SPA POOL PLAN CHECK GUIDELINES

The California Health and Safety Code and the California Code of Regulations, Title 22, requires any person proposing to construct, remodel or alter a public pool or auxiliary structure or equipment to submit plans and specifications to the Contra Costa Environmental Health. Plans must be approved by this Contra Costa Environmental Health prior to commencing construction and in advance of the issuance of any permit from the local Building Inspection Department. Changes to plans and/or specifications after approval of plans must be submitted to Contra Costa Environmental Health for review.

These guidelines are based on requirements contained in the California Health and Safety Code (Sections 116025 through 116068) and the California Code of Regulations, Title 22 (Chapter 20) and Title 24 (Chapter 31B). Plans must show that all applicable requirements will be complied with. THESE GUIDELINES ARE NOT INCLUSIVE AND ARE SUBJECT TO CHANGE WITHOUT NOTICE. Refer to the appropriate state codes for additional requirements and details.

Pre-gunite (or equivalent), pre-plaster (or equivalent) and final inspections from Contra Costa Environmental Health are required before a pool can be opened for use or before a permit to operate can be issued.

THE FOLLOWING INFORMATION IS REQUIRED. Plans must be drawn to scale in a professional manner and include the following:

1. Name, address, and telephone number of owner, pool contractor or pool company, general contractor and architect.
2. Address of spa pool to be constructed.
3. Plot plan drawn to scale showing spa pool location in relation to all buildings on the property. Where applicable, indicate the travel distance in feet from the spa pool to the living quarters on the property that are farthest from the spa pool. Smaller scale acceptable on plot plan only.
4. Four (4) sets of complete plans and specifications ("by others" and "per code" is not acceptable). Indicate equipment make and model numbers on the plans.
5. Pool plans must be drawn to scale (minimum 1/4 inch = 1 foot).
6. All calculations must be shown on the plans or on a sheet attached to the plans.
7. Completed data sheet for each spa pool (data sheet is attached at end of guidelines).
8. Detailed, acceptable spa pool decking, spa pool fencing or enclosure, and ancillary facilities plans must be submitted before spa pool plans can be approved.
9. Scale floor plan of spa pool equipment room or area (minimum 1/4 inch = 1 foot).
10. Spa pool users restroom, dressing and shower facilities plans (when necessary). If restroom, dressing and shower facilities are required or proposed, acceptable plans for these facilities must be submitted before spa pool plans can be approved.

RESTROOM, DRESSING AND SHOWER FACILITIES REQUIREMENTS (when necessary).
1. Separate restrooms facilities for each sex. Check with local Building Department regarding handicap requirements.
2. Number of restroom and shower fixtures:
   a. For the purpose of determining the number of fixtures required, one pool user shall be considered for every 15 square feet of pool water surface area (total water surface area if there is more than 1 pool, including non-spa pools, such as swimming pools).
   b. Showers: One shower per 50 pool users.
   c. Lavatories: One lavatory per 80 pool users.
   d. Toilets:
      (1) Female: One toilet per 60 females.
      (2) Male: One toilet plus one urinal per 75 males.
4. Submit a complete schedule of proposed room finishes.
5. Smooth, easily cleanable, durable and moisture resistant wall and ceiling finishes.
6. Floors must be slip-resistant and extend upward onto wall at least 5 inches with an integrally coved base and shall slope to floor drains (minimum 1/4 inch per foot).
7. Submit floor material specifications (samples may be needed). Floors shall have a hard nonabsorbent surface, such as concrete with a slip-resistant finish or slip-resistant ceramic tile. Carpeting or other similar types of material shall not be permitted on shower or toilet room floors.
8. Submit a plumbing plan.
9. Showers and lavatories shall be provided with hot and cold water or tempered water. The maximum allowable water temperature is 110 degrees F.
10. Lavatories shall be provided with permanent single-service towel dispensers (or hot air blowers) and permanent soap dispensers.
11. Showers shall be provided with soap in approved dispensers
12. Toilet tissue in permanent dispensers shall be provided.

THE FOLLOWING INFORMATION IS REQUIRED:

SPA POOL PROFILE VIEW. Longitudinal section plan through the center line of the spa pool and spa pool stairs must provide the following information:
1. Spa pool length and depth dimensions. Spa pool depth dimensions must be from the operating water level to the bottom of the spa pool. Water depth shall not exceed 4 feet.
2. Depth at underwater spa pool bench (shall not exceed 24 inches in depth).
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3. Depth at main drain (maximum spa pool depth).
4. Depth at entire base of spa pool stairs (must be uniform in depth at entire base of spa pool stairs).
5. Spa pool stairs profile view that includes height of step risers and width of step treads.
6. Design and location of hand rail(s) at spa pool stairs. Include hand rail profile view. Indicate height of upper railing surface above deck, coping and other handhold and spa pool steps.

