

CHAPTER 5
WORK AREA METHOD
CLASSIFICATION OF WORK
SECTION 501
CLASSIFICATION OF WORK
GENERAL

501.1 Scope. The provisions of this chapter shall be used in conjunction with Chapters 6 through 13 and shall apply to the *alteration, repair, addition and change of occupancy* of existing structures, including historic and moved structures, as referenced in Section 301.1.2. The work performed on an *existing building* shall be classified in accordance with this chapter.

501.1.1 Compliance with other alternatives. *Alterations, repairs, additions and changes of occupancy* to existing structures shall comply with the provisions of this chapter ~~Chapters 6 through 13~~ or with one of the alternatives provided in Section 301.1.

501.1.2 Work area. The *work area*, as defined in Chapter 2, shall be identified on the construction documents.

SECTION 502
REPAIRS

501.2 Repairs ~~502.1~~ **Scope.** *Repairs*, as defined in Chapter 2, include the patching or restoration or replacement of damaged materials, elements, *equipment or fixtures* for the purpose of maintaining such components in good or sound condition with respect to existing loads or performance requirements.

501.2.1 ~~502.2~~ **Application.** *Repairs* shall comply with the provisions of Section 502 ~~Chapter 6~~.

501.2.2 ~~502.3~~ **Related work.** Work on nondamaged components that is necessary for the required *repair* of damaged components shall be considered part of the *repair* and shall not be subject to the provisions of Sections 503, 504, 505, 506 or 507 ~~Chapter 7, 8, 9, 10 or 11~~.

SECTION 503
ALTERATION—LEVEL 1

501.3 ~~503.1~~ **Alteration—Level 1 Scope.** Level 1 alterations include the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose.

501.3.1 ~~503.2~~ **Application.** Level 1 *alterations* shall comply with the provisions of Section 503 ~~Chapter 7~~.

SECTION 504
ALTERATION—LEVEL 2

501.4 ~~504.1~~ **Alteration—Level 2 Scope.** Level 2 *alterations* include the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment.

501.4.1 ~~504.2~~ **Application.** Level 2 *alterations* shall comply with the provisions of Section 503 ~~Chapter 7~~ for Level 1 *alterations* as well as the provisions of Section 504 ~~Chapter 8~~.

SECTION 505
ALTERATION—LEVEL 3

501.5 ~~505.1~~ **Alteration—Level 3 Scope.** Level 3 *alterations* apply where the work area exceeds 50 percent of the *building area*.

501.5.1 ~~505.2~~ **Application.** Level 3 *alterations* shall comply with the provisions of Sections 503 and 504 ~~Chapters 7 and 8~~ for Level 1 and 2 *alterations*, respectively, as well as the provisions of Section 505 ~~Chapter 9~~.

SECTION 506
CHANGE OF OCCUPANCY

501.6 ~~506.1~~ **Change of occupancy Scope.** *Change of occupancy* provisions apply where the activity is classified as a *change of occupancy* as defined in Chapter 2.

501.6.1 ~~506.2~~ **Application.** *Changes of occupancy* shall comply with the provisions of Section 506 ~~Chapter 10~~.

SECTION 507
ADDITIONS

501.7 ~~507.1~~ **Additions Scope.** Provisions for *additions* shall apply where work is classified as an *addition* as defined in Chapter 2.

501.7.1 ~~507.2~~ **Application.** *Additions to existing buildings* shall comply with the provisions of Section 507 ~~Chapter 11~~.

SECTION 508
HISTORIC BUILDINGS

501.8 508.1 Historic buildings Scope. *Historic building* provisions shall apply to buildings classified as historic as defined in Chapter 2.

501.8.1 508.2 Application. Except as specifically provided for in Section 508 Chapter 12, *historic buildings* shall comply with applicable provisions of this code for the type of work being performed.

**SECTION 509
RELOCATED BUILDINGS**

501.9 509.1 Relocated Buildings Scope. Relocated building provisions shall apply to relocated or moved buildings.

509.2 Application. Relocated buildings shall comply with the provisions of Section 509 Chapter 13.

**CHAPTER 6
REPAIRS
SECTION 502
GENERAL
REPAIRS**

502.1 601.1 Scope. Repairs as described in Section 502 shall comply with the requirements of this section chapter. Repairs to *historic buildings* need only comply with Section 508 Chapter 12.

502.2 601.2 Conformance. The work shall not make the building less conforming than it was before the *repair* was undertaken.

502.3 601.3 Flood hazard areas. In flood hazard areas, repairs that constitute *substantial improvement* shall require that the building comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable,

**SECTION 602
BUILDING ELEMENTS AND MATERIALS**

502.4 602.1 Existing building materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the *code official* to render the building or structure unsafe or *dangerous* as defined in Chapter 2.

502.5 602.2 New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for *repairs* and *alterations*, provided no *dangerous* or *unsafe* condition, as defined in Chapter 2, is created. Hazardous materials, such as asbestos and lead-based paint, shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

502.6 602.3 Glazing in hazardous locations. Replacement glazing in hazardous locations shall comply with the safety glazing requirements of the *International Building Code* or *International Residential Code* as applicable.

Exception: Glass block walls, louvered windows, and jalousies repaired with like materials.

**SECTION 603
FIRE PROTECTION**

502.7 Fire protection 603.1 General. Repairs shall be done in a manner that maintains the level of fire protection provided.

**SECTION 604
MEANS OF EGRESS**

502.8 Means of egress 604.1 General. Repairs shall be done in a manner that maintains the level of protection provided for the means of egress.

**SECTION 605
ACCESSIBILITY**

502.9 Accessibility 605.1 General. Repairs shall be done in a manner that maintains the level of accessibility provided.

**SECTION 606
STRUCTURAL**

502.10 Structural 606.1 General. Structural repairs shall be in compliance with this section and Section 601.2. Regardless of the extent of structural or nonstructural damage, *dangerous* conditions shall be eliminated. Regardless of the scope of *repair*, new structural members and connections used for *repair* or *rehabilitation* shall comply with the detailing provisions of the *International Building Code* for new buildings of similar structure, purpose and location.

502.10.1 606.2 Repairs to damaged buildings. Repairs to damaged buildings shall comply with this section.

502.10.1.1 ~~606.2.1~~ Repairs for less than substantial structural damage. For damage less than *substantial structural damage*, the damaged elements shall be permitted to be restored to their predamage condition.

502.10.1.2 ~~606.2.2~~ Substantial structural damage to vertical elements of the lateral force-resisting system.

A building that has sustained *substantial structural damage* to the vertical elements of its lateral force-resisting system shall be evaluated in accordance with Section 606.2.2.1, and either repaired in accordance with Section 606.2.2.2 or repaired and rehabilitated in accordance with Section 606.2.2.3, depending on the results of the evaluation.

Exceptions:

1. Buildings assigned to Seismic Design Category A, B, or C whose substantial structural damage was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.

2. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.

502.10.1.2.1 ~~606.2.2.1~~ Evaluation. The building shall be evaluated by a registered design professional, and the evaluation findings shall be submitted to the *code official*. The evaluation shall establish whether the damaged building, if repaired to its predamage state, would comply with the provisions of the *International Building Code* for load combinations that include wind or earthquake effects, except that the seismic forces shall be the reduced *International Building Code*-level seismic forces.

502.10.1.2.2 ~~606.2.2.2~~ Extent of repair for compliant buildings. If the evaluation establishes that the building in its predamage condition complies with the provisions of Section 606.2.2.1, then the damaged elements shall be permitted to be restored to their predamage condition.

502.10.1.2.3 ~~606.2.2.3~~ Extent of repair for noncompliant buildings. If the evaluation does not establish that the building in its predamage condition complies with the provisions of Section 606.2.2.1, then the building shall be rehabilitated to comply with the provisions of this section. The wind loads for the *repair* and *rehabilitation* shall be those required by the building code in effect at the time of original construction, unless the damage was caused by wind, in which case the wind loads shall be in accordance with the *International Building Code*. The seismic loads for this *rehabilitation* design shall be those required by the building code in effect at the time of original construction, but not less than the reduced *International Building Code*-level seismic forces.

502.10.1.3 ~~606.2.3~~ Substantial structural damage to gravity load-carrying components. Gravity load-carrying components that have sustained *substantial structural damage* shall be rehabilitated to comply with the applicable provisions for dead and live loads in the *International Building Code*. Snow loads shall be considered if the *substantial structural damage* was caused by or related to snow load effects. Undamaged gravity load-carrying components that receive dead, live or snow loads from rehabilitated components shall also be rehabilitated if required to comply with the design loads of the *rehabilitation* design.

502.10.1.3.1 ~~606.2.3.1~~ Lateral force-resisting elements. Regardless of the level of damage to gravity elements of the lateral force-resisting system, if substantial structural damage to gravity load-carrying components was caused primarily by wind or seismic effects, then the building shall be evaluated in accordance with Section 606.2.2.1 and, if noncompliant, rehabilitated in accordance with Section 606.2.2.3.

Exceptions:

1. Buildings assigned to Seismic Design Category A, B, or C whose substantial structural damage was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.

2. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.

502.10.1.4 ~~606.2.4~~ Flood hazard areas. In *flood hazard* areas, buildings that have sustained *substantial damage* shall be brought into compliance with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.

**SECTION 607
ELECTRICAL**

502.11 Electrical ~~607.1~~ Material. Existing electrical wiring and equipment undergoing *repair* shall be allowed to be repaired or replaced with like material.

502.11.1 ~~607.1.1~~ Receptacles. Replacement of electrical receptacles shall comply with the applicable requirements of Section 406.4(D) of NFPA 70.

502.11.2 ~~607.1.2~~ Plug fuses. Plug fuses of the Edison-base type shall be used for replacements only where there is no evidence of over fusing or tampering per applicable requirements of Section 240.51(B) of NFPA 70.

502.11.3 ~~607.1.3~~ Nongrounding-type receptacles. For replacement of nongrounding-type receptacles with grounding-type receptacles and for branch circuits that do not have an equipment grounding conductor in the branch circuitry, the grounding conductor of a grounding-type receptacle outlet shall be permitted to be grounded to any accessible point on the grounding electrode system or to any accessible point on the grounding electrode conductor in accordance with Section 250.130(C) of NFPA 70.

502.11.4 ~~607.1.4~~ Group I-2 receptacles. Non-“hospital grade” receptacles in patient bed locations of Group I-2 shall be replaced with “hospital grade” receptacles, as required by NFPA 99 and Article 517 of NFPA 70.

502.11.5 ~~607.1.5~~ Grounding of appliances. Frames of electric ranges, wall-mounted ovens, counter-mounted cooking units, clothes dryers and outlet or junction boxes that are part of the existing branch circuit for these appliances shall be permitted to be grounded to the grounded circuit conductor in accordance with Section 250.140 of NFPA 70.

SECTION 608 MECHANICAL

502.12 Mechanical ~~608.1~~ General. Existing mechanical systems undergoing *repair* shall not make the building less conforming than it was before the *repair* was undertaken.

502.12.1 ~~608.2~~ Mechanical draft systems for manually fired appliances and fireplaces. A mechanical draft system shall be permitted to be used with manually fired appliances and fireplaces where such a system complies with all of the following requirements:

1. The mechanical draft device shall be listed and installed in accordance with the manufacturer’s installation instructions.
2. A device shall be installed that produces visible and audible warning upon failure of the mechanical draft device or loss of electrical power at any time that the mechanical draft device is turned on. This device shall be equipped with a battery backup if it receives power from the building wiring.
3. A smoke detector shall be installed in the room with the appliance or fireplace. This device shall be equipped with a battery backup if it receives power from the building wiring.

SECTION 609 PLUMBING

502.13 Plumbing ~~609.1~~ Materials. Plumbing materials and supplies shall not be used for repairs that are prohibited in the *International Plumbing Code*.

502.13.1 ~~609.2~~ Water closet replacement. The maximum water consumption flow rates and quantities for all replaced water closets shall be 1.6 gallons (6 L) per flushing cycle.

Exception: Blowout-design water closets [3.5 gallons (13 L) per flushing cycle].

CHAPTER 7 ALTERATIONS—LEVEL 1 SECTION 701 GENERAL SECTION 503 ALTERATIONS—LEVEL 1

503.1 ~~701.1~~ Scope. Level 1 *alterations* as described in Section 501.3 ~~503~~ shall comply with the requirements of this section ~~chapter~~. Level 1 *alterations to historic buildings* shall comply with this section ~~chapter~~, except as modified in Section 508 ~~Chapter 12~~.

503.2 ~~701.2~~ Conformance. An *existing building* or portion thereof shall not be altered such that the building becomes less safe than its existing condition.

Exception: Where the current level of safety or sanitation is proposed to be reduced, the portion altered shall conform to the requirements of the *International Building Code*.

503.3 ~~701.3~~ Flood hazard areas. In *flood hazard areas*, *alterations* that constitute *substantial improvement* shall require that the building comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.

SECTION 702 BUILDING ELEMENTS AND MATERIALS

503.4 ~~702.1~~ Interior wall and ceiling finishes. All newly installed interior wall and ceiling finishes shall comply with Chapter 8 of the *International Building Code*.

503.5 ~~702.2~~ Interior floor finish. New interior floor finish, including new carpeting used as an interior floor finish material, shall comply with Section 804 of the *International Building Code*.

503.6 ~~702.3~~ Interior trim. All newly installed interior trim materials shall comply with Section 806 of the *International Building Code*.

503.7 ~~702.4~~ Window opening control devices. In Group R-2 or R-3 buildings containing dwelling units and one- and two-family dwellings and townhouses regulated by the *International Residential Code*, window opening control devices complying with ASTM F 2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:

1. The window is operable;
2. The window replacement includes replacement of the sash and the frame;
3. One of the following applies:
 - 3.1. In Group R-2 or R-3 buildings containing dwelling units, the top of the sill of the window opening is at a height less than 36 inches (915 mm) above the finished floor; or
 - 3.2. In one- and two-family dwellings and townhouses regulated by the *International Residential Code*, the top sill of the window opening is at a height less than 24 inches (610 mm) above the finished floor;
4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position; and
5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by the *International Building Code*.

Exceptions:

1. Operable windows where the top of the sill of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F 2006.
2. Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F 2090.

503.8 ~~702.5~~ Emergency escape and rescue openings. Where windows are required to provide emergency escape and rescue openings in Group R-2 and R-3 occupancies and one- and two-family dwellings and townhouses regulated by the *International Residential Code*, replacement windows shall be exempt from the requirements of Sections 1030.2, 1030.3 and 1030.5 of the *International Building Code* and Sections R310.21 and R310.2.3 of the *International Residential Code* accordingly, provided the replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window. Window opening control devices complying with ASTM F 2090 shall be permitted for use on windows required to provide *emergency escape* and *rescue openings*.

503.9 ~~702.6~~ Materials and methods. All new work shall comply with the materials and methods requirements in the *International Building Code*, *International Energy Conservation Code*, *International Mechanical Code*, and *International Plumbing Code*, as applicable, that specify material standards, detail of installation and connection, joints, penetrations, and continuity of any element, component, or system in the building.

503.9.1 ~~702.6.1~~ International Fuel Gas Code. The following sections of the *International Fuel Gas Code* shall constitute the fuel gas materials and methods requirements for Level 1 alterations.

