

# **THE DESIGN, CONSTRUCTION, OPERATION AND MAINTENANCE OF PUBLIC SWIMMING POOLS**

Excerpts from:  
California Health and Safety Code  
California Code of Regulations  
California Building Code  
California Electrical Code

Reprinted with Amendments  
Through September 11, 1998

1986

Alameda County  
Environmental Health Services  
1131 Harbor Bay Parkway  
Alameda, Calif. 94502  
(510)567-6700

(This booklet is for informational purposes only. Should the reader want assurance that the referenced material is current, the codes should be referred to directly.)

**California Health and Safety Code**  
**Division 2.5, Chapter 3, Section 1797.182,**

**Article 5. Personnel**

**1797.182 Training of lifeguards and firefighters to administer first aid and cardiopulmonary resuscitation**

All ocean, public beach, and public swimming pool lifeguards and all firefighters in this state, except those whose duties are primarily clerical or administrative, shall be trained to administer first aid and cardiopulmonary resuscitation. The training shall meet standards prescribed by the authority, and shall be satisfactorily completed by such persons as soon as practical, but in no event more than one year after the date of employment. Satisfactory completion of a refresher course which meets the standards prescribed by the authority in cardiopulmonary resuscitation and other first aid shall be required at least every three years.

The authority may designate a public agency or private nonprofit agency to provide for each county the training required by this section. The training shall be provided at no cost to the trainee.

As used in this section, "lifeguard" means any regularly employed and paid officer, employee, or member of a public aquatic safety department or marine safety agency of the State of California, a city, county, city and county, district, or other public or municipal corporation or political subdivision of this state.

Added Stats 1983 Ch 1246

**California Health and Safety Code**

**Swimming Pool Sanitation**

**116025 (formerly 24100) Public swimming pool defined**

"Public swimming pool," as used in this article, means any public swimming pool, bathhouse, public swimming and bathing place and all related appurtenances.

**116028 (formerly 24100.1) Lifeguard service defined**

"Lifeguard service," as used in this article, means the attendance at a public swimming pool during periods of use, of one or more lifeguards who possess, as minimal qualifications, current Red Cross advanced lifesaving certificates or Y.M.C.A. senior lifesaving certificates, or have equivalent qualifications and who are trained to administer first aid, including, but not limited to, cardiopulmonary resuscitation in conformance with Section 217 and the regulations promulgated thereunder, and who have no duties to perform other than to supervise the safety of participants in water-contact activities. "Lifeguard services" includes the supervision of the safety of participants in water contact activities by lifeguards who are providing swimming lessons, coaching, or overseeing water contact sports, or providing water safety instructions to participants when no other persons are using the facilities unless those persons are supervised by separate lifeguard services.

(Amended by Stats. 1982, Ch. 647.)

**116030 (formerly 24100.2) Pools in excess of 20,000 square feet.**

- (a) The construction standards as set forth in this article and the rules and regulations adopted pursuant thereto, shall not apply to any artificially constructed swimming facility in excess of 20,000 square feet of surface area, including, but not limited to, a manmade lake or swimming lagoon with sand beaches
- (b) The requirements of this article and rules and regulations adopted pursuant thereto, pertaining to the operation, maintenance, and use of a public swimming pool, including the quality and purity of the water, lifesaving and other measures to ensure the safety of bathers, and measures to ensure personal cleanliness of bathers shall apply to the swimming facilities described in subdivision (a).

(Added by Stats. 1985, Ch. 1124.)

**116033 (formerly 24100.3) Requirements for persons providing aquatic instruction.**

Persons providing aquatic instruction, including, but not limited to, swimming instruction, water safety instruction, water contact activities, and competitive aquatic sports, at a public swimming pool shall possess an American Red Cross Emergency Water Course certificate, or have equivalent qualifications, as determined by the state department. In addition, these persons shall be certified in standard first aid and cardiopulmonary resuscitation (CPR). All of these

persons shall meet these qualifications by January 1, 1991. Persons who only disseminate written materials relating to water safety, are not persons providing aquatic instruction within the meaning of this section.

The requirements of this section shall be waived under either of the following circumstances: (a) when one or more aquatic instructors possessing the American Red Cross Emergency Water Safety Course Certificate or its equivalent are in attendance continuously during periods of aquatic instruction, or (b) when one or more lifeguards meeting the requirements of Section 116028 are in attendance continuously during periods of aquatic instruction.

(Added Stats 1988, Ch 1370 sec 1 Amended Stats 1990 Ch 4 § 1)

**116035 (formerly 24101) Supervising agency.**

The State Department of Health has supervision of sanitation, healthfulness, and safety of public swimming pools.

(Amended by Stats. 1971, Ch. 1593.)

**116038 (formerly 24101.1) Filing copy of plans prior to construction of public swimming pool..**

Every person proposing to construct a public swimming pool shall file a copy of the plans therefor, prior to construction, with the local health officer having jurisdiction for approval.

(Added by Stats. 1959, Ch. 661.)

**116040 (formerly 24101.2) Operation and maintenance in sanitary, healthful and safe manner.**

Every person operating or maintaining a public swimming pool must do so in a sanitary, healthful and safe manner.

(Added by Stats. 1959, Ch. 661.)

**116043 (formerly 24101.3) Sanitary, healthful and safe condition of pool, appurtenances, etc.**

Every public swimming pool, including swimming pool structure, appurtenances, operation, source of water supply, amount and quality of water recirculated and in the pool, method of water purification, lifesaving apparatus, measures to insure safety of bathers, and measures to insure personal cleanliness of bathers shall be such that the public swimming pool is at all times sanitary, healthful and safe.

(Added by Stats. 1959, Ch. 661.)

**116045 (formerly 24101.4) Necessity of lifeguard service..**

- (a) Lifeguard service shall be provided for any public swimming pool which is of wholly artificial construction and for the use of which a direct fee is charged. For all other public swimming pools, lifeguard service shall be provided or signs shall be erected clearly indicating that such service is not provided.
- (b) "Direct fee," as used in this section, means a separately stated fee or charge for the use of a public swimming pool to the exclusion of any other service, facility, or amenity.

**116048 (formerly 24101.5) Record keeping for common interest development of less than 25 units.**

- (a) On or after January 1, 1987, for public swimming pools in any common interest development, as defined in Section 1351 of the Civil Code, which consists of fewer than 25 separate interests, as defined in subdivision (1) of Section 1351 of the Civil Code, the person operating each such pool open for use shall be required to keep a record of the information required by the subdivision (a) of Section 65523 of Title 22 of the California Administrative Code, except that the information shall be recorded at least two times per week at intervals no greater than four days apart.
- (b) On or after January 1, 1987, any rule or regulation of the state department which is in conflict with subdivision (a) is invalid.

**116049 (formerly 24101.6) Ground-fault interrupter**

- (a) "Public swimming pool," as used in this section, means any public swimming pool defined in Section 116025 that is owned or operated by the state or any local governmental entity, including, but not limited to, any city, county, city and county, charter city, charter county, or charter city and county.
- (b) All dry-niche light fixtures, and all underwater wet-niche light fixtures operating at more than 15 volts in public swimming pools shall be protected by a ground-fault circuit interrupter in the branch circuit, and all light fixtures in public swimming pools shall have encapsulated terminals. This subdivision is declaratory of existing law.
- (c) Any public swimming pools that do not meet the requirements specified in subdivision (b) by January 1, 1995, shall be retrofitted to comply with these requirements by January 1, 1996.

- (d) The ground-fault circuit interrupter required pursuant to this section shall comply with Underwriter's Laboratory standards.
- (e) Any state or local governmental entity that owns or operates a public swimming pool shall have its public swimming pool inspected by a qualified inspector prior to July 1, 1996, to determine compliance with this section.
- (f) A public swimming pool may charge a fee, or increase its fee charged, to the public for use of the pool, for the purpose of recovering the administrative and other costs of retrofitting pools in compliance with this section. The charge or increase due to this section shall terminate when funds sufficient to cover these costs are collected.
- (g) All electrical work required for compliance with this section shall be performed by an electrician licensed pursuant to Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code.

**Section 116049.1 Ground Fault Circuit Interrupter II**

- (a) "Public swimming pool," as used in this section, means any swimming pool operated for the use of the general public with or without charge, or for the use of the members and guests of a private club, including any swimming pool located on the grounds of a hotel, motel, inn, an apartment complex, or any residential setting other than a single-family home. For purposes of this section, public swimming pool shall not include a swimming pool located on the grounds of a private single-family home.
- (b) The design and installation of all underwater lighting systems, operating at more than 15 volts, supplied from a branch circuit either directly or by way of a transformer, shall be installed in a public swimming pool, as defined in this section, so that there is no shock hazard with any likely combination of fault conditions during normal use, and shall comply with both of the following requirements:
  - (1) An approved ground-fault circuit interrupter shall be installed in the branch circuit that supplies all fixtures operating at more than 15 volts.
  - (2) Only approved underwater lighting fixtures shall be used and no lighting fixtures shall be installed for operations at more than 150 volts between conductors.
- (c) Any public swimming pool that does not meet the requirements specified in subdivision (b), shall be retrofitted to comply with these requirements by May 1, 1999.
- (d) The ground-fault circuit interrupter required pursuant to this section shall comply with standards acceptable to the authority having jurisdiction.
- (e) The owner or operator of a public swimming pool shall, on or before May 1, 1999, comply with both of the following:
  - (1) Obtain an inspection of its public swimming pool by the local health officer or a qualified contractor as set forth in subdivision (f).
  - (2) Certify to the local health officer as set forth in Section 116053 that the public swimming pool facility is in compliance with this section.
- (f) All electrical work required for compliance with this section shall be performed by a person licensed to perform electrical work within his or her general, specialty, or limited specialty contractor's licensed scope of practice pursuant to Section 7059 of the Business and Professions Code.
- (g) This section shall be known and may be cited as the Yasmin Paleso'o Memorial Swimming Pool Safety Law.

**116050 (formerly 24102) Rules and regulations: enforcement of building standards; adoption of standards.**

Except as provided in Section 18930, the state department shall make and enforce such rules and regulations pertaining to public swimming pools as it deems proper and shall enforce building standards published in the State Building Standards Code relating to public swimming pools; provided, that no rule or regulation as to design or construction of pools shall apply to any pool which has been constructed before the adoption of such rule or regulation, if such pool as constructed is reasonably safe and the manner of such construction does not preclude compliance with the requirements of such rules and regulations as to bacteriological and chemical quality and clarity of the water in such pool. The state department shall adopt and submit building standards for approval pursuant to Chapter 4 (commencing with Section 18935) of Part 2.5 of Division 13 of this code for the purposes described in this section.

**116053 (formerly 24103) Enforcement officers.**

Every health officer shall enforce the building standards published in the State Building Standards Code relating to swimming pools and the other rules and regulations adopted by the state department pursuant to this article in his jurisdiction.

**116055 (formerly 24104) Authority to enter and investigate.**

For the purposes of this article, any health officer, or any inspector of the state department, may at all reasonable times enter all parts of the premises of a public swimming pool to make examination and investigation to determine the sanitary condition and whether this article, building standards published in the State Building Standards Code relating to swimming pools, or the other rules and regulations adopted by the state department pursuant to this article are being violated.

**116058 (formerly 24105) Publication of inspection reports.**

The State department may publish the reports of inspections.

**116060 (formerly 24106) Public nuisance.**

Any public swimming pool constructed, operated, or maintained contrary to the provisions of this article is a public nuisance, dangerous to health.

**116063 (formerly 24107) Abatement of nuisance**

Any nuisance maintained in violation of this article may be abated or enjoined in an action brought by a local health officer, or the state department, or it may be summarily abated in the manner provided by law for the summary abatement of other public nuisances dangerous to health.

(Amended by Stats. 1959, Ch. 661.)

