

## **PRIVATE RESIDENTIAL SWIMMING POOL, SPAS AND SIMILAR INSTALLATION GUIDELINES**

The City of Mason Codified Ordinance and the 2014 National Electric Code are the standards for the installation of barriers and electrical equipment associated with swimming pools, spas and similar installations. The following are requirements enforced by the City of Mason.

### **PLAN APPROVAL**

Plan approvals are required for permanent, storable and wading pools that are **24 inches** or more in depth and hot tubs and spas, that requires electricity and barriers.

Plumbing Plan Approvals are required when pools are served by a permanent water supply and/or a permanent drain system. (Plumbing Plan Approvals are obtained from the Warren County Board of Health.)

Fences (Barriers) and electrical systems must be included on the same plan approval.

A plot plan drawing is required showing all fences and pool location. (See page 4 for barrier details)

### **SETBACKS**

Swimming pool setbacks are based on the regulations for accessory structures for the building zone in which the property resides. The distance is measured from the property line to the edge of the pool gutter.

### **INSPECTIONS**

All Plan Approval require inspections. The owner or his/her agent is responsible for all inspection appointments. Required inspections vary depending upon the type of pool, spa, hot tub, storable and/or wading pool:

Equipotential bonding inspection is required for all permanently installed pools.

Electrical inspections are required for all pools, hot tubs, spas, storable pools, and any other related structure that uses electrical power to operate.

Final pool inspection includes electrical systems and pool barriers.

## **NATIONAL ELECTRIC CODE GUIDELINES**

### **RECEPTACLES**

A 125-volt (15- or 20-ampere) general purpose is required where a permanently installed pool is located at a dwelling unit(s), shall be located at a minimum of **6 feet (1.83 m)** and not more than **20 feet (6.08 m)** from the inside wall of the pool. This receptacle shall be located not more than **6 feet 6 inches (1.98 m)** above the floor, platform, or grade level serving the pool.

All 125-volt receptacles located within **20 feet (6.08 m)** of the inside walls of a pool or fountain shall be protected by a ground-fault circuit interrupter.

