RULE-MAKING ORDER
(RCW 34.05.360)

CR-103 (10/1/89)

☒ Permanent Rule
☐ Emergency Rule

Agency: State Building Code Council

(1) Date of adoption: November 18, 1994

(2) Purpose: To adopt and amend the 1994 Edition of the Uniform Building Codes and Standards, as published by the International Conference of Building Officials (WAC 51-30).

(3) Citation of existing rules affected by this order:
Repealed: ~~WAC 51-20 and 51-21~~
Amended:
Suspended:

(4) Authority for adoption:
Statute: RCW 19.27 and 70.92
Other Authority:

(5.1) **PERMANENT RULE ONLY**
Pursuant to notice filed as WSR 94-18-094 and 94-16-143 on 9/2/94 and 8/3/94 (date).
Describe any changes other than editing from proposed to adopted version: None

(5.2) **EMERGENCY RULE ONLY**
Pursuant to RCW 34.05.350 the agency for good cause finds:
☐ (a) That immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.
☐ (b) That state or federal law or federal rule or a federal deadline for state receipt of federal funds requires immediate adoption of a rule.

Reasons for this finding:

(5.3) Any other findings required by other provisions of law as precondition to adoption or effectiveness of rule?
☐ Yes ☒ No If yes, explain:

(6) Effective date of rule:

Permanent Rules	Emergency Rules
☐ 31 days after filing	☐ Immediately
☒ Other (specify) 6/30/95 *	☐ Later (specify) _____

*(If less than 31 days after filing, specific finding in 5.3 under RCW 34.05.380(3) is required)

NAME (TYPE OR PRINT)
Gene Colin

SIGNATURE

TITLE
Chair

DATE
12/21/94

CODE REVISER USE ONLY

CODE REVISER'S OFFICE
STATE OF WASHINGTON
FILED
DEC 23 1994
TIME 11:43 AM
WSR 95-01-129

Chapter 51-30 WAC

STATE BUILDING CODE ADOPTION AND AMENDMENT OF THE 1994 EDITION OF THE UNIFORM BUILDING CODE

NEW SECTION

WAC 51-30-001 Authority. These rules are adopted under the authority of chapter 19.27 RCW.

NEW SECTION

WAC 51-30-002 Purpose. The purpose of these rules is to implement the provisions of chapter 19.27 RCW, which provides that the State Building Code Council shall maintain the State Building Code in a status which is consistent with the purpose as set forth in RCW 19.27.020. In maintaining the codes the Council shall regularly review updated versions of the codes adopted under the act, and other pertinent information, and shall amend the codes as deemed appropriate by the Council.

NEW SECTION

WAC 51-30-003 Uniform Building Code. The 1994 edition of the Uniform Building Code as published by the International Conference of Building Officials and available from the International Conference of Building Officials, 5360 Workman Mill Road, Whittier, California 90601 is hereby adopted by reference with the following additions, deletions, and exceptions.

NEW SECTION

WAC 51-30-004 Conflicts with Washington State Ventilation and Indoor Air Quality Code. In the case of conflict between the ventilation requirements of Chapter 12 of this code and the ventilation requirements of chapter 51-13 WAC, the Washington State

Ventilation and Indoor Air Quality Code, the provisions of the ventilation and indoor air quality code shall govern.

NEW SECTION

WAC 51-30-005 Uniform Building Code requirements for barrier-free accessibility. Chapter 11 and other Uniform Building Code requirements for barrier-free access are adopted pursuant to chapters 70.92 and 19.27 RCW.

Pursuant to RCW 19.27.040, Chapter 11 and requirements affecting barrier-free access in Sections 1004.1, 1004.2, 1004.8, 1004.9, 1006.3, 1006.7, 1006.9, 1006.16, 1007.4, 1007.5, shall not be amended by local governments.

NEW SECTION

WAC 51-30-007 Exceptions. The exceptions and amendments to the Uniform Building Code contained in the provisions of chapter 19.27 RCW shall apply in case of conflict with any of the provisions of these rules.

Table 10-B, Section 1607 and Section 3003 - Special Provisions of the 1994 Uniform Building Code are not adopted.

NEW SECTION

WAC 51-30-008 Implementation. The Uniform Building Code adopted under chapter 51-30 WAC shall become effective in all counties and cities of this state on June 30, 1995.

NEW SECTION

WAC 51-30-009 Recyclable materials and solid waste storage. For the purposes of this section, the following definition shall apply:

RECYCLED MATERIALS means those solid wastes that are separated for recycling or reuse, such as papers, metals and glass.

All local jurisdiction shall require that space be provide for the storage of recycled materials and solid waste for all new buildings.

EXCEPTIONS: Group R, D. ,1 3 and Group U Occupancies.

The storage area shall be designed to meet the needs of the occupancy, efficiency of pickup, and shall be available to occupants and haulers.

NEW SECTION

WAC 51-30-0100 Chapter 1--Administration.

NEW SECTION

WAC 51-30-0104 Section 104--Organization and enforcement.

104.1 Creation of Enforcement Agency. There is hereby established in this jurisdiction a code enforcement agency which shall be under the administrative and operational control of the building official.

104.2 Powers and Duties of Building Official.

104.2.1 General. The building official is hereby authorized and directed to enforce all the provisions of this code. For such purposes, the building official shall have the powers of a law enforcement officer.

The building official shall have the power to render interpretations of this code and to adopt and enforce rules and supplemental regulations in order to clarify the application of its provisions. Such interpretations, rules and regulations shall be in conformance with the intent and purpose of this code.

104.2.2 Deputies. In accordance with prescribed procedures and with the approval of the appointing authority, the building official may appoint such number of technical officers and inspectors and other employees as shall be authorized from time to time. The building official may deputize such inspectors or employees as may be necessary to carry out the functions of the code enforcement agency.

104.2.3 Right of entry. When it is necessary to make an inspection to enforce the provisions of this code, or when the building official has reasonable cause to believe that there exists in a building or upon a premises a condition which is contrary to or in violation of this code which makes the building or premises unsafe, dangerous or hazardous, the building official may enter the building or premises at reasonable times to inspect or to perform the duties imposed by this code, provided that if such building or premises be occupied that credentials be presented to the occupant and entry requested. If such building or premises be unoccupied, the building official shall first make a reasonable effort to locate the owner or other person having charge or control of the building or premises and request entry. If entry is refused, the

building officia_ shall have recourse to the _emedies provided by law to secure entry.

104.2.4 Stop orders. Whenever any work is being done contrary to the provisions of this code, or other pertinent laws or ordinances implemented through the enforcement of this code, the building official may order the work stopped by notice in writing served on any persons engaged in the doing or causing such work to be done, and any such persons shall forthwith stop such work until authorized by the building official to proceed with the work.

104.2.5 Occupancy violations. Whenever any building or structure or equipment therein regulated by this code is being used contrary to the provisions of this code, the building official may order such use discontinued and the structure, or portion thereof, vacated by notice served on any person causing such use to be continued. Such person shall discontinue the use within the time prescribed by the building official after receipt of such notice to make the structure, or portion thereof, comply with the requirements of this code.

104.2.6 Liability. The building official charged with the enforcement of this code, acting in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance shall not thereby be rendered personally liable for damages that may accrue to persons or property as a result of an act or by reason of an act or omission in the discharge of such duties. A suit brought against the building official or employee because of such an act or omission performed by the building official or employee in the enforcement of any provision of such codes or other pertinent laws or ordinances implemented though the enforcement of this code or enforced by the code enforcement agency shall be defended by this jurisdiction until final termination of such proceedings, and any judgment resulting therefrom shall be assumed by this jurisdiction.

This code shall not be construed to relieve from or lessen the responsibility of any person owning, operating or controlling any building or structure for any damages to persons or property caused by defects, nor shall the code enforcement agency or its parent jurisdiction be held as assuming any such liability by reason of the inspections authorized by this code or any permits or certificates issued under this code.

104.2.7 Modifications. When there are practical difficulties involved in carrying out the provisions of this code, the building official may grant modifications for individual cases. The building official shall first find that a special individual reason makes the strict letter of this code impractical and that the modification is in conformance with the intent and purpose of this code and that such modification does not lessen any fire-protection requirements or any degree of structural integrity. The details of any action granting modifications shall be recorded and entered in the files of the code enforcement agency.

104.2.8 Alternate materials, methods of design and methods of construction. The provisions of this code are not intended to prevent the use of any material, method of design or method of construction not specifically prescribed by this code, provided any

alternate has be. . approved and its use autho -zed by the building official.

The building official may approve any such alternate, provided the building official finds that the proposed design is satisfactory and complies with the provisions of this code and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in suitability, strength, effectiveness, fire resistance, durability, safety and sanitation.

The building official shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use. The details of any action granting approval of an alternate shall be recorded and entered in the files of the code enforcement agency.

104.2.9 Tests. Whenever there is insufficient evidence of compliance with any of the provisions of this code or evidence that any material or construction does not conform to the requirements of this code, the building official may require tests as proof of compliance to be made at no expense to this jurisdiction.

Test methods shall be as specified by this code or by other recognized test standards. If there are no recognized and accepted test methods for the proposed alternate, the building official shall determine test procedures.

All tests shall be made by an approved agency. Reports of such tests shall be retained by the building official for the period required for the retention of public records.

104.2.10 Cooperation of other officials and officers. The building official may request, and shall receive, the assistance and cooperation of other officials of this jurisdiction so far as is required in the discharge of the duties required by this code or other pertinent law or ordinance.

NEW SECTION

WAC 51-30-0200 Chapter 2--Definitions and abbreviations.

NEW SECTION

WAC 51-30-0204 Section 204--C.

CAST STONE is a precast building stone manufactured from portland cement concrete and used as a trim, veneer or facing on or in building or structures.

CENTRAL HEATING PLANT is environmental heating equipment which directly utilizes fuel to generate heat in a medium for

distribution by means of ducts or pipes to areas other than the room or space in which the equipment is located.

C.F.R. is the Code of Federal Regulations, a regulation of the United States of America available from the Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402.

CHIEF OF THE FIRE DEPARTMENT is the head of the fire department or a regularly authorized deputy.

CHILD DAY CARE, shall, for the purposes of these regulations, mean the care of children during any period of a 24 hour day.

CHILD DAY CARE HOME, FAMILY is a child day care facility, licensed by the state, located in the family abode of the person or persons under whose direct care and supervision the child is placed, for the care of twelve or fewer children, including children who reside at the home.

COMBUSTIBLE LIQUID. See the Fire Code.

CONGREGATE RESIDENCE is any building or portion thereof which contains facilities for living, sleeping and sanitation, as required by this code, and may include facilities for eating and cooking, for occupancy by other than a family. A congregate residence may be a shelter, convent, monastery, dormitory, fraternity or sorority house but does not include jails, hospitals, nursing homes, hotels or lodging houses.

CONDOMINIUM, RESIDENTIAL. See "apartment house".

CONTROL AREA is a building or portion of a building within which the exempted amounts of hazardous materials may be stored, dispensed, handled or used.

CORROSIVE is a chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of contact. A chemical is considered to be corrosive if, when tested on the intact skin of albino rabbits by the method described in the United States Department of Transportation in Appendix A to 49 C.F.R. 173, it destroys or changes irreversibly the structure of the tissue at the site of contact following an exposure period of four hours. This term shall not refer to action on inanimate surfaces.

COURT is a space, open and unobstructed to the sky, located at or above grade level on a lot and bounded on three or more sides by walls of a building.

NEW SECTION

WAC 51-30-0207 Section 207--F.

FABRICATION AREA (fab area) is an area within a Group H, Division 6 Occupancy in which there are processes involving hazardous production materials and may include ancillary rooms or areas such as dressing rooms and offices that are directly related to the fab area processes.

FAMILY is an individual or two or more persons related by blood or marriage or a group of not more than five persons (excluding servants) who need not be related by blood or marriage living together in a dwelling unit.

FAMILY ABODE means a single dwelling unit and accessory buildings occupied for living purposes by a family which provides permanent provisions for living, sleeping, eating, cooking, and sanitation.

FIRE ASSEMBLY. See Section 713.2.

FIRE CODE is the *Uniform Fire Code* promulgated by the International Fire Code Institute, as adopted by this jurisdiction.

FIRE RESISTANCE or **FIRE-RESISTIVE CONSTRUCTION** is construction to resist the spread of fire, details of which are specified in this code.

FIRE-RETARDANT-TREATED WOOD is any wood product impregnated with chemicals by a pressure process or other means during manufacture, and which, when tested in accordance with U.B.C. Standard 8-1 for a period of 30 minutes, shall have a flame spread of not over 25 and show no evidence of progressive combustion. In addition, the flame front shall not progress more than 10½ feet (3200 mm) beyond the center line of the burner at any time during the test. Materials which may be exposed to the weather shall pass the accelerated weathering test and be identified as Exterior type, in accordance with U.B.C. Standard 23-5. Where material is not directly exposed to rainfall but exposed to high humidity conditions, it shall be subjected to the hygroscopic test and identified as Interior Type A in accordance with U.B.C. Standard 23-5.

All materials shall bear identification showing the fire performance rating thereof. Such identifications shall be issued by an approved agency having a service for inspection of materials at the factory.

FLAMMABLE LIQUID. See the Fire Code.

FLOOR AREA is the area included within the surrounding exterior walls of a building or portion thereof, exclusive of vent shafts, courts and gridirons. The floor area of a building, or portion thereof, not provided with surrounding exterior wall shall be the usable area under the horizontal projection of the roof or floor above.

FM is Factory Mutual Engineering and Research, 1151 Boston-Providence Turnpike, Norwood, Massachusetts 02062.

FOAM PLASTIC INSULATION is a plastic which is intentionally expanded by the use of a foaming agent to produce a reduced-density plastic containing voids consisting of hollow spheres or interconnected cells distributed throughout the plastic for thermal insulating or acoustical purposes and which has a density less than 20 pounds per cubic foot (320 kg/m^3).

FOOTING is that portion of the foundation of a structure which spreads and transmits loads directly to the soil or the piles.

FRONT OF LOT is the front boundary line of a lot bordering on the street and, in the case of a corner lot, may be either frontage.

NEW SECTION

WAC 51-30-0217 Section 217--P.

PANIC HARDWARE. See Section 1001.2.

PEDESTRIAN WALKWAY is a walkway used exclusively as a pedestrian trafficway.

PENETRATION FIRE STOP is a through-penetration fire stop or a membrane-penetration fire stop.

PERMIT is an official document or certificate issued by the building official authorizing performance of a specified activity.

PERSON is a natural person, heirs, executors, administrators or assigns, and also includes a firm, partnership or corporation, its or their successors or assigns, or the agent of any of the aforesaid.

PHOTOLUMINESCENT is the property of emitting light as the result of absorption of visible of invisible light, which continues for a length of time after excitation.

PLASTIC MATERIALS, APPROVED, other than foam plastics regulated under Sections 601.5.5 and 2602, are those plastic materials having a self-ignition temperature of 650°F. (343°C.) or greater as determined in accordance with U.B.C. Standard 26-6, and a smoke-density rating not greater than 450 when tested in accordance with U.B.C. Standard 8-1, in the way intended for use, or a smoke-density rating not greater than 75 when tested in accordance with U.B.C. Standard 26-5 in the thickness intended for use. Approved plastics shall be classified as either CC1 or CC2 in accordance with U.B.C. Standard 26-7. See also Section 207, definition of "foam plastic insulation".

PLATFORM. See Section 407.

PLUMBING CODE is the *Plumbing Code,* as adopted by this jurisdiction.

PORTABLE SCHOOL CLASSROOM is a structure, transportable in one or more sections, which requires a chassis to be transported, and is designed to be used as an educational space with or without a permanent foundation. The structure shall be trailerable and capable of being demounted and relocated to other locations as needs arise.

PROTECTIVE MEMBRANE is the surface material which forms the required outer layer or layers of a fire-resistive assembly containing concealed spaces.

PUBLIC WAY See Section 1001.2.

NEW SECTION

WAC 51-30-0220 Section 220--S.

SELF-LUMINOUS means powered continuously by a self-contained power source other than battery or batteries, such as radioactive tritium gas. A self-luminous sign is independent of external power supplies or other energy for its operation.

SENSITIZER is a chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure to the chemical.

SERVICE CORRIDOR is a fully enclosed passage used for transporting hazardous production materials and for purposes other than required exiting.

SHAFT is an interior space, enclosed by walls or construction, extending through one or more stories or basements which connects openings in successive floors, or floors and roof, to accommodate elevators, dumbwaiters, mechanical equipment or similar devices or to transmit light or ventilation air.

SHAFT ENCLOSURE is the walls or construction forming the boundaries of a shaft.

SHALL, as used in this code, is mandatory.

SMOKE DETECTOR is an approved, listed device that senses visible or invisible particles of combustion.

STAGE. See Chapter 4.

STORY is that portion of a building included between the upper surface of any floor and the upper surface of the floor next above, except that the topmost story shall be that portion of a building included between the upper surface of the topmost floor and the ceiling or roof above. If the finished floor level directly above a usable or unused under-floor space is more than 6 feet (1829 mm) above grade as defined herein for more than 50 percent of the total perimeter or is more than 12 feet (3658 mm) above grade as defined herein at any point, such usable or unused under-floor space shall be considered as a story.

STORY, FIRST, is the lowest story in a building which qualifies as a story, as defined herein, except that a floor level in a building having only one floor level shall be classified as a first story, provided such floor level is not more than 4 feet (1219 mm) below grade, as defined herein, for more than 50 percent of the total perimeter, or not more than 8 feet (2438 mm) below grade, as defined herein, at any point.

STREET is any thoroughfare or public way not less than 16 feet (4877 mm) in width which has been dedicated or deeded to the public for public use.

STRUCTURAL OBSERVATION means the visual observation of the structural system, for general conformance to the approved plans and specifications. Structural observation does not include or waive the responsibility for the inspections required by Sections 108 and 1702 or other sections of the code.

STRUCTURE is that which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner.

SURGICAL AREA is the preoperating, operating, recovery and similar rooms within an outpatient health-care center where the patients are incapable of unassisted self-preservation.

NEW SECTION

WAC 51-30-0300 Chapter 3--Use or occupancy.

NEW SECTION

WAC 51-30-0302 Section 302--Mixed use or occupancy.

302.1 General. When a building is used for more than one occupancy purpose, each part of the building comprising a distinct "occupancy", as described in Section 301 shall be separated from any other occupancy as specified in Section 302.4.

EXCEPTIONS:
1. When an approved spray booth constructed in accordance with the Fire Code is installed, such booth need not be separated from Group B, F, H, M or S Occupancies.
2. The following occupancies need not be separated from the uses to which they are accessory:
2.1 Assembly rooms having a floor area of not over 750 square feet (69 m^2).
2.2 Administrative and clerical offices and similar rooms which do not exceed 25 percent of the floor area of the major use when not related to Group H, Division 2 and Group H, Division 3 Occupancies.
2.3 Gift shops, administrative offices and similar rooms in Group R, Division 1 Occupancies not exceeding 10 percent of the floor area of the major use.
2.4 The kitchen serving the dining area of which it is a part.
2.5 Customer waiting rooms not exceeding 450 square feet (41.8 m^2) when not related to Group H Occupancies and when such waiting rooms have an exit directly to the exterior.
2.6 Offices, mercantile, food preparation establishments for off-site consumption, personal care salons or similar uses in Group R dwelling units which are conducted primarily by the occupants of a dwelling unit, which are secondary to the use of the unit for dwelling purposes, and which do not exceed 500 square feet (46.4 m^2).
3. An occupancy separation need not be provided between a Group R, Division 3 Occupancy and a carport having no enclosed uses above, provided the carport is entirely open on two or more sides.
4. A Group S, Division 3 Occupancy used exclusively for the parking or storage of private or pleasure-type motor vehicles need not be separated from a Group S, Division 4 Occupancy open parking garage as defined in Section 311.1.

When a building houses more than one occupancy, each portion of the building shall conform to the requirements for the occupancy housed therein.

An occupancy shall not be located above the story or height set forth in Table 5-B, except as provided in Section 506. When a mixed occupancy building contains a Group H, Division 6 Occupancy, the portion containing the Group H, Division 6 Occupancy shall not exceed three stories or 55 feet (16 764 mm) in height.

302.2 Forms of Occupancy Separations. Occupancy separations shall be vertical or horizontal or both or, when necessary, of such other form as may be required to afford a complete separation between the various occupancy divisions in the building.

Where the occupancy separation is horizontal, structural members supporting the separation shall be protected by equivalent fire-resistive construction.

302.3 Types of Occupancy Separations. Occupancy separations shall be classed as "four-hour fire-resistive", "three-hour fire-resistive", "two-hour fire-resistive", and "one-hour fire-resistive".

1. A four-hour fire-resistive occupancy separation shall have no openings therein and shall not be of less than four-hour fire-resistive construction.

2. A three-hour fire-resistive occupancy separation shall not be of less than three-hour fire-resistive construction. All openings in walls forming such separation shall be protected by a fire assembly having a three-hour fire-protection rating. The total width of all openings in any three-hour fire-resistive occupancy separation wall in any one story shall not exceed 25 percent of the length of the wall in that story and no single opening shall have an area greater than 120 square feet (11 m^2).

All openings in floors forming a three-hour fire-resistive occupancy separation shall be protected by vertical shaft, stairway, ramp or escalator enclosures extending above and below such openings. The wall of such vertical enclosures shall be of not less than two-hour fire-resistive construction and all openings therein shall be protected by a fire assembly having a one- and one-half-hour fire-protection rating.

EXCEPTION: When the walls of such vertical enclosure extending below the three-hour fire-resistive occupancy separation to the foundation are provided with a fire-resistive rating of not less than three hours with openings therein protected as required for walls forming three-hour occupancy separations, the enclosure walls extending above such floor used as the three-hour fire-resistive occupancy separation may have a one-hour fire resistive rating provided:

1. The occupancy above is not required to be of Type I or Type II fire-resistive construction, and
2. The enclosure walls do not enclose an exit stairway, a ramp or an escalator required to have enclosure walls of not less than two-hour fire-resistive construction.

3. A two-hour fire-resistive occupancy separation shall not be of less than two-hour fire-resistive construction. All openings in such separation shall be protected by a fire assembly having a one- and one-half-hour fire-protection rating.

4. A one-hour fire-resistive occupancy separation shall not be of less than one-hour fire-resistive construction. All openings in such separation shall be protected by a fire assembly having a one-hour fire-protection rating.

302.4 Fire Ratings for Occupancy Separations. Occupancy separations shall be provided between the various groups and divisions of occupancies as set forth in Table 3-B. For required separation of specific uses in Group I, Division 1 hospitals and nursing homes, see Table 3-C. See also Section 504.6.1.

EXCEPTIONS: 1. A three-hour occupancy separation may be used between a Group A, Division 1 and a Group S, Division 3 Occupancy used exclusively for the parking or storage of private or pleasure-type motor vehicles provided no repair or fueling is done. A two-hour occupancy separation may be used between a Group A, Division 2, 2.1, 3 or 4 or E or I Occupancy and a Group S, Division 3 Occupancy used exclusively for the parking or storage of private or pleasure-type motor vehicles provided no repair or fueling is done.

2. Unless required by Section 311.2.2, the three-hour occupancy separation between a Group R, Division 1 Occupancy and a Group S, Division 3 Occupancy used only for the parking or storage of private or pleasure-type motor vehicles with no repair or fueling may be reduced to two hours. Such occupancy separation may be further reduced to one hour where the area of such Group S, Division 3 Occupancy does not exceed 3,000 square feet (279 m^2).

3. In the one-hour occupancy separation between Group R, Division 3 and Group U Occupancies, the separation may be limited to the installation of materials approved for one-hour fire-resistive construction on the garage side and a self-closing,

tight-fitting ... wood door 1 3/8 inches (35 mm) in thickness, or a self-cl... g, tight-fitting door having a fire-protection rating of not less than 20 minutes when tested in accordance with Part II of U.B.C. Standard 7-2, which is a part of this code, is permitted in lieu of a one-hour fire assembly. Fire dampers need not be installed in air ducts passing through the wall, floor or ceiling separating a Group R, Division 3 Occupancy from a Group U Occupancy, provided such ducts within the Group U Occupancy are constructed of steel having a thickness not less than 0.019 inch (0.48 mm) (No. 26 galvanized sheet gage) and have no openings into the Group U Occupancy.

4. Group H, Division 2 and Group H, Division 3 Occupancies need not be separated from Group H, Division 7 Occupancies when such occupancies also comply with the requirements for a Group H, Division 7 Occupancy.

302.5 Heating Equipment Room Occupancy Separation. In Groups A; B; E; F; I; M; R, Division 1; and S Occupancies, rooms containing a boiler, central heating plant or hot-water supply boiler shall be separated from the rest of the building by not less than a one-hour occupancy separation.

EXCEPTIONS: 1. In Groups A, B, E, F, I, M, and S Occupancies, boilers, central heating plants or hot-water supply boilers where the largest piece of fuel equipment does not exceed 400,000 Btu per hour (117.2 kW) input.

2. In Group R, Division 1 Occupancies, a separation need not be provided for such rooms with equipment serving only one dwelling unit.

In Group E Occupancy, when the opening for a heater or equipment room is protected by a pair of fire doors, the inactive leaf shall be normally secured in the closed position and shall be openable only by the use of a tool. An astragal shall be provided and the active leaf shall be self-closing.

In Group H Occupancies, rooms containing a boiler, central heating plant or hot-water supply boiler shall be separated from the rest of the building by not less than a two-hour occupancy separation. In Divisions 1 and 2, there shall be no openings in such occupancy separation except for necessary ducts and piping.

For opening in exterior walls of equipment rooms in Groups A, E or I Occupancies, see Section 303.8.

302.6 Water Closet Room Separation. A room in which a water closet is located shall be separated from food preparation or storage rooms by a tight-fitting door.

NEW SECTION

WAC 51-30-0304 Section 304--Requirements for Group B Occupancies.

304.1 Group B Occupancies Defined.

Group B Occupancies shall include buildings, structures, or portions thereof, for office, professional or service-type transactions, which are not classified as Group H Occupancies. Such occupancies include occupancies for the storage of records and accounts, and eating and drinking establishments with an occupant load of less than 50. Business occupancies shall include, but not be limited to, the following:

1. Animal hospitals, kennels, pounds.
2. Automobile and other motor vehicle showrooms.
3. Banks.
4. Barber shops.

5. Beauty shop.

6. Car washes.

7. Civic administration.

8. Outpatient clinic and medical offices (where five or less patients in a tenant space are incapable of unassisted self-preservation).

9. Dry cleaning pick-up and delivery stations and self-service.

10. Educational occupancies above the 12th grade.

11. Electronic data processing.

12. Fire stations.

13. Florists and nurseries.

14. Laboratories - testing and research.

15. Laundry pick-up and delivery stations and self-service.

16. Police stations.

17. Post offices.

18. Print shops.

19. Professional services such as attorney, dentist, physician, engineer.

20. Radio and television stations.

21. Telephone exchanges.

For occupancy separations, see Table 3-B.

304.2 Construction, Height and Allowable Area.

304.2.1 General. Buildings or parts of buildings classed as Group B Occupancies because of the use or character of the occupancy shall be limited to the types of construction set forth in Table 5-B. Such occupancies shall not exceed, in area or height, the limits specified in Sections 504, 505 and 506 and shall comply with the provisions of this section.

304.2.2 Special provisions.

304.2.2.1 Laboratories and vocational shops. Laboratories or groups of laboratories under the same management and vocational shops in buildings used for educational purposes, and similar areas containing hazardous materials, shall be separated from each other and other portions of the building by not less than a one-hour fire-resistive occupancy separation. Laboratories or groups of laboratories may include accessory support areas such as offices. When the quantities of hazardous materials in such uses do not exceed those listed in Table 3-D or 3-E, the requirements of Sections 306.5 and 306.8 shall apply. When the quantities of hazardous materials in such uses exceed those allowed by Table 3-D or 3-E, the use shall be classified as the appropriate Group H Occupancy.

Laboratories having an occupant load of 10 or more shall have at least two exits from the room and all portions of the room shall be within 75 feet (22 860 mm) of an exit.

304.2.2.2 Amusement buildings. Amusement buildings with an occupant load of less than 50 shall comply with Section 408.

304.3 Location on Property. For fire-resistive protection of exterior walls and openings, as determined by location on property, see Section 503 and Chapter 6.

304.4 Access and Exit Facilities. Exits shall be provided as specified in Chapter 10. See also Section 304.2.2.1 for exits from laboratories.

Access to, and egress from, buildings required to be accessible shall be provided as specified in Chapter 11.

304.5 Light, Ventilation and Sanitation. Light, ventilation and sanitation shall be in accordance with Chapters 12 and 29 and this section.

304.5.1 Ventilation of flammable vapors. See Section 1202.2.2 for ventilation of flammable vapors.

304.5.2 Sanitation. The number of plumbing fixtures shall not be less than specified in Section 2902.3.

304.6 Shaft and Exit Enclosures. Exits shall be enclosed as specified in Chapter 10.

Elevator shafts, vent shafts and other openings through floors shall be enclosed, and the enclosure shall be as specified in Section 711.

In buildings housing Group B Occupancies equipped with automatic sprinkler systems throughout, enclosures need not be provided for escalators where the top of the escalator opening at each story is provided with a draft curtain and automatic fire sprinklers are installed around the perimeter of the opening within 2 feet (610 mm) of the draft curtain. The draft curtain shall enclose the perimeter of the unenclosed opening and extend from the ceiling downward at least 12 inches (305 mm) on all sides. The spacing between sprinklers shall not exceed 6 feet (1829 mm).

304.7 Sprinkler and Standpipe Systems. When required be Section 904.2.1 or other provisions of this code, automatic sprinkler systems and stand pipes shall be installed as specified in Chapter 9.

304.8 Special Hazards. Chimneys and heating apparatus shall conform to the requirements of Chapter 31 of this code and the Mechanical Code.

Storage and use of flammable and combustible liquids shall be in accordance with the Fire Code.

Devices generating a glow, spark or flame capable of igniting flammable vapors shall be installed such that sources of ignition are at least 18 inches (457 mm) above the floor of any room in which Class I flammable liquids or flammable gases are used or stored.

NEW SECTION

WAC 51-30-0305 Section 305--Requirements for Group E Occupancies.

305.1 Group E Occupancies Defined. Group E Occupancies shall be:

Division 1. Any building used for educational purposes through the 12th grade by 50 or more persons for more than 12 hours per week or four hours in any one day.

Division 2. Any building used for educational purposes through the 12th grade by less than 50 persons for more than 12 hours per week or four hours in any one day.

Division 3. Any building or portion thereof used for day care purposes for more than six persons.

EXCEPTION: Family child day care homes shall be considered Group R, Division 3 Occupancies.

For occupancy separations, see Table 3-B.

305.2 Construction, Height and Allowable Area.

305.2.1 General. Buildings or parts of buildings classed in Group E because of the use or character of the occupancy shall be limited to the types of construction set forth in Table 5-B and shall not exceed, in area or height, the limits specified in Sections 504, 505 and 506, except that the area may be increased by 50 percent when the maximum travel distance specified in Section 1003.4 is reduced by 50 percent.

305.2.2 Atmospheric separation requirements.

305.2.2.1 Definitions. For the purpose of this chapter and Section 1017, the following definitions are applicable:

COMMON ATMOSPHERE. A common atmosphere exists between rooms, spaces or areas within a building which are not separated by an approved smoke- and draft-stop barrier.

SEPARATE ATMOSPHERE. A separate atmosphere exists between rooms, spaces or areas that are separated by an approved smoke barrier.

SMOKE BARRIER. A smoke barrier consists of walls, partitions, floors and openings therein as will prevent the transmission of smoke or gases through the construction. See Section 905.

305.2.2.2 General provisions. The provisions of this section apply when a separate exit system is required in accordance with Section 1017.

Walls, partitions and floors forming all or part of an atmospheric separation shall be as required by Section 905.2.3. Glass lights of approved wired glass set in steel frames may be installed in such walls or partitions.

All automatic-closing fire assemblies installed in the atmospheric separation shall be activated by approved smoke detectors.

The specific requirements of this section are not intended to prevent the design or use of other systems, equipment or techniques which will effectively prevent the products of combustion from breaching the atmospheric separation.

305.2.3 Special provisions. Rooms in Division 1 and 2 Occupancies used for kindergarten, first- or second-grade pupils, and Division 3 Occupancies shall not be located above or below the first story.

EXCEPTIONS: 1. Basements or stories having floor levels located within 4 feet (1219 mm), measured vertically, from adjacent ground level at the point of exit, provided the basement or story has exits directly to the exterior at that level.

2. In buildings equipped with an automatic sprinkler system throughout, rooms used for kindergarten, first- and second-grade children or for day care purposes may be located on the second story, provided there are at least two exits directly into separate exiting systems as defined in Section 1017.

3. Division 3 Occupancies may be located above the first story in buildings of Type I construction and in Types II-F.R., II One-hour and III One-hour construction, subject to the limitation of Section 506 when:

3.1 Division 3 Occupancies containing more than 12 children per story shall not be located above the fourth floor; and

3.2 The entire story in which the day care facility is located is equipped with an approved manual fire alarm and smoke-detection system. (See the Fire Code.) Actuation of an initiating device shall sound an audible alarm throughout the entire story. When a building fire alarm system is required by other provisions of this code or the Fire Code, the alarm system shall be connected to the building alarm system.

An approved alarm signal shall sound at an approved location in the day care occupancy to indicate a fire alarm or sprinkler flow condition in other portions of the building; and

3.3 The day care facility, if more than 1000 square feet (92.9 m^2) in area, is divided into at least two compartments of approximately the same size by a smoke barrier with door openings protected by smoke- and draft-control assemblies having a fire-protection rating of not less than 20 minutes. Smoke barriers shall have a fire-resistive rating of not less than one hour. In addition to the requirements of Section 302, occupancy separations between Division 3 Occupancies and other occupancies shall be constructed as smoke barriers. Door openings in the smoke barrier shall be tight-fitting with gaskets installed as required by Section 1005, and shall be automatic closing by actuation of the automatic sprinklers, fire alarm or smoke-detection system. Openings for ducts and other heating, ventilating and air-conditioning openings shall be equipped with a minimum Class I, 250°F. (1210°C.) smoke damper as defined and tested in accordance with approved recognized standards. See Chapter 35, Part III. The damper shall close upon detection of smoke by an approved smoke detector located within the duct, or upon the activation of the fire alarm system; and

3.4 Each compartment formed by the smoke barrier has not less than two exits, one of which is permitted to pass through the adjoining compartment; and

3.5 At least one exit from the Division 3 Occupancy shall be into a separate exiting system as defined in Section 1017; and

3.6 The building is equipped with an automatic sprinkler system throughout.

Stages and platforms shall be constructed in accordance with Chapter 4. For attic space partitions and draft stops, see Section 708.

305.2.4 Special hazards. Laboratories, vocational shops and similar areas containing hazardous materials shall be separated from each other and from other portions of the building by not less than a one-hour fire-resistive occupancy separation. When the quantities or hazardous materials in such uses do not exceed those listed in Table 3-D or 3-E, the requirements of Section 307.5.2 and 307.8 shall apply. When the quantities of hazardous materials is such uses exceed those listed in Table 3-D or 3-E, the use shall be classified as the appropriate Group H Occupancies.

See Section 1017.7 for exiting from laboratories in Group E Occupancies.

Equipment in rooms or groups of rooms sharing a common atmosphere where flammable liquids, combustible dust or hazards material are used, stored, developed or handled shall conform to the requirements of the Fire Code.

305.3 Location on Property. All buildings housing Group E Occupancies shall front directly on or have access to a public street not less than 20 feet (6096 mm) in width. The access to the public street shall be a minimum 20-foot-wide (6096 mm) right-of-way, unobstructed and maintained only as access to the public street. At least one required exit shall be located on the public street or on the access way.

For fire-resistive protection of exterior walls and openings, as determined by location on property, see Section 503 and Chapter 6.

305.4 Access and Exit Facilities. Exits shall be provided as specified in Chapter 10. (For special provisions see Section 1017. See Section 305.2.4 for exit from laboratories.)

Access to, and egress from, buildings required to be accessible shall be provided as specified in Chapter 11.

305.5 Light, Ventilation and Sanitation. All portions of Group E Occupancies customarily occupied by human beings shall be provided with light and ventilation, either natural or artificial, as specified in Chapter 12. See Section 1012 for required exit illumination.

The number of urinals and drinking fountains shall be as specified in Section 2902.4.

305.6 Shaft and Exit Enclosures. Exits shall be enclosed as specified in Chapter 10. Elevator shafts, vent shafts and other vertical openings shall be enclosed, and the enclosure shall be as specified in Section 711.

305.7 Sprinkler and Standpipe Systems. When required by Section 904.2.1 or other provisions of this code, automatic sprinkler systems and standpipes shall be designed and installed as specified in Chapter 9.

305.8 Special Hazards. Chimneys and heating apparatus shall conform to the requirements of Chapter 31 of this code and the Mechanical Code.

Motion picture machine rooms shall conform to the requirements of Chapter 4.

All exterior openings in a boiler room or rooms containing central heating equipment, if located below openings in another story or if less than 10 feet (3048 mm) from other doors or windows of the same building, shall be protected by a fire assembly having a three-fourths-hour fire-protection rating. Such fire assemblies shall be fixed, automatic closing or self-closing.

Class I, II or III-A liquids shall not be placed, stored or used in Group E Occupancies, except in approved quantities as necessary in laboratories and classrooms and for operation and maintenance as set fourth in the Fire Code.

305.9 Fire Alarm Systems. An approved fire alarm system shall be provided for Group E Occupancies with an occupant load of 50 or more persons. In Group E Occupancies provided with an automatic sprinkler or detection system, the operation of such system shall automatically activate the school fire alarm system, which shall include an alarm mounted on the exterior of the building.

See Chapter 10 for smoke-detection requirements.

For installation requirements, see the Fire Code.

NEW SECTION

WAC 51-30-0307 Section 307--Requirements for Group H Occupancies.

307.1 Group H Occupancies Defined.

307.1.1 General. Group H Occupancies shall include buildings or structures, or portions thereof, that involve the manufacturing, processing, generation or storage of materials that constitute a high fire, explosion or health hazard. For definitions, identification and control of hazardous materials and pesticides, and the display of nonflammable solid and nonflammable and noncombustible liquid hazardous material in Group B, F, M or S Occupancies, see the Fire Code. For the application and use of control areas, see Footnote 1 of Tables 3-D and 3-E. Group H Occupancies shall be:

Division 1. Occupancies with a quantity of material in the building in excess of those listed in Table 3-D which present a high explosion hazard, including, but not limited to:

1. Explosives, blasting agents, fireworks and black powder.

EXCEPTION: Storage and the use of pyrotechnic special effect materials in motion picture, television, theatrical and group entertainment production when under permit as required in the Fire Code. The time period for storage shall not exceed 90 days.

2. Unclassified detonatable organic peroxides.

3. Class 4 oxidizers.

4. Class 4 or Class 3 detonatable unstable (reactive) materials.

Division 2. Occupancies where combustible dust is manufactured, used or generated is such a manner that concentrations and conditions create a fire or explosion potential; occupancies with a quantity of material in the building in excess of those listed in Tables 3-D, which present a moderate explosion hazard or a hazard from accelerated burning, including, but not limited to:

1. Class I organic peroxides.

2. Class 3 nondetonatable unstable (reactive) materials.

3. Pyrophoric gases.

4. Flammable or oxidizing gases.

5. Class I, II or III-A flammable or combustible liquids which are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15-pounds-per-square-inch (103.4 kPa) gage.

EXCEPTION: Aerosols.

6. Class 3 oxidizers.

7. Class 3 water-reactive materials.

Division 3. Occupancies where flammable solids, other than combustible dust, are manufactured, used or generated.

Division 3 Occupancies also include uses in which the quantity of material in the building in excess of those listed in Table 3-D presents a high physical hazard, including, but not limited to:

1. Class I, III or IV organic peroxides.

2. Class 1 or 2 oxidizers.

3. Class I, II or III-A flammable or combustible liquids which are used of stored in normally closed containers or systems and containers or systems pressurized at 15-pounds-per-square-inch (103.4 kPa) gage or less, and aerosols.

4. Class III-B combustible liquids.

5. Pyrophoric liquids or solids.

6. Class 1 or 2 water-reactive materials.

7. Flammable solids in storage.

8. Flammable or oxidizing cryogenic fluids (other than inert).

9. Class 1 unstable (reactive) gas or Class 2 unstable (reactive) materials.

Division 4. Repair garages not classified as Group S, Division 3 Occupancies.

Division 5. Aircraft repair hangars and heliports not classified as Group S, Division 5 Occupancies.

Division 6. Semiconductor fabrication facilities and comparable research and development areas in which hazardous production materials (HPM) are used and the aggregate quantity of materials are in excess of those listed in Table 3-D or 3-E. Such facilities and areas shall be designed and constructed in accordance with Section 411.

Division 7. Occupancies having quantities of materials in excess of those listed in Table 3-E that are health hazards, including:

1. Corrosives.

2. Toxic and highly toxic materials.

3. Irritants.

4. Sensitizers.

5. Other health hazards.

307.1.2 Multiple hazards. When a hazardous material has multiple hazards, all hazards shall be addressed and controlled in accordance with the provisions of this chapter.

307.1.3 Liquid use, dispensing and mixing rooms. Rooms in which Class I, Class II and Class III-A flammable or combustible liquids are used, dispensed or mixed in open containers shall be constructed in accordance with the requirements for a Group H, Division 2 Occupancy and the following:

1. Rooms in excess of 500 square feet (46.5 m^2) shall have at least one exterior door approved for fire department access.

2. Rooms shall be separated from other areas by an occupancy separation having a fire-resistive rating of not less than one hour for rooms up to 150 square feet (13.9 m^2) in area and not less than two hours where the room is more than 150 square feet (13.9 m^2) in

area. Separations from other occupancies shall not be less than required by Section 302 and Table 3-B.

3. Shelving, racks and wainscoting in such areas shall be of noncombustible construction or wood not less than 1-inch (25 mm) nominal thickness.

4. Liquid use, dispensing and mixing rooms shall not be located in basements.

307.1.4 Liquid storage rooms. Rooms in which Class I, Class II and Class III-A flammable or combustible liquids are stored in closed containers shall be constructed in accordance with the requirements for a Group H, Division 3 Occupancy and to the following:

1. Rooms in excess of 500 square feet (46.5 m^2) shall have at least one exterior door approved for fire department access.

2. Rooms shall be separated from other areas by an occupancy separation having a fire-resistive rating of not less than one hour for rooms up to 150 square feet (13.9 m^2) in area and not less than two hours where the room is more than 150 square feet (13.9 m^2) in area. Separations from other occupancies shall not be less than required by Section 302 and Table 3-B.

3. Shelving, racks and wainscoting in such areas shall be of noncombustible construction or wood of not less than 1-inch (25 mm) nominal thickness.

4. Rooms used for the storage of Class I flammable liquids shall not be located in a basement.

307.1.5 Flammable or combustible liquid storage warehouses. Liquid storage warehouses in which Class I, Class II and Class III-A flammable or combustible liquids are stored in closed containers shall be constructed in accordance with the requirements for a Group H, Division 3 Occupancy and the following:

1. Liquid storage warehouses shall be separated from all other uses by a four-hour area separation wall.

2. Shelving, racks and wainscoting in such warehouses shall be of noncombustible construction or wood not less than 1-inch (25 mm) nominal thickness.

3. Rooms used for the storage of Class I flammable liquids shall not be located in a basement.

307.1.6 Requirement for report. The building official may require a technical opinion and report to identify and develop methods of protection from the hazards presented by the hazardous material. The opinion and report shall be prepared by a qualified person, firm or corporation approved by the building official and shall be provided without charge to the enforcing agency.

The opinion and report may be include, but is not limited to, the preparation of a hazardous material management plan (HMMP); chemical analysis; recommendation for methods if isolation, separation, containment or protection of hazardous materials or processes, including appropriate engineering controls to be applied; the extent of changes in the hazardous behavior to be anticipated under conditions of exposure to fire or from hazard control procedures; and the limitations or conditions of use

necessary to achieve and maintain control of the hazardous materials or operations. The report shall be entered into the files of the code enforcement agencies. Proprietary and trade secret information shall be protected under the laws of the state or jurisdiction having authority.

EXCEPTION: When an HMMP is required, the applicant may submit the report(s) used for compliance with requirements of 40 CFR "Hazardous Chemical Reporting and Community Right-to-Know Regulations" under Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA).

307.2 Construction, Height and Allowable Area.

307.2.1 General. Buildings or parts of buildings classed in Group H because of the use or character of the occupancy shall be limited to the types of construction set forth in Table 5-B and shall not exceed, in area or height, the limits specified in Sections 504, 505 and 506.

307.2.2 Floors. Except for surfacing, floors in areas containing hazardous materials and in areas where motor vehicles, boats, helicopters or airplanes are stored, repaired or operated shall be of noncombustible, liquid-tight construction.

EXCEPTION: In Group H, Division 4 and 5 Occupancies, floors may be surfaced or waterproofed with asphaltic paving materials in that portion of the facility where no repair work is done.

307.2.3 Spill control. When required by the Fire Code, floors shall be recessed a minimum of 4 inches (102 mm) or shall be provided with a liquid-tight raised sill with a minimum height of 4 inches (102 mm) so as to prevent the flow of liquids to adjoining areas. Except for surfacing, the sill shall be constructed of noncombustible material, and the liquid-tight seal shall be compatible with the material being stored. When liquid-tight sills are provided, they may be omitted at door openings by the installation of an open-grate trench which connects to an approved drainage system.

307.2.4 Drainage. When required by the Fire Code, the room, building or area shall be provided with a drainage system to direct the flow of liquids to an approved location or, the room, building or area shall be designed to provide secondary containment for the hazardous materials and fire-protection water.

Drains from the area shall be sized to carry the sprinkler system design flow rate over the sprinkler system design area. The slope of drains shall not be less than 1 percent. Materials of construction for the drainage system shall be compatible with the stored materials.

Incompatible materials shall be separated from each other in the drain systems. They may be combined when that have been rendered acceptable for discharge by an approved means into the public sewer. Drainage of spillage and fire-protection water directed to a neutralizer or treatment system shall comply with the following:

1. The system shall be designed to handle the maximum worst-case spill from the single largest container plus the volume of fire-protection water from the system over the minimum design area for a period of 20 minutes.

2. Overflow from the neutralizer or treatment system shall be provided to direct liquid leakage and fire-protection water to a safe location away from the building, any material or fire-

protection cont. . valve, means of egress, a joining property, or fire department access roadway.

307.2.5 Containment. When required by the Fire Code, drains shall be directed to a containment system or other location designed as secondary containment for the hazardous material liquids and fire-protection water, or the building, room or area shall be designed to provide secondary containment of hazardous material liquids and fire-protection water through the use of recessed floors or liquid-tight raised sills.

Secondary containment shall be designed to retain the spill from the largest single container plus the design flow rate of the sprinkler system for the area of the room or area in which the storage is located or the sprinkler system design area, whichever is smaller. The containment capacity shall be capable of containing the flow for a period of 20 minutes.

Overflow from the secondary containment system shall be provided to direct liquid leakage and fire-protection water to a safe location away from the building, any material or fire-protection control valve, means of egress, fire access roadway, adjoining property or storm drains.

If the storage area is open to rainfall, the secondary containment shall be designed to accommodate the volume of a 24-hour rainfall as determined by a 25-year storm.

When secondary containment is required, a monitoring method capable of detecting hazardous material leakage from the primary containment into the secondary containment shall be provided. When visual inspection of the primary containment is not practical, other approved means of monitoring may be provided. When secondary containment may be subject to the intrusion of water, a monitoring method for such water shall be provided. Whenever monitoring devices are provided, they shall be connected to distinct visual or audible alarms.

307.2.6 Smoke and heat vents. Smoke and heat venting shall be provided in areas containing hazardous materials as set forth in the Fire Code in addition to the provisions of this code.

307.2.7 Standby power. Standby power shall be provided in Group H, Division 1 and 2 Occupancies and in Group H, Division 3 Occupancies in which Class I or II organic peroxides are stored. The standby power system shall be designed and installed in accordance with the Electrical Code to automatically supply power to all required electrical equipment when the normal electrical supply system is interrupted.

307.2.8 Emergency power. An emergency power system shall be provided in Group H, Divisions 6 and 7 Occupancies. The emergency power system shall be designed and installed in accordance with the Electrical Code to automatically supply power to all required electrical equipment when the normal electrical supply system in interrupted.

The exhaust system may be designed to operate at not less than one half the normal fan speed on the emergency power system when it is demonstrated that the level of exhaust will maintain a safe atmosphere.