**116064. Suction Hazards at Wading Pools**

- (a) As used in this section the following words have the following meanings:
    - (1) (A) "Public wading pool" means a pool that meets all of the following criteria:
      - (i) It has a maximum water depth not exceeding 18 inches.
      - (ii) It is a pool other than a pool that is located on the premises of a one-unit or two-unit residence, intended solely for the use of the residents or guests.
    - (B) "Public wading pool" includes, but is not limited to, a pool owned or operated by private persons or agencies, or by state or local governmental agencies.
    - (C) "Public wading pool" includes, but is not limited to, a pool located in an apartment house, hotel, or similar setting, that is intended for the use of residents or guests.
  - (2) "Alteration" means any of the following:
    - (A) To change, modify, or rearrange the structural parts or the design.
    - (B) To enlarge.
    - (C) To move the location of.
    - (D) To install a new water circulation system.
    - (E) To make any repairs costing fifty dollars (\$50) or more to an existing circulation system.
- (b) A public wading pool shall have at least two circulation drains per pump that are hydraulically balanced and symmetrically plumbed through one or more "T" fittings, and are separated by a distance of at least three feet in any dimension between the drains.
- (c) All public wading pool main drain suction outlets that are under 12 inches across shall be covered with antivortex grates or similar protective devices. All main drain suction outlets shall be covered with grates or antivortex plates that cannot be removed except with the use of tools. Slots or openings in the grates or similar protective devices shall be of a shape, area, and arrangement that would prevent physical entrapment and would not pose any suction hazard to bathers.
- (d)
  - (1) The State Department of Health Services may adopt regulations pursuant to this section.
  - (2) The regulations may include, but not be limited to, standards permitting the use of alternative devices or safeguards, or incorporating new technologies, that produce, at a minimum, equivalent protection against entrapment and suction hazard, whenever these devices, safeguards, or technologies become available to the public.
  - (3) Regulations adopted pursuant to this section constitute building standards and shall be forwarded pursuant to subdivision (e) of Section 11343 of the Government Code to the California Building Standards Commission for approval as set forth in Section 18907 of the Health and Safety Code.
- (e) The California Building Standards Commission shall approve the building standards as set forth in this section and

publish them in the California Building Standards Code by November 1, 1999. The commission shall publish the text of this section in Title 24 of the California Code of Regulations, Part 2, Chapter 31B, requirements for public swimming pools, with the following note: "NOTE: These building standards are in statute but have not been adopted through the regulatory process." Enforcement of the standards set forth in this section does not depend upon adoption of regulations, therefore, enforcement agencies shall enforce the standards pursuant to the timeline set forth in this section prior to adoption of related regulations.

- (f) The maximum velocity in the pump suction hydraulic system shall not exceed six feet per second when 100 percent of the pump's flow comes from the main drain system and any main drain suction fitting in the system is completely blocked.
- (g) On and after January 1, 1998, all newly constructed public wading pools shall be constructed in compliance with this section.
- (h) Commencing January 1, 1998, whenever a construction permit is issued for alteration of an existing public wading pool, it shall be retrofitted so as to be in compliance with this section.
- (i) By January 1, 2000, every public wading pool, regardless of the date of original construction, shall be retrofitted to comply with this section.

**116065 (formerly 24108) Violation; misdemeanor; penalty**

Every person who violates any provision of this article, building standards published in the State Building Standards Code relating to swimming pools, or the rules and regulations adopted pursuant to the provisions of this article, is guilty of a misdemeanor, punishable by a fine of not less than fifty dollars (\$50) nor more than one thousand dollars (\$1,000), or by imprisonment for not more than six months, or both.

**116068 (formerly 24109) Separate offense for each day.**

Each day that a violation of this article continues is a separate offense

**California Code of Regulations**  
**Title 22, Chapter 20**  
**Public Swimming Pools**

**Article 1. Definitions and Scope**

**65501. Definitions.**

- (a) **"Swimming Pool" or " Pool"** means an artificial basin, chamber or tank used, or intended to be used, for public swimming, diving, or recreative bathing, but does not include baths where the main purpose is the cleaning of the body, nor individual therapeutic tubs.
- (b) **"Wading Pool"** means an artificial basin, chamber or tank used, or intended to be used, for wading by small children and having a maximum depth of not to exceed 46 centimeters (18 inches) at the deepest point nor more than 30 centimeters (12 inches) at the side walls.
- (c) **"Special Use Pools"** means pools designed and used exclusively for a single purpose such as wading, instruction, diving, competition or medical treatment where a licensed professional in the healing arts is in attendance.
- (d) **"Enforcing Agent"** means the Health Officer or Director of Environmental Health or their designated registered sanitarian representative.
- (e) **"Temporary Training Pool"** means an artificial basin, chamber or tank intended to be used for instruction in swimming and so constructed as to be readily disassembled for storage or for transporting to and reassembling at a different location.
- (f) **"Spa Pool"** means a pool, not used under medical supervision, that contains water of elevated temperature, and incorporates a water jet system, an aeration system or a combination of the two systems.
- (g) **"Department"** means the State Department of Health Services.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Sections 116025 through 116068, Health and Safety Code.

**HISTORY:**

- 1. New Chapter 20 (Articles 1-3, Sections 655017, not consecutive) filed 10-16-80; designated effective 10-1-81 (Register 80, No. 42).
- 2. Editorial correction of effective date of History Note No. I (Register 80, No. 52)
- 3. Editorial change filed 9-4-81 redesignating effective date of 10-16-80 order from 10-1-81 to 12-30-81 (Register 81, No. 36).

**65503. Scope.**

- (a) The provisions of this Chapter apply to all pools as defined in Section 65501, including but not limited to:
  - (1) Commercial pools.
  - (2) Real estate pools.
  - (3) Community pools.
  - (4) Hotel pools.
  - (5) Motel pools.
  - (6) Resort pools.
  - (7) Auto and trailer park pools.
  - (8) Auto court pools.
  - (9) Apartment house pools.
  - (10) Club pools.
  - (11) Public or Private school pools.
  - (12) Gymnasium pools.
  - (13) Health establishment pools.
  - (14) Townhouse pools.
  - (15) Condominium pools.
  - (16) Mobile home park pools.
  - (17) Campground pools.
  - (18) Homeowner association pools.
- (b) Only private pools maintained by an individual for the use of family and friends are exempt from the provisions of

this Chapter.

- (c) The provisions of this Chapter shall apply to all auxiliary structures and equipment provided and maintained in connection with pools, including but not limited to:
- (1) Locker rooms.
  - (2) Shower rooms.
  - (3) Dressing rooms.
  - (4) Toilet facilities.
  - (5) Filtration equipment.
  - (6) Pumping equipment.
  - (7) Piping.
  - (8) Disinfecting equipment.
  - (9) Safety equipment.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Section 116025, Health and Safety Code.

## **Article 2. Plans, Construction and Inspection**

### **65505. Plans and Specifications**

- (a) A person proposing to construct, reconstruct or alter a swimming pool or auxiliary structure or equipment shall submit legible plans and specifications to the enforcing agent for review and written approval prior to commencing the work and in advance of the issuance of any building, plumbing or electrical permit.
- (b) Plans submitted for approval pursuant to this section shall be drawn to a scale of 1 centimeter equals 0.48 meters (¼ inch equals 1 foot), except that plans for spa pools shall be drawn to a scale of 1 centimeter equals 0.12 meters (1 inch equals 1 foot).
- (c) The enforcing agent may require the submission of such additional information as may be required to determine the compliance of plans and specifications submitted for approval.
- (d) Within 30 days of the receipt of plans and specifications, the enforcing agent shall notify the person submitting the plans and specifications of their approval or disapproval.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Section 116038, Health and Safety Code.

### **65507. Records**

- (a) The enforcing agent shall retain one copy of the plans and specifications submitted for approval.
- (b) At the request of the Department, the enforcing agent shall make available to the Department records pertaining to swimming pools which are within the enforcing agent's jurisdiction.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Sections 116038 and 116058, Health and Safety Code.

### **65509. Construction**

- (a) Swimming pools shall be constructed, reconstructed or altered in compliance with plans approved pursuant to Section 65505, unless written approval of variance from such plans is obtained from the enforcing agent.
- (b) Swimming pools shall conform to the requirements of Chapter 2-90, Title 24, Building Standards, California Administrative Code.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Section 116038, Health and Safety Code.

### **65511. Inspection.**

- (a) The swimming pool owner, or his designated agent, shall notify the enforcing agent at least two working days before guniting or constructing the pool shell to allow inspection and approval by the enforcing agent. Following pool construction, the enforcing agent shall again be notified at least two days in advance of placing the pool in operation to allow for final inspection and approval.
- (b) No pool shall be placed in use without the written approval of the enforcing agent.

NOTE: Authority: Sections 100275 & 116050, Health and Safety Code. Reference: Sections 116038 & 116055.

### **Article 3. Maintenance and Operation**

#### **65521. Pool Supervision Responsibility.**

- (a) Every pool shall be under the supervision of a person who is fully capable of, and shall assume responsibility for, compliance with all requirements relating to pool operation, maintenance and safety of bathers.
- (b) No pools shall be used or available for use unless all of the requirements of subsection (a) and the following are complied with.
  - (1) Routine (e.g., daily and weekly) operating procedures shall be permanently posted in a location accessible to and frequented by the operator.
  - (2) Manufacturers' instructions for operation and maintenance of mechanical and electrical equipment shall be kept available for the operator.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Sections 116050.2 and 116043, Health and Safety Code.

#### **65523. Operation Records.**

- (a) The operator of each pool open for use shall keep a daily record of information regarding operation, including readings of disinfectant residual, pH and maintenance procedures such as cleaning of filters and quantity of chemicals used.
- (b) If cyanuric acid by itself or in a combined form with the disinfectant is added to a pool, the cyanuric acid concentration shall be measured a minimum of once per month and records shall be kept of the results of such testing
- (c) Data collected pursuant to subsections (a) and (b) shall be maintained at least one year for inspection by the enforcing agent, or shall be submitted to the enforcing agent upon his request.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Sections 116040 and 116043, Health and Safety Code.

#### **65525. Recirculation and Purification System Operation.**

The pumps, filters, disinfectant and chemical feeders, flow indicators, gauges and all related parts of the pool water purification system shall be kept in operation whenever the pool is available for use, and at such additional times and periods as may be necessary to maintain the water in the pool in a clear and disinfected condition. The variation in flow during a filtration cycle shall be such as to not reduce the flow below 65 percent of the rate required in Section 9032 of Title 24, California Administrative Code.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Sections 116043 and 116050, Health and Safety Code.

#### **65527. Clarity of Water.**

The recirculation and purification system shall be operated and maintained so as to keep the pool water clean and clear. Under no circumstances shall the pool be used if the main drain is not clearly visible from the deck. Such a pool shall be closed and shall not be reopened until the water is clean and clear, and upon specific written approval of the enforcing agent. If the pool drain is still not visible 48 hours following inspection and closure by the enforcing agent, the enforcing agent may order the pool drained as a safety precaution.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Sections 116043, 116050, 116053 and 116055, Health and Safety Code.

#### **65529. Disinfection, pH Control and Cyanuric Acid.**

- (a) Pools, when open or in use, shall be disinfected continuously by a chemical which imparts a residual effect and shall be maintained in an alkaline condition at a pH between 7.2 and 8.0. For pools using hypochlorite or gaseous chlorine without a stabilizer, a free chlorine residual at least 1.0 ppm shall be maintained throughout the pool. If cyanuric acid or a chlorinated isocyanurate is used, a free chlorine residual of at least 1.5 ppm shall be maintained throughout the pool. The cyanuric acid concentration in any pool shall not exceed 100 ppm. Appropriate test kits for measuring the pH, concentration of the disinfectant, and, when used, concentration of cyanuric acid shall be provided at each pool. If halogens other than chlorine are used, residuals of equivalent strength shall be maintained. A test kit for measuring the concentration of the disinfectant accurate to within 0.1 ppm shall be available at each pool.

- (b) When test kits for chlorine utilize comparative color standards, the standards shall be accurate to within plus or minus 0.1 ppm. There shall be at least four color standards as follows: 0.6, 1.0, 1.5 and 2.0. The test kit shall be capable of testing for free chlorine residual.
- (c) The enforcing agent may accept other disinfecting materials or methods after they have been demonstrated to provide a readily measurable residual. Such materials or methods must be as effective as the required chlorine concentration and must not be dangerous to public health or create objectionable physiological effects.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Section 116043, Health and Safety Code.

#### **65531. Bacteriological and Chemical Quality of Pool Water.**

- (a) Bacteriological quality of water in the pool shall be such that not more than two consecutive samples, taken when the pool is in use, shall:
  - (1) Contain more than 200 bacteria per milliliter, as determined by the standard (35 °C) plate count; or
  - (2) Contain a total coliform organism MPN (most probable number) count of 2.2 or greater per 100 milliliters of sample.
- (b) Chemical quality of water in the pool shall not cause irritation of eyes or skin of the bathers, or have other objectionable physiological effects on bathers.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Section 116043, Health and Safety Code.

#### **65533. Cleanliness of Pool**

- (a) Floating scum, sputum or debris shall not be allowed to accumulate in the pool. Skimmers, where provided, and water levels shall be maintained and operated to remove such material continuously. The bottom and sides of the pool shall be cleaned as often as necessary to be kept in a clean condition. The sides and bottom of pools, decks and other surfaces shall be kept free of slime and algae.
- (b) Animals shall not be permitted in the pool or pool area.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Section 116043, Health and Safety Code.

