



Residential Pools

Spas & Hot Tubs

Costs

Above Ground

\$35.00 Plan Review Fee
\$213.00 Engineering Fee
\$50.00 Permit Fee
\$50.00 Electrical Fee
\$75.00 Special Inspection
\$50.00 C.O.

In-Ground

\$50.00 Plan Review Fee
\$213.00 Engineering Fee
\$100.00 Permit Fee
\$100.00 Plumbing Fee
\$50.00 Electrical Fee
\$50.00 Heater Fee
\$50.00 C.O.
*Site Development Permit
Required. \$213.00
Minimum Fee.

Code

Requirements

*2012 IRC (International Residential Code)
*2012 International Mechanical Code
*2012 Fuel Gas Code
*2011 National Electrical Code
*Current Illinois State Plumbing Code
*2018 International Energy Conservation Code
*2012 International Swimming Pool & Spa Code



Rules & Restrictions

*The pool may not be filled in excess of 1/3 its capacity with water until the required fencing is installed and approved. Use of the pool is not allowed until final approval.

*DO NOT discharge pool water to storm drains or wetlands when emptying pool. Discharge to your own yard away from adjacent property.

Fencing

*Every pool located on a lot used for residential purposes shall be completely enclosed by a fence 4 ft in height above grade of any walking surface such as decks, steps, ladders or platforms with suitable gates and self-closing, self-latching devices. Any access to the pool and point of entry to the pool must have a 4' barrier. See fence handout for more information.

*Fencing shall be installed prior to completely filling the pool with water.

*All doors with direct access to the pool and inside the enclosure area shall be equipped with an alarm that produces an audible warning when the door or its screen or window, is opened. The alarm shall be listed and labeled as a water hazard entrance alarm in accordance with UL 2017.

*Spas/hot tubs with locking covers are not required to have fencing. Covers shall be installed at the time of final inspection.

What to Submit

*Completed building application.

*2 copies of a Plat of Survey indicating the location of the pool/spa/hot tub, dimensions, height of the required fence, and the type and location of the electrical service line. Electrical plans shall be color coded. Indicate side and rear setbacks.

*Detailed drawings for the deck construction (if applicable. See Deck handout for info).

*2 copies of plans showing the house and the locations of all doors adjacent to the pool. Indicate the pool, pump, heater, deck, fence, and electric on the plans. Please include how the pool water will be maintained, including whether or not an auto-fill device will be installed.

*Specification sheets for all equipment. Detailed electrical information including grounding and bonding.

Inspections

*Inspections are scheduled for A.M. or P.M. Monday through Friday with 24 hours advance notice. Call the Village Hall at 847-356-6100 before 2:30 P.M. the day before you want your inspection. Same day re-inspections are not available.

*Electrical inspection – before wire is buried.

*Pre-excavation and site layout.

*After the pool/spa site is located or excavated. Run string lines at the rear and side property lines.

*Bonding inspection - after the in-ground pool steel is in place and before pouring concrete or back fill.

*Pre-pour inspection – after post holes for the fence and/or deck are dug.

*After framework for the deck is completed.

*Underground gas pipe inspection – after trenches/ditches are excavated and bedded, piping installed, and before backfill is in place. Test will run 30 min. with no less than 20 psi. A 30 psi gauge with 1 psi increments will be used.

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Note:

*If an inspector needs to return more than once for the same phase of any required inspection, a \$50.00 re-inspection fee will be required to be paid before the re-inspection takes place.



****Pools less than 24" deep and prefabricated do not require a permit****

Locations

*The pool, spa or hot tub cannot be located over or under any utilities.

*Cannot be placed within any required front yard, corner yard, side yard or rear yard setback. Call Zoning Official at 847-356-6100 for specific setback requirements.

*Call J.U.L.I.E. (800-892-0123) before digging.

Swimming Pool

Discharge Requirements

*The chlorine residual in the water shall be less than 0.1 mg/L.

*Wastewater must be pH neutralized between 6.5 and 8.5.

*The water is to be surface discharged within the owners' property lines and in no way create a public nuisance.

*The discharge of the water shall in no way damage, destroy, erode, or impair surrounding property.

*No permanent direct connection shall be made to the sanitary or storm sewer systems and no drainage shall be made into a storm ditch or swale or otherwise result in any of the contents flowing onto, or beyond the boundaries of the owner's property.

*Under no circumstances shall wastewater generated by the acid cleaning or chlorine washing of swimming pools, wading pools, spas, whirlpools, and therapeutic pools be discharged to the municipal storm sewer or storm ditch/swale.

*In the event a surface discharge is not available without creating a public nuisance, such wastewater must be neutralized and hauled from the owner(s) property by an enclosed tanker truck or similarly equipped vehicle, or disposed at a legal disposal site. The owner of the item(s) will be required to provide proof of disposal upon the Village's request.

*The discharge of the water shall in no way violate any regulation of Federal, State and Local Standards.



Electrical

*The electric shall comply with the swimming pool requirements of the 2011 National Electric Code, Section 680 and all other appropriate sections.

*The electrical wiring shall be installed underground in rigid metal conduit or an approved direct burial cable and must be equipped with a GFCI (Ground Fault Circuit Interrupter) device.

*Electric in pipe must be buried a minimum of 6" below grade. Direct burial cable must be buried a minimum of 24" below grade.

*All underground utilities must be a minimum of 5' horizontally from any wall of the pool. Overhead utilities shall not be located within 10' horizontally of any pool wall and the waters edge.

*All junction boxes and conduit shall be weather tight and approved for wet locations.

*Extension cords are not allowed for the operation of pool equipment.

Gas Pipe

*A protective coating shall be provided for all metallic piping fittings exposed to the atmosphere and the soil. Plastic pipe shall be UV protected.

*The min. burial depth shall be 12" below grade.

*A yellow insulated copper tracer wire shall be installed adjacent to underground non-metallic piping and terminate above ground at each end.

*The gas pipe shall be sized according to 2012 IFGC Section 402.



Electrical

Pool, Hot Tub, and Spa Installations

Rules & Restrictions

*All installations shall comply with Article 680 of the 2011 National Electric Code and Chapter 8 of Lake Zurich's 2012 Building Code.

*Proper grounding is required for the installation of all new electric services, panel replacement, all electric wiring and/or repairs. This may mean making changes to your existing grounding and bonding systems.

*If pool lighting is to be used, provide spec sheets and a detailed plan of how the lights will be installed.

What to Submit

*Completed application.

*Provide list of circuit breakers in main and sub-panels and load of existing circuits.