307.2.9 Special provisions for Group H, Division 1 Occupancies. Group H, Division 1 Occupancies shall be in buildings used for no other purpose, without basements, crawl spaces or other under-floor spaces. Roofs shall be of lightweight construction with suitable thermal insulation to prevent sensitive material from reaching its decomposition temperature.

Group H, Division 1 Occupancies containing materials which are in themselves both physical and health hazards in quantities exceeding the exempt amounts in Table 3-E shall comply with requirements for both Group H, Division 1 and Group H, Division 7 Occupancies.

307.2.10 Special provisions for Group H, Divisions 2 and 3 Occupancies. Group H, Divisions 2 and 3 Occupancies containing quantities of hazardous materials in excess of those set forth in Table 3-G shall be in buildings used for no other purpose, shall not exceed one story in height and shall be without basements, crawl spaces or other under-floor spaces.

Group H, Divisions 2 and 3 Occupancies containing water-reactive materials shall be resistant to water penetration. Piping for conveying liquids shall not be over or through areas containing water reactives, unless isolated by approved liquid-tight construction.

EXCEPTION: Fire-protection piping may be installed over reactives without isolation.

307.2.11 Special provisions for Group H, Division 4 Occupancies. A Division 4 Occupancy having a floor area not exceeding 2,500 square feet (232 m^2) may have exterior walls of not less than two-hour fire-resistive construction when less than 5 feet (1524 mm) from a property line and of not less than one-hour fire-resistive construction when 5 feet (1524 mm) or more but less than 20 feet (6096 mm) from a property line.

307.2.12 Special provisions for Group H, Division 6 Occupancies. See Section 307.11.

307.3 Location on Property. Group H Occupancies shall be located on property in accordance with Section 503, Table 3-F and other provisions of this chapter. In Group H, Division 2 or 3 Occupancies, not less than 25 percent of the perimeter wall of the occupancy shall be an exterior wall.

EXCEPTIONS:
1. Liquid use, dispensing and mixing rooms having a floor area of not more than 500 square feet (46.5 m^2) need not be located on the outer perimeter of the building when they are in accordance with Section 307.1.3.
2. Liquid storage rooms having a floor area of not more than 1,000 square feet (93 m^2) need not be located on the outer perimeter when they are in accordance with Section 307.1.4.
3. Spray paint booths which comply with the Fire Code need not be located on the outer perimeter.

307.4 Access and Exit Facilities. Exits shall be provided as specified in Chapter 10. (For special provisions see Section 1018.)

Access to, and egress from, buildings required to be accessible shall be provided as specified in Chapter 11.

307.5 Light, Ventilation and Sanitation.

307.5.1 General. Light, ventilation and sanitation in Group H Occupancies shall comply with requirements in this section and Chapters 12 and 29.

307.5.2 Ventila .on in hazardous locations. See Section 1202.2.3 for ventilation requirements in hazardous locations.

307.5.3 Ventilation in Group H, Division 4 Occupancies. See Section 1202.2.4 for ventilation requirements in Group H, Division 4 Occupancies.

307.5.4 Sanitation. The number of plumbing fixtures shall not be less than specified in Section 2902.5.

307.6 Shaft and Exit Enclosures. Exits shall be enclosed as specified in Chapter 10.

Elevator shafts, vent shafts and other openings through floors shall be enclosed, and the enclosure shall be as specified in Section 711.

Doors which are a part of an automobile ramp enclosure shall be equipped with automatic-closing devices.

For Group H, Division 6 Occupancies, see Section 307.11.2.3.

307.7 Sprinkler and Standpipe Systems. When required by Section 904.2.1 or other provisions of this code, automatic fire-extinguishing systems and standpipes shall be designed and installed as specified in Chapter 9.

307.8 Special Hazards. Chimneys and heating apparatus shall conform to the requirements of Chapter 31 of this code and the Mechanical Code.

In Divisions 4 and 5 Occupancies, devices which generate a glow, spark or flame capable of igniting flammable vapors shall be installed with sources of ignition at least 18 inches (457 mm) above the floor. See the Mechanical Code for additional restrictions.

Equipment or machinery which generates or emits combustible or explosive dust or fibers shall be provided with an adequate dust-collecting and exhaust system installed in conformance with the Mechanical Code. Equipment or systems that are used to collect, process or convey combustible dusts or fibers shall be provided with an approved explosion venting or containment system.

Combustible fiber storage rooms with a fiber storage capacity not exceeding 500 cubic feet (14.2 m^3) shall be separated from the remainder of the building by a one-hour fire-resistive occupancy separation. Combustible fiber storage vaults having a fiber storage capacity of more than 500 cubic feet (14.2 m^3) shall be separated from the remainder of the building by a two-hour fire-resistive occupancy separation.

Cellulose nitrate film storage and handling shall be in accordance with Section 307.11.

307.9 Fire Alarm Systems. An approved manual fire alarm system shall be provided in Group H Occupancies used for the manufacturing of organic coatings. Approved automatic smoke detection shall be provided for rooms used for the storage, dispensing, use and handling of hazardous materials when required by the Fire Code.

For Group H, Division 6 Occupancies, see Section 307.11.

For installation requirements, see the Fire Code.

For aerosol storage warehouses, see the Fire Code.

307.10 Explosion Control. Explosion control, equivalent protective devices or suppression systems; or barricades shall be provided to control or vent the gases resulting from deflagrations of dusts, gases or mists in rooms, buildings or other enclosures as required by the Fire Code so as to minimize structural or mechanical damage. If detonation rather than deflagration is considered likely, protective devices or systems such as fully contained barricades shall be provided, except that explosion venting to minimize damage from less than 2.0 grams of trinitrotoluene (TNT) (equivalence) is permitted. Walls, floors and roofs separating a use from an explosion exposure shall be designed to resist a minimum internal pressure of 100 pounds per square foot (4.79 kPa) in addition to the loads required by Chapter 16.

Explosion venting shall be provided in exterior walls or roof only. The venting shall be designed to prevent serious structural damage and production of lethal projectiles. The aggregate clear vent relief area shall be regulated by the pressure resistance of the nonrelieving portions of the building and be designed by persons competent in such design. The design shall recognize the nature of the material and its behavior in an explosion. Vents shall consist of any one or any combination of the following to relieve at a maximum internal pressure of 20 pounds per square foot (958 Pa), but not less than the loads required by Chapter 16:

1. Walls of lightweight material.
2. Lightly fastened hatch covers.
3. Lightly fastened, outward-opening swinging doors in exterior walls.
4. Lightly fastened walls or roof.

Venting devices shall discharge vertically or directly to an unoccupied yard not less than 50 feet (15 240 mm) in width on the same lot. Releasing devices shall be so located that the discharge end shall not be less than 10 feet (3048 mm) vertically and 20 feet (6096 mm) horizontally from window openings or exits in the same or adjoining buildings or structures. The exhaust shall always be in the direction of least exposure and never into the interior of the building unless a suitably designed shaft is provided which discharges to the exterior. See Footnote 12 of Table 3-D.

307.11 Group H, Division 6 Occupancies.

307.11.1 General. In addition to the requirements set forth elsewhere in this code, Group H, Division 6 Occupancies shall comply with the provisions of this section and the Fire Code.

307.11.2 Fabrication area.

307.11.2.1 Separation. Fabrication areas, whose sizes are limited by the quantity of hazardous production materials (HPM) permitted by the Fire Code, shall be separated from each other, from exit corridors, and from other parts of the building by not less than one-hour fire-resistive occupancy separations.

EXCEPTIONS: 1. Doors within such occupancy separation, including doors to corridors, shall be only self-closing fire assemblies having a fire-protection rating of not less than three-fourths hours.

2. Windows between fabrication areas and exit corridors may be in accordance with Section 1005.8.2.

307.11.2.2 Floors. Except for surfacing, floors within fabrication areas shall be of noncombustible construction. Openings through floors of fabrication areas may be unprotected when the interconnected levels are used solely for mechanical equipment directly related to such fabrication area. See also Section 307.11.2.3. When forming a part of an occupancy separation, floors shall be liquid tight.

307.11.2.3 Shaft and exit enclosures. Exits shall be enclosed as specified in Chapter 10.

Elevator shafts, vent shafts and other openings through floors shall be enclosed and the enclosure shall be as specified in Section 711. A fabrication area may have mechanical, duct and piping penetrations which extend through not more than two floors within that fabrication area. The annular space around penetrations for cables, cable trays, tubing, piping, conduit or ducts shall be sealed at the floor level to restrict the movement of air. The fabrication area, including the areas through which the ductwork and piping extend, shall be considered a single conditioned environment.

307.11.2.4 Ventilation. See Section 1202.2.5 for ventilation requirements.

307.11.2.5 Transporting hazardous production materials. Hazardous production materials shall be transported to fabrication areas through enclosed piping or tubing systems that comply with Section 307.11.6, through service corridors or in exit corridors as permitted in the exception to Section 307.11.3. The handling or transporting of hazardous production materials within service corridors shall comply with the Fire Code.

307.11.2.6 Electrical. Electrical equipment and devices within the fabrication area shall comply with the Electrical Code. The requirements for hazardous locations need not be applied when the average air change is at least four times that set forth in Section 307.11.2.4 and when the number of air changes at any location is not less than three times that required by Section 307.11.2.4 and the Fire Code.

307.11.3 Exit corridors. Exit corridors shall comply with Section 1005 and shall be separated from fabrication areas as specified in Section 307.11.2.1. Exit corridors shall not be used for transporting hazardous production materials except as provided in Section 307.11.6.2.

EXCEPTION: In existing Group H, Division 6 Occupancies when there are alterations or modifications to existing fabrication areas, the building official may permit the transportation of hazardous production materials in exit corridors subject to the requirements of the Fire Code and as follows:

1. Corridors adjacent to the fabrication area where the alteration work is to be done shall comply with Section 1005 for a length determined as follows:

1.1 The length of the common wall of the corridor and the fabrication area, and

1.2 For the distance along the exit corridor to the point of entry of HPM into the exit corridor serving that fabrication area.

2. There shall be an emergency telephone system or a local alarm manual pull station or approved signal device within exit corridors at not more than 150-foot (45 720 mm) intervals or fraction thereof and at each exit stair doorway. The signal shall be relayed to the emergency control station and a local signaling device shall be provided.

3. Sprinkler protection shall be designed in accordance with U.B.C. Standard 9-1 for Ordinary Hazard Group 3, except that when one row of sprinklers is used in the corridor protection, the maximum number of sprinklers that need be calculated is 13. U.B.C. Standard 9-1 is a part of this code. (See Chapter 35, Part II.)

307.11.4 Service corridors. Service corridors shall be classified as Group H, Division 6 Occupancies. Service corridors shall be separated from exit corridors as required by Section 307.11.2.1.

Service corridors shall be mechanically ventilated as required by Section 307.11.2.4 or at not less than six air changes per hour, whichever is greater.

The maximum distance of travel from any point in a service corridor to an exterior exit door, horizontal exit, exit passageway, enclosed stairway or door into a fabrication area shall not exceed 75 feet (22 860 mm). Dead ends shall not exceed 4 feet (1219 mm) in length. There shall be not less than two exits, and not more than one half of the required exits shall be into the fabrication area. Doors from service corridors shall swing in the direction of exit travel and shall be self-closing.

307.11.5 Storage of hazardous production materials.

307.11.5.1 Construction. The storage of hazardous production materials in quantities greater than those listed in Table 3-D or 3-E shall be in inside rooms complying with Section 307.1.4 or shall be in HPM storage rooms not exceeding 6,000 square feet (557.4 m²) in area. Such HPM storage rooms shall be separated from all other areas by not less than a two-hour fire-resistive occupancy separation when the area is 300 square feet (27.9 m²) or more and not less than one-hour fire-resistive construction when the area is less than 300 square feet (27.9 m²). The provisions of Section 302.1 shall apply.

When an HPM storage room is also used for dispensing of Class I or II flammable liquids or flammable gases, the area of the room shall not exceed 1,000 square feet (93 m²). Except for surfacing, floors of storage rooms shall be of noncombustible liquid-tight construction. Raised grating over floors shall be of noncombustible materials. See Section 307.2.3 for sill requirements for liquid storage rooms.

307.11.5.2 Location within building. When HPM storage rooms are provided, they shall have at least one exterior wall and such wall shall be not less than 30 feet (9144 mm) from property lines, including property lines adjacent to public ways. Explosion control shall be provided when required by Section 307.10.

307.11.5.3 Exits. When two exits are required from HPM storage rooms, one shall be directly to the outside of the building. See Section 307.11.2.1, Exception 1.

307.11.5.4 Ventilation. Mechanical exhaust ventilation shall be provided in storage rooms at the rate of not less than 1 cubic foot per minute per square foot (0.044 L/s/m²) of floor area or six air changes per hour, whichever is greater, for all categories of material.

307.11.5.5 Fire and emergency alarm. An approved manual fire alarm system shall be provided.

An approved initiating device connected to a local alarm system shall be provided outside of each interior exit door from HPM storage rooms. Operation of an alarm bar or an alarm-initiating device shall initiate a local alarm and initiate a signal at the emergency control station.

For installation requirements, see the Fire Code.

307.11.5.6 Electrical. Hazardous production materials storage rooms containing flammable liquids or gases shall be classified as

Class I, Divisi.. 1 hazardous locations. E ectrical wiring and equipment within such rooms shall comply with the Electrical Code for such location.

307.11.6 Piping and tubing.

307.11.6.1 General. Hazardous production materials piping and tubing shall comply with this subsection and shall be installed in accordance with nationally recognized standards. Piping and tubing systems shall be metallic unless the material being transported is incompatible with such system. Systems supplying gaseous HPM having a health hazard ranking of 3 or 4 shall be welded throughout, except for connections, valves and fittings, to the systems which are within a ventilated enclosure. Hazardous production materials supply piping or tubing in service corridors shall be exposed to view.

307.11.6.2 Installations in exit corridors and above other occupancies. Hazardous production materials shall not be located within exit corridors or above areas not classified as Group H, Division 6 Occupancies except as permitted by this subsection.

Hazardous production material piping and tubing may be installed within the space defined by the walls of exit corridors and the floor or roof above or in concealed spaces above other occupancies under the following conditions:

1. Automatic sprinklers shall be installed within the space unless the space is less than 6 inches (152 mm) in least dimension.

2. Ventilation at not less than six air changes per hour shall be provided. The space shall not be used to convey air from any other area.

3. When the piping or tubing is used to transport HPM liquids, a receptor shall be installed below such piping or tubing. The receptor shall be designed to collect any discharge or leakage and drain it to an approved location. The one-hour enclosure shall not be used as part of the receptor.

4. All HPM supply piping and tubing and HPM nonmetallic waste lines shall be separated from the exit corridor and from any occupancy other than Group H, Division 6 by construction as required for walls or partitions that have a fire-protection rating of not less than one hour. When gypsum wallboard is used, joints on the piping side of the enclosure need not be taped, provided the joints occur over framing members. Access openings into the enclosure shall be protected by approved fire assemblies.

5. Readily accessible manual or automatic remotely activated fail-safe emergency shutoff valves shall be installed on piping and tubing other than waste lines at the following locations:

5.1 At branch connections into the fabrication area.

5.2 At entries into exit corridors.

Excess flow valves shall be installed as required by the Fire Code.

6. Electrical wiring and equipment located in the piping space shall be approved for Class I, Division 2 hazardous locations.

EXCEPTION: Occasional ... erse crossings of the corridors by supply piping which i... osed within a ferrous pipe or tube for the width of the corridor need not comply with Items 1 through 6.

307.11.6.3 Identification. Piping, tubing and HPM waste lines shall be identified in accordance with nationally recognized standards to indicate the material being transported.

307.12 Heliports. Heliports may be erected on buildings or other locations if they are constructed in accordance with this chapter and Section 311.10.

NEW SECTION

WAC 51-30-0310 Section 310--Requirements for Group R Occupancies.

310.1 Group R Occupancies Defined. Group R Occupancies shall be:

Division 1. Hotels and apartment houses.

Congregate residences (each accommodating more than 10 persons).

Division 2. Not used.

Division 3. Dwellings, family child day care homes and lodging houses.

Congregate residences (each accommodating 10 persons or less).

Foster Family Care Homes licensed by the Washington State Department of Social and Health Services shall be permitted, as an accessory use to a dwelling unit, for six or fewer children including those of the resident family.

For occupancy separations, see Table 3-B.

A complete code for construction of detached one- and two-family dwellings is in Appendix Chapter 3, Division III, of this code. When adopted, as set forth in Section 101.3, it will take precedence over the other requirements set forth in Chapter 35 of this code.

310.2 Construction, Height and Allowable Area.

310.2.1 General. Buildings or parts of buildings classed in Group R because of the use or character of the occupancy shall be limited to the types of construction set forth in Table 5-B and shall not exceed, in area or height, the limits specified in Section 504, 505 and 506.

310.2.2 Special provisions. Walls and floors separating dwelling units in the same building, or guest rooms in Group R, Division 1 hotel occupancies, shall not be of less than one-hour fire-resistive construction.

Group R, Division 1 Occupancies more than two stories in height or having more than 3,000 square feet (279 m^2) of floor area above the first story shall not be of less than one-hour fire-resistive construction throughout except as provided in Section 601.5.2.2.

Storage or laundry rooms that are within Group R, Division 1 Occupancies that are used in common by tenants shall be separated from the rest of the building by not less than one-hour fire-resistive occupancy separation. The separation between individual storage lockers may be non-rated in rooms of 500 square feet (46.4 m^2) or less in area and in sprinklered rooms of any size.

For Group R, Division 1 Occupancies width Group S, Division 3 parking garage in the basement or first story, see Section 311.2.2.

For attic space partitions and draft stops, see Section 708.

310.3 Location on Property. For fire-resistive protection of exterior walls and openings, as determined by location on property, see Section 503 and Chapter 6.

310.4 Access and Exit Facilities and Emergency Escapes. Exits shall be provided as specified in Chapter 10. (See also Section 1013 for exit markings.)

Access to, and egress from, buildings required to be accessible shall be provided as specified in Chapter 11.

Basements in dwelling units and every sleeping room below the fourth story shall have at least one operable window or door approved for emergency escape or rescue which shall open directly into a public street, public alley, yard or exit court. The emergency door or window shall be operable from the inside to provide a full, clear opening without the use of separate tools.

EXCEPTION: The window or door may open into an atrium complying with Section 402 provided the window or door opens onto an exit balcony and the dwelling unit or guest room has an exit which does not open into the atrium.

Escape or rescue windows shall have a minimum net clear openable area of 5.7 square feet (0.53 m^2). The minimum net clear openable height dimension shall be 24 inches (610 mm). The minimum net clear openable width dimension shall be 20 inches (508 mm). When windows are provided as a means of escape or rescue, they shall have a finished sill height not more than 44 inches (1118 mm) above the floor.

Escape and rescue windows with a finished sill height below the adjacent ground elevation shall have a window well. Window wells at escape or rescue windows shall comply with the following:

1. The clear horizontal dimensions shall allow the window to be fully opened and provide a minimum accessible net clear opening of 9 square feet (0.84 m^2), with a minimum dimension of 36 inches (914 mm).

2. Window wells with a vertical depth of more than 44 inches (1118 mm) shall be equipped with an approved permanently affixed ladder or stairs that are accessible with the window in the fully open position. The ladder or stairs shall not encroach into the required dimensions of the window well by more than 6 inches (152 mm).

Bars, grilles, grates or similar devices may be installed on emergency escape or rescue windows, doors or window wells, provided:

1. The devices are equipped with approved release mechanisms which are openable from the inside without the use of a key or special knowledge or effort; and

2. The building is equipped with smoke detectors installed in accordance with Section 310.9.

310.5 Light, Ventilation and Sanitation. Light and ventilation shall be as specified in Chapter 12. The number of plumbing fixtures shall not be less than specified in Section 2902.6.

310.6 Room Dimensions.

310.6.1 Ceiling heights. Habitable space shall have a ceiling height of not less than 7 feet 6 inches (2286 mm) except as otherwise permitted in this section. Kitchens, halls, bathrooms and toilet compartments may have a ceiling height of not less than 7 feet (2134 mm) measured to the lowest projection from the ceiling. Where exposed beam ceiling members are spaced at less than 48 inches (1219 mm) on center, ceiling height shall be measured to the bottom of these members. Where exposed beam ceiling members are spaced at 48 inches (1219 mm) or more on center, ceiling height shall be measured to the bottom of the deck supported by these members, provided that the bottom of the members is not less than 7 feet (2134 mm) above the floor.

If any room in a building has a sloping ceiling, the prescribed ceiling height for the room is required in only one half the area thereof. No portion of the room measuring less than 5 feet (1524 mm) from the finished floor to the finished ceiling shall be included in any computation of the minimum area thereof.

If any room has a furred ceiling, the prescribed ceiling height is required in two thirds the area thereof, but in no case shall the height of the furred ceiling be less than 7 feet (2134 mm).

310.6.2 Floor area. Dwelling units and congregate residences shall have at least one room which shall have not less than 120 square feet (11.2 m^2) of floor area. Other habitable rooms except kitchens shall have an area of not less than 70 square feet (6.5 m^2). Efficiency dwelling units shall comply with the requirements of Section 310.7.

310.6.3 Width. Habitable rooms other than a kitchen shall not be less than 7 feet (2134 mm) in any dimension.

310.7 Efficiency Dwelling Units. An efficiency dwelling unit shall conform to the requirements of the code except as herein provided:

1. The unit shall have a living room of not less than 220 square feet (20.4 m^2) of superficial floor area. An additional 100 square feet (9.3 m^2) of superficial floor area shall be provided for each occupant of such unit in excess of two.

2. The unit shall be provided with a separate closet.

3. The unit shall be provided with a kitchen sink, cooking appliance and refrigeration facilities, each having a clear working space of not less than 30 inches (762 mm) in front. Light and ventilation conforming to this code shall be provided.

4. The unit shall be provided with a separate bathroom containing a water closet, lavatory and bathtub or shower.

310.8 Shaft and Exit Enclosures. Exits shall be enclosed as specified in Chapter 10.

Elevator shafts, vent shafts, dumbwaiter shafts, clothes chutes and other vertical openings shall be enclosed and the enclosure shall be as specified in Section 711.

In nonsprinklered Group R, Division 1 Occupancies, corridors serving an occupant load of 10 or more shall be separated from corridors and other areas on adjacent floors by not less than approved fixed wired glass set in steel frames or by 20-minute smoke- and draft-control assemblies which are automatic closing by smoke detection.

310.9 Smoke Detectors and Sprinkler Systems.

310.9.1 Smoke detectors.

310.9.1.1 General. Dwelling units, congregate residences and hotel or lodging house guest rooms that are used for sleeping purposes shall be provided with smoke detectors. Detectors shall be installed in accordance with the approved manufacturer's instructions.

310.9.1.2 Additions, alterations or repairs to Group R Occupancies. When the valuation of an addition, alteration or repair to a Group R Occupancy exceeds $1,000 and a permit is required, or when one or more sleeping rooms are added or created in existing Group R Occupancies, smoke detectors shall be installed in accordance with Sections 310.9.1.3, 310.9.1.4 and 310.9.1.5 of this section.

EXCEPTION: Repairs to the exterior surfaces of a Group R Occupancy are exempt from the requirements of this section.

310.9.1.3 Power source. In new construction, required smoke detectors shall receive their primary power from the building wiring when such wiring is served from a commercial source and shall be equipped with a battery backup. The detector shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than those required for over-current protection. Smoke detectors may be solely battery operated when installed in existing buildings; or in buildings without commercial power; or in buildings which undergo alterations, repairs or additions regulated by Section 310.9.1.2.

310.9.1.4 Location within dwelling units. In dwelling units, a detector shall be installed in each sleeping room and at a point centrally located in the corridor or area giving access to each separate sleeping area. When the dwelling unit has more than one story and in dwellings with basements, a detector shall be installed on each story and in the basement. In dwelling units where a story or basement is split into two or more levels, the smoke detector shall be installed on the upper lever, except that when the lower level contains a sleeping area, a detector shall be installed on each level. When sleeping rooms are on an upper level, the detector shall be placed at the ceiling of the upper level in close proximity to the stairway. In dwelling units where the ceiling height of a room open to the hallway serving the bedrooms exceeds that of the hallway by 24 inches (610 mm) or more, smoke detectors shall be installed in the hallway and in the adjacent room. Detectors shall sound an alarm audible in all sleeping areas of the dwelling unit in which they are located.

310.9.1.5 Location in efficiency dwelling units, congregate residences and hotels. In efficiency dwelling units, hotel suites

and in hotel and congregate residence sleeping rooms, detectors shall be located on the ceiling or wall of the main room or each sleeping room. When sleeping rooms within an efficiency dwelling unit or hotel suite are on an upper level, the detector shall be placed at the ceiling of the upper level in close proximity to the stairway. When actuated, the detector shall sound an alarm audible within the sleeping area of the dwelling unit or congregate residence, hotel suite, or sleeping room in which it is located.

310.9.1.6 Location within family child day care homes. In family child day care homes operable detectors shall be located in all sleeping and napping areas. When the family child day care home has more than one story, and in family child day care homes with basements, an operable detector shall be installed on each story and in the basement. In family child day care homes where a story or basement is split into two or more levels, the smoke detector shall be installed in the upper level, except that when the lower level contains a sleeping or napping area, an operable detector shall be located on each level. When sleeping rooms are on an upper level, the detector shall be placed at the ceiling of the upper level in close proximity to the stairway. In family child day care homes where the ceiling height of a room open to the hallway serving the bedrooms exceeds that of the hallway by 24 inches or more, smoke detectors shall be installed in the hallway and the adjacent room. Detectors shall sound an alarm audible in all areas of the building.

310.9.2 Sprinkler and standpipe systems. When required by Section 904.2.1 or other provisions of this code, automatic sprinkler systems and standpipes shall be designed and installed as specified in Chapter 9.

310.10 Fire Alarm Systems. Group R, Division 1 Occupancies shall be provided with an approved manual and automatic fire alarm system in apartment houses three or more stories in height or containing 16 or more dwelling units, in hotels three or more stories in height or containing 20 or more guest rooms and in congregate residences three or more stories in height or having an occupant load of 20 or more. A fire alarm and communication system shall be provided in Group R, Division 1 Occupancies located in a high-rise building.

EXCEPTIONS:
1. A manual fire alarm system need not be provided in buildings not over two stories in height when all individual dwelling units and contiguous attic and crawl spaces are separated from each other and public or common areas by at least one-hour fire-resistive occupancy separations and each individual dwelling unit or guest room has an exit directly to a public way, exit court or yard.
2. A separate fire alarm system need not be provided in buildings which are protected throughout by an approved supervised fire sprinkler system having a local alarm to notify all occupants.

The local alarm shall provide an alarm signal with a sound pressure level of 15 dBA above the average ambient sound level in every occupied space within the building. The minimum sound pressure level shall be 70 dBA. The maximum sound pressure level for audible alarm-indicating appliances shall not exceed 110 dBA at the minimum hearing distance from the audible appliance.

For the purposes of this section, area separation walls shall not define separate buildings.

310.11 Heating. Dwelling units, guest rooms and congregate residences shall be provided with heating facilities capable of

maintaining a room temperature of 70°F. (21°C.) at a point 3 feet (914 mm) above the floor in all habitable rooms.

310.12 Special Hazards. Chimneys and heating apparatus shall conform to the requirements of Chapter 31 and the Mechanical Code.

The storage, use and handling of flammable and combustible liquids in Division 1 Occupancies shall be in accordance with the Fire Code.

In Division 1 Occupancies, doors leading into rooms in which Class I flammable liquids are stored or used shall be protected by a fire assembly having a one-hour fire-protection rating. Such fire assembly shall be self-closing and shall be posted with a sign on each side of the door in 1-inch (25.4 mm) block letters stating: FIRE DOOR--KEEP CLOSED.

310.13 Family Child Day Care Homes. For family child day care homes with more than six children, each floor level used for family child day care purposes shall be served by two remote exits. Outside exit doors shall be operable from the inside without the use of keys or any special knowledge or effort.

Basements located more than four feet below grade level shall not be used for family child day care homes unless one of following conditions exist:

1. Exit stairways from the basement open directly to the exterior of the building without entering the first floor; or

2. One of the two required exits discharges directly to the exterior from the basement level, and a self closing door is installed at the top or bottom of the interior stair leading to the floor above; or

3. One of the two required exits is an operable window or door, approved for emergency escape or rescue, that opens directly to a public street, public alley, yard or exit court is provided; or

4. A residential sprinkler system is provided throughout the entire building in accordance with National Fire Protection Association Standard 13d.

Floors located more than 4 feet above grade level shall not be occupied by children in family day care homes.

EXCEPTIONS: 1. Use of toilet facilities while under supervision of an adult staff person.
2. Family child day care homes may be allowed on the second story if one of the following conditions exists:
2.1 Exit stairways from the second story open directly to the exterior of the building without entering the first floor; or
2.2 One of the two required exits discharges directly to the exterior from the second story level, and a self closing door is installed at the top or bottom of the interior stair leading to the floor below; or
2.3 A residential sprinkler system is provided throughout the entire building in accordance with National Fire Protection Association Standard 13d.

Every sleeping or napping room in a family child day care home shall have at least one operable window for emergency rescue.

EXCEPTION: Sleeping or napping rooms having doors leading to two separate exit ways, or a door leading directly to the exterior of the building.

Rooms or spaces containing a commercial-type cooking kitchen, boiler, maintenance shop, janitor closet, laundry, woodworking shop, flammable or combustible storage, or painting operation shall be separated from the family child day care area by at least one-hour fire-resistive construction.

EXCEPTION: A fire-resist. ..paration shall not be required where the food preparation. ..ien contains only domestic cooking range, and the preparation of food does not result in the production of smoke or grease laden vapors.

NEW SECTION

WAC 51-30-0313 Section 313--Requirements for Group LC Occupancies.

313.1 Group LC Occupancies Defined. Group LC Occupancies shall include buildings, structures, or portions thereof, used for the business of providing licensed care to clients in one of the following categories regulated by either the Washington Department of Health or the Department of Social and Health Services:

1. Adult family home.
2. Adult residential rehabilitation facility.
3. Alcoholism intensive inpatient treatment service.
4. Alcoholism detoxification service.
5. Alcoholism long term treatment service.
6. Alcoholism recovery house service.
7. Boarding home.
8. Group care facility.
9. Group care facility for severely and multiple handicapped children.
10. Residential treatment facility for psychiatrically impaired children and youth.

EXCEPTION: Where the care provided at an alcoholism detoxification service is acute care similar to that provided in a hospital, the facility shall be classified as a Group I, Division 1.1 hospital.

313.2 Construction, Height and Allowable Area.

313.2.1 General. Buildings or parts of buildings classed in Group LC because of the use or character of the occupancy shall be limited to the types of construction set forth in this section.

313.2.1.1 Type of construction. Except as provided herein, LC Occupancy buildings may be of any construction type allowed in this code and shall not exceed the limits specified in Sections 504, 505 and 506.

Group LC Occupancies which are licensed for more than six clients and which are more than two stories in height or which have more than 3,000 square feet (279 m^2) above the first story shall not be less than one-hour fire-resistive construction throughout.

EXCEPTION: Buildings which are licensed for not more than 16 clients may be of Type V-N construction provided:
1. The entire building has an interior wall and ceiling covering consisting of 1/2 inch gypsum wall board or an approved equal installed in accordance with Section 2511; and,
2. An approved smoke-detection system, supervised by an approved central, proprietary or remote station service, is installed throughout the entire structure and is interconnected with any required sprinkler system.

For attic space partitions and draft stops, see Section 708.

313.2.1.2 Area and height. Buildings classified as Group LC Occupancy shall not exceed, in area or height, the limitations set forth in Table 5-B for Group R, Division 1 Occupancies.

EXCEPTION: LC occupancies licensed for six or fewer clients may be of unlimited area provided they are limited to 3 stories or less.

313.2.1.3 Mixed Occupancies. Group LC Occupancies shall be separated from Group H occupancies by a four-hour fire-resistive occupancy separation and shall be separated from all other occupancies by a one-hour fire-resistive assembly.

EXCEPTIONS: 1. An occupancy separation need not be provided between an Group LC Occupancy licensed for 16 or fewer clients and a carport having no enclosed use above, provided the carport is entirely open on two or more sides.

2. In a Group LC Occupancy licensed for 16 or fewer clients, the one-hour occupancy separation between a Group LC Occupancy and a Group U, Division 1 Occupancy, may be limited to the installation of materials approved for one- hour fire-resistive construction on the garage side and a self-closing, tight-fitting solid-wood door 1 3/8 inches (35 mm) in thickness, or a self-closing tight-fitting door having a fire-protection rating of not less than 20 minutes when tested in accordance with Part II of U.B.C. Standard 7-2, which is a part of this code, is permitted in lieu of a one-hour fire assembly. Fire dampers need not be installed in air ducts passing through the wall, floor or ceiling separating a Group LC Occupancy from a Group U Occupancy, provided such ducts within the Group U Occupancy are constructed of steel having a thickness not less than 0.019 inch (0.48 mm) (No. 26 galvanized sheet gage) and having no openings into the Group U Occupancy.

313.3 Location on Property. For fire-resistive protection of exterior walls and openings, as determined by location on property, see Section 503 and Chapter 6. For the purpose of this determination, LC Occupancies licensed for six or fewer clients shall comply with provisions for Group R, Division 3 Occupancies; and all other LC occupancies shall comply with provisions for Group R, Division 1 Occupancies.

313.4 Access and Exit Facilities and Emergency Escapes.

313.4.1 Evacuation capability. Evacuation capability is the ability of the clients of a licensed care facility to respond to an emergency situation and either evacuate a building or move to a point of safety. Clients shall be classified in one of the following levels:

I - persons physically and mentally capable of walking or traversing a normal path to safety, including the ascent and descent of stairs, and capable of self-preservation, without the physical assistance of another person.

II - persons physically and mentally capable of traversing a normal path to safety with the use of mobility aids, but unable to ascend or descend stairs without the physical assistance of another person.

III - persons physically or mentally unable to walk or traverse a normal path to safety without the physical assistance of another person.

313.4.2 Exit facilities. Exits shall be provided as specified in Chapter 10. For the purpose of determining exit requirements, Group LC Occupancies shall be considered to have an occupant load factor of 300. At least two exits shall be required when the number of occupants (clients and staff) is 10 or more. For all other requirements of Chapter 10, Group LC Occupancies licensed for six or fewer clients shall comply with provisions for Group R, Division 3 Occupancies; and all other Group LC Occupancies shall comply with provisions for Group R, Division 1 Occupancies.

EXCEPTION: Exit illumin. . required by Section 1012.1 need not be provided in any . .ρ LC Occupancy licensed for six or fewer clients.

313.4.3 Accessibility. In new construction, Group LC Occupancies regardless of the number of clients shall comply with accessibility standards for Group R, Division 1 congregate residences as specified in Chapter 11.

Where a Group LC Occupancy is being established by change of occupancy in an existing building, the building shall be altered to comply with congregate residence provisions of Chapter 11 if any of the clients is a person with disability. The alterations shall provide the minimum necessary access appropriate for the disabilities of the clients. Any alteration, whether to accommodate a client with disability or for another purpose, shall comply with Part III of Chapter 11.

313.4.4 Emergency escape.

313.4.4.1 Location of sleeping rooms. In every licensed care facility, all sleeping rooms occupied by clients with an evacuation capability of II or III shall be located on a grade level floor which provides not less than two means of egress which do not require clients to use stairs, elevator, or platform lift to exit the facility.

EXCEPTIONS: 1. In a Group LC Occupancy licensed to provide care to two or fewer clients with an evacuation capability of II or III and six or fewer total clients, only one means of egress which does not require clients to use stairs, elevator or platform lift to exit the facility need be provided.

2. Sleeping rooms for clients with an evacuation capability of II or III may be located on floors other than at grade level, provided the facility is divided into at least two compartments by smoke barriers of not less than one-hour fire-resistance meeting the requirements of Sections 308.2.2.1 and 905.2.3.

313.4.4.2 Escape windows and doors. Every sleeping room below the fourth story (including basements) shall have at least one operable window or door approved for emergency escape or rescue which shall open directly into a public street, public alley, yard or exit court. The emergency window shall be operable from the inside to provide a full, clear opening without the use of separate tools.

EXCEPTION: The window or door may open into an atrium complying with Section 402 provided the window or door opens onto an exit balcony and the sleeping room has an exit which does not open into the atrium.

Escape or rescue windows shall have a minimum net clear openable area of 5.7 square feet (0.53 m^2). The minimum net clear openable height dimension shall be 24 inches (610 mm). The minimum net clear openable width dimension shall be 20 inches (508 mm). When windows are provided as a means of escape or rescue, they shall have a finished sill height not more than 44 inches (1118 mm) above the floor.

Escape and rescue windows with a finished sill height below the adjacent ground elevation shall have a window well. Window wells at escape and rescue windows shall comply with the following:

1. The clear horizontal dimension shall allow the window to be fully opened and provide a minimum accessible net clear opening of 9 square feet (0.84 m^2), with a minimum dimension of 36 inches (914 mm).

2. Window wells with a vertical depth of more than 44 inches (1118 mm) shall be equipped with an approved permanently affixed ladder or stairs that are accessible with the window in the fully open position. The ladder or stairs shall not encroach into the

required dimensions of the window well by more than 6 inches (152 mm).

Bars, grilles, grates or similar devices may be installed on emergency escape windows, doors or window wells, provided:

1. The devices are equipped with approved release mechanisms which are operable from the inside without the use of a key or special knowledge or effort; and

2. The building is equipped with smoke detectors installed in accordance with Section 313.8.

313.5 Light, Ventilation and Sanitation.

313.5.1 General. For the purpose of determining the light and ventilation for Group LC Occupancies required by this section, any room many be considered as a portion of an adjoining room when one half of the area of the common wall is open and unobstructed and provides an opening of not less than one tenth of the floor area of the interior room or 25 square feet (2.3 m^2), whichever is greater.

Exterior openings for natural light or ventilation required by this section shall open directly onto a public way or a yard or court as set for in Section 313.5.4.

EXCEPTIONS: 1. Required exterior openings may open into a roofed porch where the porch:
1.1 Abuts a public way, yard or court; and
1.2 Has a ceiling height of not less than 7 feet (2134 mm); and
1.3 Has a longer side at least 65 percent open and unobstructed.
2. Skylights.

313.5.2 Light. Sleeping rooms and habitable rooms within the licensed care facility shall be provided with natural light by means of exterior glazed openings with an area not less than one tenth of the floor area of such rooms with a minimum of 10 square feet (0.93 m^2).

EXCEPTION: Kitchens may be provided with artificial light.

313.5.3 Ventilation. Group LC Occupancies shall comply with provisions for Group R Occupancies as provided in the Washington State Ventilation and Indoor Air Quality Code (WAC 51-13).

313.5.4 Yards and Courts.

313.5.4.1 General. This section shall apply to yards and courts adjacent to exterior openings that provide required light or ventilation. Such yards and courts shall be on the same property as the building.

313.5.4.2 Yards. Yards shall not be less than 3 feet (914 mm) in width for one-story and two-story buildings. For buildings more than two stories in height, the minimum width of the yard shall be increased at the rate of 1 foot (305 mm) for each additional story. For buildings exceeding 14 stories in height, the required width of the yard shall be computed on the basis of 14 stories.

313.5.4.3 Courts. Courts shall not be less than 3 feet (914 mm) in width. Courts having windows opening on opposite sides shall not be less than 6 feet (1829 mm) in width. Courts bounded on three or more sides by the walls of the building shall not be less than 10 feet (3048 mm) in length unless bounded on one end by a public way or yard. For buildings more than two stories in height, the court shall be increased 1 foot (305 mm) in width and 2 feet

(610 mm) in length for each additional story. For buildings exceeding 14 stories in height, the required dimensions shall be computed on the basis of 14 stories.

Adequate access shall be provided to the bottom of all courts for cleaning purposes. Every court more than two stories in height shall be provided with a horizontal air intake at the bottom not less than 10 square feet (0.93 m^2) in area and leading to the exterior of the building unless abutting a yard or a public way. The construction of the air intake shall be as required for the court walls of the building but in no case less than one-hour fire resistive.

313.5.4.4 Eaves. Eaves over required windows shall extend no closer than 30 inches (762 mm) from the side and rear property lines. See also Sections 503.2 and 705.

313.5.5 Sanitation.

313.5.5.1 General. Sanitation facilities shall comply with Chapter 29 and the provisions of this section. Any room in which a water closet is located shall be separated from food preparation or storage rooms by a self-closing tight-fitting door.

313.5.5.2 Group LC Occupancies with six or fewer clients. Group LC Occupancies licensed for six or fewer clients shall be provided with not less than one water closet, one lavatory and one bathtub or shower.

313.5.5.3 Group LC Occupancies with more than six clients. Group LC Occupancies licensed for more than six clients shall provide not less than one water closet for each 10 male clients, or fractional part thereof, and not less than one water closet for each 8 female clients, or fractional part thereof.

In addition, not less than one lavatory shall be provided for each 12 male clients, or fractional part thereof, and not less than one lavatory for each 12 female clients, or fractional part thereof. Where the number of clients of either sex exceeds 12, one lavatory shall be added for each additional 20 males, or fractional part thereof, and one lavatory shall be added for each additional 15 females, or fractional part thereof.

In addition, not less than one bathtub or shower shall be provided for every eight clients, or fractional part thereof. Where there are female clients, one additional bathtub or shower shall be provided for each 30 female clients, or fractional part thereof. Where the number of total clients exceeds 150, one bathtub or shower shall be provided for each 20 clients, or fractional part thereof, over 150 clients.

313.6 Room Dimensions.

313.6.1 Ceiling Heights. Habitable space shall have a ceiling height of not less than 7 feet 6 inches (2286 mm) except as otherwise permitted in this section. Kitchens, halls, bathrooms and toilet compartments may have a ceiling height of not less than 7 feet (2134 mm) measured to the lowest projection from the ceiling. Where exposed beam ceiling members are spaced at less than 48 inches (1219 mm) on center, ceiling height shall be measured to the bottom of those members. Where exposed beam ceilings members are spaced at 48 inches (1219 mm) or more on

center, ceiling height shall be measured to the bottom of the deck supported by these members, provided that the bottom of the members is not less than 7 feet (2134 mm) above the floor.

If any room in a building has a sloping ceiling, the prescribed ceiling height for the room is required in only one half of the area thereof. No portion of the room measuring less than 5 feet (1524 mm) from the finished floor to the finished ceiling shall be included in any computation of the minimum area thereof.

If any room has a furred ceiling, the prescribed ceiling height is required in two thirds the area thereof, but in no case shall the height of the furred ceiling be less than 7 feet (2134 mm).

313.6.2 Floor area. Group LC Occupancies shall have at least one room which shall have not less than 120 square feet (11.2 m^2) of floor area. Other habitable rooms except kitchens shall have an area of not less than 70 square feet (6.5 m^2).

313.6.3 Width. Habitable rooms other than kitchens shall not be less than 7 feet (2134 mm) in any dimension.

313.7 Shaft and Exit Enclosures. Exits shall be enclosed as specified in Chapter 10.

Elevator shafts, vent shafts, dumbwaiter shafts, clothes chutes and other vertical openings shall be enclosed and the enclosure shall be as specified in Section 711.

313.8 Smoke Detectors and Sprinkler Systems.

313.8.1 Smoke detectors.

313.8.1.1 General. Rooms within licensed care facilities that are used for sleeping purposes shall be provided with smoke detectors. Detectors shall be installed in accordance with the approved manufacturer's instructions.

313.8.1.2 Additions, alterations or repairs. When the valuation of an addition, alteration or repair to a Group LC Occupancy exceeds $1,000 and a permit is required, or when one or more sleeping rooms is added or created in an existing Group LC Occupancy, smoke detectors shall be installed in accordance with Sections 313.8.1.3 and 313.8.1.4 of this section.

EXCEPTION: Repairs to the exterior surfaces are exempt from the requirements of this section.

313.8.1.3 Power source. In new construction, required smoke detectors shall receive their primary power from the building wiring when such wiring is served from a commercial source and shall be equipped with a battery backup. The detector shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection. Smoke detectors may be solely battery operated when installed in existing buildings; or in buildings without commercial power; or in buildings which undergo alterations, repairs or additions regulated by Section 313.8.1.2.

313.8.1.4 Location. A detector shall be installed in each sleeping room and at a point centrally located in the corridor or area giving access to each separate sleeping area. When the licensed care facility has more than one story or in facilities with basements, a detector shall be installed on each story and in

the basement. W re a story or basement is s it into two or more levels, the smoke detector shall be installed on the upper level, except that when the lower level contains a sleeping area, a detector shall be installed on each level. When sleeping rooms are on an upper level, the detector shall be placed at the ceiling of the upper level in close proximity to the stairway. Where the ceiling height of a room open to the a hallway serving the bedrooms exceeds that of the hallway by 24 inches (610 mm) or more, smoke detectors shall be installed in the hallway and in the adjacent room. Detectors shall sound an alarm audible in all sleeping areas of the licensed care facility in which they are located.

313.8.2 Sprinkler and standpipe systems.

313.8.2.1 Sprinkler systems. An automatic sprinkler system shall be installed throughout every licensed care facility three or more stories in height or licensed for more than 16 clients. Licensed care facilities with 16 or fewer clients, licensed to provide care for more than two clients who have an evacuation capability of II or III, shall be provided with an automatic sprinkler system throughout the facility.

EXCEPTION: An automatic sprinkler system need not be installed in any licensed care facility licensed for six or fewer clients regardless of the level of evacuation capability.

Where a sprinkler system is required, a system complying with U.B.C. Standard 9-1 shall be installed.

EXCEPTIONS: 1. An automatic sprinkler systems complying with U.B.C. Standard 9-3 may be installed in buildings of four stories or less.

2. Where a Group LC Occupancy is being established by change of occupancy in an existing building not protected by a sprinkler system as is required above for buildings of new construction, an automatic sprinkler system complying with N.F.P.A Standard 13d may be installed provided the care facility is licensed for not more than 16 clients.

Residential or quick-response heads shall be used in all sprinkler systems.

313.8.2.2 Standpipe systems. Standpipe systems shall be provided where required by Section 904.5

313.9 Fire Alarm Systems. Group LC Occupancies licensed for more than 16 clients shall be provided with an approved manual and automatic fire alarm system. The local alarm shall provide an alarm signal with a sound pressure level of 15 dBA above the average ambient sound level in every occupied space within the building. The minimum sound pressure level shall be 70 dBA. The maximum sound pressure level shall not exceed 110 dBA at the minimum hearing distance from the audible appliance.

313.10 Heating. Licensed care facilities shall be provided with heating facilities capable of maintaining a room temperature of 70°F. (21°C.) at a point 3 feet (914 mm) above the floor in all habitable rooms.

313.11 Special Hazards. Chimneys and heating apparatus shall conform to the requirements of Chapter 31 and the Mechanical Code.

In Group LC Occupancies licensed for more than six clients, the storage, use and handling of flammable and combustible liquids shall be in accordance with the Fire Code. In such facilities, doors leading into rooms in which Class I flammable liquids are stored or used shall be protected by a fire assembly having a one-hour fire-protection rating. Such fire assembly shall be self-

closing and shall be posted with a sign on each side of the door in 1-inch (25.4 mm) block letters stating: FIRE DOOR--KEEP CLOSED.

In Group LC Occupancies licensed for more than 16 clients, rooms containing a boiler, central heating plant or hot-water supply boiler shall be separated from the rest of the building by not less than a one-hour occupancy separation.

NEW SECTION

WAC 51-30-0400 Chapter 4--Special use and occupancy.

NEW SECTION

WAC 51-30-0403 Section 403--Special provisions for Group B office buildings and Group R, Division 1 Occupancies.

403.1 Scope. This section applies to all Group B office buildings and Group R, Division 1 Occupancies, each having floors used for human occupancy located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access. Such buildings shall be of Type I or II-F.R. construction and shall be provided with an approved automatic sprinkler system in accordance with Section 403.2.

403.2 Automatic Sprinkler System.

403.2.1 System design. The automatic sprinkler system shall be provided throughout the building as specified by U.B.C. Standard 9-1, and shall be designed in accordance with that standard and the following:

1. Shutoff valves and a water-flow device shall be provided for each floor. The sprinkler riser may be combined with the standpipe riser.

2. In Seismic Zones 2, 3 and 4, in addition to the main water supply, a secondary on-site supply of water equal to the hydraulically calculated sprinkler design demand plus 100 gallons per minute (378.5 L/min.) additional for the total standpipe system shall be provided. This supply shall be automatically available if the principal supply fails and shall have a duration of 30 minutes.

