Title 10 DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Subtitle 17 SWIMMING POOLS AND SPAS

Chapter 01 Public Swimming Pools and Spas

Authority: Health-General Article, §§2-102, 2-104, 18-102, and 20-303, Annotated Code of Maryland, and U.S.C. §8003

.01 Purpose and Scope.

A. The purpose of this chapter is to enact regulations that protect and promote the public health and safety of individuals at public spas and pools in Maryland. Public pools include limited public-use pools, recreational pools, and semipublic pools. Public spas include semipublic spas.

B. This chapter adopts construction standards, updates disinfection standards, recognizes certain new technologies and design concepts, and establishes minimum criteria for public pools and spas.

.02 Exclusions.

This chapter does not apply to a:

A. Private pool, except for a private pool defined as a limited public-use pool in Regulation .05B of this chapter;

B. Private spa;

C. Pool or spa that is completely emptied of water, disinfected, and refilled with water between each use and that is intended for use or used by a single individual during each use; or

D. Pool or a spa at a bed and breakfast, if the bed and breakfast facility has eight or fewer guest rooms.

.03 Previously Constructed Pools and Spas.

A. Except as provided in §C of this regulation, the owner of a pool or spa that was constructed before February 10, 1997 is exempt from bringing the pool or spa into compliance with:

(1) Regulations .13C, .14A(3), .17C, .18A(3), .22, .24, and .35 of this chapter; and

(2) Notwithstanding any exemption set forth at §A(1) of this regulation, the diving area dimensions of Regulation .27B of this chapter if the diving area is in compliance with American National Standard for Public Swimming Pools.

B. Except for Regulation .28 of this chapter, the owner of a pool or spa that was constructed before February 10, 1997:

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(1) Shall maintain the pool or spa, including appurtenant structures and equipment as originally constructed; and

(2) May complete a repair according to Regulation .06P that restores the pool or spa to its original condition before damage or deterioration without the component complying with the requirements of this chapter.

C. For a pool or spa that was constructed before February 10, 1997, the exemptions in §A of this regulation do not apply if:

(1) The pool or spa has a condition that jeopardizes the health or safety of the public, in which case the owner shall ensure that the condition is corrected to meet the requirements of this chapter;

(2) An owner intends to alter the pool or spa, including appurtenant structures and equipment, in which case the owner shall ensure that the alteration complies with the requirements of this chapter; or

(3) A suction outlet is not in compliance with Regulation .28 of this chapter, in which case the owner shall ensure that the suction outlet is altered to meet the requirements of Regulation .28 of this chapter for suction entrapment prevention.

.04 Documents Incorporated by Reference.

The following documents are incorporated by reference in this chapter:

A. American National Standard for Public Swimming Pools (ANSI/NSPI-1 2003) except Articles 6.5, 6.5.1, 6.6, 6.6.1, 6.6.2, 6.6.3, 6.8, 6.9.1, 6.9.3, 7.1.6, 7.1.7, 7.1.7.1, 8.1.1, 8.4.2.1, 8.4.2.3, 12.3.1, 12.3.2, 13.2.1, 13.2.3, 15.3, 17.4.1, 17.5.1, 18.6, and 22.2.1, and except that in Appendix E, the term "shall" is substituted for "should" whenever it appears;

B. American National Standard for Public Spas, (ANSI/NSPI-2 1999), except Articles 7.6 and 7.6.1;

C. Circulation System Components and Related Materials for Pools, Spas/Hot Tubs (ANSI/NSF Standard-50 1992);

D. American National Standard for Residential Inground Swimming Pools (ANSI/NSPI-5 1995) including Appendix E, Model Barrier Code for Residential Swimming Pools, Spas, and Hot Tubs;

E. American National Standard for Aboveground/Onground Residential Swimming Pools (ANSI/NSPI-4 1992); and

F. 15 U.S.C. §8003, as amended.

.05 Definitions.

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A. In this chapter, the following terms have the meanings indicated.

B. Terms Defined.

(1) Alteration.

(a) “Alteration” means to:

(i) Change or modify an equipment room, a bathhouse, a component, or the configuration of a pool or spa;

(ii) Move a component from one location or position to another; or

(iii) Install a new component.

(b) “Alteration” does not include a repair or replacement.

(2) "Approved" means found by the Secretary to be in satisfactory compliance with applicable statutes and regulations promulgated or enforced by the Secretary.

(3) "Barrier" means a fence or wall or a combination of a fence and wall that completely surrounds and obstructs access to the pool or spa.

(4) "Cfm" means cubic feet per minute.

(4-1) “Component” means:

(a) A piece of pool or spa equipment;

(b) A deck;

(c) A barrier;

(d) One or more skimmers;

(e) One or more filters, including piping and valves;

(f) A ventilation system;

(g) Lighting provided for water, deck, and walkways; or

(h) Pipe material for pool or spa water.

(5) "Gpm" means gallons per minute.

(6) "Lifeguard" means an individual who is 15 years old or older and who has a valid lifeguard certificate from:

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(a) The American Red Cross;

(b) The Boy Scouts of America, not including a lifeguard merit badge;

(c) The Young Men's Christian Association;

(d) Ellis and Associates' National Pool and Waterpark Lifeguard Training; or

(e) An organization with a lifesaving training program equivalent to that of the American Red Cross.

(7) Limited Public-Use Pool.

(a) "Limited public-use pool" means a private pool which is made available for use by:

(i) Children in family day care under the care of a family day care provider at a family day care home as defined in COMAR 07.04.01; or

(ii) An organized group, agency, or other person for swimming lessons or water safety training.

(b) "Limited public-use pool" does not include a pool that is emptied of water, disinfected, and refilled with water between each use.

(8) "Make-up water" means the potable water used to maintain the water level in a pool or a spa.

(9) "NSF" means the National Sanitation Foundation International.

(10) "NSPI" means the National Spa and Pool Institute.

(11) "Operator" means a person who supervises, controls, conducts, or manages the operation of a pool or spa.

(12) "Owner" means a person who has a legal interest in a pool or a spa or in the property on which a pool or a spa is or is to be constructed or altered, or the owner's agent.

(13) "Person" means an individual, receiver, trustee, guardian, personal representative, fiduciary, or representative of any kind and any partnership, firm, association, corporation, or other entity.

(14) "PHMB" means polyiminoimidocarbonyliminoimidocarbonyliminohexamethylene hydrochloride.

(15) "Pool" means an artificial enclosure of water that is used for the immersion of the human body for recreation, therapy, or exercise, including a structure that is installed in the ground, above ground, outside, or in a building or portable structure.

(16) "Ppm" means parts per million.

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(17) Private Pool and Private Spa.

(a) "Private pool" and "private spa" mean a pool or spa that is:

(i) Not open to the public;

(ii) On a property on which not more than four private residences are located; and

(iii) Used exclusively by the residents of the property and nonpaying individuals invited to use the pool or spa by a resident.

(b) "Private pool" and "private spa" include a pool or spa at a private residence used for short-term rentals including weekly, monthly, or seasonal rentals.

(18) Public Pool and Public Spa.

(a) "Public pool" and "public spa" mean a pool or spa that is not a private pool or spa.

(b) "Public pool" includes a:

(i) Limited public-use pool, as defined in §B(7) of this regulation;

(ii) Recreational pool as defined in §B(19) of this regulation; and

(iii) Semipublic pool, as defined in §B(23) of this regulation.

(c) “Public spa” includes a semipublic spa, as defined in §B(23) of this regulation.

(19) “Recreational pool” means a pool that:

(a) Is not a limited public-use pool, private pool, or semipublic pool, as defined in §B(7), (17), and (23) of this regulation;

(b) Is provided as the owner's primary business or the facility's primary purpose, for example, a swim club or similar facility;

(c) Is open for general admission to the public;

(d) Is available to an individual paying a fee for use of the pool;

(e) Is equipped with a sliding board, diving platform, water slide, water flume, or water recreational play equipment that is built into or attached to the pool structure;

(f) Is provided by, or used by a:

(i) Youth camp;

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(ii) College, university, or school;

(iii) Municipality;

(iv) Water park, amusement park, or water recreational attraction as defined in §B(34) of this regulation; or

(v) An apartment complex, housing subdivision, or mobile home park with more than ten units, except as provided in §B(23)(a)(v) of this regulation; or

(g) Is used more than 4 times a week for swimming lessons, water safety instruction, or swimming competition.

(20) Repair.

(a) "Repair" means substituting a component having the same make and model as the previously approved component for the previously approved component.

(b) "Repair" does not include:

(i) Replacements;

(ii) Alterations;

(iii) Installation of additional equipment; or

(iv) Substitutions involving a component which do not meet the requirements of this chapter.

(20-1) Replacement.

(a) "Replacement" means substituting a component, which has a different make or model but has the same operating characteristics and certifications as the previously approved component, for the previously approved component.

(b) "Replacement" does not include:

(i) Repairs;

(ii) Substitutions involving a pump;

(iii) Substitutions involving a suction outlet sump or cover;

(iv) Alterations;

(v) Installation of additional equipment; or

(vi) Substitutions involving a component which do not meet the requirements of this chapter.

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(21) "Safety vacuum release system" means a vacuum release system that:

(a) Is capable of providing vacuum release at a suction outlet caused by a high vacuum occurrence due to a suction outlet flow blockage; and

(b) Complies with 15 U.S.C. §8003.

(22) "Secretary" means the Secretary of Health and Mental Hygiene or the Secretary's designee, including a local health officer.

(23) "Semipublic pool" and "semipublic spa" mean a pool or spa at a facility that:

(a) Has pool use or spa use restricted to an individual:

(i) Staying at the facility, where the facility is a temporary dwelling, including a hotel, motel, campground, bed and breakfast having nine or more guest rooms, or similar temporary dwelling;

(ii) Holding membership at the facility, where the facility is an adult health club, retirement community, marina, condominium, or similar facility;

(iii) Residing at an apartment complex, housing subdivision, or mobile home park with ten units or less;

(iv) Receiving treatment at a physical therapy center pool, or spa, where the pool or spa is used for providing therapy; or

(v) Who is the owner or an owner of the pool or spa; and

(b) Has a pool or spa that is not:

(i) Open for admission to the general public, except as provided in §B(23)(a) of this regulation;

(ii) Available to an individual upon the payment of a fee for the use of the pool and spa;

(iii) A limited public-use pool, a private pool, a private spa, or a recreational pool, as defined in §B(7), (17), and (18) of this regulation;

(iv) Equipped with a sliding board, diving platform, water slide, water flume, or water recreational play equipment that is built into or attached to the pool structure; and

(v) At a bed and breakfast that has eight or fewer guest rooms.

(24) "Shallow" means 5 feet or less in depth.

(25) "Spa" means a pool, hot tub, or whirlpool that is:

(a) Primarily designed for relaxation or therapeutic use and not for swimming;

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(b) Not more than 4 feet in depth;

(c) Equipped with built-in seats or benches; and

(d) Usually equipped with hydrotherapy jets, heated water, an air injection system, or some combination of these features.

(26) "Spray pool" means a shallow pool into which treated water is sprayed but not allowed to accumulate.

(27) "Swimming pool slide" means a device less than 10 feet in height that an individual may use to enter a pool by sliding down an inclined plane.

(28) "Swim spa" means a spa designed to create a current of water against which an individual may swim for exercise or therapy.

(29) "Therapy pool" means a pool that is exclusively used in the physical treatment of a disease, injury, or disorder.

(30) "Total dynamic head" means the hydraulic calculation of the resistance to flow in a circulation system based on the Hazen-Williams formula in Regulation .25C(1)(a) of this chapter.

(31) "Tube ride" means a pool designed to move an individual on a tube, raft, or other floating support along a channel filled with water.

(32) "Turnover rate" means the time required to circulate a quantity of water equal to the pool or spa volume.

(33) "Unblockable drain" means a drain of any size and shape that:

(a) A human body cannot sufficiently block to create a suction entrapment hazard;

(b) Has the minimum dimensions of 18 inches by 23 inches; and

(34) "User load" means the maximum number of individuals allowed in a pool or spa, as determined by the Secretary, for sanitary purposes, based on the water surface area and water depths.

(35) "Wading pool" means a pool with a water depth of 24 inches or less that is intended for use by children.

(36) Water Recreational Attraction.

(a) "Water recreational attraction" means a pool with special water circulation and operational features or unconventional design and operational features which provide patron recreational

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activity different from that associated with a conventional swimming pool, and which purposefully involves total or partial immersion in the water.

(b) "Water recreational attraction" includes but is not limited to a:

(i) Shallow water pool with permanently installed water play equipment;

(ii) Spray pool;

(iii) Tube ride;

(iv) Water slide; and

(v) Wave pool.

(c) "Water recreational attraction" does not include a pool with limited water features such as a deck-mounted sliding board or a raindrop feature.

(37) "Water slide" means a water-contact amusement ride when the height of the slide is 10 feet or more.

(38) "Wave pool" means a pool designed with mechanical or hydraulic apparatus to generate waves in the pool.

.06 Construction, Alteration, and Replacement Permits for Recreational Pools, Semipublic Pools, and Public Spas.

