Residential Swimming Pool Information Sheet

Executive Summary

The following is a summary of the requirements for installation of a swimming pool:

1. The swimming pool must be surrounded completely by a barrier that is at least 4 feet high for the purpose of making the pool inaccessible to young children.
2. During construction, the pool must be surrounded completely by a temporary barrier. The temporary barrier must remain in place until the permanent barrier is installed.
3. All swimming pools shall have a pool alarm.
4. Electric for the pool equipment and grounding and bonding must be installed by an electrician licensed in the Town of Grand Island.
5. An overhead conductor shall be not less than 10 feet horizontally from the inside edge of the walls of the pool.
6. Underground electric shall not be installed under the pool except where this wiring is necessary to supply pool equipment permitted by the code.
7. Pool heaters, time switches, and covers for heated pools shall meet the requirements of Section R403.10 of the Energy Code.
8. A letter from National Grid must be presented to the Building Department prior to issuing a permit. Call 800-Niagara and speak to their planning agent about the letter. They will do a site visit and provide a letter if the proposed installation meets the requirements.

Definition of "Swimming Pool"

The term "swimming pool" is defined in the New York State Building Code as:

> Any structure, basin, chamber or tank which is intended for swimming, diving, recreational bathing or wading and which contains, is designed to contain, or is capable of containing water more than 24 inches deep at any point. This includes in-ground, above-ground and on-ground pools; indoor pools; hot tubs; spas; and fixed-in-place wading pools.

NOTE: A pool which is capable of containing more than 24 inches of water is a "swimming pool" and is subject to all applicable Code provisions relating to "swimming pools" even if the pool is filled to a depth of less than 24 inches.

Barrier Requirements: Outdoor Swimming Pools

An outdoor residential swimming pool must be provided with a barrier which surrounds the swimming pool completely and obstructs access to the swimming pool. The barrier may consist of a fence, a wall, a building wall, or any combination thereof. The barrier must be at least 4 feet high and must satisfy certain specified requirements which are discussed in more detail below.

Access gates must satisfy the requirements applicable to barriers, as well as certain additional requirements which are discussed in more detail below. In addition, access gates must 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.

NOTE: In general, the barrier requirements discussed in this document apply to all swimming pools, without regard to the date of construction or installation of the pool.

NOTE: As mentioned above, the definition of "swimming pool" includes hot tubs and spas. However, a hot tub or spa with a safety cover that complies with reference standard ASTM F 1346, entitled Standard Performance Specification for Safety Covers and Labeling Requirements for All Covers for Swimming Pools, Spas and Hot Tubs, is exempt from the barrier requirements discussed here.

NOTE: The principal purpose of the Uniform Code's barrier requirements is to make swimming pools inaccessible to young children. The specific requirements discussed below are intended to prevent a child from crawling under the barrier, fitting through the barrier, or climbing over the barrier. The requirements for access gates are intended to prevent a child from opening an access gate.

Barriers provided for outdoor swimming pools must satisfy the following requirements:

- The barrier must surround the swimming pool completely and must obstruct access to the swimming pool.
- The barrier must be at least 4 feet high.
- The space between the bottom of the barrier and the ground cannot exceed 2 inches.
- In the case of an above-ground pool, the barrier may be at ground level or mounted on top of the pool structure; however, if the barrier is

mounted on top of the pool structure, the space between the top of the pool structure and the bottom of the barrier cannot exceed 4 inches.

- Any opening in the barrier must be small enough to prevent the passage of a 4-inch diameter sphere through the opening.
- A barrier that does not have openings, such as a masonry or stone wall, cannot contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.
- 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:
    - the horizontal members must be located on the swimming pool side of the barrier;
    - the spacing between vertical members cannot exceed 1.75 inches; and
    - the spacing within any decorative cutouts in vertical members cannot exceed 1.75 inches.
- Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches or more:
    - the spacing between vertical members cannot exceed 4 inches; and
    - the spacing within any decorative cutouts in vertical members cannot exceed 1.75 inches.
- If a chain link fence is used as the barrier, the mesh size cannot exceed 2.25-inch square unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to not more than 1.75 inches.
- Where the barrier is composed of diagonal members, such as a lattice fence, the opening formed by the diagonal members cannot exceed 1.75 inches.
- Access gates must satisfy the requirements stated above, and with the following additional requirements:
    - All gates must be self-closing.
        1. In addition, if the gate is a pedestrian access gate, the gate must open outward, away from the pool.
    - 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 above grade.
        1. In addition, if the latch handle is located less than 54 inches from the bottom of the gate, the latch handle shall be located at least 3 inches below the top of the gate, and

