



# APPLICATION FOR APPEAL

RECEIVED  
MAR 19 2014  
CITY CLERK

Saint Paul City Clerk  
310 City Hall, 15 W. Kellogg Blvd.  
Saint Paul, Minnesota 55102  
Telephone: (651) 266-8560

The City Clerk needs the following to process your appeal:

- \$25 filing fee payable to the City of Saint Paul (if cash: receipt number check 30326)
- Copy of the City-issued orders or letter which are being appealed
- Attachments you may wish to include
- This appeal form completed
- Walk-In OR  Mail-In

<i>YOUR HEARING Date and Time:</i>
Tuesday, <u>March 25, 2014</u>
Time <u>3:00 PM</u>
<i>Location of Hearing:</i>
Room 330 City Hall/Courthouse

## Address Being Appealed:

Number & Street: 753 7th St. E City: St. Paul State: MN Zip: 55106  
 Appellant/Applicant: Crowe Construction Management crowemjcs.com (Mike)  
KMJC, LLC DBA Dellwood Gardens Email akellogge.pakproperties.net (Alissa)  
 Phone Numbers: Business (651) 203-1166 Fax (651) 203-1168 Residence (612) 275-2018 (Mike)  
 Cell (612) 805-2306 (Alissa)  
 Signature: [Signature] Date: 03/18/14  
 Name of Owner (if other than Appellant): KMJC, LLC DBA Dellwood Gardens  
 Address (if not Appellant's): 275 E. 4th Street, Suite 720, St. Paul, MN 55101  
 Phone Numbers: Business 651-224-6901 Residence \_\_\_\_\_ Cell (612) 805-2306 (Alissa)

## What Is Being Appealed and Why? *Attachments Are Acceptable*

- Vacate Order/Condemnation/Revocation of Fire C of O
- Summary/Vehicle Abatement
- Fire C of O Deficiency List
- Fire C of O: Only Egress Windows
- Code Enforcement Correction Notice
- Vacant Building Registration
- Other

Revocation of Building C of O.  
please see attachments.



CITY OF SAINT PAUL  
*Christopher B. Coleman, Mayor*

375 Jackson Street, Suite 220  
Saint Paul, Minnesota 55101-1806

Telephone: 651-266-8989  
Facsimile: 651-266-9124  
Web: [www.stpaul.gov/dsi](http://www.stpaul.gov/dsi)

March 17, 2014

Crowe Construction Management  
141 4th St E Suite 222  
St Paul Mn 55101

Job Address: 753 7TH ST E  
Permit Number : 13 206146

To Whom It May Concern:

In an email dated March 5, 2014, you were given 10 days to provide an accessible bathroom and to modify the stair handrails per your submitted and city approved plans. To this date, these requirements have not been met and no extension of time has been granted. Furthermore, in your last meeting with Building Official Steve Ubl, you were informed that the stairway locks are in violation of section 1008.1.8.6 and 1008.1.8.7 of the Minnesota State Building Code.

At this time, the building may not be occupied until these items are completed and written approval from the Building Official is granted.

If you have any questions regarding this matter, you may contact me at 651-266-9024 between 7:30 and 9:00 a.m.

Sincerely,

Todd Sutter  
Building Inspector  
Department of Safety & Inspections  
City of Saint Paul  
375 Jackson Street, Suite 220  
Saint Paul, MN 55101  
Phone: 651-266-9024  
Email: [todd.sutter@ci.stpaul.mn.us](mailto:todd.sutter@ci.stpaul.mn.us)

Patrick Crowe <pcrowe@croweconstructionmgt.com>  
To: CROWEMJ@cs.com  
(No Subject)

March 18, 2014 4:11 PM



---

Steve & Todd - I stopped by this morning to meet with you and present our proposed changes to the Dellwood Gardens plan to comply with your requests. Its unfortunate you revoked our temporary C of O over these items without allowing for dialog. We believe we are compliant with your requests for a temporary C of O.

1.) We have a 1 brand new fully accessible bathroom in unit #225 that is to serve as our ADA bathroom until we make some minor changes to the spa bathroom on floors 2, 3, and 4. This meets the travel guidelines and is all shown on a revised set of plans per the request by the City of St Paul Building inspector.

2.) The handrails in the existing stairs do not need to be modified because there was no change of use.

3.) It is our understanding that the stairways can be locked because there's an exception in the code for buildings that are 24 hour monitored. Also, the keypads are tied into the Fire Alarm and the doors unlock in the event of an emergency. This was confirmed and tested By Katie at the City of St. Paul fire department. We also have a backup generator that allows us to unlock the doors and runs when the power os down to and provide backup power to the elevators.

Patrick Crowe  
Crowe Construction Management  
612-760-4343

# C R O W E

Construction Management  
A FAMILY TRADITION SINCE 1859

Mr. Todd Sutter  
Building Inspector City of St. Paul  
Department of Safety and Inspections  
#75 Jackson Street, Suite 220  
St. Paul, MN. 55101

3/18/14

RE: 753 East 7<sup>th</sup> Street

Mr. Sutter:

We here at Crowe have worked very hard for a number of years to get and maintain a great relationship with the people who work in the City of St. Paul. We have done numerous projects all over downtown as well as most other areas in the City over the last 30 plus years, never once being threatened and have occupancy pulled. This is the first time in my memory that I feel we have treated the way we have on this project.

First we have brought back to life (although now perhaps not) a major building that had sat vacant in an area of the city that needs help. The developers have invested millions of dollars to this site to purchase and make improvements. We have worked diligently to make this project work. It is designed specifically to target an underserved population and we have had to watch every dollar spent to make sure that this was possible.

I met with Steve Ubl a couple of day ago. We now have an Architectural Plan showing those changes as requested. We are also working directly with a Fire Alarm company to come up with an acceptable exit sequence for stairway doors. Again, Staff concern is that open stairways can cause problems for people living in this sites safety. Again, some of these items came up after we met with planning staff and thought we had an understanding as to how to approach this stairway and exiting.

We met with developers before a final was issued about not locking stairway doors. This obviously did not happen. Although we are working on a plan to correct.

Again, we always work hard to meet the needs of the city as well as our clients. We patiently request that this non-occupancy letter be withdrawn and we be given several days to comply. We have included a copy of your letter dated March 17, that we received today.

If you have any questions or need any additional information, please feel free to call.

