

**ORDINANCE #65567**  
**Board Bill No. 129**

An ordinance regulating non-residential swimming pools, wading pools, spray pools and spas, and containing a penalty clause.

**SECTION ONE - Definitions**. For the purpose of this ordinance the following words shall have the following meanings:

- (1) "Health Commissioner" - means the Health Commissioner or the Health Commissioner's designated agent.
- (2) "Non-Residential Swimming Pool" - means any artificial body of water, wading pool, or spray pool and auxiliary structures including dressing rooms and locker rooms, toilet, showers, and other areas and enclosures that are intended for the use of persons using the pool; but does not include pools and auxiliary structures and equipment located on private property with four (4) or less dwelling units under the control of the owner or lessee and intended only for the use of the owner or residents and their guests.
- (3) "Person" - Shall mean any individual, firm, partnership, association, corporation, company, governmental agency, club or organization of any kind.

**SECTION TWO - Rules and Regulations**

The Health Commissioner shall promulgate rules and regulations to carry out the purpose and intent of these regulations. The intent of these regulations shall be to assure a clean, healthful, and safe environment at all swimming pools as shall be constructed, remodeled or operated within the City of St. Louis, Missouri. The rules and regulations may provide:

- a. The minimum sanitary requirements for the design, equipment, maintenance and operation of swimming pools.
- b. The minimum number of lifeguards and attendants required to be in attendance at any swimming pool except that rules and regulations pertaining to lifeguards and attendants shall not be applicable to pools and auxiliary structures and equipment at residences with four (4) or less dwelling units.
- c. The qualifications of any lifeguard or attendant at any swimming pool.
- d. The minimum safety facilities and apparatus to be installed and maintained at any swimming pool.
- e. The maximum bathing load of any swimming pool.
- f. The minimum sanitary standard of operation for any wading pool or spray pool.
- g. The data to be submitted with any application for construction, alteration, extension or modification of swimming pools and to provide the manner and terms upon which such approval shall be granted or modified.

Any rule or regulation shall meet the minimum standards of the Missouri Division of Health, but nothing herein shall prevent the Health Commissioner from requiring compliance with such higher standards as are essential to maintain a sanitary condition.

**SECTION THREE - Plans and Specifications Approval**

All reports, plans and specifications for swimming pools shall be submitted at least fourteen (14) days prior to the date upon which action by the Health Division is desired. No swimming pool shall be constructed, altered, remodeled or renovated unless and until plans, specifications and additional information relating to such swimming pool, as may be requested by the Health Commissioner shall be submitted to said Health Commissioner and after review by said Health Commissioner found to comply with the minimum sanitary requirements provided under Section One and written approval, for construction, alteration, extension or modification of the swimming pool, issued by said Health Commissioner. The review of the plans by the Health Commissioner shall relate only to ensuring adequate protection to the public health. Any such swimming pool, approved by the Health Commissioner, shall be constructed, altered, extended or modified in accordance with the provisions of the Building and Plumbing Codes of the City of St. Louis.

**SECTION FOUR - Detailed Plans**

All detailed plans shall be prepared on blue or white prints and shall be drawn to a suitable scale. The detailed plans for pools shall show:

- a. A plot of the property to be used for location of the swimming pool, indicating the topography and the arrangement of present and proposed facilities.
- b. Complete construction details, including elevations and cross sections for all units.
- c. Schematic diagrams of the pool purification system.
- d. Detailed plans for all piping including elevations.
- e. Plans shall be accompanied by completed application forms as prescribed and furnished by the Health Division.

**SECTION FIVE - Operation**

Any swimming pool shall have such equipment and shall be so operated as to comply with minimum sanitary requirements provided under Section One of these Regulations. No swimming pool shall be opened for use until the Health Division has been notified in writing at least ten working days prior to the date of opening and the pool has been found to comply with the minimum sanitary requirements provided under Section One of these regulations. All swimming pools located within the City of St. Louis, Missouri, which are not in compliance with these regulations at the time of enactment shall be exempt from compliance with those provisions which do not pertain directly to health and safety of users and the general public.

**SECTION SIX - Operating Records**

Any person owning, operating or maintaining a swimming pool shall keep an accurate record of pool operations as provided for on the Health Division's pool operator's weekly report sheet and submit such records to the Health Division with any other additional information regarding the pool which may be required.

**SECTION SEVEN - Inspections**

The Health Commissioner shall make such inspections as may be necessary of any swimming pool and collect and analyze samples to determine that the water shall be of satisfactory bacterial, chemical and physical quality as frequently as may be necessary to ensure compliance with the minimum sanitary requirements of these rules and regulations or any rule or regulation hereunder.

**SECTION EIGHT - Variance**

Swimming pools shall be constructed, remodeled, or operated in compliance with the provisions of these regulations, except that an applicant may request and the Health Division may grant a variance in those cases where it is determined that strict compliance would cause unusual difficulties or hardships and that the variance would not affect the healthful operation of the swimming pool. Before granting a variance, the Health Division shall require adequate proof from the applicant that the requested variance will comply with the basic intent of these regulations and that no health hazard would be created if the variance is granted. It does not include normal maintenance and repair or the replacement of equipment which had been previously approved, provided that the type, size or operating characteristics of the replacement equipment is equivalent of that previously approved.

**SECTION NINE - General Sanitary Standards**

In control of swimming pool sanitation certain broad principles apply to all indoor and outdoor pools.

- a. All Public and Semi-Public swimming pools, both interior and outdoor, shall be under the sanitary control of the Health Division.
- b. The same standards of cleanliness and bacterial purity of water and the same precautions against the possible spread of disease shall apply at both indoor and outdoor swimming pools.

- c. At swimming pools, sanitary standards shall apply to bathing houses, dressing rooms, toilet facilities, and the handling and care of bathing suits, towels, and other articles of bathing apparel.
- d. The common use of towels, drinking cups, combs, hair brushes and other toilet articles shall be strictly prohibited.
- e. The water supply for all shower, lavatory, and drinking water facilities as adjuncts to the swimming area shall meet all bacteriological standards for safe drinking water.
- f. All equipment installed for the proper operation of the swimming pool shall have been approved for swimming pool use by the National Sanitation Foundation or an equivalent testing facility.
- g. Animals not specifically authorized by the Health Division shall not be within the pool enclosure.
- h. There shall be no direct physical connection between the sewerage system and the pool drain or recirculation system. A six (6) inch air gap shall be provided to ensure there is no backflow of sewage or waste water into the pool or pool piping system. Any swimming pool water discharged to the sewer system shall be discharged to a public sewer system.
- i. All portions of the water distribution system serving the swimming pool and auxiliary facilities shall be protected against backflow.

