LE-MAKING ORDER
(RCW 34.05.360)

CR-103 (4/25/96)

Agency: Washington State Building Code Council

(1) Date of adoption: November 14, 1997

☒ **Permanent Rule**
☐ **Emergency Rule**
☐ **Expedited Repeal**

(2) Purpose: To adopt WAC 51-40, the State Adoption and Amendment of the 1997 Uniform Building Code; and to repeal WAC 51-30, the State Adoption and Amendment of the 1994 Uniform Building Code.

(3) Citation of existing rules affected by this order:
Repealed: WAC 51-30
Amended:
Suspended:

(4) Statutory authority for adoption: RCW 19.27.031, 19.27.074
Other authority:

PERMANENT RULE ONLY
Adopted under notice filed as WSR 97-16-111 on August 6, 1997 (date).
Describe any changes other than editing from proposed to adopted version:

Please see attached.

EMERGENCY RULE ONLY
Under 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:

EXPEDITED REPEAL ONLY
Under Preproposal Statement of Inquiry filed as WSR _____ on _____ (date).

(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 or Expedited Repeal	Emergency Rules
☐ 31 days after filing	☐ Immediately
☐ Other (specify) 7/1/98 *	☐ 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) Mike McEnaney

SIGNATURE Mike McEnaney

TITLE Council Chair

DATE 1/5/98

CODE REVISER USE ONLY

CODE REVISER'S OFFICE
STATE OF WASHINGTON
FILED

JAN 6 1998

TIME 11:57 AM PM
WSR 98-02-054

(COMPLETE REVERSE SIDE)

Note: If any category is left blank, it will be calculated as zero. No descriptive text.

Count by whole WAC sections only, from the WAC number through the history note. A section may be counted in more than one category.

The number of sections adopted in order to comply with:

Federal statute:	New ____	Amended ____	Repealed ____
Federal rules or standards:	New 28	Amended ____	Repealed ____
Recently enacted state statutes:	New 1	Amended ____	Repealed ____

The number of sections adopted at the request of a nongovernmental entity:

New 30 Amended ____ Repealed ____

The number of sections adopted on the agency's own initiative:

New ____ Amended ____ Repealed 102

The number of sections adopted in order to clarify, streamline, or reform agency procedures:

New ____ Amended ____ Repealed ____

The number of sections adopted using:

Negotiated rule making:	New 68	Amended ____	Repealed 102
Pilot rule making:	New ____	Amended ____	Repealed ____
Other alternative rule making:	New ____	Amended ____	Repealed ____

Describe any changes other than editing from proposed to adopted version:

WAC 51-40-007. Change second paragraph after "Section 3003" and before "of the 1997" by adding "(with the exception of 3003.3 standby power and 3003.5 stretcher requirements)". This change resulted from testimony at the public hearing.

WAC 51-40-0405. Delete Option 1. This change resulted from testimony at the public hearing.

WAC 51-40-1003.

- Subsection 1003.3.4.4, delete Option 2. This change resulted from testimony at the public hearing.
- Subsection 1003.3.4.5, delete Option 2. This change resulted from testimony at the public hearing.

WAC 51-40-1103. Subsection 1103.2.2. Add a new exception allowing mezzanine floor levels in one story buildings without basements that are less than 3,000 square feet to be exempt from the accessible route requirements. This exception provides greater consistency with the Americans' with Disabilities Act. This change resulted from testimony at the public hearing.

WAC 51-40-1106.

- Subsection 1106.3.2. Delete Option 1. This change resulted from testimony at the public hearing.
- Subsection 1106.10.7. This subsection was proposed for deletion. The section was re-added stating, "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 43 inches (1091mm) above the floor."
- Subsection 1106.11.3. Delete Option 1. This change resulted from testimony at the public hearing.

WAC 51-40-1506. Delete section. This change resulted from testimony at the public hearing.

WAC 51-40-2900. Delete Option 1. This change resulted from testimony at the public hearing.

WAC 51-40-3004. This is a new section being added as a result of testimony at the public hearings. This change clarifies the requirement for the manual vent switch and eliminates a conflict with the Washington State Energy Code.

Chapter 51-40 WAC

STATE BUILDING CODE ADOPTION AND AMENDMENT OF THE 1997 EDITION OF THE UNIFORM BUILDING CODE

NEW SECTION

WAC 51-40-001 Authority. These rules are adopted under the authority of chapter 19.27 RCW.

NEW SECTION

WAC 51-40-002 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 51-40-003 Uniform Building Code. The 1997 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 51-40-004 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 a Indoor Air Quality Code, e provisions of the Ventilation and Indoor Air Quality Code shall govern.

NEW SECTION

WAC 51-40-005 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 1003.3.1.1, 1003.3.1.2, 1003.3.1.5, 1003.3.1.6, 1003.3.3.3, 1003.3.3.5, 1003.3.3.6, 1003.3.3.13, 1003.3.4.4, 1003.3.4.5, shall not be amended by local governments.

NEW SECTION

WAC 51-40-007 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-D, Section 1607.6 and Section 3003 (with the exception of 3003.3 Standby Power and 3003.5 Stretcher Requirements) of the 1997 Uniform Building Code are not adopted.

The provisions of this code do not apply to temporary growing structures used solely for the commercial production of horticultural plants including ornamental plants, flowers, vegetables, and fruits. "Temporary growing structure" means a structure that has the sides and roof covered with polyethylene, polyvinyl, or similar flexible synthetic material and is used to provide plants with either frost protection or increased heat retention. A temporary growing structure is not considered a building for purposes of this code.

NEW SECTION

WAC 51-40-008 Implementation. The Uniform Building Code adopted under chapter 51-40 WAC shall become effective in all counties and cities of this state on July 1, 1998.

NEW SECTION

WAC 51-40-009 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 jurisdictions shall require that space be provided for the storage of recycled materials and solid waste for all new buildings.

EXCEPTION: Group R, Division 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 51-40-0200 Chapter 2--Definitions and abbreviations.

SECTION 204 - C.

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.

SECTION 207 - F.

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.

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.

SECTION 217 - P.

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.

SECTION 220 - S.

STRUCTURAL OBSERVATION means the visual observation of the structural system, for general conformance to the approved plans

and specificat ns. Structural observatio. does not include or waive the responsibility for the inspections required by Sections 108 and 1701 or other sections of the code.

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 51-40-0302 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.

NEW SECTION

WAC 51-40-0303 Section 303--Requirements for Group A occupancies.

303.5 Light, Ventilation and Sanitation. In Group A Occupancies, light, ventilation and sanitation shall be as specified in Chapters 12 and 29.

NEW SECTION

WAC 51-40-0304 Section 304--Requirements for Group B occupancies.

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 307.5 and 307.8 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 or exit-access doors from the room and all portions of the room shall be within 75 feet (22 860 mm) of an exit or exit-access door.

304.5 Light, Ventilation and Sanitation. In Group B Occupancies, light, ventilation and sanitation shall be as specified in Chapters 12 and 29.

304.5.1 is not adopted.

304.5.2 is not adopted.

NEW SECTION

WAC 51-40-0305 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.

305.2.3 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 discharge, provided the basement or story has exterior exit doors at that level.

2. In bu ,s equipped with an automatic sprinkler system throughout, as 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 exit doors into separate means of egress systems as defined in Section 1007.3.

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 1,000 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 tightfitting 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 (121°C) smoke damper as defined and tested in accordance with approved recognized standards. See Chapter 35, Part IV. 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 or exit-access doors, one of which is permitted to pass through the adjoining compartment; and

3.5 At least one exit or exit-access door from the Division 3 Occupancy shall be into a separate means of egress as defined in Section 1007.3; 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.

305.5 Light, Ventilation and Sanitation. In Group E Occupancies, light, ventilation and sanitation shall be as specified in Chapters 12 and 29.

NEW SECTION

WAC 51-40-0307 Section 307--Requirements for Group H occupancies.

307.5 Light, Ventilation and Sanitation. In Group H Occupancies, light, ventilation and sanitation shall be as specified in Chapters 12 and 29.

307.5.1 is not adopted.

307.5.2 is not adopted.

307.5.3 is not adopted.

307.5.4 is not adopted.

NEW SECTION

WAC 51-40-0308 Section 308--Requirements for Group I occupancies.

308.5 Light, Ventilation and Sanitation. In Group I Occupancies, light, ventilation and sanitation shall be as specified in Chapters 12 and 29.

308.5.1 is not adopted.

308.5.2 is not adopted.

NEW SECTION

WAC 51-40-0310 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 this code.

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 , Division 1 Occupancies wi. a 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.

310.5 Light, Ventilation and Sanitation. In Group R Occupancies, light, ventilation and sanitation shall be as specified in Chapters 12 and 29.

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.

310.13 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 means of egress. Exterior 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. Stairways from the basement open directly to the exterior of the building without entering the first floor; or

2. One of the two required means of egress 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 means of egress 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; 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 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 means of egress 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 re ial sprinkler system is provided throughout the entire build .n 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 means of egress, 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-resistive separation shall not be required where the food preparation kitchen contains only a domestic cooking range, and the preparation of food does not result in the production of smoke or grease laden vapors.

NEW SECTION

WAC 51-40-0311 Section 311--Requirements for Group S occupancies.

311.5 Light, Ventilation and Sanitation. In Group S Occupancies, light, ventilation and sanitation shall be as specified in Chapters 12 and 29.

311.5.1 is not adopted.

311.5.2 is not adopted.

NEW SECTION

WAC 51-40-0313 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 ıre facility for severely aı. 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 m²) 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 a 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 UBC 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.
3. An occupancy separation need not be provided between a Group LC, Boarding Home Occupancy and a Group R, Division 1 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, Means of Egress, and Emergency Escape.

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 Means of egress. Means of egress shall be provided as specified in Chapter 10. For the purpose of determining egress requirements, Group LC Occupancies shall be considered to have an occupant load factor of 300. At least two means of egress 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.

EXCEPTIONS:

1. Means of egress illumination required by Section 1003.2.9.1 need not be provided in any Group LC Occupancy licensed for six or fewer clients.
2. In LC Occupancies with an approved automatic fire sprinkler system and approved automatic fire alarm system, waiting and resting areas may be open to the corridor provided:
2.1 Each rest area does not exceed 150 square feet, excluding the corridor width; and
2.2 Walls defining the space shall continue the construction of the corridor's wall; and
2.3 The floor on which the rest area or areas are located is divided into at least two compartments by smoke barrier walls of not less than one-hour fire-resistive construction meeting the requirements of Section 308.2.2.1 and Section 905.2.3; and
2.4 Combustible furnishings located within the rest area are flame resistant as defined by Uniform Fire Code Section 207; and
2.5 Emergency means of egress lighting is provided as required by Section 1003.2.9.1 to illuminate the area.

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 apartment buildings or 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 apartment building or congregate residence provisions of Chapter 11 if any client is a person with disability. The alterations shall provide the minimum necessary access appropriate for the disabilities of 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 client 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-access balcony and the sleeping room has an exit or exit-access doorway 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 m²). 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 m²), 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 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 m²), 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 m²).

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 m²) 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 loc ed shall be separated fro. 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. Where a story or basement is split 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 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 e provided with an autom. .c 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 UBC Standard 9-1 shall be installed.

EXCEPTIONS:

1. An automatic sprinkler system complying with UBC 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 NFPA 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 51-40-0403 Section 403--Special provisions for Group B office buildings and Group R, Division 1 Occupancies.

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 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, means of egress, fire-protection systems, fire fighting equipment and fire department access.

12. Work table.

NEW SECTION

WAC 51-40-0405 Section 405--Stages and platforms.

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.

NEW SECTION

WAC 51-40-0510 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 U.S. 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 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 51-40-0804 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 exits, Class III may be used in other means of egress 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 1007.5, when a sprinkler system complying with UBC 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.

NEW SECTION

WAC 51-40-0902 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 "UBC 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 3503 and 3504).

