

CHAPTER 31

SPECIAL CONSTRUCTION

SECTION BC 3101 GENERAL

3101.1 Scope. The provisions of this chapter shall govern special building construction including membrane structures, temporary structures, pedestrian walkways and tunnels, awnings and canopies, marquees, signs, telecommunications towers and antennas, swimming pools and enclosures, sidewalk cafés, and fences.

SECTION BC 3102 MEMBRANE STRUCTURES

3102.1 General. The provisions of this section shall apply to air-supported structures, air-inflated structures, membrane-covered cable structures, membrane-covered frame structures and tents, collectively known as membrane structures.

3102.1.1 Certificates of Occupancy. The duration of Certificates of Occupancy for air-inflated structures, air-supported structures, and tents may be limited in accordance with the requirements of Chapter 1.

➔ **3102.2 Definitions.** The following terms shall, for the purposes of this section and as used elsewhere in this code, have the meanings shown herein:

AIR-INFLATED STRUCTURE. A building where the shape of the structure is maintained by air pressurization of cells or tubes to form a barrel vault over the usable area. Occupants of such a structure do not occupy the pressurized area used to support the structure.

AIR-SUPPORTED STRUCTURE. A building wherein the shape of the structure is attained and maintained by elevated air pressure and occupants of the structure are within the elevated pressure area. Air-supported structures are of two basic types:

Double skin. Similar to a single skin, but with an attached liner that is separated from the outer skin and provides an airspace which serves for insulation, acoustic, aesthetic or similar purposes.

Single skin. Where there is only the single outer skin and the air pressure is directly against that skin.

CABLE-RESTRAINED, AIR-SUPPORTED STRUCTURE. A structure in which the uplift is resisted by cables or webbings which are anchored to either foundations or dead men. Reinforcing cable or webbing is attached by various methods to the membrane or is an integral part of the membrane. This is not a cable-supported structure.

MEMBRANE-COVERED CABLE STRUCTURE. A nonpressurized structure in which a mast and cable system provides support and tension to the membrane weather barrier and the membrane imparts stability to the structure.

MEMBRANE-COVERED FRAME STRUCTURE. A nonpressurized building wherein the structure is composed of a rigid framework to support a tensioned membrane which provides the weather barrier.

NONCOMBUSTIBLE MEMBRANE STRUCTURE. A membrane structure in which the membrane and all component parts of the structure are noncombustible.

TENT. A nonpressurized membrane structure of a fabric weather barrier supported by poles and guys, in which the fabric weather barrier does not impart stability to the structure. Tents need not be fully enclosed on the sides.

3102.3 Type of construction. Noncombustible membrane structures shall be classified as Type IIB construction. Noncombustible frame or cable-supported structures covered by an approved membrane in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported structures covered by an approved membrane in accordance with Section 3102.3.1 shall be classified as Type IV construction. Other membrane structures shall be classified as Type V construction.

3102.3.1 Membrane and interior liner material. Membranes and interior liners shall be either noncombustible as set forth in Section 703.4, or flame resistant as determined in accordance with NFPA 701 and the manufacturer's test protocol.

3102.4 Allowable floor areas. The area of a membrane structure shall not exceed the limitations set forth in Table 503, except as provided in Section 506.

3102.5 Maximum height. Membrane structures shall not exceed one story nor shall such structures exceed the height limitations in feet set forth in Table 503. Membrane structures may be erected above the roof of a building provided that such roof is of noncombustible construction required to have a fire-resistance rating.

Exception: Noncombustible membrane structures serving as roofs only.

3102.6 Mixed construction. Membrane structures shall be permitted to be utilized as specified in this section as a portion of buildings of other types of construction. Height and area limits shall be as specified for the type of construction and occupancy of the building.

3102.6.1 Noncombustible membrane. A noncombustible membrane shall be permitted for use as the roof or as a skylight of any building or atrium of a building of any type of construction, provided it is at least 20 feet (6096 mm) above any floor, balcony or gallery, and meets the fire classification requirements of Section 1505 for roof assemblies.

