped to drain with a maximum slope of one foot in twelve feet (1':12') vertical to horizontal.

(11) **Spa Water Depth.** The maximum water depth in a spa shall be four feet (4') measured from the waterline. Exceptions may be made for spas designed for a special purpose.

(a) Multi-level seating in a spa may be provided, but the maximum water depth of any seat or sitting bench shall be twenty-eight inches (28") measured from the waterline.

(b) The spa shall be provided with a suitable handhold around its perimeter in areas where water depths exceed three feet six inches (3'6"). Handholds shall be provided no further apart than four feet (4') and may consist of any one or a combination of the following options:

1. Coping, ledges, radiused flanges or decks along the immediate top edge of the spa shall provide a suitable slip-resistant handhold located not more than twelve inches (12") above the waterline; or
2. Ladders, steps or seat ledges; or
3. A secured rope or railing at or not more than twelve inches (12") above the waterline.

(c) The slope of the floor in a spa shall not exceed one foot in twelve feet (1':12') vertical to horizontal.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled "Dimensional Design" adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

#### **511-3-5-.06 Decks and Deck Equipment.**

(1) These requirements shall be for decks and deck equipment and shall apply at the time of construction.

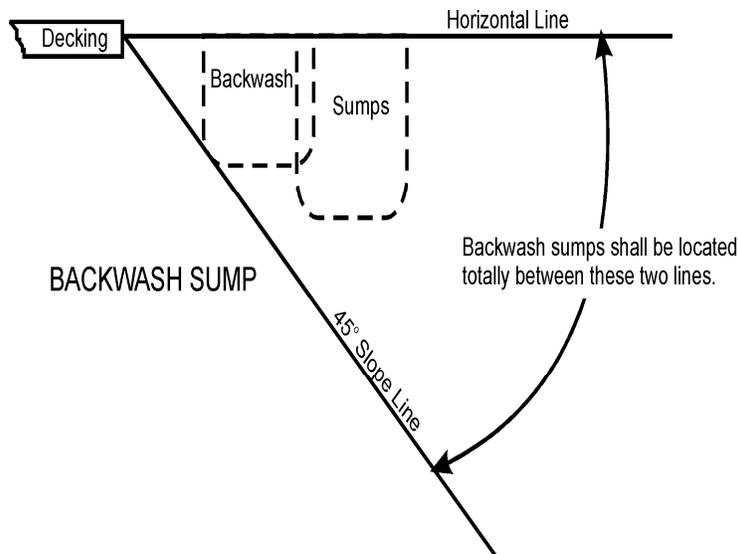
(a) Deck(s) shall be designed and installed in accordance with the engineering practices required in the area of installation. This includes the design and quality of subbase when required, concrete mix design, reinforcing, joints, etc. If a concrete deck is selected, in the absence of specific local engineering practices, the work shall be performed in accordance with the recommended practices of the latest edition of American Concrete Institute (ACI) Standard 302.1R-80, "Guide for Concrete Floor and Slab Construction."

(b) Decks, ramps, coping and similar step surfaces shall be slip-resistant and easily cleanable.

(c) Special features in or on deck(s) such as markers or brand insignias shall conform to this Chapter.

- (d) Risers for steps for the deck shall be uniform and have a minimum height of three and three-fourths inches (3 3/4") and a maximum height of seven and one-half inches (7 1/2"). The minimum tread depth shall be ten inches (10").
- (e) Excavation areas shall be adequately compacted when they support the deck(s).
- (f) The deck, including coping, shall have a minimum four feet (4') width of continuous, unobstructed walking area maintained at all times
- (g) A minimum four foot (4') deck width shall be provided on the sides and rear of any diving equipment. A deck clearance of twenty-four inches (24") shall be provided around any other deck equipment that is thirty-six inches (36") or less in height above the deck. A deck clearance of thirty-six inches (36") shall be provided around all other deck equipment.
- (h) A four foot (4') minimum, continuous unobstructed deck, which may include the coping, shall be provided around at least 50 percent or more of a spa.
- (i) The minimum slope of the deck(s) shall be one-eighth inch per one foot (1/8":1') vertical to horizontal.
- (j) The maximum voids between adjoining concrete slabs, and/or between concrete slabs and expansion joint material, shall be three-sixteenths inch (3/16") of horizontal clearance with a maximum difference in vertical elevation of one-fourth inch (1/4").
- (k) Construction joints where pool coping meets the deck(s) shall be watertight and shall not allow water to pass to the ground beneath.
- (l) The areas where the deck(s) join the pool and spa coping shall be designed and installed so as to protect the coping and its mortar bed from damage as a result of reasonable movement of adjoining deck(s).
- (m) Joints in deck(s) shall be provided to minimize the potential for cracks due to a change in elevations, separation of surfaces or movement of the slab.

- (n) The areas where the deck(s) join concrete work shall be protected by expansion joints to protect the pool adequately from the pressures of relative movements.
- (o) Deck(s) shall be edged, have a radius, or be otherwise relieved to eliminate sharp corners.
- (p) Deck(s) shall be sloped to effectively drain either to perimeter areas or to deck drains. Drainage shall remove pool and spa splash water, deck cleaning water and rain water without leaving standing water.
- (q) Site drainage shall be provided to direct all perimeter deck drainage as well as general site and roof drainage away from the pool. When required, yard drains shall be installed to prevent the accumulation or puddling of site water in the general area of the deck(s) and related improvements.
- (r) **Backwash Sump.** If used, an open pit or leaching design for backwash sump purposes shall be located so that it falls completely below adjacent deck(s) and fully outside a line projected 45° downward and away from such deck(s), or shall be designed to accommodate local soil conditions and the volume of backwash.



(s) Circulation system piping, other than that integrally included in the manufacture of the pool or spa, shall be subject to an induced static hydraulic pressure test (sealed system) at fifty (50) pounds per square inch (psi) for at least thirty (30) minutes or longer as determined by the local health authority. This test shall be performed before the deck is poured and the pressure shall be maintained through the deck pour.

(t) Valves installed in or under any deck shall provide a minimum ten inch (10") diameter access cover and valve pit to facilitate servicing.

(u) A hose bibb and a vacuum breaker shall be provided for washing down the entire deck area.

(v) The deck area will be kept clean of all trash and debris.

(2) **Entry/Exit.** All pools except spas, shall have at least two (2) means of entry/exit located so as to serve both ends of the pool. These shall consist of ladders, stairs or recessed treads, or a walking entry and may be used in combination. All treads shall have slip-resistant surfaces.

(a) Where water depths are twenty-four inches (24") or less at the pool wall, such areas shall be considered as providing their own natural mode for entry/exit.

(b) For pools or water areas over thirty feet (30') in width, both sides of the deep portions of the pool shall have entries/exits provided.

(c) A means of entry/exit for the shallow end shall be located between the shallow end wall and the cross section at Point C, while a means of entry/exit for the deep end shall be between the deep end wall and the cross section at Point B as shown in Rule .05(6).

(d) A means of entry/exit shall be provided at a minimum of every seventy-five (75) linear feet of pool wall or fraction thereof.

(e) Stairs, ladders and recessed treads shall be located to not interfere with racing lanes if applicable.

(3) **Pool Stairs.** The design and construction of protruding and recessed pool stairs shall conform to the following:

(a) Step treads shall have a minimum unobstructed horizontal depth of ten inches (10") and a minimum unobstructed surface area of two hundred forty (240) square inches.

(b) Risers at the centerline of the treads shall have a maximum uniform height of ten inches (10"), with the bottom riser height allowed to vary from two inches (2") to not more than ten (10").

(c) Each set of stairs shall be provided with at least one (1) handrail to serve all treads and risers. Handrails shall conform to the following standards:

1. Handrails, if removable, shall be installed in such a way that they cannot be removed without the use of tools.
2. The leading edge of handrails facilitating stairs and pool entry/exit shall be no more than eighteen inches (18") plus or minus three inches ( $\pm 3$ "), horizontally from the vertical plane of the bottom riser (where applicable).
3. The outside diameter of handrails shall be between one inch (1") and one and nine-tenths inches (1.9").

(d) Underwater seats, benches or swimouts may be provided as part of the stairs or recessed treads.

(4) **Pool Ladders.** The design and construction of pool ladder(s) shall conform to the following standards:

(a) Pool ladders shall be made entirely of corrosion-resisting materials.

(b) Ladders shall provide two (2) handholds or two (2) handrails.

(c) Below the water level, there shall be a clearance of not less than three inches (3") nor more than six inches (6") between any ladder tread edge, measured from the pool wall side of the tread and the pool wall.

(d) The clear distance between ladder handrails shall be a minimum of seventeen inches (17") and a maximum of twenty-four inches (24").

(e) There shall be a uniform height between ladder treads, with a seven inch (7") minimum distance and a twelve inch (12") maximum distance.

(f) Ladder treads shall have a minimum horizontal depth of one and one-half inches (1 ½").

(5) **Recessed Treads.** The design and construction of recessed treads in the pool wall shall conform to the following standards:

(a) Recessed treads at the centerline shall have a uniform vertical spacing of twelve inches (12") maximum and seven inches (7") minimum.

(b) The vertical distance between the pool coping edge, deck or step surface and the uppermost recessed tread shall be a maximum of twelve inches (12").

(c) Recessed treads shall have a minimum depth of five inches (5") and a minimum width of twelve inches (12").

(d) Recessed treads shall drain into the pool to prevent the accumulation of dirt.

(e) Each set of recessed treads shall be provided with a set of handrails/grabrails/handholds to serve all treads and risers.

(6) **Spa Entry/Exit.** Spas shall have a means of entry/exit at a minimum of every fifty feet (50') or portion thereof, where water depths are greater than twenty-four inches (24").

(a) Rule .06(4) and (5) shall apply to ladders and recessed treads in spas.

(b) Spas shall be equipped with at least one handrail (or ladder equivalent) for each fifty feet (50') of perimeter or portion thereof, to designate the point of entry and exit.

