



SWIMMING POOL INSPECTION CHECKLIST

333 North Rancho Drive, Las Vegas NV 89106-3703

Phone: (702) 229-6251 Fax: (702) 382-1240

901 Inspections

1. Before you enter, make sure "Permission to Enter" sign is posted outside of the backyard, and that it is signed by the owner.
2. Check plans to make sure they are:
 - a. Stamped and signed by engineer (wet stamp).
 - b. Stamped either approved or received by the City of Las Vegas.
 - c. Check site plan for gas lines (size, locations and length of run).
 - d. Check site plan for other structures to be built (i.e. bar-b-ques, water features, equipment screen walls, retaining walls, patios etc.) make sure whoever pulled permit for pool or spa is aware of any other permits needed.
 - e. Check site plan to make sure it reflects exact conditions (i.e. location of pool, walls near pool – are they retaining and are they going to put a surcharge on pool, balcony columns, berms – check to see if berms have been removed or partially removed, also if any large palms trees are near pool or spa) and equipment location and soil zone. Check for clearance to overhead power lines.
 - f. If the walls are Proto II walls make a note to have an approved contractor rebuild any that have been removed or modified.
3. Check electrical conduit.
 - a. Bond the following with #8 solid copper wire: pool steel, light niches, any metal within 5' (including fences, windows), all motors, heaters and filters if they have a lug, any diving board, slide, or hand rail jigs, and automatic pool covers. All bonding to be done with approved clamps.
 - b. If conduit is scorched, it must be replaced, use thermostatically controlled benders only—no torches.
 - c. Schedule 80 above grade
 - d. Only 360 degrees worth of bends in any run between pull points.
 - e. Conduits to be 18" deep unless under concrete (only 4") or if GFCI protected and 120 volts only (12"). Fiber optic can be 12".
 - f. Pool light conduit run must terminate in an approved box equipped with hubs or threaded entries. It shall be 4" above ground level or 8" above water level, whichever is greater. If it is a flush mount deck box it must be 4' from water's edge.
 - g. Fiber optic boxes are to be at least 5' from pool or spa.
 - h. Check for existing lights and switches within 10' of pool area for compliance with NEC article 680.22.
4. PVC waterlines and drains.
 - a. Waterlines are to be 12" deep, if not covered by decking and sanded top and bottom with no rocks larger 3/8"
 - b. Drains are to be at least 3' apart or in different planes
 - c. No plumbing to be in concrete pours or slabs, it must be buried in sub grade.
 - d. Plumbing to have proper listing. (nsf-pw or equal (upc or ul).
 - e. Check for any scorch marks or dents in PVC; if any it must be replaced. Use only thermostatically controlled benders—no torches.
 - f. Must keep PVC lines out of bond beam unless permitted by engineer; lines should be 6" down from top of bond beam in pools and spas. PVC in spa dam walls to be kept 1 1/2" from steel.
 - g. A backflow prevention device shall be installed to protect potable water supply.
5. Check approved site plans for engineer detail locations.
 - a. Steel to be 3" clear of soil.
 - b. No mud, flaky rust, grease, oil or paint on steel.
 - c. Steel to be sized and installed per engineers' details and specifications.
 - d. Check engineer details against steel as installed.
 - e. Check for water features, if natural rock then they must have engineered pad to support the rock, if they are to have an artificial feature then there are specific engineer details that must be followed.

903 Inspections

1. Plastic gas line (PE)
 - a. Must have 60-PSI pressure.
 - b. Must be 18" deep and be sanded (3" bottom, 3" sides and 4" on top), no sharp aggregate.
 - c. Must sleeve risers with PVC pipe ½" larger on each side.
 - d. Must have electrically continuous corrosion-resistant tracer wire not less than AWG 14 or tape shall be buried with the plastic pipe to facilitate locating. One end shall be brought above ground at building wall or riser (UPC 1210.1.7.2).
 - e. Shut-offs required at the equipment end.
2. Metal gas line installed underground.
 - a. Factory coated pipe with 10-mil tape double wrapped on all joints and wrench teeth marks.
 - b. Maximum length of non-factory coated is 12", with 10-mil tape double wrapped.
 - c. Vent is required when installed in a conduit or sleeve.
 - d. If installed above grade must be 6" above grade and secured per code.
 - e. Gas lines require shut-offs at the equipment end.
 - f. Sleeves shall be provided to protect all piping through concrete and masonry walls.

