

CHAPTER 3

PROVISIONS FOR ALL COMPLIANCE METHODS

**

SECTION 301 COMPLIANCE METHODS

301.1 General. The ~~((repair;))~~ alteration, change of occupancy, addition or relocation of all existing buildings and structures shall comply with one of the methods listed in Sections 301.1.1 through 301.1.3 as selected by the applicant, and with Sections 302, 303 and 304. Repairs shall comply with Section 305. The repair, alteration, change of occupancy, addition or relocation of landmarks shall comply with Sections 306 and 410.

Application of a method shall be the sole basis for assessing the compliance of work performed under a single permit unless otherwise approved by the *code official*. Sections 301.1.1 through 301.1.3 shall not be applied in combination with each other.

~~((Where this code requires consideration of the seismic force resisting system of an existing building subject to repair, alteration, change of occupancy, addition or relocation of existing buildings, the seismic evaluation and design shall be based on Section 301.1.4 regardless of which compliance method is used.))~~

Exception: Subject to the approval of the *code official*, alterations complying with the laws in existence at the time the building or the affected portion of the building was built shall be considered in compliance with the provisions of this code unless the building is undergoing ~~((more than a limited structural alteration as defined in Section 907.4.3))~~ substantial alteration. New structural members added as part of the alteration shall comply with the *International Building Code*. Alterations of existing buildings in flood hazard areas shall comply with Section 403.2 or 701.3.

301.1.1 Prescriptive compliance method. ~~((Repairs, a))~~ Alterations, additions, ~~((and))~~ changes of occupancy and relocated buildings complying with Chapter 4 of this code in buildings complying with the *International Fire Code* shall be considered in compliance with the provisions of this code.

301.1.2 Work area compliance method. ~~((Repairs, a))~~ Alterations, additions, changes ~~((in))~~ of occupancy and relocated buildings complying with the applicable requirements of Chapters 5 and 7 through 13 of this code shall be considered in compliance with the provisions of this code.

301.1.3 Performance compliance method. ~~((Repairs, a))~~ Alterations, additions, changes ~~((in))~~ of occupancy and relocated buildings complying with Chapter 14 of this code shall be considered in compliance with the provisions of this code.

SECTION 302 ADDITIONAL REQUIREMENTS FOR ALL COMPLIANCE METHODS

Note: Margin markings indicate changes from 2009 *Seattle Building Code* Sections 3401 and 3404.

302.1 Additional codes. Regardless of compliance method, alterations, repairs, additions and changes of occupancy to, or relocation of, existing buildings and structures shall comply with the provisions for alterations, repairs, additions and changes of occupancy or relocation, respectively, in this code and the *International Energy Conservation Code, International Fire Code, International Fuel Gas Code, International Mechanical Code, Uniform Plumbing Code, Seattle Boiler and Pressure Vessel Code* and *Seattle Electrical Code*. Elevators and other conveyances shall comply with the *International Building Code*. Where provisions of the other codes conflict with provisions of this code, the provisions of this code shall take precedence.

[W] 302.1.1 Fire prevention. Except as specifically provided for in this code, the provisions of the *International Fire Code* shall apply to matters affecting or relating to structures, processes and premises regarding:

1. The hazard of fire and explosion arising from the storage, handling or use of structures, materials or devices;
2. Conditions hazardous to life, property or public welfare in the occupancy of structures or premises; and
3. The construction, extension, repair, alteration or removal of fire suppression and alarm systems or fire hazards in the structure or on the premises from occupancy or operation.

302.2 Safeguards during construction. Regardless of compliance method, alterations, additions and changes of occupancy to, or relocation of, existing buildings and structures shall comply with the provisions of Chapter 15.

302.3 Occupant load increases in Group A occupancies. Regardless of which compliance method is used, when the occupant load in an existing Group A occupancy is increased, an automatic sprinkler system shall be installed in the fire area containing the Group A occupancy if a sprinkler system would be required by *International Building Code* Section 903.2.1 for new construction.

Exception: A sprinkler system is not required if all the following conditions are met:

1. The increase is either 50 occupants or less, or no more than 10 percent of the occupant load of the existing Group A occupancy, whichever is greater; and

PROVISIONS FOR ALL COMPLIANCE METHODS

2. The existing means of egress system has adequate capacity to accommodate the additional occupant load; and
3. The total occupant load in the Group A occupancy does not exceed one occupant per 5 square feet; and
4. The increase is not part of a substantial alteration.

