



SWIMMING POOLS & HOT TUBS

One & Two Family Residential

REQUIRED PERMITS

A *building permit* is required for all swimming pools and hot tubs of a depth of 24 inches or more. An *electrical permit* is required prior to installation of any pumps, filters, lights or other electrical equipment. An electrical permit is required for cord-and-plug connected equipment as well as direct connected.

HOW TO PROCEED

Step 1. Call Digger's Hotline

Call Diggers Hotline (800-242-8511) to have underground utilities marked. The purpose is to identify the location of all underground cables, gas lines or other utilities. This is necessary to be able to place your pool in a legal location.

Step 2. Choose a Location for your Pool or Hot Tub

Two things determine where you can locate a swimming pool or hot tub: (1) the zoning ordinance, and (2) the electrical code.

- Zoning— see the diagrams attached to this handout. They show the areas on a lot where a pool can be located.
- Electrical Code — A swimming pool or hot tub may not be located under an *overhead* electrical conductor nor be closer than 10 feet horizontally from such a conductor. A swimming pool or hot tub may not be located over an *underground* electrical conductor nor be closer than 5 feet horizontally from such a conductor.

Step 3. Assemble a Permit Application Package

Your application will consist of:

- A plot plan, drawn to scale, showing the size and configuration of your lot, the location of all buildings on your lot, and the location of the proposed pool or hot tub. A sample plot plan is attached to this handout.
- A filled out form "Swimming pool/hot tub worksheet." A blank form is attached.
- A filled out and signed form "Homeowner's Acknowledgement". (This applies only if you are going to do your own electrical work).

Step 4. Submit your Application and Obtain Required Permits

Both building and electrical permits are issued at the Department of Public Works-Inspection Division, 5th floor, City Hall, between the hours of 8:00 – 9:30 a.m. and 12:30 – 1:30 p.m., or by appointment. Your electrical contractor will take out an electrical permit if you are not doing the electrical work.

Q. Why do I need an electrical permit if I don't intend to do any wiring?

A. *In most cases the electrical code requires additional electrical wiring. Pools and hot tubs create special hazards that usually require electrical design not provided by existing circuitry in a house.*

Q. Can I do my own electrical work?

A. *The owner-occupant of a single-family residence may install his/her own wiring under certain agreed-upon conditions. An electrical permit is required before starting work. A signed acknowledgement must be provided to the electrical inspector before a permit can be issued. A blank acknowledgement form is attached to this handout. Also attached is a 2-page document highlighting electrical code requirements for hot tubs and swimming pools.*

Step 5. Install your Pool or Hot Tub

At this point you are ready to install your pool. The building code, at this time, sets no *construction* standards for the installation of pools, so you must follow the manufacturer's specifications.

Step 6. Call for Inspection

Call the Inspection Division (832-6411) as soon as the pool, deck (if any), and barrier/cover is in place and all electrical work is completed.

Step 7. Make Corrections (if necessary) and Call for Re-inspection

It is not uncommon for an inspection to turn up a deficiency or two. If that happens, the inspector will provide detailed information as to what changes need to be made. As soon as corrections are made, call the Inspection Division for re-inspection to verify the corrections are completed.

Step 8. Obtain Final Approval

When the final inspection is made, and all work is found to be code complying, the inspector will place an approval sticker on your pool. This is your record that the pool has been inspected and approved.

DIAGRAMS AND ATTACHMENTS

- a) Worksheet
- b) Interior Lot
- c) Corner lot
- d) Parallel frontage lot
- e) Sample plot plan
- f) Electrical information
- g) Pool diagram
- h) Spa & Hot Tub Electrical information
- i) Acknowledgement form for electrical work
- j) Electrical code highlights

Permit Application Worksheet One or Two-Family Residential Swimming Pool/Hot Tub

-- Must be filled out by applicant --

PLEASE COMPLETE THE FOLLOWING. MISSING ITEMS MAY CAUSE DELAY

Swimming Pool Hot Tub/Spa Above-Ground In-Ground New Used Outdoor Indoor

Job Site Address _____ Property Tax # _____

Property Owner _____

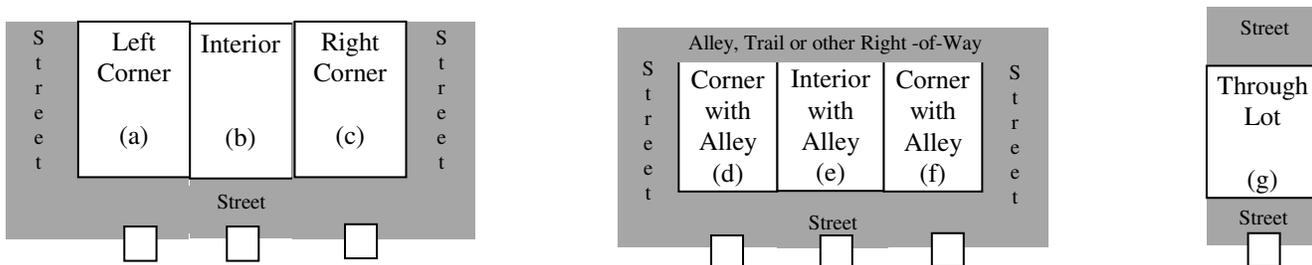
Contractor/Installer _____

Electrical Contractor _____ No Electrical Work Proposed

Applicant _____ Applicant's Address _____

City _____ State _____ Zip _____ Day Ph. _____ Cell _____ Fax _____

CHECK LOT FRONTAGE CONDITION:



SHAPE & DIMENSIONS:

Shape: Round Oval Rectangular Dimensions: Width _____ Length _____ Wall Ht. _____

What type protective barrier will be provided?

