1900 Hotel Plaza Blvd., Lake Buena Vista, FL 32830 ⌖ (407) 828-2034 ⌖ (407) 828-4466/IVR ⌖ (407) 828-2416/Fax ⌖ RCIDPermits@rcid.org ⌖ www.rcid.org

EPCOT BUILDING CODES
2018 Edition (w/2015 Errata, 2016/2017 Supplements)
Approved Code Changes
In Effect October 1, 2019

ACCESSIBILITY

E – A15-0001

TABLE 404.2.4.1 MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS AND GATES

Type of Use		Minimum Maneuvering Clearance	
Approach Direction	Door or Gate Side	Perpendicular to Doorway	Parallel to Doorway (beyond latch side unless noted)
From front	Pull	60 inches	18 inches
From front	Push	48 inches	0 inches[1]
From hinge side	Pull	60 inches	36 inches
From hinge side	Pull	54 inches	42 inches
From hinge side	Push	42 inches[2]	22 inches[3]
From latch side	Pull	48 inches[4]	24 inches
From latch side	Push	42 inches[4]	24 inches

1. Add 12 inches if closer and latch are provided.
2. Add 6 inches if closer and latch are provided.
3. Beyond hinge side.
4. Add 6 inches if closer is provided.

BUILDING

B18 - 001

Chapter 2 Definitions

Corridor. ~~Passageway, hall or hallway serving an occupant load of more than 10~~ An enclosed exit access component that defines and provides a path of egress travel.

BS17 - 01

Chapter 2
Definitions

FIRE PARTITION. A vertical assembly of materials designed to restrict the spread of fire in which openings are protected.

SMOKE BARRIER. A continuous membrane, or a membrane with discontinuities created by protected openings, where such membrane is designed and constructed to restrict the movement of smoke.

BS16-0001

SECTION 202
DEFINITIONS

PUBLIC BUILDING. Building or part of a building that is open to public access as described in ~~Section 3.5 of~~ the *EPCOT Accessibility Code for Building Construction*.

B18 - 002

~~**PUBLIC PLACE**. An unoccupied open space adjoining a building on the same property, permanently accessible and free of obstructions for use of the Fire Department and other public services.~~

PUBLIC SPACE. ~~For determining permitted floor areas and(or) arrangement of exits, means such o~~Open spaces dedicated for public use such as public parks, rights-of-way, waterways, public beach, and other permanently unobstructed yards or courts having access to a street as required in Chapter 5.

SUITE – A group of rooms occupied as a unit.

WATERWAY. Channel of water navigable by boats. When located within a special amusement building, the occupant load assigned to waterways shall not exceed the maximum load capacity of the ride vehicles. ~~For the purpose of determining allowable floor area but not exit arrangement, waterways shall be considered as streets.~~

B18 - 003

301.1 Permits Required.
(b) Separate permits shall be required for plumbing, air conditioning, heating and ventilating systems, elevators, escalators and transporting assemblies, gas, sprinkler, roofing, electrical, fire alarm systems, security alarm systems, swimming pool, project management and show/ride installations.

BS16-0002

SECTION 303
PLANS AND SPECIFICATIONS

303.1 Plans and Specifications Required.
(a) Each application for a permit shall be accompanied by an electronic set of plans or two sets of hardcopy plans, specifications and calculations when required by the Building Official.

(e) Plans shall be drawn to scale, identified by name of designer and owner on every sheet, and shall be an electronic Portable Document Format (PDF) or mechanically reproduced prints ~~on substantial paper or cloth~~. A plot plan shall show all occupied and unoccupied parts of the lot or lots. The use, name and occupancy of all parts of the building shall be shown, including all foundations, wall sections, floor plans, elevations and structural details. Mechanical, plumbing, electrical, fire sprinkler and alarm details shall be shown on the plans and representing the designs for those disciplines, along with such other information as may be required to show clearly the nature, character and location of the proposed work.

BS17 - 02

SECTION 303
PLANS AND SPECIFICATIONS

303.1 Plans and Specifications Required.
(c) Unless specifically exempted by the Building Official, buildings and/or structures, alterations, repairs or improvements, replacements and additions with a valuation of $25,000 or more ~~as specified herein~~except as noted in paragraphs 1 and 2 below; or where the finished work is designed for public occupancy, the plans and specifications shall be prepared and approved by, and shall bear the seal, signature and date of, a professional engineer or registered architect either of whom shall be registered in the State of Florida.

1. Any specialized mechanical, electrical, or plumbing document which includes a medical gas, oxygen, steam, vacuum, toxic air filtration, halon, or fire detection and alarm system which costs more than $5,000.

2. Fire sprinkler documents which includes a fire sprinkler system which contains 50 or more sprinkler heads. Personnel as authorized by Chapter 633 *Florida Statutes*, may design a fire sprinkler system of 49 or fewer heads and may design the alteration of an existing fire sprinkler system if the alteration consists of the relocation, addition or deletion of not more than 49 heads, notwithstanding the size of the existing fire sprinkler system.

BS16-0003

New Section

401.5 Construction Fences. For requirements see Appendix F.

BS16-0004

402.4 Balconies and Appendages. Oriel windows, balconies, unroofed porches, cornices, belt courses and appendages, such as water tables, sills, capitals, bases and architectural projections, may project over the public property of the building side a distance determined by the clearance of the lowest point of the projection above the grade immediately below, as follows:

~~Clearance above grade less than 8 feet – no projection permitted. Clearance above ground more than 8 feet – 1 inch of projection is permitted for each additional inch of clearance, provided that no such projection shall exceed a distance of 4 feet.~~
Projections less than 8 feet are not permitted above a walking surface on public or private property. One inch of projection is permitted for every one inch above 8 feet, up to a maximum of 4 feet of projection.

BS16-0005

402.8 Roof Drainage. Drainage water collected from the roof of a building or structure, awning, canopy or marquee that exceeds 16 square feet in area, or condensate from mechanical equipment, shall not ~~flow over~~discharge on to a public walking surface.

BS17 - 03

503.6 Ceiling Heights.
(a) In all occupancies~~, except Group D,~~ ceilings of rooms used for human occupancy and all exitways shall have a clear height of not less than 7 feet 6 inches measured to the finished floor and lowest projection from the ceiling and shall comply with the *EPCOT Accessibility Code for Building Construction*. ~~[See Subsection 509.2(b).]~~

Exceptions:

1) Parking garages and mezzanines may have a minimum ceiling height of 7.0 feet above the finished floor.

2) In Group R, kitchens, bathrooms and toilet rooms, storage rooms and laundry rooms may have a minimum ceiling height of 7.0 feet above the finished floor.

3) For areas with sloped ceiling, the prescribed ceiling height for the rooms is required in one-half of the area thereof. Any portion of the room measuring less than 5 feet from the finished floor to the ceiling shall not be included in any computation of the minimum area thereof.

~~1)~~4) For one- and two-family dwellings, beams or girders spaced not less than 4 feet on center shall be permitted to project not more than 6 feet below the required height.

BS16-0006

503.11 Guardrails. All enclosed floor and roof openings; operable windows in exterior walls whose sill height is less than 30 inches above the floor below and more than 30 inches above grade; open and glazed sides of landings; and ramps, stairs, balconies or porches, which are more than 30 inches above grade, or a floor below and all publicly accessible docks regardless of water level shall be protected by a guardrail. Guardrails shall form a vertical protective barrier not less than 42 inches high. Open guardrails shall have intermediate rails or ornamental pattern such that a 4-inch-diameter sphere cannot pass through any opening. ~~up to a height of 34 inches. From 34 inches to 42 inches above the adjacent walking surfaces, a sphere of 8 inches shall not pass through.~~ A bottom rail or curb shall be provided that will reject the passage of a 2-inch-diameter sphere. Construction of guardrails shall be adequate in strength, durability and attachment for their purpose as described in Subsection 902.2(h).

Exceptions:
1. Guardrails need not be provided on the loading side of loading docks.

2. Guardrails for one and two family residences ~~guest rooms~~ shall be a minimum of ~~42~~ 36 inches high.

3. Guardrails on a balcony, loge or gallery immediately in front of the first row of fixed seats and which are not at the end of an aisle shall be not less than 26 inches high. Guardrails 42 inches high and the width of the aisle shall be located at the front edge of a balcony, loge or gallery where the aisle terminates. When the slope of the aisle is less than 1:8, the guardrail shall be 42 inches high where the aisle terminates.

4. In assembly seating areas, guards at the end of aisles where they terminate at a fascia of boxes, balconies and galleries shall not have openings which allow passage of a sphere 4 inches in diameter up to a height of 26 inches. From a height of 26 inches to 42 inches above the adjacent walking surfaces, guards shall not have openings which allow passage of a sphere 8 inches in diameter.

~~4.~~ 5. A guardrail shall not be required at the front of any stage and enclosed platforms.

~~5.~~ 6. For areas not accessible to the public, including catwalks and mechanical areas, the clear distance between rails, measured at right angles to the rails, shall not exceed 18 inches.

7~~6~~. Guardrails shall not be required along vehicle pits when the depth of the pit is less than 48 inches.

8~~7~~. The triangular openings formed by the riser, tread and bottom rail at the open side of a stairway, shall be a maximum size such that a sphere of 6 inches in diameter cannot pass through the opening.

9. Docks where access is restricted or where space is dedicated for mooring of boats.

B18 - 004

503.11 Guardrails. …

Guardrails shall form a vertical protective barrier not less than 42 inches high. Open guardrails shall have intermediate rails or ornamental pattern such that a 4-inch-diameter sphere cannot pass through any opening up to a height of 34 inches. From 34 inches to 42 inches above the adjacent walking surfaces, a sphere of 8 inches

shall not pass through. A bottom rail or curb shall be provided that will reject the passage of a 2-inch-diameter sphere. Construction of guardrails shall be adequate in strength, durability and attachment for their purpose as described in Subsection 902.2(h). Glass used in guardrails shall comply with Subsection 1005.8.

BS17- 04

503.12 Fire Protection and Special Systems.
(a) A complete automatic sprinkler system shall be installed in locations as specified in Subsection 715.4.

(b) Every building greater than 400 square feet not provided with automatic sprinkler protection throughout shall be provided with approved product of combustion detectors located in accordance with EPCOT Standard 7-20. Each detector shall be connected to an AC power source and shall be connected to a central monitored station, if available. If a central monitored station is not available, an outside audible alarm shall be installed subject to approval by the Building Official. Every building in which sleeping areas are provided shall have product of combustion detectors located in accordance with Subsection 513.4 and EPCOT Standard 7-20.

(c) A fire alarm detection and evacuation system in accordance with NFPA 72 shall be installed in all occupancies.

Exception: A fire alarm detection and evacuation system is not required in Group A-7, R-3, S-1, S-4, S-5, S-6 and S-7 occupancies, temporary occupancies less than 300 occupants, construction trailers for the duration of the construction project, and manufactured buildings less than 3,200 square feet.

(d) Portable fire extinguishers shall be provided in all occupancies, including temporary structures, in accordance with NFPA 10.

Exception: S-6 Occupancies.

(e) Where required by occupancy, design or other provisions of this Code, the following systems and services shall be installed:

1. Automatic sprinkler systems, ~~fire extinguishers,~~ fire alarms, standpipes, water supply and hose connections shall be installed as required in Section 715.

2. Air-conditioning systems, chimneys, flues, vents and heat-producing equipment shall be designed as specified in the *EPCOT Mechanical Code*, and the applicable requirements of the *EPCOT Plumbing Code* and the *EPCOT Fuel Gas Code*.

3. Service of hazardous utilities shall be as specified by Subsection 708.3.

4. Every building shall have an approved outside gas shutoff valve.

5. Electrical installations shall be as specified in the *EPCOT Electrical Code*.

6. Elevators, escalators, dumbwaiters, manlifts and transporting assemblies shall be installed, tested, inspected, maintained and operated in accordance with the requirements of EPCOT Standard 5-1.

7. Except where prohibited, the storage of flammable materials shall comply with the requirements of EPCOT Standards 5-4, 5-5 and 5-6.

8. Blower and exhaust systems, where required, shall be installed as specified in EPCOT Standard 5-7.

BS16-0007

New Section

503.20 Solid Wall Structures. Buildings or structures of solid wall construction used for a duration of 90 days or less shall comply with Appendix N.

BS17 - 05

508.2 Enclosure of Exits and Vertical Openings.
(a) Exits shall be enclosed as required in Chapter 8.

(b) Other vertical openings shall be enclosed as specified in Table 6.2 and Section 703.

~~**Exception:** A shaft enclosure is not required for automobile ramps in open and enclosed parking garages constructed in accordance with Section 508.5 and other structures with a minimum 50% openness to the exterior on all sides.~~

BS17 - 06

508.5 Open Parking Garages.
(a) Except where specific provisions are made in the following sections, other requirements for Group B shall apply in open parking garages.

(b) An open parking garage is a structure of Type I, II, III or IV construction more than one tier high when at least 50 percent of the perimeter is open, and when the structure is used exclusively for parking or storing passenger motor vehicles (see Table 5.3).

1. At least 50 percent of the clear height between floors shall be open to the atmosphere for the full length of at least two exterior walls, excluding required stair and elevator walls and structural columns.

   Where a skin structure or exterior façade uses perforated or slotted openings applied to the required clear area, the skin or façade must be a minimum of 40% open to contribute any amount to the overall openness calculation. The skin structure or façade shall be set out a minimum of 18 inches from the exterior wall surface.

2. The distance from any point on any floor level to an open exterior wall facing on a street, or to other permanently maintained open space at least 20 feet in width extending full width to a street, shall not exceed 200 feet.

3. When such structures are within 10 feet of a common property or building line, they shall be provided with an enclosure wall along the line of not less than 1-hour fire resistance without openings therein, except door openings meeting the requirements of Subsection 704.3 shall be permitted.

4. All floor and roof areas providing for the parking or movement of automobiles shall be provided with pedestrian guardrails in accordance with Subsection 503.11 at all exterior and interior vertical openings when the vertical distance to the ground or surface directly below exceeds 3 feet. Such parking areas shall also be provided with exterior or interior walls or impact guardrails, except at pedestrian or vehicular accesses, capable of withstanding an impact of not less than 150 pounds per lineal foot applied at 18 inches above the floor. Each floor of such structure shall have wheel guards not less than 4 inches in height above the floor with a clear passage of 3 feet between the wheel guard and edge of structure.

(c) A shaft enclosure is not required for automobile ramps in open parking garages constructed in accordance with this Subsection.

~~(c)~~**508.6 Enclosed Parking Garages.** Enclosed and basement public parking decks shall be provided with a mechanical ventilation system ~~capable of providing six air changes per hour~~ for each level in accordance with the *EPCOT Mechanical Code*. Enclosed garages shall be provided with automatic sprinklers in accordance with Section 715.

508.7~~6~~ Prohibited Uses. The following uses are not permitted within parking garages.

(a) Automobile repair work.

(b) Loaded commercial trucks and similar vehicles.

(c) Partial or complete closing of required openings in exterior walls by tarpaulins or any other means.

(d) Dispensing of fuel.

508.8~~7~~ Helistops.

BS17 - 07

509.2 Construction, Height and Area.
(a) Buildings housing Group D, Division I occupancies, shall be of Type I or II construction. One-story buildings of Type III 1-hour, Type IV 1-hour or Type V 1-hour may be permitted when the floor area is not more than 3,900 square feet between separation walls of 2-hour fire resistive construction with all openings protected. The opening protectives shall have 1½-hour fire-resistive rating. Thresholds and expansion joint covers shall be flush with the floor.
~~(b)Ceiling heights in buildings housing Group D, Division 1 and 2 occupancies, shall be as required in EPCOT Standard 5-2.~~

(b~~c~~) Ceilings in corridors, patients' areas, nurses' stations, labor rooms, nourishment stations and dining areas shall be acoustically treated in accordance with the requirements of EPCOT Standard 5-2.