302.4 Unsafe building appendages. Parapet walls, cornices, spires, towers, tanks, statuary and other appendages or structural members that are supported by, attached to, or a part of a building and that are in a deteriorated condition or are otherwise unable to sustain the design loads that are specified in this code, are hereby designated as *unsafe* building appendages. All such *unsafe* building appendages are public nuisances and shall be abated in accordance with Section 101.14.

302.5 Unreinforced masonry chimneys. Whenever an unreinforced masonry chimney is altered or repaired, or when the building in which such a chimney is located undergoes substantial alteration, the chimney shall conform to rules promulgated by the code official.

SECTION 303 SUBSTANTIAL ALTERATION REQUIREMENTS FOR ALL COMPLIANCE METHODS

Note: Margin markings indicate changes from 2009 *Seattle Building Code* Section 3404.8.

303.1 Substantial alterations or repairs. Regardless of which compliance method is used, a building or structure to which substantial alterations or repairs are made shall conform with the requirements of this section and the following sections of the *International Building Code*:

1. Section 403 when applicable;
2. Special requirements for the Fire District found in Chapter 4 when applicable;
3. Section 717;
4. Chapter 8;
5. Section 903;
6. Sections 909.20.5, 909.20.6 and 909.21; and
7. Chapter 10.
8. Fire alarms shall be provided as required by the *International Fire Code*.

303.1.1 Definition. For the purpose of this section, *substantial alteration or repair* means any one of the following, as determined by the code official:

1. Repair of a building with a *damage ratio* of 60 percent or more.
2. Remodeling or an addition that substantially extends the useful physical or economic life of the building or a significant portion of the building, other than typical tenant remodeling.
3. A change of a significant portion of a building to an occupancy that is more hazardous than the existing

occupancy, based on the combined life and fire risk as determined by the code official. The code official is permitted to use Table 303.1 as a guideline.

4. Reoccupancy of a building that has been substantially vacant for more than 24 months in occupancies other than Group R-3.
5. A significant increase in the occupant load of an unreinforced masonry building.

303.1.2 Seismic regulations. Buildings or structures to which substantial alterations or repairs are made shall comply with Section 304.4.2. In addition, the code official is authorized to require testing of existing materials when there is insufficient evidence of structural strength or integrity.

Exceptions:

1. If an alteration is substantial only because it is a change to a more hazardous occupancy, compliance with this subsection is required only if the life hazard risk increases, as determined by the code official.
2. For Group R-3 occupancies, when approved by the code official, the applicant is permitted to evaluate and strengthen portions of the building lateral support structure, such as foundations and cripple walls.

303.1.3 Report. A proposal for structural rehabilitation shall be submitted based on a comprehensive report prepared by a licensed structural engineer according to rules promulgated by the code official. The report shall include an investigation and structural analysis of the building based on Section 304.4.2. The report shall specify the building's seismic deficiencies, and propose measures that will provide an acceptable degree of seismic safety considering the nature, size and scope of the project. This requirement shall also apply to Section 101.14 as conditions require.

303.1.4 Energy use regulations. An alteration or repair described in Items 1, 2, or 4 of Section 303.1.1 shall comply with Section C101.4.7 of the *International Energy Conservation Code*.

Exceptions:

1. Existing residential buildings of three stories or less are not required to comply with this section.
2. A project that is defined as a substantial alteration primarily due to the seismic retrofitting of a building's unreinforced masonry walls shall not be required to comply with this section.

SECTION 304 STRUCTURAL REQUIREMENTS FOR ALL COMPLIANCE METHODS

304.1 Structural provisions for alterations. Alterations to any building or structure shall comply with the requirements of Sections 304.1.1 through 304.1.3.

