

Pool & Hot Tub Guide

PERMIT(S) FOR POOLS/HOT TUBS WITH SIDE WALLS > 24"

******* ALL FEES DUE AT TIME OF APPLICATION *******

- Building Permit Application.** Be aware of any subdivision restrictions prior to application. Complete application *with valid email address*. Can be secured by homeowner or State of MI licensed contractor. Approved permits will be emailed to applicant when possible.
- Electrical Permit Application.** Complete application *with valid email address*. Required for *any* electrical work, in some cases even for pool replacements. Permits should be secured by person doing the work. In most cases, an electrical permit is not required for a storable pool provided the pool pump motor is plugged into an existing GFCI receptacle.
- Mechanical Permit Application.** Complete application *with valid email address*. Required if installing pool heater.
- Plans.** Submit two (2) plans. Indicate the following:
 - Where pool/hot tub will be located on property (not in front yard, within any easement, or above a septic field, septic tank or well);
 - Size and shape of pool/hot tub;
 - Height of pool/hot tub side walls;
 - Distance from proposed water's edge to property lines (at least 6 feet from side & rear property lines) and easements;
 - Location of overhead wires (electric, phone & cable). There can be no wires over the pool/hot tub or any diving structure/pool platform that is within 10 feet of the water's edge. Wires measured horizontally 10 feet from the inside wall must be at least 22.5 feet above the ground, deck or platform;
 - Location of electric meter and electrical service line;
 - Details on pool/hot tub barrier/enclosure to be constructed; and
 - Method of entrapment protection for pool/hot tub with floor drain. (Include manufacturer's specifications if installing an unblockable outlet cover).

******* START WORK ONLY AFTER PERMITS ARE APPROVED *******

******* VERIFY UNDERGROUND UTILITIES - CALL MISS DIG AT 800-482-7171 *******

INSPECTIONS – SCHEDULE AT WWW.STERLING-HEIGHTS.NET

- Building Open Hole Inspection.** For in ground or built-ins only.
- Electrical Underground Inspection #1.** If electric is installed.
- Electrical Bonding Inspection #2.** If electric is installed.
- Electrical Final Inspection #3.** If electric is installed.
- Mechanical Underground Pressure Test #1.** If there is a pool heater.
- Mechanical Final #2.** If there is a pool heater.
- Final Building Inspection.** Schedule after all other inspections approved, installation complete.

******* HAVE APPROVED PLANS ON SITE FOR ALL INSPECTIONS *******

POOL BARRIERS/ENCLOSURES

Private pools shall be protected by a barrier/enclosure to protect small children.

Fencing

- Fencing shall measure 48" above the ground on the side of the fence that is outside the pool area.
- The maximum vertical clearance between the barrier and the ground shall be 2" measured on the side of the barrier facing away from the pool.
- Openings in the barrier shall not allow the passage of a 4" ball.
- Chain link fences shall have a maximum mesh size of 2 ¼" square.
- Lattice fencing may be used when the opening formed by the diagonal members is not more than 1 ¾".

Gates

- Access gates shall comply with all fencing requirements and shall open outwards from pool area, be self-closing and have a self-latching device.
- When the release mechanism of the self-latching device is located lower than 54" from the walking surface, the following apply:
 - The release mechanism shall be located on the pool side of the gate at least 3" below the top of the gate.
 - The gate shall not have openings greater than 1 ½" within 18" of the release mechanism.