1. Fire-extinguishing system.

1.1 UBC Standard 9-1, Installation of Sprinkler Systems

1.2 UBC Standard 9-3, Installation of Sprinkler Systems in Group R Occupancies Four Stories or Less

1.3 NFPA Standard 13d, as published by the National Fire Protection Association, 1994 edition

2. Standpipe systems.
UBC Standard 9-2, Standpipe Systems

3. Smoke control.
3.1 UBC 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.
UBC Standard 15-7, Automatic Smoke and Heat Vents

NEW SECTION

WAC 51-40-0904 Section 904--Fire-extinguishing systems.

904.1.2 Standards. Fire-extinguishing systems shall comply with UBC Standards 9-1 and 9-2.

EXCEPTIONS:

1. Automatic fire-extinguishing systems not covered by UBC Standard 9-1 or 9-2 shall be approved and installed in accordance with approved standards.
2. Automatic sprinkler 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 UBC Standard 9-3.
4. Sprinklers are not required at the top of noncombustible hoistways of passenger elevators whose car enclosure materials meet the requirements of ASME A17.1, Safety Code for Elevators and Escalators.

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 po .on of a basement is locate. ore 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.

904.2.4.1 General (Group E Occupancies). 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 UBC 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 UBC Standard 9-1 may be used for increases and substitutions allowed in Sections 505, 506, and 508.

NEW SECTION

WAC 51-40-1000 Chapter 10--Means of egress.

NEW SECTION

WAC 51-40-1002 Definitions.

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.

NEW SECTION

WAC 51-40-1003 General egress requirements.

1003.3.1.1 General (Doors). For the purposes of Section 1003.3.1, the term "exit door" shall mean all of those doors or doorways along the path of exit travel anywhere in a means of egress system.

Exit doors serving the means of egress system shall comply with the requirements of Section 1003.3.1. Where additional doors are installed for egress purposes, they shall conform to all requirements of this section. Buildings or structures used for human occupancy shall have at least one exterior exit door that meets the requirements of Section 1003.3.1.3. Section 1003.3.1.5 shall apply to all exit doors within an accessible route, regardless of occupant load.

Exit doors shall be readily distinguishable from the adjacent construction and shall be easily recognizable as exit doors. Mirrors or similar reflecting materials shall not be used on exit doors, and exit doors shall not be concealed by curtains, drapes, decorations and similar materials.

1003.3.1.2 Special Doors. Revolving, sliding and overhead doors serving an occupant load of 10 or more shall not be used as required exit doors. 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.

EXCEPTIONS:

1. Approved revolving doors having leaves that will collapse under opposing pressures may be used, provided
1.1 Such doors have a minimum width of 6 feet 6 inches (1981 mm).
1.2 At least one conforming exit door is located adjacent to each revolving door.
1.3 The revolving door shall not be considered to provide any required width when computing means of egress width in accordance with Section 1003.2.3.
2. Horizontal sliding doors complying with UBC Standard 7-8 may be used
2.1 In elevator lobby separations.
2.2 In other than Groups A and H Occupancies, where smoke barriers are required.
2.3 In other than Group H Occupancies, where serving an occupant load of less than 50.

Power-operated doors complying with UBC Standard 10-1 may be used for egress purposes. Such doors, where 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 types of 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 comply with the exception to Section 509.3.
3. Doors swinging toward flow of traffic shall not be permitted 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.

1003.3.1.5 Swing and Opening Force. Exit doors serving an occupant load of 10 or more shall be of the pivoted, balanced or side-hinged swinging type. Exit doors shall swing in the direction of the path of exit travel where the area served has an occupant load of 50 or more. The door shall swing to the fully 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 1003.3.1.2.
4. The opening force at required fire doors within an accessible route may be not greater than 30 pounds (133.45 N).

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

1003.3.1.6 Floor Level at Doors. Regardless of the occupant load served, there shall be a floor or a landing on each side of a door. Where 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. Where such access is not required, the threshold shall not exceed 1 inch (25 mm). Landings shall be level except that exterior landings, 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 which 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.

1003.3.1.10 Special Egress-control Devices. When approved by the building official, exit doors in Group B; Group F; Group I, Divisions 1.1, 1.2 and 2; Group M, Group LC Occupancies, and Group S 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. The egress-control device shall automatically deactivate upon activation of either the sprinkler system or the smoke-detection system.

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

2.1 The egress-control device itself.

2.2 The smoke-detection system.

2.3 Means of egress illumination as required by Section 1003.2.9.

3. The egress-control device shall be capable of being deactivated by a signal from a switch located in an approved location.

4. An irreversible process which will deactivate the egress-control device shall be initiated 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.

1003.3.3.1 General (Stairways).

Every stairway having two or more risers serving any building or portion thereof shall conform to the requirements of Section 1003.3.3. For the purposes of Section 1003.3.3, the term "stairway" shall include stairs, landings, handrails and guardrails as applicable. Where aisles in assembly rooms have steps, they shall conform with the requirements in Section 1004.3.2.

For the purpose of this chapter, the term "step" shall mean those portions of the means of egress achieving a change in elevation by means of a single riser. Individual steps shall comply with the detailed requirements of this chapter which specify applicability to steps.

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 m²) 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.

1003.3.3.3 Rise and Run. The rise of steps and stairs shall not be less than 4 inches (102 mm) nor more than 7-½ inches (190 mm). The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Except as permitted in Sections 1003.3.3.8.1, 1003.3.3.8.2 and 1003.3.3.8.3, 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 or nosings. Stair treads shall be of uniform size and shape, except the largest tread run 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 run within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

1003.3.3.6 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 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 landings and the nosing of treads. 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.

EXCEPTIONS:

1. Private stairways do not require handrail extensions.
2. Handrails may have starting newel posts within the first tread on stairways in Group R, Division 3 Occupancies and within individual dwelling units of Group R, Division 1 Occupancies.

The handgrip portion of handrails shall not be less than 1 1/4 inches (32 mm) 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.

1003.3.3.13 Stairway Identification. 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 or not 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 landing floor in a position that is readily visible when the door is in either 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 II of Chapter 11.

1003.3.4.4 Landings (Ramps). 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 vertical rise measured between the horizontal planes of adjacent landings. Landing shall have a dimension measured in the direction of ramp run of not less than 5 feet (1524 mm). Landings shall provide maneuvering clearances at doors as required in Chapter 11.

1003.3.4.5 Handrails (Ramps). Ramps having slopes steeper than 1 unit vertical in 15 units horizontal (6.7% 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 serving fixed seating shall have handrails as required in Section 1004.3.2.

NEW SECTION

WAC 51-40-1004 The exit access.

1004.3.2.3.1 Width. The clear width of aisles shall be based on the number of fixed seats served by the aisle. The required width of aisles serving fixed seats shall not be used for any other purpose.

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, where the rise of steps in aisles exceeds 7 inches (178 mm), the aisle clear width shall be increased by 1¼ inches (32 mm) for each 100 occupants or fraction thereof served for each ¼ 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-D. For Table 10-D, 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-D is used the minimum clear widths shown shall be modified in accordance with the following:
1. Where risers exceed 7 inches (178 mm) in height, multiply the stairway width in the tables by factor A, where:

$$A = 1 + \frac{(\text{riser height} - 7.0 \text{ inches})}{5} \qquad (4\text{-}1)$$

For **SI:** $$A = 1 + \frac{(\text{riser height} - 178 \text{ mm})}{127}$$

Where risers do not exceed 7 inches (178 mm) in height, $A = 1$.
2. Stairways not having a handrail within a 30-inch (762 mm) horizontal distance shall be 25 percent wider than otherwise calculated, i.e., multiply by $B = 1.25$. For all other stairs, $B = 1$.
3. Ramps steeper than 1 unit vertical in 10 units horizontal (10% slope) where used in ascent shall have their width increased by 10 percent, i.e., multiply by $C = 1.10$. For ramps not steeper than 1 unit vertical in 10 units horizontal (10% slope), $C = 1$. Where fixed seats are arranged in rows, the clear width of aisles shall not be less than set forth above or less than the following minimum widths:
3.1 Forty-eight inches (1219 mm) for stairways having seating on both sides.
3.2 Thirty-six inches (914 mm) for stairways having seating on one side.
3.3 Twenty-three inches (584 mm) between a stairway handrail and seating where the aisles are subdivided by the handrail.
3.4 Forty-two inches (1067 mm) for level or ramped aisles having seating on both sides.
3.5 Thirty-six inches (914 mm) for level or ramped aisles having seating on one side.
3.6 Twenty-three inches (584 mm) between a stairway handrail and seating where an aisle does not serve more than five rows on one side.

Where exit access is possible in two directions, the width of such aisles shall be uniform throughout their length. Where 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.

1004.3.2.5.2 Where 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 1004.3.2.6.

The height of risers shall not be more than 8 inches (203 mm) nor 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).

EXCEPTION: Where 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 sight lines. Variations may exceed 3/16 inch (4.8 mm) between adjacent risers, provided the exact location of such variations is identified with a marking stripe on each tread at the nosing or leading edge adjacent to the nonuniform riser. The marking stripe shall be distinctively different from the contrasting marking stripe.

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: The marking stripe may be omitted where tread surfaces are such that the location of each tread is readily apparent when viewed in descent.

1004.3.2.6 Ra Slope. The slope of ramp 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).

1004.3.4.5 Elevators. Elevators opening into a corridor shall be provided with an elevator lobby at each floor containing such a corridor. The lobby shall completely separate the elevators from the corridor by construction conforming to Section 1004.3.4.3.1 and all openings into the lobby wall contiguous with the corridor shall be protected as required by Section 1004.3.4.3.2.

EXCEPTIONS:

1. In office buildings, 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.

NEW SECTION

WAC 51-40-1007 Means of egress requirements based on occupancy.

1007.5.9.1 Suites

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 suites containing patient sleeping rooms, shall not exceed 10,000 square feet (928.5 m^2) in area. Suites containing patient sleeping rooms shall not exceed 5,000 square feet (465 m^2) in area.
2. **Occupancy separation.** Each suite of rooms shall be separated from the remainder of the building by not less than one-hour fire-resistive occupancy separation.
3. **Visual supervision.** Each patient sleeping room in the suite shall be located to permit direct 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.

NEW SECTION

WAC 51-40-1091 Table 10-A.

TABLE 10-A MINIMUM EGRESS REQUIREMENTS[1]

USE[2]	MINIMUM OF TWO MEANS OF EGRESS ARE REQUIRED WHERE NUMBER OF OCCUPANTS IS AT LEAST	OCCUPANT LOAD FACTOR[3] (square feet) x 0.0929 for m²
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
Gaming: keno, slot machine and live games area	50	11
5. Bowling alley (assume no occupant load for bowling lanes)	50	(see ft. note 4)
6. Children's homes and homes for the aged	6	80
7. Classrooms	50	20
8. Congregate residences (accommodating 10 or less persons and having an area of 3,000 square feet or less)	10	300
Congregate residences (accommodating more than 10 persons or having an area of more than 3,000 square feet)	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. Health-care facilities --		
Sleeping rooms	8	120
Treatment rooms	10	240
15. Hotels and apartments	10	200
16. Kitchen--commercial	30	200
17. Laboratories (Group B) Instructional and teaching laboratories at schools, colleges and universities	10	50
All other Group B laboratories	10	100
18. Library --		
Reading rooms	50	50
Stack areas	30	100
19. Locker rooms	30	50
20. Malls (see Chapter 4)	--	--
21. Manufacturing areas	30	200
22. Mechanical equipment room	30	300
23. Nurseries for children (day care)	7	35
24. Offices	30	100
25. School shops and vocational rooms	50	50
26. Skating rinks	50	50 on the skating area; 15 on the deck
27. Storage and stock rooms	30	300

28. Stores--retail sales rooms Basements and ground floor Upper floors	 50 50	 30 60
29. Swimming pools	50	50 for the pool area; 15 on the deck
30. Warehouses[5]	30	500
31. 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 1007.4, 1007.5 and 1007.7, 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.

[5] Occupant load for warehouses containing approved high rack storage systems designed for mechanical handling may be based on the floor area exclusive of the rack area rather than the gross floor area.

NEW SECTION

WAC 51-40-1100 Chapter 11--Accessibility.

PART I - GENERAL

NEW SECTION

WAC 51-40-1101 Section 1101--Scope.

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 51-40-1102 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 au[illegible]atic cycle may be a photo[illegible]ctric 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.