#### **SECTION TEN - Swimmer Loading**

Designation of Area - For the purposes of computing swimmer capacity for design, those portions of the pool four feet or less in depth shall be designated "non-swimmer" areas. Portions of the pool over four feet in depth shall be designated as the swimming area. Pool areas shall be determined as follows:

- a. Ten (10) square feet of pool surface shall be provided for each non-swimmer expected in the water at time of maximum load.
- b. Twenty-four (24) square feet of pool area shall be provided for each swimmer expected in the water.
- c. Three hundred (300) square feet of pool area shall be reserved around each diving board or diving platform and this area shall not be included in computing the area of the swimming section. Twenty (20) persons is the maximum number allowed for the area within a ten (10) foot radius of each diving board or platform.

#### **SECTION ELEVEN - Pool Construction Materials**

- a. Materials - Swimming pools shall be constructed of materials which are inert, nontoxic, impervious, permanent, and enduring, which will provide a tight tank with a smooth and easily cleaned surface, or to which a smooth, easily cleaned surface can be applied.
- b. Fillet - All corners formed by intersection of walls and floors should be rounded.
- c. Pervious Bottoms Prohibited - Sand or earth bottoms are not permitted in pool construction.
- d. Finish - Bottom and sides must be of white or light color.

#### **SECTION TWELVE - Floor Slopes**

- a. All slopes shall be uniform.
- b. The slope of the floor from the shallow end wall towards the deep end shall not exceed one (1) foot in twelve (12) feet to the point of the first slope change.
- c. The point of the first slope change shall be defined as the point at which the floor slope exceeds one (1) foot in twelve (12) feet.

- d. The slope of the floor from the point of the first slope change to the deep end shall not exceed one (1) foot in three (3) feet. Such slopes are not intended to provide any less water depth than those specified if the pool is intended for diving.
- e. The transitional radius from wall to floor where floor slopes join the wall shall comply with the following:
  - (1) The radius shall have its center no less than two (2) feet nine (9) inches below the waterline in deep areas or two feet six inches ( 2'6") in the shallow area.
  - (2) The radius shall be tangent at the point where the radius either meets the wall or the floor.
  - (3) The radius shall be at least equal to, or greater than, the depth of the pool minus the vertical wall depth measured from the waterline minus three inches (-3") to allow draining to the main drain.

R minimum = Pool depth - Vertical Wall Depth minus three inches (-3").

#### **SECTION THIRTEEN - Pool Water Depths**

- a. Water depths at the shallow end of the swimming area shall be three (3) feet minimum, with a three (3) feet six (6) inches minimum for racing pools. Exceptions may be made in a recessed area of the main swimming pool, outside of the competitive and/or swimming course, when the pool is an irregular shape with the permission of the Health Commissioner.
- b. The beginner's area of a pool shall be visually set apart from, but may be adjoined to, the shallow area and not adjoin the deep area.
- c. The transition point of the pool from the beginners' area to the shallow area and from the shallow area to the deep area shall be visually set apart with a rope and float line, depth markers, and a four (4) inch minimum width row of floor tile, painted line, or similar means of color contrasting with the bottom. In diving pools with a constant slope, the shallow area shall be visually set apart from the deep area with a rope and float line, depth markers, and a four (4) inch minimum width row of floor tile, painted line, or similar means of a color contrasting with the bottom.
- d. Pools intended for competitive diving and swimming shall be designed and constructed so as to provide the water depths specified by Federation Internationale de Natation Amateur (F.I.N.A.), U. S. Swimming, and U.S. Diving.

#### **SECTION FOURTEEN - Diving Pool Water Depth**

- a. Diving pools shall conform to the minimum water depths, areas, slopes, and other dimensions shown on page 7a. If a wall exists then it shall conform with the 3:1 in the Point D dimension and the L 1-2-3-4 dimensions.
- b. When diving equipment is installed, it shall be located in the diving area of the pool to provide the minimum dimensions as shown on page 7a.
- c. The tip of the diving equipment shall be located at Point A, which is the reference point of all other dimensions.
- d. There shall be completely unobstructed clear vertical distance of thirteen (13) feet above any diving board measured from the center of the front end of the board. This area shall extend horizontally at least eight (8) feet behind, eight (8) feet to each side and sixteen (16) feet ahead of Point A.
- e. Pools with diving facilities in excess of three (3) meters in height, or pools designed for platform diving, shall comply with the dimensional design requirements of F.I.N.A., U. S. Diving, and National Federation of State High School Associations (NFSHSA).

#### **SECTION FIFTEEN - Ladders, Recessed Steps, and Stairs**

- a. Location - Steps or ladders shall be provided to serve the shallow and deep portions of the pool, and if the pool

is over thirty (30) feet wide, such steps or ladders shall be installed on each side. Stairs, ladders, and recessed steps should be located so as not to interfere with racing lanes or with diving.

- b. Stairs - Stairs leading into pools shall have a minimum tread of twelve (12) inches and a maximum rise not to exceed ten (10) inches. There shall be no abrupt drop-off or submerged projections into the pool, unless guarded by handrails.
- c. Ladders - Pool ladders shall be corrosive resistant and shall be equipped with non-slip treads. All ladders shall be designed to provide a handhold and shall be rigidly installed. There shall be a clearance of not more than six (6) inches nor less than three (3) inches between the ladder and the pool wall.
- d. Step-holes - If Step-holes are inserted into the walls or if step-holes are provided, they shall be of such design that they may readily be cleaned and shall be arranged to drain into the pool to prevent the accumulation of dirt. Step-holes shall have a minimum tread of five (5) inches and a minimum width of fourteen (14) inches.
- e. Handrails - Where stairs, step-holes, or ladders are provided within the pool, there shall be a handrail at the top of both sides thereof extending over the coping or edge of the deck.
- f. Steps and Guard Rails for Diving Boards - Supports, platforms, and steps for diving boards shall be of substantial construction and of sufficient strength to safely carry the maximum anticipated loads. Steps shall be of corrosive-resistant material, easily cleanable, and of non-slip design. Handrails shall be provided at all steps and ladders leading to the diving boards which are one (1) meter above the water. Platforms and diving boards which are one (1) meter or more high, shall be protected with guard railings.

#### **SECTION SIXTEEN - Decks**

- a. A deck shall entirely surround the pool. It shall be not less than four (4) feet wide at indoor pools and should not be less than eight (8) feet wide at outdoor pools. The deck shall be of uniform, easily cleaned, impervious material; and of non-slip construction.
- b. Pool Edges - The edge of the pool should be rounded at its junction with the deck, and shall be shaped to provide an adequate hand hold.
- c. Slope - The deck shall have a slope of not less than three (3) inches in ten (10) feet.

#### **SECTION SEVENTEEN - Drainage**

- a. In no instance shall the walks or walk drains drain directly to the pool. Pool walks shall slope in a direction away from the pool but shall not drain in such a manner as to cause standing water.
- b. Adequate and properly located deck drains are necessary where pool decks slope away from the pool edge.
- c. The drainage shall not be discharged into the pool recirculation system.
- d. There shall be no direct connection between pool walk drains and the sanitary sewer system.

#### **SECTION EIGHTEEN - Hose Bibs**

Sufficient hose connections of five-eighths (5/8) inch size, served by at least a three-fourths (3/4) inch pipe, shall be located to effectively flush all areas of the pool.