Best wishes

  
Mike Crowe

Cc: Mr. Steve Ubl

Mayor Chris Coleman

Council President, Kathy Lantry

Mr. Ricardo Cervantes

Dellwood Gardens  
753 East 7th. Street  
St. Paul, MN.

3/19/14

RE: REVOCATION OF CO

- 1, Elevator runs on Generator in a power outage off generator.
2. Building has backup generator to run life safety items, so if power goes off, areas still run.
3. We have included a code section on existing buildings regarding stair rail compliance, which we believe, allows us to keep these railings in place.
4. We can place the stairway code in fireman's box so they always have access to stairs. AND we are working to see if it is possible to install a key switch in stairway doors for Fire Department.
5. We (Rich Pakonen and I) met with planning staff before the project started to discuss concept for stairway access (only by code, and railing height. We were told that since site will have staffing 24 hours a day that leaving railing as is, because staff monitors, and door code access was ok.

Sincerely



Mike Crowe

## CHAPTER 4 ALTERATIONS AND REPAIRS TO EXISTING BUILDINGS

### SECTION 401 GENERAL

**401.1 General.** Existing buildings or structures within the scope of these guidelines shall meet the minimum standards set forth in this chapter, as well as any specific occupancy requirements set forth in these guidelines. Buildings and structures undergoing a change of occupancy or a change in the character of their use shall also meet the requirements of Chapter 5. Historic buildings and structures shall meet the requirements of Chapter 6 and the provisions of this chapter where applicable. Buildings or structures shall meet the minimum level of performance specified in this chapter through compliance with the specific provisions of these guidelines.

#### 401.2 Repairs.

**401.2.1 General.** Except as is otherwise allowed herein, work shall be done using like materials or materials permitted by the applicable code for new construction. The work shall not make the building less conforming with the building, plumbing, mechanical, electrical or fire codes, or with any previously approved alternative arrangements, than it was before the repair was undertaken.

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

**401.2.3** When any water closet is replaced, the replacement water closet shall comply with all applicable regulations governing water conservation.

**Exception:** Where the building official determines that the required toilets will not function with the existing waste disposal system of the building, other types of toilets are permitted.

**401.2.4** The work shall cause no diminution of structural strength.

**401.2.5** Hazardous materials no longer permitted, such as asbestos and lead-based paint, shall not be used.

**401.2.6** The following plumbing materials and supplies shall not be used:

1. All purpose solvent cement;
2. Flexible traps and tailpieces;
3. Sheet and tubular copper and brass trap and tailpiece fittings less than B&S 17 gage 0.045 inch (1.143 mm); and
4. Solder having more than 0.2 percent lead in the repair of potable water systems.

**401.2.7 Electrical.** Except for the following requirements, existing electrical wiring and equipment undergoing repair shall be allowed to be repaired or replaced with like material.

#### Exceptions:

1. Replacement of electrical receptacles shall comply with the applicable requirements of the Electrical Code.
2. 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 the Electrical Code.
3. 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, as allowed and described in applicable sections of the Electrical Code.
4. Non-"hospital grade" receptacles in patient bed locations of Use Group I-2 shall be replaced with "hospital grade" receptacles, as required by NFPA 99.
5. 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 if all the applicable conditions of the Electrical Code are met.

### SECTION 402 HEIGHTS AND AREAS

**402.1 General.** The heights and areas of existing buildings or structures shall be acceptable, provided the requirements of this chapter are satisfied. Requirements for buildings and structures undergoing a change of occupancy shall be as provided in Chapter 5.

### SECTION 403 LIFE SAFETY

**403.1 General.** Safety to life in existing buildings and structures shall meet the intent of the Building Code. The provisions of this section shall be deemed as meeting the intent of the Building Code for existing buildings, provided that none of the life-safety features required by the code under which the building was constructed will be reduced below the level established by that code or equivalent provisions of the currently adopted Building Code.

**403.2 Means of egress.** Means of egress system capacity and the arrangement of exits shall comply with the requirements of the Building Code. Means of egress systems complying with Sections 403.1 through 403.18 shall be deemed as meeting the intent of the Building Code for existing buildings, provided



that an exit system evaluated under the provisions of these guidelines is judged by the building official to be at least equivalent to the exit system that was required by the code under which the building was constructed or equivalent provisions of the currently adopted Building Code. Every required means of egress shall have access to a public way, directly or through yards, courts or similar spaces, and such access shall be permanently maintained clear of any obstruction that would impede egress.

**Exceptions:**

1. Buildings in which the reconfiguration of space affecting exits and/or shared egress access is exclusively the result of compliance with the accessibility requirements of these guidelines shall not be required to comply with this chapter.
2. Existing dead end corridors may be extended and new dead end corridors may be added in accordance with Section 403.18.
3. Where the work area and the means of egress serving the work area complies with NFPA 101.

**403.2.1 Number of means of egress.** Every story utilized for human occupancy on which there is a work area shall be provided with the minimum number of exits required by the Building Code. Occupants of every floor above the first story and basements shall have access to at least two separate means of egress.