(c~~d~~) Where personal liberties are restrained within the building, the floors shall be of noncombustible material.

(d~~e~~) Requirements for the control of sound transmission in Group D, Division 1 and 2 occupancies, shall be as specified in Table 5.4. Location of ductwork, fire blocking, electrical receptacles and other recessed wall

attachments shall not interfere with the effectiveness of required sound insulation.

BS16-0008

509.5 Special Requirements—Group D Occupancies.
(a) Storage of volatile flammable liquids shall not be permitted in buildings housing Group D occupancies, and the handling of such volatile flammable liquids shall not be permitted in quantities of more than 1 gallon, except when such handling complies with the requirements of EPCOT Standards 5-2, 5-4 and 5-5.

~~(b)Smoke detectors complying with the requirements of EPCOT Standard 7-4 may be used in lieu of an approved automatic sprinkler system in patient sleeping rooms of less than 600 square feet in area, in surgeries, delivery rooms, intensive care and similar areas of Group D, Division 2 hospitals.~~

(b~~c~~) An approved fire alarm system shall be provided for all Group D, Division 2 occupancies. Audible alarm devices shall be used in all areas where patients are not housed. Visible alarm devices may be used in lieu of audible alarm devices in areas occupied by patients.

(c~~d~~) Central heating plant or boilers using solid or liquid fuel shall be protected by a 2-hour fire-resistive separation without openings, except for air-distribution ducts with fire dampers at the plane of the wall. When the fuel used is natural gas, the wall may be a minimum of 1-hour fire-resistive construction.

(d~~e~~) Installation of boiler rooms and heating equipment shall be in accordance with the requirements of Subsection 503.17, Table 5.2 and the EPCOT Mechanical Code.

BS17 - 08

511.7 High-Piled Stock.
(a) Buildings used or intended to be used for the storage of high-piled stock as defined in Paragraph (b) shall comply with the requirements of this Subsection.

(b) High-piled stock shall be combustible commodities or packaging materials that are placed in closely packed piles more than 12~~5~~ feet high~~, that are stored on pallets or racks more than 12 feet high~~, or that are highly combustible materials placed in piles, stacks or racks more than 6~~8~~ feet high.

Combustible commodities include the following classifications:
1. Manufactured combustible materials.
2. Wrapped or packaged in or protected by combustible materials.
3. Stored on combustible pallets or racks.

Highly combustible commodities include the following:
1. Rubber goods.
2. High-hazard foam plastic products.
3. Other materials that are subject to rapid combustion.

B17 – 17

New Section

518 Special Construction

518.1 Children's Play Structures. Children's play structures installed inside all occupancies covered by this Code shall comply with the following:

(a) Materials. Children's play structures shall be constructed of noncombustible materials or of combustible materials that comply with the following:

1. Fire-retardant-treated wood.

2. Light-transmitting plastics complying with Section 1008.

3. Foam plastics (including the pipe foam used in soft-contained play equipment structures) having a maximum heat-release rate not greater than 100 kilowatts when tested in accordance with UL 1975.

4. Aluminum composite material (ACM) meeting the requirements of Class 1 interior finish in accordance with Section 711 when tested as an assembly in the maximum thickness intended for use.

5. Textiles and films complying with the flame propagation performance criteria contained in NFPA 701.

6. Plastic materials used to construct rigid components of soft-contained play equipment structures (such as tubes, windows, panels, junction boxes, pipes, slides and decks) exhibiting a peak rate of heat release not exceeding 400 kW/m2 when tested in accordance with ASTM E1354 at an incident heat flux of 50 kW/m2 in the horizontal orientation at a thickness of 6 mm.

7. Ball pool balls, used in soft-contained play equipment structures, having a maximum heat-release rate not

greater than 100 kilowatts when tested in accordance with UL 1975. The minimum specimen test size shall be 36 inches by 36 inches by an average of 21 inches deep, and the balls shall be held in a box constructed of galvanized steel poultry netting wire mesh.

8. Foam plastics shall be covered by a fabric, coating or film meeting the flame propagation performance criteria of NFPA 701.

9. The floor covering placed under the children's playground structure shall exhibit a Class 1 interior floor finish classification, as described in Section 711, when tested in accordance with NFPA 253.

(b) Fire Protection. Children's play structures shall be provided with the same level of approved fire suppression and detection devices required for other structures in the same occupancy.

(c) Separation. Children's play structures shall have a horizontal separation from building walls, partitions and from elements of the means of egress of not less than 5 feet. Children's playground structures shall have a horizontal separation from other children's play structures of not less than 20 feet.

(d) Area Limits. Children's play structures shall not exceed 300 square feet in area, unless a special investigation has demonstrated adequate fire safety.

ASTM D1929-1996 (2001 e1) (Note: change in Referenced Standard.)

B18 - 005

602.1 Floors.

(b) Mezzanine floors shall be on noncombustible construction as approved for 1-hour fire resistive. ~~Mezzanine floors shall cover not more than 331/3 percent of a room area; there shall be not more than two mezzanine levels in a room. Clear height above or below a mezzanine floor shall be not less than 7 feet.~~

603.3 Floors. In buildings of Type III construction, floors may be of heavy timber, masonry, wood, steel or iron, and shall be constructed as required in Chapters 7, 9 and 10. ~~Mezzanine floors shall comply with the requirements of Subsection 602.1(b).~~

Add new Section 713.1(d) – See B18 - 008

BS17 - 09

602.2 Roofs. In buildings of Types I and II construction, noncombustible materials shall be protected in accordance with Table 6.2.

Exception: Fire protection of structural members shall not be required, including protection of roof framing and decking where every part of the roof construction is 20 feet or more above any floor or ceiling immediately below. Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

~~approved fire-retardant-treated wood or structural members of heavy timber sizes shall be permitted where there is 20 feet or more clear height above the upper floor or balcony to the roof.~~

B18 - 006

704.2 Fire-Resistive Protection of Openings.

(a) Where required, opening protectives shall comply with the requirements of EPCOT Standards 7-2 and 7-3.

Exception: Fire-resistance-rated glazing tested as part of a fire-resistance-rated wall assembly in accordance with ASTM E119 or UL 263 and labeled in accordance with Subsection 703.5, shall be permitted where used as a wall or floor/ceiling assembly. Fire-resistance-rated glazing shall be permitted in fire doors and fire window assemblies where tested and installed in accordance with their listings and where in compliance with the requirements of this Subsection.

704.8 Glazed Openings in Fire Windows. Three-fourths hour fire-resistive-rated windows may have an area not more than 84 square feet with neither width nor height exceeding 12 feet. Fire windows shall be either fixed or automatic closing.

704.8.1 Fire-Protection-Rated Glazing. Glazing in fire window assemblies shall be fire-protection—-rated in accordance with this Section and Table 7.2. Glazing in fire door assemblies shall comply with Subsection 704.7. Fire-protection-rated glazing shall be tested in accordance with, and shall meet the acceptance criteria of, NFPA 257 or UL 9. Fire-protection-rated glazing shall also comply with NFPA 80. Openings in non fire resistance-rated exterior wall assemblies that require

protection in accordance with Subsection 707.3, shall have a fire-protection rating of not less than ¾ hour.

Exception: Wired glass in accordance with Subsection 704.7.

B18 - 007

712.2 Area Increases Permitted. The floor areas specified in Subsection 712.1 may be increased under the conditions specified in this Subsection. Such increases shall not exceed 100 percent, except in buildings of more than two stories housing Group I occupancies and one-story buildings housing aircraft storage hangars, and as further limited in Section 511 for aircraft repair hangars.

For the purposes of determining an increase in allowable floor area, permanent open yards include a public street, fire lane, public way, or public space providing direct access to a public street, fire lane, or public way. For the purposes of this Subsection, waterways and service courts shall not be considered to be part of a permanent open yard.

(a) Separation on Two Sides. Where public space, streets or permanent open yards more than 20 feet wide extend along and adjoin….

B18 - 008

Add new Section 713.1(d)

713.1(d) Mezzanines. There shall be not more than two mezzanine levels in a room. Clear height above or below a mezzanine floor shall be not less than 7 feet.

BS16-0009

715.1 Criteria.

~~(i) Sprinkler systems exposed to freezing temperatures that do not meet the requirements of Paragraph (f) shall be insulated.~~

BS17 - 10

715.4 Where Automatic Sprinkler Systems are Required.

(c) Sprinkler protection shall be required on every floor of any enclosed exit stairway and in closets and bathrooms of Group R-1, R-2 and R-3 occupancies.

Exceptions:
1. ..
2….
3….
4….
5…
6. Open parking garages meeting the requirements of 508.5.

B18 - 009

New Sections

SECTION 718
SPECIAL PROVISIONS—HIGH-RISE STRUCTURES

718.1 Application. These additional requirements shall apply to all buildings having a floor level used for human occupancy located more than 75 feet above the lowest level of fire department vehicle access.

718.2 Structural Integrity of Exit Enclosures and Elevator Hoistway Enclosures. For high-rise buildings that are Risk Category III, IV or more than 420 feet in building height, exit enclosures and elevator hoistway enclosures shall comply with Subsections 718.2.1 through 718.2.4.

718.2.1 Wall Assembly. The wall assemblies making up the exit enclosures and elevator hoistway enclosures shall meet or exceed Soft Body Impact Classification Level 2 as measured by the test method described in ASTM C1629/C1629M.

718.2.2 Wall Assembly Materials. The face of the wall assemblies making up the exit enclosures and elevator hoistway enclosures that are not exposed to the interior of the exit enclosure or elevator hoistway enclosure shall be constructed in accordance with one of the following methods:

(a) The wall assembly shall incorporate not less than two layers of impact-resistant construction board each of which meets or exceeds Hard Body Impact Classification Level 2 as measured by the test method described in ASTM C1629/C1629M.

(b) The wall assembly shall incorporate not less than one layer of impact-resistant construction material that

meets or exceeds Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C1629/C1629M.

(c) The wall assembly incorporates multiple layers of any material, tested in tandem, that meet or exceed Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C1629/C1629M.

718.2.3 Concrete and Masonry Walls. Concrete or masonry walls shall be deemed to satisfy the requirements of Subsections 718.2.1 and 718.2.2.

718.2.4 Other Wall Assemblies. Any other wall assembly that provides impact resistance equivalent to that required by Subsections 718.2.1 and 718.2.2 for Hard Body Impact Classification Level 3, as measured by the test method described in ASTM C1629/C1629M, shall be permitted.

718.3 Sprayed Fire-Resistant Materials (SFRM). The bond strength of the SFRM installed throughout the building shall be in accordance with Table 7.7.

TABLE 7.7
MINIMUM BOND STRENGTH

HEIGHT OF BUILDING[a]	SFRM MINIMUM BOND STRENGTH
Up to 420 feet	430 psf
Greater than 420 feet	1,000 psf

a. Above the lowest level of fire department vehicle access.

718.4 Number of Sprinkler Risers and System Design. Each sprinkler system zone in buildings that are more than 420 feet in building height shall be supplied by a minimum of two risers. Each riser shall supply sprinklers on alternate floors. If more than two risers are provided for a zone, sprinklers on adjacent floors shall not be supplied from the same riser.

718.4.1 Riser Location. Sprinkler risers shall be placed in exit enclosures that are a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building measured in a straight line between exit doors or exit access doorways. Interlocking or scissor stairs shall be counted as one exit stairway.

718.5 Fire Pump Room. Fire pump units serving high-rise buildings shall be protected from surrounding occupancies by a minimum of 2-hour fire-rated construction or physically separated from the protected building by a minimum of 50 ~~ft~~feet.

718.6 Water Supply to Required Fire Pumps. Required fire pumps shall be supplied by connections to a minimum of two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through at least one of the connections.

718.7~~2~~ Smoke Detection Systems. …

718.8~~3~~ Alarm and Communication Systems. …

718.9~~4~~ Central Control Station. A central control station for fire department operations shall be provided in a location approved by the fire department. It shall contain:

(a) The voice alarm and public address system panels.
(b) The fire department communications panel.
(c) Fire detection and alarm system annunciator panels and firefighter smoke control panel.
(d) Status indicators showing location of elevators in the hoistways.
(e) Status indicators and controls for air-handling systems.
(f) Sprinkler valve and water-flow-detector display panels.
(g) Emergency power, light and emergency system controls and status indicators.
(h) A telephone for fire department use with controlled access to the public telephone system.
(i) Controls for simultaneously unlocking all locked stairway doors.
(j) Central Control Station shall be separated from the building by 1-hour fire resistance rated construction.

718.10~~5~~ Smoke Control. Mechanical ventilation for the removal of products of combustion shall be provided in every story and shall consist of one of the following:

(a) The mechanical air-handling equipment shall be designed to accomplish smoke removal. Under fire conditions, the return and exhaust air shall be moved directly to the outside without recirculation to other sections of the building. The supply fans shall provide 100 percent outside air. The area involved shall have

a minimum of one air change every 10 minutes to meet this requirement.

(b) A zone-based active smoke control system shall be provided in accordance with Section 720.

(c) Any other approved design that will produce equivalent results and is acceptable to the Building Official.

718.~~6~~11 Fire Alarm Notification Zones. Each floor shall be zoned separately. If the floor area exceeds 2~~0~~,5~~0~~00 square feet, additional zoning shall be provided. The length of any zone shall not exceed 200 feet in any direction. Zoning indicator panels and controls shall be located as approved by the Fire Department. Annunciators shall lock in until the system is reset.

718.12 Standby Power. A standby power system complying with *EPCOT Electrical Code* shall be provided for standby power loads specified in Subsection 718.10.2.

718.12.1 Special Requirements for Standby Power Systems. If the standby system is a generator set inside a building, the system shall be located in a separate room enclosed with 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 705, or both. System supervision with manual start and transfer features shall be provided at the fire command center.

718.12.2 Standby Power Loads. The following are classified as standby power loads:

1. Power and lighting for the fire command center required by Subsection 718.8;
2. Standby power shall be provided for elevators in accordance with EPCOT Standard 5-1; and
3. Jockey pumps and compressors for dry pipe and preaction automatic sprinkler systems.

718.13 Emergency Power Systems. An emergency power system complying with *EPCOT Electrical Code* shall be provided for emergency power loads specified in Subsection 718.11.1.

718.13.1 Emergency Power Loads. The following are classified as emergency power loads:

1. Exit signs and means of egress illumination required by the *EPCOT Building Code*;
2. Elevator car lighting;
3. Ventilation and automatic fire detection equipment for smokeproof enclosures;
4. Smoke control systems;
5. Emergency voice/alarm communications systems;
6. Automatic fire detection systems;
7. Fire alarm systems; and
8. Electrically powered fire pumps.

718.14 Means of Egress and Evacuation. The means of egress in high-rise buildings shall comply with Subsections 718.14.1 through 718.14.5.

718.14.1 Remoteness of Exit Stairway Enclosures. The required exit stairway enclosures shall be separated by a distance not less than 30 feet or not less than one-fourth of the length of the maximum overall diagonal dimension of the building or area to be served, whichever is less. The distance shall be measured in a straight line between the nearest points of the exit stairway enclosures. In buildings with three or more exit stairway enclosures, at least two of the exit stairway enclosures shall comply with this Section. Interlocking or scissor stairs shall be counted as one exit stairway.