#### **65535. Cleaning and Maintenance.**

- (a) All parts of the pool and related pool facilities and equipment shall be maintained in good repair. Floors shall be kept free from cracks and other defects and in compliance with Section 3115B, Title 24, California Code of Regulations. Walls, ceilings, partitions, doors, lockers and similar surfaces and equipment shall be refinished in a manner acceptable to the enforcing agent as often as necessary to be kept in a state of good repair.
- (b) Hoses shall be provided for regular flushing and cleaning. The whole pool area shall be kept clean, sanitary and free of litter and vermin.
- (c) Toilets, urinals, showers, wash basins and other plumbing fixtures shall be maintained in a clean condition, and in good repair.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Section 116043, Health and Safety Code.

#### **65537. Bathing Suits, Caps and Towels.**

Bathing suits and towels furnished by the management shall be laundered and clean, and caps shall be sanitized after each usage.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Section 116043, Health and Safety Code.

#### **65539. Lifesaving, First Aid and Control of Bathers.**

- (a) Lifeguard services shall be provided in accordance with Sections 116028 and 116045 of the Health and Safety Code.
- (b) Where lifeguard service is provided, the number of lifeguards shall be adequate to maintain continuous surveillance over the bathers.
- (c) Where no lifeguard service is provided, a warning sign shall be placed in plain view and shall state "Warning-No Lifeguard on Duty" with clearly legible letters at least 10.2 centimeters (4 inches) high. In addition, the sign shall

also state "Children Under the Age of 14 Should Not Use Pool Without An Adult In Attendance".

- (d) The enforcing agent may require posting of notices directing the bathers to make use of the toilets and showers before entering the pool. At all pools, diagrammatic illustrations of artificial respiration procedures shall be posted where clearly visible from the nearby deck. Such illustrations shall be protected against the elements. Also, the telephone number of the nearest ambulance, fire and police or sheriff's department shall be kept similarly posted along with instructions that, if needed, manual or mouth-to-mouth artificial respiration should be started immediately and continued until a physician arrives or mechanical resuscitators are applied.
- (e) Every swimming pool shall be equipped for safety and rescue purposes with one or more rescue poles not less than 3.6 meters (12 feet) in length with body hooks, and one or more life rings having a minimum exterior diameter of 43 centimeters (17 inches) readily accessible for use. Such life rings shall have attached to them an 0.476 centimeter (3/16 inch) line long enough to span the maximum width of the pool. The line shall be stored when not in use in such a way as to prevent kinking or fouling. When rescue can be effected from the perimeter of a spa pool, such a pool may be exempt from the requirements of this paragraph if so approved by the enforcing agent
- (f) When, in the opinion of the enforcing agent, any pool is of such size that unaided swimming by lifeguards may not offer sufficient protection to swimmers, one or more square-sterned boats equipped with oars, oarlocks and life rings, or paddle boats, as the enforcing agent shall order, shall be provided.
- (g) A first aid kit shall be provided at all swimming pools when required by the enforcing agent.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Sections 116028, 116043 and 116045, Health and Safety Code.

#### **65541. Health of Employees and Patrons.**

- (a) No person having a communicable disease shall be employed at a public swimming pool.
- (b) All patrons known to be, or suspected by the enforcing agent or the management of being afflicted with an infectious disease, suffering from a cough, cold or sores, or wearing bands or bandages shall be excluded from all public bathing places unless at least one of the following conditions is met:
  - (1) The patron submits a current written statement, signed by a licensed physician, confirming that the patron does not present a health hazard to other pool users.
  - (2) Pool use by the patron is approved by the enforcing agent.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Sections 116040, 116043 and 116055, Health and Safety Code.

#### **65543. Wading Pool Water Clarity.**

The water of every wading pool shall be kept sufficiently clear so that the bottom of the wading pool will be visible at all times.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Section 116043, Health and Safety Code.

#### **65545. Pool Closure.**

- (a) If, in the opinion of the enforcing agent, a pool is maintained or operated in a manner which creates an unhealthful, unsafe, or unsanitary condition, the pool may be closed by the enforcing agent. Such a pool shall not be reopened until correction is made, and upon, specific written approval of the enforcing agent.
- (b) Unhealthful, unsafe or unsanitary conditions include, but are not limited to, the failure to meet clarity, disinfection, pH, safety or bacteriological standards.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Sections 116040, 116043, 116053 and 116055, Health and Safety Code.

#### **65547. Compressed Chlorine Gas.**

- (a) When compressed chlorine gas is employed, the following requirements shall be met:
  - (1) A solution of commercial strength ammonia shall be kept available for use in testing for chlorine gas leaks.
  - (2) A gas mask designed for use in a chlorine atmosphere shall be provided unless a self-contained breathing apparatus meeting the requirements of paragraph (a) (3) is provided. Gas masks shall be of a type approved by the U.S. Bureau of Mines and/or the National Institute for Occupational Safety and Health. The following

requirements for gas mask canisters shall be met:

- (A) A replacement canister shall be provided and kept serviceable. Any canister which has been utilized during chlorine leakage shall be discarded and a replacement canister provided.
  - (B) The date of attaching a canister to the mask breathing tube shall be recorded on the canister. The canister shall be discarded one year from the date of attachment, or sooner if the canister is expended as shown by an indicator color change.
  - (C) Date stamped expired canisters shall be replaced with unexpired, unused containers.
- (3) A self-contained breathing apparatus may be used in place of a gas mask only if all pool attendants and lifeguards who may be responsible for the health and safety of pool users have received formal training in the use of the equipment. Following initial formal training, responsible pool attendants and lifeguards shall receive refresher training at least once every six months if working at pools which are open year-round. For pools open on a seasonal basis, all returning responsible personnel shall receive retraining on the use of the equipment before the pool is opened for the season. The self-contained breathing apparatus provided shall comply with the provisions of Section 5144 of Title 8, California Administrative Code, and the following:
- (A) Only parts approved for the specific respiratory system shall be used for replacement.
  - (B) The respirator equipment shall be kept at a readily accessible point outside the room in which the chlorinator is maintained.
- (4) All swimming pools with gas type automatic chlorinators shall post in a conspicuous location near the entrance to the pool an emergency pool evacuation procedure.
- (A) Emergency exit doors or gates shall not be locked when the pool is open for use. Keys to such doors and gates shall be readily available to pool attendants and lifeguards.
  - (B) Pool attendants and lifeguards shall receive training in the application of effective pool emergency procedures. Such training shall be reviewed at least once every six months for pools open year-round. For pools open on a seasonal basis, training in emergency procedures shall be conducted before the pool is opened for the season.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference Sections 116040, 116043 and 116050, Health and Safety Code.

#### **65549. Replacement of Equipment or Appurtenances**

When fixed or installed equipment or appurtenances are changed or replaced, the change or replacement units shall meet applicable requirements of this Chapter subject to the provisions of Section 116050 of the Health and Safety Code, and shall first be cleared with the enforcing agent before substitution if not an exact duplicate of the units being changed or replaced.

NOTE.: Authority cited: Section 100275 and 116050, Health and Safety Code. Reference: Sections 116038, 116043 and 116050, Health and Safety Code.

#### **HISTORY**

1. New section filed 1-14-81; designated effective 10-14-81 (Register 81, No. 3).

#### **65551. Shower, Toilet and Dressing Facilities.**

- (a) For shower, toilet and dressing facilities, the walls, partitions, doors, lockers and similar surfaces which require periodic cleaning shall be maintained smooth and finished so as to facilitate- cleaning.
- (b) Showers shall be provided with soap in soap dispensers or containers.
- (c) For toilet facilities, handwashing detergent or soap, sanitary towels or hot air blowers, and toilet tissues shall be provided in permanently installed dispensing devices.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code. Reference: Section 116043, Health and Safety Code.

#### **HISTORY:**

1. New section filed 1-14-81; designated effective 10-1-81 (Register 81, No. 3)

**California Code of Regulations  
Title 24, Chapter 31B**

**PUBLIC SWIMMING POOLS**

**GENERAL**

**Sec. 3101B (formerly 2-9001) Scope.**

The provisions of this Chapter shall apply to the construction, installation, alteration, addition, relocation, replacement or use of any public swimming pool and to its appurtenant auxiliary areas and facilities and to its mechanical equipment and related piping.

**NOTE NO. 1:** Examples of public pools include those located in a:

- (1) commercial building,
- (2) hotel,
- (3) motel,
- (4) resort,
- (5) auto and trailer park,
- (6) auto court,
- (7) mobilehome park,
- (8) campground,
- (9) apartment house,
- (10) condominium,
- (11) townhouse,
- (12) home owner association,
- (13) club,
- (14) community building,
- (15) public or private school,
- (16) gymnasium, and
- (17) health establishment.

**NOTE NO. 2:** See the California Energy Code, Part 6, for additional swimming pool standards.

**Sec. 3102B (formerly 2-9002) Definitions.**

For the purpose of this Chapter, the following terms shall have the meaning indicated:

**Auxiliary Area-**A public dressing, locker, shower or toilet area or building space intended to be used by bathers.

**Backwash-**The process of thoroughly cleansing the filter media and/or elements and the contents of the filter vessel.

**Bather-**A person using a pool and adjoining deck areas for the purpose of water sports such as diving, swimming, wading, or related activities.

**Clear Pool Water-** Pool water that is free from cloudiness and is transparent.

**Clean Pool Water-** Pool water that is free of dirt, oils, scum, algae, floating materials, or other visible organic and inorganic materials that would sully the water.

**Corrosion-Resistant-**Capable of maintaining original surface characteristics under the prolonged influence of the use environment.

**Deck-** An area surrounding a pool which is specifically constructed or installed for use by bathers.

**Drain** A fitting or fixture, usually at or near the bottom of a pool, through which water leaves the pool normally to the recirculation pump.

**Effective Particle Size-** The theoretical size of sieve (in mm) that will pass 10 percent by weight of the sand.

**Enforcing Agency-** Means the Health Officer or Director of Environmental Health or their designated registered sanitarian representative.

**Equipment Area-** An area used for pool recirculation and purification equipment and related piping appurtenances.

**Inlet-**A fitting or fixture through which circulation water enters the pool.

**Ladder-**A series of vertically separate treads or rungs either connected by vertical rail members or independently fastened to an adjacent vertical pool wall.

**Medical Pool**-A special purpose pool used by a State recognized medical institution engaged in the healing arts under the direct supervision of licensed medical personnel for treatment of the infirm.

**Overflow System**-The system which includes perimeter type overflow gutters, surface skimmers, surge or collector tanks, other surface water collective system components, and their interconnecting piping.

**Pools**- A constructed or prefabricated artificial basin, chamber or tank intended to be used primarily by bathers, and not for cleaning of the body or for individual therapeutic use.

**Pool Volume**-The amount of water, expressed in gallons (liters), that a pool holds when filled.

**Private Pool**-Any constructed pool, permanent or portable, which is intended for non-commercial use as a swimming pool by not more than three owner families and their guests.

**NOTE:** A single family residence is Occupancy R-3.

**Public Pool**- A pool other than a private pool.

**Recessed Steps** A riser/tread or series of risers/treads extending down into the deck with the bottom riser or tread terminating at the pool wall (thus creating a "stair well").

**Recessed Treads**-A series of vertically spaced cavities in the pool wall creating tread areas for stepholes.

**Recirculation System**-The interconnected system traversed by the recirculated water from the pool until it is returned to the pool, i.e., from the pool through the collector or surge tank, recirculation pump, filters, chemical treatment, and heater (if provided), and returned to the pool.

**Shallow Pool**-A pool that has a maximum depth of less than six feet.

**Slip-Resistant**-A rough finish that is not abrasive to the bare foot.

**Steps, Recessed Steps, Ladders, And Recessed Treads**-Those means of entry and exit to and from the pool which may be used in conjunction with each other.

**Step**-A riser and tread.

**Stairs**-A series of two or more steps.

**Treatment Of Water**-The process of conditioning and disinfection of pool water by means of a combination of filtration and the addition of chemicals to the water.

**Turnover Time**- The period of time in hours required to circulate a volume of water equal to the pool capacity.

**Uniformity Coefficient**-The ratio of theoretical size of sieve (in mm) that will pass 60 percent of the sand to the theoretical size of sieve (in mm) that will pass 10 percent.

**Water Line**-The water line shall be defined in one of the following ways:

(a) Skimmer system-The water line shall be the midpoint of the operating range of the skimmers.

(b) Overflow system-The water line shall be the top edge of the overflow rim.

### **Sec. 3103B (formerly 2-9003) Special Pool Classifications.**

**3103B.1 Spa Pool.** A spa pool is a pool, not used under medical supervision, that incorporates a water jet system, an aeration system, or a combination of the two systems, and which may also utilize artificially heated water. The surface water area of a spa pool shall not exceed 250 square feet, and the water depth shall not exceed 4 feet.

**NOTE:** See also Section 31198B.1.2

**3103B.2 Special Purpose Pool.** A special purpose pool is a pool intended to be used exclusively for a single purpose, such as wading, instruction, diving, competition, or for medical treatment where a licensed professional in the healing arts is in attendance.