905 Inspections

1. Turn down inspections required on concrete pools with decks 24" and wider and 12" or more above grade, follow engineers details for these inspections.
2. Raised decks against non-retaining walls require a clear space to prevent any surcharge.
3. Check that no slab will be poured against the existing house within 2" of weep screed.
4. Fiberglass pool deck inspections must follow the ICBO Evaluation Study details exactly.

910 inspections

1. Permission to enter sign to be posted. If not posted, knock on door for permission to enter.
2. Check approved site plans for any items that might have been added which are not on the plans (waterfalls, BBQ's, retaining walls, enclosure walls, etc). See City of Las Vegas handout dated May 1, 2007 about separate permits.
3. Gas lines:
 - a. Require shut-offs at the equipment end.
 - b. Heater must be bonded with a #8 solid copper wire.
 - c. Gas line pressure to be at 60 PSI for welded plastic and 10 PSI for steel and non-welded plastic piping.
 - d. Heater to be on pad, 3" above grade.
 - e. Review 903 lists above.
4. Bonding:
 - a. Review 901 inspections above.
 - b. Insure that #8 bare copper is bonding together: the heater, pumps, light junction box on external lug, pool cover metal cover and motor. Do not bond sub-panel unless equipped with external lug then it's optional.
5. Electrical:
 - a. Sub-panel:
 - 1) Must have approved breakers. Verify overcurrent and disconnecting means for electrical equipment.
 - 2) Must have proper working clearances (30" wide and 36" deep)
 - 3) Conduit properly supported below panel.
 - 4) Must use machine screws to mount any ground bars or lugs.
 - 5) Time clock cannot act as motor disconnecting means.
 - 6) Feeders require a minimum #10 wire and 30-amp breaker. Ground wire to sub-panel must be insulated.
 - 7) Insure that 24" access path is clear to any mechanical equipment.

- 8) Check size of house main panel against approved plans.
- 9) Check for proper circuit identification on breakers and controls (labeling).

b. Pool lights

- 1) Must be GFCI protected, we must verify.
- 2) Verify light junction box make-up, grounds, sealing, strain relief; box has proper mounting and support.
- 3) Ground connection in light niches is properly sealed.
- 4) Ground from light niche to junction box to be #8 insulated.
- 5) Is light cord long enough to reach deck or spa bench.
- 6) Light must be 18" below water level to lens glass or manufacturer listed for less.
- 7) Fiber-optic light boxes must be mounted or buried as per the manufacturers listing.
- 8) Lights to be proper lumens for pool size.

c. Pool surrounding area.

- 1) No lights (even low voltage) within 5' of water's edge.
- 2) No receptacles within 10' of water's edge unless an existing GFCI receptacle no closer than 5'. Check any lights and switches within 10' for compliance to NEC 680.22.
- 3) Motorized pool covers require GFCI protection.
- 4) No switching devices within 5' of water's edge.
- 5) Weatherproof junction boxes require proper support.
- 6) Receptacle required a minimum of 10' from and not more than 20' from the inside wall of the pool.
- 7) No decks within 2" of weep screed.

d. Gates:

- 1) Must be self-closing and self-latching and 60" high measured from outside the enclosed area. Gates must open outwards.
- 2) The latch or locking device must be at least 48" above grade and at least 6" from the top of the gate. This device must be protected from outside the enclosed area for a distance of 20" in all directions, except openings not greater than 1/4" in diameter.
- 3) Double gates must be padlocked and or chained and locked with no other modifications as long as there is another code compliant man gate. If a self-latching type device is used on a double gate then the 20" protective barrier will be required.
- 4) Double gates that are the only access to the rear yard and each leaf of the gate is 8' or less require one side of the gate pinned and locked down and the other portion of the gate must be self-closing, self-latching and protected as per item # ii above.
- 5) Clearance under the gate must no more than 4".

e. Barriers:

Barrier Requirements of the Southern Nevada Amendments to the 2012 ISPSC

Revise the entire barrier requirements section of the code to comply with the local requirement of a 5 foot primary barrier and a 4 foot secondary barrier, as follows:

- i. The provisions of this section shall apply to the design of barriers for aquatic vessels. These design controls are intended to provide protection against the potential drowning and near drowning by restricting access to such vessels. These requirements provide an integrated level of protection against potential drowning through the use of physical barriers and warning devices.
- ii. Exception: Spas and hot tubs with a lockable safety cover that complies with ASTM F 1346.

c) 305.2 Aquatic vessels. All outdoor aquatic vessels and indoor swimming pools shall be surrounded by a barrier that complies with Sections 305.2.1 through 305.10.

d) Exception: All aquatic vessels or water features with a maximum water depth 18" and less.