A. An owner who intends to construct or alter a recreational pool, semipublic pool, or public spa or replace a public pool or spa component shall obtain a construction, alteration, or replacement permit from the Secretary before beginning construction, alteration, or replacement work.

B. An owner may not construct or alter a recreational pool, semipublic pool, or public spa or replace a public pool or spa component without a construction, alteration, or replacement permit.

C. To obtain a construction, alteration, or replacement permit, an owner shall submit to the Secretary:

(1) An application for a construction, alteration, or replacement permit on an application form provided by the Secretary that includes:

(a) The full names and addresses of the owner and authorized agents of the owner who may act on the owner's behalf during the construction or alteration of the pool or spa, or the replacement of the public pool or spa component;

(b) A statement saying "I hereby acknowledge that all items either listed or shown in these plans and specifications as not in contract, by others, or equivalent, are my responsibility. I also realize that this entire project must be completed in accordance with the approved plans and

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specifications and all conditions listed in the construction, alteration, or replacement permit and meet the requirements of this chapter prior to the issuance of an operating permit by the Secretary"; and

(c) The owner's signature, which:

(i) Indicates the owner has supplied the correct information on and with the application; and

(ii) Is in agreement with the statement set forth in §C(1)(b) of this regulation; and

(2) Plans and specifications for the construction, alteration, or replacement which:

(a) Are prepared by a licensed or certified professional engineer, architect, draftsman, or a person with extensive experience in the design of pools and spas;

(b) Are drawn to scale, in a professional and accurate manner, with sufficient clarity and detailed dimensions to show the nature and character of the work to be performed; and

(c) Include specific information on the quality or performance of the material or equipment when necessary to establish conformance with this chapter.

D. Except for an alteration or replacement, an owner shall ensure that the plans and specifications required in §C of this regulation include the following:

(1) Site plan with contours;

(2) Building plan;

(3) Pool or spa layout plan, sectional views, and appurtenant equipment;

(4) Pool or spa piping layout plan;

(5) Deck and barrier plan;

(6) Filter room layout plan with the location of equipment and piping;

(7) Ventilation plan;

(8) Bathhouse plan;

(9) Lighting plan;

(10) Potable water supply plumbing diagram;

(11) Waste disposal plumbing diagram;

(12) Finish schedules;

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(13) Equipment and material specifications;

(14) Head loss calculations;

(15) Pump performance curve;

(16) Waste water disposal site;

(17) Chemical storage plan; and

(18) Any information, including material samples, necessary to determine if the plans and specifications comply with criteria set forth in this chapter.

E. An owner shall ensure that, for an alteration or replacement, the plans and specifications required in §C of this regulation include the information that pertains to the alteration or replacement.

F. An owner shall obtain necessary local zoning approval and building, electrical, plumbing, and other applicable local permits before beginning construction or alteration of a recreational pool, semipublic pool, or public spa or replacement of a public pool or spa component.

G. Before issuing a construction, alteration, or replacement permit, the Secretary may require changes in the design of the facilities if the design does not meet the criteria set forth in this chapter.

H. Upon an owner's compliance with the provisions of this chapter, the Secretary shall approve the plans and specifications and issue a construction, alteration, or replacement permit, which is valid for the start of the construction, alteration, or replacement for 1 year from the date of issue and for 1 additional year from the date construction, alteration, or replacement begins.

I. The local county health officer may not approve a local building permit for recreational pool, semipublic pool, or public spa construction, alteration, or replacement until the plans and specifications for pool or spa construction or alteration, or the replacement of a public pool or spa component have been approved by the Secretary.

J. The Secretary shall review the plans and application and shall approve or deny issuance of a construction, alteration, or replacement permit within 30 days of receipt of the application.

K. If plans are submitted that are not in compliance with the requirements of this chapter, the Secretary shall disapprove the plans and deny the issuance of a construction, alteration or replacement permit.

L. An owner may not deviate from the approved plans and specifications for construction, alteration, or replacement at a recreational pool, semipublic pool, or public spa unless revised plans are submitted to and approved in writing by the Secretary.

M. If a recreational pool, semipublic pool, or public spa is not being constructed or altered or components are not being replaced in accordance with the approved plans, the Secretary may

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revoke the construction, alteration, or replacement permit for the construction, alteration, or replacement and the owner immediately shall cease construction, alteration, or replacement.

N. If the Secretary denies the issuance of a construction, alteration, or replacement permit as set forth in §K of this regulation, or revokes a construction, alteration, or replacement permit as set forth in §M of this regulation, the Secretary shall notify the owner in writing:

(1) Of the reason or reasons for the denial or revocation;

(2) That the owner may request from the Secretary an opportunity for a hearing on the denial or revocation pursuant to State Government Article, Title 10, Subtitle 2, Annotated Code of Maryland, if the owner wishes to contest the denial or revocation; and

(3) That to preserve the right to a hearing, the owner shall contact the Department within 30 days of the receipt of the notice of denial or revocation.

O. An owner shall ensure that a construction, alteration, or replacement permit is posted in a conspicuous location at the site of construction, alteration, or replacement.

P. An owner may make a repair to a previously approved structure, component, or piece of equipment in accordance with this chapter without:

(1) Obtaining a construction, alteration or replacement permit from the Secretary; or

(2) Notifying the Secretary.

.07 Permit for Construction of Part of a Recreational Pool, Semipublic Pool, or Public Spa.

A. An owner may request a permit for construction of part of a recreational pool, semipublic pool, or public spa by submitting to the Secretary:

(1) A detailed written explanation of why construction plans for the entire pool or spa cannot be submitted;

(2) Plans, information, and statements as required in Regulation .06 of this chapter that pertain to the construction of part of a recreational pool, semipublic pool, or public spa;

(3) A site plan;

(4) Information regarding the proposed water supply and waste disposal system; and

(5) A signed statement indicating that the permit holder for construction of part of a recreational pool, semipublic pool, or public spa will be proceeding at the owner's risk without the assurance that a permit for the construction of the rest of the pool or spa will be granted.

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B. Upon an owner's compliance with the provisions of this chapter and local codes, the Secretary shall approve the plans and issue a permit for construction of part of a recreational pool, semipublic pool, or public spa.

C. If a person submits plans for the construction of part of a recreational pool, semipublic pool, or public spa that are not in compliance with the provisions of this chapter, or if a local code prohibits the issuance of a permit for partial construction, the Secretary shall disapprove the plans and deny a permit for the construction in accordance with Regulation .06 of this chapter.

D. A person may not operate a recreational pool, semipublic pool, or public spa until the entire project has been constructed and approved in accordance with Regulations .06-----.09 of this chapter.

.08 Approval After Construction, Alteration, or Replacement.

A. After construction, alteration, or replacement of a component at a recreational pool, semipublic pool, or public spa is completed, the owner shall contact the Secretary for approval of the pool or spa within 30 days.

B. A person may not operate or permit the use of a recreational pool, semipublic pool, or public spa that has not received written approval from the Secretary after its alteration or construction.

C. A person may operate or permit the use of a recreational pool, semipublic pool, or public spa for 30 days after completing the replacement of a public pool or spa component without receiving a final inspection and written approval from the Secretary.

D. The Secretary shall conduct an inspection or inspections to ensure that a recreational pool, semipublic pool, or public spa is constructed or altered, or that a public pool or spa component is replaced according to the approved plans and meets the requirements of this chapter, and shall:

(1) Grant written approval for the pool or spa if it was constructed or altered, or a public pool or spa component was replaced according to the approved plans, meets the requirements of this chapter, and the owner has received local approval for any building, electrical, plumbing, or other work that requires a local permit; or

(2) Deny approval for the pool or spa if it was not constructed or altered, or a public pool or spa component was not replaced according to the approved plans, does not meet the requirements of this chapter, or the owner has not received local approval for any building, electrical, plumbing, or other work that requires a local permit.

E. The Secretary shall grant written approval or deny approval of the completed construction, alteration, or replacement of a public pool or spa component within 30 days of receipt of notice of completion from the owner.

F. If minor items that do not affect the health or safety of the public need to be corrected, the Secretary may issue a partial approval for the pool or spa after construction, alteration, or replacement of a public pool or spa component pending full compliance according to the following conditions:

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(1) The owner shall fully comply with this chapter by the end of the 30-day period in order to obtain written approval of the recreational pool, semipublic pool, or public spa; and

(2) If at the end of the 30-day period, the Secretary is unable to approve the recreational pool, semipublic pool, or public spa pursuant to §C of this regulation, the Secretary shall disapprove the construction or alteration.

G. If the Secretary does not grant approval for the pool or spa after it is constructed or altered, or a public pool or spa component is replaced, the Secretary shall notify the owner in writing:

(1) Of the reason or reasons for the disapproval;

(2) That the person may request from the Secretary an opportunity for a hearing on the disapproval pursuant to State Government Article, Title 10, Subtitle 2, Annotated Code of Maryland, if the person wishes to contest the disapproval; and

(3) That to preserve the right to a hearing, the person shall contact the Secretary within 30 days of the receipt of the notice of disapproval.

.09 Permits for Operation.

A. A person may not operate a public pool or spa without an annual operating permit issued by the Secretary, except that in the case of a pool or spa that has received a partial approval of construction or alteration pursuant to Regulation .08E of this chapter, the Secretary may issue a nontransferrable 30-day permit for the temporary operation of the pool or spa.

B. On an application form provided by the Secretary, a person shall apply to the Secretary for a permit to operate a public pool or spa at least 30 days before the pool or spa is scheduled to open for use for the first time and 30 days before a previous permit expires.

C. The Secretary shall:

(1) Issue a nontransferable permit to an owner whose public pool or spa is in compliance with this chapter; and

(2) When a public pool or spa does not meet the requirements of this chapter, deny the permit within 30 days by notifying the owner in writing:

(a) Of the reason or reasons for the denial,

(b) Of the action to be taken in order for the pool or spa to qualify for a permit,

(c) That the owner may request from the Secretary an opportunity for a hearing on this denial pursuant to State Government Article, Title 10, Subtitle 2, Annotated Code of Maryland, and

(d) That to preserve the right to a hearing, the person shall contact the Secretary within 30 days of the receipt of the notice of denial.

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D. A person who operates a public pool or spa shall post the operating permit in a conspicuous place at the pool or spa site.

.10 Suspension or Revocation of an Operating Permit.

A. Suspension.

(1) The Secretary may:

(a) Suspend an operating permit if an owner or operator violates a requirement of this chapter; and

(b) Summarily suspend an operating permit and close a public pool or spa when protection of the public health, safety, or welfare imperatively requires emergency action.

(2) The Secretary may summarily suspend an operating permit pursuant to §A(1)(b) of this regulation for any of the following:

(a) Residual disinfection levels in violation of Regulation .44 of this chapter;

(b) Sanitary water quality in violation of Regulation .48 of this chapter;

(c) Water pH in violation of Regulation .45A(1) of this chapter;

(d) Water clarity in violation of Regulation .45A(7) of this chapter;

(e) A malfunctioning or nonworking recirculation or disinfection system;

(f) A condition that may endanger the health and safety of an individual using a pool or spa, for example, a missing drain cover or other suction outlet entrapment hazard; and

(g) A lifeguard has not been provided as required in Regulation .40 of this chapter.

B. Revocation. The Secretary may revoke a permit upon a repeated violation of a requirement of this chapter.

C. Hearing.

(1) In the case of the summary suspension of a permit pursuant to §A(1)(b) of this regulation, the Secretary shall provide a person with written notice of the violation and an opportunity for a hearing pursuant to State Government Article, Title 10, Subtitle 2, Annotated Code of Maryland.

(2) In the case of a permit suspension pursuant to §A(1)(a) of this regulation or a permit revocation pursuant to §B of this regulation, before taking action against a person, the Secretary shall provide written notice of the facts that warrant the suspension or revocation and an opportunity for a hearing before suspending or revoking the permit.

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(3) To preserve a right to a hearing, a person shall contact the Secretary within 30 days of the receipt of the notice.

.11 Inspections and Right of Entry.

A. The Secretary may enter, at a reasonable time, public or private property for inspecting and investigating conditions relative to the enforcement of this chapter.

B. A person may not deny or interfere with the Secretary's entry onto public or private property to inspect or to take enforcement action pursuant to this chapter.

.12 Conflict of Regulations.

An owner shall comply with:

A. The provision that establishes a higher standard for the promotion and protection of public health and safety if a provision of this chapter is in conflict with a local code, ordinance, statute, or other regulation; and

B. This chapter if there is a conflict between this chapter and the provisions of American National Standard for Public Swimming Pools or the American National Standard for Public Spas.

.13 Standards for Recreational and Semipublic Pools.

An owner shall ensure that an existing, newly built, or altered recreational or semipublic pool is in compliance with:

A. This chapter;

B. Applicable State and local codes; and

C. The American National Standard for Public Swimming Pools.

.14 Standards for Public Spas.

A. An owner shall ensure that an existing, newly built, or altered public spa is in compliance with:

(1) This chapter;

(2) Applicable State and local codes; and

(3) The American National Standard for Public Spas.

B. An owner shall ensure that a swim spa has:

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(1) Clearly identified controls for the swim jets; and

(2) A shut-off switch for the swim jets that is accessible from within the swim spa.

