



**Building Permit Application – Swimming Pool**  
**Inspection Department - #1 Uptown Circle (physical address)**  
**Mailing Address: PO Box #589 Normal, Illinois 61761**  
**(309) 454-9581 / Fax (309) 888-9670 / [www.normal.org](http://www.normal.org)**

## **REQUIRED INSPECTIONS:**

- 1. Site inspection-** Call the Inspection Department after JULIE has located and the proposed pool is marked on the ground for a site inspection. This inspection will be done by the Electrical and the Building Inspector. Pools shall be located at least 5' from property lines, and 10' from house. In-ground and above-ground swimming pools shall not be installed with a utility/drainage easement.
- 2. Pool bonding inspection-** Before any metal involved with the pool is covered, please call. All metal shall be bonded with #8 copper wire and inspected. Normally on a 54" above ground pool the metal frame is bonded at 4 places around the pool with lugs bolted to the steel. The lugs must be brass and listed as "direct burial" and the attachment must be nut and bolt (not self-tapping screws). The perimeter bonding must be in place and inspected before burial or concrete installation. Note: Pools filled without a bonding inspection may be required to be drained.
- 3. Electrical rough-** Wiring that is run out to feed the electricity to the pool pumps, lights, equipment, etc. shall be inspected prior to burial or concrete pour. UF wire is not permitted for pool wiring.
- 4. Building and Electrical final inspection-** Electrical and Building inspectors will verify that all items above are complete and functioning properly.

## **GENERAL REQUIREMENTS:**

- 1.** Swimming pools shall not be installed beneath or have any edge of the pool within 10'-0" measured horizontally from an overhead electrical wire, telephone wire, cable TV wire, or any other type of wire. Swimming pools shall not be installed beneath or have any edge of the pool within 27'-0" measured horizontally from high voltage electrical feeder wires. All diving boards, diving platforms, and diving towers must maintain a 18'-0" distance, measured horizontally, from all wires. No pool shall be constructed within 5' of any type of buried wire.
- 2.** The installation of the swimming pool, equipment, and paving, shall not change the existing water drainage characteristics of the site, so as to cause water to drain onto adjacent private or public property.
- 3.** All swimming pools, that are capable of holding a depth of water greater than 24", shall be surrounded by a minimum 48" high fence or other barrier, constructed with minimal horizontal members to discourage climbing by children. Openings in the fence shall not allow the passage of a 4" sphere, except that the maximum spacing between the bottom of the fence and the ground shall be 2".
- 4.** All gates in fences shall swing outward, shall be self-closing, and shall be self-latching with the latch located on the pool-side of the gate. Gates shall be at least 48" high with openings not allowing the passage of a 4" sphere, except that the maximum opening at the bottom of the gate is 2" and shall be constructed with minimal horizontal members to discourage climbing.

5. If the house or other structure has a door or openable windows (within 48" of finished grade) leading directly into the fenced pool area, an automatic audible alarm (UL 2017) is required to sound when the doors/windows leading into the fenced pool area are opened. Option 2- Provide Pool Safety Cover- ASTM F 1346

6. If the swimming pool is and above-ground pool at least 48" high, the pool wall may serve as a barrier, but a fence (and gate as described in #4 above) is still required around the access ladder to the pool. Option 2- Provide a removable and/or fold up/ lockable ladder per Sec. 305. Swimming pool filter equipment shall not be installed in a location where a child could climb on the equipment to gain access to the swimming pool. The swimming pool can be filled with water once the fence, gates, and door alarms have been installed.

7. When applying for a building permit for the swimming pool, a site plan shall be submitted showing how far the pool is away from the property lines, overhead electrical wires, buildings, and any other structures on the lot. If a new fence is to be erected, the site plan shall show the fence line, and how far from the property line the pool will be. If the fence is existing, the site plan shall show the existing fence location.