403.2.2 Modifications. The following modifications of code requirements are permitted:

1. In buildings of Type I construction the fire-resistive time periods set forth in Table 6-A may be reduced by one hour for interior bearing walls, exterior bearing and nonbearing walls, roofs and the beams supporting roofs, provided they do not frame into columns. In buildings of Type II-F.R. construction the fire-resistive time period set forth in Table 6-A may be reduced by one

hour for interior bearing walls, exterior bearing and nonbearing walls, but no reduction is allowed for roofs.

Vertical shafts other than stairway enclosures and elevator shafts may be reduced to one hour when sprinklers are installed within the shafts at alternate floors. The fire-resistive time period reduction as specified herein shall not apply to exterior bearing and nonbearing walls whose fire-resistive rating is less than four hours.

2. Except for corridors in Group B offices and Group R, Division 1 Occupancies and partitions separating dwelling units or guest rooms, all interior nonbearing partitions required to be one-hour fire-resistive construction by Table 6-A may be of noncombustible construction without a fire-resistive time period.

3. Fire dampers, other than those needed to protect floor-ceiling assemblies to maintain the fire resistance of the assembly, are not required.

4. Emergency windows required by Section 310.4 are not required.

403.3 Smoke Detection. Smoke detectors shall be provided in accordance with this subsection. Smoke detectors shall be connected to an automatic fire alarm system installed in accordance with the Fire Code. The actuation of any detector required by this subsection shall operate the emergency voice alarm signaling system and shall place into operation all equipment necessary to prevent the recirculation of smoke.

Smoke detectors shall be located as follows:

1. In every mechanical equipment, electrical, transformer, telephone equipment, elevator machine or similar room and in elevator lobbies. Elevator lobby detectors shall be connected to an alarm verification zone or be listed as releasing devices.

2. In the main return-air and exhaust-air plenum of each air-conditioning system. Such detector shall be located in a serviceable area downstream of the last duct inlet.

3. At each connection to a vertical duct or riser serving two or more stories from a return-air duct or plenum of an air-conditioning system. In Group R, Division 1 Occupancies, an approved smoke detector may be used in each return-air riser carrying not more than 5,000 cubic feet per minute (2360 L/s) and serving not more than 10 air inlet openings.

4. For Group R, Division 1 Occupancies in all interior corridors serving as a required exit for a occupant load of 10 or more.

403.4 Smoke Control. A smoke-control system meeting the requirements of Chapter 9 shall be provided.

403.5 Fire Alarm and Communication Systems.

403.5.1 General. The fire alarm, emergency voice/alarm signaling system and fire department communication systems shall be designed and installed as set forth in this code and the Fire Code.

403.5.2 Emergency voice alarm signaling system. The operation of any automatic fire detector, sprinkler or water-flow device shall

automatically sound an alert tone followed by voice instructions giving appropriate information and direction on a general or selective basis to the following terminal areas:

1. Elevators.

2. Elevator lobbies.

3. Corridors.

4. Exit stairways.

5. Rooms and tenant spaces exceeding 1,000 square feet (93 m^2) in area.

6. Dwelling units in apartment houses.

7. Hotel guest rooms or suites.

A manual override for emergency voice communication shall be provided for all paging zones.

403.5.3 Fire department communication system. A two-way, approved fire department communication system shall be provided for fire department use. It shall operate between the central control station and elevators, elevator lobbies, emergency and standby power rooms and at entries into enclosed stairways.

403.6 Central Control Station.

403.6.1 General. A central control station room for fire department operations shall be provided. The location, size and arrangement of the central control station shall be approved by the authority having jurisdiction. The central control station room shall be separated from the remainder of the building by not less than a one-hour fire-resistive occupancy separation. It shall contain the following as a minimum:

1. The voice alarm and public address system panels.

2. The fire department communications annunciator panel.

3. Fire-detection and alarm systems annunciator panels.

4. Annunciator visually indicating the location of the elevators and whether they are operational.

5. Status indicators and controls for air-handling systems.

6. Controls for unlocking all stairway doors simultaneously.

7. Sprinkler valve and water-flow detector display panels.

8. Emergency and standby power status indicators.

9. A telephone for fire department use with controlled access to the public telephone system.

10. Fire pump status indicators.

11. Schematic building plans indicating the typical floor plan and detailing the building core, exit facilities, fire-protection systems, fire fighting equipment and fire department access.

12. Work table.

403.6.2 Annunciation identification. Control panels in the central control station shall be permanently identified as to function.

Alarm, supervisory and trouble signals as required by Items 3 and 7 above shall be annunciated in compliance with the Fire Code in the central control station by means of an audible and visual indicator. For purposes of annunciation, zoning shall be in accordance with the following:

1. When the system serves more than one building, each building shall be considered separately.

2. Each floor shall be considered a separate zone. When one or more sprinkler risers serve the same floor, each riser shall be considered a separate zone.

EXCEPTION: When more than one riser serves the same system on the floor.

403.7 Elevators. Elevators and elevator lobbies shall comply with the provisions of Chapter 30 and the following:

NOTE: A bank of elevators is a group of elevators or a single elevator controlled by a common operating system; that is, all those elevators which respond to a single call button constitute a bank of elevators. There is no limit on the number of cars which may be in a bank or group, but there may not be more than four cars within a common hoistway.

1. Elevators on all floors shall open into elevator lobbies which are separated from the remainder of the building, including corridors and other exits, by walls extending from the floor to the underside of the fire-resistive floor or roof above. Such walls shall not be of less than one-hour fire-resistive construction. Openings through such walls shall conform to Section 1005.8.

EXCEPTIONS:
1. The main entrance-level elevator lobby in office buildings.
2. Elevator lobbies located within an atrium complying with the provisions of Section 402.
3. In fully sprinklered office buildings, corridors may lead through enclosed elevator lobbies if all areas of the building have access to at least one required exit without passing through the elevator lobby.

2. Each elevator lobby shall be provided with an approved listed smoke detector located on the lobby ceiling. When the detector is activated, elevator doors shall not open and all cars serving that lobby are to return to the main floor and be under manual control only. If the main floor detector or a transfer floor detector is activated, all cars serving the main floor or transfer floor shall return to a location approved by the fire department and building official and be under manual control only. The detector may serve to close the lobby doors, additional doors at the hoistway opening allowed in Section 3007 and smoke dampers serving the lobby.

3. Elevator hoistways shall not be vented through an elevator machine room. Cable slots entering the machine room shall be sleeved into the machine room. Such sleeves shall be no larger than necessary for free passage of the cables. Each elevator machine room shall be treated as a separate smoke-control zone.

403.8 Standby Power, Light and Emergency Systems.

403.8.1 Standby power. A standby power-generator set conforming to the Electrical Code shall be provided on the premises. The set shall supply all functions required by this section at full power. Set supervisions with manual start and transfer override features shall be provided at the central control station.

An on-premises fuel supply sufficient for not less than two hours' full-demand operation of the system shall be provided.

The standby system shall have a capacity and rating that would supply all equipment required to be operational at the same time. The generating capacity need not be sized to operate all the connected electrical equipment simultaneously.

All power, lighting, signal and communication facilities specified in Sections 403.3, 403.4, 403.5, 403.6, 403.7 and 403.8, as applicable; fire pumps required to maintain pressure, standby lighting and normal circuits supplying exit signs and exit illumination shall be transferable to the standby source.

403.8.2 Standby lighting. Standby lighting shall be provided as follows:

1. Separate lighting circuits and fixtures sufficient to provide light with an intensity of not less than one footcandle measured at floor level in all exit corridors, stairways, pressurized enclosures, elevator cars and lobbies and other areas which are clearly a part of the escape route.

2. All circuits supply lighting for the central control station and mechanical equipment room.

403.8.3 Emergency systems. The following are classified as emergency systems and shall operate within 10 seconds of failure of the normal power supply:

1. Exit sign and exit illumination as required by Sections 1012 and 1013.

2. Elevator car lighting.

403.9 Exits. Exits shall comply with other requirements of this code and the following:

1. All stairway doors which are locked from the stairway side shall have the capability of being unlocked simultaneously without unlatching upon a signal from the central control station.

2. A telephone or other two-way communications system connected to an approved emergency service which operates continuously shall be provided at not less than every fifth floor in each required stairway where other provisions of this code permit the doors to be locked.

403.10 Seismic Considerations. In Seismic Zones 2, 3 and 4, the anchorage of mechanical and electrical equipment required for life-safety systems, including fire pumps and elevator drive and suspension systems, shall be designed in accordance with the requirements of Section 1624.

NEW SECTION

WAC 51-30-0405 Section 405--Stages and platforms.

405.1 Scope.

405.1.1 Standards of quality. Stages, platforms and accessory spaces in assembly occupancies shall conform with the requirements of Section 405.

The standards listed below labeled a "U.B.C. Standard" are also listed in Chapter 35, Part II, and are part of this code.

1. U.B.C. Standard 4-1, Proscenium Curtains

2. U.B.C. Standard 9-1, Installation of Sprinkler Systems

3. U.B.C. Standard 8-1, Test Method for Surface-burning Characteristics of Building Materials

4. U.B.C. Standard 7-1, Fire Tests of Building Construction and Materials

405.1.2 Definitions. For the purpose of this chapter, certain terms are defined as follows:

BATTEN is a flown metal pipe or shape on which lights or scenery are fastened.

DROP is a large piece of scenic canvas or cloth which hangs vertically, usually across the stage area.

FLY is the space over the stage of a theater where scenery and equipment can be hung out of view. Also called lofts and rigging lofts.

FLY GALLERY is a catwalk above a stage from which the movement of scenery and operation of other stage effects are controlled.

GRIDIRON is the structural framing over a stage supporting equipment for hanging or flying scenery and other stage effects. A gridiron grating shall not be considered a floor.

LEG DROP is a long narrow strip of fabric used for masking. When used on either or both sides of the acting area, it is provided to designate an entry onto the stage by the actors. It is also used to mask the side stage area. They may also be called "wings".

PINRAIL is a rail on or above a stage which has belaying pins to which lines are fastened.

PLATFORM is that raised area within a building used for the presentation of music, plays or other entertainment; the head table for special guests; the raised area for lectures and speakers; boxing and wrestling rings; theater in the round; and similar purposes wherein there are not overhead hanging curtains, drops, scenery or stage effects other than lighting.

PLATFORM, PERMANENT is a platform used within an area for more than 30 days.

PLATFORM, TEMPORARY is a platform used within an area for not more than 30 days.

PROSCENIUM WALL is the wall that separates the stage from auditorium or house.

STAGE is a space within a building used for entertainment or presentations, with a stage height of 50 feet (15 240 mm) or less. Curtains, drops, scenery, lighting devices and other stage effects

are hug and not retractable except for a single lighting bank; single main curtain, border and legs; and single backdrop.

STAGE AREAS are the entire performance area and adjacent backstage and support areas not separated from the performance area by fire-resistive construction.

STAGE HEIGHT is the dimension between the lowest point on the stage floor and the highest point of the underside of the roof or floor deck above the stage.

STAGE, LEGITIMATE, is a stage wherein curtains, drops, leg drops, scenery, lighting devices or other stage effects are retractable horizontally or suspended overhead and the stage height is greater than 50 feet (15 240 mm).

THEATER-IN-THE-ROUND is an acting area in the middle of a room with the audience sitting all around it.

405.1.3 Materials and design. Materials used in the construction of platforms and stages shall conform to the applicable materials and design requirements as set forth in this code. All assumed design live loads shall be indicated on the construction documents submitted for approval.

405.2 Platforms. Temporary platforms may be constructed of any materials. The space between the floor and the platform above shall not be used for any purpose other than electrical wiring or plumbing to platform equipment.

Platforms shall be constructed of materials as required for the type of construction of the building in which the platform is located. When the space beneath a raised platform is used for storage or any purpose other than equipment wiring or plumbing, the floor construction shall not be less than one-hour fire-resistive construction. When the space beneath the platform is not used for any purpose other than equipment wiring or plumbing, the underside of the platform shall be firestopped and may be constructed of any type of materials permitted by this code. The floor finish may be of wood in all types of construction.

405.3 Stages.

405.3.1 Construction. The minimum type of construction for stages shall be as required for the building except that the finish floor, in all types of construction, may be of wood.

Stages having a stage height of 50 feet (15 240 mm) or more shall be separated from the balance of the building by not less than a two-hour occupancy separation.

EXCEPTION: The opening in the proscenium wall used for viewing performances may be protected by a proscenium firesafety curtain conforming to U.B.C. Standard 4-1.

Where permitted by the building construction type or where the stage is separated from all other areas as required in the paragraph above, the stage floor may be of unprotected noncombustible or heavy-timber framing members with a minimum 1½ - inch-thick (38 mm) wood deck.

Where a stage floor is required to be on one-hour fire-resistive-rated construction, the stage floor may be unprotected when the space below the stage is sprinklered throughout.

Where the stage height is 50 feet (15 240 mm) or less, the stage area shall be separated from accessory spaces by a one-hour fire-resistive occupancy separation.

EXCEPTION: Control rooms and follow spot rooms may be open to the audience.

405.3.2 Accessory rooms. Dressing rooms, workshops, storerooms and other accessory spaces contiguous to stages shall be separated from each other and other building areas by a one-hour fire-resistive occupancy separation.

EXCEPTION: A separation is not required for stages having a floor area not exceeding 500 square feet.

405.3.3 Ventilation. Emergency ventilation shall be provided for all stage areas greater than 1,000 square feet (93 m^2) or with a stage height of greater than 50 feet to provide a means of removing smoke and combustion gases directly to the outside in the event of a fire. Ventilation shall be by one or a combination of the following methods:

405.3.3.1 Smoke control. A means shall be provided to maintain the smoke level not less than 6 feet (1829 mm) above the highest level of assembly seating or above the top of the proscenium opening where proscenium wall and opening protection is provided. The system shall be activated independently by each of the following: (1) activation of the sprinkler system in the stage area and (2) by a manually operated switch at an approved location. The emergency ventilation system shall be connected to both normal and standby power. The fan(s) power wiring and ducts shall be located and properly protected to assure a minimum 20 minutes of operation in the event of activation.

405.3.3.2 Roof vents. Two or more vents shall be located near the center of and above the highest part of the stage area. They shall be raised above the roof and provide a net free vent area equal to 5 percent of the stage area. Vents shall be constructed to open automatically by approved heat-activated devices. Supplemental means shall be provided for manual operation of the ventilator from the stage floor. Vents shall be labeled by an approved agency.

405.3.4 Proscenium walls. The proscenium opening shall be protected by an approved fire curtain or an approved water curtain complying with U.B.C. Standard 4-1. The fire curtain shall be designed to close automatically upon automatic detection of a fire and upon manual activation and shall resist the passage of flame and smoke for 20 minutes between the stage area and the audience area.

405.3.5 Gridirons, fly galleries and pinrails. Beams designed only for the attachment of portable or fixed theater equipment, gridirons, galleries and catwalks shall be constructed of materials consistent with the building type of construction. A fire-resistance rating is not required.

EXCEPTION: Combustible materials shall be permitted for use as the floors of galleries and catwalks of all types of construction.

405.3.6 Flame-retardant requirements. Combustible scenery of cloth, film, dry vegetation and similar materials shall meet the requirements of the Fire Code. Foam plastics shall have a maximum heat release rate of 100 kilowatts.

NEW SECTION

WAC 51-30-0500 Chapter 5--General building limitations.

NEW SECTION

WAC 51-30-0510 Section 510--Heating.

510.1 Definitions. For the purposes of this section only, the following definitions apply.

DESIGNATED AREAS are those areas designated by a county to be an urban growth area in Chapter 36.70A RCW and those areas designated by the US Environmental Protection Agency as being in nonattainment for particulate matter.

SUBSTANTIALLY REMODELED means any alteration or restoration of a building exceeding 60 percent of the appraised value of such building within a 12 month period. For the purpose of this chapter, the appraised value is the value as defined in Section 223 of the Uniform Building Code.

510.2 Primary Heating Source. Primary heating sources in all new and substantially remodeled buildings in designated areas, shall not be dependent upon wood stoves.

510.3 Solid Fuel Burning Devices. No used solid fuel burning device shall be installed in new or existing buildings unless such device is either Oregon Department of Environmental Quality Phase II or United States Environmental Protection Agency certified or a pellet stove either certified or exempt from certification by the United States Environmental Protection Agency.

EXCEPTION: Antique wood cook stoves and heaters manufactured prior to 1940.

NEW SECTION

WAC 51-30-0600 Chapter 6--Types of construction.

NEW SECTION

WAC 51-30-0601 Section 601--Classification of all buildings by types of construction and general requirements.

601.1 General. The requirements of this chapter are for the various types of construction and represent varying degrees of public safety and resistance to fire. Every building shall be classified by the building official into one of the types of construction set forth in Table 6-A. Any building which does not

entirely conform to a type of construction set forth in Table 6-A shall be classified by the building official into a type having an equal or lesser degree of fire resistance.

A building or portion thereof shall not be required to conform to the details of a type of construction higher than that type which meets the minimum requirements based on occupancy even though certain features of such building actually conform to a higher type of construction.

When specific materials, types of construction or fire-resistive protection are required, such requirements shall be the minimum requirements, and any materials, types of construction or fire-resistive protection which will afford equal or greater public safety or resistance to fire, as specified in this code, may be used.

For additional limitations or allowances for special uses or occupancies, see the following:

SECTION	SUBJECT
402	Atria
403	High-rise office buildings and Group R, Division 1 Occupancies
404	Malls
405	Open parking structures
307.11	Group H, Division 6 Occupancies
411	Aviation control structures
413	Agricultural buildings
3111	Membrane structures

601.2 Mixed Types of Construction. When a building contains more than one distinct type of construction, the area of the entire building shall not exceed the least area permitted for the types of construction involved.

EXCEPTION: Each portion of a building separated by one or more area separation walls as specified in Section 504.6 may be considered a separate building for the purpose of classification of types of construction. The fire-resistive time period for such type of construction separation shall not be less than the most restrictive requirement in Section 504.6.2 based on the types of construction involved.

601.3 Standards of Quality. The standards listed below labeled a "U.B.C. Standard" are also listed in Chapter 35, Part II, and are part of this code. The other standards listed below are recognized standards. (See Sections 3502 and 3503.)

1. **Building paper.**

1.1 U.B.C. Standard 14-1, Kraft Waterproof Building Paper

1.2 Asphalt-saturated Rag Felt, Underwriters Laboratories Inc. Standard Specification 55A, Materials for Construction of Built-up Roof Coverings

2. **Potential heat of building materials.**

U.B.C. Standard 26-1, Test Method to Determine Potential Heat of Building Materials

3. **Foam plastic tests.**

3.1 U.B.C. Standard 26-2, Test Method for the Evaluation of Thermal Barriers, Standard of the International Conference of Building Officials

3.2 Factory Mutual Standard Fire Test Standard for Insulted Roof Deck Construction

3.3 Underwriters Laboratories Inc. 1256, Fire Test Standard for Insulated Roof Deck Construction

3.4 U.B.C. Standard 26-3, Room Fire Test Standard for Interior Foam Plastic Systems, Standard of the International Conference of Building Officials

3.5 U.B.C. Standard 26-4, Method of Test for the Evaluation of Flammability Characteristics of Exterior, Nonload-bearing Wall Panel Assemblies Using Foam Plastic Insulation, Test Standard of the International Conference of Building Officials

4. **Roof coverings.**

4.1 Underwriters Laboratories Inc. Standard Specification 55A, Materials for Use in Construction of Built-up Roof Coverings

4.2 U.B.C. Standard 15-2, Test Standard for Determining the Fire Retardancy of Roof Covering Material

5. **Surface-burning characteristics and fire resistance of building materials and assemblies.**

5.1 U.B.C. Standard 8-1, Test Method for Surface-burning Characteristics of Building Materials

5.2 U.B.C. Standard 7-1, Fire Test of Building Construction and Materials

6. **Self-ignition properties of plastics.**

ASTM D 1929, Ignition Properties of Plastics

7. **Fire dampers.**

UL 555, Fire Dampers

601.4 Structural Frame. The structural frame shall be considered to be the columns and the girders, beams, trusses and spandrels having direct connections to the columns and all other members which are essential to the stability of the building as a whole. The members of floor or roof panels which have no connection to the columns shall be considered secondary members and not a part of the structural frame.

601.5 Exceptions to Table 6-A.

601.5.1 General. The provisions of this section are exceptions to the construction requirements of Table 6-A, Chapter 3 and Sections 602 through 606.

601.5.2 Fixed partitions.

601.5.2.1 Stores and offices. Interior nonload-bearing partitions dividing portions of stores, offices or similar places occupied by one tenant only and which do not establish a corridor serving an occupant load that would require it to be of fire-resistive construction under the provisions of Section 1005.7 may be constructed of:

1. Noncombustible materials.
2. Fire-retardant-treated wood.
3. One-hour fire-resistive construction.

4. Wood panels or similar light construction up to three fourths the height of the room in which placed; when more than three fourths the height of the room, such partitions shall not have less than the upper one fourth of the partition constructed of glass.

601.5.2.2 Hotels and apartments. Interior nonload-bearing partitions within individual dwelling units in apartment houses and guest rooms or suites in hotels when such dwelling units, guest rooms or suites are separated from each other and from corridors by not less than one-hour fire-resistive construction may be constructed of:

1. Noncombustible materials or fire-retardant-treated wood in buildings of any type of construction; or

2. Combustible framing with noncombustible materials applied to the framing in buildings of Type III or V construction.

Openings to such corridors shall be equipped with doors conforming to Section 1005.8 regardless of the occupant load served.

For use of plastics in partitions, see Section 2603.10.

601.5.3 Folding, portable or movable partitions. Approved folding, portable or movable partitions need not have a fire-resistive rating, provided:

1. They do not block required exits (without providing alternative conforming exits) and they do not establish an exit corridor.

2. Their location is restricted by means of permanent tracks, guides or other approved methods.

3. Flammability shall be limited to materials having a flame-spread classification as set forth in Table 8-B for rooms or areas.

601.5.4 Walls fronting on streets or yards. Regardless of fire-resistive requirements for exterior walls, certain elements of the walls fronting on streets or yards having a width of 40 feet (12 192 mm) may be constructed as follows:

1. Bulkheads below show-windows, show-window frames, aprons and showcases may be of combustible materials, provided the height of such construction does not exceed 15 feet (4572 mm) above grade.

2. Wood veneer of boards not less than 1-inch (25 mm) nominal thickness or exterior-type panels not less than 3/8-inch (9.5 mm) nominal thickness may be applied to walls, provided the veneer does not exceed 15 feet (4572 mm) above grade, and further provided such veneer shall be placed either directly against noncombustible surfaces or furred out from such surfaces not to exceed 1 5/8 inches (41 mm) with all concealed spaces fire-blocked as provided in Section 708. Where boards, panels and furring as described above comply with Section 207 as fire-retardant-treated wood suitable for exterior exposure, the height above grade may be increased to 35 feet (10 668 mm).

601.5.5 Trim. Trim, picture molds, chair rails, baseboards, handrails and show-window backing may be of wood. Unprotected wood doors and windows may be used except where openings are required to be fire protected.

Foam plastic trim covering not more than 10 percent of the wall or ceiling area may be used, provided such trim (1) has a density of no less than 20 pounds per cubic foot (320.4 kg/m^3), (2) has a maximum thickness of 1/2 inch (12.7 mm) and a maximum width of 4 inches (102 mm) and (3) has a flame-spread rating no greater than 75.

Materials used for interior finish of walls and ceilings, including wainscoting, shall be as specified in Chapter 8.

601.5.6 Loading platforms. Exterior loading platforms may be of noncombustible construction or heavy-timber construction with wood floors not less than 2-inch (51 mm) nominal thickness. Such wood construction shall not be carried through the exterior walls.

601.5.7 Insulating boards. Combustible insulating boards may be used under finished flooring.

601.5.8 Walls within health-care suites. In suites that comply with Section 1019.7, interior non-load-bearing partitions of non-combustible construction need not be of fire-resistive construction. In buildings of combustible construction, interior non-load-bearing partitions within suites may be of combustible framing covered with non-combustible materials having an approved thermal barrier with an index of 15 in accordance with U.B.C. Standard 26-2. One-half-inch gypsum wallboard is acceptable as a thermal barrier.

NEW SECTION

WAC 51-30-0800 Chapter 8--Interior finishes.

NEW SECTION

WAC 51-30-0804 Section 804--Maximum allowable flame spread.

804.1 General. The maximum flame-spread class of finish materials used on interior walls and ceilings shall not exceed that set forth in Table 8-B.

EXCEPTIONS: 1. Except in Group I Occupancies and in enclosed vertical exitways, Class III may be used in other exitways and rooms as wainscoting extending not more than 48 inches (1219 mm) above the floor and for tack and bulletin boards covering not more than 5 percent of the gross wall area of the room.

2. In other than Group I, Division 1.1, 1.2 or 2 suites complying with Section 1019.7, when a sprinkler system complying with U.B.C. Standard 9-1 or 9-3 is provided, the flame-spread classification rating may be reduced one classification, but in no case shall materials having a classification greater than Class III be used.

3. The exposed faces of Type IV-H.T., structural members and Type IV-H.T., decking and planking, where otherwise permissible under this code, are excluded from flame-spread requirements.

804.2 Carpeting on ceilings. When used as interior ceiling finish, carpeting and similar materials having a napped, tufted, looped or similar surface shall have a Class I flame spread.

NEW SECTION

WAC 51-30-0900 Chapter 9--Fire-protection systems.

NEW SECTION

WAC 51-30-0902 Section 902--Standards of quality.

Fire-extinguishing systems, including automatic sprinkler systems, Class I, Class II and Class III standpipe systems, special automatic extinguishing systems, basement pipe inlets, smoke-control systems, and smoke and heat vents shall be approved and shall be subject to such periodic tests as may be required.

The standards listed below labeled a "U.B.C. Standard" are also listed in Chapter 35, Part II, and are part of this code. The other standards listed below are recognized standards (see Sections 3502 and 3503).

1. Fire-extinguishing system.

1.1 U.B.C. Standard 9-1, Installation of Sprinkler Systems

1.2 U.B.C. Standard 9-3, Installation of Sprinkler Systems in Group R Occupancies Four Stories or Less

1.3 N.F.P.A. Standard 13d, as published by the National Fire Protection Association, 1994 edition

2. Standpipe systems.

U.B.C. Standard 9-2, Standpipe Systems

3. Smoke control.

3.1 U.B.C. Standard 7-2, Fire Test of Door Assemblies

3.2 UL 555, Fire Dampers

3.3 UL 555C, Ceiling Dampers

3.4 UL 555S, Leakage Rated Dampers for Use in Smoke Control Systems

3.5 UL 33, Heat Response Links for Fire Protection Service

3.6 UL 353, Limit Controls

4. Smoke and heat vents.

U.B.C. Standard 15-7, Automatic Smoke and Heat Vents

NEW SECTION

WAC 51-30-0904 Section 904--Fire-extinguishing systems.

904.1 Installation Requirements.

904.1.1 General. Fire-extinguishing systems required in this code shall be installed in accordance with the requirements of this section.

Fire hose threads used in connection with fire-extinguishing systems shall be national standard hose thread or as approved by the fire department.

The location of fire department hose connections shall be approved by the fire department.

In buildings used for high-piled combustible storage, fire protection shall be in accordance with the Fire Code.

904.1.2 Standards. Fire-extinguishing systems shall comply with U.B.C. Standards 9-1 and 9-2.

EXCEPTIONS: 1. Automatic fire-extinguishing systems not covered by U.B.C. Standards 9-1 or 9-2 shall be approved and installed in accordance with approved standards.

2. Automatic sprinklers systems may be connected to the domestic water-supply main when approved by the building official, provided the domestic water supply is of adequate pressure, capacity and sizing for the combined domestic and sprinkler requirements. In such case, the sprinkler system connection shall be made between the public water main or meter and the building shutoff valve, and there shall not be intervening valves or connections. The fire department connection may be omitted when approved by the fire department.

3. Automatic sprinkler systems in Group R Occupancies four stories or less may be in accordance with U.B.C. Standard 9-3.

904.1.3 Modifications. When residential sprinkler systems as set forth in U.B.C. Standard 9-3 are provided, exceptions to, or reductions in, code requirements based on the installation of an automatic fire-extinguishing system are not allowed.

904.2 Automatic Fire-extinguishing Systems.

904.2.1 Where required. An automatic fire-extinguishing system shall be installed in the occupancies and locations as set forth in this section.

For provisions on special hazards and hazardous materials, see the Fire Code.

904.2.2 All occupancies except Group R, Division 3 and Group U Occupancies. Except for Group R, Division 3 and Group U Occupancies, an automatic sprinkler system shall be installed:

1. In every story or basement of all buildings when the floor area exceeds 1,500 square feet (139.4 m^2) and there is not provided at least 20 square feet (1.86 m^2) of opening entirely above the adjoining ground level in each 50 lineal feet (15 240 mm) or fraction thereof of exterior wall in the story or basement on at least one side of the building. Openings shall have a minimum dimension of not less than 30 inches (762 mm). Such openings shall be accessible to the fire department from the exterior and shall not be obstructed in a manner that fire fighting or rescue cannot be accomplished from the exterior.

When openings in a story are provided on only one side and the opposite wall of such story is more than 75 feet (22 860 mm) from such openings, the story shall be provided with an approved automatic sprinkler system, or openings as specified above shall be provided on at least two sides of an exterior wall of the story.

If any portion of a basement is located more than 75 feet (22 860 mm) from openings required in this section, the basement shall be provided with an approved automatic sprinkler system.

2. At the top of rubbish and linen chutes and in their terminal rooms. Chutes extending through three or more floors shall have additional sprinkler heads installed within such chutes at alternate floors. Sprinkler heads shall be accessible for servicing.

3. In rooms where nitrate film is stored or handled.

4. In protected combustible fiber storage vaults as defined in the Fire Code.

5. Throughout all buildings with a floor used for human occupancy that is located 75 feet (22 860 mm) or more above the lowest level of fire department vehicle access.

EXCEPTIONS: 1. Airport control towers.
2. Open parking structures.
3. Group F, Division 2 Occupancies.

904.2.3 Group A Occupancies.

904.2.3.1 Drinking establishments. An automatic sprinkler system shall be installed in rooms used by the occupants for the consumption of alcoholic beverages and unseparated accessory uses where the total area of such unseparated rooms and assembly uses exceeds 5,000 square feet (465 m^2). For uses to a be considered as separated, the separation shall not be less than as required for a one-hour occupancy separation. The area of other uses shall be included unless separated by at least a one-hour occupancy separation.

904.2.3.2 Basements. An automatic sprinkler system shall be installed in basements classified as a Group A Occupancy when the basement is larger than 1,500 square feet (139 m^2) in floor area.

904.2.3.3 Exhibition and display rooms. An automatic sprinkler system shall be installed in Group A Occupancies which have more than 12,000 square feet (1114 m^2) of floor area which can be used for exhibition or display purposes.

904.2.3.4 Stairs. An automatic sprinkler system shall be installed in enclosed usable space below or over a stairway in Group A, Divisions 2, 2.1, 3 and 4 Occupancies. See Section 1009.6.

904.2.3.5 Multitheater complexes. An automatic sprinkler system shall be installed in every building containing a multitheater complex.

904.2.3.6 Amusement buildings. An automatic sprinkler system shall be installed in all amusement buildings. The main water-flow switch shall be electrically supervised. The sprinkler main cutoff valve shall be supervised. When the amusement building is temporary, the sprinkler water-supply system may be of an approved temporary type.

EXCEPTION: An automatic sprinkler system need not be provided when the floor area of a temporary amusement building is less than 1,000 square feet (92.9 m^2) and the exit travel distance from any point is less than 50 feet (15 240 mm).

904.2.3.7 Stages. All stages shall be sprinklered. Such sprinklers shall be provided throughout the stage and in dressing rooms, workshops, storerooms and other accessory spaces contiguous to such stages.

EXCEPTIONS: 1. Sprinkle[illegible] not required for stages 1,000 square feet (92.9 m²) or l[illegible] area and 50 feet (15 240 mm) or less in height where curtains, scenery or other combustible hangings are not retractable vertically. Combustible hangings shall be limited to a single main curtain, borders, legs and a single backdrop.

2. Under stage areas less than 4 feet (1219 mm) in clear height used exclusively for chair or table storage and lined on the inside with 5/8-inch (16 mm) Type X gypsum wallboard or an approved equal.

904.2.4 Group E Occupancies.

904.2.4.1 General. An automatic fire-extinguishing system shall be installed in all newly constructed buildings classified as Group E, Division 1 Occupancy. A minimum water supply meeting the requirements of U.B.C. Standard 9-1 shall be required. The chief of the fire department may reduce fire flow requirements for buildings protected by an approved automatic sprinkler system.

For the purpose of this section, additions exceeding 60 percent of the value of such building or structure, or alterations and repairs to any portion of a building or structure within a twelve-month period that exceeds 100 percent of the value of such building or structure shall be considered new construction. In the case of additions, area separation walls shall define separate buildings.

EXCEPTION: Portable school classrooms, provided:

1. Aggregate area of clusters of portable school classrooms does not exceed 5,000 square feet (1465 m²); and
2. Clusters of portable school classrooms shall be separated as required in Chapter 5.

When not required by other provisions of this chapter, a fire-extinguishing system installed in accordance with U.B.C. Standard 9-1 may be used for increases allowed in Chapter 5.

904.2.4.2 Basements. An automatic sprinkler system shall be installed in basement classified as Group E, Division 1 Occupancies.

904.2.4.3 Stairs. An automatic fire sprinkler system shall be installed in enclosed usable space below or over a stairway in Group E, Division 1 Occupancies. See Section 1009.6.

904.2.5 Group H Occupancies.

904.2.5.1 General. An automatic fire-extinguishing system shall be installed in Group H, Divisions 1, 2, 3 and 7 Occupancies.

904.2.5.2 Group H, Division 4 Occupancies. An automatic fire-extinguishing system shall be installed in Group H, Division 4 Occupancies having a floor area of more than 3,000 square feet (279 m²).

904.2.5.3 Group H, Division 6 Occupancies. An automatic fire-extinguishing system shall be installed throughout buildings containing Group H, Division 6 Occupancies. The design of the sprinkler system shall not be less than that required under U.B.C Standard 9-1 for the occupancy hazard classification as follows:

LOCATION	OCCUPANCY HAZARD CLASSIFICATION
Fabrication areas	Ordinary Hazard Group 2
Service Corridors	Ordinary Hazard Group 2
Storage rooms without dispensing	Ordinary Hazard Group 2
Storage rooms with dispensing	Extra Hazard Group 2
Exit corridors	Ordinary Hazard Group 2[1]

[1]When the design area of the sprinkler system consists of a corridor protected by one row of sprinklers, the maximum number of sprinklers that need to be calculated is 13.

904.2.6 Group I Occupancies. An automatic sprinkler system shall be installed in Group I Occupancies. Listed quick response sprinklers shall be installed in light hazard areas in accordance with their listing.

EXCEPTION: In jails, prisons and reformatories, the piping system may be dry, provided a manually operated valve is installed at a continuously monitored location. Opening of the valve will cause the piping system to be charged. Sprinkler heads in such systems shall be equipped with fusible elements or the system shall be designed as required for deluge systems in U.B.C. Standard 9-1.

904.2.7 Group M Occupancies. An automatic sprinkler shall be installed in retail sales rooms classed as Group M Occupancies where the floor area exceeds 12,000 square feet (1114 m^2) on any floor or 24,000 square feet (2228 m^2) on all floors or in Group M retail sales occupancies more than three stories in height. The area of mezzanines shall be included in determining the area where sprinklers are required.

904.2.8 Group R, Division 1 Occupancies. An automatic sprinkler system shall be installed throughout every apartment house three or more stories in height or containing 16 or more dwelling units, every congregate residence three or more stories in height or having an occupant load of 20 or more, and every hotel three or more stories in height or containing 20 or more guest rooms. Residential or quick-response standard sprinklers shall be used in the dwelling units and guest room portions of the building.

904.3 Sprinkler System Monitoring and Alarms.

904.3.1 Where required. All valves controlling the water supply for automatic sprinkler systems and water-flow switches on all sprinkler systems shall be electrically monitored where the number of sprinklers are:

1. Twenty or more in Group I, Divisions 1.1 and 1.2 Occupancies.

2. One hundred or more in all other occupancies.

Valve monitoring and water-flow alarm and trouble signals shall be distinctly different and shall be automatically transmitted to an approved central station, remote station or proprietary monitoring station as defined by national standards, or, when approved by the building official with the concurrence of

the chief of the fire department, sound an audible signal at a constantly attended location.

EXCEPTION: Underground key or hub valves in roadway boxes provided by the municipality or public utility need not be monitored.

904.3.2 Alarms. An approved audible sprinkler flow alarm shall be provided on the exterior of the building in an approved location. An approved audible sprinkler flow alarm to alert the occupants shall be provided in the interior of the building in a normally occupied location. Actuation of the alarm shall be as set forth in U.B.C. Standard 9-1.

904.4 Permissible Sprinkler Omissions. Subject to the approval of the building official and with the concurrence of the chief of the fire department, sprinklers may be omitted in rooms or areas as follows:

1. When sprinklers are considered undesirable because of the nature of the contents or in rooms or areas which are of noncombustible construction with wholly noncombustible contents and which are not exposed by other areas. Sprinklers shall not be omitted from any room merely because it is damp, of fire-resistive construction or contains electrical equipment.

2. Sprinklers shall not be installed when the application of water or flame and water to the contents may constitute a serious life or fire hazard, as in the manufacture or storage of quantities of aluminum powder, calcium carbide, calcium phosphide, metallic sodium and potassium, quick-lime, magnesium powder and sodium peroxide.

3. Safe deposit or other vaults of fire-resistive construction, when used for the storage of records, files and other documents, when stored in metal cabinets.

4. Communication equipment areas under the exclusive control of a public communication utility agency, provided:

4.1 The equipment areas are separated from the remainder of the building by one-hour fire-resistive occupancy separation; and

4.2 Such areas are used exclusively for such equipment; and

4.3 An approved automatic smoke-detection system is installed in such areas and is supervised by an approved central, proprietary or remote station service or a local alarm which will give an audible signal at a constantly attended location; and

4.4 Other approved fire-protection equipment such as portable fire extinguishers or Class II standpipes are installed in such areas.

5. Other approved automatic fire-extinguishing systems may be installed to protect special hazards or occupancies in lieu of automatic sprinklers.

904.5 Standpipes.

904.5.1 General. Standpipes shall comply with the requirements of this section and U.B.C. Standard 9-2.

904.5.2 Where required. Standpipe systems shall be provided as set forth in Table 9-A.

904.5.3 Location of Class I standpipes. There shall be a Class I standpipe outlet connection at every floor-level landing or every required stairway above or below grade and on each side of the wall adjacent to the exit opening of a horizontal exit. Outlets at stairways shall be located within the exit enclosure or, in the case of pressurized enclosures, within the vestibule or exterior balcony, giving access to the stairway.

Risers and laterals of Class I standpipe systems not located within an enclosed stairway or pressurized enclosure shall be protected by a degree of fire resistance equal to that required for vertical enclosures in the building in which they are located.

EXCEPTION: In buildings equipped with an approved automatic sprinkler system, risers and laterals which are not located within an enclosed stairway or pressurized enclosure need not be enclosed within fire-resistive construction.

There shall be at least one outlet above the roof line when the roof has a slope of less than 4 units vertical in 12 units horizontal (33.3% slope).

In buildings where more than one standpipe is provided, the standpipes shall be interconnected at the bottom.

904.5.4 Location of Class II standpipes. Class II standpipe outlets shall be accessible and shall be located so that all portions of the building are within 30 feet (9144 mm) of a nozzle attached to 100 feet (30 480 mm) of hose.

In Group A, Divisions 1 and 2.1 Occupancies, with occupant loads of more than 1,000, outlets shall be located on each side of any stage, on each side of the rear of the auditorium and on each side of the balcony.

Fire-resistant protection of risers and laterals of Class II standpipe systems is not required.

904.5.5 Location of Class III standpipes. Class III standpipe systems shall have outlets located as required for Class I standpipes in Section 904.5.3 and shall have Class II outlets as required in Section 904.5.4.

Risers and laterals of Class III standpipe systems shall be protected as required for Class I systems.

EXCEPTIONS: 1. In buildings equipped with an approved automatic sprinkler system, risers and laterals which are not located within an enclosed stairway or pressurized enclosure need not be enclosed within fire-resistive construction.
2. Laterals for Class II outlets on Class III systems need not be protected.

In buildings where more than one Class III standpipe is provided, the standpipes shall be interconnected at the bottom.

904.6 Buildings under Construction.

904.6.1 General. During the construction of a building and until the permanent fire-extinguishing system has been installed and is in service, fire protection shall be provided in accordance with this section.

904.6.2 Where required. Every building four stories or more in height shall be provided with not less than one standpipe for use during construction. Such standpipes shall be installed when the progress of construction is not more than 35 feet (10 668 mm) in height above the lowest level of fire department access. Such standpipe shall be provided with fire department hose connections at accessible locations adjacent to usable stairs and the standpipe

outlets shall be located adjacent to such usable stairs. Such standpipe systems shall be extended as construction progresses to within one floor of the highest point of construction having secured decking or flooring.

In each floor there shall be provided a 2 1/2-inch (63.5 mm) valve outlet for fire department use. Where construction height requires installation of a Class III standpipe, fire pumps and water main connections shall be provided to serve the standpipe.

904.6.3 Temporary standpipes. Temporary standpipes may be provided in place of permanent systems if they are designed to furnish a minimum of 500 gallons (1893 L) of water per minute at 50 pounds per square inch (345 kPa) pressure with a standpipe size of not less than 4 inches (102 mm). All outlets shall not be less than 2 1/2-inches (63.5 mm). Pumping equipment sufficient to provide this pressure and volume shall be available at all times when a Class III standpipe system is required.

904.6.4 Detailed requirements. Standpipe systems for buildings under construction shall be installed as required for permanent standpipe systems.

904.7 Basement Pipe Inlets. For basement pipe inlet requirements, see Appendix Section 907.

NEW SECTION

WAC 51-30-1000 Chapter 10--Means of egress.

NEW SECTION

WAC 51-30-1001 Section 1001--General.

1001.1 Scope and Standards of Quality. Every building or portion thereof shall be provided with exits as required by this chapter.

The standards listed below labeled a "U.B.C. standard" are also listed in Chapter 35, Part II, and are part of this code. The other standards listed below are recognized standards and as such are not adopted as part of this code (see Sections 3502 and 3503).

1. **Power doors.**

1.1 U.B.C. Standard 10-1, Power-operated Exit Doors

1.2 U.B.C. Standard 7-8, Horizontal Sliding Fire Doors Used in an Exit

2. **Stairway numbering system.**

U.B.C. Standard 10-2, Stairway Identification

3. **Hardware.**

1001.2 Definitions. For the purpose of this chapter, certain terms are defined as follows:

BALCONY, EXTERIOR EXIT, is a landing or porch projecting from the wall of a building, and which serves as a required exit. The long side shall be at least 50 percent open, and the open area above the guardrail shall be so distributed as to prevent the accumulation of smoke or toxic gases.

EXIT is a continuous and unobstructed means of egress to a public way and shall include intervening aisles, doors, doorways, gates, corridors, exterior exit balconies, ramps, stairways, pressurized enclosures, horizontal exits, exit passageways, exit courts and yards.

EXIT COURT is a yard or court providing access to a public way for one or more required exits.

EXIT PASSAGEWAY is an enclosed exit connecting a required exit or exit court with a public way.

EXTERIOR STAIRWAY is a stairway that is open on two adjacent sides, except for required structural columns and open-type handrails and guardrails. The adjoining open areas shall be either yards, courts or public ways; the other two sides may be enclosed by the exterior walls of the building.

HORIZONTAL EXIT is an exit from one building into another building on approximately the same level, or through or around a wall constructed as required for a two-hour occupancy separation and which completely divides a floor into two or more separate areas so as to establish an area of refuge affording safety from fire or smoke coming from the area from which escape is made.

INTERIOR STAIRWAY is any stairway not meeting the definition of an exterior stairway.

MULTITHEATER COMPLEX is a building or portion thereof containing two or more motion picture auditoriums which are served by a common lobby.

PANIC HARDWARE is a door-latching assembly incorporating an unlatching device, the activating portion of which extends across at least one half the width of the door leaf on which it is installed.

PRIVATE STAIRWAY is a stairway serving one tenant only.

PUBLIC WAY is any street, alley or similar parcel of land essentially unobstructed from the ground to the sky which is deeded, dedicated or otherwise permanently appropriated to the public for public use and having a clear width of not less than 10 feet (3048 mm).

SMOKE-PROTECTED ASSEMBLY SEATING is an assembly area wherein the roof is not less than 15 feet (4500 mm) above the highest cross aisle or seat row, and having smoke-actuated venting facilities within that part of the roof sufficient to maintain the level of smoke at least 6 feet (1830 mm) above the highest seat or walking level.

SPIRAL STAIRWAY is a stairway having a closed circular form in its plan view with uniform section shaped treads attached to and radiating about a minimum diameter supporting column. The effective tread is delineated by the nosing radius line, the exterior arc (center line of railing) and the overlap radius line (nosing radius line of tread above). Effective tread dimensions are taken along a line perpendicular to the center line of the tread.

TRAVEL DISTANCE is the total length of the exit path an occupant must travel from any point within the occupied portions of a building to reach an exterior exit door, horizontal exit door, exit passageway door or an enclosed exit stairway door.

1001.3 Exit Obstruction. Obstructions shall not be placed in the required width of an exit except projections permitted by this chapter.

1001.4 Changes in Elevation. Elevation changes in an exit shall comply with Section 1006.3 or 1007.

Within a building, changes in elevation of less than 12 inches (305 mm) along an exit serving an occupant load of 10 or more shall be by ramps.

EXCEPTION: Group R, Division 3 Occupancies and along aisles adjoining seating areas.

1001.5 Guardrails. See Section 509 for guardrail requirements.

1001.6 Yards, Patios and Courts. Yards, patios, courts and similar outdoor areas accessible to and usable by the building occupants shall be provided with exits as required by this chapter. The occupant load of such outdoor areas shall be assigned by the building official in accordance with their anticipated use. When outdoor areas are to be used by persons in addition to the occupants of the building, and exits from the outdoor areas pass through the building, exit requirements for the building shall be based on the sum of the occupant loads of the building plus the outdoor areas.

EXCEPTION: 1. Outdoor areas used exclusively for service of the building may have one exit.
2. Outdoor areas associated with Group R, Division 3 Occupancies.

1001.7 Building Accessibility. In addition to provisions of this chapter, exits which provide access to, or egress from, buildings for persons with disabilities shall also comply with Chapter 11.

1001.8 Elevators or Escalators. Elevators or escalators shall not be used as a required exit.

NEW SECTION

WAC 51-30-1004 Section 1004--Doors.

1004.1 General. This section shall apply to every exit door serving an area having an occupant load of 10 or more, or serving hazardous rooms or areas, except that Sections 1004.3, 1004.9, 1004.10 and 1004.11 shall apply to all exit doors, and Sections 1004.2 shall apply to all exit doors within an accessible route,

regardless of occupant load. Buildings or structures used for human occupancy shall have at least one exterior exit door that meets the requirements of Section 1004.6. Doors and landings at doors which are located within an accessible route of travel shall also comply with Chapter 11.

1004.2 Swing and Opening Force. Exit doors that serve an area having an occupant load of 10 or more shall be of the pivoted or side-hinged swinging type. Exit doors shall swing in the direction of exit travel when serving any hazardous area or when the area served has an occupant load of 50 or more. The door shall swing to full-open position when an opening force not to exceed 30 pounds (133.45 N) is applied to the latch side. Within an accessible route, such force shall not exceed 8.5 pounds (37.8 N) at exterior doors; and shall not exceed 5 pounds (22.24 N) at sliding and folding doors and interior swinging doors. At exterior doors where environmental conditions require greater closing pressure, power-operated doors shall be used within the accessible route. For other door-opening forces, see Chapter 11 and Section 905.3. See Section 3207 for doors swinging over public property.

EXCEPTIONS:
1. Group I, Division 3 Occupancy used as a place of detention.
2. In other than accessible dwelling units, doors within or serving an individual dwelling unit.
3. Special door conforming with Section 1004.8.
4. The opening force at required fire doors within an accessible route may be not greater than 30 pounds (133.45 N).

Double-acting doors shall not be used as exits when any of the following conditions exist:

1. The occupant load served by the door is 100 or more.
2. The door is part of a fire assembly.
3. The door is part of a smoke-draft-control assembly.
4. Panic hardware is required or provided on the door.

A double-acting door shall be provided with a view panel of not less than 200 square inches (0.129 m^2).