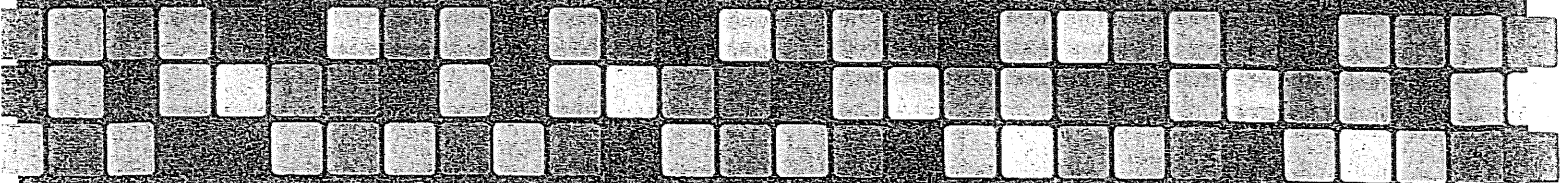
*Provide additional information and drawings showing locations, clearances, unusual installations, etc.

Service Entrance/Distance from Pool	<input type="checkbox"/> Overhead (10' min) _____ ft.
Service Entrance/Distance from Pool	<input type="checkbox"/> Underground (5' min) _____ ft.
Size of added circuits (amp)	<input type="checkbox"/> 15 <input type="checkbox"/> 20 <input type="checkbox"/> 30 <input type="checkbox"/> 40 <input type="checkbox"/> _____
Circuit Conduit Size	<input type="checkbox"/> 1/2" <input type="checkbox"/> 3/4" <input type="checkbox"/> 1" <input type="checkbox"/> _____"
Conduit Type	<input type="checkbox"/> EMT <input type="checkbox"/> IMC <input type="checkbox"/> RMC
Conduit Burial Depth	<input type="checkbox"/> 6" <input type="checkbox"/> 12" <input type="checkbox"/> 18" <input type="checkbox"/> 24"
Disconnect Method at Pool Filter	Switched GFI circuit Single twistlock outlet on GFI circuit
Horsepower of Filter Motor	<input type="checkbox"/> _____ HP
A GFI convenience outlet is required between 10-20 ft from pool.	<input type="checkbox"/> Already Installed <input type="checkbox"/> Will Install

This checklist for permanently installed pools is **only a summary** of the code requirements based on the 2011 National Electric Code.

- ☐ Is there underground conductor within 5' horizontally from the inside wall at the pool? 680.10
- ☐ Is there overhead electrical conductors in the area extending 10 ft. horizontally from the inside wall of the pool and 22.5' up from water level? 680.8
- ☐ Is the pump motor third party listed to U.S. standards with a label for pool motor? UL181 is standard. 110.3(B)
- ☐ Is the cord on the pump motor #12 wiring and no longer than 3' with a twist lock cord cap? 680.7
- ☐ Is the receptacle 5' from the inside pool wall? 680.22(A)(1).
- ☐ Is the receptacle a twice-lock and protected by GFCI? 680.5. This must be a GFCI breaker or GFCI face-less type outlet or GFCI outlet, rated for the h.p. at the pump. (GFCI outlets can only do up to 1 ½ h.p. motors.)
- ☐ Is the cover for the receptacle an in-use cover? 406.8(B)(1)
- ☐ Is there a GFCI general purpose outlet on a general purpose circuit 6' from pool wall and not more than 20'? 680.22(A)(3).
- ☐ Is there a disconnecting switch located at least 5' from the inside wall of the pool? 680.12
- ☐ Is the raceway of the type of rigid heavy wall metal conduit, intermediate metal conduit or rigid nonmetallic conduit (PVC) and listed for electrical use? 680.21(A)(1) 110.3(b) Note: There shall be NO plumbers putty (pipe dope) or plumbers Teflon tape (white tape) on the ends of the metal conduit.
- ☐ Is the raceway buried to the correct depth? RMC, IMC=6" and PVC 18" from the top of the conduit to grade. 300.5 and Table 300.5
- ☐ There must be a minimum of a #12 green wire installed in the raceway. 680.21(A)(1) The wire must be green in color. 250.119
- ☐ The grounding conductor must pick up all junction boxes, light fixtures, pump motors, transformer enclosures, devices like switches, outlets, etc. 680.6
- ☐ Is there a grounding conductor between panel boards that are not part of the service equipment subpanels and that supply any electrical equipment associates with the pool? 680.25 The wire shall be sized in accordance with Table 250.122 and shall also be insulated.
- ☐ The bonding conductor must be a solid #8 copper wire. (Bare conductor is okay). This wire must pick up pool frame (upper and lower ring if metal) and pump motor, pool heater (if one) and RMC or IMC piping, and any metallic part within 5' of the pool. 680.26(B)(1)(2)(3)(4) and (5).
- ☐ Is the bonding conductor connection done with a clamp of the type of stainless steel, brass, or copper? No zinc parts. 680.26(C)
- ☐ Double insulated pump motors do not have to be bonded with the solid #8 but must have a #12 green wire to them.
- ☐ If RNC (PVC) is used with RNC PVC boxes, these items must be listed for electrical and sunlight resistant. Support and expansion fitting may be needed. Article 352 (No plumbing type pipes.)

Guidelines for Home Pools and Spas



Swimming Pool Barrier Guidelines

Barriers

Barriers are not child proof, but they provide layers of protection for a child. Barriers give parents additional time to find a child before the unexpected can occur.

Barriers include a fence or wall, door alarms for the house, and a power safety cover over the pool. Use the following recommendations as a guide.

Barrier Locations

Barriers shall be located so as to prohibit permanent structures, equipment or similar objects from being used to climb the barriers.

Fences

Fences shall be a minimum of 4 feet high. If the home serves as one side of the barrier install door alarms on all doors leading to the pool area. Make sure the doors have self-closing and self-latching devices or locks beyond the reach of children to prevent them from opening the door and gaining access to the pool.

Pool covers add another layer of protection and there are a wide variety of styles on the market. Keep pool covers well-maintained and make sure the control devices are kept out of the reach of children.

A successful pool barrier prevents a child from getting OVER, UNDER, or THROUGH and keeps the child from gaining access to the pool except when supervising adults are present.

How To Prevent a Child from Getting OVER a Pool Barrier

A young child can get over a pool barrier if the barrier is too low or if the barrier has handholds or footholds to use when climbing. The top of a pool barrier shall be at least 48 inches above grade, measured on the side of the barrier which faces away from the swimming pool.