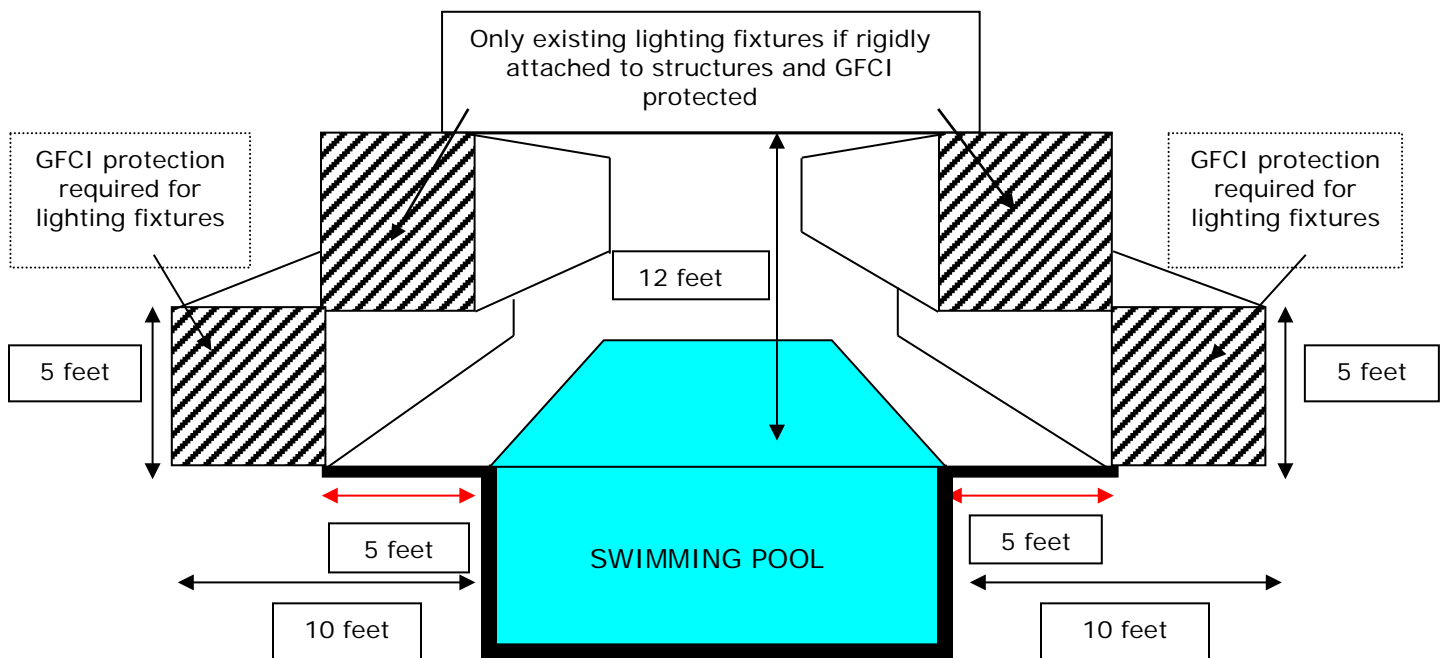
## LIGHTING

In outdoor pool areas, lighting fixtures, lighting outlets, and ceiling paddle fans shall not be installed over the pool and/or over the area extending **5 feet (1.52 m)** horizontally from the inside walls of a pool. No part of the lighting fixture or ceiling paddle fan should be less than **12 feet (3.66 m)** above the maximum water level.

Lighting fixtures and lighting outlets installed in the area extending between **5 feet (1.52 m)** and **10 feet (3.05 m)** horizontally from the inside walls of a pool shall be protected by a ground-fault circuit interrupter unless installed **5 feet (1.52 m)** or more above the maximum water level and rigidly attached to the structure adjacent to or enclosing the pool.

Existing lighting fixtures and lighting outlets that are located less than **5 feet (1.52m)** will be allowed and shall be no less than **5 feet (1.52m)** above the maximum water level and shall be protected by a ground-fault circuit interrupter.

Plug-in type lighting fixtures shall meet the same specifications as other **cord-and-plug connected equipment** as set forth below where installed within **16 feet (4.88 m)** of any point on the water surface, measured radially.



## SWITCHING DEVICES

Switching devices on the property shall be located at least **5 feet (1.52 m)** horizontally from the inside walls of a pool unless separated from the pool by a solid fence, wall, or other permanent barrier.

## MAINTENANCE DISCONNECTING MEANS

One or more disconnection means shall be provided for all equipment (pools, spas, and hot tubs) other than lighting. Each disconnect switch shall be accessible and within sight from its equipment, but no closer than **5 feet**.

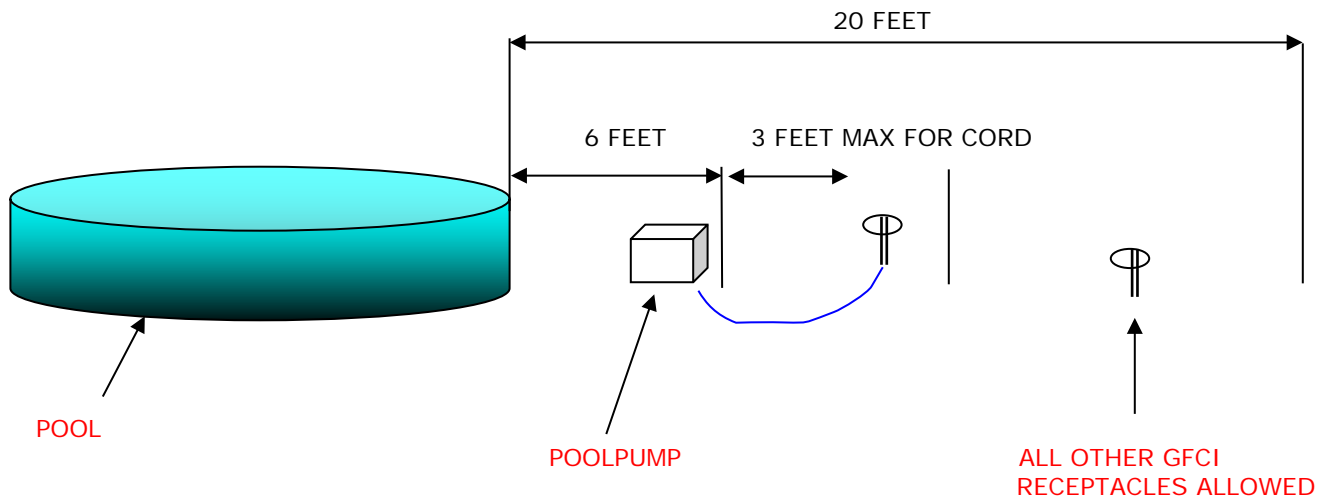
## CORD-AND-PLUG CONNECTED EQUIPMENT

Fixed or stationary equipment rated 20 amperes or less, other than an underwater lighting fixture for a permanently installed pool, shall be permitted to be connected with a flexible cord to facilitate the removal or disconnection for maintenance or repair. The flexible cord shall not exceed **3 feet (91.4 cm)** in length, shall have an **insulated copper equipment-grounding conductor not smaller than No. 12** with a grounding-type attachment plug and shall be connected to the fixed metal of the equipment.