1. All of Chapter 3, entitled "General Regulations," except Sections 303.7 and 306.
2. All of Chapter 4, entitled "Gas Piping Installations," except Sections 401.8 and 402.3.
 - 2.1. Sections 401.8 and 402.3 shall apply when the work being performed increases the load on the system such that the existing pipe does not meet the size required by code. Existing systems that are modified shall not require resizing as long as the load on the system is not increased and the system length is not increased even if the altered system does not meet code minimums.
3. All of Chapter 5, entitled "Chimneys and Vents."
4. All of Chapter 6, entitled "Specific Appliances."

SECTION 703

FIRE PROTECTION

503.10 Fire protection. ~~703.1 General.~~ Alterations shall be done in a manner that maintains the level of fire protection provided.

SECTION 704

MEANS OF EGRESS

503.11 Means of egress. ~~704.1 General.~~ Alterations shall be done in a manner that maintains the level of protection provided for the means of egress.

SECTION 705 ACCESSIBILITY

503.12 Accessibility. ~~705.1 General.~~ A facility that is altered shall comply with the applicable provisions in Sections 503.12.1 through 503.12.14 ~~705.1.1 through 705.1.14~~, and Chapter 11 of the *International Building Code* unless it is *technically infeasible*. Where compliance with this section is *technically infeasible*, the alteration shall provide access to the maximum extent that is technically feasible.

A facility that is constructed or altered to be accessible shall be maintained accessible during occupancy.

Exceptions:

1. The altered element or space is not required to be on an accessible route unless required by Section 705.2.
2. Accessible means of egress required by Chapter 10 of the *International Building Code* are not required to be provided in existing facilities.
3. Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in existing facilities undergoing less than a Level 3 alteration.
4. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall meet the provisions for Type B dwelling units.

503.12.1 705.1.1 Entrances. Where an alteration includes alterations to an entrance, and the facility has an accessible entrance on an accessible route, the altered entrance is not required to be accessible unless required by Section 705.2. Signs complying with Section 1111 of the *International Building Code* shall be provided.

503.12.2 705.1.2 Elevators. Altered elements of existing elevators shall comply with ASME A17.1/CSA B44 and ICC A117.1. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.

503.12.3 705.1.3 Platform lifts. Platform (wheelchair) lifts complying with ICC A117.1 and installed in accordance with ASME A18.1 shall be permitted as a component of an accessible route.

503.12.4 705.1.4 Ramps. Where steeper slopes than allowed by Section 1012.2 of the *International Building Code* are necessitated by space limitations, the slope of ramps in or providing access to existing facilities shall comply with Table 705.1.4.

TABLE 503.12.4 705.1.4 RAMPS

503.12.5 705.1.5 Dining areas. An accessible route to raised or sunken dining areas or to outdoor seating areas is not required provided that the same services and decor are provided in an accessible space usable by any occupant and not restricted to use by people with a disability.

503.12.6 705.1.6 Jury boxes and witness stands. In alterations, accessible wheelchair spaces are not required to be located within the defined area of raised jury boxes or witness stands and shall be permitted to be located outside these spaces where ramp or lift access poses a hazard by restricting or projecting into a required means of egress.

503.12.7 705.1.7 Accessible dwelling or sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered, the requirements of Section 1107 of the *International Building Code* for Accessible units apply only to the quantity of the spaces being altered.

503.12.8 705.1.8 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being altered, the requirements of Section 1107 of the *International Building Code* for Type A units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of the spaces being altered.

503.12.9 705.1.9 Toilet rooms. Where it is technically infeasible to alter existing toilet and bathing rooms to be accessible, an accessible family or assisted-use toilet or bathing room constructed in accordance with Section 1109.2.1 of the *International Building Code* is permitted. The family or assisted-use toilet or bathing room shall be located on the same floor and in the same area as the existing toilet or bathing rooms. At the inaccessible toilet and bathing rooms, directional signs indicating the location of the nearest family or assisted-use toilet room or bathing room shall be provided. These directional signs shall include the International Symbol of Accessibility and sign characters shall meet the visual character requirements in accordance with ICC A117.1.

503.12.10 705.1.10 Dressing, fitting and locker rooms. Where it is *technically infeasible* to provide accessible dressing, fitting, or locker rooms at the same location as similar types of rooms, one accessible room on the same

level shall be provided. Where separate sex facilities are provided, accessible rooms for each sex shall be provided. Separate sex facilities are not required where only unisex rooms are provided.

503.12.11 ~~705.1.11~~ Fuel dispensers. Operable parts of replacement fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

503.12.12 ~~705.1.12~~ Thresholds. The maximum height of thresholds at doorways shall be 3/4 inch (19.1 mm). Such thresholds shall have beveled edges on each side.

503.12.13 ~~705.1.13~~ Extent of application. An *alteration* of an existing element, space, or area of a *facility* shall not impose a requirement for greater accessibility than that which would be required for new construction. *Alterations* shall not reduce or have the effect of reducing accessibility of a *facility* or portion of a *facility*.

503.12.14 ~~705.1.14~~ Amusement rides. Where the structural or operational characteristics of an amusement ride are altered to the extent that the amusement ride's performance differs from that specified by the manufacturer or the original design, the amusement ride shall comply with requirements for new construction in accordance with Section 1110.4.8 of the *International Building Code*.

503.12.15 ~~705.2~~ Alterations affecting an area containing a primary function. Where an *alteration* affects the accessibility to a, or contains an area of, *primary function*, the route to the primary function area shall be accessible. The accessible route to the *primary function* area shall include toilet facilities and drinking fountains serving the area of *primary function*.

Exceptions:

1. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of *primary function*.
2. This provision does not apply to *alterations* limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. This provision does not apply to *alterations* limited solely to mechanical systems, electrical systems, installation or *alteration* of fire protection systems and abatement of hazardous materials.
4. This provision does not apply to *alterations* undertaken for the primary purpose of increasing the accessibility of a *facility*.
5. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.

**SECTION 706
REROOFING**

503.13 Reroofing. ~~706.1 General.~~ Materials and methods of application used for recovering or replacing an existing roof covering shall comply with the requirements of Chapter 15 of the *International Building Code*.

Exception: Reroofing shall not be required to meet the minimum design slope requirement of one-quarter unit vertical in 12 units horizontal (2-percent slope) in Section 1507 of the *International Building Code* for roofs that provide positive roof drainage.

503.13.1 ~~706.2~~ Structural and construction loads. Structural roof components shall be capable of supporting the roof-covering system and the material and equipment loads that will be encountered during installation of the system.

503.13.2 ~~706.3~~ Recovering versus replacement. New roof coverings shall not be installed without first removing all existing layers of roof coverings down to the roof deck where any of the following conditions occur:

1. Where the existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.
2. Where the existing roof covering is wood shake, slate, clay, cement or asbestos-cement tile.
3. Where the existing roof has two or more applications of any type of roof covering.

Exceptions:

1. Complete and separate roofing systems, such as standing-seam metal roof systems, that are designed to transmit the roof loads directly to the building's structural system and that do not rely on existing roofs and roof coverings for support, shall not require the removal of existing roof coverings.
2. Metal panel, metal shingle and concrete and clay tile roof coverings shall be permitted to be installed over existing wood shake roofs when applied in accordance with Section 706.4.
3. The application of a new protective coating over an existing spray polyurethane foam roofing system shall be permitted without tear-off of existing roof coverings.
4. Where the existing roof assembly includes an ice barrier membrane that is adhered to the roof deck, the existing ice barrier membrane shall be permitted to remain in place and covered with an additional layer of ice barrier membrane in accordance with Section 1507 of the *International Building Code*.

503.13.3 706.4 Roof recovering. Where the application of a new roof covering over wood shingle or shake roofs creates a combustible concealed space, the entire existing surface shall be covered with gypsum board, mineral fiber, glass fiber or other approved materials securely fastened in place.

503.13.4 706.5 Reinstallation of materials. Existing slate, clay or cement tile shall be permitted for reinstallation, except that damaged, cracked or broken slate or tile shall not be reinstalled. Existing vent flashing, metal edgings, drain outlets, collars and metal counterflashings shall not be reinstalled where rusted, damaged or deteriorated. Aggregate surfacing materials shall not be reinstalled.

503.13.5 706.6 Flashings. Flashings shall be reconstructed in accordance with approved manufacturer's installation instructions. Metal flashing to which bituminous materials are to be adhered shall be primed prior to installation.

SECTION 707 STRUCTURAL

503.14 Structural. 707.1 General. Where *alteration* work includes replacement of equipment that is supported by the building or where a reroofing permit is required, the provisions of this section shall apply.

503.14.1 707.2 Addition or replacement of roofing or replacement of equipment. Where addition or replacement of roofing or replacement of equipment results in additional dead loads, structural components supporting such reroofing or equipment shall comply with the gravity load requirements of the *International Building Code*.

Exceptions:

1. Structural elements where the additional dead load from the roofing or equipment does not increase the force in the element by more than 5 percent.
2. Buildings constructed in accordance with the *International Residential Code* or the conventional light-frame construction methods of the *International Building Code* and where the dead load from the roofing or equipment is not increased by more than 5 percent.
3. Addition of a second layer of roof covering weighing 3 pounds per square foot (0.1437 kN/m²) or less over an existing, single layer of roof covering.

503.14.2 707.3 Additional requirements for reroof permits. The requirements of this section shall apply to *alteration* work requiring reroof permits.

503.14.2.1 707.3.1 Bracing for unreinforced masonry bearing wall parapets. Where a permit is issued for reroofing for more than 25 percent of the roof area of a building assigned to Seismic Design Category D, E or F that has parapets constructed of unreinforced masonry, the work shall include installation of parapet bracing to resist the reduced *International Building Code* level seismic forces as specified in Section 301.1.4.2 of this code, unless an evaluation demonstrates compliance of such items.

503.14.2.2 707.3.2 Roof diaphragms resisting wind loads in high-wind regions. Where roofing materials are removed from more than 50 percent of the roof diaphragm or section of a building located where the ultimate design wind speed, *Vult*, determined in accordance with Figure 1609.3(1) of the *International Building Code*, is greater than 115 mph (51 m/s) or in a special wind region, as defined in Section 1609 of the *International Building Code*, roof diaphragms, connections of the roof diaphragm to roof framing members, and roof-to-wall connections shall be evaluated for the wind loads specified in the *International Building Code*, including wind uplift. If the diaphragms and connections in their current condition are not capable of resisting at least 75 percent of those wind loads, they shall be replaced or strengthened in accordance with the loads specified in the *International Building Code*.

SECTION 708 ENERGY CONSERVATION

503.15 Energy conservation. 708.1 Minimum requirements. Level 1 *alterations* to existing buildings or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the *International Energy Conservation Code* or *International Residential Code*. The *alterations* shall conform to the energy requirements of the *International Energy Conservation Code* or *International Residential Code* as they relate to new construction only.

CHAPTER 8 ALTERATIONS—LEVEL 2 SECTION 801 GENERAL SECTION 504 ALTERATIONS—LEVEL 2

504.1 801.1 Scope. Level 2 alterations as described in Section 501.4 504 shall comply with the requirements of this section chapter.

Exception: Buildings in which the reconfiguration is exclusively the result of compliance with the accessibility requirements of Section 705.2 shall be permitted to comply with Chapter 7 Section 503.

504.1.1 801.2 Alteration Level 1 Additional compliance. In addition to the requirements of this section chapter, all work shall comply with the requirements of Chapter 7 Section 503.

504.1.2 801.3 Compliance with International Building Code. All new construction elements, components, systems, and spaces shall comply with the requirements of the *International Building Code*.

Exceptions:

1. Windows may be added without requiring compliance with the light and ventilation requirements of the *International Building Code*.
2. Newly installed electrical equipment shall comply with the requirements of Section 808.
3. The length of dead-end corridors in newly constructed spaces shall only be required to comply with the provisions of Section 805.6.
4. The minimum ceiling height of the newly created habitable and occupiable spaces and corridors shall be 7 feet (2134 mm).

**SECTION 802
SPECIAL USE AND OCCUPANCY**

504.2 Special use and occupancy 802.1 General. Alteration of buildings classified as special use and occupancy as described in the *International Building Code* shall comply with the requirements of Section 801.1 and the scoping provisions of Chapter 1 where applicable.

**SECTION 803
BUILDING ELEMENTS AND MATERIALS**

504.3 Building elements and materials. 803.1 Scope. The requirements of this section are limited to work areas in which Level 2 alterations are being performed and shall apply beyond the work area where specified.

504.3.1 803.2 Vertical openings. Existing vertical openings shall comply with the provisions of Sections 803.2.1, 803.2.2 and 803.2.3.

504.3.1.1 803.2.1 Existing vertical openings. All existing interior vertical openings connecting two or more floors shall be enclosed with approved assemblies having a fire-resistance rating of not less than 1 hour with approved opening protectives.

Exceptions:

1. Where vertical opening enclosure is not required by the *International Building Code* or the *International Fire Code*.
2. Interior vertical openings other than stairways may be blocked at the floor and ceiling of the *work area* by installation of not less than 2 inches (51 mm) of solid wood or equivalent construction.
3. The enclosure shall not be required where:
 - 3.1. Connecting the main floor and mezzanines; or
 - 3.2. All of the following conditions are met:
 - 3.2.1. The communicating area has a low hazard occupancy or has a moderate hazard occupancy that is protected throughout by an automatic sprinkler system.
 - 3.2.2. The lowest or next to the lowest level is a street floor.
 - 3.2.3. The entire area is open and unobstructed in a manner such that it may be assumed that a fire in any part of the interconnected spaces will be readily obvious to all of the occupants.
 - 3.2.4. Exit capacity is sufficient to provide egress simultaneously for all occupants of all levels by considering all areas to be a single floor area for the determination of required exit capacity.
 - 3.2.5. Each floor level, considered separately, has at least one-half of its individual required exit capacity provided by an exit or exits leading directly out of that level without having to traverse another communicating floor level or be exposed to the smoke or fire spreading from another communicating floor level.
4. In Group A occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories.
5. In Group B occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories. This enclosure, or the enclosure specified in Section 803.2.1, shall not be required in the following locations:
 - 5.1. Buildings not exceeding 3,000 square feet (279 m²) per floor.
 - 5.2. Buildings protected throughout by an approved automatic fire sprinkler system.

