

# JEFFERSON COUNTY DEPARTMENT OF HEALTH



## **RULES AND REGULATIONS GOVERNING THE DESIGN, CONSTRUCTION, AND OPERATION OF PUBLIC SWIMMING POOLS AND SPAS**

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JULY 13, 1988

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**JEFFERSON COUNTY BOARD OF HEALTH  
RULES AND REGULATIONS GOVERNING DESIGN, CONSTRUCTION  
AND OPERATION OF PUBLIC SWIMMING POOLS AND SPAS**

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## **CHAPTER 1**

### **GENERAL PROVISIONS**

#### **1.1**

**These rules and regulations shall be known as the Jefferson County Board of Health Rules and Regulations Governing the Design Construction and Operation of Public Swimming Pools and Spas.**

#### **1.2 Provisions**

**The provisions of these regulations shall apply to public bathing places and to the operation, design, construction, and/or remodeling of all public pools and spas as hereinafter defined, throughout the geographical boundaries of Jefferson County, Alabama, including all facilities incident thereto.**

#### **1.3 Policy and Purpose**

**The purpose of these regulations shall be to control and regulate the design, construction, workmanship supplied facilities and the use of materials for all public pools, to provide for the issuance of construction and operational permits, and to provide penalties and remedies, so that health and safety hazards may be minimized.**

#### **1.4 Intent**

**The intent of these regulations shall be to assure a clean, healthful, and safe environment for all public-bathing places and all public pools as may be designed, constructed, operated, and/or remodeled after date of adoption.**

#### **1.5 Application of Regulations**

**These regulations shall apply to public bathing places and to the design and construction of all new and remodeled public pools within Jefferson County. All existing public pools that are in compliance with existing Jefferson County public pool regulations and 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 swimmers but all swimming pools when remodeled shall comply with all applicable provisions of these regulations unless a**

variance shall be granted. Any variance shall be granted for a specific time period and under conditions consistent with these regulations.

**1.6 The term “public pool” as used herein shall apply to all public spas, public, semi-public and special purpose swimming pools, except as otherwise specified herein.**

**1.7 Definitions**

**1.7.1 Algaecides– Chemicals which kill algae and prevent new algae growth.**

**1.7.2 Alkalinity– The amount of bicarbonate, carbonate, or hydroxide compound present in water solution.**

**1.7.3 Antivortex Drain– A drain with a raised cover designed to prevent the vacuuming effect on a body which may come in contact with the drain.**

**1.7.4 Backwash Piping– The piping extending from the backwash outlet of the filters to its terminus at the point of disposal.**

**1.7.5 Backwash– The process of thoroughly cleansing the filter media and/or elements by reverse flow.**

**1.7.6 Backwash Cycle– The time required to thoroughly backwash the filter media and/or elements and the contents of the filter vessel.**

**1.7.7 Board– The Jefferson County Board of Health**

**1.7.8 Cartridge Filter– A filter that utilizes a porous cartridge as its filter media.**

**1.7.9 Chelating Agents – Chemicals that combine with dissolved metals to prevent water discoloration.**

**1.7.10 Chlorine Demand– The materials in the water which use up chlorine, such as bacteria, algae, dirt, leaves grass clippings and swimmers wastes. The chlorine demand must be satisfied before a chlorine residual is available to disinfect the pool water.**

**1.7.11 Chlorine Residual– The chlorine level in the water after the chlorine demand has been satisfied. The free chlorine residual is the true measure of potential chlorine disinfection and is the active chlorine that kills bacteria and algae and keeps pool water clear and clean. This active form of chlorine in water is known as Hypochlorous Acid.**

- 1.7.12 Continuous Flow or Flow Through Pool– A continuous flow or a flow through pool is one in which water is added continuously and allowed to flow to waster. This type of pool shall be prohibited.**
- 1.7.13 Cyanuric Acid– See Stabilizer. Also called conditioner.**
- 1.7.14 Design Rate of Flow – The average rate of flow used for design calculations in a system. Usually refers to gallons per minute per square foot of filter surface area.**
- 1.7.15 Diatomaceous Earth– White powder composed of fossilized skeletons of one-celled organisms called diatoms. Porous, containing microscopic holes. Used as a filter media for swimming pools.**
- 1.7.16 Diatomaceous Earth Filter– A filter designed to use diatomaceous earth or volcanic ash as a filter medium. May be either pressure or vacuum type.**
- 1.7.17 Disinfectant– A chemical that will destroy infection–causing organisms.**
- 1.7.18 Effluent– The out flow of water from a filter, a pump, or a pool.**
- 1.7.19 Face Piping– The piping with all valves and fittings which are used to connect the filter system together as a unit.**
- 1.7.20 Fill and Draw Pool– A fill and draw pool is one that is filled with water used for a period of time without major addition of water and then completely drained. This type pool shall be prohibited.**
- 1.7.21 Filter– A device that separates solid particles from water by recirculating it through a porous substance (a filter media or element). Any material or apparatus by which water is mechanically clarified.**
- 1.7.22 Filter Cycle– The operating time between cleaning and/or backwash cycle.**
- 1.7.23 Filter Element– See (3.0)**
- 1.7.24 Filter Gravel– Graded rock and gravel used to support filter sand.**
- 1.7.25 Filter Media– The material which entraps suspended particles from water.**
- 1.7.26 Filter Sand– A type filter media. (graded silicious and)**
- 1.7.27 Filtration Rate– The rate of filtration of water through a filter during the filter cycle expressed in U.S. gallons per minute per square foot of effective filter area.**
- 1.7.28 Free Chlorine– See Chlorine Residual 1.7.11**
- 1.7.29 Gender– Words used in the masculine gender shall include the feminine and neuter.**

- 1.7.30 Hardness**– The amount of calcium or magnesium dissolved in the water. High levels contribute to scale deposits.
- 1.7.31 Health Department**– The Jefferson County Board of Health and its agencies, employees and instruments.
- 1.7.32 Health Officer**– Shall mean the Health Officer of Jefferson County, Alabama, or his duly authorized agent or representative.
- 1.7.33 Hypochlorinator**– A chemical feeder through which liquid solutions of chlorine-bearing chemicals are fed into the pool water at a controlled rate.
- 1.7.34 Hypochlorite**– Refers to any compound containing a metal and the (OCI) radical. Most commonly refers to calcium, sodium, or lithium hypochlorite in pool usage.
- 1.7.35 Hypochlorite-Calcium**– A compound of chlorine and calcium used in powder or granulated form usually containing approximately 60% to 70% available chlorine by weight which is released in water solution to act as germicide or algacide.
- 1.7.36 Hypochlorite-Sodium**– A compound usually containing 5% to 16% or more, available chlorine by weight, in a caustic soda solution, which releases chlorine when added to pool water.
- 1.7.37 Influent**– The inflow or entering water to a filter or other device.
- 1.7.38 Inlet**– The fitting or opening through which filtered water enters the pool.
- 1.7.39 Jefferson County Board of Health**– shall be construed to include the Jefferson County Board of Health and any officer or agent of said board authorized to act for and on behalf of said board with respect to the enforcement and administration of these regulations.
- 1.7.40 Jefferson County Health Department**– shall mean the Board of Health of Jefferson County, Alabama, and its agencies and instrumentatives.
- 1.7.41 Lifeline**– A rope line across a pool to designate a change in slope in the pool bottom, or the beginning of deep water and usually supported by regularly spaced floats.
- 1.7.42 Lifeline Anchors**– Recessed rings or fasteners in wall of pool to support lifelines.
- 1.7.43 Make-up Tank**– Reservoir placed between water supply line and pool system to replenish pool water and to eliminate cross-connection.
- 1.7.44 Main Drain Outlet**– The outlet (s) at the deep portion of the pool through which the main flow of water leaves the pool.



- 1.7.45 Main Suction – The line connecting the main outlet to the pump suction.**
- 1.7.46 Muriatic Acid– Usually 20% hydrochloric acid.**
- 1.7.47 Nephelometric Turbidity Units (NTU’S)– A measure of water clarity.**
- 1.7.48 Overflow Gutter– A trough-like device at the normal water level used as an overflow and to skim the pool surface.**
- 1.7.49 Overflow System – The term encompasses perimeter type overflows, surface skimmers and surface water collection systems of various design.**
- 1.7.50 pH– A measure of the degree of acid or alkaline qualities a solution possesses. A pH below 7.0 is considered acid. A pH of 7.0 is considered neutral. A pH above 7.0 is considered alkaline.**
- 1.7.51 Permanent Media Filter– A filter that utilizes a media that can be regenerated and will not have to be replaced.**
- 1.7.52 Person– The word person shall include a corporation, firm, partnership, association, organization or any other group acting as a unit, as well as a human body.**
- 1.7.53 Phenol Red– The indicator solution which measures pH.**
- 1.7.54 Pool Decks– The impervious area around the pool.**
- 1.7.55 Pool Depth– The distance between the floor of the pool and the maximum operating water level when pool is in use.**
- 1.7.56 Potable Water– Any water, such as an approved domestic water supply, which is bacteriologically safe and otherwise suitable for drinking.**
- 1.7.57 Public Bathing Place– “Public Bathing Place” means a bathing place together with buildings and appurtenances use in connection therewith, on artificial or natural ponds, lakes, quarries, and streams or other water where the public is allowed to bathe or is open to the public for bathing purposes with consent of the owner.**
- 1.7.58 Public spa Pool– Any public swimming pool designed primarily to direct water or air-enriched water under pressure onto the bather’s body with the intent of producing a relaxing or therapeutic effect.**
- 1.7.59 Public Swimming Pool – An artificial structure and its appurtenances, which contains water more than two (2) feet deep which is expressly designated or which is used with the knowledge and consent of the owner or operator for swimming or recreational bathing and which is for the use of any segment of the public. Public swimming pools shall be defined as listed in the following**

categories, based upon specific characteristics of size, usage, and other factors:

**Types of Public Swimming Pools and Spas:**

- Type A. Any municipal, country club, community or swimming club spas and pools or spas and pools for other similar usage and type.
- Type B. Institutional spas and pools, such as Girl Scouts, Boy Scouts, YMCA, YWCA, Campfire Girls, Boy's Camps, Girl's Camps, School athletic clubs, and for other similar type usage.
- Type C. Pools and spas for motels, hotels, and apartments, multiple housing units including condominiums.
- Type D. Treatment spas and pools, therapeutic spas and pools, health club spas and pools, and special spas and pools for water therapy. Fill and draw water therapy spa pools under the direction of a medical doctor, or a similar spa used for treatment of athletes in a treatment room are not included under the jurisdiction of these regulations.
- Type E. Indoor spas and pools.
- Type F. Competition pools.
- Type G. Wading pools, training pools, and spray pools.

**EXCEPTIONS:** The above categories shall be the basis for certain specific variations for the Minimum Standards for public swimming pools, as a whole.

- 1.7.60 **Public Wading Pool**– A wading pool shall normally be a small pool for non-swimming children and shall have a maximum depth not greater than 24 inches with a minimum depth of eight (8) and a maximum slope of one (1) foot in fifteen (15) feet.
- 1.7.61 **Overflow Gutter** – A trough-like device at normal water level used as an Overflow.
- 1.7.62 **Rate of Flow (G.P.M)**– The measurement of the volume of flow per unit of time expressed in gallons per minute.
- 1.7.63 **Rate of Flow Indicator**– A device to indicate the rate of flow in a pipe line. (Sometimes referred to as a rate-of-flow-meter or flowmeter.)
- 1.7.64 **Recessed Steps**– A riser/tread or series of riser/treads extending down from the deck with the bottom riser/tread terminating at the spa/pool wall, thus creating a stairwell.