1004.3 Type of Lock or Latch. Exit doors shall be openable from the inside without the use of a key or any special knowledge or effort.

EXCEPTIONS:
1. In Groups B, F, M and S Occupancies, key-locking hardware may be used on the main exit when the main exit consists of a single door or pair of doors if there is a readily visible, durable sign on or adjacent to the door stating THIS DOOR MUST REMAIN UNLOCKED DURING BUSINESS HOURS. The sign shall be in letters not less than 1 inch (25 mm) high on a contrasting background. When unlocked, the single door or both leaves of a pair of doors must be free to swing without operation of any latching device. The use of this exception may be revoked by the building official for due cause.
2. Exit doors from individual dwelling units; Group R, Division 3 congregate residences; and guest rooms of Group R Occupancies having an occupant load of 10 or less may be provided with a night latch, dead bolt or security chain, provided such devices are openable form the inside without the use of a key or tool and mounted at a height not to exceed 48 inches (1219 mm) above the finished floor.

Manually operated edge- or surface-mounted flush bolts and surface bolts are prohibited. When exit doors are used in pairs and approved automatic flush bolts are used, the door leaf having the automatic flush bolts shall have no doorknob or surface-mounted hardware. The unlatching of any leaf shall not require more than one operation.

EXCEPTIONS:
1. Group R, Division 3 Occupancies.
2. When a pair of doors serving a room not normally occupied are needed of the movement of equipment, manually operated edge or surface bolts may be used and a door closer need not be provided on the inactive leaf.

1004.4 Panic Hardware. Panic hardware, when installed, shall comply with the requirements of U.B.C. Standard 10-4. The

activating member shall be mounted at a height of not less than 30 inches (762 mm) or more than 44 inches (1118 mm) above the floor. The unlatching force shall not exceed 15 pounds (66.72 N) when applied in the direction of exit travel.

When balanced doors are used and panic hardware is required, panic hardware shall be of the push-pad type and the pad shall not extend across more than one half of the width of the door measured from the latch side.

1004.5 Special Egress-control Devices. When approved by the building official, exit doors in Group B; F, Division 1; Group I, Divisions 1.1, 1.2 and 2; Group M and Group LC Occupancies may be equipped with approved listed special egress-control devices, provided the building is protected throughout by an approved automatic sprinkler system and an approved automatic smoke-detection system. Such devices shall conform to all of the following:

1. Automatically deactivate the egress-control device upon activation of either the sprinkler system or the detection system.

2. Automatically deactivate the egress-control device upon loss of electrical power to any one of the following:

2.1 The egress-control device.

2.2 The smoke-detection system.

2.3 Exit illumination as required by Section 1012.

3. Be capable of being deactivated by a signal from a switch located in an approved location.

4. Initiate an irreversible process which will deactivate the egress-control device whenever a manual force of not more than 15 pounds (66.72 N) is applied for two seconds to the panic bar or other door-latching hardware. The egress-control device shall deactivate within an approved time period not to exceed a total of 15 seconds. The time delay established for each egress-control device shall not be field adjustable.

5. Actuation of the panic bar or other door-latching hardware shall activate an audible signal at the door.

6. The unlatching shall not require more than one operation.

A sign shall be provided on the door located above and within 12 inches (305 mm) of the panic bar or other door-latching hardware reading:

KEEP PUSHING. THE DOOR WILL OPEN IN _____ SECONDS. ALARM WILL SOUND.

Sign letter shall be at least 1 inch (25 mm) in height and shall have a stroke of not less than 1/8 inch (3.2 mm).

Regardless of the means of deactivation, relocking of the egress-control device shall be by manual means only at the door.

EXCEPTION: Subject to the approval of the building official, special units for the care of dementia patients in nursing homes which are identified and approved by the state agency licensing such units, may use special egress-control devices where a panic bar is not part of the egress-control mechanism.

1004.6 Width and Height. Every required exit doorway shall be of a size as to permit the installation of a door not less than 3 feet

(914 mm) in width and not less than 6 feet 8 inches (2032 mm) in height. When installed, exit doors shall be capable of opening so that the clear width of the exit is not less than 32 inches (813 mm). In computing the exit width required by Section 1003.2, the net dimension of the exitway shall be used.

1004.7 Door Leaf Width. A single leaf of an exit door shall not exceed 4 feet (1219 mm) in width.

1004.8 Special Doors. Revolving, sliding and overhead doors shall not be used as required exits. Where revolving or overhead doors or turnstiles are used, an adjacent accessible gate or door shall be provided where an accessible route is required by Chapter 11.

EXCEPTION: Horizontal sliding doors complying with U.B.C. Standard 7-8 may be used:
1. In elevator lobby separations.
2. Other than Group A and H Occupancies, where smoke barriers are required.
3. When serving an occupant load of less than 50 in any occupancy other than a Group H Occupancy.

Power-operated doors complying with U.B.C. Standard 10-1 may be used for exit purposes. Such doors when swinging shall have two guide rails installed on the swing side projecting out from the face of the door jambs for a distance not less than the widest door leaf. Guide rails shall not be less than 30 inches (762 mm) in height with solid or mesh panels to prevent penetration into door swing and shall be capable of resisting a horizontal load at top of rail of not less than 50 pounds per lineal foot (730 N/m).

EXCEPTIONS: 1. Walls or other type separators may be used in lieu of the above guide rail, provided all the criteria are met.
2. Guide rails in industrial or commercial occupancies not accessible to the public may conform with the exception to Section 509.3.
3. Doors swinging toward flow of traffic shall not be permitted for use by untrained pedestrian traffic unless actuating devices start to function at least 8 feet 11 inches (2718 mm) beyond the door in an open position and guide rails extend 6 feet 5 inches (1956 mm) beyond the door in an open position.

Clearances for guide rails shall be as follows:

1. Six inches (152 mm) maximum between rails and leading edge of door at the closest point in its arc of travel.

2. Six inches (152 mm) maximum between rails and the door in an open position.

3. Two inches (51 mm) minimum between rail at hinge side and door in an open position.

4. Two inches (51 mm) maximum between freestanding rails and jamb or other adjacent surface.

1004.9 Floor Level at Doors. Regardless of the occupant load, there shall be a floor or landing on each side of a door. When access for persons with disabilities is required by Chapter 11, the floor or landing shall not be more than 1/2 inch (13 mm) lower than the threshold of the doorway. When such access is not required, such dimension shall not exceed 1 inch (25 mm). Landings shall be level except for exterior landings, which may have a slope not to exceed 1/4 unit vertical in 12 units horizontal (2% slope).

EXCEPTIONS: 1. In Group R, Division 3, and Group U Occupancies and within individual units of Group R, Division 1 Occupancies:
1.1. A door may open at the top of an interior flight of stairs, provided the door does not swing over the top step.
1.2. A door may open at a landing that is not more than 8 inches (203 mm) lower than the floor level, provided the door does not swing over the landing.
1.3. Screen doors and storm doors may swing over stairs, steps or landings.
2. Doors serving building equipment rooms which are not normally occupied.
3. At exterior sliding doors within accessible dwelling units, the floor or landing may be no more than 3/4 inch (19 mm) lower than the threshold of the doorway, including the sliding door tracks, provided that an additional accessible entrance door is provided into the dwelling unit.

1004.10 Landings at Doors. Landings shall have a width of not less than the width of the stairway or the width of the door, whichever is the greater. Doors in the fully open position shall not reduce a required dimension by more than 7 inches (178 mm). When a landing serves an occupant load of 50 or more, doors in any position shall not reduce the landing dimension to less than one half its required width. Landings shall have a length measured in the direction of travel of not less than 44 inches (1118 mm).

EXCEPTION: In Group R, Division 3, and Group U Occupancies and within individual units of Group R, Division 1 Occupancies, such length need not exceed 36 inches (914 mm).

A landing which has no adjoining door shall comply with Section 1006.7.

1004.11 Door Identification. Glass doors shall conform to the requirements specified in Section 2406.

Exit doors shall be marked so that they are readily distinguishable form the adjacent construction.

1004.12 Additional Doors. When additional doors are provided for egress purposes, they shall conform to all provisions of this chapter.

EXCEPTION: Approved revolving doors having leaves which will collapse under opposing pressures may be used in exit situations, provided:

1. Such doors have a minimum width of 6 feet 6 inches (1981 mm).
2. At least one conforming exit door is located adjacent to each revolving door.
3. The revolving door shall not be considered to provide any exit width.

NEW SECTION

WAC 51-30-1005 Section 1005--Corridors and exterior exit balconies.

1005.1 General. This section shall apply to every corridor serving as a required exit for an occupant load of 10 or more except that Section 1005.2 shall apply to all corridors. For the purpose of this section, the term "corridor" shall include exterior exit balconies and covered or enclosed walkways, tunnels and malls. Partitions, rails, counters and similar space dividers not over 5 feet 9 inches (1753 mm) in height above the floor shall not be construed to form corridors.

Exit corridors shall not be interrupted by intervening rooms.

EXCEPTION: Foyers, lobbies or reception rooms constructed as required for corridors shall not be construed as intervening rooms.

Corridors which are located within an accessible route of travel shall also comply with Chapter 11.

For Group I Occupancies see Section 1019.3.

1005.2 Width. The minimum corridor width shall be determined as specified in Section 1003.2, but shall not be less than 44 inches (1118 mm), except as specified herein. Corridors serving an occupant load of 49 or less shall not be less than 36 inches (914 mm) in width. For special requirements for Groups E and I Occupancies, see Sections 1017 and 1019.

1005.3 Height. Corridors and exterior exit balconies shall have a clear height of not less than 7 feet (2134 mm) measured to the lowest projection from the ceiling.

1005.4 Projections. The required width of corridors shall be unobstructed.

EXCEPTION: Handrails and doors, when fully opened, shall not reduce the required width by more than 7 inches (178 mm). Doors in any position shall not reduce the required width by more than one half. Other nonstructural projections such as trim and similar decorative features may project into the required width 1 1/2 inches (38 mm) on each side.

1005.5 Access to Exits. When more than one exit is required, they shall be so arranged that it is possible to go in either direction from any point in a corridor to a separate exit, except for dead ends not exceeding 20 feet (6096 mm) in length.

1005.6 Changes in Elevation. When a corridor or exterior exit balcony is accessible to the handicapped, changes in elevation of the floor shall be made by means of a ramp, except as provided for doors by Section 1004.9.

1005.7 Construction. Walls of corridors serving a Group R, Division 1 or Group I Occupancy having an occupant load of 10 or more and walls of corridors serving other occupancies having an occupant load of 30 or more shall be of not less than one-hour fire-resistive construction and the ceilings shall not be less than that required for a one-hour fire-resistive floor or roof system.

EXCEPTIONS:
1. One-story buildings housing Group S, Division 2 Occupancies.
2. Corridors more than 30 feet (9144 mm) in width where occupancies served by such corridors have at least one exit independent from the corridor. (See Chapter 4 for covered malls.)
3. Exterior sides of exterior exit balconies.
4. In Group I, Division 3 Occupancies such as jails, prisons, reformatories and similar buildings with open-barred cells forming corridor walls, the corridors and cell doors need not be fire resistive.
5. Corridor walls and ceilings need not be of fire-resistive construction within office spaces having an occupant load of 100 or less when the entire story in which the space is located is equipped with an automatic sprinkler system throughout and an automatic smoke-detection system installed within the corridor. The actuation of any detector shall activate alarms audible in all areas served by the corridor.
6. In other than Type I or II construction, exterior exit balcony roof assemblies may be of heavy-timber construction without concealed spaces.
7. Within office spaces occupied by a single tenant, partial height partitions which form corridors and which do not exceed 6 feet (1829 mm) in height need not be fire resistive, provided they are constructed in accordance with Section 601.5 and are not more than three fourths of the floor-to-ceiling height.
8. Corridor walls and ceilings need not be of fire-resistive construction within office spaces having an occupant load of 100 or less when the building in which the space is located is equipped with an automatic sprinkler system throughout.

When the ceiling of the entire story is an element of a one-hour fire-resistive floor or roof system, the corridor walls may terminate at the ceiling. When the room-side fire-resistive membrane of the corridor wall is carried through to the underside of a fire-resistive floor or roof above, the corridor side of the ceiling may be protected by the use of ceiling materials as required for one-hour floor or roof system construction or the corridor ceiling may be of the same construction as the corridor walls.

Ceilings of noncombustible construction may be suspended below the fire-resistive ceiling.

For wall and ceiling finish requirements, see Table 8-B.

For restrictions on the use of corridors to convey air, see Chapter 10 of the Mechanical Code.

1005.8 Openings.

1005.8.1 Doors. When corridor walls are required to be of one-hour fire-resistive construction by Section 1005.7, every interior door opening shall be protected by a tight-fitting smoke- and draft-control assembly having a fire-protection rating of not less than 20 minutes when tested in accordance with U.B.C. Standard 7-2. Said doors shall not have louvers. The door and frame shall bear an approved label or other identification showing the rating thereof, the name of the manufacturer and the identification of the service conducting the inspection of materials and workmanship at the factory during fabrication and assembly. Doors shall be maintained self-closing or shall be automatic closing by actuation of a smoke detector in accordance with Section 713.2. Smoke- and draft-control door assemblies shall be provided with a gasket so installed as to provide a seal where the door meets the stop on both sides and across the top.

EXCEPTIONS: 1. Viewports may be installed if they require a hole not larger than 1 inch (25 mm) in diameter through the door, have at least a 1/4-inch-thick (6.4 mm) glass disc and the holder is of metal which will not melt out when subject to temperatures of 1,700°F. (927°C.).

2. Protection of openings in the interior walls of exterior exit balconies is not required when it is possible to exit in two directions.

1005.8.2 Openings other than doors. Where corridor walls are required to be of one-hour fire-resistive construction by Section 1005.7, interior openings for other than doors or ducts shall be protected by fixed glazing listed and labeled for a fire-protection rating of at least three-fourths hour in accordance with Section 713.9. The total area of all openings, other than doors, in any portion of an interior corridor shall not exceed 25 percent of the area of the corridor wall of the room which it is separating from the corridor. For duct openings, see Sections 713.10 and 713.11.

EXCEPTION: Protection of openings in the interior walls of exterior exit balconies is not required when it is possible to exit in two directions.

1005.9 Location on Property. Exterior exit balconies shall not be located in areas where openings are not permitted or where openings are required to be protected due to location on the property.

1005.10 Elevators. Elevators opening into a corridor serving a Group R, Division 1 or Group I Occupancy having an occupant load of 10 or more, or a corridor serving other occupancies having a occupant load of 30 or more shall be provided with an elevator lobby at each floor containing such a corridor. The lobby shall completely separate the elevators for the corridor by construction conforming to Section 1005.7 and all openings into the lobby wall contiguous with the corridor shall be protected as required by Section 1005.8.

EXCEPTIONS: 1. In office buildings classed as Group B Occupancies, separations need not be provided from a street floor lobby, provided the entire street floor is protected with an automatic sprinkler system.

2. Elevators not required to meet the shaft enclosure requirements of Section 711.

3. When additional doors are provided in accordance with Section 3007.

4. Where elevator shafts are pressurized in accordance with Section 905, elevator lobbies need not be provided.

Elevator lobbies shall comply with Section 3002.

In fully sprinklered office buildings, corridors may lead through enclosed elevator lobbies if all areas of the building have access to at least one required exit without passing through the elevator lobby.

NEW SECTION

WAC 51-30-1006 Section 1006--Stairways.

1006.1 General. Every stairway having two or more risers serving any building or portion thereof shall conform to the requirements of this section. When aisles in assembly rooms have steps, they shall conform with provisions in Section 1014.

EXCEPTIONS: 1. Stairs or ladders used only to attend equipment or window wells are exempt from the requirements of this section.
2. Stairs or ladders within an individual dwelling unit used to gain access to areas of 200 square feet (18.6 m^2) or less, and not containing the primary bathroom or kitchen, are exempt from the requirements of this section.

Stairways located in a building required to be accessible shall also comply with Chapter 11.

1006.2 Width. The minimum stairway width shall be determined as specified in Section 1003.2, but shall not be less than 44 inches (1118 mm) except as specified herein and in Chapter 11. Stairways serving an occupant load of 49 or less shall not be less than 36 inches (914 mm) in width.

Handrails may project into the required width a distance of 3 1/2 inches (89 mm) from each side of a stairway. Stringers and other projections such as trim and similar decorative features may project into the required width 1 1/2 inches (38 mm) on each side.

1006.3 Rise and Run. The rise of steps shall not be less than 4 inches (102 mm) or greater than 7 1/2 inches (190 mm). Except as permitted in Sections 1006.4 and 1006.6, the run shall not be less than 10 inches (254 mm), as measured horizontally between the vertical planes of the furthermost projections of adjacent treads. Except as permitted in Sections 1006.4, 1006.5 and 1006.6, the largest tread run within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

EXCEPTIONS: 1. Private steps and stairways serving an occupant load of less than 10 and stairways to unoccupied roofs may be constructed with an 8-inch-maximum (203 mm) rise and a 9-inch-minimum (229 mm) run.
2. Where the bottom or top riser adjoins a sloping public way, walk or driveway having an established grade and serving as a landing, the bottom or top riser may be reduced along the slope.

Where Exception 2 to Section 1103.2.2 is used in a building design, the run of stair treads shall not be less than 11 inches (279 mm), as measured horizontally between the vertical planes of the furthermost projections of adjacent tread. The largest tread within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

1006.4 Winding Stairways. In Group R, Division 3 Occupancies and in private stairways in Group R, Division 1 Occupancies, winders may be used if the required width of run is provided at a point not more than 12 inches (305 mm) from the side of the stairway where the treads are narrower, but in no case shall any width of run be less than 6 inches (152 mm) at any point.

1006.5 Circular Stairways. Circular stairways may be used as an exit, provided the minimum width of run is not less than 10 inches (254 mm) and the smaller radius is not less than twice the width of the stairway. The largest tread width or riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

1006.6 Spiral Stairways. In Group R, Division 3 Occupancies and in private stairways within individual units of Group R, Division 1 Occupancies, spiral stairways may be installed. Such stairways may be used for required exits when the area served is limited to 400 square feet (37.16 m²).

The tread must provide a clear walking area measuring at least 26 inches (660 mm) from the outer edge of the supporting column to the inner edge of the handrail. A run of at least 7 1/2 inches (191 mm) is to be provided at a point 12 inches (305 mm) from where the tread is the narrowest. The rise must be sufficient to provide 6-foot 6-inch (1981 mm) headroom. The rise shall not exceed 9 1/2 inches (241 mm).

1006.7 Landings. Stairways shall have landings at the top and bottom. Every landing shall have a dimension measured in the direction of travel not less than the width of the stairway. Such dimension need not exceed 44 inches (1118 mm) when the stair has a straight run. There shall not be more than 12 feet (3658 mm) vertically between landings. For landings with adjoining doors, see Section 1004.10.

EXCEPTION: Stairs serving an unoccupied roof are exempt from these provisions.

1006.8 Basement Stairways. When a basement stairway and a stairway to an upper story terminate in the same exit enclosure, an approved barrier shall be provided to prevent persons from continuing on into the basement. Directional exit signs shall be provided as specified in Section 1013.

1006.9 Handrails. Stairways shall have handrails on each side, and every stairway required to be more than 88 inches (2235 mm) in width shall be provided with not less than one intermediate handrail for each 88 inches (2235 mm) of required width. Intermediate handrails shall be spaced approximately equally across the entire width of the stairway.

EXCEPTIONS:
1. Stairways less than 44 inches (1118 mm) in width or stairways serving one individual dwelling unit in Group R, Division 1 or 3 Occupancies or a Group R, Division 3 congregate residence may have one handrail. This exception shall not be used concurrently with the second exception to the first paragraph of Section 1103.2.2.
2. Private stairways 30 inches (762 mm) or less in height may have handrails on one side only. This exception shall not be used concurrently with the second exception to the first paragraph of Section 1103.2.2.
3. Stairways having less than four risers and serving one individual dwelling unit in Group R, Division 1 or 3, or a Group R, Division 3 congregate residence or serving Group U Occupancies need not have handrails.

The top of handrails and handrail extensions shall be placed not less than 34 inches (864 mm) or more than 38 inches (965 mm) above the nosing of treads and landings. Handrails shall be continuous the full length of the stairs and, except for private stairways, at least one handrail shall extend in the direction of the stair run not less than 12 inches (305 mm) beyond the top riser nor less than a length equal to one tread depth plus 12 inches (305 mm) beyond the bottom riser. Ends shall be returned or shall terminate in newel posts or safety terminals.

The handgrip portion of handrails shall not be less than 1 1/4 (32 mm) inches nor more than 2 inches (51 mm) in cross-sectional dimension or the shape shall provide an equivalent gripping surface. The handgrip portion of handrails shall have a smooth surface with no sharp corners.

Handrails projecting from a wall shall have a space of not less than 1 1/2 inches (38 mm) between the wall and the handrail.

1006.10 Guardrails. Stairways open on one or both sides shall have guardrails as required by Section 1001.5.

1006.11 Protection of Exterior Wall Openings. Except in Group R, Division 3 Occupancies, all openings in the exterior wall below and within 10 feet (3048 mm), measured horizontally, of an exterior exit stairway or unprotected openings in an interior exit stairway serving a building over two stories in height or a floor level having such openings in two or more floors below shall be protected by fixed, self-closing, or automatic-closing fire assemblies having a three-fourths-hour fire-protection rating.

EXCEPTIONS: 1. Openings may be unprotected when two separated exterior stairways serve an exterior exit balcony.
2. Protection of openings is not required for open parking garages conforming to Section 405.

1006.12 Interior Stairway Construction. Interior stairways shall be constructed as specified in Sections 602.4, 603.4, 604.4, 605.4 and 606.4.

Except when enclosed usable space under stairs is prohibited by Section 1009.6, the walls and soffits of the enclosed space shall be protected on the enclosed side as required for one-hour fire-resistive construction.

All required interior stairways which extend to the top floor in any building four or more stories in height shall have, at the highest point of the stair shaft, an approved hatch openable to the exterior not less than 16 square feet (1.5 m^2) in area with a minimum dimension of 2 feet (610 mm).

EXCEPTION: The hatch need not be provided on pressurized enclosures or on stairways that extend to the roof with an opening onto that roof.

Stairways exiting directly to the exterior of a building four or more stories in height shall be provided with means for emergency entry for fire department access.

1006.13 Exterior Stairway Construction. Exterior stairways shall be constructed as specified in Sections 602.4, 603.4, 604.4, 605.4 and 606.4.

Exterior stairways shall not project into yards where openings are not permitted or protection of openings is required.

Enclosed usable space under stairs shall have the walls and soffits protected on the enclosed side as required for one-hour fire-resistive construction.

Stairways exiting directly to the exterior of a building four or more stories in height shall be provided with means for emergency entry for fire department access.

1006.14 Stairway to Roof. In buildings four or more stories in height, one stairway shall extend to the roof surface, unless the roof has a slope greater than 4 in 12. See Section 1006.12 for roof hatch requirements.

1006.15 Headroom. Every stairway shall have a headroom clearance of not less than 6 feet 8 inches (2032 mm). Such clearances shall be measured vertically from a plane parallel and tangent to the stairway tread nosings to the soffit above at all points.

1006.16 Stairway Identification. Approved stairway identification signs shall be located at each floor level in all enclosed stairways in buildings four or more stories in height. The sign

shall identify the stairway, indicate whether there is roof access, the floor level, and the upper and lower terminus of the stairway. The sign shall be located approximately 5 feet (1524 mm) above the floor landing in a position which is readily visible when the door is in the open or closed position. Signs shall comply with requirements of U.B.C. Standard 10-2. Each door to a floor level also shall have a tactile sign, including raised letters and Braille, identifying the floor level and shall comply with Part IV of Chapter 11.

NEW SECTION

WAC 51-30-1007 Section 1007--Ramps.

1007.1 General. Except for ramped aisles in assembly rooms, ramps used as exits shall conform to the provisions of this section. Ramped aisles within assembly rooms shall conform with the provisions in Section 1014. Ramps which are located within an accessible route of travel shall also comply with Chapter 11.

1007.2 Width. The width of ramps shall be determined as specified in Section 1003.2, but shall not be less than 44 inches (1118 mm), except as specified herein. Ramps serving an occupant load of 49 or less shall not be less than 36 inches (914 mm) in width.

Handrails may project into the required width a distance of 3 1/2 inches (89 mm) from each side of a ramp. Other projections, such as trim and similar decorative features, may project into the required width 1 1/2 inches (38 mm) on each side.

1007.3 Slope. The slope of ramps required by Chapter 11 which are located within an accessible route of travel shall not be steeper than 1 unit vertical in 12 units horizontal (8% slope). The slope of other ramps shall not be steeper than 1 unit vertical in 8 units horizontal (12.5% slope).

1007.4 Landings. Ramps having slopes steeper than 1 unit vertical in 15 units horizontal (6.7% slope) shall have landings at the top and bottom, and at least one intermediate landing shall be provided for each 5 feet (1524 mm) of rise. Top landings and intermediate landings shall have a dimension measured in the direction of ramp run of not less than 5 feet (1524 mm). Landings at the bottom of ramps shall have a dimension in the direction of ramp run of not less than 6 feet (1829 mm). Landings shall provide maneuvering clearances at doors as required in Chapter 11.

EXCEPTION: Ramps with slopes no steeper than 1 unit vertical in 12 units horizontal (8% slope) may have landings at the bottom in the direction of ramp run not less than 5 feet (1524 mm) in length.

1007.5 Handrails. Ramps having slopes steeper than 1 unit vertical in 20 units horizontal (5.0% slope) shall have handrails as required for stairways, except that intermediate handrails shall not be required. At least one handrail shall extend in the direction of ramp run not less than 12 inches (305 mm) horizontally beyond the top and bottom of the ramp runs. Ramped aisles need not have handrails on sides serving fixed seating.

1007.6 Construction. Ramps shall be constructed as required for stairways.

1007.7 Surface. The surface of ramps shall be roughened or shall be of slip-resistant materials.

1007.8 Guardrails. Ramps open on one or both sides shall have guardrails as required by Section 509.

1007.9 Headroom. Ramps shall have a headroom clearance of not less than 7 feet (2134 mm). Such clearances shall be measured vertically from the finished floor surface of the ramp and landings to the soffit above at all points.

NEW SECTION

WAC 51-30-1009 Section 1009--Stairway, Ramp and Escalator Enclosures.

1009.1 General. Interior stairways, ramps or escalators shall be enclosed as specified in this section.

EXCEPTIONS:
1. In other than Groups H and I Occupancies, an enclosure need not be provided for a stairway, ramp or escalator serving only one adjacent floor. Any two such interconnected floors shall not be open to other floors. For enclosure of escalators serving Group B Occupancies, see Section 304.6.
2. Stairs in Group R, Division 3 Occupancies and stairs within individual dwelling units in Group R, Division 1 Occupancies need not be enclosed.
3. Stairs in open parking garages, as defined in Section 311.9, need not be enclosed.

1009.2 Enclosure Construction. Enclosure walls shall not be of less than two-hour fire-resistive construction in buildings four or more stories in height or of Types I and II fire-resistive construction and shall not be of less than one-hour fire-resistive construction elsewhere.

EXCEPTION: In sprinkler-protected parking garages restricted to the storage of private or pleasure-type motor vehicles, stairway enclosures may be enclosed with glazing meeting the requirements of Sections 713.7, 713.8 and 713.9.

1009.3 Openings into Enclosures. Openings into exit enclosures other than permitted exterior openings shall be limited to those necessary for exiting from a normally occupied space into the enclosure and exiting from the enclosure. Other penetrations into and opening through the exit enclosure are prohibited except for ductwork and equipment necessary for independent stair pressurization, sprinkler piping, standpipes and electrical conduit serving the stairway and terminating in a listed box not exceeding 16 square inches (10 323 mm^2) in area. Penetrations and communicating openings between adjacent exit enclosures are not permitted regardless of whether the opening is protected.

All exit doors in an exit enclosure shall be protected by a fire assembly having a fire-protection rating of not less than one hour where one-hour enclosure construction is permitted in Section 1009.2 and one and one-half hours where two-hour enclosure construction is required by Section 1009.2. Doors shall be maintained self-closing or shall be automatic closing by actuation of a smoke detector as provided for in Section 713.2. The maximum transmitted temperature end point shall not exceed 450°F. (232°C.)

above ambient at the end of 30 minutes of the fire exposure specified in U.B.C. Standard 7-2.

1009.4 Extent of Enclosure. Stairway and ramp enclosures shall include landings and parts of floors connecting stairway flights and shall also include a corridor or exit passageway on the ground floor leading from the stairway to the exterior of the building. Openings into the corridor or exit passageway shall comply with the requirements of Section 1009.3.

EXCEPTIONS: 1. Enclosed corridors or exit passageways are not required from unenclosed stairways or ramps.
2. In office buildings, a maximum of 50 percent of the exits may discharge through a street-floor lobby, provided the required exit width is free and unobstructed and the entire street floor is protected with an automatic sprinkler system.

1009.5 Barrier. A stairway in an exit enclosure shall not continue below the grade level exit unless an approved barrier is provided at the ground-floor level to prevent persons from accidentally continuing into the basement.

1009.6 Use of Space under Stair and Ramp. There shall be no enclosed usable space under stairways or ramps in an exit enclosure, nor shall the open space under such stairways be used for any purpose.

1009.7 Pressurized Enclosure. In a building having a floor used for human occupancy which is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, the entire required enclosure shall be pressurized in accordance with Section 905 of this code and this section. Pressurization shall occur automatically upon activation of an approved fire alarm system.

EXCEPTION: When the building is not equipped with a fire alarm system, pressurization shall be upon activation of a spot-type smoke detector listed for releasing service installed within 5 feet (1524 mm) of each vestibule entry.

The upper portion of such enclosures shall be provided with controlled relief vent capable of discharging a minimum of 2,500 cubic feet per minute (1180 L/s) of air at the design pressure difference.

Such enclosures shall be provided with a pressurized entrance vestibule.

1009.8 Vestibules. When required by Section 1009.7, vestibules shall meet the following requirements:

1. Where a wheelchair space is provided, such space shall not obstruct the required exit width and shall not interfere with access to or use of fire department hose connections and valves.

2. Emergency illumination shall be provided to maintain a minimum of 30 footcandles (323 lx) on the floor.

3. Fire department connections and valves serving the floor shall be located within the vestibule and in such a manner as to not obstruct exiting when hose lines are connected and charged.

4. The minimum pressure differences within the vestibule with the doors closed shall be 0.05 inch water gage (12.44 Pa) positive pressure relative to the fire floor and 0.05 inches water gage (12.44 Pa) negative relative to the exit enclosure. No pressure difference is required relative to a nonfire floor.

For areas of refuge, see Section 1104.

NEW SECTION

WAC 51-30-1014 Section 1014--Aisles.

1014.1 General. Aisles leading to required exits shall be provided from all portions of buildings. Aisles located within an accessible route of travel shall also comply with Chapter 11.

1014.2 Width in Occupancies without Fixed Seats. The width of aisles in occupancies without fixed seats shall comply with this section. Aisle widths shall be provided in accordance with the following:

1. In areas serving employees only, the minimum aisle width shall be 24 inches (610 mm) but not less than the width required by the number of employees served.

2. In public areas of Groups B and M Occupancies, and in assembly occupancies without fixed seats, the minimum clear aisle width shall be 36 inches (914 mm) where tables, counters, furnishings, merchandise or other similar obstructions are placed on one side of the aisle only and 44 inches (1118 mm) when such obstructions are placed on both sides of the aisle.

1014.3 Width in Assembly Occupancies with Fixed Seats. Aisles in assembly occupancies with fixed seats shall comply with this section. The clear width of aisles shall be based on the number of occupants within the portion of the seating areas served by the aisle.

The clear width of an aisle in inches shall not be less than the occupant load served by the aisle multiplied by 0.3 for aisles with slopes greater than 1 unit vertical to 8 units horizontal (12.5% slope) and not less than 0.2 for aisles with a slope of 1 unit vertical to 8 units horizontal (12.5% slope) or less. In addition, when the rise of steps in aisles exceeds 7 inches (178 mm), the aisle clear width shall be increased by 1 1/4 inches (32 mm) for each 100 occupants or fraction thereof served for each 1/4 inch (6.35 mm) of riser height above 7 inches (178 mm).

EXCEPTION: For buildings with smoke-protected assembly seating and for which an approved life-safety evaluation is conducted, the minimum clear width of aisles and other means of egress may be in accordance with Table 10-C. For Table 10-C, the number of seats specified must be within a single assembly area, and interpolation shall be permitted between the specified values shown. If Table 10-C is used the minimum clear widths shown shall be modified in accordance with the following:
1. If risers exceed 7 inches (178 mm) in height, multiply the stair width in the tables by factor A, where

$$A = 1 + \frac{(\text{riser height} - 7.0 \text{ in.})}{5}$$

For SI:

$$A = 1 + \frac{(\text{riser height} - 178 \text{ mm})}{127}$$

2. Stairs not having a handrail within a 30-inch (760 mm) horizontal distance shall be 25 percent wider than otherwise calculated, i.e., multiply by $B = 1.25$
3. Ramps steeper than 1 in 10 slope where used in ascent shall have their width increased by 10 percent, i.e., multiply factor $C = 1.10$.

Where exiting is possible in two directions, the width of such aisles shall be uniform throughout their length.

When aisles converge to form a single path of exit travel, the aisle width shall not be less than the combined required width of the converging aisles.

In assembly rooms with fixed seats arranged in rows, the clear width of aisles shall not be less than set forth above or less than the following:

Forty-eight inches (1219 mm) for stairs having seating on both sides.

Thirty-six inches (914 mm) for stairs having seating on one side.

Twenty-three inches (584 mm) between a stair handrail and seating when the aisles are subdivided by the handrail.

Forty-two inches (1067 mm) for level or ramped aisles having seating on both sides.

Thirty-six inches (914 mm) for level or ramped aisles having seating on one side.

Twenty-three inches (584 mm) between a stair handrail and seating when an aisle does not serve more than five rows on one side.

1014.4 Aisle Termination. Aisles shall terminate at a cross aisle, foyer, doorway or vomitory. Aisles shall not have a dead end greater than 20 feet (6096 mm) in length.

EXCEPTION: A longer dead-end aisle is permitted when seats served by the dead-end aisle are not more than 24 seats from another aisle measured along a row of seats having a minimum clear width of 12 inches (305 mm) plus 0.6 inches (15 mm) for each additional seat above seven in a row.

Each end of a cross aisle shall terminate at an aisle, foyer, doorway or vomitory.

1014.5 Ramp Slope. The slope of ramped aisles shall not be more than 1 unit vertical in 8 units horizontal (12.5% slope). Ramped aisles shall have a slip-resistant surface.

EXCEPTION: When provided with fixed seating, theaters may have a slope not steeper than 1 unit vertical in 5 units horizontal (20% slope).

1014.6 Aisle Steps.

1014.6.1 When prohibited. Steps shall not be used in aisles having a slope of 1 unit in 8 units horizontal (12.5% slope) or less.

1014.6.2 When required. Aisles with a slope steeper than 1 unit vertical in 8 units horizontal (12.5% slope) shall consist of a series of risers and treads extending across the entire width of the aisle, except as provided in Section 1014.5.

The height of risers shall not be more than 7 inches (178 mm) or less than 4 inches (102 mm) and the tread run shall not be less than 11 inches (279 mm). The riser height shall be uniform within each flight and the tread run shall be uniform throughout the aisle. Variations in run or height between adjacent treads or risers shall not exceed 3/16 inch (4.8 mm). A contrasting marking stripe or other approved marking shall be provided on each tread at the nosing or leading edge such that the location of each tread is readily apparent when viewed in descent. Such stripe shall be a minimum of 1 inch (25 mm) wide and a maximum of 2 inches (51 mm) wide.

EXCEPTION: When the slope of aisle steps and the adjoining seating area is the same, the riser heights may be increased to a maximum of 9 inches (229 mm) and may be nonuniform but only to the extent necessitated by changes in the slope of the adjoining seating area to maintain adequate sightlines. Variations may exceed 3/16 inch (4.8 mm) between adjacent risers provided

the exact lo. . of such variations is identified with a marking stripe in e. .ead at the nosing or leading edge adjacent to the nonuniform riser. The marking stripe shall be distinctively different from the contrasting marking stripe.

1014.7 Handrails. Handrails shall comply with the height, size and shape dimensions set forth in Section 1006.9 and shall have rounded terminations or bends. Ramped aisles having a slope steeper than 1 unit vertical in 15 units horizontal (6.7% slope) and aisle stairs (two or more adjacent steps) shall have handrails located either at the side or within the aisle width. Handrails may project into the required aisle width a distance of 3 1/2 inches (89 mm).

EXCEPTIONS: 1. Handrails may be omitted on ramped aisles having a slope not greater than 1 unit vertical in 8 units horizontal (12.5% slope) when fixed seating is on both sides of the aisle.
2. Handrails may be omitted when a guardrail is at the side of an aisle which conforms to the size and shape requirements for handrails.

Handrails located within the aisle width shall be discontinuous with gaps or breaks at intervals not to exceed five rows. These gaps or breaks shall have a clear width of not less than 22 inches (559 mm) or more than 36 inches (914 mm) measured horizontally. Such handrails shall have an additional intermediate handrail located 12 inches (305 mm) below the main handrail.

NEW SECTION

WAC 51-30-1019 Group I Occupancies.

1019.1 Exterior Doors. All required exterior exit doors shall open in the direction of exit travel.

1019.2 Minimum Size of Exits. The clear width of exits serving areas occupied or used by bed or litter patients shall be such that it will allow ready passage of such equipment, but shall not be less than 44 inches (1118 mm). Other exits shall have a clear width of not less than 32 inches (813 mm). There shall be no projections into the clear width.

1019.3 Corridors. The minimum clear width of a corridor shall be determined as specified in Section 1003.2, but shall not be less than 44 inches (1118 mm), except that corridors serving any area housing one or more nonambulatory persons shall not be less than 8 feet (2438 mm) in width.

EXCEPTION: Corridors serving surgical areas of Group I, Division 1.2 Occupancies shall not be less than six feet (1829 mm) in width until reaching an exterior door, enclosed exit stairway or horizontal exit and shall not pass through an adjoining room.

Any change in elevation of the floor in a corridor serving nonambulatory persons shall be made by means of a ramp.

Corridors shall comply with Section 1005 except that in hospitals and nursing homes classified as Group I, Division 1.1 Occupancies the following exceptions apply:

1. Nurses' stations including space for doctors' and nurses' charting and communications constructed as required for corridors need not be separated from corridors.

2. Waiting areas and similar spaces constructed as required for corridors need not be separated from corridors, provided:

2.1 Each space is located to permit direct visual supervision by the facility staff, and

2.2 The space and corridors into which the space opens are in the same smoke compartment and the space is protected by an approved electrically supervised automatic smoke-detection system.

3. Door closers need not be installed on doors to sleeping rooms.

4. Fixed fully tempered or laminated glass in wood or metal frames may be used in corridor walls, provided the glazed area does not exceed 25 percent of the area of the corridor wall of the room.

5. The total area of glass in corridor walls is not limited when the glazing is fixed 1/4-inch-thick (6.4 mm) wired glass in steel frames and the size of individual glazed panel does not exceed 1,296 square inches (0.836 m^2).

1019.4 Basement Exits. One exit accessible to every room below grade shall lead directly to the exterior at grade level.

1019.5 Ramps. Group I, Division 1.1 and 1.2 Occupancies housing nonambulatory patients shall have access to a ramp leading from the first story to the exterior of the building at the ground floor level.

1019.6 Hardware. Exit doors serving an area having an occupant load of 50 or more shall not be provided with a latch or lock unless it is panic hardware. Patient room doors shall be readily openable from either side without the use of keys.

EXCEPTIONS: 1. In Group I, Division 1.1 hospitals and nursing homes, locking devices, when approved, may be installed on patient sleeping rooms, provided such devices are readily openable from the patient room side and are readily operable by the facility staff on the other side. When key locks are used on patient room doors, keys shall be located on the floor involved at a prominent location accessible to the staff.

2. In Group I, Division 3 Occupancies, approved locks or safety devices may be used where it is necessary to forcibly restrain personal liberties of inmates or patients.

1019.7 Suites.

1019.7.1 General. A group of rooms in a Group I, Division 1.1, Division 1.2 or Division 2 Occupancy may be considered a suite when it complies with the following:

1. Size. Suites of rooms, other than patient sleeping rooms, shall not exceed 10,000 square feet (928.5 m^2) in area. Suites of patient sleeping rooms shall not exceed 5,000 square feet (465 m^2) in area.

2. Occupancy separation. Each suite shall be separated from the rest of the building by at least a one-hour fire-resistive occupancy separation.

3. Visual supervision. Each patient sleeping room in the suite shall be located to permit direct and constant visual supervision by the facility staff.

4. Other exits. Exiting for portions of the building outside of a suite shall not require passage through the suite.

1019.7.2 Corridors. One-hour fire-resistive corridor construction is not required within a suite.

1019.7.3 Exits through adjoining rooms. Rooms within suites may have exits through one adjoining room if there is not more than 100

feet (30 480 mm, of travel distance within the suite to an exit corridor, exterior exit door, horizontal exit, exit passageway or enclosed stairway. Rooms other than patient sleeping rooms may have exits through two adjoining rooms where there is not more than 50 feet (15 240 mm) of travel distance within the suite to an exit corridor, exterior exit door, horizontal exit, exit passageway or enclosed stairway.

1019.7.4 Number of exits. Suites shall be provided with exits as required by Table 10-A.

NEW SECTION

WAC 51-30-1030 Table 10-A--Minimum egress requirements.

TABLE 10-A—MINIMUM EGRESS REQUIREMENTS[1]

USE[2]	MINIMUM OF TWO EXITS OTHER THAN ELEVATORS ARE REQUIRED WHERE NUMBER OF OCCUPANTS IS AT LEAST	OCCUPANT LOAD FACTOR[3] (square feet) × 0.0929 for m^2
1. Aircraft hangars (no repair)	10	500
2. Auction rooms	30	7
3. Assembly areas, concentrated use (without fixed seats) Auditoriums Churches and chapels Dance floors Lobby accessory to assembly occupancy Lodge rooms Reviewing stands Stadiums	50	7
Waiting area	50	3
4. Assembly areas, less-concentrated use Conference rooms Dining rooms Drinking establishments Exhibit rooms Gymnasiums Lounges Stages	50	15
5. Bowling alley (assume no occupant load for bowling lanes)	50	4
6. Children's homes and homes for the aged	6	80
7. Classrooms	50	20
8. Congregate residences	10	200
9. Courtrooms	50	40
10. Dormitories	10	50
11. Dwellings	10	300
12. Exercising rooms	50	50
13. Garage, parking	30	200
14. Hospitals and sanitariums— Health-care center Nursing homes Sleeping rooms Treatment rooms	 10 6 10	 80 80 80
15. Hotels and apartments	10	200
16. Kitchen—commercial	30	200
17. Library reading room	50	50
18. Locker rooms	30	50

(Continued)

TABLE 10-A—MINIMUM EGRESS REQUIREMENTS[1]—(Continued)

USE[2]	MINIMUM OF TWO EXITS OTHER THAN ELEVATORS ARE REQUIRED WHERE NUMBER OF OCCUPANTS IS AT LEAST	OCCUPANT LOAD FACTOR[3] (square feet) × 0.0929 for m^2
19. Malls (see Chapter 4)	—	—
20. Manufacturing areas	30	200
21. Mechanical equipment room	30	300
22. Nurseries for children (day care)	7	35
23. Offices	30	100
24. School shops and vocational rooms	50	50
25. Skating rinks	50	50 on the skating area; 15 on the deck
26. Storage and stock rooms	30	300
27. Stores—retail sales rooms Basements and ground floor Upper floors	 50 50	 30 60
28. Swimming pools	50	50 for the pool area; 15 on the deck
29. Warehouses	30	500
30. All others	50	100

[1]Access to, and egress from, buildings for persons with disabilities shall be provided as specified in Chapter 11.
[2]For additional provisions on number of exits from Groups H and I Occupancies and from rooms containing fuel-fired equipment or cellulose nitrate, see Sections 1018, 1019 and 1020, respectively.
[3]This table shall not be used to determine working space requirements per person.
[4]Occupant load based on five persons for each alley, including 15 feet (4572 mm) of runway.

NEW SECTION

WAC 51-30-1100 Chapter 11 Accessibility.

NEW SECTION

WAC 51-30-1101 Section 1101--Scope.

Section 1101.1 General. Buildings or portions of buildings shall be accessible to persons with disabilities as required by this chapter.

Chapter 11 has been amended to comply with the Federal Fair Housing Act (FFHA) Guidelines as published by the U.S. Department of Housing and Urban Development (March 1991) and the Americans With Disabilities Act (ADA) Guidelines as published by the U.S. Architectural and Transportation Barriers Compliance Board and Department of Justice (July 1991).

Reference is made to Appendix Chapter 11 for FFHA and ADA requirements not regulated by this chapter. See Section 101.3.

1101.2 Design. The design and construction of accessible building elements shall be in accordance with this chapter. For a building, structure or building element to be considered to be accessible, it shall be designed and constructed to the minimum provisions of this chapter.

1101.3 Maintenance of Facilities. Any building, facility, dwelling unit, or site which is constructed or altered to be accessible or adaptable under this chapter shall be maintained accessible and/or adaptable during its occupancy.

1101.4 Alternate Methods. The application of Section 104.2.8 to this chapter shall be limited to the extent that alternate methods of construction, designs, or technologies shall provide substantially equivalent or greater accessibility.

1101.5 Modifications. Where full compliance with this chapter is impractical due to unique characteristics of the terrain, the building official may grant modifications in accordance with Section 104.2.7, provided that any portion of the building or structure that can be made accessible shall be made accessible to the greatest extent practical.

NEW SECTION

WAC 51-30-1102 Section 1102--Definitions.

Section 1102. For the purpose of this chapter certain terms are defined as follows:

ACCESSIBLE is approachable and usable by persons with disabilities.

ACCESS AISLE is an accessible pedestrian space between elements, such as parking spaces, seating, and desks, that provides clearances appropriate for use of the elements.

ACCESSIBLE EXIT is an exit, as defined in Section 1101.2, which complies with this chapter and does not contain stairs, steps, or escalators.

ACCESSIBLE ROUTE OF TRAVEL is a continuous unobstructed path connecting all accessible elements and spaces in an accessible building or facility that can be negotiated by a person using a wheelchair and that is usable by persons with other disabilities.

ALTERATION (See Section 1110).

ALTERATION, SUBSTANTIAL (See Section 1110).

AREA FOR EVACUATION ASSISTANCE is an accessible space which is protected from fire and smoke and which facilitates egress.

AUTOMATIC DOOR is a door equipped with a power-operated mechanism and controls that open and close the door automatically upon receipt of a momentary actuating signal. The switch that begins the automatic cycle may be a photoelectric device, floor mat, or manual switch (see also, Power-assisted Door).

CLEAR is unobstructed.

CLEAR FLOOR SPACE is unobstructed floor or ground space (see Section 1106.2).

COMMON USE AREAS are rooms, spaces or elements inside or outside a building that are made available for use by occupants of and visitors to the building.

CROSS SLOPE is the slope that is perpendicular to the direction of travel.

CURB RAMP is a short ramp cutting through or built up to a curb.

DETECTABLE WARNING is a standardized surface feature built in or applied to walking surfaces or other elements to warn visually impaired persons of hazards on a circulation path.

DWELLING UNIT, TYPE A is an accessible dwelling unit that is designed and constructed in accordance with this chapter to provide greater accessibility than a Type B dwelling unit. (Type A dwelling units constructed in accordance with this Chapter also meet the design standards for Type B dwelling units.)

DWELLING UNIT, TYPE B is an accessible dwelling unit that is designed and constructed in accordance with this chapter. (Type B Dwelling Unit Standards are based on the U.S. Department of Housing and Urban Development (HUD) Federal Fair Housing Act Accessibility Guidelines.)

ELEMENT is an architectural or mechanical component of a building, facility, space, or site, such as telephones, curb ramps, doors, drinking fountains, seating, or water closets.

GROUND FLOOR is any occupiable floor less than one story above or below grade with direct access to grade. A building may have more than one ground floor.

LANDING is a level area (except as otherwise provided), within or at the terminus of a stair or ramp.

MARKED CROSSING is a crosswalk or other identified path intended for pedestrian use in crossing a vehicular way.

MULTISTORY DWELLING UNIT is a dwelling unit with finished living space located on one floor, and the floor or floors immediately above or below it.

PATH OF TRAVEL (See Section 1110).