718.14.2 Additional Exit Stairway. For buildings other than Group R that are more than 420 feet in building height, one additional exit stairway meeting the requirements of Sections 806 and 809 shall be provided in addition to the minimum number of exits required by Subsection 803.1. The total width of any combination of remaining exit stairways with one exit stairway removed shall not be less than the total width required by Subsection 803.2. Scissor stairs shall not be considered the additional exit stairway required by this Section.

718.14.3 Stairway Door Operation. Stairway doors other than the exit discharge doors shall be permitted to be locked from the stairway side. Stairway doors that are locked from the stairway side shall be capable of being unlocked simultaneously without unlatching upon a signal from the fire command center.

718.14.3.1 Stairway Communication System. A telephone or other two-way communications system connected to an approved constantly attended station shall be provided at not less than every fifth floor in each stairway where the doors to the stairway are locked.

718.14.4 Smokeproof Exit Enclosures. Every required level exit stairway serving floors more than 75 feet above the lowest level of fire department vehicle access shall comply with Subsection 720.20.

718.14.5 Luminous Egress Path Markings. Luminous egress path markings shall be installed in accordance with Subsection 718.14.5.1 through 718.14.5.11.

718.14.5.1 Exit Stair Treads. Exit stair treads shall incorporate a marking stripe that is applied as a paint/coating or be a material that is integral with the nosing of each step. The marking stripe shall be installed along the horizontal leading edge of the step and shall extend the full width of the step. The marking stripe shall also meet the following requirements:

1. The marking stripe shall be not more than ½ inch from the leading edge of each step and shall not overlap the leading edge of the step by more than ½ inch down the vertical face of the step.
2. The marking stripe shall have a minimum horizontal width of 1 inch and a maximum width of 2 inches.
3. The dimensions and placement of the marking stripe shall be uniform and consistent on each step throughout the exit enclosure.
4. Surface-applied marking stripes using adhesive-backed tapes shall not be used.

718.14.5.2 Exit Stair Landings. The leading edge of exit stair landings shall be marked with a solid and continuous marking stripe consistent with the dimensional requirements for stair treads and shall be the same length as, and consistent with, the stripes on the steps.

718.14.5.3 Exit Stair Handrails. All handrails and handrail extensions shall be marked with a solid and continuous marking stripe and meet the following requirements:

1. The marking stripe shall be applied to the upper surface of the handrail or be a material integral with the upper surface of the handrail for the entire length of the handrail, including extensions.
2. The marking stripe shall have a minimum horizontal width of 1 inch.
3. The dimensions and placement of the marking stripe shall be uniform and consistent on each handrail throughout the exit enclosure.

718.14.5.4 Perimeter Demarcation Marking. Stair landings, exit passageways, and other parts of the floor areas within the exit enclosure shall be provided with a solid and continuous perimeter demarcation marking stripe on the floor. The marking stripe shall also meet the following requirements:

1. The marking stripe shall have a minimum horizontal width of 1 inch and a maximum width of 2 inches, with interruptions not exceeding 4 inches.
2. The marking stripe shall be applied within 2 inches of the wall.
3. The marking stripe shall continue in front of all door openings swinging into the exit enclosure. However, the marking stripe shall not be applied in front of door openings discharging from the exit enclosure.
4. The dimensions and placement of the perimeter demarcation marking stripe shall be uniform and consistent throughout the exit enclosure.
5. Surface-applied marking stripes using adhesive-backed tapes shall not be used.

718.14.5.5 Obstacles. Obstacles that are in the exit enclosure at or below 6½ feet in height, and that project more than 4 inches into the egress path, shall be identified with markings not less than 1 inch in horizontal width comprised of a pattern of alternating equal bands of luminescent material and black; and with the alternating bands not more than 2 inches in horizontal width and angled at 45 degrees.

718.14.5.6 Doors Serving Exit Enclosure. All doors serving the exit enclosure that swing out from the enclosure in the direction of egress travel shall be provided with a marking stripe on the top and sides of the door(s) frame(s). The marking stripe shall also meet the following requirements:

1. The marking stripe shall have a minimum horizontal width of 1 inch and a maximum width of 2 inches.
2. Gaps shall be permitted in the continuity of door frame markings where a line is fitted into a corner or bend, but shall be as small as practicable, and in no case shall gaps be greater than 1 inch.
3. Where the door molding does not provide enough flat surface on which to locate the marking stripe, the marking stripe shall be located on the wall surrounding the frame.
4. The dimensions and placement of the marking stripe shall be uniform and consistent on all doors in the exit enclosure.

718.14.5.7 Door Hardware Marking. The door hardware for the doors serving the exit enclosure that swing out from the enclosure in the direction of egress travel shall be provided with a marking stripe.

The marking stripe shall also meet the following requirements:

1. The door hardware necessary to release the latch shall be outlined with a marking stripe having a minimum horizontal width of 1 inch.

2. Where panic hardware is installed, the following criteria shall be met:

   (a) The marking stripe shall have a minimum horizontal width of 1 inch and be applied to the entire length of the actuating bar or touch pad.
   (b) The placement of the marking stripe shall not interfere with viewing of any instructions on the actuating bar or touch pad.

718.14.5.8 Emergency Exit Symbol. An emergency exit symbol with a luminescent background shall be applied on all doors serving the exit enclosure that swing out from the enclosure in the direction of egress travel. The emergency exit symbol shall also meet the following requirements:

1. The emergency exit symbol shall meet the requirements of NFPA 170, *Standard for Fire Safety and Emergency Symbols.*
2. The emergency exit symbol applied on the door shall be not higher than 18 inches above the finished floor.

718.14.5.9 Uniformity. Placement and dimensions of the marking stripes shall be consistent and uniform throughout the same exit enclosure.

718.14.5.10 Materials. Exit stair path markings shall be made of any material, including paint, provided that an electrical charge is not required to maintain the required luminescence. Such materials shall include, but shall not be limited to, self-luminous materials and photo luminescent materials. Materials shall comply with one of the following:

1. ASTM E2073, Standard Test Method for Photopic Luminance of Photo luminescent (Phosphorescent) Markings, except that the charging source shall be 1 footcandle of fluorescent illumination for 60 minutes, and the minimum luminance shall be 5 milli-candelas per square meter after 90 minutes.
2. UL 1994, Standard for Luminous Egress Path Marking Systems.
3. An alternate standard deemed equivalent and approved by the Building Official.

718.14.5.11 Exit Stair Illumination. Exit enclosures where photo luminescent materials are installed shall be continuously illuminated for at least 60 minutes prior to periods when the building is occupied. Lighting control devices that automatically turn exit enclosure lighting on and off, based on occupancy, shall not be installed.

718.15 Elevators. Elevator installation and operation in high-rise buildings shall comply with EPCOT Standard 5-1 and Subsections 718.14.1 and 718.14.2.

718.15.1 Fire Service Access Elevator. In buildings with an occupied floor more than 120 feet above the lowest level of fire department vehicle access, a minimum of two fire service access elevator shall be provided in accordance with EPCOT Standard 5-1. Each fire service elevator shall have a capacity of not less than 3,500 pounds.

718.15.2 Occupant Evacuation Elevators. Reserved.

718.16 Acceptance Tests. Upon completion of a fire alarm system, the installation shall be subjected to a performance test to demonstrate its efficiency of operation.

BS17 - 11

719.5 Enclosure of Atriums. ~~Enclosures shall not be required for atriums in buildings when the top of atrium openings at each story are equipped with a draft curtain. The draft curtain shall enclose the perimeter of the unenclosed openings and shall extend from the ceiling downward at least 12 inches on all sides. An automatic sprinkler system shall be installed around the perimeter of the opening and to within 2 feet of the draft curtain. The distance between sprinkler heads shall not be more than 6 feet center to center. The protection described in this Paragraph shall not be considered as an occupancy separation.~~

~~Exceptions:~~

~~1. The adjacent spaces of any three floors of the atrium shall not be required to be separated from the atrium; however, such spaces shall be included when computing the volume of the atrium.~~

~~2. Closely spaced sprinklers and draftstops are not required around large openings such as those found in atrium buildings and similar structures where all adjoining levels and spaces are protected by automatic sprinklers in accordance with this Code and NFPA 13, and where the openings have all horizontal dimensions between opposite edges of 20 feet or greater and an area of 1,000 square feet or greater.~~

Atrium spaces shall be separated from adjacent spaces by 1-hour fire–resistive construction.

Exceptions:

1. A glass wall forming a smoke partition where automatic sprinklers are spaced 6 feet or less along both sides of the separation wall, or on the room side only if there is not a walkway on the atrium side, and between 4 inches and 12 inches away from the glass and designed so that the entire surface of the glass is wet upon activation of the sprinkler system without obstruction. The glass shall be installed in a gasketed frame so that the framing system deflects without breaking (loading) the glass before the sprinkler system operates. Where glass doors are provided in the glass wall, they shall be either self-closing or automatic-closing.

2. A glass-block wall assembly in accordance with EPCOT Standard 1006.-2.301.6 and having a ¾-hour fire protection rating.

3. The adjacent spaces of any three floors of the atrium shall not be required to be separated from the atrium where such spaces are accounted for in the design of the smoke control system.

B18 - 010

720.11 Power Systems. The smoke control system shall be supplied with two sources of power. Primary power shall be from the normal building power systems. Secondary power shall be from an approved emergency ~~standby~~ source complying with the EPCOT Electrical Code. The ~~standby power~~emergency source and its transfer switches shall be separate from the normal power transformers and switch gears and, when installed inside the building, ventilated directly to and from the exterior. When installed inside a building, the emergency ~~standby~~ power source and transfer switch shall be installed in a room enclosed with not less than 2~~1~~-hour fire-resistance-rated construction in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 705, or both. The transfer to full emergency ~~standby~~ power shall be automatic and within 10 seconds of failure of the primary power system.

E – B15-0001

SECTION 720
SMOKE CONTROL SYSTEMS

720.12.1 Verification.
Exception:
2. Where components of the smoke control system are bypassed by the preprogrammed weekly test required by this Section ~~909.12.1~~, such components shall be tested semi-annually. The system shall also be tested under standby power conditions.

B18 - 011

720.21 Elevator Hoistway Pressurization Alternative. Where elevator hoistway pressurization is provided in lieu of required enclosed elevator lobbies, the pressurization system shall comply with Subsections 720.21.1 through 720.21.11.

720.21.1 Pressurization Requirements.
Elevator hoistways shall be pressurized to maintain a minimum positive pressure of 0.10 inch of water and a maximum positive pressure of 0.25 inch of water with respect to adjacent occupied space on all floors. This pressure shall be measured at the midpoint of each hoistway door, with all elevator cars at the floor of recall and all hoistway doors on the floor of recall open and all other hoistway doors closed. The pressure differentials shall be measured between the hoistway and the adjacent elevator landing. The opening and closing of hoistway doors at each level must be demonstrated during this test. The supply air intake shall be from an outside, uncontaminated source located a minimum distance of 20 feet from any air exhaust system or outlet.

Exceptions:
1. On floors containing only Group R occupancies, the pressure differential is permitted to be measured between the hoistway and a dwelling unit or sleeping unit.
2. Where an elevator opens into a lobby enclosed in accordance with Subsection 5-1.401.2, the pressure differential is permitted to be measured between the hoistway and the space immediately outside the door(s) from the floor to the enclosed lobby.
3. The pressure differential is permitted to be measured relative to the outdoor atmosphere on floors other than the following:
   3.1. The fire floor.
   3.2. The two floors immediately below the fire floor.
   3.3. The floor immediately above the fire floor.
4. The minimum positive pressure of 0.10 inch of water and a maximum positive pressure of 0.25 inch of water with respect to occupied floors are not required at the floor of recall with the doors open.

720.21.1.1 Use of Ventilation Systems. Ventilation systems, other than hoistway supply air systems, are permitted to be used to exhaust air from adjacent spaces on the fire floor, two floors immediately below and one floor immediately above the fire floor to the building's exterior where necessary to maintain positive pressure relationships as required in Subsection 720.21.1 during operation of the elevator shaft pressurization system.

720.21.2 Rational Analysis. A rational analysis complying with Subsection 720.4 shall be submitted with the construction documents.

720.21.3 Ducts for System. Any duct system that is part of the pressurization system shall be protected with the same fire-resistance rating as required for the elevator shaft enclosure.

720.21.4 Fan System. The fan system provided for the pressurization system shall be as required by Subsections 720.21.4.1 through 720.21.4.4.

720.21.4.1 Fire Resistance. Where located within the building, the fan system that provides the pressurization shall be protected with the same fire-resistance rating required for the elevator shaft enclosure.

720.21.4.2 Smoke Detection. The Fan System Shall Be Equipped With A Smoke detector that will automatically shut down the fan system when smoke is detected within the system.

720.21.4.3 Separate Systems. A separate fan system shall be used for each elevator hoistway.

720.21.4.4 Fan Capacity. The supply fan shall be either adjustable with a capacity of not less than 1,000 cfm per door, or that specified by a registered design professional to meet the requirements of a designed pressurization system.

720.21.5 Standby Power. The pressurization system shall be provided with standby power in accordance with Section 2702.

720.21.6 Activation of Pressurization System. The elevator pressurization system shall be activated upon activation of either the building fire alarm system or the elevator lobby smoke detectors. Where both a building fire alarm system and elevator lobby smoke detectors are present, each shall be independently capable of activating the pressurization system.

720.21.7 Testing. Testing for performance shall be required in accordance with Subsection 720.18.8. System acceptance shall be in accordance with Subsection 720.19.

720.21.8 Marking and Identification. Detection and control systems shall be marked in accordance with Subsection 720.14.

720.21.9 Control Diagrams. Control diagrams shall be provided in accordance with Subsection 720.15.

720.21.10 Control Panel. A control panel complying with Subsection 720.16 shall be provided.

720.21.11 System Response Time. Hoistway pressurization systems shall comply with the requirements for smoke control system response time in Subsection 720.17.

B18 - 012

Errata

803.1 (j) Except in Group R-3 occupancies, every boiler room, and every room containing an incinerator or liquefied petroleum gas or liquid fuel-fired equipment, shall have access to at least two means of egress, one of which maybe a ladder. (See Subsection 503.~~17~~18.)

BS17 - 12

803.1 Number of Means of Egress.

(j) ~~Except in Group R-3 occupancies, every boiler room, and every room containing an incinerator or liquefied petroleum gas or liquid fuel-fired equipment, shall have access to at least two means of egress, one of which may be a ladder. (See Subsection 503.17.)~~ Two exit access doorways are required in boiler, incinerator and furnace rooms where the area is over 500 square feet and any fuel-fired equipment exceeds 400,000 British thermal units (Btu) input capacity. Where two exit access doorways are required, one is permitted to be a fixed ladder or an alternating tread device. Exit access doorways shall be separated by a horizontal distance equal to one-half the length of the maximum overall diagonal dimension of the room. (See Subsection 503.17.)

B18 - 013

803.3 Arrangement of Exits and Exit Access Doorways.

(a) When only two exits or exit access doorways are required, they shall be placed a distance apart equal to not less than ~~one-fifth the perimeter of the area served~~ one-half of the length of the maximum overall diagonal dimension of the building or area to be served, measured in a straight line between the exits or exit access doorways from nearest edge to nearest edge.

Exception: Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 715, the separation distance of the exits or exit access doorways shall not be less than one-third the length of the maximum overall diagonal dimension of the area served.