- 1.7.65 Recessed Treads**– A series of vertically spaced cavities in the spa/pool wall creating tread areas for stepholes.
- 1.7.66 Recirculation Piping**– The piping through which the water circulates from the pool to the filter and is returned to the pool.
- 1.7.67 Recirculation Skimmer**– A device connected with the pump suction used to skim the pool over a self-adjusting weir and return to the water to the pool through the filter.
- 1.7.68 Recirculating System**– The entire system including the suction piping, pump, strainer, filter, face piping and return piping.
- 1.7.69 Residential Pools**– Residential or private pools, excepted herein, shall be defined as any privately owned pool built in connection with a single-family residence used only by the family of each householder and his private guests. Residential pools are not included under the jurisdiction of these regulations. If this type pool is open to others and a fee is charged for use then this pool becomes a public pool.
- 1.7.70 Return Piping**– The piping which carries the filtered water from the filter to the pool.
- 1.7.71 Shall**– As used herein, is mandatory and not merely directory; Should is recommendatory; and May is premissive.
- 1.7.72 Shock Treatment**– (See Superchlorination.)
- 1.7.73 Skimmer**– See Recirculation skimmer 1.7.67.
- 1.7.74 Spray Pool**– A spray pool is similar in construction to a wading pool except that no water is permitted to stand in the pool. Water is applied in the form of a continuous spray or shower and the water continuously leaves the pool at the rate of entrance.
- 1.7.75 Stabilizer**– (Cyanuric Acid or conditioner s-triazinetriene, also called Isocyanuric Acid) A chemical which helps prolong the useful life of chlorine in the water by slowing down chlorine decay due to sunlight.
- 1.7.76 Superchlorination**– (Shock Treatment) Shall mean the addition to swimming pool water of an amount of chlorine sufficient to produce a free available residual which is at least equal to ten (10) times the amount of combined residual chlorine in order to oxidize the ammonia and nitrogenous materials which may be dissolved in the swimming pool water.
- 1.7.77 Swimming Pool or “Pool”**– A swimming pool or a “Pool” is any concrete or impervious structure, located either indoors or outdoors, used for bathing or swimming purposes, and filled with a controlled water supply, together with all buildings and appurtenances used in connection therewith. “Swimming

**Pool” or “Pool” when used in these regulations shall refer to public swimming pools in every case.**

**1.7.78 Total Chlorine– The sum of the amount of free chlorine and combined chlorine.**

**1.7.79 Training Pool– A small pool normally used for training purposes and designed with a minimum depth of 2 feet and a maximum depth of 4.5 feet. Turn over rate shall be four hours.**

**1.7.80 Turnover– The period of time (usually in hours) required to circulate a volume of water equal to the pool capacity. The turnover rate is the number of times a quantity of water equal to the pool capacity passes through the filters in a stated time (usually in turnovers per day).**

**1.7.81 Under Drain– An appurtenance at the bottom of the filter which receives filtered water and is designed to assure equal distribution of water through the filter media.**

**1.7.82 Vacuum Fitting– The fitting in the wall of the pool which is used as a convenient outlet for connecting the underwater suction cleaning equipment.**

**1.7.83 Vacuum Piping – The piping which connects the vacuum fitting to the pump suction.**

**1.7.84 Width and Length– Shall be determined by actual water dimension.**

## **1.8 Violations and Penalties**

**It shall be unlawful to construct, maintain, repair, or use a public swimming pool or spa in violation of these regulation. Any person, firm or corporation failing to comply with any provision of these regulations may be enjoined by a circuit court in Jefferson County, upon suit brought on behalf of the Jefferson County Board of Health.**

## **1.9 Appeals**

**Any person whose application for a construction permit or operational permit has been denied or revoked under these regulations may request in writing and shall be granted a hearing before the Health Officer or his appointed representative. The Health Officer shall fix the time and place for such hearing. Following such a hearing the decision of the Health Officer shall be final except that such decision may be review by the Circuit Court of Jefferson County**

## **1.10 Effective Date**

**These regulations shall be in full force and effect immediately after promulgation and adoption by the Board**

## **1.11 Permits**

### **1.11.1 Permit to Construct**

- a. No person shall begin construction of any public pool or public bathing place or shall alter, remodel or renovate any public pool or public bathing place without:**
  - 1. Submitting complete plans and specifications to the Jefferson County Board of Health.**
  - 2. Receiving a written plan approval or conditional approval from the Jefferson County Board.**
  - 3. Receiving a permit in letter form to construct from the Jefferson County Board of Health.**
- b. No person shall deviate from the approved or conditionally approved plans and specifications during the construction or alteration of a facility without written approval from the Jefferson County Board of Health**

### **1.11.2 Operational Permit**

#### **A. Construction Inspection**

**No person shall operate a public swimming pool without first securing an approved final construction inspection of pool and equipment by the Jefferson County Board of Health.**

#### **B. Issuance of Operational Permit**

**An operational permit will be issued in letter form by the Jefferson County Board of Health provided the public pool is in compliance with these regulations, as determined by the construction inspection.**

#### **C. Life of Operational Permit**

**The operational permit shall remain valid until revoked by the Jefferson County Department of Health.**

#### **D. Operational Inspections**

**All public pools and public bathing places shall be regularly inspected by Jefferson County Board of Health or its duly authorized representative. Upon completion of any inspection a notice will be given to correct any violations noted during the inspection. Normally a reasonable period of time shall be allowed for compliance with any notice. However, if pool conditions are such that bathers are subject to potential or present health hazards and/or unsafe conditions, pools shall be closed until corrections are made and**

authorization to re-open pool is granted by Jefferson County Department of Health.

### **1.11.3 Plans**

- A. Plans and specifications shall be submitted in triplicate and shall be prepared by a professional engineer or architect registered in the State of Alabama. Specific exemptions to the requirement may be granted where alterations described in Permit to Construct are minor.**
- B. Plans shall be drawn to scale and shall include:**
  - 1. One plan view**
  - 2. One longitudinal section**
  - 3. One transverse section through the main drain.**
  - 4. One overall plan showing the pool in relation to other facilities in the area. (This plan may be combined with subsection 1.11.3 (B) (1) of this rule.)**
  - 5. One detailed view of the equipment room layout.**
  - 6. One vicinity map.**
  - 7. One piping schematic showing piping, pipe size, inlets, main drains, skimmers, gutter outlets, vacuum fittings and all other appurtenances connected to the pool piping system. (This plan may be combined with subsection 1.11.3 (B) (1) of this rule.)**
- C. Plan notes such as “fence by owner” or “deck to be under separate contract” shall not be acceptable as a substitute for details and scale drawing**
- D. Plans shall include the following information in tabulated form on plan view of pool:**
  - 1. Legal address of facility.**
  - 2. Location of facility if different from legal address.**
  - 3. Owner’s name, address and telephone number.**
  - 4. Surface area of pool.**
  - 5. Pool volume, turn over time flow rate, filter rate/unit area, type of filter and total system head loss.**
  - 6. Manufacturer, make and model numbers of the pump, filter and automatic chemical feed apparatus, filter head loss (clean and dirty), and pump curve showing design flow rate and head.**
  - 7. Source of water used at the pool.**
  - 8. Means of disposing backwash water.**
  - 9. Related facilities, i.e., bathhouse, toilets, floor drains, drinking fountains, etc.**

### **1.11.4 Issuance of Construction Permit**

- A. Public Pools**

Permits for the construction of new public pools or for changes in construction, equipment, or appurtenances on any existing pool, will be issued by the Health Department only after approval of plans specifications for such construction, equipment or appurtenances.

**B. Public Bathing Places**

Permits for the construction of public bathing places will be issued by the Health Department only after approval of the plans and specifications and shall be contingent upon a satisfactory sanitary survey of the water shed above the bathing place, and bacteria count requirements as specified in 1.11.6 (B) of these regulations.

**C. Approved Plans and Specifications**

If approved, plans and specifications will be stamped with the health Department stamp of approval and two sets returned to sender. Simultaneously a construction permit in letter form will be issued. One copy of approved plans and specifications will be retained in the files of the Health Department.

**D. Construction permits will expire one year from date of approval by the Jefferson County Board of Health and must be renewed at that time if the construction work has not been initiated.**

**E. No contracts for public pools or public bathing places, construction or reconstruction, shall be let and not construction work shall be commenced until a construction permit has been issued.**

**F. At least one set of plans bearing the Jefferson County board of Health Approval Stamp shall be available on the job at all times.**

**1.11.5 Structural Details**

These regulations are not to be construed to include structural details nor will such items be checked or approved by the Jefferson County Board of Health.

**1.11.6 Water Quality Standards**

**A. Public Bathing Places**

**1. Approval of public bathing places shall be made on the basis of the determination of Coli-Aerogenes bacteria per 100 ml of sample as outlined in the latest edition of "Standard Methods," and a sanitary survey.**

**2. Sampling Procedure – Samples for bacteriological analyses shall be taken in containers furnished by the Jefferson County Board of Health in accordance with instructions of the Jefferson County Board of Health.**

3. **Sanitary Survey** – The sanitary survey of the watershed above the bathing place shall be made each year by the Jefferson county Board of Health or authorized representative and necessary corrections made prior to the annual opening of the bathing place.

**B. Bacteria Count – Public Bathing Places**

1. **Bacteria Count and Sanitary Survey**

Approval for permit shall be based on a satisfactory sanitary survey and bacteriological requirements as stated in this section. Causes for revocation of operating permits shall also include no more than one of any four consecutive samples shall exceed 500 coli-aerogenes bacteria per 100 ml of sample.

**C. Public Pools**

1. **Sampling Procedure**

Samples for bacteriological analysis may be required and shall be taken in containers furnished by the Jefferson County Board of Health in accordance to instruction of the Jefferson County Board of Health. Frequency of sample collection and the sampling points shall be determined by the Jefferson County Board of Health. The samples shall be submitted to the Jefferson County Board of health for testing.

2. **Turbidity**

At all times the pool is in operation the water shall have a degree of clarity such that a disc two (2) inches in diameter divided into quadrants in alternate colors of red and black shall be clearly discernible through 15 feet of water and the different colors readily distinguishable. In addition, turbidity shall not exceed two parts per million (2 ppm) based on the procedures outlined in the latest edition of Standard Methods for Examination of Water and Waste Water.

3. **Chlorine Residual**

A chlorine residual test shall be made at least three (3) times daily. At all times the pool is in operation the water shall have a minimum free available chlorine residual at any point in the pools as follows:

Unstabilized – 1.5 ppm

4. **pH**

The normal pH or measure of hydrogen-ion content at no time shall be below 7.2 and should be maintained between this limit and 7.8 on the pH scale. The pH test shall be made at least two (2) times daily.



#### **D. Water Supply for Public Pools and Spas**

- 1. All water used in swimming pools and spas shall be from a source approved by the Jefferson County Board of Health. Piping arrangements shall not exist which, under any conditions, will permit sewage, waste water, or water from an unapproved source to enter the swimming pool water system. Also water from the swimming pool shall not be able to enter the make-up water supply. Water shall be of drinking water quality.**

#### **2. Fill Spout**

**All water shall enter through a make-up tank, or through an over-the-rim fill spout 2½ pipe diameters above the pool coping level. The fill spout shall be rigid and properly shielded so as not to create a safety hazard. The open end should have no sharp edges and should not extend more than two (2) inches beyond the edge of the pool.**

#### **1.11.7 Sewer System**

##### **A. The sewer systems to all swimming pools shall comply with the following:**

- 1. The sewer system shall have sufficient capacity to serve the facility, including bathhouse, locker rooms, toilets and related accommodations.**
- 2. There shall be no direct physical connection between the sewer system and any drain from the swimming pool or circulation system when discharged to the sewer system, storm drain or other approved natural drainage course shall be discharged through a suitable gap so as to preclude the possibility of backflow of sewage or waste water into the swimming pool or the swimming pool piping system.**
- 3. The sanitary sewer servicing the swimming pool and auxiliary facilities shall discharge to a public sewer system wherever possible and in accordance with applicable requirements. Where no such sewer is available, the connection shall be made to a suitable waste water treatment system which has been designed and constructed and is operated and maintained in accordance with all applicable requirements.**

#### **1.11.8 Variances**

**All swimming pools shall be constructed or remodeled in compliance with the provisions of these regulations, except that an applicant may request and the Health Department may grant a variance in those cases where it is determined that strict compliance would cause unusual practical difficulties or hardships, that the variance would not affect seriously the safe and healthful operation of the swimming**

pool, and that adequate proof has been submitted by the applicant that the requested variance will comply with the basic intent of these regulations.

