

2. Mechanically-ventilated spaces shall comply with the following:

i. Newly-installed HVAC systems shall comply with the requirements of ASHRAE 62-89.

ii. Existing systems that are altered or extended shall not reduce the amount of outside air below the existing rate per person or the rate included in ASHRAE 62-89, whichever is lower. As a minimum, mechanically-ventilated spaces shall be provided with five CFM per person of outdoor air and 15 CFM of ventilation air per person unless the indoor air quality procedure of ASHRAE 62-89 is followed and results in a lesser amount.

3. All newly-introduced devices, equipment or operations that produce airborne particulates, odors, fumes, sprays, vapors, smoke or gases in such quantities to be irritating or injurious to health shall be provided with local exhaust. (Building)

(m) Interior finishes shall comply with N.J.A.C. 5:23-6.11(c). (Plan review—Building, Fire. Inspection—Building)

(n) Specific Occupancy Areas: Specific occupancy areas within the work area, as listed in N.J.A.C. 5:23-6.30(h), shall comply with the requirements established in that section for separation and/or protection. (Building)

5:23-6.17A Supplemental requirements—Use Group B

(a) Manual Alarm System: When the work area exceeds 50 percent of the gross enclosed floor area of the building, a fire alarm system shall be installed throughout the building.

1. Exception: Manual alarm systems are not required in buildings which do not have occupied floors which are two or more stories above the lowest level of exit discharge or floors two or more stories below the highest level of exit discharge. (Fire)

(b) Vertical Opening Protection: When the work area exceeds 50 percent of the gross enclosed floor area of the building, vertical opening protection shall be provided throughout the building as follows:

1. A minimum two hour fire rated assembly with approved opening protectives shall be required for interior stairways and other vertical openings connecting more than six floor levels.

2. A minimum one hour fire rated assembly with approved opening protectives shall be required for interior stairways and other vertical openings connecting four to six floor levels.

3. A minimum 30 minute fire barrier shall be required for interior stairways and other vertical openings not exceeding three stories.

i. Exception: No vertical opening protection shall be required for buildings up to 3,000 square feet per floor or for buildings with an automatic fire suppression system throughout. (Plan review—Building, Fire. Inspection—Building)

(c) Requirements for highrise buildings: Any building or structure having one or more floors used for human occupancy located either more than six stories or more than 75 feet above the lowest level accessible to a fire department vehicle, shall comply with the following:

1. When the work area is one entire floor or more or when the work area is 20 percent or more of the occupied floor area served by a recirculating air or exhaust system, the recirculating air or exhaust system which serves the work area shall be equipped with approved smoke and heat detection devices installed in accordance with the UCC. The devices shall stop the fan(s) automatically and shall be of the manual reset type. Automatic fan shut-down is not required when the system is part of an approved smoke removal or smoke control system. (Building)

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

i. All automatic (nondesignated attendant) elevators having a travel distance of 25 feet or more above or below the designated level shall be equipped with Phase 1 Emergency Recall Operation as required by ASME A17.1-1987, Rules 211.3a and 211.3b listed in Appendix 3-A of N.J.A.C. 5:18-3;

ii. At least one elevator shall be equipped with Phase II Emergency In-Car Operation, as required by ASME A17.1-1987, Rule 211.3c; and

(1) In buildings with multiple elevators, at least one elevator to each floor served by an elevator shall be equipped with Phase II Emergency In-Car Operation.

iii. All designated attendant elevators having a travel distance of 25 feet or more above or below the designated level shall be equipped with emergency controls, as required by ASME A17.1-1987, Rule 211.4. (Elevator)

3. When the work area is one entire floor or more or when the work area is 20 percent or more of the occupied floor area of the building, standpipes shall be provided up to and including the highest floor that is part of the work area. The standpipes shall be located and installed in accordance with the building subcode, except as follows:

i. No pump shall be required provided that the standpipes are capable of accepting delivery by fire department apparatus of a minimum of 250 gpm at 65

psi to the topmost floor in buildings equipped throughout with an automatic fire suppression system or a minimum of 500 gpm at 65 psi 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 (gpm/psi) for possible future extension of the standpipe.)