SPA POOL TOP VIEW. Provide the following information on the plans:
1. Width of spa pool.
2. Submit a complete spa pool plumbing plan. Show location, pipe size and length of all spa pool plumbing, including skimmer, main drain and other suction lines, fill lines, return lines and return inlets.
   a. Design spa pool filtration return plumbing system to obtain uniform flow through each return inlet (a return loop system, for example).
   b. Design spa pool skimmer plumbing system to obtain uniform flow through each skimmer (a "T" connection for the skimmer suction line between 2 skimmers that will result in uniform flow in a 2 skimmer system or a skimmer suction loop system, for example).
3. Return Inlets.
   a. Locations of inlet fittings.
   b. Sufficient, properly located return inlets to ensure uniform circulation.
   c. Inlet fitting shall not protrude greater than 1 1/4 inches into the spa pool and shall be rounded and smooth.
   d. Volume of flow through inlet fittings must be adjustable.
   e. Wall inlet fittings direction of flow must be adjustable.
4. Skimmers.
   a. Location of skimmer(s).
   b. Each skimmer shall be located in relation to pool inlets to aid recirculation and skimming.
   c. Prevailing wind conditions will need to be considered when locating skimmers.
5. Location of main drains.
7. Spa pool light location(s) and wattage (when required).
8. Locations of depth markers.
9. Location of permanently installed fill line.

EQUIPMENT SPECIFICATIONS. Provide the following information:
1. Provide specifications sheets for all spa pool equipment, fittings and grates.
2. Filters.
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a. Filter type.
b. Make and model number.
c. Square footage of filter area.
d. Filter specifications sheet(s).

3. **Pumps.** For each pump (including booster or jet pumps) provide:
   a. Make and model number.
   b. Horsepower.
   c. Pump performance curve.

4. **Skimmers.**
   a. Skimmer make and model number.
   b. Each skimmer shall have an equalizer line and an approved equalizer line grate.
   c. Skimmer lines cannot be connected to the main drain.
   d. Skimmer specifications sheet(s).

5. **Chlorinators** or equivalent disinfectant feeders.
   a. Make and model number.
   b. Specifications sheet(s).

6. **Flow meters.**
   a. Make and model number.
   b. Location on piping.
   c. Flowmeter pipe size rating.
   d. Specifications sheet(s).

7. Filter influent and effluent **pressure gauges.**

8. **Approved backflow prevention device.**
   a. Properly installed on fresh water fill line at supply valve.
   b. Backflow prevention device specifications sheet(s).

9. **Inlet fittings** specifications sheet(s).

10. **Suction grates** (including skimmer equalizer line grates).
    a. Suction grate make and model number(s).
    b. Open area of each grate in square inches.
    c. Suction grates shall be removable only with tools.
    d. Grate openings shall not exceed \( \frac{1}{2} \) inch in the smaller dimensions.
    e. Suction grates shall not create a suction hazard or a physical entrapment hazard (2 or more approved suction grates per pump, for example).
    f. Suction grate specifications sheet(s).

**SUPPORT DATA.** Provide the following information on the plans:

1. Spa pool capacity in gallons.
2. Square footage of spa pool water surface area (shall not exceed 250 square feet).
3. Finish color of spa pool (**must be white or a light pastel color**). Colors other than white must be approved by Contra Costa Environmental Health.
4. Type of pool piping proposed (copper, PVC, etc.).
5. Approved source of water for spa pool(s), restrooms and showers.
6. Approved sewage disposal system for spa pool filter waste water disposal and for sewage from restrooms and showers.

**SIGNS AND SAFETY EQUIPMENT.** Provide the following information on the plans:

1. Sign indicating "WARNING - NO LIFEGUARD ON DUTY" *(minimum 4 inch letters)*. The sign shall also state "Children Under the Age of 14 Should Not Use Pool Without An Adult In Attendance."
2. Approved artificial respiration demonstration sign.
3. Emergency telephone numbers sign.
4. "NO DIVING ALLOWED" signs *(minimum 4 inch letters)*.
5. Occupant load sign (1 bather per 10 square feet of spa pool water surface area, *minimum 4 inch letters*).
6. A precaution sign with clearly legible letters shall be posted in a prominent place near the entrance to a spa pool which shall contain the following language:
   
   **CAUTION**

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

7. "NO USE OF POOL ALLOWED AFTER DARK" sign *(minimum 4 inch letters)* if pool is not supplied with lighting.
8. First-aid kit (if required).