**1.11.9 Alternate Methods for Filtration, Chemicals and/or Equipment**

The Health Department may consider proposals for alternate methods for pool operation and in so doing shall not be restricted by these regulations provided the equipment or methods have been tested and has approval of the National Sanitation Foundation.

**CHAPTER 2**

**FILTRATION AND RECIRCULATION DESIGN**

**2.1 Circulation Systems**

**2.1.1 All swimming pools shall be equipped with a circulation system consisting of at least a pump or pumps, piping, a filter or filters, water conditioning and disinfecting equipment and other accessory equipment.**

**2.1.2 The capacity of the circulation system when operating at the maximum allowable head loss on the filters shall be sufficient to recirculate and disinfect the entire volume of swimming pool water as follows:**

**A. Public Swimming Pool .....6 hrs**

		4 times in 24 hours
B.	Public Training Pool	.....4 hrs 6 times in 24 hours
C.	Public Wading Pool	.....2hrs 12 times in 24 hours
D.	Public Spa Pool	.....30hrs 48 times in 24 hours

2.1.3 Wading pool water shall not be interconnected with any other pool and all public wading pools shall have a separate recirculating system consisting of a filter, pump, piping and disinfecting equipment.

2.2 Filters

2.2.1 All swimming pools shall be equipped with a filtration system for the purpose of clarifying the swimming pool water; said filtration system shall be an integral part of the circulation system and shall consist of one or more units of sand type filters or of diatomaceous earth type filters. For cartridge and other type filters, no minimum standards are established at this time and their installation on public pools may only be made on special approval.

2.2.2 All filter units shall be designed and constructed in accordance with applicable provisions of the standards of the National Sanitation Foundation, or equivalent, pertaining to swimming pool filters.

2.2.3 The Filter System

The filtration system of all swimming pools shall have sufficient clarifying capacity so as to be able to return the turbidity of swimming pool water to a turbidity level at least as low as 0.5 NTU'S (Nephelometric Turbidity Unit) in less than 24 hours following a peak bather load. Further, the filtration system shall have the capacity to meet the flow rate required for the prescribed number of turnovers without exceeding the maximum allowable filtration rate. All filters shall be N.S.F. approved.

2.2.4 Sandfilter

When a sand type filter or filters is installed on a swimming pool, it may be either a gravity or a pressure sand type filter. It may be either a standard-rate sand type filter which shall be designed for filtration rates not in excess of three (3) gallon/minute/square foot of sand bed area, or a high rate sand type filter which shall be designed and N.F.F. approved for filtration rates not in excess of 20 gallon/minute/square foot of sand bed area.

2.2.5 Sandfilter Backwash

When a sand filter is installed on a swimming pool, it shall be designed and installed such that it may be backwashed at a rate not less than 15 gallon/minute/square foot of filter bed area or at a rate recommended by the manufacturer. The backwash water shall be discharged to waste. A sight glass or other means for viewing the clarity of the backwash water shall be provided.

#### **2.2.6 Diatomaceous Earth Filters**

When a diatomaceous earth type filter is installed on a swimming pool, it may be either a pressure or a vacuum type and it may be designed to operate either with or without continuous body feed. A diatomaceous earth filter with a continuous body feed shall be used for filtration rates not in excess of 2.5 gallon/minute/square foot of filter area; and diatomaceous earth filters which operate without continuous feet shall be used for filtration rates not in excess of 2 gallon/minute/square foot of filter area.

#### **2.2.7 Diatomaceous Earth Filter Cleaning**

When a diatomaceous earth type filter is installed on a swimming pool, it shall be designed and installed with provisions for cleaning by one or more of the following methods:

- A. backwashing
- B. air-bump-assist backwashing
- C. spray wash, (either mechanical or manual), or
- D. agitation

**2.2.8** The water used in cleaning a diatomaceous earth type filter shall be discharged to waste.

#### **2.2.9 Filter Accessibility**

All filters on swimming pools shall be designed and installed as to provide easy accessibility for cleaning, operating, maintaining and servicing. All filter tanks shall be so positioned as to provide adequate circulation of air beneath and around all sides, when necessary, to reduce corrosion and to facilitate cleaning.

#### **2.2.10 Filter Influent and Effluent Gauges**

All filters on swimming pools shall be equipped with approved type gauges with appropriate capacity and shall be installed so that pressure or vacuum

readings, as appropriate, may be obtained on both the influent and effluent lines of the filters.

#### **2.2.11 Filter Drain and Filter to Waste**

All filters on swimming pools shall be designed and installed with all the necessary valves and piping which may be needed to drain the filters completely. A provision to filter to waste shall be provided.

#### **2.2.12 Multiple Filters**

When multiple filters units are installed on swimming pools, the filter system shall be designed and installed with all the necessary valves and piping which may be needed to isolate, backwash or drain an individual filter unit maintenance and/or repair. Provisions shall be made so that manufacturer's recommended backwash rate is never exceeded.

#### **2.2.13 Filter Air-Relief**

All pressure filters on swimming pools shall be designed and installed with an air-relief valve or valves which shall be located at or near the highpoint of the filters and capable of being operated manually.

#### **2.2.14 Provision shall be made to bypass the filter and empty the pool to waste.**

### **2.3 Pumps**

**2.3.1** A pump or pumps shall be provided with adequate capacity for the required number of turnover of swimming pool water as specified in 2.1.2 and whenever possible shall be so located as to eliminate need for priming. If the pump or suction piping is located above the overflow level of the pool, the pump shall be self-priming. The pump shall be capable of providing a flow adequate for the backwashing of filters. Under normal conditions, the pump shall supply the circulation rate of flow at a dynamic head of at least 50 feet for pressure sand type filters or at least 80 feet for pressure diatomaceous earth type filters and other type filters, at the specified total dynamic head which includes all hydrodynamic losses static head and head loss through the filters just prior to cleaning.

### **2.4 Flowmeter**

**2.4.1** A flowmeter reading in gallons per minute shall be installed between the pump and pressure sand filters so that the circulation is indicated on both filtration and backwash cycle. On other type filters the flowmeter shall be installed in the filtered water line. The indicator shall be capable of measuring flows which are at least one and one half times the design flow rate, shall be accurate within 10% of true flow, and shall be easy to read. The manufacturer's specification for length of straight pipe both fore and aft of flow indicator shall be followed.

## **2.5 Pump Strainer**

The circulation system shall include a strainer installed on suction side of pump to prevent hair, lint, and other debris from reaching the pump. Strainers shall be corrosion resistant with openings not more than ¼ inch in size which shall provide a free flow area at least four times the cross-section area of pump suction line and shall be accessible readily for daily cleaning. A spare strainer basket shall be provided.

## **2.6 Piping**

The piping of the circulation system shall be designed and installed such that the main drain or drains, and the suction lines from the perimeter overflow system and/or the automatic surface skimmers shall be connected to the suction line of the circulation pump.

### **2.6.1 Circulation Piping From Skimmers or Perimeter Overflow & Main Drain**

The circulation piping shall be designed and installed with the necessary valves and pipes such that the entire return flow from the swimming pool can be from either the perimeter overflow system and/or the automatic surface skimmers or from the main drains. Also, the circulation piping shall be designed and installed such that return flow of water from the swimming pool can be simultaneous from the perimeter overflow system and/or the automatic surface skimmers and the main drains, with approximately 60% of the return flow of water coming from the perimeter overflow system and/or the automatic surface skimmers and with 40% of the return flow of water coming from the main drains. Vacuum gauges shall be provided on each of the main drains and the surface suction lines to facilitate adjustment to attain the above ratio.

### **2.6.2 Pipe Flow Velocity and NSF Approval**

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 six (6) feet per second for suction piping and not to exceed eight (8) feet per second for discharge piping. Piping shall be on non-toxic material, resistant to corrosion, and able to withstand operating pressures. Pipe shall be NSF approved.

### **2.6.3 Return Line To Pool Inlets**

The return line supplying filtered water to pool inlets shall loop the perimeter of the pool.

## **2.7 Inlets**

Every swimming pool shall be equipped with inlets which shall be an integral part of the circulation system and which shall be adequate in design, number and

location to insure uniform distribution of filtered, conditioned, and disinfected water throughout the swimming pool, without the existences of “dead spots.”

#### **2.7.1 Inlet Spacing**

The distance between each inlet shall not exceed 20 feet. Inlets shall be installed at both ends and both sides of the pool. An inlet shall be provided in all recessed stairs.

#### **2.7.2 Inlet - Nonhazard**

All inlets shall be so designed and installed as not to constitute a projecting surface hazard to bathers.

#### **2.7.3 Inlet Location**

All inlets installed in the side and end walls of swimming pools should be submerged at least eight (8) inches below the operating water level..

#### **2.7.4 Inlet Supply Pipe**

As stated in 2.6.3, the return line supplying water to the inlets shall loop pool.

#### **2.7.5 Inlet – Floor System**

A floor inlet system – may be used as an alternative or in addition to a wall inlet system provided floor inlets shall be spaced uniformly and in such a manner as to prevent creation of “dead spots.”

#### **2.7.6 Adjustable Inlet**

Each inlet shall be designed and equipped as an adjustable orifice or shall be provided with replaceable orifices to permit adjustments of the water volume to obtain optimum circulation.

exceed 1.5 per second. The opening area in the grates shall be of such design as to prevent physical entrapment of extremities.

### **2.8 Drain or Main Drain**

All swimming pools shall be provided with at least one drain which shall be located at the deepest section of the swimming pool. Such drain should be capable of permitting the pool to be emptied completely.

#### **2.8.1 Multiple Drains**

Multiple drains shall be provided whenever the width of the swimming pool at or near the deepest area of the swimming pool is more than 30 feet. Whenever multiple drains are provided, they shall be spaced not more than 30 feet apart, and not more than 15 feet away from the side walls.

## **2.8.2 Drain Covers**

The drain outlets shall be covered by a grating which shall be so designed, constructed and installed such that the area of the openings in the grating shall be at least four (4) times the cross-section area of the pipe or pipes connected to that drain and shall provide sufficient area such that the maximum velocity of the water passing through the gate openings shall not exceed 1.5 feet per second. The opening area in the grates shall be of such design as to prevent physical entrapment of extremities.

## **2.8.3 Drain cover Securing**

The outlet grating shall be secured in place by a screw or locking device which shall be so designed as to be removable only by the use of a Phillip's screwdriver or a special tool.

## **2.9 Surface Overflow System**

All swimming pools shall be provided with a surface overflow system which shall be an integral part of the circulation system and which shall consist of either a built-in-place perimeter overflow system, a prefabricated perimeter overflow system, and/or recessed automatic surface skimmers.