PART II - NEW CONSTRUCTION

NEW SECTION

WAC 51-40-1103 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. Floor 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 space. 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 Nu er of dwelling units. In a 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: Congreg .idences with 10 or fewer occupants need not be accessib

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.
4. In a one story building without a basement, an accessible route of travel need not be provided to mezzanine floors containing less than 3,000 square feet.

(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 1004.2.3, 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 In. .national Symbol of Access. .e 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 51-40-1104 Section 1104--Egress and areas of evacuation 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 Loc .on and construction. An .rea for evacuation assistance shall be one of the following:

1. A portion of a landing within a smokeproof enclosure, complying with Section 1005.3.3.

2. A portion of an exterior exit balcony, located immediately adjacent to an exit stairway, when the exterior exit balcony complies with Section 1006.3.2. 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 1004.3.4.3, 1004.3.4.3.1 and 1004.3.4.3.2 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 1004.3.4.3, 1004.3.4.3.1 and 1004.3.4.3.2.

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 .an the primary entrance. Th. 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 1003.2.8.4 and 1003.2.8.5. 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 1005.3.3. 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 51-40-1105 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 Ba .ng facilities. When ba .ing 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 pr. de unobstructed sight line. 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 Rec. ıtion facilities. Where ... mon- 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: For Group R, Division 1 apartment occupancies, 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 51-40-1106 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 wheelc ir clear space. Clear spac 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 1003.3.1.5.

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 rou s of travel, the minimum c r 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 an intensity of not less than one 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 ıe long dimension is perpenc ılar 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 1003.3.4 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 1003.3.3.6 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 1003.3.3 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 1003.3.1 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 lat. side of the door and at lea. 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 d .s in alcoves shall comply w. .1 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 1003.3.1.2.

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 43 inches (1091 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 (25 mm), 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 c ar space between them of nc 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 inche (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. Faucets 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- shower stalls, grab bars s. .l 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 . . the material of the grab ar 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 Co ols. Controls shall be lc ted 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 push-button 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.

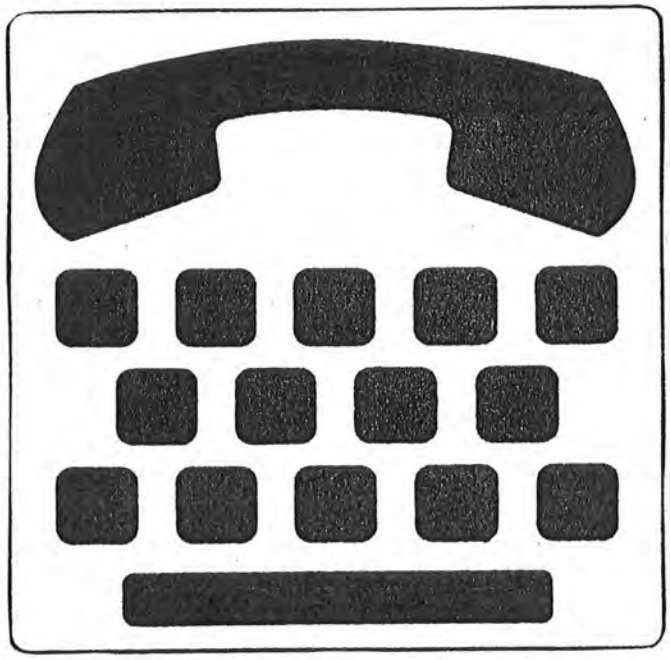
1106.15.3 Access to manual fire alarm systems. Manual fire alarm devices shall be mounted not more than 54 inches (1370 mm) above the floor where a parallel approach is provided.

1106.16 Signage.

1106.16.1 Symbols.

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) & . 2 inches (51 mm) in heigh. 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 serves 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 . e. Wheelchair spaces shai 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 e. .ents; including telephone , 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 a building with an elevator, access to other levels is not required if the accessible level complies with all requirements for accessible dwelling units.
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 S ..age. Parking signage requ ed by Section 1107.3 need not be installed in spaces designated for accessible dwelling units.

NEW SECTION

WAC 51-40-1107 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 parking facility is not accessory 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 Gene. l. 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 51-40-1108 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.

NEW SECTION

WAC 51-40-1109 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 51-40-1110 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 requi ents for new construction a. necessary to provide accessibility.

NEW SECTION

WAC 51-40-1111 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 51-40-1112 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 ıe effect of reducing access. ılity 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 25 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 Thresholds. Existing thresholds measuring 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 i. .asible to comply with eith. 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 Building 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 51-40-1113 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 i .ermined by the building official that no entrance used by ublic 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 51-40-1114 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 51-40-1191 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 51-40-1192 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 51-40-1193 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 51-40-1194 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 51-40-1195 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 51-40-1196 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 51-40-1203 Section 1203--Light and ventilation in Group R occupancies.

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.

NEW SECTION

WAC 51-40-1616 Section 1616--Definitions.

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.

NEW SECTION

WAC 51-40-1702 Section 1702--Structural observation.

Structural obs vation shall be provided i. 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,

2. The structure is required to comply with Section 403,

3. The structure is in Seismic Zone 4, N_a as set forth in Table 16-S is greater than one, and a lateral design is required for the entire structure,

EXCEPTION: One- and two-story Group R, Division 3 and Group U Occupancies and one- and two-story Groups B, F, M and S Occupancies.

4. When so designated by the architect or engineer of record, or

5. When such observation is specifically required by the building official for unusual lateral force-resisting structures or irregular structures as defined in Section 1629.

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 that, to the best of the structural observer's knowledge, have not been resolved.

NEW SECTION

WAC 51-40-1909 Section 1909--Strength and serviceability requirements.

1909.3.4 In *Seismic Zones 3 and 4*, strength-reduction factors ϕ 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 nominal flexural strength shall be determined corresponding to the most critical factored axial loads including earthquake effects. The shear strength-reduction factor for joints shall be 0.85.*

1909.3.4.2 is not adopted.

NEW SECTION

WAC 51-40-23110 Wood structural panel and particleboard shear walls tables.

TABLE 23-II-I-1—ALLOWABLE SHEAR FOR WIND OR SEISMIC FORCES IN POUNDS PER FOOT FOR WOOD STRUCTURAL PANEL SHEAR WALLS WITH FRAMING OF DOUGLAS FIR-LARCH OR SOUTHERN PINE[1,2,3]

			PANELS APPLIED DIRECTLY TO FRAMING					PANELS APPLIED OVER 1/2-INCH (13 mm) OR 5/8-INCH (16 mm) GYPSUM SHEATHING				
				Nail Spacing at Panel Edges (In.)					Nail Spacing at Panel Edges (In.)			
	MINIMUM NOMINAL PANEL THICKNESS (inches)	MINIMUM NAIL PENETRATION IN FRAMING (inches)	Nail Size (Common or Galvanized Box)[5]	× 25.4 for mm				Nail Size (Common or Galvanized Box)[5]	× 25.4 for mm			
				6	4	3	2		6	4	3	2
PANEL GRADE	× 25.4 for mm			× 0.0146 for N/mm					× 0.0146 for N/mm			
Structural I	5/16	1 1/4	6d	200	300	390	510	8d	200	300	390	510
	3/8	1 1/2	8d	230[4]	360[4]	460[4]	610[4]	10d	280	430	550	730
	7/16			255[4]	395[4]	505[4]	670[4]					
	15/32			280	430	550	730					
	15/32	1 5/8	10d	340	510	665	870	—	—	—	—	—
C-D, C-C Sheathing, plywood panel siding and other grades covered in UBC Standard 23-2 or 23-3	5/16	1 1/4	6d	180	270	350	450	8d	180	270	350	450
	3/8			200	300	390	510		200	300	390	510
	3/8	1 1/2	8d	220[4]	320[4]	410[4]	530[4]	10d	260	380	490	640
	7/16			240[4]	350[4]	450[4]	585[4]					
	15/32			260	380	490	640					
	15/32	1 5/8	10d	310	460	600	770	—	—	—	—	—
	19/32			340	510	665	870					
			Nail Size (Galvanized Casing)					Nail Size (Galvanized Casing)				
Plywood panel siding in grades covered in UBC Standard 23-2	5/16	1 1/4	6d	140	210	275	360	8d	140	210	275	360
	3/8	1 1/2	8d	160	240	310	410	10d	160	240	310	410

1All panel edges backed with 2-inch (51 mm) nominal or wider framing. Panels installed either horizontally or vertically. Space nails at 6 inches (152 mm) on center along intermediate framing members for 3/8-inch (9.5 mm) and 7/16-inch (11 mm) panels installed on studs spaced 24 inches (610 mm) on center and 12 inches (305 mm) on center for other conditions and panel thicknesses. These values are for short-time loads due to wind or earthquake and must be reduced 25 percent for normal loading. Allowable shear values for nails in framing members of other species set forth in Division III, Part III, shall be calculated for all other grades by multiplying the shear capacities for nails in Structural I by the following factors: 0.82 for species with specific gravity greater than or equal to 0.42 but less than 0.49, and 0.65 for species with a specific gravity less than 0.42.

2Where panels are applied on both faces of a wall and nail spacing is less than 6 inches (152 mm) on center on either side, panel joints shall be offset to fall on different framing members or framing shall be 3-inch (76 mm) nominal or thicker and nails on each side shall be staggered.

3In seismic zone 4, where allowable shear values exceed 350 pounds per foot (5.11 N/mm), foundation sill plates and all framing members receiving edge nailing from abutting panels shall not be less than a single 3-inch (76 mm) nominal member. Nails shall be staggered.

4The values for 3/8-inch (9.5 mm) and 7/16-inch (11 mm) panels applied direct to framing may be increased to values shown for 15/32-inch (12 mm) panels, provided studs are spaced a maximum of 16 inches (406 mm) on center or panels are applied with long dimension across studs.

5Galvanized nails shall be hot-dipped or tumbled.

TABLE 23-II-I-2—ALLOWABLE SHEAR IN POUNDS PER FOOT FOR PARTICLEBOARD SHEAR WALLS WITH FRAMING OF DOUGLAS FIR-LARCH OR SOUTHERN PINE[1,2,3]

			PANELS APPLIED DIRECT TO FRAMING				
				Allowable Shear (pounds per foot)[1] Nail Spacing at Panel Edges (inches)			
				× 25.4 for mm			
	MINIMUM NOMINAL PANEL THICKNESS (inches)	MINIMUM NAIL PENETRATION IN FRAMING (inches)	Nail size (Common or Galvanized Box)	6	4	3	2
PANEL GRADE	× 25.4 for mm			× 0.0146 for N/mm			
M-S[4] and M-2[4]	3/8	1 1/2	6d	120	180	230	300
	3/8	1 1/2	8d	130	190	240	315
	1/2			140	210	270	350
	1/2	1 5/8	10d[5]	185	275	360	460
	5/8			200	305	395	520

1All panel edges backed with 2-inch (51 mm) nominal or wider framing. Space nails at 6 inches (152 mm) on center along intermediate framing members for 3/8-inch (9.5 mm) panel installed with the long dimension parallel to studs spaced 24 inches (610 mm) on center and 12 inches (305 mm) on center for other conditions and panel thicknesses. These values are for short-time loads due to wind or earthquake and must be reduced 25 percent for normal loading.

Allowable shear values for nails in framing members of other species set forth in Division III, Part III, shall be calculated for all grades by multiplying the values for common and galvanized box nails by the following factors: Group III, 0.82 and Group IV, 0.65.

2Where particleboard is applied on both faces of a wall and nail spacing is less than 6 inches (152 mm) on center on either side, panel joints shall be offset to fall on different framing members, or framing shall be 3-inch (76 mm) nominal or thicker and nails on each side shall be staggered.

3In seismic zone 4, where allowable shear values exceed 350 pounds per foot (5.11 N/mm) foundation sill plates and all framing members receiving edge nailing from abutting panels shall not be less than a single 3-inch (76 mm) nominal member. Nails shall be staggered.

4Products shall be manufactured with exterior glue and shall be identified with the words "Exterior Glue" following the product grade designation.

5Framing at adjoining panel edges shall be 3-inch (76 mm) nominal or wider and nails shall be staggered where 10d nails having penetration into framing of more than 1 5/8 inches (41 mm) are spaced 3 inches (76 mm) or less on center.