ii. Hose and hose cabinets shall not be required. (Fire)

4. When the work area is one entire floor or more or when the work area is 20 percent or more of the occupied floor area of the building, central control station and communication systems shall be provided as follows:

i. An approved public address communication system consisting of loudspeakers in each corridor and in each room and tenant space exceeding 1,000 square feet, each elevator and elevator lobby and in each stair enclosure which shall be capable of being operated from the central control station;

ii. A two-way fire department communication system which shall operate between the central control and every elevator, elevator lobby and entry to enclosed exit stairways;

iii. A central control station for fire department operations shall be provided in a location approved by the fire department. It shall contain the public address panel, the fire department communications panel, fire detection and alarm system annunciator panels, status indicators and controls for air handling systems, sprinkler valve and water flow detector display panels, and status indicators and a telephone for fire department use with controlled access to the public telephone system. (Fire)

5. Automatic Fire Suppression System: When the work area is an entire floor, an automatic fire suppression system shall be installed on that floor. When an automatic sprinkler system is provided, the sprinkler riser shall be sized to serve the entire building, even if the system currently being installed serves only a portion of the building. (Fire)

(d) Elevator Devices: When the work area exceeds 50 percent of the gross enclosed floor area of the building, all elevator devices serving any part of the work area shall comply with the requirements of N.J.A.C. 5:23-6.30(g). (Elevator)

(e) Airport Traffic Control Towers: When the work area exceeds 50 percent of the gross enclosed floor area of an airport traffic control tower, the entire structure shall comply with the requirements of Section 414.0 of the building subcode.

5:23-6.18 Basic requirements—Use Group E

(a) Exits: Two exits shall be required for stories with less than 500 occupants. Three exits shall be required for stories with 501 to 1,000 occupants. Four exits shall be required for stories with more than 1,000 occupants. Two means of egress are also required from all mezzanines with an occupant load greater than 50 and with exit travel distance greater than 75 feet, 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.

i. A single exit shall not be permitted when a building is used as a child care center. (Plan review—Building, Fire. Inspection—Building)

1. A single exit is

(b) Egress Doorways: A minimum of two egress doorways shall be required for all rooms and spaces with an occupant load greater than 50 or in which the travel distance exceeds 75 feet. All egress doors serving an occupant load greater than 50 shall swing in the direction of exit travel.

1. Exception: Storage rooms with a maximum occupant load of 10 shall not be required to have two egress doorways.

2. A single means of egress shall be permitted in classrooms having a maximum occupant load of 75 in buildings equipped throughout with an automatic fire suppression system. (Plan review—Building, Fire. Inspection—Building)

(c) Capacity of Means of Egress: The capacity of the means of egress in each work area shall be determined in accordance with N.J.A.C. 5:23-6.11(b). (Plan review—Building, Fire. Inspection—Building)

(d) Dead End Corridors: Existing dead end corridors shall not exceed 35 feet in length. Exceptions are allowed as follows:

1. Dead end corridors may be up to 50 feet in length in a building with an automatic alarm system installed in conformance with the building code in effect at the time of its installation.

2. Dead end corridors may be up to 70 feet in length in a building with a suppression system installed in conformance with the building code in effect at the time of its installation. (Plan review—Building, Fire. Inspection—Building)

(e) Means of Egress Lighting: Artificial lighting with an intensity of not less than one foot candle at floor level shall be required during all times that the conditions of occupancy of the building require that the exits be available. In all buildings, rooms or spaces required to have more than one exit or exit access, means of egress lighting shall be connected to an emergency electrical system conforming to NFPA 70 (NEC) to assure continued illumination for not less than one hour in the case of primary power loss.