#### **SECTION NINETEEN - Outside Curb**

A curb, at least four (4) inches high, should be provided on the outside of the deck area to prevent spectators' litter from being kicked onto the deck or to prevent surface water from flowing onto the deck.

**SECTION TWENTY - Fencing**

An effective fence or barrier of at least four (4) foot in height, including gates, shall be provided on the outside of the deck area to prevent unauthorized entrance by spectators. All entrances (gates) shall be self-closing and self-latching. Picket type fences and gates such as wrought iron or wood shall have openings between uprights no greater than four (4) inches.

**SECTION TWENTY-ONE - Adjacent Areas**

Pools shall not be constructed with areas of sand, grass or shrubbery within the pool enclosure. Potted plants may be authorized provided they are maintained at a distance in excess of eight (8) feet from the water.

**SECTION TWENTY-TWO - Pool Concessions**

There must be a complete separation between areas where food and drink are served and areas used by swimmers. Concession facilities available only to spectators shall be separated from the pool deck and areas accessible to swimmers by a fence at least six (6) feet high. Where concessions are in the pool area and available to swimmers, the following facilities shall be provided.

- a. Adequate safeguards to ensure that food and drink are not taken or passed from the concession area to the pool area, except when delivered to a table by establishment personnel.
- b. In cases where personal service is provided by the establishment, food and /or drink may not be consumed or served within eight (8) feet of the water's edge.
- c. Drinks shall not be served in glass containers. Plastic containers if utilized, shall be of dark color. Glass of any type, unless specifically authorized by the Department of Health, shall not be in the pool enclosure.

**SECTION TWENTY-THREE - Location of Depth Markings**

Depth of water shall be plainly marked at or above the water surface on the vertical pool all and on the edge of the deck next to the pool, at maximum and minimum points and at the points of break between the deep and shallow portions and at intermediate one (1) foot increments of depth, spaced at not more than twenty five (25) foot intervals measured peripherally. The depth in the diving areas shall be appropriately marked.

**SECTION TWENTY-FOUR - Size of Depth Markings**

Depth markings shall be in numerals of four (4) inches minimum height and a color contrasting with background. Where depth markings cannot be placed on the vertical walls above the water level, variations will be considered, said markings to be plainly visible to persons in the pool.

**SECTION TWENTY-FIVE - Lighting and Electrical Requirements**

- a. Underwater Lighting - Where night swimming is permitted, underwater lighting shall be provided. Not less than zero point five (0.5) watts shall be employed per square foot of pool area. Such lights shall be spaced to provide illumination so that all portions of the pool and pool bottom may be plainly visible to persons in the pool.
- b. Area Lighting - Where night swimming is permitted, area lighting shall be provided for the deck areas and directed toward the deck areas and away from the pool surface in so far as practical in a total capacity of not less than zero point six (0.6) watts per square foot of deck area.
- c. Wiring - All wiring for swimming pool lighting or power shall conform to Article 680 of the National Electrical Code of the National Fire Protection Association.
- d. Overhead Clearance - All overhead electrical wiring shall conform to Article 680 of the National Electrical Code of the National Fire Protection Association.

**SECTION TWENTY-SIX - Inlets**

- a. Number of inlets - Multiple inlets must be provided; so spaced that each inlet will serve a linear distance of not more than fifteen (15) feet, however, if directional inlets are used, the number of inlets shall be based on either one (1) inlet per six hundred square feet of pool area or one inlet per fifteen thousand gallons of pool capacity, whichever is greater.
- b. Orifice Design - Each inlet shall be designed as an orifice subject to adjustment or with an individual gate valve to permit adjustment of water volume. Discharge velocity must be sufficient to assure distribution of disinfectant residual throughout the pool.

**SECTION TWENTY-SEVEN - Outlets**

- a. Size and Location - All pools shall be provided with an outlet at the deepest point. openings must be covered by a proper grating which is not readily removable by swimmers. Total outlet opening area of the grating in the floor of the pool shall be at least eight (8) times the area of the discharge pipe. The maximum width of grate openings shall be one half (½) inch. The outlet of the pool should be plainly marked by a black or dark colored circle, unless the outlet grating is of conspicuous coloring.
- b. Number of Outlets - When a pool is more than thirty (30) feet wide, multiple bottom outlets shall be provided for the deepest longitudinal cross-section. In such cases, outlets shall be spaced not more than thirty (30) feet apart, nor more than fifteen (15) feet from the side walls.

**SECTION TWENTY-EIGHT - Perimeter Overflows**

Current pool design provides that overflow gutters serve as collection channels for the recirculation system.

- a. When required - Perimeter Overflows shall be required on all pools having a surface area of over two thousand (2,000) square feet. (Pools having a surface area of less than two thousand (2,000) square feet or less shall be provided either with perimeter overflows or skimmers.)
- b. Design - All Perimeter Overflow systems shall extend completely around the pool, except at steps or recessed ladders in the shallow portion and shall be level to a tolerance of one-fourth (1/4) inch. The perimeter overflow shall be capable of continuously removing at least one hundred percent of the recirculated water and returning it to the filter. All perimeter overflows shall be connected to the recirculation system through a properly designed surge tank. The perimeter overflow, drains, and return piping to the surge tank shall be designed to rapidly remove overflow water caused by recirculation displacement, wave action, or other causes produced from the maximum pool bathing load. (Open channels, if provided shall be designed to prevent entrance or entrapment of swimmers' arms or legs.) The overflow edge or lip shall be rounded and not thicker than two and one half (2-1/2) inches for the top two (2) inches. If multiple outlets are provided they shall be spaced at least every fifteen (15) feet and connected to an outlet pipe or pipes at least two and one half (2-1/2) inches in diameter. The outlet fitting shall have a clear opening in the grating at least equal to one and one half (1-1/2) times the cross-sectional area of the outlet pipe. Piping connections must be provided to permit water to flow from overflow channels to waste, as well as to the recirculating system.
- c. Alternate Design - Nothing in this section shall preclude the use of roll-out or deck level type pools. Such designs shall provide for one hundred percent recirculation return through the flumes at design flow rate. The design of the curb and handhold shall conform to accepted standards, and approval shall be based on detailed review of this feature of construction and evaluated in the light of proposed use of the pool.
- d. Surge Capacity - All overflow gutters shall be connected to the recirculation system with a total surge capacity of not less than one (1) gallon per square foot of pool surface area. Each surge system shall be provided with an overflow drain and a means for draining and cleaning.
- e. Water Level Control - Facilities capable of maintaining a water level sufficient to provide continuous skimming when pool is not in use shall be provided.