3102.6.1.1 Flame-resistant membrane. A flame-resistant membrane shall be permitted to be used as the roof or as a skylight on buildings of Type IIB, III, IV and V construction, provided it is at least 20 feet (6096 mm) above

any floor, balcony or gallery, and meets the fire classification requirements of Section 1505 for roof assemblies.

3102.7 Engineering design. Membrane structures shall be designed and constructed to sustain dead loads; loads due to tension or inflation; live loads including wind, snow or flood and seismic loads and in accordance with Chapter 16 and Appendix G.

Exception: Tents, air-inflated structures, and air-supported structures shall be designed by either an alternate engineering design approved by the commissioner or as follows:

1. Tents. Tents shall be guyed, supported, and braced to withstand a wind pressure of 10 psf (478.8 Pa) of projected area of the tent. The poles and their supporting guys, stays, stakes, fastenings, etc., shall be of sufficient strength and attached so as to resist wind pressure of 20 psf (957.6 Pa) of projected area of the tent.
2. Air-inflated structures and air-supported structures.
 - 2.1. Air-inflated structures and air-supported structures shall be anchored to the ground or supporting structure by either ballast or positive anchorage, sufficiently and evenly distributed, and adequate to resist the inflation lift load, the aerodynamic lift load, and the drag (shear) load due to wind impact. The latter factors shall be based on a fastest mile wind speed of 70 mph (112.65 km/hr), and an estimated stagnation of not less than $0.5 q$ for structures on grade whose height is equal to, or less than, the width of the structure. For greater heights, or for elevated structures, increased anchorage shall be provided, justified by analytical and/or experimental data subject to approval by the commissioner.
 - 2.2. The skin of the structure shall be of such strength, and the joints so constructed, as to provide a minimum dead load strip tensile strength at 70°F (21°C) of four times the 70 mph (121.65 km/hr) design load (inflation and aerodynamic loading). The joints shall provide a dead load strip tensile strength of 160°F (71°C) of twice the 70 mph (121.65 km/hr) design load (i.e., a factor of safety of 4 and 2, respectively). In addition, the material shall provide a trapezoidal tear strength of at least 15 percent of the maximum design tensile load. Material and joint strengths shall be so certified by the manufacturer, justified by analytical and/or experimental data.

3102.8 Inflation systems. Air-supported structures and air-inflated structures shall be provided with primary and auxiliary inflation systems to meet the minimum requirements of Sections 3102.8.1 through 3102.8.3.

3102.8.1 Equipment requirements. The primary inflation system shall consist of one or more blowers and shall include provisions for automatic control to maintain the

required inflation pressures. Such system shall be so designed as to prevent over pressurization of the system.

3102.8.1.1 Auxiliary inflation system. In addition to the primary inflation system, in structures exceeding 1,500 square feet (140 m²) in area, an auxiliary inflation system shall be provided with sufficient capacity to maintain the inflation of the structure in case of primary system failure. The auxiliary inflation system shall operate automatically when there is a loss of internal pressure and when the primary blower system becomes inoperative.

3102.8.1.2 Blower equipment. Blower equipment shall meet the following requirements:

1. Blowers shall be powered by continuous-rated motors at the maximum power required for any flow condition as required by the structural design.
2. Blowers shall be provided with inlet screens, belt guards and other protective devices as required by the commissioner to provide protection from injury.
3. Blowers shall be housed within a weather-protecting structure.
4. Blowers shall be equipped with backdraft check dampers to minimize air loss when inoperative.
5. Blower inlets shall be located to provide protection from air contamination. The location of inlets shall be approved.

3102.8.2 Emergency power. Wherever an auxiliary inflation system is required, an approved emergency power-generating system shall be provided. However, notwithstanding Section 2702.1, the emergency power-generating system shall be equipped with a suitable means for automatically starting the generator set upon failure of the normal electrical service and for automatic transfer and operation of all of the required electrical functions at full power within 60 seconds of such service failure. Emergency power shall be capable of operating independently for a minimum of 4 hours.