NEW SECTION

WAC 51-40-2406 Section 2406--Safety glazing.

2406.4 Hazardous Locations. The following shall be considered specific hazardous locations for the purposes 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 exposed 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, 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 following products and applications are exempt from the requirements for hazardous locations as listed in Items 1 through 8:

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 11/2 inches (38 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 in door 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. Doors 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 following conditions are present:

9.1 The . .tom edge of the glazing i 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 water's edge.

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.

NEW SECTION

WAC 51-40-2900 Chapter 29--Plumbing systems.

SECTION 2901--PLUMBING CODE.

Plumbing systems shall comply with the Plumbing Code.

SECTION 2902--GENERAL

2902.1 Number of Fixtures.

2902.1.1 Requirements. Plumbing fixtures shall be provided in the minimum number shown in Table 29-A and in this Chapter. Where the proposed occupancy is not listed in Table 29-A, the building official shall determine fixture requirements based on the occupancy which most nearly resembles the intended occupancy.

2902.1.2 Private offices. Fixtures only accessible to private offices shall not be counted to determine compliance with this section.

2902.1.3 Occupancy load distribution. The occupant load shall be divided equally between the sexes, unless data approved by the building official indicates a different distribution of the sexes.

2902.1.4 Food preparation areas. In food preparation, serving and related storage areas, additional fixture requirements may be dictated by health codes.

2902.1.5 Other requirements. For other requirements for plumbing facilities, see Sections 302.6, 807, 313.5.5 and Chapter 11.

2902.2 Access to Fixtures.

2902.2.1 Location. Plumbing fixtures shall be located in each building or conveniently in a building adjacent thereto on the same property.

2902.2.2 Multiple tenants. Access to toilets serving multiple tenants shall be through a common use area and not through an area controlled by a tenant.

2902.2.3 Multi-story buildings. Required fixtures shall not be located more than one vertical story above or below the area served.

2902.3 Separate Facilities.

2902.3.1 Requirements. Separate toilet facilities shall be provided for each sex.

EXCEPTIONS:

1. In occupancies serving 10 or fewer persons, one toilet facility designed for use by no more than one person at a time shall be permitted for use by both sexes.
2. In Group B and M Occupancies with a total floor area of 1500 square feet (139.5 m^2) or less, one toilet facility designed for use by no more than one person at a time shall be permitted for use by both sexes.

2902.3.2 Food service establishments. When customers and employees share the same facilities, customers accessing the facilities are excluded from food preparation and storage areas.

2902.4 Pay Facilities. Required facilities shall be free of charge. Where pay facilities are installed, they shall be in addition to the minimum required facilities.

2902.5 is not adopted.

2902.6 is not adopted.

SECTION 2903--SPECIAL PROVISIONS

2903.1 Dwelling Units. Dwelling units shall be provided with a kitchen sink.

2903.2 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, with a clear space in front of the stool of not less than 24 inches (610 mm).

2903.3 Water. Each required sink, lavatory, bathtub and shower stall shall be equipped with hot and cold running water necessary for its normal operation.

2903.4 Drinking Fountains.

2903.4.1 Number. Occupant loads over 30 shall have one drinking fountain for the first 150 occupants, then one per each additional 500 occupants.

EXCEPTIONS:

1. Sporting facilities with concessions serving drinks shall have one drinking fountain for each 1000 occupants.
2. A drinking fountain need not be provided in a drinking or dining establishment.

2904.2 Multi-story buildings. Drinking fountains shall be provided on each floor having more than 30 occupants in schools, dormitories, auditoriums, theaters, offices and public buildings.

2903.4.3 Penal Institutions. Penal institutions shall have one drinking fountain on each cell block floor and one on each exercise floor.

2903.4.4 Location. Drinking fountains shall not be located in toilet rooms.

SECTION 2904 is not adopted.

NEW SECTION

WAC 51-40-2929 Table 29-A--Minimum plumbing fixtures.

TABLE 29-A -- MINIMUM PLUMBING FIXTURES [1,2,4,6]

TYPE OF BUILDING OR OCCUPANCY	WATER CLOSETS (fixtures per person) MALE[3]	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, casinos, and such places which have limited time for fixture use (intermissions)	1:1-100 2:101-200 3:201-400 Over 400, add one fixture for each additional 250 males or 50 females.	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 [1,2,4,6] (continued)

TYPE OF BUILDING OR OCCUPANCY	WATER CLOSETS (fixtures per person) MALE[3]	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 other sporting facilities where fixture use is not limited to intermissions.	1:1-100 2:101-200 3:201-400 Over 400, add one fixture for each additional 300 males or 100 females.	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 and other clerical or administrative employee accessory use	1:1-15 2:16-35 3:36-55 Over 55, add one for each additional 50 persons.	1:1-15 2:16-35 3:36-55	one per 2 water closets		

TABLE 29-A -- MINIMUM PLUMBING FIXTURES [1,2,4,6] (continued)

TYPE OF BUILDING OR OCCUPANCY	WATER CLOSETS (fixtures per person) MALE[3]	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 and Group H Workshop, foundries and similar establishments, and hazardous occupancies	1:1-10 2:11-25 3:26-50 4:51-75 5:76-100 Over 100, add one fixture for each additional 30 persons.	1:1-10 2:11-25 3:26-50 4:51-75 5:76-100	one per 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 [1,2,4,6] (continued)

TYPE OF BUILDING OR OCCUPANCY	WATER CLOSETS (fixtures per person) MALE[3]	WATER CLOSETS (fixtures per person) FEMALE	LAVATORIES[5] (fixtures per person) MALE	LAVATORIES[5] (fixtures per person) 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	one per room (usable by either sex)		one per room		
Hospital general use areas	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 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	one per cell		one per cell		
Exercise room	one per exercise room		one per exercise room		
Other institutions (on each occupied floor)	one per 25	one per 25	one per two water closets		one per eight
Group LC For Group LC Occupancies, the minimum number of plumbing fixtures is specified in Section 313.5.5.					
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 300 males or 150 females.	1:1-50 2:51-100 3:101-200 4:201-300 5:301-400	one per two water closets		

TABLE 29-A -- MINIMUM PLUMBING FIXTURES [1,2,4,6] (continued)

TYPE OF BUILDING OR OCCUPANCY	WATER CLOSETS (fixtures per person) MALE[3]	WATER CLOSETS (fixtures per person) FEMALE	LAVATORIES[5] (fixtures per person) MALE	LAVATORIES[5] (fixtures per person) FEMALE	BATHTUB OR SHOWER (fixtures per person)
For Group R Occupancies, dwelling units and hotel guest rooms, use the table below. For congregate residences, use 200 square feet (18.58 m^2) per occupant for Group R, Division 1 Occupancies and 300 square feet (27.87 m^2) per occupant for Group R, Division 3 Occupancies for the minimum number of 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 persons, add one additional unit per each additional 20 persons.
For the occupancies listed below, use 5,000 square feet (464.5 m^2) 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 30 persons.	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]For occupancies not shown, see Section 2902.1.1.

[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 quarter (25%) of the minimum specified. For men's facilities serving 26 or more persons, not less than one urinal shall be provided.

[4]For drinking fountains, see Section 2903.4.

[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]For when a facility may be usable by either sex, see Section 2902.3.1.

[7]See WAC 246-318-690 for definitions, other fixtures and equipment for hospitals.

(WAC 51-40-2929, Table 29-A)

NEW SECTION

WAC 51-40-3004 Hoistway venting.

SECTION 3004--Hoistway Venting.

Shafts (hoistways) housing elevators extending through more than two floor levels shall be vented to the outside. The area of the vent shall not be less than 3 1/2 percent of the area of the elevator shaft, provided a minimum of 3 square feet (0.279 m^2) per elevator is provided. Vents shall be capable only of manual operation or controlled by a manual switch mounted in an approved location.

The venting of each individual hoistway shall be independent from any other hoistway venting, and the interconnection of separate hoistways for the purpose of venting is prohibited.

NEW SECTION

WAC 51-40-3102 Section 3102--Chimneys, fireplaces and barbecues.

3102.5.4 Emission Standards for Factory-built Fireplaces. After January 1, 1997, no new or used factory-built fireplace shall be installed in Washington State unless it is certified and labeled in accordance with procedures and criteria specified in the UBC Standard 31-2.

To certify an entire fireplace model line, the internal assembly shall be tested to determine its particulate matter emission performance. Retesting and recertifying is required if the design and construction specifications of the fireplace model line internal assembly change. Testing for certification shall be performed by a Washington State Department of Ecology (DOE) approved and U. S. Environmental Protection Agency (EPA) accredited laboratory.

3102.7.14 Emission Standards for Certified Masonry and Concrete Fireplaces. After January 1, 1997, new certified masonry or concrete fireplaces installed in Washington State shall be tested and labeled in accordance with procedures and criteria specified in the UBC Standard 31-2.

To certify an entire fireplace model line, the internal assembly shall be tested to determine its particulate matter emission performance. Retesting and recertifying is required if the design and construction specifications of the fireplace model line internal assembly change. Testing for certification shall be performed by a Washington State Department of Ecology (DOE) approved and U. S. Environmental Protection Agency (EPA) accredited laboratory.

NEW SECTION

WAC 51-40-31200 Section 31-2--Standard test method for particulate emissions from fireplaces.

UNIFORM BUILDING CODE STANDARD 31-2
STANDARD TEST METHOD FOR PARTICULATE EMISSIONS FROM FIREPLACES

See Sections 3102.5.4 and 3102.7.14, *Uniform Building Code*

SECTION 31.200--TITLE and SCOPE.

SECTION 31.200.1--TITLE.

This Appendix Chapter 31-2 shall be known as the "Washington State Standard Test Method for Particulate Emissions from Fireplaces" and may be cited as such; and will be referred to herein as "this Standard".

SECTION 31.200.2--SCOPE.

This Standard covers emissions performance, approval/certification procedures, test laboratory accreditation, record keeping, reporting requirements, and the test protocol for measuring particulate emissions from fireplaces.

All testing, reporting and inspection requirements of this Standard shall be conducted by a Washington State Department of Ecology (DOE) approved testing laboratory. In order to qualify for DOE approval, the test laboratory must be a U. S. Environmental Protection Agency (EPA) accredited laboratory (40 CFR Part 60, Subpart AAA). DOE may approve a test laboratory upon submittal of the following information:

1. A copy of their U. S. EPA accreditation certificate; and
2. A description of their facilities, test equipment, and test-personnel qualifications including education and work experience.

DOE may revoke a test laboratory approval when the test laboratory is no longer accredited by the U. S. EPA or if DOE determines that the test laboratory does not adhere to the testing requirements of this Chapter.

SECTION 31.201--DEFINITIONS. For the purpose of this Standard certain terms are defined as follows:

ANALYZER CALIBRATION ERROR is the difference between the gas concentration exhibited by the gas analyzer and the known concentration of the calibration gas when the calibration gas is introduced directly to the analyzer.

BURN RATE is the average rate at which test-fuel is consumed in a fireplace measured in kilograms of wood (dry basis) per hour (kg/hr) during a test-burn.

CALIBRATION DRIFT is the difference in the analyzer reading from the initial calibration response at a mid-range calibration value after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

CALIBRATION GAS is a known concentration of Carbon Dioxide (CO_2), Carbon Monoxide (CO), or Oxygen (O_2) in Nitrogen (N_2).

CERTIFICATION . AUDIT TEST is the comple on of at least one, three-fuel-load test-burn cycle in accordance with Section 31.202.

FIREBOX is the chamber in the fireplace in which a test-fuel charge(s) is placed and combusted.

FIREPLACE is a wood burning device which is exempt from U. S. EPA 40 CFR Part 60, Subpart AAA and:

1. is not a cookstove, boiler, furnace, or pellet stove as defined in 40 CFR Part 60, Subpart AAA, and

2. is not a masonry heater as defined in Section 31.201, and

3. see Section 3102, Uniform Building Code for definitions of masonry and factory-built fireplaces as used in this Standard.

FIREPLACE DESIGN is the construction and/or fabrication specifications including all dimensions and materials required for manufacturing or building fireplaces with identical combustion function and particulate emissions factors.