## MOTORS

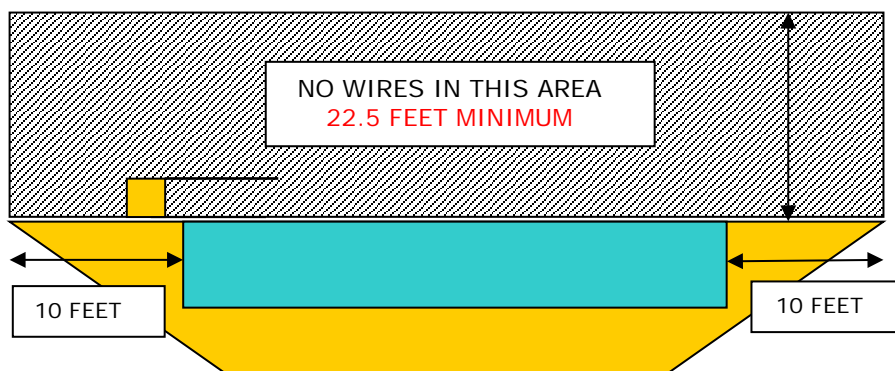
Receptacles that provide **power to water-pump motors or other loads directly related to the circulation and sanitation system** for permanently installed pools or fountains shall not be permitted within **6 feet (1.83 m)** from the **inside** walls of the pool or fountain.

Outlets supplying pool pump motors connected to single-phase, 120 through 240 volts, rated 15 or 20 amps shall be provided with GFCI protection. The branch circuit for pool-associated motors shall be installed in rigid metal conduit, intermediate metal conduit, rigid nonmetallic conduit, or Type MC cable listed for the application. **(The code does not allow the use of UF cable or direct burial cable to be run to pool equipment).**



NOTE: IF USING A RECEPTACLE FOR THE POOL PUMP, IT SHOULD CONSIST OF:  
**SINGLE RECEPTACLE, GROUNDING TYPE, GFCI PROTECTED**

## OVERHEAD CONDUCTOR CLEARANCES



No overhead wiring shall be installed within **22.5 feet (6.9 m)** vertically from the water and all areas extending **10 feet (3.05 m)** horizontally from the inside of the walls of the pool. Wiring above diving structures, observation stands, towers, or platforms shall not be within **14.5 feet (4.40 m)**.

Utility owned conductors might have different requirements, please consult with Duke Energy.

## **UNDERGROUND WIRING LOCATION**

Underground wiring (even encased in conduit) shall not be permitted under the pool or within the area extending **5 feet (1.5m) horizontally** from the inside wall of the pool unless this wiring is necessary to supply pool equipment. Where space limitations prevent wiring from being routed a distance of **5 feet (1.5 m)** or more from the pool, such wiring shall be permitted where installed in rigid metal conduit, intermediate metal conduit, or a nonmetallic raceway system. All metal conduits shall be corrosion resistant and suitable for the location.

## **CITY OF MASON AMENDMENTS**

### **DEFINITIONS**

**Swimming Pool:** A built or unitized accessory structure consisting of a basin or tank of water for swimming and diving by the homeowner and family, and their invited guests only. This excludes hot tubs, spas, and ponds from the barrier requirements but not from the electrical requirements. (City of Mason Amendments)

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

**Residential:** Refers to One, Two and Three Family Dwellings.

### **BARRIER REQUIREMENTS FOR SWIMMING POOLS**

A barrier is required when swimming pools are more than **24 inches** in depth at any point.

The top of the barrier shall be at least **48 inches** above grade on the side of the barrier that faces away from the swimming pool. The barrier may be at ground level or mounted on top of the pool structure, if the top of the pool structure is above grade such as an aboveground pool. If 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**.

The opening size permitted in the barrier depends on the type of fence installed. See the City of Mason Codified Ordinance section 1301.01 for more information or call our office for more details. Existing fences shall comply with the provisions of the Codified Ordinance.

Access gates shall be equipped to accommodate a locking device. Pedestrian access gates shall be self-closing and have a self-latching device. Gates other than pedestrian access gates shall have a self-latching device. Release mechanism less than **54 inches** from the bottom of the gate shall be located **3 inch** below the top of the gate with no openings larger than **½-inch** within **18 inches** of the mechanism.

If an above-ground pool structure is used as a barrier or if the barrier is mounted on top of the pool structure, and the means of access is a ladder or steps, then:

The ladder or steps shall be capable of being secured, locked or removed to prevent access,

or

The ladder or steps shall be surrounded by a barrier that meets the requirements of all the above sections. When the ladder or steps are secured, locked or removed, any opening created shall not allow the passage of a **4-inch** diameter sphere.

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

Swimming pools with electrical powered safety covers shall comply with the National Electrical Code and shall meet the ASTM F1346 specifications. Safety covers **shall not be exempt** pools from the provisions for barrier requirements.