3102.8.3 Support provisions. A system capable of supporting the membrane in the event of deflation shall be provided for in air-supported structures and air-inflated structures having an occupant load of more than 50 or where covering a swimming pool regardless of occupant load. Such support system shall be capable of maintaining the membranes at least 7 feet (2134 mm) above the floor, seating area or surface of the water. When air-supported structures or air-inflated structures are used as a roof on Type I or II construction buildings, such support system shall be capable of maintaining the membranes not less than 20 feet (6096 mm) above the floor or seating area.

3102.9 Separation. No air-inflated structure, air-supported structure, or tent shall be erected closer than 20 feet (6096 mm) to any interior lot line nor closer than 30 feet (9144 mm) in any direction to an unprotected opening, required exterior stairway or corridor, or required exit door, on the same level or above the

level of such structure. Such structure may abut another building on the same tax lot if the following conditions exist:

1. No unprotected openings or exits are located above or within 30 feet (9144 mm) of such structure.
2. No doors serving as a required exit are located between such structure and the abutted building.
3. The exterior wall of the abutted building meets the requirements of Section 705 for fire walls.

3102.10 Exits. In addition to the requirements of Chapter 10, travel distance to an exit from any point within a tent, air-supported structure, or air-inflated structure shall not exceed 75 feet (22 860 mm).

3102.10.1 Exit openings from tents. Exit openings from tents shall remain open unless covered by a flame-resistant curtain of a contrasting color to the tent. Such curtain shall be supported at least 80 inches (2032 mm) above the floor level at the exit and, when open, no part of the curtain shall obstruct the exit.

3102.10.2 Exit openings from air-supported structures and air-inflated structures. Exit doors in air-supported structures and air-inflated structures shall close automatically against normal operational pressures. Opening force at the edge of such doors shall not exceed 15 pounds (6.80 kg), with the structure at operational pressure. Exit doors shall be located in frames constructed such that they will remain operative and support the weight of the pressurized membrane structure in a state of total collapse.

SECTION BC 3103 TEMPORARY STRUCTURES

3103.1 General. The provisions of this section shall apply to temporary platforms, reviewing stands, outdoor bandstands and similar miscellaneous structures erected for a period of 30 days or less. Such structures may be constructed of wood whether located inside or outside of the fire districts.

3103.1.1 Permit required. Temporary structures that cover an area in excess of 120 square feet (11.16 m²), including connecting areas or spaces with a common means of egress or entrance, shall not be erected, operated or maintained for any purpose without obtaining a permit from the department.

3103.2 Construction documents. A permit application and construction documents shall be submitted for each installation of a temporary structure. The construction documents shall include a site plan indicating the location of the temporary structure and information delineating the means of egress and the occupant load.

3103.3 Location. Temporary structures shall be located in accordance with the requirements of Table 602 based on the fire-resistance rating of the exterior walls for the proposed type of construction.

3103.4 Means of egress. Temporary structures shall conform to the means of egress requirements of Chapter 10 and shall have a maximum exit access travel distance of 100 feet (30 480 mm).

SECTION BC 3104 PEDESTRIAN WALKWAYS AND TUNNELS

3104.1 General. This section shall apply to connections between buildings such as pedestrian walkways or tunnels, located at, above or below grade level, that are used as a means of travel by persons. The pedestrian walkway shall not contribute to the building area or the number of stories or height of connected buildings.

3104.2 Separate structures. Connected buildings shall be considered to be separate structures.

Exceptions:

1. Buildings on the same tax lot in accordance with Section 503.1.3.
2. For purposes of calculating the number of Type B units required by Chapter 11, structurally connected buildings and buildings with multiple wings shall be considered one structure.

3104.3 Construction. The pedestrian walkway shall be of a construction type that is at least equal to the higher type of the two buildings connected.

Exception: Exterior pedestrian walkways serving as a required exit shall be constructed of noncombustible materials.

3104.4 Contents. Only materials approved by the department shall be located in the pedestrian walkway. Decorations may be permitted in accordance with the *New York City Fire Code*.

3104.5 Fire barriers between pedestrian walkways and buildings. Walkways shall be separated from the interior of the building by fire barrier walls with a fire-resistance rating of not less than 2 hours. This protection shall extend vertically from a point 10 feet (3048 mm) above the walkway roof surface or the connected building roof line, whichever is lower, down to a point 10 feet (3048 mm) below the walkway and horizontally 10 feet (3048 mm) from each side of the pedestrian walkway. Openings within the 10-foot (3048 mm) horizontal extension of the protected walls beyond the walkway shall be equipped with devices providing a ³/₄-hour fire protection rating in accordance with Section 715.