neither the gate nor the barrier shall have any opening greater than 0.5 inch within 18 inches of the latch handle.
    - 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.
- A building wall can form part of the required barrier. However, where a wall of a dwelling serves as part of the barrier, at least one of the following requirements must be satisfied:
    - the pool must be equipped with a powered safety cover in compliance with reference standard ASTM F1346, entitled Standard Performance Specification for Safety Covers and Labeling Requirements for All Covers for Swimming Pools, Spas and Hot Tubs; or
    - all doors with direct access to the pool through that wall must be equipped with an alarm which:
        1. produces an audible warning when the door and its screen, if present, are opened,
        2. sounds continuously for a minimum of 30 seconds immediately after the door is opened,
        3. is capable of being heard throughout the house during normal household activities,
        4. automatically resets under all conditions, and
        5. is equipped with a manual means, such as touchpad or switch, to deactivate the alarm temporarily for a single opening and such deactivation cannot last for more than 15 seconds, and the deactivation switch[es] must be located at least 54 inches above the threshold of the door; or
    - other means of protection, such as self-closing doors with self-latching devices, which are approved by the governing body and which afford a degree of protection not less than the protection afforded by the powered safety cover and door alarm described above, must be provided.
- In the case of an above-ground pool, the pool structure itself can serve as a part of the required barrier, provided that the pool structure is sufficiently rigid to obstruct access to the pool. However, 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, 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 complying swimming pool barrier;
    - 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 such that permanent structures, equipment, or similar objects are not capable of be used to climb the barriers.

Barrier Requirements: Indoor Swimming Pools

All walls surrounding an indoor residential swimming pool must comply with the above-stated requirements for building walls used as all or part of a barrier around an outdoor residential swimming pool.

Temporary Pool Enclosures

During the installation or construction of a swimming pool, the swimming pool must be enclosed by a temporary enclosure. The temporary enclosure may consist of a temporary fence, a permanent fence, the wall of a permanent structure, any other structure, or any combination of the foregoing. However:

- all portions of the temporary enclosure must be at least 4 feet high, and
- all components of the temporary enclosure must be sufficient to prevent access to the swimming pool by any person not engaged in the installation or construction process and to provide for the safety of all such persons.

The temporary enclosure must remain in place throughout the period of installation or construction of the swimming pool, and thereafter until the installation or construction of a permanent enclosure has been completed. The temporary enclosure must be replaced by a permanent enclosure. The permanent enclosure must comply with all applicable "Barrier Requirements" described in this document, and with any additional requirements that may be imposed by any other New York State codes or regulations applicable to swimming pool enclosures.

The permanent enclosure must be completed within ninety days after the date of issuance of the building permit for the installation or construction of the swimming pool, or the date of commencement of the installation or construction of the swimming pool, whichever is later. (If the swimming pool

is installed or constructed without the issuance of a building permit, the permanent enclosure must be completed within ninety days after the date of commencement of the installation or construction of the swimming pool. Note, however, that this provision does not permit the installation or construction of a pool without a building permit where such a permit is required by applicable law.) The local code enforcement official has authority to extend the 90-day period for completion of the permanent enclosure for good cause, such as a delay in construction caused by bad weather.

Pool Alarm Requirements

Every swimming pool that is installed, constructed, or substantially modified after December 14, 2006 must be equipped with an approved pool alarm which:

- is capable of detecting a child entering the water and giving an audible alarm when it detects a child entering the water;
- is audible poolside and at another location on the premises where the swimming pool is located;
- is installed, used and maintained in accordance with the manufacturer's instructions;
- is classified to reference standard ASTM F2208, entitled Standard Specification for Pool Alarms (either the version adopted in 2002 and editorially corrected in June 2005, or the version adopted in 2007); and
- is not an alarm device which is located on person(s) or which is dependent on device(s) located on person(s) for its proper operation.

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 must be installed.

Pool alarms are not required in:

- a hot tub or spa equipped with a safety cover classified to reference standard ASTM F1346 (2003), entitled Standard Performance Specification for Safety Covers and Labeling Requirements for All Covers for Swimming Pools, Spas and Hot Tubs, or
- any swimming pool (other than a hot tub or spa) equipped with an automatic power safety cover classified by to reference standard ASTM F1346 (2003).