### **2.9.1 Perimeter Overflow**

Whenever a built-in-place perimeter overflow system or a prefabricated perimeter overflow system is provided, it shall be designed and installed such that:

#### **A. Capacity**

The system shall be capable of handling 100 percent of the circulation flow (based upon the required turnover rate – (see 2.1.1) without the overflow troughs being flooded for any appreciable period of time;

#### **B. Surge Capacity**

A surge capacity shall be provided either in the system and/or by use of a surge tank; the total surge capacity shall be at least equal to one (1) gallon/square foot of swimming pool water surface area;

#### **C. Water Level**

The water level of the swimming pool shall be maintained at or slightly higher than the level of the overflow rim of the perimeter overflows, except for the time needed to transfer all of the water which may be in surge capacity back into the swimming pool after a period of use, provided that this transfer time shall not be greater than 20 minutes.



**D. Overflow Rim**

When installed the tolerance of the overflow rim shall not exceed  $\frac{1}{4}$  inch as measured between the highest point and the lowest point of the overflow rim.

**E. Automatic Water Fill**

An automatic water fill control with a manual over-ride may be provided to maintain the water level in the swimming pool at the proper level.

**F. Automatic Skimming**

During quiescence, the overflow system shall be capable of providing continuously and automatically a skimming action to the water at the surface of the swimming pool.

**G. Overflow Troughs**

The overflow troughs shall be installed completely around the perimeter of the swimming pool, except at steps, recessed ladders and stairs.

**H. Hand Hold**

The exposed surfaces of the overflow trough shall be capable of providing a firm and safe hand-hold.

**I. Easily Cleaned**

The overflow trough shall be capable of being cleaned easily and shall be of such configuration as to minimize accidental injury.

**2.9.2 Recessed Automatic Skimmers**

Whenever a recessed automatic surface skimmer or skimmers are installed, they shall be designed and constructed in accordance with the applicable provisions of the standards of the National Sanitation Foundation, or equivalent, pertaining to recessed automatic surface skimmers and they shall be installed such that:

**A. Skimmer Design & Material**

The recessed automatic skimmer shall be of a grade designed for commercial pools, be of substantial, durable, reasonable corrosion resistant material and equipped with an automatic skimmer weir and removable strainer basket.

**B. Skimmer Pipe Size**

All pipe connections to be two (2) inch pipe size and skimmer to be connected to a minimum two (2) inch suction line.

**C. Skimmer Equalizer Line**

Skimmers shall be provided with a two (2) inch equalizer line shall be installed at least twelve (12) inches below the normal operating level of the water in the pool.

**D. Skimmer Flow Rate**

The automatic skimmer shall be designed for a flow rate of 20 to 30 GPM based on 60 to 70% of the design flow in GPM required to obtain the turnover rate indicated in 2.1.2.

**E. Skimmer Flow Adjustment Valve**

If skimmer does not have an integral trimmer valve then a two (2) inch adjusting valve shall be installed between the skimmer and suction line. Provision shall be made for access to the valve for adjusting flow rate. Adjustment of these valves is required to obtain the same rate of flow through each skimmer.

**F. Skimmer Minimum Required**

A minimum of two (2) skimmers are required on all public pools with the exception of a spa or wading pool that may require only one.

**G. Skimmer Location**

On outdoor pools the location of a recessed automatic surface skimmer or skimmers shall be so located as to take into consideration the direction of prevailing winds.

**H. Skimmer Recessed**

A recessed automatic skimmer shall not protrude into the pool.

**I. Skimmer Weir**

The weir in the skimmer shall adjust automatically and operate freely to variations in water level over a minimum range flow of four (4) inches.

**2.9.3 Roll Out Gutter**

Nothing in this section shall preclude the use of roll out or deck level type of swimming pool. Such designs shall conform to the general provisions relating to surface overflow systems. The design of the curb and handhold shall conform to accepted standards, and the approval of the Jefferson County Board of Health shall be based on detailed review of this feature of construction and evaluated in the light of proposed use of the swimming pool.

#### **2.9.4 Combined Perimeter Overflow and Automatic Skimmers**

Nothing in this section shall preclude use of a surface overflow system which combines both a perimeter overflow system and a recessed automatic surface skimmer or skimmers.

#### **2.9.5 Pool Overflow**

If pool overflows are not provided in skimmer tanks, some type overflow shall be built into the pool wall which will be of sufficient size to carry off water that could be supplied by the fillspout. The overflow shall be located above the normal operating pool water level.

#### **2.10 Vacuum Cleaner**

The vacuum cleaning system, including suction head and hose, shall be such that the total suction headloss will not exceed 15 feet of water at a flow of 4 gpm per lineal inch of suction cleaner head.

#### **2.11 Thermometers for Pools with Water Heaters**

2.11.1 Public pools equipped with heater shall have a fixed thermometer in the circulation line at the heater outlet and another near the outlet to the pool; such thermometers shall be of such design and so located as to be easy to read.

2.11.2 Temperatures of indoor pools shall be maintained between 75° and 95°F, with exceptions made in Type D pools.

#### **2.12 Public Pool Water Quality Parameters**

See Appendix A.

## CHAPTER 3

### Pool Shell and Deck Design

#### 3.1 Materials of Construction

All public pools and spas shall be constructed in conformance with the following requirements:

- 3.1.1 Public pools and spas and all appurtenances thereto shall be constructed of materials which are inert, non-toxic to man, impervious, permanent, and enduring; which can withstand the design stresses with an adequate factor of safety; which shall provide a water-tight tank with a smooth and easy-to-clean surface or to which a smooth, easy to clean finish can be applied.
- 3.1.2 All corners formed by intersection of walls and floors shall be coved.
- 3.1.3 Sand or earth bottoms shall not be permitted in swimming pool construction.
- 3.1.4 The public pool or spa finish, including bottom and sides, shall be of white or light colored material, non-toxic to man, with a smooth finished surface.

#### 3.2 Slip Resistant Surface

The surface of all swimming pools which are intended to provide footing for bathers shall be designed to provide a slip-resistant surface.

#### 3.3 Design Details – Swimming Pools (See Chapter 4 for Spa Pool Design)

- 3.3.1 All swimming pools shall comply with the following design details:
  - A. Swimming pools shall be designed and constructed to withstand all anticipated loadings for both full and empty conditions.
  - B. A hydrostatic relief valve shall be provided for in-ground swimming pools.
  - C. The design architect or engineer shall certify the design of the swimming pool as to its safety and structural stability.
  - D. No limits are specified for length and width of swimming pools, except swimming pools for competition should meet required dimensions.

- E. The design standards for diving areas as specified in 3.6 shall be met.**
- F. Consideration shall be given to shape from the standpoint of safety and the need to facilitate supervision of bathers using the swimming pool.**
- G. Provisions shall be made for complete, continuous circulation of water through all areas of the swimming pool. Public pools shall have a circulation system with necessary treatment, disinfectant, and filtration equipment as required in these regulations.**
- H. The shape of any swimming pool shall not impair the circulation of water nor swimmers' safety.**
- I. The minimum depth of water in the swimming pool shall be three (3) feet except for wading and other special purpose swimming pools. Facilities for infants and small children shall be physically separated from the main public pool. (See Chapter 5)**
- J. The maximum depth at the shallow end of the public swimming pool shall be 3.5 feet except for competitive or special purpose swimming pools.**

### **3.3.2 Pool Sidewalls with Depth Greater Than Five Feet**

Where the water depth of a swimming pool is greater than five (5) feet, the walls of the swimming pool shall be either (a) vertical for water depths of a least five (5) feet; or (b) vertical for a distance from the water level of three (3) feet and the water depth at the bottom of the curvature provided that vertical is interpreted to permit slopes not greater than one (1) foot horizontally for each five (5) feet of depth of sidewall (11° from plumb).

### **3.3.3 Pool Sidewalls with Depth Between Three and Five Feet**

For those portions of public swimming pools with water depths between three (3) and five (5) feet, the walls shall be vertical for at least 2.5 feet and then may be curved to the bottom as prescribed in 3.3.2.

### **3.3.4 Safety Ledges**

Safety ledges are not permitted in public pools.

### **3.3.5 Lifeline**

A lifeline marked with visible floats at intervals not greater than six (6) feet shall be provided two (2) feet toward the shallow portion from the break in grade provided that the lifeline is not placed at a depth exceeding five (5) feet. Connections for safety lines shall be recessed in the walls at appropriate locations, and in a manner which presents no hazard to swimmers.

### **3.4 Slope of Pool Bottom**

#### **3.4.1 Slope of Bottom in Shallow Area**

The shallow portion of the pool shall be defined as the portion between the shallow end and either the five (5) feet depth point or the break in grade, whichever is less. The slope of the floor in the shallow portion shall be uniform and shall not be greater than one (1) foot of slope in ten (10) feet. In portions of pool deeper than five (5) feet slope of the bottom shall not be more than one (1) foot vertical in three (3) feet horizontal provided the minimum distances from board tip to pool opposite diving equipment outlined in 3.6.1 can be achieved.

### **3.5 Size of Pool**

**3.5.1** The size of the pool shall be based upon the anticipated bather load or one (1) person per fifteen (15) square feet of pool surface area with the exclusion of 300 square feet for each diving board.

### **3.6 Diving Area Requirements and Diving Boards**

**3.6.1** The dimensions of the diving area on public swimming pools used for diving shall conform to the following minimum dimensions as outlined in Appendix C.

**3.6.2** All swimming pools shall have at least thirteen (13) feet of free and unobstructed height above each diving board as measured from the center of the front end of the board, and this free unobstructed height shall extend horizontally at least 16 feet forward of the plummet, and at least 8 feet to both sides of the plummet. However, if the diving board manufacturer recommends a greater distance, at least that distance shall be provided.

**3.6.3** All diving boards installed on swimming pools at heights not greater than 1 meter above the water level shall be located at least 10 feet from an adjacent diving board as measured plummet to plummet and at least 10 feet from the side wall of the swimming pool.

**3.6.4** All diving boards installed on swimming pools at heights greater than 1 meter above the water level shall be located at least 10 feet from an adjacent diving board as measured plummet to plummet and at least 12 feet from the side wall of the swimming pool.

**3.6.5** All diving equipment shall be anchored firmly to the deck with corrosion-resistant connections and materials and shall be installed according to the manufacturer's instructions.

**3.6.6 Diving stands supporting diving boards more than two (2) feet above the water line shall be equipped with a stairway or ladder and two handrails.**

**3.6.7 Wall Depths**

The minimum depth of water at the deep end wall shall be six (6) feet for boards up to and including one meter. For curved wall construction the six (6) foot depth shall be no further than fifteen (15) inches from a vertical projection of the lip of the gutter. This depth shall be maintained across the deep end wall and along the side walls to a point opposite the maximum depth. This minimum depth shall be increased one (1) foot for each meter of diving board height above one (1) meter.

**3.6.8 Diving Platforms**

Diving platforms higher than three (3) meters shall not be installed at public swimming pools without the approval of the Jefferson County Board of Health.

**3.7 Decks and Walkways**

**3.7.1 All public Type A, municipal, country club, community, swimming club and commercial pools around the pool with a minimum width of eight (8) feet of unobstructed distance from edge of pool water or gutter to fence or enclosure. All other pools shall have similar decks or walks that are a minimum of four (4) feet wide except for public spa pools (for public spa pools see 4.3.9). A minimum of a five (5) feet walk width shall be provided on the sides and rear of any piece of diving equipment.**

**3.7.2 Additional Deck Area**

Additional deck space shall be provided if swimming pool is to be used extensively for teaching swimming, lifesaving, aquatics and similar activities.