PERSON WITH DISABILITY is an individual who has an impairment, including a mobility, sensory, or cognitive impairment, which results in a functional limitation in access to and use of a building or facility.

POWER-ASSISTED DOOR is a door used for human passage, with a mechanism that helps to open the door, or relieve the opening resistance of a door, upon the activation of a switch or a continued force applied to the door itself.

PRIMARY ENTRANCE is a principal entrance through which most people enter the building. A building may have more than one primary entrance.

PRIMARY ENTRANCE LEVEL is the floor or level of the building on which the primary entrance is located.

PRIMARY FUNCTION is a major function for which the facility is intended.

PUBLIC USE AREAS are those interior or exterior rooms or spaces which are made available to the general public. Public use may be provided at a privately or publicly owned building or facility.

RAMP is any walking surface having a running slope exceeding 1 unit vertical in 48 units horizontal.

SERVICE ENTRANCE is an entrance intended primarily for delivery of goods or services.

SINGLE-STORY DWELLING UNIT is a dwelling unit with all finished living spaces located on one floor.

SITE is a parcel of land bounded by a property line or a designated portion of a public right-of-way.

TACTILE is an object that can be perceived using the sense of touch.

TECHNICALLY INFEASIBLE (See Section 1110).

TEXT TELEPHONE is machinery or equipment that employs interactive graphic (e.g. typed) communications through the transmission of coded signals across the standard telephone network. Text telephones include telecommunications display devices or telecommunications devices for the deaf (TDD's), or computers.

VEHICULAR WAY is a route intended for vehicular traffic, such as a roadway, driveway, or parking lot, located on a site.

NEW SECTION

WAC 51-30-1103 Section 1103--Building accessibility.

Section 1103.1 Where required.

1103.1.1 General. Accessibility to temporary or permanent buildings or portions thereof shall be provided for all occupancy classifications except as modified by this chapter. See also Appendix Chapter 11.

EXCEPTIONS: 1. Floors or portions of floors not customarily occupied, including, but not limited to, elevator pits, observation galleries used primarily for security purposes, elevator penthouses, nonoccupiable spaces accessed only by ladders, catwalks, crawl spaces, narrow passageways, or freight elevators, piping and equipment catwalks and machinery, mechanical and electrical equipment rooms.

2. Temporary structures, sites and equipment directly associated with the construction process such as construction site trailers, scaffolding, bridging, or material hoists are not required to be accessible. This exception does not include walkways or pedestrian protection required by Chapter 30.

1103.1.2 Group A Occupancies.

1103.1.2.1 General. All Group A Occupancies shall be accessible as provided in this chapter.

EXCEPTION: In the assembly areas of dining and drinking establishments or religious facilities which are located in non-elevator buildings; where the area of mezzanine seating is not more than 25 percent of the total seating, an accessible means of vertical access to the mezzanine is not required, provided that the same services are provided in an accessible space which is not restricted to use only by persons with disabilities. Comparable facilities shall be available in all seating areas.

In banquet rooms or spaces where the head table or speaker's lectern is located on a permanent raised platform, the platform shall be accessible in compliance with Section 1106. Open edges on the raised platform shall be protected by a curb with a height of not less than 2 inches (51 mm).

Stadiums, theaters, auditoriums and similar occupancies shall provide wheelchair spaces in accordance with Table No. 11-A.

Wheelchair spaces shall be accessible and shall be located in places with unobstructed sight lines. Wheelchair spaces shall be reasonably distributed throughout the seating plan and located on an accessible route of travel. At least one companion fixed seat shall be provided next to each wheelchair space. Removable seats shall be permitted in the wheelchair spaces.

In addition, one percent, but not less than one, of all fixed seats shall be aisle seats with no armrests, or shall have removable or folding armrests on the aisle side. Each such seat shall be identified by a sign complying with Section 1106.16.1.1.

An accessible route of travel shall connect wheelchair seating locations with performance areas, including stages, arena floors, dressing rooms, locker rooms, and other spaces used by performers.

1103.1.2.2 Assistive listening devices. Assistive listening systems complying with Section 1106.21.2 shall be installed in assembly areas where audible communications are integral to the use of the space including stadiums, theaters, auditoriums, lecture

halls, and similar areas; where fixed seats are provided, as follows:

1. Areas with an occupant load of 50 or more.

2. Areas where an audio-amplification system is installed.

Receivers for assistive listening systems shall be provided at a rate of 4 percent of the total number of seats, but in no case fewer than two receivers. In other assembly areas, where permanently installed assistive listening systems are not provided, electrical outlets shall be provided at a rate of not less than 4 percent of the total occupant load.

Signage complying with Section 1106.16.1.3 shall be installed to notify patrons of the availability of the listening system.

1103.1.3 Group B, F, M and S Occupancies. All Group B, F, M and S Occupancies shall be accessible as provided in this chapter. Assembly spaces in Group B, F, M and S Occupancies shall comply with Section 1103.1.2.2.

1103.1.4 Group E Occupancies. All Group E Occupancies shall be accessible as provided in this chapter. Assembly spaces in Group E Occupancies shall comply with Section 1103.1.2.2.

1103.1.5 Group H Occupancies. All Group H Occupancies shall be accessible as provided in this chapter.

1103.1.6 Group I Occupancies. All Group I Occupancies shall be accessible in all public use, common use, and employee use areas, and shall have accessible patient rooms, cells, and treatment or examination rooms as follows:

1. In Group I, Division 1.1 patient care units within hospitals which specialize in treating conditions that affect mobility, all patient rooms in each nursing unit including associated toilet rooms and bathrooms.

2. In Group I, Division 1.1 patient care units within hospitals which do not specialize in treating conditions that affect mobility, at least 1 in every 10 patient rooms in each nursing unit, including associated toilet rooms and bathrooms.

3. In Group I, Division 1.1 and Division 2 nursing homes and long-term care facilities, at least 1 in every 2 patient rooms, including associated toilet rooms and bathrooms.

4. In Group I, Division 3 mental health occupancies, at least 1 in every 10 patient rooms, including associated toilet rooms and bathrooms.

5. In Group I, Division 3 jail, prison and similar occupancies, at least 1 in every 100 rooms or cells, including associated toilet rooms and bathrooms.

6. In Group I Occupancies, all treatment and examination rooms shall be accessible.

In Group I Division 1.1 and 2 Occupancies, at least one accessible entrance that complies with Section 1103.2 shall be under shelter. Every such entrance shall include a passenger loading zone which complies with Section 1108.2.

1103.1.7 Group U Occupancies. Group U, Division 1 Occupancies shall be accessible as follows:

1. Private garages and carports which contain accessible parking serving Type A dwelling units, accessible hotel and lodging rooms and congregate residences.

2. In Group U, Division 1 agricultural buildings, access need only be provided to paved work areas and areas open to the general public.

1103.1.8 Group R Occupancies.

1103.1.8.1 General. All Group R Occupancies shall be accessible as provided in this chapter. Public- and common-use areas and facilities such as recreational facilities, laundry facilities, garbage and recycling collection areas, mailbox locations, lobbies, foyers, and management offices shall be accessible.

EXCEPTION: Common- or public-use facilities accessory to buildings not required to contain either Type A or Type B dwelling units in accordance with Section 1103.1.8.2.

1103.1.8.2 Number of dwelling units. In all Group R, Division 1 apartment buildings the total number of Type A dwelling units shall be as required by Table No. 11-B. All other dwelling units shall be designed and constructed to the requirements for Type B units as defined in this chapter.

EXCEPTIONS: 1. Group R Occupancies containing no more than three dwelling units need not be accessible.
2. Dwelling units in Group R, Division 1 apartment buildings which are located on floors other than the ground floor where no elevator is provided within the building need not comply with standards for Type B dwelling units; provided:
2.1. Where the ground floor is not a Group R Occupancy, the first level of Group R Occupancy, including dwelling units, shall be accessible; and
2.2. The number of Type A dwelling units provided shall not be reduced below the number required by Table No. 11-B. See also Section 1105.3.1.
3. Dwelling units with two or more stories in a non-elevator building need not comply with standards for Type B dwelling units.
4. For sites where multiple, non-elevator buildings are planned for a single site and where portions of the site have grades prior to development which exceed 10 percent, the building official may approve the following modifications:
4.1. Number of Dwelling Units:
4.1.1. The number of Type B dwelling units provided may be reduced to a percentage of the ground floor units which is equal to the percentage of the entire site having grades prior to development which are 10 percent or less; but in no case shall the number of Type B dwelling units be less than 20 percent of the ground floor dwelling units on the entire site; and
4.1.2. The number of Type A dwelling units provided shall not be reduced below the number required by Table No. 11-B; and
4.2. Both Type A and B dwelling units may be located in the building or buildings located on the portion of the site where the grade prior to development has slopes of 10 percent or less; and
4.3. Common-use facilities accessory to buildings not required to contain either Type A or B dwelling units in accordance with Item 4.1.1, above, need not be accessible unless there are no other similar facilities provided on the site.
See also Appendix Chapter 11, Division I.

1103.1.8.3 Hotels and lodging houses. In all hotels and lodging houses, accessible guest rooms, including associated bathing, shower, and toilet facilities, shall be provided in accordance with Table 11-C. In addition, sleeping rooms or suites for persons with hearing impairments shall be provided in accordance with Table 11-D. In addition, public- and common-use areas of all hotels and lodging houses shall be accessible.

EXCEPTION: Group R, Division 3 lodging houses that are occupied by the owner or proprietor of the lodging house.

Required sleeping rooms for persons with hearing impairments shall have visible alarms complying with Section 1106.15. Such rooms shall have installed telephones complying with Section 1106.14.3, and an electrical outlet installed within 48 inches (1220 mm) of the telephone connection. Such rooms shall have devices separate from the visible alarm system which provide

visible notification of incoming telephone calls and door bell actuation.

Where provided in accessible guest rooms the following facilities shall be accessible: dining areas; kitchens; kitchenettes; wet bars; patios; balconies; terraces; or similar facilities.

1103.1.8.4 Proportional distribution. Accessible dwelling units shall be apportioned among efficiency dwelling units, single bedroom units and multiple bedroom units, in proportion to the numbers of such units in the building. Accessible hotel guest rooms shall be apportioned among the various classes of sleeping accommodations.

1103.1.8.5 Congregate residences. In congregate residences with multi-bed rooms or spaces, a percentage equal to the minimum number of accessible rooms required by Table No. 11-C shall be accessible in accordance with Section 1106.26.

EXCEPTION: Congregate residences with 10 or fewer occupants need not be accessible.

1103.1.9 Other parking facilities. Principal use parking facilities which are not accessory to the use of any building or structure shall provide accessible spaces in accordance with Table No. 11-F.

1103.2 Design and Construction.

1103.2.1 General. When accessibility is required by this chapter, it shall be designed and constructed in accordance with this chapter.

1103.2.2 Accessible route of travel. When a building, or portion of a building, is required to be accessible, an accessible route of travel shall be provided to all portions of the building, to accessible building entrances, and connecting the building and the public way. The accessible route of travel to areas of primary function may serve but shall not pass through kitchens, storage rooms, toilet rooms, bathrooms, closets, or other similar spaces.

EXCEPTIONS:
1. A single accessible route shall be permitted to pass through a kitchen or storage room in an accessible dwelling unit.
2. An accessible route of travel need not be provided between floor levels, provided that:
All floor levels in the building contain less than 3,000 square feet (278.7 m^2) each; or
Where only two floor levels are provided, either floor is less than 3,000 square feet (278.7 m^2).
This exception shall not apply to:
2.1. The offices of health care providers; or,
2.2. Transportation facilities and airports; or,
2.3. Buildings owned or leased by government agencies; or
2.4. Multi-tenant Group M retail and wholesale occupancies of five tenant spaces or more.
3. For sites where natural terrain or other unusual property characteristics do not allow the provisions of an accessible route of travel from the public way to the building, the point of vehicular debarkation may be substituted for the accessible entrance to the site.
(For Group R, Division 1 occupancies, see Section 1105.3.1.)

Accessible routes of travel serving any accessible space or element shall also serve as a means of egress for emergencies or connect to an area of evacuation assistance.

Where more than one building or facility is located on a site, accessible routes of travel shall connect accessible buildings and accessible site facilities. The accessible route of travel shall be the most practical direct route connecting accessible building entrances, accessible site facilities and the accessible site entrances.

1103.2.3 Primary entrance access. At least 50% of all public entrances, or a number equal to the number of exits required by Section 1003.1, whichever is greater, shall be accessible. One of the accessible public entrances shall be the primary entrance to a building. At least one accessible entrance must be a ground floor entrance. Public entrances do not include loading or service entrances.

EXCEPTION: In Group R, Division 1 apartment buildings only the primary entrance need be accessible, provided that the primary entrance provides an accessible route of travel to all dwelling units required to be accessible.

Where a building is designed not to have common or primary entrances, the primary entrance to each individual dwelling unit required to be accessible, and each individual tenant space, shall be accessible.

1103.2.4 Signs.

1103.2.4.1 International Symbol of Access. The following elements and spaces of accessible facilities shall be identified by the International Symbol of Access:

1. Accessible parking spaces.

2. Accessible entrance when not all entrances are accessible (inaccessible entrances shall have directional signage to indicate the route to the nearest accessible entrance).

EXCEPTION: Individual entrances into dwelling units.

3. Accessible passenger loading zone(s).

4. Accessible toilet and bathing facilities when not all are accessible.

EXCEPTION: Toilet and bathing facilities within dwelling units, patient rooms and guest rooms.

At every major junction along or leading to an exterior accessible route of travel, there shall be a sign displaying the International Symbol of Access. Signage shall indicate the direction to accessible entrance and facilities.

See also Sections 1103.1.2.1, 1104.2.5 and 1106.24.3.

1103.2.4.2 Other signs. Where provided, signs which identify permanent rooms and spaces shall comply with Sections 1106.16.2, 1106.16.3 and 1106.16.5. Where provided, other signs which provide direction to or information about the building or portion of a building shall comply with Sections 1106.16.3 and 1106.16.4.

EXCEPTION: Building directories and all temporary signs.

In hotels and lodging houses, a list of accessible guest rooms shall be posted permanently in a location not visible to the general public, for staff use at each reception or check-in desk.

In assembly areas, a sign notifying the general public of the availability of accessible seating and assistive listening systems shall be provided at ticket offices or similar locations.

NEW SECTION

WAC 51-30-1104 Section 1104--Egress and areas of evaculation assistance.

Section 1104.1 General. In buildings or portions of buildings required to be accessible, accessible means of egress shall be provided in the same number as required for exits by Chapter 10. When an exit required by Chapter 10 is not accessible, an area for evacuation assistance shall be provided.

EXCEPTION: Areas of evacuation assistance are not required in buildings where an approved, automatic fire-extinguishing system is installed in accordance with U.B.C. Standard No. 9-1, provided that quick-response sprinkler heads are used where allowed by the standard; and that a written fire- and life-safety emergency plan, which specifically addresses the evacuation of persons with disabilities, is approved by the building official and the fire chief.

Every area for evacuation assistance shall comply with the requirements of this code and shall adjoin an accessible route of travel which shall comply with Section 1106.

1104.2 Areas for Evacuation Assistance.

1104.2.1 Location and construction. An area for evacuation assistance shall be one of the following:

1. A portion of a landing within a smokeproof enclosure, complying with Section 1110.

2. A portion of an exterior exit balcony, located immediately adjacent to an exit stairway, when the exterior exit balcony complies with Section 1005. Openings to the interior of the building located within 20 feet (6096 mm) of the area for evacuation assistance shall be protected with fire assemblies having a three-fourths-hour fire-protection rating.

3. A portion of a one-hour fire-resistive corridor complying with Sections 1005.7 and 1005.8 located immediately adjacent to an exit enclosure.

4. A vestibule located immediately adjacent to an exit enclosure and constructed to the same fire-resistive standards as required by Section 1005.7 and 1005.8.

5. A portion of a stairway landing within an exit enclosure which is vented to the exterior and is separated from the interior of the building by not less than one-hour fire-resistive door assemblies.

6. When approved by the building official, an area or room which is separated from other portions of the building by a smoke barrier. Smoke barriers shall have a fire-resistive rating of not less than one hour and shall completely enclose the area or room. Doors in the smoke barrier shall be tight-fitting smoke- and draft-control assemblies having a fire-protection rating of not less than 20 minutes and shall be self-closing or automatic closing. The area or room shall be provided with an exit directly to an exit enclosure. When the room or area exits into an exit enclosure which is required to be of more than one-hour fire-resistive construction, the room or area shall have the same fire-resistive construction, including the same opening protection, as required for the adjacent exit enclosure.

7. An elevator lobby complying with Section 1104.4.

1104.2.2 Size. Each area for evacuation assistance shall provide at least two wheelchair spaces not smaller than 30 inches by 48 inches (760 mm by 1220 mm) for each space. The area for evacuation assistance shall not encroach on any required exit width. The total number of such wheelchair spaces per story shall not be less than 1 for every 200 persons of calculated occupant load served by the area for evacuation assistance.

EXCEPTION: The building official may reduce the minimum number of 30-inch (760 mm) by 48-inch (1220 mm) areas to one for each area for evacuation assistance on floors where the occupant load is less than 200.

1104.2.3 Stairway width. Each stairway adjacent to an area for evacuation assistance shall have a minimum clear width of 48 inches (1220 mm) between handrails.

1104.2.4 Two-way communication. A telephone with controlled access to a public telephone system or another method of two-way communication shall be provided between each area for evacuation assistance and the primary entrance. The telephone or other two-way communication system shall be located with the reach ranges specified in Section 1106.2.4. The fire department may approve location other than the primary entrance. The communication system shall not require voice communication.

1104.2.5 Identification. Each area for evacuation assistance shall be identified by a sign which states: **AREA FOR EVACUATION ASSISTANCE** and the International Symbol of Access. The sign shall be illuminated when exit sign illumination is required. The sign shall comply with Sections 1013.3 and 1013.4. In each area for evacuation assistance, instructions on the use of the area under emergency conditions shall be posted adjoining the two-way communication system.

1104.3 Accessible Exits. All exterior exits which are located adjacent to accessible areas and within 6 inches (152 mm) of grade shall be accessible.

1104.4 Area for Evacuation Assistance, High-rise Alternative. Within a building of any height or occupancy, constructed in accordance with the requirements of Section 403, an area for evacuation assistance may be located in the elevator lobby, or adjacent to the elevator where no lobby is required, when:

1. The area for evacuation assistance complies with the requirements for size, two-way communication and identification as specified in Section 1104.2; and,

2. Elevator shafts are pressurized as required for smokeproof enclosures in Section 1009. Such pressurization system shall be activated by smoke detectors on each floor located in a manner approved by the building official. Pressurization equipment and its ductwork within the building shall be separated from other portions of the building by a minimum of two-hour fire-resistive construction.

3. The manager of the building has established and maintains a written fire- and life-safety emergency plan which, in addition to other provisions, shall specifically address the evacuation of persons with disabilities. Such plan shall be approved by the building official and the fire chief.

NEW SECTION

WAC 51-30-1105 Section 1105--Facility accessibility.

Section 1105.1 General. Where buildings are required to be accessible, building facilities shall be accessible to persons with disabilities as provided in this section. For Group R, Division 1 apartment buildings, where specific floors of a building are required to be accessible, the requirements shall apply only to the facilities located on accessible floors.

All building facilities or elements required by this section to be accessible shall be designed and constructed in accordance with Section 1106.

1105.2 Bathing and Toilet Facilities.

1105.2.1 Bathing facilities. When bathing facilities are provided, at least 2 percent, but not less than 1, bathtub or shower shall be accessible. In dwelling units where a separate bathtub and shower are provided in the same room, at least one shall be accessible.

1105.2.2 Toilet facilities. Toilet facilities located within accessible dwelling units, guest rooms, and congregate residences shall comply with Sections 1106.11 and 1106.27.

EXCEPTION: Within accessible dwelling units, only one toilet facility need be accessible.

In each toilet facility in other occupancies, at least one wheelchair accessible toilet stall with an accessible water closet shall be provided. In addition, when there are 6 or more water closets within a toilet facility, at least one ambulatory accessible toilet stall complying with Section 1106.11.4 shall also be installed.

Where urinals are provided, at least one urinal shall be accessible.

1105.2.3 Lavatories, mirrors and towel fixtures. At least one accessible lavatory shall be provided within any toilet facility. Where mirrors, towel fixtures and other toilet and bathroom accessories are provided, at least one of each shall be accessible.

1105.2.4 Adaptable fixtures in dwelling units. See Section 1106.27.2 for adaptable fixtures in dwelling units.

1105.3 Elevators, Platform Lifts and Stairways.

1105.3.1 Elevators.

1105.3.1.1 Where required. In multi-story buildings or portions thereof required to be accessible by Section 1103, at least one elevator shall serve each level, including mezzanines. Other than within an individual dwelling unit, where an elevator is provided but not required, it shall be accessible.

EXCEPTIONS:
1. In Group R, Division 1 apartment occupancies, an elevator is not required where accessible dwelling units and guest rooms are accessible by ramp or by grade level route of travel.
2. In a building of fewer than three stories, an elevator is not required where ramps, grade-level entrances or accessible horizontal exits from an adjacent building, are provided to each floor.
3. In multi-story parking garages, an elevator is not required where an accessible route of travel is provided from accessible parking spaces on levels with accessible horizontal connections to the primary building served.
4. In Group R, Division 1 hotels and lodging houses, less than 3 stories in height, an elevator is not required, provided that all accessible guest rooms are located on the ground floor.

1105.3.1.2 Design. All elevators shall be accessible.

EXCEPTIONS: 1. Private elevators serving only one dwelling unit.
2. Where more than one elevator is provided in the building, elevators used exclusively for movement of freight.

Elevators required to be accessible shall be designed and constructed to comply with Chapter 296-81 of the Washington Administrative Code.

1105.3.2 Platform lifts. Platform lifts may be used in lieu of an elevator under one of the following conditions subject to approval by the building official:

1. To provide an accessible route of travel to a performing area in a Group A Occupancy; or,

2. To provide unobstructed sight lines and distribution for wheelchair viewing positions in Group A Occupancies; or

3. To provide access to spaces with an occupant load of less than 5 that are not open to the public; or,

4. To provide access where existing site or other constraints make use of a ramp or elevator infeasible.

All platform lifts used in lieu of an elevator shall be capable of independent operation and shall comply with Chapter 296-81 of the Washington Administrative Code.

1105.3.3 Stairways. Stairways shall comply with Section 1106.9.

1105.4 Other Building Facilities.

1105.4.1 Water fountains. On any floor where water fountains are provided, at least 50 percent, but in no case less than one fountain, shall be accessible complying with Section 1106.13 and at least one fountain shall be mounted at a standard height.

1105.4.2 Telephones. On any floor where public telephones are provided at least one telephone shall be accessible. On any floor where 2 or more banks of multiple telephones are provided, at least one telephone in each bank shall be accessible and at least one telephone per floor shall be designed to allow forward reach complying with Section 1106.2.4.5.

Where any bank of public telephones consists of 3 or more telephones, at least one telephone in each bank shall be equipped with a shelf and electrical outlet complying with Section 1106.14.7.

All accessible telephones and at least 25 percent of all other public telephones, but in no case less than one, shall be provided with volume controls in accordance with Section 1106.14.3 and shall be dispersed among the public telephones provided in the building.

Where four or more public telephones are provided at a building site, and at least one is in an interior location, at least one interior telephone shall be a text telephone in accordance with Section 1106.14.

Where interior public pay phones are provided in transportation facilities; assembly and similar areas including stadiums and arenas; convention centers; hotels with convention facilities; or covered malls; or in or adjacent to hospital emergency, recovery, or waiting rooms; at least one interior text telephone shall be provided.

1105.4.3 Kitchens. Kitchens within accessible dwelling units shall be designed in accordance with Sections 1106.12 and 1106.27.

EXCEPTION: Kitchens in Type B dwelling units need not comply with Section 1106.12.1 (See Section 1106.27.1).

Kitchens, kitchenettes, or wet bars in other than dwelling units, which are provided accessory to a sleeping room, guest room, or suite, shall be designed in accordance with Section 1106. Countertops and sinks shall be no more than 34 inches (865 mm) above the finished floor. At least 50 percent of shelf space in cabinets and appliances shall be within the reach ranges of Section 1106.2.4.

1105.4.4 Recreation facilities. Where common- or public-use recreational facilities, swimming pools, hot tubs, spas, and similar facilities are provided, they shall be accessible. Swimming pools shall be accessible by transfer tier, hydraulic chair, ramp, or other means. Hot tubs and spas need be accessible only to the edge of the facility.

EXCEPTION: Common- or public-use facilities accessory to buildings not required to contain either Type A or Type B dwelling units in accordance with Section 1103.1.8.2.

1105.4.5 Fixed or built-in seating or tables. Where fixed or built-in seating or tables are provided, at least 5 percent, but no fewer than one, shall be accessible. Accessible fixed or built-in seating or tables shall comply with Section 1106.19. In eating and drinking establishments, such seating or tables shall be distributed throughout the facility.

1105.4.6 Storage facilities. In other than Group R, Division 1 apartment buildings, where fixed or built-in storage facilities such as cabinets, shelves, closets, and drawers are provided in accessible spaces, at least one of each type provided shall contain storage space complying with Section 1106.18.

1105.4.7 Customer service facilities.

1105.4.7.1 Dressing and fitting rooms. Where dressing or fitting rooms are provided for use by the general public, patients, customers or employees, 5 percent, but not less than one, in each group of rooms serving distinct and different functions shall be accessible in accordance with Section 1106.24.

1105.4.7.2 Counters and windows. Where customer sales and service counters or windows are provided, a portion of the counter, or at least one window, shall be accessible in accordance with Section 1106.24.2.

1105.4.7.3 Shelving and display. Self-service shelves or display units in retail occupancies shall be located on an accessible route of travel in accordance with Section 1103.2.2. Not all self-service shelves and display units need be located within reach ranges required by Section 1106.2.4.

1105.4.7.4 Check-out aisles. Accessible check-out aisles shall be installed in accordance with Table No. 11-E and Section 1106.24.3.

1105.4.7.5 Food service lines. Where self-service shelves are provided in dining and drinking establishments, at least 50 percent of each type shall comply with Sections 1106.2 and 1106.22.

1105.4.8 Controls, operating mechanisms, and hardware. Controls, operating mechanisms, and hardware, including; switches that

control lighting, ventilation or electrical outlets; in accessible spaces, along accessible routes or as parts of accessible elements, shall comply with Section 1106.3.

1105.4.9 Alarms. Where provided, alarm systems shall include both audible and visible alarms. Visible alarm devices shall be located in all assembly areas; common-use areas, including toilet rooms and bathing facilities; hallways and lobbies; and hotel guest rooms as required by Section 1103.1.8.3.

EXCEPTIONS: 1. Alarm systems in Group I, Division 1.1 and 2 Occupancies may be modified to suit standard health care design practice.
2. Visible alarms are not required in Group R, Division 1 apartment buildings.

NEW SECTION

WAC 51-30-1106 Section 1106--Accessible design and standards.

Section 1106.1 General. Where accessibility is required by this chapter, buildings and facilities shall be designed and constructed in accordance with this section, unless otherwise specified in this chapter.

1106.2 Space Allowance and Reach Ranges.

1106.2.1 Wheelchair passage width. The minimum clear width for single wheelchair passage shall be 36 inches (915 mm). The minimum width for two wheelchairs to pass is 60 inches (1525 mm).

EXCEPTION: The minimum width for single wheelchair passage may be 32 inches (815 mm) for a maximum distance of 24 inches (610 mm).

1106.2.2 Wheelchair turning spaces. Wheelchair turning spaces shall be designed and constructed to satisfy one of the following requirements:

1. A turning space not less than 60 inches (1525 mm) in diameter; or,

2. A turning space at T-shaped intersections or within a room, where the minimum width is not less than 36 inches (915 mm). Each segment of the T shall be clear of obstructions not less than 24 inches (610 mm) in each direction.

Wheelchair turning space may include knee and toe clearance in accordance with Section 1106.2.4.3.

1106.2.3 Unobstructed floor space. A floor space, including the vertical space above such floor space, which is free of any physical obstruction including door swings, to a height of 29 inches (737 mm). Where a pair of doors occurs, the swing of the inactive leaf may be considered to be unobstructed floor space. Unobstructed floor space may include toe spaces that are a minimum of 9 inches (230 mm) in height and not more than 6 inches (152 mm) in depth.

1106.2.4 Clear floor or ground spaces and maneuvering clearance space for wheelchairs.

1106.2.4.1 Size. The minimum clear floor or ground space required to accommodate a single, stationary wheelchair occupant shall be not less than 30 inches (760 mm) by 48 inches (1220 mm).

1106.2.4.2 Approach. Wheelchair spaces shall be designed to allow for forward or parallel approach to an accessible feature.

1106.2.4.3 Knee and toe clearances. Spaces under obstructions, work surfaces or fixtures may be included in the clear floor or ground space provided that they are at least 30 inches (760 mm) in width, a minimum of 27 inches (685 mm) in height, and not greater than 25 inches (635 mm) in depth. Toe spaces under obstructions, work surfaces or fixtures which comply with the requirements for unobstructed floor space may be included in the clear floor or ground space.

1106.2.4.4 Approach to wheelchair spaces. One full unobstructed side of the clear floor or ground space for a wheelchair shall adjoin or overlap an accessible route of travel, or shall adjoin another wheelchair clear space. Clear space located in an alcove or otherwise confined on all or part of three sides shall be not less than 36 inches (915 mm) in width where forward approach is provided, or 60 inches (1525 mm) in width where parallel approach is provided.

1106.2.4.5 Forward reach. Where the clear floor space allows only forward approach to an object, the maximum forward reach allowed shall not be higher than 48 inches (1220 mm). Reach obstructions 20 inches (510 mm) or less in depth may project into the clear space provided that knee clearance is maintained in accordance with Section 1106.2.4.3. Reach obstructions greater than 20 inches (510 mm) in depth may project into the clear space provided that the reach obstruction shall not exceed 25 inches (635 mm) in depth and the maximum forward reach shall not exceed 44 inches (1118 mm) in height. The minimum low forward reach shall not be lower than 15 inches (380 mm).

1106.2.4.6 Side reach. Where the clear floor space allows parallel approach by a person in a wheelchair, the maximum high side reach allowed shall not be higher than 54 inches (1370 mm). Obstructions no greater than 34 inches (865 mm) in height and no more than 24 inches (610 mm) in depth may be located in the side reach area provided that when such obstructions are present, the side reach shall not exceed 46 inches (1170 mm) in height. The minimum low side reach shall not be lower than 9 inches (230 mm).

1106.3 Controls and Hardware.

1106.3.1 Operation. Handles, pulls, latches, locks, and other operating devices on doors, windows, cabinets, plumbing fixtures, and storage facilities, shall have a lever or other shape which will permit operation by wrist or arm pressure and which does not require tight grasping, pinching or twisting to operate. Doors shall comply with Section 1004.

The force to activate controls on lavatories and water fountains and flush valves on water closets and urinals shall not be greater than 5 pounds (22.2 N).

1106.3.2 Mounting heights. The highest operable part of environmental and other controls, dispensers, receptacles, and other operable equipment shall be within at least one of the reach

ranges specified in Section 1106.2.4, and not less than 36 inches (915 mm) above the floor. Electrical and communications system receptacles on walls shall be mounted a minimum of 15 inches (380 mm) above the floor. Door hardware shall be mounted at not less than 36 inches (915 mm) and not more than 48 inches (1220 mm) above the floor.

1106.3.3 Clear floor space. Clear floor space that allows a forward or a side approach shall be provided at all controls or hardware.

1106.4 Accessible Route of Travel.

1106.4.1 Width. The minimum clear width of an accessible route of travel shall be 36 inches (915 mm) except at doors (see Section 1106.10.2). Where an accessible route includes a 180 degree turn around an obstruction which is less than 48 inches (1220 mm) in width, the clear width of the accessible route of travel around the obstruction shall be 42 inches (1065 mm) minimum. For exterior accessible routes of travel, the minimum clear width shall be 44 inches (1118 mm).

EXCEPTION: The minimum width for single wheelchair passage may be 32 inches (815 mm) for a maximum distance of 24 inches (610 mm).

Where an accessible route of travel is less than 60 inches (1525 mm) in width, passing spaces at least 60 inches (1525 mm) by 60 inches (1525 mm) shall be located at intervals not to exceed 200 feet (61 m). A T-shaped intersection of two corridors or walks may be used as a passing space.

1106.4.2 Height. Accessible routes shall have a clear height of not less than 79 inches (2007 mm). Where the vertical clearance of an area adjoining an accessible route of travel is less than 79 inches (2007 mm) but more than 27 inches (685 mm), a continuous permanent barrier shall be installed to prevent traffic into such areas of reduced clearance.

1106.4.3 Slope. An accessible route of travel shall have a running slope not greater than 1 vertical in 12 horizontal. An accessible route of travel with a running slope greater than 1 vertical in 20 horizontal shall comply with Section 1106.8. Cross slopes of an accessible route of travel shall not exceed 1 vertical in 48 horizontal.

1106.4.4 Changes in level. Changes in level along an accessible route of travel shall comply with Section 1106.6. Stairs or escalators shall not be part of an accessible route of travel. Any raised area within an accessible route of travel shall be cut through to maintain a level route or shall have curb ramps at both sides and a level area not less than 48 inches (1220 mm) long connecting the ramps.

1106.4.5 Surfaces.

1106.4.5.1 General. All floor and ground surfaces in an accessible route of travel shall comply with Section 1106.7.

1106.4.5.2 Detectable warnings. Curb ramps shall have detectable warnings complying with Section 1106.17. Detectable warnings shall extend the full width and depth of the curb ramp.

1106.4.6 Illumination. Illumination shall be provided along an exterior accessible route of travel at any time the building is

occupied, with a. intensity of not less than .e footcandle (10.76 lx) on the surface of the route.

1106.4.7 Curb ramps.

1106.4.7.1 Slope. Slopes of curb ramps shall comply with Section 1106.8. Transitions from ramps to walks, gutters, or vehicular ways shall be flush and free of abrupt changes in height. Maximum slopes of adjoining gutters and road surfaces immediately adjacent to the curb ramp or accessible route of travel shall not exceed 1 vertical in 20 horizontal.

1106.4.7.2 Width. Curb ramps shall be not less than 36 inches (915 mm) in width, exclusive of the required side slopes.

1106.4.7.3 Side slopes of curb ramps. Curb ramps located where pedestrians must walk across the ramp, or where not protected by handrails or guardrails, shall have sloped sides. The maximum side slope shall be 1 vertical in 10 horizontal. Curb ramps with returned curbs may be used where pedestrians would not normally walk across the ramp.

EXCEPTION: Where the width of the walking surface at the top of the ramp and parallel to the run of the ramp is less than 48 inches (1220 mm), the maximum side slope shall be 1 vertical in 12 horizontal.

1106.4.7.4 Location. Built-up curb ramps shall be located so as not to project into vehicular ways nor be located within accessible parking spaces.

1106.4.7.5 Obstructions. Curb ramps shall be located or protected to prevent their obstruction by parked vehicles.

1106.4.7.6 Location at marked cross walks. Curb ramps at marked cross walks shall be wholly contained within the markings, excluding any sloped sides.

1106.4.7.7 Orientation. Curb ramps shall be oriented in the same direction as pedestrian flow of crosswalks; diagonally oriented curb ramps are prohibited.

1106.4.8 Vehicular areas. Where an accessible route of travel crosses or adjoins a vehicular way, and where there are no curbs, railings or other elements which separate the pedestrian and vehicular areas, and which are detectable by a person who has a severe vision impairment, the boundary between the areas shall be defined by a continuous detectable warning not less than 36 inches (915 mm) wide, complying with Section 1106.17.

1106.5 Protruding Objects. Protruding objects shall not reduce the clear width of a route of travel or maneuvering space. Any wall- or post-mounted object with its leading edge between 27 inches (685 mm) and 79 inches (2007 mm) above the floor may project not more than 4 inches (102 mm) into a route of travel, corridor, passageway, or aisle. Any wall- or post-mounted projection greater than 4 inches (102 mm) shall extend to the floor.

1106.6 Changes in Level. Accessible routes of travel and accessible spaces within buildings shall have continuous common floor or ramp surfaces. Abrupt change in height greater than 1/4 inch (6 mm) shall be beveled to 1 vertical in 2 horizontal. Changes in level greater than 1/2 inch (13 mm) shall be accomplished by means of a ramp meeting the requirements of Section 1106.8, a curb ramp meeting the requirements of Section 1106.4.7,

or an elevator or platform lift meeting the requirements of Section 1105.3. For Type B dwelling units, see also Section 1106.27.

1106.7 Floor Coverings and Surface Treatments.

1106.7.1 General. All surfaces shall be firm and stable.

1106.7.2 Carpeting. Carpeting and floor mats in accessible areas shall be securely fastened to the underlying surface, and shall provide a firm, stable, continuous, and relatively smooth surface.

1106.7.3 Slip-resistant surfaces. Showers; locker rooms; swimming pool, spa, and hot tub decks; toilet rooms; and other areas subject to wet conditions shall have slip-resistant floors.

Exterior accessible routes of travel shall have slip-resistant surfaces.

1106.7.4 Grates. Within an accessible route of travel, grates shall have openings not more than 1/2 inch (13 mm) in one direction. Where grates have elongated openings, they shall be placed so that the long dimension is perpendicular to the dominant direction of travel. The maximum vertical surface change shall be 1/8 inch (3 mm).

1106.7.5 Expansion and construction joints. Expansion and construction joints in exterior routes of travel shall have a width of not more than 1/2 inch (13 mm), shall be filled with a firm, compressible, elastic material, and shall be substantially level with the surface of the accessible route of travel.

1106.8 Ramps.

1106.8.1 General. Ramps required to be accessible shall comply with Section 1007 and the provisions of this section. No ramp shall change direction between landings, except ramps with an inside radius of 30 feet (9144 mm) or greater.

1106.8.2 Slope and rise. The maximum slope of a ramp shall be 1 vertical in 12 horizontal. The maximum rise for any run shall be 30 inches (760 mm).

1106.8.3 Width. The minimum width of a ramp shall be not less than 36 inches (915 mm) for interior ramps and 44 inches (1118 mm) for exterior ramps.

1106.8.4 Landings. Ramps within the accessible route of travel shall have landings at the top and bottom, and at least one intermediate landing shall be provided for each 30 inches (760 mm) of rise. Landings shall be level and have a minimum dimension measured in the direction of ramp run of not less than 60 inches (1525 mm). Where the ramp changes direction at a landing, the landing shall be not less than 60 inches (1525 mm) by 60 inches (1525 mm). The width of any landing shall be not less than the width of the ramp.

1106.8.5 Handrails. Ramps having slopes steeper than 1 vertical to 20 horizontal shall have handrails as required for stairways, except that intermediate handrails as required in Section 1006.9 are not required. Handrails shall be continuous provided that they shall not be required at any point of access along the ramp, nor at any curb ramp. Handrails shall extend at least 12 inches (305 mm) beyond the top and bottom of any ramp run.

EXCEPTION: Ramps having a rise less than or equal to 6 inches (152 mm), or a run less than or equal to 72 inches (1830 mm), need not have handrails.

1106.8.6 Exterior ramps. Exposed ramps and their approaches shall be constructed to prevent the accumulation of water on walking surfaces.

1106.8.7 Edge protection. Any portion of the edge of a ramp with a slope greater than 1 vertical in 20 horizontal, or landing which is more than 1/2 inch (13 mm) above the adjacent grade or floor, shall be provided with edge protection in accordance with the following:

1. **Walls and Curbs.** When used, walls or curbs shall be not less than 2 inches (51 mm) in height above the surface of the accessible route of travel.

2. **Railings.** When used, railings shall comply with Section 1106.8.5 and also shall have one of the following features:

2.1. An intermediate rail mounted 17 to 19 inches (430 to 485 mm) above the ramp or landing surface, or

2.2. A guardrail complying with Section 509.

1106.9 Stairways.

1106.9.1 General. Stairways required to be accessible shall comply with Section 1006 and provisions of this section.

1106.9.2 Open risers. Open risers shall not be permitted.

EXCEPTION: Stairways in Group R, Division 1 apartment buildings may have open risers.

1106.9.3 Nosings. Stair nosings shall be flush, slip-resistant, and rounded to a radius of 1/2 inch (13 mm) maximum. Risers shall be sloped, or the underside of the nosing shall have an angle of not less than 60 degrees from the horizontal. Nosings shall project no more than 1-1/2 inches (38 mm).

1106.9.4 Exterior stairways. Exposed stairways and their approaches shall be constructed to prevent the accumulation of water on walking surfaces.

1106.10 Doors.

1106.10.1 General. Doors required to be accessible shall comply with Section 1004 and with provisions of this section. For the purpose of this section, gates shall be considered to be doors. An accessible gate or door shall be provided adjacent to any turnstile or revolving door. Where doorways have two independently operated door leaves, then at least one leaf shall comply with this section.

1106.10.2 Clear width. Doors shall be capable of being opened so that the clear width of the opening is not less than 32 inches (815 mm).

EXCEPTION: Doors not requiring full user passage, such as shallow closets, may have a clear opening of not less than 20 inches (510 mm).

1106.10.3 Maneuvering clearances at doors. Except as provided in Section 1106.27, all doors shall have minimum maneuvering clearances as follows:

1. For a forward approach, where a door must be pulled to be opened, an unobstructed floor space shall extend at least 18 inches

(455 mm) beyond the strike jamb and extend at least 60 inches (1525 mm) perpendicular to the doorway.

2. For a forward approach, where a door must be pushed to be opened and is equipped with a closer and a latch, an unobstructed floor space shall extend at least 12 inches (305 mm) beyond the strike jamb and extend at least 48 inches (1220 mm) perpendicular to the doorway.

3. For a forward approach, where a door must be pushed to be opened and is not equipped with a closer and a latch, an unobstructed floor space shall be at least the width of the doorway and extend at least 48 inches (1220 mm) perpendicular to the doorway.

4. For a hinge side approach, where a door must be pulled to be opened, an unobstructed floor space shall extend at least 36 inches (915 mm) beyond the latch side of the door and at least 60 inches (1525 mm) perpendicular to the doorway, or shall have an unobstructed floor space that extends at least 42 inches (1065 mm) beyond the latch side of the door and at least 54 inches (1370 mm) perpendicular to the doorway.

5. For a hinge side approach, where a door must be pushed to be opened and is not equipped with both a closer and a latch, an unobstructed floor space, measured from the latch side, shall extend across the width of the doorway and beyond the hinge side of the door for a total width of not less than 54 inches (1370 mm); and at least 42 inches (1065 mm) perpendicular to the doorway.

6. For a hinge side approach, where a door must be pushed to be opened and is equipped with both latch and closer, an unobstructed floor space, measured from the latch side, shall extend across the width of the doorway and beyond the hinge side of the door for a total width of not less than 54 inches (1370 mm); and at least 48 inches (1220 mm) perpendicular to the doorway.

7. For a latch side approach, where a door must be pulled to be opened and is equipped with a closer, an unobstructed floor space shall extend at least 24 inches (610 mm) beyond the latch side of the door and at least 54 inches (1370 mm) perpendicular to the doorway.

8. For a latch side approach, where a door must be pulled to be opened and is not equipped with a closer, an unobstructed floor space shall extend at least 24 inches (610 mm) beyond the latch side of the door and at least 48 inches (1220 mm) perpendicular to the doorway.

9. For a latch side approach, where a door must be pushed to be opened and is equipped with a closer, an unobstructed floor space shall extend at least 24 inches (610 mm) beyond the latch side of the door and at least 48 inches (1370 mm) perpendicular to the doorway.

10. For a latch side approach, where a door must be pushed to be opened and is not equipped with a closer, an unobstructed floor space shall extend at least 24 inches (610 mm) parallel to the doorway, beyond the latch side of the door and at least 42 inches (1065 mm) perpendicular to the doorway.

11. For a forward approach, to a sliding or folding door, an unobstructed floor space shall extend the same width as the door opening and at least 48 inches (1220 mm) perpendicular to the doorway.

12. For a slide side approach to a sliding or folding door, an unobstructed floor space, measured from the latch side, shall extend across the width of the doorway and beyond the slide side of the door for a total width of not less than 54 inches (1370 mm); and at least 42 inches (1065 mm) perpendicular to the doorway.

13. For a latch side approach to a sliding or folding door, an unobstructed floor space shall extend at least 24 inches (610 mm) beyond the latch side of the door and at least 42 inches (1065 mm) perpendicular to the doorway.

14. Where two doors are in series, the minimum distance between two hinged or pivoted doors shall be 48 inches (1220 mm), in addition to any area needed for door swing. Doors in series shall swing either in the same direction, or away from the space between the doors.

15. All doors in alcoves shall comply with the requirement for a forward approach.

1106.10.4 Thresholds at doors. Thresholds at doors shall comply with Section 1106.6.

EXCEPTION: In dwelling units, exterior doors other than the accessible entrance to a dwelling unit, may be sliding doors with thresholds not exceeding 3/4 inch (19 mm).

1106.10.5 Automatic and power-assisted doors. Door-closers or power-operators shall be operable as required by Section 1004.8.

EXCEPTION: Floor pad or electric eye actuated power operators.

All power-operated doors shall remain in the fully open position for not less than 6 seconds before closing. Touch switches shall be mounted 36 inches (915 mm) above the floor and not less than 18 inches (455 mm), nor more than 36 inches (915 mm), horizontally from the nearest point of travel of the moving door. Other power-operated doors must be actuated from a location not less than 36 inches (915 mm) from the nearest point of travel of the moving door. Power-operated doors shall automatically reopen when they encounter an obstruction other than the strike jamb.

1106.10.6 Door closers. Where provided, door closers shall be adjusted to close from an open position of 70 degrees to a point 3 inches (76 mm) from the latch, in not less than 3 seconds, when measured to the leading edge of the door.

1106.10.7 Vision panels. Where a door contains one or more vision panels, the bottom of the glass of at least one panel, shall be not more than 40 inches (1015 mm) above the floor.

1106.11 Bathrooms, Toilet Rooms, Bathing Facilities, and Shower Rooms.

1106.11.1 General. Bathrooms, toilet rooms, bathing facilities, and shower rooms shall be designed in accordance with this section. For dwelling units, see also Section 1106.27.

1106.11.2 Unobstructed floor space. An unobstructed floor space shall be provided within bathrooms, toilet rooms, bathing facilities, and shower rooms of sufficient size to inscribe a

circle with a diameter not less than 60 inches (1525 mm). Doors in any position may encroach into this space by not more than 12 inches (305 mm). The clear floor spaces at fixtures, the accessible route of travel, and the unobstructed floor space may overlap.

1106.11.3 Wheelchair accessible toilet stalls.

1106.11.3.1 Dimensions. Wheelchair accessible toilet stalls shall be at least 60 inches (1525 mm) in width. Where wall-hung water closets are installed, the depth of the stall shall be not less than 56 inches (1420 mm). Where floor-mounted water closets are installed, the depth of the stall shall be not less than 59 inches (1500 mm). Entry to the compartment shall have a clear width of 32 inches (815 mm). Toilet stall doors shall not swing into the clear floor space required for any fixture. Except for door swing, a clear unobstructed access not less than 48 inches (1220 mm) in width shall be provided to toilet stalls.

EXCEPTION: Partitions may project not more than one inch, in the aggregate, into the required width of the stall.

1106.11.3.2 Toe clearances. In any toilet stall, the front partition and at least one side partition shall provide a toe clearance of at least 9 inches (230 mm) above the floor.

EXCEPTION: Toe clearance is not required in a stall with a depth greater than 60 inches (1525 mm).

1106.11.3.3 Door hardware. Doors of accessible toilet stalls shall comply with Section 1106.3.

1106.11.4 Ambulatory accessible toilet stalls. Ambulatory accessible toilet stalls shall be at least 36 inches (915 mm) in width, with an outward swinging, self-closing door. Grab bars shall be installed on each side of the toilet stall and shall comply with Sections 1106.11.5.3 and 1106.11.11.

1106.11.5 Water closets.

1106.11.5.1 Clear floor space. The lateral distance from the center line of the water closet to the nearest obstruction, excluding grab bars, shall be 18 inches (455 mm) on one side and not less than 42 inches (1065 mm) on the other side. In other than stalls, a clear floor space of not less than 32 inches (815 mm), measured perpendicular to the wall on which the water closet is mounted, shall be provided in front of the water closet.

EXCEPTION: In other than a toilet stall, a lavatory may be located within the clear floor space required for a water closet provided that knee and toe clearances for the lavatory comply with Section 1106.11.7, below, and:
1. In Type B dwelling units the edge of the lavatory shall be located not less than 15 inches (380 mm) from the centerline of the water closet; or,
2. In all other occupancies the edge of the lavatory shall be located not less than 18 inches (455 mm) from the centerline of the water closet.