**SECTION TWENTY-NINE - Skimmers**

The use of skimmers will be permitted under the following conditions:

- a. Location, Installation, Handholds, etc. - Skimmers are permitted on swimming pools with not more than two thousand (2,000) square feet of surface area, provided approved handholds are installed and sufficient motion to the pool water is induced by the pressure return inlets. The required skimmers shall be located not more than thirty (30) feet apart measured horizontally. Handholds shall consist of coping not over two and one half (2 ½) inches for the outer two (2) inches or an equivalent approved handhold. The handholds must be no more than six (6) inches above the normal water line. Skimming devices shall be built into the pool wall and shall develop sufficient velocity on the pool water surface to induce floating oils and wastes into the skimmer from the entire pool area.
- b. Capacity - The piping and other pertinent components of skimmers shall be designed for a total capacity of one hundred percent of the required filter flow of the recirculation system and no skimmer shall be designed for a flow through rate of less than thirty (30) gallons per minute per foot of weir length.
- c. Design - The skimmer weir shall be automatically adjustable and shall operate freely with continuous action to variations in water level over a range of at least four inches (4). The weir shall operate at all flow variations as described in Section Twenty-eight. The weir shall be of such buoyancy and design so as to develop an effective velocity.
- d. Screen - An easily removable and cleanable basket or screen through which all overflow water must pass shall be provided to trap large solids. Spare screens or baskets shall be readily available.
- e. Relief Line - The skimmer may be provided with a device to prevent air-lock in the suction line. If an equalizer pipe is used it shall provide an adequate amount of water for pump suction, should the water of the pool drop below the weir level. If any other device or arrangement is used, a sufficient amount of water for pump suction shall be assured.
- f. Material - The skimmer shall be of sturdy, corrosion-resistant materials.

**SECTION THIRTY - Recirculating System**

A recirculation system consisting of pumps, piping, filters, water conditioning and disinfecting equipment, and other accessory equipment, shall be provided which will clarify and disinfect the swimming pool volume of water in six (6) hours or less, thus providing a minimum turnover of at least four (4) times in twenty four (24) hours when operating at designed maximum head loss. The recirculation system shall operate continuously twenty-four (24) hours a day.

- a. Rate - The recirculation system shall be capable of clarifying and disinfecting the pool volume of water in six (6) hours or less, thus providing a turnover of at least four (4) times in twenty-four (24) hours. A turnover each four (4) hours, or six (6) times in each twenty-four (24) hour period is recommended. The turnover rate shall be maintained up to and including the time at which the filter needs to be backwashed. Pools built for diving only may be designed for an eight (8) hour turnover rate.
- b. Hydraulics and piping system - All piping shall be designed to reduce friction losses to a minimum and to carry the required quantity of water at a maximum velocity not to exceed eight (8) feet per second for pressure, six (6) feet per second for suction and four (4) feet per second for gravity. All piping shall be of non-toxic material resistant to corrosion and able to withstand operating pressures. Flange joints or unions should be inserted at intervals to permit take down and cleaning. A blow-off shall be provided for the collection of samples of recirculated and treated water. All piping and valves should be identified by color code or tag.
- c. Hair Strainer - The recirculation system shall include a strainer to prevent hair, lint, etc., from reaching the pump and filters. Strainers shall be corrosion-resistant with openings not more than one-eighth (1/8) inch in size and the total area of the openings shall be ten (10) times the area of the inlet pipe. The strainer shall be readily accessible to frequent cleaning. Spare screens or baskets shall be readily available.

- d. Vacuum system - Equipment should be provided to remove sludge, sediment and other accumulations from the bottom of the pool. A built-in vacuum system is preferred, but portable equipment will be accepted. Vacuum pipes must have a minimum diameter of one and one-half (1-1/2) inches and vacuum hoses one and one-half (1-1/2) inches. A valve or other regulating device should be provided to reduce flow from the pool outlet when the vacuum system is in use.
- e. Flow Measurement - A rate-of-flow indicator, reading in gallons per minute, shall be installed and located so that the rate of circulation and backwash rate will be indicated. The indicator shall be accurate within ten (10) percent of true flow and installed per manufacturer's instructions.
- f. Pump Selection - Pumps shall be of adequate capacity to provide the required number of turnovers of pool water as specified in Section twenty-nine, a. If the pump or suction piping is located above the overflow level of the pool, the pump shall be self priming. The pump or pumps shall be capable of providing flows and pressures adequate for the backwashing of filters. The pump suction header shall be provided with gauges which indicate both pressure and vacuum and a pressure gauge shall be installed on the pump discharge line. These shall be installed on the pump discharge line these shall be installed as near to the pump inlet as possible. The backwash pump must have sufficient capacity to backwash a filter unit at the prescribed rate. A pump curve shall be provided as part of the pump specifications. A separate system must be used for each pool, i.e., diving, swimming, or wading unless adequate provisions are made to assure the minimum prescribed turnover.
- g. Thermometer - Pools equipped with heaters shall have a fixed thermometer in the recirculation line beyond the heater and another near the outlet of the pool.
- h. Backwash water - All wastewater generated from the backwashing of filtration systems shall be discharged as an indirect waste to a sanitary sewer. An air gap of six (6) inch minimum height shall be utilized. Discharge to other than the sanitary sewer may be allowed under extraordinary circumstances.

#### **SECTION THIRTY-ONE - Sand Filters**

Sand filtration units are acceptable in swimming pool recirculation systems. The three types now permitted are rapid flow, gravity, and high rate. Rapid flow pressure sand filter systems shall be provided with the following:

- a. Filter Tanks - Three (3) or more filters arranged in parallel are preferable to a single unit. If a single unit is used, adequate backwash capacity must be provided.
- b. Filter Area - Sufficient filter area must be provided to filter the entire contents of the pool in six (6) hours or less at the rate of not more than three (3) gallons per square foot per minute.
- c. Gravel - When a standard type under drain system is used, the gravel bed must be at least eighteen (18) inches in depth and vary in gravel size from approximately one and one-half (1-1/2) inches at the bottom to one-eighth (1/8) inch at the top.
- d. Filter media - The filter media must not be less than twenty-four (24) inches deep and the effective grain size must be between 0.40 and 0.50 millimeters. The uniformity coefficient must not exceed 1.65. Sand should be washed free from clay, organic matter, soluble material, and consist of suitable grades of screened sharp sand. The filter media shall meet the filter manufacturer's recommended grain sizing and coefficient indexes. Other materials will be given consideration.
- e. Vertical side wall freeboard of eighteen (18) inches above the surface of the filter material. A minimum side wall height of five (5) feet shall be provided below the convex top. Where specially designed and approved distribution facilities are utilized a corresponding reduction in the side wall height may be used.
- f. A readily removable head or large manhole with sufficient working space about the filter unit to facilitate inspection and repairs.
- g. Gauges for each battery on the inlet and outlet pipes for determining loss-of-head in the filter media.

- h. An air release system must be provided for each filter.
- i. A sight glass must be installed on the waste discharge pipe unless the wash-water discharge is plainly visible. Such sight glass shall be of a readily removable type to permit cleaning.

Gravity flow sand filter systems shall be provided with the following:

- a. Three (3) or more filter cells arranged in parallel.
- b. Filter area - sufficient filter area must be provided to filter the entire contents of the pool in six (6) hours or less at the rate of not more than two (2) gallons per square foot per minute.
- c. Gravel - When a standard type of underdrain system is used, the gravel bed must be at least eighteen (18) inches in depth and vary in gravel size from approximately one and one-half (1-1/2) inches at the bottom to one-eighth (1/8) inch at the top.
- d. Filter media - The filter media must not be less than twenty-four (24") inches deep and the effective grain size must be between 0.40 and 0.50 millimeters. The uniformity coefficient must not exceed 1.65. Sand should be washed free from clay, organic matter, soluble material, and consist of suitable grades of screened sharp sand. The filter media shall meet the filter manufacturer's recommended grain sizing and coefficient indexes. Other materials will be given consideration.
- e. Vertical side wall freeboard of eighteen (18) inches above the surface of the filter material to the rim of the overflow troughs to permit proper washing. Overflow to prevent water from rising above the walls of the filter. A curb installed around the filter to prevent floor wash from entering the filter.
- f. Sufficient head room to permit inspection and operation where the filter is covered by a superstructure.
- g. A compound gauge between the pump strainer and the pump which will indicate both positive and negative head.

High rate sand filter systems shall be provided with the following:

- a. One properly sized filter is acceptable. When two (2) or more units are arranged in parallel, provision should be made whereas no single unit would take the total pump discharge, particularly during the backwash cycle.
- b. Filter area - Sufficient filter area must be provided to filter the entire contents of the pool in six (6) hours or less at a rate no greater than fifteen (15) gallons per minute per square foot.
- c. Media support - Where gravel is utilized to support the filter media, it shall be clean, hard, rounded material to meet the requirements of the manufacturer.
- d. Filter media depth must not be less than twenty (20) inches. The effective grain size must be between 0.39 and 0.45 millimeters. The uniformity coefficient must not exceed 1.40. Sand must be washed free from clay, organic matter, soluble material, and consist of suitable grades of screened sand. The filter media shall meet the filter manufacturer's recommended grain sizing and coefficient indexes. Other materials will be given consideration.
- e. Vertical freeboard of at least eighteen (18) inches above the surface of the filter media to the lowest portion of the distributor pipe or collector piping which serve as overflows during backwash.
- f. A readily removable head or large manhole with sufficient working space about the filter unit to facilitate inspection and repairs.
- g. An air release system must be provided for each filter.
- h. Sight glass installed on the waste discharge pipe unless the backwash water is plainly visible. Such sight glass shall be readily removable to permit cleaning.

- i. Gauges for each filter on the inlet and outlet pipes for determining loss of head in the filter media.
- j. Filter unit shall have been tested and approved by a nationally recognized testing laboratory to function satisfactorily at the rate or rates specified.

**SECTION THIRTY-TWO - Diatomaceous Earth Filters**

Diatomaceous earth filtration units are acceptable in swimming pool recirculation systems. The two types permitted are pressure and vacuum.

**Pressure Diatomaceous Earth Filters**

- a. Filter area - Sufficient filter area must be provided to filter the entire contents of the pool in six (6) hours or less at the rate of not more than two (2) gallons per minute per square foot of filter area with continuous body feed or at the rate of not more than one and one-half (1-1/2) gallons per minute per square foot without continuous body feed.
- b. Filter elements - The filter element and septum shall be constructed and installed to adequately resist significant deformation, rupture or dislocation with the maximum differential pressure between influent and effluent developed by the pump during filtering and/or backwashing operation.
- c. Pre-coating - Provision shall be made to introduce a precoat of filter aid to evenly cover the filter elements upon placing the equipment into initial operation and after each cleaning. The amount of filter aid shall be selected to provide at least the same protection to the filter septum as that given by 0.1 pounds of diatomaceous earth filter aid per square foot of filter area where body feed is employed or 0.15 pounds per square foot where no body feed is used. The total required pre-coat material must be introduced into the filter within five (5) minutes of recirculation.
- d. Body or Slurry Feeding - Where provided, the body feeding equipment designed for feed of filter aid to the filter influent shall have a rate capacity to feed at a reasonable constant rate easily adjustable within a calibrated range of from (2) to ten (10) ppm of the gpm design rate of the filtering unit. (The equipment shall have capacity to operate at the maximum feed rate of ten (10) ppm of the design filter rate for a period of twenty-four (24) hours without refilling.)
- e. Backwash and Precoat - The filter piping may be installed to permit recirculation of the water from the effluent back to the influent until a satisfactory clear effluent backwashing and precoating is produced prior to admitting the water into the pool. An alternate is to discharge the unsatisfactory effluent to waste.
- f. Cleaning Elements - Sufficient head room and facilities must be provided in the filter room for periodic removal of the filter head and element assembly for manual cleaning purposes.
- g. Gauges - Pressure gauges must be installed on both the influent and effluent side of each pressure filter unit.

**Vacuum Diatomaceous Earth Filters** - Vacuum diatomaceous earth filters shall be installed in accordance with all provisions set forth for pressure diatomaceous earth filters with the following additional requirements:

- a. Provision must be made for complete and rapid draining or emptying of the filter tank prior to and during backwashing.
- b. Easy physical and visual access to the filter elements must be provided to facilitate cleaning during the backwashing cycle.
- c. A spray nozzle system should be installed to wash and clean the surface of the filter septum. In lieu of this system, a hose bib with an adequate length of hose must be provided near the filter for this purpose.
- d. A compound gauge which will indicate both positive and negative head must be installed on the suction side of the pump.

- e. In systems where the recirculation pump is two (2) horse power or higher, an adjustable high vacuum switch should be provided to prevent damage to the pump by cavitation.

Other types of filtration, including cartridge and high permeability type units, will be considered on an individual basis.

#### **SECTION THIRTY-THREE - Disinfection**

Chlorine is considered to be the most desirable disinfectant for swimming pools. Other disinfectants may be accepted upon submission of acceptable proof of their effectiveness. All pools shall be equipped with a chlorinator or other residual disinfectant feeder which meets the following requirements.

- a. **Design and Construction** - Disinfectant feeders shall be constructed of materials that will withstand wear, corrosion or attack by disinfectant solutions or vapors and which are not adversely affected by repeated regular adjustments or other conditions anticipated in the use of the device. The feeder shall be capable of being easily disassembled for cleaning and maintenance. The design and construction shall be such as to preclude stoppage from chemicals intended to be used or foreign materials that may be contained therein. The feeder shall incorporate failure-proof features so that the disinfectant cannot feed directly into the pool, pool piping, or pool enclosure under any type of failure of the equipment or its maintenance.
- b. **Capacity** - The disinfectant feeder shall be capable of maintaining at least the equivalent of one (1) part per million of free available chlorine in all portions of the pool under conditions of operation to be anticipated at the proposed installation. This usually requires application of at least ten (10) ppm of available disinfectant based on the recirculation rate.
- c. **Sensitivity** - The disinfectant feeder shall have a graduated and clearly marked dosage adjustment to provide flows from full capacity to twenty-five (25) percent of such capacity. The device shall be capable of continuous delivery within ten (10) percent of the dosage at any setting.

Gas chlorination - When chlorine gas is used, the following additional features shall be provided.