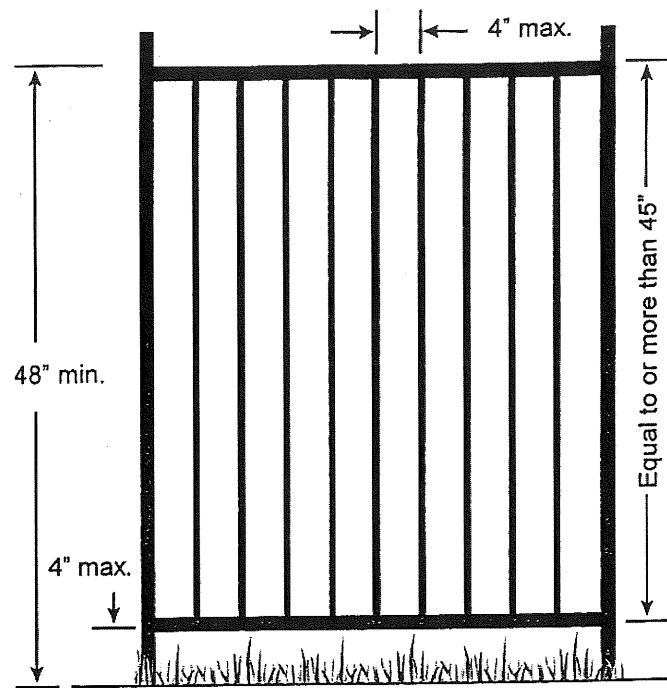


Figure 1

Eliminate handholds and footholds and minimize the size of openings in a barrier's construction.

The spacing between vertical members and within decorative cutouts shall not exceed $1\frac{3}{4}$ inches. This size is based on the foot width of a young child and is intended to reduce the potential for a child to gain a foothold and attempt to climb the fence.

If the distance between the tops of the horizontal members is more than 45 inches, the horizontal members can be on the side of the fence facing away from the pool. The spacing between vertical members shall not exceed 4 inches. This size is based on the head breadth and chest depth of a young child and is intended to prevent a child from passing through an opening.

For Above Ground Pools

Above ground pools shall have barriers. The pool structure itself serves as a barrier or a barrier is mounted on top of the pool structure.

There are two possible ways to prevent young children from climbing up into an above ground pool. The steps or ladder can be designed to be secured, locked or removed to prevent access, or the steps or ladder can be surrounded by a barrier.

Above Ground Pool with Barrier on Top of Pool

If an above ground pool has a barrier on the top of the pool, the maximum vertical clearance between the top of the pool and the bottom of the barrier shall not exceed 4 inches.

Gates

There are two kinds of gates which might be found on a residential property: pedestrian gates and vehicle or other types of gates. Both can play a part in the design of a swimming pool barrier. All gates shall be designed with a locking device.

Pedestrian Gates

These are the gates people walk through. Swimming pool barriers shall be equipped with a gate or gates which restrict access to the pool.

Gates shall open out from the pool and shall be self-closing and self-latching. If a gate is properly designed and not completely latched, a young child pushing on the gate in order to enter the pool area will at least close the gate and may actually engage the latch.

When the release mechanism of the self-latching device on the gate is less than 54 inches from the bottom of the gate, the release mechanism for the gate shall be at least 3 inches below the top of the gate on the side facing the pool. Placing the release mechanism at this height prevents a young child from reaching over the top of a gate and releasing the latch.

Also, the gate and barrier shall have no opening greater than 1/2 inch within 18 inches of the latch release mechanism. This prevents a young child from reaching through the gate and releasing the latch.

All Other Gates (Vehicle Entrances, Etc.)

Other gates shall be equipped with self-latching devices. The self-latching devices shall be installed as described for pedestrian gates.

Barriers for Residential Swimming Pool, Spas, and Hot Tubs

In many homes, doors open directly from the house onto the pool area or onto a patio leading to the pool. In such cases, the side of the house leading to the pool is an important part of the pool barrier. Passage through any door from the house to the pool shall be controlled by security measures.

Door Alarms

All doors that allow access to a swimming pool shall be equipped with an audible alarm which sounds when the door and/or screen are opened. Alarms shall meet the requirements of UL 2017 General-Purpose Signaling Devices and Systems, Section 77 with the following features:

- Sound lasting for 30 seconds or more within 7 seconds after the door is opened.

- The alarm shall be loud: at least 85 dBA (decibels) when measured 10 feet away from the alarm mechanism.
- The alarm sound shall be distinct from other sounds in the house, such as the telephone, doorbell and smoke alarm.
- The alarm shall have an automatic reset feature to temporarily deactivate the alarm for up to 15 seconds to allow adults to pass through house doors without setting off the alarm. The deactivation switch could be a touchpad (keypad) or a manual switch, and shall be located at least 54 inches above the threshold and out of the reach of children.

Self-closing doors with self-latching devices could be used in conjunction with door alarms to safeguard doors which give access to a swimming pool.

Power Safety Covers

Power safety covers can be installed on pools to serve as security barriers, especially when the house serves as the fourth wall or side of a barrier. Power safety covers shall conform to the specifications in the ASTM F 1346-91 standard, which specifies safety performance requirements for pool covers to protect young children from drowning.

Indoor Pools

When a pool is located completely within a house, the walls that surround the pool shall be equipped to serve as pool safety barriers. Measures recommended for using door alarms, pool alarms and covers where a house wall serves as part of a safety barrier also apply for all the walls surrounding an indoor pool.

Outdoor Swimming Pools

All outdoor swimming pools, including inground, above ground, or onground pools, hot tubs, or spas, shall have a barrier which complies with the following:

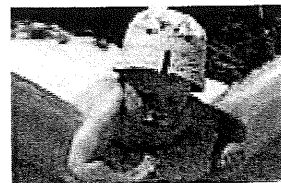
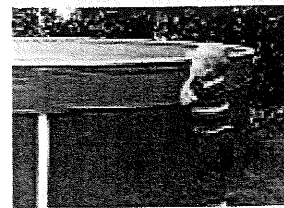
1. The top of the barrier shall be at least 48 inches above the surface measured on the side of the barrier which faces away from the swimming pool (figure 1).
2. The maximum vertical clearance between the surface and the bottom of the barrier shall be 4 inches measured on the side of the barrier which faces away from the swimming pool (figures 1).
3. Where the top of the pool structure is above grade or surface, such as an above ground pool, the barrier may be at 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 4 inches.
4. Openings in the barrier shall not allow passage of a 4-inch diameter sphere.
5. Solid barriers, which do not have openings, such as a masonry or stone wall, shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.

6. Where the barrier is composed of horizontal and vertical members and the distance between the bottom and top horizontal members is less than 45 inches, the horizontal members shall be located on the swimming pool side of the fence.
7. Spacing between vertical members shall not exceed 4 inches in width. Where there are decorative cutouts, spacing within the cutouts shall not exceed $1\frac{3}{4}$ inches in width.
8. Maximum mesh size for chain link fences shall not exceed $1\frac{3}{4}$ inch square unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to no more than $1\frac{3}{4}$ inches.
9. Where the barrier is composed of diagonal members, such as a lattice fence, the maximum opening formed by the diagonal members shall be no more than $1\frac{3}{4}$ inches.
10. Access gates to the pool shall be equipped with 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 54 inches from the bottom of the gate, (a) the release mechanism shall be located on the pool side of the gate at least 3 inches below the top of the gate and (b) the gate and barrier shall have no opening greater than $\frac{1}{2}$ inch within 18 inches of the release mechanism.
11. Where a wall of a dwelling serves as part of the barrier, one of the following shall apply:
 - (a) All 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. Alarms shall meet the requirements of *UL 2017 General-Purpose Signaling Devices and Systems, Section 77*.
 - (b) The pool shall be equipped with a power safety cover which complies with ASTM F1346-91 listed below.
12. (c) Other means of protection, such as self-closing doors with self-latching devices, are acceptable so long as the degree of protection afforded is not less than the protection afforded by (a) or (b) described above.

