REGULATIONS GOVERNING TOURIST ESTABLISHMENT SWIMMING POOLS AND OTHER PUBLIC POOLS.

PART I. General Provisions.

12 VAC 5-460-10. Definitions.

The following words and terms, when used, shall have the following meanings unless the context clearly indicates otherwise:

"Construction" means any construction, remodeling, or major alterations.

"Design load" means the maximum number of persons permitted in the pool at any given time, to be determined by dividing the total square footage of swimming pool water surface area by 27.

"Operator" or "manager" means the individual or individuals responsible for operation and management of the lodging facility and all of its facilities including the swimming pool.

"Person" means an individual, firm, corporation or association.

"State Health Commissioner" means the Commissioner of Health for the Commonwealth of Virginia.

"Swimming pool" shall mean any swimming, wading, or spray pool, including all appurtenant equipment, structures, and facilities provided for the use of guests by transient lodging establishments.

12 VAC 5-460-20. Local requirements.

In addition to the requirements of this chapter, all applicable local ordinances, including plumbing, building, electrical, and zoning ordinances shall also apply in the construction, maintenance, and operation of all swimming pools.

12 VAC 5-460-30. Permits.

A permit shall be obtained from the State Health Commissioner before the construction, remodeling, or major alteration of any swimming pool. Plans and specifications shall have been approved by the State Health

Commissioner prior to the issuance of such permit. Plans and specifications must be submitted in triplicate to the State Health Commissioner, and one set of plans and specifications, when approved, will be so stamped and returned to the applicant. Original tracings will not be stamped for approval.

PART II. Swimming Pools; Design and Construction.

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12 VAC 5-460-210. Filters.

12 VAC 5-460-220. Rate of flow indicators.

12 VAC 5-460-230. Suction cleaners.

12 VAC 5-460-240. Chemical feeding equipment.

12 VAC 5-460-250. Disinfection equipment.

12 VAC 5-460-40. Water supplies.

All water used in swimming pools shall be from sources that are approved by the State Health Commissioner. No piping arrangements shall exist which, under any conditions, will permit sewage or waste water to enter the swimming pool water system or water from the swimming pool to enter the make-up water supply.

12 VAC 5-460-50. Location.

The location of a pool shall in no way hinder the operation for which it is designed nor adversely affect the bathers' safety or water quality.

12 VAC 5-460-60. Materials of pool shell.

Swimming pool shells shall be constructed of reinforced concrete or its equivalent in strength and durability, designed and built to withstand anticipated stresses, water tight, and shall have smooth and easily cleanable surfaces. A white or light colored waterproof interior finish which will withstand repeated brushings, scrubbing, and cleaning procedures shall completely line the pool to the coping.

12 VAC 5-460-70. Shape and slopes.

The pool shall be designed and constructed of such shape, contour, etc., that efficient and safe control of the bathers can be accomplished. In water depths under five feet, the slope of the bottom shall not exceed one foot in 12 feet. Pool walls shall be vertical from the break point toward the deep end for at least three feet below the water line and vertical from the break point to the shallow end to within one foot of the finished floor of the pool.

12 VAC 5-460-80. Pool decks.

There shall be a deck at least four feet wide extending around the entire perimeter of the pool. The deck shall be constructed of concrete or other approved material. The material shall have a nonslip but smooth finish. The deck shall have a pitch of not less than 1/8 of an inch nor more than 5/8 of an inch to the foot and be so designed as to conduct drainage away from the pool area in a manner that will not create or maintain pools of water or a nuisance.

12 VAC 5-460-90. Fences.

All outdoor swimming pools shall be enclosed by a substantial barrier or fence of at least three feet in height to promote safety and cleanliness of water. A gate at least three feet in height and of material as substantial as the fence or barrier shall be provided.

12 VAC 5-460-100. Steps and ladders.

Two or more ladders shall be provided for all pools having a perimeter greater than 100 feet and one means of egress for pools having a perimeter of 100 feet or less. Steps projecting into the pool area are prohibited. Treads of all steps, ladders, or other means of ingress or egress shall be of nonslip construction. Each recessed step area shall be provided with one or more handrails.

12 VAC 5-460-110. Overflow facilities.

Provision shall be made for removal of floating material and scum from the surface of the water.

If a recessed type of gutter located near the top of the walls is to be used, the gutter shall have a minimum depth of three inches and shall be of a design that will permit satisfactory cleaning of the overflow channel. The gutter drain outlets shall be spaced around the pool not more than 15 feet on centers. The gutter bottom shall slope toward these outlets with a minimum slope of 1/8 of an inch to the foot. The drains shall not be less than 2 ½ inches in diameter and the total orifice area of the grating shall be at least twice the cross-sectional area of the outlet pipe.