- a. A water operated chlorinator shall be used which controls and regulates the flow of gas. This unit shall provide an automatic shut off of gas when water pressure fails and shall vent leakage to outside atmosphere.
- b. The chlorinator shall be capable of delivering chlorine at its maximum rate without releasing chlorine to the atmosphere.
- c. The mechanical proportioning device and cylinders of chlorine shall be housed in a reasonably gas-tight corrosion-resistant and mechanically vented enclosure. Air tight ducts from the bottom of the enclosure to atmosphere in an unrestricted area and a motor driven exhaust fan capable of producing at least one (1) air change per minute and automatic louvers of good design near the top of the enclosure for admitting fresh air required. Electrical switches for the enclosure adjacent to the door.
- d. Chlorine cylinders shall be anchored to prevent their falling over. Keys shall be maintained on the chlorine cylinder so that supply can be shut off quickly in the case of an emergency. Cylinders shall be stored in an upright position and protected against direct exposure to the sun.
- e. Scales shall be provided for weighing chlorine cylinders. Scales shall be of corrosive-resistant material, and accurate enough to indicate the loss of weight to the nearest one-quarter (1/4) pound. Scales and chlorine cylinders should be placed on platforms raised above floor level.
- f. A gas mask approved by the U.S. Bureau of Mines for use in a chlorine atmosphere shall be available. A replacement canister shall be provided and a record shall be kept of gas mask usage that the mask will be serviceable when needed.
- g. The gas mask shall be kept in a closed cabinet accessible without a key, located outside of the room in which the chlorinator is maintained.

- h. A Chlorine Institute approved safety kit should be stored outside or be near the room where the chlorine cylinders are stored and used.
- i. Below ground installation of chlorination equipment will not be considered except in unusual circumstances.

Dry Feed Chlorinators - Chlorinators utilizing dry chemicals in powder, stick, tablet or any other form which feed the chemical into the water through erosion or any other manner are restricted in use to pools containing gallonage as recommended by the manufacturer and approved by the National Sanitation Foundation (NSF).

Chlorine Residual - Where chlorine, hypochlorite, or other chlorine compounds are used for disinfection, tests must be made as often as necessary to maintain adequate residuals. A free chlorine residual between one (1) ppm and three (3) ppm shall be maintained throughout the pool. If cyanuric acid or chlorinated isocyanurates are used, the following additional requirements shall be met:

- a. A cyanuric acid test kit shall be provided.
- b. The cyanuric acid level in the pool shall be kept below one hundred (100) ppm.
- c. A free chlorinated residual of at least 1.5 ppm shall be maintained throughout the pool.

#### **SECTION THIRTY-FOUR - pH Control**

The recirculation system of pools having a surface area greater than two thousand (2,000) square feet must be provided with a positive feed chemical machine for the introduction of soda ash, caustic soda, or other materials to control the pH of the water.

#### **SECTION THIRTY-FIVE - Testing Equipment**

Testing equipment shall be provided having a disinfectant residual range of 0 to 3 parts per million and have a pH range of 6.8 to 8.4.

#### **SECTION THIRTY-SIX - Safety Requirements - Lifesaving Equipment**

- a. Lifeguard Stations - Each pool having an area of more than two thousand (2,000) square feet should be provided with an elevated lifeguard chair. Additional chairs should be provided on the basis of one per each two thousand (2,000) square feet or fraction thereof. The chairs must be located so as to provide a clear, unobstructed view of the pool bottom in the area under surveillance.
- b. Lifesaving Equipment - One unit of lifesaving equipment consists of the following: A ring buoy with a minimum outside diameter of twenty (20) inches to which shall be attached a length of one-quarter (1/4) inch rope, not less than one and one-half (1-1/2) times the maximum width of the pool; a life pole or shepherd's crook type of pole with a minimum length handle of twelve (12) feet; a separate throwing line of one-quarter (1/4) inch rope with length of not less than one and one-half (1-1/2) times the maximum width of the pool. Not less than one unit of equipment, as above, should be provided at every public pool. One unit is presumed to be adequate for two thousand (2,000) square feet of pool area and one additional unit should be provided for each additional two thousand (2,000) square feet, or major fraction thereof, of pool area.
- c. Location and Storage - Lifesaving equipment should be mounted in conspicuous places, distributed around the pool edge, at lifeguard chairs, or elsewhere, ready of access, its function plainly marked, kept in repair and ready condition, and swimmers or others shall not be permitted to tamper with it, use it for any purpose other than its intended use, or remove it from its established location.
- d. First-Aid Kit - A standard twenty-four (24) unit first-aid kit shall be provided. Availability of a kit in the office of a motel, apartment complex, or hotel shall satisfy this requirement for such pools.

#### **SECTION THIRTY-SEVEN - Swimmer Preparation Facilities**

Dressing rooms, clothing storage, shower facilities and toilet facilities are required at all public swimming pools. An

exception can be made for a swimming pool at a motel, hotel, apartment complex or similar establishment when such facilities are available within three hundred (300) feet of the pool.

- a. Dressing Rooms - Bathhouses to be used simultaneously by both men and women shall have two parts; one for each sex, entirely separated by tight partitions. Dressing rooms shall be suitable designed, located, drained, equipped, lighted and ventilated.
- b. Location of Dressing Rooms - The dressing rooms shall be located adjacent to the clothing storage room and showers and shall open to the shallow part of the pool.
- c. Walls and Partitions - The walls and partitions of all dressing rooms and locker rooms shall have a smooth and impervious finish.
- d. Floors - All floors shall be smooth, but non-slip finish, impervious to moisture with no open cracks or joints and have a minimum pitch of three (3) inches in ten (10) feet to the drains with no low spots which will allow water to stand.
- e. Joints and Corners - All junctions of the floors with the sidewalls and partions should be finished with covered joints.
- f. Partitions, Furniture, Etc. - The material used for partitions, furniture, etc., shall be such that it can be easily cleaned and will not be damaged by frequent hosing, wetting or disinfectants.
- g. Partitions - Dressing room partitions shall have a minimum clearance of six (6) inches above the floor and curtains, if used on booths, should be of sufficiently heavy material to discourage their use as a substitute for towels.
- h. Ventilation - All rooms in the bathhouse shall be ventilated so that they do not remain excessively damp.
- i. Lighting - The rooms shall be lighted so that all parts are easily visible for cleaning.
- j. Cleaning - Hose bibs shall be provided to enable the entire dressing room to be conveniently flushed by hose.
- k. Clothing Storage - Adequate provision must be made for storing clothes and valuables belonging to the bather.
- l. Locker Rooms - Locker rooms or individual lockers located in the dressing room may be used for safekeeping clothes and valuables of the swimmer, provided that lockers are of sound construction and so designed and located as to permit effective cleaning of floors. Keys must be supplied with each locker.
- m. Check Rooms - Identified wire baskets or washable bags may be used for storing clothing of swimmers. Such containers must be stored on racks or hangers, off of the floor and in a dry place. A responsible attendant must be on duty in the check room at all times when the bathing place is being used.