**3103B.3 Temporary Training Pool.** A temporary training pool is a pool intended to be used for instruction in swimming, having a maximum water depth of 36 inches, and so constructed as to be readily disassembled for storage or for transporting to and reassembly to its original integrity at a different location. A temporary training pool shall be limited to a maximum use of 3 months at any one geographical location during any 12 month period.

**3103B.4 Wading Pool.** A wading pool is a pool intended to be used for wading by small children and having a maximum depth of 18 inches at the deepest point and a maximum depth of 12 inches at the side walls.

### **Sec. 3104B (formerly 2-9004) Accessibility to the Physically Handicapped Person.**

Swimming pools and their appurtenances shall be in compliance with the requirements of the State Architect for access to public accommodations by physically-handicapped persons.

**NOTE:** See Chapter 11A

### **Sec. 3105B (formerly 2-9005) Alternate Equipment, Materials, and Methods of Construction.**

**3105B.1** The enforcing agency may approve an alternate equipment, material, or method of construction, provided it

finds that the proposed design is satisfactory and complies with the provisions of this Chapter, that the equipment, material, method, or work offered is, for the purpose intended, at least equivalent of that prescribed in suitability, strength, effectiveness, fire resistance, durability, safety, and sanitation, or that the methods of installation proposed conform to other acceptable nationally recognized standards, and providing the alternate has been approved and its use authorized by the enforcing agency.

**3105B.2** The enforcing agency shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use.

**3105B.3** Whenever there is insufficient evidence of compliance with the provisions of this Chapter, the enforcing agency may require tests as proof of compliance to be made at no expense to the enforcing agency. Tests shall be made in accordance with approved standards, but in the absence of such standards, the enforcing agency shall specify the test procedure.

## POOL STRUCTURE

### **Sec. 3106B (formerly 2-9011) Pool Construction.**

**3106B.1 Shell Structural Integrity.** The pool shall be designed and durably built of reinforced concrete, or material equivalent in strength, watertight, and able to withstand anticipated stresses under both full and empty conditions, taking into consideration climatic effects, geological conditions, integration of the pool with other structures, and similar factors.

**3106B.2 Finish.** The finished pool shell shall be lined with a smooth waterproof interior finish that will withstand repeated brushing, scrubbing, and cleaning procedures. The interior pool finish shall completely line the pool to the tile lines, coping, or cantilevered deck.

**3106B.3 Finish Color.** The finish color shall be white, except for:

- (1) lane and other required pool markings described in Section 3109B
- (2) handholds,
- (3) copings,
- (4) the top surface edges of benches, and
- (5) the edge of spa steps.

**Exception:** A spa pool shall be permitted to be finished in a light (pastel) color other than white when approved by the enforcing agency.

**3106B.4 Projections and Recessed Areas.** The surfaces of the pool shall not have any projections or recessed areas except for: handholds, recessed treads, steps, ladders, stairs, pool inlets and outlets, skimmers, and perimeter overflow systems.

**Exception:** Benches shall be permitted in a spa pool providing that the water depth over the bench does not exceed 24 inches.

### **Sec. 3107B (formerly 2-9012). Additional Requirements for a Temporary Training Pool.**

**3107B.1** A temporary training pool shall comply with this Section in addition to the provisions contained in Section 3106B .**3107B.2 Installation Site.** A temporary training pool shall be installed on a paved level surface extending at least 10 feet beyond all pool walls.

**3107B.3 Cover.** The temporary training pool shall be provided with a solid cover. The cover shall be installed during periods when the pool is not open for use, and shall be secured to the pool in a manner to prevent unauthorized removal.

**3107B.4 Design.** The pool cover shall be designed to support a uniform live load of 40 pounds per square foot. The structural design of the pool and cover shall be approved by a California registered professional engineer.

### **Sec. 3108B (formerly 2-9013). Pool Geometry.**

**3108B.1 Dimensions and Slopes.** The dimensions and slopes of a pool shall conform to the appropriate Figure 31B-1 through Figure 31B-3.

**Exception:** A special purpose pool shall be permitted a depth greater than 3 ½ feet at the shallowest end.

**3108B.2 Drainable.** The pool shall be completely drainable through a main drain which shall be located at the deepest point in the pool.

**3108B.3 Dimensional Tolerance.** A construction tolerance shall be permitted on all dimensions in Figures 31B-1, 31B-2, and 31B-3, not to exceed + or - 2 inches except that the tolerance of the water level of a pool with a nonadjustable overflow system shall not exceed + or - 1/8 inch.

**3108B.4 Slope Break from Shallow to Deep Water.** When a pool has a change in bottom slope from shallow to deep water, flush mounted devices for fastening a safety rope and buoys across the pool shall be installed where the water depth is 4 ½ feet.

Figure 31B-1

Depths and Clearances for Pools with Boards above 30"

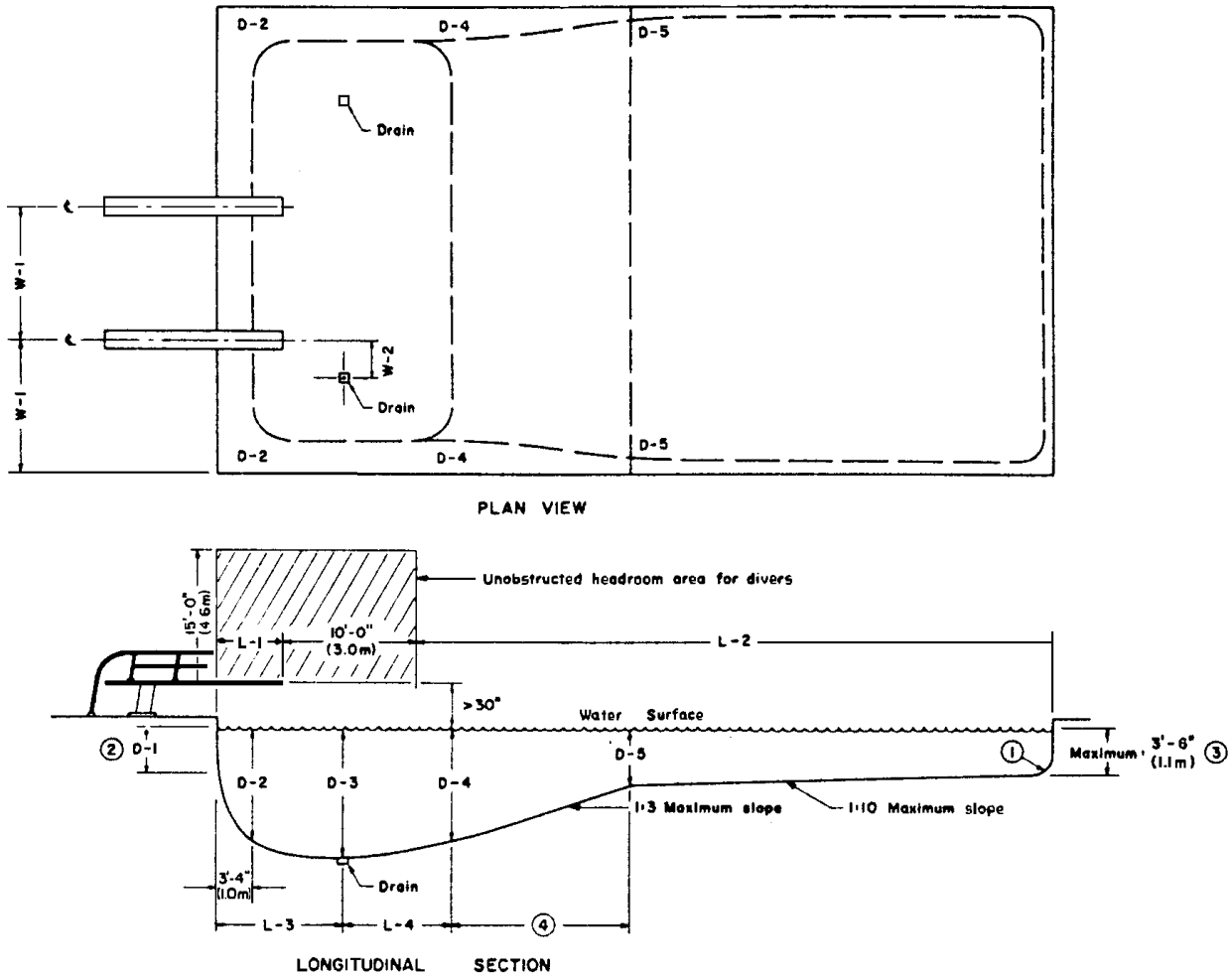


Table No. 1

Minimum Required Depths and Clearances for 1-Meter and 3-Meter Boards

Boards and Platforms	Dimension	Depth of Water					Length of Section					
		D-1	D-2	D-3	D-4	D-5	L-1	L-2	L-3	L-4	W-1	W-2
1-Meter Board	Minimum	4'-0"	8'-6"	9'-0"	8'-6"	4'-6"	5'-0"	20'-0"	11'-4"	10'-0"	10'-0"	5'-0"
		(1.2m)	(2.6m)	(2.7m)	(2.6m)	(1.4m)	(1.5m)	(6.1m)	(3.4m)	(3.0m)	(3.0m)	(1.5m)
3-Meter Board	Minimum	4'-0"	10'-0"	11'-6"	10'-6"	4'-6"	5'-0"	30'-0"	11'-4"	14'-0"	15'-0"	5'-0"
		(1.2m)	(3.0m)	(3.5m)	(3.2m)	(1.4m)	(1.5m)	(9.2m)	(3.4m)	(4.3m)	(4.6m)	(1.5m)

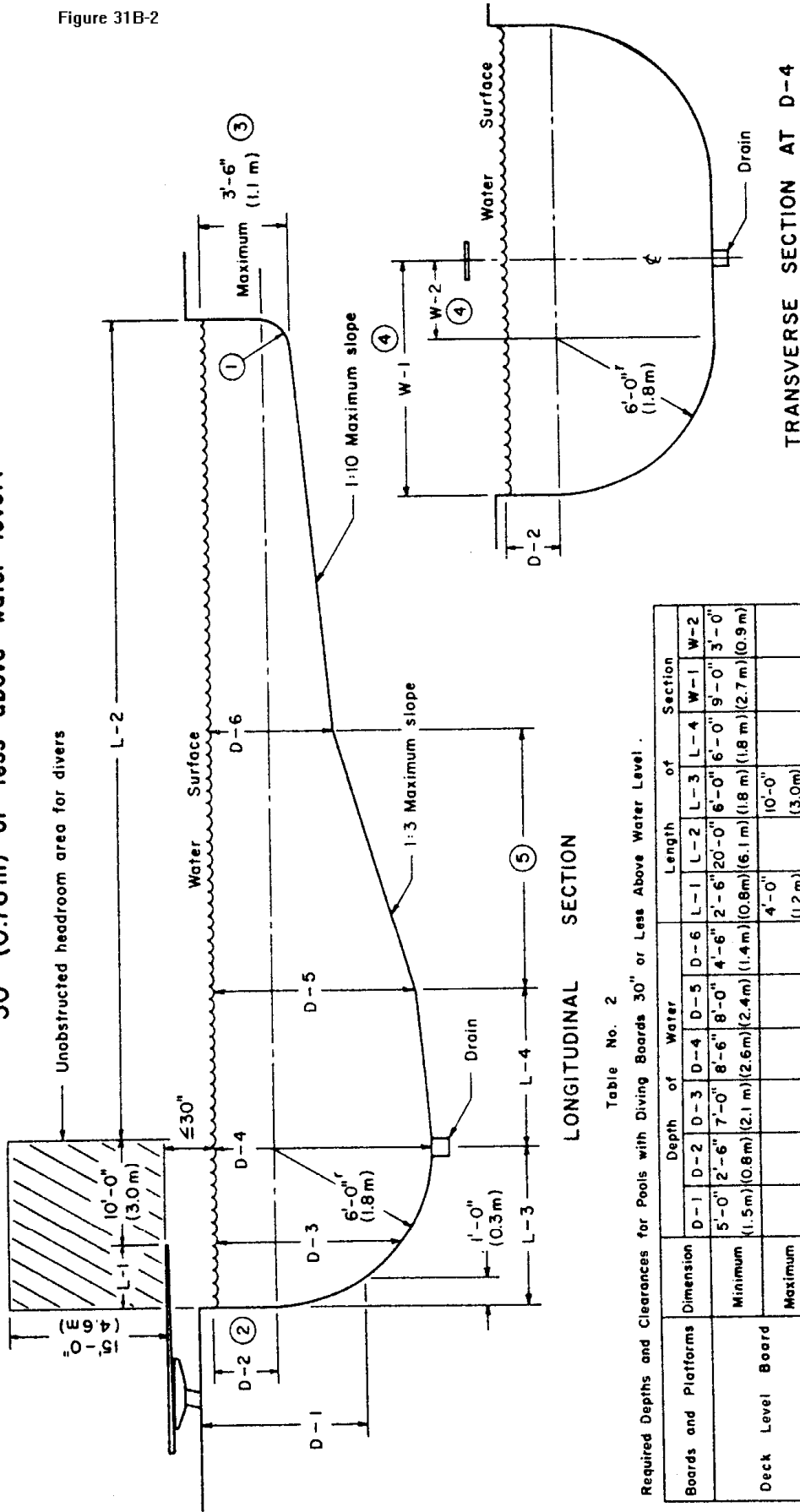
Notes for Figure 1 and Table No. 1

- ① Maximum radius at shallow end shall be 1'-0" (0.30m).
- ② Springline (D-1) shall extend to the break in slope between the shallow area and the diving bowl.
- ③ See exception to Section 2-9013(a).
- ④ Dimension based on maximum slope and other minimum or maximum dimensions.