Where an above ground 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 (a) the ladder to the pool or steps shall be capable of being secured, locked or removed to prevent access, or (b) the ladder or steps shall be surrounded by a barrier. When the ladder or steps are secured, locked, or removed, any opening created shall not allow the passage of a 4 inch diameter sphere.

Portable Pools

Portable pools are becoming more popular. They vary in size and height, from tiny blow up pools to larger thousands of gallons designs. Portable pools present a real danger to young children.



Never leave children unsupervised around portable pools. It is recommended that portable pools be fenced, covered or emptied and stored away. Instruct neighbors, friends and caregivers about their presence and the potential dangers of a portable pool in your yard. See definition of onground storable pool.

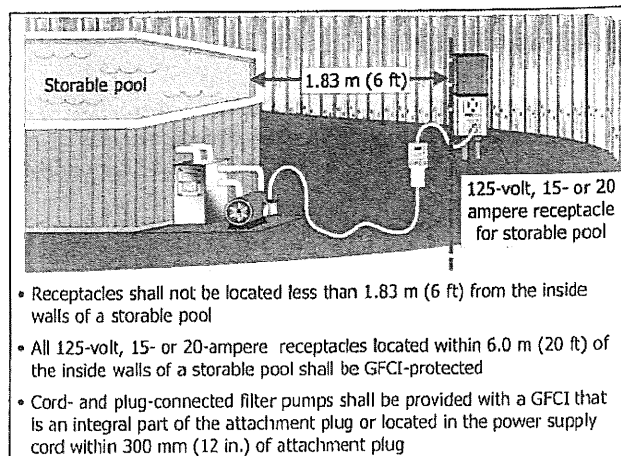


Figure 2 (Figure 14.23 NEC 2011)
Receptacle outlet requirements at storable pools.

Exemptions

A portable spa with a safety cover which complies with ASTM F1346-91 listed below is exempt from the guidelines presented in this document.

ASTM F1346-91. Standard Performance Specification for Safety Covers and Labeling Requirements for All Covers for Swimming Pools, Spas and Hot Tubs.

But, swimming pools, hot tubs, and nonportable spas with safety covers shall not be exempt from the provisions of this document.

Electrical Requirements for Inground Pools including Spas and Hot Tubs

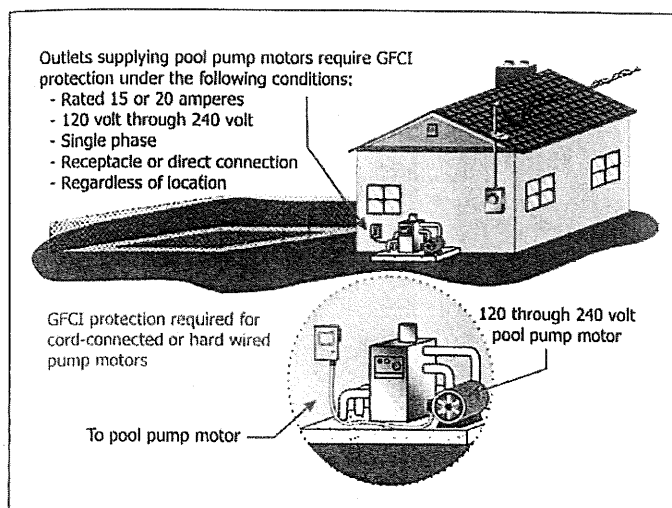


Figure 3 (Figure 14.3 NEC 2011) GFCI protection is required for cord-connected or hard-wired pump motors

Overhead Conductor Clearances

Clearance Parameters	Insulated Cables, 0-750 Volts to Ground
A. Clearance in any direction to the water level, edge of water surface, base of diving platform or permanently anchored raft.	6.9 m (22.5 ft)
B. Clearance in any direction to the observation stand, tower, or diving platform	4.4 m (14.5 ft)
C. Horizontal limit of Clearance measured from inside wall of the pool	3 m (10 ft)
	*See note below

*This horizontal limit shall extend to the outer edge of the structures listed in A and B of this table but not to less than 3 m (10 ft)

Table 4 (Table 14.4 NEC 2011) Overhead conductor clearances

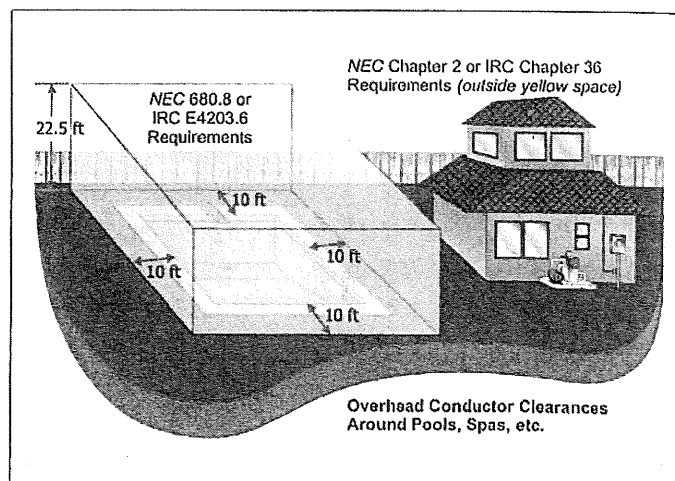


Figure 4 (Figure 14.4 NEC 2011) Overhead conductor clearances around pools

Minimum Cover Requirements for Underground Wiring within 1.5m (5 ft) of Pools, Spas, Etc.

Wiring Method	Minimum Cover
Rigid metal conduit	150 mm (6 in)
Intermediate metal conduit	150 mm (6 in)
Nonmetallic raceways listed for direct burial under minimum of 102 mm (4 in.) thick concrete exterior slab and extending not less than 162 mm (6 in.) beyond the underground installation	150 mm (6 in)
Nonmetallic raceways listed for direct burial without concrete encasement	450 mm (18 in)
Other approved raceways*	450 mm (18 in)

*Raceways approved for burial only where concrete encased shall require a concrete envelope not less than 50 mm (2 in.) thick.

Table 5 (Table 14.5 NEC 2011) Minimum Cover Requirements for Underground Wiring within 1.5m (5 ft) of Pools, Spas, Etc.