1. Handrails shall be installed in such a way that they cannot be removed without the use of tools.

2. The leading edge of a handrail in the spa shall be no more than eighteen inches (18") plus or minus three inches ( $\pm 3$ ") horizontally from the vertical plane of the bottom riser (where applicable).

3. The outside diameter of handrails shall be between one inch (1") and one and nine-tenths inches (1.9").

(c) The design and construction of spa steps and seat benches, where used, shall conform to the following standards:

1. Step treads shall have a minimum unobstructed horizontal depth of ten inches (10") for a minimum continuous width of twelve inches (12"). Step treads shall have slip-resistant surfaces.

2. Riser heights shall not be greater than twelve inches (12"). Where the bottom tread serves as a bench or seat, the bottom riser may be a maximum of fourteen inches (14") above the spa floor.

3. The first and last risers need not be uniform but shall comply with riser height requirements as noted above. The first (top) riser is measured from the finished deck.

4. Intermediate risers, those between the first and last risers, shall be uniform in height.

5. Each set of steps shall be provided with at least one (1) handrail to serve all treads and risers.

6. The outer two inch (2") edge of each step shall be painted a contrasting color.

**(7) 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-resisting material, easily cleanable and with slip-resistant tread.

(a) All diving stands higher than twenty-one inches (21") as measured from the deck to the top butt end of the board shall be provided with stairs and/or a ladder. Step treads shall be self-draining.

(b) Platforms and diving equipment of one (1) meter or higher shall be protected with guard rails which shall be at least thirty inches (30") above the diving board and extend to the edge of the pool wall. All platforms or diving equipment higher than one (1) meter shall have guard rails which are at least thirty-six inches (36") above the diving board and extend to the edge of the pool wall.

(8) **Diving Equipment.** Diving equipment shall be designed for swimming pool use and shall be installed in accordance with the manufacturer's recommendations.

(a) Diving equipment manufacturers shall provide installation instructions and specifications with each unit.

(b) A label shall be permanently affixed to the diving equipment or jump board and shall include:

1. manufacturer's name and address,
2. board equipment length,
3. identification as to diving or jump board,
4. fulcrum setting specifications (if applicable).

(c) Diving equipment shall have slip-resistant tread surfaces.

(d) Diving equipment shall be permanently anchored to the pool deck. The edge of the board at the tip end shall be level with the water surface. The tip end of the board over the pool water surface may be higher than the butt end of the board.

(e) Maximum board height over the water shall have plus three inches (+3") tolerance.

(f) The maximum construction tolerance of the tip of the board from Point A as shown in Rule .05(6) shall be plus or minus three inches ( $\pm 3$ "). The diving equipment shall be in compliance with Rule .05(5).

(9) The requirements of the U.S. Consumer Product Safety Commission (CPSC) Standard for Swimming Pool Slides as published in the Code of Federal Regulations, 16

CFR Part 1207, shall be used for standards relating to swimming pool slides. Installation and use instructions shall be provided with each unit by the manufacturer.

(10) Play structures and other equipment shall be governed by other appropriate authorities such as building codes, U.S. Consumer Product Safety Commission (CPSC) standards, and amusement ride regulations.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled “Decks and Deck Equipment” adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

#### **511-3-5-.07 Circulation Systems.**

(1) 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 through all parts of the pool.

(a) The equipment for a swimming pool shall be of adequate size to turn over the entire pool water capacity at least once every six (6) hours unless otherwise specified in (c) below. The equipment for a spa shall be of adequate size to turn over the entire spa water capacity at a minimum of once every thirty (30) minutes. This system shall be designed to give the proper turnover rate based on the manufacturer's recommended maximum pressure flow of the filter in dirty media condition of the filter, immediately prior to cleaning the filter.

(b) In pools other than those listed in (c) below, a six (6) hour turnover rate will be met if possible as determined by the health authority.

(c) Turnover rates for pools by type:

|  |            |
|--|------------|
| Spas   | 30 minutes |
| Zero - Depth pools/Spray Pads  | 30 minutes |
| Wading Pools (without any interactive equipment)   | 30 minutes |
| Wading/Interactive Play Pools<br>(maximum depth, 24 inches)  | 60 minutes |
| Slide Plunge Pools, Flumes and<br>All Other Plunge/Falling<br>Entry Pools  | 60 minutes |
| Wave Pools   | 3 hours    |
| Continuous Water Course/Rivers   | 4 hours    |
| Water Attraction/Equipment Pump Reservoir<br>Tanks   | 30 minutes |
| Dual Use Swimming Pools<br>(swimming pools with a slide or other feature with<br>an average depth exceeding 24 inches) | 4 hours    |

(d) Timing devices will be allowed for the purpose of turning off the circulation system during times when a pool is not being used. Timing devices must be set to provide at least one complete turnover immediately prior to the pool reopening.

(e) Water clarity shall be maintained. When standing at the pool's edge at the deep end, the main drain covers or a standard black and white disc shall be clearly visible. When standing at a spa's edge, the deepest portion of the spa floor shall be visible in a still condition.

(f) Circulation system components which require replacement or servicing shall be accessible for inspection, repair or replacement and shall be installed in accordance with the manufacturer's instructions.

(g) Where equipment sizing falls within the scope of NSF International testing, materials and equipment used in the circulation system shall comply with the appropriate requirements of NSF International Standard 50.

(h) Pool and spa equipment shall be properly supported to prevent damage from misalignment, settlement, etc. The equipment shall be mounted so as to minimize the

potential for the accumulation of debris and moisture, following manufacturer's instructions.

(2) **Water Velocity.** The water velocity in the pool or spa piping for discharge piping shall be a minimum of five feet (5') per second, but shall not exceed ten feet (10') per second [except for copper pipe where the velocity shall not exceed eight feet (8') per second], and for suction piping, shall be a minimum of four feet (4') per second, but shall not exceed six feet (6') per second. unless summary calculations are provided to show that the greater flow is possible with the pump and piping provided.

(a) Pool and spa piping shall be sized to permit the rated flows for filtering and cleaning without exceeding the maximum head of the pump.

(b) The pump shall be sized to deliver the required flow rate against the total system head involved.

(3) **Piping and Fittings.** The circulation system piping and fittings shall be nontoxic, shall be considered to be process piping and shall be of material able to withstand operating pressures and operating conditions.

(a) Pool and spa piping subject to damage by freezing shall have a uniform slope in one direction equipped with valves for adequate drainage. Pool and spa piping shall be supported at sufficient intervals to prevent entrapment of air, water or dirt. Provisions shall be made for expansion or contraction of pipes.

(b) Equipment shall be designed and fabricated to drain the pool or spa water from the equipment, together with exposed face piping, by removal of drain plugs and manipulating valves, or by other methods. Refer to manufacturer's recommendations for specific information on draining the system.

(4) **System Condition.** Gauges shall be provided as follows:

(a) A pressure or vacuum gauge or other means of indicating system condition shall be provided in the circulation system in an easily readable location.

(b) A flow meter measuring the rate of flow through the filter system with an appropriate range readable in gallons per minute (GPM) and accurate within ten (10) percent actual flow shall be provided. The flow indicator shall be capable of measuring from one-half (1/2) to at least one and one-half (1 1/2) times the design flow rate. The gauge shall be located after the filtering equipment and in such location on the return line, so as to measure the total amount of water returning to the pool according to the manufacturer's installation specifications.

(5) **Water Clarity and Chemistry.** The circulation system shall be capable of maintaining water clarity and water chemistry requirements and shall operate 24 hours per day, except when an automatic timing device is installed that will allow at least one complete turnover, immediately prior to beginning the next period of operation.

(6) **Instructions.** Operation and maintenance instructions shall be provided for the circulation system.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled "Circulation Systems" adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

#### **511-3-5-.08 Filters.**

(1) **Design.** Filters shall be designed so that after cleaning per manufacturer's instructions, the system can provide the water clarity noted in Rule .07(1)(e)

(a) Filter sizing shall be per NSF International Standard 50 with the specific maximum flow rates per surface area based on media used.

(b) Filters shall be designed so that filtration surfaces can be inspected and serviced.

(2) **Internal Pressure.** On pressure-type filters, a means shall be provided to permit the release of internal pressure.

(a) Any filter incorporating an automatic internal air release as its principal means of air release shall have lids which provide a slow and safe release of pressure as a part of its design.

(b) Any separation tank used in conjunction with any filter tank shall have a manual means of air release or a lid which provides a slow and safe release of pressure as it is opened as a part of its design.

(3) **Instructions.** Pressure filters and separation tanks shall have operation and maintenance instructions permanently installed on the filter or separation tank and shall include a precautionary warning statement not to start up the system after maintenance without first opening the air release and properly reassembling the filter and separation tank. The statement shall be visible and noticeable within the area of the air release.

(4) **Piping.** Piping furnished with the filter shall be of suitable material capable of withstanding one and one-half (1 ½) times the working pressure. The suction piping shall not collapse when there is a complete shutoff of flow on the suction side of the pump.

(5) A sight glass shall be installed on the waste discharge line of pressure filters so that the progress of filter washing can be observed.

[ Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled "Filters" adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013. ]

#### **511-3-5-.09 Pumps and Motors.**

(1) **Sizing.** A pump and motor shall be provided for circulation of the pool and spa water. Performance of all pumps shall meet or exceed the conditions of flow required for filtering and cleaning (if applicable) the filters against the total dynamic head developed by the complete system. Where applicable, pumps shall comply with the NSF International Standard 50, or Underwriters Laboratories (UL) Standard 1081.

(2) **Strainer or Screen.** With all pressure filter systems, a cleanable strainer or screen shall be provided upstream of the circulation pump(s) to remove solids, debris, hair, lint, etc.

(3) Pump(s) and motor(s) shall be accessible for inspection and service.

(4) **Safe Operation.** The design and construction of the pump(s) and component parts shall provide for safe operation.

(5) **Pump Seal.** Where a mechanical pump seal is provided, components of the seal shall be corrosion-resisting and capable of operating under conditions normally encountered in pool operation.

