

TUSTIN...



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JULY 10, 2006

USER GUIDE FOR THE INSTALLATION OF SWIMMING POOLS, SPAS & HOT TUBS

PURPOSE

This user guide describes the City of Tustin's requirements for the construction or installation of swimming pools, spas and hot tubs. The guide is also designed to help you anticipate the procedures you will need to follow when you decide to build a swimming pool, spa or hot tub.

DEFINITIONS

BARRIER – A 5 feet tall fence, wall, building wall or a combination thereof, which completely surrounds the swimming pool, spa or hot tub and obstructs access to the swimming pool, spa or hot tub.

FRONT YARD – A yard extending across the full width of a lot, the depth of which is measured from the front property line of the lot to the nearest line of a structure.

HOT TUB – A large container of hot water, sometimes wooden and installed above ground, designed for soaking.

MECHANICAL EQUIPMENT – Any equipment necessary for operation of heating and filtering systems.

REAR YARD – A yard extending across the full width of a lot and measured between the rear property line of the lot to the nearest line of a structure.

SIDE YARD – A yard between the side property line of the lot and the nearest side line of a structure, extending from the front yard setback line to the rear yard setback line.

SPA - A large container of water which may have forceful currents of water designed for therapeutic purposes.

SWIMMING POOL – Any structure intended for swimming or recreational bathing that contains water over eighteen inches (18") deep. This includes in-ground and above-ground, swimming pools, hot tubs, and spas.

YARD – An unoccupied open space unobstructed from the ground upward within which structures must not be located except as permitted in the applicable city zoning district.

ZONING DISTRICT – A specific geographical area of a city regulated with uniform development standards and requirements.

GENERAL REGULATIONS

The following is a summary of the usual requirements for pools, spas and hot tubs. Additional requirements are found in the California Health & Safety Code Section 115920-115929 (Swimming Pool Safety Act), 1997 Uniform Swimming Pool, Spa and Hot Tub Code), 2004 California Electrical Code, 2001 California Building Code, 2005 California Energy Efficiency Standards, 2001 California Mechanical Code, 2001 California Plumbing Code, and modifications contained in the City of Tustin Ordinance No. 1262, adopted November 18, 2002.

Setback Requirements – Pools, spas or hot tubs must maintain a minimum of five feet (5') from the edge of water to any side or rear property line and shall maintain the front yard setback as specified by the applicable zoning district. A five-foot (5') tall barrier must surround pools, spas and hot tubs; therefore they shall be located in an area that the zoning ordinance will allow five-foot (5') fencing. **Please contact the Planning Division at (714) 573-3140 for specific zoning setbacks.**

The pool shall be constructed not less than seven feet (7') from the top of a slope and not less than five feet (5') from the toe (bottom) of a slope.

BARRIER REQUIREMENTS

Drowning is the leading cause of accidental death for children under five (5) years of age in California. Over 4,600 drowning and near-drowning incidents occur nationwide each year in private swimming pools. The use of effective residential swimming pool barriers in conjunction with adult supervision is the best way to minimize these accidents.

An outdoor swimming pool, including an in-ground or above-ground pool, hot tub or spa shall be provided with a barrier that shall comply with the following (Reference also Figures 1 & 2 on Page 7):

1. The top of the barrier shall be at least sixty inches (60") above grade measured on the side of the barrier that faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be two inches (2") measured on the side of the barrier that faces away from the swimming pool. Where the top of the pool structure is above grade, the barrier may be at the ground level, such as the pool structure, or mounted on top of the pool structure. Where the barrier is mounted on top of the pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be four inches (4").
2. Openings in the barrier shall not allow passage of a four-inch (4") diameter sphere.
3. Solid barriers which do not have openings, such as masonry or stone walls, shall not contain indentations or protrusions except for tooled masonry joints.
4. Where the barrier is composed of horizontal members (cross rails) and the horizontal spacing is less than forty five inches (48"), the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed one and three fourths (1 $\frac{3}{4}$ ") inches in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed one and three fourths (1 $\frac{3}{4}$ ") inches in width.
5. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members (cross rails) is forty five inches (48") or more, spacing between vertical members shall not exceed four inches (4"). Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed three-fourths inches ($\frac{3}{4}$ ") in width.
6. Maximum mesh size for chain link fences shall be a one and one quarter inch (1 $\frac{1}{4}$ ") square unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to no more than one and three fourths (1 $\frac{3}{4}$ ") inches. The wire shall not be less than eleven (11) gauge.
7. Where the barrier is composed of diagonal members, openings shall be no more than one and three fourths inches (1 $\frac{3}{4}$ ").
8. Access gates shall comply with the requirements of Items 1 through 7 and shall be equipped to accommodate a locking device. Pedestrian-access gates shall open outward away from the pool and shall be self-closing and have a self-latching device. Gates other than pedestrian access gates shall have a self-latching device. Where the release mechanism of the self-latching device is located less than fifty four inches (54") from the bottom of the gate, the release mechanism shall be located on the pool side of the gate at least three inches (3") below the top of the gate and the gate and barrier shall have no opening greater than one half inch ($\frac{1}{2}$ ") within eighteen inches (18") of the release mechanism.
9. Where a wall of a dwelling serves as part of the barrier, doors with direct access to the pool through that wall shall be equipped with an alarm which produces an audible warning when the door and its screen, if present, are opened. The alarm shall sound continuously for a minimum of thirty (30) seconds immediately after the door is opened, and be capable of being heard throughout the house during normal household activities. The alarm shall automatically reset under all conditions.