For pools with overflowing gutters, a water level control tank shall be provided which will effectively provide for maintenance of the water level so as to produce constant surface skimming action at all times.

The above-described gutter may be replaced by an arrangement of overflow devices in the pool walls which provides the proper removal of scum and floating material. There shall be one such device for each 400 square feet of pool area with a minimum of four per pool, each of which shall be individually controlled.

If the recirculation system is designed for water to enter the bottom portion of the pool and overflow the top, then adequate drainage of the scum and floating material from the deck must be provided. This drainage may be by a continuous drain or multiple drains. (See also 12VAC 5-460-80.) In multiple drains, each drain grating shall have a total orifice area of as least four times the cross-sectional area of drainpipe, which shall have a minimum diameter of 2 ½ inches. In the use of drain channels, continuous to and around the perimeter of the pool, the channel grating shall be designed so as not to create a hazard to fingers and toes and be restraint to corrosion.

12 VAC 5-460-120. Inlets and outlets.

The inlets for recirculation shall be submerged and located to produce uniform circulation of water throughout the swimming pool without the existence of dead spots. Wall inlets should be located on not more than 20-foot centers entirely around the perimeter of the swimming pool. Bottom inlets shall be spaced, depending on the pool dimensions, so as to produce uniform water circulation. The number of bottom inlets shall be the same as required of wall inlets. Each inlet is to be designed as an adjustable orifice or provided with a valve.

An outlet drain shall be provided for completely emptying the swimming pool. Direct connection to a sanitary sewer shall not be permitted. Disposal of waste water to a storm sewer or natural watercourse shall be subject to approval of the State Health Commissioner. The outlet drain shall be covered with a grate of such design that it cannot be readily removed by, or produce any hazard to, the bathers.

12 VAC 5-460-130. Depth marking.

The depth of the water in the swimming pool shall be marked at every foot increment of depth in water depths five feet and under on both sides of the pool. In water deeper than five feet the markings need not be closer than three feet apart. Numerals and lettering shall be at least five inches in size and of good contrast with the walls and decks.

12 VAC 5-460-140. Diving boards.

At least 12 feet of free and obstructed headroom shall be provided above the diving boards.

The minimum depth of water in the diving area shall be determined as follows:

	Dimensions		
Elevation of diving point above water surface	Depth of water	End wall to maximum depth	Maximum depth to five feet
0 to 24 in. inclusive	8 ft.	12 ft.	12 ft.
24 in. to 30 in. inclusive	8 ft.	13 ft.	17 ft.
30 in. to 1 meter inclusive	8 ft. 6 in.	15 ft.	20 ft.
1 meter plus to 3 meters inclusive	10 ft.	15 ft.	20 ft.
3 meters to 5 meters	14 ft. 6 in.	17 ft.	23 ft.

The minimum length of any diving area terminating at a vertical wall shall be 30 feet.

Where multiple diving boards are used, the space between centerlines shall not be less than 10 feet, and the center of no board shall be closer than 10 feet to a sidewall. These dimensions shall apply both from a point of projection four feet from the end wall and the point of maximum depth.

The space between centerlines of three-meter and five-meter diving boards shall be not less than 15 feet and between five-meter and 10- meter boards shall be not less than 18 feet. The minimum distances from center lines of five-meter and 10-meter boards shall be the same as to the side walls.

12 VAC 5-460-150. Lighting.

Where pools are to be used after dark, the swimming pool area shall be equipped with lighting fixtures of such number and design as to light all parts of the pool, the water therein, and the entire area. Fixtures should be installed in such a manner as to create no hazard to the bathers. The design and installation of the fixtures should be such that lifeguards can clearly see every part of the swimming pool including decks, spring boards, and other appurtenances without being blinded by glare. If installed, submarine lights shall provide at least one watt per square foot of pool area. Each submarine light shall be properly connected to a ground wire.

12 VAC 5-460-160. Food and drink facilities.

Food and drink preparation, serving, consumption facilities shall be permitted only within designated areas approved for these purposes.

12 VAC 5-460-170. Recirculation systems.

All swimming pools shall be equipped with a recirculation system consisting of pumps, hair and lint catchers, filters, disinfection equipment, and necessary pipe connections to the inlets and outlets. Adequate provision shall be made for backwashing filters. Recirculation systems shall be designed for an eight hour or less turnover of the swimming pool water.

12 VAC 5-460-180. Filter rooms.

Any room containing the filtration equipment, pumps, and other recirculation system appurtenances shall be finished in a light color and be provided with adequate illumination and ventilation. The floor of the filter room shall be designed to provide adequate drainage. The provision of any facility for discharging filter backwashing water onto the filter floor is strictly prohibited, and adequate provision shall be made for the discharge of backwash water. All of the

recirculation equipment in filter rooms shall be installed so that it may easily be operated or repaired. All entrances below ground surface shall be by stairway and vertical door. Adequate headroom shall be provided above all filters. Belowground filter rooms shall be provided with mechanical ventilation.