Fence (minimum 48" high) Side wall of pool/tub with removable ladder Cover Other

SLOPING GRADE:

Least dimension from grade to rim: _____ inches.



MISCELLANEOUS INFORMATION:

1. Yes No Will this pool/tub be used for any commercial or occupational purpose?
2. Yes No Is there more than one (1) living unit on this property?
3. Yes No Is there a commercial or other non-residential use on this property?
4. Yes No Will permanent water or sewer be provided to this pool or hot tub?
5. Yes No Will an existing structure be removed to make room for the proposed pool or hot tub?

APPLICANT'S STATEMENT:

The information provided in this worksheet or by other means is true and accurate to the best of my knowledge and belief. I am the legal owner of subject property or I am legally authorized to act on behalf of the owner. I hereby indemnify the City against any claims arising out of inaccurate or incomplete information.

Signature of Applicant

Date

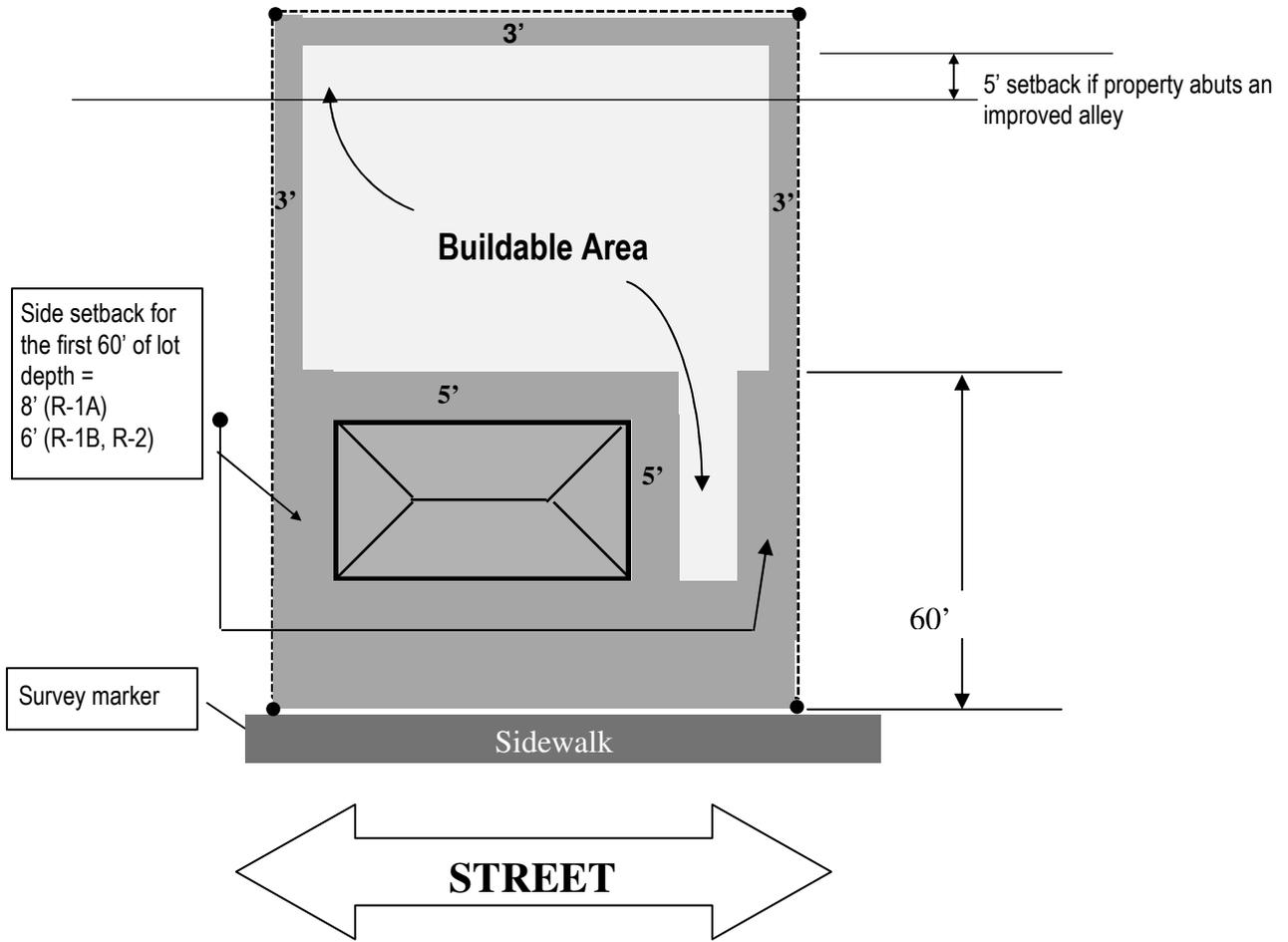


Diagram A. Buildable area for pools & hot tubs on a typical interior lot with frontage on one street.