**3.7.3 Deck Material and Slope**

The deck shall be constructed of impervious material, preferably concrete. The finished texture shall have a non-slip or smooth broom finish and should give no discomfort to bare feet. A nonporous, resilient artificial recreational surface may be used provided that such surfacing materials comply with all requirements of standard No 39 of the National Sanitation Foundation or equivalent. The deck shall have a pitch of not less than ¼ inch nor more than ⅝ inch to the foot and be so designed as to conduct drainage away from the pool area and an invert or trench drain in a manner not to create or maintain pools of water or a nuisance. All deck drainage shall be “to waste”. No deck drainage shall be filtered and returned to pool.

**3.7.4 Deck Washdown**

Three-fourths ( $\frac{3}{4}$ ) inch to one (1) inch hose bibs shall be provided around the outside perimeter of the deck area at intervals such that all parts of the swimming pool deck area may be reached with a 100 foot hose. The piping shall be designed so as to provide a flow of three (3) gpm at the hose nozzle.

### **3.8 Depth Markings**

**3.8.1 Permanent depth markers shall be provided at or above the water line on side of pool and on the deck at the following locations:**

- A. At shallow end**
- B. At the slope break on both sides of pool**
- C. At deep part of pool on both sides of pool**
- D. At deep end of pool**
- E. At diving depth if diving well is provided**
- F. The distance between depth markers shall not exceed 25 feet.**

**3.8.2 Depth markers shall be in numerals of four (4) inch minimum height and of a color contrasting with background. Depth markers shall be of a permanent type.**

### **3.9 Ladders, Recessed Steps and Recessed Stairs**

**3.9.1 If the vertical distance from the bottom of the swimming pool to the deck is over two (2) feet, recessed stairs, recessed steps or ladders shall be provided at the shallow end of all swimming pools. Recessed steps or ladders shall be provided at the deep portion of all pools, and, if the swimming pool is over thirty (30) feet wide, such recessed steps or ladders shall be installed on each side near the deep end.**

#### **3.9.2 Recessed Stairs**

**All stairs into pool shall be recessed. This equipment does not apply to spas. Recessed stairs leading into the swimming pool at shallow end shall be of slip-resistant design, have a minimum tread depth of 12 inches and a maximum rise or height between treads of ten (10) inches. There shall be no abrupt drop-off or submerged projection into the swimming pool. A minimum of one (1) handrail is required. A treated water inlet shall be located in all recessed stairs.**

#### **3.9.3 Recessed Steps or Treads**



Recessed steps shall be of slip-resistant design with a maximum rise or height between steps of ten (10) inches. If the steps are inserted in the walls or if step holes are provided they shall be of such design that they may be cleaned easily and shall be arranged to drain into the swimming pool to prevent the accumulation of dirt thereon. Step holes have a minimum tread of five (5) inches and a minimum width of 14 inches.

#### **3.9.4 Ladders**

Swimming pool ladders shall be corrosion-resistant and shall be equipped with slip-resistant treads. All ladders shall be so designed as to provide a handhold and shall be installed rigidly. There shall be a clearance of not more than five (5) inches nor less than three (3) inches between any ladder and the swimming pool wall.

#### **3.9.5 Handrails**

When stepholes or ladders are provided within the swimming pool, there shall be a handrail at each side thereof extending over the coping or edge of the deck. Recessed stairs shall have at least one (1) handrail.

### **3.10 Pool and Deck Lighting**

#### **3.10.1 Underwater Lighting**

Where under water lighting is used at public and semi-public swimming pools, not less than 0.5 watts (approximately 10 lamp lumens) per square foot of swimming pool water surface area shall be provided. Such lights shall be spaced to provide illumination so that all portions of the pools, including the bottom, may be seen readily without glare.

#### **3.10.2 Deck and Area Lighting**

When underwater lighting is provided, surface area lighting shall provide at least 30 foot candles of light on the pool and deck area. When no underwater lightning is provided, surface lighting shall provide at least 50 foot candles of light on the pool and deck area.

### **3.11 Electrical**

**3.11.1 All electrical wiring, grounding, and bonding shall be installed in conformity with all applicable electrical code requirements.**

**3.11.2 Each underwater light shall be grounded individually by means of screwed or bolted connection to the junction box from which the branch circuit to the individual light proceeds.**

**3.11.3 No overhead electrical wiring shall pass within 20 feet of the swimming pool enclosure.**

**3.11.4 All electrical circuits located within fifteen (15) feet of a swimming pool shall be equipped with ground fault interruptors which shall conform with all applicable electrical code requirements.**

### **3.12 Ventilation**

**All pool equipment and chemical feeder rooms, indoor pools, bathhouses, dressing rooms, shower rooms, and toilet spaces shall be ventilated adequately either by natural or mechanical means, or a combination of natural and mechanical means.**

### **3.13 Lifeguard Chairs**

**All swimming pools having a water surface area of more than 2,250 square feet shall be provided with at least one elevated lifeguard platform or chair. Swimming pools with 4,000 square feet or more of water surface area shall be provided with at least two elevated lifeguard platforms or chairs, such that there shall be at least one elevated lifeguard platform or chair for every 2,500 square feet or major fraction thereof of water surface area. The elevated lifeguard platforms or chairs shall be so located as to provide clear unobstructed view of the bottom of the swimming pool in the area under surveillance.**

### **3.14 Drinking Fountains**

**No less than one drinking fountain per 100 bathers based on maximum bathing load shall be provided and be available to bathers at type A and B pools.**

## CHAPTER 4

### PUBLIC SPA POOL DESIGN

#### 4.1 Permit to Construct

- 4.1.1 No person shall begin construction or any public spa or shall alter, remodel or renovate any public spa without:
- A. Submitting complete plans and specifications to the Jefferson County Board of Health as outlined under 1.11.1 (A) (1).
  - B. Receiving a written plan approval or conditional approval from the Jefferson County Board of Health as outlined in 1.11.1 (A) (2).
  - C. Receiving a permit in letter form to construct from the Jefferson County Board of Health as outlined under 1.11.1 (A) (3).
  - D. No person shall deviate from the approved or conditionally approved plans and specifications during the construction or alteration of a facility without written approval from the Jefferson County Board of Health.

#### 4.2 Plan

- 4.2.1 Plans and specifications shall be submitted in triplicate and shall be prepared by a professional engineer or architect registered in the State of Alabama. Specific exemptions to this requirement may be granted where alterations described in Permit to Construct are minor or where in the judgment of the Board no architectural or engineering problems are presented and the plans accurately depict the proposed spa pool and addresses all requirements of these regulations.
- A. Plans shall be drawn to scale and shall include:

1. Plans to include the same information as outlined in 1.11.3 (B) except 1.11.3 (B) (2) – Longitudinal section thru spa may be omitted provided spa is symmetrical.
- B. Plans notes such as “fence by owner” or “deck to be under separate contract” shall not be acceptable as a substitute for scale drawings.
- C. Plans shall include the following information in tabulated form:
  1. Legal address of facility.
  2. Location of facility if different from legal address.
  3. Owner’s name, address and telephone number.
  4. Surface area of pool
  5. Spa volume, turn over time flow rate, filter rate/unit area, type or filter and total system head loss.
  6. Manufacturer, make and model numbers of the pump, filter and automatic chemical feed apparatus, filter head loss (clean and dirty), and pump curve showing design flow rate and head.
  7. Source of water used at the pool.
  8. Means of disposing backwash water.

#### **4.3 Spa Design Criteria**

##### **4.3.1 Size**

Size shall be base on 10 square feet for each bather. The maximum bather load = water surface area of spa divided by 10 square feet.

##### **4.3.2 Configuration**

Public spa pools shall not have sharp edges or protrusions where walls meet at an acute angle. Public spa pools shall be shaped so as to provide for complete water circulation and mixing.

##### **4.3.3 Dimensions**

- A. Public spa pools shall be no deeper than four (4) feet measured from the water line.

- B. The maximum depth of any seat or sitting bench shall be two (2) feet measured from the water line.

#### 4.3.4 Finishes and Depth Markers

- A. Wall and floor finishes shall be of white or light colored non-toxic materials, shall be impervious and enduring. Such finishes shall be smooth and easily cleanable
- B. Public spa pools shall be permanent depth markings plainly and conspicuously posted and located as follows:
  - 1. The maximum water depth shall be clearly marked.
  - 2. Depth marking shall be at least four (4) inches in height and of a contrasting color with the background.
  - 3. Depth markings shall be placed within eighteen (18) inches of the water's edge and shall be positioned to be seen while standing on the deck facing the water.
  - 4. Depth markings shall be spaced at no more than twenty-five (25) feet intervals and shall be uniformly located around the perimeter of the spa. In no case shall there be less than two (2) markers.
- C. Spas with wooden interior surfaces are not allowed.

#### 4.3.5 Illumination - Spas

##### A. Underwater Lighting

Where underwater lighting is used at public and semi-public spa pools, not less than 0.5 watts (approx 10 lamp lumens) per square foot of spa pool water surface area shall be provided. Such lights shall be spaced to provide illumination so that all portions of the spa including the bottom, may be seen readily without glare.

##### B. Deck and Area Lighting

When underwater lighting is provided, surface area lighting shall provide at least 30-foot candles of light on the pool and deck area. When no underwater lighting is provided, surface lighting shall provide at least 50 foot candles of light on the pool and deck area.

#### 4.3.6 Electrical

The latest National Electrical Code, as published by the National Fire Protection Association, should be used for the wiring and grounding of all lighting and electrical equipment associated with a spa and the bonding and

**grounding of all metallic appurtenances. Electrical switches, outlets and equipment shall be at least fifteen (15) feet from the edge of spa and a ground fault interrupter shall be provided.**

#### **4.3.7 Ventilation**

**All pool equipment and chemical feeder rooms, indoor spa pools, bathhouses, dressing rooms, shower rooms, and toilet spaces shall be ventilated adequately either by natural or mechanical means, or a combination of natural and mechanical means.**

#### **4.3.8 Ladders, Stairways and Recessed Steps - Spas**

- A. Spa ladders, recessed steps or stairways shall be provided where spa depth exceeds twenty-four (24) inches.**
- B. There shall be at least one ladder, set of recessed steps or stairway for each fifty (50) feet of spa pool perimeter or fraction thereof.**
- C. Ladder treads, recessed step surfaces and stairs shall have slip resistant surfaces.**
- D. Ladders and recessed steps shall be provided with two (2) handrails.**
- E. Stairs shall be provided with at least one (1) handrail.**
- F. Recessed steps shall drain into the pool.**
- G. Step treads shall have a minimum unobstructed horizontal tread depth of ten (10) inches and a minimum unobstructed surface area of 240 square inches.**
- H. Risers at the centerline of the treads shall be not less than seven (7) inches and a maximum height from deck surface down to the top of the first tread shall not exceed twelve (12) inches. When the bottom tread serves as a bench or seat, the bottom riser shall be a maximum of fourteen (14) inches above the pool floor.**

#### **4.3.9 Decks - Spas**

- A. A six (6) feet x eight (8) feet continuous unobstructed deck shall be provided on at least one side of all public spa pools with less than 100 square feet of water surface area. Public spa pools shall provide additional deck area at least four (4) feet wide around at least 50% of the spa.**
- B. Walkways and decks shall be constructed of concrete, non-slip tile or equally impervious material with a smooth, but non-slip cleanable surface.**

- C. Decks shall slope no less than  $\frac{1}{4}$  inch per foot away from spa.
- D. Deck surfaces shall be slip-resistant.
- E. Synthetic deck surfaces where used shall:
  - 1. Comply with National Sanitation Foundation Standard #39 for Resilient Artificial Recreational Surfaces.
  - 2. Be vacuumed with a wet vacuum frequently so as to keep them clean and free of accumulated moisture.
  - 3. Slope no less than  $\frac{3}{8}$  inch per foot away from spa.
- F. Joints between concrete deck slabs shall be water tight and shall be designed so as to protect the pool, coping and its mortar bed from movement of the deck.
- G. Decks shall be provided with expansion joints.
- H. Voids between adjoining concrete deck slabs shall be no greater than  $\frac{3}{16}$  inch.
- I. Adjoining deck surface elevations shall vary no more than  $\frac{1}{4}$  inch.
- J. Decks shall be drained to perimeter drains.
- K. Wood decking around public spa pools is prohibited.