(6) **Capability.** Motor(s) shall be capable of operating the pump under full load with a voltage variation of plus or minus ten ( $\pm 10$ ) percent from the nameplate rating. If the maximum service factor of the motor is exceeded (at full voltage), the manufacturer shall indicate this on the pump curve.

(7) **Overload Protection.** All motors shall have thermal or current overload protection, either built in or in the line starter, to provide locked rotor and running protection.

(8) When the pump is below the waterline, valves shall be installed on permanently connected suction and discharge lines, located in an accessible place outside the walls of the pool, where they shall be readily and easily accessible for maintenance and removal of the pump.

(9) Pressure or vacuum gauges shall be installed on all public pools and spas.

(a) The pump vacuum gauge shall be installed as close to the suction side of the pump as possible while still maintaining an accurate reading.

(b) The pressure gauge shall be installed downstream from the pump, on the face piping ahead of the filter or on top of the filter in the area of greatest filter pressure.

[ Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled "Pumps and Motors" adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

**511-3-5-.10 Return Inlets and Suction Outlets.**

(1) **Location.** Return inlet(s) and suction outlet(s) shall be provided and arranged to produce a uniform circulation of water and maintain a uniform disinfectant residual throughout the pool or spa. Where skimmers are used, the return inlet(s) shall be located so as to help bring floating particles within range of the skimmers.

(a) A swimming pool shall have a minimum of two (2) return inlets regardless of pool size. The number of return inlets shall be based on two (2) inlets per six hundred (600) square feet of pool surface area or one inlet every fifteen feet of perimeter or fraction thereof, whichever is greater. Return inlet(s) from the circulation system shall be designed not to constitute a hazard to the user.

(b) All pools shall be provided with at least two main drain suction outlets in the lowest point of the pool floor. The spacing of the main drains shall be at least five feet (5'), but not greater than twenty feet (20') on centers nor more than fifteen feet (15') from each side wall.

(c) All spas shall have a minimum of two (2) suction outlets provided for each pump in the suction outlet system, separated by a minimum of three feet (3') or located on two (2) different planes; i.e. one (1) on the bottom and one (1) on the vertical wall or one (1) each on two (2) separate vertical walls. These suction outlets shall be plumbed such that water is drawn through them simultaneously through a common line to the pump.

(2) Suction outlets shall be provided with a cover that has been tested and approved by a nationally recognized testing laboratory and shall comply with ANSI/ASME A112.19.8M-1987, Suction Fittings For Use in Swimming Pools, Wading Pools, Spas, Hot Tubs and Whirlpool Bathtub Appliances.

(3) Net openings in each floor outlet covering or grating shall be at least four times the area of the discharge pipe and provide sufficient area so that the maximum velocity of the water passing the grate will not exceed one and one-half feet per second (1½ fps).

(a) The width of openings in grating shall be not less than one eighth inch (1/8") and not more than one half inch (½").

(b) The pool or spa shall not be operated if the outlet grate is missing, broken or secured in such a way that it can be removed without the use of a tool.

(4) **Entrapment Avoidance.** If the suction outlet system, such as a filtration system, booster system, automatic cleaning system, solar system, etc., has a single suction outlet or multiple suction outlets which can be isolated, each suction outlet shall protect against user entrapment by as many of the following as necessary:

(a) An antientrapment device installed immediately upstream of the pump,

(b) An antivortex cover,

(c) A grate, twelve inches by twelve inches (12"x 12") or larger, and/or

(d) Other means.

(5) Where provided, the vacuum cleaner fitting(s) shall be located in an accessible position(s) at least six inches (6") and no greater than eighteen inches (18") below the minimum operating water level or as an attachment to the skimmer(s).

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled "Return Inlets and Suction Outlets" adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

#### **511-3-5-.11 Surface Skimmer Systems.**

(1) A surface skimming system shall be provided on all swimming pools and spas and shall be designed and constructed to skim the pool or spa surface when the water level is maintained within the operational parameters of the system's rim or weir device.

Surface skimming devices shall comply with NSF International Standard 50.

(2) Skimming devices shall be designed and installed so as not to constitute a hazard to the user.

(3) **Automatic Surface Skimmers.** Where automatic surface skimmers are used as the sole overflow system in pools, at least two (2) surface skimmers shall be provided for the first five hundred (500) square feet or fraction thereof of the water surface area and one (1) skimmer shall be provided for each additional five hundred (500) square feet of surface area. In spas, one (1) skimmer shall be provided for each one hundred (100) square feet of surface area. Nominal recessed areas such as stairs, swimouts, stairs, etc., shall not be considered in the calculation. When skimmers are used, they shall be located to maintain effective skimming action over the entire surface of the pool or spa.

(4) **Perimeter Surface Skimmer (Gutter).** Where a perimeter type surface skimming system is used as the sole surface skimming system, this system shall extend completely around the perimeter of the pool except at steps or recessed ladders. The lip of the gutter shall be level and shall be designed to serve as a handhold for bathers. The perimeter surface skimming system shall be connected to the circulation system with a system surge capacity of not less than one (1) gallon for each square foot of pool surface or two and one half (2 ½) gallons for each square foot of spa surface.

(5) The hydraulic capacity of the overflow system shall be capable of handling one hundred (100) percent of the circulation flow.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled "Surface Skimmer Systems" adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

#### **511-3-5-.12 Lighting and Electrical Requirements.**

(1) Artificial lighting shall be provided for all indoor and outdoor pools and spas. Lighting shall be adequate to illuminate the entire swimming pool enclosure without glare. All installations shall comply with local building code requirements. Ground-fault interrupters

must be provided. Lighting in dressing rooms, sanitary facilities, equipment rooms and concessions shall comply with local code requirements.

(a) For outdoor pools used for night swimming and all indoor pools and spas, a minimum of 30 foot candles shall be maintained at the surface of pool and deck areas where underwater lighting is utilized. A minimum of 50 foot candles shall be maintained at the surface of pool and deck areas where underwater lighting is not utilized. More light may be required as deemed necessary by the Health Authority and/or by other codes which apply.

(b) Where underwater lighting is used, the following rules shall apply:

1. For public pools with less than 800 sq. ft. of pool surface area, a minimum of 500 watts of underwater lighting is required.
2. For all public pools with 800 sq. ft. or larger surface area, at a minimum, one and one half (1.5) watts per sq. ft. of surface area is required. The lighting shall be evenly spaced around the pool to prevent glare.
3. In all diving pools and all pools over 1000 sq. ft. with diving areas to 12 feet in depth, two (2) watts per sq. ft. of surface area is required. In all pools with diving wells deeper than 12 feet, at least three (3) watts per sq. ft. of surface area must be provided within the diving well.

(c) For outdoor pools, when not being used for night swimming or recreation, a minimum of 10 foot candles shall be maintained at the surface of pool and deck areas. Motion detector type lights are acceptable.

(2) No switches, starters, panel boards or similar electrical equipment shall be located in areas readily accessible to bathers while in the pool or on the designated deck area.

(3) No overhead wiring shall pass within twenty (20) feet (horizontal distance) of the pool enclosure. No electrical outlets shall be located within ten (10) feet of the pool edge.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled “Lighting and Electrical Requirements” adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

#### **511-3-5-.13 Heaters.**

(1) **Sizing.** A heater will be properly sized according to the volume of water, square footage of surface area and manufacturer's recommendations.

(2) **Water Temperature.** The owner/operator shall routinely check the in-pool or in-spa water to ensure that the temperature does not exceed 104<sup>0</sup>F. If adjustments are necessary, those adjustments shall be performed in accordance with manufacturer's instructions or by a qualified technician. A thermometer shall be available to measure the temperature of the water. It may be attached or floating or available to the operator at all times.

(3) **Installation.** The heater(s) shall be installed in accordance with all federal, state and local codes as well as the manufacturer's recommendations.

(a) **Support.** The heater shall be installed on a surface with sufficient structural strength to support the heater when it is full of water and operating. The heater shall be level and not able to move after plumbing, gas and/or electrical connections are completed.

(b) **Ventilation.** Fossil fuel heaters shall have adequate ventilation in order to assure proper operation.

(c) **Make Up Air.** Make up air shall be sufficient for proper operation.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled “Heaters” adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

**511-3-5-.14 Air Blower and Air Induction Systems.**

- (1) **Entry Devices.** This rule pertains to all devices and systems which induce or allow air to enter the spa either by means of a power pump or passive design.
- (2) **Air Intake Source.** Air intake sources shall not induce water external to the spa unit, dirt or contaminants, into the spa.
- (3) **Make Up Air.** When installing an air blower within an enclosure or indoors, adequate ventilation is a necessity. The air induction system shall be installed in accordance with any applicable codes and the manufacturer's recommendations for air openings to the enclosure.
- (4) **Accessibility.** The air blower shall be accessible for inspection and service.
- (5) **Air Passages.** Integral air passages shall be pressure tested at the time of manufacture to provide structural integrity to a value of one and one-half (1 ½) times the intended working pressure.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled "Air Blower and Air Induction Systems" adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

**511-3-5-.15 Water Supply.**

- (1) The water supply for public pools and spas, showers, lavatories, drinking fountains and any other uses in conjunction with the public pool shall be from an approved and potable source and shall be approved by the local health authority before use. Water in the pool shall meet the requirements of Rule .17 before the pool is used by bathers.
- (2) No direct mechanical connection shall be made between the potable water supply and the swimming pool, chlorinating equipment or the system of piping for the pool, unless it is protected against backflow and back-siphonage in a manner approved by the

health authority or through an air gap meeting the latest American National Standards Institute Standard/ A112.1.2 or other equivalent means approved by the health authority.

(3) An over-the-rim spout, if used, shall be located under a diving board, adjacent to a ladder or otherwise properly shielded so as not to create a hazard. Its open end shall have no sharp edges and shall not protrude more than two inches (2") beyond the edge of the pool.