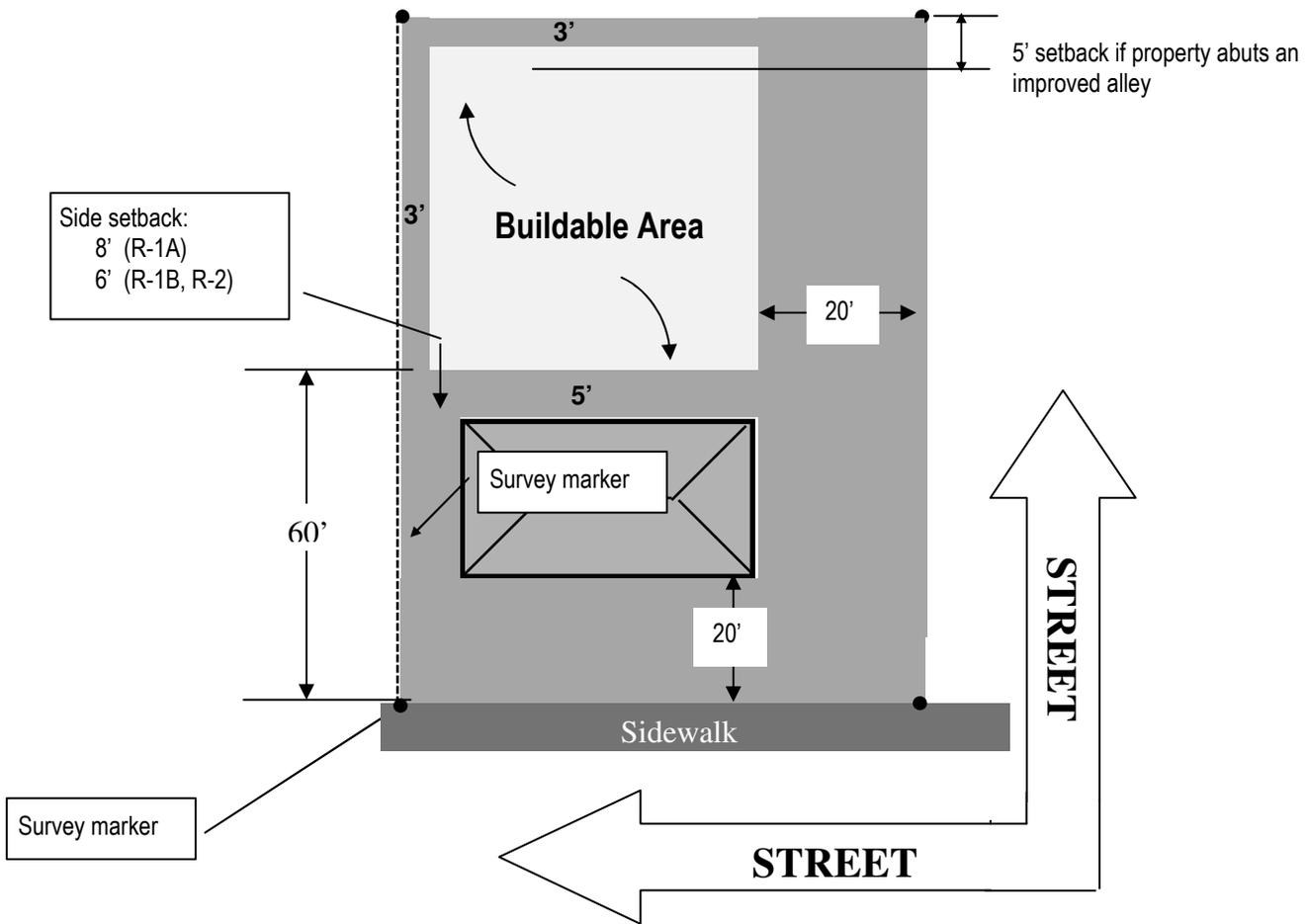


Diagram B. Buildable area for pools & hot tubs on a typical corner lot.