305.2.1 Barrier height and clearances. The top of the barrier shall not be less than 60 inches (1524 mm) in height above adjacent grade measured from outside the enclosed area or 8 feet (2.4 m) vertical, non-climbable barrier, measured on the inside. The vertical clearance between grade and the bottom of the barrier shall be 4 inches (101.6 mm) maximum. When permanently installed pools or spas are in adjacent yards the common barrier may be reduced to 48 inches (1219.2 mm) on either side.

- 10) 305.2.2 Wrought Iron. Wrought iron fence with open guardrails shall have intermediate rails or an ornamental pattern such that a sphere 4 inches (101.6 mm) in diameter cannot pass. Horizontal support members shall be spaced at least 32 inches (813 mm) apart and shall comply with Section 305.2.1.
- 11) 305.2.2.1 Wrought Iron with Masonry. Mixed use of masonry and wrought iron walls shall comply with all of the following:
 - 12) (1) Masonry or wrought iron portion of the wall shall be a minimum of 32 inches (813 mm) in height.
 - 13) (2) The wrought iron portion of the wall shall comply with Sections 305.2.1 and 305.2.2 with a maximum of two horizontal members, one near the bottom, within 4 inches (101.6 mm) of the masonry wall below, and one a minimum of 60 inches (1524 mm) above grade.
- 14) 305.2.3 Solid barrier surfaces. Solid barriers that do not have openings shall not contain indentations or protrusions that form handholds and footholds, except for normal construction tolerances and tooled masonry joints.
- 15) 305.2.4 Chain link dimensions. The maximum opening formed by a chain link fence shall be not more than 1.25 inches. Where the fence is provided with slats fastened at the top and bottom which reduces the openings, such openings shall be not more than 1.25 inches. The fence shall have top and bottom horizontal supports. The fence height must be a minimum of 60 inches (1524 mm) and shall be constructed of not less than 11 gauge wire.
- 16) 305.2.5 Diagonal members. Where the barrier is composed of diagonal members, the maximum opening formed by the diagonal members shall be no more than 1.25 inches (44 mm). The angle of diagonal members shall not be greater than 45 degrees (0.79 rad) from vertical.
- 17) 305.3 Gates. Access gates shall comply with the requirements of Sections 305.3.1 through 305.3.3 and shall be equipped to accommodate a locking device.
 - 18) 305.3.1 Gates or Doors. All single gates or doors 8 feet (2.4 m) or less in width shall meet the following requirements:
 - 19) (1) Gates and doors shall be self-closing and self-latching.
 - 20) (2) Gates shall open outward from the enclosed pool area.
 - 21) 305.3.2 Latching Devices. The self-latching devices of gates or doors shall be one of the following:
 - 22) (1) A device that is an ASTM F-1908-08 approved latching device. It shall be installed per the manufacturer's installation instructions.
 - 23) (2) A device mounted inside the enclosed area and be designed to be inoperable from outside the enclosed area. Manual catch latch devices shall not be less than 3 inches (76 mm) or more than 6 inches (152.4 mm) below the top of the door or gate. It shall be inaccessible from outside the enclosed area for a distance of 20 inches (508 mm) in all directions from the latch except that an opening not
 - 24) greater than 1/4 inch (6 mm) diameter shall be permitted. This protection is not required to extend above the top of the gate.
 - 25) (3) Keyed lockset devices shall be mounted at any height above grade.
 - 26) 305.3.3 No other device shall impede operation or obstruct closing of self-latching device.
- 27) 305.4 Large Access Barrier Gates. Single access barrier gates, greater than 8 feet (2.4 m) in width, shall be equipped with protected self-latching, lockable hardware and shall remain locked at all times when not in use.
- 28) Exception: Electronic remote latches without manual devices and panic hardware where required shall not be subject to height restrictions.
- 29) 305.5 Double Gates. Double gates integral to perimeter fences shall comply with the requirements of Section 305.4 and shall be permanently locked. If double gates are used as the only access to the yard, one gate shall be pinned and locked in the closed position and the adjoining gate must meet the requirements of Section 305.3.1.
- 30) 305.6 Electric Operated Gates. Electric operated gates shall start to close within 30 seconds of entry.
- 31) 305.7 Key Operated Devices. Key-operated, self-latching locks that are integral to the gate or door may be used as latching devices, as long as they are permanently locked from the outside and comply with the above installation requirements.
- 32) 305.8 Secondary Access Barrier Requirement. An additional barrier that isolates all openings in the dwelling unit from the residential pool or spa shall be erected. The barrier shall be a minimum of 48 inches (1219 mm) in height and shall not allow the passage of a sphere 4 inches (102 mm) in diameter. All gates shall be self-closing and latching at the top of the barrier. No other device shall impede operation or obstruct the closing of self-latching gate.
- 33) 305.8.1 Option one. Mesh fencing, other than chain link fences in accordance with Section 305.2.4, shall be installed in accordance with the manufacturer's instructions and shall comply with the following:
 - 34) 1. The top of the barrier shall be not less than 48 inches (1524 mm) above grade measured on the side of the barrier that faces away from the aquatic vessel.
 - 35) 2. The bottom of the mesh restraining fence shall be not more than 1 inch (25 mm) above the deck or installed surface or grade.
 - 36) 3. The maximum vertical clearance from the bottom of the mesh fence and the solid surface shall not permit the fence to be lifted more than 4 inches (102 mm) from grade or decking.
 - 37) 4. The fence shall be designed and constructed so that it does not allow passage of a 4-inch sphere under or through any mesh panel.