1106.11.5.2 Height. The height of water closets shall be a minimum of 17 inches (430 mm) and a maximum of 19 inches (485 mm) measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

1106.11.5.3 Grab bars. Grab bars shall be installed at one side and at the back of the water closet. The top of grab bars shall be not less than 33 inches (840 mm) and not more than 36 inches (915 mm) above and parallel to the floor. Grab bars located at the side shall be a minimum 42 inches (1065 mm) in length located not more than 12 inches (305 mm) from the rear wall and extending at least 54 inches (1370 mm) from the rear wall. Grab bars located at the

back shall be a minimum of 36 inches (915 mm, in length and shall extend at least 12 inches (305 mm) beyond the center of the water closet toward the side wall and at least 24 inches (610 mm) toward the open side of the water closet. Grab bars located at the back shall be mounted not more than 9 inches (230 mm) behind the water closet seat. See also Section 1106.11.11.

1106.11.5.4 Flush controls. Flush controls shall be mounted for use from the wide side of the water closet area and not more than 44 inches (1118 mm) above the floor. Flush valves shall comply with Section 1106.3.

1106.11.5.5 Dispensers and receptacles. Toilet paper and other dispensers or receptacles shall be installed within easy reach of the water closet, and shall not interfere with unobstructed floor space or grab bar utilization.

1106.11.6 Urinals. A clear floor space measuring 30 inches (760 mm) in width by 48 inches (1220 mm) in depth shall be provided in front of urinals to allow for forward approach. Urinal shields shall have a clear space between them of not less than 29 inches (737 mm) and shall not extend farther than the front edge of the urinal rim. Urinals shall be stall-type or wall-hung with an elongated rim at a maximum of 17 inches(430 mm) above the floor. Flush controls shall be mounted not more than 44 inches(1118 mm) above the floor. Flush valves shall comply with Section 1106.3.

1106.11.7 Lavatories and sinks.

1106.11.7.1 Clear floor space. A clear floor space not less than 30 inches (760 mm) in width by 48 inches (1220 mm) in depth shall be provided in front of lavatories and sinks to allow a forward approach. The clear floor space may include knee and toe clearances not to exceed 19 inches (485 mm) extending under the lavatory or sink.

1106.11.7.2 Height. Lavatories and sinks shall be mounted with the rim or counter surface no higher than 34 inches (865 mm) above the finished floor.

1106.11.7.3 Knee and toe clearances.

1106.11.7.3.1 Lavatories. The total depth of the clear space beneath a lavatory shall be not less than 17 inches (430 mm), of which toe clearance shall be not more than 6 inches (152 mm) of the total depth. Knee clearance shall be not less than 29 inches (237 mm) in height and 30 inches (760 mm) in width.

1106.11.7.3.2 Sinks. Knee clearance not less than 27 inches (685 mm) in height, 30 inches (760 mm) in width, and 19 inches (485 mm) in depth shall be provided underneath sinks.

1106.11.7.4 Exposed pipes and surfaces. Hot water and drain pipes exposed under lavatories and sinks shall be insulated or otherwise covered. There shall be no sharp or abrasive surfaces under lavatories or sinks.

1106.11.7.5 Faucets. Faucet control handles shall be located not more than 17 inches (430 mm) from the front edge of the lavatory, sink or counter, and shall comply with Section 1106.3. Self-closing valves shall remain open for at least 10 seconds per operation.

1106.11.7.6 Sink depth. Sinks shall be not more than 6-1/2 inches (165 mm) in vertical depth.

1106.11.8 Mirrors, dispensers, and other fixtures. Mirrors or shelves shall be installed so that the bottom of the mirror or the top of the shelf is within 40 inches (1015 mm) of the floor.

Drying equipment, towel or other dispensers, and disposal fixtures shall be mounted so as to not exceed 40 inches (1015 mm) above the finished floor to any rack, operating controls, receptacle or dispenser.

1106.11.9 Bathtubs.

1106.11.9.1 Clear floor space. A clear floor space not less than 60 inches (1525 mm) in length shall be provided along the tub. Where the required seat is located at the end of the tub, the clear floor space shall be not less than 75 inches (1905 mm) in length. The clear floor space shall be not less than 30 inches (760 mm) in width where access to the space is parallel to the tub and not less than 48 inches (1220 mm) in width where access to the space is at right angles to the tub.

A lavatory which complies with Section 1106.11.7, above, may be located in the clear floor space for the tub.

Where a seat is provided and a lavatory is located in the clear floor space for the tub, the lavatory shall be located at the end of the tub adjacent to the controls.

1106.11.9.2 Seats. An in-tub seat or a seat at the end of the tub shall be provided. In-tub seats shall be portable and removable, not less than 12 inches (305 mm) in width, and extend the full width of the tub. Seats at the end of the tub shall be constructed flush with the top of the tub and shall extend not less than 15 inches (380 mm) from the end of the tub. Seats shall be mounted securely and shall not slip during use.

1106.11.9.3 Grab bars. All required grab bars shall be installed parallel to the floor. Lower grab bars shall be installed centered 9 inches (230 mm) above the tub rim. Upper or single grab bars shall be installed centered not less than 33 inches (840 mm) and not more than 36 inches (915 mm) above the floor of the clear space.

Where a tub has a seat at the end, two grab bars not less than 48 inches (1220 mm) in length shall be installed on the wall opposite the clear floor space. One end of each grab bar shall terminate where the tub abuts the seat.

Where a tub has an in-tub seat, two grab bars, not less than 24 inches (610 mm) in length, shall be installed on the wall opposite the clear floor space. The grab bars shall extend to not less than 24 inches (610 mm) from one end of the tub and not less than 12 inches (305 mm) from the other end. One grab bar shall be installed on the wall at the end of the tub opposite the drain, extending at least 12 inches (305 mm) from the clear floor space.

For all bathtubs, one grab bar shall be installed on the wall at the end of the tub nearest the drain, extending at least 24 inches (610 mm) from the clear floor space.

1106.11.9.4 Controls and fixtures. Faucet and other controls shall be located above the tub rim and below the grab bars, shall be offset laterally from the clear floor space between the open edge of the tub and the mid-point of the tub and shall comply with Section 1106.3.

A shower spray unit, with a hose at least 60 inches (1525 mm) long, that can be used as a fixed shower head or as a hand-held shower, shall be provided.

1106.11.9.5 Bathtub enclosures. Where provided, enclosures for bathtubs shall not obstruct controls or obstruct transfer from wheelchairs onto bathtub seats or into tubs. Bathtub enclosures shall not have tracks mounted on the tub rim.

1106.11.10 Shower stalls.

1106.11.10.1 Configuration. Shower stalls shall have one of the following configurations:

1. Transfer shower stalls shall be 36 inches by 36 inches (915 by 915 mm), nominal, and shall have a seat; or,

2. Roll-in shower stalls shall be not less than 30 inches (760 mm) in depth by 60 inches (1525 mm) in length.

1106.11.10.2 Clear floor space. A clear floor space shall be provided adjacent to shower stalls.

1. For transfer shower stalls, a clear floor space not less than 48 inches (1220 mm) in length, parallel to the open side of the shower stall, and not less than 36 inches (915 mm) in width, perpendicular to the open edge of the shower stall, shall be located so as to extend at least 12 inches (305 mm) beyond the wall on which the seat is mounted.

2. For roll-in shower stalls, a clear floor space not less than 60 inches (1525 mm) in length, parallel to the open edge of the shower stall, and not less than 36 inches (915 mm) in width, perpendicular to the open edge of the shower stall, shall be provided. A lavatory which complies with Section 1106.11.7, above, may be located within one end of the clear floor space. Where a seat is provided in the shower, a lavatory may be located only at the opposite end of the clear space.

1106.11.10.3 Seats. Transfer shower stalls shall be provided with a folding or non-folding seat located on the wall opposite the shower controls.

Roll-in shower stalls shall be provided with a folding seat located on the wall adjacent to the shower controls.

EXCEPTION: Roll-in shower stalls located in occupancies other than hotels, lodging houses and congregate residences need not be provided with a seat.

The seat shall be mounted not less than 17 inches (430 mm) and not more than 19 inches (485 mm) above the floor. The seat shall be mounted not more than 1-1/2 inches (38 mm) from the shower walls. The leading edge of the seat may be set back not more than 1-1/2 inches (38 mm) from the leading edge of the shower stall.

The seat shall be L-shaped and shall extend the full depth of the stall. The section of the seat adjacent to the wall opposite the clear floor space shall be at least 22 inches (560 mm) and not more than 23 inches (585 mm) wide, measured from the wall on which

the seat is mounted. That section of the seat shall extend not less than 14 inches (355 mm) but not more than 15 inches (380 mm), measured from the wall opposite the clear floor space. The remaining portion of the seat shall be not less than 15 inches (380 mm) and not more than 16 inches (405 mm) wide, measured from the wall on which the seat is mounted, and shall extend the remaining depth of the stall.

1106.11.10.4 Grab bars. All required grab bars shall be installed parallel to the floor. All grab bars shall be installed not less than 33 inches (840 mm) and not more than 36 inches (915 mm) above the floor of the adjacent clear space.

For transfer shower stalls, a grab bar, not less than 18 inches (455 mm) in length, shall be installed on the wall opposite the clear floor space. One end of the grab bar shall terminate at the wall opposite the seat. A grab bar not less than 27 inches (685 mm) in length shall also be installed on the wall opposite the seat.

For roll-in shower stalls, grab bars shall be provided on all permanent stall walls. Grab bars located on either end of the stall shall be not less than 27 inches (685 mm) in length. The grab bar located opposite the clear space shall be not less than 48 inches (1220 mm) in length.

1106.11.10.5 Controls and fixtures. Faucets and other controls shall be located on the same wall as the shower spray unit, and shall be installed not less than 38 inches (965 mm) or more than 48 inches (1220 mm) above the shower floor and shall comply with Section 1106.3. In addition:

1. For transfer shower stalls, the controls shall be located on the wall opposite the shower seat. The controls shall be located within 18 inches (455 mm) of the open side of the shower stall.

2. For roll-in shower stalls equipped with seats, the controls shall be mounted on the wall adjacent to the seat not more than 27 inches (685 mm) from the wall where the seat is mounted. For roll-in shower stalls without seats, the controls may be located on any wall. Where the controls are located on the back wall, they shall be located not more than 27 inches (685 mm) from a side wall.

A shower spray unit, with a hose at least 60 inches (1525 mm) long, that can be used as a fixed shower head or as a hand-held shower, shall be provided.

EXCEPTION: In unmonitored facilities where vandalism is a consideration, a fixed shower head may be installed not more than 48 inches (1220 mm) above the stall floor.

1106.11.10.6 Thresholds. In transfer shower stalls, thresholds shall be flush or beveled with a maximum edge height of 1/2 inch (13 mm), and a maximum slope of not more than 1 vertical in 2 horizontal.

Thresholds in roll-in shower stalls shall be level with the adjacent clear space.

1106.11.10.7 Shower enclosures. Where provided, enclosures for shower stalls shall not obstruct controls or obstruct transfer from wheelchairs onto shower seats.

1106.11.11 Structural requirements for grab bars, and tub and shower seats.

1106.11.11.1 General. All grab bars, and tub and shower seats required to be accessible, shall comply with this section.

1106.11.11.2 Size and spacing of grab bars. Grab bars shall have an outside diameter of not less than 1-1/4 inch (32 mm) nor more than 1-1/2 inches (38 mm) and shall provide a clearance of 1-1/2 inches (38 mm) between the grab bar and the wall.

1106.11.11.3 Structural strength. The structural strength of grab bars, tub and shower seats, fasteners and mounting devices shall meet the following specification:

1. Bending stress in a grab bar or seat induced by the maximum bending moment from the application of 300 pounds (1334 N) shall be less than the allowable stress for the material of the grab bar or seat.

2. Shear stress induced in a grab bar or seat by the application of 300 pounds (1334 N) shall be less than the allowable shear stress for the material of the grab bar or seat. If the connection between the grab bar or seat and its mounting bracket or other support is considered to be fully restrained, then direct and torsional shear stresses shall be totaled for the combined shear stress, which shall not exceed the allowable shear stress.

3. Shear force induced in a fastener or mounting device from the application of 300 pounds (1334 N) shall be less than the allowable lateral load of either the fastener or mounting device or the supporting structure, whichever is the smaller allowable load.

4. Tensile force induced in a fastener by a direct tension force of 300 pounds (1334 N) plus the maximum moment from the application of 300 pounds (1334 N) shall be less than the allowable withdrawal load between the fastener and the supporting structure.

1106.11.11.4 Special hazards. A grab bar and any wall or other surface adjacent to it shall be free of any sharp or abrasive elements. Edges shall have a minimum radius of 1/8 inch (3 mm).

1106.12 Kitchens.

1106.12.1 Clear floor space. An unobstructed floor space shall be provided within kitchens of sufficient size to inscribe a circle with a diameter not less than 60 inches (1525 mm). Doors in any position may encroach into this space by not more than 12 inches (305 mm). The clear floor spaces at fixtures, the accessible route of travel, and the unobstructed floor space may overlap.

1106.12.2 Counter surfaces and shelving. Within Type A dwelling units, a counter surface, a minimum of 30 inches (760 mm) wide by 24 inches (610 mm) deep, shall be provided at a maximum height of 34 inches (865 mm), with a knee space beneath at least 27 inches (685 mm) in height.

In other than dwelling units, at least 50 percent of shelf space in cabinets, refrigerators and freezers shall be within the reach ranges specified in Section 1106.2.4.

1106.13 Water Fountains.

1106.13.1 Clear floor space. Wall- and post mounted cantilevered units shall have a minimum clear floor space in front of the unit, of 30 inches (760 mm) in width by 48 inches (1220 mm) in depth to allow a forward approach.

Free-standing or built-in units not having a clear space beneath them shall have an adjacent clear floor space at least 30 inches (760 mm) in depth by 48 inches (1220 mm) in width in order to allow a person in a wheelchair to make a parallel approach to the unit.

1106.13.2 Knee space. Wall- and post-mounted cantilevered units shall have knee space in accordance with Section 1106.2.4.3. The knee space shall be not less than 17 inches (430 mm) nor more than 19 inches (485 mm) in depth.

1106.13.3 Spout location. Spouts shall be located not more than 36 inches (915 mm) above the floor or ground surface. Spouts shall be located at the front of the unit and shall direct a water flow not less than 4 inches (102 mm) in height, in a trajectory parallel to the front of the unit. Recessed units shall be installed such that the spout is not recessed beyond the plane of the wall.

1106.13.4 Controls. Controls shall be located not more than 6 inches (152 mm) from the front of the unit and shall comply with Section 1106.3. The force required to activate the control shall not exceed 5 pounds (22.2 N).

1106.13.5 Water fountains in alcoves. Where a unit is installed in an alcove greater than 8 inches (205 mm) in depth, the alcove shall be not less than 48 inches (1220 mm) in width. A minimum 24 inches (610 mm) of clear space shall be provided from the spout to the nearest side wall of the alcove.

1106.14 Telephones.

1106.14.1 Clear floor or ground space. A clear floor or ground space, not less than 30 inches (760 mm) by 48 inches (1220 mm), that allows either a forward or parallel approach, shall be provided in front of telephones. Bases, enclosures and fixed seats shall not project into the clear floor space.

Where parallel approach is provided, any shelf or enclosure shall not project farther than 10 inches (255 mm) beyond the face of the telephone.

Where a forward approach is provided, any shelf shall not project farther than 20 inches (510 mm) beyond the face of the telephone; any enclosure panels shall be a minimum 30 inches (760 mm) apart, and where less than 36 inches (915 mm) apart, shall project no more than 24 inches (610 mm) beyond the face of the phone.

1106.14.2 Height. The highest operable part of a telephone shall be within the reach ranges specified in Section 1106.2.4.

1106.14.3 Equipment for persons with hearing impairments. Telephones shall be equipped with volume controls and shall be hearing aid compatible. Volume controls shall be capable of increasing volume not less than 12 dbA nor more than 18 dbA above normal.

EXCEPTION: Where an automatic reset is provided, 18 dbA may be exceeded.

1106.14.4 Controls. Telephones shall have pushbutton controls where service for such equipment is available.

1106.14.5 Cord length. The cord from the telephone to the handset shall be not less than 29 inches (737 mm) in length.

1106.14.6 Text telephones. Text telephones shall be permanently affixed within, or adjacent to, the telephone enclosure. Where an acoustic coupler is used, the telephone cord shall be sufficiently long to allow connection of the text telephone and the telephone receiver.

1106.14.7 Shelf and electrical outlet. Shelves and an electrical outlet shall be located within or adjacent to the telephone enclosure. The shelf shall be not less than 10 inches by 10 inches (255 mm by 255 mm) in dimension, with a vertical clearance above the shelf of not less than 6 inches (152 mm). The telephone handset shall be capable of being placed flush on the surface of the shelf.

1106.15 Alarms.

1106.15.1 Audible alarms. Audible alarms shall produce a sound in accordance with the Fire Code.

1106.15.2 Visible alarms. Visible alarm signal appliances shall be integrated into the building or facility alarm system. Where single-station audible alarms are provided, single-station visible alarm signals shall be provided.

EXCEPTION: Dwelling units in Group R, Division 1 apartment buildings.

Visible alarms shall be located not less than 80 inches (2030 mm) above floor level, or 6 inches (152 mm) below the ceiling, whichever is lower, and at an interval of not more than 50 feet (15 m) horizontal, in rooms, corridors, and hallways.

In rooms or spaces exceeding 100 feet (30 m) in horizontal dimension, with no obstructions exceeding 6 feet (1830 mm) in height above the finished floor, visible alarms may be placed around the perimeter at intervals not to exceed 100 feet (30 m) horizontally.

Visible alarm signals shall comply with the following criteria:

1. The lamp shall be a xenon strobe type or equivalent.

2. The color shall be clear or unfiltered white light.

3. The maximum pulse duration shall be two-tenths of one second (0.2 sec) with a maximum duty cycle of 40 percent. The pulse duration is defined as the time interval between initial and final point of 10 percent of maximum signal.

4. The intensity shall be a minimum of 75 candela.

5. The flash rate shall be a minimum of 1 Hz and a maximum of 3 Hz.

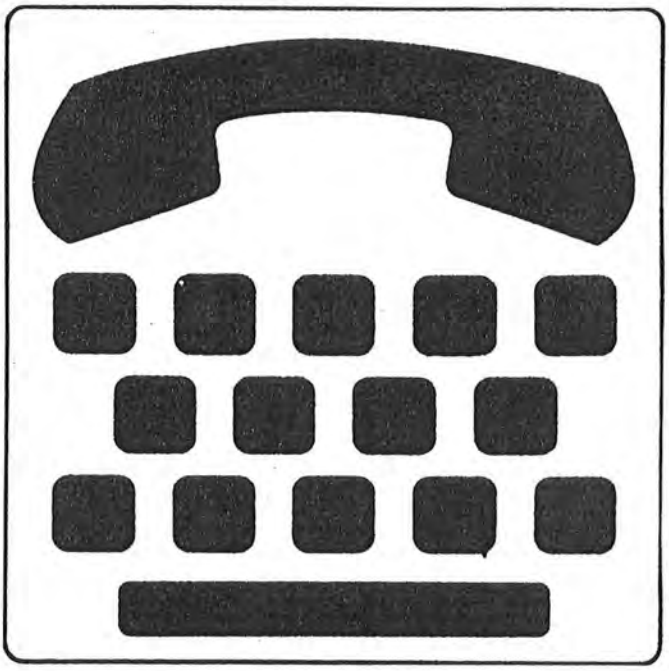
1106.15.3 Access to manual fire alarm systems. Manual fire alarm devices shall be mounted not more than 54 inches (1370 mm) above the floor where a parallel approach is provided.

1106.16 Signage.

1106.16.1 Symbo_ _.

1106.16.1.1 International Symbol of Access. The International Symbol of Access shall be as shown below:

1106.16.1.2 Text telephones. Text Telephones required by Section 1105.4.2 shall be identified by the International Text Telephone Symbol as shown below:



1106.16.1.3 Assistive listening systems. Permanently installed assistive listening systems that are required by Section 1103.1.2.2 shall be identified by the International Symbol of Access for Hearing Loss as shown below:

1106.16.1.4 Volume control telephones. Telephones required by Section 1105.4.2 to have volume controls shall be identified by a handset containing a depiction of a telephone handset with radiating sound waves.

1106.16.2 Mounting location and height. Signs shall be installed on the wall adjacent to the latch side of the door. Signs shall be centered at 60 inches (1525 mm) above the finished floor. Mounting location for such signage shall be such that a person may approach within 3 inches (76 mm) of signage without encountering protruding objects or standing within the swing of a door.

1106.16.3 Finish and color. Characters and symbols shall have a high contrast with their background. The character and background of interior signs shall be eggshell, matte, or other nonglare finish.

All interior and exterior signs depicting the International Symbol of Access shall be white on a blue background.

1106.16.4 Character proportion and height. Letters and numbers on signs shall have a width-to-height ratio between 3:5 and 1:1 and a stroke-width-to-height ratio between 1:5 and 1:10.

Characters and numbers on signs shall be sized according to the viewing distance from which they are to be read. The minimum character height for signs that are suspended or projected overhead is 3 inches (76 mm) for upper case letters. Lower case letters are permitted.

1106.16.5 Raised and Braille characters and pictorial symbol signs (pictograms).

1106.16.5.1 Raised characters and symbols. Characters and symbols on tactile signs shall be raised at least 1/32 inch (.8 mm). Raised characters and symbols shall be simple type face upper case characters. Raised characters and symbols shall be between 5/8 inch (16 mm) and 2 inches (51 mm) in height. Raised characters shall be accompanied by Braille in accordance with this section.

1106.16.5.2 Braille. Braille shall be separated from the corresponding raised characters or symbols. Braille shall be Grade 2.

1106.16.5.3 Pictograms. Where provided, pictograms shall be accompanied by the equivalent verbal description placed directly below the pictogram. The border dimension of the pictogram shall be not less than 6 inches (152 mm) in height.

1106.17 Detectable Warnings. Detectable warnings on walking surfaces shall consist of raised truncated domes having a diameter of 0.9 inches (23 mm) nominal, a height of 0.2 inches (5 mm) nominal, and a center-to-center spacing of 2.35 inches (60 mm) nominal, and shall contrast visually with adjoining surfaces.

1106.18 Storage, Shelving and Display Units.

1106.18.1 Clear floor space. Storage, shelving and display units shall have a clear floor space, not less than 30 inches (760 mm) by 48 inches (1220 mm), that allows for either a forward or parallel approach.

1106.18.2 Height. Accessible storage, shelving and display units shall be within the reach ranges specified in Section 1106.2.4. Clothes rods shall be not more than 54 inches (1370 mm) above the floor.

1106.19 Seating, Tables, and Sinks.

1106.19.1 Clear floor space. Sinks and seating spaces at tables shall have a clear floor space of not less than 30 inches (760 mm) by 48 inches (1220 mm), that allows forward approach. The clear floor space shall not overlap knee space by more than 19 inches (483 mm).

1106.19.2 Knee clearances. Knee spaces at tables, counters, and sinks shall be provided in accordance with Section 1106.2.4.3. In addition, the depth of the knee space shall be not less than 19 inches (483 mm). No projection which might obstruct the arm of a wheelchair may intrude into this clearance, within 24 inches (610 mm) horizontally from the table edge.

1106.19.3 Height. The tops of tables and sinks shall be not less than 28 inches (710 mm) nor more than 34 inches (865 mm) in height above the floor or ground.

1106.20 Aisles. All aisles required to be accessible, including check out aisles, food service lines, and aisles between fixed tables, shall be not less than 36 inches (915 mm) in width.

1106.21 Assembly Areas.

1106.21.1 Wheelchair spaces.

1106.21.1.1 Location. Wheelchair spaces shall be an integral part of any fixed seating plan and shall be dispersed throughout the seating area. Spaces shall adjoin an accessible route of travel

that also serve as a means of egress and shall be located to provide lines of sight comparable to those for all viewing areas.

EXCEPTION: Accessible viewing positions may be clustered for bleachers, balconies and other areas having sight lines that require slopes of greater than 5 percent. Equivalent accessible viewing positions may be located on levels having accessible egress.

1106.21.1.2 Size. Wheelchair spaces shall be not less than 33 inches (840 mm) in width. Where forward or rear approach is provided, wheelchair spaces shall be not less than 48 inches (1220 mm) in depth. Where only side approach is provided, wheelchair spaces shall be not less than 60 inches (1525 mm) in depth.

1106.21.1.3 Surfaces. The ground or floor surfaces at wheelchair locations shall be level and shall comply with Section 1106.7.

1106.21.2 Placement of assistive listening systems. Where an assistive listening system serves individual fixed seats, such seats shall have a clear line of sight and shall be located not more than 50 feet (15 m) from the stage or performance area.

1106.22 Restaurants and Cafeterias.

1106.22.1 Aisles. Aisles to fixed tables required to be accessible shall comply with Section 1106.20.

1106.22.2 Food service lines.

1106.22.2.1 Clear floor space. Food service lines shall comply with Section 1106.20.

1106.22.2.2 Height. Tray slides shall be mounted not more than 34 inches (865 mm) in height above the floor.

1106.22.2.3 Counters and bars. Where service of food or drink is provided at counters more than 34 inches (865 mm) in height, to customers seated on stools or standing, a portion of the main counter shall be provided in compliance with Section 1106.19, or service shall be available at accessible tables within the same area.

1106.22.2.4 Tableware and condiment areas. Self-service shelves and dispensing devices for tableware, dishware, condiments, food, and beverages shall be installed to comply with Section 1106.18.

1106.23 Patient bedrooms. Each patient bedroom shall be designed and constructed to provide space for a 180-degree turn that complies with Section 1106.2.2. Each patient room shall have a minimum clear floor space not less than 36 inches (915 mm) on each side of any bed.

1106.24 Customer Service Facilities.

1106.24.1 Dressing and fitting rooms.

1106.24.1.1 Clear floor space. Each dressing and fitting room shall have a clear floor space complying with Section 1106.2.

EXCEPTION: Dressing and fitting rooms that are entered through a curtained opening need not comply with Section 1106.2.2.

1106.24.1.2 Doors. All doors to accessible dressing and fitting rooms shall comply with Section 1106.10.

1106.24.1.3 Benches. Every accessible dressing or fitting room shall have a bench installed adjacent to the longest wall in the room. The bench shall be not less than 24 inches (610 mm) in width and 48 inches (1220 mm) in length, and shall be mounted not less

than 17 inches (430 mm) nor more than 19 inches (483 mm) above the finished floor.

Clear floor space shall be provided adjacent to the bench to allow for parallel transfer, and the structural strength of the bench shall comply with Section 1106.11.11.3.

Where benches are installed in dressing and fitting rooms adjacent to showers, swimming pools, or other wet locations, water shall not accumulate upon the surface of the bench and the bench shall have a slip-resistant surface.

1106.24.1.4 Mirrors. Where provided, mirrors in accessible dressing and fitting rooms shall be not less than 18 inches (455 mm) in width by 54 inches (1370 mm) in height and shall be mounted opposite the bench.

1106.24.2 Counters and windows. Where counters are required to be accessible, the accessible portion shall be not less than 36 inches (915 mm) in length and not more than 36 inches (915 mm) in height above the finished floor.

Where accessible windows are required, they shall be no more than 36 inches (915 mm) in height above the finished floor.

EXCEPTION: An auxiliary counter with a maximum height of 36 inches (915 mm) is installed in close proximity to the main counter.

1106.24.3 Check-out aisles. The width of accessible check-out aisles shall comply with Section 1106.20. Counters in accessible check-out aisles shall be not more than 38 inches (965 mm) in height, and the top of the raised edge of the counter shall not exceed 40 inches (1015 mm) in height above the finished floor.

Accessible check-out aisles shall be identified by the International Symbol of Access in accordance with Section 1106.16.1.1.

1106.25 Libraries.

1106.25.1 Reading and study areas. At least 5 percent, or a minimum of one, of each element of fixed seating, tables, or study carrels shall comply with Section 1106.19. Clearances between fixed accessible tables and study carrels shall comply with Section 1106.20.

1106.25.2 Check-out areas. At least one lane at each check-out area shall comply with Section 1106.20. Any traffic control or book security gates or turnstiles shall comply with Section 1106.10.

1106.25.3 Card catalogs, magazine displays and stacks.

1106.25.3.1 Aisles. Aisles between card catalogs, magazine displays or stacks shall comply with Section 1106.20.

1106.25.3.2 Height. Card catalogs or magazine displays shall have a reach height of not more than 54 inches (1370 mm) for side approach and not more than 48 inches (1220 mm) for forward approach.

Not all shelves in library stacks need be located within reach ranges required by Section 1106.2.4.

1106.26 Hotels and Congregate Residences.

1106.26.1 Clear floor space. Each sleeping room shall have a space complying with Section 1106.4.1, along both sides of each bed.

EXCEPTION: In rooms with two beds, only one 36 inch (915 mm) wide maneuvering space need be provided between the two beds.

1106.26.2 Accessible route of travel. An accessible route of travel complying with Section 1103.2.2 shall connect all accessible spaces and elements; including telephones, patios, terraces, balconies, carports, garages or parking spaces; with all accessible sleeping rooms.

1106.26.3 Doors. Doors within all sleeping rooms, suites or other covered units shall comply with Section 1106.10.

1106.26.4 Storage. Where fixed or built-in storage is provided in accessible units, sleeping rooms, or suites; including cabinets, shelves, closets, and drawers; at least one of each type shall comply with Section 1106.18.

1106.26.5 Controls. All controls in accessible units, sleeping rooms, and suites shall comply with Section 1106.3.

1106.27 Dwelling Units.

1106.27.1 Type A and B dwelling units. Type A and B dwelling units shall comply with Section 1106.

EXCEPTIONS:
1. In a Type A accessible dwelling unit with two or more stories, access to other levels is not required if the accessible level complies with all requirements for Type A accessible dwelling units and that kitchen, toilet and bathing facilities, and at least one bedroom are provided on the accessible level.
2. Kitchens in Type B dwelling units need not comply with Section 1106.12.1, provided that:
2.1. A clear space at least 30 inches by 48 inches (760 mm by 1220 mm) that allows parallel approach by a person in a wheelchair is provided at the range or cook top and sink, and either a parallel or forward approach is provided at all other appliances; and,
2.2. In all other kitchens, clearance between all opposing counters, base cabinets, countertops, appliances, and walls shall be not less than 40 inches (1015 mm); and,
2.3. In "U" shaped kitchens with a sink, range, or cooktop at the base of the "U", an unobstructed floor space of sufficient size to inscribe a circle with a diameter of not less than 60 inches (1525 mm) shall be provided.
3. Bathrooms in Type B dwelling units need not comply with Section 1106.11.2, provided that sufficient maneuvering space which is not less than 30 inches by 48 inches (760 by 1220 mm) is provided within the bathroom. Doors may swing into the clear floor space provided at any fixture, but shall not encroach on the required maneuvering space.
4. Doors in Type B dwelling units, other than the primary entry door, need not comply with Section 1106.10.3.
5. Mezzanines in Type A or B dwelling units need not be accessible.
6. Raised or sunken floors in Type B dwelling units need not be accessible, provided that they do not interfere with the accessible route of travel through the unit, and are not located in the kitchen or bathroom.
7. Counter surfaces in Type B dwelling units need not comply with Section 1106.12.2.
8. Within an individual dwelling unit in an elevatored building, access to other levels is not required if the accessible level complies with all requirements for accessible dwelling units and contains a bathroom.
9. In Type B dwelling units, exterior deck, patio, or balcony surfaces may be no more than 4 inches (100 mm) below the floor level of the interior surface where the exterior surface is constructed of an impervious material such as concrete, brick, or flagstone.
10. Vanities or lavatories in Type A and B dwelling units may be located in the clear floor spaces as permitted in Section 1106.11.5.1.
11. Seats for bathtubs or showers are not required in Type B dwelling units.
12. In Type B dwelling units, the clear floor space for bathtubs or showers may be reduced to not less than 30 inches (760 mm) in width by 48 inches (1220 mm) in length.

1106.27.2 Adaptable fixtures for dwelling units.

1106.27.2.1 Grab bars. Grab bars may be omitted in bathing and toilet facilities within Type A or B dwelling units, provided that all structural reinforcements for grab bar installation are provided in the appropriate locations in the adjoining walls.

1106.27.2.2 Kitchen counters. Cabinets or shelving may be installed beneath the counter space required by Section 1106.12.2,

provided that such cabinetry or shelving is not permanent, and is easily removable.

1106.27.2.3 Lavatories. Cabinets or shelving may be installed beneath bathroom lavatories provided that such cabinetry or shelving is not permanent, and is easily removable.

1106.27.2.4 Signage. Parking signage required by Section 1107.3 need not be installed in spaces designated for accessible dwelling units.

NEW SECTION

WAC 51-30-1107 Section 1107--Parking facilities.

Section 1107.1 Accessible Parking Required.

1107.1.1 General. For other than Group R, Division 1 apartment buildings, when parking lots or garage facilities are provided, accessible parking spaces shall be provided in accordance with Table No. 11-F.

1107.1.2 Inpatient and outpatient medical care facilities. For Group I, Division 1.1, 1.2 and 2 units and facilities specializing in the treatment of persons with mobility impairments on either an inpatient or outpatient basis, 20 percent of the parking spaces provided accessory to such units and facilities shall be accessible.

1107.1.3 Outpatient medical care facilities. For Group I, Division 1.1 and 1.2 Occupancies providing outpatient medical care facilities, 10 percent of the parking spaces provided accessory to such occupancies shall be accessible.

1107.1.4 Apartment buildings. For Group R, Division 1 apartment buildings where parking is provided, one accessible parking space shall be provided for each Type A dwelling unit and reserved for it's occupants. In addition, where the total parking provided on a site exceeds 1 parking space per dwelling unit, not less than 2 percent, and in no case less than 1 space, of this additional parking shall be accessible.

1107.1.5 Van parking. For other than Group R, Division 1 apartment buildings, where accessible parking is required, one of every eight accessible parking spaces, or fraction thereof, shall be designed to be accessible to vans.

1107.1.6 Location of parking. Accessible parking spaces shall be located on the shortest possible accessible route of travel to an accessible building entrance. In facilities with multiple accessible building entrances with adjacent parking, accessible parking spaces shall be dispersed and located near the accessible entrances. Wherever practical, the accessible route of travel shall not cross lanes of vehicular traffic. Where crossing traffic lanes is necessary, the route of travel shall be designated and marked as a crosswalk.

EXCEPTION: In multilevel parking structures, all accessible van parking spaces may be located on the same level.

Where a pa..ing facility is not acces..ry to a particular building, accessible parking spaces shall be located on the shortest accessible route to an accessible pedestrian entrance to the parking facility.

1107.2 Design and Construction.

1107.2.1 General. When accessible parking spaces are required by this section, they shall be designed and constructed in accordance with this section.

1107.2.2 Size. Parking spaces shall be not less than 96 inches (2440 mm) in width and shall have an adjacent access aisle not less than 60 inches (1525 mm) in width. Van accessible parking spaces shall have an adjacent access aisle not less than 96 inches (2440 mm) in width.

Where two adjacent spaces are provided, the access aisle may be shared between the two spaces. Boundaries of access aisles shall be marked so that the aisles will not be used as parking space.

1107.2.3 Vertical clearance. Where accessible parking spaces are required for vans, the vertical clearance shall be not less than 114 inches (2895 mm) at the parking space and along at least one vehicle access route to such spaces from site entrances and exits.

1107.2.4 Slope. Accessible parking spaces and access aisles shall be located on a surface with a slope not to exceed 1 vertical in 48 horizontal.

1107.2.5 Surface. Parking spaces and access aisles shall be firm, stable, smooth, and slip-resistant.

1107.3 Signs. Every parking space required by this section shall be identified by a sign, centered between 3 and 5 feet (915 mm and 1525 mm) above the parking surface, at the head of the parking space. The sign shall include the International Symbol of Access and the phrase "State Disabled Parking Permit Required".

Van accessible parking spaces shall have an additional sign mounted below the International Symbol of Access identifying the spaces as "Van Accessible."

EXCEPTION: Where all of the accessible parking spaces comply with the standards for van accessible parking spaces.

(See also Section 1106.27.2)

NEW SECTION

WAC 51-30-1108 Section 1108--Passenger loading zones.

Section 1108.1 Location. Where provided, passenger loading zones shall be located on an accessible route of travel.

1108.2 Design and Construction.

1108.2.1 General. Passenger loading zones shall be designed and constructed in accordance with this section.

1108.2.2 Size. Passenger loading zones shall provide an access aisle not less than 60 inches (1525 mm) in width by 20 feet (6 m) in length with the long dimension abutting and parallel to: A: the vehicle space on one side; and B: an accessible route of travel on the other.

1108.2.3 Slope. Such zones shall be located on a surface with a slope not exceeding 1 vertical in 48 horizontal.

PART III - ACCESSIBILITY FOR EXISTING BUILDINGS

NEW SECTION

WAC 51-30-1109 Section 1109--Scope.

Section 1109.1 General. The provisions of this part apply to renovation, alterations, and additions to existing buildings including those identified as historic buildings. This chapter includes minimum standards for removing architectural barriers, and providing and maintaining accessibility for persons with disabilities to existing buildings and their related facilities.

1109.2 Equivalent Facilitation. Departures from specific technical and scoping requirements of this part by the use of alternate methods are permitted where such methods will provide equivalent or greater access to, and usability of, the facility. Alternate methods shall permit individuals with disabilities to approach, enter, and use a site, building, facility or portion thereof; as easily, safely, conveniently, and independently as the specified method.

NEW SECTION

WAC 51-30-1110 Section 1110--Definitions.

Section 1110. For the purpose of this part, certain terms are designated as follows:

ALTERATION is any change, addition, or modification in construction or occupancy.

ALTERATION, SUBSTANTIAL is any alteration, where the total cost of all alterations (including but not limited to electrical, mechanical, plumbing, and structural changes) for a building or facility within any 12-month period amounts to 60 percent or more of the appraised value.

PATH OF TRAVEL means a continuous, unobstructed way of pedestrian passage by means of which an altered area may be

approached, entered, and exited, and which connects the altered area with an exterior approach (including sidewalks, streets, and parking areas), an entry to the facility, and other parts of the facility. For the purposes of this part, the term path of travel also includes restrooms, telephones, and water fountains serving the altered area.

TECHNICALLY INFEASIBLE means that an alteration has little likelihood of being accomplished because existing structural conditions would require removing or altering a load-bearing member which is an essential part of the structural frame, or because site constraints prohibit modification or addition of elements, spaces, or features which are in full and strict compliance with the minimum requirements for new construction and necessary to provide accessibility.

NEW SECTION

WAC 51-30-1111 Section 1111--Additions.

Section 1111 Additions. New additions may be made to existing buildings without making the entire building comply, provided the new additions conform to the provisions of Part II of this chapter, except as follows:

1. **Entrances.** Where a new addition to a building or facility does not have an accessible entrance, at least one entrance in the existing building or facility shall be accessible.

2. **Accessible Route.** Where the only accessible entrance to the addition is located in the existing building or facility, at least one accessible route of travel shall be provided through the existing building or facility to all rooms, elements and spaces in the new addition which are required to be accessible.

3. **Toilet and Bathing Facilities.** Where there are no toilet rooms and bathing facilities in an addition and these facilities are provided in the existing building, then at least one toilet and bathing facility in the existing facility shall comply with Section 1106 or with Section 1112.3.7.

4. **Group I Occupancies.** Where patient rooms are added to an existing Group I Occupancy, a percentage of the additional rooms equal to the requirement of Section 1103.1.6, but in no case more than the total number of rooms required by Section 1103.1.6, shall comply with Section 1106.23. Where toilet or bathing facilities are part of the accessible rooms, they shall comply with Section 1106.11.

5. **Path of Travel.** Where an addition affects the access to or use of an area of primary function, to the maximum extent feasible, the path of travel to the area of primary function shall be made accessible.

EXCEPTION: Subject to the approval of the building official, the path of travel need not be made accessible if the cost of compliance with this part would exceed 20 percent of the total cost of construction, inclusive of the cost of eliminating barriers, within a 36-month period.

NEW SECTION

WAC 51-30-1112 Section 1112--Alterations.

Section 1112 Alterations.

1112.1 General.

1112.1.1 Compliance. Alterations to existing buildings or facilities shall comply with this section. No alteration shall reduce or have the effect of reducing accessibility or usability of a building, portion of a building, or facility. If compliance with this section is technically infeasible, the alteration shall provide accessibility to the maximum extent feasible.

EXCEPTION: Except when substantial as defined by Section 1110, alterations to Group R, Division 1 apartment buildings need not comply with this section.

1112.1.2 Existing elements. Where existing elements, spaces, essential features or common areas are altered, each such altered element, space, feature, or area shall comply with the applicable provisions of Part II of this chapter. Where an alteration is to an area of primary function, to the maximum extent feasible, the path of travel to the altered area shall be made accessible. See also Appendix Chapter 11 Division II.

EXCEPTIONS: 1. An accessible route of travel need not be provided to altered elements, spaces or common areas which are not areas of primary function.

2. Areas of evacuation assistance need not be added to an altered building.

3. Subject to the approval of the building official, the path of travel need not be made accessible if the cost of compliance with this part would exceed 20 percent of the total cost of construction, inclusive of the cost of eliminating barriers, within an 36-month period.

1112.1.3 Installation of stairs or escalators. Where an escalator or new stairway is planned or installed requiring major structural changes, then a means of vertical transportation (e.g. elevator, platform lift) shall be provided in accordance with this chapter.

1112.1.4 Other requirements.

1112.1.4.1 Where alterations of single elements, when considered together, amount to an alteration of a room or space in a building or facility, the entire area or space shall be accessible.

1112.1.4.2 No alteration of an existing element, space or area of a building shall impose a requirement for greater accessibility than that which would be required for new construction.

1112.1.4.3 Where the alteration work is limited solely to the electrical, mechanical or plumbing system or hazardous materials removal, and does not involve the alteration, structural or otherwise, of any elements and spaces required to be accessible under these standards, Chapter 11 does not apply.

1112.1.4.4 Where alterations would increase the number of public pay telephones to four, with at least one in the interior, or where the facility has four or more public pay telephones and one or more is altered; at least one interior text telephone shall be provided in accordance with Section 1106.14.

1112.1.4.5 Where a building has an accessible entrance, altered entrances need not be made accessible unless they provide access to areas of primary function.

1112.1.4.6 Where sleeping rooms are altered in an existing Group R, Division 1 hotel, at least 1 sleeping room that complies with

Section 1106.26 shall be provided for each ... sleeping rooms or fraction thereof. In addition, at least 1 sleeping room for each 25 sleeping rooms or fraction thereof shall have telephones, visible alarms, and visible notification devices in accordance with Section 1103.1.8.3.

1112.1.4.7 Where patient bedrooms are altered in an existing Group I Occupancy, a percentage of the altered bedrooms equal to the requirement of Section 1103.1.6, but in no case more than the total number of bedrooms required by Section 1103.1.6, shall comply with Section 1106.23. Where toilet or bathing facilities are part of the accessible rooms, they shall comply with Section 1106.11.

1112.2 Substantial Alterations. Where substantial alteration as defined in Section 1110 occurs to a building or facility, the entire building or facility shall comply with Part II of this code.

EXCEPTIONS: 1. Areas of evacuation assistance need not be added to a substantially altered building.
2. Type B Dwelling units need not be provided in buildings which are substantially altered.

1112.3 Modifications.

1112.3.1 General. The following modifications set forth in this section may be used for compliance where the required standard is technically infeasible or when providing access to historic buildings.

1112.3.2 Ramps. Curb ramps and ramps constructed on existing sites, or in existing buildings or facilities, may have slopes and rises greater than specified in Part II of this chapter, where space limitations preclude the use of 1 vertical in 12 horizontal slope or less, provided that:

1. A slope not greater than 1 vertical in 10 horizontal is allowed for a maximum rise of 6 inches (152 mm).

2. A slope not greater than 1 vertical in 8 horizontal is allowed for a maximum rise of 3 inches (76 mm).

3. Slopes greater than 1 vertical in 8 horizontal are prohibited.

1112.3.3 Stairways. Full extension of stair handrails is not required when such extension would be hazardous or impossible due to plan configuration. When an accessible elevator is provided, existing stairs need not be made accessible.

1112.3.4 Elevators. Elevators shall comply with Chapter 296-81, Washington Administrative Code.

1112.3.5 Platform lifts. Upon the approval of the building official, platform lifts may be used in alterations, in locations in addition to those permitted in Part II of this chapter, if installation of an elevator is technically infeasible.

Platform lifts shall comply with Chapter 296-81 of the Washington Administrative Code.

1112.3.6 Doors.

1112.3.6.1 Clearance. When existing elements prohibit strict compliance with the clearance requirements, a projection of 5/8 inch (16 mm) maximum is permitted for the latch side door stop.

1112.3.6.2 Thre. olds. Existing thresholds .. asuring 3/4 inch (19 mm) high or less which are modified to provide a beveled edge on each side, may be retained.

1112.3.7 Toilet rooms.

1112.3.7.1 Shared facilities. The addition of one unisex toilet facility accessible to all occupants on the floor may be provided in lieu of making existing toilet facilities accessible when it is technically infeasible to comply with either part of Chapter 11. The unisex facility shall be located in the same area as existing facilities.

1112.3.7.2 Number. The number of toilet facilities and water closets required by the Uniform Plumbing Code may be reduced by one, in order to provide accessible features.

1112.3.7.3 Signage. When existing toilet facilities are altered and not all are made accessible, directional signage complying with Section 1106.16.3 and 1106.16.4 shall be provided indicating the location of the nearest accessible toilet facility.

1112.3.8 Assembly areas. Seating shall adjoin an accessible route of travel that also serves as a means of emergency egress or route to an area for evacuation assistance. In alterations, accessibility to raised or sunken dining areas, or to all parts of outdoor seating areas is not required provided that the same services and amenities are provided in an accessible space usable by the general public and not restricted to use by people with disabilities.

1112.3.9 Dressing rooms. Where it is technically infeasible to meet the requirements of Part II of this chapter, one dressing room for each sex, or a unisex dressing room, on each level shall be accessible.

NEW SECTION

WAC 51-30-1113 Section 1113--Historic preservation.

Section 1113.1 General. Generally the accessibility provisions of this part shall be applied to historic buildings and facilities as defined in Section 3403.5 of this code.

The building official, after consulting with the appropriate historic preservation officer, shall determine whether provisions required by this part for accessible routes of travel (interior or exterior), ramps, entrances, toilets, parking, or signage would threaten or destroy the historic significance of the building or facility.

If it is determined that any of the accessibility requirements listed above would threaten or destroy the historic significance of a building or facility, the modifications of Section 1112.3 for that feature may be utilized.

1113.2 Special Provisions. Where removing architectural barriers or providing accessibility would threaten or destroy the historic

significance of a building or facility, the following special provisions may be used:

1. At least one accessible route from a site access point to an accessible route of travel shall be provided.

2. At least one accessible entrance which is used by the public shall be provided.

EXCEPTION: Where it is determined by the building official that no entrance used by the public can comply, access at any accessible entrance which is unlocked during business hours may be used provided directional signs are located at the primary entrance, and the accessible entrance has a notification system. The route of travel for the accessible entrance shall not pass through hazardous areas, storage rooms, closets, kitchens or spaces used for similar purposes.

3. Where toilet facilities are provided, at least one toilet facility complying with Section 1111 and 1112 shall be provided along an accessible route. Such toilet facility shall be a shared facility available to both sexes.

4. Accessible routes from an accessible entrance to all publicly used spaces, on at least the level of accessible entrance, shall be provided. Access should be provided to all levels of a building or facility when practical. Displays and written information and documents shall be located where they can be seen by a seated person.

NEW SECTION

WAC 51-30-1114 Section 1114--Appeal.

Section 1114.1 Request for Appeal. An appeal from the standards for accessibility for existing buildings may be filed with the building official in accordance with Section 105, when existing structural elements or physical constraints of the site prevent full compliance or would threaten or destroy the historical significance of a historic building.

1114.2 Review.

1114.2.1 Consideration of alternative methods. Review of appeal requests shall include consideration of alternative methods which may provide partial access.

1114.2.2 Waiver or modification of requirements. The appeals board may waive or modify the requirements of this section when it is determined that compliance with accessibility requirements would threaten or destroy the historic significance of a building or facility.

NEW SECTION

WAC 51-30-1120 Table No. 11-A.

