



RESIDENTIAL SWIMMING POOLS

Building Permit Requirements for Permanent In-Ground and Above-Ground Pools



This packet contains general requirements that should be considered as part of your project and should not be considered as a complete list of all code requirements. All new swimming pools shall be constructed and installed in accordance with *Chapter 42* and *Appendix G* of the *2009 International Residential Code*.

Permits

A building permit is required for the construction or installation of any swimming pool that is capable of holding a depth of 24 inches or more of water. This includes any portable, storable pool. Any pool that contains a filter system, heater or electrical lighting also requires a building permit. A building permit must be obtained before any construction or installation may begin. **Note: In addition to the building permit, your municipality may also require a zoning permit to be issued prior to obtaining a building permit. Building permits will not be issued until a zoning permit is obtained.**

Application Process

The following information must be submitted when applying for a building permit:

- Completed Application for Building Permit.**
- A scaled plot plan of the lot showing the following:**
 - Proposed pool location – show distances to property lines and adjacent structures.
 - House and adjacent structures including existing decks and patios.
 - Location of overhead or underground utility lines and easements. Show horizontal and vertical distance from edge of pool or spa to all electric lines.
 - Location, size and heights of all barrier enclosures including fences, and gates. Show location of all doors leading directly to pool area.
 - Location of gas lines, pool heaters, pumps, electrical: wiring, boxes, lighting and receptacles associated with the pool. Show distance from pool to these features.
 - Location of any deck constructed in conjunction with the pool. (A separate permit is required to be obtained for the construction of a deck.)

The completed permit application and plans must be submitted to the City of Warren Building Code Department for review. The application can be dropped off or mailed to the Building Code Department which is located at 318 West Third Avenue, Warren, PA 16365. Once the application has been reviewed and approved, the applicant will be contacted to pick up their permit. Upon receipt of payment, the applicant will be issued a permit placard which must be displayed throughout the construction process. Construction cannot begin until the applicant obtains and displays the permit placard.

Inspections

All work needs to be inspected prior to coverage or concealment. A 24-hour advance notice is required when scheduling inspections. Call the Building Code Department at (814) 723-6300 to schedule an inspection appointment. Depending on the type of pool, some of the inspections listed below may not be applicable. The permit applicant will be advised when the permit is issued as to what inspections will be required.

- A site/footing inspection is required to approve pool location, reinforcement and footing prior to the placement of any concrete.
- All required electrical equipment and installations must be inspected.
- A bonding inspection is required before any bonded components are concealed from view.
- A gas line inspection is required prior to covering when a pool heater is installed.
- A final inspection of the pool installation and required barriers must be performed upon completion and before use. **The pool cannot be filled with water unless proper barriers are in place.**

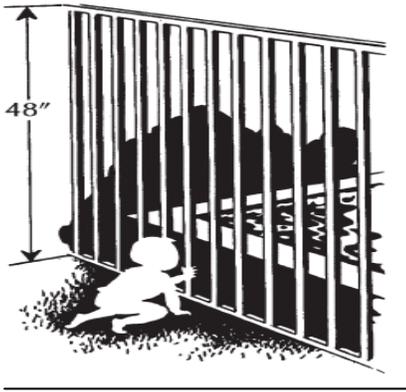
Location

Pools must not be placed below or above utility lines or within any easements. Portable, storable pools must be placed in the same location that was permitted each year. Any changes to the pool location, electrical service or barriers will require a new building permit. Local zoning regulations may also dictate where the pool can be located on the property. The applicant should contact their local municipality for information regarding zoning regulations.

Barrier Requirements

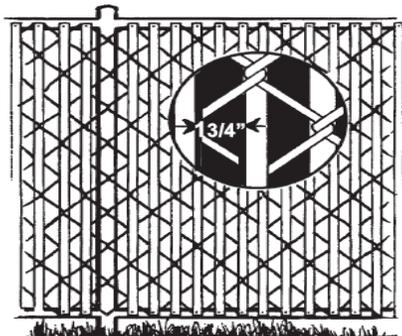
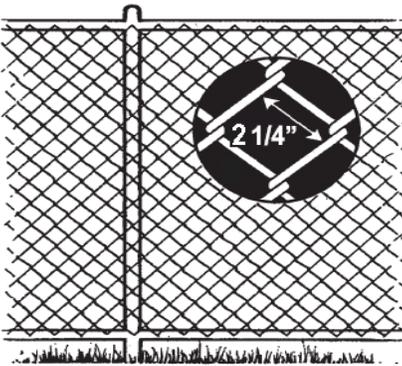
All pools and spas must be provided with safeguards to prevent children from gaining uncontrolled access to the pool or spa. To successfully restrict access to the pool or spa, an approved barrier must be constructed. A successful pool barrier prevents a child from getting OVER, UNDER or THROUGH and keeps the child from gaining access to the pool except when supervising adults are present.