**TABLE 303.1
RATING OF OCCUPANCIES BY DEGREE OF HAZARD**

| OCCUPANCY | DESCRIPTION | LIFE | FIRE | COMBINED RATING |
|-----------|---|------|------|-----------------|
| A1 | Assembly uses, usually with fixed seating, intended for the production and viewing of the performing arts or motion pictures | 4 | 3 | 12 |
| A2 | Assembly uses intended for food and/or drink consumption | 4 | 3 | 12 |
| A3 | Assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A | 4 | 3 | 12 |
| A4 | Assembly uses intended for viewing of indoor sporting events and activities with spectator seating | 3 | 1 | 3 |
| A5 | Assembly uses intended for participation in or viewing outdoor activities | 3 | 1 | 3 |
| B | Office, professional or service-type transactions, including storage of records and accounts. | 2 | 1 | 2 |
| B | Eating & drinking establishments with an occupant load of less than 50 | 2 | 1 | 2 |
| B | Buildings or portions of buildings having rooms used for educational purposes beyond 12th grade | 2 | 1 | 2 |
| E | Any building used for educational purposes by six or more persons at any one time for educational purposes through the 12th grade | 3 | 2 | 6 |
| E | Day care centers for more than five children older than 2½ years of age | 3 | 2 | 6 |
| I4 | Facilities that provide accommodations for less than 24 hours for more than five unrelated adults and provides supervision and personal care services; facilities that provide supervision and personal care on less than a 24-hour basis for more than five children 2½ years of age or less | 4 | 3 | 12 |
| F1 | Moderate-hazard factory and industrial | 2 | 2 | 4 |
| F2 | Low-hazard factory and industrial | 1 | 1 | 1 |
| H1 | Occupancies with a detonation hazard | 5 | 4 | 20 |
| H2 | Occupancies which present a deflagration hazard or a hazard from accelerated burning | 5 | 4 | 20 |
| H3 | Occupancies containing materials that readily support combustion or that pose a physical hazard | 5 | 4 | 20 |
| H4 | Occupancies containing materials that are health hazards | 5 | 4 | 20 |
| H5 | Semiconductor fabrication facilities | 5 | 4 | 20 |
| I1 | Buildings, structures or parts thereof housing more than 16 persons, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment that provides personal care services | 3 | 3 | 9 |
| I2 | Buildings and structures used for medical, surgical, psychiatric, nursing or custodial care on a 24-hour basis of more than 5 persons who are not capable of self-preservation; child care facilities that provide care on a 24-hour basis to more than five children 2½ years of age or less | 4 | 3 | 12 |
| I3 | Jails, prisons, reformatories | 4 | 3 | 12 |
| M | Buildings used for display and sale of merchandise | 3 | 2 | 6 |
| R1 | Residential occupancies where the occupants are primarily transient in nature | 3 | 3 | 9 |
| R2 | Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature | 3 | 3 | 9 |
| R3 | One- and two-family dwellings; family child day care homes; adult family homes | 2 | 1 | 2 |
| S1 | Moderate hazard | 2 | 2 | 4 |
| S2 | Low-hazard storage | 1 | 1 | 1 |
| U | Accessory character and miscellaneous structures | 1 | 1 | 1 |

304.1.1 Existing structural elements carrying gravity load. Any existing gravity load-carrying structural element for which an alteration causes an increase in design gravity load of more than 5 percent shall be strengthened, supplemented, replaced or otherwise altered as needed to carry the increased gravity load required by the *International Building Code* for new structures. Any existing gravity load-carrying structural element whose gravity

load-carrying capacity is decreased as part of the alteration shall be shown to have the capacity to resist the applicable design gravity loads required by the *International Building Code* for new structures.

304.1.1.1. Design live load. Where the alteration does not result in increased design live load, existing gravity load-carrying structural elements shall be permitted to be evaluated and designed for live loads approved prior

to the alteration. If the approved live load is less than that required by Section 1607 of the *International Building Code*, the area designed for the nonconforming live load shall be posted with placards of approved design indicating the approved live load. Where the alteration does result in increased design live load, the live load required by Section 1607 of the *International Building Code* shall be used.

304.1.2 Existing structural elements carrying lateral load. Except as permitted by Section 304.1.3, the structure of the altered building or structure shall be shown to meet the requirements of Sections 1609 and 1613 of the *International Building Code* where:

1. The alteration increases design lateral loads in accordance with Section 1609 or 1613 of the *International Building Code*; or
2. The alteration results in a structural irregularity as defined in ASCE 7; or
3. The alteration makes an existing structural irregularity more severe; or
4. The alteration decreases the capacity of any existing lateral load-carrying structural element.

