



CITY OF TONAWANDA, NEW YORK

OFFICE OF THE BUILDING INSPECTOR
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REQUIREMENTS TO OBTAIN A PERMIT FOR INSTALLING A SWIMMING POOL

A swimming pool is any pool capable of holding water with a depth of more than 18 inches. This includes any and all inflatable pools that meet this criteria.

IN ORDER TO OBTAIN A PERMIT THE FOLLOWING ITEMS MUST BE SUPPLIED:

- 1. An accurate survey of the property with the proposed pool, all existing buildings, fences and overhead electrical lines sketched on the survey to scale.**
- 2. Pool must be a minimum of six (6) feet from all property lines and six (6) feet from the dwelling.**
- 3. All pools must be enclosed with a fence in compliance with section 82-417 of the City of Tonawanda Swimming Pool Ordinance and The New York State Uniform Fire Prevention and Building Code. (Copies attached). Compliance with fencing requirements must be shown on survey.**
- 4. All pools must be behind the front set back of the dwelling.**
- 5. A pool alarm is required on all pools as per Section G107 of The Residential Code of the State of New York(Copy attached). A brochure or installation instructions indicating the make and model number of alarm to be installed must be supplied.**
- 6. All pool installers must obtain a current City of Tonawanda contractor's license.**
- 7. A City of Tonawanda electrical permit must be obtained before a building permit will be issued.**
- 8. All pools located within 20' of any power lines must have location approved in writing by National Grid – 800-642-4272.**
- 9. All required fees must be paid before the permit is issued.**

CITY OF TONAWANDA – ZONING ORDINANCE

ARTICLE 9. SWIMMING POOLS

Sec. 82-411. Classifications.

Pools shall be classified as follows:

- (1) Wading pools. A wading pool is any pool not having a water depth exceeding 18 inches.
- (2) Swimming pools. A swimming pool is any pool having a water depth exceeding 18 inches.
- (3) Private pools. A pool located on the property belonging to a single-family or a two-family dwelling and for the exclusive use of the occupants thereof and their families and guests shall be classified as a private pool.
- (4) Public pools. All other pools shall be classified as public pools.

Sec. 82-412. Nonconformities prohibited.

The provisions of article 2, division 2 of this chapter do not apply to this article.

Sec. 82-413. Permit required prior to construction.

All those persons desirous of constructing a pool, which pool would be governed by this article, must apply for and obtain a permit prior to commencing construction of the pool.

Sec. 82-414. Permits for private pools.

- (a) All owners of private swimming pools in the city must apply for a permit for the pool, whether the pool is existing or to be built.
- (b) Owners of preexisting pools will be issued permits if the swimming pool is in substantial compliance with this article.

Sec. 82-415. Building permit.

- (a) Required. All private swimming pools in the city over 300 cubic feet in capacity moved, erected, constructed or excavated, either above, below or partly above and below grade level, shall require a building permit.
- (b) Application and plans. Building permit applications shall be made to the building inspector accompanied by one complete set of plot plans showing all lot lines, existing structures and yard measurements, drawn accurately to scale.
- (c) Fee. Each permit shall be accompanied by the required fee.

Sec. 82-416. Accessory structures.

A pumphouse, filter house or structure erected in connection with any swimming pool shall require a building permit and shall comply with chapter 14 and this chapter.

Sec. 82-417. Fencing or other enclosure.

All swimming pools within the city must be enclosed by a fence or other approved barrier not less than four feet and not more than five feet in height, except that a six-foot fence may be erected in a rear yard when permitted by this chapter.

Sec. 82-418. Electrical equipment.

All electric equipment, including power supply cords, used with storable pools shall be protected by ground fault circuit interrupters.

Sec. 82-419. Plumbing and drainage.

- (a) Generally. All plumbing and drainage connected with a swimming pool shall comply with chapter 14, article 4 and shall require a plumbing permit. For purposes of interpretation, the water supply system is a part of the main dwelling's water service, and the drainage system of private swimming pools shall be part of the main dwelling's drainage system when available; otherwise the pool must be drained in a manner such that the drainage will not flow onto adjacent property.
- (b) Application for plumbing permit. A plumbing permit application shall be accompanied by:
 - (1) The appropriate fee as set forth in chapter 14, article 4.
 - (2) Two complete detailed drawings showing the filling or feed system, filtration and/or purifying system and drainage system.
- (c) Drain for excavated pools. All excavated pools of 1,500 cubic feet in capacity and larger shall have a drain, and each drain shall be covered by a grate four times the area of the drainpipe. The grate shall be removable only by the use of a hand tool.
- (d) Inlet feed pipes. All inlet feed pipes shall be the over rim fill type and shall be at a minimum height of six inches above the overflow level of water (six-inch minimum air gap).