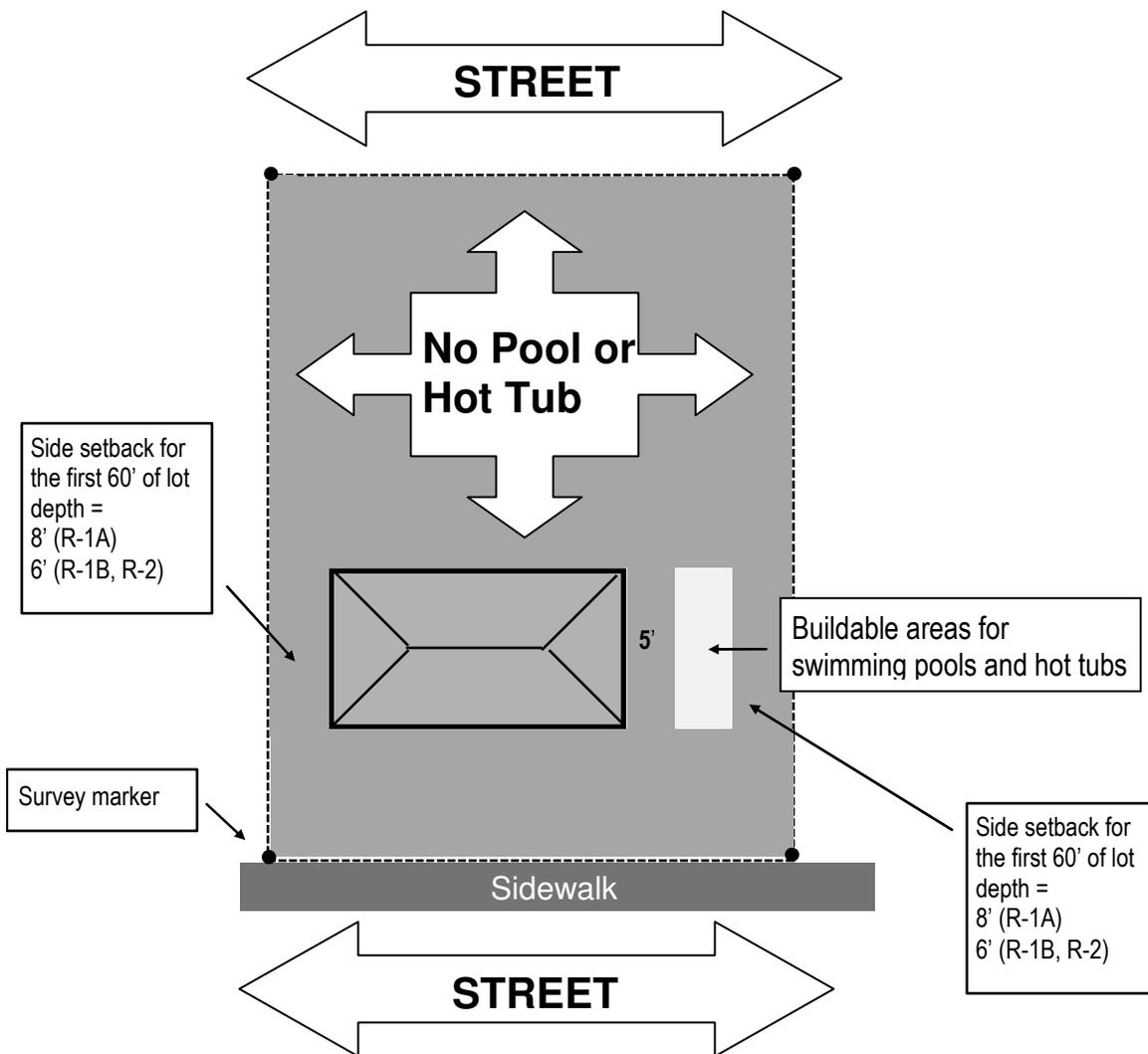
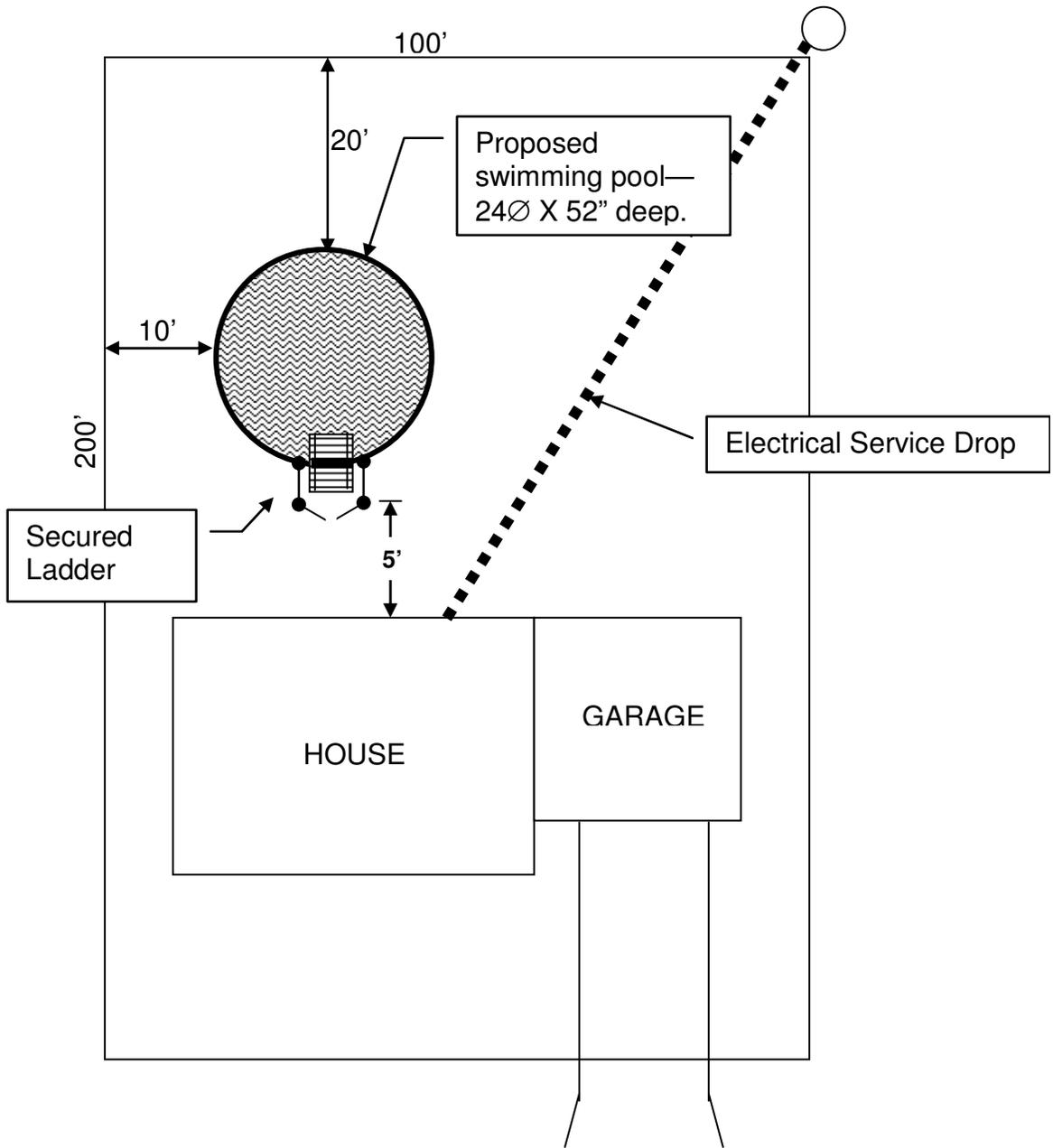