Exceptions:

1. Any existing lateral load-carrying structural element whose design lateral load with the alteration considered is no more than 10 percent greater than its design lateral load with the alteration ignored shall be permitted to remain unaltered. The calculation of the design lateral load shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613 of the *International Building Code*. The calculation shall account for the cumulative effects of additions and alterations since original construction.
2. Buildings not defined as benchmark buildings according to ASCE 31 are permitted to meet the requirements of Section 304.4.2.

304.1.3 Voluntary seismic improvements. Alterations to existing structural elements or additions of new structural elements that are not otherwise required by this chapter and are initiated for the purpose of improving the performance of the seismic force-resisting system of an existing structure or the performance of seismic bracing or anchorage of existing nonstructural elements shall be permitted, if an engineering analysis is submitted demonstrating the following:

1. The altered structure and the altered nonstructural elements are no less conforming to the provisions of the *International Building Code* with respect to earthquake design than they were prior to the alteration.

Exception: Any existing lateral load-carrying structural element whose demand-capacity ratio with the alteration considered is no more than 10

percent greater than its demand-capacity ratio with the alteration ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces per Sections 1609 and 1613 of the *International Building Code*. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction.

2. New structural elements are detailed as required for new construction.
3. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required for new construction.
4. The alterations do not create a structural irregularity as defined in ASCE 7 or make an existing structural irregularity more severe.

304.2 Structural provisions for changes of occupancy. When a change of occupancy results in a structure being reclassified to a higher risk category, the structure shall conform to the seismic requirements for a new structure of the higher risk category.

Exception: Specific seismic detailing requirements of Section 1613 of the *International Building Code* for a new structure shall not be required to be met where the seismic performance is shown to be equivalent to that of a new structure. A demonstration of equivalence shall consider the regularity, overstrength, redundancy and ductility of the structure.

304.3 Structural provisions for additions. Additions to any building or structure shall comply with the requirements of Sections 304.3.1 through 304.3.2.

304.3.1 Existing structural elements carrying gravity load. Any existing gravity load-carrying structural element for which an addition and its related alterations cause an increase in design gravity load of more than 5 percent shall be strengthened, supplemented, replaced or otherwise altered as needed to carry the increased gravity load required by the *International Building Code* for new structures.

Any existing gravity load-carrying structural element whose gravity load-carrying capacity is decreased shall be considered an altered element subject to the requirements of Section 304.1.1. Any existing element that will form part of the lateral load path for any part of the addition shall be considered an existing lateral load-carrying structural element subject to the requirements of Section 304.3.2.

[B] 304.3.1.1 Design live load. Where the addition does not result in increased design live load, existing gravity load-carrying structural elements shall be permitted to be evaluated and designed for live loads approved prior to the addition. If the approved live load is less than that required by Section 1607 of the *Inter-*

national Building Code, the area designed for the non-conforming live load shall be posted with placards of approved design indicating the approved live load. Where the addition does result in increased design live load, the live load required by Section 1607 of the *International Building Code* shall be used.

304.3.2 Existing structural elements carrying lateral load. Where the addition is structurally independent of the existing structure, existing lateral load-carrying structural elements shall be permitted to remain unaltered. Where the addition is not structurally independent of the existing structure, the existing structure and its addition acting together as a single structure shall comply with Section 304.4.1.

Exception: Any existing lateral load-carrying structural element whose demand-capacity ratio with the addition considered is no more than 10 percent greater than its demand-capacity ratio with the addition ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613 of the *International Building Code*. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of additions and alterations since original construction.

[B] 304.4 ((301.1.4)) Seismic ((E)) evaluation and design procedures. The seismic evaluation and design shall be based on the procedures specified in the *International Building Code*, ASCE 31 or ASCE 41. The procedures contained in Appendix A of this code shall be permitted to be used as specified in Section 304.4.2 ((301.1.4.2)).

[B] 304.4.1 ((301.1.4.1)) Compliance with IBC level seismic forces. Where compliance with the seismic design provisions of the *International Building Code* is required, the procedures shall be in accordance with one of the following:

1. One-hundred percent of the values in the *International Building Code*. Where the existing seismic force-resisting system is a type that can be designated as “Ordinary,” values of R , Ω_o and C_d used for analysis in accordance with Chapter 16 of the *International Building Code* shall be those specified for structural systems classified as “Ordinary” in accordance with Table 12.2-1 of ASCE 7, unless it can be

demonstrated that the structural system will provide performance equivalent to that of a “Detailed,” “Intermediate” or “Special” system.