Sec. 82-420. Noise.

The use of megaphones, loudspeakers and public address systems shall be prohibited in connection with any swimming pool, and the use of any sound producing or reproducing device, including the human voice, shall comply with the provisions of chapter 26, article 4.

Sec. 82-421. Setbacks; separation from dwellings; maximum size.

A swimming pool shall not be erected nearer than six feet from the rear or side property line of the premises and six feet from any dwelling, and shall not occupy more than ten percent of the total area of the premises.

NEW YORK STATE RESIDENTIAL CODE FENCING REQUIREMENTS

G105.3 Outdoor swimming pool.

An outdoor swimming pool, including an in-ground, above-ground or on-ground pool, hot tub or spa shall be surrounded by a barrier which shall comply with the following:

1. The top of the barrier shall be at least 48 inches (1219 mm) above grade measured on the side of the barrier which faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be 2 inches (51 mm) measured on the side of the barrier which faces away from the swimming pool. Where the top of the pool structure is above grade, such as an above-ground pool, the barrier may be at ground level, such as the pool structure, or mounted on top of the pool structure. Where 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 (102 mm).
2. Openings in the barrier shall not allow passage of a 4-inch-diameter (102 mm) sphere.
3. Solid barriers which do not have openings, such as a masonry or stone wall, shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.
4. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is less than 45 inches (1143 mm), the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed 13/4 inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 13/4 inches (44 mm) in width.
5. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches (1143 mm) or more, spacing between vertical members shall not exceed 4 inches (102 mm). Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 13/4 inches (44 mm) in width.
6. Maximum mesh size for chain link fences shall be a 2 1/4-inch (57 mm) square unless the fence has slats fastened at the top or the bottom which reduce the openings to not more than 13/4 inches (44 mm).
7. Where the barrier is composed of diagonal members, such as a lattice fence, the maximum opening formed by the diagonal members shall not be more than 13/4 inches (44 mm).
8. Gates shall comply with the requirements of Section AG105.2, Items 1 through 7, and with the following requirements:
 - 8.1. All gates shall be self-closing. In addition, if the gate is a pedestrian access gate, the gate shall open outward, away from the pool.
 - 8.2. All gates shall be self-latching, with the latch handle located within the enclosure (i.e., on the pool side of the enclosure) and at least 40 inches (1016 mm) above grade. In addition, if the latch handle is located less than 54 inches (1372 mm) from the bottom of the gate, the latch handle shall be located at least 3 inches (76 mm) below the top of the gate, and neither the gate nor the barrier shall have any opening greater than 0.5 inch (12.7 mm) within 18 inches (457 mm) of the latch handle.
 - 8.3. All gates shall be securely locked with a key, combination or other child proof lock sufficient to prevent access to the swimming pool through such gate when the swimming pool is not in use or supervised.
9. Where a wall of a dwelling serves as part of the barrier, one of the following conditions shall be met:
 - 9.1. The pool shall be equipped with a powered safety cover in compliance with ASTM F 1346; or
 - 9.2. Doors with direct access to the pool through that wall shall be equipped with an alarm which produces an audible warning when the door and/or its screen, if present, are opened. The alarm shall be listed in accordance with UL 2017. The audible alarm shall activate within 7 seconds and sound continuously for a minimum of 30 seconds after the door and/or its screen, if present, are opened and be capable of being heard throughout the house during normal household activities. The alarm shall automatically reset under all conditions. The alarm system shall be equipped with a manual means, such as touch pad or switch, to temporarily deactivate the alarm for a single opening. Deactivation shall last for not more than 15 seconds. The deactivation switch(es) shall be located at least 54 inches (1372 mm) above the threshold of the door; or
 - 9.3. Other means of protection, such as self-closing doors with self-latching devices, shall be acceptable so long as the degree of protection afforded is not less than the protection afforded by Item 9.1 or 9.2 described above.
10. 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:
 - 10.1. The ladder or steps shall be capable of being secured, locked or removed to prevent access; or
 - 10.2. The ladder or steps shall be surrounded by a barrier which meets the requirements of Section AG105.2, Items 1 through 9. When the ladder or steps are secured, locked or removed, any opening created shall not allow the passage of a 4-inch-diameter (102 mm) sphere.