The alarm system shall be equipped with a manual means, such as a touchpad or switch, to temporarily deactivate the alarm for a single opening. Such deactivation shall last for no more than fifteen (15) seconds. The deactivation switch shall be located at least fifty four inches (54") above the threshold of the door. Other means of protection, such as self-closing doors with self-latching devices approved by the Building Official, shall be acceptable so long as the degree of protection afforded is not less than the protection afforded by the alarm system described above.

EXCEPTIONS:

The alarm may be deleted if a locking device is installed fifty four inches (54") above the walking surface and it automatically engages when the door is closed. The alarm may be deleted when a fence of not less than four feet (4') in height is provided in addition to the perimeter barrier described in this section. The additional fence must comply with all perimeter fence criteria except for height requirements.

10. Where an aboveground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure, and the means of access is a ladder or steps, then the means of access or the ladder or steps shall be surrounded by a barrier which meets the requirements of Items 1 through 9. When the ladder or steps are secured, locked or removed, any opening created shall not allow the passage of a four-inch (4") diameter sphere.

Indoor Swimming Pool. Doors with direct access to an indoor swimming pool shall comply with Section 9 above.

Withholding Approval. Plaster inspection or approval to fill a pool or spa with water shall be withheld by the Building Official until there has been compliance with all fencing and other requirements of this section.

EQUIPMENT REQUIREMENTS

All mechanical equipment shall be set on a concrete pad above grade. The manufacturer's installation instructions shall be available on the job site for inspection. Clearance to any building wall shall be per manufacturer's installation instructions and listings or a minimum of one foot (1').

All mechanical equipment must be installed in conformance with requirements of the Uniform Mechanical Code. Mechanical equipment shall be screened from the public view through the use of walls, fencing and/or landscaping. Such equipment may be located within a required side or rear yard, subject to the following limits per the City amendments to the Uniform Swimming Pool, Spa and Hot Tub Code.

1. The pump/filter may be located in a side yard, provided it is at least one foot (1') away from the dwelling exterior wall and at least ten feet (10') away from an existing dwelling window and/or enclosed patio located on the neighboring property. This provision is to attenuate noise to a reasonable level. Tustin City Code Section 8501(g)(b).
2. The gas fuel fired water heater may be located within the side yard setback, provided it is located at least one foot (1') away from an exterior wall of the dwelling, and ten feet (10') from an HVAC air intake, window, greenhouse or enclosed patio on the neighboring property. A gas fuel fired water heater may be located within a rear yard area, provided that a minimum of one foot (1') is maintained to the property line. The heater shall be installed with clearance as listed by the American Gas Association or Underwriters' Laboratories. The minimum clearance is one foot (1') to any fence or wall.

LIGHTING – Any lighting used to illuminate the swimming pool area shall be designed and shielded to confine all direct light rays to the subject property, minimizing spill-over light onto adjacent properties.

BUILDING PERMIT AND DESIGN REVIEW REQUIREMENTS

As part of the plan check process for obtaining a building permit, planning staff will complete design review of your project concurrent with the Building Division plan check. A pre-permit inspection will be performed by a Building Inspector within two working days to verify the site condition. After PPI, the following plans and information are needed by the Department of Community Development:

1. A completed permit application with required fees.
2. Two (2) copies of a plot plan with the following information noted is required:
 - a. Name of property owner.
 - b. Street address and county assessors parcel number (APN) of property involved.
 - c. Lot dimensions, boundary lines and any easements on the property.
 - d. Yard setbacks, dimensions and location of proposed pool, spa or hot tub and necessary mechanical equipment.

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- e. The location, height, design and materials of required fencing, gates and mechanical equipment screening.
 - f. The location, height, type and intensity of exterior lighting, if any.
 - g. Foundation and pool construction design specifications, as required by the Building Official, (i.e.: footing details, reinforcement and engineering calculations), stamped and wet signed by the Engineer or Architect.
 - h. Footprint of the building showing the location of all windows and door openings into the pool enclosure. Additionally, show the location of all windows, doors and patios (onsite and offsite) within ten feet (10') of the pool pump and heater.
 - i. Stamped plans and letter of approval from Homeowner's Association (HOA) if applicable.