12 VAC 5-460-190. Pumps.

Pumping equipment shall have sufficient capacity to discharge the volume of water for the required turnover of the pool against the maximum head in the recirculation system. The pump used for backwashing sand filters shall have sufficient capacity to backwash the unit at the rate of at least 12 gallons per minute per square foot of filter area against the maximum head developed during backwashing.

12 VAC 5-460-200. Hair and lint catchers.

Hair and lint catchers shall be installed ahead of the filter pump and be designed and located so that they can easily and simply be dismantled for cleaning and inspection.

12 VAC 5-460-210. Filters.

The recirculation system shall be equipped with a filtration system that will filter the entire contents of the swimming pool within eight hours or less at the rate of three gallons or less per square foot per minute. In sand filters, the layer of filter sand shall be at least 20 inches in depth, properly supported by uniform layers of clean graded gravel to a minimum depth of 12 inches or supported by porous plates. The filter sand shall have an effective size of between 0.45 and 0.55 millimeters with a uniformity co-efficient not greater than 1.7. In anthracite coal filters, the anthracite shall have a depth of at least 24 inches and shall have an effective size between 0.6 and 0.8 millimeters with a uniformity co-efficient of not greater than 1.8. Pressure filters shall be equipped with readily accessible air relief valves and access holes large enough to permit inspections, maintenance, and repair work. Each pressure filter system shall be equipped with a pressure gauge at least four inches in diameter on the inlet and outlet to indicate the pressure in pounds per square inch, and a sight glass that can be easily removed for cleaning shall be provided on the waste discharge line. Gravity type filters shall be equipped with loss of head gauges.

The filtration rate for diatomaceous earth filters and similar equipment may not exceed 1½ gallons per square foot of filter area with eight hours turnover of pool volume unless continuous slurry feed is provided, in which case, the rate shall not exceed three gallons per minute per square foot of filter area.

Arrangements or equipment shall be provided for application of filter aid and proper precoating and cleaning of filter elements. All filters shall be capable of being cleaned or backwashed by use of the washwater pump and the manipulation of valves. In view of the constant change of design of such equipment, it will be necessary to evaluate each system individually. Approval or rejection of systems will be at the discretion of the State Health Commissioner, based upon the need for protecting the health and safety of those using any such pool.

12 VAC 5-460-220. Rate of flow indicators.

Recirculation system shall be equipped with a rate of flow indicator reading in gallons per minute, located so as to indicate both the rate of flow of the effluent from the filter and the rate of backwash in gallons per minute in sand or anthracite coal filters.

12 VAC 5-460-230. Suction cleaners.

Suction cleaners shall be provided. Where the suction cleaner is operated by the recirculating pump, a device shall be provided for throttling the flow from the pool outlet, and the suction cleaner line shall be connected through the hair and lint catcher.

12 VAC 5-460-240. Chemical feeding equipment.

Means shall be provided for regulating the feeding of chemicals into the water in their circulation system. The installation of mechanically operated, positive, chemical feeders or open-type chemical machines is required. The installation of closed-type solution pots is prohibited.

12 VAC 5-460-250. Disinfection equipment.

All swimming pools shall be provided with approved chlorine feeding equipment. The chlorinating equipment shall be capable of applying a dose up to 6.0 ppm of chlorine at the rate of recirculation. Chlorine gas feeding equipment and chlorine gas cylinders shall be installed in an enclosed space or room separate from the filter room and equipped with a door capable of being locked. When this chlorinator room is tight, it shall be

equipped with a forced draft fan exhausting to the outside from the floor level, and a fresh air inlet shall be provided near the ceiling. Forced draft apparatus shall have sufficient capacity to exhaust the contents of the room in at least three minutes. The chlorine gas tanks shall be protected from direct sunlight and fastened in place during storage and use. An approved type gas mask shall be provided where chlorine gas is being utilized. Gas masks shall be located accessible to, but outside of, the chlorinator room.

Nothing in this section shall be construed as debarring any other method of disinfection or filtration equipment demonstrated to be of at least equal efficiency and approved by the State Health Commissioner.

12 VAC 5-460-260. Chemical testing equipment.

Each swimming pool shall be provided with satisfactory equipment for the determination of hydrogen-ion concentration (pH) ranging from 6.8 to 8.0. Satisfactory equipment shall also be provided for the determination of residual chlorine content ranging from 0.0 to 1.0.

12 VAC 5-460-270. Operating records.

Acceptable records of the operation of the swimming pool shall be maintained. These records shall include pH levels, free chlorine residual, water clarity, cleanliness, and such other things as may be required for the health and safety of the bathers. These records shall be kept on file for a period of one year.

