



CITY OF NEWPORT BEACH

COMMUNITY DEVELOPMENT DEPARTMENT BUILDING DIVISION

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SWIMMING POOL & SPA RESIDENTIAL MINIMUM CONSTRUCTION REQUIREMENT

ENCLOSURE, BARRIER & DROWNING PREVENTION

1. Every pool and/or spa shall be fully enclosed by a fence or other barrier. Fence or barrier shall comply with the following:
 - a. 5 ft or greater height above grade, measured from outside of the pool area.
 - b. Minimum 45 inches spacing of horizontal members when placed on the outside of the fence.
 - c. Maximum 4 inch spacing of vertical members.
 - d. Decorative cutouts shall not exceed 1.75 inches wide.
 - e. Maximum 2 inch vertical clearance between the bottom of the fence and ground.
 - f. Maximum 2.25 inch square chain link mesh, unless provided with slats fastened at the top and bottom which reduce the openings to 1.75 inches or less.
 - g. Diagonal members shall form openings of 1.75 inches or less.
 - h. Gates shall have self closing, and self-latching mechanisms. Latch mechanism shall be at least 60 inches above the ground.
 - i. All gates shall swing out of the pool area.
2. Prior to pre-plaster approval and filling pool/spa, at least two drowning prevention safety measure as noted in #3 below shall be permanently installed.
3. Two drowning prevention safety features shall be provided when a dwelling wall serves as part of a pool/spa barrier. Identify the drowning prevention safety feature to be utilized for this pool installation.
 - a. Intermediate pool enclosure between the house and pool.
 - b. All doors providing direct access to the pool/spa area from the residence shall be equipped with a self-closing, self-latching device with a release mechanism placed at 54 inches or more above the floor.
 - c. The residence shall be equipped with exit alarms on all doors providing direct access to the pool/spa. Door alarms shall comply with the following:
 - i. Door alarms shall be listed and labeled in accordance with UL 2017.
 - ii. Alarm shall produce an audible warning when the door and/or its screen, are opened.
 - iii. The alarm shall sound continuously for a minimum of 30 seconds within 7 seconds after the door is opened, at a sound pressure level of not less than 85 dBA when measured inside the dwelling at 10 ft from the alarm.
 - iv. The alarm shall automatically reset under all conditions.
 - v. The alarm shall be equipped with a manual means to temporarily deactivate the alarm for a single opening. The deactivation shall last not more than 15 seconds. The deactivation switch shall be located at least 54 inches above the threshold of the door.
 - vi. Alarms shall be permanently secured by screws or epoxy.
 - d. An ASTM Specifications F1346-91 (reapproved 2010) approved safety pool cover.
 - i. Product Manufacturer:
 - ii. Product Name:
 - e. Permanently installed in-pool sonar alarm systems are not allowed.
4. Safety glazing is required in fences, doors and windows, where the glass is within 5 ft of the pool/spa/hot tub's edge and less than 60 inches above grade.

ELECTRICAL SYSTEM

1. Any walk surface within 3 ft of the pool edge shall be bonded, including unreinforced or landscaped areas. (CEC 680.26.B2)
2. Electrical outlets less than 20 ft from pool or spa shall be GFI protected.

3. All overhead power lines and other services shall comply with CEC 680.8.
4. The following devices and equipment associated with the swimming pool, spa, or hot tub shall be grounded in accordance with CEC, Article 680 (USPSHTC 904.2):
 - a. Underwater Lighting
 - b. Electrical equipment and panel boards
 - c. Ground fault circuit interrupters
5. The following structures and equipment shall have electrical bonding (USPSHTC 904.3, CEC 680.26):
 - a. Pool shell reinforcing or metal shell
 - b. Underwater lighting
 - c. Metal fittings attached to pool structure
 - d. Electrical equipment including pumps, motors, & electric pool covers
 - e. Fixed metal parts/structures (i.e. metal sheathed cables, pipings, awnings, fences, etc...) less than 5 ft horizontally measured from inside pool wall
 - f. Fixed metal parts/structures (i.e. metal sheathed cables, pipings, awnings, fences, etc...) less than 12 ft vertically above highest water level
 - g. Steel reinforcing under adjacent walking surfaces
6. The following devices and equipment associated with the swimming pool, spa, or hot tub shall be GFCI protected in accordance with CEC Section 680 (USPSHTC 904.4):
 - a. Receptacles located within the general area of a pool, spa, or hot tub
 - b. Receptacles used for power generation for pools, spas, and hot tubs
 - c. Electrical equipment

