City of Crystal Lake
Community Development Department

100 W. Woodstock Street
Crystal Lake, IL 60014
www.crystallake.org

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IN-GROUND SWIMMING POOL

Please provide the following information when applying for a permit:

- Apply online using **City of Crystal Lake ez APP**
  OR submit a Building Permit Application
  Applications are available at City Hall or online at the City's website, **www.crystallake.org**.
- Three copies of a current Plat of Survey showing all proposed work in accordance with the attached Pool Location Template.
- Three sets of the building plans for all proposed decks, patios or fences that will be constructed in conjunction with the pool.
- A description of the electrical installation for the pool: including the size and number of conductors, insulation type of conductor(s), and location of GFCI devices.
- Submit a Grading and Drainage Plan which includes the following:
  - Site plan drawn to scale.
  - Location and elevation of the benchmark. The house foundation may be used as the benchmark.
  - Existing easements, patios, decks, sheds, fences, etc.
  - Existing grades along property line (10-foot spacing).
  - Existing and proposed grades in the backyard (10-foot spacing).
  - Pool deck elevation.
  - If a retaining wall is proposed note the elevations at the top and bottom of the retaining wall. The minimum slope is 1 percent and the maximum slope is 4:1.
- Manufacturer's specifications for all equipment.
- Contact J.U.L.I.E. for the location of the utilities.
  - Distance from electric lines to the edge of the pool must be indicated on the plat of survey.
- Homeowners Association approval may be required.

Inspections:

Please schedule all inspections by 4:00 P.M. the day before the inspection.

The following inspections are needed for an in-ground pool:

- Underground electric, plumbing or gas (prior to backfilling trench)
- Pool wall (prior to the placement of footing)
- Bonding grid (prior to placement of concrete)
- Rough electric (prior to energizing pool equipment)
- Fence post holes (if applicable)
- Grading and drainage
- Final inspection

Please provide the following when requesting an inspection:

- Inspection type
- Address
- Date and time frame (am or pm)
- Permit number
- Name and telephone number of homeowner or contractor requesting an inspection

In-Ground Swimming Pool Installation Requirements:

- Setbacks: All in-ground swimming pools, pool equipment, and pool must be located in an approved location on the lot.
  - The in-ground pool, pool equipment, and pool heater; measured from the edge of the 36-inch wide deck, must be at least 6 feet from any adjacent structure, such as a house, garage, or shed.
  - In-ground pool walls must be at least 8 feet from property lines. Pool decks are allowed to be a minimum of 5 feet from property lines. Pools and pool equipment cannot be located in an easement, side yard abutting a street, front yard or a zoning setback.

    Note: See the attached Pool Location Templates for additional information.

- **Heaters:** Pool heaters must be installed in accordance with the manufacturer's installation instructions.
  - Gas lines serving the pool heater shall be buried a minimum of 8 inches.
  - A yellow tracer wire shall be installed in the same trench as all nonmetallic gas lines.
  - A shutoff valve shall be installed within 6 feet of the pool heater.
  - Pool heaters shall comply with the International Energy Code.
- **Decks and patio surrounds:**
  - A 36-inch apron is required around all in-ground pools. This apron surface shall be slip-resistant (broom finish).
- **Plumbing:** Exterior water supply used to fill the pool must have a vacuum breaker device to prevent any cross-connection contamination.
- **Drainage:** The pool and its equipment must not change, alter, or affect the existing approved grading and drainage of the property. Pools and equipment may be required to comply with the Storm Water Ordinance and a Storm Water Management permit may also be required.

  Note: The Engineering Division conducts an evaluation to determine if a Storm Water Management Permit is necessary during the building permit review process.

Electrical Requirements:

- Underground wiring shall not be permitted under the pool unless the wiring is necessary to supply the pool equipment permitted by the 2017 NEC.
- Overhead conductors must have a clearance of 22 feet 6 inches in any direction from the water's edge.
- Overhead conductors must be located a minimum of 10 feet measured horizontally from the pool wall.
- An "In-Use" type receptacle cover is required for any outside receptacle.
- Raceway conduit must be rigid heavy wall metal conduit, intermediate conduit or rigid non-metallic conduit and listed for burial and electrical use.
- RMC and IMC raceway conduit must be buried at a minimum depth of 6 inches.
- Non-metallic raceway conduit must be buried at a minimum depth of 18 inches.
- The grounding conductor must bond all junction boxes, light fixtures, pump motors, transformer enclosures, and devices such as switches, outlets, etc.
- A minimum of one 125-volt, 15- or 20-ampere receptacle on a general-purpose branch circuit shall be located not less than 6 feet from, and not more than 20 feet from the inside of the pool wall.

- An equipotential bonding grid must be installed. The bonding wire must be a solid #8 AWG copper wire, which can be bare. The wire must be bonded to the upper and lower frame of the pool, the metal panel where the hose fittings are affixed, the pool pump motor bonding lug, the pool heater bonding lug, the RMC/IMC conduit, and to any metallic parts within 5 feet horizontally of the pool.
  Note: Bonding clamps must be corrosion resistant.
- Metal fences, enclosures, or railings adjacent to swimming pools that may become electrically charged as a result of contact with overhead conductors, or from any other cause, must be grounded.
- A ground-fault circuit interrupter must be installed in the branch circuit supplying lighting fixtures operating at more than 15 volts.
- Lighting fixtures mounted in walls shall be installed with the top of the lens at least 18 inches below the normal water level.
- The metal conduit used for forming shells must be made of brass or other approved corrosion-resistant material.

Barrier Requirements:

- **Fence:** Must be at least 48 inches in height and have a self-closing and self-latching gate(s) that swings away from the pool.
  - If a cyclone fence is used as the required barrier, there is a maximum mesh size of 1 ¾ 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 ¾ inches.
  - The latch must be a minimum of 54 inches above grade; or the latch must be located on the pool side of the gate, 2 to 3 inches below the top of the gate, and there must be an 18-inch radius around the latch release that has no opening greater than ½ inch.

    Note: An existing fence shall comply with current pool barrier requirements, or shall be modified to comply with the pool barrier requirements.

- **Adjacent Deck or patio:** If a deck or platform adjacent to the pool is intended to be utilized as the required barrier, the portion of the deck or platform adjacent to the pool must be constructed to meet all barrier requirements.

Energy Code Compliance:

- Pool heaters shall be equipped with a readily accessible on/off switch to allow shutting off the heater without adjusting the thermostat setting.
- Pool heaters fired by natural gas shall not have continuously burning pilot lights.
- Time switches that can automatically turn off and on heaters and pumps according to a preset schedule shall be installed on swimming pool heaters and pumps.
  Exception: Where pumps are required to operate solar and waste-heat recovery pool heating systems.
- Heated pools shall be equipped with a vapor retardant pool cover on or at the water surface.

Please note that the information provided in this handout is general in nature. If you have specific questions or need additional information, please contact a Community Development Department representative at (815) 356-3605, or via email at building@crystallake.org.