6. In Group E occupancies, the enclosure shall not be required for vertical openings not exceeding three stories when the building is protected throughout by an approved automatic fire sprinkler system.
7. In Group F occupancies, the enclosure shall not be required in the following locations:
 - 7.1. Vertical openings not exceeding three stories.
 - 7.2. Special purpose occupancies where necessary for manufacturing operations and direct access is provided to at least one protected stairway.
 - 7.3. Buildings protected throughout by an approved automatic sprinkler system.
8. In Group H occupancies, the enclosure shall not be required for vertical openings not exceeding three stories where necessary for manufacturing operations and every floor level has direct access to at least two remote enclosed stairways or other approved exits.
9. In Group M occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories. This enclosure, or the enclosure specified in Section 803.2.1, shall not be required in the following locations:
 - 9.1. Openings connecting only two floor levels.
 - 9.2. Occupancies protected throughout by an approved automatic sprinkler system.
10. In Group R-1 occupancies, the enclosure shall not be required for vertical openings not exceeding three stories in the following locations:
 - 10.1. Buildings protected throughout by an approved automatic sprinkler system.
 - 10.2. Buildings with less than 25 dwelling units or sleeping units where every sleeping room above the second floor is provided with direct access to a fire escape or other approved second exit by means of an approved exterior door or window having a sill height of not greater than 44 inches (1118 mm) and where:
 - 10.2.1. Any exit access corridor exceeding 8 feet (2438 mm) in length that serves two means of egress, one of which is an unprotected vertical opening, shall have at least one of the means of egress separated from the vertical opening by a 1-hour fire barrier; and
 - 10.2.2. The building is protected throughout by an automatic fire alarm system, installed and supervised in accordance with the *International Building Code*.
11. In Group R-2 occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories. This enclosure, or the enclosure specified in Section 803.2.1, shall not be required in the following locations:
 - 11.1. Vertical openings not exceeding two stories with not more than four dwelling units per floor.
 - 11.2. Buildings protected throughout by an approved automatic sprinkler system.
 - 11.3. Buildings with not more than four dwelling units per floor where every sleeping room above the second floor is provided with direct access to a fire escape or other approved second exit by means of an approved exterior door or window having a sill height of not greater than 44 inches (1118 mm) and the building is protected throughout by an automatic fire alarm system complying with Section 804.4.
12. One- and two-family dwellings.
13. Group S occupancies where connecting not more than two floor levels or where connecting not more than three floor levels and the structure is equipped throughout with an approved automatic sprinkler system.
14. Group S occupancies where vertical opening protection is not required for open parking garages and ramps.

504.3.1.2 803.2.2 Supplemental shaft and floor opening enclosure requirements. Where the *work area* on any floor exceeds 50 percent of that floor area, the enclosure requirements of Section 803.2 shall apply to vertical openings other than stairways throughout the floor.

Exception: Vertical openings located in tenant spaces that are entirely outside the *work area*.

504.3.1.3 803.2.3 Supplemental stairway enclosure requirements. Where the *work area* on any floor exceeds 50 percent of that floor area, stairways that are part of the means of egress serving the *work area* shall, at a minimum, be enclosed with smoke-tight construction on the highest *work area* floor and all floors below.

Exception: Where stairway enclosure is not required by the *International Building Code* or the *International Fire Code*.

504.3.2 803.3 Smoke compartments. In Group I-2 occupancies where the work area is on a story used for sleeping rooms for more than 30 patients, the story shall be divided into not less than two compartments by smoke barrier walls in accordance with Section 407.5 of the *International Building Code* as required for new construction.

504.3.3 803.4 Interior finish. The interior finish of walls and ceilings in exits and corridors in any *work area* shall comply with the requirements of the *International Building Code*.

Exception: Existing interior finish materials that do not comply with the interior finish requirements of the *International Building Code* shall be permitted to be treated with an approved fire-retardant coating in accordance with the manufacturer's instructions to achieve the required rating.

504.3.3.1 803.4.1 Supplemental interior finish requirements. Where the *work area* on any floor exceeds 50 percent of the floor area, Section 803.4 shall also apply to the interior finish in exits and corridors serving the *work area* throughout the floor.

Exception: Interior finish within tenant spaces that are entirely outside the *work area*.

504.3.4 803.5 Guards. The requirements of Sections 803.5.1 and 803.5.2 shall apply in all *work areas*.

504.3.4.1 803.5.1 Minimum requirement. Every portion of a floor, such as a balcony or a loading dock, that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those in which the existing guards are judged to be in danger of collapsing, shall be provided with guards.

504.3.4.2 803.5.2 Design. Where there are no guards or where existing guards must be replaced, the guards shall be designed and installed in accordance with the *International Building Code*.

504.3.5 803.6 Fire-resistance ratings. Where approved by the code official, buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 of the *International Building Code* has been added, and the building is now sprinklered throughout, the required fire-resistance ratings of building elements and materials shall be permitted to meet the requirements of the current building code. The building is required to meet the other applicable requirements of the *International Building Code*.

Plans, investigation and evaluation reports, and other data shall be submitted indicating which building elements and materials the applicant is requesting the code official to review and approve for determination of applying the current building code fire-resistance ratings. Any special construction features, including fire-resistance-rated assemblies and smoke-resistive assemblies, conditions of occupancy, means-of-egress conditions, fire code deficiencies, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings shall be identified in the evaluation reports submitted.

SECTION 804 FIRE PROTECTION

504.4 Fire protection. 804.1 Scope. The requirements of this section shall be limited to work areas in which Level 2 alterations are being performed, and where specified they shall apply throughout the floor on which the *work areas* are located or otherwise beyond the *work area*.

504.4.1 804.1.1 Corridor ratings. Where an approved automatic sprinkler system is installed throughout the story, the required fire-resistance rating for any corridor located on the story shall be permitted to be reduced in accordance with the *International Building Code*. In order to be considered for a corridor rating reduction, such system shall provide coverage for the stairway landings serving the floor and the intermediate landings immediately below.

504.4.2 804.2 Automatic sprinkler systems. Automatic sprinkler systems shall be provided in accordance with the requirements of Sections 804.2.1 through 804.2.5. Installation requirements shall be in accordance with the *International Building Code*.

504.4.2.1 804.2.1 High-rise buildings. In high-rise buildings, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection in the entire *work area* where the *work area* is located on a floor that has a sufficient sprinkler water supply system from an existing standpipe or a sprinkler riser serving that floor.

504.4.2.1.1 804.2.1.1 Supplemental automatic sprinkler system requirements. Where the *work area* on any floor exceeds 50 percent of that floor area, Section 804.2.1 shall apply to the entire floor on which the *work area* is located.

Exception: Occupied tenant spaces that are entirely outside the work area.

504.4.2.2 804.2.2 Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2. In buildings with occupancies in Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection where all of the following conditions occur:

1. The *work area* is required to be provided with automatic sprinkler protection in accordance with the *International Building Code* as applicable to new construction; and
2. The *work area* exceeds 50 percent of the floor area.

Exception: If the building does not have sufficient municipal water supply for design of a fire sprinkler system available to the floor without installation of a new fire pump, work areas shall be protected by an automatic smoke detection system throughout all occupiable spaces other than sleeping units or individual dwelling units that activates the occupant notification system in accordance with Sections 907.4, 907.5 and 907.6 of the *International Building Code*.

504.4.2.2.1 ~~804.2.2.1~~ Mixed uses. In work areas containing mixed uses, one or more of which requires automatic sprinkler protection in accordance with Section 804.2.2, such protection shall not be required throughout the *work area* provided that the uses requiring such protection are separated from those not requiring protection by fire-resistance-rated construction having a minimum 2-hour rating for Group H and a minimum 1-hour rating for all other occupancy groups.

504.4.2.3 ~~804.2.3~~ Windowless stories. Work located in a windowless story, as determined in accordance with the *International Building Code*, shall be sprinklered where the work area is required to be sprinklered under the provisions of the *International Building Code* for newly constructed buildings and the building has a sufficient municipal water supply without installation of a new fire pump.

504.4.2.4 ~~804.2.4~~ Other required automatic sprinkler systems. In buildings and areas listed in Table 903.2.11.6 of the *International Building Code*, *work areas* that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with an automatic sprinkler system under the following conditions:

1. The *work area* is required to be provided with an automatic sprinkler system in accordance with the *International Building Code* applicable to new construction; and
2. The building has sufficient municipal water supply for design of an automatic sprinkler system available to the floor without installation of a new fire pump.

504.4.2.5 ~~804.2.5~~ Supervision. Fire sprinkler systems required by this section shall be supervised by one of the following methods:

1. Approved central station system in accordance with NFPA 72;
2. Approved proprietary system in accordance with NFPA 72;
3. Approved remote station system of the jurisdiction in accordance with NFPA 72; or
4. When approved by the *code official*, approved local alarm service that will cause the sounding of an alarm in accordance with NFPA 72.

Exception: Supervision is not required for the following:

1. Underground gate valve with roadway boxes.
2. Halogenated extinguishing systems.
3. Carbon dioxide extinguishing systems.
4. Dry- and wet-chemical extinguishing systems.
5. Automatic sprinkler systems installed in accordance with NFPA 13R where a common supply main is used to supply both domestic and automatic sprinkler systems and a separate shutoff valve for the automatic sprinkler system is not provided.

504.4.3 ~~804.3~~ Standpipes. Where the *work area* includes exits or corridors shared by more than one tenant and is located more than 50 feet (15 240 mm) above or below the lowest level of fire department access, a standpipe system shall be provided. Standpipes shall have an approved fire department connection with hose connections at each floor level above or below the lowest level of fire department access. Standpipe systems shall be installed in accordance with the *International Building Code*.

Exceptions:

1. No pump shall be required provided that the standpipes are capable of accepting delivery by fire department apparatus of a minimum of 250 gallons per minute (gpm) at 65 pounds per square inch (psi) (946 L/m at 448KPa) to the topmost floor in buildings equipped throughout with an automatic sprinkler system or a minimum of 500 gpm at 65 psi (1892 L/m at 448KPa) to the topmost floor in all other buildings. Where the standpipe terminates below the topmost floor, the standpipe shall be designed to meet (gpm/psi) (L/m/KPa) requirements of this exception for possible future extension of the standpipe.
2. The interconnection of multiple standpipe risers shall not be required.

504.4.4 ~~804.4~~ Fire alarm and detection. An approved fire alarm system shall be installed in accordance with Sections 804.4.1 through 804.4.3. Where automatic sprinkler protection is provided in accordance with Section 804.2 and is connected to the building fire alarm system, automatic heat detection shall not be required. An approved automatic fire detection system shall be installed in accordance with the provisions of this code and NFPA 72. Devices, combinations of devices, appliances, and equipment shall be approved. The automatic fire detectors shall be smoke detectors, except that an approved alternative type of detector shall be installed in spaces

such as boiler rooms, where products of combustion are present during normal operation in sufficient quantity to actuate a smoke detector.

504.4.4.1 804.4.1 Occupancy requirements. A fire alarm system shall be installed in accordance with Sections 804.4.1.1 through 804.4.1.7. Existing alarm-notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm-notification appliances within the *work area* shall be provided and automatically activated.

Exceptions:

1. Occupancies with an existing, previously approved fire alarm system.
2. Where selective notification is permitted, alarm-notification appliances shall be automatically activated in the areas selected.

504.4.4.1.1 804.4.1.1 Group E. A fire alarm system shall be installed in *work areas* of Group E occupancies as required by the *International Fire Code* for existing Group E occupancies.

504.4.4.1.2 804.4.1.2 Group I-1. A fire alarm system shall be installed in *work areas* of Group I-1 residential care/assisted living facilities as required by the *International Fire Code* for existing Group I-1 occupancies.

504.4.4.1.3 804.4.1.3 Group I-2. A fire alarm system shall be installed throughout Group I-2 occupancies as required by the *International Fire Code*.

504.4.4.1.4 804.4.1.4 Group I-3. A fire alarm system shall be installed in *work areas* of Group I-3 occupancies as required by the *International Fire Code*.

504.4.4.1.5 804.4.1.5 Group R-1. A fire alarm system shall be installed in Group R-1 occupancies as required by the *International Fire Code* for existing Group R-1 occupancies.

504.4.4.1.6 804.4.1.6 Group R-2. A fire alarm system shall be installed in *work areas* of Group R-2 apartment buildings as required by the *International Fire Code* for existing Group R-2 occupancies.

504.4.4.1.7 804.4.1.7 Group R-4. A fire alarm system shall be installed in *work areas* of Group R-4 residential care/assisted living facilities as required by the *International Fire Code* for existing Group R-4 occupancies.

504.4.4.2 804.4.2 Supplemental fire alarm system requirements. Where the *work area* on any floor exceeds 50 percent of that floor area, Section 804.4.1 shall apply throughout the floor.

Exception: Alarm-initiating and notification appliances shall not be required to be installed in tenant spaces outside of the *work area*.

504.4.4.3 804.4.3 Smoke alarms. Individual sleeping units and individual dwelling units in any *work area* in Group R and I-1 occupancies shall be provided with smoke alarms in accordance with the *International Fire Code*.

Exception: Interconnection of smoke alarms outside of the *work area* shall not be required.

SECTION 805 MEANS OF EGRESS

504.5 Means of egress. 805.1 Scope. The requirements of this section shall be limited to work areas that include exits or corridors shared by more than one tenant within the *work area* in which Level 2 alterations are being performed, and where specified they shall apply throughout the floor on which the *work areas* are located or otherwise beyond the *work area*.

504.5.1 805.2 General. The means of egress shall comply with the requirements of this section.

Exceptions:

1. Where the *work area* and the means of egress serving it complies with NFPA 101.
2. Means of egress conforming to the requirements of the building code under which the building was constructed shall be considered compliant means of egress if, in the opinion of the *code official*, they do not constitute a distinct hazard to life.

~~805.3 Number of exits. The number of exits shall be in accordance with Sections 805.3.1 through 805.3.3.~~

504.5.2 805.3.1 Minimum number of exits. Every story utilized for human occupancy on which there is a *work area* that includes exits or corridors shared by more than one tenant within the *work area* shall be provided with the minimum number of exits based on the occupancy and the occupant load in accordance with the *International Building Code*. In addition, the exits shall comply with Sections 805.3.1.1 and 805.3.1.2.

504.5.2.1 805.3.1.1 Single-exit buildings. Only one exit is required from buildings and spaces of the following occupancies:

1. In Group A, B, E, F, M, U and S occupancies, a single exit is permitted in the story at the level of exit discharge when the occupant load of the story does not exceed 50 and the exit access travel distance does not exceed 75 feet (22 860 mm).

2. Group B, F-2, and S-2 occupancies not more than two stories in height that are not greater than 3,500 square feet per floor (326 m²), when the exit access travel distance does not exceed 75 feet (22 860 mm). The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be 1 hour.
3. Open parking structures where vehicles are mechanically parked.
4. In Group R-4 occupancies, the maximum occupant load excluding staff is 16.
5. Groups R-1 and R-2 not more than two stories in height, when there are not more than four dwelling units per floor and the exit access travel distance does not exceed 50 feet (15 240 mm). The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be 1 hour.
6. In multilevel dwelling units in buildings of occupancy Group R-1 or R-2, an exit shall not be required from every level of the dwelling unit provided that one of the following conditions is met:
 - 6.1. The travel distance within the dwelling unit does not exceed 75 feet (22 860 mm); or
 - 6.2. The building is not more than three stories in height and all third-floor space is part of one or more dwelling units located in part on the second floor; and no habitable room within any such dwelling unit shall have a travel distance that exceeds 50 feet (15 240 mm) from the outside of the habitable room entrance door to the inside of the entrance door to the dwelling unit.
7. In Group R-2, H-4, H-5 and I occupancies and in rooming houses and child care centers, a single exit is permitted in a one-story building with a maximum occupant load of 10 and the exit access travel distance does not exceed 75 feet (22 860 mm).
8. In buildings of Group R-2 occupancy that are equipped throughout with an automatic fire sprinkler system, a single exit shall be permitted from a basement or story below grade if every dwelling unit on that floor is equipped with an approved window providing a clear opening of at least 5 square feet (0.47 m²) in area, a minimum net clear opening of 24 inches (610 mm) in height and 20 inches (508 mm) in width, and a sill height of not more than 44 inches (1118 mm) above the finished floor.
9. In buildings of Group R-2 occupancy of any height with not more than four dwelling units per floor; with a smokeproof enclosure or outside stairway as an exit; and with such exit located within 20 feet (6096 mm) of travel to the entrance doors to all dwelling units served thereby.
10. In buildings of Group R-3 occupancy equipped throughout with an automatic fire sprinkler system, only one exit shall be required from basements or stories below grade.