Electrical Requirements for Inground Pools including Spas and Hot Tubs (continued)

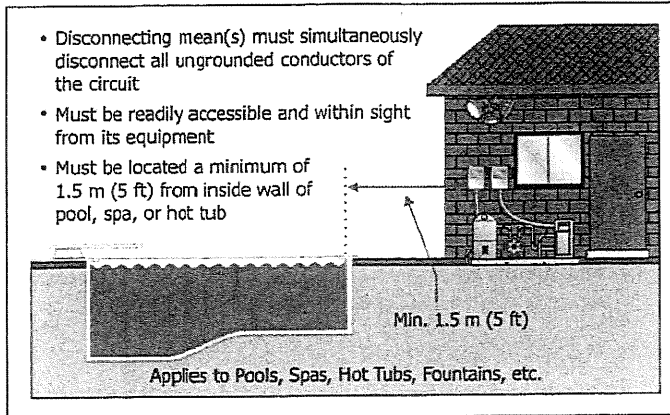


Figure 5 (Figure 14.5 NEC 2011) Equipment disconnecting means is to be readily accessible from and within sight from the equipment

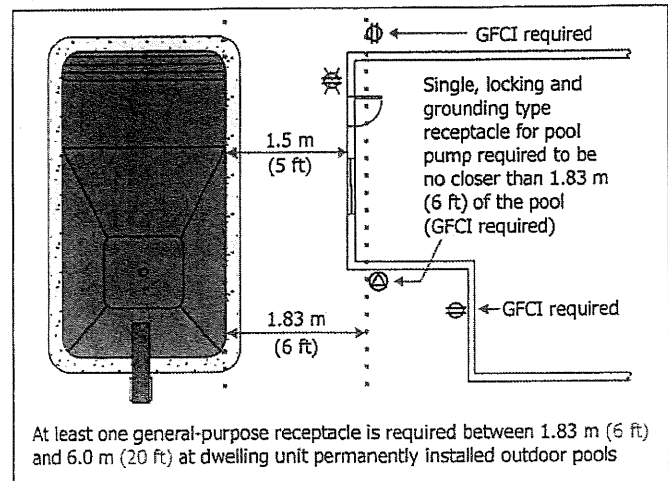


Figure 7 (Figure 14.7 NEC 2011) Receptacle outlet for permanently installed pool water-pump motor is permitted as close as 1.83 m (6 ft) from water's edge with specific conditions (GFCI protection required).

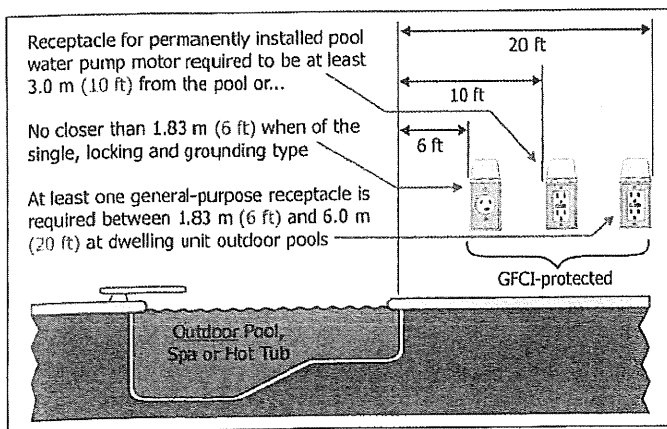


Figure 6 (Figure 14.6 NEC 2011) Receptacle outlet location requirements for permanently installed pools

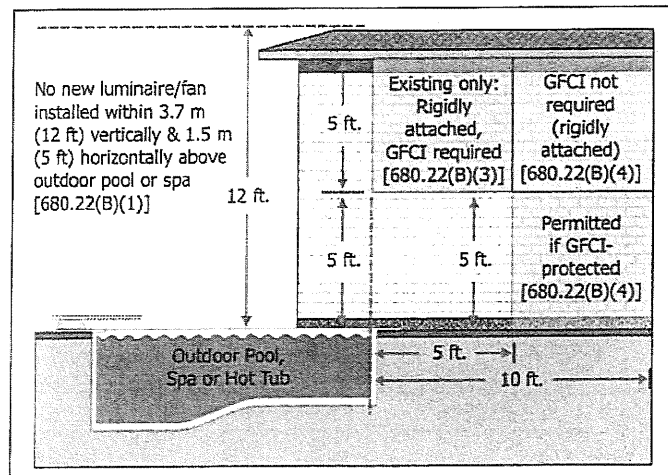


Figure 8 (Figure 14.8 NEC 2011) Luminaire and fan locations for outdoor pool, spa, or hot tub

Electrical Requirements for Inground Pools including Spas and Hot Tubs (continued)

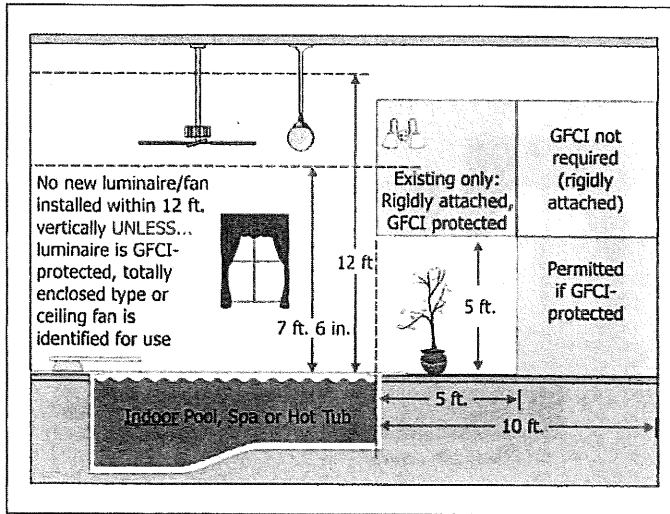


Figure 9 (Figure 14.9 NEC 2011) Luminaire and fan locations for outdoor pool, spa, or hot tub