C. An owner shall ensure that a spa hydrojet circulation system:

(1) Is not connected to a spa filtration system; and

(2) Has a shut-off switch.

.15 Standards for Limited Public-Use Pools.

A. An owner of a limited public-use pool shall ensure that:

(1) The construction of the pool is in compliance with:

(a) The American National Standard for Residential Inground Swimming Pools, if the pool is constructed in the ground or as a permanent structure in a building; or

(b) The American National Standard for Aboveground/Onground Residential Swimming Pools, if the pool is removable and located above ground or on ground;

(2) The barrier around the pool is in compliance with:

(a) Appendix E of the American National Standard for Residential Inground Swimming Pools, if the pool is used by a family day care home; or

(b) Local building codes, if the pool is donated for use by an organized group, agency, or other person for swimming lessons or water safety training;

(3) The pool and the operation of the pool are in compliance with Regulations .01—.05, .09—.12, .15, .19—.20, .24, .25B(3), .28, .31, .34, .37—.41, and .43—.54 of this chapter;

(4) The circulation system includes a properly sized flow meter to indicate the rate of flow;

(5) The dimensions of a diving area are:

(a) In conformance with Regulation .27B of this chapter; or

(b) If the diving area does not conform to Regulation .27B, the diving equipment is restricted from use by temporary barriers or is removed;

(6) A suction outlet is in compliance with Regulation .28 of this chapter to prevent suction entrapment;

(7) The following safety equipment is immediately available:

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(a) A first aid kit as recommended by the American Red Cross;

(b) A mouth piece for CPR;

(c) Disposable latex plastic gloves;

(d) A light, strong rescue pole with a rescue hook designed for lifesaving;

(e) A rescue tube for each lifeguard, if a lifeguard is on duty; and

(f) A telephone for reaching 911 emergency service and the telephone location posted with the:

(i) Name and phone number of the nearest available police, fire, and ambulance or rescue unit,

(ii) Name of the facility or the name of the owner of the property where the pool is located, and

(iii) Location of the pool;

(8) An individual certified in cardiopulmonary resuscitation (CPR) for the professional rescuer and certified in first aid is on duty while the pool is in use;

(9) Pool chemicals are used and stored in accordance with manufacturers' directions and the material safety data sheet for a particular chemical; and

(10) The pool has backflow protection:

(a) For a potable water supply, in conformance with COMAR 09.20.01, and

(b) For waste water, in conformance with COMAR 09.20.01.

B. An owner of a family day care home using a limited public-use pool shall ensure that water safety supervision is provided in compliance with COMAR 07.04.01.22.

C. An organized group, agency, or other person using a limited public-use pool for swimming lessons or water safety training shall ensure that water safety supervision is provided as follows:

(1) An individual certified as an American Red Cross Water Safety Instructor, or with an equivalent certification that has been approved by the Secretary, is on site to conduct swimming lessons or water safety training; and

(2) Aquatic rescue staff are on site as follows:

(a) An individual certified in American Red Cross Basic Water Rescue, or with equivalent certification as approved by the Secretary, for each ten bathers, or fraction of ten bathers, if the pool:

(i) Is no more than 3 1/2 feet in depth at the shallow end of the swimming area,

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(ii) Is no more than 5 feet in depth at the deepest point,

(iii) Has a rescue pole that can be practically used to reach beyond the midpoint of the pool and can be used within the pool enclosure without an obstruction, such as a wall or tall fencing, that restricts the use of the pole, and

(iv) Has no diving board, sliding board, or recreational play equipment, or the equipment is blocked off to restrict use; or

(b) An individual certified in American Red Cross Lifeguarding, or with an equivalent certification as approved by the Secretary, for each 25 bathers, or fraction of 25 bathers, if the pool:

(i) Is more than 3 1/2 feet in depth at the shallow end of the swimming area,

(ii) Has an area more than 5 feet in depth at the deepest point,

(iii) Does not have a rescue pole that can be practically used to reach beyond the midpoint of the pool, or an obstruction, such as a wall or tall fencing, exists within the pool enclosure that restricts the use of the pole, or

(iv) Has a diving board, a sliding board, or recreational play equipment that is not blocked off to restrict use.

D. This regulation does not prohibit an organized group, agency, or other person using a limited public-use pool for swimming lessons or water safety training from providing the portable safety equipment, aquatic safety personnel, pool operator, test kits, or other materials required for a limited public-use pool, to meet the requirements of this chapter.

.16 Standards for Water Recreational Attractions.

An owner shall ensure that:

A. A water recreational attraction:

(1) Is designed to eliminate or minimize safety hazards such as entrapment, slipping, abrasions, cuts, falls, trip hazards, impact injury, and drowning;

(2) Is in compliance with applicable State and local codes and this chapter; and

(3) Has a communication system for use by supervisors, watchers, and lifeguards;

B. Plans for supervision, attendants, and lifeguards are submitted as part of the construction plans and include safety personnel at all potentially hazardous activity areas;

C. A swimming pool slide is in conformance with the American National Standard for Public Swimming Pools and has:

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(1) Attachments that firmly anchor the swimming pool slide;

(2) At the end of the slide a minimum water depth of:

(a) 4 feet, or a water depth in conformance with the manufacturer's installation instructions, for a distance of 10 feet along the slide centerline for a swimming pool slide that does not slow an individual's entry into the water or that drops the individual into the water; or

(b) 6 inches, or a water depth in conformance with the manufacturer's installation instructions, for a swimming pool slide designed to slow an individual to a near stop at the end of the slide;

(3) A cushioned landing mat below the end of a swimming pool slide if there is a potential for impact or abrasion injury;

(4) A centerline distance from the end of a slide to a wall, lifeline, transition point, centerline from another slide, or obstruction that eliminates the potential for an individual using the slide to strike a wall, lifeline, transition point, an individual using another slide, or an obstruction;

(5) A minimum side distance of 4 feet from the centerline of a slide to a wall, lifeline, transition point, or obstruction;

(6) A design that eliminates the potential for an individual to strike the pool deck or coping while traveling down the swimming pool slide;

(7) A slide end that extends beyond the pool wall, deck, and coping; and

(8) A minimum side distance of 12 feet between the centerline of a slide and a diving board, diving platform, or starting block;

D. A water slide:

(1) Complies with the conditions set forth at COMAR 09.12.63 as evidenced by written documentation from:

(a) The Department of Labor, Licensing, and Regulation; or

(b) If the water slide is not subject to regulation by the Department of Labor, Licensing, and Regulation, a registered professional engineer who certifies that the water slide meets the design criteria set forth at COMAR 09.12.63.07; and

(2) Exits to a plunge pool or slide runout;

E. A wave pool is provided with an emergency shut-off switch at each guard station;

F. A tube ride has designated entry and exit points;

G. A spray pool has:

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(1) A bottom that slopes from 1/4 inch per foot to 5/8 inch per foot to a drain with grate;

(2) No standing water; and

(3) No obstruction less than 4 feet in height;

H. A single-lane pool used for swimming laps has:

(1) A minimum width of 7 1/2 feet; and

(2) A sign on the deck that reads, "Warning: No Diving—Shallow Water" if the water depth is 5 feet or less;

I. A decorative fountain or waterfall installed in or connected to a pool or spa does not create a health or safety hazard;

J. A spray fixture, fountain, piece of play equipment, bridge, ramp, stair, float, swing, or other recreational equipment located within a pool or spa:

(1) Is designed to eliminate or minimize safety hazards such as entrapment, concealment, slipping, abrasions, cuts, punctures, falls, trip hazards, impact injury, and drowning;

(2) Is limited to a shallow water area;

(3) Has a color that contrasts with the pool or spa so that the structure is highly visible;

(4) Has pipes or support columns that are at least 6 inches in diameter;

(5) Is provided with an overhead clearance of at least 7 feet from the pool floor and 4 feet from the water surface where a person may walk under the fixture;

(6) Is provided with recirculated, treated pool water for a spray, stream, or other flow of water; and

(7) Is installed according to the manufacturer's directions;

K. The water surface is maintained at a level that allows the surface overflow system to operate properly;

L. At least two interconnected main drains are installed in the deepest part of a pool and are connected to the filtration system;

M. A pump reservoir or surge tank is provided for a slide or water feature circulation pump intake and:

(1) Is made of concrete or other impervious material with a smooth slip-resistant finish;

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(2) Has inlets through a weir or a gravity-fed drain with a secure grate;

(3) Has a volume equal to 2 minutes of the combined flow of all pumps connected to the reservoir or tank;

(4) Is accessible only to authorized individuals;

(5) Has pump intakes located in the pump reservoir that are designed to allow cleaning without danger of entrapment; and

(6) The water velocity through grate or drain openings does not exceed 2 feet per second;

N. A slide or water feature circulation pump has a check valve on the discharge side; and

O. Returns from a filtration system are placed to provide even and positive circulation and to eliminate any dead spots.

.17 Standards for Public Wading Pools.

An owner shall ensure that a public wading pool is in compliance with:

A. This chapter;

B. Applicable State and local codes;

C. The American National Standard for Public Swimming Pools; and

D. Article 10.6 of the American National Standard for Public Spas.

.18 Standards for Public Therapy Pools.

An owner shall ensure that a public therapy pool:

A. Is in compliance with:

(1) This chapter;

(2) Applicable State and local codes; and

(3) The American National Standard for Public Swimming Pools;

B. Has:

(1) A deck with a minimum width of 4 feet around at least 50 percent of the therapy pool that provides access to individuals using the therapy pool, not including any ramp, entrance area, or exercise area; and

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(2) A transition area between a shallow and a deep area that has:

(a) A floor slope that does not exceed 1 foot of drop to 3 feet of run; or

(b) Steps or ramps with handrails or a swing lift to transfer bathers from a shallow area to a deep area; and

C. Is used only for the purpose of supervised therapy.

.19 User Load.

A. The Secretary shall determine the user load, as defined in Regulation .05B(32) of this chapter, based on the following criteria:

(1) For a pool and its deck, one individual is allowed for:

(a) Every 12 square feet of water surface in shallow areas,

(b) Every 15 square feet of water surface in areas exceeding 5 feet of water depth, excluding a diving area, and

(c) The 300 square-foot diving area required for each diving board or diving platform;

(2) For a spa, one individual is allowed for every 9 square feet of water surface; and

(3) For a therapy pool, one individual is allowed for every:

(a) Therapy station, or

(b) 20 square feet of water surface, whichever is less.

B. An owner shall ensure that the:

(1) Number of individuals in a pool or spa and on the required deck area does not exceed the user load as set forth in §A of this regulation;

(2) Number of individuals using an enclosed pool or spa area or a spectator area is in conformance with local fire code requirements; and

(3) User load of a pool or spa is posted in a conspicuous place at the pool or spa.

.20 Public Pool or Spa Site.

An owner shall ensure that a public pool or spa site:

A. Drains away from the pool or spa area;

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B. Has water and waste water facilities that conform to the requirements of:

(1) COMAR 09.20.01,

(2) COMAR 26.04.01-----26.04.04, and

(3) Local plumbing code requirements;

C. Has a walkway between a pool or spa and appurtenant buildings such as a bathhouse or equipment room; and

D. Complies with applicable State and local codes.

.21 Barriers.

A. Except as set forth in §§B, C, and D of this regulation, an owner shall ensure that a recreational pool, semipublic pool, or public spa, including the required deck area, is completely surrounded by a barrier that complies with the following requirements:

(1) The top of the barrier is at least 72 inches above grade measured on the side of the barrier that faces away from the pool or spa;

(2) The maximum vertical clearance between grade and the bottom of the barrier is 4 inches measured on the side of the barrier that faces away from the pool or spa;

(3) Except when the entrance gate is open, an opening in the barrier and in the gate does not allow passage of a sphere 4 inches in diameter;

(4) Fence pickets have a maximum separation of 4 inches;

(5) The barrier does not have openings or footholds that make the barrier easy to climb;

(6) A barrier with horizontal members less than 45 inches apart measured top to top does not have:

(a) Vertical openings greater than 1-3/4 inches in width; and

(b) Horizontal members on the outside of the barrier;

(7) The barrier does not have decorative cutouts greater than 1-3/4 inches in width;

(8) A chain link fence has a maximum mesh size of 2-1/4 inches;

(9) A lattice fence has a maximum mesh size of 1-3/4 inches;

(10) The barrier main access gate:

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(a) Is located toward the shallow end of a pool;

(b) Has a latch release located at least 54 inches from grade level;

(c) Is lockable;

(d) Is hung to open away from the pool or spa;

(e) Has a minimum width of 4 feet; and

(f) Complies with Regulation .37 of this chapter; and

(11) Doors and windows that open into the pool or spa area enclosed by the barrier have locks or latches to prevent unauthorized entry.

B. An owner shall ensure that a barrier at a semipublic pool or semipublic spa:

(1) Has a minimum height of 60 inches;

(2) Has a gate that is self-closing and self-latching; and

(3) Complies with the requirements in §A(2)—(11) of this regulation.

C. Except as provided in §D of this regulation, an owner may surround a pool and spa, multiple pools, or multiple spas at one facility with one barrier instead of separate barriers for each pool or spa.