2. Compliance with ASCE 41 using both the BSE-1 and BSE-2 earthquake hazard levels and the corresponding performance levels shown in Table 304.4.1 ((301.1.4.1)).

[B] 304.4.2 ((301.1.4.2)) Compliance with reduced IBC level seismic forces. Where seismic evaluation and design is permitted to meet reduced *International Building Code* seismic force levels, the procedures used shall be in accordance with one of the following:

1. The *International Building Code* using 75 percent of the prescribed forces. Values of R , Ω_o and C_d used for analysis shall be as specified in Section 304.4.1 ((301.1.4.1)) of this code.
2. Structures or portions of structures that comply with the requirements of the applicable chapter in Appendix A as specified in Items 2.1 through 2.5 and subject to the limitations of the respective Appendix A Chapters shall be deemed to comply with this section.
 - 2.1. The seismic evaluation and design of unreinforced masonry bearing wall buildings in Risk Category I or II are permitted to be based on the procedures specified in Appendix Chapter A1.
 - 2.2. ~~Reserved. ((Seismic evaluation and design of the wall anchorage system in reinforced concrete and reinforced masonry wall buildings with flexible diaphragms in Risk Category I or II are permitted to be based on the procedures specified in Chapter A2.))~~
 - 2.3. Seismic evaluation and design of cripple walls and sill plate anchorage in residential buildings of light-frame wood construction in Risk Category I or II are permitted to be based on the procedures specified in Chapter A3.
 - 2.4. Seismic evaluation and design of soft, weak, or open-front wall conditions in multiunit residential buildings of wood construction in Risk Category I or II are permitted to be based on the procedures specified in Chapter A4.

[B] TABLE 304.4.1 ((301.1.4.1)) PERFORMANCE CRITERIA FOR IBC-LEVEL SEISMIC FORCES OCCUPANCY

| RISK CATEGORY (Based on IBC Table 1604.5) | PERFORMANCE LEVEL FOR USE WITH ASCE 41 BSE-1 EARTHQUAKE HAZARD LEVEL | PERFORMANCE LEVEL FOR USE WITH ASCE 41 BSE-2 EARTHQUAKE HAZARD LEVEL |
|--|--|--|
| I | Life safety (LS) | Collapse prevention (CP) |
| II | Life safety (LS) | Collapse prevention (CP) |
| III | Note a | Note a |
| IV | Immediate occupancy (IO) | Life safety (LS) |

a. Acceptance criteria for Risk Category III shall be taken as 80 percent of the acceptance criteria specified for Risk Category II performance levels, but need not be less than the acceptance criteria specified for Risk Category IV performance levels.

2.5. Seismic evaluation and design of concrete buildings in all risk categories are permitted to be based on the procedures specified in Chapter A5.

3. Compliance with ASCE 31 based on the applicable performance level as shown in Table 304.4.2 ((301.1.4.2)). It shall be permitted to use the BSE-1 earthquake hazard level as defined in ASCE 41 ((and subject to the limitations in Item 4 below)). The design spectral response acceleration parameters S_{XS} and S_{XI} specified in ASCE 41 shall not be taken less than 75 percent of the respective design spectral response acceleration parameters S_{DS} and S_{DI} defined by the *International Building Code*.
4. Compliance with ASCE 41 using the BSE-1 Earthquake Hazard Level and the performance level shown in Table 304.4.2 ((301.1.4.2)). The design spectral response acceleration parameters S_{XS} and S_{XI} specified in ASCE 41 shall not be taken less than 75 percent of the respective design spectral response acceleration parameters S_{DS} and S_{DI} defined by the *International Building Code*.

~~((301.2 Additional codes. Alterations, repairs, additions and changes of occupancy to, or relocation of, existing buildings and structures shall comply with the provisions for alterations, repairs, additions and changes of occupancy or relocation, respectively, in this code and the *International Energy Conservation Code*, *International Fire Code*, *International Fuel Gas Code*, *International Mechanical Code*, *International Plumbing Code*, *International Property Maintenance Code*, *International Private Sewage Disposal Code*, *International Residential Code* and NFPA 70. Where provisions of the other codes conflict with provisions of this code, the provisions of this code shall take precedence.))~~

**SECTION 305
REPAIRS**

Note: Margin markings indicate changes from 2009 *Seattle Building Code* Section 3405.