#### **ELECTRICAL REQUIREMENTS:**

**Permanently Installed Swimming, Wading, Immersion, and Therapeutic Pools.** Those that are constructed in the ground or partially in the ground, and all others capable of holding water at a depth greater than 1.0 m (42 in.), and all pools installed inside of a building, regardless of water depth, whether or not, served by electrical circuits of any nature.

**Storable Swimming, Wading, or Immersion Pool.** Those that are constructed on or above the ground and are capable of holding water to a maximum depth of 1.0 m (42 in.), or a pool with nonmetallic, molded polymeric walls or inflatable fabric walls regardless of dimension.

**Equipotential Bonding Grid (EBG).** To minimize voltage differences between the pool, its equipment, surrounding metallic objects that a person may come in contact with, voltages that may be passing thru the earth as a result of lightning, or power company nicked conductors—all these items are bonded together so that no difference in voltage can exist to create a shock hazard.

**Perimeter Surface Bonding.** The perimeter surface from the pool wall out 3 feet is required to be bonded. This bonding is required if paved or unpaved. If paved with poured concrete, steel is required to be embedded in the concrete. If paved with stepping stones or if unpaved, a #8 Bare Solid Copper wire is required to be buried around the pool 18"- 24" from the pool walls. This #8 is buried 4"- 6" deep and connected to Equipotential Bonding Grid. If a concrete walkway is being installed, a #8 copper shall be run continuously around the pool in the pour and bonded to each piece of reinforcing steel. 6 x 6 steel reinforcing wire may be required to be installed. All bonding wires are connected to Equipotential Bonding Grid.

**Listed Connectors.** Connectors for the #8 BSC wire are required to be labeled as approved for direct burial if buried or immersed in concrete. These are usually stamped DB or db. Brass Split bolt connectors labeled DB are ok.

**Lights:** If pool lights are installed in an in-ground pool, call the electrical inspector for the requirements. If a light is installed for an above ground pool, the circuit must be GFCI protected and the light shall be installed per the installation instructions—these instructions will specify the depth of water above the fixture.

**Cord Connected Pump or Equipment.** For permanent pools, cords are permitted only to a length of 3' and must be 12 AWG or larger conductor. For storable pools, the motors are permitted to come with a 25' cord.

**Disconnect for pool equipment.** The disconnect for pool equipment may not be located closer than 5' to wall of pool. Disconnect is required to be within sight of the equipment and readily accessible. Switch type disconnects may be 5' from pool edge. Receptacles used to disconnect equipment must be 10' from pool wall. The disconnecting receptacle is permitted to be between 6' and 10' from pool wall if equipment is connected with a 3' cord using a single locking receptacle.

**GFCI Protection.** Equipment and circuits to the pool area 120 volt thru 240 volt shall be Ground Fault Circuit Interrupter protected.

**Convenience Receptacle.** For permanently installed pools a convenience receptacle is required somewhere between 6' and 20' from the inside wall of the pool. It shall be GFCI protected.

**Water Bonding.** For permanently installed pools the water is bonded to the EBG by connecting something metal with more than 9 square inches surface area in contact with the water via a #8 wire to the EBG. If no metal is in the water (ladder, wet niche light can), this can be accomplished with a brass nipple in the water piping system at the pump location. This nipple is bonded via a water pipe ground clamp to the Equipotential Bonding Grid.

**Vinyl Liner pool:** Usually a steel frame that supports a vinyl liner. The steel is required to be bonded to the Equipotential Bonding Grid. Sometimes to do this bonding, the lugs must be installed prior to the liner being installed. So electrical work must take place prior to filling the pool.

**Storable Pools:** By definition these are pools capable of holding less than 42" of water and may require less electrical work. Ground fault protection (GFI) is required on circuit feeding pool pump (which must be double insulated) and any pool light must be listed for pools and have GFI protection.

**Pool Cover:** The International Energy Conservation Code was adopted by the Town of Normal and the code requires a timer type switch for motors and pool heaters. A pool cover that is vapor retardant is required. If the water is heated to over 90 degrees, the cover shall be insulated to a minimum of R-12. (Exception: pools deriving 60% of the energy for heating from a solar source)

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