**Exceptions:**

1. In all occupancies, second stories with an occupant load of less than 10 may have one means of egress.
2. Only one means of egress need be provided from the second story within an individual dwelling unit that has an occupant load of less than 10.
3. Two or more dwelling units on the second story may have access to only one common means of egress when the total occupant load does not exceed 10.
4. Floors and basements used exclusively for service of the building may have one means of egress. For the purposes of this exception, storage rooms, laundry rooms, maintenance offices and similar uses shall not be considered as providing service to the building.
5. Basements within an individual dwelling unit having an occupant load of less than 10 may have one means of egress.
6. Occupied roofs on Group R, Division 3 Occupancies may have one means of egress if such occupied areas are less than 500 square feet (46.45 m<sup>2</sup>) and are located no higher than immediately above the second story.
7. When more than one exit is required, an existing or newly constructed fire escape, complying with the following limitations, shall be accepted subject to the approval of the building official, as providing one of the required means of egress. A fire escape shall not be substituted for a stairway that was required by the code under which the building was constructed. The fire escape shall not be the primary or the only means of egress.
  - 7.1 All occupants shall have unobstructed access to the fire escape without having to pass through a room subject to locking. Access to the fire escape shall be marked by an exit sign.
  - 7.2 Access to a fire escape shall be through a door, except that windows shall be permitted from single dwelling units or guest rooms in Use Groups R-1, R-2 and I-1 or when serving spaces having a maximum occupant load of 10 in other Use Groups.
  - 7.3 In all buildings of Use Group E up to and including the 12th grade, buildings of Use Group I, rooming houses and child care centers, ladders of any type are prohibited on fire escapes used as a required means of egress.
  - 7.4 Newly constructed fire escapes shall be permitted only where exterior stairs cannot be used due to lot lines limiting stair size or due to the sidewalks, alleys, or roads at grade level. New fire escapes shall not incorporate ladders or access by windows.
8. Slidescapes or safety chutes shall be permitted as allowed by the Building Code.
9. Except in buildings of Use Group I and in rooming houses and child care centers, 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 (22.9 m).
10. In buildings of Use Group R-2 that are equipped throughout with an automatic fire sprinkler system, only one exit shall be required from basements or stories below grade.
11. In buildings of Use Group R-2 that are not 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 (0.4645 m<sup>2</sup>) in area, a minimum net clear opening of 24 inches (609.6 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.
12. In multilevel dwelling units in buildings of Use Groups R-1 or R-2, an exit shall not be required from each level of the dwelling unit provided that the following conditions are met:
  - 12.1 The building in which such dwelling units are contained is of Type I or Type 2 construction and the travel distance within the dwelling unit does not exceed 75 feet (22 860 mm); or
  - 12.2 The building in which such dwelling units are contained 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.

**403.3 Stairways.** Existing winding or spiral stairways may serve as one means of egress from a building, provided that a complying handrail is located at the stairs' outside perimeter. A winding or spiral stairway may not be the principal means of egress when used in conjunction with a fire escape as a second means of egress. Means of egress width shall comply with the Building Code. Circular stairways complying with the Building Code shall be acceptable as a means of egress.

**403.3.1 Rise and run.** The largest tread run within any flight of stairs shall not exceed the smallest by more than  $\frac{3}{8}$  inch (9.5 mm). The greatest riser height within any flight of stairs shall not exceed the smallest by more than  $\frac{3}{8}$  inch (9.5 mm).

**403.4 Handrails.** The following requirements shall apply from the highest work area floor to the level of exit discharge.

**403.4.1** Every required exit stairway that is part of the means of egress for any work area that has three or more risers and that 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 run of steps 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. Spiral and winding stairways shall have a handrail on the outside perimeter.

**403.4.2** Where there are no handrails or where the existing handrails must be replaced in accordance with Section 403.4, the handrails shall be designed and installed in accordance with the provisions of the Building Code.

**403.5 Guards.** All unenclosed floor and roof openings, open and glazed sides of stairways, landings and ramps, balconies or porches that are more than 30 inches (762 mm) above grade or the floor below, and roofs used for other than service of the building shall be protected by a guard. This section shall apply from the highest work area floor to the level of exit discharge, but shall be confined to the egress path of any work area.

Exception: Guards need not be provided at the following locations:

1. On the loading side of loading docks.
2. On the auditorium side of a stage or enclosed platform.
3. On private stairways 30 inches (762 mm) or less in height.

**403.5.1** Existing guards, other than guards located on the open side of a stairway that are at least 36 inches (914 mm) in height, shall be permitted to remain. Guards lower than 36 inches (914 mm) in height shall be augmented or corrected to raise their effective height to 36 inches (914 mm). Guards for stairways, exclusive of their landings, may have a height that is not less than 30 inches (762 mm) measured above the nosing of treads. When approved by the building official, the

spacing between existing intermediate railings or openings in existing ornamental patterns may be accepted. See Section 608 for existing guards in historical structures.

**403.5.2** Where there are no guards or where the existing guards must be replaced in accordance with Section 403.5, the guards shall be designed and installed in accordance with the Building Code.

**403.6 Fire escape construction requirements.** Fire escapes shall meet the following requirements. Fire escapes shall be subject to reinspection as required by the building official. The building official may require documentation to show compliance with the requirements of this section.

Fire escapes shall comply with the following:

1. All openings in an exterior wall below or within 10 feet (3048 mm), measured horizontally, of an existing fire escape serving a building over two stories in height shall be protected by a self-closing fire assembly having a  $\frac{3}{4}$ -hour fire-protection rating. When located within a recess or vestibule, adjacent enclosure walls shall not be of less than 1-hour fire-resistant construction.
2. Fire escape stairways and their balconies shall support their dead load plus a live load of not less than 100 pounds per square foot (4788 Pa) or a concentrated load of 300 pounds (1334 N) placed anywhere on the balcony or stairway to produce the maximum stress conditions. The stairway shall have a slope not to exceed 60 degrees (1 rad) from the horizontal and shall have a minimum width of 18 inches (457 mm). The stairway shall be provided with a top and intermediate railing on each side. Treads shall not be less than 4 inches (102 mm) in width and the rise between treads shall not exceed 10 inches (254 mm). All stairway and balcony railings shall support a horizontally applied force of not less than 50 pounds per lineal foot (218.9 N/m) of railing or a concentrated load of 200 pounds (890 N) placed anywhere on the railing to produce the maximum stress conditions.
3. Fire escape balconies shall not be less than 44 inches (1118 mm) in width with no floor opening greater than  $\frac{5}{8}$  inch (15.9 mm) in width except the stairway opening. Stairway openings in such balconies shall not be less than 22 inches by 44 inches (559 mm by 1118 mm). The guard of each balcony shall not be less than 36 inches (914 mm) high with not more than 9 inches (229 mm) between intermediate rails.
4. Fire escapes shall extend to the roof or provide an approved gooseneck ladder between the top floor landing and the roof when serving buildings that are four or more stories in height and that have roofs with a slope not exceeding 4 units vertical in 12 units horizontal (33.3 percent slope). Such ladders shall be designed and connected to the building to withstand a horizontal force of 100 pounds per lineal foot (1459 N/m); each rung shall support a concentrated load of 500 pounds (2224 N) placed anywhere on the rung to produce the maximum stress conditions. All ladders shall be at least 15 inches (381 mm) in clear width, shall be located within 12 inches (305 mm) of the building and shall be placed flatwise relative to the face of the building. Ladder rungs shall be  $\frac{3}{4}$  inch (19.1 mm) in diameter and shall be located 10 inches to 12 inches (254 mm to 305 mm) on center. Openings for roof

access ladders through cornices and similar projections shall have minimum dimensions of 30 inches by 33 inches (762 mm by 838 mm).

5. The lowest balcony shall not be more than 18 feet (5486 mm) from the ground. Fire escapes shall extend to the ground or be provided with counterbalanced stairs reaching to the ground.
6. Fire escapes shall be kept clear and unobstructed at all times and maintained in good working order.
7. The fire escape shall have a clearance from electrical service conductors as required by the Electrical Code.

**403.7 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.

**403.8 Single exit buildings.** In buildings having only one exit, the single exit condition serving the work area shall be permitted to continue as follows:

1. In buildings permitted to have a single exit in accordance with the Building Code.
2. In buildings of Use Group R-3.
3. In buildings of Use Groups R-1 and R-2, from floors that are not more than 16 feet (4877 mm) above exterior grade, except that in community residences for the developmentally disabled, the maximum occupant load, excluding staff, is 12.
4. In buildings of Use Groups R-1 and R-2, not more than two stories in height, from floors that are more than 16 feet (4877 mm) above exterior grade, 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), except that in community residences for the developmentally disabled, the maximum occupant load, excluding staff, is 12. The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be 1 hour.
5. Any building of Use Group R-2 of three stories or less shall be permitted to have a single exit provided the following conditions are met:
  - 5.1 The stairway is separated from the rest of the building by construction having a minimum fire-resistance rating of 1 hour with self-closing 1-hour fire doors protecting all openings between the stair enclosure and the building;
  - 5.2 The stairway does not serve more than one-half story below the level of exit discharge;
  - 5.3 All corridors serving as access to exits from the work area have a minimum fire-resistance rating of 20 minutes;
  - 5.4 There is not more than 35 feet (10.7 m) of travel distance from the entrance door of any living unit in the work area to an exit; and

5.5 Twenty-minute fire-resistance-rated horizontal and vertical separation between living units in the work area is provided.

6. In buildings of Use Group R-2 of any height with not more than four living units per floor, with a smokeproof enclosure or outside stair as an exit, and with such exit within 20 feet (6096 mm) of travel to the entrance doors to all living units served thereby.
7. In buildings of Use Group B, F-2 or S-2 not more than two stories in height and not greater than 3,000 square feet (278.7 m<sup>2</sup>) per floor, 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.
8. In open parking structures where vehicles are mechanically parked.

**403.9** All buildings of Use Group A with an occupant load of 100 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 the total occupant load. The remaining exits shall be capable of providing one-half the total required exit capacity.

**Exception:** As permitted by the Building Code.

**403.10 Capacity of means of egress.** The capacity of the means of egress in each work area and throughout the egress path of each work area shall be sufficient for the occupant load thereof. Capacity shall be determined in accordance with the Building Code. The occupant load of a space shall be determined by whichever of the following methods provides the higher number:

1. Divide the floor area by the occupant load factor for this use group as provided in the Building Code.
2. The actual number of occupants for whom the work area is designed.

**Exception:** The Building Official shall be permitted to establish the occupant load as the number of persons for which existing means of egress is adequate, provided that measures are established to prevent occupancy by a greater number of persons.

**403.11 Means of egress lighting.**

**403.11.1** Means of egress in all work areas shall be provided with artificial lighting in accordance with the requirements of the Building Code.

**403.11.2 (Supplemental requirement)** Where the work area on any floor exceeds 50 percent of that floor area, means of egress throughout the floor shall be provided with artificial lighting in accordance with the requirements of the Building Code.

**Exception:** Means of egress within a tenant space that is entirely outside the work area need not comply.

**403.11.3 (Supplemental requirement)** In a building with work areas involving over 50 percent of the aggregate floor area within the building, means of egress from the floor of the highest work area to the floor of exit discharge, and all intermediate floors, shall be provided with artificial lighting within the exit enclosure in accordance with the requirements of the Building Code.

**403.12 Exit signs.**

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

**403.12.2 (Supplemental requirement)** Where the work area on any floor exceeds 50 percent of that floor area, means of egress throughout the floor shall be provided with exit signs in accordance with the requirements of the Building Code.

**Exception:** Means of egress within a tenant space that is entirely outside the work area need not comply.

**403.12.3 (Supplemental requirement)** In a building with work areas involving over 50 percent of the aggregate floor area within the building, means of egress from the floor of the highest work area to the floor of exit discharge shall be provided with exit signs in accordance with the requirements of the Building Code.

**403.13 Egress doorways.**

**403.13.1** In any work area, all rooms and spaces having an occupant load greater than 50 or in which the travel distance 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 403.8.

**403.13.2** In buildings of Use Group I-2, any patient sleeping room or suite of rooms greater than 1,000 square feet (92.9 m<sup>2</sup>) in the work area shall have a minimum of two egress doorways.

**403.14 Corridors.** Corridors serving as a part of the means of egress system that have an occupant load of 30 or more in a Group A, B, E, F, I, H, M or S Occupancy or an occupant load of 10 or more in a Group R, Division 1 Occupancy shall have walls and ceilings of not less than 1-hour fire-resistant construction. Existing walls and ceilings surfaced with wood lath and plaster or 1/2-inch-thick (12.7 mm) gypsum wallboard may be permitted in lieu of 1-hour fire-resistant construction, provided the surfaces are in good condition.

**403.14.1 Corridor doors.**

**403.14.1.1** Door openings into corridors shall be protected by a tight-fitting smoke- and draft-control assembly having a fire-protection rating of not less than 20 minutes where such opening protection was required by the code under which the building was constructed. Door-closing devices, door gaskets and other requirements imposed by the code under which the building was constructed shall be maintained. Corridor doors in the work area shall not be constructed of hollow core wood and shall not contain louvers.

Where the building was constructed under a code that did not require 20-minute smoke- and draft-control assemblies, doorway openings shall be protected by doors having a fire-protection rating of not less than 20 minutes

or by a minimum 1<sup>3</sup>/<sub>8</sub>-inch-thick (34.9 mm) solid-bonded woodcore door or an equivalent insulated steel door. In such case, the frames need not have a fire-resistant time period. Doors shall be maintained self-closing or shall be automatic closing by activation of a smoke detector.