12 VAC 5-460-280. Disinfection.

The chlorination equipment shall be operated so as to maintain a free chlorine residual content of not less than 0.5 ppm at all points throughout the swimming pool water when there are bathers present.

12 VAC 5-460-290. Alkalinity.

The hydrogen-ion concentration should be maintained at 7.2 or above.

12 VAC 5-460-300. Filtration; water clarity.

The filters should be operated 24 hours per day during the season of use of the swimming pool. At all times when the pool is open for use, the water shall be sufficiently clear to permit a disc six inches in diameter, divided into alternate black and white quadrants, when placed on the bottom of the pool at the deepest point, to be clearly visible from the swimming pool deck at all distances up to ten yards in a horizontal direction from the projection of the disc on the swimming pool surface.

Chemicals other than chlorine, sodium or calcium hypochlorite, lime, soda ash, and aluminum sulfate shall not be used to treat swimming pool water without permission.

12 VAC 5-460-310. Filter room placards.

A placard shall be prominently displayed showing the following data: (I) size of the swimming pool in feet and volume in gallons; (ii) capacity of the filters in square feet and gallons per minute; (iii) capacity of the pumps in gallons per minute at the appropriate head in feet; (iv) head loss at which the filters should be backwashed; and (v) complete instructions for operating the recirculation and disinfection equipment.

12 VAC 5-460-320. Lifeguards.

The management of any transient lodging establishment where a swimming pool has been provided for the use of guests shall designate and have on duty a reliable and competent person as a lifeguard and management shall further provide for the use of this lifeguard, such life saving equipment as may be required depending upon the size and depth of the pool.

12 VAC 5-460-330. Commissioner approval.

For any items not specifically covered in this chapter, the State Health Commissioner is authorized to require that all materials, methods of construction and design features shall be proven to function adequately, effectively and without excessive maintenance and operational difficulties before he grants approval thereof, and such approval shall be based upon the need for protecting the health and safety of those using swimming pools.

It shall be the duty of the applicant to provide such data, tests, or other adequate proof that the device,

material, or product will satisfactorily perform the function for which it is intended before such item shall be approved or accepted for tests.

12 VAC 5-460-340. Water supplies, lighting, overflow facilities, inlets and outlets.

See 12 VAC 5-460-40 & 12 VAC 5-460-150.

12 VAC 5-460-350. Location and slopes.

Wading pools shall be located so that drainage from surrounding areas will not wash contamination into pools during rainfall. The bottom of wading pools shall slope not less than three inches in 10 feet toward the drain.

12 VAC 5-460-360. Deck area.

Wading pools shall be entirely surrounded by a deck at least four feet in width. Decks shall be constructed of a permanently impervious material, which shall have and retain a finish as smooth as possible that is nonslip to bare feet. The deck shall slope not less than three inches in 10 feet away from the pool edge, and the water on the deck shall be discharged to waste.

12 VAC 5-460-370. Protection.

Wading pools and wading areas shall be separated from swimming pools by appropriate protectional features.

12 VAC 5-460-380. Water circulation systems.

A complete recirculation system shall be installed at wading pools, which cannot be served adequately by an adjacent swimming pool recirculation system. The recirculation system shall provide a pool volume turnover rate of once in three hours or less.

An alternate method to the water circulation system is the continuous addition of water properly treated at a rate of flow sufficient to replace all of the water in the wading pool once in three hours or less. The overflow water, with this method, shall be continuously discharged to waste.

12 VAC 5-460-390. Waste discharge.

See 12 VAC 5-460-120.

PART III. Spray Pools.

12 VAC 5-460-400. Water supplies.

12 VAC 5-460-410. Materials.

12 VAC 5-460-420. Slopes.

12 VAC 5-460-430. Drains.

12 VAC 5-460-440. Deck areas.

12 VAC 5-460-400. Water supplies.

Water sprayed into a pool shall be from an approved supply. Spray heads shall be installed so that there will be

no possibility of their submergence and, as a result of clogged drains.

12 VAC 5-460-410. Materials.

Spray pools shall be constructed of permanently impervious material, which shall have and retain a finish as smooth as possible that is nonslip to bare feet.

12 VAC 5-460-420. Slopes.

Spray pool bottoms shall slope not less than three inches in 10 feet toward the drains.

12 VAC 5-460-430. Drains.

Spray pools shall be equipped at low points with an unvalved drain to waste. The drain shall be of such size and design that water sprayed into the pool will not pond in the pool bottom.

12 VAC 5-460-440. Deck areas.

Spray pools shall be entirely surrounded by a deck at least four feet in width. Decks shall be constructed of a permanently impervious material, which shall have and retain a finish as smooth as possible and nonslip to bare feet. The deck shall slope not less than three inches in 10 feet away from the pool edge and the water on the deck discharged to waste.

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