The height of the barrier or fence must be at least **48 inches** above grade measured on the side of the barrier which faces away from the pool.



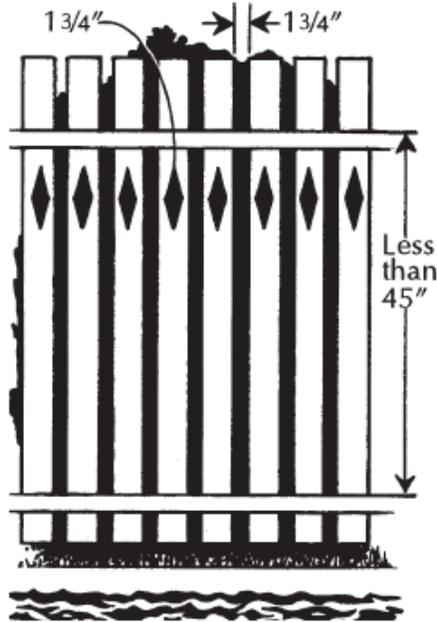
For a Chain Link Fence:

The mesh size should not exceed 2-1/4 inch square unless the fence has slats fastened at the top or bottom which reduces the openings to not more than 1-3/4 inches in width.



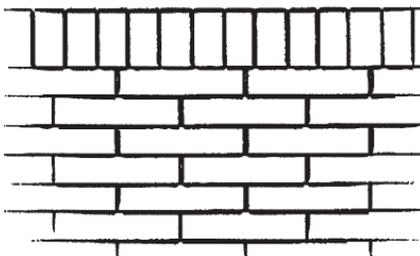
For a Barrier (Fence) Made Up of Horizontal and Vertical Members:

If the distance between the tops of the horizontal members is **less** than 45 inches, the horizontal members shall be located on the swimming pool side of the fence. The spacing between the vertical members shall not exceed 1-3/4 inches in width. Where there are decorative cutouts within the vertical members in the fence, the spacing within the cutouts must not exceed 1-3/4 inches in width.

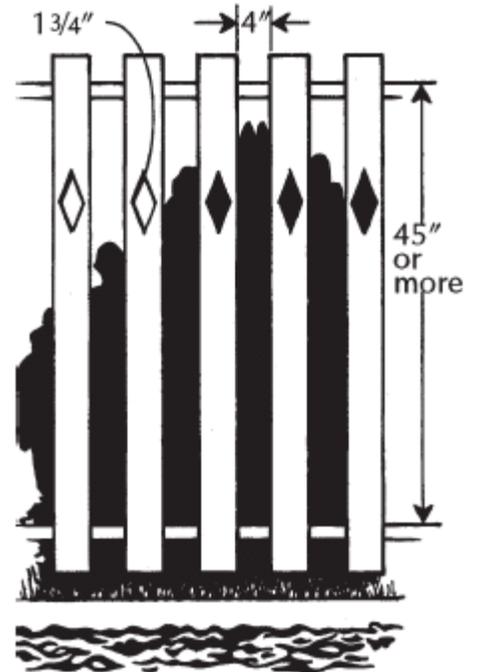


For a solid barrier:

No indentations or protrusions should be present, other than normal construction tolerances and masonry joints.

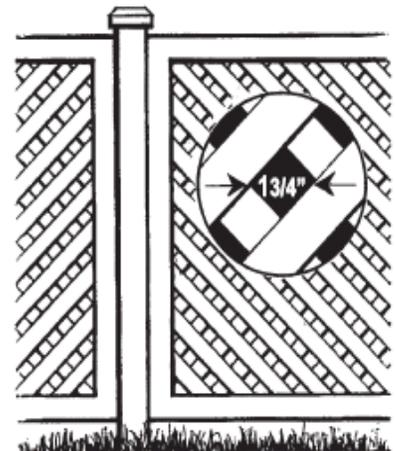


If the distance between the tops of the horizontal members is **more** than 45 inches, the spacing between vertical members must not exceed 4 inches in width.