D. An owner shall ensure that a wading pool or infant pool is separated from a pool or spa by a barrier that has:

(1) A minimum height of 36 inches;

(2) A maximum 2-inch separation between the deck and the bottom of the barrier;

(3) No opening that allows the passage of a sphere 4 inches in diameter; and

(4) An entrance gate with a latch.

.22 Decks.

A. An owner shall ensure that:

(1) A deck at a recreational or semipublic pool:

(a) Completely surrounds the pool;

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(b) Is continuous with a minimum unobstructed width of 4 feet and an average width of 6 feet, and

(c) Is in conformance with the American National Standard for Public Swimming Pools;

(2) A deck at a public spa is in conformance with the American National Standard for Public Spas;

(3) The slope of a deck is away from a pool or a spa, toward points of disposal, and not less than 1/4 inch per foot, or greater than 1/2 inch per foot;

(4) The deck has drainage to deck drains or other points of disposal;

(5) The deck's surface is slip resistant or nonskid;

(6) An expansion joint between the coping and deck is sealed with a durable, watertight sealant;

(7) A brick, stone, aggregate, or similar deck surface has a subdeck in the required deck area;

(8) A wood deck has a gravel and plastic ground barrier or a concrete subdeck in the required deck area; and

(9) The deck does not trap dirt or support or harbor algae.

B. An owner may:

(1) Include the pool or spa coping in the measurement of the deck width; and

(2) Have ladders, handrails, lifeguard stands, structures for use by disabled individuals, and other pool equipment on the deck.

C. Except as provided in §B(2) of this regulation, an owner may not have light poles, structural supports, decorative fountains, waterfalls, and other obstacles or obstructions within 4 feet of a pool or within the required deck area of a spa.

D. An owner shall ensure that an anchor for a fixture used to support a backstroke flag, volleyball net, or similar recreational equipment is fitted with a cap or plug that is flush with the deck when the anchor is not in use.

.23 Equipment Rooms.

An owner shall ensure that a recreational pool, semipublic pool, or public spa has an equipment room that:

A. Houses the pool or spa circulation, filtration, and disinfection equipment; and

B. Has:

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(1) Weathertight construction to prevent the entrance of precipitation;

(2) Adequate floor area for safe access to all equipment;

(3) A minimum ceiling height of 7 feet 6 inches;

(4) A waterproof floor that drains to a floor drain;

(5) A lockable entrance door that allows complete and unencumbered access to the equipment room;

(6) A minimum of 20 footcandles of artificial illumination;

(7) Ventilation sized at 2 cubic feet per minute per square foot of floor area that is:

(a) Mechanical exhaust ventilation if chemicals are used or stored in the equipment room, or

(b) Natural or mechanical exhaust ventilation if chemicals are not used or stored in the equipment room;

(8) Adequate make-up air to replace the air exhausted by the ventilation system;

(9) A hose bibb with an atmospheric vacuum breaker; and

(10) A water-resistant data sheet that is posted in a conspicuous place for each pool or spa and that includes the following information:

(a) Volume of water,

(b) Minimum turnover rate,

(c) Maximum filter capacity,

(d) Water surface area,

(e) Length of water perimeter,

(f) Maximum bather load, and

(g) Operating instructions for valves and equipment.

.24 Pipe Material.

An owner shall ensure that pipe material for a public pool or spa conforms to COMAR 09.20.01.

.25 Circulation Systems.

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A. Gauges and Release Valves. An owner shall ensure that the circulation system for a recreational pool, semipublic pool, or public spa includes the following:

(1) A pressure gauge on the filter or on the influent side of the filter piping;

(2) A pressure gauge on the effluent side of the filter piping;

(3) A vacuum or compound gauge on the influent side of a pump;

(4) A flow meter that:

(a) Indicates the rate of flow through the circulation system;

(b) Has a permanent scale readable in gallons per minute;

(c) Is accurate to within 10 percent of the actual flow; and

(d) Reads in the range encompassing the minimum and maximum flow rate;

(5) A thermometer on the return line to a pool or spa if the circulation system includes a heating system; and

(6) A manually operated air release valve on a pressure filter or a separation tank, or both.

B. Turnover Rate. An owner shall ensure that:

(1) A recreational pool, semipublic pool, or public spa is constructed to produce the following minimum turnover rates, with continuous 24-hour flow:

(a) Pools for swimming and diving: Minimum turnover rate = volume of pool in gallons/480 minutes;

(b) Pools for water recreational attractions and therapy: Minimum turnover rate = volume of pool in gallons/360 minutes;

(c) Pools for wading have a minimum turnover rate equal to the greater of:

(i) Volume of pool in gallons/120 minutes; or

(ii) The minimum flow required for the skimmer system and main drain to operate according to the manufacturer's specifications; and

(d) Spas: Minimum turnover rate = volume of spa/30 minutes;

(2) The flow through a circulation system is maintained between the minimum turnover rate and the design capacity of the filter system and associated piping; and

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(3) A limited public-use pool has a turnover rate in conformance with:

(a) American National Standard for Residential Inground Swimming Pools; or

(b) American National Standard for Aboveground/Onground Residential Swimming Pools.

C. Head Loss Calculations. An owner of a recreational pool, semipublic pool, or public spa shall ensure that head loss calculations include the following:

(1) Piping head loss, found by using:

(a) The Hazen-Williams formula which is: piping head loss per 100 feet of pipe = $0.2083\ (100 / C)^{1.852}(Q^{1.852}/ D^{4.865})$

where: D = nominal inside diameter of pipe;

Q = gpm;

C = constant for inside roughness of pipe; or

(b) Standard engineering tables;

(2) Equipment head loss, including filters, valves, heaters, and other circulation equipment, based on the manufacturers' specifications for the equipment at the design flow rate, and filter pressure differential with the filter in a clean and in a dirty condition;

(3) Elevation of pump suction and discharge in relation to the pool or spa water surface level; and

(4) Determination of the total dynamic head of the circulation system for use in pump selection.

D. Surface to Bottom Flow Ratio.

(1) An owner of a recreational pool, semipublic pool, or public spa shall ensure that:

(a) Piping for surface outlets is designed to accommodate 80 percent of the flow; and

(b) Piping for bottom outlets is designed to accommodate 20 percent of the flow.

(2) An owner of a recreational pool or semipublic pool may have a gutter surface overflow system with a flow design of 50 percent from the surface outlets and 50 percent from the bottom outlets.

E. Filter Capacity. An owner of a recreational pool, semipublic pool, or public spa shall ensure that a filter:

(1) Operates within the filter design flow rate;

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(2) Has a filtration capacity sufficient to operate in the range between the minimum turnover rate and the filter design flow rate when the circulation system is at the:

(a) Lowest level of calculated total dynamic head when the filter is in a clean condition; and

(b) Highest level of calculated total dynamic head when the filter pressure differential is at the maximum allowed in Regulation .43E of this chapter.

F. Interconnections Between Pools. An owner of a recreational pool, semipublic pool, or public spa shall ensure that a pool is not interconnected with a:

(1) Spa or wading pool except during the filling of a spa or wading pool; and

(2) Spray pool.

.26 Circulation System Components.

A. Except as provided in §B of this regulation, an owner of a recreational pool, semipublic pool, or public spa shall ensure that circulation system components, including skimmers, pumps, filters, multiport valves, adjustable output rate chemical feeders, flow-through chemical feeders, chemical process equipment, chlorine generators, ion generators, and other pool and spa equipment comply with Circulation System Components and Related Materials for Pools, Spas/Hot Tubs.

B. The Secretary shall accept swimming pool, spa, or hot tub circulation system components as meeting the requirements set forth in §A of this regulation if these items are in the current published NSF listing of swimming pool, spa, or hot tub circulation system components or a listing from organizations accredited by the American National Standards Institute (ANSI) for the certification of circulation system components.

C. Chemical Feeder and Process Equipment. An owner of a recreational pool, semipublic pool, or public spa shall ensure that the capacity of chemical feeder and process equipment is adequate to:

(1) Provide the minimum required disinfectant residual to the pool or spa water, as required in Regulation .44A of this chapter; and

(2) Establish breakpoint when the combined chlorine level is over 0.2 ppm.

D. Chlorine Gas Feeders. An owner of a recreational pool, semipublic pool, or public spa shall ensure that the:

(1) Equipment installation, and operation of a chlorine gas feeder are in compliance with the American National Standard for Public Swimming Pools, with the exception that the word "shall" is substituted for the word "should", and the owner is required to comply with the specifications of Appendix E; and

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(2) Recirculated water is treated downstream of the chlorine gas injection point to maintain the water's pH between 7.2 and 7.8.

E. Vacuum Systems.

(1) An owner shall ensure that a recreational pool, semipublic pool, or public spa has a vacuum system for cleaning the pool or spa floor.

(2) An owner of a recreational pool, semipublic pool, or public spa may use skimmer outlet pipes for vacuum purposes for circulation systems with four or fewer skimmers.

(3) For circulation systems with more than four skimmers or a gutter system, an owner of a recreational pool, semipublic pool, or public spa shall ensure that a vacuum system is provided that is separate from the skimmer or gutter system.

(4) If vacuum fittings are provided within a recreational pool, semipublic pool, or public spa, the owner shall ensure that the fittings are:

(a) Located at convenient locations approximately 1 foot below the water surface; and

(b) Provided with flush removable caps.

(5) When the vacuum system is an integral part of the circulation system, an owner of a recreational pool, semipublic pool, or public spa shall ensure that the vacuum line connection is before the pump hair and lint strainer.

F. Carbon Dioxide Feeders. An owner of a recreational pool, semipublic pool, or public spa shall ensure that a carbon dioxide feeder system is:

(1) Installed and maintained in accordance with the manufacturer's specifications;

(2) Located in a ventilated area; and

(3) Secured to prevent damage to the gas cylinder if the cylinder is subject to tipping.

G. Ozone Systems. An owner of a recreational pool, semipublic pool, or public spa shall ensure that:

(1) An ultraviolet light ozone system is used and installed according to Circulation System Components and Related Materials for Pools, Spas/Hot Tubs;

(2) A corona discharge ozone system is used and installed according to Circulation System Components and Related Materials for Pools, Spas/Hot Tubs, and the following requirements:

(a) The system is designed to provide a minimum concentration of ozone generated to be 1.5 percent by weight;

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(b) The ozone gas is diffused through a static mixer into a contact column with a sidestream flow of recirculated water equal to a minimum of 5 percent of the required turnover rate;

(c) The system is designed to provide a contact time of:

(i) 2 minutes when used in conjunction with a chlorine disinfectant; or

(ii) 1 minute when used in conjunction with a bromine disinfectant;

(d) The system provides a minimum contact time value of 0.5 milligram/liter in the contact column when the contact time value equals the concentration of dissolved ozone in milligrams/liter times the contact time in minutes;

(e) The air feed, which is natural or oxygen enriched air, is filtered to remove particulates and dehumidified to a minimum dew point of minus 60°C before the ozone generating chamber;

(f) An ozone gas feed line is ozone resistant;

(g) Valves are provided to control flow through the system;

(h) Offgas venting from the contact column is:

(i) Equipped with an ozone destruct system that removes all ozone before release to the atmosphere; or

(ii) Returned to the main recirculation line when used in conjunction with a bromine disinfectant;

(i) When necessary, a foam suppression system is provided before offgas venting;

(j) The oxidation reduction potential of the sidestream after contact and before dissolved ozone removal is a minimum of 650 millivolts;

(k) The dissolved ozone is removed from the sidestream using granulated activated carbon before remixing with the recirculated water when used in conjunction with a chlorine disinfectant;

(l) The ozone generating system shuts off if the water recirculating system shuts off or if the vacuum is lost on the ozone gas output line;

(m) The ozone gas output is under negative pressure or a vacuum;

(n) The ozone generation area is ventilated at 2 cfm per square foot of floor area to prevent the build up of excess ozone; and

(o) The recirculated water is treated to maintain the pH between 7.2 and 7.8.

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H. An owner of a recreational pool, semipublic pool, or public spa may connect an equalization line for a skimmer to the main drain line in a wading pool, or other pool that does not have sufficient water depth, for the installation of the equalizer line through the pool wall below the skimmer throat.

.27 Diving Area and Equipment.