Above Ground Pools

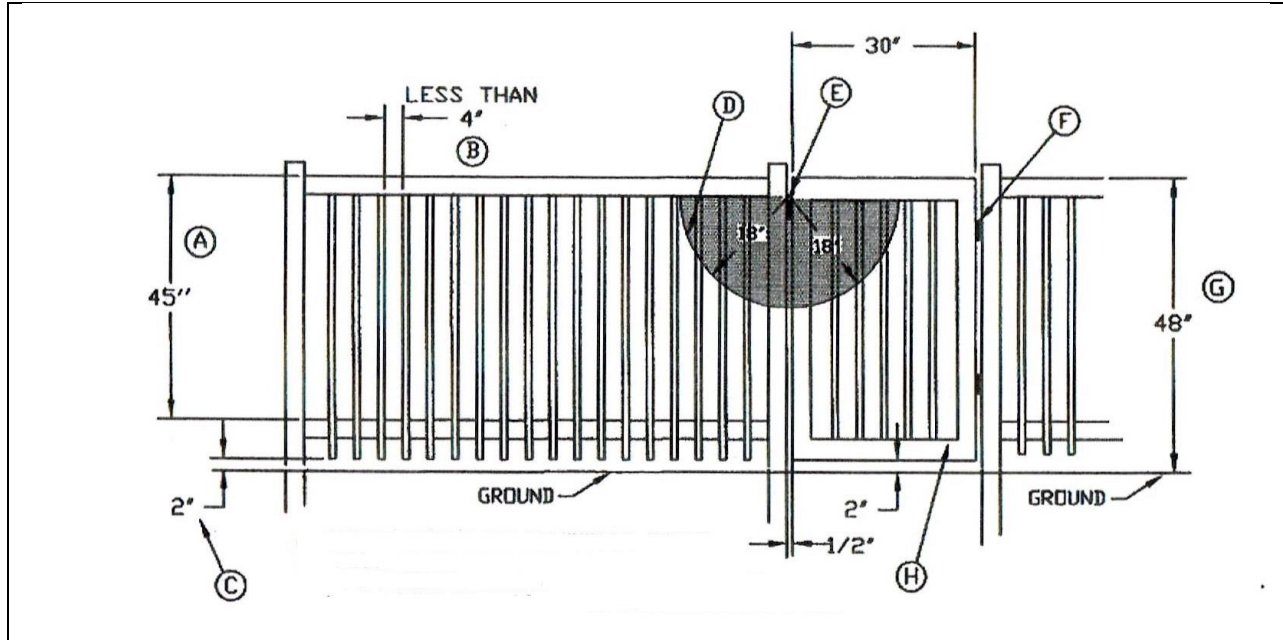
- The pool walls can be a barrier if they are at least 48" above the ground.
- The ladder used for accessing the pool shall be enclosed by an approved fence or gate meeting the above requirements (See Fencing) or the ladder shall be capable of being secured, locked or removed to prevent access.

Doors

- Doors that form part of pool enclosure and provide direct access from the house or garage area shall produce an audible warning when the door and/or its screen are open. The alarm shall:
 - Begin immediately after the door is opened and sound continuously for 30 seconds;
 - Be capable of being heard throughout the house;
 - Automatically reset;
 - Be equipped with a device that will deactivate the alarm for not more than 15 seconds; and
 - Be located at least 54" above the door threshold.

Hot Tubs/Spas

- Approved lockable safety covers must be provided and labeled that they have passed the required ASTM F-1346-91 test.



Typical Fence and Gate Details

NOTE D: When the release mechanism “E” of the self-latching device is located lower than 54” from the walking surface the gate shall not have openings greater than 1 ½” within 18” of the release mechanism.

The release mechanism shall be located on the pool side of the gate at least 3” below the top of the gate.

ENTRAPMENT PROTECTION FOR SUCTION OUTLETS (FLOOR DRAINS)

According to the ANSI/APSP-7(see 2009 Michigan Residential Code), a listed and approved unblockable outlet cover may be installed if there is a drain on the bottom of pool OR additional drains may be installed, at least 3’ apart.

TYPES OF POOLS

Storable Pools: Pools on or above the ground and are capable of holding water to a maximum depth of 42”, or a pool with nonmetallic, molded polymeric walls or inflatable fabric walls regardless of dimension.

Permanent Pools: Any other pool.

ELECTRICAL

******* IT IS ILLEGAL FOR ANYONE TO PERFORM ELECTRICAL WORK ON A PERMIT OBTAINED BY ANOTHER PERSON *******

The city references the 2009 Michigan Residential Code 2009 for all installations.