Exception: On pedestrian walkways having a maximum height above grade of three stories or 40 feet (12 192 mm), whichever is less; or five stories or 55 feet (16 764 mm) where sprinklered, whichever is less, the walls separating the pedestrian walkway from a connected building are not required to have a fire barrier by this section where any of the following conditions exist:

1. The distance between the connected buildings is more than 10 feet (3048 mm), the pedestrian walkway and connected buildings are equipped throughout with an automatic sprinkler system in accordance with NFPA 13 as modified in Appendix Q and the wall is constructed of a tempered, wired or laminated glass wall and doors subject to the following:
 - 1.1. The glass shall be protected by an automatic sprinkler system in accordance with NFPA 13 as modified in Appendix Q and the sprinkler system shall completely wet the entire surface

of interior sides of the glass wall when actuated.

- 1.2. The glass shall be in a gasketed frame and installed in such a manner that the framing system will deflect without breaking (loading) the glass before the sprinkler operates.
- 1.3. Obstructions shall not be installed between the sprinkler heads and the glass.
2. The distance between the connected buildings is more than 10 feet (3048 mm), and both sidewalls of the pedestrian walkway are at least 50 percent open with the open area uniformly distributed to prevent the accumulation of smoke and toxic gases.
3. Buildings are on the same tax lot, in accordance with Section 503.1.3.
4. Where exterior walls of connected buildings are required by Section 704 to have a fire-resistance rating greater than 2 hours, the walkway shall be equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13 as modified in Appendix Q.
5. The pedestrian walkway does not serve as a required exit.

3104.6 Public way. Pedestrian walkways over a public way shall also comply with Chapter 32.

3104.7 Width. The unobstructed width of pedestrian walkways shall not be less than 36 inches (914 mm). The total width shall not exceed 30 feet (9144 mm).

3104.8 Egress. Access shall be provided at all times to a pedestrian walkway that serves as a required exit. Doors satisfying the requirements of Chapter 10 shall enclose each end of such pedestrian walkway. The width of such pedestrian walkway shall be at least equal to the width of the doors opening onto such pedestrian walkway, but in no case less than 44 inches (1118 mm). The floor level at doors shall be the same as that of the connected building.

Exception: The floor level at doors of open pedestrian walkways shall be at least 7½ inches (191 mm) below the level of the door. Where the requirements of Chapter 11 are applicable, the differences in levels shall be accommodated by means of ramps in compliance with the provisions of Chapter 11.

3104.9 Exit access travel. The length of exit access travel shall not exceed 200 feet (60 960 mm).

Exceptions:

1. Exit access travel distance on a pedestrian walkway equipped throughout with an automatic sprinkler system in accordance with NFPA 13 as modified in Appendix Q shall not exceed 250 feet (76 200 mm).
2. Exit access travel distance on a pedestrian walkway constructed with both sides at least 50 percent open shall not exceed 300 feet (91 440 mm).
3. Exit access travel distance on a pedestrian walkway constructed with both sides at least 50 percent open, and equipped throughout with an automatic sprinkler

system in accordance with NFPA 13 as modified in Appendix Q, shall not exceed 400 feet (122 m).

3104.10 Tunneled walkway. Separation between the tunneled walkway and the building to which it is connected shall not be less than 2-hour fire-resistant construction and openings therein shall be protected in accordance with Table 715.3.

3104.11 Ventilation. Smoke and heat vents shall be provided for enclosed walkways and tunneled walkways as required for Group F-1 occupancies in accordance with Section 910.

**SECTION BC 3105
AWNINGS AND CANOPIES**

3105.1 General. Awnings and canopies shall comply with the requirements of this section, the requirements of Chapter 32 for projections over public ways, and other applicable sections of this code.

Exception: Canopies projecting over public rights-of-way governed by Title 19 of the *Administrative Code* and rules of the New York City Department of Transportation.