If all development standards are satisfied and information is provided, permits can usually be issued over the counter.

Clean-Up Bond – Prior to obtaining a permit for a pool, spa or hot tub you will be required to provide a bond to ensure that any public property is left clean and undamaged. The bond required for pool construction is \$3,000.00 and may be reduced to \$1,000.00 for a spa or hot tub construction.

CONSTRUCTION REQUIREMENTS

A. STRUCTURAL

1. All pool construction shall be in conformance with engineered design for expansive soils, unless a soil report by a registered engineer approved by the Building Official indicates otherwise.
2. Continuous inspection by a Special Inspector, approved by the City, shall be required on all pools constructed of reinforced gunite, or reinforced cast-in-place concrete. The special inspector shall ensure all electrical bonding is properly installed; ensure all required reinforcing steel and diving board or slide anchor bolts are properly connected, and collect concrete or gunite samples for strength testing.

B. PLUMBING

1. Obtain permits from Public Works Department to bore curb for deck drainage systems. Provide a three inch (3") P-trap for backwash of filter and connect to the house sewer line. Spas must have either a P-Trap, cartridge type filter or separation tank. A length of thirty six inches (36") of copper plumbing from the heater output is required or per manufacturer's requirement, to allow for future addition of solar heating. PVC water and air lines must be painted or treated to protect them from ultraviolet rays.

Swimming pools shall be equipped with directional inlets which provide for adequate mixing of the pool water.

A time clock shall be installed on pool circulation pumps. The drain shall have anti-vortex or approved covers.

2. Waste Water Disposal: No direct or indirect connection shall be made between any storm drain, sewer, drainage system, seepage pit, underground leaching pit, or subsoil drainage line, or any line connected to a swimming pool, unless approved by the Building Official. Waste water from any filter, scum filter, scum gutter, overflow, pool emptying line or similar apparatus or appurtenance shall discharge into an approved type receptor by air gap and subsequently into public sewer. The flood level rim of such receptor shall be at least six inches (6") above the flood level of the adjacent ground. Each such receptor, when permitted to be connected to any part of a drainage system, shall be provided with an approved three- inch (3") trap.
3. GAS LINES: Buried PVC gas lines shall be eighteen inches (18") below grade with minimum #18 AWG copper tracer wire. PVC plastic gas piping must be identified with the manufacturer's name or trademark and the words "Natural Gas". Transitions from plastic to metal screw pipe shall be made by using approved transition fittings only.

PVC gas piping shall be schedule 40, including plastic fittings. Before any appliances are connected to the system, an air pressure test and inspection at ten (10 lbs.) pounds for fifteen (15) minutes is required. Gas shut-off valve shall be within thirtysix inches (36") of equipment.

C. ELECTRICAL

1. **LIGHTS, RECEPTACLES AND SWITCHES:** Provide Ground Fault Circuit Interrupter (GFCI) for pool lights and receptacles. At least one receptacle shall be installed a minimum of ten feet (10') from and not more than twenty feet (20') from the inside wall of a permanently installed pool. All receptacles located within twenty feet (20') of the inside walls of a pool shall be protected by GFCI.

Electrical conduit (PVC) shall be eighteen inches (18") below finish grade and six inches (6") when below concrete. Above grade conduit may be schedule 80 PVC plastic or rigid galvanized steel. Wall switches must be located at least five feet (5') from the inside of walls of the pool, spa or hot tub.

2. **GROUNDING:** The following equipment shall be grounded:

- (a) Wet-niche underwater lighting fixtures;
- (b) Dry-niche underwater lighting fixtures;
- (c) All electric equipment located within five feet (5') of the inside wall of the pool;
- (d) All electric equipment associated with the recirculating system of the pool;
- (e) Junction boxes;
- (f) Transformer enclosures;
- (g) Ground Fault Circuit Interrupters (GFCI);
- (h) Panelboards that are not part of the service equipment and that supply any electric equipment associated with the pool.

Grounding must conform to all of the applicable code requirements of NEC Article 250.

3. **BONDING:** Bond all metal parts of the pool with pressure connectors and a bare copper #8 solid conductor, continue to the pool pad and connect to all pool pad motors and equipment. Cast brass or bronze ground clamps shall be used to connect copper conductors to metal parts.