Diagram C. Buildable area for pools & hot tubs on a lot with frontage on two streets.



SWIMMING POOLS

ELECTRICAL INFORMATION *One-Family Residential*

- Electrical permit and inspection required.
- Contact Diggers Hotline (1-800-242-8511) to have the underground utilities located. No underground wiring is permitted directly below or within five (5) feet of the inside wall of the pool
- Overhead power wiring and Network powered broadband communication wiring located directly over and within ten (10) feet horizontally of the inside wall of the pool will need a vertical clearance of twenty-two and a half (22 ½') feet above the highest water level. Communication wiring needs to have a ten (10) foot vertical clearance.

STORABLE POOLS

All electrical equipment, including power supply cords, used with storable pools shall be protected by a ground fault circuit interrupter (GFCI).

All 125 volt receptacles located within twenty (20) feet of the inside wall of a storable pool shall be protected by a ground fault circuit interrupter (GFCI).

No receptacle shall be closer than six (6) feet to the inside wall of a storable pool.

PERMANENT POOLS

Pump motor must be labeled for permanently installed pools.

Pump motor cord shall not exceed three (3) feet in length and contain a copper grounding wire sized per NEC 250.122 table but not smaller than a #12 awg wire.

Wiring Methods: Non-metallic sheathed cable may be used for the interior portion of the wiring.

The exterior wiring must be installed in a raceway system including but not limited to rigid metal conduit, intermediate metal conduit, and rigid non-metallic conduit (PVC).

All conduits installed underground must contain an insulated copper equipment grounding conductor sized per NEC 250.122 table but not smaller than #12 awg wire.

Switching devices: Switching devices shall not be closer than five (5) feet from the inside wall of the pool.

Receptacles: No receptacle is allowed closer than six (6) feet from the inside wall of the pool.

Receptacles that supply power to pump motors and sanitation systems associated with the pool will need to be installed between six (6) feet and ten (10) feet from the inside wall of the pool. These receptacles must meet the following requirements:

1. Consist of a single receptacle.
2. Be a twist lock design.
3. Be a grounding type.
4. Be GFCI protected.

At least one (1) 125 volt, 15 or 20 amp receptacle must be installed between six (6) and twenty (20) feet from the inside wall of the pool.

All receptacles within twenty (20) feet of the inside wall of the pool must be ground fault circuit interrupter (GFCI) protected.