(4) Backwash water may be discharged into a sanitary sewer through an approved air gap or into an approved subsurface disposal system or by other means approved by the health authority.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled "Water Supply" adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

#### **511-3-5-.16 Disinfectant Equipment and Chemical Feeders.**

(1) Disinfectant equipment and chemical feeders, hereafter referred to jointly as "equipment," shall comply with the requirements of NSF International Standard 50. The disinfection equipment shall be capable of precisely introducing a sufficient quantity of an approved disinfecting agent to maintain the appropriate recommended guidelines as outlined in Rule .17 of this Chapter.

(a) Every pool and spa shall be required to have at least one (1) unit of disinfectant agent equipment in compliance with Rule .16(1)(b). Additional units may be required to maintain chemical and physical parameters of the pool water.

(b) The pool or spa water shall be continuously disinfected by a disinfecting agent that imparts an easily measured residual. The disinfecting agent used shall be subject to field testing procedures that are simple and accurate. Gaseous chlorine, chlorine compounds, bromine compounds or other bactericidal agents shall be acceptable when meeting the disinfectant level parameters outlined in Rule .17 of this Chapter. Other

bactericidal agents not outlined in Rule .17 may be used if the health authority can be shown test results that show the agent to be an adequate bactericide for swimming pool and/or spa use. A test kit for these other agents must be supplied to the health authority by the manufacturer or the pool owner. Bactericidal agents shall be registered by the U.S. Environmental Protection Agency (EPA).

(c) Any apparatus, device, or equipment that discharges water into the pool or that uses water from the pool as part of the operations of that device, shall either use only water that has been filtered and disinfected immediately prior to being discharged into the pool or shall have a separate disinfection system for the device. This includes, but is not limited to slides, fountains, water wheels, "mushrooms", squirt guns, etc. Any water being discharged into the pool water shall have at least the same level of disinfection that is required for the type of pool that the device is in, as listed in Rule .17.

(2) **Chemical Feeders.** The installation and use of chemical feeders shall conform to the following standards:

(a) Chemical feeders must be installed downstream from the filter and heater.

(b) If the chemical feeder is equipped with its own pump, it shall be installed so it introduces the gas or solution downstream from the heater and, if possible, at a position lower than the heater outlet fitting.

(c) Chemical feed pumps shall be wired so they cannot operate unless the filter pump is running. If the chlorinator has an independent timer, the filter and chemical feed pump timers shall be interlocked.

(3) **Elemental (Gaseous) Chlorine.** Chlorine in the gas form may be used.

(a) Users of gas chlorine must be trained on the proper procedures for handling chlorine and the appropriate emergency procedures.

(b) Gas chlorination equipment shall be located so that equipment failure or malfunction will have minimal effect on evacuation of pool patrons in an emergency.

(c) Gas chlorine feeders (chlorinators) shall be activated by a booster pump using recirculated water supplies via the recirculation system. The booster pump shall be interlocked to the filter pump to prevent feeding of chlorine when the recirculation pump is not running.

(d) The chlorinator, cylinders of chlorine and associated equipment shall be housed in a reasonably gas-tight and corrosion-resisting housing having a floor area adequate for the purpose. Cylinders shall always be stored in an upright position and properly secured so they can not tip over if bumped.

(e) All enclosures shall be located at or above ground level. The enclosure shall be provided with a motor-driven exhaust fan capable of producing at least one air change per minute. This fan must be located at the lower part of the enclosure and there must be louvers of good design near the top of the enclosure for admitting fresh air. A warning sign, stating "Chlorine Gas" shall be posted on doors. Doors to the chlorine room shall open away from the pool and be equipped with a viewing window located so that the chlorinator and the inside of the enclosure can be clearly seen prior to entering.

(f) Electrical switches for the control of artificial lighting and ventilation systems shall be on the outside of the enclosure adjacent to the door.

(g) Facilities shall include a scale suitable for weighing the cylinders.

(h) Connections from the cylinders to the system depend on the type of chlorinator to be used and shall comply with the chlorinator manufacturer's recommendation.

(i) An automatic chlorine leak detector and alarm shall be installed in the chlorinator room.

(j) Respirators approved by the National Institute for Occupational Safety and Health (NIOSH) shall be provided for protection against chlorine. Occupational Safety and Health Administration (OSHA) regulations require training and maintenance programs for respirators.

(k) Containers may be stored indoors or outdoors. Full and empty cylinders shall be segregated and appropriately tagged. Storage conditions shall:

1. minimize external corrosion;
2. be clean and free of trash;
3. not be near an elevator or ventilation system; and
4. be away from elevated temperatures or heat sources.

(l) A specific person shall be made responsible for chlorination operations and shall be trained in the performance of routine operations including emergency procedures and leak control procedures, and maintain current documentation of their training in proper respirator use.

(m) Chlorine cylinders must be handled with care. Valve protection caps and valve outlet caps shall be in place at all times except when the cylinder is connected for use. Cylinders must not be dropped and shall be protected from falling objects. Cylinders shall be used on a first-in, first-out basis. New, approved washers shall be used each time a cylinder is connected.

(n) A safety wall chart shall be posted in or near the chlorine enclosure and a second chart shall be posted in the pool office near the telephone. The telephone number of the chlorine supplier shall be shown on this chart.

(o) Pool personnel shall be informed about leak control procedures.

(p) As soon as a container is empty, the valve shall be closed and the lines disconnected. The outlet cap shall be applied promptly and the valve protection hood attached. The open end of the disconnected line shall be plugged or capped promptly to keep atmospheric moisture out of the system.

(4) **Training.** Personnel responsible for the operation of the disinfection agent equipment shall be properly trained in the operation of that equipment, the procedure for

performing and interpreting the necessary chemical field tests and the appropriate emergency procedures.

(5) **Test Kits.** Every pool shall be supplied with an accurate and reliable testing kit capable of measuring any agent that is introduced into the water of the pool, including: the determination of pH, free available chlorine (FAC), total available chlorine (TAC) if chlorine is used, bromine or other chemical disinfectant residuals, cyanuric acid (if used), total alkalinity, calcium hardness, and copper and silver (if a copper or copper/silver ionization unit has been installed). The local health authority shall, upon request, be supplied a field testing kit for any agents introduced into the water supply. If a field testing kit is not available, the agent cannot be introduced until standards for testing have been established by, and written approval has been obtained from, the health authority. The Orthotolidine test (OTO) is unacceptable since it cannot distinguish FAC and TAC.

(6) **Daily Record.** A daily record will be kept of all chemical testing and temperatures recorded for all spas and self-inspections performed.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled "Disinfectant Equipment and Chemical Feeders" adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

**511-3-5-.17 Chemical Operational Parameters.**

The chemical operational parameters in swimming pool or spa water shall not exceed the maximum level or be lower than the minimum level given in the following parameters. Where no minimum or maximum is given, additional information is within this Chapter to assist the pool operator.

|  | <u>Minimum</u> | <u>Ideal</u> | <u>Maximum</u> | <u>Comments</u>   |
|--|----------------|--------------|----------------|---|
| <b>(1) Disinfectant Levels</b>           |                |              |                |   |
| Free chlorine, ppm.                      |                |              |                |   |
| All public pools except as listed below: | 1.5            | 1.5-3.0      | 5.0            | In a pool, hot weather/heavy use may require operation at or near maximum levels. Regular superchlorination is recommended<br><br>(see Remedial Practices below).<br><br>In a spa, during hours of operation, test the water hourly and record results. Maintain this range continually and shock treat at the end of the daily use period. |
| 1. Spas                                  | 3.0            | 3.0-5.0      | 10.0           |   |
| 2. Activity/interactive/ Wading Pools    | 3.0            | 3.0-5.0      | 10.0           |   |
| 3. Continuous Water Course/Rivers        | 2.0            | 2.0-5.0      | 5.0            |   |
| 4. Dual Use Pools                        | 2.0            | 2.0-5.0      | 5.0            |   |
| 5. Falling Entry Pools                   | 2.0            | 2.0-5.0      | 5.0            |   |
| 6. Wading Pools                          | 3.0            | 3.0-5.0      | 10.0           |   |
| 7. Wave Pools                            | 2.0            | 2.0-5.0      | 5.0            |   |
| 8. Water Attraction Pump Reservoirs      | 3.0            | 3.0-5.0      | 10.0           |   |
| 9. Zero-Depth Pools                      | 3.0            | 3.0-5.0      | 10.0           |   |
| Free Chlorine in stablized pools         | 3.0            | 3.0-5.0      | 10.0           |   |
| Combined chlorine, ppm                   | None           | None         | 0.2            | High combined chlorine results in reduced chemical efficacy. Take remedial action to establish break point chlorination (See  |

|  |  |  |  |   |
|--|--|--|--|---|
|  |  |  |  | Remedial Practices below). Other signs of combined chlorine: -Sharp chlorine odor -Eye irritation -Algae growth |
|--|--|--|--|---|

|  | <u>Minimum</u>         | <u>Ideal</u>   | <u>Maximum</u>       | <u>Comments</u>  |
|--|------------------------|--|----------------------|--|
| Bromine, ppm   | 2.0                    | Pool 3.0-5.0<br>Spa 4.0-6.0  | Pool 8.0<br>Spa 10.0 | In a spa, during hours of operation, test the water hourly and record results. Maintain this range continually and shock treat at the end of the daily use.  |
| Iodine, ppm  | Levels not established | -----  | -----                | Note: Local health department officials should be consulted before use.  |
| <b>(2) Chemical Values</b>                             |                        |  |                      |  |
| pH   | 7.2                    | 7.4-7.6  | 7.8                  | If pH is:<br>Too High:<br><ul style="list-style-type: none"> <li>- Low chlorine efficiency</li> <li>- Scale formation</li> <li>- Cloudy Water</li> </ul> Too Low:<br><ul style="list-style-type: none"> <li>- Rapid dissipation of disinfectant</li> <li>- Eye discomfort</li> <li>- Plaster and concrete etching</li> <li>- Corrosion of metals and vinyl liner damage</li> </ul> |
| Total Alkalinity (buffering), ppm as CaCO <sub>3</sub> | 60                     | 80-100 for calcium hypochlorite and lithium hypochlorite and sodium hypochlorite<br>100-120 for sodium dichlor, trichlor, chlorine gas and bromine compounds | 180                  | If total alkalinity is:<br>Too Low:<br><ul style="list-style-type: none"> <li>- pH bounce</li> <li>- Corrosion tendency</li> </ul> Too High:<br><ul style="list-style-type: none"> <li>- Cloudy water</li> <li>- Increased scaling potential</li> <li>- pH tends to be too high</li> </ul>   |
|  |                        |  |                      |  |