(b) Where three or more exits or exit access doorways are required, they shall be located so that at least two are placed a distance apart equal to ~~no less than one-fifth the perimeter of the area served, measured in a straight line between them~~ that required in Subsection 803.3(a). The others shall be placed a reasonable distance apart.

BS16-0010

804.2 Swing.

(f) Power-operating sliding doors may be used provided the sliding leaf is equipped with an emergency swing (panic release) feature. The force to set the door into motion shall not exceed 50 pounds force.

A readily visible, durable sign in letters not less than 1 inch high on a contrasting background that reads as follows shall be located on the egress side of each door opening:

IN EMERGENCY, PUSH TO OPEN

B18 - 014

804.3 Hardware.

(a) Exit, exit access doors and gates required to serve as exit doors or exit access, shall be openable from the inside without the use of a key, tool or any special knowledge or effort. Manually operated flush bolts or surface bolts are prohibited. All hardware must be direct acting requiring no more than one operation. Double-cylinder dead bolts, requiring a key for operation on both sides, are prohibited on required means of egress doors unless the locking device is provided with a key that cannot be removed when the door is locked from the inside. A night latch, dead bolt or security device may be used on exit or exit access doors from a dwelling unit, hotel guest room or suite provided such devices are openable from the inside without the use of a key, tool, or any special knowledge or effort, and the device is mounted at a height not to exceed 48 inches above the finished floor. (See Section 814 for panic and fire exit hardware.)

Door handles, pulls, latches, locks and other operating devices on doors required to be accessible by the *EPCOT Accessibility Code* shall not require tight grasping, tight pinching or twisting of the wrist to operate.

Exception: A key-locking or twist/turn locking device may be used from the egress side on the main exterior exit door on Group A-3, A-4, A-5, B and I occupancies subject to all of the following:

1. There is a readily visible durable sign on or adjacent to the door stating "THIS EXIT TO REMAIN UNLOCKED WHEN THIS BUILDING IS OCCUPIED." The sign shall be in letters no less than 1 inch high on a contrasting background.
2. The locking device must be of a type that will be readily distinguishable as locked.
3. The main exit door is a single door or one pair of doors.
4. When unlocked, the door or both leaves of the pair must be free. The use of the key-locking device may be revoked by the Building Official for due cause.

(b) **Hardware Height.** Door handles, pulls, latches, locks and other operating devices shall be installed 34 inches minimum and 48 inches maximum above the finished floor in compliance with the *EPCOT Accessibility Code*.

Exception: Access doors or gates in barrier walls and fences protecting pools, spas and hot tubs shall be permitted to have operable parts of the release of latch on self-latching devices at 54 inches maximum above the finished floor or ground, provided the self-latching devices are not also self-locking devices operated by means of a key, electronic opener or integral combination lock.

~~(b)~~ (c) **Special Egress-Control Devices.** When approved by the Building Official, exit and exit access doors in A, E and H occupancies may be equipped

with approved, listed special egress-control devices of the time-delay type, provided the building is protected throughout by an approved automatic sprinkler system and an approved automatic smoke detection system. Such devices shall conform to all of the following:

BS17 - 13

804.8 Change in Floor Level at Doors. Regardless of the occupant load, there shall be a floor or landing on each side of an exit or exit access door. The floor or landing shall be at the same elevation on each side of the doorway, and the length and width of the landing shall be at least equal to the width of the doorway it serves. Thresholds for doorways required to be accessible shall comply with Subsection 503.9.
1….
2….
3….
4….
5. Exterior doors providing roof access to normally unoccupied roofs may have a threshold not exceeding 7 inches in height.

BS17 - 14

804.11 Fire Doors in Heater and Equipment Rooms. See Subsection ~~503.17(e).~~503.18(e).

B18 – 015

Section 805

805.7 Construction.

(a) Corridor walls and ceilings shall be not less than 1-hour fire-resistive construction.

Exceptions:
1. Exterior Balcony Railings.
2. Corridors ~~having a tributary occupant load of 30 or less~~ in one story, single occupancy Group ~~B or~~ I.
3. Corridors formed by temporary partitions regulated by Subsection 709.2 that do not exceed ~~5~~ 6 feet, ~~9~~ 0 inches in height.
4. Corridor walls that are also exterior walls of a building.
5. Single tenant spaces or suites not exceeding 20,000 square feet limited to Group B office use only. Such spaces shall have either direct exits to the exterior or be served by a protected corridor with a fire resistance rating of not less than 1-hour, which provides direct access to exits. Each suite shall be separated from other parts of the building by walls constructed as tenant separations in accordance with Subsection 502.5(b), with a fire resistance rating of not less than 1-hour.

BS16-0011

805.7 Construction.
(a) Corridor walls and ceilings shall be not less than 1-hour fire-resistive construction.

Exceptions:
1. Exterior balcony railings.
2. Corridors having a tributary occupant load of 30 or less in one story, single occupancy Group B or I.
3. Corridors formed by temporary partitions regulated by Subsection 709.2 that do not exceed 5 feet, 9 inches in height.
4. Corridor walls that are also exterior walls of a building.
6. For buildings of unprotected construction Type IV, V, or VI, ceiling construction should be consistent with type of construction.
7. Where the corridor ceiling is constructed as required for the corridor walls, the walls shall be permitted to terminate at the upper membrane of such ceiling assembly.

BS16-0012

805.8 Openings.
(b) Other openings shall be protected by a fixed wired glass not less than 1/4 inch thick set in steel frame or a 1-hour, fire-rated automatic-closing device or listed window assembly with fire-protection-rated glazing of not less than 3/4 hour. Fire-protection-rated glazing shall be tested in accordance with, and shall meet the acceptance criteria of, NFPA 257 or UL 9. The area of all openings other than doors in any part of a corridor shall not exceed 25 percent of the area of the corridor wall of the room from which the corridor is separated. For occupancy separations, see Section 502, and for fire division wall requirements, see Section 708.

Exception: Fire-resistance-rated glazing tested as part of a 1-hour fire-resistance-rated wall assembly in accordance with ASTM E119 or UL 263 shall be

permitted in fire doors and fire window assemblies in accordance with their listings and shall not otherwise be required to comply with this Section.

(c) Duct penetrations of corridor walls shall be protected with listed smoke dampers in accordance with the *EPCOT Mechanical Code.*

B18 - 016

805.9 Use of Corridors. Storage, lockers, electronic equipment, panels, electronic panels or other obstructions shall not be permitted in corridors.

Exception: ~~Equipment, panels and other objects that do not obstruct the means of egress and~~Electrical boxes and fire alarm control panels that meet the requirements of the exception for Subsection 707.10.3.2~~(b)~~ and Section 307 of the *EPCOT Accessibility Code for Building Construction*.

BS17 - 15

806.12 Stairway Construction, Exterior. Exterior exit stairways shall not be used as an element of a required means of egress for Group D occupancies. For occupancies in other than Group D, exterior exit ramps and stairways shall be permitted as an element of a required means of egress for buildings not exceeding six stories above grade plane or having occupied floors more than 75 feet above the lowest level of fire department vehicle access.

Exterior exit ramps and stairways serving as an element of a required means of egress shall be open on at least one side. An open side shall have a minimum of 35 square feet of aggregate open area adjacent to each floor level and the level of each intermediate landing shall be not less than 50 percent open, whichever is greater. The required open area shall be located not less than 42 inches above the adjacent floor or landing level.

(a) Exterior stairways shall be constructed as required in Chapter 6 ~~of noncombustible materials~~, except that in Type ~~II buildings of not more than three stories and in Type III,~~ IV, V and VI buildings, stairways may be of wood of not less than 2-inch nominal thickness.

(b) Exterior stairways shall be protected as required for exterior walls where there is exposure to adjacent structures or to property lines.

(c) Exterior stairways shall not project into an area where openings are required to be protected.

(d) The walls and soffits of enclosed usable space under exterior stairs shall be protected by 1-hour fire-resistance-rated construction or the fire-resistive rating of the stair enclosure, whichever is greater. Access to the enclosed usable space shall not be directly from within the stair enclosure.

(e) Exterior stairways shall be arranged to avoid any impediments to their use by persons having a fear of high places. Exterior stairways more than 36 feet above the finished ground level, other than previously approved existing stairs, shall be provided with an opaque visual obstruction not less than 48 inches in height.

BS16-0013

807.4 Handrails. A ramp with slope exceeding 1 foot in 20 feet shall have handrails as required for stairways, except that intermediate handrails shall not be required. If handrails are not continuous, they shall extend at least ~~18~~ 12 inches beyond the top and bottom of the ramp segment and shall be parallel with the floor or ground surface.

Exception: Ramps with a rise of 6 inches or less.

BS17 - 16

808.3 Discharge Areas. A horizontal exit shall lead to a floor area having capacity for an occupant load not less than the occupant load served by such exit. The area into which the horizontal exit leads shall be provided with exits other than additional horizontal exits, as required by Section 803. The capacity shall be determined by allocating 3 square feet of net clear floor area for each occupant. ~~ambulatory occupant and 20 square feet for each nonambulatory occupant. The area into which the horizontal exit leads shall be provided with exits other than additional horizontal exits, as required by Section 803.~~

Exception: The net floor area allowable per occupant shall be as follows for the indicated occupancies:

1. Six square feet per occupant for occupancies in Group D-1.

2. Fifteen square feet per occupant for ambulatory occupancies in Group D-3.

3. Thirty square feet per occupant for nonambulatory occupancies in Group D-2.

BS16-0014

New Section

813.2 Egress Illumination.
(g) Automatic, motion sensor–type lighting switches shall be permitted within the means of egress, provided that the switch controllers comply with all of the following:
(1) The switch controllers are listed.
(2) The switch controllers are equipped for fail-safe operation and evaluated for this purpose.
(3) The illumination timers are set for a minimum 15-minute duration.
(4) The motion sensor is activated by any occupant movement in the area served by the lighting units.
(5) The switch controller is activated by activation of the building fire alarm system, if provided.

BS16-0015

902.2 Special Loads.
(h) Railings. ~~Stairway, balcony railings, both exterior and interior, and~~
1. H~~h~~andrails and guardrails in front of reviewing stands shall be designed to resist a horizontal force of 50 pounds per lineal foot, applied in any direction at the top of the railing. Railings shall also, but not necessarily simultaneously, withstand a minimum ~~250~~200-pound concentrated load applied ~~at any point in any direction for the most critical design condition.~~ in any direction at any point on the handrail or top rail to produce the maximum load effect on the element being considered.
2. Intermediate rails (all those except the handrail), balusters, and panel fillers shall be designed to withstand a horizontally applied normal load of 50 pounds on an area equal to 1 square foot, including openings and space between rails.

Reactions due to this loading are not required to be superimposed with those of Section 902.2(h)1.

Exception: All handrails, grab bars and tub and shower seats shall comply with the concentrated load requirements of the *EPCOT Accessibility Code for Building Construction.*

E – B15-0002

SECTION 904
WIND LOADS

904.2 Determination of Wind Loads.

(a) Wind loads on buildings and other structures shall be determined in accordance with EPCOT Standard 9-7, 9-8 or 9-9 in Appendix A. The Ultimate Design Wind Speed shall be 129 mph (Risk Category 1), 139 mph (Risk Category II) and 149 mph (Risk Category III and IV). The Building Official may accept a design based on lower pressures, the validity of which is based on nationally recognized data. The Building Official may require evidence to support design pressures used in the design of structures not included in this Section. For buildings or structures with unusual geometry, or subjected to unusual wind responses, the Building Official may require wind tunnel tests or additional nationally recognized data.

B18 - 017

906.2 Soil Investigation. Where the bearing capacity of the soil is not definitely known or is doubtful, or where the load imposed on the soil is unusual, the Building Official may require load tests or examination and evaluation of subsoil conditions by a Professional Engineer registered in the State of Florida. To determine the permitted safe bearing capacity, the soil may be tested by loading an area not less than 2 square feet to not less than twice the maximum bearing capacity desired for use. Such load shall be sustained by the soil until no additional settlement takes place for a period of not less than 48 hours, so that such desired bearing capacity may be used. Examination of subsoil conditions may be required when believed to be necessary by the Building Official.

Exception: A soil investigation report is not required for temporary structures installed on compacted asphalt.

B18 - 018

New Sections

1005.8 Glass in Handrails and Guards

(a) **Materials.** Glass used as a handrail assembly or a guard section shall be constructed of either single fully tempered glass, laminated fully tempered glass or laminated heat strengthened glass. Glazing in

railing in-fill panels shall be of an approved safety glazing material that conforms to the provisions of Subsection 1005.3. For all glazing types, the minimum nominal thickness shall be 1/4 inch. Fully tempered glass and laminated glass shall comply with Category II of CPSC 16 CFR Part 1201 or Class A of ANSI Z97.1, listed in Chapter 35.

(b) **Loads.** The panels and their support system shall be designed to withstand the loads specified in Subsection 902.2(h). A safety factor of four shall be used.

(c) **Support.** Each handrail or guard section shall be supported by a minimum of three glass balusters or shall be otherwise supported to remain in place should one baluster panel fail. Glass balusters shall not be installed without an attached handrail or guard.

Exception: A top rail shall not be required where the glass balusters are laminated glass with two or more glass plies of equal thickness and the same glass type when approved by the Building Official. The panels shall be designed to withstand the loads specified in Section 902.

(d) **Parking Garages.** Glazing materials shall not be installed in handrails or guards in parking garages except for pedestrian areas not exposed to impact from vehicles.

(e) **Glass Supporting Top Rail.** When the top rail is supported by glass, the assembly shall be tested according to the impact requirements of ASTM E1996 and ASTM E1886. The top rail shall remain in place after impact.

1005.9 Glazing in Athletic Facilities. Reserved

1005.10 Glazing in Elevator Hoistways and Elevator Cars

(a) **Glass in Elevator Hoistway Enclosures.** Glass in elevator hoistway enclosures and hoistway doors shall be laminated glass conforming to ANSI Z97.1 or CPSC 16 CFR Part 1201.

(b) **Fire-Resistance-Rated Hoistways.** Glass installed in hoistways and hoistway doors where the hoistway is required to have a fire-resistance rating shall also comply with Section 703.

(c) **Glass Hoistway Doors.** The glass in glass hoistway doors shall be not less than 60 percent of the total visible door panel surface area as seen from the landing side.

(d) **Glass Vision Panels.** Glass in vision panels in elevator hoistway doors shall be permitted to be any transparent glazing material not less than 1/4 inches in thickness conforming to Class A in accordance with ANSI Z97.1 or Category II in accordance with CPSC 16 CFR Part 1201. The area of any single vision panel shall not be less than 24 square inches and the total area of one or more vision panels in any hoistway door shall be not more than 85 square inches.

(e) **Glass in Elevator Cars.** Glass in elevator car enclosures, glass elevator car doors and glass used for lining walls and ceilings of elevator cars shall be laminated glass conforming to Class A in accordance with ANSI Z97.1 or Category II in accordance with CPSC 16 CFR Part 1201.

Exception: Tempered glass shall be permitted to be used for lining walls and ceilings of elevator cars provided:

1. The glass is bonded to a nonpolymeric coating, sheeting or film backing having a physical integrity to hold the fragments when the glass breaks.
2. The glass is not subjected to further treatment such as sandblasting; etching; heat treatment or painting that could alter the original properties of the glass.
3. The glass is tested to the acceptance criteria for laminated glass as specified for Class A in accordance with ANSI Z97.I or Category II in accordance with CPSC 16 CFR Part 1201.

(f) **Surface Area.** The glass in glass elevator car doors shall be not less than 60 percent of the total visible door panel surface area as seen from the car side of the doors.