#### **SECTION THIRTY-EIGHT - Shower Facilities**

Adequate shower facilities with hot and cold water must be provided. Showers should be located to encourage use by swimmers before entering the swimming area.

- a. Separation - Separate shower facilities shall be provided for each sex.
- b. Number of Showers Required - Showers shall be provided on the bases of one shower for each fifty (50) swimmers or major fraction thereof at the time of maximum load when continuous swimming is permitted. When showers are used by groups, or classes on a regular time schedule of one (1) hour or less, a shower head shall be provided for each four (4) swimmers in the maximum class or one shower for each ten (10) swimmers if the scheduled period is two (2) hours.
- c. Location - Showers shall be located between the toilets and the pool entrance.

- d. Quantity and Temperature of Water - A minimum of three (3) gallons of water per shower per minute having a temperature of not less than 90<sup>o</sup>F and no more than 115<sup>o</sup>F shall be provided.
- e. Wall, Ceilings, and Floors - The walls, ceilings and floors of the shower room or area shall be constructed.
- f. Floors, Floor Surfacing - The floors shall be smooth, non-slip to bare feet, have no open cracks or joints and have a minimum pitch of three (3) inches in ten (10) toward the floor drains with no low spots which will allow water to stand.
- g. Soap Provided - Liquid or powdered soap in suitable dispensing equipment shall be provided for each shower unit. Glass containers are not acceptable. Dispensers shall be located in such a manner as to be available to all swimmer.
- h. Shower Booths - Shower booths, when provided, shall have partitions which will not be damaged by the shower water and have a minimum clearance of six (6) inches above the floor.
- i. Lighting - shower rooms shall be adequately lighted so that all parts are easily visible for cleaning.

#### **SECTION THIRTY-NINE - Toilets**

Adequate, satisfactory, and properly located toilet facilities for each sex must be provided.

- a. Number Required - The minimum number of toilets for each sex at the time of maximum loading shall be considered as the following: one toilet and one urinal for each seventy-five (75) men or fraction thereof, with one toilet and one urinal as a minimum: one toilet for each fifty (50) women or major fraction thereof, with two toilets as a minimum.
- b. Lavatory Facilities - Lavatory facilities located adjacent to toilets must be provided in the proportion of one lavatory for each one hundred (100) persons or major fraction thereof at the time of maximum load.
- c. Floors - Toilet room floor shall be constructed of impervious materials with no open cracks or joints; must have a smooth, non-slip finish and a pitch of not less than three (3) inches in ten (10) feet toward the floor drain.
- d. Lighting - Toilet rooms shall be lighted so that they are easily visible for cleaning.
- e. Venting - Toilet rooms shall be vented so that no nuisance will exist.
- f. Cleaning - Hose bibs shall be provided for convenient hosing of the toilet rooms or area.

#### **Wading Pools and Spray Pools**

#### **SECTION FORTY - Wading Pool**

A wading pool is defined as an artificial pool with a maximum depth of not more than twenty-four (24) inches.

- a. Drainage - The wading pool shall be so located so that drainage from the immediate area will not wash contamination into the pool during rain.
- b. Turnover Rate - The system and all component parts shall be capable of producing a two (2) hour turnover of the entire contents of the wading pool.
- c. Overflow Gutters - An open type overflow should be provided around the perimeter of the wading pool with a maximum variation of one-fourth (1/4) inch. Wading pools with multiple inlets around the perimeter may have a single overflow outlet centrally located.
- d. Overflow Drainage - Where a wading pool is adjacent to a swimming pool, overflow drainage may be returned to the swimming pool recirculation system, provided the hydraulic design provides for a two (2) hour turnover

of the wading pool contents.

- e. Drains - The wading pool shall be equipped at its low point with a drain capable of emptying the contents of the entire pool. Piping shall be arranged to drain the wading pool separately for frequent cleaning. Drainage shall not be returned to an adjacent pool or its water treatment facilities.
- f. Inlets - The inlets shall be of such size and be located so as to produce uniform circulation throughout the pool.
- g. Flow Measurement - The inlet line must be metered to assure that the two (2) hour turnover rate is provided.

#### **SECTION FORTY-ONE - Spray Pools**

Spray pools are defined as those having a maximum water depth of not over three (3) inches, and which are continuously fed through spray nozzles so located as to wet the swimmer.

- a. Inlets - Water shall enter the spray pool through spray nozzles or orifices located at least six (6) inches above the rim of the pool. Spray or water streams shall be directed in a manner that will thoroughly wet and cleanse the total bottom area of the pool proper, but shall not be directed outside the bottom area which is drained by a central drain.
- b. Outlet Drain and Overflow - The outlet drain shall be located to receive all water discharged from the spray nozzle and/or orifice inlets. In addition, an emergency overflow weir or gutter shall be designed and so located as to prevent the depth of water over any part of the pool area from exceeding three (3) inches.
- c. Surface Drainage - The area for at least five (5) feet outside the spray pool must be impervious, graded to drain away from the pool and have a smooth non-slip surface.

#### **SECTION FORTY-TWO - Swimming Pool Operation**

The following water quality requirements and operational practices must be met at all public swimming pools.

Bacteriological Quality - The water in the pool must conform to the following:

- (a) Coliform colonies for standard samples shall not exceed 2.0 per 100 milliliter.
- (b) Staphylococci organisms per standard sample shall not exceed 50 per 100 milliliter.
- (c) Where the standard plate count is used, not more than fifteen (15) percent of the samples covering any considerable period of time shall contain more than 200 bacteria per milliliter, as determined by the standard (35 °C) agar plate count.

Chlorine Residual - Where chlorine, hypochlorite, or other chlorine compounds are used as disinfection, tests must be made as often as necessary to maintain adequate residuals. A free chlorine residual of 1 ppm to 3 ppm shall be maintained throughout the pool. If cyanuric acid or chlorinated isocyanurates are used, the following additional requirements shall be met:

- (a) A cyanuric test kit shall be provided.
- (b) The cyanuric acid level in the pool shall be kept below 100 ppm.
- (c) A free chlorine residual of at least 1.5 shall be maintained throughout the pool.

pH - Hydrogen-ion (pH) tests shall be made as often as necessary to maintain the pH at a satisfactory level. A pH of 7.2 to 7.8 shall be maintained.

Clearness - The water shall have sufficient clarity at all times so that a black disk six (6) inches in diameter, on a white field is readily visible at the deepest point of the pool.

**SECTION FORTY-THREE - Treatment Facility Operation**

- a. Recirculation Pump Operation - The recirculation pumps must be operated twenty-four (24) hours per day. The pool turnover rate is calculated for twenty-four (24) hour operation and with part-time operation of the recirculation pumps.
- b. Filter - The filters must be operated at the appropriate design rate and must be backwashed when the head loss reaches a predetermined level.