STORABLE POOL - WIRING

The factory supplied cord-connected pool pump motor for a storable pool must be plugged into a receptacle that has ground fault circuit interrupter protection (GFCI). This cord is usually 25 feet long.

A GFCI receptacle located on the exterior or interior of the home/garage may be used to provide the necessary protection.

A GFCI breaker installed in the circuit breaker box can also be used to provide the necessary protection if the receptacle does not have built-in GFCI protection.

Any factory supplied light fixture must be plugged into a GFCI receptacle.

PERMANENT POOL - WIRING

A separate, dedicated circuit from the breaker or fuse box must be installed for the pool pump motor. This circuit is typically 20 amps but depending on the size of the motor a 15 amp circuit may be used. Under no circumstances however, can the wiring be sized smaller than # 12 AWG.

The interior portion of the wiring for the pool pump motor may be run in nonmetallic sheathed cable (Romex), and must be installed through basement joists, not below them.

Once outside of the home, the wiring must be converted into three separate individual conductors with an insulated grounding wire and are typically black, white and green. Together with the wiring from inside the home, they are installed into an approved, weatherproof device or junction box mounted on the home.

From this box, electrical PVC conduit is installed to an area no closer than 6 feet to the pool, or to where the pool pump motor will be installed (sometimes on the side of the home). The PVC conduit must be buried to a minimum depth of 18 inches and inspected prior to covering. The PVC is run to an approved weatherproof box and mounted on a 4 inch x 4 inch treated post or galvanized steel.

At this point, the three individual conductors are pulled to the box through the PVC conduit and a GFCI protected receptacle and an approved in-use cover installed.

An in-use cover encloses the pool pump cord and receptacle connection and looks like a plastic "bubble".

If the factory supplied cord to the pool pump is of the twist-locking type, the receptacle box may be installed 5 feet from the pool and a twist-lock type receptacle installed with an approved in-use cover.

In addition to the pool pump motor receptacle, an additional GFCI protected convenience receptacle is required to be located a minimum of 6 feet from and not more than 20 feet from the inside wall of the pool.

An existing GFCI receptacle on the rear or side of the home, or on the exterior of a detached garage or other accessory structure may serve as this required receptacle so long as it is within the 20 foot zone.

PERMANENT POOL ABOVE GROUND - BONDING

A solid, #8 copper conductor must be run from the pool pump motor and attach to the pool pump motor receptacle box (if it is located within 5 feet of the pool), any ladder holders or pool hand rails that are metal, the pool heater, the pool filter and any wet-niche lighting fixtures.

The pool water must be bonded, usually accomplished by a connection made to a bonding lug on the pool filter.

The required bonding wire must surround the circumference of the pool connecting at four equal points to the metal stanchions of the pool.

If the supporting stanchions are not made of metal, the bonding conductor will simply surround the pool but is not required to be attached to it.

The solid, #8 copper bonding conductor shall follow the perimeter of the pool at a distance of 18 to 24 inches from the inside walls of the pool and buried between 4 and 6 inches below grade.

It not required that this conductor be run back to the service panel or connect to a driven ground rod either at the home or the pool.

PERMANENT POOL ABOVE GROUND - LIGHTING

Lighting for above ground pools typically comes with a factory supplied cord that can plugged into any GFCI receptacle that is at least 6 feet away from the pool.

PERMANENT POOL IN GROUND – BONDING & LIGHTING

Contact the electrical inspector at 586.446.2381.

PERMANENT POOL - KEY POINTS

All receptacles outlets located between 6 and 20 feet (whether new or existing) are required to be GFCI protected.

The cord for a permanently installed pool pump must not be longer than 3 feet.

Underground feeder cable (UF cable) may not be used to feed the pool pump motor.

