

Seattle Permits

— part of a multi-departmental City of Seattle series on getting a permit

Seattle Building Code Requirements for Existing Buildings that Undergo Substantial Alterations

Updated March 23, 2015

Buildings in Seattle that undergo substantial alterations or repairs are subject to the Seattle Existing Building Code (SEBC), which defines and lists the special requirements that apply. This Tip is intended to clarify the definitions of substantial alteration and provide guidance in how SDCI applies SEBC Section 303.

When designing an alteration of an existing building, the building owner and the designer should first determine whether the project will be considered substantial. In many cases, it will be difficult to determine whether or not a project is a substantial alteration. In that case, a presubmittal meeting is advised so SDCI can gather the information it needs to make a determination. If the project is considered a substantial alteration, the next step is for the designer to evaluate the building's structural and life safety systems.

It is important to note that SEBC Section 303.1 does not require a substantially altered building to comply with all of the current code; it requires compliance only with specific sections. This Tip lists those sections and gives some guidance in determining how SDCI will apply them.

For accessibility requirements, refer to SEBC Sections 605, 706, 806, and 906 which treat alterations differently.

Also, note that Section C101.4.7 of the 2012 Seattle Energy Code includes energy efficiency standards for substantial alterations or repairs, only for those projects that meet definitions 1, 2, or 4 (but not 3 or 5) as described below in this Tip. It allows less than full compliance with the prescriptive code when using the

component performance method in Section C402.1.3 or the Total Building Performance method in Section C407. There is also an "operating energy alternative" in Section C101.4.7.3, item 4.

Definitions

The five definitions of substantial alterations as listed in SEBC Section 303.1.1 are:

1. Repair of a building with a damage ratio of 60 percent or more. (Note: this may not be the same as "repair of extensive damage" noted in Section 305.1.1.)
2. Remodeling or additions which substantially extend the useful physical and/or economic life of the building or 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 building official. Table 303.1 may be used by the building official as a guideline. A change of tenant does not necessarily constitute a change of occupancy.
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.

Typically Applicable Projects

Definition 1: Repair of a building with a damage ratio of 60 percent or more

This occurs when the structural system of a building undergoes significant repairs. When severe deterioration of significant portions of a building's structural system is repaired, the work will be considered a substantial alteration. Typical projects which in themselves would **not** be considered extensive or



substantial include replacement of an exterior stair or repair or replacement of water-damaged beams in a roof structure. See SEBC Section 305 for requirements for damaged buildings.

Definition 2: Extending the useful physical and/or economic life of a building

Extending the useful physical and/or economic life of a building is the trigger most frequently used in determining that a project is a substantial alteration. It is also one of the most difficult to determine, and varies considerably depending on the nature of the work being done and the condition of the building.

Routine maintenance of a building, by itself, will not trigger this requirement. Routine maintenance typically includes items such as painting, reroofing, replacement of light fixtures, or replacement of plumbing fixtures. When routine maintenance has been delayed to the point where the building has suffered significant deterioration and requires expensive restoration, it may be considered a substantial alteration. Routine maintenance combined with some improvement work, such as that performed during condominium conversions, may also be considered a substantial alteration.

There are many ways to look at this definition of substantial alteration. Listed below are some of the criteria that are used most often.

Cost of project. Typical maintenance, repair, or tenant improvement work does not in itself generally constitute a Substantial Alteration. Similarly, typical minor mechanical or lighting system replacement does not in itself constitute a substantial alteration. However, tenant improvements encompassing a significant portion of a building, especially when combined with major mechanical and electrical upgrades, could very likely constitute a substantial alteration, because the sum total of the work "substantially extends the physical or economic life of the building." Similarly, where multiple smaller projects are undertaken on one building within a short time frame, SDCI will consider them together when determining whether the sum total of the work constitutes a substantial alteration.