For a Fence Made Up of Diagonal Members (Latticework):

The maximum opening in the lattice should not exceed 1-3/4 inches

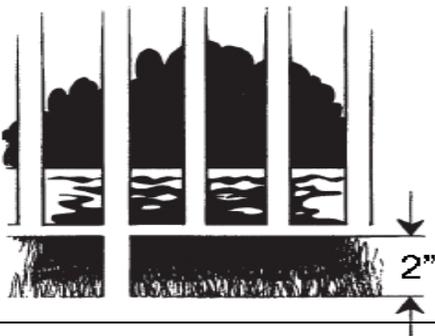


Barrier Clearances:

Where there is an adjacent hill or ground sloping toward the pool, the pool shall be a minimum of 48 inches away, measured from the top edge of the pool, or provide a 48-inch high code compliant barrier.

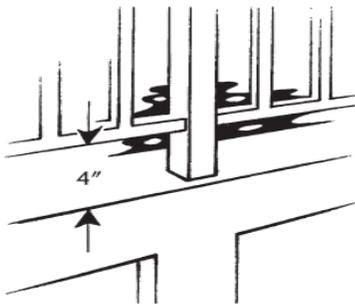
Pool equipment must be placed at least 48 inches from the pool wall to prevent the equipment from being used for climbing.

For any pool barrier, the clearance between the bottom of the fence and finished ground level must not exceed 2 inches on the side of the barrier facing away from the pool.

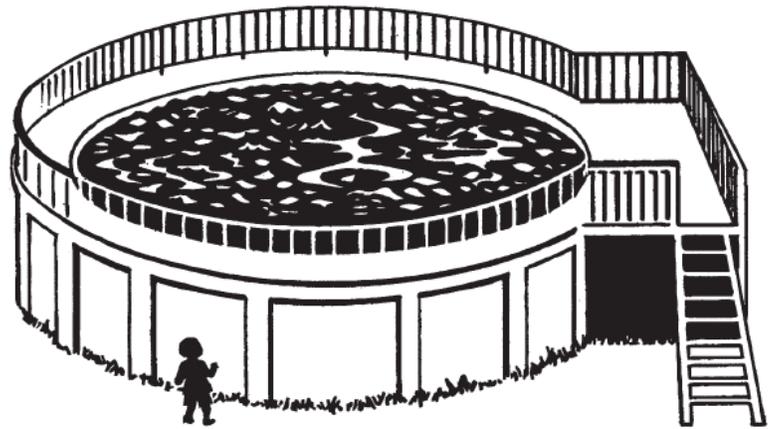
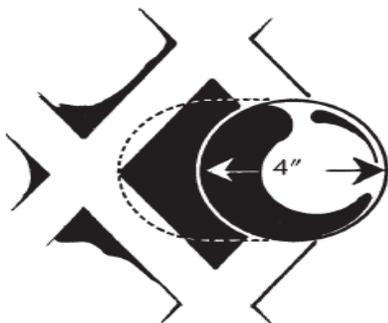


Aboveground Pool with Barrier on Top of Pool:

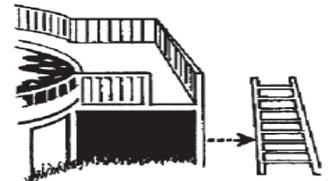
The maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be 4 inches.



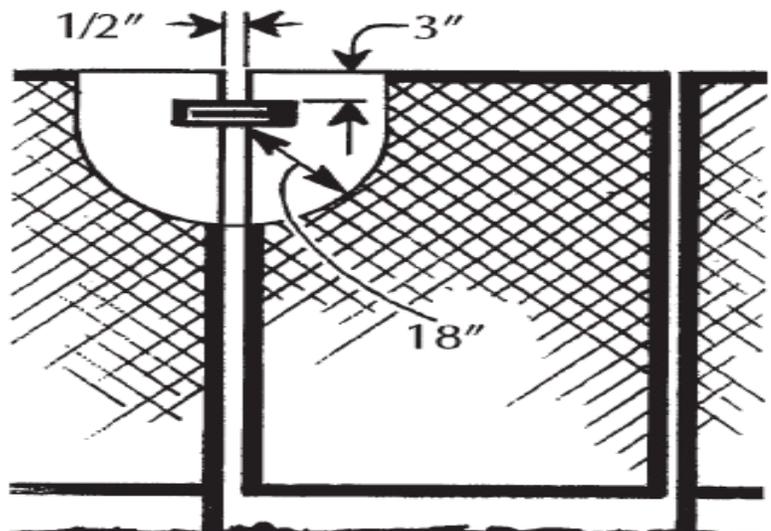
To prevent a child from getting through a fence or other barrier, all openings should be small enough so that a 4-inch diameter sphere cannot pass through.