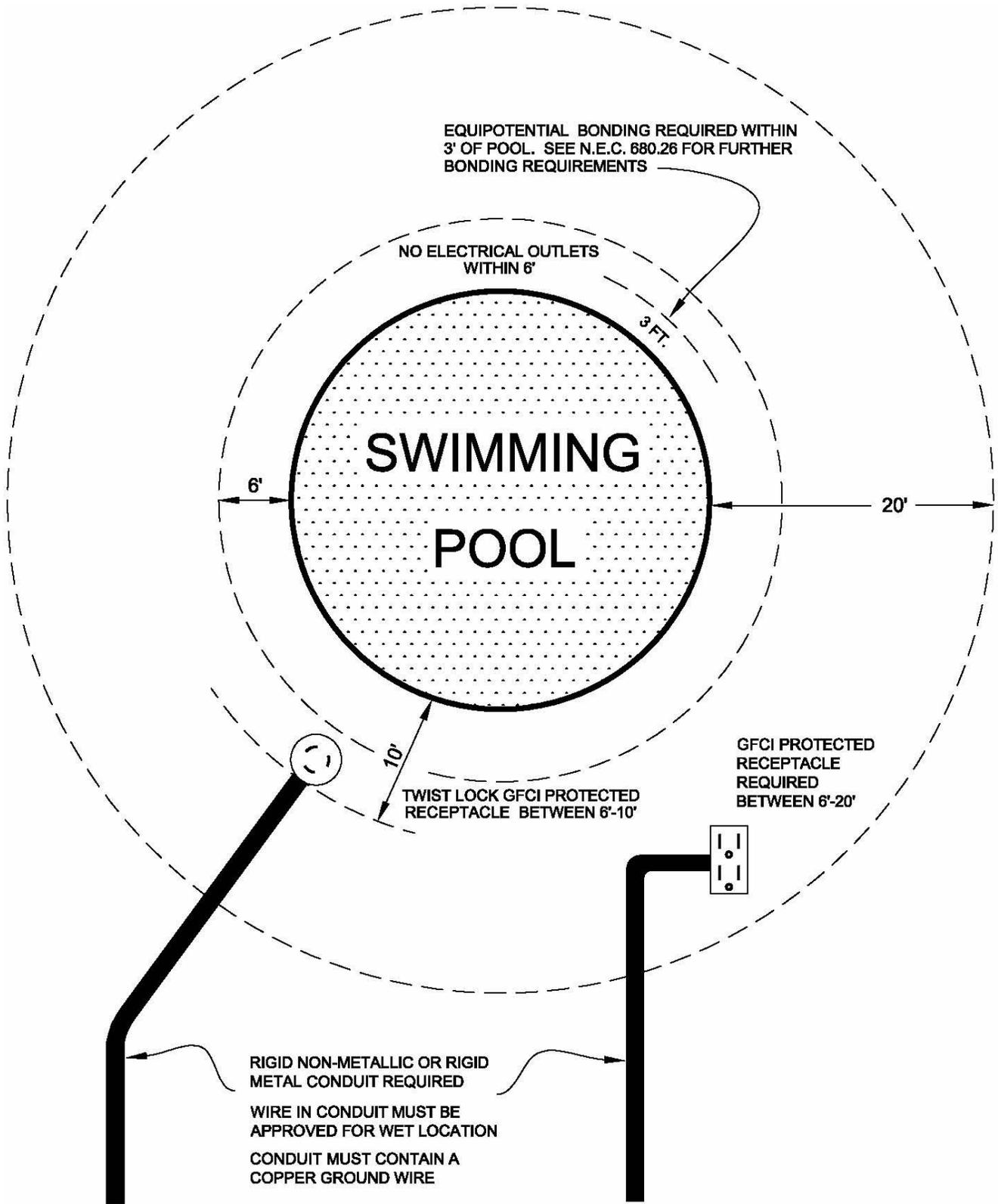
All receptacles installed in a wet location (outdoors) require a cover to keep the enclosure weatherproof whether or not the attachment plug is inserted into the receptacle.

Lighting: Lighting fixtures and ceiling fans located directly over or within five (5) feet from the inside all of the pool must not be installed lower than twelve (12) feet above the highest water level.

Bonding: All items listed below must be bonded together with a solid #8 copper wire.

1. The conductive pool shell.
2. Paved or unpaved perimeter surface within three (3) feet of the pool.
3. All metallic parts of the pool structure.
4. All metallic forming shells for the underwater lighting.
5. Metal fittings larger than four (4) inches.
6. Electrical equipment for the pool.
7. All metal raceways, piping and metal parts within five (5) feet horizontally and twelve (12) feet vertically of the pool.
8. Pool water shall be intentionally bonded by a minimum conductive surface of 9 square inches and in constant contact with pool water.

revised 7/10/09



NOTES:

1. USE 12 GAUGE WIRE TO THE PUMP MOTOR.
2. IF THE PUMP DRAWS 10 OR MORE AMPS,
A SEPERATE CIRCUIT IS REQUIRED.
3. NO UNDERGROUND WIRING UNDER OR
WITHIN 5' OF POOL.

SPAS AND HOT TUBS

ELECTRICAL INFORMATION

One-Family Residential

Outdoor Installations

Electrical permit and inspection is required.

Fully read the installation manual that is supplied with the spa or hot tub.

Call Diggers Hotline (1-800-242-8511) to have the underground utilities located.

Underground wiring is not permitted directly below or within five (5) feet of the spa or hot tub location.

Overhead power conductors and network-powered broadband communication wires located directly over or within ten (10) feet horizontally of the spa or hot tub inside wall must be twenty-two and a half (22 ½') feet above the highest water level. Overhead communication wires must be located ten (10) feet above the highest water level.

Conductors: The interior wiring to an outdoor installation of a spa or hot tub may be performed by the use of a non-metallic sheathed cable.

The wire size may not be smaller than a #12 awg copper wire.

Non-metallic sheathed cable (NM cable) with a #8 awg copper wire is rated at forty (40) amps and a #6 awg copper wire is rated at fifty-five (55) amps.

The exterior wiring will need to be installed in a raceway system. Single conductor installed in the raceway system have a rating of fifty (50) amps for a #8 awg copper wire and sixty-five (65) amps for a #6 awg copper wire.

Receptacles: All receptacles within twenty (20) feet of the spa or hot tub location must be protected by a ground fault circuit interrupter (GFCI).

One receptacle must be located no closer than six (6) feet or more than twenty (20) feet from the inside wall of the spa or hot tub.

Switches: Switching devices must be at least five (5) feet away from the inside wall of the spa or hot tub.

Maintenance

disconnect: A disconnect, located at least five (5) feet from the inside wall of a spa or hot tub, must be provided to simultaneously remove all sources of power to the unit. This disconnect must be readily accessible and within sight of the equipment.

Bonding: All items listed below must be bonded together with a solid #8 copper wire.