FIREPLACE MODEL LINE is a series of fireplace models which all have the same internal assembly. Each model in a model line may have different facade designs and external decorative features.

FIREPLACE, CERTIFIED, is a fireplace that meets the emission performance standards when tested according to UBC Standard 31-2.

FIREPLACE, NON-CERTIFIED, (masonry or concrete) is any fireplace that is not a certified fireplace. A non-certified fireplace will be subject to applicable burn ban restrictions.

INTERNAL ASSEMBLY is the core construction and firebox design which produces the same function and emissions factor for a fireplace model line.

MASONRY HEATER is a heating system of predominantly masonry construction having a mass of at least 800 kg (1760 lbs), excluding the chimney and foundation, which is designed to absorb a substantial portion of the heat energy from a rapidly-burned charge of solid fuel by:

a) routing of exhaust gases through internal heat exchange channels in which the flow path downstream of the firebox includes at least one 180 degree change in flow direction, usually downward, before entering the chimney, and

b) being constructed of sufficient mass such that under normal operating conditions the external surface of the heater, except in the region immediately surrounding the fuel loading door(s), does not exceed 110°C (230°F).

Masonry heaters shall be listed or installed in accordance with ASTME-1602.

RESPONSE TIME is the amount of time required for the measurement system to display 95 percent of a step change in gas concentration.

SAMPLING SYSTEM BIAS is the difference between the gas concentrations exhibited by the analyzer when a known concentration gas is introduced at the outlet of the sampling probe and when the sample gas is introduced directly to the analyzer.

SPAN is the upper limit of the gas concentration measurement range (25 percent for CO_2, O_2, and 5 percent for CO).

TEST FACILITY , the area in which the fi place is installed, operated, and sampled for emissions.

TEST FUEL LOADING DENSITY is the weight of the as-fired test-fuel charge per unit area of usable firebox floor (or hearth).

TEST-BURN is an individual emission test which encompasses the time required to consume the mass of three consecutively burned test-fuel charges.

TEST-FUEL CHARGE is the collection of test fuel pieces placed in the fireplace at the start of certification test.

USABLE FIREBOX AREA is the floor (or hearth) area, within the fire chamber of a fireplace upon which a fire may be, or is intended to be built. Usable firebox area is calculated using the following definitions:

1. Length. The longest horizontal fire chamber dimension along the floor of the firebox that is parallel to a wall of the fire chamber.

2. Width. The shortest horizontal fire chamber dimension along the floor of the firebox that is parallel to a wall of the fire chamber.

3. For angled or curved firebox walls and/or sides, the effective usable firebox area shall be determined by calculating the sum of standard geometric areas or sub-areas of the firebox floor.

If a fireplace has a floor area within the fire chamber which is larger than the area upon which it is intended that fuel be placed and burned, the usable firebox area shall be calculated as the sum of standard geometric areas or sub-areas of the area intended for fuel placement and burning. For fireplace grates which elevate the fuel above the firebox floor, usable firebox area determined in this manner shall be multiplied by a factor of 1.5. The weight of test-fuel charges for fireplace-grate usable-firebox-area tests, shall not exceed the weight of test-fuel charges determined for the entire fireplace floor area.

ZERO DRIFT is the difference in the analyzer reading from the initial calibration response at the zero concentration level after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

Section 31.202--Testing.

31.202.1 Applicability. This method is applicable for the certification and auditing of fireplace particulate emission factors. This method describes the test facility, fireplace installation requirements, test-fuel charges, and fireplace operation as well as procedures for determining burn rates and particulate emission factors.

31.202.2 Principle. Particulate matter emissions are measured from a fireplace burning prepared test-fuel charges in a test facility maintained at a set of prescribed conditions.

31.202.3 Test Apparatus.

31.202.3.1 Fi_ _lace Temperature Monitors. Device(s) capable of measuring flue-gas temperature to within 1.5 percent of expected absolute temperatures.

31.202.3.2 Test Facility Temperature Monitor. A thermocouple located centrally in a vertically oriented pipe shield 6 inches (150 mm) long, 2 inches (50 mm) diameter that is open at both ends, capable of measuring air temperature to within 1.5 percent of expected absolute temperatures.

31.202.3.3 Balance. Balance capable of weighing the test-fuel charge(s) to within 0.1 lb (0.05 kg).

31.202.3.4 Moisture Meter. Calibrated electrical resistance meter for measuring test-fuel moisture to within 1 percent moisture content (dry basis).

31.202.3.5 Anemometer. Device capable of detecting air velocities less than 20 ft/min (0.10 m/sec), for measuring air velocities near the fireplace being tested.

31.202.3.6 Barometer. Mercury, aneroid or other barometer capable of measuring atmospheric pressure to within 0.1 inch Hg (2.5 mm Hg).

31.202.3.7 Draft Gauge. Electromanometer or other device for the determination of flue draft (i.e., static pressure) readable to within 0.002 inches of water column (0.50 Pa).

31.202.3.8 Combustion Gas Analyzer. Combustion gas analyzers for measuring Carbon Dioxide (CO_2), Carbon Monoxide (CO), and Oxygen (O_2) in the fireplace exhaust-gas stream must meet all of the following measurement system performance specifications:

1. **Analyzer Calibration Error.** Shall be less than ± 2 percent of the span value for the zero, mid-range, and high-range calibration gases.

2. **Sampling System Bias.** Shall be less than ± 5 percent of the span value for the zero, mid-range, and high-range calibration gases.

3. **Zero Drift.** Shall be less than ± 3 percent of the span over the period of each run.

4. **Calibration Drift.** Shall be less than ± 3 percent of the span value over the period of each run.

5. **Response Time.** Shall be less than 1.5 minutes.

31.202.4 Emissions Sampling Method. Use the emission sampler system (ESS) as described in Section 31.203.12 or an equivalent method as determined by the application of the U. S. EPA Method 301 Validation Procedure (Federal Register, December 12, 1992, Volume 57, Number 250, page 11998) and upon approval of DOE.

31.202.5 Fireplace Installation and Test Facility Requirements. The fireplace being tested must be constructed, if site-built, or installed, if manufactured, in accordance with the designer's/ manufacturer's written instructions. The chimney shall have a total vertical height above the base of the fire chamber of not less than 15 feet (4 600 mm). The fireplace chimney exit to the atmosphere must be freely communicating with the fireplace combustion makeup-air source. There shall be no artificial

atmospheric pr sure differential imposed b. ween the chimney exit to the atmosphere and the fireplace makeup-air inlet.

31.202.6 Fireplace Aging and Curing. A fireplace of any type shall be aged before certification testing begins. The aging procedure shall be conducted and documented by the testing laboratory.

31.202.6.1 Catalyst-Equipped Fireplaces. Operate the catalyst-equipped fireplace using fuel described in Section 31.203. Operate the fireplace with a new catalytic combustor in place and in operation for at least 50 hours. Record and report hourly catalyst exit temperatures, the hours of operation, and the weight of all fuel used.

31.202.6.2 Non-Catalyst-Equipped Fireplaces. Operate the fireplace using the fuel described in Section 31.203 for at least 10 hours. Record and report the hours of operation and weight of all fuel used.

31.202.7 Pretest Preparation. Record the test-fuel charge dimensions, moisture content, weights, and fireplace (and catalyst if equipped) descriptions.

The fireplace description shall include photographs showing all externally observable features and drawings showing all internal and external dimensions needed for fabrication and/or construction. The drawings must be verified as representing the fireplace being tested and signed by an authorized representative of the testing laboratory.

31.202.8 Test Facility Conditions. Locate the test facility temperature monitor on the horizontal plane that includes the primary air intake opening for the fireplace. Locate the temperature monitor 3 to 6 feet (1 000 to 2 000 mm) from the front of the fireplace in the 90° sector in front of the fireplace. Test facility temperatures shall be maintained between 65° and 90°F (18° and 32°C). Use an anemometer to measure the air velocity. Measure and record the room-air velocity within 2 feet (600 mm) of the test fireplace before test initiation and once immediately following the test-burn completion. Air velocity shall be less than 50 feet/minute (250 mm/second) without the fireplace operating.

Section 31.203--Test protocol.

31.203.1 Test Fuel. Fuel shall be air dried Douglas fir dimensional lumber or cordwood without naturally associated bark. Fuel pieces shall not be less than 1/2 nor more than 5/6 of the length of the average fire chamber width. Fuel shall be split or cut into pieces with no cross-sectional dimension greater than 6 inches (152 mm). Spacers, if used, shall not exceed 3/4 inches (19 mm) in thickness and 15 percent of the test-fuel charge weight. Fuel moisture shall be in the range of 16 to 20 percent (wet basis) or 19 to 25 percent (dry basis) meter reading.

31.203.2 Test-Fuel Loading Density. The wet (with moisture) minimum weight of each test-fuel charge shall be calculated by multiplying the hearth area in square feet by 7.0 pounds per square foot (square meters x 0.30 kg/m^2) (± 10 percent). Three test-fuel charges shall be prepared for each test-burn.

31.203.3 Kindling. The initial test-fuel charge of the three test-fuel charge test-burn shall be started by using a kindling-fuel

charge which ... up to 50 percent of the ... st test-fuel charge weight. Kindling-fuel pieces can be any size needed to start the fire or whatever is recommended in the manufacturer's (builder's) instructions to consumers. The kindling-fuel charge weight is not part of the initial test-fuel charge weight but is in addition to it.

31.203.4 Test-Burn Ignition. The fire can be started with or without paper. If used, the weight of the paper must be included in test-fuel charge weight. The remainder of the test-fuel charge may be added at any time after kindling ignition except that the entire first test-fuel charge must be added within 10 minutes after the start of the test (i.e., the time at which the flue-gas temperature at the 8-foot (2 440 mm) level is over 25°F (14°C) greater than the ambient temperature of the test facility).

31.203.5 Test Initiation. Emissions and flue-gas sampling are initiated immediately after the kindling has been ignited and when flue-gas temperatures in the center of the flue at an elevation of 8 feet (2 440 mm) above the base (floor) of the fire chamber reach 25°F (14°C) greater than the ambient temperature of the test facility.

31.203.6 Sampling Parameters. Sampling (from the 8-foot [2 440 mm] flue-gas temperature measurement location) must include:

1. Particulate Emissions
2. Carbon Dioxide (CO_2)[1]
3. Carbon Monoxide (CO)[1]
4. Oxygen (O_2)[1]
5. Temperature(s)

[1] These gases shall be measured on-line (real-time) and recorded at a frequency of not less than once every 5 minutes. These 5-minute readings are to be arithmetically averaged over the test-burn series or alternatively, a gas bag sample can be taken at a constant sample rate over the entire test-burn series and analyzed for the required gases within one hour of the end of the test-burn.

If a fireplace is equipped with an emissions control device which is located downstream from the 8-foot (2 440 mm) flue-gas temperature measurement location, a second temperature, particulate, and gaseous emissions sampling location must be located downstream from the emissions control device but not less than 4 flue diameters upstream from the flue exit to the atmosphere. The two sampling locations must be sampled simultaneously during testing for each fireplace configuration being tested.

31.203.7 Test-Fuel Additions and Test Completion. The second and third test-fuel charges for a test-burn may be placed and burned in the fire chamber at any time deemed reasonable by the operator or when recommended by the manufacturer's and/or builder's instructions to consumers.

No additional kindling may be added after the start of a test-burn series and the flue-gas temperature at the 8-foot (2 440 mm) level above the base of the hearth must always be 25°F (14°C) greater than the ambient temperature of the test facility for a valid test-burn series. Each entire test-fuel charge must be added within 10 minutes from the addition of the first piece.

A test (i.e., a three test-fuel charge test-burn series) is completed and all sampling and measurements are stopped when all three test-fuel charges have been consumed (to more than 90 percent

by weight) in e firebox and the 8-foot (2 .0 mm) level flue-gas temperature drops below 25°F (14°C) greater than the ambient temperature of the test facility. Within 5 minutes after the test-burn is completed and all measurements and sampling has stopped, the remaining coals and/or unburned fuel, shall be extinguished with a carbon dioxide fire extinguisher. All of the remaining coals, unburned fuel, and ash shall be removed from the firebox and weighed to the nearest 0.1 pound (0.05 kg). The weight of these unburned materials and ash shall be subtracted from the total test-burn fuel weight when calculating the test-burn burn rate. A test-burn is invalid if less than 90 percent of the weight of the total test-fuel charges plus the kindling weight have been consumed in the fireplace firebox.