**ADDITIONAL REQUIREMENTS.** Provide plans and information for the following:

1. Spa Pool Decks.
   a. **Complete** spa pool deck and deck drainage plans.
   b. A minimum continuous and unobstructed *4 foot wide* *slip-resistant* nonabrasive deck area of **concrete or like material** shall extend around 50 percent or more of the perimeter of a spa pool. Deck width is measured from the pools side edge of the plank.
   c. Landscape planters, flower beds, or similar unpaved areas shall not be located within 4 feet of a spa pool.
   d. Spa pool stairs shall be located where the deck is at least 4 feet wide.
   e. Spa pool deck surfaces shall be sloped away from the spa pool (minimum 1/4 inch per foot) to deck drains or other approved surface water disposal areas.
2. Handholds (coping or cantilevered decking).
   a. Submit a scale section view of the coping or cantilevered decking.
   b. Coping or cantilevered decking overhang shall not exceed 2 inches or be less than 1 inch and shall not exceed 2 1/2 inches in thickness. EXCEPTION: Costa County Environmental Health may accept spa pool handholds other than those specified.
   c. Coping or cantilevered decking shall be slip-resistant.

   a. Enclosure. The spa pool shall be enclosed by one or a combination of the following: a fence, portion of a building, wall or other approved durable enclosure. Doors, openable windows, or gates of living quarters or associated private premises shall not be permitted as part of the spa pool enclosure. The enclosure, doors and gates shall meet all of the following specifications:
      (1) The enclosure shall have a minimum effective perpendicular height of 5 feet as measured form the outside as depicted in Figures 31B-4 and 31B-5, California Code of Regulations, Title 24, Section 3118B (see page 8).
      (2) Openings, holes or gaps in the enclosure, doors and/or gates shall not allow the passage of a 4 inch diameter sphere. The bottom of the enclosure shall be within 2 inches of the finish grade.
      (3) The enclosure shall be designed and constructed so that it cannot be readily climbed by small children. Horizontal and diagonal member designs, which might serve as a ladder for small children, are prohibited. Horizontal members shall be spaced at 48 inches apart. Planters or other structures shall not be permitted to encroach upon the clear span area as depicted in Figure 31B-5. Chain link may be used provided that the openings are not greater than 1 3/4 inches measured horizontally.
   b. Gates and doors opening into the spa pool enclosure shall also meet the following specifications:
      (1) Gates and doors shall be equipped with self-closing and self-latching devices. The self-latching device shall be designed to keep the gate or door securely closed. Gates and doors shall open outward away from the pool except where otherwise prohibited by law. Hand activated door or gate opening hardware shall be located at least 3 1/2 feet above the deck or walkway.
         EXCEPTION: Doors leading from areas of hotels and motels, as defined in the Business and Professions Code Section 25503.16(b), which are open to the general public, e.g., restaurants, lobbies, bars, meeting rooms, and retail shops need not be self-latching.
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(2) Gates and doors shall be capable of being locked during times when the pool is closed.

(3) The pool enclosure shall have at least one means of egress without a key for emergency purposes. Unless all gates or doors are so equipped, those gates and/or doors which will allow egress without a key shall be clearly and conspicuously labeled in letters at least 4 inches high “EMERGENCY EXIT”.

(4) The enclosure shall be designed and constructed so that all persons will be required to pass through common pool enclosure gates or doors in order to gain access to the pool area. All gates and doors exiting the pool area shall open into a public area or walkway accessible by all patrons of the pool.

c. Spa pool enclosures must comply with the dimensions specified in figures 31B-4 and 31B-5 (see page 8).

d. Openings in pool enclosures (other than between the bottom of the enclosure and finish grade, which must be 2 inches or less) should be less than 4 inches to ensure that a 4 inch diameter sphere will not pass through the enclosure openings.

e. More stringent pool enclosure requirements may be required by Building Inspection Departments.


a. Submit complete spa pool stairs plans.

b. Spa pool stair step treads shall be a minimum of 12 inches in width and shall be uniform in size, except that if the top step is curved, the top step tread shall be not less than 18 inches wide as measured at the point of maximum curvature.

c. Step risers shall not exceed 12 inch in height.

d. Step risers shall be uniform in size.

e. Hand rails shall extend from the deck to not less than a point above the top of the lowest spa pool step.

f. The upper surface of hand rails shall be not less than 28 inches above the deck and poolside edge of the handhold.

g. Two approved, properly installed hand rails shall be provided if the spa pool stairs step risers exceed 9 inches in height.