An owner of a public pool shall ensure that:

A. A pool used for accredited competitive aquatic events as defined in §3 of the American National Standard for Public Swimming Pools is in compliance with §6.4.1 of American National Standard for Public Swimming Pools;

B. The dimensions of a pool diving area are in conformance with the following minimum dimensions and explanatory diagram:

(1) Minimum dimensions:

Diving Board Height (H) Above Water

Dimension	*Deck Level Board (20" or less)*			*One Meter Diving Board (More than 20" but not more than 39")*			*Three Meter Diving Board (More than 3'3", but not more than 10'0")*	
	Minimum	*Preferred*	*Maximum*	*Minimum*	*Preferred*	*Maximum*	*Minimum*	*Preferred*
D_0	6'0"	—	—	6'0"	—	—	6'0"	—
D_1	9'0"	10'0"	—	10'0"	12'0"	—	12'6"	13'0"
D_2	2'9"	3'0"	3'6"	3'0"	3'0"	—	3'0"	3'0"
O_h	2'6"	3'0"	3'0"	4'101/2"	6'0"	—	4'101/2"	6'0"
L_1	15'0"	16'0"	—	18'0"	20'0"	—	20'0"	20'0"
L_2	12'0"	15'0"	—	15'0"	21'0"	—	22'6"	24'0"
L_3	15'0"	24'0"	—	15'0"	24'0"	—	24'0"	24'0"
S_1	—	1:2	1:10	—	1:12	1:12	1:12	1:12
S_2	—	—	1:3	—	—	1:3	1:3	1:3

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B_1	6'0"	6'0"	9'0"	9'0"	16'0"	—	—	16'0"

Where:

D_0 = Water depth at cove radius;

D_1 = Water depth below board plummet line maintained for entire length of L_1 allowing for slope to the drain;

D_2 = Water depth at shallow end of pool;

O_h = Length of board overhang above pool;

L_1 = Length from below board plummet line to start of transition slope;

L_2 = Length of transition zone;

L_3 = Length of shallow end of pool;

S_1 = Shallow end slope ratio;

S_2 = Transition slope ratio; and

B_1 = Board length.

(2) Explanatory diagram

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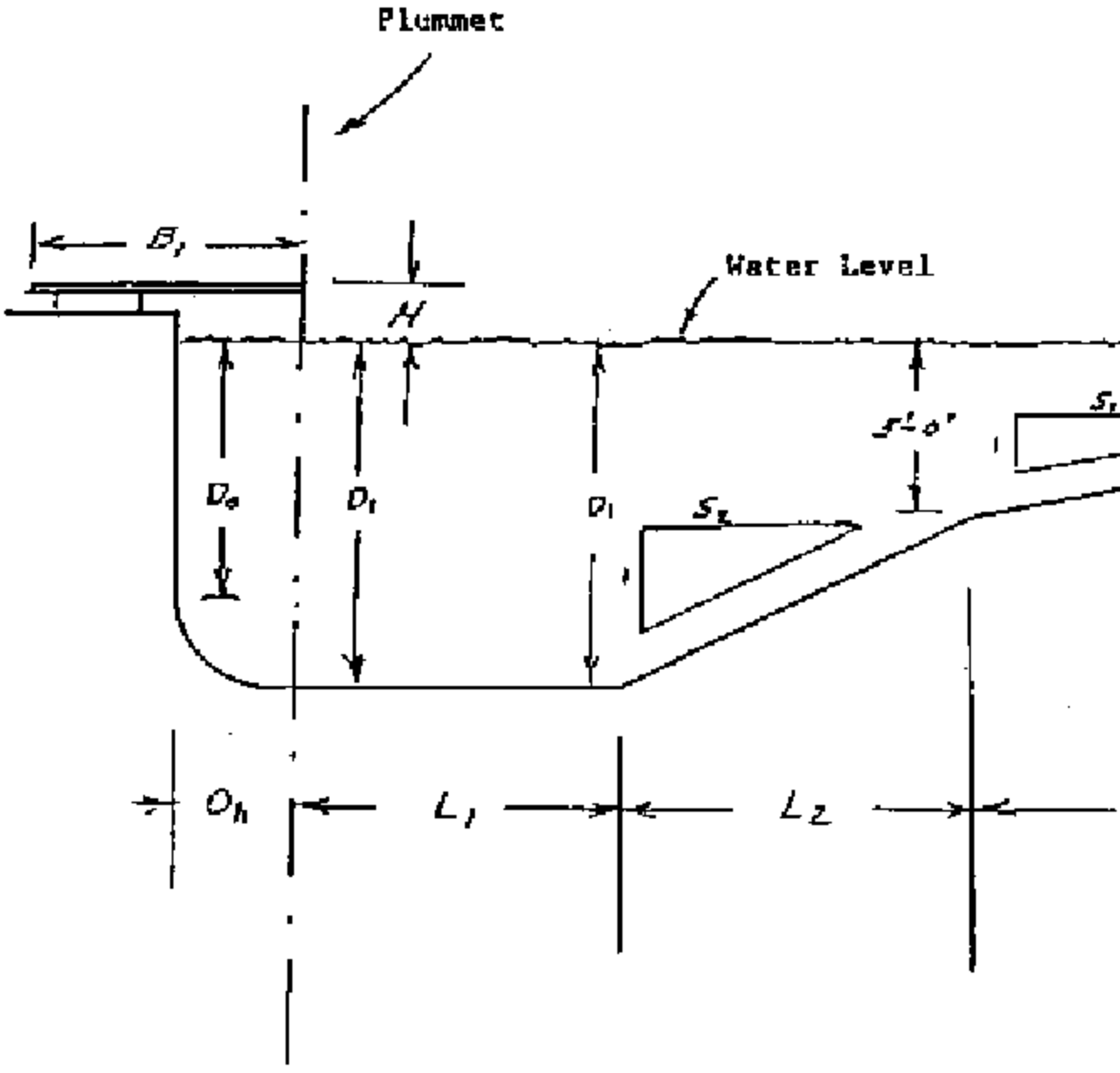
(2) Explanatory diagram:



(3) The transitional radius from wall to floor are in conformance with Article IV of the American National Standard for Public Swimming Pools.

C. Diving equipment is installed in compliance with §§7.2.5—7.2.5.6 of the American National Standards for Public Swimming Pools;

D. Unobstructed clearance is provided for a diving board in conformance with the following minimum dimensions:

(1) A minimum height of:

(a) 13 feet measured upward from the plummet of a diving board; or

(b) Greater than 13 feet if specified by the manufacturer of the diving board;

(2) A clearance as required in §D(1) of this regulation extending:

(a) 16 feet forward of the plummet;

(b) 8 feet behind the plummet; and

(c) 8 feet to both sides of the plummet;

(3) A minimum distance of 10 feet between the plummets of adjacent diving boards; and

(4) A minimum distance between a diving board plummet and a side wall of:

(a) 10 feet for a diving board 20 inches or less above the water line; and

(b) 12 feet for a diving board greater than 20 inches above the water line;

E. Diving boards in excess of 10 feet above the water line and diving platforms are in compliance with §7.2.4 of the American National Standard for Public Swimming Pools; and

F. A starting block:

(1) Is located on the pool deck so that a swimmer dives into a minimum of 5 feet water depth; or

(2) At a pool constructed before February 10, 1997, is located so that a swimmer dives into a minimum of:

(a) 5 feet water depth when the starting block is used without supervision; or

(b) 4 feet water depth when the starting block is:

(i) Used in a controlled environment such as a swimming competition under the supervision of an instructor; and

(ii) Restricted from unsupervised use or is removed when not under supervised use.

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.28 Suction Entrapment Prevention.

To prevent a suction entrapment hazard, an owner shall ensure that:

A. A vacuum fitting is capped when not in use;

B. A vacuum line valve is in the closed position when not in use;

C. Except as provided in §§F and G of this regulation, the main drain for a public pool or spa complies with 15 U.S.C. §8003 and is:

(1) Connected to a minimum of two main drain outlets that are:

(a) Not isolated by a valve or other means;

(b) Spaced at least 3 feet from edge to edge; and

(c) Hydraulically balanced; or

(2) An unblockable drain.

D. A drain is covered with a securely attached drain cover in compliance with the:

(2) American National Standard for Public Swimming Pools; and

(2) 15 U.S.C. §8003.

E. A skimmer is:

(1) Connected to an equalization line, main drain line, vent, or another skimmer that cannot be isolated by a valve or other means, or

(2) Provided with a vented lid;

F. A pool or spa constructed before February 10, 1997 is provided by June 1, 2002, with:

(1) At least two hydraulically balanced drain outlets spaced a minimum of 3 feet from edge to edge that cannot be isolated to create a single outlet for each circulation pump, as illustrated in Regulation .28-1A of this chapter;

(2) A channel drain system that is at least 3 feet from edge to edge, as illustrated in Regulation .28-1B of this chapter; or

(3) An approved safety vacuum release system.

G. As an interim measure, until a pool or spa constructed before February 10, 1997 is in compliance with §F of this regulation:

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(1) A pool or spa has a minimum of two outlets that cannot be isolated to create a single outlet per pump; and

(2) These outlets are provided by connecting the main drain line to a skimmer line so that the lines cannot be isolated to create a single outlet, as illustrated in Regulation .28-1C of this chapter, assuring that:

(a) The skimmer line does not become blocked within the skimmer housing at any time;

(b) Associated valves are locked in an open position to prevent the drain or the skimmer from becoming a single source of suction; and

(c) Associated valves are permanently tagged with a warning to maintain the valves in the open position at all times when the pool or spa is in use;

H. A pool or spa is in compliance with the following:

(1) A suction outlet is provided with a cover that complies with the American National Standard for Public Swimming Pools;

(2) A suction fitting complies with 15 U.S.C. §8003;

(3) Suction outlet covers are in good condition, with no breaks, cracks, or other defects that could affect the structural integrity of the cover;

(4) Suction outlet covers are secured according to manufacturers' directions and in such a way that the covers cannot be removed without the use of tools;

(5) A pool or spa that does not have suction outlets in compliance with this regulation has all pumps immediately shut off until the pool or spa has been brought into compliance with this regulation;

(6) The maximum velocity in the design of the drain piping does not exceed 6 feet per second when 100 percent of the circulation system design flow is drawn through the drain piping of any single drain;

(7) A pool or spa facility has a comprehensive written maintenance program that addresses the following:

(a) If a suction outlet cover is cracked or broken, the pump shall be immediately shut off and the cover shall be replaced;

(b) Covers shall be anchored in accordance with the manufacturer's specifications and supplied parts, and only manufacturer specified, noncorrosive fasteners may be used;

(c) Lines and equipment shall be labeled or color coded for ready identification; and

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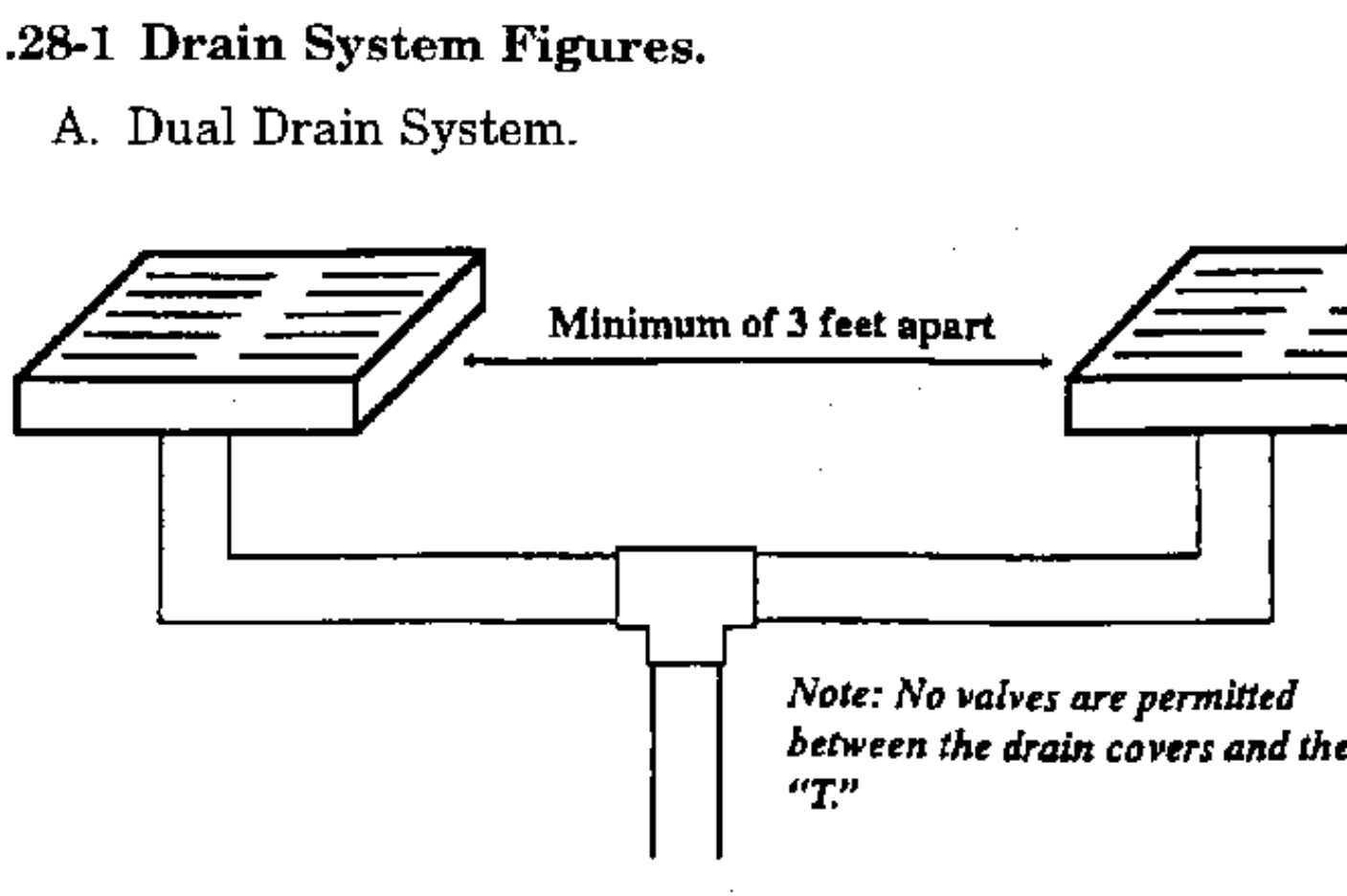
(d) The on/off switch for circulation pumps shall be clearly identified and labeled; and

(8) Check valves in the suction line to pumps are removed to allow backflow of water or air to release the suction when the pump is shut off or when an influent blockage detection device is activated; and

I. A pool and spa operator completes the Pool and Spa Entrapment Hazards Checklist provided by the Secretary, or an equivalent form, on a daily basis before the pool or spa is open for that day's use.