31.203.8 Test-Fuel Charge (Load) Adjustments. Test-fuel charges may be adjusted (i.e., repositioned) once during the burning of each test-fuel charge. The time used to make this adjustment shall be less than 15 seconds.

31.203.9 Air Supply Adjustment. Air supply controls, if the fireplace is equipped with controls, may not be adjusted during any test-burn series after the first 10 minutes of startup of each fuel load. All air supply settings must be set to the lowest level at the start of a test and shall remain at the lowest setting throughout a test-burn.

31.203.10 Auxiliary Fireplace Equipment Operation. Heat exchange blowers (standard or optional) sold with the fireplace shall be operated during all test-burns following the manufacturer's written instructions. If no manufacturer's written instructions are available, operate the heat exchange blower in the "high" position. (Automatically operated blowers shall be operated as designed.) Shaker grates, by-pass controls, afterburners, or other auxiliary equipment may be adjusted only once per test-fuel charge following the manufacturer's written instructions. Record and report all adjustments on a fireplace operational written-record.

31.203.11 Fireplace Configurations. One, 3 test-fuel charge test-burn shall be conducted for each of the following fireplace operating configurations:

1. Door(s) closed, with hearth grate;
2. Door(s) open, with hearth grate;
3. Door(s) closed, without hearth grate;
4. Door(s) open, without hearth grate; and
5. With no doors, and draft inducer on.

No test-burn series is necessary for any configuration the appliance design cannot or is not intended to accommodate. If a configuration is not tested, the reason must be submitted with the test report and the appliance label must state that the appliance cannot be used in that configuration by consumer users.

One emission factor result, or one emission factor average, as provided in paragraph 31.203.11.2, from each fireplace configuration tested shall be compiled into an arithmetic average of all the configurations tested for determining compliance with the requirements of paragraph 31.204.2.

31.203.11.1 C. ,ed-Door(s) Testing. For .l closed-door test configurations, the door(s) must be closed within 10 minutes from the addition of the first test-fuel piece of each test-fuel charge in a test-burn. During a test-burn, the door(s) cannot be re-opened except during test-fuel reload and adjustment as referenced in Sections 31.203.7 and 31.203.8.

31.203.11.2 Additional Test-Burn. The testing laboratory may conduct more than one test-burn series for each of the applicable configurations specified in Section 31.203.11. If more than one test-burn is conducted for a specified configuration, the results from at least 2/3 of the test-burns for that configuration shall be used in calculating the arithmetic average emission factor for that configuration. The measurement data and results of all tests conducted shall be reported regardless of which values are used in calculating the average emission factor for that configuration.

31.203.12 Emissions Sampling System (ESS).

31.203.12.1 Principle. Figure 31-2-1 shows a schematic of an ESS for sampling solid-fuel-fired fireplace emissions. Except as specified in Section 31.202.4, an ESS in this configuration shall be used to sample all fireplace emissions. The ESS shall draw flue gases through a 15 inch (380 mm) long, 3/8 inch (10 mm) O.D. stainless steel probe which samples from the center of the flue at an elevation which is 8 feet (2 440 mm) above the floor of the firebox (i.e., the hearth). A flue-gas sample shall then travel through a 3/8 inch (10 mm) O.D. Teflon® tube, and a heated U. S. EPA Method 5-type glass-fiber filter (40 CFR Part 60, Appendix A) for collection of particulate matter. The filter shall be followed by an in-line flow-through cartridge containing 20 grams of XAD-2 sorbent resin for collecting semi-volatile hydrocarbons. Water vapor shall then be removed from the sampled gas by a silica-gel trap. Flue-gas oxygen concentrations, which shall be used to determine the ratio of flue-gas volume to the amount of fuel burned, are measured within the ESS system by an electrochemical cell meeting the performance specifications presented in Section 31.202.3.8 (1.).

The ESS shall use a critical orifice to maintain a nominal flue-gas sampling rate of 0.035 cfm (0.0167 liters per second). The actual flow rate through each critical orifice shall be determined to within 0.000354 cubic feet (0.01 liters) per second before and after each test-burn with a bubble flow meter to document exact sampling rates. The post-test-burn critical-orifice flow-rate determinations shall be performed before the ESS is dismantled for sample recovery and clean-up. Pre-test-burn and post-test-burn critical-orifice flow-rate measurements shall be within 0.0000117 cubic feet (0.00033 liters) per second of each other or the test-burn emissions results shall be invalid. Temperatures shall be monitored using type K ground-isolated, stainless-steel-sheathed thermocouples.

The ESS unit shall return particle-free and dry exhaust gas to the flue via a 1/4 inch (6 mm) Teflon® line and a 15 inch (380 mm) stainless steel probe inserted into the flue. A subsample aliquot of the flue-gas sample-gas stream exiting the ESS unit, shall be pumped into a 1 cubic foot (29 liter) Tedlar® bag for measuring the average carbon dioxide, carbon monoxide, and confirmation of average oxygen concentrations for the test period. Flow to the

subsample gas . g shall be controlled by a sc enoid valve connected to the main pump circuit and a fine-adjust needle-controlled flow valve. The solenoid valve shall be open only when the pump is activated, allowing the subsample gas to be pumped into the gas bag at all times when the ESS pump is on. The rate of flow into the bag shall be controlled by the fine-adjust metering needle-valve which is adjusted at setup so that 4.7 to 5.2 gal (18 to 20 liters) of gas is collected over the entire 3 test-fuel charge test-burn without over-pressurizing the gas sample bag.

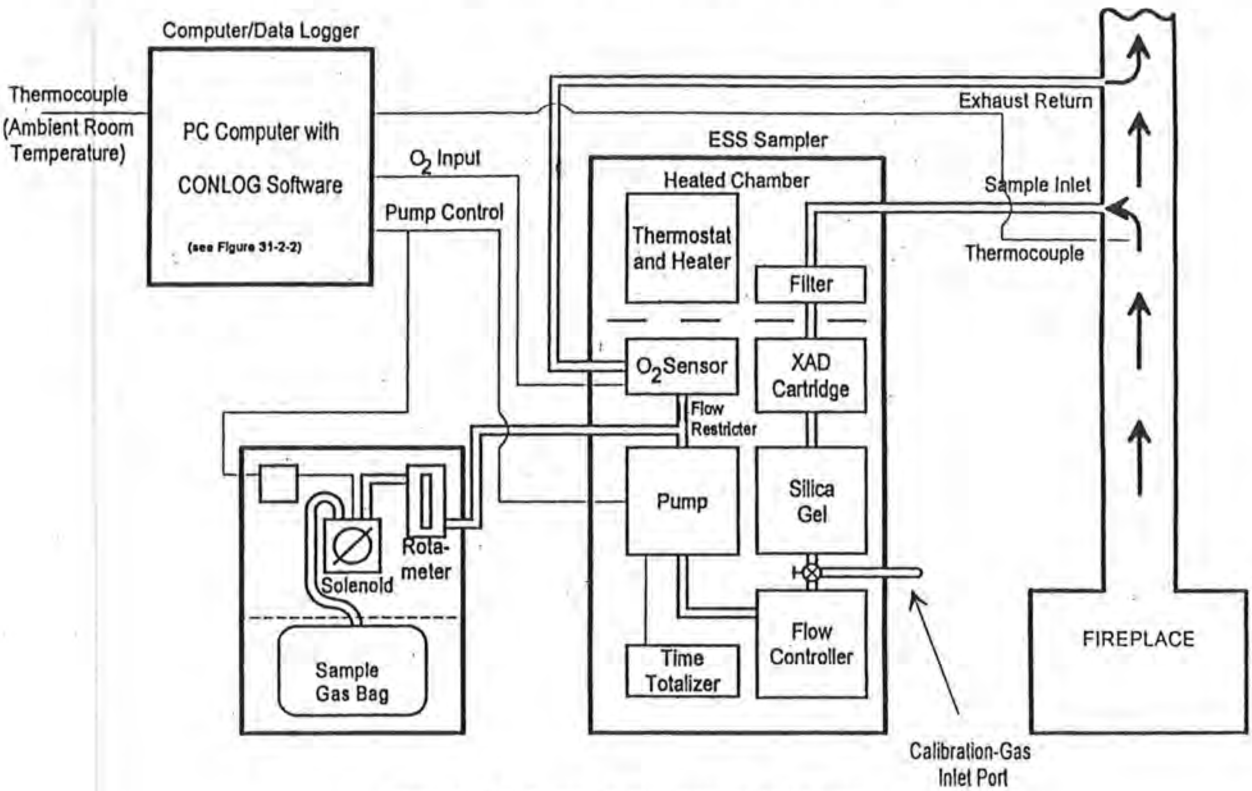


Figure 31-2-1. Schematic of ESS/Data Logger system.

31.203.12.2 The Data Acquisition and Control System. The data acquisition and control system for the ESS is shown in Figure 31-2-2. This system consists of a personal computer (PC) containing an analog-to-digital data processing board (12-bit precision), a terminal (connection) box, and specialized data acquisition and system control software (called CONLOG).

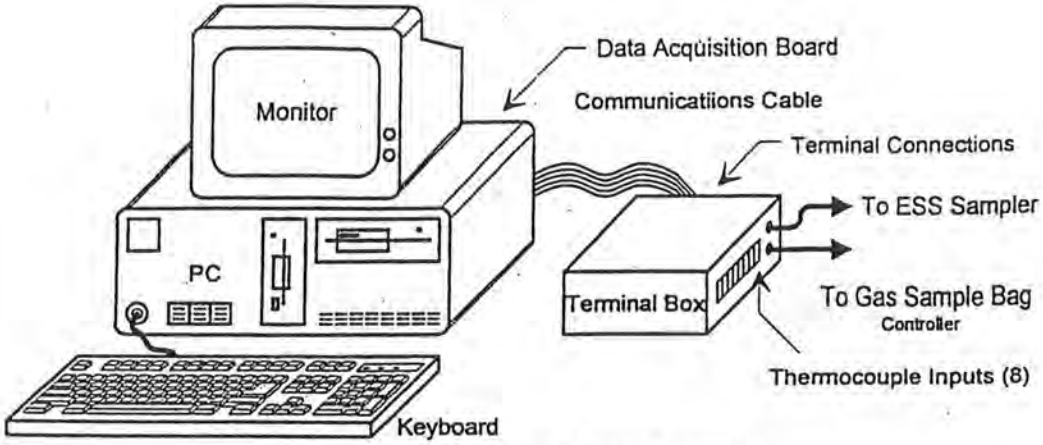


Figure 31-2-2. ESS data logger system.

For fireplace testing, the CONLOG software is configured to control, collect, and store the following data:

1. Test-period starting and ending times and dates, and total length of sampling period,

2. Pump-cycle on/off, cycle length and thermocouple (TC) cycle recording interval (frequency),

3. Temperature records, including flue-gas and ambient temperatures, averaged over pre-selected intervals,

4. Date, times, and weights of each added fuel load, and

5. Flue-gas oxygen measurements taken during each sample cycle.

During testing, instantaneous readings of real-time data shall be displayed on the system status screen. These data shall include the date, time, temperatures for each of the TCs, and flue-gas oxygen concentrations. The most recent 15 sets of recorded data shall also be displayed.

Flue-gas sampling and the recording of flue-gas oxygen concentrations shall only occur when flue-gas temperatures are above 25°F (14°C) greater than the ambient temperature of the test facility. Temperatures and fueling shall always be recorded at five-minute intervals regardless of flue-gas temperature. The ESS sampling-pump operating cycle shall be adjustable as described in Section 31.203.12.3.