- 38) 5. An attachment device shall attach each barrier section at a height not lower than 45 inches (1143 mm) above grade. Common attachment devices include, but are not limited to, devices that provide the security equal to or greater than that of a hook-and-eye-type latch incorporating a spring-actuated retaining lever such as a safety gate hook.
- 39) 6. Where a hinged gate is used with a mesh barrier, the gate shall comply with Section 305.3.
- 40) 7. Patio deck sleeves such as vertical post receptacles which are placed inside the patio surface shall be of a nonconductive material.
- 41) 305.8.2 Option two. Self-closing and self-latching devices installed on all openings in dwelling unit that provide direct access to the pool or spa. Openings to include doors; operable windows with a sill height of 48 inches (1219 mm) or less; and pet doors allowing the passage of a sphere of 4 inches (102 mm) in diameter.
- 42) Exception:
1. Operable windows with a sill height less than 48 inches (1219mm) with a manufacturer installed permanent locking or latching mechanism mounted not less than 54" from floor.
- 43) 2. Self-closing, self-latching pet doors approved by the building official.
- 44) 305.8.3 Option three. An alarm installed on all openings in dwelling unit that provide direct access to the pool or spa. Openings to include doors; operable windows with a sill height of 48 inches or less; and pet doors allowing the passage of a sphere of 4 inches (102 mm) in diameter. The alarm shall be listed to meet UL Standard 2017 for Residential Water Hazard Entrance Alarms. The alarm shall sound continuously for a minimum of 30 seconds within 7 seconds after the door is opened, and be a minimum of capable of providing 85 dB when measured indoors at 10 feet (3.05 m). The alarm shall automatically reset under all conditions. The alarm shall be equipped with a manual means, such as a touch pad or switch, to temporarily deactivate the alarm for a single opening. The deactivation switch shall be located at least 54 inches (1372 mm) above the threshold of the door.
- 45) Exception:
1. Operable windows with a sill height less than 48 inches (1219mm) with a manufacturer installed permanent locking or latching mechanism mounted not less than 54" from floor.
 2. Self-closing, self-latching pet doors approved by the building official.
- 46) In dwellings or structures not required to be Accessible units, Type A units or Type B units, the deactivation switch shall be located 54 inches (1372 mm) or more above the threshold of the door. In dwellings or structures required to be Accessible units, Type A units or Type B units, the deactivation switch shall be located not greater than 54 inches (1372 mm) and not less than 48 inches (1219 mm) above the threshold of the door.
- 47) 305.8.4 Option four. A pool motion device, laser or light beam activation alarm system permanently installed that provides an active barrier within the pool or across the access to the pool from the dwelling unit or installed around the entire perimeter of the pool. The device shall sound an alarm of at least 85 dB both inside and outside of the home when activated. The alarm must automatically reset after alarming. The device and alarm shall meet ASTM F2208-08 and be listed.
- 48) 305.8.5 Option five. Power safety covers installed that comply with ASTM F1346-03.
- 49) 305.8.6 Option six. An approved alternate means of protection, such as self-closing doors with self-latching devices, provided that the degree of protection afforded is not less than the protection afforded by sections 305.8.1 through 305.8.5.
- 50) 305.9 Natural barriers. In the case where the vessel area abuts the edge of a lake or other natural body of water, public access is not permitted or allowed along the shoreline, and required barriers extend to and beyond the water's edge a minimum of 18 inches, a barrier is not required between the natural body of water shoreline and the vessel.
- 51) 305.10 Natural topography. Natural topography that prevents direct access to the aquatic vessel area shall include but not be limited to mountains and natural rock formations. A natural barrier approved by the governing body shall be acceptable provided that the degree of protection is not less than the protection afforded by manufactured or constructed means.
- 52) 305.11 Safety Glazing. Glazing adjacent to aquatic vessels shall comply with the glazing requirements of the IBC or IRC. Glazing in walls and fences within 60 inches (1524 mm) or less, measured horizontally from the water's edge and less than 60 inches (1524 mm) measured vertically above grade shall be considered hazardous locations. In these locations, tempered glazing, laminated glass or Plexiglas shall be used.
- 53) 305.12 Barrier Timeliness. All required access barrier elements shall be installed prior to:
- 54) (1) Installation of a pre-manufactured pool or spa.
 - 55) (2) The pre-plaster inspection of a conventionally constructed pool or spa.
 - 56) (3) The filling of any water feature.
- 57) 305.13 Surveillance Substitute. In lieu of access barriers required by this code, resort hotel facilities and therapeutic facilities used by or under the direct control of licensed medical personnel may provide a dedicated guard so that observation is maintained at all times. An alternate method may be submitted in writing and approved by the Building Official. Such submittal shall become a permanent part of the job record.
- 58) 305.14 Responsible Party. The owners of the property upon which pools, spas or artificial bodies of water are located are responsible to establish and maintain access barriers. The owner or developer of land adjacent to an access barrier required by this section shall not reduce, degrade, or infringe on the access barrier's compliance with this code.