**403.14.1.2** All dwelling unit, guest room or rooming unit corridor doors in work areas in buildings of Use Groups R-1, R-2, and I-1 shall be at least 1<sup>3</sup>/<sub>8</sub>-inch solid core wood or approved equal with approved door closers, and shall not have any glass panels, other than approved wired glass or other approved glazing material in metal frames. All replacement doors shall be 1<sup>3</sup>/<sub>4</sub>-inch solid bonded wood core or approved equal, unless the existing frame will accommodate only a 1<sup>3</sup>/<sub>8</sub>-inch door.

**Exceptions:**

1. Corridor doors within a dwelling unit or guest room.
2. Existing doors meeting the requirements of the GRBB Resource 2 for a rating of 15 minutes or better 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; shall not contain louvers; and shall be reasonably tight fitting.
4. In group homes that have a maximum of 15 occupants, and that are protected with an approved automatic detection system, closing devices may be omitted.

**403.14.1.3 Transoms.** Transoms and openings other than doors from corridors to rooms shall be protected as required by the Building Code. Where the code under which the building was constructed permitted unprotected transoms or other unprotected openings other than doors, such transoms or openings shall be covered with a minimum 3/4-inch-thick (19.1 mm) wood structural panel or 1/2-inch-thick (12.7 mm) gypsum wallboard or equivalent material on the room side. Openings with fixed wired glass or other approved material set in steel frames are permitted in corridor walls and ceilings. In all buildings of Use Group I-1, R-1 and R-2, all transoms in corridor walls of work areas shall be glazed either with 1/4-inch wired glass set in metal frames or with other glazing assemblies having a fire-protection rating as required for the door, and shall be permanently secured in the closed position or sealed with materials consistent with the corridor construction.

**Exception:** Existing corridor walls, ceilings and opening protection not in compliance with the above may be continued when the building is protected with an approved automatic sprinkler system throughout. Such sprinkler system may be supplied from the domestic water-supply system, provided the system is of adequate pressure, capacity and sizing for the combined domestic and sprinkler requirements.

**403.14.1.4 Other corridor openings.** In any work area, any other sash, grill or opening in a corridor, and any window in a corridor not opening to the outside air, shall be

protected with materials consistent with the corridor construction.

**403.14.1.4.1 (Supplemental requirements)** The requirements of Sections 403.14.1.1 through 403.14.1.4 shall apply on the entire floor when the work area exceeds 50 percent of the floor area.

**403.15 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.

**403.16** In any work area all doors opening onto an exit passageway at grade or exit stair shall be self-closing or automatic closing by listed closing devices.

**Exception:** Where exit enclosure is not required by the Building Code.

**403.16.1** In any work area, and in the egress path from any work area to the exit discharge in a building or portions thereof of Use Group A with an occupant load greater than 100, all required exit doors equipped with latching devices shall be equipped with approved panic hardware.

**403.16.2 (Supplemental requirements)** The requirements of Sections 403.15 through 403.16.1 shall apply on the entire floor when the work area exceeds 50 percent of the floor area.

**Exception:** Means of egress within a tenant space that is entirely outside the work area need not comply.

**403.17** Work areas in buildings of Use Group I-3 having remote power unlocking capability for more than 10 locks shall be provided with an emergency power source for such locks. Power shall be arranged to operate automatically upon failure of normal power within 10 seconds and for a duration of not less than 1 hour.

**403.18 Dead end corridors.** Existing dead end corridors in any work area shall not exceed 35 feet (10 668 mm). Newly constructed dead end corridors shall comply with the Building Code.

**Exceptions:**

1. Where dead end corridors of greater length are permitted by the Building Code.
2. In other than Use Groups A and H, 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 Building Code.
3. In other than Use Groups A and H, the maximum length of an existing dead end corridor shall be 70 feet (21 336 mm) in buildings equipped throughout with an automatic sprinkler system installed in accordance with the Building Code.
4. In other than Use Groups A and H, the maximum length of a newly constructed or extended dead end corridor shall not exceed 50 feet (15 240 mm) in buildings equipped throughout with an automatic sprinkler system installed in accordance with the Building Code.

## SECTION 404 INTERIOR FINISH

**404.1 (Supplemental requirements)** The interior finish of walls and ceilings in any work area shall comply with the requirements of the Building Code. All existing interior finish materials that do not comply with the requirements of this section shall be removed or shall be treated with an approved fire-retardant coating in accordance with the manufacturer's instructions to secure compliance with the requirements of this section.

The Building Code requirements for interior finish materials may involve testing other than the traditional tunnel test, which provides flame spread ratings. For example, some materials are now required to be subjected to a room corner test.

**404.1.1 (Supplemental requirements)** Where the work area on any floor exceeds 50 percent of that floor area, the requirements of Section 404.1 shall apply to the interior finish in exits and corridors serving the work area on the entire floor.

**Exception:** Interior finish within a tenant space that is entirely outside the work area need not comply.

**404.1.2 (Supplemental requirements)** In a building with work areas comprising over 50 percent of the aggregate floor area within the building, the requirements for interior finishes in exits shall apply from the floor of the highest work area to the floor of exit discharge, and to all intermediate floors.

## SECTION 405 SHAFT ENCLOSURES

**405.1** In any work area, newly constructed vertical openings connecting two or more floors shall comply with the requirements of the Building Code.