5. Spa Pool Step and Bench Markings.

a. The outer top surface edges of spa pool steps and benches shall have a 1 inch to 2 inch wide line of tile or other acceptable permanent marking.

b. The markings shall be slip-resistant.

c. The markings shall be a dark, contrasting color.
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6. Depth Markers.
   a. Three inch minimum height durable depth markers shall indicate maximum
      spa pool water depth in feet.
   b. Depth markers must be accurate to the nearest \( \frac{1}{2} \) foot.
   c. Depth markers shall be a color contrasting with the background.
   d. At least 2 properly located depth markers are required.
   e. Depth markers shall be on the vertical spa pool walls at or above water
      level.
   f. Deck depth markers (must be slip-resistant) are recommended.
   g. Any deck depth markers must be arranged to be read from the deck.

   Figures 31B-4 and 31B-5

![Diagram showing depth markers and sloping ground dimensions]

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

![Diagram showing fencing height]

Figure 31B-5. Effective fencing height.
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7. Spa Pool Lighting:
   a. General. Where spa pool lighting is provided, it shall be such that lifeguards or other persons may observe, without interference from direct and reflected glare from the lighting sources, every part of the underwater area and spa pool surface or other spa pool appurtenances.
   b. Nighttime Use. Spa pools used at night shall be equipped with underwater lighting fixtures that will provide complete illumination of all underwater areas of the spa pool with no blind spots. Illumination shall enable a lifeguard or other persons to determine whether: (1) a bather is lying on the bottom of the spa pool, and (2) the spa pool water conforms to the definition of "clear pool water".
      EXCEPTION: Spa pools provided with a system of overhead lighting fixtures, where it can be demonstrated to the enforcing agency that the system is equivalent to the underwater lighting fixture system.
   c. Deck Area Lighting. Where the spa pool is to be used at night, spa pool deck areas shall be provided with lighting so that persons walking on the deck can identify hazards. Lighting fixtures shall be aimed towards the deck area and away from the spa pool surface insofar as practical.
   d. Warning Sign for Spa Pools Without Spa Pool Lighting. Where spa pool lighting fixtures which comply with the above requirements are not provided, a sign with clearly legible letters not less than 4 inches high shall be posted in a prominent place near each entrance to the spa pool area. This sign shall state "NO USE OF POOL ALLOWED AFTER DARK".

8. Equipment Room or Area Plan.
   a. Scale drawing of spa pool equipment room or area (minimum ½ inch = 1 foot).
   b. Equipment room or area plumbing and equipment plan.
   c. Identify all equipment and show the location of all equipment on the plans.
   d. Show all piping and pipe sizes.
   e. Indicate any proposed 90 or 45 degrees elbow pool piping, valves, gauges, flow meters, pumps, filters, heaters, chemical feeders, etc.
   f. Show the location of equipment room or area in relation to the spa pool(s) on a scale plan.
   g. All equipment shall be readily accessible for service, repair, replacement and inspection.
   h. Floor shall be concrete (or other approved material).
   i. Floor shall be sloped at a minimum of 1/4 inch per foot to approved drainage.
   j. Spa pool filtration and treatment systems shall be completely separate from the filtration and treatment systems of a swimming pool.
9. **Waste Water Disposal.**
   a. Filter waste water shall be disposal of to a **sanitary sewer** (or other approved waste water disposal system if a sanitary sewer is not available).
   b. **Air-gap** separation required.
   c. Plans must include size, location and slope of any sewer line that will receive filter waste water.
   d. Submit the size and location of any proposed filter waste water sump.
   e. Waste water disposal systems shall be designed so as to prevent back-up and overflow of waste water while filters are being cleaned.

10. **Pool Cleaning Systems.** A built-in or portable type vacuum cleaning system shall be provided.

11. **Hose Bibb(s).**
   a. Indicate location of hose bibb(s).
   b. All areas of spa pool deck must be within 75 feet of a hose bibb.
   c. Hose bibbs shall be located so as not to constitute a safety hazard.
   d. Approved backflow prevention device required for each hose bibb.

12. **Drinking Fountains.**
   a. One guarded jet drinking fountain shall be provided for the first 250 pool users and an additional fountain shall be provided for each additional 200 pool users or fraction thereof.
   b. The number of pool users shall be determined according to number 2a on page 2 of these guidelines.
      EXCEPTION: Drinking fountains shall not be required when drinking water is available at adjacent living quarters, or in an adjacent building such as a bathhouse, cabana, clubhouse, or recreational facility.

13. **Test kit** for free chlorine (DPD or other approved test kit), pH, and cyanuric acid (when used).