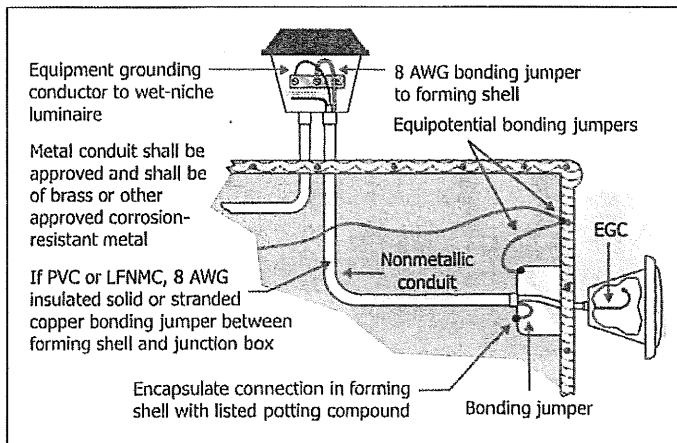


Figure 10 (Figure 14.13 NEC 2011) Bonding requirements for wet-niche luminaires

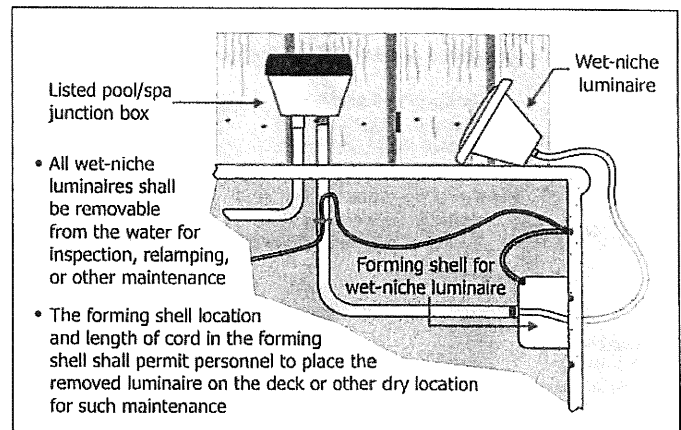


Figure 11 (Figure 14.14 NEC 2011) Servicing and re-lamping of wet niche luminaires

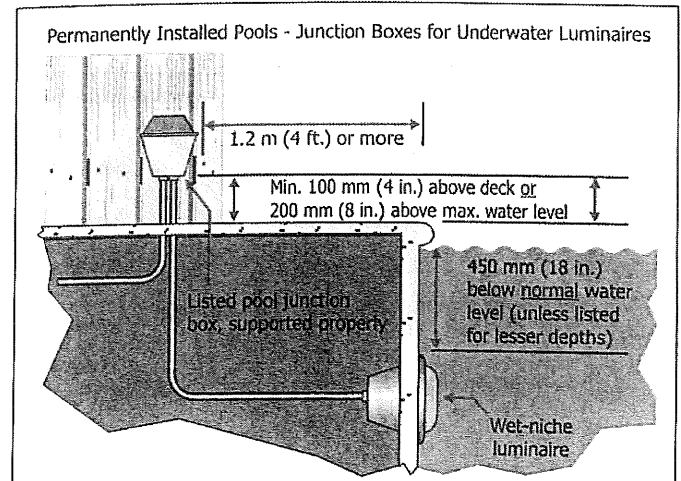


Figure 12 (Figure 14.15 NEC 2011) Junction box location and listing requirements

Electrical Requirements for Inground Pools including Spas and Hot Tubs (continued)

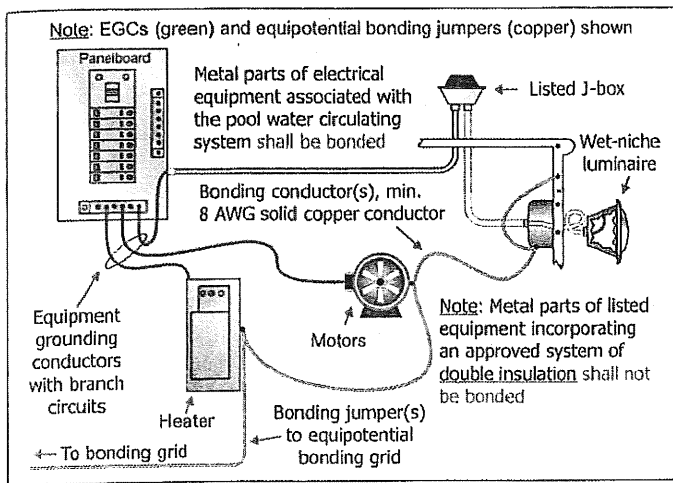


Figure 13 (Figure 14.17 NEC 2011) Bonding and grounding of pool equipment

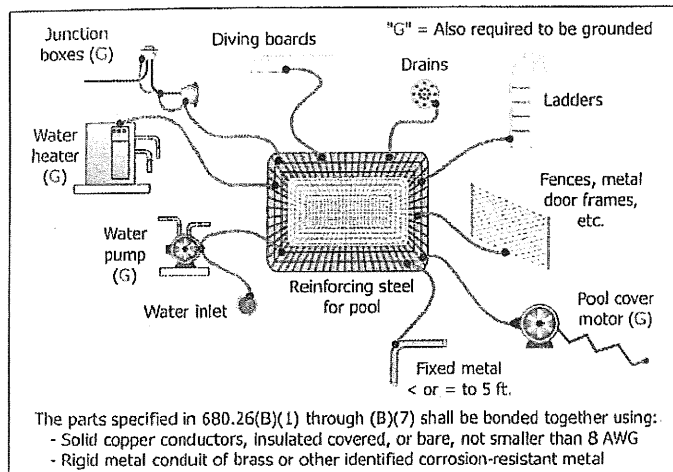


Figure 14 (Figure 14.18 NEC 2011) Equipotential bonding grid forms and equipotential bonding plane in and around the pool area

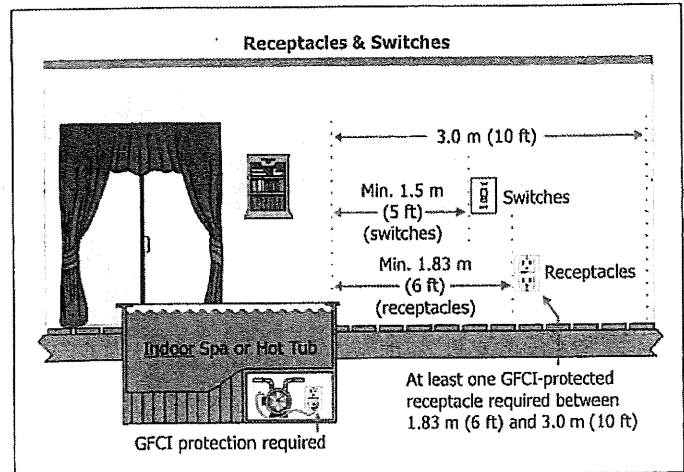


Figure 15 (Figure 14.24 NEC 2011) Receptacle and switch requirements for indoor spaces and hot tubs

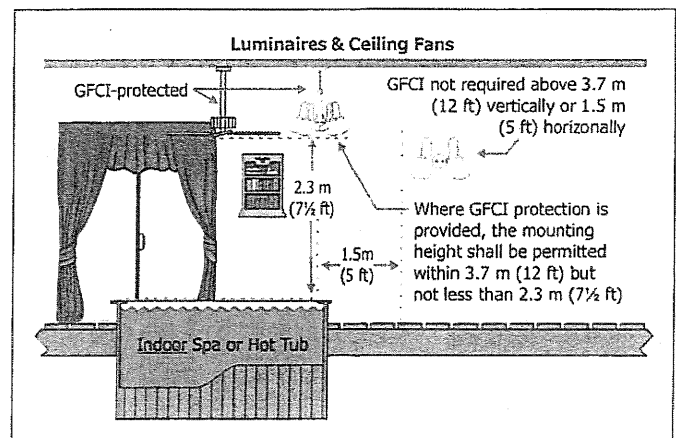


Figure 16 (Figure 14.25 NEC 2011) Luminaire and ceiling fan requirements for indoor spas and hot tubs