#### 4.4 Overflow Systems

- 4.4.1 All public spa pools shall be operated with a continuous overflow.
- 4.4.2 Where surface skimmers are used, the flow rate through the skimmer shall be designed to provide 50% of the total turnover rate with a maximum flow through any single skimmer of 30 gpm.
- 4.4.3 The minimum acceptable width for the intake throat of a skimmer, measured at the wider location, shall be 5”.
- 4.4.4 Where surface skimmers are used as the sole overflow system, one surface skimmer shall be provided for each 100 square feet of fraction thereof of the spa’s surface area. If a conflict arises between subsection 4.4.2 and this subsection, the subsection requiring the greatest number of skimmers shall apply.
- 4.4.5 When two or more skimmers are used in a spa, they shall be located so as to maintain effective skimmer action over the surface area of the spa.

#### 4.5 Recirculation Systems for Spas

#### **4.5.1 Equipment**

**Public spa pools shall have recirculation systems and filtration systems with piping, pumps, filters, disinfection and other equipment, which maintain spa pool water quality in accordance with Appendix B.**

**4.5.2 The system of pumps, filters, disinfection facilities and other equipment shall be of adequate size to recirculate, filter and disinfect the entire volume of spa water within 30 minutes or 48 times in a 24 hour period.**

**4.5.3 The recirculation system shall be a two (2) pump system. One pump will provide the required turnover rate, filtration and disinfection for the spa water. The second pump shall provide the water for the hydrotherapy turbulence of the water.**

**4.5.4 Public spa pool recirculation systems shall be separate from companion swimming pools.**

#### **4.6 Spa Inlets and Outlets**

**4.6.1 Pool inlets and outlets shall be provided, sized and arranged to produce a uniform circulation of water so as to maintain a uniform disinfectant residual throughout the pool.**

**4.6.2 At least one outlet shall be provided at the lowest point of the pool floor to drain the entire floor area.**

**4.6.3 Total velocity through outlet grate opening shall not exceed two (2) feet/second.**

**4.6.4 Grates shall be designed so as to prevent entrapment of fingers.**

**4.6.5 Fill Spouts shall be an over-the-rim fill spout with an air gap and be located beside grab rails or properly shielded so as not to create a hazard. The open end shall have no sharp edges and should not protrude more than two (2) inches beyond the edge of the spa.**

#### **4.6.6 Spa Recirculation Treated Water Inlets**

**A. There shall be a minimum of four (4) inlets for the treated return water in each spa.**

**B. The return line supplying treated water to the spa inlets shall loop the spa pool.**

**4.6.7 Spa outlets shall be designed so that each pumping system in the spa (filter system or booster system if so equipped) provides one of the following alternatives:**



- A. Two (2) outlets whose pipe diameter sizes are equal. (This may be two outlet drains or an outlet drain and a skimmer.) The system shall be designed so that neither one of the two outlets shall be cut out of the suction line by a valve or other means.
- B. A 12" x 12" or larger square grate.
- C. Other approved means that guard against outlet entrapment.

4.6.8 All outlet grates, antivortex plates and inlet fittings shall have tamper-proof screws that cannot be removed except with tools. Grates, vortex plates and inlet fittings shall be in place whenever the spa is in use.

4.6.9 All public spas shall be provided with a through-the wall overflow pipe to waste located above the normal pool operating level and of sufficient size to discharge the water entering the spa through the fill spout.

#### 4.7 Piping

4.7.1 All piping shall be approved by the National Sanitation Foundation.

4.7.2 Piping shall be large enough to permit the rated flow for filtering and cleaning without exceeding the total head developed by the pump at the rated flow.

##### 4.7.3 Water Velocity in Piping

The water velocity in spa discharge piping shall not exceed ten (10) feet per second. Suction water velocity in any piping shall not exceed six (6) feet per second.

##### 4.7.4 Pipe Protection

Piping subject to damage by freezing shall be sloped for adequate drainage and supported at sufficiently close intervals so that sagging between supports will not trap water. Provisions should be made for expansion and contraction of pipes due to changes in temperature.

#### 4.8 Pumps

4.8.1 Same requirement as 2.3 for public pools.

#### 4.9 Filters

4.9.1 Same requirement as 2.2 for public pools.

#### 4.10 Disinfectant and Chemical Feeders

4.10.1 Same requirement as 6.2 for public pools.

#### **4.11 Air Induction Systems**

**4.11.1 Air induction systems, when provided, shall totally prevent water back-up that would cause electrical shock hazards.**

**4.11.2 Air intake sources shall be positioned and/or designed to minimize contaminants (such as deck water, dirt, etc.) from being introduced into the spa pool.**

#### **4.12 Valves, Meters and Gauges**

**4.12.1 Flow meter shall be installed in all recirculation systems. Such meters shall:**

- A. Measure flow in gallons per minute.**
- B. Be mounted as recommended by the manufacturer; and**
- C. Be located as to be easily read.**
- D. On sand filters the flowmeter shall be located so as to indicate flow both on filtration and on backwash cycle.**

#### **4.12.2 Influent and Effluent Gauges**

**Pressure gauges and/or compound gauges shall be installed on the inlet and outlet of the filter.**

#### **4.12.3 Valve Location**

**When the pump is below the overflow rim of the spa, valves shall be installed on permanently connected suction and discharge lines and located in an accessible place outside the walls of the spa. All valves shall be located where they will be readily and easily accessible for maintenance and removal.**

#### **4.13 Bathhouses and Sanitary Facilities**

**4.13.1 Same requirements as Chapter 7 for public pools. If spa is operated in conjunction with a companion facility, a bathhouse common to both facilities shall be acceptable provided the above requirement for bathhouses are met.**

#### **4.14 Food Service**

**4.14.1 No food or drink shall be permitted in the immediate area of the public spa pool or on the decks surrounding the spa pool.**

#### **4.15 Domestic Supply Water Quality**

**4.15.1 Water used in public spa pools, bathhouses, and drinking facilities shall be the same as 1.11.6 (D) for public pools and as regulated therein.**

**4.16 Spa Water Quality Parameters**

**4.16.1 Water in public spa pools shall be maintained with water quality parameters within limits set out in Appendix B.**

**4.17 Testing Equipment**

**4.17.1 All public spas shall have functional test kit(s) or equipment for measuring pH, free and combined chlorine concentration (or concentration of other approved disinfectant), total alkalinity, turbidity (water clarity) and cyanuric acid if stabilized chlorine is used.**

**4.17.2 Test kits for measuring free chlorine shall use DPD as the reagent.**

**4.18 Test Frequencies**

**4.18.1 Pool operators shall test and record the parameters described in section (1) of this rule with the following minimum frequencies during the periods when the pools is open for use:**

**A. pH – two times daily.**

**B. Chlorine (stabilized) – three times daily.**

**Continuous reading devices shall satisfy requirements if such devices record in pH units and ppm of free chlorine.**

**C. Total alkalinity – daily.**

**D. Turbidity – daily.**

**E. Cyanuric acid – weekly.**

**F. Calcium hardness – weekly (recommended).**

**G. Temperature (shall not exceed 104°F) as required.**

**4.19 Draining and Refilling Spa Pools**

**4.19.1 Spa pools shall be drained and refilled with fresh water at least once every thirty (30) days.**

**4.20 Superchlorination**

**4.20.1 Spa pools shall be superchlorinated to a minimum of ten (10) ppm weekly.**

**4.21 Operation and Maintenance**

**4.21.1 Operators of public spa pools shall be thoroughly knowledgeable on good practices of the spa operation and with the laws and rules pertaining to public spa pools. If, at any time testing indicates that the spa water does not conform with the requirements for clarity, residual free chlorine, maximum temperature, or the pH exceeds 7.8, the spa operator shall immediately close the spa to the public until the requirements are satisfied.**

**4.22 Records**

**4.22.1 Operators of public spa pools shall keep records pertaining to the operation and maintenance of the pool which they operate.**

**4.22.2 Such records shall be maintained daily during period when the pool is open, shall be retained by the operator and a copy sent to the Jefferson County Board of Health each month. All such records shall be retained for a period of twelve (12) months.**

**4.22.3 Records shall include at least the following:**

- A. Results of tests described in 4.18.1**
- B. Date and time of filter backwash.**
- C. Dates that the pool was emptied and/or cleaned.**
- D. Periods of recirculation equipment operation and/or malfunction and repair.**

**4.22.4 All parts and facilities of public spa pools and bathhouses shall be kept clean, in good repair and free of safety hazards.**

**4.23 Safety**

**4.23.1 The operator of any public spa pool shall report in writing to the Jefferson County Board of Health any drowning, other death or serious injury**

**4.23.2** Such reports shall be made on forms provided by the Jefferson County Board of Health and shall be submitted within seven days of the occurrence.

**4.23.3** operators or managers shall make visual observation of the spa pool during operating hours. Such visual observation shall be no less than once every two (2) hours.

**4.23.4** Lifeguards, pool operators and managers shall enforce the following rules at all public spa pools:

**A.** Non-swimmers and children under fourteen (14) years of age shall not use the spa pool unless a lifeguard or a responsible adult observer is present.

**B.** Bather shall take a cleansing shower.

**C.** No person suffering from a communicable disease transmissible via water or under the influence of an intoxicating liquor or drug shall use the pool.

**D.** No person shall take food or drink inside the pool enclosure.

**E.** No person shall bring, throw or carry food, drink, smoking material, trash, debris, or any other foreign substance into the pool.

**F.** No person shall run or engage in horseplay in or around a public spa pool.

**G.** Persons in street shoes except representatives of the Jefferson County Department of Health shall not be permitted on the pool deck areas used by the bathers.

**4.23.5** The hydrotherapy pump and air blower shall be connected to a maximum 15 minute time switch located no closer than 10 feet from the spa water's edge.

**4.23.6** Recirculation pumps and heater thermostat switches shall be inaccessible to bathers.

**4.23.7** Signs

All public spa pools shall post a sign at the entrance to the spa pool enclosure as indicated in Appendix D.



## CHAPTER 5

### PUBLIC WADING POOLS

#### 5.1 Public Wading Pools

5.1.1 A wading pool shall normally be a small pool for non-swimming children and shall have a maximum depth not greater than 24 inches with a minimum depth of 8 inches and a maximum slope of 1 foot in 15 feet.

#### 5.2 Permit to Construct

5.2.1 No person shall begin construction of any public wading pool or shall alter, remodel or renovate any public wading pool without submitting plans, receiving approval and receiving letter permit to construct as outlined under 1.11.1.

#### 5.3 Separation from Main Pool

5.3.1 No wading pool shall be connected directly or physically attached to any swimming pool.

#### 5.4 Separate Circulation and Disinfectant Systems

5.4.1 Every wading pool located in the same premises as a swimming pool shall be equipped with a circulation system which is separate from and independent of the circulation system of the swimming pool; such circulation system shall consist of at least a circulating pump, piping, a filter, a disinfectant feeder and inlet and outlet fittings.