The following parts shall be bonded together:

- (a) All metallic parts of the pool structure, including the reinforcing metal of the pool shell, coping stones, and deck.
- (b) All forming shells and metal screens.
- (c) All metal fittings within or attached to the pool structure.
- (d) Metal parts of electric equipment associated with the pool water circulating system, including pump motors.
- (e) Metal parts of equipment associated with pool covers including electric motors.
- (f) Metal-sheathed cables and raceways, metal piping, and all fixed metal parts that are within five feet (5') horizontally of the inside walls of the pool, and within twelve feet (12') above the maximum water level of the pool, or any observation stands, towers or platforms, or from any diving structures, and that are not separated from the pool by a permanent barrier.

ADDITIONAL INFORMATION

1. Prior to installing or constructing a pool, spa or hot tub, you should request verification from the Tustin Community Development Department of all yard setbacks and code requirements. Please contact the Planning Department for specific zoning setbacks and the Building Division for code requirements. Requests should be submitted to the department with a sketch of the boundary lines of the property and the proposed location of the pool, spa or hot tub and including dimensions of yard setbacks. The plan should also show location of proposed mechanical equipment along with its planned setback from property lines and adjacent walls.
2. If a contractor is doing the work: Verify that a building permit was obtained; be sure the contractor has a current contractors' license, Workers Compensation Insurance and a City business license.

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3. If you live in an area with a Homeowner's Association, the association will require you to obtain their approval before you apply for a city building permit. Please submit plans to your HOA first for approval, and then submit HOA stamped approved plans and letter to the City.

For additional information or staff assistance, we invite you to contact:

City of Tustin
Community Development Department
300 Centennial Way
Tustin, California 92780
PLANNING – (714) 573-3140
BUILDING - (714) 573-3131 or 573-3132

Staff are available to answer your questions during office hours between 7:30 a.m. and 5:30 p.m. Monday through Thursday and 8:00 a.m. to 5:00 p.m. on alternate Fridays (City Hall is closed every other Friday).

OTHER USER GUIDES AVAILABLE

Signs
Pools and Spas
Residential Room Additions
Temporary Use Permits
Gazebos and Patio Covers
Reroofing
Furnaces
Water Heaters
Wood & Metal Fences
Masonry Fences & Walls
Patio Slabs & Walkways
Built-in Outdoor Barbecues
Suspended Ceilings
Drywall Installation
Commercial Tenant Improvements

In compliance with federal regulations, the City of Tustin does not discriminate on the basis of race, color, national origin, age or disability.

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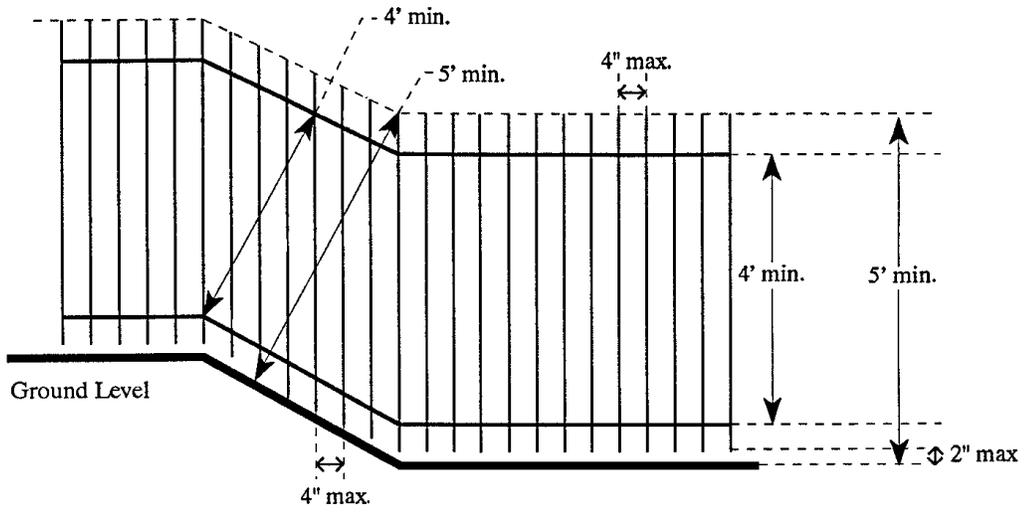


Figure 31B-4 Perpendicular fencing dimensions on sloping ground.

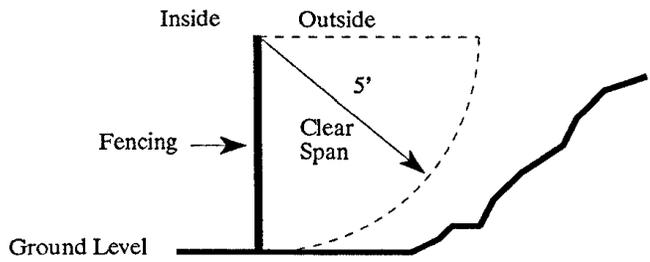


Figure 31B-5 Effective fencing height.