504.5.3 805.3.1.2 Fire escapes required. For other than Group I-2, where more than one exit is required, an existing or newly constructed fire escape complying with Section 805.3.1.2.1 shall be accepted as providing one of the required means of egress.

504.5.3.1 805.3.1.2.1 Fire escape access and details. Fire escapes shall comply with all of the following requirements:

1. Occupants shall have unobstructed access to the fire escape without having to pass through a room subject to locking.
2. Access to a new fire escape shall be through a door, except that windows shall be permitted to provide access from single dwelling units or sleeping units in Group R-1, R-2 and I-1 occupancies or to provide access from spaces having a maximum occupant load of 10 in other occupancy classifications.
 - 2.1. The window shall have a minimum net clear opening of 5.7 square feet (0.53 m²) or 5 square feet (0.46 m²) where located at grade.
 - 2.2. The minimum net clear opening height shall be 24 inches (610 mm) and net clear opening width shall be 20 inches (508 mm).
 - 2.3. The bottom of the clear opening shall not be greater than 44 inches (1118 mm) above the floor.
 - 2.4. The operation of the window shall comply with the operational constraints of the *International Building Code*.
3. Newly constructed fire escapes shall be permitted only where exterior stairways cannot be utilized because of lot lines limiting the stairway size or because of the sidewalks, alleys, or roads at grade level.
4. Openings within 10 feet (3048 mm) of fire escape stairways shall be protected by fire assemblies having minimum 3/4-hour fire-resistance ratings.

Exception: Opening protection shall not be required in buildings equipped throughout with an approved automatic sprinkler system.

5. In all buildings of Group E occupancy, up to and including the 12th grade, buildings of Group I occupancy, rooming houses and childcare centers, ladders of any type are prohibited on fire escapes used as a required means of egress.

504.5.3.2 ~~805.3.1.2.2~~ **Construction.** The fire escape shall be designed to support a live load of 100 pounds per square foot (4788 Pa) and shall be constructed of steel or other approved *noncombustible materials*. Fire escapes constructed of wood not less than nominal 2 inches (51 mm) thick are permitted on buildings of Type V construction. Walkways and railings located over or supported by combustible roofs in buildings of Types III and IV construction are permitted to be of wood not less than nominal 2 inches (51 mm) thick.

504.5.3.3 ~~805.3.1.2.3~~ **Dimensions.** Stairways shall be at least 22 inches (559 mm) wide with risers not more than, and treads not less than, 8 inches (203 mm). Landings at the foot of stairways shall be not less than 40 inches (1016 mm) wide by 36 inches (914 mm) long and located not more than 8 inches (203 mm) below the door.

504.5.4 ~~805.3.2~~ **Mezzanines.** Mezzanines in the *work area* and with an occupant load of more than 50 or in which the travel distance to an exit exceeds 75 feet (22 860 mm) shall have access to at least two independent means of egress.

Exception: Two independent means of egress are not required where the travel distance to an exit does not exceed 100 feet (30 480 mm) and the building is protected throughout with an automatic sprinkler system.

504.5.5 ~~805.3.3~~ **Main entrance—Group A.** All buildings of Group A with an occupant load of 300 or more shall be provided with a main entrance capable of serving as the main exit with an egress capacity of at least one-half of the total occupant load. The remaining exits shall be capable of providing one-half of the total required exit capacity.

Exception: Where there is no well-defined main exit or where multiple main exits are provided, exits shall be permitted to be distributed around the perimeter of the building provided that the total width of egress is not less than 100 percent of the required width.

504.5.6 ~~805.4~~ **Egress doorways.** Egress doorways in any *work area* shall comply with Sections 805.4.1 through 805.4.5.

~~**805.4.1 Two egress doorways required.** Work areas shall be provided with two egress doorways in accordance with the requirements of Sections 805.4.1.1 and 805.4.1.2.~~

504.5.6.1 ~~805.4.1.1~~ **Occupant load and travel distance.** In any *work area*, all rooms and spaces having an occupant load greater than 50 or in which the travel distance to an exit exceeds 75 feet (22 860 mm) shall have a minimum of two egress doorways.

Exceptions:

1. Storage rooms having a maximum occupant load of 10.
2. Where the *work area* is served by a single exit in accordance with Section 805.3.1.1.

504.5.6.2 ~~805.4.1.2~~ **Group I-2.** In buildings of Group I-2 occupancy, any patient sleeping room or suite of patient rooms greater than 1,000 square feet (93 m²) within the *work area* shall have a minimum of two egress doorways.

504.5.6.3 ~~805.4.2~~ **Door swing.** In the *work area* and in the egress path from any *work area* to the exit discharge, all egress doors serving an occupant load greater than 50 shall swing in the direction of exit travel.

504.5.6.3.1 ~~805.4.2.1~~ **Supplemental requirements for door swing.** Where the *work area* exceeds 50 percent of the floor area, door swing shall comply with Section 805.4.2 throughout the floor.

Exception: Means of egress within or serving only a tenant space that is entirely outside the *work area*.

504.5.6.4 ~~805.4.3~~ **Door closing.** In any *work area*, all doors opening onto an exit passageway at grade or an exit stairway shall be self-closing or automatic-closing by listed closing devices.

Exceptions:

1. Where exit enclosure is not required by the *International Building Code*.
2. Means of egress within or serving only a tenant space that is entirely outside the *work area*.

504.5.6.4.1 ~~805.4.3.1~~ **Supplemental requirements for door closing.** Where the *work area* exceeds 50 percent of the floor area, doors shall comply with Section 805.4.3 throughout the exit stairway from the *work area* to, and including, the level of exit discharge.

504.5.6.5 ~~805.4.4~~ **Panic hardware.** In any *work area*, and in the egress path from any *work area* to the exit discharge, in buildings or portions thereof of Group A assembly occupancies with an occupant load greater than 100, all required exit doors equipped with latching devices shall be equipped with approved panic hardware.

504.5.6.5.1 ~~805.4.4.1~~ **Supplemental requirements for panic hardware.** Where the *work area* exceeds 50 percent of the floor area, panic hardware shall comply with Section 805.4.4 throughout the floor.

Exception: Means of egress within a tenant space that is entirely outside the *work area*.

504.5.6.6 805.4.5 Emergency power source in Group I-3. Power-operated sliding doors or power-operated locks for swinging doors shall be operable by a manual release mechanism at the door. Emergency power shall be provided for the doors and locks in accordance with Section 2702 of the *International Building Code*.

Exceptions:

1. Emergency power is not required in facilities with 10 or fewer locks complying with the exception to Section 408.4.1 of the *International Building Code*.

2. Emergency power is not required where remote mechanical operating releases are provided.

504.5.7 805.5 Openings in corridor walls. Openings in corridor walls in any *work area* shall comply with Sections 805.5.1 through 805.5.4.

Exception: Openings in corridors where such corridors are not required to be rated in accordance with the *International Building Code*.

504.5.7.1 805.5.1 Corridor doors. Corridor doors in the *work area* shall not be constructed of hollow core wood and shall not contain louvers. All dwelling unit or sleeping unit corridor doors in work areas in buildings of Groups R-1, R-2, and I-1 shall be at least 13/8-inch (35 mm) solid core wood or approved equivalent and shall not have any glass panels, other than approved wired glass or other approved glazing material in metal frames. All dwelling unit or sleeping unit corridor doors in *work areas* in buildings of Groups R-1, R-2, and I-1 shall be equipped with approved door closers. All replacement doors shall be 13/4-inch (44 mm) solid bonded wood core or approved equivalent, unless the existing frame will accommodate only a 13/8-inch (35 mm) door.

Exceptions:

1. Corridor doors within a dwelling unit or sleeping unit.

2. Existing doors meeting the requirements of *Guidelines on Fire Ratings of Archaic Materials and Assemblies* (IEBC Resource A) for a rating of 15 minutes or more shall be accepted as meeting the provisions of this requirement.

3. Existing doors in buildings protected throughout with an approved automatic sprinkler system shall be required only to resist smoke, be reasonably tight fitting, and shall not contain louvers.

4. In group homes with a maximum of 15 occupants and that are protected with an approved automatic detection system, closing devices may be omitted.

5. Door assemblies having a fire protection rating of at least 20 minutes.

504.5.7.2 805.5.2 Transoms. In all buildings of Group I-1, I-2, R-1 and R-2 occupancies, all transoms in corridor walls in work areas shall be either glazed with 1/4-inch (6.4 mm) wired glass set in metal frames or other glazing assemblies having a fire protection rating as required for the door and permanently secured in the closed position or sealed with materials consistent with the corridor construction.

504.5.7.3 805.5.3 Other corridor openings. In any *work area*, any other sash, grille, or opening in a corridor and any window in a corridor not opening to the outside air shall be sealed with materials consistent with the corridor construction.

504.5.7.3.1 805.5.3.1 Supplemental requirements for other corridor opening. Where the *work area* exceeds 50 percent of the floor area, Section 805.5.3 shall be applicable to all corridor windows, grills, sashes, and other openings on the floor.

Exception: Means of egress within or serving only a tenant space that is entirely outside the *work area*.

504.5.7.3.2 805.5.4 Supplemental requirements for corridor openings. Where the *work area* on any floor exceeds 50 percent of the floor area, the requirements of Sections 805.5.1 through 805.5.3 shall apply throughout the floor.

504.5.8 805.6 Dead-end corridors. Dead-end corridors in any *work area* shall not exceed 35 feet (10 670 mm).

Exceptions:

1. Where dead-end corridors of greater length are permitted by the *International Building Code*.

2. In other than Group A and H occupancies, the maximum length of an existing dead-end corridor shall be 50 feet (15 240 mm) in buildings equipped throughout with an automatic fire alarm system installed in accordance with the *International Building Code*.

3. In other than Group A and H occupancies, the maximum length of an existing dead-end corridor shall be 70 feet (21 356 mm) in buildings equipped throughout with an automatic sprinkler system installed in accordance with the *International Building Code*.

4. In other than Group A and H occupancies, the maximum length of an existing, newly constructed, or extended dead-end corridor shall not exceed 50 feet (15 240 mm) on floors equipped with an automatic sprinkler system installed in accordance with the *International Building Code*.

504.5.9 805.7 Means-of-egress lighting. Means-of-egress lighting shall be in accordance with this section, as applicable.

504.5.9.1 805.7.1 Artificial lighting required. Means of egress in all work areas shall be provided with artificial lighting in accordance with the requirements of the *International Building Code*.

504.5.9.2 805.7.2 Supplemental requirements for means-of-egress lighting. Where the *work area* on any floor exceeds 50 percent of that floor area, means of egress throughout the floor shall comply with Section 805.7.1.

Exception: Means of egress within or serving only a tenant space that is entirely outside the *work area*.

~~**504.5.10 805.8 Exit signs.** Exit signs shall be in accordance with this section, as applicable.~~

~~**805.8.1 Work areas.** Means of egress in all work areas shall be provided with exit signs in accordance with the requirements of the *International Building Code*.~~

~~**504.5.10.1 805.8.2 Supplemental requirements for exit signs.** Where the *work area* on any floor exceeds 50 percent of that floor area, means of egress throughout the floor shall comply with Section 805.8.1.~~

~~**Exception:** Means of egress within a tenant space that is entirely outside the *work area*.~~

~~**504.5.11 805.9 Handrails.** The requirements of Sections 805.9.1 and 805.9.2 shall apply to handrails from the *work area* floor to, and including, the level of exit discharge.~~

~~**504.5.11.1 805.9.1 Minimum requirement.** Every required exit stairway that is part of the means of egress for any *work area* and that has three or more risers and is not provided with at least one handrail, or in which the existing handrails are judged to be in danger of collapsing, shall be provided with handrails for the full length of the stairway on at least one side. All exit stairways with a required egress width of more than 66 inches (1676 mm) shall have handrails on both sides.~~

~~**504.5.11.2 805.9.2 Design.** Handrails required in accordance with Section 805.9.1 shall be designed and installed in accordance with the provisions of the *International Building Code*.~~

~~**504.5.12 805.10 Refuge areas.** Where alterations affect the configuration of an area utilized as a refuge area, the capacity of the refuge area shall not be reduced below that required in Sections 805.10.1 and 805.10.2.~~

~~**805.10.1 Capacity.** The required capacity of refuge areas shall be in accordance with Sections 805.10.1.1 through 805.10.1.3.~~

~~**504.5.12.1 805.10.1.1 Group I-2.** In Group I-2 occupancies, the required capacity of the refuge areas for smoke compartments in accordance with Section 407.5.1 of the *International Building Code* shall be maintained.~~

~~**504.5.12.2 805.10.1.2 Group I-3.** In Group I-3 occupancies, the required capacity of the refuge areas for smoke compartments in accordance with Section 408.6.2 of the *International Building Code* shall be maintained.~~

~~**504.5.12.3 805.10.1.3 Ambulatory care.** In ambulatory care facilities required to be separated by Section 422.2 of the *International Building Code*, the required capacity of the refuge areas for smoke compartments in accordance with Section 422.4 of the *International Building Code* shall be maintained.~~

~~**504.5.12.4 805.10.2 Horizontal exits.** The required capacity of the refuge area for horizontal exits in accordance with Section 1026.4 of the *International Building Code* shall be maintained.~~

~~**504.5.13 805.11 Guards.** The requirements of Sections 805.11.1 and 805.11.2 shall apply to guards from the *work area* floor to, and including, the level of exit discharge but shall be confined to the egress path of any *work area*.~~

~~**504.5.13.1 805.11.1 Minimum requirement.** Every open portion of a stairway, landing, or balcony that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those portions in which existing guards are judged to be in danger of collapsing, shall be provided with guards.~~

~~**504.5.13.2 805.11.2 Design.** Guards required in accordance with Section 805.11.1 shall be designed and installed in accordance with the *International Building Code*.~~

SECTION 806 ACCESSIBILITY

~~**504.6 Accessibility, 806.1 General.** A building, *facility*, or element that is altered shall comply with this section and Section 705.~~

~~**504.6.1 806.2 Stairways and escalators in existing buildings.** In *alterations* where an escalator or stairway is added where none existed previously, an accessible route shall be provided in accordance with Sections 1104.4 and 1104.5 of the *International Building Code*.~~

SECTION 807 STRUCTURAL

504.7 Structural. 807.1 General. Structural elements and systems within buildings undergoing Level 2 *alterations* shall comply with this section.

504.7.1 807.2 New structural elements. New structural elements in *alterations*, including connections and anchorage, shall comply with the *International Building Code*.

504.7.2 807.3 Minimum design loads. The minimum design loads on existing elements of a structure that do not support additional loads as a result of an *alteration* shall be the loads applicable at the time the building was constructed.

504.7.3 807.4 Existing structural elements carrying gravity loads. *Alterations* shall not reduce the capacity of existing gravity load-carrying structural elements unless it is demonstrated that the elements have the capacity to carry the applicable design gravity loads required by the *International Building Code*. Existing structural elements supporting any additional gravity loads as a result of the *alterations*, including the effects of snow drift, shall comply with the *International Building Code*.