RESIDENTIAL CODE OF THE STATE OF NEW YORK
SECTION G107
SWIMMING POOL AND SPA ALARMS

G107.1 Applicability.

A swimming pool or spa installed, constructed or substantially modified after December 14, 2006, shall be equipped with an approved pool alarm.

Exceptions:

1. A hot tub or spa equipped with a safety cover which complies with ASTM F1346, as listed in Section AG109.
2. A swimming pool (other than a hot tub or spa) equipped with an automatic power safety cover which complies with ASTM F1346, as listed in Section AG109.

Pool alarms shall comply with ASTM F2208, as listed in Section AG109, and shall be installed, used and maintained in accordance with the manufacturer's instructions and this section.

G107.2 Multiple alarms.

A pool alarm must be capable of detecting entry into the water at any point on the surface of the swimming pool. If necessary to provide detection capability at every point on the surface of the swimming pool, more than one pool alarm shall be provided.

G107.3 Alarm activation.

Pool alarms shall activate upon detecting entry into the water and shall sound poolside and inside the dwelling.

G107.4 Prohibited alarms.

The use of personal immersion alarms shall not be construed as compliance with this section.

FROM: NATIONAL GRID

RE: Swimming pool/hot tub clearances from overhead and underground electric conductors

Please inform permit applicants in the City of Tonawanda that National Grid will install new or maintain existing electric lines only where the clearance requirements from overhead or underground service is maintained. The clearance requirements are stipulated in the company's Electric System Bulletin (#750). A minimum horizontal distance of at least ten feet (10 ft) from overhead conductors is required. A location with underground service (of less than 600 volts) requires horizontal clearance of not less than five feet (5 ft) from the outside wall of a pool or hot tub. Additional information is available from the company on the horizontal clearance requirements for overhead conductors in the company bulletin referenced and in the National Electrical Code. Prior to installation of a new swimming pool or hot tub, we strongly recommend permit applicants contact our company for assistance by calling the toll-free customer service telephone number indicated below (available 24 hours a day, 7 days per week).

1-800-Niagara or (1-800-642-4272)

Your Order- After calling National Grid, please have the proposed pool/hot tub location staked. Within 5 days of placing your order for a pool safety clearance measurement, an authorized company representative will make a site visit and determine if the appropriate horizontal and vertical clearance requirements will be met. If not, then the pool location should be changed, or at the expense of the customer, we will perform the work necessary to achieve the clearance standards. The company does not give any warranty to the adequacy or safety of any structures, wires, or devices owned, installed or maintained by the customer.

Existing Pools –Both horizontal and vertical safety clearances are necessary for existing pools and hot tubs. If found to be in violation, the customer will be asked to relocate pool to another location that meets the needed distance from electrical conductors. If this is not achieved, we will perform the work necessary to maintain clearance, and the customer will be billed for expenses. We reserve the right to disconnect service whenever a customer fails to maintain required clearance distance from electrical conductors.

We hope a pre-construction check by our representatives for proper pool clearance from electric lines will enhance City's resident's enjoyment of their swimming installations.

ELECTRICAL WIRING REQUIREMENTS FOR SWIMMING POOLS, SPAS, HOT TUBS

PERMANENTLY INSTALLED SWIMMING POOLS ARE THOSE THAT ARE CONSTRUCTED IN THE GROUND OR PARTIALLY IN THE GROUND, AND ALL OTHERS CAPABLE OF HOLDING WATER WITH A DEPTH GREATER THAN 42 INCHES (1067 MM)

1) Pool Pump Receptacle (Outlet) and Wiring Method

- a. If a pump motor receptacle is located between 6'-10' from the inside pool wall, the receptacle must be a single twist-lock outlet, grounded and Ground Fault Circuit Interrupter (GFCI) protected.
- b. Receptacle must have a weatherproof cover that can be closed when the cord is plugged in. (In-use type cover)
- c. The circuit line for the pump motor must be a continuous line going directly to the panel box, and is to be isolated from all other receptacles.
- d. Wire for the pump motor shall not be less than #12 AWG insulated copper grounded wire, and must be in conduit. (except when entering a building the wire can change to NM) (Cannot use NM wire in conduit)
- e. Conduit
 - i. PVC-All PVC conduit must be buried at least 18" deep.
 - ii. Metal – All rigid Metal Conduit must be at least 6" deep.
Wires used in conduit must be single strand wires (ex: THWN, XHHN, etc – NO NM or UF CABLE in Conduit)