#### 5.5 Circulation System Capacity

5.5.1 The capacity of the circulation system required in 2.1.2 (C) shall be capable of filtering and disinfecting the entire volume of water in the wading pool in two (2) hours or twelve (12) times in every 24 hours. For filter requirements see 2.2; for pump requirements see 2.3; for piping requirements see 2.6; and for disinfectant and chemicals see Chapter 6.

#### 5.6 Other Design Characteristics

5.6.1 Every public wading pool shall be designed and constructed with the following characteristics:

- A. Be equipped with two main drains located a minimum of three feet apart with one drain location at the deepest point of the wading pool and both drains covered by a grating which fulfills the requirements of 2.8.2 and 2.8.3.

- B. Be equipped with a surface overflow system capable of removing floating material. A minimum of one skimmer shall be required.
- C. Be not deeper than 24 inches at the deepest point.
- D. Slope of pool floor shall not exceed one (1) foot in fifteen (15) feet.
- E. Be of such design and be constructed in such manner and of such materials as to provide maximum safety to children using the facility.
- F. Unless separated from the swimming pool area by a fence or similar enclosure, be located in the vicinity of the shallow end of the main swimming pool and have a minimum of fifteen (15) feet separating main pool and wading pool.
- G. Minimum of four (4) return inlets and treated water return piping shall loop pool.
- H. Be provided with pool overflow through wall of pool located above the normal pool water level and capable of discharging the volume of water from the fill spout.
- I. Depth marker, both ends and sides.

#### **5.7 Fillspout**

All water shall enter through a make-up tank, or through an over-the-rim fill spout 2½ pipe diameters above the pool coping level. The fill spout shall be rigid and properly shielded so as not to create a safety hazard. The open end should have no sharp edges and should not extend more than two (2) inches beyond the edge of the pool.

#### **5.8 Maximum Number of Users**

5.8.1 The maximum number of children who may use wading pool at any one time shall not be more than one child per ten (10) square feet of water surface area.

#### **5.9 Water Quality Parameters**

See Appendix A.



## CHAPTER 6

### DISINFECTION AND CHEMICAL FEEDERS

6.1 Every swimming pool shall be equipped with a disinfectant feeder or feeders and other chemical feeders as may be required to maintain the microbiological, chemical and physical characteristics of the swimming pool water within prescribed limits. The disinfectant shall provide a residual in the pool water so that it can be monitored.

#### 6.2 Types of Feeders

Disinfectant feeders for use on public pools may be of a chlorinator type which feeds chlorine in its elemental (gaseous) form, or may be a hypochlorinator type which feeds as a liquid by positive displacement or by a feeder that uses controlled erosion or dissolving of a chemical by the flow through process. Feeders shall maintain a dosage proportional to the flow.

#### 6.3 Disinfectants Other Than Chlorine

Disinfectants other than chlorine require special approval and are not to be used without prior written permission from the Jefferson County Board of Health. Pool chemicals shall not be fed by hand.

#### 6.4 N.S.F. Approval of Disinfectant & Chemical Feeders

All disinfectant feeders (except gas chlorine feeders) and all chemical feeders which are installed on swimming pools shall be designed and constructed in accordance with applicable provisions of the standards of the National Sanitation Foundation, pertaining to disinfectant and chemical feeding equipment for use on swimming pools.

#### 6.5 Minimum Standards for Gas Chlorine Feeders

6.5.1 Gas chlorine feeders shall comply with the following requirements:

##### A. Design - General

Shall be of such design and construction as will withstand war, corrosion, or attack by chlorine gas, chlorine vapors or chlorine solutions, and will not be adversely affected by repeated regular adjustments or other conditions anticipated in the normal use of the device,

**B. Easily Cleaned**

Shall be capable of being easily disassembled for cleaning and maintenance and being easily reassembled.

**C. Non Clog Design**

Shall be of such design and construction as to preclude stoppage from materials which may be contained in the compressed gas.

**D. Fail Safe**

Shall incorporate failure-proof features so that the chlorine gas cannot feed directly into the swimming pool, the pool piping system, water supply system or the swimming pool enclosure under any type of failure or interruption of operation of the equipment.

**E. Solution Feed Type**

Shall be a solution feed type, capable of delivering a chlorine solution at its maximum rate without releasing chlorine gas into the atmosphere.

**F. Accidental Failure**

Shall be of such design so that during accidental failure or interruptions of water supply to the chlorinator, any leaking gas will be safely conducted to the outdoors.

**6.5.2 Chlorine Compartment**

Where gaseous chlorine equipment is provided, the mechanical proportioning device and cylinders of chlorine shall be housed in a reasonably gas-tight, corrosion-resistant and mechanically vented enclosure to atmosphere in an unrestricted area and a motor-driven exhaust fan capable of producing at least one air change per minute shall be provided. Automatic louvers of good design near the top of the enclosure for admitting fresh air are required. Electrical switches for the control of artificial lighting and ventilation shall be on the outside of the enclosure adjacent to the door. The floor area of the enclosure shall be adequate size to house the chlorinator, fan scales, and one extra chlorine cylinder. Gas mask approved by the Bureau of Mines for protection against chlorine gas shall be mounted outside of chlorine compartment.

**6.6** In general, pools over 150,000 gallons capacity can operate more economically with gas chlorine than with other types of chlorination.

**6.7 Hypochlorinators and Chemical Feeders**

**6.7.1 Feed shall be positive under all conditions of pressure in the circulating system.**

**6.7.2 Regulation shall be provided to insure constant feed.**

**6.7.3 Positive features to prevent back-flow from circulation system to the solution container shall be provided.**

**6.7.4 Chemical Feeder**

**Must be used in conjunction with a hypochlorinator in order to maintain pH of pool water.**

**6.7.5 Feed Rate**

**Feeders shall have the capacity to feed one pound of free chlorine per 15,000 gallons of pool water per 24-hour period and shall have a minimum feed capacity of two and one half gallons per hour.**

**6.7.6 Soda Ash Feeder**

**Shall be a positive displacement type feeder. Equipment for feeding soda ash shall be sufficient to supply at least two (2) pounds of soda ash for each pound of elemental chlorine.**

**6.7.7 Flow Through or Controlled Erosion Feeders**

- A. When used for feeding stabilized chlorine it shall be used in conjunction with a hypochlorinator with capacity to superchlorinate the pool water in a relatively short period of time and to aid in maintaining the proper pH.**
- B. When used for feeding a hypochlorite nonstabilized compound it shall be used in conjunction with a chemical feeder to maintain pH.**
- C. Shall have an adjustable rate of flow through the feeder.**
- D. Shall have a positive flow indicator.**
- E. Constructed so that feeders shall not feed any chemical when the circulating system has been shut down.**

## **6.8 Testing Equipment**

**All public pools shall have functional test kit or equipment for measuring pH, total alkalinity, cyanuric acid (if stabilized chlorine is used in pool water) and free and combined chlorine concentration (or concentration of other approved disinfectant). The Palin DPD test kit shall be used for measuring free chlorine.**

## **6.9 Water Quality Parameters**

For public pools see Appendix A  
For public spas see Appendix B

## CHAPTER 7

### BATHHOUSES

#### 7.1 Bathroom Layout

Bathhouses should be considered an essential part of the swimming pool or public bathing place facility, and should be so located that the bathers leaving the bathhouse will enter at the shallow end of the pool. Bathhouses and dressing rooms should be so arranged that entrance from the outside will be to the dressing room and so that bathers must pass the toilets and showers before entering the pool enclosure.

Adequate dressing and sanitary plumbing facilities shall be provided for every public swimming pool. An exception to this may be made in Types B, C, D, E, F and G pools where available facilities are provided for other purposes of adequate capacity and number in close proximity to the pool.

#### 7.2 Dressing Rooms

Every bathhouse shall be provided dressing and sanitary facilities separate for each sex. The rooms shall be well-lighted, drained, ventilated, and of good construction with impervious materials employed in general, finished in light colors and so developed and planned that good sanitation can be maintained throughout the building at all time.

#### 7.3 Rest Room Facilities

Minimum criteria for bathhouse plumbing facilities shall be based upon the design maximum bathing load. Facilities for each sex shall be based upon a ratio of 60% of the total number of bathers being male and 40% being female, excepting where pool is confined to use by one sex only, wherein 100% of plumbing facilities requirements shall be provided for that sex.

Minimum sanitary plumbing facilities shall be provided as follows:

### **7.3.1 Males**

**One water closet combination and one urinal shall be provided for each 75 males and one lavatory for each 100 males or any fraction thereof.**

### **7.3.2 Females**

**A minimum of two water closet combinations shall be provided in each bathhouse building and this shall be presumed to be adequate for the first 100 females. One additional water closet combination shall be provided for each additional 50 females or fraction thereof. One lavatory shall be provided for each 100 females or fraction thereof.**

**7.3.3 A minimum of two shower heads shall be provided for each sex, which shall be presumed to be adequate for the first 100 bathers. One shower shall be added for each 50 additional bathers or fraction thereof.**

## **7.4 Hose Bibbs**

**Hose bibbs shall be provided for flushing down the dressing rooms and bathhouse interior.**

## **7.5 Floors**

**Floors of all dressing rooms and bathhouses shall be constructed of impervious material, slightly roughened, and shall be adequately pitched to floor drains. Design of bathhouse appurtenances and floor drains shall be such as to insure easy flushing of the entire floor and quick removal of any water on the floor. Floor drains shall be provided to insure positive drainage from all parts of the building with a slope in the floor of not less than  $\frac{1}{4}$  inch per foot toward the drains.**

**No differences in elevation, requiring steps, shall be provided in the interior dressing areas. Any steps that are necessary from the bathhouse floor to pool decks, shall be positively non-slip. All partitions between portions of the dressing room area, screen partitions, shower, toilet and dressing room booths shall be of durable materials not subject to damage by water and shall be so designed that a waterway is provided between the partitions and floor to permit thorough cleaning of the floor area with hoses and brooms.**

## **7.6 Water Supplied to Shower Heads**

**Tempered water only shall be provided to shower heads. Water heater and thermostatic mixing valve shall be inaccessible to bathers and will be capable of**

providing 2 gpm of 90°F water to each shower head. No hot or cold water shall be supplied.

**7.7 Light and Ventilation**

All indoor pools, dressing areas, equipment rooms, etc., shall be adequately ventilated and lighted.

**7.8 Soap Dispensers**

Soap dispensers for providing either liquid or powdered soap shall be provided at each lavatory and between each pair of shower heads. Dispensers must be of non-breakable type. No glass will be permitted in these units.

**7.9 Mirrors**

Mirrors shall be of non-breakable material.

**7.10 Toilet Paper**

Toilet paper holders shall be provided at each water closet combination.

**7.11 Water**

All water provided for drinking fountains, lavatories, and showers shall be potable and shall conform with all requirements and standards of the Jefferson County Board of Health

## CHAPTER 8

### SAFETY AND SANITARY CONTROL

#### 8.1 Life Saving Equipment

Readily accessible lifesaving equipment which meets the specifications hereinafter listed shall be provided at all swimming pools. One unit of lifesaving equipment shall consist of the following:

- 8.1.1 One ring buoy not more than 15 inches in diameter or similar flotation device to which shall be attached a 3/16 inch rope with length of 1½ times the length of the pool; or two pineapples (tightly rolled balls of rope) composed of ¼ inch rope the length of which is at least 1½ times the maximum width of the swimming pool; and
- 8.1.2 One life pole or shepherd's crook type pole having blunted ends and a minimum length of 12 feet.
- 8.1.3 Not less than one unit of equipment, as listed above, shall be provided at every swimming pool. One unit shall be presumed to be adequate for 2,000 square feet of water surface area of the swimming pool, and one additional unit shall be provided for each additional 2,000 square feet or fraction thereof of water surface area.
- 8.1.4 Provisions shall be made to locate life-saving equipment in conspicuous places, distributed around the swimming pool, at lifeguard platforms or chairs and other convenient locations.