Exceptions:

1. Structural elements whose stress is not increased by more than 5 percent.
2. Buildings of Group R occupancy with not more than five dwelling or sleeping units used solely for residential purposes where the *existing building* and its *alteration* comply with the conventional light-frame construction methods of the *International Building Code* or the provisions of the *International Residential Code*.

504.7.4 807.5 Existing structural elements resisting lateral loads. Except as permitted by Section 807.6, where the alteration increases design lateral loads, or where the alteration results in prohibited structural irregularity as defined in ASCE 7, or where the alteration decreases the capacity of any existing lateral load-carrying structural element, the structure of the altered building or structure shall be shown to meet the wind and seismic provisions of the *International Building Code*. Reduced *International Building Code*-level seismic forces in accordance with Section 301.1.4.2 shall be permitted.

Exception: Any existing lateral load-carrying structural element whose demand-capacity ratio with the alteration considered is not more than 10 percent greater than its demand-capacity ratio with the alteration ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with *International Building Code* Sections 1609 and 1613. Reduced *International Building Code* level seismic forces in accordance with Section 301.1.4.2 shall be permitted. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of additions and alterations since original construction.

504.7.5 807.6 Voluntary lateral force-resisting system alterations. *Alterations* of existing structural elements and additions of new structural elements that are initiated for the purpose of increasing the lateral force-resisting strength or stiffness of an existing structure and that are not required by other sections of this code shall not be required to be designed for forces conforming to the *International Building Code*, provided that an engineering analysis is submitted to show that:

1. The capacity of existing structural elements required to resist forces is not reduced;
2. The lateral loading to existing structural elements is not increased either beyond its capacity or more than 10 percent;
3. New structural elements are detailed and connected to the existing structural elements as required by the *International Building Code*;
4. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by the *International Building Code*; and
5. A *dangerous* condition as defined in this code is not created. Voluntary *alterations* to lateral force-resisting systems conducted in accordance with Appendix A and the referenced standards of this code shall be permitted.

**SECTION 808
ELECTRICAL**

504.8 Electrical. Electrical equipment and wiring shall comply with Sections 504.8.1 through 504.8.3.7.

504.8.1 808.1 New installations. All newly installed electrical equipment and wiring relating to work done in any work area shall comply with all applicable requirements of NFPA 70 except as provided for in Section 808.3.

504.8.2 808.2 Existing installations. Existing wiring in all work areas in Group A-1, A-2, A-5, H and I occupancies shall be upgraded to meet the materials and methods requirements of ~~Chapter 7~~ Section 503.

504.8.3 808.3 Residential occupancies. In Group R-2, R-3 and R-4 occupancies and buildings regulated by the *International Residential Code*, the requirements of Sections 808.3.1 through 808.3.7 shall be applicable only to work areas located within a dwelling unit.

504.8.3.1 808.3.1 Enclosed areas. All enclosed areas, other than closets, kitchens, basements, garages, hallways, laundry areas, utility areas, storage areas and bathrooms shall have a minimum of two duplex receptacle outlets or one duplex receptacle outlet and one ceiling or wall-type lighting outlet.

504.8.3.2 808.3.2 Kitchens. Kitchen areas shall have a minimum of two duplex receptacle outlets.

504.8.3.3 808.3.3 Laundry areas. Laundry areas shall have a minimum of one duplex receptacle outlet located near the laundry equipment and installed on an independent circuit.

504.8.3.4 808.3.4 Ground fault circuit interruption. Newly installed receptacle outlets shall be provided with ground fault circuit interruption as required by NFPA 70.

504.8.3.5 808.3.5 Minimum lighting outlets. At least one lighting outlet shall be provided in every bathroom, hallway, stairway, attached garage, and detached garage with electric power, and to illuminate outdoor entrances and exits.

504.8.3.6 808.3.6 Utility rooms and basements. At least one lighting outlet shall be provided in utility rooms and basements where such spaces are used for storage or contain equipment requiring service.

504.8.3.7 808.3.7 Clearance for equipment. Clearance for electrical service equipment shall be provided in accordance with the NFPA 70.

SECTION 809 MECHANICAL

504.9 Mechanical. Mechanical equipment shall comply with Sections 504.9.1 through 504.9.3.

504.9.1 809.1 Reconfigured or converted spaces. All reconfigured spaces intended for occupancy and all spaces converted to habitable or occupiable space in any *work area* shall be provided with natural or mechanical ventilation in accordance with the *International Mechanical Code*.

Exception: Existing mechanical ventilation systems shall comply with the requirements of Section 809.2.

504.9.2 809.2 Altered existing systems. In mechanically ventilated spaces, existing mechanical ventilation systems that are altered, reconfigured, or extended shall provide not less than 5 cubic feet per minute (cfm) (0.0024 m³/s) per person of outdoor air and not less than 15 cfm (0.0071 m³/s) of ventilation air per person; or not less than the amount of ventilation air determined by the Indoor Air Quality Procedure of ASHRAE 62.

504.9.3 809.3 Local exhaust. All newly introduced devices, equipment, or operations that produce airborne particulate matter, odors, fumes, vapor, combustion products, gaseous contaminants, pathogenic and allergenic organisms, and microbial contaminants in such quantities as to affect adversely or impair health or cause discomfort to occupants shall be provided with local exhaust.

SECTION 810 PLUMBING

504.10 810.1 Minimum plumbing fixtures. Where the occupant load of the story is increased by more than 20 percent, plumbing fixtures for the story shall be provided in quantities specified in the *International Plumbing Code* based on the increased occupant load.

SECTION 811 ENERGY CONSERVATION

504.11 811.1 Minimum energy conservation requirements. Level 2 *alterations to existing buildings* or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the *International Energy Conservation Code* or *International Residential Code*. The *alterations* shall conform to the energy requirements of the *International Energy Conservation Code* or *International Residential Code* as they relate to new construction only.

CHAPTER 9 ALTERATIONS—LEVEL 3 SECTION 505 904 ALTERATIONS—LEVEL 3 GENERAL

505.1 904.1 Scope. Level 3 *alterations* as described in Section 501.5 505 shall comply with the requirements of this section ~~chapter~~.

505.2 904.2 Compliance. In addition to the provisions of this section ~~chapter~~, work shall comply with all of the requirements of ~~Chapters 7~~ Sections 503 and 8 504. The requirements of Sections 803, 804 and 805 shall apply within all *work areas* whether or not they include exits and corridors shared by more than one tenant and regardless of the occupant load.

Exception: Buildings in which the reconfiguration of space affecting exits or shared egress access is exclusively the result of compliance with the accessibility requirements of Section 705.2 shall not be required to comply with this section ~~chapter~~.

SECTION 902
SPECIAL USE AND OCCUPANCY

505.3 902.1 High-rise buildings. Any building having occupied floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall comply with the requirements of Sections 902.1.1 and 902.1.2.

505.3.1 902.1.1 Recirculating air or exhaust systems. When a floor is served by a recirculating air or exhaust system with a capacity greater than 15,000 cubic feet per minute (701 m³/s), that system shall be equipped with approved smoke and heat detection devices installed in accordance with the *International Mechanical Code*.

505.3.2 902.1.2 Elevators. Where there is an elevator or elevators for public use, at least one elevator serving the *work area* shall comply with this section. Existing elevators with a travel distance of 25 feet (7620 mm) or more above or below the main floor or other level of a building and intended to serve the needs of emergency personnel for fire-fighting or rescue purposes shall be provided with emergency operation in accordance with ASME A17.3. New elevators shall be provided with Phase I emergency recall operation and Phase II emergency in-car operation in accordance with ASME A17.1.

505.4 902.2 Boiler and furnace equipment rooms. Boiler and furnace equipment rooms adjacent to or within Groups I-1, I-2, I-4, R-1, R-2 and R-4 occupancies shall be enclosed by 1-hour fire-resistance-rated construction.

Exceptions:

1. Steam boiler equipment operating at pressures of 15 pounds per square inch gauge (psig) (103.4 KPa) or less is not required to be enclosed.
2. Hot water boilers operating at pressures of 170 psig (1171 KPa) or less are not required to be enclosed.
3. Furnace and boiler equipment with 400,000 British thermal units (Btu) (4.22 × 10⁸ J) per hour input rating or less is not required to be enclosed.
4. Furnace rooms protected with an automatic sprinkler system are not required to be enclosed.

SECTION 903
BUILDING ELEMENTS AND MATERIALS

505.5 903.1 Existing shafts and vertical openings. Existing stairways that are part of the means of egress shall be enclosed in accordance with Section 803.2.1 from the highest *work area* floor to, and including, the level of exit discharge and all floors below.

505.6 903.2 Fire partitions in Group R-3. Fire separation in Group R-3 occupancies shall be in accordance with Section 903.2.1.

903.2.1 Separation required. Where the *work area* is in any attached dwelling unit in Group R-3 or any multiple single-family dwelling (townhouse), walls separating the dwelling units that are not continuous from the foundation to the underside of the roof sheathing shall be constructed to provide a continuous fire separation using construction materials consistent with the existing wall or complying with the requirements for new structures. All work shall be performed on the side of the dwelling unit wall that is part of the *work area*.

Exception: Where *alterations* or *repairs* do not result in the removal of wall or ceiling finishes exposing the structure, walls are not required to be continuous through concealed floor spaces.

505.7 903.3 Interior finish. Interior finish in exits serving the *work area* shall comply with Section 803.4 between the highest floor on which there is a *work area* to the floor of exit discharge.

SECTION 904
FIRE PROTECTION

505.8 904.1 Automatic sprinkler systems. An automatic sprinkler system shall be provided in a work area where required by Section 804.2 or this section.

505.8.1 904.1.1 High-rise buildings. An automatic sprinkler system shall be provided in work areas where the high-rise building has a sufficient municipal water supply for the design and installation of an automatic sprinkler system at the site.

505.8.2 904.1.2 Rubbish and linen chutes. Rubbish and linen chutes located in the *work area* shall be provided with automatic sprinkler system protection or an approved automatic fire-extinguishing system where protection of the rubbish and linen chute would be required under the provisions of the *International Building Code* for new construction.

505.8.3 904.1.3 Upholstered furniture or mattresses. *Work areas* shall be provided with an automatic sprinkler system in accordance with the *International Building Code* where any of the following conditions exist:

1. A Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).
2. A Group M occupancy used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m²).

3. A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).

505.9 ~~904.2~~ Fire alarm and detection systems. Fire alarm and detection shall be provided in accordance with Section 907 of the *International Building Code* as required for new construction.

505.9.1 ~~904.2.1~~ Manual fire alarm systems. Where required by the *International Building Code*, a manual fire alarm system shall be provided throughout the *work area*. Alarm notification appliances shall be provided on such floors and shall be automatically activated as required by the *International Building Code*.

Exceptions:

1. Alarm-initiating and notification appliances shall not be required to be installed in tenant spaces outside of the *work area*.
2. Visual alarm notification appliances are not required, except where an existing alarm system is upgraded or replaced or where a new fire alarm system is installed.

505.9.2 ~~904.2.2~~ Automatic fire detection. Where required by the *International Building Code* for new buildings, automatic fire detection systems shall be provided throughout the *work area*.

**SECTION 905
MEANS OF EGRESS**

505.10 Means of egress. ~~905.1~~ General. The means of egress shall comply with the requirements of Section 805 except as specifically required in Sections 905.2 and 905.3.

505.10.1 ~~905.2~~ Means-of-egress lighting. Means of egress from the highest *work area* floor to the floor of exit discharge shall be provided with artificial lighting within the exit enclosure in accordance with the requirements of the *International Building Code*.

505.10.2 ~~905.3~~ Exit signs. Means of egress from the highest *work area* floor to the floor of exit discharge shall be provided with exit signs in accordance with the requirements of the *International Building Code*.

**SECTION 906
ACCESSIBILITY**

505.11 Accessibility. ~~906.1~~ General. A building, *facility* or element that is altered shall comply with this section and Sections 705 and 806.

505.11.1 ~~906.2~~ Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered, the requirements of Section 1107 of the *International Building Code* for Type B units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of the spaces being altered.

Exception: Group I-1, I-2, R-2, R-3 and R-4 dwelling or sleeping units where the first certificate of occupancy was issued before March 15, 1991 are not required to provide Type B dwelling or sleeping units.

**SECTION 907
STRUCTURAL**

505.12 Structural. ~~907.1~~ General. Where buildings are undergoing Level 3 *alterations* including structural *alterations*, the provisions of this section shall apply.

505.12.1 ~~907.2~~ New structural elements. New structural elements shall comply with Section 807.2.

505.12.2 ~~907.3~~ Existing structural elements carrying gravity loads. Existing structural elements carrying gravity loads shall comply with Section 807.4.

505.12.3 ~~907.4~~ Existing structural elements resisting lateral loads. All existing elements of the lateral force-resisting system shall comply with this section.

Exceptions:

1. Buildings of Group R occupancy with no more than five dwelling or sleeping units used solely for residential purposes that are altered based on the conventional light-frame construction methods of the *International Building Code* or in compliance with the provisions of the *International Residential Code*.
2. Where such *alterations* involve only the lowest story of a building and the *change of occupancy* provisions of ~~Chapter 10~~ Section 506 do not apply, only the lateral force-resisting components in and below that story need comply with this section.

505.12.3.1 ~~907.4.1~~ Evaluation and analysis. An engineering evaluation and analysis that establishes the structural adequacy of the altered structure shall be prepared by a registered design professional and submitted to the *code official*.

505.12.3.2 ~~907.4.2~~ Substantial structural alteration. Where more than 30 percent of the total floor and roof areas of the building or structure have been or are proposed to be involved in structural *alteration* within a 5-year period, the evaluation and analysis shall demonstrate that the lateral load-resisting system of the altered

building or structure complies with the *International Building Code* for wind loading and with reduced *International Building Code*-level seismic forces in accordance with Section 301.1.4.2. The areas to be counted toward the 30 percent shall be those areas tributary to the vertical load-carrying components, such as joists, beams, columns, walls and other structural components that have been or will be removed, added or altered, as well as areas such as mezzanines, penthouses, roof structures and in-filled courts and shafts.

505.12.3.3 907.4.3 Seismic Design Category F. Where the building is assigned to Seismic Design Category F, the evaluation and analysis shall demonstrate that the lateral load-resisting system of the altered building or structure complies with reduced *International Building Code*-level seismic forces in accordance with Section 301.1.4.2 and with the wind provisions applicable to a limited structural alteration.

505.12.3.4 907.4.4 Limited structural alteration. Where the work does not involve a substantial structural alteration and the building is not assigned to Seismic Design Category F, the existing elements of the lateral load-resisting system shall comply with Section 807.5.

505.12.3.5 907.4.5 Wall anchors for concrete and masonry buildings. For any building assigned to Seismic Design Category D, E or F with a structural system consisting of concrete or reinforced masonry walls with a flexible roof diaphragm and any building assigned to Seismic Design Category C, D, E or F with a structural system consisting of unreinforced masonry walls with any type of roof diaphragm, the alteration work shall include installation of wall anchors at the roof line to resist the reduced *International Building Code*-level seismic forces in accordance with Section 301.1.4.2, unless an evaluation demonstrates compliance of existing wall anchorage.