Appendix A

9-8	Guide Specifications for Design of Metal Flagpoles	ANSI/NAAMM FP 1001-1997
9-9	Structural Standards for Steel Antenna Towers and Antenna Supporting Structures (Revised 2003)	ANSI/TIA-222F-1996
9-~~8~~9-10	Approval Standard for Class 1 Insulated Steel Deck Roofs	FM 4450-1989
9-~~9~~9-11	Approval Standard for Single-Ply, Polymer-	FM 4470-2012

	Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Assemblies for use in Class 1 and Noncombustible Roof Deck Construction	
9-~~10~~9-12	Tests for Uplift Resistance of Roof Assemblies	UL 580-2006
9-~~11~~9-13	Uplift Tests for Roof Covering Systems	UL 1897-2012
9-~~12~~9-14	Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference	ASTM E1592-2005 (2012)

B18 - 019

Rework Appendix D - Regulation of Signs and Outdoor Advertising Structures

SECTION D-101
ADMINISTRATIVE REQUIREMENTS

D-101.1 Scope. The requirements of this Appendix shall apply to outdoor signs and display structures as classified in Subsection D-101.2, hereafter constructed, erected, installed, altered, repaired or maintained.

D-101.2 Classification. Classification of signs and outdoor display structures shall be as follows:

(a) **Electric Sign.** A sign containing electrical wiring, but not including signs illuminated by an exterior light source.

~~1. Outdoor display structure controlled by externally operated electrical switches or breakers, with equipment and wiring suitable for conditions of outdoor installation.~~

~~2. An animated electric sign is an outdoor display structure with advertising message in motion, automatically controlled by externally operated switches, electrical circuit breakers, flashers and with incandescent or electric discharge lamps.~~

~~3.~~1. ~~An externally illuminated sign where message is in motion controlled by electric motors, usually with automatic controls.~~

(b) **Ground Sign.** Sign supported directly on the ground by braces, uprights or poles with live and dead loads transmitted to the ground.

(c) **Life Safety Sign.** Signs required for egress during an emergency in a building and other identification signs necessary for the safety of occupants.

(d) **Marquee Sign.** Sign attached to or hung from a marquee projecting from a building over public property.

(e) **Projecting Sign.** Sign affixed to building wall or structure projecting 12 inches or more beyond the building or structure, building line or property.

(f) **Roof Sign.** Sign constructed, erected or maintained on or above a roof or parapet wall of a building or structure.

(g) **Sign Structure**. Any structure which supports or is capable of supporting a sign as defined in this Code. A sign structure is permitted to be a single pole multiple poles, archway or independent structure and is not required to be an integral part of the building.

(h) **Temporary Sign.** Sign constructed of nonpermanent materials for which a permit has been issued for a period of not more than 90 days.

(i) **Wall Sign.** Sign attached to or erected against the wall of a building or structure with exposed face of the sign in a plane parallel to the plane of said wall and projecting less than 12 inches from the building or structure, building line or property line.

~~**D-101.3 Painted and Temporary Signs.** Signs painted directly on the exterior wall of a building or on other surface of a building or structure and temporary signs shall require a permit and approval of the Zoning Officer.~~

D-101.3 Reserved.

D-101.4 Criteria.

~~(a) Design and materials of construction of outdoor advertising signs and display structures shall be in accordance with the requirements of Chapters 9 and 10.~~

(a) Electrical signs shall be installed, operated and maintained in accordance with the requirements of the *EPCOT Electrical Code*, *UL 48 Standard for Electric Signs, UL 2161 Standard for Neon Transformers and Power Supplies* and this Appendix.

(b) Signs shall not be erected, constructed or maintained so as to obstruct any fire escape or any window or door or opening used as a means of egress or so as to prevent free passage from one part of a roof to any other part thereof. A sign shall not be attached in any form, shape or manner to a fire escape, nor be placed in such manner as to interfere with any opening required for ventilation.

~~Location, use and size of outdoor signs and~~

~~advertising display structures shall be in accordance with the requirements of the Zoning Regulations.~~

~~(b)~~(c) A sign shall not be erected in a manner that would confuse or obstruct the view of or interfere with exit signs required by Chapter 8 or with official traffic signs, signals or devices. Signs and sign support structures, together with their supports, braces, guys and anchors, shall be kept in repair and in proper state of preservation.

D-101.5 Permits.

(a) ~~Outdoor advertising~~ Life safety signs require permitting.

(b) Other signs and display structures hereafter constructed, erected, installed, altered, repaired or maintained shall require a permit.~~, application for which shall be filed with the Building Official in accordance with the requirements of Chapter 3.~~

Exception:

The following signs are exempt from the requirements to obtain a permit when not subject to wind loads. In no case shall the installation of a sign violate other provisions of this Code.

1. Painted non illuminated wall signs less than 40 square feet and do not exceed 35 lbs.
2. Projecting signs not exceeding 2.5 square feet.
3. Signs erected by transportation authorities.
4. Pole mounted signs that do not exceed 4 square feet and are located in non-accessible areas, protected by railing or landscape and do not project into an occupied area.

~~(a)~~(c) Application for a permit shall be filed in accordance with the requirements of Chapter 3 and ~~accomplished~~ accompanied by drawings, computations, stress diagrams and other information regarding location, construction, weight, materials and electrical equipment as required by the Building Official. If filed by other than the owner of the property, the application shall bear the owner's signature. Drawings and computations shall bear the signature of a Professional Engineer registered in the State of Florida.

~~(b)~~(d) Except for signs projecting over public property and roof signs, the Building Official may waive the requirement for drawings and computations when, in his opinion, public safety is not involved, and when the sign is less than 24 inches in either dimension.

D-201.2 Construction.

(b) Display surfaces of all types of signs may be of metal, glass or approved plastic when used in accordance with the requirements of this Code. Maximum areas of glass panels shall be as specified in Section 1005. Plastic used shall conform to the requirements of Section 1008 and individual panels of approved plastic shall not be more than 120 square feet in area. The dimensional limitation of 120 square feet shall not apply to sign facing sections made from flame-resistant-coated fabric (ordinarily known as "flexible sign face plastic") that weighs less than 20 ounces per square yard and that, when tested in accordance with NFPA 701, meets the fire propagation performance requirements of both Test 1 and Test 2 or that when tested in accordance with an approved test method, exhibits an average burn time of 2 seconds or less and a burning extent of 5.9 inches or less for 10 specimens.

D-201.3 Clearances and Location.

(e) Outdoor signs and advertising displays shall not project into an alley below a height of 16~~5~~ feet above grade~~, nor more than 12 inches when the sign is located 16 feet above grade~~, but may project 36 inches when located more than 16 feet above grade.

SECTION D-301
REQUIREMENTS FOR SPECIAL TYPES OF SIGNS

D-301.1 Electric Signs.

(a) Electric sign structure~~s~~ shall be of noncombustible material~~, except that the Building Official may authorize the use of approved plastics as specified in Chapter 10~~. Wood or approved plastic may be used for surface decoration if located at least 2 inches from the nearest current-carrying part of the sign.

(b) Electric signs shall not display flashing red lights, nor use the words "Stop," "Go" or "Danger," nor shall an electric sign be an imitation of an official traffic signal or road sign.

~~(c) The enclosed shell of electric signs shall be water tight, except for service holes, which shall be fitted with tight covers.~~

~~(d)~~(c) The sign body and/or fabricated enclosure of an electric sign, intended for installation in a damp or wet location, shall be provided with drain openings in accordance with UL 48.

(d) Signs intended for installation in damp or wet locations need not comply with the drain opening requirements of (c) provided that they comply with either:

1. The requirements for a Type 3R or better

enclosures as defined in the UL 50 *Standard for Enclosures for Electrical Equipment, Non-Environmental Considerations*,; or

2. The Rain Test described UL 879 *Standard for Electric Sign Components*, where there is no indication of water entering the units.

(e) Electric signs are required to be listed/marked to include the manufacturer's name, trade name, trademark or identifier and include electrical ratings and wiring methods.

(f) Each sign and outline lighting system, feeder circuit or branch circuit supplying a sign, outline lighting system, or skeleton tubing shall be controlled by an externally operable switch or circuit breaker that opens all ungrounded conductors and controls no other load.

D-301.2 Ground Signs.

(a) **Height restrictions.** The structural frame of ground signs shall not be erected of combustible materials to a height of more than 35 feet above the ground. Ground signs constructed entirely of noncombustible material shall not be erected to a height of greater than 100 feet above the ground. Greater heights are permitted where approved and located so as not to create a hazard or danger to the public.
~~Ground signs may be of any material meeting the requirements of this Code and Appendix D.~~

~~(a)~~(b) Ground signs shall be constructed of materials, resistant to deterioration from rot, termites and borers. Wood used below the ground shall be pressure impregnated as required in Section 1010. Steel used below grade shall be encased in concrete or all elements below grade are stainless steel. Aluminum used below grade or fastened to a concrete foundation shall have a barrier coating of epoxy or approved equal to prevent aluminum-concrete chemical reaction.~~.~~

~~(b) Ground signs shall be limited in size according to the Zoning Regulations.~~

(c) Ground signs shall be erected so that the face of the sign paralleled to or at an angle not more than 30 degrees with the lot line shall be not less than 3 feet from the line. The ends of a sign at an angle of 30 degrees or more with adjacent lot lines may be extended to the lot line.

(d) Lighting reflectors may project beyond the face of the sign.

(e) Ground signs shall not project over public property.

~~(f) The owner or lessee of a ground sign constructed on a vacant lot shall keep the lot clean and sanitary and free from unsightly conditions.~~

D-301.4 Projecting Signs.

(a) Signs projecting more than 12 inches from the building shall be constructed of noncombustible materials and shall be attached to the building or structure by metal bolts, anchors, supports, chains, guys or rods. Staples and nails shall not be used.

(b) Dead and wind loads shall be supported by chains, guys or rods not less than $^{3}/_{8}$ inch in diameter at an angle of 45 degrees with the horizontal to resist the dead load, and at an angle of 45 degrees or more with the face of the sign to resist the wind pressure. When the area of the face of the sign exceeds 30 square feet, two supports shall be provided on each side not more than 8 feet apart to resist the wind pressure.

Exception: Signs that have been engineered to consider resisting wind and dead loads.

~~(b)~~(c) Supports of projecting signs shall be secured to a bolt or expansion screw that will develop the strength of the supporting chains, guys or steel rods with a minimum $^{5}/_{8}$-inch bolt or lag screw. Turnbuckles shall be placed in chains, guys or steel rods that support projecting signs.

~~(c)~~(d) Chains, cables, guys or rods used to support live and dead loads of projecting signs may be fastened to solid masonry walls with expansion bolts or with machine screws in iron supports, but supports shall not be attached to a parapet wall. Where supports are fastened to walls of wood, anchor bolts shall pierce the wall and shall be secured on the inside.

~~(d)~~(e) Projecting signs shall not project above the roof or cornice wall above the roof level, except that signs installed at right angle to the wall and not over 18 inches in horizontal width may project 2 feet above the roof. A sign projecting from the corner of a building parallel to the vertical line or the corner shall be considered to be at a right angle to the building.

D-301.5 Roof Signs.

(a) Roof signs shall be designed in accordance with the requirements of Chapter 9. Loads shall be distributed to the structural frames and to the foundation without overstressing the structural members.

(b) Roof sign structures shall be constructed of noncombustible materials throughout, except as specified in Subsection D-201.2(b).

(c) Roof signs shall be constructed to leave a clear space of not less than 1 foot clearance between the roof level and the lowest part of the signs.

Exception: The bottom of the sign can be set at 2 inches above the roof line for removable signs that do not exceed 40 square feet and are mechanically fastened to the vertical supports that allow the sign body to be easily removed, leaving the vertical supports with a minimum of 12 inches clear above the roof line.

Signs larger than 40 square feet may have an escutcheon that is mechanically fastened to the sign structure, leaving not less than 2 inches between the bottom of the escutcheon and the roof line. The escutcheon is to be constructed to be easily removed for future roof repairs.

(d) No part of a roof sign or structure shall project beyond the exterior walls of the building.

(e) Roof signs more than 40 square feet in area shall be supported by steel, aluminum or concrete, fire protected when required for the type of construction.

D-301.6 Wall Signs.

(a) Wall signs shall extend not more than 12 inches from the building to which they are attached.

(b) Wall signs attached to exterior walls of solid masonry, concrete or stone shall be attached by metal anchors, bolts or expansion screws not less than $^{3}/_{8}$-inch diameter embedded at least 5 inches.

Exception: Signs that have been engineered to consider resisting dead and wind loads.

(c) Wall signs shall not be supported by anchorage to an unbraced wall.

(d) Temporary wall signs of cloth in combustible frames shall be permitted for not more than 30 days and such temporary signs shall be not more than 100 square feet in area.

(e) Wall signs which have an area exceeding 40 square feet shall be constructed of metal or other approved noncombustible material, except for nailing rails and as provided for in Subsection D-201.2(b).

BS16-0016

New Section

F-101.10 Construction Fencing.

(a) Construction fencing is required to have an approved building permit issued prior to installation.
Exception: Construction fences 4 feet high and under.

(b) Construction fences located within or adjacent to fire lanes must be approved by the Fire Marshal.

(c) Construction fences located more than 10 feet from guest or cast access routes may be designed to comply with Subsection 904.2(e).

(d) Construction fences over 4 feet high and up to and including 8 feet high shall be installed to meet the minimum requirements of Figure F-1.

(e) Construction fences over 8 feet high shall be required to be designed and installed to comply with the full wind load requirements of this Code.

Note: Added the following Exception to Subsection 301.1(a) Permits Required.

8. Fences or railings less than 3 feet high.

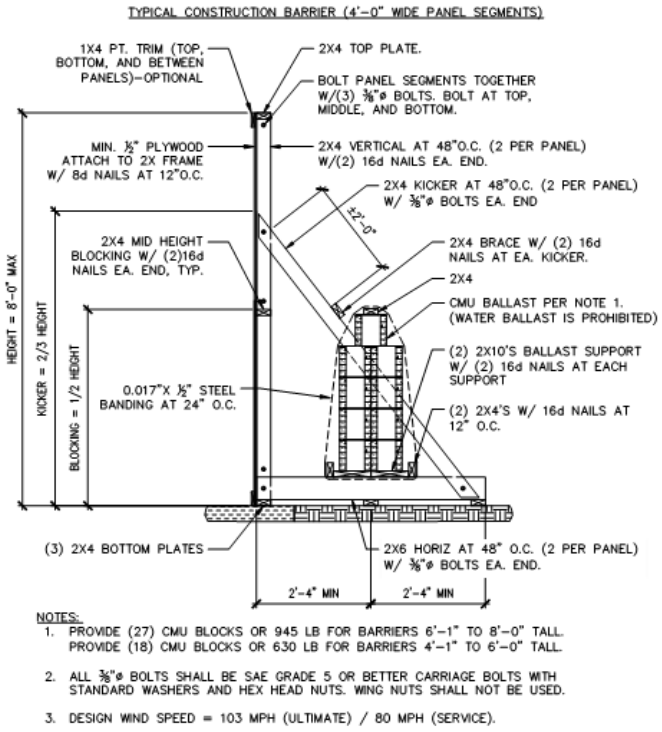

Figure F1

E – B15-0003

SECTION G-701
OPEN-AIR EVENT
OR PERFORMANCE PLATFORMS

G-701.2 Plans and Specification Requirements. An accurate and complete site plan, two sets of performance or event platform construction plans with framing and structural details shall be submitted. Structural calculations may be required depending on the complexity of the platform. The platform plans shall also show accessibility to conform ~~to Section 4.1.1(4) of~~ with the *EPCOT Accessibility Code for Building Construction*. An event stage or performance platform 30 inches in height or greater shall have guardrails or edge protection.