TABLE NO. 11-A
WHEELCHAIR SPACES REQUIRED IN ASSEMBLY AREAS

Capacity of Seating in Assembly Area	Number of Required Wheelchair Spaces
4 to 25	1
26 to 50	2
51 to 300	4
301 to 500	6
over 500	6 plus 1 for each 100 over 500

NEW SECTION

WAC 51-30-1121 Table No. 11-B.

TABLE NO. 11-B
REQUIRED TYPE A DWELLING UNITS

Total Number of Dwelling Units on Site	Required Number of Type A Dwelling Units
0 - 10	None
11 - 20	1
21 - 40	2
41 - 60	3
61 - 80	4
81 - 100	5
For every 20 units or fractional part thereof, over 100	1 additional

NEW SECTION

WAC 51-30-1122 Table No. 11-C.

TABLE NO. 11-C
NUMBER OF ACCESSIBLE ROOMS AND ROLL-IN SHOWERS

Total Number Of Rooms[1]	Minimum Required Accessible Rooms[1]	Rooms With Roll-In Showers
1 - 25	1	None
26 - 50	2	None
51 - 75	3	1
76 - 100	4	1
101 - 150	5	2
151 - 200	6	2
201 - 300	7	3
301 - 400	8	4
401 - 500	9	4 plus 1 for every 100 rooms or fraction thereof, over 400
501 - 1000	2% of total rooms	
Over 1000	20 plus 1 for every 100 rooms or fraction thereof, over 1000	

1 For congregate residences the numbers in these columns shall apply to beds rather than rooms.

NEW SECTION

WAC 51-30-1123 Table No. 11-D.

TABLE NO. 11-D
NUMBER OF ACCESSIBLE ROOMS FOR PERSONS WITH HEARING IMPAIRMENTS

Total Number Of Rooms	Minimum Required Rooms
1 - 25	1
26 - 50	2
51 - 75	3
76 - 100	4
101 - 150	5
151 - 200	6
201 - 300	7
301 - 400	8
401 - 500	9
501 - 1000	2% of total rooms
Over 1000	20 plus 1 for every 100 rooms, or fraction thereof, over 1000

NEW SECTION

WAC 51-30-1124 Table No. 11-E.

TABLE NO. 11-E
REQUIRED CHECK-OUT AISLES

Total Check-out Aisles Units on Site	Minimum Number of Accessible Check-out Aisles
1 - 4	1
5 - 8	2
9 - 15	3
Over 15	3 plus 20% of additional aisles

NEW SECTION

WAC 51-30-1125 Table No. 11-F.

TABLE NO. 11-F
NUMBER OF ACCESSIBLE PARKING SPACES

Total Parking Spaces in Lot or Garage	Minimum Required Number of Accessible Spaces
1 - 25	1
26 - 50	2
51 - 75	3
76 - 100	4
101 - 150	5
151 - 200	6
201 - 300	7
301 - 400	8
401 - 500	9
501 - 1000	2% of total spaces
Over 1000	20 spaces plus 1 space for every 100 spaces, or fraction thereof, over 1000

NEW SECTION

WAC 51-30-1200 Chapter 12--Interior environment.

NEW SECTION

WAC 51-30-1203 Section 1203--Light and ventilation in Group R Occupancies.

1203.1 General. For the purpose of determining the light or ventilation for Group R Occupancies required by this section, any room may be considered as a portion of an adjoining room when one half of the area of the common wall is open and unobstructed and provides an opening of not less than one tenth of the floor area of the interior room or 25 square feet (2.3 m^2), whichever is greater.

Exterior op. .ings for natural light or ve .ilation required by this section shall open directly onto a public way or a yard or court as set forth in Section 1203.4.

EXCEPTIONS: 1. Required exterior openings may be open into a roofed porch where the porch:
1.1 Abuts a public way, yard or court; and
1.2 Has a ceiling height of not less than 7 feet (2134 mm); and
1.3 Has a longer side at least 65 percent open and unobstructed.
2. Skylights.

1203.2 Light. Guest rooms and habitable rooms within a dwelling unit or congregate residence shall be provided with natural light by means of exterior glazed openings with an area not less than one tenth of the floor area of such rooms with a minimum of 10 square feet (0.93 m^2).

EXCEPTION: Kitchens in Group R Occupancies may be provided with artificial light.

1203.3 Ventilation. Guest rooms and habitable rooms within a dwelling unit or congregate residence shall be provided with natural ventilation by means of openable exterior openings with an area of not less than one twentieth of the floor area of such rooms with a minimum of 5 square feet (0.46 m^2).

In lieu of required exterior openings for natural ventilation, a mechanical ventilating system may be provided. Such system shall be capable of providing two air changes per hour in guest rooms, dormitories, habitable rooms and in public corridors with a minimum of 15 cubic feet per minute (7 L/s) of outside air per occupant during such time as the building is occupied.

Bathrooms, water closet compartments, laundry rooms and similar rooms shall be provided with natural ventilation by means of openable exterior openings with an area not less than one twentieth of the floor area of such rooms with a minimum of 1 1/2 square feet (0.14 m^2).

In lieu of required exterior openings for natural ventilation in bathrooms containing a bathtub or shower or combination thereof, laundry rooms, and similar rooms, a mechanical ventilation system connected directly to the outside capable of providing five air changes per hour shall be provided. The point of discharge shall be at least 3 feet (914 mm) from any opening which allows air entry into occupied portions of the building. Bathrooms which contain only a water closet or lavatory or combination thereof, and similar rooms may be ventilated with an approved mechanical recirculating fan or similar device designed to remove odors from the air.

1203.4 Yards or Courts.

1203.4.1 General. This section shall apply to yards and courts adjacent to exterior openings that provide required natural light or ventilation. Such yards and courts shall be on the same property as the building.

1203.4.2 Yards. Yards shall not be less than 3 feet (914 mm) in width for one-story and two-story buildings. For buildings more than two stories in height, the minimum width of the yard shall be increased at the rate of 1 foot (305 mm) for each additional story. For buildings exceeding 14 stories in height, the required width of the yard shall be computed on the basis of 14 stories.

1203.4.3 Courts. Courts shall not be less than 3 feet (914 mm) in width. Courts having windows opening on opposite sides shall not

be less than 6 f[illegible] (1829 mm) in width. Court bounded on three or more sides by the walls of the building shall not be less than 10 feet (3048 mm) in length unless bounded on one end by a public way or yard. For buildings more than two stories in height, the court shall be increased 1 foot (305 mm) in width and 2 feet (610 mm) in length for each additional story. For buildings exceeding 14 stories in height, the required dimensions shall be computed on the basis of 14 stories.

Adequate access shall be provided to the bottom of all courts for cleaning purposes. Every court more than two stories in height shall be provided with a horizontal air intake at the bottom not less than 10 square feet (0.93 m^2) in area and leading to the exterior of the building unless abutting a yard or public way. The construction of the air intake shall be as required for the court walls of the building, but in no case shall be less than one-hour fire resistive.

NEW SECTION

WAC 51-30-1600 Chapter 16--Structural forces.

NEW SECTION

WAC 51-30-1614 Section 1614--Definitions.

The following definitions apply only to this part:

BASIC WIND SPEED is the fastest-mile wind speed associated with an annual probability of 0.02 measured at a point 33 feet (10 000 mm) above the ground for an area having exposure category C.

EXPOSURE B has terrain with buildings, forest or surface irregularities, covering at least 20 percent of the ground level area extending 1 mile (1.61 km) or more from the site.

EXPOSURE C has terrain which is flat and generally open, extending one-half mile (0.81 km) or more from the site in any full quadrant.

EXPOSURE D represents the most severe exposure in areas with basic wind speeds greater than 80 miles per hour (mph) (129 km/h) and has terrain which is flat and unobstructed facing large bodies of water over one mile (1.61 km) or more in width relative to any quadrant of the building site. Exposure D extends inland from the shoreline 1/4 mile (0.40 km) or 10 times the building height, whichever is greater.

FASTEST-MILE WIND SPEED is the wind speed obtained from wind velocity maps prepared by the National Oceanographic and Atmospheric Administration and is the highest sustained average wind speed based on the time required for a mile-long sample of air to pass a fixed point.

OPENINGS are apertures or holes in the exterior wall boundary of the structure. All windows or doors or other openings shall be considered as openings unless such openings and their frames are specifically detailed and designed to resist the loads on elements and components in accordance with the provisions of this section.

PARTIALLY ENCLOSED STRUCTURE OR STORY is a structure or story which has more than 15 percent of any windward projected area open and in which the area of opening on all other projected areas is less than half of that on the windward projection.

SPECIAL WIND REGION is an area where local records and terrain features indicate 50-year fastest-mile basic wind speed is higher than shown in Figure 16-1.

UNENCLOSED STRUCTURE OR STORY is a structure which has 85 percent or more openings on all sides.

NEW SECTION

WAC 51-30-1700 Chapter 17--Structural test and inspections.

NEW SECTION

WAC 51-30-1702 Section 1702--Structural observation.

Structural observation shall be provided in Seismic Zone 3 or 4 when one of the following conditions exists:

1. The structure is defined in Table 16-K as Occupancy Category I, II or III, or

2. The structure is required to comply with Section 403, or

3. When so designated by the architect or engineer of record, or

4. When such observation is specifically required by the building official for unusual lateral force-resisting structures or irregular structures as defined in Section 1627.

The owner shall employ the engineer or architect responsible for the structural design, or another engineer or architect designated by the engineer or architect responsible for the structural design, to perform structural observations as defined in Section 220. Observed deficiencies shall be reported in writing to the owner's representative, special inspector, contractor and the building official. The structural observer shall submit to the building official a written statement that the site visits have been made and identifying any reported deficiencies which, to the best of the structural observer's knowledge, have not been resolved.

NEW SECTION

WAC 51-30-1900 Chapter 19--Concrete.

NEW SECTION

WAC 51-30-1909 Section 1909--Strength and serviceability requirements.

1909.0 Notations.

A_g = gross area of section, square inches (mm^2).

A'_s = area of compression reinforcement, square inches (mm^2).

b = width of compression face of member, inches (mm).

D = dead loads, or related internal moments and forces.

d = distance from extreme compression fiber to centroid of tension reinforcement, inches (mm).

d' = distance from extreme compression fiber to centroid of compression reinforcement, inches (mm).

d_s = distance from extreme tension fiber to centroid of tension reinforcement, inches (mm).

E = load effects of earthquake, or related internal moments and forces.

E_c = modulus of elasticity of concrete, pounds per square inch (MPa). See Section 1908.1.

F = loads due to weight and pressures of fluids with well-defined densities and controllable maximum heights, or related internal moments and forces.

f'_c = specified compressive strength of concrete, pounds per square inch (MPa).

$\sqrt{f'_c}$ = square root of specified compressive strength of concrete, pounds per square inch (MPa).

f_{ct} = average splitting tensile strength of lightweight aggregate concrete, pounds per square inch (MPa).

f_r = modulus of rupture of concrete, pounds per square inch (MPa).

f_y = specified yield strength of nonprestressed reinforcement, pounds per square inch (MPa).

H = loads due to weight and pressure of soil, water in soil, or other materials, or related internal moments and forces.

h = overall thickness of member, inches (mm).

I_{cr} = moment of inertia of cracked section transformed to concrete.

I_e = effective moment of inertia for computation of deflection.

I_g = moment of inertia of gross concrete section about centroidal axis, neglecting reinforcement.

L = live loads, or related internal moments and forces.

l = span length of beam or one-way slab, as defined in Section 1908.7; clear projection of cantilever, inches (mm).

l_n = length of clear span in long direction of two-way construction, measured face to face of supports in slabs without beams and face to face of beams or other supports in other cases.

M_a = maximum moment in member at stage deflection is computed.

M_{cr} = cracking moment. See Formula (9-8).

P_b = nominal axial load strength at balanced strain conditions. See Section 1910.3.2.

P_n = nominal axial load strength at given eccentricity.

T = cumulative effects of temperature, creep, shrinkage and differential settlement.

U = required strength to resist factored loads or related internal moments and forces.

W = wind load, or related internal moments and forces.

w_c = weight of concrete, pounds per cubic foot (kg/m^3).

y_t = distance from centroidal axis of gross section, neglecting reinforcement, to extreme fiber in tension.

α = ratio of flexural stiffness of beam section to flexural stiffness of a width of slab bounded laterally by center line of adjacent panel (if any) on each side of beam. See Section 1913.

α_m = average value of α for all beams on edges of a panel.

β = ratio of clear spans in long-to-short direction of two-way slabs.

ξ = time-dependent factor for sustained load. See Section 1909.5.2.5.

λ = multiplier for additional long-time deflection as defined in Section 1909.5.2.5.

ρ' = reinforcement ratio for nonprestressed compression reinforcement, A'_g/bd.

ϕ = strength-reduction factor. See Section 1909.3.

1909.1 General.

1909.1.1 Structures and structural members shall be designed to have design strengths at all sections at least equal to the required strengths calculated for the factored loads and forces in such combinations as are stipulated in this code.

1909.1.2 Members also shall meet all other requirements of this code to ensure adequate performance at service load levels.

1909.2 Required Strength.

1909.2.1 Required strength U to resist dead load D and live load L shall be at least equal to

$$U = 1.4D + 1.7L \qquad (9\text{-}1)$$

1909.2.2 If resistance to structural effects of a specified wind load W are included in design, the following combinations of D, L and W shall be investigated to determine the greatest required strength U

$$U = 0.75\,(1.4D + 1.7L + 1.7W) \qquad (9\text{-}2)$$

where load combinations shall include both full value and zero value of L to determine the more severe condition, and

$$U = 0.9D + 1.3W \qquad (9\text{-}3)$$

but for any combination of D, L and W, required strength U shall not be less than Formula (9-1).

1909.2.3 If resistance to specified earthquake loads or forces E are included in design, load combinations of Section 1909.2.2 shall apply, except that $1.1E$ shall be substituted for W. *Load factors contained in Section 1921 and 1926 shall be used where applicable.*

1909.2.4 If resistance to earth pressure H is included in design, required strength U shall be at least equal to

$$U = 1.4D + 1.7L + 1.7H \qquad (9\text{-}4)$$

except that where D or L reduces the effect of H, $0.9D$ shall be substituted for $1.4D$ and zero value of L shall be used to determine the greatest required strength U. For any combination of D, L and H, required strength U shall not be less than Formula (9-1).

1909.2.5 If resistance to loadings due to weight and pressure of fluids with well-defined densities and controllable maximum heights F is included in design, such loading shall have a load factor of 1.4 and be added to all loading combinations that include live load.

1909.2.6 If resistance to impact effects is taken into account in design, such effects shall be included with live load L.

1909.2.7 Where structural effects T of differential settlement, creep, shrinkage or temperature change may be significant in design, required strength U shall be at least equal to

$$U = 0.75\,(1.4D + 1.4T + 1.7L) \qquad (9\text{-}5)$$

but required strength U shall not be less than

$$U = 1.4\,(D + T) \qquad (9\text{-}6)$$

Estimations of differential settlement, creep, shrinkage or temperature change shall be based on a realistic assessment of such effects occurring in service.

1909.3 Design Strength.

1909.3.1 Design strength provided by a member, its connection to other members and its cross sections, in terms of flexure, axial load, shear and tension, shall be taken as the nominal strength calculated in accordance with requirements and assumptions of this code, multiplied by a strength-reduction factor ϕ.

1909.3.2 Strength-reduction factor ϕ shall be as follows:

1909.3.2.1 Flexure, without axial load 0.90

1909.3.2.2 Axial load and axial load with flexure. (For axial load with flexure, both axial load and moment nominal strength shall be multiplied by appropriate single value of ϕ.)

Axial tension and axial tension with flexure 0.90

Axial compression and axial compression with flexure:

Members with spiral reinforcement conforming to Section 1910.9.3 . . . . . 0.75

Other reinforced members 0.70

except that for low values of axial compression, ϕ may be increased in accordance with the following:

For members in which f_y does not exceed 60,000 psi (413.7 MPa), with symmetric reinforcement, and with $(h - d' - d_s)/h$ not less than 0.70, ϕ may be increased linearly to 0.90 as ϕPn decreases from $0.10\ f'_c\ A_g$ to zero.

For other reinforcing members, ϕ may be increased linearly to 0.90 as ϕPn decreases from $0.10\ f'_c\ A_g$ or ϕP_b, whichever is smaller, to zero.

1909.3.2.3 Shear and torsion (*See also Section 1909.3.4 for shear walls and frames in Seismic Zones 3 and 4*) 0.85

1909.3.2.4 Bearing on concrete (See also Section 1918.13) 0.70

1909.3.3 Development lengths specified in Section 1912 do not require a ϕ factor.

1909.3.4 In *Seismic Zones 3 and 4*, strength-reduction factors shall be as given above except for the following:

1909.3.4.1 *The shear strength-reduction factor shall be 0.6 for the design of walls, topping slabs used as diaphragms over precast concrete members and structural framing members, with the exception of joints, if their nominal shear strength is less than the shear*

corresponding to development of their nominal flexural strength. The shear strength-reduction factor for joints shall be 0.85.

1909.4 Design Strength for Reinforcement. Designs shall not be based on a yield strength of reinforcement f_y in excess of 80,000 psi (551.6 MPa), except for prestressing tendons.

1909.5 Control of Deflections.

1901.5.1 Reinforced concrete members subject to flexure shall be designed to have adequate stiffness to limit deflections or any deformations that affect strength or serviceability of a structure adversely.

1909.5.2 One-way construction (nonprestressed).

1909.5.2.1 Minimum thickness stipulated in Table 19-C-1 shall apply for one-way construction not supporting or attached to partitions or other construction likely to be damaged by large deflections, unless computation of deflection indicates a lesser thickness may be used without adverse effects.

1909.5.2.2 Where deflections are to be computed, deflections that occur immediately on application of load shall be computed by usual methods or formulas for elastic deflections, considering effects of cracking and reinforcement on member stiffness.

1909.5.2.3 Unless stiffness values are obtained by a more comprehensive analysis, immediate deflection shall be computed with the modulus of elasticity E_c for concrete as specified in Section 1908.5.1 (normal-weight or lightweight concrete) and with the effective moment of inertia as follows, but not greater than I_g.

$$I_e = \left(\frac{M_{cr}}{M_a}\right)^3 I_g + \left[1 - \left(\frac{M_{cr}}{M_a}\right)^3\right] I_{cr} \qquad (9\text{-}7)$$

WHERE:

$$M_{cr} = \frac{f_r I_g}{y_t} \qquad (9\text{-}8)$$

and for normal-weight concrete

$$f_r = 7.5\sqrt{f'_c} \qquad (9\text{-}9)$$

For **SI**:

$$f_r = 0.62\sqrt{f'_c}$$

When lightweight aggregate concrete is used, one of the following modifications shall apply:

1. When f_{ct} is specified and concrete is proportioned in accordance with Section 1905.2, f_r shall be modified by substituting $f_{ct}/6.7$ (For **SI**: $1.8\sqrt{f'_c}$) for $\sqrt{f'_c}$, but the value of $f_{ct}/6.7$ (For **SI**: $1.8\sqrt{f'_c}$) shall not exceed $\sqrt{f'_c}$.

2. When f_{ct} is not specified, f_r shall be multiplied by 0.75 for "all-lightweight" concrete, and 0.85 for "sand-lightweight" concrete. Linear interpolation may be used when partial sand replacement is used.

1909.5.2.4 For continuous members, effective moment of inertia may be taken as the average of values obtained from Formula (9-7) for the critical positive and negative moment sections. For prismatic members, effective moment of inertia may be taken as the value obtained from Formula (9-7) at midspan for simple and continuous spans, and at support for cantilevers.

1909.5.2.5 Unless values are obtained by a more comprehensive analysis, additional longtime deflection resulting from creep and shrinkage of flexural members (normal-weight or lightweight concrete) shall be determined by multiplying the immediate deflection caused by the sustained load considered, by the factor

$$\lambda = \frac{\xi}{1 + 50\rho'} \qquad (9\text{-}10)$$

where ρ' shall be the value at midspan for simple and continuous spans, and at support for cantilevers. It is permitted to assume the time-dependent factor for sustained loads to be equal to

Five years or more	2.0
12 months	1.4
Six months	1.2
Three months	1.0

1909.5.2.6 Deflection computed in accordance with this section shall not exceed limits stipulated in Table 19-I.

1909.5.3 Two-way construction (nonprestressed).

1909.5.3.1 This section shall govern the minimum thickness of slabs or other two-way construction designed in accordance with the provisions of Section 1913 and conforming with the requirements of Section 1913.6.1.2. The thickness of slabs without interior beams spanning between the supports on all sides shall satisfy the requirements of Section 1909.5.3.2 or 1909.5.3.4. Thickness of slabs with beams spanning between the supports on all sides shall satisfy the requirements of Section 1909.5.3.3 or 1909.5.3.4.

1909.5.3.2 For slabs without interior beams spanning between the supports and having a ratio of long to short span not greater than 2, the minimum thickness shall be in accordance with the provisions of Table 19-C-2 and shall not be less than the following values:

1. Slabs without drop panels as defined in Sections 1913.4.7.1 and 1913.4.7.2 . . . . . 5 inches (127 mm)

2. Slabs with drop panels as defined in Sections 1913.4.7.1 and 1913.4.7.2 . . . . . 4 inches (102 mm)

1909.5.3.3 For slabs with beams spanning between the supports on all sides, the minimum thickness shall be as follows:

1. For α_m equal to or less than 0.2, the provisions of Section 1909.5.3.2 shall apply.

2. For α_m greater than 0.2 but not greater than 2.0, the thickness shall not be less than

$$h = \frac{l_n\left(0.8 + \frac{f_y}{200{,}000}\right)}{36 + 5\beta(\alpha_m - 0.2)} \qquad (9\text{-}11)$$

For **SI:**

$$h = \frac{l_n\left(0.8 + \frac{f_y}{1370}\right)}{36 + 5\beta(\alpha_m - 0.2)}$$

but not less than 5 inches (127 mm).

3. For α_m greater than 2.0, the thickness shall not be less than

$$h = \frac{l_n\left(0.8 + \frac{f_y}{200{,}000}\right)}{36 + 9\beta} \qquad (9\text{-}12)$$

For **SI:**

$$h = \frac{l_n\left(0.8 + \frac{f_y}{1370}\right)}{36 + 9\beta}$$

but not less than 3.5 inches (89 mm).

4. At discontinuous edges, an edge beam shall be provided with a stiffness ratio α not less than 0.80; or the minimum thickness required by Formula (9-11) or (9-12) shall be increased by at least 10 percent in the panel with a discontinuous edge.

1909.5.3.4 Slab thickness less than the minimum thickness required by Section 1909.5.3.1, 1909.5.3.2 and 1909.5.3.3 may be used if shown by computation that the deflection will not exceed the limits stipulated in Table 19-C-1. Deflections shall be computed taking into account size and shape of the panel, conditions of support, and nature of restraints at the panel edges. The modulus of elasticity of concrete E_c shall be as specified in Section 1908.5.1. The effective moment of inertia shall be that given by Formula (9-7); other values may be used if they result in computed deflections in reasonable agreement with the results of comprehensive tests.

Additional long-term deflection shall be computed in accordance with Section 1909.5.2.5.

1909.5.4 Prestressed concrete construction.

1909.5.4.1 For flexural members designed in accordance with provisions of Section 1918, immediate deflection shall be computed by usual methods or formulas for elastic deflections, and the moment of inertia of the gross concrete section may be used for uncracked sections.

1909.5.4.2 Additional long-time deflection of prestressed concrete members shall be computed taking into account stresses in concrete and steel under sustained load and including effects of creep and shrinkage of concrete and relaxation of steel.

Deflection computed in accordance with this section shall not exceed limits stipulated in Table 19-I.

1909.5.5 Composite construction.

1909.5.5.1 Shored Construction. If composite flexural members are supported during construction so that, after removal of temporary supports, dead load is resisted by the full composite section, the composite member may be considered equivalent to a monolithically cast member for computation of deflection. For nonprestressed members, the portion of the member in compression shall determine whether values in Table 19-C-1 for normal-weight or lightweight concrete shall apply. If deflection is computed, account should be taken of curvatures resulting from differential shrinkage of precast and cast-in-place components, and of axial creep effects in a prestressed concrete member.

1909.5.5.2 Unshored construction. If the thickness of a nonprestressed precast flexural member meets the requirements of Table 19-C-1, deflection need not be computed. If the thickness of a nonprestressed composite member meets the requirements of Table 19-D, deflection occurring after the member becomes composite need not be computed, but the long-time deflection of the precast member should be investigated for magnitude and duration of load prior to beginning of effective composite action.

1909.5.5.3 Deflection computed in accordance with this section shall not exceed limits stipulated in *Table 19-I.*

NEW SECTION

WAC 51-30-2200 Chapter 22--Steel.

NEW SECTION

WAC 51-30-2211 Section 2211--Steel structures resisting forces induced by earthquake motions in seismic zones 3 and 4.

2211.1 General. Design and construction of steel framing in lateral-force-resisting systems in Seismic Zones 3 and 4 shall conform to the requirements of the code and to the requirements of this section.

2211.2 Definitions.

ALLOWABLE STRESSES are prescribed in Divisions V and IX.

CHEVRON BRACING is that form of bracing where a pair of braces located either above or below a beam terminates at a single point within the clear beam span.

CONNECTION is the group of elements that connect the member to the joint.

DIAGONAL BRACING is that form of bracing that diagonally connect joints at different levels.

ECCENTRICALLY BRACED FRAME (EBF) is a diagonal braced frame in which at least one end of each bracing member connects to a beam a short distance from a beam-to-column connection or from another beam-to-brace connection.

GIRDER is the horizontal member in a seismic frame. The words beam and girder may be used interchangeably.

JOINT is the entire assemblage at the intersections of the members.

K BRACING is that form of bracing where a pair of braces located on one side of a column terminates at a single point within the clear column height.

LINK BEAM is that part of a beam in an eccentrically braced frame which is designed to yield in shear and/or bending so that buckling of the bracing members is prevented.

STRENGTH is the strength as prescribed in Section 2211.4.2.

V BRACING is that form of chevron bracing that intersects a beam from above and inverted V bracing is that form of chevron bracing that intersects a beam from below.

X BRACING is that form of bracing where a pair of diagonal braces cross near midlength of the bracing members.

2211.3 Symbols and Notations. The symbols and notations unique to this section are as follows:

M_s = flexural strength.
P_{DL} = axial dead load.
P_E = axial load on member due to earthquake.
P_{LL} = axial live load.
P_{sc} = compressive axial strength of member.
P_{st} = tensile axial strength of member.
V_s = shear strength of member.
Z = plastic section modulus.

2211.4 Materials.

2211.4.1 Quality. Structural steel used in lateral-force-resisting systems shall conform to A 36, A 500, A 501, A 572 (Grades 42 and 50) and A 588. Structural steel conforming to A 283 (Grade D) may be used for base plates and anchor bolts.

EXCEPTION: Other steels permitted in this code may be used for the following:
1. One-story buildings.
2. Light-framed wall systems in accordance with Section 2211.10.

2211.4.2 Member Strength. Where this section requires that the strength of the member be developed, the following shall be used:

	Strength
Flexure	$M_s = ZF_y$
Shear	$V_s = 0.55\ F_y dt$
Axial compression	$P_{sc} = 1.7\ F_a A$
Axial tension	$P_{st} = F_y A$
Connectors	
Full-penetration welds	$F_y A$
Partial penetration welds	1.7 allowable
Bolts and fillet welds	1.7 allowable

Members need not be compact unless otherwise required by this section.

2211.5 Column Requirements.

2211.5.1 Column strength. Columns shall satisfy the load combinations required by Section 603.6 at allowable stress limits, with stress increases allowed by Section 1603.5. In addition, in Seismic Zones 3 and 4, columns in frames shall have the strength to resist the axial loads resulting from the load combinations in Items 1 and 2 following.

1. **Axial compression**

$$1.0\,P_{DL} + 0.7\,P_{LL} + 3(R_w/8)P_E$$

2. **Axial tension**

$$0.85\,P_{DL} \pm 3(R_w/8)P_E$$

EXCEPTION: The axial load combination as outlined in Items 1 and 2 above:
1. Need not exceed either the maximum force that can be transferred to the column, by elements of the structure, or the limit as determined by the overturning uplift which the foundation is capable of resisting.
2. Need not apply to columns in moment-resisting frames complying with Formula (11-3.1) or (11-3.2) where f_a is equal to or less than 0.3 F_y for all load combinations.

The load combinations from Items 1 and 2 need be used only when specifically referred to.

2211.5.2 Column splices. Column splices shall have sufficient strength to develop the column forces determined from Section 2211.5.1. Welded column splices subject to net tensile forces shall comply with the more critical of the following:

1. Partial penetration welds shall be designed to resist 150 percent of the force determined from Section 2211.5.1, Item 2.

2. Welding shall develop not less than 50 percent of the flange area strength of the smaller column.

Splices employing partial penetration welds shall be located at least three feet (914 mm) from girder flanges.

2211.5.3 Slenderness evaluation. This paragraph is applicable when the provisions are applied to the effective length determination of columns of moment frames resisting earthquake forces. In the plane of the earthquake forces the factor K may be taken as unity when all of the following conditions are met:

1. The column is either continuous or is fixed at each joint.

2. The maximum axial compressive stress, f_a, does not exceed 0.4 F_y under design loads.

3. The calculated story drift ratios are less than the values given in Section 1628.8.

2211.6 Ordinary Moment Frame Requirements. Ordinary moment frames (OMF) shall be designed to resist the load combinations in Section 1603.6.

All beam-to-column connections in OMFs which resist earthquake forces shall meet one of the following requirements:

1. Fully restrained (Type F.R. or Type 1) conforming with Section 2211.7.1.

2. Fully restrained (Type F.R. or Type 2) connections with the design strengths of the connections capable of resisting a combination of gravity loads and $3(R_w/8)$ times the design seismic forces.

3. Partially restrained (Type P.R. or Type 3) connections are permitted provided:

3.1 The connections are designed to resist the load combinations in Section 1603.6, and

3.2 The connections have been demonstrated by cyclic tests to have adequate rotation capacity to accommodate a story drift due to $3(R_w/8)$ times the design seismic forces.

3.3 The moment frame drift calculations shall include the contribution due to the rotation and distortion of the connection.

See Divisions VIII and IX for definitions of fully restrained and partially restrained connections.

2211.7 Special Moment-resisting Frame (SMRF) Requirements.

2211.7.1 Girder-to-column connection.

2211.7.1.1 Required strength. The girder-to-column connection shall be adequate to develop the lesser of the following:

1. The strength of the girder in flexure.

2. The moment corresponding to development of the panel zone shear strength as determined from Formula (11-1).

EXCEPTION: Where a connection is not designed to contribute flexural resistance at the joint, it need not develop the required strength if it can be shown to meet the deformation compatibility requirements of Section 1631.2.4.

2211.7.1.3 Connection strength. Connection configurations utilizing welds or high-strength bolts shall demonstrate, by approved cyclic test results or calculation, the ability to sustain inelastic rotation and develop the strength criteria in Section 2211.7.1.1 considering the effect of steel overstrength and strain hardening.

2211.7.1.3 Flange detail limitations. For steel whose specified ultimate strength is less than 1.5 times the specified yield strength, plastic hinges shall not form at locations in which the beam flange area has been reduced, such as for bolt holes. Bolted connections of flange plates of beam-column joints shall have the net-to-gross area ratio A_e/A_g equal to or greater than $1.2\ F_y/F_u$.

2211.7.2 Panel zone.

2211.7.2.1 Strength. The panel zone of the joint shall be capable of resisting the shear induced by beam bending moments due to gravity loads plus 1.85 times the prescribed seismic forces, but the shear strength need not exceed that required to develop $0.8\sum M_s$ of the girders framing into the column flanges at the joint. The joint panel zone shear strength may be obtained from the following formula:

$$V = 0.55\, F_y d_c t \left[1 + \frac{3 b_c t_{cf}^2}{d_b d_c t}\right] \qquad (11\text{-}1)$$

WHERE:

b_c = the width of the column flange.
d_b = the depth of the beam.
d_c = the column depth.
t = the total thickness of the joint panel zone including doubler plates.
t_{cf} = the thickness of the column flange.

2211.7.2.2 Thickness. The panel zone thickness, t_z, shall conform to the following formula:

$$t_z \geq (d_z + w_z)/90 \qquad (11\text{-}2)$$

WHERE:

d_z = the panel zone depth between continuity plates.
w_z = the panel zone width between column flanges.

For this purpose, t_z, shall not include any double plate thickness unless the doubler plate is connected to the column web with plug welds adequate to prevent local buckling of the plate.

2211.7.2.3 Doubler plates. Doubler plates provided to reduce panel zone shear stress or to reduce the web depth thickness ratio shall be placed not more than 1/16 inch (1.6 mm) from the column web and shall be welded across the plate width top and bottom with at least a 3/16-inch (4.7 mm) fillet weld. They shall be either butt or fillet welded to the column flanges to develop the shear strength of the doubler plate. Weld strength shall be as given in Section 2211.4.2.

2211.7.3 Width-thickness ratio. Girders shall comply with Division IX, except that the flange width-thickness ratio, $b_f/2t_f$, shall not exceed $52/\sqrt{F_y}$ (For **SI:** $0.31\sqrt{E/F_y}$). The width-thickness ratio of the column sections shall meet the requirements of Division IX, Section 2251N7. The outside wall width-thickness ratio of rectangular tubes used for columns shall not exceed $110/\sqrt{F_y}$ (For **SI:** $0.65\sqrt{E/F_y}$), unless otherwise stiffened.

2211.7.4 Continuity plates. When determining the need for girder tension flange continuity plates, the value of P_{bf} in Division IX shall be taken as $1.8\ (bt_f)F_{yb}$.

2211.7.5 Strength ratio. At any moment frame joint, the following relationships shall be satisfied:

$$\Sigma Z_c (F_{yc} - f_a)/\Sigma Z_b F_{yb} > 1.0 \quad (11\text{-}3.1)$$

or

$$\Sigma Z_c (F_{yc} - f_a)/1.25\Sigma M_{pc} > 1.0 \quad (11\text{-}3.2)$$

WHERE:

$f_a > 0$

M_{pc} = the sum of beam moments when panel zone shear strength reaches the value specified in Formula (11-1).

EXCEPTION: Columns meeting the compactness limitations for beams given in Section 2211.7.3 need not comply with this requirement provided they conform to one of the following conditions:

1. Columns with f_a less than 0.4 F_y for all load combinations other than loads specified in Section 2211.5.1, and

1.1 Which are used in the top story of a multistory building with building period greater than 0.7 second; or

1.2 Where the sum of their resistance is less than 20 percent of the shear in a story, and is less than 33 percent of the shear on each of the column lines within that story. A column line is defined for the purpose of this exception as a single line of columns, or parallel lines of columns located within 10 percent of the plan dimension perpendicular to the line of columns; or

1.3 When the design for combined axial compression and bending is proportioned to satisfy Division IX without the one-third permissible stress increase.

2. Columns in any story which have lateral shear strength 50 percent greater than that of the story above.

3. Columns which lateral shear strengths are not included in the design to resist code-required shears.

2211.7.6 Trusses in SMRF. Trusses may be used as horizontal members in SMRF if the sum of the truss seismic force flexural strength exceeds the sum of the column seismic force flexural strength immediately above and below the truss by a factor of at least 1.25. For this determination the strengths of the members shall be reduced by the gravity load effects. In buildings of more than one story, the column axial stress shall not exceed $0.4F_y$ and the ratio of the unbraced column height to the least radius of gyration shall not exceed 60. Columns shall have allowable stresses reduced 25 percent when one end frames into a truss, and 50 percent when both ends frame into trusses. The connection of the truss chords to the column shall develop the lesser of the following:

1. The strength of the truss chord.

2. The chord force necessary to develop 125 percent of the flexural strength of the column.

2211.7.7 Girder-column joint restraint.

2211.7.7.1 Restrained joint. Where it can be shown that the columns of SMRF remain elastic, the flanges of the columns need to be laterally supported only at the level of the girder top flange.

Columns may be assumed to remain elastic if one of the following conditions is satisfied:

1. The ratio in Formula (11-3.1) or (11-3.2) is greater than 1.25.

2. The flexural strength of the column is at least 1.25 times the moment that corresponds to the panel zone shear strength.

3. Girder flexural strength or panel zone strength will limit column stress ($f_a + f_{bx} + f_{by}$) to F_y of the column.

4. The column will remain elastic under gravity loads plus $3(R_w/8)$ times the prescribed seismic forces.

Where the column cannot be shown to remain elastic, the column flanges shall be laterally supported at the levels of the girder top and bottom flanges. The column flange lateral support shall be capable of resisting a force equal to one percent of the girder flange capacity at allowable stresses and at a limiting displacement perpendicular to the frame of 0.2 inch (5.1 mm). Required bracing members may brace the column flanges directly or indirectly through the column web or the girder flanges.

2211.7.7.2 Unrestrained joint. Columns without lateral support transverse to a joint shall conform to the requirements of Division IX, with the column considered as pin ended and the length taken as the distance between lateral supports conforming with Section 2211.7.7.1 above. The column stress, f_a, shall be determined from gravity loads plus the lesser of the following:

1. $3(R_w/8)$ times the prescribed seismic forces.

2. The forces corresponding to either 125 percent of the girder flexural strength or the panel zone shear strength.

The stress, f_{by}, shall include the effects of the bracing force specified in Section 2211.7.7.1 and PΔ effects.

l/r for such columns shall not exceed 60.

At truss frames the column shall be braced at each truss chord for a lateral force equal to one percent of the compression yield strength of the chord.

2211.7.8 Beam bracing. Both flanges of beams shall be braced directly or indirectly. The beam bracing between column center lines shall not exceed 96 r_y. In addition, braces shall be placed at concentrated loads where a hinge may form.

2211.7.9 Changes in beam flange area. Abrupt changes in beam flange area are not permitted within possible plastic hinge regions of special moment-resistant frames.

2211.7.10 Moment frame drift calculations. Moment frame drift calculations shall include bending and shear contributions from the clear girder and column spans, column axial deformation and the rotation and distortion of the panel zone.

EXCEPTIONS: 1. Drift calculations may be based on column and girder center lines where either of the following conditions is met:
1.1 It can be demonstrated that the drift so computed for frames of similar configuration is typically within 15 percent of that determined above.
1.2 The column panel zone strength can develop 0.8 ΣM_s of girders framing to the column flanges at the joint.
2. Column axial deformations may be neglected if they contribute less than 10 percent to the total drift.

2211.8 Requirements for Braced Frames.

2211.8.1 General. The provisions of this section apply to all braced frames except special concentrically braced frames designed in accordance with Section 2211.9 or eccentrically braced frames (EBF) designed in accordance with Section 2211.10. Those members which resist seismic forces totally or partially by shear or flexure shall be designed in accordance with Section 2211.7 except Section 2211.7.3.

2211.8.2 Bracing members.

2211.8.2.1 Slenderness. In Seismic Zones 3 and 4, the l/r ratio for bracing members shall not exceed $720/\sqrt{F_y}$ (For **SI**: $4.23\sqrt{E/F_y}$), except as permitted in Sections 2211.8.5 and 2211.8.6.

2211.8.2.2 Stress reduction. The allowable stress, F_{as}, for bracing members resisting seismic forces in compression shall be determined from the following formula:

$$F_{as} = BF_a \tag{11-4}$$

WHERE:

B = the stress-reduction factor determined from the following formula:

$$B = 1/[1 + [(Kl/r)/2C_c]] \tag{11-5}$$

F_a = the allowable axial compressive stress allowed in Division IX.

EXCEPTION: Bracing members carrying gravity loads may be designed using the column strength requirement and load combinations of Section 2211.5.1, Item 1.

2211.8.2.3 Lateral-force distribution. The seismic lateral force along any line of bracing shall be distributed to the various members so that neither the sum of the horizontal components of the forces in members acting in tension nor the sum of the horizontal components of forces in members acting in compression exceed 70 percent of the total force.

EXCEPTION: Where compression bracing acting alone has the strength, neglecting the strength-reduction factor B, to resist $3(R_w/8)$ times the prescribed seismic force such distribution is not required.

A line of bracing is defined, for the purpose of this provision, as a single line or parallel lines within 10 percent of the dimension of the structure perpendicular to the line of bracing.

2211.8.2.4 Built-up members. The l/r of individual parts of built-up bracing members between stitches, when computed about a line perpendicular to the axis through the parts, shall not be greater than 75 percent of the l/r of the member as a whole.

2211.8.2.5 Compression elements in braces. The width-thickness ratio of stiffened and unstiffened compression elements used in braces shall be as shown in Division IX.

2211.8.3 Bracing connection.

2211.8.3.1 Forces. Bracing connections shall have the strength to resist the least of the following:

1. The strength of the bracing in axial tension, P_{st}.

2. $3(R_w/8)$ times the force in the brace due to the prescribed seismic forces, in combination with gravity loads.

3. The maximum force that can be transferred to the brace by the system.

Bracing connections shall, as a minimum, satisfy the load combinations required by Section 1603.6 at allowable stress limits, with stress increases allowed by Section 1603.5. These

combinations sha. ~ include the provisions fo_ Section 2211.8.2.2 and 2211.8.4.1.

Beam-to-column connections for beams that are part of the bracing system shall have the capacity to transfer the force determined above. Where eccentricities in the frame geometry or connection load path exist, the affected members and connections shall have the strength to resist all secondary forces resulting from the eccentricities in combination with all primary forces using the lesser of the forces determined above.

2211.8.3.2 Net area. In bolted brace connections, the ratio of effective net section area to gross section area shall satisfy the formula:

$$\frac{A_e}{A_g} \geq \frac{1.2\ \alpha F^*}{F_u} \qquad (11\text{-}6)$$

WHERE:

A_e = effective net area as defined in Division IX.

F_u = minimum tensile strength.

F^* = stress in brace as determined in Section 2211.8.3.1.

α = fraction of the member force from Section 2211.8.3.1 that is transferred across a particular net section.

2211.8.4 Bracing configuration.

2211.8.4.1 Chevron bracing. Chevron bracing shall conform with the following:

1. Bracing members shall be designed for 1.5 times the otherwise prescribed seismic forces, in addition to the requirements of Section 2211.8.2.2.

2. The beam intersected by chevron braces shall be continuous between columns.

3. Where chevron braces intersect a beam from below, i.e., inverted V brace, the beam shall be capable of supporting all tributary gravity loads presuming the bracing not to exist.

EXCEPTION: This limitation need not apply to penthouses, one-story buildings or the top story of buildings.

2211.8.4.2 K bracing. K bracing is prohibited except as permitted in Section 2211.8.5.

2211.8.4.3 Nonconcentric bracing. Nonconcentric bracing shall conform with the following:

1. Any member intersected by the brace shall be continuous through the connection.

2. When the eccentricity of the brace is greater than the depth of the intersected member at the eccentric location, the affected member shall have the strength to resist the forces

prescribed in Section 2211.8.3.1, including the effects of all secondary forces resulting from the eccentricities.

2211.8.5 One- and two-story buildings. Braced frames not meeting the requirements of Sections 2211.8.2 and 2211.8.4 may be used in buildings not over two stories in height and in roof structures as defined in Chapter 15 if the braces have the strength to resist $3(R_w/8)$ times the code equivalent static forces.

2211.8.6 Nonbuilding structures. Nonbuilding structures with R_w values defined by Table 16-P need comply only with the provisions of Section 2211.8.3.

2211.9 Requirements for Special Concentrically Braced Frames.

2211.9.1 General. The provisions of this section apply to special concentrically braced frame structures as defined in Section 1625. All members and connections in special braced frames shall be designed and detailed to resist shear and flexure caused by eccentricities in the geometry of the members comprising the frame in accordance with Section 2211.9. Any member intersected by a brace shall be continuous through the connection. Horizontal bracing that transfers forces between horizontally offset bracing in the vertical plane shall be subject to the requirements of Section 2211.9, except Sections 2211.9.2.3; 2211.9.4.1, Item 3; and 2211.9.4.2. Horizontal bracing other than the above is not subjected to the requirements of Section 2211.9.

2211.9.2 Bracing members.

2211.9.2.1 Slenderness. The kl/r ratio for bracing members shall not exceed $1{,}000/\sqrt{F_y}$ (For **SI:** $5.87\sqrt{E/F_y}$), except as permitted in Section 2211.9.6.

2211.9.2.2 Lateral-force distribution. The seismic lateral force along any line of bracing shall be distributed to the various members so that neither the sum of the horizontal components of forces in members acting in compression or tension exceed 70 percent of the total force.

EXCEPTION: Where compression bracing acting alone has the strength to resist $3(R_w/8)$ times the prescribed seismic force, such distribution is not required.

A line of bracing is defined, for the purposes of this provision, as a single line or parallel lines within 10 percent of the dimension of the structure perpendicular to the line of bracing.

2211.9.2.3 Built-up members. The spacing of stitches shall be such that the slenderness ratio (l/r) of individual elements between the stitches does not exceed 0.4 times the governing slenderness ratio of the built-up member. The total shear strength of the stitches shall be at least equal to the tensile strength of each element. The spacing of the stitches shall be uniform and not less than two stitches shall be used. Bolted stitches shall not be located within the middle one fourth of the clear brace length.

EXCEPTION: Where it can be shown that braces can buckle without causing shear in the stitches, the spacing of the stitches shall be such that the slenderness ratio (l/r) of the individual element between the stitches does not exceed 0.75 times the governing slenderness ratio of the built-up member.

2211.9.2.4 Compression elements in braces. The width-thickness ratio of compression elements used in braces shall meet the requirements of Division IX, Table B5.1, for compact sections. The

width-thickness ratio of angle section shall be limited to $52/\sqrt{F_y}$ (For **SI:** $0.31\sqrt{E/F_y}$). Circular sections shall have outside diameter-wall thickness ratio not exceeding $1,300/F_y$ (For **SI:** $7.63E/F_y$), rectangular tubes shall have outside wall width-thickness ratio not exceeding $110/\sqrt{F_y}$ (For **SI:** $0.65\sqrt{E/F_y}$).

EXCEPTION: Compression elements stiffened to resist local buckling.

2211.9.3 Bracing connections.

2211.9.3.1 Forces. Bracing connections shall have the strength to resist the lesser of the following:

1. The strength of the brace in axial tension, P_{st}.

2. $3(R_w/8)$ times the force in the brace due to the prescribed seismic forces, in combination with gravity loads.

3. The maximum force that can be transferred to the brace by the system.

Bracing connection shall, as a minimum, satisfy the load combinations required by Section 1603.6 at allowable stress limits with stress increases allowed by Section 1603.5. Beam-to-column connections for beams that are part of the bracing system shall have the capacity to transfer the force determined above. Where eccentricities in the frame geometry or connection load path exist, the affected members and connections shall have the strength to resist all secondary forces resulting from the eccentricities in combination with all primary forces using the lesser of the forces determined above.

2211.9.3.2 Net area. In bolted brace connections, the ratio of effective net section area to gross section shall satisfy Formula (11-6) of Section 2211.8.3.2.

2211.9.3.3 Gusset plates. End connections of braces shall provide a flexural strength in excess of that of the brace gross section about the critical buckling axis.

EXCEPTION: Where the out-of-plane buckling strength of the brace is less than the in-plane buckling strength and the brace terminates on a single gusset plate connection with a setback of two times the gusset thickness from a line about which the gusset plate may bend unrestrained by the column or beam joints, and the gusset plate shall be designed to carry the compressive strength of the brace without buckling.

2211.9.4 Bracing configuration.

2211.9.4.1 Chevron bracing. Chevron bracing shall conform with the following:

1. The beam intersected by chevron braces shall be continuous between columns.

2. Where chevron braces intersect a beam from below, i.e., inverted V brace, the beam shall be capable of supporting all tributary gravity loads presuming the bracing not to exist.

3. A beam intersected by chevron braces shall have the strength to support the following tributary gravity loads and unbalanced brace force combinations:

$1.2D + 0.5L + P_b$

$0.9D - P_b$

WHERE:

D = tributary dead load.

L = tributary live load.

P_b = the maximum unbalanced post-buckling force that can be applied to the beam by the braces. For this purpose, the maximum unbalanced force may be computed using a minimum of P_{st} for the tension and a maximum of 0.3 P_{sc} for the compression brace.

4. Both flanges of beams at the point of intersection of chevron braces shall be laterally supported directly or indirectly.

EXCEPTION: Limitations 2 and 3 need not apply to penthouses, one-story buildings or the top story of buildings.

2211.9.4.2 K bracing. K bracing is prohibited.

2211.9.5 Columns. Columns in braced frames shall meet the requirements of Section 2211.7.3. In addition to meeting the requirements of Sections 2211.5.1 and 2211.5.2, column splices shall be designed to develop the full shear strength and 50 percent of the full moment strength of the section. Splices shall be located in the middle one third of the column clear height.