14. **Water Temperature.** The maximum allowable spa pool water temperature is 104 degrees F.

15. **Emergency Shut-Off Switch.**
   a. A clearly labeled emergency shut-off switch for the control of both the recirculation system and the aeration and/or jet system shall be installed adjacent to the spa pool.
   b. Indicate on plans drawn to scale the proposed location of the emergency switch in relation to the spa pool.
   c. The location of the emergency switch must be acceptable to both Contra Costa Environmental Health and the building inspection department.
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d. The emergency switch must be close enough to be easily seen and quickly reached from the spa pool without going through a gate, door or similar opening and far enough away to comply with the requirements of the building inspection department.

e. The emergency switch should be located at least 10 feet from the jet/booster pump timer or switch so that it is not used as an "off" switch, which would shut off the filter pump also.

f. The emergency switch is to be red in color.

g. The emergency switch must be clearly labeled with a permanent sign that is legible, large enough to be easily read from the spa pool, clearly visible from the spa pool and durable. The sign shall read as follows: SPA POOL EMERGENCY SHUT-OFF SWITCH.

h. The emergency switch must be a single on/off switch that will turn off all spa pool pumps (filter pump(s), jet/booster pump(s) and any air blower(s)).

i. The emergency switch must be easily activated (key activation is prohibited) and readily accessible (direct access without the necessity of opening or removing any panel, door, or similar obstruction).

j. WIRING MUST BE SUCH THAT THE JET/BOOSTER PUMP(S) (AND AIR BLOWER(S), IF PROVIDED) CAN OPERATE ONLY WHEN THE FILTER PUMP IS ON.

k. All wiring must meet the requirements of the building inspection department.
POOL CONTRACTOR: Complete & Attach This Form To Your Plans
POOL / SPA DATA SHEET

Owner: ____________________________

Pool Contractor: _______________________

Pool Location: _________________________

Pool Size ___________________________ Pool Surface Area _______________________
Pool Volume __________________________

Pool Depth ___________ to ___________ Average ___________________ (include detailed calculation)

Hydrostatic Valve: Yes ______________ No ______________

Type of Pool: Standard ___________ Spa ___________ Special Use ___________
Wading ___________ Other _____________

CONSTRUCTION DATA:

1. Coping: Bullnose ________________________ Other _______________________

2. Permanent Markings: Submit tile samples (Lane markings, Depth marking line, Contrasting material at edges of steps and benches)

3. Skimmers: Number _______________ Make ______________________ Model _____________________

4. Filters: Number _______________ Make ______________________ Model ______________________ Size (sq. ft.) ______________________

5. Pump: Number _______________ Make ______________________ Model ______________________ H.P. ______________________ gpm at ______________________ feet of Head.
Hair & Lint Catcher: Yes ______________ No ______________

6. Rate of Flow Indicator: Make ______________________ Model ______________________

7. Multiport Valve: Yes ______________ No ______________ Make ______________________ Model ______________________
8. (a) Separation Tank: Yes_______ No_________ Make ____________________________
    Model ____________________________ square feet of filter area.
    (b) Air Gap Filter Backwash to Public Sewer: Yes_________ No_________
    (c) Backwash receptacle size ____________________________
    P-trap size ____________________________

10. Range of Pressure Gauge:
    Influent ____________________________ Effluent ____________________________

11. Deck Material: ____________________________
    Drains: ____________________________

12. Safety Equipment:
    Life Hook and Pole ________ Occupant Sign ________
    Life Ring and Rope ________ Spa Sign ________
    No Lifeguard Sign ________ Emergency Numbers Sign ________
    Respiration Instruction Sign ________ First Aid Kit ________
    No Diving Sign ________ Emergency Shut Off Sign ________
    Test Kit (pH, free chlorine & Cyanuric acid) ________

Signature of Pool Contractor ____________________________
Date: ____________________________

FOR DEPARTMENT USE ONLY

Estimated Total Pool Volume  Avg. Depth x Area x 7.48 gals.  Estimated Total Spa Volume
Depth x Area x 7.48 Shallow End to Break in Slope ________ Bench Top

  to Surface of Water
  Break in Slope to Drain ________  +________ Spa Bottom to Bench Top ________
  Drain to End of Pool Volume ________  +________ Total

Total Volume ________

Turnover in Minutes
Standard (360 min) Required Turnover Rate in CPM
Spa (30 min) CPH = Total Volume
Special Use
Wading (60 min) Turnover in Minutes
(CPM) Turnover Rate
(CPM) Pump Capacity
(CPM) Filter Capacity

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