305.1 Repairs. Buildings and structures, and parts thereof, shall be repaired in compliance with this section. Work on nondamaged components that is necessary for the required repair of damaged components shall be considered part of the repair and shall not be subject to the requirements for alterations except as specifically required in this chapter. Routine

maintenance, ordinary repairs exempt from permit in accordance with *International Building Code* Section 106.2, and abatement of wear due to normal service conditions shall not be subject to the requirements for repairs in this section.

305.1.1 Determining repair levels. Repairs shall be classified as repair of minor damage, repair of moderate damage, repair of significant damage, or repair of extensive damage. Required repair levels shall be based on the *damage ratio* as defined in Section 202. Repair levels shall be determined according to rules promulgated by the Director.

305.1.2 Requirements for repair of minor damage. Repair of buildings with *damage ratios* less than 10 percent shall comply with this Section 305.1.2. The code official is permitted to allow replacement in kind for minor repairs according to Section 401.2. For unreinforced masonry chimneys, see Section 302.5.

1. Damage to structural elements and fire/life safety systems shall be repaired.
2. New or replaced elements shall comply with current code requirements.
3. New or replaced structural elements shall be tied into new or existing structure in accordance with the structural engineer's recommendations and accepted practice.
4. All structural repairs shall be designed by a structural engineer licensed in the State of Washington.
5. Regardless of the amount of damage to the building, all parapets constructed of unreinforced masonry and other unsafe building appendages shall be evaluated. Parapets and other appendages determined to be deficient shall either be:
 - (a) braced in accordance with ASCE 41 for life safety performance; or
 - (b) abated in accordance with Section 302.4.

Note: Many parapets function as required fire walls and are required to remain in place. There may also be restrictions on alteration and removal of parapets on landmarks.

6. Cracked concrete and masonry shall be repaired where required by FEMA 306, 307 and 308.
7. Strengthening of the overall structure is not required.

[B] TABLE 304.4.2 ((301.1.4.2))
PERFORMANCE CRITERIA FOR REDUCED IBC-LEVEL SEISMIC FORCES RISK CATEGORY

| RISK CATEGORY (Based on IBC Table 1604.5) | PERFORMANCE LEVEL FOR USE WITH ASCE 31 | PERFORMANCE LEVEL FOR USE WITH ASCE 41 BSE-1 EARTHQUAKE HAZARD LEVEL |
|--|---|---|
| I | Life safety (LS) | Life safety (LS) |
| II | Life safety (LS) | Life safety (LS) |
| III | Notes a, b | Note a |
| IV | Immediate occupancy (IO) | Immediate occupancy (IO) |

- a. Acceptance criteria for Risk Category III shall be taken as 80 percent of the acceptance criteria specified for Risk Category II performance levels, but need not be less than the acceptance criteria specified for Risk Category IV levels.
- b. For Risk Category III, the ASCE 31 screening phase checklists shall be based on the life safety performance level.

8. Fire protection and life safety systems required when the building was built or altered shall be repaired in accordance with Section 101.5.
9. No portion of the building shall be altered so that the building becomes less safe than it was before the damage occurred, nor shall the work create an unsafe condition as defined in Section 101.14.

305.1.3 Requirements for repair of moderate damage. Repair of buildings with *damage ratios* of at least 10 percent and less than 30 percent shall comply with Section 305.1.2 and this Section 305.1.3.

All structures supporting and supported by the damaged portions of the building shall be repaired in accordance with Items 1–6 below.

1. The capacity of existing structural elements supporting and supported by the damaged portion of the building shall not be reduced below the building's condition before the damage occurred.
2. The lateral loading to existing elements of the lateral force-resisting systems shall not be increased beyond their capacity.
3. New work shall not introduce new irregularities, and shall not worsen existing irregularities.
4. New structural elements shall be detailed and connected to the existing structural elements as required by this code.
5. New or relocated nonstructural elements shall be detailed and connected to existing or new structural elements as required by this code.
6. The alterations shall not create an unsafe condition.

305.1.4 Requirements for repair of significant damage. Repair of buildings with *damage ratios* of at least 30 percent and less than 50 percent shall comply with Sections 305.1.2, 305.1.3 and this Section 305.1.4.