505.12.3.6 907.4.6 Bracing for unreinforced masonry parapets. Parapets constructed of unreinforced masonry in buildings assigned to Seismic Design Category C, D, E or F shall have bracing installed as needed to resist the reduced *International Building Code*-level seismic forces in accordance with Section 301.1.4.2, unless an evaluation demonstrates compliance of such items.

SECTION 908

ENERGY CONSERVATION

505.13 Energy conservation 908.1 Minimum requirements. Level 3 alterations to existing buildings or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the *International Energy Conservation Code* or *International Residential Code*. The alterations shall conform to the energy requirements of the *International Energy Conservation Code* or *International Residential Code* as they relate to new construction only.

CHAPTER 10

SECTION 506

CHANGE OF OCCUPANCY

SECTION 1001

GENERAL

506.1 1001.1 Scope. The provisions of this section shall apply where a change of occupancy occurs, as defined in Section 202.

506.2 1001.2 Certificate of occupancy. A change of occupancy or a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code* shall not be made to any structure without the approval of the code official. A certificate of occupancy shall be issued where it has been determined that the requirements for the change of occupancy have been met.

506.2.1 1001.2.1 Change of use. Any work undertaken in connection with a change in use that does not involve a change of occupancy classification or a change to another group within an occupancy classification shall conform to the applicable requirements for the work as classified in Chapter 5 and to the requirements of Sections 1002 through 1011.

Exception: As modified in Section 1205 for historic buildings.

506.2.2 1001.2.2 Change of occupancy classification or group. Where the occupancy classification of a building changes, the provisions of Sections 1002 through 1012 shall apply. This includes a change of occupancy classification and a change to another group within an occupancy classification.

506.2.2.1 1001.2.2.1 Partial change of occupancy. Where the occupancy classification or group of a portion of an existing building is changed, Section 1012 shall apply.

506.3 1001.3 Certificate of occupancy required. A certificate of occupancy shall be issued where a change of occupancy occurs that results in a different occupancy classification as determined by the *International Building Code*.

SECTION 1002

SPECIAL USE AND OCCUPANCY

506.4 Special use and occupancy. ~~1002.1 Compliance with the building code.~~ Where the character or use of an *existing building* or part of an *existing building* is changed to one of the following special use or occupancy categories as defined in the *International Building Code*, the building shall comply with all of the applicable requirements of the *International Building Code*:

1. Covered and open mall buildings.
2. Atriums.
3. Motor vehicle-related occupancies.
4. Aircraft-related occupancies.
5. Motion picture projection rooms.
6. Stages and platforms.
7. Special amusement buildings.
8. Incidental use areas.
9. Hazardous materials.
10. Ambulatory care facilities.
11. Group I-2 occupancies.

506.4.1 ~~1002.2~~ **Underground buildings.** An underground building in which there is a change of use shall comply with the requirements of the *International Building Code* applicable to underground structures.

SECTION 1003

BUILDING ELEMENTS AND MATERIALS

506.5 Building elements and materials. ~~1003.1 General.~~ Building elements and materials in portions of buildings undergoing a *change of occupancy* classification shall comply with Section 1012.

SECTION 1004

FIRE PROTECTION

506.6 Fire protection. ~~1004.1 General.~~ Fire protection requirements of Section 1012 shall apply where a building or portions thereof undergo a *change of occupancy* classification or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code*.

SECTION 1005

MEANS OF EGRESS

506.7 Means of egress. ~~1005.1 General.~~ Means of egress in portions of buildings undergoing a *change of occupancy* classification shall comply with Section 1012.

SECTION 1006

ACCESSIBILITY

506.8 Accessibility. ~~1006.1 General.~~ Accessibility in portions of buildings undergoing a *change of occupancy* classification shall comply with Section 1012.8.

SECTION 1007

STRUCTURAL

506.9 Structural. Buildings *undergoing change of occupancy* are subject to Section 506.9.

506.9.1 ~~1007.1~~ **Gravity loads.** Buildings or portions thereof subject to a *change of occupancy* where such change in the nature of occupancy results in higher uniform or concentrated loads based on Table 1607.1 of the *International Building Code* shall comply with the gravity load provisions of the *International Building Code*.

Exception: Structural elements whose stress is not increased by more than 5 percent.

506.9.2 ~~1007.2~~ **Snow and wind loads.** Buildings and structures subject to a *change of occupancy* where such change in the nature of occupancy results in higher wind or snow risk categories based on Table 1604.5 of the *International Building Code* shall be analyzed and shall comply with the applicable wind or snow load provisions of the *International Building Code*.

Exception: Where the new occupancy with a higher risk category is less than or equal to 10 percent of the total building floor area. The cumulative effect of the area of occupancy changes shall be considered for the purposes of this exception.

506.9.3 ~~1007.3~~ **Seismic loads.** *Existing buildings* with a *change of occupancy* shall comply with the seismic provisions of Sections 1007.3.1 and 1007.3.2.

506.9.3.1 ~~1007.3.1~~ **Compliance with International Building Code-level seismic forces.** Where a building or portion thereof is subject to a *change of occupancy* that results in the building being assigned to a higher risk category based on Table 1604.5 of the *International Building Code*, the building shall comply with the

requirements for *International Building Code*-level seismic forces as specified in Section 301.1.4.1 for the new risk category.

Exceptions:

1. Where approved by the *code official*, specific detailing provisions required for a new structure are not required to be met where it can be shown that an equivalent level of performance and seismic safety is obtained for the applicable risk category based on the provision for reduced *International Building Code*-level seismic forces as specified in Section 301.1.4.2.
2. Where the area of the new occupancy with a higher hazard category is less than or equal to 10 percent of the total building floor area and the new occupancy is not classified as Risk Category IV. For the purposes of this exception, buildings occupied by two or more occupancies not included in the same risk category, shall be subject to the provisions of Section 1604.5.1 of the *International Building Code*. The cumulative effect of the area of occupancy changes shall be considered for the purposes of this exception.
3. Unreinforced masonry bearing wall buildings in Risk Category III when assigned to Seismic Design Category A or B shall be allowed to be strengthened to meet the requirements of Appendix Chapter A1 of this code [Guidelines for the Seismic Retrofit of Existing Buildings (GSREB)].

506.9.3.2 1007.3.2 Access to Risk Category IV. Where a *change of occupancy* is such that compliance with Section 1007.3.1 is required and the building is assigned to Risk Category IV, the operational access to the building shall not be through an adjacent structure, unless that structure conforms to the requirements for Risk Category IV structures. Where operational access is less than 10 feet (3048 mm) from either an interior lot line or from another structure, access protection from potential falling debris shall be provided by the owner of the Risk Category IV structure.

**SECTION 1008
ELECTRICAL**

506.10 Electrical. Electrical equipment and wiring shall comply with Sections 506.10.1 through 506.10.4.

506.10.1 1008.1 Special occupancies. Where the occupancy of an *existing building* or part of an *existing building* is changed to one of the following special occupancies as described in NFPA 70, the electrical wiring and equipment of the building or portion thereof that contains the proposed occupancy shall comply with the applicable requirements of NFPA 70 whether or not a *change of occupancy* group is involved:

1. Hazardous locations.
2. Commercial garages, *repair*, and storage.
3. Aircraft hangars.
4. Gasoline dispensing and service stations.
5. Bulk storage plants.
6. Spray application, dipping, and coating processes.
7. Health care facilities.
8. Places of assembly.
9. Theaters, audience areas of motion picture and television studios, and similar locations.
10. Motion picture and television studios and similar locations.
11. Motion picture projectors.
12. Agricultural buildings.

506.10.2 1008.2 Unsafe conditions. Where the occupancy of an *existing building* or part of an *existing building* is changed, all unsafe conditions shall be corrected without requiring that all parts of the electrical system comply with NFPA 70.

506.10.3 1008.3 Service upgrade. Where the occupancy of an *existing building* or part of an *existing building* is changed, electrical service shall be upgraded to meet the requirements of NFPA 70 for the new occupancy.

506.10.4 1008.4 Number of electrical outlets. Where the occupancy of an *existing building* or part of an *existing building* is changed, the number of electrical outlets shall comply with NFPA 70 for the new occupancy.

**SECTION 1009
MECHANICAL**

506.11 1009.1 Mechanical requirements. Where the occupancy of an *existing building* or part of an *existing building* is changed such that the new occupancy is subject to different kitchen exhaust requirements or to increased mechanical ventilation requirements in accordance with the *International Mechanical Code*, the new occupancy shall comply with the respective *International Mechanical Code* provisions.

**SECTION 1010
PLUMBING**

506.12 Plumbing. Plumbing equipment and systems shall comply with Section 506.12.

506.12.1 ~~1010.1~~ Increased demand. Where the occupancy of an *existing building* or part of an *existing building* is changed such that the new occupancy is subject to increased or different plumbing fixture requirements or to increased water supply requirements in accordance with the *International Plumbing Code*, the new occupancy shall comply with the intent of the respective *International Plumbing Code* provisions.

506.12.2 ~~1010.2~~ Food-handling occupancies. If the new occupancy is a food-handling establishment, all existing sanitary waste lines above the food or drink preparation or storage areas shall be panned or otherwise protected to prevent leaking pipes or condensation on pipes from contaminating food or drink. New drainage lines shall not be installed above such areas and shall be protected in accordance with the *International Plumbing Code*.

506.12.3 ~~1010.3~~ Interceptor required. If the new occupancy will produce grease or oil-laden wastes, interceptors shall be provided as required in the *International Plumbing Code*.

506.12.4 ~~1010.4~~ Chemical wastes. If the new occupancy will produce chemical wastes, the following shall apply:

1. If the existing piping is not compatible with the chemical waste, the waste shall be neutralized prior to entering the drainage system, or the piping shall be changed to a compatible material.
2. No chemical waste shall discharge to a public sewer system without the approval of the sewage authority.

506.12.5 ~~1010.5~~ Group I-2. If the occupancy group is changed to Group I-2, the plumbing system shall comply with the applicable requirements of the *International Plumbing Code*.

SECTION 1011

OTHER REQUIREMENTS

506.13 ~~1011.1~~ Light and ventilation. Light and ventilation shall comply with the requirements of the *International Building Code* for the new occupancy.

SECTION 1012

CHANGE OF OCCUPANCY CLASSIFICATION

506.14 Change of occupancy classification. ~~1012.1 General.~~ The provisions of this section shall apply to buildings or portions thereof undergoing a change of occupancy classification. This includes a change of occupancy classification within a group as well as a change of occupancy classification from one group to a different group or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code*. Such buildings shall also comply with Sections 1002 through 1011. The application of requirements for the change of occupancy shall be as set forth in Sections 1012.1.1 through 1012.1.4. A *change of occupancy*, as defined in Section 202, without a corresponding change of occupancy classification shall comply with Section 1001.2.

506.14.1 ~~1012.1.1~~ Compliance with ~~Chapter 9~~ Section 505. The requirements of ~~Chapter 9~~ Section 505 shall be applicable throughout the building for the new occupancy classification based on the separation conditions set forth in Sections 1012.1.1.1 and 1012.1.1.2.

506.14.1.1 ~~1012.1.1.1~~ Change of occupancy classification without separation. Where a portion of an *existing building* is changed to a new occupancy classification or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code*, and that portion is not separated from the remainder of the building with fire barriers having a fire-resistance rating as required in the *International Building Code* for the separate occupancy, the entire building shall comply with all of the requirements of ~~Chapter 9~~ Section 505 applied throughout the building for the most restrictive occupancy classification in the building and with the requirements of this section ~~chapter~~.

506.14.1.2 ~~1012.1.1.2~~ Change of occupancy classification with separation. Where a portion of an *existing building* is changed to a new occupancy classification or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code*, and that portion is separated from the remainder of the building with fire barriers having a fire-resistance rating as required in the *International Building Code* for the separate occupancy, that portion shall comply with all of the requirements of ~~Chapter 9~~ Section 505 for the new occupancy classification and with the requirements of this section ~~chapter~~.

506.14.2 ~~1012.1.2~~ Fire protection and interior finish. The provisions of Sections 1012.2 and 1012.3 for fire protection and interior finish, respectively, shall apply to all buildings undergoing a change of occupancy classification.

506.14.3 ~~1012.1.3~~ Change of occupancy classification based on hazard category. The relative degree of hazard between different occupancy classifications shall be determined in accordance with the categories specified in Tables 1012.4, 1012.5 and 1012.6. Such a determination shall be the basis for the application of Sections 1012.4 through 1012.7.

506.14.4 ~~1012.1.4~~ **Accessibility.** All buildings undergoing a change of occupancy classification shall comply with Section 1012.8.

~~1012.2 Fire protection systems.~~ Fire protection systems shall be provided in accordance with Sections 1012.2.1 and 1012.2.2.

506.14.5 ~~1012.2.1~~ **Fire sprinkler system.** Where a change in occupancy classification occurs or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code* that requires an automatic fire sprinkler system to be provided based on the new occupancy in accordance with Chapter 9 of the *International Building Code*, such system shall be provided throughout the area where the *change of occupancy* occurs.

506.14.6 ~~1012.2.2~~ **Fire alarm and detection system.** Where a change in occupancy classification occurs or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code* that requires a fire alarm and detection system to be provided based on the new occupancy in accordance with Chapter 9 of the *International Building Code*, such system shall be provided throughout the area where the *change of occupancy* occurs. Existing alarm notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm notification appliances shall be provided throughout the area where the *change of occupancy* occurs in accordance with Section 907 of the *International Building Code* as required for new construction.

506.14.7 ~~1012.3~~ **Interior finish.** In areas of the building undergoing the change of occupancy classification, the interior finish of walls and ceilings shall comply with the requirements of the *International Building Code* for the new occupancy classification.

506.14.8 ~~1012.4~~ **Means of egress, general.** Hazard categories in regard to life safety and means of egress shall be in accordance with Table 1012.4.

TABLE 506.14.8 ~~1012.4~~ **MEANS OF EGRESS HAZARD CATEGORIES**

506.14.8.1 ~~1012.4.1~~ **Means of egress for change to higher hazard category.** When a change of occupancy classification is made to a higher hazard category (lower number) as shown in Table 1012.4, the means of egress shall comply with the requirements of Chapter 10 of the *International Building Code*.

Exceptions:

1. Stairways shall be enclosed in compliance with the applicable provisions of Section 903.1.
2. Existing stairways including handrails and guards complying with the requirements of ~~Chapter 9~~ Section 505 shall be permitted for continued use subject to approval of the *code official*.
3. Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.
4. Existing corridor walls constructed on both sides of wood lath and plaster in good condition or 1/2-inch-thick (12.7 mm) gypsum wallboard shall be permitted. Such walls shall either terminate at the underside of a ceiling of equivalent construction or extend to the underside of the floor or roof next above.
5. Existing corridor doorways, transoms and other corridor openings shall comply with the requirements in Sections 805.5.1, 805.5.2 and 805.5.3.
6. Existing dead-end corridors shall comply with the requirements in Section 805.6.
7. An existing operable window with clear opening area no less than 4 square feet (0.38 m²) and minimum opening height and width of 22 inches (559 mm) and 20 inches (508 mm), respectively, shall be accepted as an emergency escape and rescue opening.