3105.2 Definition. The following term shall, for the purposes of this section and as used elsewhere in this code, have the meaning shown herein.

RETRACTABLE AWNING. A retractable awning is a cover with a frame that retracts against a building or other structure to which it is entirely supported.

3105.3 Design and construction. Awnings and canopies shall be designed and constructed to withstand wind or other lateral loads and live loads as required by Chapter 16 with due allowance for shape, open construction and similar features that relieve the pressures or loads. Structural members shall be protected to prevent deterioration. Awnings shall have frames of noncombustible material, covered with flame-resistant fabric in accordance with NFPA 701, plastic in accordance with Section 2605, sheet metal, or other equivalent material, and shall be either fixed, retractable, folding or collapsible.

3105.4 Reserved.

**SECTION BC 3106
MARQUEES**

3106.1 General. Marquees shall comply with this section and other applicable sections of this code. Marquees projecting beyond the street line shall also comply with the requirements of Chapter 32. Signs placed on marquees shall also comply with Section 3107.

3106.2 Thickness. The maximum height or thickness of a marquee measured vertically from its lowest to its highest point shall not be limited.

Exception: Marquees projecting beyond the street line shall meet the height and thickness requirements of Chapter 32.

3106.3 Roof construction. Where the roof or any part thereof is a skylight, the skylight shall comply with the requirements of Chapter 24. Every roof and skylight of a marquee shall be drained in accordance with the provisions of the *New York City Plumbing Code*.

3106.4 Location prohibited. Every marquee shall be so located as not to interfere with the operation of any exterior standpipe, and such that the marquee does not obstruct the clear passage of stairways or exit discharge from the building or the installation or maintenance of street lighting.

3106.5 Construction. A marquee shall be supported entirely from the building and constructed of noncombustible materials. Marquees shall be designed as required in Chapter 16. Structural members shall be protected to prevent deterioration.

SECTION BC 3107 SIGNS

3107.1 General. Signs shall be designed, constructed and maintained in accordance with Appendix H.

SECTION BC 3108 RADIO, TELEVISION, AND TELECOMMUNICATIONS TOWERS AND ANTENNAS

3108.1 General. Subject to the provisions of Chapter 16 and the requirements of Chapter 15 governing the fire-resistance ratings of buildings for the support of roof structures, radio, television, and telecommunications towers and antennas shall be designed and constructed as herein provided. All such towers and antennas shall be collectively referred to as "towers" for the purposes of this section.

3108.2 Location and access. Towers shall be located and equipped with step bolts and ladders so as to provide ready access for inspection purposes. Guy wires or other accessories shall not cross or encroach upon any street or other public space, or over above-ground electric utility lines, or encroach upon any privately owned property without written consent of the owner of the encroached-upon property, space or above-ground electric utility lines.

3108.3 Construction. Towers shall be constructed of approved corrosion-resistant noncombustible material. The minimum type of construction of isolated radio towers not more than 100 feet (30 480 mm) in height shall be Type IIB.

3108.4 Loads. Towers shall be designed to resist wind loads in accordance with TIA/EIA-222. Consideration shall be given to conditions involving wind load on ice-covered sections.

3108.4.1 Dead load. Towers shall be designed for the dead load plus ice load.

3108.4.2 Wind load. Towers shall be provided with adequate foundations and anchorage designed to resist two times the calculated wind load.

3108.5 Grounding. Towers shall be permanently and effectively grounded in accordance with the *New York City Electrical Code*.

SECTION BC 3109 SWIMMING POOLS, SWIMMING POOL ENCLOSURES, AND SAFETY DEVICES

3109.1 General. Swimming pools, swimming pool enclosures, and swimming pool safety devices shall comply with the

requirements of this section and other applicable sections of this code.

3109.2 Definitions. The following terms shall, for the purposes of this section and as used elsewhere in this code, have the meaning shown herein.

SWIMMING POOL. Any indoor or outdoor swimming, wading, spa, or special-purpose pool.