1. The engineer shall submit a report identifying structural damage, and falling hazards to exitways, pedestrian walkways and public rights of way. The report shall also contain a statement acknowledging that compliance with this section may not satisfy the requirements for substantial alteration of Section 303.
2. All identified falling hazards in exits and exit discharges shall be mitigated so as to limit damage at primary means of egress.
3. The walls, roofs and floors of unreinforced masonry buildings shall comply with the sections of ASCE 31 or Table 305.1. For ASCE 31 use of $\frac{3}{4}$ of the *design basis earthquake* values with a minimum value of 0.80 for S_{DS} and of 0.35 for S_{D1} is permitted.

Exception: If the tested mortar strength is less than the minimums indicated in Table 305.1, Item a, the structure shall comply with the full provisions of ASCE 31 or this code.

4. Repair of damage for buildings subject to this Section 305.1.4 will be considered when determining

whether Section 303 provisions for *substantial alterations* apply.

**TABLE 305.1
REQUIREMENTS FOR UNREINFORCED MASONRY BUILDINGS**

| COMPONENT | ASCE 31 SECTION | APPENDIX A SECTION |
|--|-----------------|--------------------|
| a. <u>Masonry strength (mortar and anchor tests) for anchorage to masonry and for wall bracing</u> | 4.2.6.2.2 | A106.3.3 |
| b. <u>Diaphragm shear transfer</u> | 4.2.6.3.2.6 | A111.5 |
| c. <u>Out-of-plane transfer</u> | 4.2.6.3.5 | A113.1 |
| d. <u>Wall bracing</u> | 4.2.6.3.4 | A113.5 |

305.1.5 Requirements for repair of extensive damage. Repair of buildings with *damage ratios* of at least 50 percent and less than 60 percent shall comply with Sections 305.1.2 through 305.1.4 and this Section 305.1.5.

1. The structure shall be repaired and designed to satisfy the requirements for *life safety performance* at the *design basis earthquake*.
2. A seismic evaluation report shall be submitted. The report shall comply with Section 304.4.2, rules promulgated by the code official, and the following requirements:
 - 2.1. The report shall be prepared by a structural engineer registered in the State of Washington.
 - 2.2. The report shall be based on ASCE 31 or ASCE 41 and the performance criteria in Table 304.4.2.

Exception: Unreinforced masonry buildings are permitted to comply with Appendix A1. The reduction of Section 305.1.4, Item 3, is not allowed.
 - 2.3. At a minimum, the report shall contain the information listed below. A previously-written report may be submitted if it satisfies the requirements of this section.
 - 2.3.1. An overall description of the building, including size (number of stories and basements, approximate floor area) and the occupancies or uses in the building.
 - 2.3.2. Identification of building deficiencies.
 - 2.3.3. A prioritized list of recommendations from the structural engineer on how to address the identified deficiencies.
 - 2.3.4. The seismic evaluation report shall comply with rules promulgated by the code official.

305.1.6 Requirements for repair of more than extensive damage. Repair of buildings with *damage ratios* of 60 percent or more shall comply with Section 303.

305.2 Flood hazard areas. For buildings and structures in flood hazard areas established in Section 1612.3 of the *International Building Code*, any repair that constitutes *substantial improvement* of the existing structure, as defined in Section 202, shall comply with the flood design requirements

PROVISIONS FOR ALL COMPLIANCE METHODS

for new construction, and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.

For buildings and structures in flood hazard areas established in Section 1612.3 of the *International Building Code*, any repairs that do not constitute *substantial improvement* or repair of *substantial damage* of the existing structure, as defined in Section 202, are not required to comply with the flood design requirements for new construction.

SECTION 306 LANDMARKS

Note: Margin markings indicate changes from 2009 *Seattle Building Code* Section 3409.

[B] 306.1 Historic buildings—landmarks. The provisions of this code relating to the construction, repair, alteration, addition, restoration and movement of structures, and change of occupancy shall be mandatory for landmarks.

Exception: Where approved by the code official, compliance with this code is not required where preservation of historic elements precludes complete compliance and a reasonable degree of safety to the public and the occupants of the building is provided.

[B] 306.2 Flood hazard areas. Within flood hazard areas established in accordance with Section 1612.3 of the *International Building Code*, where the work proposed constitutes *substantial improvement* as defined in Section 1612.2 of the *International Building Code*, the building shall be brought into compliance with Section 1612 of the *International Building Code*.

Exception: Landmarks need not be brought into compliance if they are:

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