1. In buildings used for motion pictures or other projections by means of directed light, the illumination of aisles may be reduced during periods of projection to not less than 0.2 foot candle. The lighting of exits, aisles and auditoria shall be controlled from a location inaccessible to unauthorized persons. Supplementary controls shall be provided in the projection room. (Plan review—Building, Fire. Inspection—Building)

(f) **Illuminated Exit Signs:** Illuminated exit signs shall be provided for all required means of egress in all buildings, rooms or spaces required to have more than one exit or exit access. Exit signs shall be visible from the exit access and supplemented by directional signs when necessary. (Exception: Approved main exterior doors that are clearly identified as exits are not required to have exit signs.) Exit signs shall meet the following criteria:

1. Red or green letters at least six inches high; minimum width of each stroke $\frac{3}{4}$ inch on a white background or in other approved distinguishable colors. Arrows, if provided, shall be such that the direction cannot readily be changed. The word "Exit" shall be clearly discernible when the sign is not energized.

2. Exit signs shall be illuminated at all times when the building is occupied by a source providing at least five foot candles at the illuminated surface or shall be approved self-luminous signs which provide evenly illuminated letters with a minimum luminance of 0.06 foot lamberts. Exit signs shall be connected to an emergency electrical system to provide continued illumination for at least one hour in the event of primary power loss. No emergency power shall be required for approved self-luminous signs. (Plan review—Building, Fire. Inspection—Building)

(g) **Handrails:** Every required exit stairway having three or more risers and not provided with handrails or in which the existing handrails are in danger of collapsing when used under emergency exiting conditions, shall be provided with handrails for the full length of the run of steps on at least one side. All exit stairways more than 66 inches wide shall have handrails on both sides unless the full width of the stairway is not needed to accommodate the design occupancy. (Plan review—Building, Fire. Inspection—Building)

(h) **Guards:** Every open portion of a stair, landing or balcony which is more than 30 inches above the floor or grade below and is not provided with guards or those in which the existing guards are in danger of collapsing when used under emergency exiting conditions, shall be provided with guards. (Plan review—Building, Fire. Inspection—Building)

(i) **Vertical Opening Protection:** Vertical opening protection for interior stairways and other vertical openings shall be provided as follows:

1. For vertical openings connecting more than six floor levels, approved assemblies having a fire resistance rating of not less than two hours with approved opening protectives shall be required.

2. For vertical openings connecting four to six floor levels, approved assemblies having a fire resistance rating of not less than one hour with approved opening protectives shall be required.

3. For vertical openings not exceeding three stories, a minimum one hour fire barrier shall be required, with the following exception:

i. No vertical opening protection shall be required for vertical openings of up to three stories in buildings with suppression throughout. (Plan review—Building, Fire. Inspection—Building)

(j) **Structural Elements:** Structural elements which are uncovered during the course of the rehabilitation and which are found to be unsound or otherwise structurally deficient, shall be reinforced, supported or replaced in accordance with the applicable structural design criteria of the building subcode. Where structural elements are sound, there is no excessive deflection (defined as deflection in excess of the standards set forth in N.J.A.C. 5:23-6.7(c)1), and fixed loads are not changing in a way that will increase the stresses on existing structures beyond that which is permitted by N.J.A.C. 5:23-6.7(c), existing structural elements shall be permitted to remain. (Building)

(k) **Plumbing Fixtures:** Plumbing fixtures shall be provided as required by Table 7.21.1 of the plumbing subcode. Where the plumbing subcode allows for the substitution or omission of fixtures, such substitutions or omissions shall also be permitted under this section. (Plumbing)

(l) **Mechanical Requirements:** All spaces intended for occupancy shall be provided with either natural or mechanical ventilation. All public school buildings shall be provided with mechanical ventilation.

1. Spaces intended to be naturally ventilated shall be provided with openable doors, windows, louvers or other openings to the outdoors. The minimum openable area to the outdoors shall be four percent of the floor area being ventilated. Where rooms without openings to the outdoors are ventilated through an adjoining room, the unobstructed opening to the adjoining room shall be at least eight percent of the floor area of the interior room or space, but not less than 25 square feet. The ventilation openings to the outdoors shall be based on the total floor area being ventilated.