Exceptions:

1. Portable, freestanding wading pools containing water less than 24 inches (610 mm) in depth.
2. Float tanks or relaxation tanks sized for use by one person at a time.
3. Pools used for religious purposes.
4. Spa pools used for prescribed medical therapy or rehabilitation and under medical supervision.

SWIMMING POOL, PRIVATE. A swimming pool that is accessory to a one- or two-family dwelling, or to a single-dwelling unit of a multiple dwelling, and that is solely for the use of the occupants for noncommercial purposes.

SWIMMING POOL, PUBLIC. A swimming pool that is not a private swimming pool. Public swimming pools include swimming pools that are accessory to bathing establishments as such term is defined in the *New York City Health Code*, whether owned or operated by city agencies, or commercial interests or private entities, including, but not limited to, public or private schools, corporations, hotels, motels, camps, apartment houses, condominiums, country clubs, gymnasias and health establishments.

3109.3 All swimming pools. Public and private swimming pools shall comply with the requirements for safety and accessibility as provided in this section.

3109.3.1 Entrapment avoidance. Where the suction inlet system, such as an automatic cleaning system, is a vacuum cleaner system which has a single suction inlet, or multiple suction inlets which can be isolated by valves, each suction inlet shall protect against user entrapment by an approved antivortex cover, a 12-inch by 12-inch (305 mm by 305 mm) or larger grate, or other approved means. In addition, all swimming pools and spas shall be equipped with an alternative backup system which shall provide vacuum relief should grate covers be missing. Alternative vacuum relief devices shall include one of the following:

1. Approved vacuum release system.
2. Approved vent piping.
3. Other approved devices or means.

3109.3.2 Water circulation, water treatment and drainage. The supply, circulation, treatment, and drainage of water for swimming pools shall meet the requirements of the *New York City Plumbing Code*.

3109.3.3 Electrical precautions. No overhead electrical conductors shall be installed within 15 feet (4572 mm) of any swimming pool. All metal fences, enclosures, or railings that might become electrically charged as a result of contact with broken overhead conductors or from any other

cause near, or adjacent to, a swimming pool shall be grounded in accordance with the provisions of lightning protection in the *New York City Electrical Code*.

3109.3.4 Facilities for people with disabilities. Facilities for people with physical disabilities shall be provided where required by Chapter 11 of this code.

3109.4 Public swimming pools. Public swimming pools shall comply with the requirements for safety and accessibility as provided in Sections 3109.3 and 3109.4.

Exceptions: A swimming pool with a power safety cover or a spa with a safety cover complying with ASTM F 1346.

3109.4.1 Barrier height and clearances. Public swimming pools shall be completely enclosed by a fence, wall, building, or other solid barrier, or any combination thereof, at least 6 feet (1829 mm) in height. Openings in the enclosure shall not permit the passage of a 4-inch-diameter (102 mm) sphere. The enclosure shall be equipped with self-closing and self-latching gates.

Exception: Enclosures shall be at least 4 feet (1219 mm) in height when surrounding wading pools with water less than 24 inches (610 mm) in depth.

3109.4.2 Other laws. In addition to the requirements of this section, any other, more stringent requirements for the construction and design of swimming pool and barriers that may be provided for in Article 165 of the *New York City Health Code*, as administered by the New York City Department of Health and Mental Hygiene, shall also be applicable.

3109.5 Private swimming pools. Private swimming pools shall comply with the requirements for safety and accessibility as provided in Section 3109.3 and this section.

Exception: An above-ground private swimming pool which has a maximum water depth of 4 feet (1219 mm) and an area not exceeding 500 square feet (46.45 m²) that is accessory to an R-3 occupancy and is privately used for noncommercial purposes shall not be required to comply with Sections 3109.3.1, 3109.3.2, 3109.5.2, 3109.5.3 and 3109.5.4.

3109.5.1 Barrier height and clearances. The top of the barrier enclosing a private swimming pool shall be at least 48 inches (1219 mm) above grade measured on the side of the barrier that 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 that faces away from the swimming pool. Where the top of the pool structure is above grade, the barrier is authorized to be erected at grade level or 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).

3109.5.1.1 Openings. Openings in the barrier shall not allow passage of a 4-inch-diameter (102 mm) sphere.

3109.5.1.2 Solid barrier surfaces. Solid barriers which do not have openings shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.