|   | <u>Minimum</u> | <u>Ideal</u>             | <u>Maximum</u> | <u>Comments</u>   |
|---|----------------|--------------------------|----------------|---|
| Total dissolved solids (TDS), ppm           | 300            | 1000-2000                | 3000           | <p>These values are offered as guidelines rather than absolute values to indicate concern for accumulation of impurities in the course of operation. Excessive high TDS may lead to hazy water, corrosion of fixtures, etc., and can be reduced by partial draining with addition of fresh water.</p> <p>High initial TDS may indicate poor water quality due to corrosive mineral salts, humus or organic matter. Consult local water authority.</p> <p>Increasing TDS indicates build up of impurities to be controlled by partial drain/refill with fresh water.</p> |
| Calcium hardness, ppm, as CaCO <sub>3</sub> | 150            | 200-400 to balance water | 500-1000+      | <p>Operations of pools, spas and hot tubs at maximum hardness will depend on alkalinity (buffering) requirements of the sanitizer used. Maximum alkalinity and lower pH must be used with maximum hardness (over 500 ppm)</p>   |

|                                    | <u>Minimum</u> | <u>Ideal</u> | <u>Maximum</u>               | <u>Comments</u>  |
|------------------------------------|----------------|--------------|------------------------------|--|
| <b>(2) Chemical Values (con't)</b> |                |              |                              |  |
| Heavy metals, ppm                  | None           | None         | copper 1.0<br><br>silver 0.1 | If heavy metals, such as copper, iron, manganese, silver are present:<br>-Staining may occur<br>-Water may discolor<br>-Chlorine dissipates rapidly<br>-Filter may plug<br>-May indicate pH too low, corrosion, etc.     |
| <b>(3) Biological Values</b>       |                |              |                              |  |
| Algae                              | None           | None         | None                         | If algae are observed:<br>-Shock treat pool (See Remedial Practices, Shock treatment)<br>-Supplement with brushing and vacuuming.<br>-Use approved algicide according to label directions (See Remedial Practices below) |

|                                 | <u>Minimum</u> | <u>Ideal</u> | <u>Maximum</u> | <u>Comments</u>  |
|---------------------------------|----------------|--------------|----------------|--|
| Bacteria                        | None           | None         |                | If bacteria count exceeds maximum allowed:<br>-Superchlorinate and follow proper maintenance procedures<br>-Maintain proper disinfectant residual.   |
| <b>(4) Stabilizer (if used)</b> |                |              |                |  |
| Cyanuric acid, ppm              | 10             | 30-50        | 100            | If stabilizer is:<br>Too High:<br>– May exceed local health department regulation<br>– May reduce chlorine efficacy<br>Too Low:<br>– Chlorine residual rapidly destroyed by sunlight<br><br>Note: Stabilizer is not needed in indoor or brominated pools and spas. |

|   | <u>Minimum</u> | <u>Ideal</u>                             | <u>Maximum</u>                                 | <u>Comments</u>   |
|---|----------------|--|--|---|
| Superchlorination frequency                               | Pool- monthly  | Pool- Every other week<br><br>Spa- Daily | Pool- Weekly when the temperature is over 85 F | Note: Some high use pools may need superchlorination three times a week or more as a preventative measure or when combined chlorine is over 0.2 ppm.  |
| <b>(5) Remedial Practices (con't)</b>                     |                |  |  |   |
| Superchlorination to establish break point dosage in ppm. |                |  |  | <p>When combined chlorine is over 0.2 ppm, superchlorinate by adding ten times the combined chlorine ppm (eg. If combined chlorine is 0.3 ppm, superchlorinate by adding 3 ppm chlorine)</p> <p>Applied at the end of daily usage, hold this level for 1-4 hours to clarify the water, remove ammonia (combined chlorine), and to kill any algae present.</p> <p>Can also be applied when no bathers are present and as</p> |

|                                | <u>Minimum</u> | <u>Ideal</u> | <u>Maximum</u> | <u>Comments</u>  |
|--------------------------------|----------------|--------------|----------------|--|
|                                |                |              |                | required to maintain clear water and the required halogen residual.  |
| Shock treatment, dosage in ppm | 10             | -----        | -----          | Nonchlorine oxidizers are not considered biocidal, but may reduce organic contaminants.  |
| Clarifying/Floccing frequency  | -----          | When needed  | -----          | Use all clarifiers following manufacturer's directions.  |
| Algicides                      |                |              |                | Follow manufacturer's directions. Use E.P.A. registered products.  |
| Water replacement              |                |              |                | Water in spas that have high bather use may require partial or complete replacement of water periodically to dilute dissolved solids, to maintain water clarity and to do necessary routine maintenance. |

|                       | <u>Minimum</u> | <u>Ideal</u>                         | <u>Maximum</u> | <u>Comments</u>  |
|-----------------------|----------------|--------------------------------------|----------------|--|
| Foam                  | None           | None                                 | None           | Foam may harbor persistent microorganisms. If foaming is not adequately controlled, consider daily shock treatment, water replacement or an appropriate antifoam agent. Follow manufacturer's directions.  |
| (6) Temperature<br>°F | --             | 78 -82 °F or<br>Bather<br>preference | 104 °F         | <p>If temperature is:</p> <p>Too High:</p> <ul style="list-style-type: none"> <li>- Health hazard</li> <li>- Bather discomfort</li> <li>- Excessive fuel requirement</li> <li>- Increased evaporation</li> <li>- Increased scaling potential</li> <li>- Increased use of disinfectants</li> <li>- Increase potential for corrosion</li> </ul> <p>Too Low:</p> <ul style="list-style-type: none"> <li>- Bather discomfort</li> <li>- Increase chance of hyperthermia</li> </ul> |

|                          | <u>Minimum</u>  | <u>Ideal</u> | <u>Maximum</u> | <u>Comments</u>  |
|--------------------------|---|--------------|----------------|--|
| <b>(7) Water Clarity</b> |   |              |                |  |
| Water turbidity          | Must be able to see main drain covers or a standard black and white disc laying on the bottom of the deepest portion of the pool. | --           | --             | If water is turbid: <ul style="list-style-type: none"> <li>- Disinfectant level may be low</li> <li>- Filtration system may be inoperative</li> <li>- Improper chemical balance</li> <li>- Bottom should be clearly visible at the deepest part of the pool or spa.</li> <li>- Consult remedial practices</li> </ul> |

|   | <u>Minimum</u> | <u>Ideal</u> | <u>Maximum</u> | <u>Comments</u>   |
|---|----------------|--------------|----------------|---|
| <b>(8) Oxidizers</b>  |                |              |                |   |
| Ozone, low output generators  | --             | --           | 0.1            | Serves as oxidizer of water contaminants.   |
| Contact concentration mg/L when ozone is injected and not removed prior to entry into pool. | 0              | 0            | 0.05           | Indoor installations should have adequate ventilation.  |
| Above pool and spa levels   |                |              |                |   |
| <b>(9) Oxidizer Reduction Potential</b>   |                |              |                |   |
| ORP   | 650 MV         | --           | --             | When chlorine or bromine is used as the primary disinfectant, ORP can be used as a supplemental measurement of proper sanitizer activity. The use of ORP testing does not eliminate or supersede the need for testing the sanitizer level with standard test kits and ORP reading may be affected by a number of factors including (1) pH, (2) probe film and (3) cyanuric acid. Follow manufacturer's recommendations. |

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled "Chemical Operational Parameters" adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

**511-3-5-.18 Specific Safety Features.**

(1) **Handholds.** A public pool shall be provided with a suitable handhold around its perimeter in areas where depths exceed three feet six inches (3'6"). Handholds shall be provided no further apart than four feet (4') and shall consist of any one (1) or a combination of the items listed below:

(a) Coping, ledge or deck along the immediate top edge of the pool which provides a slip-resisting surface of at least four inches (4") minimum horizontal width and located at or not more than twelve inches (12") above the waterline; or

(b) Ladders, stairs or seat ledges; or

(c) A railing placed at or not more than twelve inches (12") above the waterline.

(2) **Rope and Float Line.** A rope and float line shall be provided within one foot (1') of and on the shallow side of the break in grade between the shallow and deep portions of the swimming pool, with its position marked with visible floats at not greater than seven foot (7') intervals.

(a) The rope and float line shall be securely fastened to wall anchors of corrosion-resisting materials and of the type which shall be recessed or have no projection that will constitute a hazard when the line is removed.

(b) The line shall be of sufficient size and strength to offer a good handhold and support loads normally imposed by users.

(3) **Depth Markers for Swimming Pools.** Depth of water in feet shall be plainly and conspicuously marked at or above the waterline on the vertical pool wall and on the top of the coping or edge of the deck or walk next to the pool. The word or abbreviation for "feet" must be specified.

(a) Depth markers on the vertical pool wall shall be positioned to be read from the water side.

- (b) Depth markers on the deck shall be within eighteen inches (18") of the water edge and positioned to be read while standing on the deck facing the water.
  - (c) Depth markers shall be slip-resistant.
  - (d) Depth markers shall be installed at the maximum and minimum water depths and at all points of slope change.
  - (e) Depth markers shall be installed at intermediate increments of water depth not to exceed two feet (2'), nor spaced at distances greater than twenty-five foot (25') intervals.
  - (f) Depth markers shall be arranged uniformly on both sides and both ends of the pool.
  - (g) Depth markers on irregularly shaped pools shall designate depths at all major deviations in shape as well as conform to the foregoing articles.
  - (h) Depth markers shall have a four inch (4") minimum height. Numbers shall be of contrasting color to the background on which they are applied, and the color shall be of a permanent nature.
- (4) **Depth Markers for Spas.** Public spas shall have permanent depth markers with numbers a minimum of four inches (4") high plainly and conspicuously visible from all obvious points of entry and in conformance with (a) thru (f) below and be in accordance with ANSI/UL 969 "Marking and Labeling Apparatus".
- (a) There shall be a minimum of two depth markers per spa, regardless of spa size or shape.
  - (b) Depth markers shall be spaced at no more than twenty-five feet (25') intervals and shall be uniformly located around the perimeter of the spa.
  - (c) Spas shall have the maximum water depth clearly marked on the deck wall.
  - (d) Depth markers shall be positioned on the deck within eighteen inches (18") of the water line.
  - (e) Depth markers shall be positioned to be read while standing on the deck facing the water.