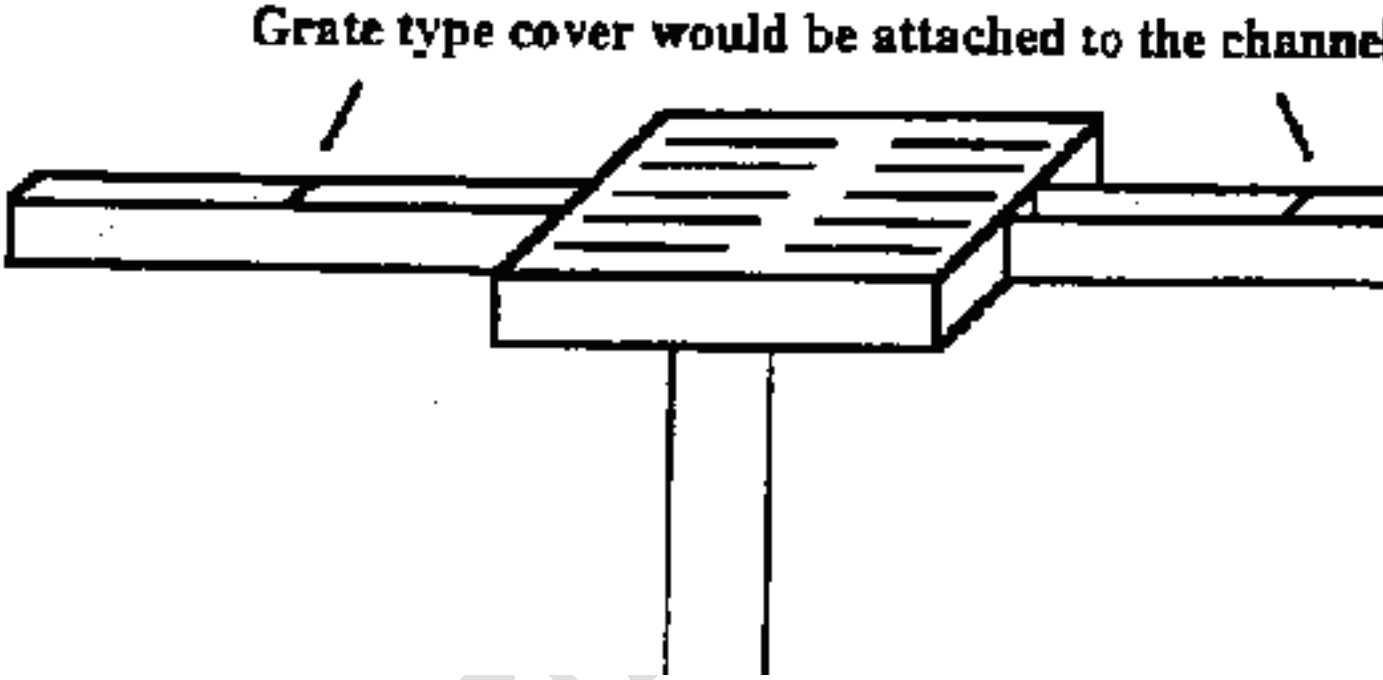
.28-1 Drain System Figures.

A. Dual Drain System.



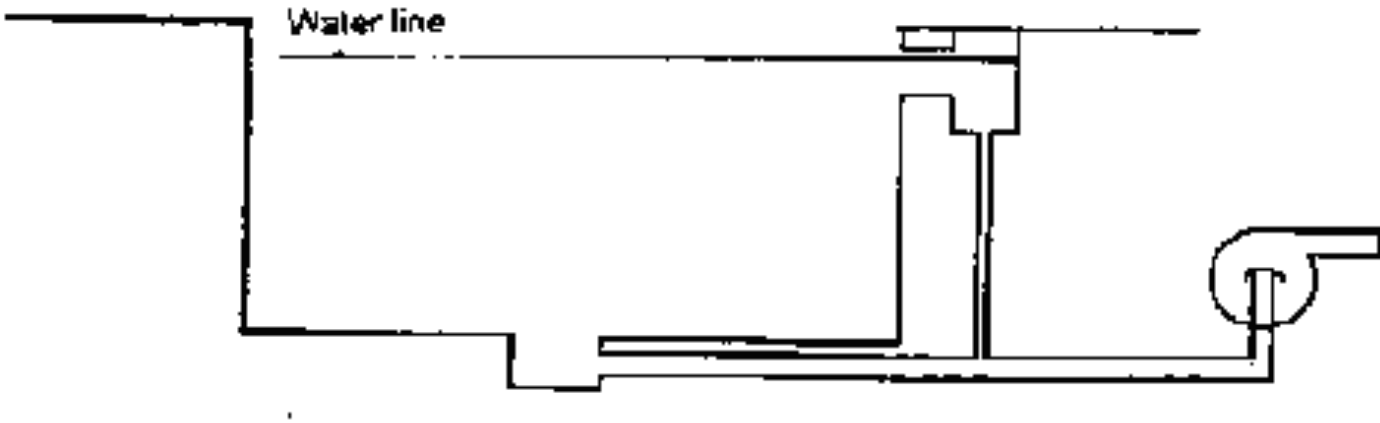
B. Channel Drain System.

B. Channel Drain System.



C. Main Drain and Skimmer Line System.

C. Main Drain and Skimmer Line System.



.29 Chemical Storage Area.

An owner shall ensure that a recreational pool, semipublic pool, or public spa has a chemical storage area that:

A. Is protected against the weather, excess heat, and moisture; and

B. Has:

(1) A lockable door which can be opened from the inside,

(2) Ventilation that is sized at 2 cfm per square foot of floor area and that exhausts to the open air,

(3) A minimum of 20 footcandles of illumination, and

(4) Storage for chemicals in accordance with the material safety data sheet for a particular chemical.

.30 Hydrostatic Relief Valves.

An owner shall ensure that an in-ground recreational pool, semipublic pool, or public spa has hydrostatic relief valves as needed to relieve the hydrostatic pressure from ground water when the pool or spa is empty.

.31 Filter Backwash Water and Deck Drainage Disposal.

A. An owner shall ensure that:

(1) The disposal of filter backwash water and pool or spa wastewater conforms with:

(a) COMAR 09.20.01,

(b) Local sanitary code requirements, and

(c) Discharge requirements of COMAR 26.08.01 ----- 26.08.04; and

(2) Deck drainage disposal conforms with:

(a) COMAR 09.20.01, and

(b) Local plumbing code requirements.

B. An owner may not return filter backwash water or other wastewater to a pool or spa, except for filter backwash water that has been filtered to remove particulates and treated to eliminate coliform bacteria and waterborne pathogens.

.32 Illumination of Water, Deck, and Walkway.

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An owner shall ensure that an indoor recreational pool, semipublic pool, or public spa, or one used during nighttime, is provided with:

A. Even illumination of the water, deck, and walkways;

B. Illumination of the water and deck that is:

(1) A combination of underwater lighting and deck lighting so that the:

(a) Underwater lighting yields at least 0.5 watt per square foot of water surface area, and

(b) Deck lighting yields at least 0.6 watt per square foot of required deck area or at least 15 footcandles; or

(2) Overhead lighting yielding at least 2 watts per square foot of required deck area or at least 20 footcandles of light that is directed onto the deck and the water surface so that the entire pool or spa bottom is clearly visible;

C. Lighting that minimizes reflection from the water surface so that the visibility of the pool or spa bottom is not obscured; and

D. Walkway lighting yielding at least 15 footcandles of light.

.33 Ventilation of an Indoor Recreational Pool, Semipublic Pool, or Public Spa.

An owner shall ensure that an indoor recreational pool, semipublic pool, or public spa has:

A. A ventilating system capable of:

(1) Exhausting 1 1/2 cfm of air per square foot of enclosed area, or

(2) Dehumidifying the recirculated air from the enclosed area; and

B. Make-up air equal to the volume of exhausted air or as required in the ventilation system specifications.

.34 Plumbing.

A. Water Supply System. An owner shall ensure that a water supply system at a public pool or spa is in conformance with:

(1) COMAR 26.04.01, 26.04.03, and 26.04.04;

(2) COMAR 09.20.01; and

(3) Local plumbing code requirements.

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B. Sewage Disposal System. An owner shall ensure that a sewage disposal system at a public pool or spa is in conformance with:

(1) COMAR 26.04.02 and 26.04.03;

(2) COMAR 09.20.01; and

(3) Local plumbing code requirements.

C. Drinking Fountains. An owner shall ensure that a recreational pool, semipublic pool, or public spa enclosure has at least one drinking fountain for every 5,000 square feet of water surface area.

D. Hose Bibbs. An owner of a recreational pool, semipublic pool, or public spa shall ensure that the following locations have an accessible hose bibb equipped with an atmospheric vacuum breaker:

(1) On the deck at 150 feet intervals;

(2) In an equipment room; and

(3) In both a men's and a women's bathhouse.

E. Fill Spouts. If a fill spout is installed at a public pool or spa, the owner shall ensure that the fill spout is:

(1) Installed within 10 inches of a ladder or handrail or in front of a lifeguard stand whose supports are immediately adjacent to the pool or spa rim, so that the fill spout does not present a tripping hazard or a puncture hazard;

(2) Not installed over a seat bench;

(3) Braced or constructed so the fill spout does not flex downward; and

(4) Provided with a flexible cover on the tip of the fill spout if the spout presents a potential for injury to an individual using a pool or spa.

F. Backflow Prevention. An owner of a public pool or spa shall ensure that:

(1) A pool or spa facility has backflow protection for:

(a) A potable water supply, in conformance with COMAR 09.20.01, and

(b) Wastewater, in conformance with COMAR 09.20.01; and

(2) An air gap that is two times the diameter of the fill spout separates the fill spout from the flood rim level of the pool or spa.

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G. Source of Water. An owner of a public pool or spa shall ensure that:

(1) When a public pool or spa is filled with water from a nonpotable source, such as a water tank holding nonpotable water or surface water, the:

(a) Water is filtered, treated, and disinfected after addition to the pool or spa to meet the requirements of Regulation .44 of this chapter, and

(b) Pool or spa is not used until a bacteriological sample taken by the Secretary indicates that there are no coliform organisms in the water; and

(2) Public pool or spa make-up water:

(a) Is from a potable source, and

(b) Having an iron level over 0.3 ppm is treated to lower the iron level to 0.3 ppm or less before the make-up water is added to a pool or a spa.

.35 Toilet, Hand Sink, and Shower Facilities.

A. Except as provided in §B of this regulation, an owner shall ensure that a recreational pool, semipublic pool, or public spa has:

(1) A bathhouse, toilets, hand sinks, and showers within 100 feet of an entrance gate to the pool or spa in accordance with the American National Standard for Public Swimming Pools, Articles 19.1—19.6.13;

(2) At least a minimum number of toilets, hand sinks, and showers based on:

(a) The maximum user load of the pool or spa set forth in Regulation .19 of this chapter;

(b) Fixture ratios set forth in §A(1) of this regulation; and

(c) State and local building codes;

(3) 50 percent of the required fixtures designated for use by each sex, unless the pool or spa is for one sex only; and

(4) At least 50 percent of the required showers located within a bathhouse.

B. An owner is not required to provide toilet, hand sink, and shower facilities at a recreational pool, semipublic pool, or public spa when bathers have access to equivalent facilities in:

(1) Living quarters not more than 500 feet from a pool or a spa entrance; or

(2) A building or buildings not more than 500 feet from a pool or a spa entrance.

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C. An owner shall ensure that equivalent facilities used by recreational pool, semipublic pool, or public spa bathers and patrons of a recreational center, health club, marina, or other facility are in compliance with:

(1) Section A of this regulation; and

(2) State or local plumbing codes regarding fixtures and dressing area for the patrons sharing the equivalent facilities.

.36 Antiscald Protection for Showers.

An owner of a recreational pool, semipublic pool, or public spa shall ensure that each shower has an approved pressure-balanced, antiscald device that limits the delivered water temperature to below 115°F.

.37 Accommodations for Disabled Individuals.

An owner shall ensure that a public pool or spa is in compliance with all applicable federal, State, and local codes governing facilities for disabled individuals, including COMAR 05.02.02.

.38 Equipment Installation and Operating Instructions.