Above-ground pools must have barriers unless the structure itself meets the barrier height requirements. **The walls of portable, storable pools that are formed by the height of the water, require a solid barrier regardless of its size.** 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, the ladder or steps shall be capable of being secured, locked or removed to prevent access. Permanently installed ladders or steps must be protected by an approved fence and gate.



Gates located in the enclosure must swing away from the pool and have a self-closing and self-latching device. Where the release mechanism self-latching device is located less than 54 inches from the bottom of the gate, the release mechanism shall be located on the poolside of the gate at least 3 inches below the top of the gate. The gate and barrier must have no opening greater than 1/2 inch within 18 inches of the release mechanism. This prevents a child from reaching over the top of the gate and releasing the latch.



When the House Wall Forms Part of the Pool Barrier:

If the pool barrier is part of a house wall, garage wall, shed wall, and/or similar structure, and there are access door(s) in the barrier walls, a door alarm must be installed and mounted on the side of the door or screen door opposite the pool. This alarm must produce an audible warning when the door or screen door are opened. The alarm shall activate within 7 seconds after the door is opened and sound continuously for a minimum of 30 seconds. The alarm must be able to be heard throughout the house. The alarm must automatically reset under all conditions. The alarm must be equipped with a manual touch pad or switch that allows adults to temporarily deactivate the alarm for no more than 15 seconds. The deactivation touch pad or switch must be located at least 54 inches above the threshold of the door covered by the alarm.



Approved power safety covers can also be installed on pools to serve as security barriers. Spas or hot tubs installed with an approved safety cover are exempt from the above barrier requirements.

Electrical Installations

- Receptacles that provide power for water pump motors or other loads directly related to the circulation and sanitation system, shall be permitted to be located between 6 and 10 feet from the inside walls of pools and, where so located, shall be single and of the locking and grounding type and shall be GFCI-protected and weather and tamper-resistant. **No receptacles are permitted within 6 feet of the inside walls of pools.**
- At least one 125-volt, 15 or 20 ampere receptacle supplied by a general-purpose branch circuit shall be located a minimum of 6 feet from, but not more than 20 feet, from the inside walls of pools.
- All 125-volt receptacles located within 20 feet of the inside walls of pools must be GFCI-protected.
- Pool pump receptacle feed conductors shall be individual conductors installed in listed nonmetallic or metal conduit; conductors shall be black/white/green, 12 AWG copper wire; the conductor insulation type shall be THHN/THWN.
- Pool pump circuit is required to be on a dedicated circuit.
- The pool pump cord may not exceed 3 feet in length. The use of extension cords is prohibited.
- One or more means to simultaneously disconnect all ungrounded conductors for all utilization equipment, other than lighting, shall be provided. The disconnecting means shall be readily accessible and within sight from the equipment it serves and shall be located at least 5 feet from the edge of the pool.
- Underground wiring must be installed in rigid metal conduit, intermediate metal conduit or nonmetallic raceway system. Rigid or intermediate metal conduit must be buried a minimum of 6 inches below grade. Nonmetallic raceways listed for direct burial, must be buried a minimum of 18 inches below grade.
- Pools must be located so that there is at least a 10-foot horizontal clearance from the edge of the pool to any overhead power line and at least a 5-foot horizontal clearance from the edge of the pool to any underground electrical wiring.
- All conductive pool shells, perimeter surfaces, metallic components, underwater lighting, metal fittings, electrical equipment and metal wiring methods and equipment must be bonded together using solid copper conductors not smaller than 8 AWG or rigid metal conduit of brass or other identified corrosion resistant metal.
- All metal within 5 feet of inside wall of pool must be bonded to the pool with 8 AWG solid copper wire.
- An 8 AWG solid bare copper wire shall be installed around the perimeter of the pool no less than 18 inches and no more than 24 inches from the wall of the pool; wire must be buried 4 to 6 inches deep; wire shall be connected to the pool with listed connectors at 4 locations equally spaced.
- The pool water shall be intentionally bonded by means of a conductive surface area not less than 9 square inches installed in contact with the pool water.
- Bonding connectors and machine screws or nut and bolts must be stainless steel, brass, copper or copper alloy; connectors must be listed; sheet metal screws are NOT permitted for bonding.

Underground Utility Lines

Care should be taken when excavating to minimize potential problems with buried gas, water, sewer and underground electrical lines. Applicants must obtain assistance regarding the location of underground utilities by calling Pennsylvania One Call at 1-800-242-1776 three business days in advance of any digging.

For other assistance and information, contact:
The City of Warren Building Code Department
318 W. Third Avenue Warren, PA 16365
Phone: (814) 723-6300, ext. 116 Fax: (814) 723-3242
Email: codes@cityofwarrenpa.gov