3109.5.1.3 Closely spaced horizontal members.

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.

3109.5.1.4 Widely spaced horizontal members.

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.

3109.5.1.5 Chain link dimensions.

Maximum mesh size for chain link fences shall be a 2¹/₄ inch square (57 mm square) unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to no more than 1³/₄ inches (44 mm).

3109.5.1.6 Diagonal members. Where the barrier is composed of diagonal members, the spacing between parallel diagonal members shall be no more than 1³/₄ inches (44 mm).

3109.5.1.7 Gates. Access gates shall comply with the requirements of Sections 3109.5.1.1 through 3109.5.1.6 and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward away from the pool and shall be self-closing and have a self-latching device. Gates other than pedestrian access gates shall have a self-latching device. Where the release mechanism of the self-latching device is located less than 54 inches (1372 mm) from the bottom of the gate, the release mechanism shall be located on the pool side of the gate at least 3 inches (76 mm) below the top of the gate, and the gate and barrier shall have no opening greater than 1/2 inch (12.7 mm) within 18 inches (457 mm) of the release mechanism.

3109.5.1.8 Dwelling wall as a barrier. Where a wall of a dwelling serves as part of the barrier, one of the following shall apply:

1. Doors with direct access to the swimming pool through that wall shall be equipped with an alarm which produces an audible warning when the door and its screen are opened. The alarm shall sound continuously for a minimum of 30 seconds immediately after the door is opened and be capable of being heard throughout the dwelling during normal household activities. The alarm shall automatically reset under all conditions. The alarm shall be equipped with a manual means to temporarily deactivate the alarm for a single opening. Such deactivation shall last no more than 15 seconds. The deactivation switch shall be located at least 54 inches (1372 mm) above the threshold of the door.

2. The swimming pool shall be equipped with a power safety cover which complies with ASTM F 1346.
3. The door providing access to the swimming pool from the dwelling shall open inward, away from the swimming pool, and shall be self-closing and have a self-latching device. The release mechanism of the self-latching device shall be located no less than 54 inches (1372 mm) from the bottom of the door.

3109.5.1.9 Pool structure as barrier. Where an above-ground private swimming 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 either shall be capable of being secured, locked or removed to prevent access, or the ladder or steps shall be surrounded by a barrier which meets the requirements of Sections 3109.5.1.1 through 3109.5.1.8. 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.

3109.5.2 Indoor swimming pools. Walls surrounding indoor private swimming pools shall not be required to comply with Section 3109.5.1.8.

3109.5.3 Prohibited locations. Barriers shall be located so as to prohibit permanent structures, equipment or similar objects from being used to climb the barriers.

3109.5.4 Construction requirements. Private swimming pools shall be constructed so as to be water tight and easily cleaned. They shall be built of nonabsorbent materials with smooth surfaces and shall be free of open cracks and open joints.

3109.5.4.1 Walls. The walls of swimming pools shall be vertical for at least the top 30 inches (762 mm) below the normal water level. The junctions between the side walls and the bottom shall be coved. A swimming pool overflow shall be provided meeting the requirements of the *New York City Plumbing Code*.

3109.5.4.2 Bottom slopes. The bottom of the swimming pool shall slope downward toward the main drains. The slope in shallow areas with depths less than 5 feet (1524 mm) shall not exceed 1 unit vertical in 12 units horizontal (8-percent slope)‡. In portions of the swimming pool with depth greater than 5 feet (1524 mm), the slope shall not be steeper than 1 unit vertical in 3 units horizontal (33-percent slope)‡.

3109.5.4.3 Ladders. There shall be a ladder or steps with handrails at the deep end and at the shallow end of every swimming pool. Ladders and steps shall have no-slip treads. All ladders shall be rigidly installed and shall be constructed of corrosion-resistant materials.

3109.5.4.4 Walkways. Every swimming pool shall have a walkway at least 5 feet (1524 mm) wide around its entire perimeter. The walkway shall have a nonslip sur-

face and shall be constructed to drain away from the swimming pool.