Entrapment Protection Requirements

- Suction outlets must be designed to produce circulation throughout the pool or spa.
- Single outlet systems, such as automatic vacuum cleaner systems, or other such multiple suction outlets whether isolated by valves or otherwise must be protected against user entrapment.
- All pool and spa suction outlets (except surface skimmers) must be provided with:
    - a cover that conforms with reference standard ASME/ANSI A112.19.8M, entitled Suction Fittings for Use in Swimming Pools,Wading Pools, Spas, Hot Tubs, and Whirlpool Bathtub Appliances, or
    - a drain gate that is 12" × 12" or larger, or o a channel drain system approved by the local code enforcement official.
- All pool and spa single or multiple outlet circulation systems must be equipped with atmospheric vacuum relief should grate covers located therein become missing or broken. Such vacuum relief systems shall include at least one the following:
    - safety vacuum release system conforming to reference standard ASME A112.19.17, entitled Manufacturers Safety Vacuum Release Systems (SVRS) for Residential and Commercial Swimming Pool, Spa, Hot Tub and Wading Pool, or
    - a gravity drainage system approved by the local code enforcement official.
- Single or multiple pump circulation systems must be provided with a minimum of 2 suction outlets of the approved type.
- The suction outlets must be separated by a minimum horizontal or vertical distance of 3 feet.
- These suction outlets must be piped so that water is drawn through them simultaneously through a vacuum relief-protected line to the pump or pumps.
- If the pool or spa is equipped with vacuum or pressure cleaner fitting(s), each fitting must be located:
    - in an accessible position which is at least 6 inches and not greater than 12 inches below the minimum operational water level, or
    - as an attachment to the skimmer(s).

Design and Construction Requirements

In-ground pools must be designed and constructed in conformance with reference standard ANSI/NSPI-5, entitled Standard for Residential In-ground Swimming Pools.

Above-ground and on-ground pools must be designed and constructed in conformance with reference standard ANSI/NSPI-4, entitled Standard for Above-ground/On-ground Residential Swimming Pools.

Maintenance Requirements

The Property Maintenance Code of New York State provides that swimming pools must be maintained in a clean and sanitary condition, and in good repair.

Other Requirements

Many other technical requirements are covered by the Uniform Code:

- Safety glazing material is required in the walls and fences enclosing indoor and outdoor swimming pools where certain conditions are met. See Building Code of New York State Section 2406.4.5.
- Support provisions for membrane structures: see Building Code of New York State Section 3102.8.3.
- Recirculation of supply air to a swimming pool and associated deck areas: see Mechanical Code of New York State Section 403.2.1.2.
- Regulation of solar heating systems: see Mechanical Code of New York State Section 1401.
- Swimming pools shall be protected against backflow in accordance with Plumbing Code of New York State Section 608. See Plumbing Code of New York State Section 423.1.
- Where wastewater from swimming pools, backflow from filters and water from pool deck drains discharge to the building drainage system, the discharge must be through an indirect waste pipe via an air gap. See Plumbing Code of New York State Section 802.1.4.
- Suction fittings for use in swimming pools shall comply with reference standard ASME/ANSI A112.19.8M, entitled Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, Hot Tubs, and Whirlpool Bathtub Appliances. See Residential Code of New York State Section 2701.1.
- The installation of electric wiring and equipment associated with swimming pools, wading pools, hot tubs and spas, and hydromassage bathtubs,

whether permanently installed or storable, and metallic auxiliary equipment, such as pumps, filters and similar equipment, are subject to the provisions of Chapter 42 of the Residential Code of New York State. For example:

Note: An electrician licensed with the Town of Grand Island is required to install the wiring, outlets, bonding, and grounding for the pool. The Town has a list of licensed electricians available upon request.

- Section E4202 contains requirements for wiring methods.
- Section E4203 contains requirements for equipment locations and clearances.
  - Note: An overhead conductor shall be not less than 10 feet horizontally from the inside edge of the walls of the pool.
  - Note: Underground wiring shall not be installed under the pool except where this wiring is necessary to supply pool equipment permitted by the code.
- Section E4204 contains requirements for the bonding of metallic parts and permitted methods of bonding.
- Section E4205 contains requirements for the grounding of equipment.
- Section E4206 contains requirements for the installation of equipment.
- Section E4207 contains special provisions for storable swimming pools.
- Section E4208 contains special provisions for spas and hot tubs.
- Section E4209 contains special provisions for hydromassage bathtubs.

State Energy Conservation Construction Code

Pool heaters, time switches, and covers for heated pools shall meet the requirements of Section R403.10 of the Energy Code.