31.203.12.3 ESS Sampling-Pump Operating Cycle. The ESS sampling-pump operating cycle shall be adjusted to accommodate variable test-fuel charge sizes, emission factors, and the length of time needed to complete a test-burn series. The sampler-pump operation shall be adjustable from 1 second to 5 minutes (100 percent) "on" for every 5-minute test-burn data-recording interval. This will allow adjustment for the amount of anticipated emissions materials that will be sampled and deposited on the ESS filter, XAD-2, and the other system components. It is recommended that the minimum sample quantities stipulated in Section 31.203.12.4 be used to calculate the appropriate pump cycle "on" and "off" periods. It

should be noted that if the sampler collects too much particulate material on the filter and in the XAD-2 cartridge, the unit may fail the sample flow calibration check required at the end of each test-burn.

31.203.12.4 Minimum Sample Quantities. For each complete 3 test-fuel charge test-burn, the ESS must catch a minimum total particulate material mass of at least 0.231 grains (15 mg). Alternatively, the ESS must sample a minimum of 10 cubic feet (283 liters) during each 3 test-fuel charge test-burn. If this volume cannot be sampled in the test-burn time period, two ESS samplers must be utilized to sample fireplace emissions simultaneously during each test-burn. If emissions results from the two ESSs are different by more than 10 percent of the lower emissions-factor result, the test-burn results are invalid. An arithmetic average is calculated for test-burn results when two ESSs are utilized.

31.203.12.5 Equipment Preparation and Sample Processing Procedures.

31.203.12.5.1. Prior to emissions testing, the ESS unit shall be prepared with a new, tared glass-fiber filter and a clean XAD-2 sorbent-resin cartridge. Within 3 hours after testing is completed, the stainless steel sampling probe, Teflon® sampling line, filter holder, and XAD-2 cartridge(s) shall be removed from the test site and transported to the laboratory for processing. Each component of the ESS sampler shall be processed as follows:

1. Filter: The glass fiber filter (4 inches (102 mm) in diameter) shall be removed from the ESS filter housing and placed in a petri dish for desiccation and gravimetric analysis.

2. XAD-2 sorbent-resin cartridge: The sorbent-resin cartridge shall be extracted in a Soxhlet extractor with dichloromethane for 24 hours. The extraction solution shall be transferred to a tared glass beaker and evaporated in an ambient-air dryer. The beaker with dried residue shall then be desiccated to constant weight (less than ± 0.5 mg change within a 2-hour period), and the extractable residue shall be weighed.

3. ESS hardware: All hardware components which are in the flue-gas sample stream (stainless steel probe, Teflon® sampling line, stainless steel filter housing, and all other Teflon® and stainless steel fittings) through the top of the sorbent-resin cartridge, shall be cleaned with a solvent mixture of 50 percent dichloromethane and 50 percent methanol. The cleaning solvent solutions shall be placed in tared glass beakers, evaporated in an ambient-air dryer, desiccated to constant weight (less than ± 0.5 mg change within a 2-hour period), and weighed.

EPA Method 5H procedures (40 CFR Part 60, Appendix A) for desiccation and weighing time intervals shall be followed for steps 1 through 3 above.

31.203.12.5.2 The ESS shall be serviced both at the start and end of a fireplace testing period. During installation, leak checks shall be performed; the thermocouples, fuel-weighing scale, and oxygen-cell shall be calibrated, and the data logger shall be programmed. At the end of the test period, final calibration, and leak-check procedures shall again be performed, and the ESS sampling line, filter housing, XAD-2 cartridge, sampling probe, and Tedlar® bag shall be removed, sealed, and transported to the

laboratory for analysis. If the pre-test and post-test leak checks of the ESS system exceed 0.00033 liters per second, the test-burn emission results shall be invalid.

31.203.12.6 Data Processing and Quality Assurance.

31.203.12.6.1 Upon returning to the laboratory facilities, the data file (computer disk) shall be reviewed to check for proper equipment operation. The data-logger data files, log books, and records maintained by field staff shall be reviewed to ensure sample integrity.

The computer-logged data file shall be used in conjunction with the ESS particulate samples and sample-gas bag analyses to calculate the emission factor, emission rate, and fireplace operational parameters. An example ESS results report is presented in Table 31-2-A.

31.203.12.6.2 Burning Period. The total burning period is calculated by:

Total Burning Period = (Length of each sample cycle) x (Number of flue temperature readings over 25°F (14°C) greater than the ambient temperature of the test facility).

WHERE:

1. Length of each sample cycle: The time between each temperature recording as configured in the CONLOG software settings (standardized at 5 minutes).

2. Number of flue temperature readings during fireplace use: The total number of temperature readings when the calibrated temperature value was more than 25°F (14°C) greater than the ambient temperature of the test facility.

31.203.12.6.3 Particulate Emissions.

31.203.12.6.3.1 ESS Particulate Emission Factor. The equation for the total ESS particulate emission factor for each test-burn presented below produces reporting units of grams per dry kilogram of fuel burned (g/kg):

$$\text{Particulate emission factor (g/kg)} = \frac{\text{(Particulate Catch) x (Stoichiometric Volume) x (Flue-gas Dilution Factor)}}{\text{(Sampling Time) x (Sampling Rate)}}$$

WHERE:

1. Particulate Catch: The total mass, in grams, of particulate material caught on the filter, in the XAD-2 resin cartridge (semi-volatile compounds); and in the probe clean-up and rinse solutions.

2. Stoichiometric Volume: Stoichiometric volume is the volume of dry air needed to completely combust one dry kilogram of fuel with no "excess air". This value is determined by using a chemical reaction balance between the specific fuel being used and the chemical components of air. The stoichiometric volume for Douglas fir is 86.78 cubic feet per pound (5 404 liters per dry kilogram) at 68°F (20°C) and 29.92 inches (760 mm) of mercury pressure.

3. Flue-gas Dilution Factor: The degree to which the sampled combustion gases have been diluted in the flue by air in excess of the stoichiometric volume (called excess air). The dilution factor is obtained by using the average sampled carbon dioxide and carbon monoxide values obtained from the sample gas bag analyses and the following equation.

$$\text{Flue-Gas Dilution Factor} = \frac{18.53 + \left(\left(1 - \left(\frac{(CO_2 + 1/2\ CO)}{18.53}\right)\right) \times 2.37\right)}{(CO_2 + 1/2\ CO)}$$

Note: Multiplying the g/kg emission factor by the burn rate (dry kg/hr) yields particulate emissions in grams per hour (g/hr). Burn rate is calculated by the following equation:

$$\text{Burn Rate (kg/hr)} = \frac{\text{Total Fuel (kg)}}{\text{Total Burn Period (hours)}}$$

WHERE:

Total Fuel is the total fuel added during the entire test-burn minus the remaining unburned materials at the end of the test-burn.

4. Sampling Time: The number of minutes the sampler pump operated during the total test-burn period.

5. Sampling Rate: Sampling rate is controlled by the critical orifice installed in the sampler. The actual calibrated sampling rate is used here.

31.203.12.6.3.2 EPA Method 5H Particulate Emissions. ESS-measured emissions factors submitted to DOE for approval must first be converted to U. S. EPA Method 5H equivalents. The ESS particulate emissions factor results obtained in Section 31.203.12.6.1 are converted to be equivalent to the U. S. EPA Method 5H emissions factor results by the following equation:

$$1.254 + (0.302 \times PEF) + (1.261 \times 10^{-PEF})$$

WHERE:

PEF is the ESS-measured particulate emission factor for a test-burn.

31.203.12.6.4 Emissions. The carbon monoxide (CO) emission factor equation produces grams of CO per dry kilogram of fuel burned. The grams per kilogram equation includes some equation components described above.

$$\text{CO emission factor (g/kg)} = \frac{\text{(Fraction CO) x (Stoich. Volume) x (Dilution Factor) x (Molecular Weight of CO)}}{\text{(24.45 L/mole)}}$$

WHERE:

1. Fraction CO: The fraction of CO measured in the gas sampling bag.

Note: Percent CO divided by 100 gives the fraction CO.

2. Molecular Weight of CO: The gram molecular weight of CO, 28 pounds per pound-mole (28.0 g/g-mole).

Multiplying the results of the above equation by the burn rate (dry kg/hr) yields the grams per hour (g/hr) CO emission rate.

Table 31-2-A Example ESS Data Results Format

ESS Emission Results

Test Facility Location:	xxxx
Test Laboratory:	xxxx
Test-Burn Number:	xxxx
Start Time/Date:	xxxx
End Time/Date:	xxxx
Fireplace Model:	xxxx

TIME

Total Test Period	152.3 hours
Total Burn Time	64.6 hours
Flue >25 Degrees F above ambient temperature	42.4 %

CARBON MONOXIDE EMISSIONS

Gram / Kilogram	48.0 g/kg
Gram / Hour	64.0 g/hr
Gram / Cubic Meter	1.25 g/m^3

ESS SETTINGS

ESS Sample Rate	1.004 l/min
Sample Cycle	5.0 min
Sample Time / Sample Cycle	0.443 min

AVERAGE TEMPERATURES

Fuel-Gas Temperatures	275 °F 135 °C
Flue Exit Temperature	308 °F 154 °C
Test Facility Ambient Temperature	66 °F 19 °C

TEST FUEL

Total Fuel Used (wet weight)	101.3 kg
Ave. Fuel Moisture (dry basis)	17.7 %
Total Fuel Used (dry weight)	86.1 kg
Average Test-Fuel Charge	14.5 kg
Average Burn Rate kg/hr	1.33 dry

AVERAGE FLUE-GAS CONCENTRATIONS

Flue Oxygen (SE)	18.15 %
Flue Oxygen (gas bag or analyzer)	18.05 %
Flue CO (gas bag or analyzer)	0.10 %
Flue CO_2 (gas bag or analyzer)	2.60 %

PARTICULATE EMISSIONS (EPA Method 5H Equivalents)

Gram / Kilogram	2.6 g/kg
Gram / Hour	3.4 g/hr
Gram / Cubic Meter	0.06 g/m^3

BREAKDOWN OF ESS PARTICULATE SAMPLE

Rinse	25.5 mg
XAD	6.3 mg
Filter	15.7 mg
Blank	0.0 mg
TOTAL	**47.4 mg**

Notes:
NM = Not Measured, NA = Not Applicable, NU = Not Used
Total time flue temperature greater than 25°F over ambient temperature.

TEST PERFORMED BY: XYZ Testing International, Olympia Washington, 98504

31.203.13 Calibrations.

31.203.13.1 Balance. Before each certification test, the balance used for weighing test-fuel charges shall be audited by weighing at

least one calibration weight (Class F) that corresponds to 20 percent to 80 percent of the expected test-fuel charge weight. If the scale cannot reproduce the value of the calibration weight within 0.1 lb (0.05 kg) or 1 percent of the expected test-fuel charge weight, whichever is greater, re-calibrate the scale before use with at least five calibration weights spanning the operational range of the scale.

31.203.13.2 Temperature Monitor. Calibrate the temperature monitor before the first certification test and semiannually thereafter.

31.203.13.3 Fuel Moisture Meter. Calibrate the fuel moisture meter as per the manufacturer's instructions before each certification test.

31.203.13.4 Anemometer. Calibrate the anemometer as specified by the manufacturer's instructions before the first certification test and semiannually thereafter.

31.203.13.5 Barometer. Calibrate the barometer against a mercury barometer before the first certification test and semiannually thereafter.

31.203.13.6 Draft Gauge. Calibrate the Draft Gauge as per the manufacturer's instructions; a liquid manometer does not require calibration.

31.203.13.7 ESS. The ESS shall be calibrated as specified in Section 31.203.12.1.

31.203.14 Reporting Criteria. Submit both raw and reduced data for all fireplace tests. Specific reporting requirements are as follows:

31.203.14.1 Fireplace Identification. Report fireplace identification information including manufacturer, model, and serial number. Include a copy of fireplace installation and operation manuals.

31.203.14.2 Test Facility Information. Report test facility location, temperature, and air velocity information.

31.203.14.3 Test Equipment Calibration and Audit Information. Report calibration and audit results for the test-fuel balance, test-fuel moisture meter, analytical balance, and sampling equipment including volume metering systems and gaseous analyzers.

31.203.14.4 Pretest Information and Conditions. Report all pretest conditions including test-fuel charge weight, fireplace temperatures, and air supply settings.

31.203.14.5 Particulate Emission Data. Report a summary of test results for all test-burns conducted and the arithmetically averaged emission factor for all test-burns used for certification. Submit copies of all data sheets and other records collected during the testing. Submit examples of all calculations.