Electrical Requirements for Inground Pools including Spas and Hot Tubs (continued)

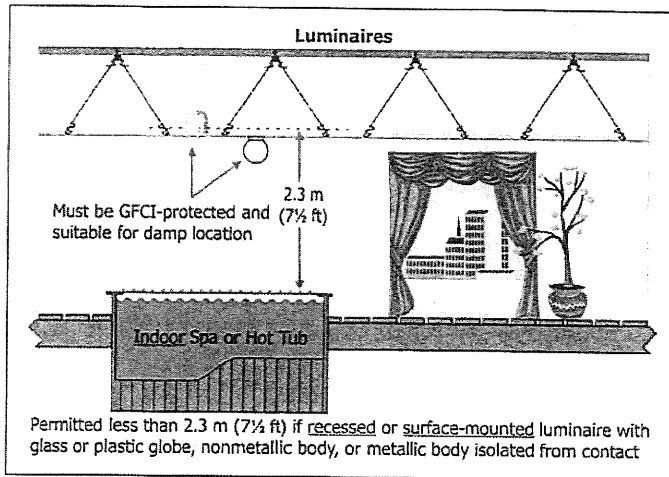


Figure 17 (Figure 14.26 NEC 2011) Luminaire requirements for indoor spas and hot tubs

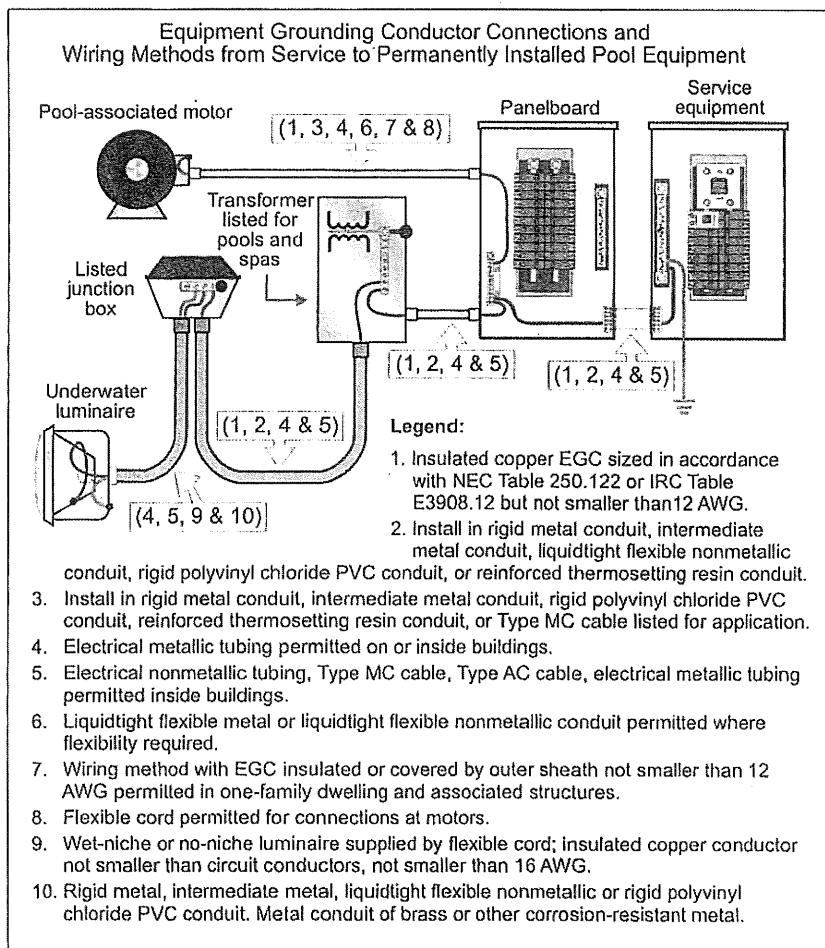


Figure 18 (Figure 14.30 NEC 2011) Equipment grounding conductor connections from service equipment to pool equipment

Definitions

Aboveground/onground pool. See definition of swimming pool.

Barrier. A fence, a wall, a building wall or a combination thereof which completely surrounds the swimming pool and obstructs access to the swimming pool.

Hot tub. See definition of swimming pool.

Inground pool. See definition of swimming pool.

Onground Storable Pool

A pool which can be disassembled for storage or transport. This includes portable pools with flexible/nonrigid walls that achieve their structural integrity by means of uniform shape, support frame or a combination thereof, and can be disassembled for storage or relocation.

Residential. That which is situated on the premises of a detached one- or two-family dwelling or a one-family townhouse not more than three stories in height.

Spa, nonportable. See definition of swimming pool.

Spa, portable. A non-permanent structure intended for recreational bathing, in which all controls, water- heating, and water-circulating equipment are an integral part of the product and which is cordconnected (not permanently electrically wired).

Swimming pool. Any structure intended for swimming or recreational bathing that contains water over 24 inches deep. This includes inground, aboveground, and onground swimming pools, hot tubs, and spas.

Swimming pool, indoor. A swimming pool which is totally contained within a structure and surrounded on all four sides by walls of said structure.