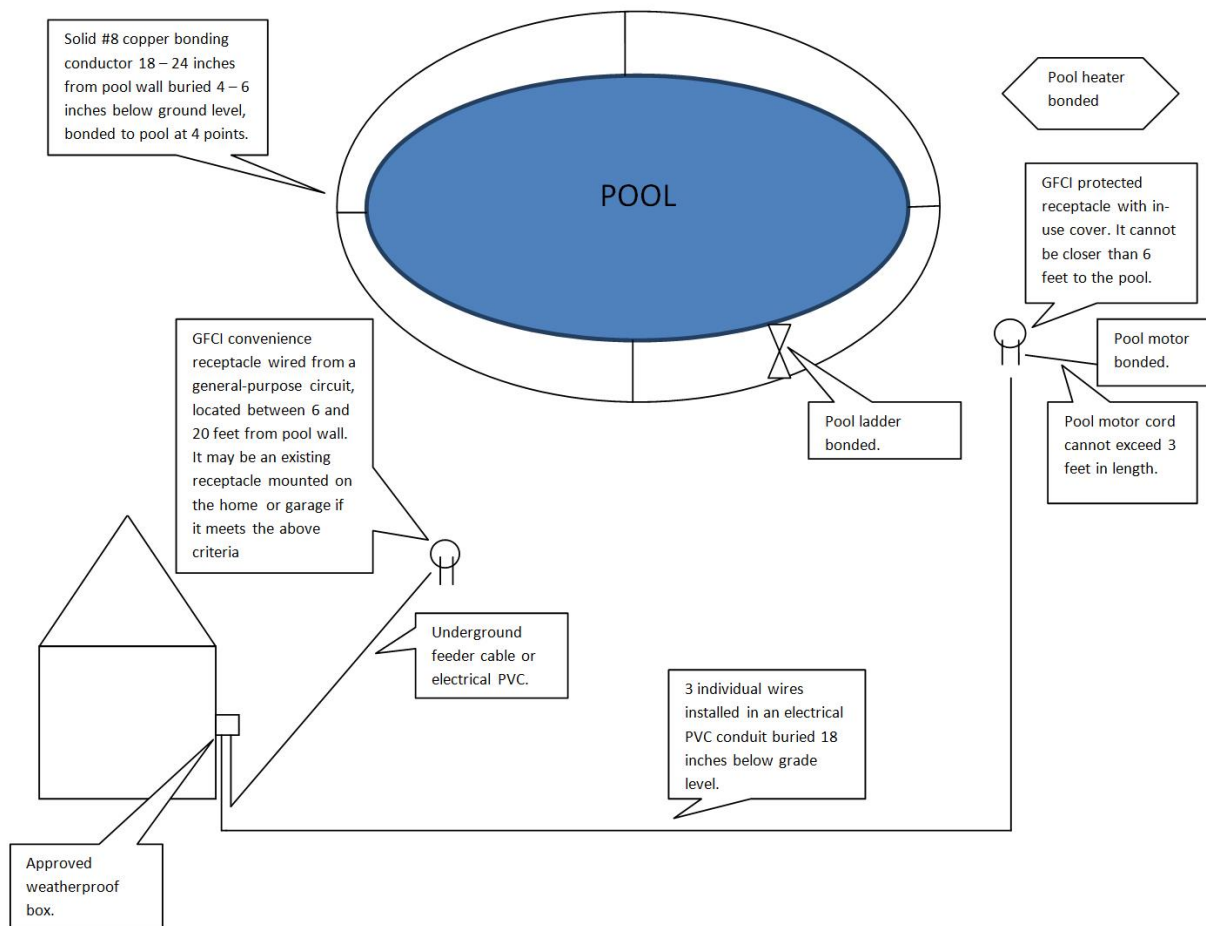
Only PVC conduit that is listed for use with electrical wiring can be used.