1. Conductive spa or hot tub shell.
2. Paved or unpaved perimeter surfaces within three (3) feet of the spa or hot tub.
This requirement does not apply to a listed self contained spa or hot tub.
3. All metallic components of the site built spa or hot tub structure.
4. Underwater lighting for a site built spa or hot tub.
5. Metal fittings larger than four (4) inches.
6. Electrical equipment for the spa or hot tub.
7. All metal raceways, piping and metal parts within five (5) feet horizontally and twelve (12) feet vertically of the spa or hot tub.

Lights: Light fixtures and ceiling fans located directly over or within five (5) feet from the inside wall of the spa or hot tub must not be installed lower than twelve (12) feet above the highest water level.

GFI

Protection: Ground Fault Circuit Interrupter (GFCI) protection is required for the branch circuit feeding the spa or hot tub, either by a receptacle or hardwired.

Indoor Installations

Electrical permit and inspection is required.

Fully read the installation manual that was supplied with the spa or hot tub.

Conductors: Non-metallic sheathed cable may be used as the wiring method to the indoor spa or hot tub. NM cable with a #8 awg copper wire is rated to forty (40) amps and a #6 copper wire is rated to fifty-five (55) amps.

Receptacles: All receptacles within ten (10) feet of the inside walls of the spa or hot tub must be protected by a ground fault circuit interrupter.

Receptacles are to be located no closer than six (6) feet from the inside wall of a spa or hot tub.

Continued

Receptacles: A spa or hot tub must have at least one receptacle between six (6) feet and ten (10) feet of the inside wall.

Switches: Wall switches are not to be located within five (5) feet horizontally of the inside wall of a spa or hot tub.

Maintenance

disconnect: A disconnect, located at least five (5) feet from the inside wall of a spa or hot tub, must be provided to simultaneously remove all sources of power to the unit. This disconnect must be readily accessible and within sight of the equipment.

Bonding: All items listed below must be bonded together with a solid #8 awg copper wire.

1. All metal fittings within or attached to the spa or hot tub, except small conductive surfaces not likely to become energized.
2. Metal parts of electrical equipment associated to water circulation.
3. Metal raceways and metal piping within five (5) feet of the inside wall.
4. All metal surfaces within five (5) feet of the inside wall that is not separated by a permanent barrier.
5. Electrical devices and controls not associated with the spa or hot tub and within five (5) feet of the inside wall.

Lights: Lighting fixtures and ceiling fans located directly over or within five (5) feet from the inside wall shall be a minimum seven feet six inches (7'6") above the maximum water level and protected by a ground fault circuit interrupter (GFCI). Recessed and surface mounted luminars with a glass or plastic lens, non-metallic body, or a metallic body isolated from contact and suitable for a damp location may be mounted below seven (7) feet six (6) inches as long as it is protected by a ground fault circuit interrupter (GFCI).

GFI

Protection: Ground Fault Circuit Interrupter (GFCI) protection is required for the branch circuit feeding the spa or hot tub, either by a receptacle or hardwired.

Revised 1/23/09

Homeowner's Acknowledgement

Property Address: _____
Where work is to be done

Best Daytime Contact: _____ **Daytime Phone:** _____
Name

TO THE ELECTRICAL INSPECTOR:

For the purpose of obtaining an electrical permit; and,
For the purpose of qualifying for the exception given in Municipal Code Sec. 4-392(c), which reads as follows,

A homeowner may personally wire his own single-family dwelling without obtaining a license, but a permit must be procured and work inspected and approved in the same manner as for a licensed contractor. An owner must prove his competence to conform with all rules and regulations. For purposes of this section, homeowner means a person owning and occupying as his permanent address a single-family residence,

I hereby attest, affirm, acknowledge and agree to the following:

1. The electrical work done under the permit I seek will be done by me personally, or by a licensed electrical contractor.
2. Subject property is a single-family residence, having and intending no renters or rental units, no nonresidential use and is my current primary residence.
3. I am the current owner of record of subject property.
4. I am qualified by study and/or experience to do the work for which I seek a permit (see sidebar). I am aware of the shock and fire hazard resulting from improper electrical installations.
5. An electrical permit is valid only for the work described in the application and the permit expires when the work is completed and approved by the electrical inspector or after 2 years, whichever comes first.
6. I will call the Inspection Division to arrange required inspections.
7. If the inspector calls out corrections, it is my responsibility to call for re-inspection of work before it's concealed. No work can be closed until it is inspected and approved. If it is necessary for the electrical inspector to make more than one re-inspection for the same corrections, there may be an additional fee charged at the rate of \$35 per inspection. Municipal Code Sec. 4-162(c).
8. If I fail to obtain inspection and approval of work prior to concealment, the electrical inspector may require that some or all finish material be removed so that an inspection can be made.
9. I understand that future property damage or personal injury claims resulting from my failure to follow all codes may be disputed by my insurer.

PLEASE READ CAREFULLY
The electrical inspector may not provide design advice or instruction in the electrical trade. The electrical inspector, upon finding that work is not being done in a competent manner, will issue a stop-work order that will remain in effect until a licensed electrical contractor takes responsible charge.