PLUMBING & HEATING SYSTEMS

1. Pool system piping (CA-ENERGY 150(p)(2)):
 - a. A straight pipe (min. length = 4 x pipe diameter) shall be installed before the pump.
 - b. Pipe size shall be sized such that at maximum flow the velocity of the water is less than 8 fps in the return line and 6 fps in the suction line.
 - c. All elbows shall be of sweep elbow or elbow-type that provides less pressure drop than straight pipe length of 30 pipe diameter.
 - d. Pool filters shall be at least the size specified in NSF/ANSI 50 for public pool intended applications. (CA-ENERGY 150(p)(3))
 - e. Backwash valve shall be same as return pipe diameter, but not less than 2" diameter. (CA-ENERGY 150(p)(3))
2. Pool/spa drain shall be connected to a "P" trap, which drains to the sewer system. (CPC 813.1)
3. Pool/spa heater vent shall be 4 ft away from property line. The equipment vent shall be 4' away or one foot above openings in dwelling exterior walls. (USPSHTC 711.8, CMC 802.8.2)
4. Pool/spa heating system shall be certified by the manufacturer for the following items (CA-ENERGY 110.4(a)):
 - a. Thermal efficiency complies with Appliance Efficiency Regulations
 - b. On-off switch mounted outside of the heater
 - c. A permanent weatherproof instruction plate or card for energy efficient operation
 - d. No electric resistance heating
5. Waste water from any filter, scum filter, scum gutter, overflow, pool emptying line, or similar apparatus shall discharge into an approved type receptor and subsequently into a public sewer. The flood level rim of such receptor shall be at least 6 inches above the Base Flood Elevation (BFE) indicated in the Flood Insurance Rate Map as printed by the Federal Emergency Management Agency's, Flood Insurance Rate Map (FIRM) revision date December 3, 2009. (NBMC 15.09.080)
6. New swimming pool/spa shall have at least two circulation suction outlets per pump that shall be hydraulically balanced and symmetrically plumbed through one or more "T" fittings, which are separated by a distance of at least 3 ft in any direction between the drains. (H&S Code 115928)
7. Suction outlets shall be covered with anti-entrapment grates, as specified in the ANSI/APSP-16 performance standard or successor standard designated by the federal Consumer Product Safety Commission that cannot be removed except with the use of tools. Slots or openings in the grates or similar protective devices shall be of a shape, area, and arrangement that would prevent physical entrapment and would not pose any suction hazard to bathers. (H&S Code 115928, 11528.5)

PUMPS & MOTORS

1. All pool or spa systems and equipment shall have the following (CA-ENERGY 110.4):
 - a. At least 36 inches of pipe between the filter and heater, or dedicated suction and return line, or built-in connection to allow for the future addition of solar heating equipment.
 - b. A cover for outdoor pools or spas if a heat pump or gas heater is used.
 - c. Pool shall have directional inlets to mix the pool water.
 - d. The circulation pump must have a time switch that allows the pump to be set to run in the off-peak electric demand period for the minimum time required to maintain public health standards.
2. Pool pumps & motors (CA-ENERGY 150(p)):
 - a. Only those listed in the Commission's directory of certified equipment shall be installed
 - b. Filtration flow rate shall not exceed that to turn over pool water volume in 6 hours or 36 gpm, whichever is greater.
 - c. Pump motors (for filtration) shall be multi-speed if capacity is greater than 1 hp.
 - d. Each auxiliary pool load (spa, water features, etc.) shall be served by a separate pump or multi-speed pump.
 - e. Multi-speed pump shall have controls that will default to the filtration flow rate when no auxiliary pool loads are operating.
 - f. Multi-speed pump shall default to the filtration flow rate setting within 24 hours.

INSPECTION

1. Special inspection is required for shotcrete and gunite installation.
2. A sound test by an acoustical engineer is required to demonstrate that the noise level from the pump is less than 55 dBA at the property line. NBMC 10.26.025.
3. Where sulfate or salt water exposure is known to exist due to local soil conditions, concrete shall be of Type V and shall have a compressive strength of 4500 psi min at 28 days. Epoxy coated reinforcing bars shall be required for all shell reinforcing and bond beam bars.