2) Convenience Receptacle (Outlet) and Wiring Method

- a. At least one (1) 15- or 20-ampere convenience receptacle must be located not closer than 6' but not further than 20' from the outside pool wall (Can be existing and/or wired with any approved wiring method)
- b. Convenience receptacle must be Ground Fault Circuit Interrupter (GFCI) protected.
- c. Must have a weatherproof cover where exposed to the weather (In-use type cover required on used, unattended, receptacles in wet locations)
- d. Must be separate from the pool pump receptacle wiring.
- e. Wiring
 - i. UF cable if buried must be at least 24" deep.
 - ii. PVC - All PVC conduit must be buried at least 18" deep.
 - iii. Metal -All rigid Metal Conduit must be at least 6" deep.
Wires used in conduit must be single strand wires (ex: THWN, XHHN, etc. NO NM or UF CABLE in Conduit).

3) Bonding the Pool

- a. All metal parts must be bonded together using a #8 (or larger) solid copper wire.
- b. Must use non-corrosive clamps.
- c. A minimum of nine (9) square inches of metal must be in the water to bond the water.
- d. Recommended bonding in (2) spots going halfway around the pool.
- e. Equipotential Bonding is required on all pools with conductive shells using a #8 or larger solid copper wire.
- f. Perimeter surfaces. The perimeter surface shall extend for 3 feet (914 mm) horizontally beyond the inside walls of the pool and shall include unpaved surfaces, poured concrete and other types of paving. Bonding to perimeter surfaces shall be provided as specified in Item 2.1 or 2.2 and shall be attached to the pool, spa, or hot tub reinforcing steel or copper conductor grid at a minimum of four points uniformly spaced around the perimeter of the pool, spa, or hot tub. For nonconductive pool shells, bonding at four points shall not be required.
 - 2.1. Structural Reinforcing Steel. Structural reinforcing steel shall be bonded in accordance with Item 1.1.
 - 2.2. Alternate Means. Where structural reinforcing steel is not available or is encapsulated in a nonconductive compound, a copper conductor(s) shall be used in accordance with items 2.2.1 through 2.2.5:
 - 2.2.1. At least one minimum 8 AWG bare solid copper conductor shall be provided.
 - 2.2.2. The conductors shall follow the contour of the perimeter surface.
 - 2.2.3. Splices shall be listed.
 - 2.2.4. The required conductor shall be 18 to 24 inches (457 to 610 mm) from the inside walls of the pool.
 - 2.2.5. The required conductor shall be secured within or under the perimeter surface 4 to 6 inches (102 mm to 152 mm) below the subgrade.

4) Other

- a. Building Permits are required. Secure a Building Permit prior to beginning work from your municipality.
- b. Pool Alarms are required (check with our local Building Department for additional information)
- c. Pool Pump Timers (check with your local Building Department for additional information)

STORABLE SWIMMING OR WADING POOL. Those that are constructed on or above the ground and are capable of holding water with a maximum depth of 42 inches (1067 mm), or a pool with nonmetallic, molded polymeric walls or inflatable fabric walls regardless of dimension.

4107.1 Pumps.

A cord and plug-connected pool filter pump for use with storable pools shall incorporate an approved system of double insulation or its equivalent and shall be provided with means for grounding only the internal and nonaccessible noncurrent-carrying metal parts of the appliance.

The means for grounding shall be an equipment grounding conductor run with the power-supply conductors in a flexible cord that is properly terminated in a grounding-type attachment plug having a fixed grounding contact. Cord and plug-connected pool filter pumps shall be provided with a ground-fault circuit interrupter that is an integral part of the attachment plug or located in the power supply cord within 12 inches (305 mm) of the attachment plug.

E4107.2 Ground-fault circuit-interrupters required.