(f) Depth markers in or on the deck surfaces shall be slip-resisting.

(5) **Clock.** All public facilities shall have a clock which is visible to spa users.

(6) **Water Temperature.** The maximum temperature in a spa shall not exceed 104<sup>0</sup>F (40<sup>0</sup>C).

(a) The spa operator shall be provided with an accurate thermometer ( ±1<sup>0</sup>F tolerance) and shall periodically check to ensure that the maximum temperature does not exceed 104<sup>0</sup>F.

(b) A means to determine the spa temperature with a ±1<sup>0</sup>F tolerance shall be provided to the user.

(7) **Lifeguards.** All owners, managers, or lifeguards, if provided, in charge of, or working at, public swimming pools, spas or recreational water parks shall be responsible for the supervision and safety of the pool, spa or recreational water park.

(a) If lifeguards and safety assistants are provided, they shall be qualified as lifeguards by holding current, nationally recognized certifications in Lifeguarding, Adult/child/infant CPR and First Aid.

(b) If lifeguards are provided, their lifeguard certification, CPR and first aid certificates or photocopies thereof shall be maintained at the facility and be available to the local health authority for inspection.

(8) **Lifesaving Equipment.** All public swimming pools shall have lifesaving equipment conspicuously and conveniently on hand at all times. Lifesaving equipment for special purpose pools may be exempted from this requirement or the requirements will be provided as deemed necessary by Health Authority. The following will be provided:

(a) A light, strong pole not less than twelve feet (12') long, including a body hook shall be provided.

(b) A minimum one-fourth inch (1/4") diameter throwing rope as long as one and one-half (1½) times the maximum width of the pool or fifty feet (50'), whichever is less, to which

has been firmly attached a ring buoy with an outside diameter of approximately fifteen inches (15") or a similar flotation device which is U.S. Coast Guard approved, shall be provided.

(c) A telephone which is hard wired and affixed, with posted names and phone numbers of the nearest available police, fire, ambulance service and/or rescue unit, and /or 911, if available.

(9) **Barriers.** All outdoor swimming pools and spas shall be provided with a barrier.

(a) The top of the barrier shall be at least forty-eight inches (48") above grade measured on the side of the barrier which faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be four inches (4") measured on the side of the barrier which faces away from the swimming pool. Where the top of the pool structure is above grade, such as an above-ground pool, the barrier may be at ground level, such as the pool structure. Where the barrier is mounted on top of the pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be four inches (4").

(b) Openings in the barrier shall not allow passage of a four inch (4") diameter sphere.

(c) Solid barriers which do not have openings such as a masonry or stone wall, shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.

(d) Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is less than forty-five inches (45"), the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed one and one-fourth inches (1 1/4") in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed one and one-fourth inches (1 1/4") in width.

(e) Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is forty-five inches (45") or more, spacing between vertical members shall not exceed four inches (4"). Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed one and one-fourth inches (1 1/4") in width.

(f) Maximum mesh size for chain link fences shall be one and one-fourth inches (1 1/4") square unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to no more than one and one-fourth inches (1 1/4") .

(g) Where the barrier is composed of diagonal members, such as a lattice fence, the maximum opening formed by the diagonal members shall be no more than one and one-fourth inches (1 1/4").

(h) Access gates shall also comply with the requirements of this Rule and shall be equipped to accommodate a locking device. Pedestrian access gates shall be self-closing and have a self-latching device. Gates other than pedestrian access gates shall have a self-latching device. Where the release mechanism of the self-latching device is located less than fifty-four inches (54") from the bottom of the gate, (a) the release mechanism shall be located on the pool side of the gate at least three inches (3") below the top of the gate and (b) the gate and barrier shall have no opening greater than one-half inch (1/2") within eighteen inches (18") of the release mechanism.

(i) There shall not be direct access from any dwelling into the pool enclosure.

(j) Where an above-ground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure and the means of access is a ladder or steps then:

1. the ladder or steps shall be capable of being secured, locked or removed to prevent access; or
2. the ladder or steps shall be surrounded by a barrier which meets the requirements of this section. When the ladder or steps are secured, locked or removed any opening created shall not allow the passage of a four inch (4") diameter sphere.

(k) Barriers shall be located so as to prohibit permanent structures, equipment or similar objects from being used to climb the barriers.

(l) A spa with a safety cover that complies with ASTM F1346, "Performance Specification for Safety Covers and Labeling Requirements for All Covers for Swimming Pools, Spas and Hot Tubs" shall be exempt from the provisions of this section. Swimming pools with safety covers shall not be exempt from the provisions of this document.

(10) **Warning/Safety Signs For Swimming Pools.** Signs shall be provided as follows:

(a) The words "No Diving" shall be permanently visible at the edge of the deck for water five feet (5') or less. Placement should conform to that outlined for depth markers in (3)(a) thru (h) of this rule.

(b) Where no lifeguard is on duty, a sign shall be placed in clear view at or near the entrance to the pool and shall state in clearly legible letters at least four inches (4") high "WARNING - NO LIFE GUARD ON DUTY".

(c) The same sign in (b) or an additional sign will state the following rules in clearly legible letters at least two inches (2") high:

1. Unattended solo bathing is prohibited.
2. Children shall not use pool without an adult in attendance.
3. Children, three years old and younger, as well as any child not potty trained, must wear snug fitting plastic pants or a water resistant swim diaper.
4. No glass articles allowed in or around pool.
5. No food, drink or wrappers shall be permitted within ten feet (10') of the swimming pool or spa.
6. No running or rough play allowed.
7. No spitting, spouting of water or blowing nose in pool.
8. No "cut-offs" allowed.
9. Only one bather at a time allowed on diving board.

10. Diving area must be clear of other patrons before diving is permitted.
11. No swimming allowed during heavy rain or when thunder and lightning can be seen or heard.

(11) **Warning/Safety Signs For Spas.** Signs shall be provided as follows:

(a) Signage which states safety, emergency and operational aspects of the spa, shall be prominently located. As a guide, for the language and layout of the safety signs reference ANSI Z 535 series of standards for Safety Signs and Colors and ANSI/UL 1563 1987 "Standards for Electric Hot Tubs, and Associated Equipment".

(b) Warning/Safety signs for spas shall be in clear view of the spa and prominently displayed. Signs shall state the spa's address, the location of the nearest telephone with references that emergency telephone numbers are posted at the location. These emergency telephone numbers should include the name and phone number of the nearest available police, fire or ambulance service and/or "911" if available. Signs shall include, but not be limited to the following messages:

1. Risk of Fetus Damage. Hot water exposure limitations vary from person to person. Pregnant women and small children should not use spa prior to medical consultation.
2. Risk of Drowning. Other persons suffering from heart disease, diabetes, high or low blood pressure and other health problems should not enter the spa without prior medical consultation and permission from their doctor.
3. Risk of Drowning. Do not use the spa while under the influence of alcohol, narcotics or other drugs that cause sleepiness and drowsiness or raise/lower blood pressure.
4. Risk of Drowning. Use caution when bathing alone. Overexposure to hot water may cause nausea, dizziness and fainting. Lower water temperatures are recommended for extended use (exceeding 10-15 minutes) and for young children.
5. Risk of Drowning. Do not allow the use of or operate spa if the suction fitting is missing, broken or loose.

6. Risk of Child Drowning. Unsupervised use by children is prohibited.
7. Risk of Injury. Before entering, check spa temperature before each use. The spa temperature should not exceed 104<sup>0</sup>F.
8. Risk of Injury. Enter and exit slowly.
9. Risk of Injury. Keep all breakable objects out of the spa area.
10. Risk of Shock. Never place electrical appliances (telephone, radio, tv., etc.) within five feet (5') of the spa.
11. Risk of Shock. The spa shall not be operated during severe weather conditions. (e.g., electrical storms, tornadoes, etc.)
- (12) In all swimming pools built prior to December 31, 2000 which have floor slopes greater than that allowed in this chapter or which have other construction variances to this chapter, the health authority may require a warning sign stating the possible hazard to be posted in public view.
- (13) **Obstructions and Entrapment Avoidance.** There shall be no obstructions that can cause the user to be entrapped or injured. Types of entrapment can include, but not be limited to, such things as wedge or pinch-type openings and rigid, nongiving cantilevered protrusions.
- (14) At least one (1) drinking fountain shall be provided and available to users at the pool site.
- (15) A minimum of one (1) rinse shower shall be provided on the pool deck of all public pools and spas with bather loads of fifty (50) or less. An additional rinse shower shall be provided for each additional one hundred (100) bathers.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled "Specific Safety Features" adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

**511-3-5-.19 Dressing Facilities.** Adequate dressing facilities for pools, spas and recreational water parks should be provided unless these facilities are provided in connection with the general premises for other purposes and are of adequate capacity and number and close proximity to the pool. Handicapped accessible dressing and sanitary facilities shall be designed and provided in accordance with state or local requirements and can be included as part of the required total number of water closets, shower heads, lavatories, etc.

(1) Dressing facilities, when provided, shall be provided with separations for each sex with no interconnection. The rooms shall be well-lighted, drained, ventilated and of good construction with impervious materials. They shall be developed and planned so that good sanitation can be maintained throughout the building at all times.