**SECTION FORTY-FOUR - Records**

- a. Operating Records - Every pool operator must be supplied with a proper notebook or with blank forms on which shall be recorded every day the peak bathing loads handled, the volume of new water added, the results of hydrogen-ion tests, as well as setting of chemical feed machine.
- b. Miscellaneous Records - At all pools, a full daily record must be kept of the actual time pumps and filters are in operation, of the time each filter is washed and cleaned, of the kind and amount of each chemical used or added, of the time the bottom and sides of the pool are cleaned, and of the total amount of water used for makeup.

**SECTION FORTY-FIVE - Supervision of Swimmers**

- a. Lifeguards - One or more qualified lifeguards shall be on duty whenever the pool or pool enclosure (fenced area) is occupied. For the purpose of this paragraph, "occupied" means in use for swimming with the consent, expressed or implied, of the owner. Every lifeguard shall have passed within the last three years a Senior Life Saving test given by the American Red Cross, YMCA, Boy Scouts of America, or other organization approved by the Health Commissioner
- b. Separation of Swimmers - Entrance of any person except authorized personnel and accepted swimmers to the bathhouse and swimming area is not permitted

**SECTION FORTY-SIX - Personnel Regulations**

All persons must be required to take a cleansing shower using warm water and soap and thoroughly rinsing off all soap suds before entering the swimming area enclosure.

- a. Using the Toilet - A swimmer leaving the swimming area to use the toilet must take a second cleansing shower before returning.
- b. Communicable Disease Control - Any person having any communicable disease must be excluded from the pool. This is to include skin disease, sore or inflamed eyes, a cold, ear or nasal discharges and other communicable diseases not readily apparent by visual inspection.
- c. Posting of Regulations - Suitable placards embodying the above personal regulations and instructions and those relating to towels and suits shall be conspicuously posted in the dressing rooms, offices and swimming area.

**SECTION FORTY-SEVEN - Suits and Towels**

Laundry Equipment - Unless rental suits and towels are sent to a public laundry, modern laundry equipment should be provided. Cold water washing and air drying is prohibited. The use of disinfectants on suits and towels in place of proper laundry methods is not permitted. Suits and towels may not be rented until properly laundered.

Clean suits and towels must be kept separate from unlaundered suits and towels.

**SECTION FORTY-EIGHT - Special Requirements for Indoor Swimming Pools**

- a. All indoor pools and bathhouses, dressing rooms, showers rooms and toilet rooms serving indoor pools must be properly ventilated. Ventilation must be so designed that a direct draft will not blow on the swimmers. Fresh air should be heated before discharge into the swimming pool room and heating facilities capable of maintaining a temperature between 75 °F and 82 °F must be located in a manner that will prevent contact with swimmers.
- b. It is also desirable to heat all or part of the recirculated water. In designing a heater for this purpose, ample surface for heat exchange must be provided. The heater may be designed for use with steam or hot water. The blowing of steam directly into the pool or heating coils is prohibited. An automatic thermocontrol of the temperature is desirable. A fixed thermometer should be placed on the recirculation line beyond the heater and another near the outlet of the pool. Thermometers should be accessible and have a type of scale that is easily read.
- c. Walkways surrounding indoor pools shall be at least four (4) feet wide.
- d. Artificial lighting shall be designed to provide at least 0.6 watts per square foot on the pool and walk area. Lights shall be protected or recessed to prevent breakage. Underwater lighting must conform with the requirements for underwater lighting of outdoor pools.

**SECTION FORTY-NINE - Spas**

A spa is a bathing pool designed for non-swimming recreational use. It may include, but is not limited to, hydrojet circulation, hot water, mineral baths, air induction systems, or any combinations thereof.

- a. **Maximum Depths** - The maximum water depth shall be four (4) feet measured from the water line. The maximum submerged depth of any seat or sitting bench shall be two (2) feet measured from the water line.
- b. **Handholds** - A spa shall have one (1) or more suitable, slip-resistant handhold(s) around the perimeter, located no farther apart than four (4) feet and not over twelve (12) inches above the water line.
- c. **Stairs , Ladders and Recessed Treads** - Stairs, ladders or recessed treads shall be provided where spa depths are greater than two (2) feet. A spa shall be equipped with at least one means of egress with a handrail for each fifty (50) feet of perimeter or portion thereof.
- d. **Deck Widths** - A five (5) foot minimum width, continuous, unobstructed deck, which may include the coping, shall be provided on two (2) sides or fifty percent or more of the spa perimeter. When the spa is adjacent to another pool, the spa shall be located at the shallow end with a minimum distance of five (5) feet between the pools. Spas constructed and operated prior to the effective date of this ordinance shall be exempted, provided they comply with the minimum sanitary and safety requirements adopted herein.
- e. **Water Temperature Controls** - Controls shall be provided to prevent water temperatures in excess of 105 °F. The controls shall be accessible only to the pool operator.
- f. **Spa Drainage** - Means to drain the spa shall be provided to allow frequent draining and cleaning
- g. **Entrapment Protection** - Outlets shall be designed so that each pumping system prevents patron entrapment. Acceptable means include the use of multiple unvalved outlets, an anti-vortex drain, and a twelve (12) inch by twelve (12) inch square grate or one of equivalent area.
- h. **Surface Skimmers** - One surface skimmer shall be provided for each one hundred (100) square feet or major fraction thereof of surface area.
- i. **Inlets** - One (1) wall inlet shall be provided for each twenty (20) feet of pool perimeter, and a minimum of two (2) wall inlets shall be provided.
- j. **Air Induction Systems** - An air induction system, when provided, shall prevent water back-up that could cause

electrical shock hazards.

- k. Disinfection - An approved sanitizer is required. If chlorine compounds are used for disinfection, a free residual between 1 ppm and 3 ppm shall be maintained throughout the spa. Gas chlorinators shall not be used. A pH level of 7.2 to 7.8 shall be maintained. All disinfection equipment shall be National Sanitation Foundation approved. Manual addition of chemicals as authorized by the Commissioner may be allowed if the spa is closed.
- l. Recirculation Flow Rates - The recirculation flow rate shall be thirty (30) gallons per minute per skimmer or provide a thirty (30) minute turnover, whichever is greater.
- m. Agitation Systems - The agitation system shall be separate from the water treatment recirculation system. The agitation system shall be connected to a ten (10) minute timer located out of the reach of a person in the spa.
- n. Caution Signs - A sign visible and legible from the spa shall be provided. It shall state: "Caution. Any person having an acute or chronic medical condition such that use of this spa might adversely affect their health should consult a physician before using this spa. Do not use the spa immediately following exercise or while under the influence of alcohol. Do not use the spa longer than ten (10) minutes. Children shall be accompanied by an adult."
- o. Operation - Spas constructed or operated prior to the effective date of this section, which do not fully comply with the minimum requirements regarding the design and construction, may be continued in use, provided the equipment and operation of such spas comply with the minimum sanitary and safety requirements adopted herein.

#### **SECTION FIFTY**

Any person convicted of violating any section of this ordinance or a rule or regulation promulgated herein shall be fined not less than \$100.00 or by imprisonment up to sixty days or by both fine and imprisonment.

**Approved: July 3, 2002**