Electrical equipment, including power-supply cords, used with storable pools shall be protected by ground-fault circuit-interrupters. All 125-volt receptacles located within 20 feet (6096 mm) of the inside walls of a storable pool shall be protected by a ground-fault circuit interrupter. In determining these dimensions, the distance to be measured shall be the shortest path that the supply cord of an appliance connected to the receptacle would follow without passing through a floor, wall, ceiling, doorway with hinged or sliding door, window opening, or other effective permanent barrier.

E4107.3 Luminaires.

Luminaires for storable pools shall not have exposed metal parts and shall be listed for the purpose as an assembly. In addition, luminaires for storable pools shall comply with the requirements of Section E4107.3.1 or E4107.3.2.

E4107.3.1 Fifteen volts or less.

A luminaire installed in or on the wall of a storable pool shall be part of a cord and plug-connected lighting assembly. The assembly shall:

1. Have a luminaire lamp that operates at 15 volts or less;
2. Have an impact-resistant polymeric lens, luminaire body, and transformer enclosure;
3. Have a transformer meeting the requirements of section E4106.1 with a primary rating not over 150 volts; and
4. Have no exposed metal parts.

E4107.3.2 Not over 150 volts.

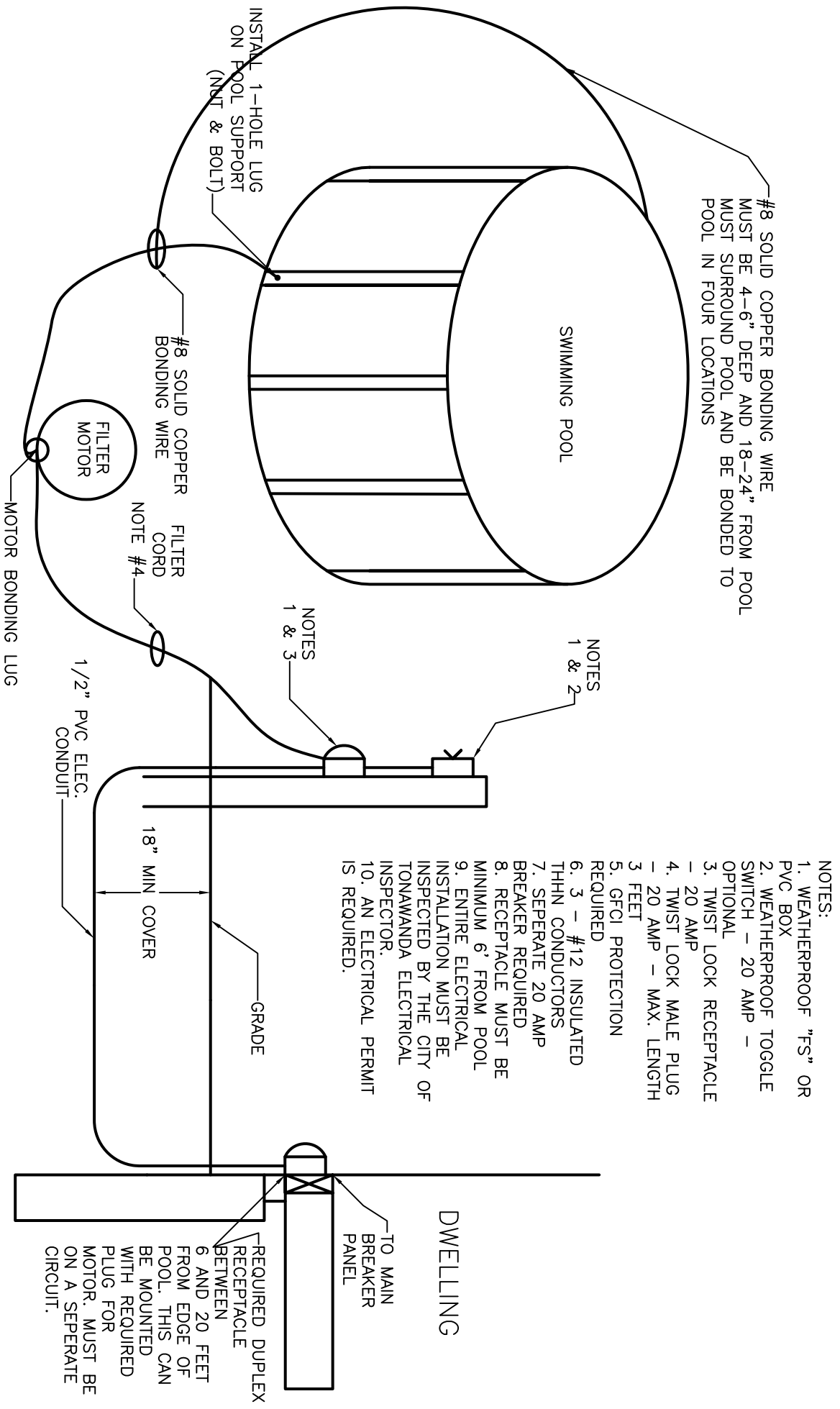
A lighting assembly without a transformer, and with the luminaire lamp(s) operating at not over 150 volts, shall be permitted to be cord and plug-connected where the assembly is listed as an assembly for the purpose and complies with all of the following:

1. It has an impact-resistant polymeric lens and luminaire body.
2. A ground-fault circuit interrupter with open neutral conductor protection is provided as an integral part of the assembly.
3. The luminaire lamp is permanently connected to the ground-fault circuit interrupter with open-neutral protection.
4. It complies with the requirements of Section E4106.4.
5. It has no exposed metal parts.

E4107.4 Receptacle locations.

Receptacles shall be located not less than 6 feet (1829 mm) from the inside walls of a pool. In determining these dimensions, the distance to be measured shall be the shortest path that the supply cord of an appliance connected to the receptacle would follow without passing through a floor, wall, ceiling, doorway with hinged or sliding door, window opening, or other effective permanent barrier.

CITY OF TONAWANDA SWIMMING POOL ELECTRICAL REQUIREMENTS



#8 SOLID COPPER BONDING WIRE
MUST BE 4-6" DEEP AND 18-24" FROM POOL
MUST SURROUND POOL AND BE BONDED TO
POOL IN FOUR LOCATIONS

- NOTES:
1. WEATHERPROOF "FS" OR PVC BOX
 2. WEATHERPROOF TOGGLE SWITCH - 20 AMP - OPTIONAL
 3. TWIST LOCK RECEPTACLE - 20 AMP
 4. TWIST LOCK MALE PLUG - 20 AMP - MAX. LENGTH 3 FEET
 5. GFCI PROTECTION REQUIRED
 6. 3 - #12 INSULATED THHN CONDUCTORS
 7. SEPERATE 20 AMP BREAKER REQUIRED
 8. RECEPTACLE MUST BE MINIMUM 6" FROM POOL
 9. ENTIRE ELECTRICAL INSTALLATION MUST BE INSPECTED BY THE CITY OF TONAWANDA ELECTRICAL INSPECTOR.
 10. AN ELECTRICAL PERMIT IS REQUIRED.



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SWIMMING POOL PRE-INSPECTION CHECK LIST

Complete and review this list before calling for an inspection.

1. Pool pump: ___ Twist lock plug for pool pump if between 5 and 20 feet from waters edge.
___ Water tight bubble cover. ___ Pump cord 12 gauge wire no longer than 3 feet with water tight connector at pump.
2. ___ Convenience receptacle located between 6 and 20 feet. GFCI protected with bubble style cover.
3. ___ Ditch open in a few spots ___ 12 inches deep if GFCI protected wires. ___ 18 inches if not.
___ PVC conduit with 3 THHN-THWN conductors (Blck, White, Green) Green must be a #12 AWG wire for pool pump. ___ UF wire o.k. for Convenience receptacle.
4. ___ All metal parts bonded to pump with #8 solid bare CU wire. NO GROUND RODS!!! ___ Pool water must be bonded with a total of 9 Sq. inches of metal.
5. ___ Perimeter equipotential bonding all pools #8 solid CU 18-24 inches from pool edge, 4-6 inches deep and bonded to pool pump lug and pool frame in 4 equal locations around pool.
6. ___ All existing receptacles within 20 feet of pool must be GFCI protected. ___ None can be closer than 6 feet.
7. ___ All ground wires must be mechanically fastened in junction boxes with wire nuts or other approved fasteners. ___ Metal boxes must be bonded to grounding wires.
8. ___ If a breaker is used for pool pump, make sure it is a Ground fault GFCI not Arc Fault AFCI. A blank face GFCI can be used also.
9. ___ Pool alarm and fence.
10. ___ Pool pump and or pool heater must be on a timer.