506.14.8.2 ~~1012.4.2~~ **Means of egress for change of use to equal or lower hazard category.** When a change of occupancy classification is made to an equal or lesser hazard category (higher number) as shown in Table 1012.4, existing elements of the means of egress shall comply with the requirements of Section 905 for the new occupancy classification. Newly constructed or configured means of egress shall comply with the requirements of Chapter 10 of the *International Building Code*.

Exception: Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.

506.14.8.3 ~~1012.4.3~~ **Egress capacity.** Egress capacity shall meet or exceed the occupant load as specified in the *International Building Code* for the new occupancy.

506.14.8.4 4012.4.4 Handrails. Existing stairways shall comply with the handrail requirements of Section 805.9 in the area of the change of occupancy classification.

506.14.8.5 4012.4.5 Guards. Existing guards shall comply with the requirements in Section 805.11 in the area of the change of occupancy classification.

506.14.9 4012.5 Heights and areas. Hazard categories in regard to height and area shall be in accordance with Table 1012.5.

**TABLE 506.14.9 4012.5
HEIGHTS AND AREAS HAZARD CATEGORIES**

506.14.9.1 4012.5.1 Height and area for change to higher hazard category. When a change of occupancy classification is made to a higher hazard category as shown in Table 1012.5, heights and areas of buildings and structures shall comply with the requirements of Chapter 5 of the *International Building Code* for the new occupancy classification.

Exception: For high-rise buildings constructed in compliance with a previously issued permit, the type of construction reduction specified in Section 403.2.1 of the *International Building Code* is permitted. This shall include the reduction for columns. The high-rise building is required to be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the *International Building Code*.

506.14.9.1.1 4012.5.1.1 Fire wall alternative. In other than Groups H, F-1 and S-1, fire barriers and horizontal assemblies constructed in accordance with Sections 707 and 711, respectively, of the *International Building Code* shall be permitted to be used in lieu of fire walls to subdivide the building into separate buildings for the purpose of complying with the area limitations required for the new occupancy where all of the following conditions are met:

1. The buildings are protected throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the *International Fire Code*.
2. The maximum allowable area between fire barriers, horizontal assemblies, or any combination thereof shall not exceed the maximum allowable area determined in accordance with Chapter 5 of the *International Building Code* without an increase allowed for an automatic sprinkler system in accordance with Section 506 of the *International Building Code*.
3. The fire-resistance rating of the fire barriers and horizontal assemblies shall be not less than that specified for fire walls in Table 706.4 of the *International Building Code*.

Exception: Where horizontal assemblies are used to limit the maximum allowable area, the required fire-resistance rating of the horizontal assemblies shall be permitted to be reduced by 1 hour provided the height and number of stories increases allowed for an automatic sprinkler system by Section 504 of the *International Building Code* are not used for the buildings.

506.14.9.2 4012.5.2 Height and area for change to equal or lesser hazard category. When a change of occupancy classification is made to an equal or lesser hazard category as shown in Table 1012.5, the height and area of the *existing building* shall be deemed acceptable.

506.14.9.3 4012.5.3 Fire barriers. When a change of occupancy classification is made to a higher hazard category as shown in Table 1012.5, fire barriers in separated mixed use buildings shall comply with the fire-resistance requirements of the *International Building Code*.

Exception: Where the fire barriers are required to have a 1-hour fire-resistance rating, existing wood lath and plaster in good condition or existing 1/2-inch-thick (12.7 mm) gypsum wallboard shall be permitted.

506.14.10 4012.6 Exterior wall fire-resistance ratings. Hazard categories in regard to fire-resistance ratings of exterior walls shall be in accordance with Table 1012.6.

**TABLE 506.14.10 4012.6
EXPOSURE OF EXTERIOR WALLS HAZARD CATEGORIES**

506.14.10.1 4012.6.1 Exterior wall rating for change of occupancy classification to a higher hazard category. When a change of occupancy classification is made to a higher hazard category as shown in Table 1012.6, exterior walls shall have fire resistance and exterior opening protectives as required by the *International Building Code*.

Exception: A 2-hour fire-resistance rating shall be allowed where the building does not exceed three stories in height and is classified as one of the following groups: A-2 and A-3 with an occupant load of less than 300, B, F, M or S.

506.14.10.2 1012.6.2 Exterior wall rating for change of occupancy classification to an equal or lesser hazard category. When a change of occupancy classification is made to an equal or lesser hazard category as shown in Table 1012.6, existing exterior walls, including openings, shall be accepted.

506.14.10.3 1012.6.3 Opening protectives. Openings in exterior walls shall be protected as required by the *International Building Code*. Where openings in the exterior walls are required to be protected because of their distance from the lot line, the sum of the area of such openings shall not exceed 50 percent of the total area of the wall in each story.

Exceptions:

1. Where the *International Building Code* permits openings in excess of 50 percent.
2. Protected openings shall not be required in buildings of Group R occupancy that do not exceed three stories in height and that are located not less than 3 feet (914 mm) from the lot line.
3. Where exterior opening protectives are required, an automatic sprinkler system throughout may be substituted for opening protection.
4. Exterior opening protectives are not required when the change of occupancy group is to an equal or lower hazard classification in accordance with Table 1012.6.

506.14.11 1012.7 Enclosure of vertical shafts. Enclosure of vertical shafts shall be in accordance with Sections 1012.7.1 through 1012.7.4.

506.14.11.1 1012.7.1 Minimum requirements. Vertical shafts shall be designed to meet the *International Building Code* requirements for atriums or the requirements of this section.

506.14.11.2 1012.7.2 Stairways. When a change of occupancy classification is made to a higher hazard category as shown in Table 1012.4, interior stairways shall be enclosed as required by the *International Building Code*.

Exceptions:

1. In other than Group I occupancies, an enclosure shall not be required for openings serving only one adjacent floor and that are not connected with corridors or stairways serving other floors.
2. Unenclosed existing stairways need not be enclosed in a continuous vertical shaft if each story is separated from other stories by 1-hour fire-resistance-rated construction or approved wired glass set in steel frames and all exit corridors are sprinklered. The openings between the corridor and the occupant space shall have at least one sprinkler head above the openings on the tenant side. The sprinkler system shall be permitted to be supplied from the domestic water-supply systems, provided the system is of adequate pressure, capacity, and sizing for the combined domestic and sprinkler requirements.
3. Existing penetrations of stairway enclosures shall be accepted if they are protected in accordance with the *International Building Code*.

506.14.11.3 1012.7.3 Other vertical shafts. Interior vertical shafts other than stairways, including but not limited to elevator hoistways and service and utility shafts, shall be enclosed as required by the *International Building Code* when there is a change of use to a higher hazard category as specified in Table 1012.4.

Exceptions:

1. Existing 1-hour interior shaft enclosures shall be accepted where a higher rating is required.
2. Vertical openings, other than stairways, in buildings of other than Group I occupancy and connecting less than six stories shall not be required to be enclosed if the entire building is provided with an approved automatic sprinkler system.

506.14.11.4 1012.7.4 Openings. All openings into existing vertical shaft enclosures shall be protected by fire assemblies having a fire protection rating of not less than 1 hour and shall be maintained self-closing or shall be automatic-closing by actuation of a smoke detector. All other openings shall be fire protected in an approved manner. Existing fusible link-type automatic door-closing devices shall be permitted in all shafts except stairways if the fusible link rating does not exceed 135°F (57°C).

506.14.12 1012.8 Accessibility. Existing buildings that undergo a change of group or occupancy classification shall comply with this section.

Exception: Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in existing buildings and facilities undergoing a *change of occupancy* in conjunction with less than a Level 3 alteration.

506.14.12.1 1012.8.1 Partial change in occupancy. Where a portion of the building is changed to a new occupancy classification, any alteration shall comply with Sections 705, 806 and 906, as applicable.

506.14.12.2 1012.8.2 Complete change of occupancy. Where an entire building undergoes a *change of occupancy*, it shall comply with Section 1012.8.1 and shall have all of the following accessible features:

1. At least one accessible building entrance.

2. At least one accessible route from an accessible building entrance to *primary function* areas.
3. Signage complying with Section 1111 of the *International Building Code*.
4. Accessible parking, where parking is provided.
5. At least one accessible passenger loading zone, where loading zones are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is *technically infeasible* to comply with the new construction standards for any of these requirements for a change of group or occupancy, the above items shall conform to the requirements to the maximum extent technically feasible.

Exception: The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.

CHAPTER 11
ADDITIONS
SECTION 507 4404
ADDITIONS
GENERAL

507.1 4404.1 Scope. An *addition* to a building or structure shall comply with the *International Codes* as adopted for new construction without requiring the *existing building* or structure to comply with any requirements of those codes or of these provisions, except as required by this section ~~chapter~~. Where an *addition* impacts the *existing building* or structure, that portion shall comply with this code.

507.2 4404.2 Creation or extension of nonconformity. An *addition* shall not create or extend any nonconformity in the *existing building* to which the *addition* is being made with regard to accessibility, structural strength, fire safety, means of egress, or the capacity of mechanical, plumbing, or electrical systems.

507.3 4404.3 Other work. Any *repair* or *alteration* work within an *existing building* to which an *addition* is being made shall comply with the applicable requirements for the work as classified in Section 501 ~~Chapter 5~~.

SECTION 4402
HEIGHTS AND AREAS

507.4 4402.1 Height limitations. No *addition* shall increase the height of an *existing building* beyond that permitted under the applicable provisions of Chapter 5 of the *International Building Code* for new buildings.

507.5 4402.2 Area limitations. No *addition* shall increase the area of an *existing building* beyond that permitted under the applicable provisions of Chapter 5 of the *International Building Code* for new buildings unless fire separation as required by the *International Building Code* is provided.

Exception: In-filling of floor openings and nonoccupiable appendages such as elevator and exit stairway shafts shall be permitted beyond that permitted by the *International Building Code*.

507.6 4402.3 Fire protection systems. Existing fire areas increased by the *addition* shall comply with Chapter 9 of the *International Building Code*.

SECTION 4403
STRUCTURAL

507.7 Structural. 4403.1 Compliance with the International Building Code. *Additions to existing buildings* or structures are new construction and shall comply with the *International Building Code*.

507.7.1 4403.2 Additional gravity loads. Existing structural elements supporting any additional gravity loads as a result of additions shall comply with the *International Building Code*.

Exceptions:

1. Structural elements whose stress is not increased by more than 5 percent.
2. Buildings of Group R occupancy with no more than five dwelling units or sleeping units used solely for residential purposes where the *existing building* and the *addition* comply with the conventional light-frame construction methods of the *International Building Code* or the provisions of the *International Residential Code*.

507.7.2 4403.3 Lateral force-resisting system. The lateral force-resisting system of *existing buildings* to which additions are made shall comply with Sections 1103.3.1, 1103.3.2 and 1103.3.3.

Exceptions:

1. Buildings of Group R occupancy with no more than five dwelling or sleeping units used solely for residential purposes where the *existing building* and the *addition* comply with the conventional light-frame construction methods of the *International Building Code* or the provisions of the *International Residential Code*.

2. Any existing lateral load-carrying structural element whose demand-capacity ratio with the addition considered is not more than 10 percent greater than its demand-capacity ratio with the addition ignored shall be permitted to remain unaltered. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of additions and alterations since original construction. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations involving *International Building Code*-level seismic forces in accordance with Section 301.1.4.1.

507.7.2.1 ~~1103.3.1~~ **Vertical addition.** Any element of the lateral force-resisting system of an *existing building* subjected to an increase in vertical or lateral loads from the vertical *addition* shall comply with the *International Building Code* wind provisions and the *International Building Code*-level seismic forces specified in Section 301.1.4.1 of this code.

507.7.2.2 ~~1103.3.2~~ **Horizontal addition.** Where horizontal *additions* are structurally connected to an existing structure, all lateral force-resisting elements of the existing structure affected by such *addition* shall comply with the *International Building Code* wind provisions and the IBC-level seismic forces specified in Section 301.1.4.1 of this code.

507.7.2.3 ~~1103.3.3~~ **Voluntary addition of structural elements to improve the lateral force-resisting system.** Voluntary addition of structural elements to improve the lateral force-resisting system of an *existing building* shall comply with Section 807.6.

507.7.3 ~~1103.4~~ **Snow drift loads.** Any structural element of an *existing building* subjected to additional loads from the effects of snow drift as a result of an *addition* shall comply with the *International Building Code*.

Exceptions:

1. Structural elements whose stress is not increased by more than 5 percent.
2. Buildings of Group R occupancy with no more than five dwelling units or sleeping units used solely for residential purposes where the *existing building* and the *addition* comply with the conventional light-frame construction methods of the *International Building Code* or the provisions of the *International Residential Code*.

507.7.4 ~~1103.5~~ **Flood hazard areas.** *Additions* and *foundations* in *flood hazard areas* shall comply with the following requirements:

1. For horizontal *additions* that are structurally interconnected to the *existing building*:
 - 1.1. If the *addition* and all other proposed work, when combined, constitute *substantial improvement*, the *existing building* and the *addition* shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.
 - 1.2. If the *addition* constitutes *substantial improvement*, the *existing building* and the *addition* shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.
2. For horizontal *additions* that are not structurally interconnected to the *existing building*:
 - 2.1. The *addition* shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.
 - 2.2. If the *addition* and all other proposed work, when combined, constitute *substantial improvement*, the *existing building* and the *addition* shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.
3. For vertical *additions* and all other proposed work that, when combined, constitute *substantial improvement*, the *existing building* shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.
4. For a raised or extended foundation, if the foundation work and all other proposed work, when combined, constitute *substantial improvement*, the *existing building* shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.
5. For a new foundation or replacement foundation, the foundation shall comply with Section 1612 of the *International Building Code* or Section R322 of the *International Residential Code*, as applicable.

SECTION 1104

SMOKE ALARMS IN OCCUPANCY GROUPS R AND I-1

507.8 ~~1104.1~~ **Smoke alarms in existing portions of a building.** Where an *addition* is made to a building or structure of a Group R or I-1 occupancy, the *existing building* shall be provided with smoke alarms as required by Section 1103.8 of the *International Fire Code* or Section R314 of the *International Residential Code* as applicable.

SECTION 1105
ACCESSIBILITY

507.9 Accessibility. 1105.1 Minimum requirements. Accessibility provisions for new construction shall apply to additions. An addition that affects the accessibility to, or contains an area of, *primary function* shall comply with the requirements of Sections 705, 806 and 906, as applicable.

507.9.1 1105.2 Accessible dwelling units and sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for accessible units apply only to the quantity of spaces being added.

507.9.2 1105.3 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for Type A units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of the spaces being added.

507.9.3 1105.4 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for Type B units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of spaces being added.

SECTION 1106 ENERGY CONSERVATION

507.10 Energy conservation. 1106.1 Minimum requirements. Additions to existing buildings shall conform to the energy requirements of the *International Energy Conservation Code* or *International Residential Code* as they relate to new construction.

CHAPTER 12 HISTORIC BUILDINGS SECTION 508 1201 HISTORIC BUILDINGS GENERAL

508.1 1201.1 Scope. It is the intent of this ~~section~~ ~~chapter~~ to provide means for the preservation of *historic buildings*. Historical buildings shall comply with the provisions of this ~~section~~ ~~chapter~~ relating to their *repair, alteration, relocation and change of occupancy*.