59) 305.15 Alternate Materials or Methods: An application for alternate materials or methods must be reviewed and approved by the Building Official for any proposed access barrier which does not meet the requirements of this code. If approved by the Building Official, the owner remains responsible for establishing and maintaining such approved alternate materials or methods.

f. Plumbing:

- 1) All water lines above grade must be painted to protect it from UV.
- 2) Pumps securely bolted down.
- 3) Must have a method to drain pool (1 ½" PVC with valve or direct to sewer, etc).
- 4) Backflow prevention device on auto fill line. Must have anti-siphon device on rear hose bib.
- 5) Auto fill shall not be connected to any irrigation system plumbing.

g. Pool Safety:

- 1) Handholds are required around pool; the deck provides a handhold as long as the deck is not more than 12" above water level. Recommend coping section 323.1.1 of CLV Amendments to 2012 ISPSC
- 2) It raised bond beam greater than 12" above water level handholds are required every 4' as follows:
 - a) Soap dish style that are at least 6" wide and must be epoxied
 - b) A permanently secured rope at least ¾" in diameter and within 12" of water level.
- 3) Steps shall have a maximum rise of 12", with a variation of not more than 3/8". The distance from the bottom of the pool to the bottom step is not considered a step. Recommend coping section 809.5 of CLV Amendments to 2012 ISPSC
- 4) Safety glazing is required on windows within 60" of water's edge and lower than 60" from grade.
- 5) Underwater seat, bench or swim out shall be a minimum of 12" wide by 12" long and a maximum of 24" below water surface and this will qualify as a second means of egress if the pool is over 30' in length.
- 6) Slides must have depth requirements checked as per manufacturers listing.
- 7) Any additions (raising up of) to block walls to meet 60" height requires a permit and express inspection for any epoxy checked as per manufacturer listing.
- 8) Deco drains shall terminate at least 24" from any foundations.
- 9) No backfill greater than 8" against non-retaining block walls.
- 10) Batch tickets required verifying shotcrete PSI or letter from the gunite company to verify nozzle man and truck is on the approved list. On batch tickets verify times (batch time to delivery completion time, should not exceed 90 minutes).
- 11) Door alarm letter of compliance with 2012 International Swimming Pool and Spa Code to be picked up at final 910 inspection.

6. Above ground manufactured spas.

- a. Require GFCI protection.
- b. All pumps, heater, and metal junction boxes under spa shall be bonded with a #8 solid copper.
- c. Must have pool code fence and gates unless there is a lockable cover meeting ASTM standard 1346 or equal.
- d. Disconnecting means must be at least 5' from water's edge and insight of and no more than 50'.
- e. Any light fixture or paddle fans within 5' of water's edge must be 7'6" above maximum water level and be GFCI protected.