An owner of a public pool or spa shall ensure that:

A. Pool and spa equipment is installed according to manufacturers' instructions and this chapter;

B. Valves, controls, gauges, filters, pumps, feeders, and other operating equipment are easily accessible;

C. Valves, controls, and piping are permanently numbered, labeled, or color-coded to identify their purpose or function; and

D. Operating instructions for the circulation and water treatment systems:

(1) Refer to the number, label, or color code of the valves, controls, and piping, and

(2) Are posted in the equipment room in a water-resistant cover.

.39 Maintenance.

An owner of a public pool or spa shall ensure that:

A. An inspection of the pool or spa and related facilities is made at least once a week by the operator for the purpose of maintaining the pool or spa in compliance with this chapter;

B. The pool or spa and its related facilities are maintained in a safe, clean, and orderly condition;

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C. A broken, damaged, or malfunctioning fixture is promptly repaired or replaced; and

D. The pool or spa is left in a safe condition when closed for the season.

.40 Public Pool and Spa Safety.

A. First Aid and Lifesaving Equipment. An owner shall ensure that:

(1) A recreational pool is provided with:

(a) A first aid kit as recommended by the American Red Cross;

(b) A face mask for CPR;

(c) Disposable medical grade examination gloves;

(d) A bloodborne pathogen control kit;

(e) A backboard designed for medical emergency use that is equipped with straps and head immobilizer;

(f) A light, strong rescue pole not less than 10 feet long; and

(g) A rescue tube designed for lifesaving for each required lifeguard;

(2) Except as set forth in §A(3) of this regulation, a public spa is provided with the safety equipment required in §A(1)(a)—(e) of this regulation;

(3) A semipublic spa is provided with the safety equipment required in §A(1)(a)—(d) of this regulation; and

(4) A semipublic pool is provided with a:

(a) Light, strong rescue pole not less than 10 feet long; and

(b) Ring buoy or similar approved floatation device with an attached throwing rope measuring 50 feet in length or 11/2 times the width of the pool, whichever is longer.

B. Telephone. An owner shall ensure that, in case of an emergency, a telephone is available within the pool or spa enclosure to individuals using a public pool or spa that:

(1) Can directly reach a 911 emergency service without the use of a coin and without connection to an internal switchboard;

(2) Is posted with:

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(a) The names and phone numbers of the nearest available police, fire, and ambulance or rescue unit; or

(b) 911 or with any numbers necessary to reach a 911 emergency service center directly; and

(3) Is posted with the name and location of the pool or spa facility.

C. Lifeguard Chair.

(1) An owner shall ensure that a recreational pool is equipped with lifeguard chairs in compliance with the American National Standard for Public Swimming Pools.

(2) An owner may use a deck-level lifeguard chair in a designated area on the deck adjacent to shallow water instead of an elevated lifeguard chair.

D. Lifeguards.

(1) An owner of a public pool shall comply with:

(a) Local codes requiring lifeguards if the requirements of the local codes are stricter than the requirements set forth in §D(2)—(5) of this regulation; or

(b) §D(2)—(5) of this regulation if no local codes exist, or if the local codes requiring lifeguards are not as strict as the requirements of §D(2)—(5) of this regulation.

(2) Except as set forth in §D(1) and (3) of this regulation, an owner of a recreational pool shall have at least one lifeguard on duty on the deck observing the pool while an individual is in the pool, and shall have at the pool:

(a) Lifeguards who are appropriately trained and certified for the type of facility and activity in the pool;

(b) A sufficient number of lifeguards so that a lifeguard is on duty for each group of 50 individuals, or fraction thereof, in the pool; and

(c) In addition to the number of lifeguards required in §D(2)(b) of this regulation, additional lifeguards on duty if:

(i) The shape, dimensions, layout, use, activities, or features of the pool create potential safety hazards;

(ii) The vision of the required lifeguard or lifeguards is obstructed;

(iii) The capabilities of the individuals using the pool are substandard; or

(iv) Another condition exists that compromises the ability of a lifeguard to monitor the pool.

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(3) An owner may use a lifeguard on the deck of a swimming pool to monitor an adjacent wading pool, but if a wading pool is the only pool at a facility or if the wading pool cannot be observed from the deck of the swimming pool, the owner shall ensure that lifeguards are provided at the wading pool in accordance with §D(1) and (2) of this regulation.

(4) In addition to meeting the other requirements of this chapter, an owner or operator of a facility specified in the following paragraphs shall ensure that a:

(a) Limited public-use pool has water safety supervision for pool activities in compliance with Regulation .15 of this chapter;

(b) Child care center has water safety supervision for pool activities at a child care center in compliance with COMAR 07.04.02.41; and

(c) Youth camp has water safety supervision for pool activities at a youth camp in compliance with COMAR 10.16.06.

(5) The owner may only use or employ a lifeguard who holds a valid lifeguard certification from:

(a) The American Red Cross;

(b) The Boy Scouts of America, not including a lifesaving merit badge;

(c) The Young Men's Christian Association;

(d) Ellis and Associates' National Pool and Waterpark Lifeguard Training; or

(e) An organization that has a lifeguard training program equivalent to the American Red Cross lifeguard training.

(6) Except as set forth in §D(1) and (3) of this regulation, an owner of a semipublic pool that has a water surface area greater than 2,500 square feet or that is part of a multiple pool facility within one enclosure that has a combined water surface area greater than 2,500 square feet shall ensure that at least one lifeguard is on duty on the deck observing a pool in the ratio of one guard per 50 individuals in the water:

(a) During the peak seasonal use of the pool from Memorial Day to Labor Day; and

(b) During the use of an indoor, heated pool throughout the entire year.

E. CPR and First-Aid Personnel. Except at a semipublic spa, an owner of a recreational pool, public spa, and a limited public use pool shall ensure that:

(1) When the pool or spa is open for use, an individual is present and on site, holding a valid certification for:

(a) Infant/child/adult or professional rescuer cardiopulmonary resuscitation (CPR); and

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(b) First aid; and

(2) The CPR and first aid certifications of the individual required in §E(1) of this regulation are from:

(a) A national organization offering certification in CPR or first aid, such as the:

(i) American Red Cross;

(ii) American Heart Association; or

(iii) National Safety Council;

(b) The Emergency Medical Services; or

(c) An organization that has a certification program in CPR or first aid that is approved by one of the organizations listed in §E(2) of this regulation.

F. Safety Signs. An owner of a public pool or spa shall ensure that:

(1) The size, color, design, application, symbol, and visual layout of a safety sign is in compliance with the ANSI Z-535 series of standards for Safety Signs and Colors as referenced in American National Standard for Public Spas;

(2) A spa safety sign is posted in a permanent location adjacent to a spa in compliance with the American National Standard for Public Spas;

(3) The spa safety sign includes the user load of the spa;

(4) A chemical warning sign is posted at the entrance door to a chemical storage area and includes the text "Caution! Chemical Storage Area";

(5) A chemical vat, feeder, pump, and line is labeled to identify the chemical in use;

(6) A chlorine gas warning sign reading "Danger—Chlorine Gas" is posted at the entrance to a chlorine gas feed room and storage area;

(7) Other warning, health advisory, and safety signs are posted if necessary to protect the public health and safety, for example, "Danger! No Diving In Shallow Water";

(8) A semipublic pool or public spa that does not have a lifeguard on duty has a conspicuous sign posted adjacent to entrances to the pool or spa reading "WARNING; NO LIFEGUARD ON DUTY. **SWIM AT YOUR OWN RISK.** DO NOT SWIM ALONE. CHILDREN UNDER 15 SHOULD NOT USE THE POOL WITHOUT ADULT SUPERVISION."; and

(9) House rules are posted at the entrance to a pool or spa.

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.41 Pool and Spa Operator Certification.

A. A person may not act as or perform the duties of a public pool or spa operator without a pool and spa operator certification card issued by the Secretary as required in §§B and G of this regulation.

B. The Secretary shall issue a 3-year public pool and spa operator certification card only to an individual 16 years old or older who has:

(1) Completed a 14-hour approved public pool and spa operator's course or a course offered by the Secretary with a minimum grade of 70 percent on an approved written examination given following the completion of that course; or

(2) Presented proof of previous certification and has:

(a) Completed an approved 4-hour refresher course; or

(b) Passed a challenge exam offered by the Secretary.

C. The Secretary may summarily suspend a pool and spa operator's certification if the operator does not comply with Regulation .43 of this chapter.

D. Hearing for Summary Suspension. In the case of the summary suspension of certification pursuant to §C of this regulation, the Secretary shall provide the certification card holder with written notice of the suspension and an opportunity for a hearing pursuant to State Government Article, Title 10, Subtitle 2, Annotated Code of Maryland.

E. To preserve the right to a hearing, the certification card holder shall contact the Secretary within 30 days of the receipt of the notice of the suspension.

F. The Secretary shall recognize a pool and spa operator certification as valid throughout the State.

G. The Secretary shall issue a 3-year limited public-use pool operator certification card to an individual 16 years old or older who has completed:

(1) An approved 4-hour limited public-use pool operator's course and passed an approved written examination with a minimum grade of 75 percent following completion of the course; or

(2) The requirements of §B of this regulation.

H. An individual who possesses a public pool and spa operator certification card may perform the duties of a public pool and spa operator at a limited public-use, recreational, and semipublic pool and public spa. An individual who possesses a limited public-use pool operator certification card may perform the duties of a limited public-use pool operator only at a limited public-use pool.

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.42 Approval of Operator's Course.

The Secretary shall approve a pool and a spa operator's course based on the following criteria:

A. An approved course shall cover general aspects of public pool and spa operation including:

(1) Applicable regulations,

(2) Disease prevention,

(3) Disinfection,

(4) Filtration,

(5) Circulation system components,

(6) General pool and spa equipment,

(7) Operation and maintenance of equipment,

(8) Water chemistry,

(9) Water testing,

(10) Record keeping,

(11) General pool and spa chemicals,

(12) Chemical handling,

(13) Waste water disposal,

(14) Safety,

(15) Sanitation, and

(16) Other pertinent topics as specified by the Secretary; and

B. An approved course shall be taught by an individual who has demonstrated to the Secretary:

(1) Expertise in the operational aspects listed in §A of this regulation, as evidenced by combined work experience, training, and formal education, and

(2) Successful completion of an approved public pool and spa operator's course.

.43 Pool and Spa Operation.

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An owner shall ensure that a certified pool and spa operator:

A. Is on site at all times when a recreational pool is open;

B. Is available at a semipublic pool, public spa, and at a limited public-use pool for performance of all requirements of this chapter and is able to respond to operational problems within 15 minutes when not available on site;

C. Measures and records, or supervises and verifies the measurement and recording of, all information required in Regulation .46 of this chapter;

D. Performs all duties related to the operation of a pool or spa as required in this chapter;

E. Cleans the filtration system when the filter pressure differential reaches a level specified by the equipment's manufacturer or as specified below:

(1) High rate sand filters at 15 psi,

(2) Rapid rate sand filters at 8 psi,

(3) Cartridge filters at 10 psi,

(4) Pressure diatomaceous earth filters at 10 psi, and

(5) Vacuum diatomaceous earth filters at 15 inches of mercury;

F. Maintains disinfection residuals according to Regulation .44 of this chapter;

G. Maintains water chemistry according to Regulation .45 of this chapter; and

H. Adds a nonstabilized oxidizer into the pool or spa water equivalent to an amount of free chlorine equal to at least 10 times the measured combined chlorine residual plus sufficient free chlorine to oxidize the ammonia and nitrogenous compounds in the water, on a recommended schedule of once per week for a pool and once per day for a wading pool and for a spa.

.44 Disinfection of a Pool and Spa.

A. An owner or operator of a public pool or spa shall ensure that a disinfectant or combination of disinfectants is added to the water automatically through an approved chemical feeder to maintain continuously a residual level as specified below:

(1) Free chlorine shall be between:

(a) 1.5 ppm and 10.0 ppm in pools for swimming and diving and water recreational attractions;

(b) 3.0 ppm and 10.0 ppm in pools for wading or therapy; and

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(c) 4.0 ppm and 10.0 ppm in spas;

(2) The maximum amount of combined chlorine shall be 0.2 ppm for all pools and spas;

(3) Total bromine shall be between:

(a) 3.0 ppm and 8.0 ppm in pools for swimming and diving and water recreational attractions; and

(b) 4.0 ppm and 8.0 ppm in spas and in pools for wading or therapy;

(4) For pools and spas using copper and silver ions as a secondary disinfectant in conjunction with chlorine or bromine as a primary disinfectant:

(a) Copper ions shall be between 0.2 ppm and 1.0 ppm;

(b) Silver ions may not exceed 0.05 ppm;

(c) Free chlorine in combination with copper and silver ions shall be between:

(i) 0.5 ppm and 10 ppm in pools for swimming and diving and water recreational attractions, and

(ii) 1.5 ppm and 10.0 ppm in spas and in a pool for wading or therapy; and

(d) Total bromine in combination with copper and silver ions shall be between:

(i) 1.0 ppm and 8.0 ppm in pools for swimming and diving and water recreational attractions, and

(ii) 3.0 ppm and 8.0 ppm in spas and pools for wading or therapy;

(5) For pools and spas using an ozone generator, the maximum amount of ozone measured 2 inches above the water surface shall be 0.1 ppm;

(6) For pools using PHMB, the minimum level of PHMB shall be 30 ppm; and

(7) For pools and spas using an ultraviolet light/hydrogen peroxide system, the minimum level of hydrogen peroxide shall be 20 ppm.