3109.5.4.5 Handholds. Every swimming pool shall be constructed so that either the overflow gutter, if provided, or the tops of the side walls afford a continuous handhold for bathers.

3109.5.4.6 Markings. Permanent markings showing the depth of the shallow end, break points, diving depth and deep end shall be provided so as to be visible from both inside and outside the swimming pool.

3109.5.4.7 Diving boards and towers. Diving towers shall be rigidly constructed and permanently anchored. The depth of the water below a diving board shall be at least 102 inches (2591 mm) for a board 39 inches (991 mm) or less above the water. For a diving board more than 39 inches (991 mm) and not more than 118 inches (2997 mm) above the water, the depth of the water below the board shall be at least 144 inches (3658 mm). For a diving board or platform more than 118 inches (2997 mm) above the water, the depth of the water below the board shall be at least 192 inches (4877 mm). Indoor swimming pools shall provide at least 144 inches (3658 mm) overhead clearance above all diving boards.

SECTION BC 3110 SIDEWALK CAFÉS

3110.1 General. Sidewalk cafés provided beyond the building line shall comply with the requirements of this section, the *New York City Zoning Resolution*, the Commissioners of the Department of Consumer Affairs and Department of Transportation, and with the projection limitations of Chapter 32 of this code.

3110.2 Enclosures. Enclosed sidewalk cafés shall be constructed of noncombustible material. The walls of such enclosures shall not extend more than 8 feet (2438 mm) above the sidewalk. Light-transmitting plastic glazing complying with Section 2606 shall be permitted as glazing within such walls. Light-transmitting plastic skylight glazing complying with Section 2610 may be installed in the roofs of such enclosures.

3110.3 Awnings. Awnings supported entirely from the building may be placed over unenclosed sidewalk cafés provided they are at least 8 feet (2438 mm) clear above the sidewalk and within the limits specified by the Commissioner of the Department of Consumer Affairs. Such awnings shall be in compliance with Section 3105 of this code.

3110.4 Obstructions prohibited. No part of any awning, enclosure, fixture, equipment or removable platform of a sidewalk café shall be located:

1. Beneath a fire escape so as to obstruct operation of fire escape drop ladders or counter-balanced stairs;
2. So as to obstruct any exit from a building;
3. So as to obstruct any cellar access hatch or areaway;
4. So as to interfere with any vent or other mechanical ventilation outlet or inlet;

5. So as to interfere with or obscure any standpipe connections, hydrant or associated signage in any way that would hinder its use by the Fire Department.

Exception: Upon special application, the commissioner may permit an easily removable, prominently designated platform, designed in accordance with Section 3110.5, to cover a cellar entrance or areaway that is not used as a required means of egress.

3110.5 Removable platforms. Removable platforms of sidewalk cafés shall be constructed in accordance with the requirements of this section.

3110.5.1 Continuity. Removable platforms shall be constructed to provide for a continuous unbroken and level floor without openings or cracks so as to prevent any material or liquid from falling through to the area beneath.

3110.5.2 Maintenance. No papers, trash or other materials may be permitted to accumulate in the area beneath the floor of any removable platform.

3110.6 Accessibility. Sidewalk cafés and access thereto shall comply with Chapter 11.

3110.7 Assembly seating. Unless separated from seating inside the building by fire partitions complying with Section 708, the seating for enclosed sidewalk cafés shall be added to that inside the building in order to determine whether a place of assembly permit is required.

3110.8 Rules. In addition to the requirements specified herein, the commissioner may promulgate such additional rules necessary to secure safety.

SECTION BC 3111 FENCES

3111.1 Permitted heights. Fences are permitted to be erected to a maximum height of 10 feet (3048 mm) above the ground.

Exceptions:

1. In residence districts, as established by the *New York City Zoning Resolution*, fences are permitted to be erected to a maximum height of 6 feet (1829 mm) above the ground.
2. Fences in residence districts used in conjunction with nonresidence buildings and public playgrounds, excluding buildings accessory to dwellings, are permitted to be erected to a maximum height of 15 feet (4572 mm) above the ground.
3. Higher fences may be permitted by the commissioner where required for the enclosure of public playgrounds, school yards, parks, and similar public facilities.