(2) Partitions between portions of the dressing room area, screen partitions, shower, toilet and dressing room booths shall be of durable material not subject to damage by water and shall be designed so that a waterway is provided between partitions and floor to permit thorough cleaning of the walls and floor areas with hoses and brooms.

(3) When dressing facilities are provided, a minimum of two (2) shower heads shall be provided for the first one-hundred (100) bathers of each sex. One (1) additional shower head for each sex shall be added for each additional fifty (50) male or female users.

These showers, when provided, may be used in place of the deck showers. However, the use of deck showers will not be substituted for the above dressing facility showers.

(4) Hot and cold water under pressure shall be provided in dressing facility showers.

(5) Floors of the dressing facility shall be free of joints or openings and shall be continuous throughout the areas. Floors shall have a slip-resistant surface that shall be relatively smooth to insure thorough cleaning. Floor drains shall be provided and floors shall be sloped not less than one-fourth inch (1/4") per foot toward the drains to insure positive drainage.

(6) An adequate number of three-fourths inch (3/4") hose bibbs shall be provided for flushing down the dressing facility interior.

(7) **Lavatories.** Lavatories and toilets shall be provided for all public pools and spas.

The minimum criteria for lavatories and toilets for public pools shall be based upon the maximum bathing load as established.

(a) All public pools shall provide one (1) water closet, one (1) lavatory and one (1) urinal for the first fifty (50) male users. One (1) additional water closet, lavatory and urinal shall be provided for each additional one hundred fifty (150) male users or fraction thereof.

(b) All public pools shall provide two (2) water closets and two (2) lavatories for the first fifty (50) female users. One (1) additional water closet and lavatory shall be provided for each additional one hundred (100) female users or fraction thereof.

(c) All spas shall provide at least one (1) water closet and lavatory for each sex.

(d) Soap dispensers for providing either liquid or powdered soap shall be provided at each lavatory. The dispenser shall be of all metal or plastic type with no glass permitted in these units.

(e) At least one (1) paper towel dispenser or hand blow dryer shall be provided for every three lavatories.

(f) An unbreakable mirror shall be provided over each lavatory.

(g) Toilet paper holders shall be provided at each water closet.

(h) Soap, paper towels and toilet tissue shall be provided in all dispensers.

(i) Fixtures shall be installed in accordance with local plumbing codes and shall be properly protected against back-siphonage.

(j) Fixtures shall be designed so that they may be readily and frequently cleaned and disinfected. Frequent cleaning and disinfecting shall not cause damage.

(k) At least one (1) trash receptacle will be available in toilet areas.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled “Dressing Facilities” adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

### **511-3-5-.20 Recreational Water Parks, and Special Purpose Pools.**

(1) **Deviation from requirements.** A recreational water park attraction may deviate from the requirements of this code if and to the extent:

(a) An exception from this code is necessary to accommodate the special use of the facility; and

(b) The design and construction of the attraction are within the limits of sound engineering practice and present no health or safety hazard.

(2) **Zero-Depth pools.**

(a) The water supply for a zero-depth pool must, at all times, meet the requirements relating to water quality set forth in Rule .17 of this Chapter.

(b) The zero-depth pool must be equipped, at its lowest point, with an unvalved drain of sufficient capacity and design to prevent the accumulation of water in the pool.

(c) For zero-depth-entry pools, the floor slope shall be at a one foot in fifteen feet (1':15') vertical to horizontal or gentler slope.

(d) Zero-depth pools must be located at the shallow end of deeper water swimming pools and must be separated from them by at least six feet (6') of deck or by a separate barrier or fence meeting the requirements of this code.

(3) **Wading pools.**

(a) Wading pool must be located at the shallow end of the main pool and must be separated from it by a separate barrier or fence meeting the requirements of this code.

(b) Underwater lights are prohibited in wading pools.

**(4) Water slides.**

(a) A water slide must consist of one or more flumes, falling-entry pools or slide runouts, a pump reservoir, and facilities for the disinfection and chemical treatment of the water.

(b) The structural design of a water slide and the materials used in its construction must conform with generally accepted structural engineering practices and must provide a sound, durable structure that will safely sustain all the dead loads, live loads, liquid hydrostatic and earth pressures encountered.

(c) Any components or accessories of a water slide that come into contact with bathers must be assembled, arranged and finished so that their external surfaces and edges do not present an injury hazard to the skin of users under casual contact.

(d) The owner of a water slide and the registered engineer who designs the slide are responsible for the safe design and construction of the entire facility.

**(e) Flumes.**

1. Each flume of a water slide must be water-tight. Its surfaces must be inert, nontoxic, smooth and easily cleaned.

2. If a tube-type flume is used, it must be designed or ventilated to prevent a hazardous concentration of toxic disinfectant fumes under all circumstances of operation.

3. All curves and turns in a flume must be:

(i) Designed so that the impact of users with the walls of the flume does not present a hazard; and

(ii) Banked so that the forces on the bathers keep them safely inside the flume under all foreseeable circumstances of operation. Bathers must not become airborne.

4. In curved sections of a flume, the design of the wall of the flume must cause the outward thrust of the body of the bather to be dissipated towards the centerline of the flume.

5. All slopes in a flume must be designed so that the speed of the bathers does not reach a point at which a safe equilibrium of dynamic forces cannot be maintained on any curve or turn in the flume.
6. In sections of a flume where bathers can stop, provision must be made by design or modification to prevent bathers from falling out of the flume.
7. The construction, dimensions and methods of mechanical attachment of a flume must provide a smooth and continuous surface through the entire length of the flume. Any misalignment of joints in a sectional flume must not exceed one-eighth inch 1/8".
8. The walls of any flume must be designed so that the continuous and combined action of hydrostatic, dynamic and static loads, as well as normal environmental deterioration do not damage the flume bed to the extent of creating a structural failure that presents a hazard of injury to users or that requires frequent patch repairs that may weaken the structural integrity of the flume.

**(f) Flume exit.**

1. The exit of any flume must be designed to ensure that bathers enter the falling-entry pool or slide runout at a safe speed and angle of entry.
2. If a slide has two or more flumes and there is a point of intersection between the centerlines of any two flumes, the distance between that point and the point of exit for each intersecting flume must not be less than twenty feet (20'), or thirty feet (30') if any user exits a flume at high speed.

**(g) Exit into falling entry pool.** If users exit the flume of a water slide into a falling-entry pool:

1. The flume must be horizontal and perpendicular to the wall of the pool at the point of exit;
2. The flume must be designed with an exit system that provides for safe entry into the falling-entry pool or slide runout with an exit grade for the last ten feet (10') that does not

exceed ten percent (10%). Present practices for safe entry include a water backup, a deceleration distance, and body attitude control. Other methods are acceptable as long as safe exit velocities and proper body altitudes are assured under normal use;

3. The flume exit must be flush with the vertical wall of the pool at the point of exit and not more than two (2) inches above, nor less than six (6") inches below, the normal operating level of the pool; and

4. The distance between:

(i) The side wall of the pool and that portion of the flume exit nearest the wall must be not less than five feet (5') at the point of exit;

(ii) The centerline of the flume and the centerline of any adjacent flume must not be less than six feet (6') at the point of exit;

(iii) The point of exit and the side of the pool opposite the bathers as they exit, excluding any steps, must not be less than twenty feet (20') if the flume ends above or below the normal operating water level of the pool.

**(h) Falling-Entry pools.**

1. If a splash pool is used at a water slide, it must be located at the base of the slide.

2. Except as otherwise provided in this subsection, the water depth in a falling-entry pool at the end of the flume must be a minimum of three and one-half feet (3 1/2') from the normal operating water level to the floor. This depth must be maintained for distance of not less than twenty feet (20') from the point of exit from the flume or other falling-entry feature, or not less than thirty-feet (30') if the point of exit is even with the normal operating water level. The health authority may waive these requirements if a special exit system is used that ensures a safe exit from the flume and safe entry to the falling-entry pool.

3. Beyond the area of level floor required above, in the area of the pool opposite the point of exit from the flume or other falling-entry feature, the floor of the falling-entry pool may have a constant slope upward of not more than 1 foot in 7 feet (1':7')

4. If steps are provided instead of exit ladders or stepholes with handrails, a handrail must be provided at the steps opposite the point of exit from each flume or falling-entry feature.

(i) **Decks.** A deck must be provided along the exit side of the falling-entry pool and along one or more of the other sides of the pool. The pump and reservoir must be accessible by a deck not less than three feet (3') wide.

(j) **Means of access.**

1. A concrete walkway, steps, stairway or ramp must be provided between the falling-entry pool and the top of the flume.

2. The walkway or other means of access must:

(i) Not retain standing water;

(ii) Conform to the structural requirements of the local building code;

(iii) Not be less than four feet (4') wide;

(iv) Be provided with handrails;

(v) Have a slip-resistant surface;

(vi) Be separated from the flume by a physical barrier that is located far enough from the flume to prevent it from being contacted by users of the flume.

(k) **Slide runouts.**

1. Slide runouts, if used, must have an exit opening or step, unless one or both of the walls of the runout are not more than twelve inches (12") in height.

2. Slide runouts must be designed with adequate length and water depth and sloped so as to bring the user to a safe stop.

**(l) Pump reservoirs.**

1. Pump reservoirs used in water slides must have sufficient volume to contain not less than two (2) minutes of combined flow from all water treatment and flume pumps or must contain enough water to ensure that the falling-entry pool will maintain a constant water depth.
2. The interior of pump reservoirs must be water-tight with a hard trowel or equivalent, slip-resistant finish.
3. Pump reservoirs must be accessible only to authorized persons. Intakes to the slide pump must be designed to allow cleaning without danger of trapping the operator.

**(m) Control of water.**

1. A surge-free automatic water makeup system with a manual override must be provided and constructed so that the normal operating water level of the falling-entry pool is maintained at all times. An approved backflow prevention device must be provided.
2. The velocity of water at the weir or inlet grate must not exceed one and one-half feet per second (1 ½ fps).
3. The slide or other falling-entry feature may not be used if the main drain of the falling-entry pool is not clearly visible from the deck with the flume water turned off.