B. An owner or operator shall ensure that for public pools and spas using cyanuric acid or a similar chlorine stabilizer, the cyanuric acid is maintained between 30 ppm and 100 ppm.

C. An owner or operator of a public pool or spa may not use:

(1) PHMB in a pool or spa that uses jets or sprays;

(2) PHMB in conjunction with any halogen compound or ozone;

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(3) Cyanuric acid in conjunction with a bromine compound or in an indoor pool or spa; or

(4) An ultraviolet light/hydrogen peroxide system in conjunction with a diatomaceous earth filter.

.45 Water Chemistry of a Pool and Spa.

A. An owner or operator shall ensure that the water chemistry of a public pool or spa is maintained according to the following requirements:

(1) The pH of the water is maintained between 7.2 and 7.8;

(2) The total alkalinity of the water is maintained between 60 ppm and 180 ppm;

(3) The calcium hardness of the water is maintained between 150 and 400 ppm;

(4) The Langelier Saturation Index of the water is maintained between -0.5 and +0.5 as calculated by:

(a) The Langelier Saturation Index formula: Langelier Saturation Index = pH + TF + CF + AF - 12.1 where: TF = temperature factor, CF = calcium hardness factor, and AF = alkalinity factor, and

(b) The following factor table:

Temperature (°F)	Temperature Factor	Calcium Hardness (ppm)	Calcium Factor	Total Alkalinity (ppm)	Alkalinity Factor
32	0.0	5	0.3	5	0.7
37	0.1	25	1.0	25	1.4
46	0.2	50	1.3	50	1.7
53	0.3	75	1.5	75	1.9
60	0.4	100	1.6	100	2.0
66	0.5	150	1.8	150	2.2
76	0.6	200	1.9	200	2.3
84	0.7	300	2.1	300	2.5
94	0.8	400	2.2	400	2.6
105	0.9	800	2.5	800	2.9
128	1.0	1000	2.6	1000	3.0

(5) The amount of total dissolved solids is maintained so that it does not exceed 1,500 ppm, except for a salt water pool where the total dissolved solids may not exceed 3,000 ppm;

(6) The amount of dissolved metals is maintained so that it does not exceed the following levels:

(a) Iron, 0.3 ppm,

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(b) Manganese, 0.3 ppm, and

(c) Copper, 1.3 ppm; and

(7) The water clarity is maintained so that either a 6 inch seechi disc placed in the deepest part of a pool or spa or the main drain is clearly visible and sharply defined when observed from the side of the pool or spa.

B. An owner or operator shall ensure that:

(1) Water additives and treatment chemicals are used according to manufacturers' instructions; and

(2) When chemicals are added directly to a pool or spa, no one is allowed in the water until the chemicals are dissolved and diffused throughout the pool or spa.

C. An owner or operator shall ensure that the water temperature for a heated public pool or spa does not exceed:

(1) 88°F for a pool;

(2) 104°F for a spa; and

(3) 96°F for a therapy pool.

.46 Operating Records Required.

An operator shall maintain operating records on a form provided by the Secretary or an equivalent form and shall:

A. Except as provided in §B of this regulation, record the information required in §C(1)—(3) of this regulation in 2-hour intervals for a recreational pool and for a public spa, and three times per day for a limited public-use and semipublic pool and record the information required in §C(4)—(9) of this regulation a minimum of three times per day for a public pool and spa, beginning 1/2 hour before opening;

B. For a public pool or spa where an approved automatic controller is used, record the information required in §C of this regulation:

(1) A minimum of three times per day in conformance with the following schedule:

(a) The first recording of the day shall be made 1/2 hour before the pool or spa opens,

(b) The second recording shall be completed between 12 p.m. and 2 p.m., and

(c) The final recording shall be completed 2 hours before closing; and

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(2) More frequently if required by the Secretary due to conditions such as high bather load, high temperatures, bright sunlight, or inadequate water quality;

C. Record the following information in the intervals required in §§A and B of this regulation:

(1) Disinfectant residual;

(2) Combined chlorine level, if chlorine is used;

(3) pH;

(4) Water clarity;

(5) Water temperature, if heated;

(6) Flow rate;

(7) Filter influent pressure and effluent pressure;

(8) Pump vacuum; and

(9) Total number of bathers;

D. Record in 1-week intervals for a public pool and in 1-day intervals for a public spa:

(1) Total alkalinity level;

(2) Calcium hardness level; and

(3) Cyanuric acid level, if used;

E. Record daily for a public pool or spa:

(1) The time of filter backwash or cleaning;

(2) An injury or accident at the pool or spa;

(3) Chemicals added to the water; and

(4) Malfunctioning or broken equipment;

F. Date and sign each record sheet;

G. Record the results of the following inspections in the specified intervals to complete a Pool and Spa Entrapment Hazards Checklist:

(1) Daily check before the facility is open to verify that:

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(a) Drain covers, vacuum fitting covers, skimmer equalizer covers, and any other suction outlet covers are in place, secure, and unbroken,

(b) Skimmer baskets, weirs, lids, flow adjusters, and suction outlet lines are free of any blockage,

(c) Inlet and return covers or fittings are in place, secure, and unbroken,

(d) Safety warning signs are in place around the pool or spa, including emergency instructions and phone numbers, and

(e) On/off switches for pumps are clearly labeled and the location of the pumps is clearly identified; and

(2) Check all information required in §G(1) of this regulation before filling a pool or spa with water, after periodic maintenance, and after pool or filter cleaning procedures;

H. Keep the records on the premises for a minimum of 3 years; and

I. Submit the records to the Secretary upon request.

.47 Test Kits.

A. In order to comply with the requirements of Regulation .46 of this chapter, an owner shall ensure that:

(1) One or more of the following for measuring the disinfectant level is used:

(a) A chlorine or bromine test kit that is the DPD (diethyl-p-phenylene diamine) reagent system for measuring free and combined chlorine or total bromine with an indicator range from 0.0 to 10.0 ppm or with procedures for performing a dilution test to achieve readings up to 10.0 ppm.

(b) An ozone test kit that is the indigo trisulfonate method for measuring ozone with an indicator range from 0.0 to 1.0 ppm,

(c) A copper test kit that is accurate to within +/- 0.1 ppm for measuring copper,

(d) A PHMB test kit with an indicator range from 0.0 ppm to 75 ppm, or

(e) A hydrogen peroxide test kit that is the DPD reagent system with an indicator range from 0.0 to 40 ppm;

(2) A phenol red test is used to measure pH with an indicator range from at least 7.0 to 8.0;

(3) An alkalinity titration test is used to measure alkalinity as milligrams per liter calcium carbonate;

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(4) An EDTA (ethylenediamine-tetraacetate) hardness test is used to measure calcium hardness as milligrams per liter calcium carbonate; and

(5) A cyanuric acid test kit with an indicator range from 0 to 100 ppm is used if cyanuric acid is used in the pool or spa.

B. In order to comply with the requirements of Regulation .46 of this chapter, an owner may monitor:

(1) Chlorine and bromine residuals by measuring the oxidation-reduction potential (ORP) of the water before the disinfectant injection point; and

(2) The pH with a pH meter.

C. If an ORP or pH meter is used, an owner shall ensure that:

(1) Periodic calibration is performed on these instruments to assure accurate measurements; and

(2) Manual measurements are performed on a daily basis.

.48 Sanitary Quality of Water.

Although routine testing is not required, an owner shall ensure that the water in a public pool or spa:

A. Has a coliform bacteria level of less than 1 coliform per milliliter; and

B. Is free of pathogenic organisms.

.49 Chemical Handling and Storage.

An owner shall ensure that a:

A. Material safety data sheet for a potentially hazardous chemical is available to the operator;

B. Chemical is handled, used, stored, and disposed of in accordance with the material safety data sheet and all applicable federal, State, and local codes; and

C. Chemical is stored in a chemical storage area which is in compliance with Regulation .29 of this chapter.

.50 Control of Infectious and Contagious Diseases.

A. An owner may not knowingly permit an individual to enter the water of a public pool or spa who has:

(1) An infectious or contagious disease that may be transmitted through water;

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(2) An open cut, blister, or other lesion; or

(3) Diarrhea.

B. An owner or operator may not prohibit an individual from entering the water of a public pool or spa if a physician certifies that the individual's condition is not infectious or contagious by waterborne transmission.

.51 Injury and Illness Reports.

A public pool or spa owner shall ensure that:

A. An injury, drowning, near drowning, or suction entrapment occurring at a pool or spa that results in death or that requires resuscitation or admission to a hospital is reported to the Secretary within 24 hours of the incident;

B. A waterborne illness contracted at a pool or spa is reported to the Secretary within 24 hours of the owner's or operator's knowledge of the incident;

C. A water rescue by aquatic safety personnel is reported to the Secretary every 3 months during operation or at the seasonal closure of the facility, whichever is more frequent; and

D. The information required in A-----C of this regulation is recorded on a pool and spa injury and illness report form provided by the Secretary.

.52 Disinfection of Swimsuits and Towels.

An owner shall ensure that a swimsuit or towel furnished to an individual by the owner or operator of a public pool or spa is:

A. Washed in a washing machine with laundry detergent in hot water with a temperature of at least 175(F; and

B. Rinsed in an effective disinfectant or heat dried at 175(F or more for at least 30 minutes after being washed.

.53 Variances.

A. An owner who has been granted a variance by the Secretary before February 10, 1997 may continue to operate under that variance.

B. An owner may request a variance from a requirement of this chapter by submitting a written application that:

(1) Contains specific details of the alternative procedure proposed by the owner;

(2) Specifies the applicable regulation to which the variance pertains;

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(3) Explains the reason for the request;

(4) Provides the name and address of the owner;

(5) Provides the name and location of the facility; and

(6) Demonstrates that the alternative procedure proposed:

(a) Meets or produces the intended effect of the regulation for which the variance is requested, and

(b) Maintains the protection of the health and safety of the individuals using the facility at or above the level required by the regulation for which the variance is requested.

C. Upon consideration of an application for a variance, the Secretary may grant the request for a variance if the:

(1) Applicant has submitted an application in accordance with the provisions of §B of this regulation;

(2) Applicant has complied with all other applicable provisions of this chapter;

(3) Application is justified due to physical limitation of the existing layout of the facility; and

(4) Secretary determines that the alternative procedure proposed by the applicant:

(a) Meets or produces the intended effect of the regulation, and

(b) Maintains the protection of the health and safety of the individuals using the facility at or above the level required by the regulation at issue.

D. The Secretary shall grant or deny an application for a variance in writing and shall mail the decision to the applicant within 60 days of the date the application for a variance is received by the Department.

E. If the determination of the Secretary is to deny a variance request that has been made in compliance with the provisions of §B of this regulation, the applicant may file an appeal of the denial in accordance with State Government Article, Title 10, Subtitle 2, Annotated Code of Maryland, and shall contact the Secretary within 10 days of receipt of the denial to preserve a right to a hearing.

.54 Compliance Schedules.

A. The owner of a public pool or spa that has a structure, equipment, or appurtenance that is not in compliance with this chapter as determined by the Secretary may submit to the Secretary for approval a compliance schedule for meeting the requirements of this chapter.

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B. The request from an owner for approval of a compliance schedule shall include:

(1) The reason that the noncompliance item cannot be immediately corrected;

(2) The plan for correction of the noncompliance item; and

(3) The time schedule for the correction of the noncompliance item.

C. The Secretary may approve the compliance schedule if the:

(1) Owner has submitted a written request for approval of a compliance schedule in accordance with §B of this regulation;

(2) Time schedule for the correction of the noncompliance item is accepted by the Secretary; and

(3) Operation of the pool or spa during the time allowed to bring the pool or spa into compliance does not adversely affect the health and safety of the public.

D. The Secretary may not approve a compliance schedule for a newly constructed pool or spa that has not received construction approval under Regulation .08 of this chapter.

E. The Secretary shall issue an operating permit or shall refrain from suspending an operating permit to an owner if:

(1) A compliance schedule has been approved by the Secretary for the correction of a noncompliance item;

(2) The owner is following the approved compliance schedule; and

(3) The pool or spa is otherwise in compliance with this chapter.

Administrative History
Effective date: February 10, 1997 (24:3 Md. R. 187)

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Regulation .02 amended effective December 19, 2005 (32:25 Md. R. 1942)

Regulation .03 amended as an emergency provision effective January 3, 2014 (41:2 Md. R. 88); amended permanently effective May 12, 2014 (41:9 Md. R. 521)

Regulation .03A amended effective March 20, 2000 (27:5 Md. R. 584); December 19, 2005 (32:25 Md. R. 1942)

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Regulation .27 amended effective December 19, 2005 (32:25 Md. R. 1942)

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Regulation .41B amended effective December 19, 2005 (32:25 Md. R. 1942)

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