For the typical project, if the cost is high relative to the value of the building, it will be considered a substantial alteration. For example, if a project consists of new carpet, paint, upgrade of light fixtures, new toilets and sinks, a new roof and patching of plaster, and the cost is more than half the value of the building, it would probably be considered a substantial alteration. Even though most of these items alone would only be con-

sidered maintenance, the total amount of work would be great enough to justify a conclusion that the project is a substantial alteration. (The "more than half the value of the building" phrase used here is not intended to be a fixed percentage, but only an example.)

Existing conditions. A careful review of existing conditions is important in determining whether a given proposal will trigger substantial alteration requirements. A relatively new building may undergo a face lift with expensive new finish work and some minor alterations and yet not trigger special requirements, while a very old and poorly maintained building that undergoes a similar project may be viewed as a substantial alteration. There are two reasons for this. One reason is a desire to correct the more serious life-safety hazards and energy use deficiencies likely to be present in older buildings. The other reason is that the relative cost of the new work in relation to the value of the existing building is higher in the older building. In this case, the ratio of project cost to building value is viewed as being directly related to the extent to which the life of the building is being extended.

Size of project relative to building size and extent of use. Alteration projects vary considerably from total building renovation to renovation of just a portion of a floor; building use varies from fully occupied to completely vacant. It is the particular combination of these two items that becomes important in evaluating whether a project is a substantial alteration. A large new restaurant in a fully occupied high-rise building clearly is not a substantial alteration project. However, a similar project in an older, partially-occupied, three-story building is likely to be a substantial alteration. For example, many older downtown buildings have very limited, if any, use of their upper floors. Renovation of the tenant spaces on the lower floors of such a building, even though of a moderate size and scope relative to building size, may trigger the substantial alteration requirements.

When determining whether a project extends the useful life of a building, SDCI will consider all these factors in combination.

Definition 3: A change to an occupancy that is more hazardous than the existing occupancy

A change to an occupancy that is more hazardous than the existing occupancy is determined by referring to SEBC Table 303.1. Occupancies have been assigned a hazard rating based on factors such as the number of people expected to be present in the building, whether the people are awake, the amount of combustible materials present and likelihood that a fire will occur.

Questions about interpreting this trigger occur when only a portion of a building changes to a higher hazard rating. In those cases the deciding factors are generally the percentage of the building that is changing to the higher-rated hazard, and how significantly the hazard is increased. A small Group B restaurant space (combined rating of 2) that is converted into a Group M retail space (combined rating of 6) in a large building such as a high-rise will generally not trigger the requirements for a substantial alteration because the change in hazard rating affects only a small portion of the building. However, converting a significant portion of a building from a low hazard to a high hazard rating usually will trigger the requirements for a substantial alteration. For example, the conversion of an entire floor of a three-story building from a Group S-1 warehouse (combined rating of 4) into a Group A-3 assembly space (combined rating of 12) would be considered a substantial alteration.

Definition 4: Reoccupancy of a building that has been substantially vacant for more than 24 months in occupancies other than Group R, Division 3

The intent of this provision is to ensure that buildings with low or minimal use are properly retrofitted when they become more fully occupied. A typical example is a multistory mixed-use building with a business on the first floor and vacant second and third floors. An owner who wishes to reoccupy these upper floors will be required to comply with the substantial alteration requirements of SEBC Section 303.

This definition by itself does not trigger energy code requirements for buildings that were constructed to the 2003 or more recent edition of the codes. It is assumed that such recently-constructed buildings are reasonably energy efficient. See Seattle Energy Code (SEC) Section C101.4.7, exception 3.

Definition 5: A significant increase in the occupant load of an unreinforced masonry building

Substantial alteration requirements are triggered when an unreinforced masonry building is changed to a use that will have a significantly higher occupant load, based on SBC Section 1004.

A project that is defined as a substantial alteration primarily due to the seismic retrofitting of a building's unreinforced masonry walls is exempt from the energy code requirements for substantial alterations. See SEC Section C101.4.7, exception 2.