2211.9.6 Nonbuilding structures. Nonbuilding structures with R_w values defined by Table 16-P need comply only with the provisions of Sections 2211.9.3.1 and 2211.9.3.2.

2211.10 Eccentrically Braced Frame (EBF) Requirements.

2211.10.1 General. Eccentrically braced frames shall be designed in accordance with this section.

2211.10.2 Link beam. There shall be a link beam provided at least at one end of each brace. Beams in EBFs shall comply with the requirements of Division IX, except that the flange width-thickness ratio $b_f/2t_f$, shall not exceed $52/\sqrt{F_y}$.

2211.10.3 Link beam strength. Link beam shear strength, V_s, and flexural strength, M_s, are the strengths as defined in Section 2211.4.2. Where link beam strength is governed by shear, the flexural and axial capacities within the link shall be calculated using the beam flanges only.

A reduced flexural strength, M_{rs}, for use in Sections 2211.10.8 and 2211.10.13 is defined as $Z(F_y - f_a)$. Where f_a is less than $0.15F_y$, f_a may be neglected.

2211.10.4 Link beam rotation. The rotation of the link segment relative to the rest of the beam, at a total frame drift of $3(R_w/8)$ times the drift determined for prescribed seismic forces, shall not exceed the following:

1. 0.060 radians for link segments having clear lengths of $1.6\ M_s/V_s$ or less.

2. 0.015 radians for link segments having clear lengths of 3.0 M_s/V_s or greater.

3. A value obtained by linear interpolation for clear lengths between the above limits.

2211.10.5 Link beam web. The web of the link beam shall be single thickness without doubler plate reinforcement. No openings shall be placed in the web of a link beam. The web shear shall not exceed $0.8V_s$ under prescribed lateral forces.

2211.10.6 Beam connection braces. Brace-to-beam connections shall develop the compression strength of the brace and transfer this force to the beam web. No part of the brace-to-beam connection shall extend into the web area of a link beam.

2211.10.7 Link beam stiffeners. Link beams shall have full-depth web stiffeners on both sides of the beam web at the brace end of the link beam. In addition, for link beams with clear lengths within the limits in Section 2211.10.4, Item 3, full-depth stiffeners shall be placed at a distance b_f from each end of the link. The stiffeners shall have a combined width not less than $b - 2t_w$ and a thickness not less than 0.75 t_w or less than 3/8 inch (9.5 mm).

2211.10.8 Intermediate stiffeners. Intermediate full-depth web stiffeners shall be provided in either of the following conditions:

1. Where the link beam strength is controlled by V_s.

2. Where the link beam strength is controlled by flexure and the shear determined by applying the reduced flexural strength, M_{rs}, exceeds $0.45\ F_y dt$.

2211.10.9 Web stiffener spacing. Where intermediate web stiffeners are required, the spacing shall conform to the requirements given below.

1. For link beams with rotation angle of 0.06 radians, the spacing shall not exceed $38t_w - d/5$.

2. For link beams with a rotation angle of 0.03 radians or less, the spacing shall not exceed $56t_w - d/5$. Interpolation may be used for rotation angles between 0.03 and 0.06 radians.

2211.10.10 Web stiffener location. For beams 24 inches (610 mm) in depth and greater, intermediate full-depth web stiffeners are required on both sides of the web. Such web stiffeners are required only on one side of the beam web for beams less than 24 inches (610 mm) in depth. The stiffener thickness, t_w, of one side stiffeners shall not be less than 3/8 inch (9.5 mm) and the width shall not be less than $(b_f/2) - t_w$.

2211.10.11 Stiffener welds. Fillet welds connecting the stiffener to the beam web shall develop a stiffener force of $A_{st}F_y$. Fillet welds connecting the stiffener to the flanges shall develop a stiffener force of $A_{st}F_y/4$.

A_{st} = bt of stiffener.
b = width of stiffener plate.

2211.10.12 Link beam-column connections. Length of link beam connected to columns shall not exceed 1.6 M_s/V_s.

1. Where a link beam is connected to the column flange, the following requirements shall be met:

1.1 The beam flanges shall have full-penetration welds to the column.

1.2 Where the link beam strength is controlled by shear in conformance with Section 2211.10.8, the web connection shall be welded to develop the full link beam web shear strength.

2. Where the link beam is connected to the column web, the beam flanges shall have full-penetration welds to the connection plates and the web connection shall be welded to develop the link beam web shear strength. Rotation between the link beam and the column shall not exceed 0.015 radians at $3(R_w/8)$ times the drift due to the prescribed seismic forces.

2211.10.13 Brace and beam strengths. The controlling link beam strength is either the shear strength, V_s, or the reduced flexural strength, M_{rs}, whichever results in the lesser axial force in the brace.

Each brace and beam outside the link shall have axial strength at least 1.5 times the force corresponding to the controlling link beam strength. Each brace and beam outside the link shall have combined reduced flexural strength, M_{rs}, at least 1.0 times the force corresponding to the controlling link beam strength.

2211.10.14 Column strength. Columns shall be designed to remain elastic at 1.25 times the strength of the EBF bay, as defined in Section 2211.10.13 above. Column strength need not exceed the requirements of Section 2211.5.

2211.10.15 Roof link beam. A link beam is not required in roof beams for EBF over five stories.

2211.10.16 Concentric brace in combination. The first story of an EBF bay over five stories in height may be concentrically braced if this story can be shown to have an elastic capacity 50 percent greater than the yield capacity of the story frames above the first story.

2211.10.17 Axial forces. Axial forces in beams of EBF frames due to braces and due to transfer of seismic force to the end of the frames shall be included in the frame calculations.

2211.10.18 Beam flanges. Top and bottom flanges of EBF beams shall be laterally braced at the ends of link beams and at intervals not exceeding $76/\sqrt{F_y}$ (For **SI**: $0.45\sqrt{E/F_y}$) times the beam flange width. End bracing shall be designed to resist 6.0 percent of the beam flange strength, defined as $F_y b_f t_f$. Intermediate bracing shall be designed to resist 1.0 percent of the beam flange force at

the brace point ..ng the link beam strength ..cermined in Section 2211.10.13.

2211.10.19 Beam-column connection. Beam connections to columns may be designed as pins in the plane of the beam web if the link beam is not adjacent to the column. Such connection shall have the capacity to resist a torsional moment of $0.01\ F_y b_f t_f d$.

2211.11 Stud Wall Systems. Stud wall systems may be used to resist the specified seismic forces in buildings not over five stories in height. Such systems shall comply with the following:

1. The l/r of the brace may exceed 200 and is unlimited.

2. All boundary members, chords and collectors shall be designed and detailed to transmit the induced axial forces.

3. Connection of the diagonal bracing member, top chord splices, boundary members and collectors shall be designed to develop the full tensile strength of the member or $3(R_w/8)$ times the otherwise prescribed seismic forces.

4. Vertical and diagonal members of the braced bay shall be anchored so the bottom track is not required to resist uplift forces by bending of the track web.

5. Both flanges of studs in a bracing panel shall be braced to prevent lateral torsional buckling. Wire tied bridging shall not be considered to provide such restraint.

6. Screws shall not be used to resist lateral forces by pullout resistance.

7. Provision shall be made for pretensioning or other methods of installation of tension-only bracing to guard against loose diagonal straps.

NEW SECTION

WAC 51-30-2400 Chapter 24--Glass and glazing.

NEW SECTION

WAC 51-30-2406 Section 2406--Safety glazing.

2406.1 General. Glazing subject to human impact shall comply with this section.

2406.2 Identification. Each light of safety glazing material installed in hazardous locations as defined in Section 2406.4 shall be identified by a permanent label which specifies the labeler, whether the manufacturer or installer, and state that safety glazing material has been utilized in such installation. For additional identification requirements and for limitations on size

and use by categ. y classification, see U.B.C. Standard 24-2, Part I.

Each unit of tempered glass shall be permanently identified by the manufacturer. The identification shall be etched or ceramic fired on the glass and be visible when the unit is glazed. Tempered spandrel glass is exempted from permanent labeling but such glass shall be identified by the manufacturer with a removable paper label.

2406.3 Human Impact Loads. Individual glazed areas in hazardous locations such as those indicated in Section 2406.4, including glazing used in fire assemblies in accordance with Section 713, shall pass the test requirements of Part I of U.B.C. Standard 24-2.

EXCEPTIONS: 1. Louvered windows and jalousies complying with Section 2405 need not comply with Section 2406.3.
2. Polished wire glass complying with Part II of U.B.C. Standard 24-2 may be used in fire-rated assemblies and in locations specified in Items 6 and 7 of Section 2406.4.

Plastic glazing used in exterior applications also shall comply with the weathering requirements in Part II of U.B.C. Standard 24-2.

2406.4 Hazardous Locations. The following shall be considered specific hazardous locations for the purpose of glazing:

1. Glazing in ingress and egress doors except jalousies.

2. Glazing in fixed and sliding panels of sliding door assemblies and panels in swinging doors other than wardrobe doors.

3. Glazing in storm doors.

4. Glazing in all unframed swinging doors.

5. Glazing in doors and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers. Glazing in any portion of a building wall enclosing these compartments where the bottom exposed edge of the glazing is less than 60 inches (1525 mm) above a standing surface and drain inlet.

6. Glazing in fixed or operable panels adjacent to a door where the nearest exposed edge of the glazing is within a 24-inch (610 mm) arc of either vertical edge of the door in a closed position and where the bottom edge of the glazing is less than 60 inches (1525 mm) above the walking surface.

7. Glazing in an individual fixed or operable panel, other than those locations described in Items 5 and 6 above, that meets all of the following conditions:

7.1 Exposed area of an individual pane greater than 9 square feet (0.84 m^2).

7.2 Exposed bottom edge less than 18 inches (457 mm) above the floor.

7.3 Exposed top edge greater than 36 inches (914 mm) above the floor.

7.4 One or more walking surfaces within 36 inches (914 mm) horizontally of the plane of the glazing.

8. Glazing in railings regardless of height above a walking surface. Included are structural baluster panels and nonstructural in-fill panels.

EXCEPTION: The followi ducts and applications are exempt from the requiremen hazardous locations as listed in Items 1 through 8 above:

1. Glazing in Item 6 when there is an intervening wall or other permanent barrier between the door and the glazing.
2. Glazing in Item 7 when a protective bar is installed on the accessible sides of the glazing 34 inches (864 mm) to 38 inches (965 mm) above the floor. The bar shall be capable of withstanding a horizontal load of 50 pounds per linear foot (729 N/m) without contacting the glass and be a minimum of 1½ inches (38.1 mm) in height.
3. Outboard pane in insulating glass units and in other multiple glazed panels in Item 7 when the bottom exposed edge of the glass is 25 feet (7620 mm) or more above any grade, roof, walking surface or other horizontal or sloped (within 45 degrees of horizontal) surface adjacent to the glass exterior.
4. Openings is doors through which a 3-inch-diameter (76.2 mm) sphere will not pass.
5. Assemblies of leaded, faceted or carved glass in Items 1, 2, 6 and 7 when used for decorative purposes.
6. Curved panels in revolving door assemblies.
7. Door in commercial refrigerated cabinets.
8. Glass block panels complying with Section 2110.

9. Glazing in walls and fences used as the barrier for indoor and outdoor swimming pools and spas when all of the conditions are present:

9.1 The bottom edge of the glazing is less than 60 inches (1525 mm) above the pool side of the glazing.

9.2 The glazing is within 5 feet (1525 mm) of a swimming pool or spa deck area.

10. Glazing in walls at stairway landings within the width of the stair and within 5 feet (1525 mm) beyond the bottom and top of flights of stairs, where the bottom edge of the glazing is less than 60 inches (1525 mm) above a walking surface.

2406.5 Wardrobe Doors. Glazing in wardrobe doors shall meet the impact test requirements for safety glazing as set forth in U.B.C. Standard 24-2, Part II. Laminated glass must also meet the boil test requirements of U.B.C. Standard 24-2, part II.

EXCEPTION: The impact test shall be modified so that if no breakage occurs when the impacting object is dropped from the height of 18 inches (457 mm), the test shall progress in height increments of 6 inches (152 mm) until the maximum of 48 inches (1219 mm) is reached.

2406.6 Glass Railings. Glass used as structural balustrade panels in railings shall be one of the following types:

1. Single fully tempered glass.
2. Laminated fully tempered glass.
3. Laminated heat-strengthened glass.

The panels and their support system shall be designed to withstand the load specified in Table 16-B. A safety factor of 4 shall be used.

Each handrail or guardrail section shall be supported by a minimum of three glass balusters or otherwise supported so that it remains in place should one baluster panel fail.

Glass balusters shall not be installed without a handrail or guardrail attached.

For all glazing types the minimum nominal thickness shall be 1/4 inch (6.35 mm).

Glazing materials shall not be installed in railings in parking garages except for those locations where the railing is not exposed to impact from vehicles.

NEW SECTION

WAC 51-30-2900 Chapter 29--Plumbing systems.

NEW SECTION

WAC 51-30-2902 Section 2902--Number of fixtures.

2902.1 General. The number of plumbing fixtures within a building shall not be less than set forth in Section 2902 and Table 29-A.

2902.2 Group A Occupancies. In Group A Occupancies at least one drinking fountain shall be provided at each floor level in an approved location.

EXCEPTION: A drinking fountain need not be provided in a drinking or dining establishment.

For other requirements on plumbing fixtures, see Sections 807, 2903, 2904, and Table 29-A.

2902.3 Group B, F, H, M and S Occupancies. In Groups B, F, H, M, and S Occupancies, buildings or portions thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four. Such toilet facilities shall be located in such building or conveniently in a building adjacent thereto on the same property.

Such water closet rooms in connection with food establishments where food is prepared, stored or served shall have a nonabsorbent interior finish as specified in Section 807.1, shall have hand washing facilities therein or adjacent thereto, and shall be separated from food preparation or storage rooms as specified in Section 302.6.

For other requirements on plumbing fixtures, see Sections 807, 2903, 2904 and Table 29-A.

2902.4 Group E Occupancies. The number of plumbing fixtures within a building shall not be less than set forth in Table 29-A.

For other requirements on plumbing fixtures, see Sections 807, 2903 and 2904.

2902.5 Group I Occupancies. The number of plumbing fixtures within a building shall not be less than set forth in Table 29-A.

For other requirements on plumbing fixtures, see Sections 807, 2903 and 2904.

2902.6 Group R Occupancies. The number of plumbing fixtures within a building shall not be less than set forth in Table 29-A.

Dwelling units shall be provided with a kitchen equipped with a kitchen sink.

Each sink, lavatory and either a bathtub or shower shall be equipped with hot and cold running water necessary for its normal operation.

For other requirements on plumbing fixtures, see Section 807, 2903 and 2904.

NEW SECTION

WAC 51-30-2903 Section 2903--Accessibility.

For accessibility requirements for all plumbing fixtures see Chapter 11.

NEW SECTION

WAC 51-30-2904 Section 2904--Plumbing fixtures.

2904.1 Water closet space requirements. The water closet stool in all occupancies shall be located in a clear space not less than 30 inches (762 mm) in width. The clear space in front of the water closet stool shall not be less than 24 inches (610 mm).

2904.2 Drinking Fountains. Drinking fountains shall not be installed in toilet rooms.

2904.3 Finishes. See Section 807 for wall and floor finishes.

NEW SECTION

WAC 51-30-2910 Table 29-A--Minimum plumbing fixtures.

WAC 51-30-2910. TABLE 29-A —MINIMUM PLUMBING FIXTURES

TABLE 29-A -- MINIMUM PLUMBING FIXTURES [1,2,3,4,6]

TYPE OF BUILDING OR OCCUPANCY	WATER CLOSETS[3] (fixtures per person) MALE	FEMALE	LAVATORIES[5] (fixtures per person) MALE	FEMALE	BATHTUB OR SHOWER (fixtures per person)
For the occupancies listed below, use 30 square feet (2.79 m²) per occupant for the minimum number of plumbing fixtures.					
Group A Conference rooms, dining rooms, drinking establishments, exhibit rooms, gymnasiums, lounges, stages and similar uses including restaurants classified as Group B Occupancies	1:1-25 2:26-75 3:76-125 4:126-200 5:201-300 6:301-400 Over 400, add one fixture for each additional 200 males or 150 females.	1:1-25 2:26-75 3:76-125 4:126-200 5:201-300 6:301-400	one per 2 water closets		
For the assembly occupancies listed below, use the number of fixed seating or, where no fixed seating is provided, use 15 square feet (1.39 m²) per occupant for the minimum number of plumbing fixtures.					
Assembly places -- Theaters, auditoriums, convention halls, dance floors, lodge rooms, and casinos	1:1-100 2:101-200 3:201-400 Over 400 males, add one fixture for each additional 500, and over 400 females add one for each 50.	One per 25 up to 400	1:1-200 2:201-400 3:401-750 Over 750, add one fixture for each additional 500 persons.	1:1-200 2:201-400 3:401-750	

TABLE 29-A -- MINIMUM PLUMBING FIXTURES [1,2,3,4,6] (continued)

TYPE OF BUILDING OR OCCUPANCY	WATER CLOSETS[3] (fixtures per person) MALE	FEMALE	LAVATORIES[5] (fixtures per person) MALE	FEMALE	BATHTUB OR SHOWER (fixtures per person)
For the assembly occupancies listed below, use the number of fixed seating or, where no fixed seating is provided, use 15 square feet (1.39 m²) per occupant for the minimum number of plumbing fixtures.					
Group A Assembly places -- Stadiums, arena and sporting facilities	1:1-100 2:101-200 3:201-400 Over 400 males, add one fixture for each additional 500, and over 400 females add one for each 100.	One per 50 up to 400	1:1-200 2:201-400 3:401-750 Over 750, add one fixture for each additional 500 persons.	1:1-200 2:201-400 3:401-750	
For the assembly occupancies listed below, use the number of fixed seating or, where no fixed seating is provided, use 30 square feet (2.79 m²) per occupant for the minimum number of plumbing fixtures.					
Worship places Principal assembly area	one per 150	one per 75	one per 2 water closets		
Worship places Educational and activity unit	one per 125	one per 75	one per 2 water closets		
For the occupancies listed below, use 200 square feet (18.58 m²) per occupant for the minimum number of plumbing fixtures					
Group B	1:1-15 2:16-35 3:36-55 Over 55, add one for each 75 persons.	1:1-15 2:16-35 3:36-55	one per 2 water closets		

TABLE 29-A -- MINIMUM PLUMBING FIXTURES [1,2,3,4,6] (continued)

TYPE OF BUILDING OR OCCUPANCY	WATER CLOSETS[3] (fixtures per person) MALE	FEMALE	LAVATORIES[5] (fixtures per person) MALE	FEMALE	BATHTUB OR SHOWER (fixtures per person)
For the occupancies listed below, use 100 square feet (9.3 m²) per student for the minimum number of plumbing fixtures.					
Group E Schools -- for staff use All schools (One staff per 20 students)	1:1-15 2:16-35 3:36-55 Over 55, add one fixture for each additional 40 persons.	1:1-15 2:16-35 3:36-55	one per two water closets		
Schools -- for student use Day care	1:1-20 2:21-50 Over 50, add one fixture for each additional 50 persons.	1:1-20 2:21-50	1:1-20 2:21-50 Over 50, add one fixture for each additional 50 persons.	1:1-20 2:21-50	
Elementary	one per 30	one per 25	one per two water closets		
Secondary	one per 40	one per 30	one per two water closets		
For the occupancies listed below, use 50 square feet (4.65 m²) per occupant for the minimum number of plumbing fixtures.					
Education Facilities other than Group E Others (colleges, universities, adult centers, etc.)	one per 40	one per 25	one per two water closets		
For the occupancies listed below, use 2,000 square feet (185.8 m²) per occupant for the minimum number of plumbing fixtures.					
Group F Workshop, foundries and similar establishments, and Group H Occupancies	1:1-10 2:11-25 3:26-50 4:51-75 5:76-100 Over 100, add one fixture for each additional 300 persons.	1:1:1-10 2:11-25 3:26-50 4:51-75 5:76-100	one for each two water closets		one shower for each 15 persons exposed to excessive heat or to skin contamination with irritating materials

TABLE 29-A -- MINIMUM PLUMBING FIXTURES [1,2,3,4,6] (continued)

TYPE OF BUILDING OR OCCUPANCY	WATER CLOSETS[3] (fixtures per person) MALE	FEMALE	LAVATORIES[5] (fixtures per person) MALE	FEMALE	BATHTUB OR SHOWER (fixtures per person)
For the occupancies listed below, use the designated application and 200 square feet (18.58 m²) per occupant of the general use area for the minimum number of plumbing fixtures.					
Group I [7] Hospital waiting rooms Hospital general use areas	one per room (usable by either sex) 1:1-15 2:16-35 3:36-55 Over 55, add one fixture for each additional 40 persons.	 1:1-15 3:16-35 4:36-55	one per room one per each two water closets		
Hospital patient rooms: Single Bed	one adjacent to and directly accessible from		one per toilet room		one per toilet room
Isolation	one adjacent to and directly accessible from		one per toilet room		one per toilet room
Multi-Bed	one per four patients		one per four patients		one per eight patients
Long-term	one per four patients		one per four patients		one per 15 patients
Jails and reformatories Cell Exercise room	 one per cell one per exercise room		 one per cell one per exercise room		
Other institutions (on each occupied floor)	one per 25	one per 25	one per two water closets		one per eight
For the occupancies listed below, use 200 square feet (18.58 m²) per occupant for the minimum number of plumbing fixtures.					
Group M Retail or wholesale stores	1:1-50 2:51-100 3:101-400 Over 400, add one fixture for each additional 500 males and one for each 150 females.	1:1-50 2:51-100 3:101-200 4:201-300 5:301-400	one for each two water closets		

TABLE 29-A -- MINIMUM PLUMBING FIXTURES [1,2,3,4,6] (continued)

TYPE OF BUILDING OR OCCUPANCY	WATER CLOSETS[3] (fixtures per person) MALE	FEMALE	LAVATORIES[5] (fixtures per person) MALE	FEMALE	BATHTUB OR SHOWER (fixtures per person)
For Group R Occupancies, dwelling units and hotel guest rooms, use the chart. For congregate residences, use 200 square feet (18.58 m²) for Group R, Division 1 Occupancies and 300 square feet (27.87 m²) for Group R, Division 3 Occupancies for the minimum plumbing fixtures.					
Group R Dwelling units Hotel guest rooms	one per dwelling unit one per guest room		one per dwelling unit one per guest room		one per dwelling unit one per guest room
Congregate residences	one per 10 Over 10, add one fixture for each additional 25 males and over 8, add one for each additional 20 females.	one per 8	one per 12 over 12, add one fixture for each additional 20 males and one for each additional 15 females.	one per 12	one per eight For females, add one additional unit per each additional 30. Over 150, add one additional unit per each additional 20 females.
For the occupancies listed below, use 5,000 square feet (464.5 m²) per occupant for the minimum number of plumbing fixtures.					
Group S Warehouses	1:1-10 2:11-25 3:26-50 4:51-75 5:76-100 Over 100, add one for each 300 males and females.	1:1-10 2:11-25 3:26-50 4:51-75 5:76-100	One per 40 occupants of each sex.		one shower for each 15 persons exposed to excessive heat or to skin contamination with poisonous, infectious or irritating materials.

[1]The figures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction thereof.

[2]Any category not mentioned specifically or about which there are any questions shall be classified by the building official and included in the category which it most nearly resembles, based on the expected use of the plumbing facilities.

[3]Where urinals are provided, one water closet less than the number specified may be provided for each urinal installed, except the number of water closets in such cases shall not be reduced to less than one half of the minimum specified. For men's facilities serving 26 or more persons, not less than one urinal shall be provided.

[4]Occupant loads over 30 shall have one drinking fountain for each 150 occupants.

[5]Twenty-four inches (610 mm) of wash sink or 18 inches (457 mm) of a circular basin, when provided with water outlets for such space, shall be considered equivalent to one lavatory.

[6]When the design occupant load is less than 10 persons, a facility usable by either sex may be approved by the building official.

[7]See WAC 246-318-690 for definitions, other fixtures and equipment for hospitals.

NEW SECTION

WAC 51-30-3400 Chapter 34--Existing structures.

NEW SECTION

WAC 51-30-3404 Section 3404--Moved buildings.

Buildings or structures moved into or within a jurisdiction shall comply with the provisions of this code, the Uniform Mechanical Code (WAC 51-32), the Uniform Fire Code and Standards (WAC 51-34 and 51-35), the Uniform Plumbing Code and Standards (WAC 51-26 and 51-27), the Washington State Energy Code (WAC 51-11) and the Washington State Ventilation and Indoor Air Quality Code (WAC 51-13) for new buildings or structures.

EXCEPTION: Group R, Division 3 buildings or structures are not required to comply if:

1. The original occupancy classification is not changed, and
2. The original building is not substantially remodeled or rehabilitated. For the purposes of this section a building shall be considered to be substantially remodeled when the costs of remodeling exceed 60 percent of the value of the building exclusive of the costs relating to preparation, construction, demolition or renovation of foundations.

THIS APPENDIX IS FOR REFERENCE ONLY. IT IS NOT THE RESPONSIBILITY OF THE BUILDING OFFICIAL TO ENFORCE IT.
APPENDIX CHAPTER 11
DIVISION I
US DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEDERAL FAIR HOUSING ACT
GUIDELINES FOR SITE TERRAIN EXEMPTIONS

NEW SECTION

WAC 51-30-93115 Section 93115.

Section 93115.1 Purpose. The purpose of this division is to provide the United States Department of Housing and Urban Development Federal Fair Housing Act Guidelines for Site Terrain Exemptions.

93115.2 Scope.

93115.2.1 General. The provisions of this division may apply to all buildings and dwelling units that are regulated by the Federal Fair Housing Act Amendments of 1988.

93115.2.2 Applicability of Other Provisions. Except as specifically allowed by this division for determining site terrain exemptions, Group R, Division 1 apartment houses shall meet all applicable provisions of this code.

93115.3 Definitions. For the purpose of this division, certain terms are defined as follows:

COVERED MULTIFAMILY DWELLINGS means buildings consisting of four or more dwelling units if such buildings have one or more elevators; and ground floor dwelling units in other buildings consisting of four or more dwelling units. Dwelling units within a single structure separated by firewalls do not constitute separate buildings.

FINISHED GRADE means the ground surface of the site after all construction, leveling, grading, and development has been completed.

UNDISTURBED SITE means the site before any construction, leveling, grading, or development associated with the current project.

93115.4 Site Impracticality.

93115.4.1 General. Covered multifamily dwellings with elevators shall be designed and constructed to provide at least one accessible entrance on an accessible route, regardless of terrain or unusual characteristics of the site. Covered multifamily dwellings without elevators shall be designed and constructed to provide at least one accessible entrance on an accessible route unless terrain or unusual characteristics of the site are such that the following conditions are found to exist:

A. **Site Impracticality Due to Terrain.** There are two alternative tests for determining a site impracticality due to terrain: The individual building test provided in paragraph (1), or the site analysis test provided in paragraph (2). These tests may be used as follows.

A site with a single building having a common entrance for all units may be analyzed only as described in paragraph (1).

All other sites, including a site with a single building having multiple entrances serving either individual dwellings units or clusters of dwelling units, may be analyzed using the methodology in either paragraph (1) or paragraph (2). For these sites for which either test is applicable, regardless of which test is selected, at least 20% of the total ground floor units in nonelevator buildings, on any site, must comply with the guidelines.

1. **Individual Building Test.** It is impractical to provide an accessible entrance served by an accessible route when the terrain of the site is such that:

1.1. The slopes of the undisturbed site measured between the planned entrance and all vehicular or pedestrian arrival points within 50 feet (15 m) of the planned entrance exceed 10 percent.

1.2. The slopes of the planned finished grade measured between the entrance and all vehicular or pedestrian arrival points within 50 feet (15 m) of the planned entrance also exceed 10 percent.

If there are no vehicular or pedestrian arrival points within 50 feet (15 m)of the planned entrance, the slope for the purpose of this paragraph (1) will be measured to the closest vehicular or pedestrian arrival point.

For purpose of these guidelines, vehicular or pedestrian arrival points include public or resident parking areas; public transportation stops; passenger loading zones; and public streets or sidewalks. To determine site impracticality, (1) the slope would be measured at ground level from the point of the planned entrance, or (2) if there are no vehicular or pedestrian arrival points close to the planned entrance. In the case of sidewalks, the closest point to the entrance will be where a public sidewalk entering the site intersects with the sidewalk to the entrance. In the case of resident parking areas, the closest point to the planned entrance will be measured from the entry point to the parking area that is located closest to the planned entrance.

2. **Site Analysis Test.** Alternatively, for a site having multiple buildings, or a site with a single building with multiple entrances, impracticality of providing an accessible entrance served by an accessible route can be established by the following steps:

2.1. The percentage of the total buildable area of the undisturbed site with a natural grade less than 10% slope shall be calculated. The analysis of the existing slope (before grading) shall be done on a topographic survey with two foot (610 mm) contour intervals with slope determination made between each successive interval. The accuracy of the slope analysis shall be certified by a professional licensed engineer, landscape architect, architect, or surveyor.

2.2. To determine the practicality of providing accessibility to planned multifamily dwellings based on the topography of the existing natural terrain, the minimum percentage of ground floor units to be made accessible should equal the percentage of the total buildable area (not including floodplain, wetlands, or other restricted use areas) of the undisturbed site that has an existing natural grade of less than 10% slope.

2.3. In addition to the percentage established in paragraph 2.2, all ground floor units in a building, or ground floor units served by a particular entrance, shall be made accessible if the entrance to the units is on an accessible route, defined as a walkway with a slope between the planned entrance and a pedestrian or vehicular arrival point that is no greater than 8.33%.

B. **Site Impracticality Due to Unusual Characteristics.** Unusual characteristics include sites located in a federally-designated floodplain or coastal high-hazard area and sites subject to other similar requirements of law or code that the lowest structural member of the lowest floor must be raised to a specified level at or above the base flood elevation. An accessible route to a building entrance is impractical due to unusual characteristics of the site when:

1. The unusual site characteristics result in a difference in finished grade elevation exceeding 30 inches (760 mm) and 10 percent measured between an entrance and all vehicular or pedestrian arrival points within 50 feet (15 m) of the planned entrance; or

2. If there are no vehicular or pedestrian arrival points within 50 feet (15 m) of the planned entrance, the unusual characteristics result in a difference in finished grade elevation

exceeding 30 inches (760 mm) and 10 percent measured between an entrance and the closest vehicular or pedestrian arrival point.

93115.4.2 Exceptions to Site Impracticality. Regardless of site considerations described in Section 93115.4.1, an accessible entrance on an accessible route is practical when:

A. There is an elevator connecting the parking area with the dwelling units on a ground floor. (In this case, those dwelling units on the ground floor served by an elevator, and at least one of each type of public and common use areas, would be subject to these guidelines.) However:

1. Where a building elevator is provided only as a means of creating an accessible route to dwelling units on a ground floor, the building is not considered an elevator building for purposes of theses guidelines; hence, only the ground floor dwelling units would be covered.

2. If the building elevator is provided as a means of access to dwelling units other than dwelling units on a ground floor, then the building is an elevator building which is a covered multifamily dwelling, and the elevator in that building must provide accessibility to all dwelling units in the building, regardless of the slope of the natural terrain; or

B. An elevated walkway is planned between a building entrance and a vehicular or pedestrian arrival point and the planned walkway has a slope no greater than 10 percent.

THIS APPENDIX IS FOR REFERENCE ONLY. IT IS NOT THE RESPONSIBILITY OF THE BUILDING OFFICIAL TO ENFORCE IT.

APPENDIX CHAPTER 11

DIVISION II

AMERICANS WITH DISABILITIES ACT

GUIDELINES FOR READILY ACHIEVABLE BARRIER REMOVAL

NEW SECTION

WAC 51-30-93116 Section 93116.

Section 93116.1 Purpose. The purpose of this division is to provide the United States Department of Justice, Americans with Disabilities Act Guidelines for readily achievable barrier removal in existing buildings.

93116.2 Scope.

93116.2.1 General. The provisions of this division may be used as a guideline for the removal of readily achievable barriers to accessibility in existing buildings, as required by the Americans with Disabilities Act of 1990.

93116.2.2 Applicability of Other Provisions. Except as specifically allowed by this division, all buildings and portions thereof shall meet all applicable provisions of this code.

93116.3 Definitions. For the purpose of this division, certain terms are defined as follows:

COMMERCE is travel, trade, traffic, commerce, transportation, or communication--

1. Among the several States;
2. Between any foreign country or any territory or possession and any State; or
3. Between points in the same State but through another State or foreign country.

COMMERCIAL FACILITIES are facilities--

1. Whose operations will affect commerce;
2. That are intended for nonresidential use by a private entity; and
3. That are not--

3.1. Facilities that are covered or expressly exempted from coverage under the Fair Housing Act of 1968, as amended (42 U.S.C. 3601-3631);

3.2 Aircraft; or

3.3. Railroad locomotives, railroad freight cars, railroad cabooses, commuter or intercity passenger rail cars (including coaches, dining cars, sleeping cars, lounge cars, and food service cars), any other railroad cars described in Section 242 of the American's with Disabilities Act or covered under title II of the American's with Disabilities Act, or railroad rights-of-way. For purposes of this definition, "rail" and "railroad" have the meaning given the term "railroad" in Section 202(e) of the Federal Railroad Safety Act of 1970 (46 U.S.C. 431(e)).

PLACE OF PUBLIC ACCOMMODATION is a facility, operated by a private entity, whose operations affect commerce and fall within at least one of the following categories--

1. An inn, hotel, motel, or other place of lodging, except for an establishment located within a building that contains not more than five rooms for rent or hire and that is actually occupied by the proprietor of the establishment as the residence of the proprietor;
2. A restaurant, bar, or other establishment serving food or drink;
3. A motion picture house, theater, concert hall, stadium, or other place of exhibition or entertainment;
4. An auditorium, convention center, lecture hall, or other place of public gathering;
5. A bakery, grocery store, clothing store, hardware store, shopping center, or other sales or rental establishment;
6. A laundromat, dry-cleaner, bank, barber shop, beauty shop, travel service, shoe repair service, funeral parlor, gas station, office of an accountant or lawyer, pharmacy, insurance office, professional office of a health care provider, hospital, or other service establishment;
7. A terminal, depot, or other station used for specified public transportation;

8. A museum, library, gallery, or other place of public display or collection;

9. A park, zoo, amusement park, or other place of recreation;

10. A nursery, elementary, secondary, undergraduate, or postgraduate private school, or other place of education;

11. A day care center, senior citizen center, homeless shelter, food bank, adoption agency, or other social service center establishment; and

12. A gymnasium, health spa, bowling alley, golf course, or other place of exercise or recreation.

PRIVATE ENTITY is a person or entity other than a public entity.

PUBLIC ACCOMMODATION is a private entity that owns, leases (or leases to), or operates a place of public accommodation.

PUBLIC ENTITY is--

1. Any State or local government;

2. Any department, agency, special purpose district, or other instrumentality of a State or States or local government; and

3. The National Railroad Passenger Corporation, and any commuter authority (as defined in Section 103(8) of the Rail Passenger Service Act).

READILY ACHIEVABLE is easily accomplishable and able to be carried out without much difficulty or expense. In determining whether an action is readily achievable, factors to be considered include--

1. The nature and cost of the action needed under this part;

2. The overall financial resources of the site or sites involved in the action; the number of persons employed at the site; the effect on expenses and resources, or the impact otherwise of the action upon the operation of the site;

3. The overall financial resources of any parent corporation or entity; the overall size of the parent corporation or entity with respect to the number of its employees; the number, type, and location of its facilities;

4. The type of operation or operations of the parent corporation or entity, including the composition, structure, and functions of the workforce of the parent corporation or entity; and

5. The geographic separateness, and the administrative or fiscal relationship of the site or sites in question to the parent corporation or entity.

93116.4 Removal of Barriers. A public accommodation shall remove architectural barriers in existing facilities, including communication barriers that are structural in nature, where such removal is readily achievable, i.e., easily accomplishable and able to be carried out without much difficulty or expense.

93116.5 Examples. Examples of steps to remove barriers include, but are not limited to, the following actions:

1. Installing ramps;

2. Making curb cuts in sidewalks and entrances;

3. Lowering shelves;

4. Rearranging tables, chairs, vending machines, display racks, and other furniture;

5. Lowering telephones;

6. Adding raised letter markings on elevator control buttons;
7. Installing flashing alarm lights;
8. Widening doors;
9. Installing offset hinges to widen doorways;
10. Eliminating a turnstile or providing an alternative accessible path;
11. Installing accessible door hardware;
12. Installing grab bars in toilet stalls;
13. Rearranging toilet partitions to increase maneuvering space;
14. Insulating lavatory pipes;
15. Installing a raised toilet seat;
16. Installing a full-length bathroom mirror;
17. Lowering the paper towel dispenser in a bathroom;
18. Creating a designated accessible parking space;
19. Installing an accessible paper cup dispenser at an existing inaccessible water fountain;
20. Removing high pile, low density carpeting; or
21. Modifying vehicle hand controls.

93116.6 Priorities. A public accommodation shall take measures to comply with the barrier removal requirements of this section in accordance with the following order of priorities:

1. First, a public accommodation shall take measures to provide access to a place of public accommodation from public sidewalks, parking, or public transportation. These measures include, for example, installing an entrance ramp, widening entrances, and providing accessible parking spaces.
2. Second, a public accommodation shall take measures to provide access to those areas of a place of public accommodation where goods and services are made available to the public. These measures include, for example, adjusting the layout of display racks, rearranging tables, widening doors, and installing ramps.
3. Third, a public accommodation shall take measures to provide access to restroom facilities in places of public accommodation where restroom facilities are used by the public on more than an incidental basis. These measures include, for example, removal of obstructing furniture or vending machines, widening of doors, installations of ramps, providing accessible signage, widening of toilet stalls, and installations of grab bars.
4. Fourth, a public accommodation shall take any other measures necessary to provide access to the goods, services, facilities, privileges, advantages, or accommodations of a place of public accommodation.

93116.7 Relationship to Alterations Requirements of Chapter 11, Part III of this Code. Measures taken solely to comply with the barrier removal requirements of this section are not required to conform to the requirements for alterations in Chapter 11, Part III of this code. These measures include, for example, installing a ramp with a steeper slope or widening a doorway to a narrower width than that required by Chapter 11, Part III of this code. No measure shall be taken, however, that poses a significant risk to the health or safety of individuals with disabilities or others. Barrier removal is required to conform to the Americans with Disabilities Act requirements for existing buildings.

93116.8 Portable Ramps. Portable ramps should be used to comply with this division only when installation of a permanent ramp is not readily achievable. In order to avoid any significant risk to the health or safety of individuals with disabilities or others in using portable ramps, due consideration shall be given to safety features such as nonslip surfaces, railings, anchoring, and strength of materials.

93116.9 Interpretation of Readily Achievable.

93116.9.1 The rearrangement of temporary or movable structures, such as furniture, equipment, and display racks is not readily achievable to the extent that it results in a significant loss of selling or serving space.

93116.10 Alternatives to Barrier Removal.

93116.10.1 General. Where a public accommodation can demonstrate that barrier removal is not readily achievable, a public accommodation shall not fail to make its goods and services, facilities, privileges, advantages, or accommodations available through alternative methods, if those methods are readily achievable.

93116.10.2 Examples. Examples of alternatives to barrier removal include, but are not limited to, the following actions:

1. Providing curb service or home delivery;
2. Retrieving merchandise from inaccessible shelves or racks;
3. Relocating activities to accessible locations;
4. Providing refueling service at inaccessible self-service gas stations.

93116.11 Personal Devices and Services. This section does not require a public accommodation to provide its customers, clients, or participants with personal devices, such as wheelchairs, or services of a personal nature including assistance in eating, toileting, or dressing.

93116.12 Multiscreen Cinemas. If it is not readily achievable to remove barriers to provide access by persons with mobility impairments to all of the theaters of a multiscreen cinema, the cinema shall establish a film rotation schedule that provides reasonable access for individuals who use wheelchairs to all films. Reasonable notice shall be provided to the public as to the location and time of accessible showings.

93116.13 Readily Achievable and Undue Burden: Factors to be Considered. In determining whether an action is readily achievable or would result in an undue burden, factors to be considered include:

1. The nature and cost of the action needed under this part;
2. The overall financial resources of the site or sites involved in the action; the number of persons employed at the site; the effect on expenses and resources, or the impact otherwise of the action upon the operation of the site;
3. The overall financial resources of any parent corporation or entity; the overall size of the parent corporation or entity with respects to the number of its employees; the number, type, and location of its facilities;

4. The type of operation or operations of the parent corporation or entity, including the composition, structure, and functions of the workforce of the parent corporation or entity; and

5. The geographic separateness, and the administrative or fiscal relationship of the site or sites in question to the parent corporation or entity.

93116.14 Accessible or Special Goods.

93116.14.1 This part does not require a public accommodation to alter its inventory to include accessible or special goods that are designed for, or facilitate use by, individuals with disabilities.

93116.14.2 A public accommodation shall order accessible or special goods at the request of an individual with disabilities, if, in the normal course of its operation, it makes special orders on request for unstocked goods, and if the accessible or special goods can be obtained from a supplier with whom the public accommodation customarily does business.

93116.14.3 Examples of accessible or special goods include items such as Braille versions of books, books on audio cassettes, closed-captioned video tapes, special sizes or lines of clothing, and special foods to meet particular dietary needs.

93116.15 Seating in Assembly Areas. To the extent that it is readily achievable, a public accommodation shall:

1. Provide a reasonable number of wheelchair seating spaces in assembly areas; and,

2. Locate the wheelchair seating spaces so that they:

2.1. Are dispersed throughout the seating area;

2.2. Provide lines of sight comparable to those in all viewing areas;

2.3. Adjoin an accessible route of travel that also serves as a means of egress in case of emergency; and,

2.4. Permit individuals who use wheelchairs to sit with family members or other companions.

EXCEPTION: If removal of seats is not readily achievable, a public accommodation shall provide a portable chair or other means to permit a family member or other companion to sit with an individual who uses a wheelchair.

THIS APPENDIX IS FOR REFERENCE ONLY. IT IS NOT THE RESPONSIBILITY OF THE BUILDING OFFICIAL TO ENFORCE IT.

APPENDIX CHAPTER 11

DIVISION III

AMERICANS WITH DISABILITIES ACT

ALTERNATE GUIDELINES FOR DETECTABLE WARNINGS

NEW SECTION

WAC 51-30-93117 Section 93117.

Section 93117.1 General. The purpose of this division is to provide additional design guidelines for construction and installation of truncated domes as required by the Americans with Disabilities Act of 1990.

93117.2 Raised Truncated Domes. Raised truncated domes shall have a diameter of 0.9 inches (23 mm) nominal, a height of 0.2 inches (5 mm) nominal and a center-to-center spacing of 2.35 inches (60 mm) nominal. Raised truncated domes shall comply with Appendix Chapter 11, Division VI for visual contrast.

THIS APPENDIX IS FOR REFERENCE ONLY. IT IS NOT THE RESPONSIBILITY OF THE BUILDING OFFICIAL TO ENFORCE IT.
APPENDIX CHAPTER 11
DIVISION IV
AMERICANS WITH DISABILITIES ACT
ALTERNATE GUIDELINES FOR AUDIBLE ALARMS

NEW SECTION

WAC 51-30-93118 Section 93118.

Section 93118.1 Purpose. The purpose of this division is to provide the United States Department of Justice, Americans with Disabilities Act Guidelines for audible alarms.

93118.2 Audible Alarms. Audible alarms shall exceed the prevailing equivalent sound level in the room or space by at least 15 decibels, or shall exceed any maximum sound level with a duration of 30 seconds by 5 decibels, whichever is louder. Sound levels for alarm signals shall not exceed 120 decibels.

THIS APPENDIX IS FOR REFERENCE ONLY. IT IS NOT THE RESPONSIBILITY OF THE BUILDING OFFICIAL TO ENFORCE IT.
APPENDIX CHAPTER 11
DIVISION V
AMERICANS WITH DISABILITIES ACT
ALTERNATE GUIDELINES FOR VISUAL CONTRAST

NEW SECTION

WAC 51-30-93119 Section 93119.

Section 93119.1 Purpose. The purpose of this division is to provide the United States Department of Justice, Americans with Disabilities Act Guidelines for visual contrast.

93119.2 Guidelines for Visual Contrast.

93119.2.1 Raised truncated domes. Raised truncated domes used as detectable warnings shall contrast visually by 70 percent with adjoining surfaces. Contrast in percent shall be determined as follows:

$$\text{Contrast} = [(B^1 - B^2) / B^1] \times 100$$

Where: B^1 = light reflectance value (LRV) of the lighter area;
and,
B^2 = light reflectance value (LRV) of the darker area.

The material used to provide contrast shall be an integral part of the walking surface.

93119.2.2 Signage. The characters and background of signs shall be eggshell (11 to 19 degree gloss on 60 degree glossimeter). Characters shall be light on a dark background (or dark on a light background) and contrast with their background by at least 70 percent. Contrast in percent shall be determined as follows:

$$\text{Contrast} = [(B^1 - B^2) / B^1] \times 100$$

Where: B^1 = light reflectance value (LRV) of the lighter area;
and,
B^2 = light reflectance value (LRV) of the darker area.

THIS APPENDIX IS FOR REFERENCE ONLY. IT IS NOT THE RESPONSIBILITY OF THE BUILDING OFFICIAL TO ENFORCE IT.

APPENDIX CHAPTER 11
DIVISION VI
AMERICANS WITH DISABILITIES ACT GUIDELINES FOR AUTOMATED TELLER MACHINES

NEW SECTION

WAC 51-30-93120 Section 93120.

Section 93120.1 Purpose. The purpose of this division is to provide the United States Architectural and Transportation Barriers Compliance Board Americans with Disabilities Act Guidelines for automated teller machines.

93120.2 Accessible buildings: Automated teller machines. Where automated teller machines are provided, each machine shall comply with the requirements below except where two or more machines are provided at a location, then only one must comply.

EXCEPTION: Drive-up-only automated teller machines are not required to comply with 93120.4 and 93120.5.

93120.3 General. Each automated teller machine required to be accessible by 93120.2 shall be on an accessible route and shall comply with the provisions of the section.

93120.4 Clear floor space. The automated teller machine shall be located so that clear floor space complying with 1106.2.4.1, 1106.2.4.2, 1106.2.4.3 and 1106.2.4.4 is provided to allow a person using a wheelchair to make a forward approach, a parallel approach, or both, to the machine.

93120.5 Reach ranges.

1. **Forward approach only.** If only a forward approach is possible, operable parts of all controls shall be placed within the forward reach range specified in 1106.2.4.5.

2. **Parallel approach only.** If only a parallel approach is possible, operable parts of controls shall be placed as follows:

2.1 Reach Depth Not More Than 10 inches (255 mm). Where the reach depth to the operable parts of all controls as measured from the vertical plane perpendicular to the edge of the unobstructed clear space at the farthest protrusion of the automated teller machine or surround is not more than 10 inches (255 mm), the maximum height above the finished floor or grade shall be 54 inches (1370 mm).

2.2 Reach Depth More Than 10 inches (255 mm). Where the reach depth to the operable parts of any control as measured from the vertical plane perpendicular to the edge of the unobstructed clear floor space at the farthest protrusion of the automated teller machine or surround is more than 10 inches (255 mm), the maximum height above the finished floor or grade shall be as follows:

Reach Depth		Maximum Height	
Inches	Mm	Inches	Mm
10	255	54	1370
11	280	53½	1360
12	305	53	1345
13	330	52½	1335
14	355	51½	1310
15	380	51	1295
16	405	50½	1285
17	430	50	1270
18	455	49½	1255
19	485	49	1245
20	510	48½	1230
21	535	47½	1205
22	560	47	1195
23	585	46½	1180
24	610	46	1170

3. **Forward and parallel approach.** If both a forward and parallel approach are possible, operable parts of controls shall be placed within at least one of the reach ranges in paragraphs (1) and (2) of this section.

4. **Bins.** Where bins are provided for envelopes, waste paper, or other purposes, at least one of each type provided shall comply with the applicable reach ranges in paragraph (1), (2), or (3) of this section.

EXCEPTION: Where a function can be performed in a substantially equivalent manner by using an alternate control, only one of the controls needed to perform that function is required to comply with this section. If the controls are identified by tactile markings, such markings shall be provided on both controls.

93120.6 Controls. Controls for user activation shall comply with 1106.3.

93120.7 Equipment for persons with vision impairments. Instructions and all information for use shall be made accessible to and independently usable by persons with vision impairments.