# Depths and Clearances for Pools with Diving Boards

## 30" (0.76 m) or less above water level.

Figure 31B-2



LONGITUDINAL SECTION

TRANSVERSE SECTION AT D-4

Table No. 2  
Required Depths and Clearances for Pools with Diving Boards 30" or Less Above Water Level.

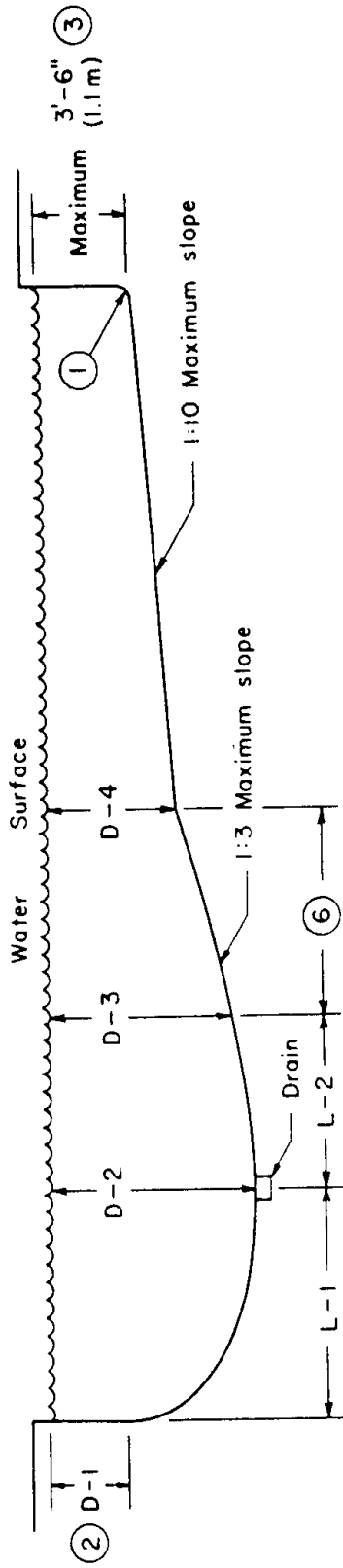
Boards and Platforms Dimension	Depth of Water		Length of				Section						
	D-1	D-2	D-3	D-4	D-5	D-6	L-1	L-2	L-3	L-4	W-1	W-2	
Deck Level Board	Minimum	5'-0" (1.5 m)	2'-6" (0.8 m)	7'-0" (2.1 m)	8'-6" (2.6 m)	8'-0" (2.4 m)	4'-6" (1.4 m)	2'-6" (0.8 m)	20'-0" (6.1 m)	6'-0" (1.8 m)	6'-0" (1.8 m)	9'-0" (2.7 m)	3'-0" (0.9 m)
	Maximum						4'-0" (1.2 m)	10'-0" (3.0 m)					

Notes for Figure 2 and Table No. 2

- ① Maximum radius at shallow end shall be 1'-0" (0.3 m).
- ② Springline D-2 shall extend to the break in slope between the shallow area and the diving bowl.
- ③ See exception to Section 2-9013 (a).
- ④ Dimensions W-1 and W-2 shall apply from wall at deep end to D-6.
- ⑤ Dimension based on maximum slope and other minimum or maximum dimensions.

Figure 31B-3

Depths and Clearances for Pools without Diving Boards



LONGITUDINAL SECTION

Table No. 3

Required Depths and Clearances for Pools without Diving Boards

Boards and Platforms	Dimension	Depth of Water				Length of Section	
		D-1	D-2	D-3	D-4	L-1	L-2
None	Minimum	2'-6" (0.8m)	6'-0" (1.8m)	5'-6" (1.7m)	4'-6" (1.4m)	3'-6" (1.1m)	3'-0" (0.9m)

Notes for Figure 3 and Table No. 3

- ① Maximum radius at shallow end shall be 1'-0" (0.3m).
- ② Springline (D-1) shall extend to the break in slope between the shallow area and the diving bowl.
- ③ See exception to Section 2-9013(a).
- ④ Width of pool at Section D-2 shall be at least 15'-0" (4.6m).
- ⑤ Pools with maximum depths less than that specified shall have a minimum length of 15'-0" (4.6m).
- ⑥ Dimension based on maximum slope and other minimum or maximum dimensions.

## **Sec. 3109B (formerly 2-9014) Permanent Markings**

**3109B.1 Lane Markings.** Slip-resistant lane lines or other markings at the bottom of the pool shall not exceed 12 inches in width.

**3109B.2 Depth Marking Line.** There shall be installed a straight line of slip-resistant tile, 4 inches (101.6 mm) wide of contrasting color across the bottom of the pool where the water depth is 4 ½ feet.

**Exception:** Pools having a maximum depth of five feet or less shall not be required to have a depth marking line.

**3109B.3 Decorative Designs** Designs on the bottom or walls of the pool which are shaped in a form that might reasonably be mistaken for, or give the illusion of being a human form, shall be prohibited.

### **3109B.4 Water Depth Markers.**

**3109B.4.1 General.** The water depth shall be clearly marked at the following locations:

- (1) maximum depth,
- (2) minimum depth,
- (3) each end,
- (4) at the break in the bottom slope between the shallow and deep portions of the pool [see also Section 3108B.4],  
and
- (5) on the perimeter of the pool at distances not to exceed 25 feet.

**Exception:** A spa or wading pool shall have a minimum of two depth markers indicating the maximum depth.

**3109B.4.2 Location.** Depth markers shall be located on the vertical pool walls at each end and side of the pool at or above the water level. If a pool exceeds 20 feet in width, additional markers shall be located on the edge of the deck next to the pool.

**Exception:** If depth markers cannot be located on the vertical pool walls above the water line because of the pool design, the depth markers shall be located so as to be clearly visible to bathers in the pool.

**3109B.4.3 Tolerance.** Depth markers shall be positioned to indicate the water depth accurate to the nearest 6 inches.

**3109B.4.4 Size of Markers.** Depth markers shall:

1. have numerals a minimum of 3 inches in height and of a color contrasting with the background,
2. be made of a durable material that is resistant to weathering, and
3. be slip-resistant when they are located on the pool deck.

## **Sec. 3110B (formerly 2-9015). Steps, Recessed Steps, Ladders, and Recessed Stairs (Treads).**

**3110B.1 General** A means of entry and exit to and from the pool shall consist of steps, recessed steps, ladders, or stairs, or a combination of them. One means of entry and exit shall be provided in the shallowest portion of a pool if the vertical distance from the bottom of the pool to the deck is over 2 feet. A second means of entry and exit shall be provided in the deep portion of a pool having a depth greater than 4 ½ feet. Where the width of the pool exceeds 30 feet, such means of entry and exit shall be provided at each side, not more than 100 feet apart.

**3110B.2 Ladders.** Ladders with a handhold shall be corrosion-resistant and shall be equipped with slip-resistant tread surfaces. Ladders shall be rigidly installed and shall provide a clearance of not less than 3 inches nor more than 5 inches between any part of the ladder and the pool wall.

**3110B.3 Stairs.** Each step of a stair shall have the same dimensions with a tread not less than 12 inches wide, except that if the top step is curved convexly, the top step tread shall not be less than 18 inches wide as measured at the point of maximum curvature. Risers shall be uniform and shall not exceed 12 inches in height. A safety railing shall be provided, extending from the deck to not less than a point above the top of the lowest step and with the upper railing surface not less than 28 inches above the deck.

**3110B.4 Steps and Stepholes.** Steps and stepholes shall have a minimum tread of 5 inches, width of 14 inches, and shall be designed to be readily cleaned.

**3110B.5 Hand Railings.** Hand railings shall be provided at the top of both sides and shall extend over the coping or edge of the deck for each ladder and stephole.

**3110B.6 Steps for a Spa Pool.** Each step of a spa pool shall have a tread width not less than 12 inches. Risers shall not exceed 9 inches in height when one hand railing is provided, or 12 inches in height when two hand railings are provided. A hand railing shall be installed over the steps, with the leading railing edge extending up to a point not less than 12 inches from the plane of the bottom riser. The steps shall be located where the deck is at least 4 feet wide.

## **Sec. 3111B (formerly 2-9016) Handholds**

**3111B.1 General.** Every pool shall be provided with handholds (perimeter overflow system, bull-nosed coping, or cantilevered decking) around the entire perimeter installed not greater than 9 inches above the water line.

**Exception:** Handholds are not required for wading pools.

**3111B.2** For special use pools used for instruction or competitive swimming, a handhold at water level similar to the rim of a perimeter overflow system is required.

**3111B.3** Where perimeter overflow systems are not provided, a bull-nosed coping or cantilevered decking of reinforced concrete, or material equivalent in strength and durability, with rounded, slip-resistant edges shall be provided. The overhang for either bull-nosed coping or cantilevered decking shall not exceed 2 inches nor be less than 1 inch, and shall not exceed 2 ½ inches in thickness.

**Exception:** The enforcing agency may accept handholds other than those specified for spa pools.

### **Sec. 3112B (formerly 2-9017) Diving Boards**

**3112B.1 General.** Diving boards and their supports, platforms and steps shall be substantially constructed and shall be of sufficient structural strength to carry the maximum anticipated load. Steps shall be of corrosion-resistant material, easily cleanable and of slip-resistant design.

**3112B.2 Railings.** Hand railings shall be provided at all steps and ladders leading to diving boards more than 1 meter above the water, except those steps or ladders set 15 ° or less from the vertical. Guard railings extending to a point on the platform directly above the water's edge shall be provided on both sides of all platforms and diving boards which are over 1 meter high. Guard railings shall be 36 inches above the platform or diving board.

### **Sec. 3113B (formerly 2-9018) Pool Decks**

**3113B.1 General.** A minimum continuous and unobstructed 4 foot wide slip-resistant non-abrasive deck area of concrete or like material shall be provided flush with the top of the pool shell wall extending completely around the pool and the deck area shall further extend 4 feet (1.2 m) on both sides and rear of any diving board or slide and their appurtenances. The deck width shall be measured from the poolside edge of the coping lip.

#### **Exceptions:**

1. A deck at least 4 feet in width shall extend around 50 percent or more of the perimeter of a spa pool. For spa pools that have their walls extending above the ground or floor level, the deck area requirement shall apply at the ground or floor level unless otherwise specified by the enforcing agency.
2. The deck width separating a spa pool from an adjacent pool shall not be less than 6 feet wide.
3. The deck may be omitted from around a temporary training pool.

**3113B.2 Deck Drainage.** The pool deck surface shall be sloped a minimum of 1/4 inch per foot to deck drains or other approved surface water disposal areas. The pool deck surface shall not drain into the pool, its perimeter overflow channel, into an adjoining spa or other pool, nor be connected to the recirculation system.

**NOTE:** A deck drain system of one 4 inch drain inlet per 400 square feet (37 m<sup>2</sup>) of tributary deck area, with drains spaced 25 feet apart, usually provides adequate surface water disposal.

**3113B.3 Pool Coping.** Pool coping shall be slip-resistant.

**3113B.4 Coverings.** Artificial covering shall be permitted on the deck area when approved by the enforcing agency.

**NOTE:** Deck slopes to provide proper drainage may vary with the texture of the surface. It is recommended that the minimum slope be increased if artificial covering or exposed aggregate concrete surface is contemplated.

**3113B.5 Handrails.** Handrails shall be provided around the perimeter of any raised deck of a temporary training pool.

**3113B.6 Unpaved Areas.** Landscape planters, flower beds, or similar unpaved areas shall not be located within 4 feet of a spa pool.

### **Sec. 3114B (formerly 2-9019) Pool Lighting**

**3114B.1 General.** Where pool lighting is provided, it shall be such that lifeguards or other persons may observe, without interference from direct and reflected glare from the lighting sources, every part of the underwater area and swimming pool surface, all diving boards, or other pool appurtenances.

**NOTE:** See (Part 3) Article 680 for electrical installation requirements.

**3114B.2 Nighttime Use.** Pools used at night shall be equipped with underwater light fixtures that will provide complete illumination to all underwater areas of the pool with no blind spots. Illumination shall enable a lifeguard or other persons to determine whether: (1) a bather is lying on the bottom of the pool, and (2) the water conforms to the definition of "clear pool water".

**Exception:** Pools provided with a system of overhead lighting fixtures, where it can be demonstrated to the enforcing agency that the system is equivalent to the underwater lighting fixture system.

**3114B.3 Deck Area Lighting** Where the pool is to be used at night, pool deck areas shall be provided with lighting so that persons walking on the deck can identify hazards. Lighting fixtures shall be aimed towards the deck area and away from the pool surface insofar as practical.

## ANCILLARY AREAS AND FACILITIES

### **Sec. 3115B (formerly 2-9021) Bathhouse, Dressing, Shower, and Toilet Facilities**

**3115B.1** Shower and dressing facilities shall be provided for users of a pool.

**Exception:**

1. Shower and dressing facilities may not be required when bathers have access to such facilities in adjacent living quarters.
2. Public toilet facilities may be omitted when bathers have access to toilet facilities either in living quarters located not more than 300 feet in travel distance from the pool, or in an adjacent building such as a recreational facility, clubhouse, or cabana.

**3115B.2 Number of Sanitary Facilities.** For the purpose of this subsection, one bather shall be considered for every 15 square feet of pool water surface area.

**3115B.2.1 Showers.** One shower shall be provided for every 50 bathers.

**3115B.2.2 Toilets.** Separate toilet facilities shall be provided for each sex. One toilet shall be provided for every 60 women; one toilet plus one urinal for every 75 men.

**3115B.2.3 Lavatories.** One lavatory shall be provided for every 80 bathers.

**3115B.3 Construction.**

**3115B.3.1 Floors.** Floors shall have a hard nonabsorbent surface, such as Portland cement concrete, ceramic tile or other approved material, which extends upwards onto the wall at least 5 inches with a coved base. Floors which may be walked on by a wet bather shall be slip-resistant. Floors shall be sloped not less than ¼ inch per foot to floor drains or other approved surface water disposal areas. Carpeting and other similar artificial floor covering shall not be permitted on shower and toilet room floors.

**NOTE:** Rough rotary, raised rubber or wood float finish of concrete usually provides a slip-resistant finish.

**3115B.3.2 Interior Wall Surfaces.** The materials used in the walls, except for structural elements, shall be of a type which is not adversely affected by moisture.

**3115B.3.3 Privacy.** All doors and windows shall be arranged to prevent viewing of the interior from any portion of the building used by the opposite sex and from view from the outdoors. View screens shall be permitted for this purpose.

**3115B.4 Water Supply.**

**3115B.4.1** Showers and lavatories shall be provided with hot and cold water.

**3115B.4.2** Tempered water shall be permitted in lieu of individual hot and cold water faucets.

**3115B.4.3** A means to limit the hot water to 110<sup>0</sup> F (43<sup>0</sup> C) maximum shall be provided to prevent scalding. This temperature limit control shall not be adjustable by the bather.

### **Sec. 3116B (formerly 2-9022) Drinking Fountains**

One guarded jet drinking fountain shall be provided for the first 250 bathers and an additional fountain shall be provided for each additional 200 bathers or fraction thereof. The number of bathers shall be determined according to Section 3115B 2

**Exception:** Drinking fountains shall not be required when drinking water is available at adjacent living quarters, or in an adjacent building such as a bathhouse, cabana, clubhouse, or recreational facility.

### **Sec. 3117B (formerly 2-9023) Hose Bibbs**

Hose bibbs shall be provided for each pool and located so that all portions of the pool deck may be reached with a 75 foot length of hose attached to the hose bibb. Hose bibbs shall be located so that they do not constitute a safety hazard and shall be protected against backflow.

**Sec. 3118B (formerly 2-9024) Enclosure of Pool Area**

**(a) Enclosure.** The pool shall be enclosed by one or a combination of one of the following: a fence, portion of a building, wall or other approved durable enclosure. Doors, openable windows, or gates of living quarters or associated private premises shall not be permitted as part of the pool enclosure. The enclosure, doors and gates shall meet all of the following specifications:

1. The enclosure shall have a minimum effective perpendicular height of 5 feet as measured from the outside as depicted in Figures 31B-4 and 31B-5.
2. Openings, holes or gaps in the enclosure, doors and/or gates shall not allow the passage of a 4 inch diameter sphere. The bottom of the enclosure shall be within 2 inches of the finished grade.
3. The enclosure shall be designed and constructed so that it cannot be readily climbed by small children. Horizontal and diagonal member designs, which might serve as a ladder for small children, are prohibited. Horizontal members shall be spaced at least 48 inches apart. Planters or other structures shall not be permitted to encroach upon the clear span area as depicted in Figure 31B-5. Chain link may be used provided that the openings are not greater than 1 3/4 inches measured horizontally.

**3118B.2 Gates** Gates and doors opening into the pool enclosure shall also meet the following specifications:

1. Gates and doors shall be equipped with self closing and self latching devices. The self latching device shall be designed to keep the gate or door securely closed. Gates and doors shall open outward away from the pool except where otherwise prohibited by law. Hand activated door or gate opening hardware shall be located at least 3 ½ feet above the deck or walkway.  
**Exception:** Doors leading from areas of hotels and motels, as defined in the Business and Professions Code Section 25503.16(b), which are open to the general public, e.g., restaurants, lobbies, bars, meeting rooms, and retail shops need not be self latching.
2. Except as otherwise provided herein, gates and doors shall be capable of being locked during times when the pool is closed. Exit doors which comply with Chapter 10 shall be considered as meeting these requirements.
3. The pool enclosure shall have at least one means of egress without a key for emergency purposes. Unless all gates or doors are so equipped, those gates and/or doors which will allow egress without a key shall be clearly and conspicuously labeled in letters at least 4 inches high "EMERGENCY EXIT".
4. The enclosure shall be designed and constructed so that all persons will be required to pass through common pool enclosure gates or doors in order to gain access to the pool area. All gates and doors exiting the pool area shall open into a public area or walkway accessible by all patrons of the pool.

**3118B.3 Retroactivity.** Subsections 3118B.1 and 3118B.2 shall apply only to a public swimming pool constructed on or after July 1, 1994.

**3118B.4 Enclosure of pools constructed prior to July 1, 1994.** When the physical characteristics of a site preclude providing a four foot deck around the perimeter of an existing pool, the enforcing agency may allow the installation of an enclosure which reduces the pool deck to less than four feet in width.

NOTE: Authority cited: Sections 100275 and 116050, Health and Safety Code.

Reference: Section 116050, Health and Safety Code.

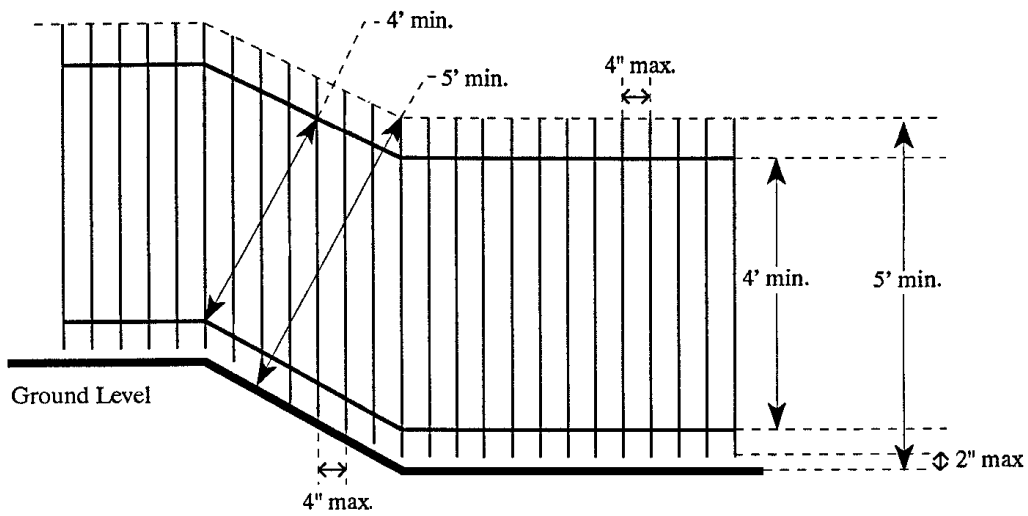


Figure 31B-4 Perpendicular fencing dimensions on sloping ground.

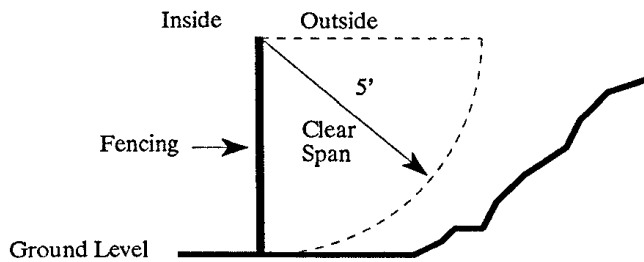


Figure 31B-5 Effective fencing height.

## **Sec. 3119B (formerly 2-9025) Signs**

**3119B.1 Occupant Load Sign.** A sign with clearly legible letters not less than 4" high shall be posted in a conspicuous place near the main entrance to a pool which shall indicate the number of occupants permitted for each pool.

**3119B.1.1 Spa Pool.** The occupant capacity of a spa pool shall be based on one bather for every 10 square feet of pool water surface area.

**3119B.1.2 Other Pools.** The occupant capacity of all other pools shall be based on one bather for every 20 square feet of pool water surface area.

**Exception:** Occupant capacity requirements do not apply to wading pools.

**3119B.2 Signs for Shallow Pool.** Signs with clearly legible letters not less than 4 inches high shall be posted in a conspicuous place and shall state: "NO DIVING ALLOWED".

**3119B.3 Warning Sign for Pools Using Gas Chlorine.** Pools at which gas chlorine is used for disinfection shall have a conspicuously posted sign on the exterior side of the entry door to the chlorine room, or on the adjacent wall area. In addition to displaying the appropriate hazard identification symbol for gas chlorine, the sign shall state with clearly legible letters not less than 4" high the following: "DANGER: GASEOUS OXIDIZER CHLORINE".

**3119B.4 Warning Sign for Pools Without Pool Lighting** Where pool lighting fixtures which comply with Section 3114B are not provided, a sign with clearly legible letters not less than 4 inches high shall be posted in a prominent place near each entrance to the pool area. This sign shall state "NO USE OF POOL ALLOWED AFTER DARK".

**3119B.5 Warning Sign for a Spa Pool.** A precaution sign with clearly legible letters shall be posted in a prominent place near the entrance to a spa pool which shall contain the following language:

### **"CAUTION"**

1. Elderly persons, pregnant women, infants and those with health conditions requiring medical care should consult with a physician before entering a spa.
2. Unsupervised use by children under the age of 14 is prohibited.
3. Hot water immersion while under the influence of alcohol, narcotics, drugs, or medicines may lead to serious consequences and is not recommended.
4. Do not use alone.
5. Long exposure may result in nausea, dizziness or fainting.

**3119B.6 Approved Signs.** Approved signs shall be maintained in a legible manner.

## **Sec. 3120B (formerly 2-9026) Indoor Pool Ventilation**

A pool located indoors shall be ventilated according to acceptable engineering principles.

**NOTE:** See Section 1202.2 for ventilation requirements for dressing and toilet rooms.

## **Sec. 3121B (formerly 2-9027). Foundations for Pool Equipment**

Pool equipment shall be mounted on a Portland cement concrete or other easily cleanable nonabsorbent floor material. Floors shall be sloped a minimum of ¼ inch per foot (1 in 48) drainage disposal methods approved by the local enforcing agency.

## **Sec. 3122B (formerly 2-9028) Gas Chlorination Equipment Room**

Compressed chlorine gas storage containers and associated chlorinating equipment when installed indoors shall be in a separate room of not less than 1-hour, fire-resistive construction and shall comply with all of the following:

**3122B.1 Location.** The room shall not be located in a basement or below ground.

**3122B.2 Entry.** The entry door to the room shall open to the exterior of the building or structure and shall not open directly towards the pool or pool deck.

**3122B.3 Ventilation.** A mechanically operated exhaust ventilation system shall be provided sufficient to produce 60 air changes per hour. The exhaust ventilation shall be taken at a point at or near the floor level. The system shall be vented to the outside air, and at the point of discharge shall be at least 10 feet from any openable windows, an adjacent building, and above the adjoining grade level. Fresh air intakes directly communicating

with the outdoors shall be located within 6 inches of the ceiling.

## RECIRCULATION AND TREATMENT SYSTEM COMPONENTS

### Sec. 3123B (formerly 2-9031) General Requirements

**3123B.1 System Description.** Each pool shall be provided with a separate recirculation and treatment system designed for continuous recirculation, filtration and disinfection of the pool water. The system shall consist of pumps, filters, chemical feeders, skimmers or perimeter overflow systems, and all valves, pipes, connections, fittings and appurtenances.

**Exceptions: 1.** Pools using fresh water equivalent in flow to the requirements of Sec. 3124B .

**NOTE NO. 1:** Fresh make-up pool water shall conform to the physical and bacteriological standards of California Code of Regulations Section, Title 22, 65531.

**NOTE NO. 2:** Two spa pools shall be permitted to share one recirculation and treatment system providing the flow and chlorination feed rate to each spa pool is individually metered and adjustable.

**3123B.2 Installation.** All recirculation and treatment system components shall be installed according to this Code and in accordance with the equipment manufacturer's written instructions.

**3123B.3 Accessibility.** All filters, valves, pumps, strainers and equipment requiring adjustment shall be readily accessible for repair and replacement.

**NOTE:** Readily accessible means capable of being reached quickly for operation, renewal, or inspections, without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, chairs, etc.

### Sec. 3124B (formerly 2-9032) Turnover Time

The recirculation and purification system shall have sufficient capacity to provide a complete turnover of pool water in:

1. One-half hour or less for a spa pool.
2. One hour or less for a wading pool.
3. Two hours or less for a temporary training pool.
4. Six hours or less for all other types of public pools.

### Sec. 3125B (formerly 2-9033) Recirculation Piping System and Components

**3125.B.1 Line Sizes.** Piping systems, including all parts and fittings other than inlet devices or venturi throats, shall be sized so that the flow velocity shall not exceed 10 feet per second, excepting that the flow velocity shall not exceed 8 feet per second in any copper piping or in any pump suction piping.

**3125.B.2 Gauges for Filters.** A gauge shall be provided on each filter influent and effluent line. Each gauge shall have a scale range approximately 1¼ times the maximum anticipated working pressure and shall be accurate within 2 percent of scale. A vacuum gauge shall be provided for suction-type filters.

**3125.B.3 Flow Meter.** The recirculation system shall be provided with a flow meter, accurate within 10 percent of actual flow.

**3125.B.4 Strainers.** A hair-and-lint strainer shall be provided on the suction side of the recirculation pump.

**Exception:** A pump used with a vacuum filter where the filter elements are not removed for cleaning.

**3125.B.5 Backwash Piping.** Piping, including necessary valves conforming to Section 3125B.1 shall be provided for each filter vessel or element which is of a type requiring periodic backwashing.

**3125.B.6 Valves.** Valves shall be accessible for operation and repair and shall not be located under any required deck area surrounding a pool. Valves, or other approved means of control shall be installed on all recirculation, backwashing, and drain system lines which require shutoff isolation, adjustment, or control of the rate of flow. Each valve shall be identified with appropriate markings affixed directly to or near the valve.

### Sec. 3126B (formerly 2-9034) Recirculation Pump Capacity

**3126B.1** Pumps shall have design capacity at the following heads:

1. Pressure Diatomaceous Earth---At least 60 feet.
2. Vacuum Diatomaceous Earth---Twenty inches vacuum on the suction side and 40 feet total head.
3. Rapid Sand-At least 45 feet.
4. High Rate Sand-At least 60 feet.

**3126B.2** Pumps with other hydraulic (flow-head) characteristics shall be permitted which comply with the flow

capacity in Section 3124B .

### **Sec. 3127B (formerly 2-9035) Water Supply Inlets**

**3127B.1 General.** The pool shall be supplied with water by means of a permanently installed pipe line from a public water supply system holding a permit from the Department of Health Services or from another approved source.

**Exception:** The enforcing agency may exempt spa pools, temporary pools, and pools less than 1,500 gallons capacity from having to use permanently installed fill lines.

**3127B.2 Backflow Protection.** There shall not be a direct connection between any domestic water supply system and the pool or its piping system unless protected against backflow in an approved manner.

**3127B.3 Air Gap Separation for Pool Fill Inlets.** Water supply inlets to a pool shall be installed not less than 1 inch nor less than two pipe diameters above the overflow rim of the pool. Over-the-rim spouts shall be installed under a diving board or shall be properly guarded to prevent tripping.

**Exception:** Vacuum breakers, or other backflow prevention devices, may be used instead of air-gap separation. Such devices shall be installed on the discharge side of the last inlet valve with the critical level not less than six inches above the overflow rim of the swimming pool.

### **Sec. 3128B (formerly 2-9036) Filters (All Types)**

**3128B.1 General Requirements.** All filters, regardless of type, shall be designed and constructed to withstand normal and continuous use without deterioration which could affect filter operation. Each filter shall comply with all of the following provisions:

1. Maintain clean and clear pool water under anticipated operation conditions.
2. Structural or functional failures shall not permit the passage of unfiltered water.
3. Filtration surfaces shall be easily disassembled and inspected.
4. Filtration surfaces shall be easily restored to the design capacity.
5. Filter parts shall be capable of resisting electrolytic corrosion (galvanic electric currents) due to the use of dissimilar metals.

**3128B.2 Maximum Pressure Drop.** The maximum pressure drop of a pressure-type filter, measured from the filter housing inlet to the filter housing discharge, shall not exceed 3 psi when initially operating at design flow rate.

**3128B.3 Installation.** Each filter vessel and element shall be installed, piped and provided with necessary valves so that it can be isolated from the system for repairs and backwashed individually.

**3128B.4 Air Release.** When the design of the filter permits accumulation of air in the top of the housing or vessel, the filter vessel shall be equipped with an air release valve connected at the top of the housing that will expel air which enters the filter vessel or tank.

**3128B.5 Underdrain System.** The underdrain system for sand filters shall provide uniform distribution and collection of the flow during filtering and backwashing. The underdrain system shall be constructed of corrosion-resistant material and shall be nonclogging.

**3128B.6 Freeboard.** For sand filters, not less than 10 inches of freeboard shall be provided between the upper surface of the filter sand and the lowest portion of the pipes or drains which serve as overflows during backwashing.

### **Sec. 3129B (formerly 2-9037) Rapid Sand-Pressure Filters**

**3129B.1 Flow Rates.** The filtration rate shall not exceed 3 gpm per square foot. The design backwash rate shall not be less than 12 gpm per square foot of filter area.

NOTE: See also Section 3128B and 3131B for other requirements.

**3129B.2 Filter Media.** The filter shall contain not less than 20 inches of depth of sand and not less than 10 inches of filter gravel above the underdrain system.

**3129B.2.1** The filter sand shall have an effective particle size of 0.3 to 0.5 mm and a uniformity coefficient of not more than 1.75.

**3129B.2.2** The filter gravel shall be graded and placed to provide uniform flow distribution from the underdrain system and to support the bed of filter sand without loss of sand to the pool or without development of jet streams or channeling in the filtration media.

**3129B.3 Coagulant Addition.** Facilities with dosage control features shall be provided for adding coagulating

chemicals ahead of the filter when required by the enforcing agency.

### **Sec. 3130B (formerly 2-9038) Diatomaceous Earth Filters**

**3130B.1 Flow Rates.** The filtration rate for both pressure and vacuum type of diatomaceous earth filters shall not exceed 2 gpm per square foot, excepting that filters designed for continuous feeding of filter aid shall not exceed 2 ½ gpm per square foot.

**NOTE:** See also Section 3128B for other requirements.

**3130B.2 Precoating.** Provisions shall be made for precoating with diatomaceous earth filter aid. Continuous feeding of filter aid shall be required in a pool with a water surface area 2000 square feet or more, and the continuous feeding equipment shall be capable of feeding not less than 0.1 pound per 24 hours per square foot of filter area.

### **Sec. 3131B (formerly 2-9039) High-Rate Sand Filters**

**3131B.1 Permissible Use.** Sand filters operating at filtration rates higher than the maximum rate specified in Section 3129B shall be permitted by the enforcing agency under the conditions as set forth in Section 3105B .

**3131B.2 Design and Operating Requirements.** A sand filter permitted under Sections 3105B.1, 3105B.2, and 3105B.3 shall comply with the following requirements instead of the requirements contained in Section 3129B .

1. The filter shall contain not less than 12 inches of depth of filter sand.
2. The filter sand shall not have an effective particle size greater than 0.45 mm and a uniformity coefficient not greater than 1.50.
3. The design backwash rate shall not be less than 15 gpm per square foot of filter area.
4. The filter bed shall not show any signs of migration or vary more than 1 inch on the surface after 15 minutes of backwashing followed by 15 minutes of filtration.

**NOTE:** See Section 3128B for other requirements.

### **Sec. 3132B (formerly 2-9040) Chemical Feeders**

All chemical feeders, including disinfectant feeders, and their auxiliary components shall comply with all of the provisions of this Section.

**NOTE:** Chemical feeders include those used for solutions, slurries, or solids and also include auxiliary parts such as pumps, strainers, tubing connections, tanks, injection fittings, and other required components.

**3132B.1 General Design Requirements.** Chemical feeder equipment shall comply with all of the following:

1. Equipment shall be capable of being easily disassembled for cleaning and repair.
2. Equipment shall be constructed of corrosion-resistant materials.
3. Equipment shall be constructed to permit repeated adjustments without loss of output rate accuracy if equipped with an adjustable output rate device.
4. Equipment shall be constructed to minimize a stoppage from chemicals intended to be used therein or from foreign materials that may be contained in said chemicals.

**3132B.2 Piping.** Piping used for the chemical feeder and its auxiliary equipment shall be resistant to the chemical and erosion action of the chemicals intended to be used therein and shall be installed to permit cleaning or otherwise to prevent clogging of the parts with chemicals.

**3132B.3 Installation.** The feeder and its auxiliary equipment shall be constructed and installed to prevent uncontrolled discharge or siphonage of chemicals and fumes directly into the pool, its recirculation system, or the pool area.

### **Sec. 3133B (formerly 2-9041) Disinfectant Feeders**

Disinfectant feeders shall comply with the provisions contained in this Section in addition to the provisions contained in Section 3132B .

**3133B.1 Minimum Capacity.** The disinfectant feeder shall be capable of supplying not less than the equivalent of 3 pounds of chlorine per day (PPD) per 10,000 gallons of pool water capacity.

**Exception:** A feeder of lesser capacity shall be permitted when it can be demonstrated to the enforcing agency that the lesser capacity feeder can comply with the disinfection requirements of California Code of Regulations Section, Title 22, 65529.

**3133B.2 Rate of Flow Adjustment.** Each feeder shall have a graduated and clearly marked rate of flow

adjustment feature capable of providing disinfectant flows from 25 percent to 100 percent of rated capacity. The graduated markings shall be accurate within 10 percent of the flow rate at any setting.

**3133B.3 Compressed Chlorine Gas Disinfection Equipment.** Compressed chlorine gas disinfectant equipment shall comply with the provisions contained in this subsection in addition to the provisions contained in Sections 3133B.1 and 3133B.2

NOTE: See Section 3122B for special construction requirements of a room containing compressed chlorine gas disinfectant equipment.

**3133B.3.1 Chlorine Containers.** Each chlorine gas container or cylinder shall be firmly secured to prevent accidental movement. A precaution cap shall be provided in place at all times when the cylinder is not connected to the chlorinator.

**3133B.3.2 Container Scale.** A means of weighing chlorine containers shall be provided in the gas chlorinator room.

**3133B.3.3 Chlorine Feeding Device.** In addition to the requirements contained in Section 3133B (a), the chlorine feeding device shall be capable of delivering chlorine in aqueous solution at maximum design rate. The device shall not allow the backflow of water into the chlorine solution container. The device shall not allow the release of chlorine gas to the atmosphere under normal operating conditions. The devices shall be designed and installed to conduct chlorine gas leaks to the outdoors during an accident or an interruption of the water supply.

**3133B.3.4 Piping.** Piping carrying chlorine gas under pressure shall not be located outside the chlorination equipment room.

## **Sec. 3134B (formerly 2-9042) Pool Fittings**

The pool shall be equipped with one or more skimming methods which when combined shall be capable of continually withdrawing not less than 75 percent of the required circulation capacity, to provide continuous skimming of the water surface, and to provide an overflow drainage system.

**3134B.1 Surface Skimmers.** Each surface skimmer shall comply with all of the following provisions.

1. The skimmer shall be of the built-in-type, recessed into the pool wall.
2. Each skimmer shall be individually adjustable for the rate of flow with either an external or internal device.
3. The skimmer weir shall automatically adjust to variations in the pool water level over a range of not less than 4 inches.
4. The skimmer shall be provided with an air-lock protective device which shall not permit leakage of air into the recirculation suction piping system. This device shall not leak more than 3 gpm of water during normal operation.
5. Each skimmer shall be provided with a removable and cleanable screen or basket to trap large solids.
6. There shall be not less than one skimmer for each 500 square feet of pool water surface area, or fractional part thereof.
7. The skimmer shall be constructed with suitable materials and methods to withstand anticipated use conditions.
8. Each skimmer shall be located in relation to pool inlets to aid recirculation and skimming.

**Exception:** Skimmers shall not be used as the required overflow devices on a pool with a water surface area over 5,000 square feet.

**3134B.2 Perimeter Overflow Systems.** A perimeter overflow system shall comply with all of the following provisions.

1. **Location.** The overflow system shall be built into the walls and extend completely around the pool except where steps require interruption.
2. **Channel Detail.** The overflow channel shall be not less than 3 inches deep, the section shall not diverge with depth, and the width of the bottom shall be not less than 3 inches. The opening beneath the coping into the overflow system shall be a minimum of 4 inches beneath the coping in any direction measured radially from the inner edge of the overflow channel lip.
3. **Channel Lip.** The overflow channel lip shall not be more than 12 inches below the level of the deck. The lip edge shall be rounded and shall not be thicker than 2 ½ inches nor thinner than 1 inch from the top 2 inches.

4. **Channel Covering.** Covered overflow channels shall be permitted providing a bather cannot enter it or get his arms or legs caught in the cover.
5. **Channel Outlets.** Overflow channel outlets shall be not less than 2 ½ inches in diameter, spaced not more than 15 feet apart, and the channel bottom slope to the drain shall be not less than ¼ inch per foot (1 in 48).  
**Exception:** Other drain spacing or channel bottom slope shall be permitted if hydraulically designed in accordance with acceptable engineering principles.
6. **Channel Outlet Covers.** Overflow channel outlets shall be provided with a clear opening area in the grating not less than 1.5 times the cross-sectional area of the outlet required in Section 3134B.2 5.
7. **Overflow Drain Piping.** Overflow drain piping shall provide drainage of the overflow system, shall carry overflow water to a surge storage chamber, and shall establish hydraulic equilibrium in the pool and return to skimming within 10 minutes after being flooded by a sudden large use of the pool by bathers.
8. **Surge Storage Capacity.** A perimeter overflow system shall be provided with a minimum surge storage of not less than 1 gallon per square foot of pool water surface area. Surge storage shall be permitted in the perimeter overflow channel, the overflow water drain piping returning to the surge chamber, and in the surge chamber.
9. **Surge Flow Control.** Automatic make-up (fresh) water flow controls with a manual override provision shall be provided to maintain the proper operating pool water level.

**3134B.3 Outlets.** Each pool shall be provided with a bottom drain and outlets through which circulation shall take place and by which the pool can be emptied. The bottom drain and recirculation outlets shall be covered with grates or other protective devices which shall be removable only with tools. Slots or openings in grates or covers shall not exceed ½ inch in the smaller dimension and shall be of such area, shape and arrangement to prevent physical entrapment or a suction hazard to bathers.

**Exception:** Recirculation outlets for a spa pool shall be either a safety type which cannot be completely covered by any part of the body, or shall be installed in duplicate so as to prevent a suction hazard to bathers.

**3134B.4 Hydrostatic Devices.** In areas of anticipated high ground water table, an approved hydrostatic relief device shall be installed.

**3134B.5 Inlet Fittings.** Each pool shall be provided with not less than two recirculation system inlets for the first 10,000 gallons capacity and one additional inlet for each additional 10,000 gallons capacity, or fractional part thereof.

**Exception:** A spa pool shall be provided with not less than one inlet.

**3134B.5.1 Construction.** Inlet fittings shall not protrude greater than 1 ¼ inches into the pool and shall be shaped, rounded and smooth.

**3134B.5.2 Location.** Inlet fittings shall be located greater than 18 inches below the water line, except for a spa pool or wading pool. One floor inlet shall be provided for each 10,000 gallons of pool capacity for a pool which exceeds 40 feet in width. Inlet fittings shall be separated by at least 10 feet and shall be located to ensure uniform circulation.

**3134B.5.3 Adjustment.** Provisions shall be made for adjusting the volume of flow through each inlet. Wall inlets shall be capable of adjusting the direction of flow and to produce sufficient velocity to impart a substantial circulatory movement to the pool water.

### **Sec. 3135B (formerly 2-9043) Spa Pool Special Requirements**

**3135B.1 Aeration System.** A spa pool aeration and/or jet system shall be completely separate from its filtration system and shall not be interconnected with any non-spa pool.

**3135B.2 Maximum Operating Temperature.** The maximum allowable water temperature shall be 104 °F for a spa pool.

### **Sec. 3136B (formerly 2-9044) Cleaning Systems**

A built-in or portable type vacuum cleaning system shall be provided which is capable of removing sediment from all parts of the pool floor. When jet-type units are used, they shall be provided with approved type backflow protection for the water system.

### **Sec. 3137B (formerly 2-9045) Waste Water Disposal**

**3137B.1 General Requirements.** Material cleaned from filters, waste water from temporary training pool showers, and backwash water from any pool system shall be disposed of in a manner which will not create a (public) nuisance.

**3137B.1.1 Sand Filters.** In accordance with applicable local regulations, the backwash water from a sand filter shall be disposed of to a storm drain or sewer system, dry well, or, when approved, such water may be disposed of by surface or subsurface irrigation.

**3137B.1.2 Diatomaceous Earth Filters.** The backwash waste water from a diatomaceous earth filter shall discharge into a receiving chamber installed to collect the waste diatomaceous earth mixture, or when approved

such waste shall be permitted to be disposed of by other means such as to a sanitary sewer.

**3137B.1.3 Piping.** Pumps and drain piping shall have sufficient capacity to receive pool system backwash without overflow of the pump receiver.

**3137B.1.4 Visual Indicator.** A sight glass shall be installed on the waste water discharge line from a filter.

**Exception:** The sight glass shall not be required when an air-gap connection from the filter vessel to a sewer or other drainage system is clearly visible to the operator during actual backwash operation.

**3137B.2 Prohibited Connection.** No direct connection of the pool or its recirculation system shall be permitted with a sanitary sewer, storm drain or drainage system. When permitted by local regulations, discharge to a sanitary sewer shall be through an air-gap type separation.

## **California Code of Regulations Title 24, Article 680**

### **680-12. Gas Chlorination Equipment Rooms**

(a) **Switch Location.** Switches for the control of mechanical ventilation and lighting fixtures in a room used for gas chlorination equipment shall be located adjacent to the entry door outside the of the room. Each switch shall be clearly labeled “Turn On Before Entering”.

(b) **Equipment Interlocks** The gas chlorine feeding devices shall be interlocked with the pool recirculating pump so that the gas chlorine feeding devices shall not operate when the recirculating pump is off or during the filter backwash cycle.

### **680-13. Emergency Switch for Spa Pools**

A clearly labeled emergency shut-off switch for the control of both the recirculation system and the aeration and/or jet system shall be installed adjacent to the spa pool.

## A

Aeration, 29  
Air-gap, 26, 30  
Alternate Equipment, 14  
Animals in Pool Area, 9  
Antivortex, 4  
Apartment House Pools, 6  
Artificial Respiration, 10  
Authority to Enter, 4  
Auxiliary Area, 12

## B

Backflow, 26  
Backwash, 12, 25, 26, 27, 30  
Bacteria, 3, 9, 10, 25  
Bathhouse, 1, 21  
Bathing Suits, 9  
Beaches, 1  
Bench, 15  
Building Permit, 3, 4, 5, 7, 12, 21, 22, 24

## C

Campground Pools, 6  
Cantilevered Decking, 20  
Chemical, 9, 27  
Chlorine, 8, 9, 10, 11, 24, 27, 28, 30  
Clarity, 3, 8, 10  
Clean, 12  
Closure, 10  
Club, 3, 6, 12  
Color, 15  
Commercial pools, 6  
Community pools, 6  
Condominium, 6, 12  
Construction, 7, 14, 15, 21, 29  
Coping, 15, 19, 20, 28  
CPR, 1  
Cyanuric Acid, 8

## D

Deck, 12, 20, 21  
Deck Lighting, 3, 20, 21, 24, 30  
Decorative Designs, 19  
Definitions, 6, 12  
Department, 4, 6, 7, 26  
Depth Marker, 19  
Diatomaceous Earth, 25, 27, 30  
Disease, 10

Disinfectant Feeder, 27  
Disinfection, 8, 28  
DIVING, 24  
Diving Boards, 20  
Drain, 8, 12, 20, 25, 29, 30  
Dressing Room, 7, 11, 21  
Drinking Fountains, 21

## E

Electrical Work, 3  
Encapsulated, 2  
Enforcement, 3, 5, 6  
Enter, 4, 29  
Equipment, 11, 12, 24, 27, 28, 30

## F

Fence, 22  
Fill Line, 25, 26  
Filter, 12, 25, 26, 27, 30  
Finish, 15  
First Aid Kit, 10  
Floor, 9, 21, 24  
Flowmeter, 25

## G

Gas, 10, 11, 24, 28, 30  
Gate, 11, 22  
Gauges, 25  
Grates, 4, 29  
Ground-fault Interrupter, 2  
Gutter, 13, 15, 20, 25, 26, 28, 29, 30  
Gymnasium, 6, 12

## H

Hand Rail, 19, 20  
Handholds, 15, 19, 20  
Handicapped, 13  
Health Establishment Pools, 6  
Health Officer, 2, 3, 4  
Healthful, 2  
Homeowner Association Pools, 6  
Hose Bibb, 21, 22  
Hotel Pools, 6  
Hydraulically Balanced, 4  
Hydrostatic Relief Valve, 29

## I

Inlet, 12, 26, 29  
Inspection, 7

## L

Ladder, 12, 13, 19  
Lagoon, 1  
Lake, 1  
Lane Lines, 19  
Life Ring, 10  
Lifeguard, 1, 2, 9, 20  
Lighting, 20, 21, 24

## M

Main Drain, 4, 5, 8, 15  
Medical Pool, 13  
Mobile Home Park Pools, 6  
Motel Pools, 6

## N

Nighttime, 20  
Nuisance, 4

## O

Occupant Load, 24  
Overflow Drainage, 28

## P

Particle Size, 12  
Penalty, 5  
Perimeter Overflow, 28  
pH, 8, 10  
Pipe, 7, 25, 28, 29, 30  
Plans, 2, 7  
Pole, 10  
Precoating, 27  
Private Pools, 6, 13  
Projections, 15  
Public Pool, 1, 2, 3, 12, 13, 25  
Pump, 8, 25, 26, 27, 30

## R

Rail, 19  
Recessed, 13, 15, 19  
Recirculation, 8, 12, 13, 20, 25, 27, 28, 29, 30  
Red Cross, 1  
Replacement of Equipment, 11  
Resort Pools, 6  
Retroactivity, 22  
Rope, 15

## **S**

Safe, 2, 3  
Sand, 25, 26, 27, 30  
Sanitary, 2, 4, 9, 11, 30  
School Pools, 6  
Separate, 25  
Sewer System, 30  
Shallow Pool, 13, 24  
Shell, 15  
Shower, 7, 9, 10, 11, 12, 21, 30  
Sign, 9, 24  
Skimmer, 9, 28, 29  
Slip-Resistant, 13  
Slope Break, 15  
Soap Dispensers, 11  
Spa, 6, 7, 10, 13, 15, 19, 20, 24, 25, 26, 29, 30  
Spa Emergency Switch, 30  
Spa Jet System, 6, 13, 29, 30  
Special Purpose Pool, 13, 15

Special Use, 6  
Stairs, 13, 19  
State Building Standards Code, 3, 4, 5  
State Department of Health, 2  
Step, 13, 19, 20  
Strainer, 25  
Suction Hazard, 4, 29  
Surge, 29  
Swimming Pool, 1, 3, 6

## **T**

Temperature of Spa, 6, 21, 29  
Temporary, 20, 25, 26, 30  
Temporary Training Pool, 6, 13, 15  
Test Kits, 8  
Therapeutic Tubs, 6  
Toilet, 9, 11, 12, 21, 24  
Townhouse Pools, 6  
Trailer Park, 6, 12

Turnover, 13, 25

## **U**

Underdrain System for Sand Filter, 26  
Uniformity Coefficient, 13

## **V**

Vacuum Cleaning, 29  
Valve, 25  
Variation in Flow, 8  
Ventilation, 24  
Violation, 5

## **W**

Wading Pool, 4, 5, 6, 10, 13, 19, 25, 29  
Wall, 21, 29  
Waste Water Disposal, 30