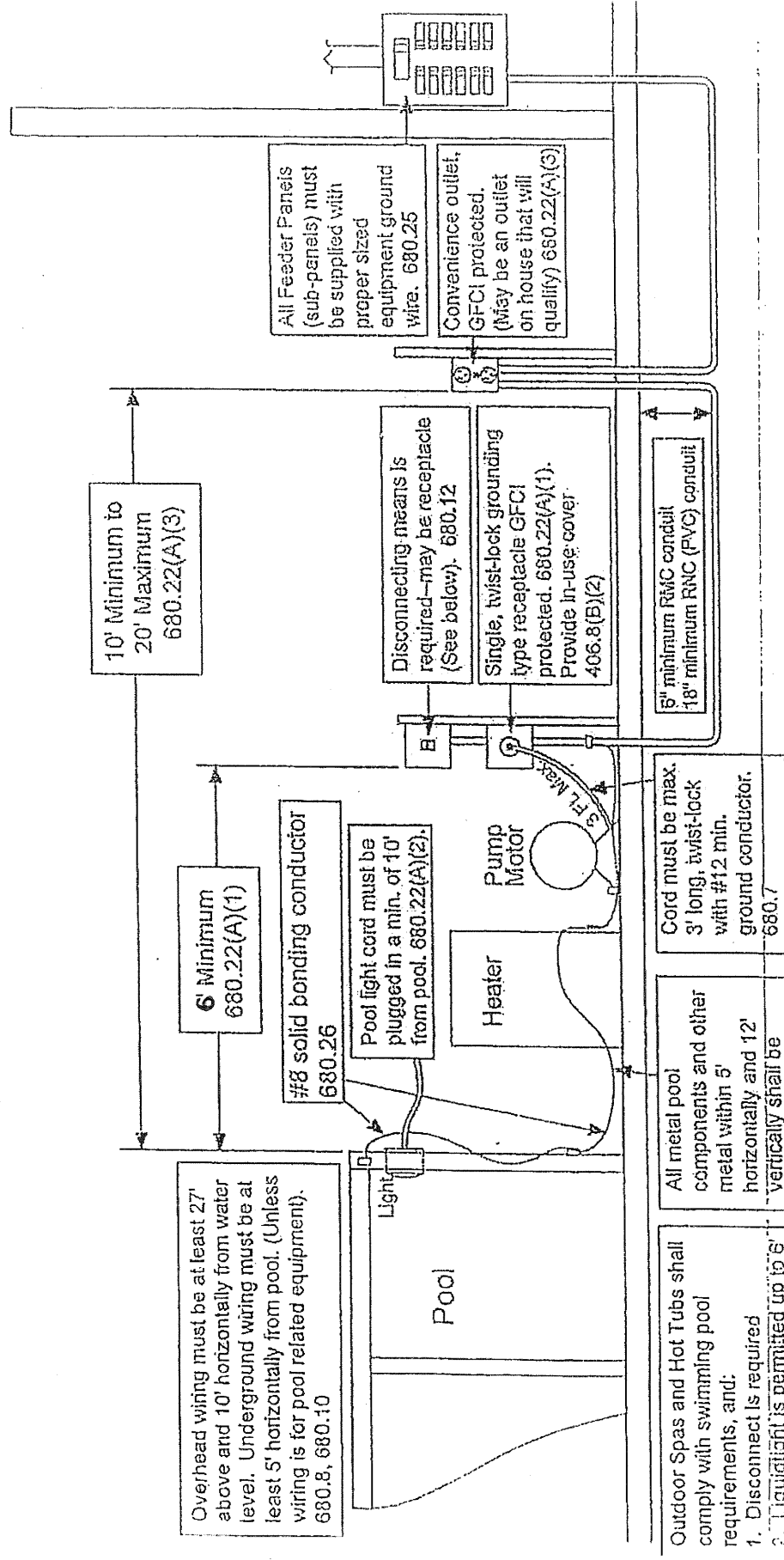
Swimming pool, outdoor. Any swimming pool which is not an indoor pool.

References

Guidelines for Home Pools and Spas in 1
are referenced from the 2012 International
Swimming Pool and Spa Code and all electrical figures/
tables are referenced from the 2011 National Electrical
Code (NEC 2011)

ALL ELECTRICAL WORK MUST
COMPLY WITH ALL REQUIREMENTS
OF THE 2011 NATIONAL ELECTRICAL
CODE

Electrical Information for Above-Ground Pools

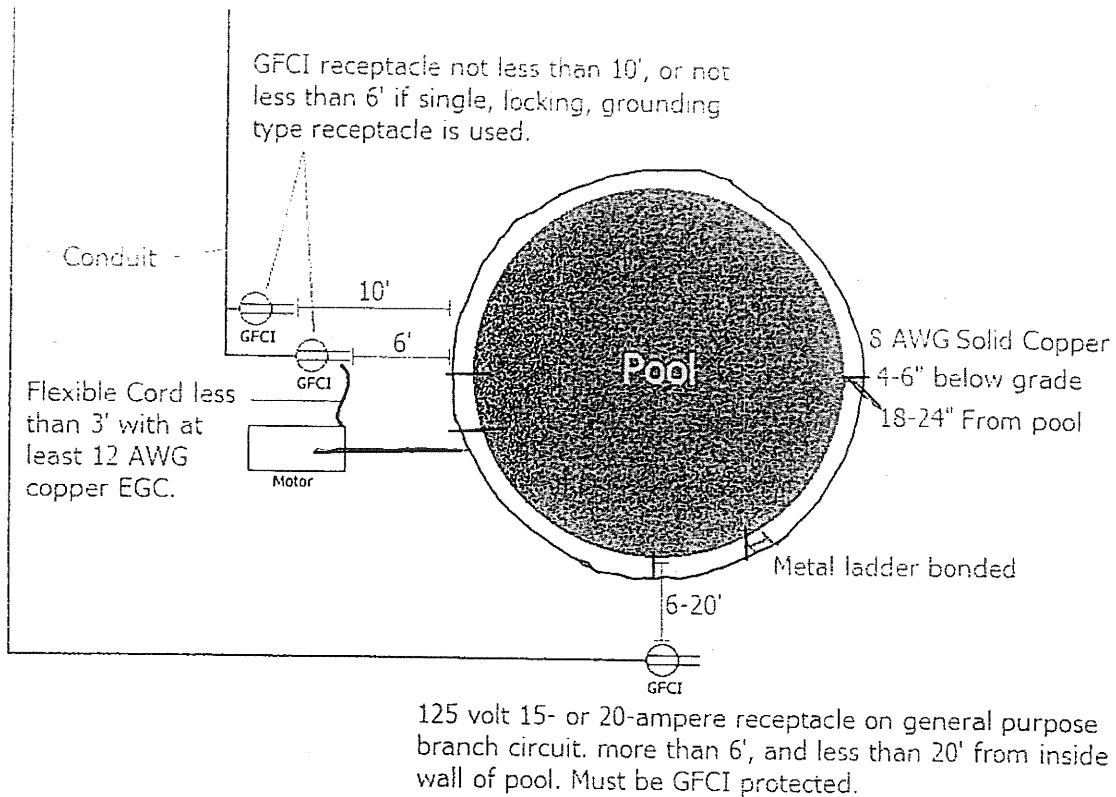


*Structural Reinforcing
Bond at 4 points*

For Pools With →

** Non-conductive at least*

A basic installation, would look something like this.



Equipotential Bonding

You'll bury a continuous loop of 8 AWG solid copper conductor around the pool ^{680.26(B)(2)(b)(1) & 2)}. The loop should be 4-6" deep ^{680.26(B)(2)(b)(5)}, and between 18-24" from the pool ^{680.26(B)(2)(b)(4)}. You'll then bond the frame of the pool to this loop, at 4 uniformly spaced points ^{680.26(B)(2)}. Next you'll bond the pool water to the loop, using a special bracket on the filter basket ^{680.26(C)}. Finally, the loop is bonded to the filter motor ^{680.26(B)(6)}.

Additional items to be bonded

- Metal ladder ^{680.26(B)(5)}.
- Concrete pads within 3' of the pool ^{680.26(B)(2)}.
- Underwater Lighting ^{680.26(B)(4)}.
- Underwater Audio Equipment ^{680.27(A)}.
- Electrically Operated Pool Covers ^{680.27(B)}.
- Deck Area Heating ^{680.27(C)}.