B18 - 020

I-201.2 Covered Walkways. A covered walkway may be of any type of construction permitted by this Code when the walls and openings at the point of connection of the walkway to the building are protected in accordance with the requirements of Chapter 7 to prevent spread of fire from one building to another. ~~(See Appendix K.)~~ The covered walkway shall not contribute to the building area or the number of stories or height of connected buildings.

(a) Covered walkways shall be a minimum of 10 feet in length and 44 inches in width. The total width shall not exceed 30 feet.
(b) The length of exit access travel shall not exceed 300 feet.
(c) Covered walkways over a public way shall also comply with Section 402.
(d) See Section 401 for requirements for the protection of pedestrians during construction or demolition.

I-201.3 Enclosed Walkways. An enclosed walkway shall be of the type of construction required for the buildings connected by the walkway. Separation between the enclosed walkway and the building to which it is connected, except when used as a required exit, shall be of not less than 2~~1~~-hour fire-resistive construction. Openings in the walls of the building to which the enclosed walkway is connected shall be protected by an approved opening protective having a 1½-hour fire-resistive rating. ~~fixed or automatic self-closing protective having a 2-hour fire-resistive rating.~~ The enclosed walkway shall not contribute to the building area or the number of stories or height of connected buildings.

(a) Enclosed walkways shall be a minimum of 10 feet in length and 44 inches in width. The total width shall not exceed 30 feet.
(b) The length of exit access travel shall not exceed 200 feet.
(c) Enclosed walkways shall be mechanically or naturally ventilated.
(d) Enclosed walkways over a public way shall also comply with Section 402.

I-201.4 Tunneled Walkways. A tunneled walkway shall be of a type of noncombustible construction or construction approved by the Building Official for location underground. Separation between the pedestrian walkway or tunneled walkway and the buildings to which it is connected shall be of not less than 2-hour fire-resistive construction. Openings in the walls shall be protected by an approved opening protective having a 1½-hour fire-resistive rating.

BS16-0018

SECTION I-401
SMOKE VENTING

I-401.1 Smoke-Control System. A mechanically operated air-handling system shall be installed in covered

mall buildings, which will restrict the movement of smoke to the general area of fire origin and maintain the ~~exiting~~ egress system in a condition that is safe ~~for exiting~~.

I-401.2

(a) The smoke-control system shall be designed in accordance with Section 720. ~~connected to both the sprinkler system and the smoke detector system, and shall automatically operate when either the sprinkler system or smoke detector system is actuated.~~ The smoke-control system shall go into operation immediately following actuation of the smoke detector. The smoke-control system shall be as follows:

Smoke detectors shall be provided as follows:

1. A minimum of one area-type smoke detector in each tenant space having an opening to the mall. Such detector shall be located at each opening to the mall.
2. Area-type smoke detectors or approved projected beam detectors shall be installed to monitor the mall area that can contain combustible loading, such as kiosks or displays. Such installations shall be engineered to distinguish fire in the mall from fire in the tenant space.

(b) The smoke-control equipment for the mall shall be separate from that serving tenant spaces.

(c) The covered mall building shall be compartmented into smoke-control zones. Smoke-control zones shall be separated from each other by construction having a fire-resistive time period of not less than 1 hour. Walls between tenant spaces used to separate smoke-control zones shall extend from the floor to the underside of the floor or roof above.

(d) A smoke barrier shall be provided separating the tenant ceiling space from the mall ceiling space.

(e) A smoke-control zone shall coincide with the area of coverage of a single sprinkler supply. Within that sprinkler zone, there may be one or more air-moving systems, but no single smoke-control zone shall be larger than the sprinkler area.

~~(f) When a fire occurs within a tenant sprinkler zone, that zone is to go to 100 percent exhaust and the supply air to that zone is to be shut down. All adjoining tenant smoke-control zones shall go into normal operation.~~
~~The mall shall go to 100 percent fresh air supply without exhaust or recirculation.~~
~~(g)When a fire occurs within the mall, the mall smoke control equipment shall go to 100 percent exhaust and the adjoining tenant spaces shall go into normal operation.~~
~~(h)The covered mall building smoke-control equipment shall be sized to provide a minimum of six air changes per hour.~~
~~(i) Mall exhaust inlets shall not be less than 6 feet above the walking surface for each pedestrian level.~~
~~(j) During those hours when the building air-conditioning systems are not operating, smoke detector or sprinkler systems shall be designed so the activation of either will transmit an alarm as required in Paragraph (a) and shall activate the smoke-control system.~~

I-401.3 Acceptance Testing. The equipment shall be tested in accordance with Section 702.18.~~before the smoke-control system is accepted by the Building Official. It shall be tested~~ Final acceptance of the system shall be in the presence of the Building Official to confirm that the system is operating in compliance with the requirements of this Subsection.
~~(a)Operational testing of individual components shall be conducted when they are installed and shall be certified by the installer as being complete and functional.~~
~~(b)The mechanical engineer or designer of the smoke-control system shall coordinate the acceptance testing. It shall be demonstrated to the Building Official that the final system complies with the approved specified design and that it is operating properly.~~
~~(c)The system shall consist of an investigation of the performance during:~~
~~1. Automatic smoke-control mode, after activation of first alarm.~~
~~2. Manual override of normal and smoke-control modes.~~
~~3. Return to normal.~~

B18 - 021

New Section J-701 KIOSKS

(Add "Kiosk" to S-1 on Table 5.1, move shed to S-4 on Table 5.1, and add unoccupied manufactured building to S-4 on Table 5.1)

Table 5.1
Group S – Satellite Structures

S-1 Private garages, carports, greenhouses, ~~sheds,~~ cabanas, bath houses, agricultural buildings, shade structures, ~~and~~ guard shacks and kiosks.

S-4 Mobile homes, campers, ~~and~~ trailers, unoccupied manufactured buildings and sheds.

J-501.1 Scope. This Section shall apply to Group S-4 occupancies, including mobile homes, unoccupied manufactured buildings, recreational vehicles, ~~and~~ trailers and sheds.

J-601.1 Occupancy. Manufactured buildings shall have their occupancy classification based on the actual use of the structure.

Note: Renumber remaining Section.

J-701.1 Requirements. Kiosks and similar structures (temporary or permanent) shall meet the following requirements:

(a) Combustible kiosks or other structures shall not be located within buildings unless constructed of the following materials:
1. Fire-retardant-treated wood complying with Section 1010.
2. Foam plastics having a maximum heat-release rate not greater than 100 kilowatts when tested in accordance with the exhibit booth protocol in UL 1975.
3. Aluminum composite material (ACM) having a flame spread index of not more than 25 and a smoke-developed index of not more than 450 when tested as an assembly in the maximum thickness intended for use in accordance with ASTM E84 or UL 723.

(b) Where located within a building and a roof or cover equal to or greater than 16 square feet is provided on the kiosk or similar structure, automatic fire suppression and detection must be installed within the kiosk. Standalone kiosks outdoors do not require automatic fire suppression.

(c) Kiosks installed outside of buildings shall be designed to meet the wind design criteria in accordance Section 904 for permanent or temporary structures respectively.

BS16-0017

Update catwalk language in several Sections.

SECTION M-301
EXITS AND EMERGENCY LIGHTING

M-301.1 Exits.
(b) Catwalks shall have at least two means of exit, one of which may be a ladder. No catwalk shall have more than one 20-foot dead end.
1. Maximum travel distance on catwalks to 200 feet.
2. A minimum width of 22 inches is permitted.

(c) All exit doors shall be a minimum of 36 inches in width.

*(**Note**: Added changes to Section 5-12.301 for consistency.)*

SECTION 5-12.301
DESIGN AND CONSTRUCTION

5-12.301.1 Types of Construction. Buildings or attractions specified in Subsection 5-12.101.1 shall comply with the types of construction specified in Chapters 6 and 7. Where the type of construction is not clearly identified therein, the Building Official shall designate the required type of construction in accordance with the occupancy requirements of the building or attraction. Catwalks shall be constructed of noncombustible materials. Fire protection of steel and iron may be omitted.

5-12.301.2 Interior Finish. The interior finish within amusement attractions and special amusement buildings shall be Class 1 throughout the show space and queue area in accordance with Section 711.

*(**Note**: Added changes to Section 5-12.401 for consistency.)*

SECTION 5-12.401
AMUSEMENT BUILDINGS AND
AMUSEMENT ATTRACTIONS

5-12.401.1 Exits.
(a) Means of egress from amusement buildings and attractions, including stairways and platforms, ramps, fences and barricades, seats for spectators and safe dispersal areas, shall comply with the applicable requirements of Chapter 8 as specified by the Building Official.

(b) Catwalks shall comply with the specific catwalk requirements found in Appendix M.

(c~~b~~) Exit Illumination and Signs. Exit…

BS16-0019

New Section

N-101.15 Temporary Toilet Fixtures. Additional permanent or temporary toilet fixtures shall be provided in accordance with *EPCOT Plumbing Code* Table 403.1 when the temporary occupant load is in addition to the original occupant load.

B18 - 022

N-301.2 Location on Property. Permanent membrane structures and tents shall have a horizontal separation greater than 30 feet.

Exception: Horizontal separations of 30 feet or less shall be permitted when an exterior wall is provided in accordance with Table 6.2 and the wall has a minimum fire resistance rating of 1 hour. The exterior wall shall extend from ground level to the height where the slope of the tangent to the membrane structure or tent exceeds 30 degrees from the vertical, but in no case is less than 8 feet above the first-floor level.

There shall be a 15-foot minimum clear distance between temporary tents and permanent structures.

Temporary tents having an aggregate area of 15,000 square feet or more shall be located not less than 25 feet from any other tent or 50 feet from any building or structure measured from the sidewall of the tent.

Exception: ~~When approved by the Building Official,~~ Exterior covered walkways without sidewalls ~~passageways or corridors~~ may be used between tents or structures when not exceeding 15 feet in width and shall comply with all other separation requirements of this Section.

B18 - 023

Note: New Section Pointer from 5-1.101.2 as a result of **B18 - 018**.

5-1.101.2 Criteria.

(e) Glass used in elevator hoistways and elevator cars shall comply with Subsection 1005.10.

B18 - 024

5-1.101.6 Permits.

(a) Application for a permit to install, relocate, alter or operate any device within the scope of this Standard shall be filed with the Building Official in accordance with the requirements of Chapter 3. When the device is approved by the Building Official, he shall issue a permit subject to the following conditions:

1. Servicing repairs and replacements for normal maintenance made with parts using equivalent design and materials, and having equivalent strength and safety to the parts replaced, shall not require a permit, but shall be inspected and approved by the Building Official.
2. ~~Installation and alteration of several transporting devices by the same owner on the same property may be considered as one installation in calculating the permit fee.~~
3. Material hoists for construction operations shall comply with the requirements of Appendix F and with the requirements of Florida Statute 442. Such hoists may be constructed without a permit, but shall be approved by the Building Official. Men shall not be permitted to ride on material hoists, except as provided in the regulations of Florida Statute 442.
4. No requirement in this Section nor in the manufacturers' specifications shall be construed as exempting a device that is within the scope of this Standard from compliance with the safety requirements of the District.

B18 - 025

5-1.401.1 (c) In buildings ~~of~~ housing all occupancies, elevator enclosures and machine rooms shall be of 2-hour fire resistive construction.

B18 - 026

~~**5-1.401.2 Venting of Hoistways.**~~

~~**(a) Vents Required.** Hoistways of elevators serving more than two floors or 25 feet between top and bottom landings shall be provided with means for venting smoke and hot gases to the outer air in case of fire.~~

~~**(b) Locations of Vents.** Vents shall be located at the top of the hoistway and shall open either directly to the outer air or through noncombustible ducts to the outer air. Noncombustible ducts shall be permitted to pass through the elevator machine room, provided that portions of the ducts located outside the hoistway or machine room are enclosed by construction having not less than the fire-resistance rating required for the hoistway. Holes in the machine room floors for the passage of ropes, cables or other moving elevator equipment shall be limited as not to provide greater than 2 inches of clearance on all sides.~~

~~(c) **Area of Vents.** The area of the vents shall be not less than 31/2 percent of the area of the hoistway, nor less than 3 square feet, for each elevator car, whichever is greater. Of the total required vent area, not less than one-~~

~~third shall be permanently open or automatically opened by a damper.~~

~~**Note:** A hinged damper, which will open under a small amount of pressure, is considered a permanently open vent.~~

~~**Exceptions:**~~
~~1. Where mechanical ventilation providing equivalent venting of the hoistway is provided, the required vent area may be reduced subject to the following:~~
~~1.1. The building is not a hotel, apartment house, hospital or similar building with overnight sleeping quarters.~~
~~1.2. The hoistway or machine room is so located that it has no outside exposure.~~
~~1.3. The hoistway does not extend to the top of the building.~~
~~1.4. The hoistway or machine room exhaust fan is automatically reactivated by thermostatic means.~~

~~2. The total required vent area shall not be required to be permanently open where all the vent openings automatically open on detection of smoke in the elevator lobbies or hoistway, on power failure and on activation of a manual override control. The manual override control shall be capable of opening and closing the vents and shall be located in an approved location.~~

5-1.401.2 Elevator Lobbies and Hoistway Protection.

(a) **Where Required.** Elevator hoistway openings and enclosed elevator lobbies shall be provided where an elevator hoistway connects more than three stories.

Exceptions:

1. Protection of elevator hoistway door openings is not required where the elevator serves only open parking garages in accordance with Subsection 508.5.
2. Protection of elevator hoistway door openings is not required at the level(s) of exit discharge.
3. Enclosed elevator lobbies and protection of elevator hoistway door openings are not required on levels where the elevator hoistway opens to the exterior.
4. Where an area of refuge is required and an enclosed elevator lobby is provided to serve as an area of refuge, the enclosed elevator lobby shall comply with the *EPCOT Accessibility Code*.
5. Where fire service access elevators are provided, enclosed elevator lobbies shall comply with Subsection 5-1.402.

(b) **Hoistway Opening Protection.** Where required protection of the elevator hoistway door opening, the protection shall be provided by one of the following:

1. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway shaft enclosure doors from each floor by fire-resistance rated walls in accordance with Section 707. In addition, doors protecting openings in the elevator lobby enclosure walls shall comply with Section 704 as required for corridor walls. Penetrations of the enclosed elevator lobby by ducts and air transfer openings shall be protected as required for corridors in accordance with Section 707.
2. Additional doors shall be provided at each elevator hoistway door opening that are readily openable from the car side without a key, tool, special knowledge or effort. Such door shall comply with the smoke and draft control door assembly requirements in Section 704 when tested in accordance with UL 1784 without an artificial bottom seal.
3. The elevator hoistway shall be pressurized in accordance with Subsection 720.21.

(c) **Means of Egress.** Elevator lobbies shall be provided with at least one means of egress complying with Chapter 10 and other provisions in this Code. Egress through an elevator lobby shall be permitted. Access to not less than one of the required exits shall be provided without travel through the enclosed elevator lobbies. Where the path of exit access travel passes through an enclosed elevator lobby, the level of protection required for the enclosed elevator lobby is not required to be extended to the exit unless direct access to an exit is required by other sections of this Code.

BS16-0020

New Subsection

5-1.401.13 Escalator and Moving Walks. Exterior of trusses shall be enclosed with a 1-hour fire-rated material.