508.2 1201.2 Report. A *historic building* undergoing *repair, alteration, or change of occupancy* shall be investigated and evaluated. If it is intended that the building meet the requirements of this ~~section~~ ~~chapter~~, a written report shall be prepared and filed with the *code official* by a registered design professional when such a report is necessary in the opinion of the *code official*. Such report shall be in accordance with Chapter 1 and shall identify each required safety feature that is in compliance with this ~~section~~ ~~chapter~~ and where compliance with other ~~portions~~ ~~chapters~~ of these provisions would be damaging to the contributing historic features. For buildings assigned to Seismic Design Category D, E or F, a structural evaluation describing, at a minimum, the vertical and horizontal elements of the lateral force-resisting system and any strengths or weaknesses therein shall be prepared. Additionally, the report shall describe each feature that is not in compliance with these provisions and shall demonstrate how the intent of these provisions is complied with in providing an equivalent level of safety.

508.3 1201.3 Special occupancy exceptions—museums. When a building in Group R-3 is also used for Group A, B, or M purposes such as museum tours, exhibits, and other public assembly activities, or for museums less than 3,000 square feet (279 m²), the *code official* may determine that the occupancy is Group B when life-safety conditions can be demonstrated in accordance with Section 1201.2. Adequate means of egress in such buildings, which may include a means of maintaining doors in an open position to permit egress, a limit on building occupancy to an occupant load permitted by the means of egress capacity, a limit on occupancy of certain areas or floors, or supervision by a person knowledgeable in the emergency exiting procedures, shall be provided.

508.4 1201.4 Flood hazard areas. In *flood hazard areas*, if all proposed work, including repairs, work required because of a *change of occupancy*, and *alterations*, constitutes *substantial improvement*, then the *existing building* shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.

Exception: If an *historic building* will continue to be an *historic building* after the proposed work is completed, then the proposed work is not considered a *substantial improvement*. For the purposes of this exception, an *historic building* is:

1. Listed or preliminarily determined to be eligible for listing in the National Register of Historic Places;
2. Determined by the Secretary of the U.S. Department of Interior to contribute to the historical significance of a registered historic district or a district preliminarily determined to qualify as a historic district; or
3. Designated as historic under a state or local historic preservation program that is approved by the Department of Interior.

SECTION 1202 REPAIRS

508.5 Repairs. 1202.1 General. Repairs to any portion of an *historic building* or structure shall be permitted with original or like materials and original methods of construction, subject to the provisions of this ~~section~~ ~~chapter~~. Hazardous materials, such as asbestos and lead-based paint, shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

508.5.1 1202.2 Unsafe conditions. Conditions determined by the *code official* to be *unsafe* shall be remedied. No work shall be required beyond what is required to remedy the *unsafe* conditions.

508.5.2 1202.3 Relocated buildings. Foundations of relocated *historic buildings* and structures shall comply with the *International Building Code*. Relocated *historic buildings* shall otherwise be considered an *historic building* for the purposes of this code. Relocated *historic buildings* and structures shall be sited so that exterior wall and opening requirements comply with the *International Building Code* or with the compliance alternatives of this code.

508.5.3 1202.4 Replacement. Replacement of existing or missing features using original materials shall be permitted. Partial replacement for repairs that match the original in configuration, height, and size shall be permitted.

Replacement glazing in hazardous locations shall comply with the safety glazing requirements of Chapter 24 of the *International Building Code*.

Exception: Glass block walls, louvered windows, and jalousies repaired with like materials.

SECTION 1203 FIRE SAFETY

508.6 Fire safety. 1203.1 Scope. *Historic buildings* undergoing *alterations*, *changes of occupancy*, or that are moved shall comply with Section 1203.

508.6.1 1203.2 General. Every *historic building* that does not conform to the construction requirements specified in this code for the occupancy or use and that constitutes a distinct fire hazard as defined herein shall be provided with an approved automatic fire-extinguishing system as determined appropriate by the *code official*. However, an automatic fire-extinguishing system shall not be used to substitute for, or act as an alternative to, the required number of exits from any *facility*.

508.6.2 1203.3 Means of egress. Existing door openings and corridor and stairway widths less than those specified elsewhere in this code may be approved, provided that, in the opinion of the *code official*, there is sufficient width and height for a person to pass through the opening or traverse the means of egress. When approved by the *code official*, the front or main exit doors need not swing in the direction of the path of exit travel, provided that other approved means of egress having sufficient capacity to serve the total occupant load are provided.

508.6.3 1203.4 Transoms. In fully sprinklered buildings of Group R-1, R-2 or R-3 occupancy, existing transoms in corridors and other fire-resistance-rated walls may be maintained if fixed in the closed position. A sprinkler shall be installed on each side of the transom.

508.6.4 1203.5 Interior finishes. The existing finishes of walls and ceilings shall be accepted when it is demonstrated that they are the historic finishes.

508.6.5 1203.6 Stairway enclosure. In buildings of three stories or less, exit enclosure construction shall limit the spread of smoke by the use of tight-fitting doors and solid elements. Such elements are not required to have a fire-resistance rating.

508.6.6 1203.7 One-hour fire-resistant assemblies. Where 1-hour fire-resistance-rated construction is required by these provisions, it need not be provided, regardless of construction or occupancy, where the existing wall and ceiling finish is wood or metal lath and plaster.

508.6.7 1203.8 Glazing in fire-resistance-rated systems. Historic glazing materials are permitted in interior walls required to have a 1-hour fire-resistance rating where the opening is provided with approved smoke seals and the area affected is provided with an automatic sprinkler system.

508.6.8 1203.9 Stairway railings. Grand stairways shall be accepted without complying with the handrail and guard requirements. Existing handrails and guards at all stairways shall be permitted to remain, provided they are not structurally *dangerous*.

508.6.9 1203.10 Guards. Guards shall comply with Sections 1203.10.1 and 1203.10.2.

508.6.9.1 1203.10.1 Height. Existing guards shall comply with the requirements of Section 604.

508.6.9.2 1203.10.2 Guard openings. The spacing between existing intermediate railings or openings in existing ornamental patterns shall be accepted. Missing elements or members of a guard may be replaced in a manner that will preserve the historic appearance of the building or structure.

508.6.10 ~~1203.11~~ Exit signs. Where exit sign or egress path marking location would damage the historic character of the building, alternative exit signs are permitted with approval of the *code official*. Alternative signs shall identify the exits and egress path.

508.6.11 ~~1203.12~~ Automatic fire-extinguishing systems. Every historical building that cannot be made to conform to the construction requirements specified in the *International Building Code* for the occupancy or use and that constitutes a distinct fire hazard shall be deemed to be in compliance if provided with an approved automatic fire-extinguishing system.

Exception: When the *code official* approves an alternative life-safety system.

SECTION 1204 ALTERATIONS

508.7 ~~1204.1~~ Accessibility requirements. The provisions of Sections 705, 806 and 906, as applicable, shall apply to facilities designated as historic structures that undergo *alterations*, unless *technically infeasible*. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the building or *facility*, as determined by the *code official*, the alternative requirements of Sections 1204.1.1 through 1204.1.4 for that element shall be permitted.

Exception: Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in historical buildings.

508.7.1 ~~1204.1.1~~ Site arrival points. At least one accessible route from a site arrival point to an *accessible* entrance shall be provided.

508.7.2 ~~1204.1.2~~ Multilevel buildings and facilities. An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided.

508.7.3 ~~1204.1.3~~ Entrances. At least one main entrance shall be accessible.

Exceptions:

1. If a main entrance cannot be made accessible, an accessible nonpublic entrance that is unlocked while the building is occupied shall be provided; or
2. If a main entrance cannot be made accessible, a locked accessible entrance with a notification system or remote monitoring shall be provided.

508.7.4 ~~1204.1.4~~ Toilet and bathing facilities. Where toilet rooms are provided, at least one accessible family or assisted-use toilet room complying with Section 1109.2.1 of the *International Building Code* shall be provided.

SECTION 1205 CHANGE OF OCCUPANCY

508.8 Change of occupancy. ~~1205.1 General.~~ *Historic buildings* undergoing a *change of occupancy* shall comply with the applicable provisions of ~~Chapter 10 Section 506~~, except as specifically permitted in this section ~~chapter~~. When ~~Chapter 10 Section 506~~ requires compliance with specific requirements of ~~Chapter 7, Chapter 8 or Chapter 9 Section 503, Section 504, or Section 505~~ and when those requirements are subject to the exceptions in Section ~~508.5 1202~~, the same exceptions shall apply to this section.

508.8.1 ~~1205.2~~ Building area. The allowable floor area for *historic buildings* undergoing a *change of occupancy* shall be permitted to exceed by 20 percent the allowable areas specified in Chapter 5 of the *International Building Code*.

508.8.2 ~~1205.3~~ Location on property. Historic structures undergoing a change of use to a higher hazard category in accordance with Section 1012.6 may use alternative methods to comply with the fire-resistance and exterior opening protective requirements. Such alternatives shall comply with Section 1201.2.

508.8.3 ~~1205.4~~ Occupancy separation. Required occupancy separations of 1 hour may be omitted when the building is provided with an approved automatic sprinkler system throughout.

508.8.4 ~~1205.5~~ Roof covering. Regardless of occupancy or use group, roof-covering materials not less than Class C, when tested in accordance with ASTM E 108 or UL 790, shall be permitted where a fire-retardant roof covering is required.

508.8.5 ~~1205.6~~ Means of egress. Existing door openings and corridor and stairway widths less than those that would be acceptable for nonhistoric buildings under these provisions shall be approved, provided that, in the opinion of the *code official*, there is sufficient width and height for a person to pass through the opening or traverse the exit and that the capacity of the exit system is adequate for the occupant load, or where other operational controls to limit occupancy are approved by the *code official*.

508.8.6 ~~1205.7~~ Door swing. When approved by the *code official*, existing front doors need not swing in the direction of exit travel, provided that other approved exits having sufficient capacity to serve the total occupant load are provided.

508.8.7 1205.8 Transoms. In corridor walls required by these provisions to be fire-resistance rated, existing transoms may be maintained if fixed in the closed position, and fixed wired glass set in a steel frame or other approved glazing shall be installed on one side of the transom.

Exception: Transoms conforming to Section 1203.4 shall be accepted.

508.8.8 1205.9 Finishes. Where interior finish materials are required to have a flame spread index of Class C or better, when tested in accordance with ASTM E 84 or UL 723, existing nonconforming materials shall be surfaced with approved fire-retardant paint or finish.

Exception: Existing nonconforming materials need not be surfaced with an approved fire-retardant paint or finish where the building is equipped throughout with an automatic sprinkler system installed in accordance with the *International Building Code* and the nonconforming materials can be substantiated as being historic in character.

508.8.9 1205.10 One-hour fire-resistant assemblies. Where 1-hour fire-resistance-rated construction is required by these provisions, it need not be provided, regardless of construction or occupancy, where the existing wall and ceiling finish is wood lath and plaster.

508.8.10 1205.11 Stairways and guards. Existing stairways shall comply with the requirements of these provisions. The *code official* shall grant alternatives for stairways and guards if alternative stairways are found to be acceptable or are judged to meet the intent of these provisions. Existing stairways shall comply with Section 1203.

Exception: For buildings less than 3,000 square feet (279 m²), existing conditions are permitted to remain at all stairways and guards.

508.8.11 1205.12 Exit signs. The *code official* may accept alternative exit sign locations where such signs would damage the historic character of the building or structure. Such signs shall identify the exits and exit path.

508.8.12 1205.13 Exit stair live load. Existing historic stairways in buildings changed to a Group R-1 or R-2 occupancy shall be accepted where it can be shown that the stairway can support a 75-pounds-per-square-foot (366 kg/m²) live load.

508.8.13 1205.14 Natural light. When it is determined by the *code official* that compliance with the natural light requirements of Section 1011.1 will lead to loss of historic character or historic materials in the building, the existing level of natural lighting shall be considered acceptable.

508.8.14 1205.15 Accessibility requirements. The provisions of Section 1012.8 shall apply to facilities designated as historic structures that undergo a *change of occupancy*, unless *technically infeasible*. Where compliance with the requirements for accessible routes, ramps, entrances, or toilet rooms would threaten or destroy the historic significance of the building or *facility*, as determined by the authority having jurisdiction, the alternative requirements of Sections 1204.1.1 through 1204.1.4 for those elements shall be permitted.

Exception: Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in historical buildings.

SECTION 1206 STRUCTURAL

508.9 Structural. 1206.1 General. *Historic buildings* shall comply with the applicable structural provisions for the work as classified in ~~Chapter 5~~ Section 501.

Exception: The *code official* shall be authorized to accept existing floors and approve operational controls that limit the live load on any such floor.

508.9.1 1206.2 Dangerous conditions. Conditions determined by the *code official* to be *dangerous* shall be remedied. No work shall be required beyond what is required to remedy the *dangerous* condition.

CHAPTER 13 RELOCATED OR MOVED BUILDINGS SECTION 509 1304 RELOCATED OR MOVED BUILDINGS GENERAL

509.1 1301.1 Scope. This section ~~chapter~~ provides requirements for relocated or moved structures, including relocatable buildings as defined in Chapter 2.

509.2 1301.2 Conformance. The building shall be safe for human occupancy as determined by the *International Fire Code* and the *International Property Maintenance Code*. Any *repair, alteration, or change of occupancy* undertaken within the moved structure shall comply with the requirements of this code applicable to the work being performed. Any field-fabricated elements shall comply with the requirements of the *International Building Code* or the *International Residential Code* as applicable.

SECTION 1302

REQUIREMENTS

509.3 ~~1302.1~~ Location on the lot. The building shall be located on the lot in accordance with the requirements of the *International Building Code* or the *International Residential Code* as applicable.

509.4 ~~1302.2~~ Foundation. The foundation system of relocated buildings shall comply with the *International Building Code* or the *International Residential Code* as applicable.

509.4.1 ~~1302.2.1~~ Connection to the foundation. The connection of the relocated building to the foundation shall comply with the *International Building Code* or the *International Residential Code* as applicable.

509.5 ~~1302.3~~ Wind loads. Buildings shall comply with *International Building Code* or *International Residential Code* wind provisions as applicable.

Exceptions:

1. Detached one- and two-family dwellings and Group U occupancies where wind loads at the new location are not higher than those at the previous location.
2. Structural elements whose stress is not increased by more than 10 percent.

509.6 ~~1302.4~~ Seismic loads. Buildings shall comply with *International Building Code* or *International Residential Code* seismic provisions at the new location as applicable.

Exceptions:

1. Structures in Seismic Design Categories A and B and detached one- and two-family dwellings in Seismic Design Categories A, B and C where the seismic loads at the new location are not higher than those at the previous location.
2. Structural elements whose stress is not increased by more than 10 percent.

509.7 ~~1302.5~~ Snow loads. Structures shall comply with *International Building Code* or *International Residential Code* snow loads as applicable where snow loads at the new location are higher than those at the previous location.

Exception: Structural elements whose stress is not increased by more than 5 percent.

509.8 ~~1302.6~~ Flood hazard areas. If relocated or moved into a flood hazard area, structures shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.

509.9 ~~1302.7~~ Required inspection and repairs. The code official shall be authorized to inspect, or to require approved professionals to inspect at the expense of the owner, the various structural parts of a relocated building to verify that structural components and connections have not sustained structural damage. Any repairs required by the code official as a result of such inspection shall be made prior to the final approval.