31.203.14.6 Required Test Report Information and Suggested Format. Test report information requirements to be provided to DOE for approval/certification of fireplaces are presented in this Standard. The requirements are presented here in a recommended report format.

31.203.14.6.1 Introduction.

1. Purpose of test: Certification or audit.

2. Fireplace identification: Manufacturer, model number, catalytic/non-catalytic, and options. Include a copy of fireplace installation and operation manuals.

3. Laboratory: Name, location, and participants.

4. Test information: Date fireplace was received, date of tests, sampling methods used, and number of test-burns.

31.203.14.6.2 Summary and Discussion of Results.

1. Table of results: Test-burn number, burn rate, particulate emission factor (in U. S. EPA Method 5H equivalents), efficiency (if determined), and averages (indicate which test-burns are used).

2. Summary of other data: Test facility conditions, surface temperature averages, catalyst temperature averages, test-fuel charge weights, and test-burn times.

3. Discussion: Specific test-burn problems and solutions.

31.203.14.6.3 Process Description.

1. Fireplace dimensions: Volume, height, width, lengths (or other linear dimensions), weight, and hearth area.

2. Firebox configuration: Air supply locations and operation, air supply introduction location, refractory location and dimensions, catalyst location, baffle and by-pass location and operation (include line drawings and photographs).

3. Process operation during test: Air supply settings and adjustments, fuel bed adjustments, and draft.

4. Test fuel: Test fuel properties (moisture and temperature), test fuel description (include line drawing or photograph), and test fuel charge density.

31.203.14.6.4 Sampling Locations. Describe sampling location relative to fireplace. Include linedrawings and photographs.

31.203.14.6.5 Sampling and Analytical Procedures.

1. Sampling methods: Brief reference to operational and sampling procedures, and optional and alternative procedures used.

2. Analytical methods: Brief description of sample recovery and analysis procedures.

31.203.14.6.6 Quality Control and Assurance Procedures and Results.

1. Calibration procedures and results: Certification, sampling, and analysis procedures.

2. Test method quality control procedures: Leak-checks, volume-meter checks, stratification (velocity) checks, and proportionality results.

31.203.14.6.7 Appendices.

1. **Results and Example Calculations.** Include complete summary tables and accompanying examples of all calculations.

2. **Raw Data.** Include copies of all uncorrected data sheets for sampling measurements, temperature records, and sample recovery

data. Include copies of all burn rate and fireplace temperature data.

3. **Sampling and Analytical Procedures.** Include detailed description of procedures followed by laboratory personnel in conducting the certification test, emphasizing particularly, parts of the procedures differing from the prescribed methods (e.g., DOE approved alternatives).

4. **Calibration Results.** Summary of all calibrations, checks, and audits pertinent to certification test results including dates.

5. **Participants.** Test personnel, manufacturer representatives, and regulatory observers.

6. **Sampling and Operation Records.** Copies of uncorrected records of activities not included on raw data sheets (e.g., fireplace door open times and durations).

7. **Additional Information.** Fireplace manufacturer's written instructions for operation during the certification test and copies of the production-ready (print-ready) temporary and permanent labels required in Section 31.208 shall be included in the test report prepared by the test laboratory.

31.203.14.7 References.

1. Code of Federal Regulations, U. S. EPA Title 40, Part 60, Subpart AAA and Appendix A (40 CFR Part 60).

2. Barnett, S. G. and P. G. Fields, 1991, "In-Home Performance of Exempt Pellet Stoves in Medford, Oregon," prepared for U. S. Department of Energy, Oregon Department of Energy, Tennessee Valley Authority, and Oregon Department of Environmental Quality, July 1991.

3. Barnett, S. G. and R. R. Roholt, 1990, "In-Home Performance of Certified Pellet Stoves in Medford and Klamath Falls, Oregon," prepared for the U. S. Department of Energy, 1990.

4. Barnett, S. G., 1990, "Field Performance of Advanced Technology Woodstoves in Glens Falls, New York, 1988-1989," for New York State Energy Research and Development Authority, U. S. EPA, Coalition of Northeastern Governors, Canadian Combustion Research Laboratory, and the Wood Heating Alliance, December 1989.

Section 31.204--Approval procedure for fireplaces.

On or after the effective date of this regulation, a manufacturer or builder of a fireplace who wishes to have a fireplace model line or fireplace design designated as an approved (or certified) fireplace, shall submit to DOE for its review the following information:

31.204.1 Manufacturer name and street address, model or design identification, construction specifications, and drawings of the firebox and required chimney system.

31.204.2 A test report prepared in accordance with Section 31.203.14.6 showing that testing has been conducted by a DOE approved and U. S. EPA accredited laboratory, and that the arithmetically averaged particulate emission factors for that fireplace model line or design, tested in accordance with UBC Standard Section 31.202, does not exceed 7.3 g/kg (U. S. EPA Method

5H equivalent as determined in Section 31.203.12.6.3.2) for a factory-built fireplace model lines or designs or 12.0 g/kg (U. S. EPA Method 5H equivalent as determined in Section 31.203.12.6.3.2) for new certified masonry fireplace model lines or designs. After January 1, 1999, particulate emission factors for factory-built and new certified masonry fireplace model lines or designs shall not exceed 7.3 g/kg (U. S. EPA Method 5H equivalents as determined in Section 31.203.12.6.3.2).

Section 31.205--Approval of non-tested fireplaces.

On or after the effective date of this regulation, DOE may grant approval for a fireplace model line or design that has not been tested pursuant to Section 31.204 upon submission of the following by the applicant:

31.205.1 Manufacturer name and street address, model or design identification, construction specifications, and drawings of the internal assembly system.

31.205.2 Documentation from an EPA accredited laboratory that the model is a fireplace within the definition of this regulation, has substantially the same core construction as a model already tested by a DOE approved and EPA accredited laboratory, and is substantially similar to the approved model in internal assembly design, combustion function, and probable emissions performance as listed in Section 31.204.2.

Section 31.206--Approval through alternative test protocol.

As provided in Section 31.202.4, an alternative testing protocol may be submitted by a DOE approved and EPA accredited laboratory for acceptance by DOE as equivalent to Uniform Building Code Standard 31-2.

Section 31.207--Approval termination.

All fireplace model line or design approvals shall terminate five years from the approval date. Previously approved fireplace model line and/or design may be granted re-approval (re-certification) upon application to and review by DOE. No testing shall be required for fireplace model line or design re-approvals unless DOE determines that design changes have been incorporated into the fireplace that could adversely affect the emissions factor, or testing is otherwise stipulated by DOE.

DOE may revoke a fireplace model line or design approval certification if it is determined that the fireplaces being produced in a specific model line do not comply with the requirements of Section 31.200. Such a determination shall be based on all available evidence, including:

1. Test data from a retesting (audit test) of the original unit on which the certification test was conducted or a sample unit from the current model line;

2. A finding that the certification test was not valid;

3. A finding that the labeling of the fireplace does not comply with the requirements of Section 31.200;

4. Failure by the fireplace manufacturer (builder) to comply with reporting and record keeping requirements under Section 31.200;

5. Physi. . examination showing that a .gnificant percentage of production units inspected are not similar in all material respects to the fireplace submitted for testing; or

6. Failure of the manufacturer to conduct a quality assurance program in conformity with Section 31.208.

Revocation of certification under this section shall not take effect until the manufacturer (builder) concerned has been given written notice by DOE setting forth the basis for the proposed determination and an opportunity to request a hearing.

Section 31.208--Quality control.

Once within 30 days of each annual anniversary after the initial approval/certification, a DOE approved and U. S. EPA accredited laboratory shall inspect the most recently produced fireplace of an approved model line or design at its manufacturing location (site, if site-built) to document adherence to the approved/certified fireplace design specifications. If no fireplaces of an approved model line or design were produced (built) during the previous 12 months, no inspection is required.

An inspection report for each approved fireplace model line or design must be submitted to DOE within 30 days after the inspection date. The inspection report shall include, as a minimum, the model identification and serial number of the fireplace inspected, the location where the model was inspected, the names of the manufacturer's and/or builder's representatives present, the date of inspection, and a description of any changes made to the approved fireplace model line or design since the last inspection. The U. S. EPA accredited laboratory which conducts the annual quality control inspection is responsible for auditing the content and format of all labels to be applied to approved fireplaces as stipulated in Section 31.209.

A fireplace model line or design shall be re-tested in accordance with Section 31.202 if it is determined during inspection that design changes have been incorporated into the approved/certified fireplace design which adversely affect the fireplace particulate emissions factor. Design elements which can affect fireplace particulate emissions include:

1. Grate placement and height;
2. Air supply minimum and maximum controls;
3. Usable hearth area; and
4. Firebox height, width, and length dimensions.

Section 31.209--Permanent label, temporary label and owner's manual.

31.209.1 Labels and the Owner's Manual. Labels and owner's manual shall be prepared and installed in all certified "For Sale" fireplaces as specified in U. S. EPA 40 CFR Part 60, Section 60.536. Information that shall be presented on all labels includes:

1. Manufacturer's or builder's name, address, and phone number;
2. Model number and/or name;

3. Month and year of manufacture;

4. Starting and ending dates for the 5-year approval period;

5. If a fireplace was tested and approved with an emissions control device which is not an integral part of the fireplace structure, the label shall state that "The fireplace can not be sold or installed without the specified emissions control device in place and operational.";

6. On certified fireplaces the statement: "This appliance has been tested and has demonstrated compliance with Washington State amendment to the UBC Standard, Chapter 31-2 requirements."

Section 31.210--List of approved fireplaces.

DOE shall maintain a list of approved fireplace model lines and designs, and that list shall be available to the public.

NEW SECTION

WAC 51-40-3404 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 (chapter 51-42 WAC), the Uniform Fire Code and Standards (chapters 51-44 and 51-45 WAC), the Uniform Plumbing Code and Standards (chapters 51-46 and 51-47 WAC), the Washington State Energy Code (chapter 51-11 WAC) and the Washington State Ventilation and Indoor Air Quality Code (chapter 51-13 WAC) 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.

NEW SECTION

WAC 51-40-93115 Section 93115.

THIS APPENDIX IS FOR REFERENCE ONLY. IT IS NOT THE RESPONSIBILITY OF THE BUILDING OFFICIAL TO ENFORCE IT.

APPENDIX CHAPTER 11
DIVISION I
U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEDERAL FAIR HOUSING ACT
GUIDELINES FOR SITE TERRAIN EXEMPTIONS

93115.1 Purpc . The purpose of this divi on 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. Indivi al Building Test. It is im[illegible]ctical 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 purposes 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 closet 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 these 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.

NEW SECTION

WAC 51-40-93116 Section 93116.

THIS APPENDIX IS FOR REFERENCE ONLY. IT IS NOT THE RESPONSIBILITY OF THE BUILDING OFFICIAL TO ENFORCE IT.

APPENDIX CHAPTER 11
DIVISION II

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 work force 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 rea ly achievable, i.e., easily complishable 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. 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 work force 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.

NEW SECTION

WAC 51-40-93117 Section 93117.

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

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 (60 mm) inches nominal. Raised truncated domes shall comply with Appendix Chapter 11, Division V for visual contrast.

NEW SECTION

WAC 51-40-93118 Section 93118.

APPENDIX CHAPTER 11
DIVISION IV
AMERICANS WITH DISABILITIES ACT
ALTERNATE GUIDELINES FOR AUDIBLE ALARMS

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.

NEW SECTION

WAC 51-40-93119 Section 93119.

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

93119.1 Purpose. The purpose of this division is to provide the United States Department of Justice, Americans with Disabilities Act.

93119.2 Guid nes 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:

Contrast = $[(B^1 - B^2)/B^1]$ x 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:

Contrast = $[(B^1 - B^2)/B^1]$ x 100

Where: B^1 = light reflectance value (LRV) of the lighter area; and,
B^2 = light reflectance value (LRV) of the darker area.

NEW SECTION

WAC 51-40-93120 Section 93120.

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

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 this 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, 11 2.4.3 and 1106.2.4.4 is pro ded 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) or (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 appl- ble reach ranges in paragr- (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.