#### 8.2 Diving Towers

Diving towers in excess of three (3) meters in height shall not be considered as acceptable in a public pool without special provisions, controls, and definite limitations on their use.

**8.3 Operation Reports**

Operational reports consisting of a written record of all operations influencing sanitation of the pool shall be maintained daily in duplicate on forms provided by the Jefferson County Board of Health. One copy of the report shall be submitted monthly to the Jefferson County Board of Health, the other shall become a permanent file of the pool, and shall be available for inspection at all times.

**8.4 Algae Accumulations**

Walls and floors of pools and surrounding walks, scum gutters and skimmer inlets shall be kept free of algae and other accumulations.

**8.5 Preparation of Bathers**

Satisfactory and acceptable methods of properly preparing bathers at type A and B pools before allowing them to enter the pool shall be provided.

**8.6 Diseased Persons**

No person with evidence of having any infectious or communicable disease shall be allowed in a pool or pool area, bathing place or bathhouse.

**8.7 Bathing Suits**

Where suits and towels are provided by the pool management, they shall be properly laundered before re-use, and proper and acceptable equipment shall be provided for servicing them. Where privately owned suits are used, it shall be the duty of the pool management to see that they are clean before used.

**8.8 Regulations to be Posted**

Suitable placards embodying pool regulations and instruction shall be conspicuously posted in the pool area.

**8.9 Animals Excluded**



No dogs or other animals shall be allowed in the pool area, dressing rooms, or other parts of pool enclosure.

This does not apply to guidedogs wearing a harness and the blind person presents credentials issued by an accredited school for training dog guides.

#### **8.10 Instruction**

Upon completion of any swimming pool the contractor shall supply the owner and his operators with complete written and oral instructions in the operation of the pool and all of the equipment, in the maintenance of the swimming pool water and specifically covering the details of maintenance of the equipment. All valves shall be permanently tagged and valve operating schedule shall be provided for every operation. Instructions shall be supplied in at least two (2) copies.

#### **8.11 Conduct of Bathers**

The pool management shall prohibit boisterous or rough play, except supervised water sports, in all portions of the pool, pool enclosure, bathhouse and appurtenances.

#### **8.12 Food and Concessions**

- A. No glass containers or articles shall be permitted within the pool enclosure.
- B. No adulteration of pool water with food or drink or containers, wrappers etc. of same, shall be permitted. Violations will be subject the pool to closure.
- C. Food or drink vending machine installations shall be limited to a designated area defined by a barrier, fence enclosure, etc. and in each case shall be installed at a minimum distance of ten (10) feet from the pool water edge or perimeter.

#### **8.13 Fence and Enclosures**

All swimming pools which are located outdoors shall be protected by a fence, wall, building or other enclosure or any combination thereof which completely encloses the swimming pool area such that all of the following conditions are complied with:

8.13.1 Constructed so as to afford no external handholds or footholds.

8.13.2 Constructed of materials which are impenetrable by children under the age of three (3) years/

8.13.3 A four (4) feet minimum height is provided entirely around the swimming pool.

8.13.4 The horizontal space between vertical members of the enclosure shall not exceed two (2) inches.

**8.13.5** The height of any opening under the bottom of the enclosure shall not exceed two (2) inches.

**8.13.6** All gates and doors shall be equipped with self-closing and positive self latching closure mechanisms which shall be located at a height at least three (3) feet and shall be equipped with permanent locking devices.

**8.14** **Equipment Enclosures**

All filters, pumps, chemical feeding apparatus, and other mechanical equipment shall be secured and protected by an appropriate enclosure separate and apart from the enclosure of the swimming pool.

**8.15** **Visitor and Spectator Areas**

Whenever visitor or spectator areas are provided at swimming pools, there shall be an absolute separation between those areas and the area used by bathers.

**8.16** **Concession Stands**

Concession stands shall be located, operated, and maintained in a manner that will prevent pool water adulteration by foods, drinks, etc.

**8.17** **Frequency of Cleaning Pool**

All swimming pools shall be cleaned and vacuumed daily.

**8.18** **Water Quality Parameters**

For public pools see Appendix A  
For public spas see Appendix B

## APPENDIX A

### PUBLIC SWIMMING POOL

#### WATER QUALITY PARAMETERS

<u>Parameters</u>	<u>Min.</u>	<u>Ideal</u>	<u>Max.</u>
a) Free chlorine	1.5ppm	3.0 ppm	4.0 ppm
b) Combined chlorine	0	0	0.2
c) pH	7.2	7.2 – 7.6	7.8
d) Total alkalinity as CaCO <sup>3</sup>	80	Plaster & tile spas 80 – 125  Vinyl, painted or fiberglass finished 125- 150 ppm	175
e) Cyanuric acid	30		100
f. Calcium hardness	100	-	200

g) Water temperature	-	-	75- 93°
h) Total dissolved solids	-	-	1550 ppm
i) Turbidity (water clarity)	0/F.T.U.	0-0.5/F.T.U.	1.0 F.T.U. or

such that a standard 2” diameter clarity disc which is divided into alternate black and red quadrants is clearly visible and the separate colors discernible through 4 feet of water. Note: F.T.U. = Formazin Turbidity Unit.

**j) Bacteria**

Coliform organisms shall not be present in more than 15 percent of any series of samples tested using Standard Methods for Examination of Water and Wastewater, 14<sup>th</sup> Edition.

Note: it is not require that this parameter be checked routinely but shall be monitored at discretion if the Health Department.

**APPENDIX B**

**PUBLIC SPA POOL**

**WATER QUALITY PARAMETERS**

<u>Parameters</u>	<u>Min.</u>	<u>Ideal</u>	<u>Max.</u>
a) Free chlorine	1.5 ppm	3.0	4.0 ppm
b) Combined chlorine	0	0	0.2
c) pH	7.2	7.2 – 7.6	7.8
d) Total alkalinity	80	Plaster & tile	175

spas 80-125

Vinyl, painted  
Or fiberglass  
Finishes 125-  
150 ppm

e) Cyanuric acid	30		100
f) Calcium hardness (recommended)	100	-	200
g) Water temperature		-	104°F
h) Total dissolved solids	-	-	1550 ppm
i) Turbidity (water clarity)	0/F.T.U.	0-0.5/F.T.U.	1.0F.T..U. or

such that a standard 2” diameter clarity disc which is divided into alternate black and red quadrants is clearly visible and the separate colors discernible through 4 feet of water.  
Note: F.T.U. = Formazin Turbidity Unit.

- j) Bacteria
- Coliform organisms shall not be present in more than 15 percent of any series of samples tested using Standard Methods for Examination of Water and Wastewater, 14<sup>th</sup> Editions.  
Note: It is not required that this parameter be checked routinely but shall be monitored at discretion of the Health Department.

## APPENDIX C

The dimensions of the diving area on public swimming pools used for diving shall conform to the following minimum dimensions:

### THE DIMENSIONS OF THE DIVING AREA ON ALL SWIMMING POOLS

#### LENGTHS

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Height of Diving Board	Water Depths		Overhang	Length of Diving Well	Run-Out
H	D <sub>0</sub>	D <sub>1</sub>	O <sub>h</sub>	minimum L <sub>1</sub>	minimum L <sub>2</sub> L <sub>3</sub>

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Deck Level To 2 ft	6 ft	8.5 ft	3 ft	12 ft	10.5 ft	7 ft
2 ft to 1 m	6 ft	10 ft	5 ft	12 ft	15 ft	2 ft
Above 1 m To 3 m	8 ft	12 ft	5 ft	13 ft	21 ft	0 ft

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**Drawing**

$L_1 + L_2 + L_3 =$  Minimum distance from the tip of board  
To pool wall opposite diving equipment.

**Note:** Placement of boards shall observe the following minimum dimensions.  
With multiple installation, minimum pool widths be increased accordingly:

1 meter or deck level to pool side	10 feet
3 meter board to pool side	12 feet
1 meter or 3 meter board to another board	10 feet

**APPENDIX D**

**STOP**

**ALL PERSONS ARE REQUIRED TO TAKE A CLEANING SHOWER  
BEFORE ENTERING THE SPA POOL**

**CAUTION**

**ELDERLY PERSONS AND THOSE SUFFERING FROM HEART  
DISEASE, DIABETES OR HIGH BLOOD PRESSURE SHOULD  
CONSULT THEIR PHYSICIAN BEFORE USING THE SPA POOL**

**NO PERSON SUFFERING FROM A COMMUNICABLE DISEASE,  
TRANSMISSIBLE VIA WATER, SHALL USE THE SPA POOL.**

**PERSONS USING PRESCRIPTION MEDICATIONS SHOULD  
CONSULT THEIR PHYSICIAN BEFORE USING THE SPA POOL.**

**INDIVIDUALS UNDER THE INFLUENCE OF ALCOHOL  
SHOULD NOT USE THE SPA POOL**

**NO PERSON SHALL USE THE SPA POOL ALONE.**

**PREGNANT WOMEN SHOULD NOT USE THE SPA POOL  
WITHOUT CONSULTING THEIR PHYSICIAN**

**PERSONS SHOULD SPEND NO MORE THAN 15 MINUTES IN  
THE SPA AT ANY ONE SESSION.**

**ALL CHILDREN UNDER 14 YEARS OF AGE SHALL BE  
ACCOMPANIED BY A RESPONSIBLE ADULT OBSERVER.**

**NO PERSON SHALL RUN OR ENGAGE IN HORESPLAY IN OR  
AROUND THE SPA POOL**

**Signs shall be a minimum of 24" x 18" with letters at least ½" in height.**

**Jefferson County Department of Health gratefully acknowledges the reference material  
and information received form the following:**

**U.S Department of Health, Education and Welfare**

**U. S. Department of Health and Human Services**

**National Spa and Pool Institute**

**Alabama Department of Public Health**

**Tennessee Department of Public Health**

**Florida Department of Public Health**

**Oregon Department of Public Health**

**American Public Health Association**

**RESOLUTION OF THE JEFFERSON COUNTY BOARD OF  
HEALTH**

**WHEREAS, The Jefferson County Board of Health did on April 15, 1970 adopt Rules and Regulations Governing the Design, Construction and Operation of Public Swimming Pools and Spas; and**



**WHEREAS, The Jefferson County Board of Health did announce a public hearing to propose the adoption of revisions to the Rules and Regulations Governing the Design, Construction and Operation of Public Swimming Pools and Spas; and**

**WHEREAS, A public hearing was held on May 26, 1988 in Birmingham, Alabama, notice of the date, time, place and purpose of such public hearing being given on April 22, 29 and May 6, 1988 by advertisement in newspapers of general circulation in the County; and**

**WHEREAS, such public hearing was open to the public and reasonable opportunity to be heard with respect to the subject of the hearing was afforded to all persons; and**

**WHEREAS, all testimony was taken before such hearing and recorded stenographically, and the transcript so recorded, and written submissions in relation to such hearing were made open to public inspection; and**

**WHEREAS, The Jefferson County Board of Health, after taking into consideration all the facts and circumstances, has determined that there is good and just cause for revisions to these rules and regulations;**

**NOW THEREFORE, in response to testimony made at such public hearing, the Jefferson County Board of Health hereby adopts and promulgates these revisions to the Jefferson County Board of Health Rules and Regulations Governing the Design, Operation and Construction of Public Swimming Pools and Spas.**

**This is to certify that the above is a true and correct copy of a resolution passed by the Jefferson County Board of Health on July 13, 1988.**

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**Carole W. Samuelson, M.D.**  
**Health Officer**