I HAVE READ AND UNDERSTAND THE STATEMENTS GIVEN ABOVE

Owner's Signature

Date

Witness Signature

Date

WORK MAY NOT BE CONCEALED UNTIL INSPECTED AND APPROVED
For inspection call 832-6411

ARTICLE VIII. SWIMMING POOLS

Sec. 4-541. Purpose of article.

The purpose of this article is to provide protection and safety of individuals, provide land use controls and provide for the general health and welfare of the neighborhood.
(Code 1965, §22.05(1))

Sec. 4-542. Definition.

For purposes of this article, swimming pool means any structure, basin, chamber or tank containing or capable of containing an artificial body of water for swimming, diving or recreational bathing, having a depth of two (2) feet or more at any point.
(Code 1965, §22.05(1))

Sec. 4-543. Applicability of article.

This article shall apply to all new, remodeled, altered and relocated private swimming pools in one- (1-) and two- (2-) family residential properties in the City except that the protective enclosure requirements shall be retroactive to all existing swimming pools.
(Code 1965, §22.05(1); Ord 37-09, §1, 3-10-09)

Sec. 4-544. Existing pools.

Existing swimming pools not in compliance with the fencing or enclosure requirements of this article shall be made to comply within twelve (12) months of the adoption of this article. Existing pools that are reconstructed or relocated shall be brought into compliance with the requirements of this article at the time of reconstruction or relocation.
(Code 1965, §22.05(8))

Sec. 4-545. Penalty for violation of article.

Any person who shall violate any provision of this article shall be subject to penalty as provided in §1-16.
(Code 1965, §22.05(10))

Sec. 4-546. Permits.

(a) **Building permit.** A building permit is required for the installation, alteration or addition of a swimming pool. The permit fee shall be as provided in §4-161(8). A building permit shall be applied for and obtained prior to the installation, alteration or addition of any private residential swimming pool. The application for a permit shall be accompanied by a plot plan drawing of the premises upon which the proposed pool is to be installed. The plot plan shall show the size and shape of the lot, location and size of all buildings, structures and fences, existing or proposed, and any other information affecting the premises. The plot plan shall be accurate and dimensioned.

(b) **Plumbing and electrical permits.** Plumbing and electrical permits are required for applicable installations for the operation of a swimming pool. Plumbing installations for the operation of a swimming pool are required to be done in compliance with state plumbing code under a plumbing permit. Electrical installations made for the operation of a swimming pool are required to be done in compliance with the Wisconsin Administrative Code, Comm 16, under an electrical permit.

(c) **Penalty for commencing work without a permit.** Failure to obtain a required plumbing, electrical, and building permits are subject to the penalties in §4-418(f), §4-292(b) and §4-161(b).
(Code 1965, §22.05(2); Ord 37-09, §1, 3-10-09)

Sec. 4-547. Variances.

The Board of Zoning appeals may grant variances and exceptions to this article as provided in the City zoning code.
(Code 1965, §22.05(9))

Sec. 4-548. Location on lot.

The swimming pool and any pool accessory building structure and any pool equipment or structure shall not exceed fifteen percent (15%) of the total lot area of the lot on which it is located. No part of the swimming pool, pool accessory structure or pool equipment or structure shall be closer than three (3) feet to any side lot or rear lot line or closer to the street than the front setback line of the main building, except that if the pool or other structure is located in the side yard closer to the street property line than the rear wall of the main building it shall not be closer than six (6) feet from the side lot line.
(Code 1965, §22.05(3))

Sec. 4-549. Protective enclosures.

(a) **Required.** All private residential swimming pools, whether of an in-ground or aboveground type, shall be enclosed with an adequate and secure fence at least forty-eight (48) inches high above adjoining grade to prevent straying into the pool area. Fence requirements as set forth in the City zoning code shall apply. Required fences shall be constructed to prohibit the passage of a six-inch sphere between fence members. Any gate installed shall be provided with self-closing and self-latching devices which shall be on the inside of the gate at least thirty (30) inches above ground level. A pool dome or pool top fencing attached to the pool to extend at least forty-eight (48) inches above the ground or a pool cover capable of supporting one hundred (100) pounds per square inch of area are acceptable substitutes for fencing. Pool covers shall be fixed securely in place at all times when the pool is not supervised by a responsible person.

(b) **Exception.** Above grade pools with walls that are at least forty-eight (48) inches high at all points around the pool or have platforms and railings that are forty-eight (48) inches or more in height above grade with a railing space opening no greater than four (4) inches are not required to be enclosed as provided in subsection (a) of this section, but the ladders and stairways providing access to the pool shall be adequately secured to prevent entry whenever the pool is not in use.
(Code 1965, §22.05(4); Ord 37-09, §1, 3-10-09)

Sec. 4-550. Lighting.

Any area lighting for swimming pools shall be shielded to prevent the lighting of neighboring properties.
(Code 1965, §22.05(5))

Sec. 4-551. Drainage.

The draining of swimming pools shall be directed to a public storm sewer or catch basin connected to the public storm sewer. Drainage shall be controlled to prevent any adverse effect on adjoining property.
(Code 1965, §22.05(6))

Sec. 4-552. Maintenance.

All swimming pools shall be maintained in such a way as to not create a nuisance, hazard, eyesore, or otherwise result in a substantial adverse effect on neighboring properties or be in any way detrimental to public health, safety or welfare.
(Code 1965, §22.05(7))