Complying With Substantial Alterations Rules

The intent of SEBC Section 303 is to provide improved structural and fire life safety in addition to improved energy performance for a building that undergoes a substantial alteration. The extent of the improvements required is based on the size and scope of work and the relative hazard that exists. The ability of the design team to assess these items and present proposals that appropriately address them is critical to ensuring a successful resolution to this key SEBC requirement.

When a project has been defined as a substantial alteration, SEBC Section 303 requires that the project be made to conform to the requirements of the following Sections of the Seattle Building Code;

- Section 403 (high rise buildings, when applicable)
- Special requirements for the Fire District found in Section 401, when applicable
- Section 716 (protection of ducts and air-transfer openings)
- Chapter 8 (interior finishes)
- Section 903 (automatic sprinkler systems)
- Chapter 10 (means of egress)
- Chapter 17 (special inspection)

Fire alarms shall be provided as required by the International Fire Code. SEBC Section 303.2 requires evaluation and mitigation of seismic deficiencies. See Director's Rule 5-2004 for specific regulations for unreinforced masonry chimneys.

The 2012 SEBC also requires the entire building to comply with Section C101.4.7 of the 2012 Seattle Energy Code for those projects that meet 'substantial alterations' definitions 1, 2, or 4 (but not 3 or 5). There are important exceptions for landmark buildings, unreinforced masonry buildings, and recently-constructed buildings, as well as situations deemed by the code official to be "impractical." Several compliance paths are available, as detailed in Section C101.4.7.3 of the Seattle Energy Code:

- Full compliance with prescriptive requirements
- Envelope thermal performance within 20 percent of code
- Total building performance within 15 percent of code
- Operating energy consumption within 20 percent of code

It is incumbent upon the design professionals to provide a critical evaluation of the adequacy of the life safety, seismic, and energy systems in the building. The project will be evaluated according to the sections of the SBC, SEBC, and SEC mentioned above. Director's Rule 7-2009 lists approved alternate seismic standards. The evaluation must include a detailed and prioritized list of all items found to be deficient.

Ideally, all items found to be deficient will be corrected. However, in many cases it is recognized that to remedy all deficiencies will impose severe hardships on the building owner. The building code provides SDCI with significant flexibility to resolve specific hardship issues. There are certain methods by which the applicant may seek relief. SEBC Sections 101.11 and 101.12 allow SDCI to modify or waive specific requirements of the code where the applicant demonstrates that those requirements are impractical, and allow the applicant to identify alternative design solutions which will provide equivalent protection.

The determination to modify or waive a code requirement is dependent on the ability of the design team to provide adequate justification for a proposal. Justification may include *cost benefit analysis, functional issues, total costs, testing, risk analysis, professional judgment, and redundancies*. The more comprehensive and well-justified the applicant's analysis of the issues involved in the project, the more likely the applicant will succeed in obtaining approval for the proposal.

Getting Concept Approval Via a Presubmittal Conference

For many applicants it is desirable to attend a pre-submittal conference with the building official to get concept approval of significant code issues prior to applying for a building permit. Concept approval can greatly facilitate the plan review process and can be documented in the form of applicant-generated minutes which will be reviewed and approved by the building official.

The presubmittal conference is an opportunity to present your proposals and appropriate justifications, determine if your project is a substantial alteration, and resolve code issues. See Tip 318, *Building Code Presubmittal/Code Interpretation Conferences*, for more information about pre-submittal conferences. To schedule a presubmittal conference, call the SDCI Applicant Services Center at (206) 684-8850.

Other Considerations

If tenants are displaced during a substantial alteration project, refer to Tip 123, *Seattle's Tenant Relocation Assistance Ordinance* for information about tenant relocation.

Access to Information

Links to electronic versions of SDCI **Tips, Director's Rules**, and the **Seattle Municipal Code** are available on our website at www.seattle.gov/dci. Paper copies of these documents, as well as additional regulations, are available from our Public Resource Center, located on the 20th floor of Seattle Municipal Tower at 700 Fifth Ave. in downtown Seattle, (206) 684-8467.