**405.2** In any work area, 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 protection.

**Exceptions:**

1. Where vertical opening enclosure is not required by the Building 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 (50.8 mm) of solid wood or equivalent construction.
3. In Use Groups A, B, M and R-2, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories.
4. In Use Group A, the enclosure shall not be required:
  - 4.1 Where connecting the main floor and mezzanines; or
  - 4.2 Where all the following conditions are met:
    - 4.2.1 The communicating area has a low hazard occupancy, or has a moderate hazard occupancy, that is protected throughout by an automatic sprinkler system;
    - 4.2.2 The lowest or next to the lowest level is a street floor;
    - 4.2.3 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;
- 4.2.4 Exit capacity is sufficient to provide egress simultaneously for all the occupants of all levels by considering all areas to be a single floor area for the determination of required exit capacity; and
  - 4.2.5 Each floor level, considered separately, has at least one-half 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.
5. In Use Group B, the enclosure shall not be required in a building not exceeding 3,000 square feet (278.7 m<sup>2</sup>) per floor or when the building is protected throughout by an approved automatic fire sprinkler system.
  6. In Use Group E, 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 Use Group F, the enclosure shall not be required for vertical openings not exceeding three stories:
    - 7.1 In special purpose occupancies when necessary for manufacturing operations and when direct access is provided to at least one protected stairway; or
    - 7.2 In buildings that are protected throughout by an approved automatic sprinkler system.
  8. In Use Group H, the enclosure shall not be required for vertical openings not exceeding three stories where necessary for manufacturing operations and where every floor level has direct access to at least two remote enclosed stairways or other approved exits.
  9. In Use Group M, the enclosure shall not be required when:
    - 9.1 Openings connect only two floor levels, such as between the street floor and mezzanine or second floor; or
    - 9.2 Occupancies are protected throughout by an approved automatic sprinkler system.
  10. In Use Group R-1, the enclosure shall not be required for vertical openings not exceeding three stories:
    - 10.1 In buildings that are protected throughout by an approved automatic sprinkler system; or
    - 10.2 In buildings with less than 25 guests in which the following conditions are met:
      - 10.2.1 Every sleeping room is provided with an approved window having a sill height not greater than 44 inches (1118 mm);
      - 10.2.2 Every sleeping room above the second floor is provided with direct access to a fire escape or other approved second exit;
      - 10.2.3 Any exit access corridor exceeding 8 feet in length that serves two means of egress, at least one of which is an unprotected vertical opening, shall be separated from the vertical opening by a 1-hour fire barrier; and
  - 10.2.4 The building is protected throughout by an automatic fire alarm system, installed and supervised in accordance with the Building Code.
  11. In Use Group R-2, the enclosure shall not be required:
    - 11.1 In buildings that are protected throughout by an approved automatic sprinkler system;
    - 11.2 Where the vertical opening connects not more than two floor levels with not more than four dwelling units per floor, and each dwelling unit has access to a fire escape or other approved second exit; or
    - 11.3 In buildings with not more than four dwelling units per floor, and in which the following conditions are met:
      - 11.3.1 Every sleeping room is provided with an approved window having a sill height not greater than 44 inches (1118 mm);
      - 11.3.2 Every dwelling unit or sleeping room above the second floor is provided with direct access to a fire escape or other approved second exit; and
      - 11.3.3 The building is protected throughout by an automatic fire alarm system, installed and supervised in accordance with the Building Code.
- 405.3 (Supplemental requirements) Where the repair and alteration work area on any floor exceeds 50 percent of that floor area, Section 405.2 shall apply throughout the floor.
- 405.4 (Supplemental requirements) Where the repair and alteration 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 be enclosed with smoke-tight enclosures on all floors below the highest work area floor.
- Exception:** Where stairway enclosure is not required by the Building Code.
- 405.5 (Supplemental requirements) In a building with work areas comprising over 50 percent of the aggregate floor area within the building, stairways that are part of the means of egress shall be enclosed in accordance with Section 405.2 on the highest work area floor and on all floors below it.

## SECTION 406

### FIRE SEPARATION AND SMOKE BARRIERS

#### 406.1 Use Group I-2.

406.1.1 Where the work area is on a story used for sleeping purposes for more than 30 patients, the story shall be divided into not less than two compartments by smoke barrier walls complying with the technical requirements of Section 406.1.2, such that each compartment does not exceed 22,500 square feet (2090.2 m<sup>2</sup>) and the travel distance from any point to reach a door in the required smoke barrier shall not exceed 200 feet (60 960 mm).

**Exception:** Where neither the length nor width of the smoke compartment exceeds 150 feet (45 790 mm), the travel distance to reach the smoke barrier door shall not be limited.

406.1.2 The smoke barriers specified in Section 406.1.1 shall be constructed in accordance with the following provisions:

1. Smoke barriers shall have a fire-resistance rating of not less than  $\frac{5}{8}$ -inch-thick Type X gypsum wallboard or other  $\frac{1}{2}$ -hour assembly and shall form an effective membrane continuous from outside wall to outside wall and from floor slab to floor or roof deck above, including continuity through all concealed spaces, such as those found above suspended ceilings, and including interstitial structural and mechanical spaces. Transfer grilles, whether equipped with fusible link-operated dampers or not, shall not be used in these partitions.
2. Smoke barriers are not required in interstitial spaces when such spaces are designed and constructed with ceilings that provide resistance to the passage of fire and smoke equivalent to that provided by smoke barriers.
3. Doors in smoke barriers shall have a fire-protection rating of not less than 20 minutes when tested in accordance with ASTM E152 without the hose stream and labeled by an approved agency, or shall be  $1\frac{3}{4}$ -inch solid bonded wood core doors. Newly installed double egress corridor doors shall have approved vision panels. The doors shall close the openings with only the clearance necessary for proper operation under self-closing or automatic closing and shall be without undercuts, louvers or grilles. Rabbits or astragals are required at the meeting edges of newly installed double egress doors, and stops are required on the head and jambs of all doors in smoke barriers. Positive latching devices are not required on double egress corridor doors, and center mullions are prohibited.
4. Protection at the meeting edges of doors and stops at the head and sides of door frames shall not be required in buildings equipped with an approved engineered smoke control system. The engineered smoke control system shall respond automatically, preventing the transfer of smoke across the barrier.
5. Doors in smoke barriers shall be self-closing or shall be provided with approved door hold-open devices of the fail-safe type that shall release the doors causing them to close upon the actuation of smoke detectors as well as upon the application of a maximum manual pull of 50 pounds (22.7 kg) against the hold-open device.
6. An approved damper designed to resist the passage of smoke shall be provided at each point where a duct penetrates a smoke barrier. The damper shall close upon detection of smoke by an approved smoke detector located within the duct.
7. In lieu of an approved smoke detector located within the duct, ducts that penetrate smoke barriers above doors are permitted to have the approved damper arranged to close upon detection of smoke on either side of the smoke barrier door opening.
8. Dampers are not required:

8.1 Where not required by the Building Code.

8.2 In buildings equipped with an approved engineered smoke control system.

8.3 Where the openings in ducts are limited to a single smoke compartment and the ducts are of steel construction.

8.4 In fully ducted systems where both sides of the smoke barrier are protected with an automatic sprinkler system.

#### 406.2 Use Group R-3.

406.2.1 Where the work area is in any attached dwelling unit in Use Group R-3, 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 wall of the dwelling unit that is part of the work area.