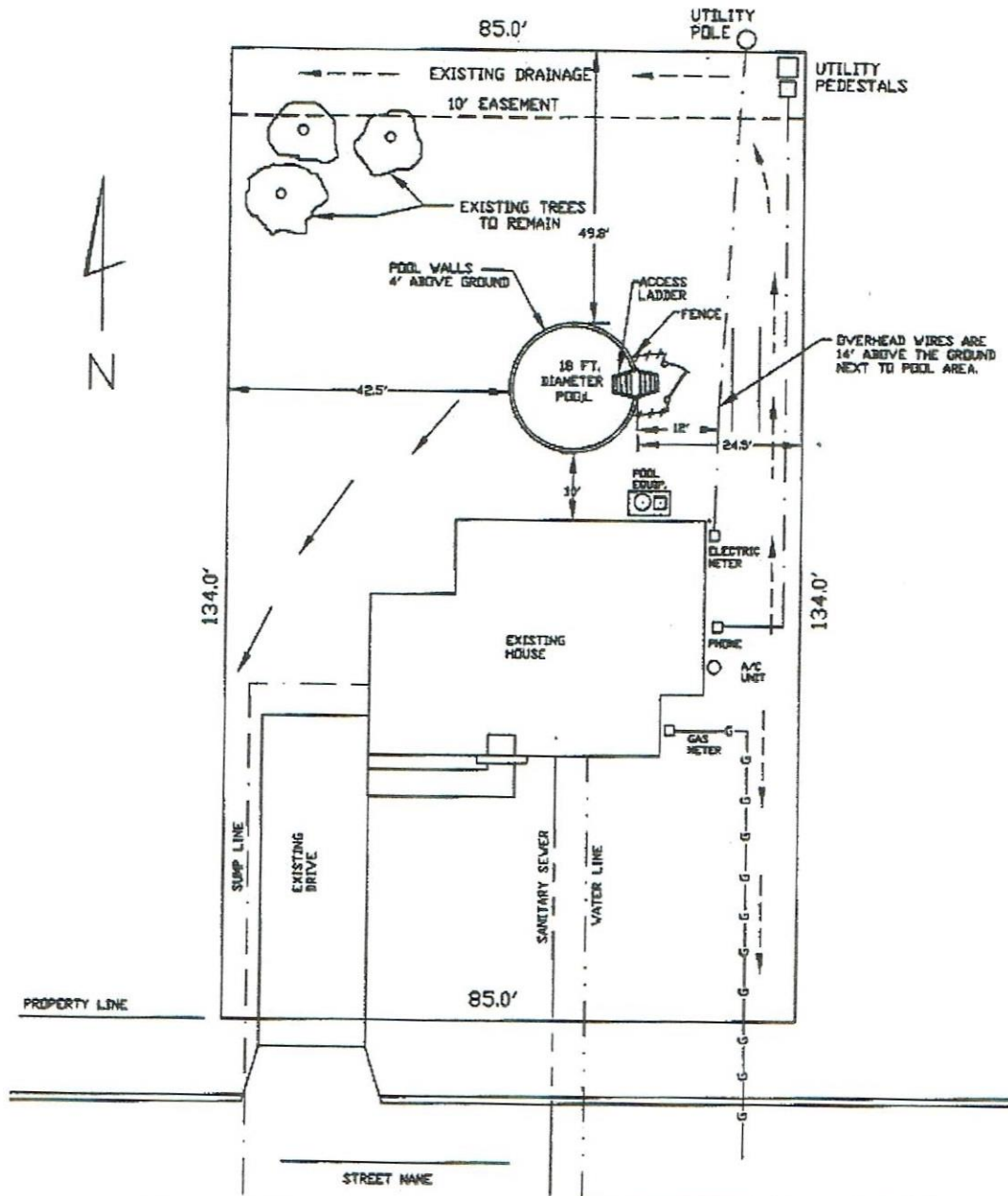
Switches and/or switching devices on the property shall be located at least 5 feet horizontally from inside wall of the pool, unless separated from the pool by a permanent barrier.

Underground wiring not associated with the pool shall be kept a minimum of 5 feet horizontally from the inside wall of the pool.

HOT TUBS - WIRING

Contact the electrical inspector at 586.446.2381.





SAMPLE PLOT PLAN
PRIVATE ABOVE GROUND POOL

BUILDER:	
ADDRESS	PHONE
OWNER:	
ADDRESS	PHONE