5-1.401.13.1 Escalators shall be provided with guardrails that comply with Section 503.11.

BS17 - 18

5-1.401.13 Escalator and Moving Walks. The e~~E~~xterior of trusses shall be enclosed with ~~a 1-hour fire-rated material.~~ noncombustible materials.

5-1.401.13.1 Escalator Guardrails. Escalators shall be provided with guardrails that comply with ~~Section~~ Subsection 503.11.

B18 - 027

5-1.401.19 ~~Wheelchair~~ Platform Lifts. Platform lifts shall conform to the *EPCOT Accessibility Code for Building Construction*; Chapters 553 and 399 of the Florida Statutes; ~~ASME A17.1~~ ASME A18.1 and A17.5; and the ~~NEC~~*National Electrical Code*.

~~A lift shall be provided with a recessed folding seat and seat belt to accommodate a person not in a wheelchair.~~

A sign shall state ~~with the international symbol for physically challenged persons with letters not less than 1/4 inch high stating~~: "PHYSICALLY DISABLED PERSONS ONLY. NO FREIGHT~~", NO STANDING, PASSENGER MUST BE SEATED BEFORE OPERATING LIFT~~ in letters not less than 0.25 inches high and shall include the international symbol of accessibility. The passenger restricting-sign shall be securely fastened in a conspicuous place ~~inside the lift~~ on the platform.

B18 - 028

~~**5-1.401.20 Hydraulic Elevator Brake Annual Test.** No load test shall be performed on the electrical and mechanical parts on a brake system. A written record and data tag indicating the dates of inspection must be maintained on each unit, available for review by the inspector.~~

(Note: Renumber remaining Section.)

B18 - 029

~~**5-1.401.21 Hydraulic Elevator Brake Five-Year Test.** A full load test shall be performed on the electrical and mechanical parts on the brake system. A written record and data tag indicating the inspection must be maintained on each unit, available for review by the inspector.~~

(Note: Renumber remaining Section.)

B18 - 030

~~**5-1.401.22 Hydraulic Elevator Brake Run-By.** Minimum bottom car run-by shall not be less than 1 inch for operating speed in down direction not exceeding 100 feet per minute and 3 inches for operating speed in the down direction exceeding 100 feet per minute in accordance with ASME A17.1 Rule 8.11.3.4.4.~~

(Note: Renumber remaining Section.)

B18 – 031

5-1.402 Fire Service Access Elevator. Elevators installed and operating in high rise buildings with an occupied floor more than 120 feet above the lowest fire department vehicle access shall have, at a minimum, ~~one~~ two fire service access provided in accordance with this Section. Every floor of the building shall be served by a fire service access elevator. Except as modified in this Section, the fire service access elevator shall be installed in accordance with this Chapter and ASME A17.1/CSA B44.

BS16-0021

5-12.401.4 Smoke Control. A smoke control system shall be designed to control the migration of products of combustion in the show space. Upon detection of a fire, the system shall shut down the air supply to the fire floor and the return air from all non-fire floors~~. Any other approved design that will achieve the same level of smoke control as described in this Subsection may be used in lieu of these requirements.~~

(a) Show spaces shall have a smoke exhaust system located at the ceiling. Such system shall be designed in accordance with Section 720 and shall not be less than ~~exhaust~~ 40,000 cubic feet per minute per smoke zone.~~ or six air changes per hour, whichever is greater. When the volume of the show area exceeds 600,000 cubic feet, the exhaust system shall be sized to provide a minimum of four air changes per hour~~. Supply inlets shall be provided at the lowest level of the show area. ~~These inlets shall be sized to provide 75 percent of the exhaust air.~~

(b) When the heights of the show area exceeds three stories, an exhaust system shall be provided as required in Paragraph(a), however, supply air shall be introduced mechanically from the floor of the show area. The capacity of the supply shall be 75 to 85 percent of the exhaust.

Accessibility

AC18 - 001

Errata

Advisory 404.2.9 Door and Gate Opening Force. The maximum force pertains to the continuous application of force necessary to fully open a door, not the initial force needed to overcome the inertia of the door. It does not apply to the force required to retract bolts or to disengage other devices used to keep the door in a closed position.

Florida law, Section 553.504(~~63~~), F.S., establishes requirements for exterior door opening force.

Electrical

E18 – 001

80.2 Definitions. The following words and phrases, when used in this Code, shall have the meaning as indicated in this Section:

(d) **National Electrical Code.** The *National Electrical Code*, ~~2011~~ 2014 Edition, as published by the National Fire Protection Association (NFPA) and further identified as ANSI/NFPA 70-~~2011~~ 2014 by the American National Standards Institute (ANSI).

Fire Prevention

FP18 – 001

Replace entire EPCOT Fire Prevent Code with the following:

SECTION A-101
ADMINISTRATION

A-101.1 Title. This document shall be known as the *EPCOT Fire Prevention Code* and will be referred to as this Code.

A-101.2 Legality. The *Florida Fire Prevention Code*, as adopted by Florida State Statute 633.20 is legally a part of this Code and their provisions shall be enforced by the Fire Official. Any reference to the *EPCOT Fire Prevention Code* shall be deemed a reference to the *Florida Fire Prevention Code*.

Fuel Gas

FGS16-0001

New Section

309.15 Flanges.

309.15.1 General Requirements. All flanges shall comply with ASME B16.1, ASME B16.20 or MSS SP-6. The pressure-temperature ratings shall equal or exceed that required by the application.

309.15.2 Flange Facings. Standard facings shall be permitted for use under this Code. Where 150-pound pressure-rated steel flanges are bolted to Class 125 cast-iron flanges, the raised face on the steel flange shall be removed.

309.15.3 Lapped Flanges. Lapped flanges shall be used only above ground or in exposed locations accessible for inspection.

FGS16-0002

New Section 530

SECTION 530
GENERATORS

530.1 Gas Supply. Where the gas supply is connected to the building gas supply system, it shall be connected on the supply side of the main gas shutoff valve and marked as supplying an emergency generator.

530.2 Main Shutoff Valve. The building's main gas shutoff valve shall be marked or tagged to indicate the existence of the separate generator shutoff valve.

530.3 Demands. The fuel supply for gas-fueled and liquid-fueled generators shall be designed to meet the demands of the generator for all of the following factors:
(a) Sizing of fuel lines
(b) Valves, including manual shutoff
(c) Battery-powered fuel solenoids
(d) Gas regulators
(e) Regulator vent piping
(f) Flexible fuel line section
(g) Fuel line filters
(h) Fuel vaporizers (LP-Gas)
(i) Ambient temperature effect of fuel tank vaporization rates of LP-Gas where applicable

530.4 Fuel Storage and Supply Lines. The fuel storage and supply lines shall be in accordance with this Code.

530.5 Valves. All manual fuel system valves shall be of the indicating type.

Mechanical

MS17 - 01

Chapter 2
Definitions

AIR. All air supplied to mechanical equipment for combustion, ventilation, cooling, etc. Standard air is air at standard temperature and pressure, namely ~~60~~70°F and 29.92 inches of mercury.

AIR DISTRIBUTION SYSTEM. Any system of ducts, plenums and air-handling equipment that circulates air within a space or spaces and includes systems made up of one or more air-handling units.

CEILING RADIATION DAMPER. A listed device installed in a ceiling membrane of a fire-resistance-rated floor/ceiling or roof/ceiling assembly to limit automatically the radiative heat transfer through an air inlet/outlet opening.

ENVIRONMENTAL AIR. Air that is conveyed to or from occupied areas through ducts which are not part of the heating or air-conditioning system, such as ventilation for human usage, domestic kitchen range exhaust, bathroom exhaust, domestic clothes dryer exhaust and parking garage exhaust.

~~**IDLH (IMMEDIATELY DANGEROUS TO LIFE OR HEALTH).** The maximum concentration of refrigerant from which one could escape within 30 minutes without any escape-impairing symptoms or any irreversible health effects.~~

IMMEDIATELY DANGEROUS TO LIFE OR HEALTH (IDLH). The concentration of airborne contaminants that poses a threat of death, immediate or delayed permanent adverse health effects, or effects that could prevent escape from such an environment. This contaminant concentration level is established by the National Institute of Occupational Safety and Health (NIOSH) based on both toxicity and flammability. It is generally expressed in parts per million by volume (ppm v/v) or milligrams per cubic meter (mg/m3).

INTERLOCK. A device actuated by another device with which it is directly associated, to govern succeeding operations of the same or allied devices. A circuit in which a given action cannot occur until after one or more other actions have taken place.

OCCUPANCY. The purpose for which a building, or portion thereof, is utilized or occupied.

~~**PLENUM.** Air compartment or chamber to which one or more ducts are connected and form part of an air distribution system.~~

PLENUM. An enclosed portion of the building structure, other than an occupiable space being conditioned, that is designed to allow air movement, and thereby serve as part of an air distribution system.

TOILET ROOM. A room containing a water closet and, frequently, a lavatory, but not a bathtub, shower, spa or similar bathing fixture.

MS17 - 02

302.2 Manufacturer's Operating Instructions. Permanent factory-applied instructions for ignition, operation and shutdown shall accompany the equipment. The manufacturer's operating instructions shall remain attached to the appliance in a position to be easily read during the life of the appliance.

302.3 Listed Equipment. When the requirements for listed appliances and their accessories are different from the requirements of this Section, such listed appliances shall be installed in accordance with the conditions specified in their listing. Listed appliances and their accessories, installed or used not according to the conditions specified in their listing and all appliances not listed, shall conform to the requirements of this Section.

302.~~3~~ 4 National Standards. Unless otherwise specified in this Chapter, air-conditioning equipment shall comply with the following standards:

(a) ANSI/ASHRAE 15, Safety Code for Mechanical Refrigeration.
(b) ASHRAE Handbook, HVAC Systems and Equipment.
(c) NFPA 90A, Installation of Air-Conditioning and Ventilating Systems.
(d) NFPA 90B, Installation of Warm-Air Heating and Air-Conditioning Systems.
(e) NFPA 214, Water-Cooling Towers.

302.~~4~~ 5 Electric Duct Heater Safety Controls. Electric duct heaters shall be listed; bear the seal or mark of an approved testing agency; and be equipped with an approved automatic reset, air outlet temperature limit control that will limit the outlet air temperature to not greater than 200°F. The electric elements of the heater shall be equipped with fusible links or a manual reset temperature limit control that will prevent outlet air temperature in excess of 250°F.

302.~~5~~ 6 Equipment Installed Outdoors. Heating and cooling equipment, when installed outdoors, shall be listed for such use in accordance with UL 1955.

~~**SECTION 303**~~
~~**INSTALLATION OF HVAC**~~
~~**AND REFRIGERATION EQUIPMENT**~~

~~**303.1 Listed Equipment.** When the requirements for listed appliances and their accessories are different from the requirements of this Section, such listed appliances shall be installed in accordance with the conditions specified in their listing. Listed appliances and their accessories, installed or used not according to the conditions specified in their listing and all appliances not listed, shall conform to the requirements of this Section.~~

~~**303.2**~~**302.7 Accessibility for Service.**

Note: Renumber remaining Section moving all of 303 into 302.

New Section 303

SECTION 303
NFPA 96

303.1 General. Commercial kitchen ventilation hoods, ducts and exhaust equipment shall comply with NFPA 96 and this Code. Where conflicts between NFPA 96 and this Code exist, the most stringent standard shall be applied as determined by the Building Official.

MS16-0001

New Sections: 405.1 through 405.6

405.1 Where Required. Smoke detectors listed for use in air distribution systems shall be located as follows:
(a) Downstream of the air filters and ahead of any branch connections in air supply systems having a capacity greater than 2,000 ft3/min.
(b) At each story prior to the connection to a common return and prior to any recirculation or fresh air inlet connection in air return systems having a capacity greater than 15,000 ft3/min and serving more than one story.
(c) All air distribution systems serving a means of egress shall be provided with a duct smoke detector and automatic shutdown.

405.1.1 Area Smoke Detectors. Return system smoke detectors shall not be required where the entire space served by the air distribution system is protected by a system of area smoke detectors installed in accordance with NFPA 72.

405.1.2 Exhaust. Smoke detectors shall not be required for fan units whose sole function is to remove air from the inside of the building to the outside of the building.

405.2 Function.

405.2.1 Automatic Stop. Smoke detectors required by Subsection 405.1 shall automatically stop their respective fan(s) on detecting the presence of smoke.

> **Exception:** Where the return air fan is functioning as part of an engineered smoke-control system and a different mode is required, the smoke detectors shall not be required to automatically stop their respective fans.

405.3 Supervision. The duct smoke detectors shall be connected to a fire alarm system where a fire alarm system is required by the *EPCOT Building Code* and the *EPCOT Fire Prevention Code*. The actuation of a duct smoke detector shall activate a visible and audible supervisory signal at a constantly attended location.

> **Exceptions:**
> 1. The supervisory signal at a constantly attended location shall not be required where the duct smoke detector activates the building's fire alarm system.
> 2. In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and audible signal in an approved location. Duct smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.

405.4 Fire Sprinkler Interlock Required. In buildings or structures provided with an automatic fire sprinkler system, air distribution systems with a capacity greater than 2,000 ft3/min shall shutdown upon the activation of the automatic fire sprinkler water flow alarm.

405.4.1 Means of Egress. All air distribution systems serving a means of egress in buildings or structures with automatic fire sprinkler systems shall shutdown upon activation of the automatic fire sprinkler water flow alarm.

405.5 Controls. All controls shall be listed.

405.6 Manual Reset. Air distribution systems required to shut down by this Section shall not restart until manually reset.

~~**405.1 Capacity Greater than 15,000 Cubic Feet per Minute (CFM).** Recirculating air systems shall automatically shut down when smoke within the system becomes excessive and upon the activation of an automatic sprinkler water flow alarm. The automatic smoke control shall be in the return airstream prior to exhausting from the building or mixing with fresh air makeup.~~

~~**405.2 Capacity Greater than 2,000 CFM and Less than 15,000 CFM.** Recirculating air systems shall automatically shut down upon the activation of an automatic sprinkler waterflow alarm.~~

~~**405.3 Capacity 2,000 CFM or Less.** Recirculating air systems with a fan capacity of 2,000 cfm or less, but serving an area used for egress, shall have automatic shut down.~~

~~**405.4 Controls.** All controls shall be listed. Upon activation, the system shall not restart until manually reset.~~

MS16-0002

SECTION 407
STAIRWELL ENCLOSURES

407.1 Ducts Serving Other Spaces. Ducts serving other spaces shall not be located in or pass through exit enclosures.

407.2 Smokeproof Enclosures. Where required for high-rise buildings, stairwells shall be designed as smokeproof enclosures in accordance with *EPCOT Building Code* Subsection 720.20.

~~**Minimum Ventilation.** When the EPCOT Building Code requires the stair shaft to be ventilated with mechanical supply and exhaust air, there shall be a minimum of 2,500 cfm discharged through a dampered relief opening or an exhaust fan at the top of the stair shaft. The supply shall be sufficient to provide a minimum positive pressure of 0.05 inch water column, in addition to the maximum anticipated stack pressure, relative to other parts of the building measured with all doors closed. The combined positive pressure shall not exceed 0.35-inch water column. The air supply shall be taken directly from outside of the building. The stair pressure shall be static pressures measured at the level of discharge from the stair.~~
~~**Exception:** The minimum positive pressure shall be increased to 0.15-inch water column in an unsprinklered building.~~

M18 – 001

Section 504

504.7 Minimum Velocity. Duct systems shall be designed and installed in a manner that provides an air velocity within the duct system of not less than 1,500 feet per minute.