**Exception:** Walls are not required to be continuous through concealed floor spaces.

### SECTION 407 FIRE-SUPPRESSION SYSTEMS

407.1 All work areas in any building or portion thereof that is required to have a fire-extinguishing system in accordance with the Building Code shall be provided with an automatic fire-suppression system.

**Exception:** In other than high-rise structures, where an automatic water supply for sprinkler protection is not available at that floor level, the building official shall be permitted to accept alternative protection.

407.2 Where the work area on any floor exceeds 50 percent of that floor area, Section 407.1 shall apply to the entire floor.

**Exception:** In other than high-rise structures, where an automatic water supply for sprinkler protection is not available at that floor level, the building official shall be permitted to accept alternative protection.

407.2.1 In a building with work areas comprising over 50 percent of the aggregate building area, Section 407.1 shall apply to the highest floor containing a work area and all floors below.

407.3 **Mixed Use.** In buildings containing mixed uses, one or more of which requires automatic suppression in accordance with Sections 407.1 or 407.2, suppression will not be required throughout the building, provided that the uses requiring suppression are separated from those not requiring suppression by fire-resistant construction having a minimum 2-hour rating for Use Group H, and a minimum 1-hour rating for all use groups other than Use Group H.

407.4 **Supervision.** Fire suppression systems required by this Section shall be supervised as determined by the fire official:

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. Approved local alarm service that will cause the sounding of an alarm in accordance with NFPA 72.

**Exceptions:**

1. Underground gate valve with roadway boxes;
2. Halogenated extinguishing systems;
3. Carbon dioxide extinguishing systems;
4. Dry and wet chemical extinguishing systems;
5. Limited area sprinkler systems; and
6. Occupancies in Use Group R complying with NFPA 13R or NFPA 13D, as appropriate.

**407.5 Standpipes.** Any work areas in a building that is required to be provided with a standpipe system by the Building Code shall be provided with standpipes up to and including the highest work area floor. The standpipes shall be located and installed in accordance with the 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 at 65 psi to the topmost floor in buildings equipped throughout with an automatic sprinkler system or a minimum of 500 gallons per minute at 65 psi (448.2 kPa) to the topmost floor in all other buildings. Where the standpipe terminates below the topmost floor, the standpipe shall be designed to meet these requirements (gallons per minute/psi) for possible future extension of the standpipe.
2. The interconnection of multiple standpipe risers shall not be required.

## SECTION 408 FIRE ALARMS

**408.1 Smoke detectors.**

**408.1.1** In Use Groups R-1 and R-2, individual guestrooms and individual dwelling units in any work area shall be provided with smoke detectors complying with the Building Code.

**408.1.2** Where the work area is in Use Groups R-3 or R-4, smoke detectors complying with the Building Code shall be provided at each level and outside each sleeping area.

**Exceptions:**

1. Interconnection of smoke detectors shall not be required.
2. Battery-powered single station smoke detectors listed in accordance with UL 217 shall be permitted outside the work area.

**408.2 Manual fire alarm systems.**

**408.2.1** Where the work area on any floor exceeds 50 percent of that floor area and the work area is in a building that is required to have a manual fire alarm system in accordance with the Building Code, a manual fire alarm system shall be provided on the floor. Alarm-indicating appliances shall be

provided on the floor and shall be automatically activated as required by the Building Code for all new and existing initiating devices.

**408.2.2** Where the work area involves over 50 percent of the aggregate building area and the work area is in a building that is required to have a manual fire alarm system in accordance with the Building Code, a manual fire alarm system shall be provided throughout the building in accordance with the Building Code.

**408.3 Automatic fire detection systems.**

**408.3.1** Where the work area is in a building that is required to have an automatic fire detection system in accordance with the Building Code, an automatic fire detection system shall be installed in the work area. Existing alarm-indicating appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm-indicating appliances within the work area shall be provided and automatically activated.

**Exception:** Where selective notification is permitted, alarm-indicating appliances shall be automatically activated in the areas selected.

**408.3.2** Where the work area on any floor exceeds 50 percent of that floor area and the work area is in a building that is required to have an automatic fire detection system in accordance with the Building Code, an automatic fire detection system shall be installed throughout the floor. Alarm-indicating appliances shall be automatically activated throughout the building.

**Exceptions:**

1. Where selective notification is permitted, alarm-indicating appliances shall be automatically activated in the areas selected.
2. Where the building is not equipped with a fire alarm system, alarm-indicating appliances on the floor shall be provided and automatically activated.

**408.3.3** Where the work area comprises over 50 percent of the aggregate building area and the building is required to have an automatic fire detection system in accordance with the Building Code, an automatic fire detection system shall be provided throughout the building in accordance with the Building Code.

## SECTION 409 HIGH-RISE BUILDINGS

**409.1** Any building or structure having one or more floors more than 75 feet (22 860 mm) above the lowest level accessible to a fire department vehicle shall comply with the requirements of this section.

**409.2 Recirculating air or exhaust systems.** When the work area is on a floor that is served by a recirculating air or exhaust system serving more than one floor, the recirculating air or exhaust system that serves the work area shall be equipped with approved smoke and heat detection devices installed in accordance with the Mechanical Code. The devices shall stop the fan(s) automatically and shall be of the manual reset type.



Automatic fan shutdown is not required when the system is part of an approved smoke removal or smoke control system.

**409.3 Elevators.** When the work area is one entire floor or when the work area is 20 percent or more of the occupied floor area of the building, the elevators in the building shall be equipped with the following emergency control devices:

1. All automatic (non-designated attendant) elevators having a travel of 25 feet (7620 mm) or more above or below the designated level shall be equipped with Phase I Emergency Recall Operation as required by ASME A17.1-1987, Rules 211.3a and 211.3b.
2. All floors shall be accessible by at least one elevator equipped with Phase II Emergency In-car Operation, as required by ASME A17.1-1987, Rule 211.3c.
3. All designated attendant elevators having a travel of 25 feet (7620 mm) or more above or below the designated level shall be equipped with emergency controls, as required by ASME A17.1-1987, Rule 211.4.

**409.4 Smoke barriers.** Where the work area on any floor exceeds 50 percent of that floor area and is on a floor that is above the main floor level in Use Groups R-1 and R-2, smoke barriers conforming to the requirements of Section 406.1.2 shall be provided around all elevator landings on the work area floor.