**(n) Posting notice of prohibited conduct.** The operator of a water slide or other falling-entry feature shall post one or more warning signs at the entrance to the facility. Each sign must state that the following types of conduct are prohibited within the facility:

1. Running, standing, kneeling, rotating, tumbling or stopping in any flume or tunnel.
2. Horseplay.
3. Diving or flipping while exiting from a flume.
4. Use of the slide while under the influence of alcohol or drugs.
5. Use of the flume by more than one person at a time.

6. Failure to obey the instructions of the pool attendant or lifeguard.
7. Failure to keep hands inside the flume while using the slide.
8. Failure to leave the falling-entry pool promptly after exiting from the slide.
9. The possession of any glass, bottle or food in or near any pool.
10. Entry into an area of grass or other vegetation.
11. The possession of any toy or can.
12. The use of any clothing on the slide other than the usual swimwear.
13. Wearing any bracelet, watch or other jewelry.
14. Failure to shower before using the slide.

(o) **Precautions for safety.**

1. At all times while a water slide is open for use, an attendant must be on duty at each falling-entry pool or runout. The attendant shall serve as the safety director of the slide. In that capacity, the attendant shall control crowds, keep bathers moving through the pool or runout in an orderly fashion, and control any unsafe behavior in the lower flumes, in the pool or runout, or on the decks at the base of the slide.
2. At all times while the slide is open for use, an attendant must be on duty at each entrance to a flume. The attendant shall control bathers near the entrance, regulate the departure of each bather down the slide and control any unsafe behavior in the upper flumes.
3. Radio communication, or other means of communication acceptable to the health authority, must be provided between the flume entry attendant and the splash pool or slide runout attendant.
4. Each water slide must have a means to allow the flume entry attendant to monitor the slide exit.

(5) **Activity pools.** Amusement devices used in activity pools must be designed and maintained so that their surfaces are smooth, nontoxic and easily cleanable. The

devices must not pose a safety or health hazard to users and must not interfere with circulation or disinfection of the water.

**(6) Wave pools.**

(a) The generation of waves more than three feet (3') in height in a wave pool, regardless of the depth of the pool, must not continue for more than 15 minutes at a time.

(b) The wave pool must not be used if the main drain is not clearly visible from the deck with the wave generating equipment turned off.

(c) Bathers must gain access to the wave pool at the shallow or beach end. The sides of the pool must be protected from unauthorized entry into the pool by the use of a fence or other comparable barrier.

(d) Wave pools must be provided with handholds at the static water level. These handholds must be self-draining and must be installed so that their outer edge is flush with the pool wall. The design of the handholds must ensure that body extremities will not become entangled during wave action.

(e) Life jackets must be provided free for use by bathers who request them.

(f) Each permanent station for pool attendants and lifeguards must be provided with a clearly labeled and readily accessible emergency shut-off switch for the control of the wave action.

(g) An audible warning system must be provided to alert bathers of the beginning of wave generation.

(h) Stepholes and handrails must be provided at one or more locations along the wall of the wave pool. The stepholes and handrails must extend down the wall so they will be accessible during wave generation at the lowest water level. The distance between the handrail and the wall must not exceed six (6") inches.

**(7) Child amusement lagoons.** Devices used in child amusement lagoons must be designed and maintained so that their surfaces are smooth, nontoxic and easily

cleanable. The devices must not pose a safety or health hazard to bathers and must not interfere with circulation or disinfection of the water.

**(8) Watercourse rides.**

- (a) Handrails, steps, stairs, and booster inlets for watercourse rides must not protrude into the watercourse.
- (b) The watercourse must not be narrower than twelve feet (12') and not deeper than three and one half (3 ½') feet.
- (c) An approved method of exit must be provided at least every two hundred (200') feet along the watercourse.
- (d) A deck must be provided along at least one side of the watercourse.
- (e) The design velocity of the water in a watercourse ride must not exceed two miles per hour (2 mph).

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled "Recreational Water Parks and Special Purpose Pools" adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

**511-3-5-.21 Food Service.**

- (1) Food Service facilities shall comply with provisions of Article 13 of O.C.G.A. Chapter 26-2 and the rules and regulations adopted thereunder.
- (2) Eating, drinking and smoking shall not be permitted within the waters of the pool, spa or recreational water park but are permitted on the deck area at a distance of least ten feet (10') horizontally away from the water's edge.
- (3) Food and beverages shall only be served in nonbreakable containers.
- (4) Covered trash containers shall be provided where food and/or beverages are available and allowed to be consumed.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled “Food Service” adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

**511-3-5-.22 Operation and Management.** All swimming pools and spas covered by this Chapter shall be maintained under the supervision and direction of a properly trained operator who shall be responsible for the sanitation, safety and proper maintenance of the pool and all physical and mechanical equipment and records.

(1) Training for the operator can be obtained by completion of the National Swimming Pool Foundation's Certified Pool/Spa Operator's Course or state or local training course, if available, or similar course as approved by the Department.

(2) Upon completion of any swimming pool or spa, the manager and his operators shall be given complete written and oral instructions by the builder as well as operational guidance of the pool, all equipment and the maintenance of the swimming pool water.

(3) The bathing load limit shall be observed by the management. The maximum number of users to be allowed in a pool at one time shall be based on Rule .05(9) in this Chapter.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled “Operation and Management” adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]

**511-3-5-.23 Compliance Procedures.**

(1) A swimming pool, spa or recreational water park shall not operate until such time as the appropriate application has been submitted to the health authority, on the prescribed forms provided and a valid operating permit has been issued by the health authority.

(2) **Suspension or Revocation.** The health authority shall have the power and authority to suspend or revoke permits for failure to comply with the provisions of this Chapter. When an application for a permit is denied or the permit previously granted is

to be suspended or revoked, the applicant or holder thereof shall be afforded notice and hearing as provided in O.C.G.A. Chapter 31-5, Article 1. If an application is denied or a permit is suspended or revoked, the applicant or holder of the permit must be notified in writing, specifically stating any and all reasons why the action was taken. The purpose of these procedures is to state the minimum actions to be taken to fulfill the obligation of the health authority in assuring compliance with the regulations when the continued operation of a swimming pool, spa or recreational water park presents a substantial and imminent health hazard to the public or when a swimming pool, spa or recreational water park is in flagrant or continuing violation of this Chapter. Suspension is effective upon service of a written notice thereof, and operation must cease immediately. The notice must state the basis for the suspension and advise the permit holder of the right to a preliminary hearing on request within 72 hours. If requested, the preliminary hearing will be held by an experienced supervisory level employee of the health authority not directly involved in the suspension. The rules of evidence will not apply, but both the health authority and the permit holder may present witnesses, records and argument. The hearing official will be authorized to immediately rescind or modify the suspension or to continue the suspension with or without conditions. If the suspension is not rescinded, the permit holder will have the right on request to an evidentiary hearing. If a hearing is not requested, upon correction of all violations, the owner may request an inspection to reinstate the permit.

(a) Items that are considered substantial and imminent health hazards include the following:

1. During operation, disinfectant levels are less than the minimum given in Rule .17. If the level of the disinfectant used is not given in Rule .17, the disinfectant must be approved and kept at levels determined necessary by the health authority.

2. During operation, the pH is less than the minimum or more than the maximum levels allowed in Rule .17.

3. The pump, automatic disinfectant equipment or other equipment necessary for continuous filtration and disinfection of the swimming pool, spa or recreational water park attraction is not working.

4. The water turbidity is such that the main drain cover or a standard black and white disc laying on the bottom of the deepest portion of the pool cannot be seen.

5. **Fecal Incidents.** Fecal incidents shall be reported to the local health authority at the time the incident is noticed. The swimming pool will be closed for a period of time as calculated in the United States Environmental Protection Agency's (EPA) guidance manual, "Disinfection Profiling and Benchmarking." The closure time for the swimming pool shall be the time required to achieve the correct contact value (CT, mg-min/L) for a 3-log inactivation of Giardia cysts by free chlorine, at a pH of 6.0 to 9.0.

6. Other hazards as determined by the health authority.

(b) All other violations of items on the inspection report will be corrected as deemed appropriate by the health authority.

(c) In lieu of suspension or revocation of a permit, a swimming pool, spa or recreational water park attraction may be allowed to voluntarily close until such time as the violations are corrected.

(3) **Notice of Hearing.** For the purpose of this Chapter, a notice of hearing is properly served when delivered in person or by registered or certified mail to the owner or authorized agent of the swimming pool, spa or recreational water park.

(4) A swimming pool, spa or recreational water park shall not be placed in operation initially until appropriate inspections show compliance with the requirements of this Chapter with no items violated on the inspection report.

(5) The health authority shall inspect the swimming pool, spa, or recreational water park for compliance. Swimming pools, spas, or recreational water parks which open on or after April 1 and which close on or before October 31 shall be inspected at least once during the period of operation. All other swimming pools, spas, or recreational water parks shall be inspected at least twice each year. Additional inspections may be made as determined necessary by the health authority. The pool or spa operator shall receive a copy of the inspection and place it in a location protected from the weather in public view as designated by the health authority.

(6) **Inspection Report.** The inspection report used will be as adopted by the Georgia Department of Public Health.

(a) An unsatisfactory rating will be given when any substantial health hazard is violated as described in (2) (a) of this rule; when any two or more other items on the inspection report are violated or when any violation is repeated on a follow-up inspection.

(b) A satisfactory rating will be given when no more than one non-substantial health hazard is violated and when there are no repeated violations on a follow-up inspection.

(7) Representatives of the health authority, after proper identification, shall be permitted to enter any swimming pool or spa facility or property of any recreational water park at any reasonable time for the purpose of making inspections to determine compliance with this Chapter. Should access be denied, an inspection warrant may be obtained as authorized in Article 2 of O.C.G.A. Chapter 31-5.

[Authority: O.C.G.A. Secs. 31-2A-6, 31-12-8, 31-45-10. **History:** Original Rule entitled "Compliance Procedures" adopted. F. Oct. 15, 2013; eff. Nov. 4, 2013.]