Exception: Net exhaust volumes for new and existing installations may be reduced to a minimum of 500 feet per minute during part-load cooking conditions, where engineered or listed, multispeed or variable-speed controls automatically operate the exhaust system to maintain capture and removal of cooking effluents as required by this Section. For new installations, the duct shall be insulated in its entirety to an R-value not less than R-10. Insulation materials shall be suitable for use with a grease duct system. Exhaust air velocity may not be reduced below the minimum specified in this section during part-load cooking conditions.

MS17 - 03

505.1 Termination. Exhaust outlets for ducts conveying noxious gases, flammable vapors, corrosive vapors, and ducts serving commercial food-cooking and processing equipment, shall terminate outside the building; shall be located 10 feet from any adjacent building, parking area, adjacent property line, window, door or air intake opening; and shall be located a minimum of 10 feet above the adjoining grade level. Every exhaust outlet that is located above the roof shall terminate a minimum of 40 inches above the roof surface. The airflow from exhaust outlets conveying grease-laden vapors shall be in a vertical direction away from the roof surface in accordance with

NFPA 96. Where this is not possible, a metal pan a minimum of 1 inch deep shall be provided on the roof surface to catch grease residue. Horizontal exhaust outlets conveying grease-laden vapors shall comply with NFPA 96.

MS17 - 04

~~609.2 Ceiling Penetration. Ducts penetrating the ceiling of a fire-resistant roof/ceiling or floor/ceiling assembly shall be protected by methods complying with the design of the assembly, or by ceiling dampers specifically designed and listed for this type of service.~~

609.2 Membrane Penetrations. Ducts and air transfer openings constructed of approved materials, in accordance with Chapter 6, that penetrate the ceiling membrane of a fire-resistance-rated floor/ceiling or roof/ceiling assembly shall be protected with one of the following:

1. A shaft enclosure in accordance with the *EPCOT Building Code*.

2. A listed ceiling radiation damper installed at the ceiling line where a duct penetrates the ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly. Damper shall comply with Subsection 609.2.1.

3. A listed ceiling radiation damper installed at the ceiling line where a diffuser with no duct attached penetrates the ceiling of a fire-resistance-rated floor/ ceiling or roof/ceiling assembly. Damper shall comply with Subsection 609.2.1.

609.2.1 Ceiling Radiation Dampers. Ceiling radiation dampers shall be tested as part of a fire-resistance-rated floor/ceiling or roof/ceiling assembly in accordance with ASTM E 119 or UL 263. Ceiling radiation dampers shall be installed in accordance with the details listed in the fire-resistance-rated assembly and the manufacturer's installation instructions and the listing. Ceiling radiation dampers are not required where either of the following applies:

1. Tests in accordance with ASTM E 119 or UL 263 have shown that ceiling radiation dampers are not necessary to maintain the fire-resistance rating of the assembly.

2. Where exhaust duct penetrations are located within the cavity of a wall and do not pass through another dwelling unit or tenant space. Duct shall be a minimum 26 ga. Sheet steel and penetrations of top/bottom plates are properly fire caulked. (Provide penetration details on plans.)

MS17 - 05

New Section

609.7 Corridors. A listed smoke damper designed to resist the passage of smoke shall be provided at each point a duct or air transfer opening penetrates a corridor enclosure required to have fire rated doors of 20 minutes or greater in accordance with the *EPCOT Building Code*. Smoke dampers and smoke damper actuation methods shall comply with Subsection 609.7.1.

Exceptions:

1. Smoke dampers are not required in corridor penetrations where the penetration is part of an approved smoke control system installed in accordance with the *EPCOT Building Code* and smoke dampers are not necessary for the operation and control of the system.

2. Smoke dampers are not required in smoke barrier penetrations where the openings in ducts are limited to a single smoke compartment and the ducts are constructed of steel.

3. Smoke dampers are not required in corridor penetrations where the duct is constructed of steel not less than 0.019 inch in thickness and there are no openings serving the corridor.

609.7.1 Smoke Dampers. The smoke damper shall close upon actuation of a listed smoke detector or detectors installed in accordance with the *EPCOT Building Code*, NFPA 72 and one of the following methods, as applicable:

1. Where a damper is installed within a duct, a smoke detector shall be installed in the duct within 5 feet of the damper with no air outlets or inlets between the detector and the damper. The detector shall be listed for the air velocity, temperature and humidity anticipated at the point where it is installed.

2. Where a damper is installed above smoke barrier doors in a smoke barrier, a spot-type detector listed for releasing service shall be installed on either side of the smoke barrier door opening.

3. Where a damper is installed within an unducted opening in a wall, a spot-type detector listed for releasing service shall be installed within 5 feet horizontally of the damper.

4. Where a damper is installed in a corridor wall, the damper shall be permitted to be controlled by a smoke detection system installed in the corridor.

5. Where a total-coverage smoke detector system is provided within all areas served by an HVAC system, dampers shall be permitted to be controlled by the smoke detection system.

MS17 - 06

New Section

609.8 Through Penetrations. In occupancies other than Groups D-1 and D-2, a duct constructed of approved materials in accordance with Chapter 6 that penetrates a fire-resistance-rated floor/ceiling assembly that connects not more than two stories is permitted without shaft enclosure protection provided that a listed fire damper is installed at the floor line.

Exception: A duct is permitted to penetrate three floors or less without a fire damper at each floor provided it meets all of the following requirements.

1. The duct shall be contained and located within the cavity of a wall and shall be constructed of steel having a minimum thickness of 0.0187 inch (No. 26 gage).

2. The duct shall open into only one dwelling unit or sleeping unit and the duct system shall be continuous from the unit to the exterior of the building.

3. The duct shall not exceed 4-inch nominal diameter and the total area of such ducts shall not exceed 100 square inches for any 100 square feet of the floor area.

4. The annular space around the duct is protected with materials that prevent the passage of flame and hot gases sufficient to ignite cotton waste when subjected to ASTM E 119 or UL 263 time-temperature conditions under a minimum positive pressure differential of 0.01 inch of water at the location of the penetration for the time period equivalent to the fire-resistance rating of the construction penetrated.

5. Grille openings located in a ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly shall be protected with a listed ceiling radiation damper installed in accordance with Section 609.2.

MS16-0003

New Section

609.8 Reserved.

609.9 Shaft Enclosures. Shaft enclosures that are permitted to be penetrated by ducts and air transfer openings shall be protected with approved fire and smoke dampers installed in accordance with their listing.

Exceptions:

1. Fire dampers are not required at penetrations of shafts where:
1.1. Steel exhaust subducts extend at least 22 inches vertically in exhaust shafts provided that there is a continuous airflow upward to the outdoors; or
1.2. Penetrations are tested in accordance with ASTM E119 or UL 263 as part of the fire-resistance-rated assembly; or
1.3. Ducts are used as part of an approved smoke control system in accordance with the *EPCOT Building Code*, and where the fire damper will interfere with the operation of the smoke control system; or
1.4. The penetrations are in parking garage exhaust or supply shafts that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.

2. In Group B and R occupancies equipped throughout with an automatic sprinkler system in accordance with the *EPCOT Building Code*, smoke dampers are not required at penetrations of shafts where kitchen, clothes dryer, bathroom and toilet room exhaust openings with steel exhaust subducts, having a minimum thickness of 0.0187 inch (No. 26 gage), extend at least 22 inches vertically and the exhaust fan at the upper terminus is powered continuously in accordance with the provisions of the *EPCOT Building Code* for emergency power systems, and maintains airflow upward to the outdoors.

3. Smoke dampers are not required at penetrations of exhaust or supply shafts in parking garages that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.

4. Smoke dampers are not required at penetrations of shafts where ducts are used as part of an approved mechanical smoke control system designed in accordance with the *EPCOT Building Code* and where the smoke damper will interfere with the operation of the smoke control system.

5. Fire dampers and combination fire/smoke dampers are not required in kitchen and clothes dryer exhaust systems installed in accordance with this Code.

609.9.1 Enclosure at the Bottom. Shaft enclosures that do not extend to the bottom of the building or structure shall be protected in accordance with the *EPCOT Building Code*.

PLUMBING

PS16-0001

CHAPTER 2
DEFINITIONS

HOT WATER. Water at a temperature greater than or equal to ~~120°F~~ 110°F.

NIGHTCLUB. An occupancy that contains some or all of the following:

- Low lighting levels;
- Entertainment by a live band or recorded music generating above-normal sound levels;
- Later-than-average operating hours;
- Tables and seating arranged or positioned so as to create ill-defined aisles;
- A specific area designated for dancing;
- Service facilities for alcoholic beverages and food; and
- High occupant load density.

Note: Add footnote to Table 403.1. *(See Table at end of document.)*

PS17 - 01

SECTION 301
GENERAL

301.12 Conflicts. In instances where conflicts occur between this Code and the manufacturer's installation instructions, the more restrictive provisions shall apply unless the more restrictive requirements violate or void the listing of the product.

PS16-0002

Delete Section 501.9

~~**501.9 Buildings Other Than Dwelling or Dwelling Units.** All lavatories and hand sinks shall be equipped with devices that limit the outlet temperature to a maximum of 110°F.~~

PS16-0003

New Sections in 607

607.1 Where Required. In occupied structures, hot water shall be supplied to all plumbing fixtures and equipment utilized for bathing, washing, culinary purposes, cleansing, laundry or building maintenance.

Exceptions: ~~In non-residential occupancies, hot water or tempered water shall be supplied for bathing and washing purposes. Tempered water shall be delivered from accessible hand-washing facilities.~~
1. In non-residential occupancies tempered water may be supplied for bathing and washing purposes.
2. Tempered water shall be delivered from accessible hand-washing facilities.

607.1.1 Temperature Limiting Means. A thermostat control for a water heater shall not serve as the temperature limiting means for the purposes of complying with the requirements of this Code for maximum allowable hot or tempered water delivery temperature at fixtures.

607.1.2 Tempered Water Temperature Control. Tempered water shall be supplied through a water temperature limiting device that conforms to ASSE 1070 and shall limit the tempered water to a maximum of 110°F. This provision shall not supersede the requirement for protective shower valves in accordance with Subsection 424.4.

PS17 - 02

SECTION 802
INDIRECT WASTES

New Section

802.1.6 Domestic Dishwashing Machines. Domestic dishwashing machines shall discharge indirectly through an air gap or air break into a waste receptor in accordance with Subsection 802.2, or discharge into a wye-branch

fitting on the tailpiece of the kitchen sink or the dishwasher connection of a food waste grinder. The waste line of a domestic dishwashing machine discharging into a kitchen sink tailpiece or food waste grinder shall connect to a deck-mounted air gap or the waste line shall rise and be securely fastened to the underside of the sink rim or counter.

802.1.7 Commercial Dishwashing Machines. The discharge from a commercial dishwashing machine shall be through an air gap or air break into a waste receptor in accordance with Subsection 802.2.

802.1.8 Food Utensils, Dishes, Pots and Pans Sinks. Sinks, in other than dwelling units, used for the washing, rinsing or sanitizing of utensils, dishes, pots, pans or service ware used in the preparation, serving or eating of food shall discharge indirectly through an air gap or an air break to the drainage system.

P18 – 001

Section 802

802.3.3 Floor Sinks. Floor sinks shall be permitted as indirect waste receptors, provided they have a removable basket strainer or beehive strainer~~, and the flood level rim of the fixture is 1/4 inch above finished floor~~. Floor drains are not acceptable as indirect waste receptors.

Exception: Floor drains with strainers that are 3 inches may be used as an indirect waste receptor, provided a funnel is used as an integral part of the strainer.

TABLE 403.1
MINIMUM NUMBER OF PLUMBING ~~FACILITIES~~[a] FIXTURES[a]
(see Subsections 403.2 and 403.3)

	OCCUPANCY	WATER CLOSETS (Urinals see Subsection 419.2)		LAVATORIES	BATHTUBS/ SHOWERS	DRINKING FOUNDTAINS (see Subsection 410.1)	OTHERS
		Male	Female				
ASSEMBLY	Nightclubs[g]	1 per 40	1 per 25	1 per 75	—	1 per 500	1 service sink
	Restaurants	1 per 75	1 per 50	1 per 200	—	1 per 500	1 service sink
	Theaters, halls, museums, etc.	1 per 125	1 per 65	1 per 200	—	1 per 1,000	1 service sink
	Coliseums, arenas (less than 3,000 seats)	1 per 75	1 per 40	1 per 150	—	1 per 1,000	1 service sink
	Coliseums, arenas (3,000 seats or greater)	1 per 120	1 per 60	1 per 150	—	1 per 1,000	1 service sink
	Churches[b]	1 per 150	1 per 75	1 per 200	—	1 per 1,000	1 service sink
	Stadiums (less than 3,000 seats), pools, etc.	1 per 100	1 per 50	1 per 150	—	1 per 1,000	1 service sink
	Stadiums (3,000 seats or greater)	1 per 150	1 per 75	1 per 150	—	1 per 1,000	1 service sink
	Business (see Subsections 403.2, 403.4 and 403.5)	1 per 50		1 per 80	—	1 per 100	1 service sink
	Educational	1 per 50		1 per 50	—	1 per 100	1 service sink
	Factory and industrial	1 per 100		1 per 100	(see Section 411)	1 per 400	1 service sink
INSTITUTIONAL	Passenger terminals and transportation facilities	1 per 500		1 per 750	—	1 per 1,000	1 service sink
	Residential care	1 per 10		1 per 10	1 per 8	1 per 100	1 service sink
	Hospitals, ambulatory nursing home patients[c]	1 per room[d]		1 per room[d]	1 per 15	1 per 100	1 service sink floor
	Day nurseries[e], sanitariums, non-ambulatory nursing home patients, etc.[c]	1 per 15		1 per 15	1 per 15[c]	1 per 100	1 service sink
	Employees, other than residential care[c]	1 per 25		1 per 35	—	1 per 100	—
	Visitors, other than residential care	1 per 75		1 per 100	—	1 per 500	—
	Prisons[c]	1 per cell		1 per cell	1 per 15	1 per 100	1 service sink
	Asylums, reformatories, etc.[c]	1 per 15		1 per 15	1 per 15	1 per 100	1 service sink
	Mercantile (see Subsections 403.2, 403.4 and 403.5)	1 per 500		1 per 750	—	1 per 1,000	1 service sink
RESIDENTIAL	Hotels, motels	1 per guest room		1 per guest room	1 per guest room	—	1 service sink
	Lodges	1 per 10		1 per 10	1 per 8	1 per 100	1 service sink
	Multiple family	1 per dwelling unit		1 per dwelling unit	1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units[f]
	Dormitories	1 per 10		1 per 10	1 per 8	1 per 100	1 service sink
	One- and two-family dwellings	1 per dwelling unit		1 per dwelling unit	1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per dwelling units[f]
	Storage (see Subsections 403.2 and 403.4)	1 per 100		1 per 100	(see Section 411)	1 per 1,000	1 service sink

a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by the *EPCOT Building Code*.
b. Fixtures located in adjacent buildings under the ownership or control of the church shall be made available during periods when the church is occupied. c. Toilet facilities for employees shall be separate from facilities for inmates or patients.
d. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient rooms shall be permitted where such room is provided with direct access from each patient room and with provisions for privacy.
e. For day nurseries, a maximum of one bathtub shall be required.
f. For attached one- and two-family dwellings, one automatic clothes washer connection shall be required per 20 dwelling units.
g. See Definition in Chapter 2.