**Exceptions:**

1. The smoke barriers shall be permitted to terminate at the ceiling, provided the ceiling membrane provides resistance to the passage of smoke equivalent to that provided by the smoke barriers.
2. The smoke barriers shall not be required in buildings protected throughout by an automatic sprinkler system.

### SECTION 410 BOILER/FURNACE EQUIPMENT ROOMS

**410.1 Boiler/furnace equipment rooms** shall be enclosed by 1-hour fire-rated construction when the work area is in any of the following facilities: day nurseries, children's shelter facilities, residential child care facilities and similar facilities with children below the age of 2-1/2 years, and that may be classified as Use Group I-2, shelter facilities, residences for the developmentally disabled, group homes, teaching family homes, transitional living homes, rooming and boarding houses, hotels, and multiple dwellings.

**Exceptions:**

1. Furnace and boiler equipment of low pressure type (operating at pressures of 15 psig or less for steam equipment or 160 psig or less for hot water equipment), when installed in accordance with manufacturer recommendations, or furnace and boiler equipment of residential (R-3) type [200,000 BTU (211 011 J) per hour input rating or less] is not required to be enclosed.
2. Furnace rooms protected with automatic sprinkler protection.

**410.2 Emergency controls** shall be provided in all structures that are classified as day nurseries, children's shelter facilities, residential child care facilities and similar facilities with children below the age of 2 1/2 years, and that may be classified as

Use Group I-2, as well as in group homes, teaching family homes, and supervised transitional living homes in accordance with the following:

1. Emergency shutoff switches for furnaces and boilers in basements must be at the top of the stairs leading to the basement; and
2. Emergency shutoff switches for furnaces and boilers in other enclosed rooms must be located outside of the room.

### SECTION 411 STRUCTURAL REQUIREMENTS

**411.1 Structural safety.** A building, structure or its individual structural members that exceed the limits established by the Dangerous Buildings Code shall be replaced or strengthened in order that the building, structure or individual structural members will comply with the requirements of the Building Code for new construction or the GSREB.

Wood framing is permitted to use the design stresses specified in the building code under which the building was constructed or other stress criteria approved by the Building Official.

**411.2 Unreinforced masonry buildings** located in Seismic Zones 3 and 4 shall have parapet bracing and wall anchors installed at the roof line whenever a reroofing permit is issued. Such parapet bracing and wall anchors shall be designed in accordance with the GSREB.

**411.3 Unreinforced masonry buildings** that are undergoing structural alterations where the work area exceeds 50 percent of the building area and that are located in Seismic Zone 4 shall be strengthened in accordance with the requirements of the GSREB.

**Exception:** Buildings of Use Group R with no more than five dwelling units or guest rooms, and used solely for residential purposes.

### SECTION 412 WEATHER PROTECTION

**412.1 General.** Every building shall be weather protected to provide shelter for the occupants against the elements and to exclude dampness.

**412.2 Roofs.** The roof of every building or structure shall provide weather protection for the building. All devices that were provided or are required to prevent ponding or flooding or to convey the roof water shall be capable of fulfilling that purpose.

**412.3 Other enclosing elements.** All weather-exposed surfaces of every existing building or structure shall provide weather protection.

### SECTION 413 OTHER SAFETY FEATURES

**413.1 Electrical.** The electrical service, lines, switches, outlets, fixtures and fixture coverings, and supports in every building or structure shall be in good repair. Broken, loose, frayed,

inoperative, defective or missing portions shall be repaired or replaced. All unsafe conditions shall be corrected.

#### 413.2 Electrical equipment and wiring.

413.2.1 All newly-installed electrical equipment and wiring relating to work done in any work area shall comply with the materials and methods requirements as defined in Chapter 3.

**Exception:** Electrical equipment and wiring in newly installed partitions and ceilings shall comply with all applicable requirements of the Electrical Code.

413.2.2 Existing wiring in all work areas in Use Groups A-1, A-2, A-5, H and I shall be upgraded to meet the materials and methods requirements as defined in Chapter 3.

413.2.3 Service and/or feeder in Use Groups R-2, R-3 and R-4. Service to existing dwelling units in any work area shall be a minimum of 100 ampere, three-wire capacity, and service equipment shall be dead front, having no live parts exposed whereby accidental contact could be made. Type "S" fuses shall be installed when fused equipment is used.

**Exception:** Existing service of 60 ampere three-wire capacity, and feeders of 30 ampere or larger, two- or three-wire capacity, shall be accepted if adequate for the electrical load being served.

413.2.4 In Use Groups R-2, R-3 and R-4, when the work area includes any of the following areas within a dwelling unit, the following requirements shall apply:

413.2.4.1 All enclosed areas, other than closets, kitchens, basements, garages, hallways, laundry 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.

413.2.4.2 Kitchen areas shall have a minimum of two duplex receptacle outlets.

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

413.2.4.4 Ground fault circuit interruption shall be provided on newly installed receptacle outlets if required by the Electrical Code.

413.2.4.5 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.

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

413.2.4.7 Clearance for electrical service equipment shall be provided in accordance with the Electrical Code.

413.3 Plumbing. Leaking drain or supply lines shall be repaired or replaced. All unsafe conditions shall be corrected. Any cross-connections or siphonage between fixtures shall be corrected.

#### 413.3.1 Plumbing fixtures.

413.3.2 Where the work area is more than 20 percent of the floor area and the building official determines that the occupant load will be increased as a result of the alteration, plumbing fixtures in all work areas shall be provided in quantities specified in the Building Code, based on the increased occupant load.

413.4 Mechanical. Mechanical systems shall have any unsafe conditions corrected.

413.4.1 All altered spaces intended for occupancy and all spaces converted to habitable or occupiable space in any work area shall be provided with either natural or mechanical ventilation.

413.4.1.1 Natural ventilation shall comply with the requirements of the Building Code.

413.4.1.2 Newly-installed mechanical ventilation systems shall comply with the requirements of the Mechanical Code.

**Exception:** Existing mechanical ventilation systems shall comply with the requirements of Section 510.1.

413.4.1.3 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) per person of outdoor air and not less than 15 cfm of ventilation air per person; or not less than the amount of ventilation air determined by the Indoor Air Quality Procedure of ASHRAE 62-89.

413.4.1.4 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 to cause discomfort to occupants, shall be provided with local exhaust.