2. Mechanically ventilated spaces shall comply with the following:

i. Newly installed HVAC systems shall comply with ASHRAE 62-89.

ii. Existing systems that are altered or extended shall not reduce the amount of outside air below the existing rate per person or the rate included in ASHRAE 62-89, whichever is lower. As a minimum, mechanically-ventilated spaces shall be provided with five CFM per person of outdoor air and 15 CFM of ventilation air per person unless the indoor air quality procedure of ASHRAE 62-89 is followed and results in a lesser amount.

3. All newly-introduced devices, equipment, or operations that produce airborne particulates, odors, fumes, sprays, vapors, smoke, or gases in such quantities to be irritating or injurious to health shall be provided with local exhaust. (Building)

(m) Interior finishes shall comply with N.J.A.C. 5:23-6.11(c). (Plan review—Building, Fire. Inspection—Building)

(n) Specific Occupancy Areas: Specific occupancy areas within the work area, as listed in N.J.A.C. 5:23-6.30(h), shall comply with the requirements established in that section for separation and/or protection. (Building)

5:23-6.18A Supplemental requirements—Use Group E

(a) Automatic Fire Suppression System: In buildings three stories or more in height, with greater than 20,000 square feet per floor, when the work area exceeds 50 percent of the gross enclosed floor area of a floor, an automatic fire suppression system shall be installed throughout that floor. (Fire)

(b) Automatic Alarm System: When the work area exceeds 50 percent of the gross enclosed floor area of the building, an automatic fire alarm system shall be installed throughout the building as follows:

1. An approved system of automatic smoke detectors;
or

2. An approved automatic fire suppression system equipped with automatic fire alarm devices; or

3. An approved system which combines the following elements shall be acceptable when devices are located as indicated below:

i. Combination fixed temperature/rate-of-rise detectors in classrooms and ancillary spaces;

ii. Photoelectric or projected-beam smoke detectors in exit access corridors and at the top of the exit stair enclosures; and

iii. Fixed temperature detectors in such a system shall be accepted in locations such as boiler rooms, garage areas and other spaces in which conditions render other detectors inappropriate.

4. Existing fire detection systems, installed and maintained in accordance with the manufacturer's recommendations, and meeting the intent of current standards for automatic fire alarms, shall be acceptable, provided:

i. The existing system is certified as functional by an approved service agency competent in the manufactured system.

ii. Where a portion of an existing system is not serviceable and cannot be repaired, the existing system shall be replaced in accordance with the above and the provisions of the building subcode. (Fire)

(c) Manual Alarm System: When the work area exceeds 50 percent of the gross enclosed floor area of the building, manual fire alarm boxes shall be provided throughout the building in compliance with Section 918.5 of the building subcode and in accordance with the following:

1. Manual fire alarm boxes shall be provided in the natural path of escape from fire, near each exterior door from the corridor, kitchen, heater room and other exterior exits that are required to serve 50 or more persons. Additional fire alarm boxes shall be located in the main office, stage, at each stairway entrance from a corridor or place of assembly and near one exterior exit in each section of a place of assembly. It shall not be necessary to traverse more than 200 feet of unobstructed horizontal distance on the same floor in order to reach a fire alarm box. (Fire)

(d) Vertical Opening Protection: When the work area exceeds 50 percent of the gross enclosed floor area of the building, vertical opening protection shall be provided throughout the building as follows:

1. A minimum two hour fire rated assembly with approved opening protectives shall be required for interior stairways and other vertical openings connecting more than six floor levels.

2. A minimum one hour fire rated assembly with approved opening protectives shall be required for interior stairways and other vertical openings connecting four to six floor levels.

3. A minimum one hour fire barrier shall be required for interior stairways and other vertical openings not exceeding three stories.

i. Exception: No vertical opening protection shall be required for buildings with an automatic fire suppression system throughout. (Plan review—Building, Fire. Inspection—Building)

(e) Requirements for Highrise Buildings: Any building or structure having one or more floors used for human occupancy located either more than six stories or more than 75 feet above the lowest level accessible to a fire department vehicle, shall comply with the following: