

S U M M A R Y :

Substantial Remodels and New Construction Definitions

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REACH CODE IMPLEMENTATION RESOURCES TEMPLATE

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Review of New Construction and Substantial Improvement Definitions

Version 1.4

The Reach Codes program has received several inquiries from jurisdictions expressing interest in including major remodels, or projects that undertake comprehensive renovations that are, for practical purposes, substantially similar to new buildings, within the scope of new construction energy ordinances.

The program completed a limited review with the following objectives:

- identify definitions of substantial remodels/substantial improvements and new construction used in different codes and across jurisdictions, and
- identify the trigger when a substantial improvement becomes classified as new construction.

The definitions included in this document are intended to serve as examples and staff should review any proposed language with the building official and counsel to ensure the adopted definition is consistent with the ordinance intent and with other related codes.

The program reviewed 64 ordinances that apply to new construction to identify which also apply to some form of additions and alterations.

As references, the California Building Code definitions of a newly constructed building and substantial improvement are provided below. It is important to note that there are several other parts of the State and Federal code that trigger building construction regulations; these are briefly discussed later.

Definitions in the California Building Code, Title 24

Newly Constructed and Substantial Improvement are both defined in Chapter 2, which applies to the entire building code. Newly Constructed is again defined in Part 11, CALGreen; the definitions are different but not inconsistent with each other.

Newly Constructed. A building that has never been before been used or occupied for any purpose.

[Section: 2022 CBC, Title 24, Part 2, \(Volumes 1 & 2\), Chapter 2 Definitions \[BS\]](#)

Newly Constructed (or New Construction). A newly constructed building (or new construction) does not include additions, alterations or repairs. [Section 2022 CBC, Title 24, Part 11 \(Volumes 1 & 2\), Definitions](#)

Substantial Improvement. Any repair, reconstruction, rehabilitation, alteration, addition, or other improvement of a building structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The term does not, however, include either:

1. Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official and that are the minimum necessary to assure safe living conditions.
2. Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

[Section: 2019 CBC, Title 24, Part 2, \(Volumes 1 & 2\), Chapter 2 Definitions \[BS\]](#)

Definitions in Existing Reach Codes

The investigation found that approximately half of the ordinances do not mention additions, alterations, or renovations and only refer to newly constructed buildings. That said, some of these jurisdictions may apply a more expansive definition of a newly constructed building that is not referenced in the reach code.

The other half have extended requirements to major renovations and additions, either by defining and referencing substantial remodels and additions or by modifying the definition of newly constructed buildings. Various terms are used to describe projects that would be subject to the requirements — Qualifying Alteration Projects, Qualifying Additions, Substantial Improvement/Reconstruction/Alteration, and Substantial Building Alteration.

Elements of Project Scope

The thresholds that trigger requirements are often defined by project scope and/or valuation, with varying degrees of specificity. In almost all cases, the threshold is any removal, replacement, addition or project valuation that is greater than or equal to 50% or more of the element of the existing building (two jurisdictions set the threshold at 75%). The thresholds often include several elements and are usually bundled such that any of the elements could satisfy the threshold, (e.g., removing 51% of exterior walls or foundation).

The frequency with which the individual elements appear in the ordinances is presented in Table 1 below. Approximately half the ordinances limit the scope to newly constructed buildings. Requirements for those that include substantial improvements are most often triggered by removing or replacing the majority of the foundation or exterior walls.

Table 1. Elements of Substantial Improvement Definitions in Local Ordinances

Element	Frequency of Occurrence
Newly constructed buildings only	52%
Foundation replaced/added	20%
Removal or replacement of exterior walls	19%
Removal or replacement of framing (general)	16%
Size of addition	9%
Removal or replacement roof framing	8%
Removal or replacement of interior walls	5%
Wall plate raised	5%
Floor area remodeled	3%
Valuation	3%
Other	5%

The description of the elements varies; some samples of paraphrased ordinance text are provided below. The complete set of adopted ordinances can be found at localenergycodes.com.

- Foundation replaced/added
 - Replacement of over 50 percent of the existing foundation for purposes other than a repair or reinforcement as defined in California Existing Building Code Section 202 (many jurisdictions)

- Alterations that include replacement or addition of over 50 percent of the existing foundation for purposes other than a repair or reinforcement as defined in California Existing Building Code Section 202 (City of Alameda)
 - New structural foundation (Los Altos)
- Removal or replacement of exterior walls
 - Removal or replacement of 50% or more of the linear length of the existing exterior walls of the building (Palo Alto)
 - Additions or alterations that remove 50 percent or more of the existing exterior walls of a dwelling (Dublin)
 - More than 50% of the exterior bearing walls are removed or 50% of the columns are removed, where there are no walls (Encinitas)
 - Removal of any structure's exterior wall area and roof/ceiling area, exposes seventy five percent (75%) or more of the entire building's existing conditioned space (building envelope) (Healdsburg)
 - Where rebuilt involves demolition and reconstruction of a building or structure involving the repair or replacement of fifty (50) percent or more of the exterior walls (Hercules)
- Removal or replacement of framing (general)
 - Over 50 percent of the existing framing above the sill plate is removed or replaced for purposes other than repair (many jurisdictions)
 - Where an alteration includes replacement or addition of over 75 percent of the wood frame construction (New, Using Portions of the Existing) (Campbell)
- Size of addition
 - Additions that increase the square footage of the structure by more than 50 percent (Dublin)
 - The proposed conditioned area in an addition or alteration that more than doubles that of the existing building's conditioned floor areas or volume (Encinitas)
- Removal or replacement roof framing
 - More than 50% of the roof framing (e.g., structural support) is removed (Encinitas)
 - Greater than fifty (50) percent of the sum total of the following structural elements are added, removed, replaced or relocated: ... (2) roof-framing... (Mountain View)
 - 50% or more of the existing roof framing area is removed or replaced (Palo Alto)
 - Removal of more than fifty percent of the existing roof structure and exterior roof sheathing (Saratoga)
 - Any construction that Remodels more than fifty percent (50%) of any of the following major structural components... roof (measured by square footage) (Solana Beach)
 - More than 50% of the roof framing (e.g., structural support) is removed (Encinitas)
 - 50% or more of the existing roof framing area is removed or replaced (Palo Alto)
- Removal or replacement of interior walls
 - Any portion of a building's exterior is preserved but the interior of the building is removed, including all structural portions of floors and ceilings (Healdsburg)
- Wall plate raised
 - 50% or more of the linear length of the existing exterior wall plate height is raised (Palo Alto, City of Santa Clara, Sunnyvale)
- Floor area remodeled
 - Over 50 percent of the existing building floor area is being remodeled, including unfinished spaces (City of Alameda)
- Valuation
 - Value of the alteration exceeds 50% of the estimated value of the existing building (Ventura County)
 - Work that exceeds one-half (½) of the appraised value of the structure (Hercules)

- Permit valuation of four hundred thousand dollars (\$400,000) or more (Solana Beach, nonresidential)
- Other
 - A building undergoing an alteration that requires the installation of an automatic fire sprinkler system according to Chapter 11 of the Albany Municipal Code (Albany)
 - An existing, structural foundation where a building has been demolished and removed to floor or below (Los Altos)
 - Removal of any structure's exterior wall area and roof/ceiling area, exposes seventy five percent (75%) or more of the entire building's existing conditioned space (building envelope) (Healdsburg)

Measurement

To clarify measurements, the City of Palo Alto used the term “linear length” with respect to walls and specified the derivation of floor area as:

...all new or altered square footage, including basement areas (7 feet or greater in height), as calculated based on outer boundary of proposed construction area, including exterior walls.

Portola Valley provided details on measurement methods:

...In calculating these percentages, the following guidelines shall apply: (1) Calculation of Percentage of Affected Floor Area (PFA): The floor area of any addition, all rooms affected by any addition, and the floor area of all rooms affected by structural changes made in the building, such as walls, columns, beams or girders, floor or ceiling joists and coverings, roof rafters, roof diaphragms, footings, piles or retaining walls or similar components, shall be included in computing the floor areas for applying this section. (2) Calculation of Percentage of Affected Wall Area (PWA): The calculated wall area affected shall include all interior and exterior walls where no studs are proposed to be remain or if some studs remain and/or if the surface of both sides of the studs are proposed to be removed such that one can see through the wall. (3) Calculation of Combination of Percentage of Affected Floor Area (PFA) and Wall Area (PWA): The combination of the percentage of affected floor as described above plus the percentage of wall area as described above (PFA + PWA > 50%).

Other Features of the Definition

Several jurisdictions make it explicit that the definition applies to serial permits, exempts tenant improvements and references Building Official discretion.

- If these criteria are met within a three-year period, measured from the date of the most recent previously obtained permit final date, the project shall be subject to the all-electric buildings requirements (many jurisdictions)
- Tenant improvements shall not be considered new construction (many jurisdictions)
- The final determination whether a project meets the definition of substantial reconstruction/alteration shall be made by the Building Official (many jurisdictions)

Bundled Definitions

As noted above, jurisdictions often bundled elements to produce a definition that would be triggered by any of the elements. The most common definition, which appears in some form in 14% of the ordinances, is a variation of the definition below:

Alterations that include replacement of over 50 percent of the existing foundation for purposes other than a repair or reinforcement as defined in California Existing Building Code Section 202; or where over 50 percent of the existing framing above the sill plate is removed or replaced for purposes other than repair, shall be all-electric buildings. If either of these criteria are met within a three-year period, measured from the date of the most recent previously obtained permit final date, the project shall be

subject to the all-electric buildings requirements. Tenant improvements shall not be considered new construction. The final determination whether a project meets the definition of substantial reconstruction/ alteration shall be made by the local enforcing agency.

Santa Monica's definition references "demolition" which is defined as follows:

A demolition subject to the provisions of this Chapter and all other applicable City regulations occurs when any of the following takes place:

At any time over a 5-year period, more than 50 percent of the exterior wall elements are removed, or are no longer a necessary and integral structural component of the overall building.

- a. Exterior wall elements include, but are not limited to, the subsurface or non-decorative cladding necessary for structural support, columns, studs, cripple walls, or similar vertical load-bearing elements and associated footings, windows, or doors.*
- b. Existing exterior walls supporting a roof that is being modified to accommodate a new floor level or roofline shall continue to be considered necessary and integral structural components, provided the existing wall elements remain in place and provide necessary structural support to the building upon completion of the roofline modifications.*
- c. The calculation for determining whether a structure has been demolished pursuant to this Section shall be based on a horizontal measurement of the perimeter exterior wall removed between the structure's footings and the ceiling of each story, as defined in Chapter [8.12](#) of the Municipal Code.*

Solana Beach's definition, which applies to the entire building code, incorporates several elements:

NEWLY CONSTRUCTED or NEW CONSTRUCTION [HCD 1-AC] means a building that is new construction, previously unoccupied or substantially Remodeled (as defined herein). Any construction work, alteration, remodel, replacement, repair, or renovation of any building(s) or structure(s) (collectively "Remodel") shall be considered "New Construction" when:

A. Residential Remodel.

- 1. Any construction that Remodels more than fifty percent (50%) of any of the following major structural components:*
 - i) exterior walls (measured by linear feet);*
 - ii) interior walls (measured by linear feet), except where the building or structure is less than 1200 square feet;*
 - iii) roof (measured by square footage);*
 - iv) floor and/or foundation (measured by square footage); or*
- 2. The addition of seven hundred (700) or more square feet of floor area.*

B. Nonresidential Remodel.

- 1. Any construction that Remodels more than fifty percent (50%) of any of the following major structural components:*
 - i) exterior walls (measured by linear feet);*
 - ii) interior walls (measured by linear feet);*
 - iii) roof (measured by square footage);*
 - iv) floor and/or foundation (measured by square footage); or*
- 2. The addition of fifty percent (50%) or more of floor area to the building (measured by square footage); or*
- 3. The Remodel project has a permit valuation of four hundred thousand dollars (\$400,000) or more.*

State and Regional Agency Definitions

An overview of the agencies provides a reference as to how substantial improvements are addressed in different contexts. Each agency has a definition of substantial improvement that triggers compliance requirements under their specific authority. Typically, the compliance requirements are aligned with other new construction requirements. For example, the FEMA definition of substantial improvement is used to regulate major additions and other improvements to buildings in the floodplain if the cost of the improvement exceeds 50% of the building's value (cost of improvement divided by market value of the building is >50%). Under this rule, the floodplain regulations for new construction will apply and the building must meet the post Flood Insurance Rate Map (FIRM) for developments in the floodplain.

Table 2 provides a summary of the definition of substantial improvement used by each of the agencies included in the study.

Table 2. Definitions of Substantial Improvement that Trigger Compliance Requirements

Agency/ Code	Cost of Work (Percent of Market Value)	Existing Floor Area Changed	Regulation
CALGreen, Sec. 301.1.1	N/A	Increase in conditioned area, volume, or size.	Section 301.1.1 . Mandatory provisions of Title 24 Part 11 Chapter 4 shall apply to and/or within the specific area of the addition or alteration.
FEMA (Flood requirements)	>50%	N/A	FEMA- Substantial Improvement
CA Fire Code, Chapter 9	N/A	N/A	Chapter 9- Fire Protection and Life Safety Systems . An automatic residential fire sprinkler system shall not be required for additions or alterations to existing buildings that are not already provided with an automatic residential sprinkler system.
Wildland Urban Interface	N/A	Material specific to scope	Chapter 7A of the California Building Code and Chapter R327 of the California Residential Code
Coastal Zone Permit	N/A	Any change in structure requires permit and associated compliance	Coastal Development Permit from the Coastal Commission
Property Taxes	N/A	New square footage added or home is "like new"	California State Board of Equalization, New Construction
School/ Development Impact Fees	N/A	> 500 sq. ft. increase in accessible space*	California Education Code, Section 17620(B)

"Assessable space," for this purpose, means all of the square footage within the perimeter of a residential structure, not including any carport, covered or uncovered walkway, garage, overhang, patio, enclosed patio, detached accessory structure, or similar area. The amount of the square footage within the perimeter of a residential structure shall be calculated by the building department of the city or county issuing the building permit, in accordance with the standard practice of that city or county in calculating structural perimeters. [California Government Code, Section 65995\(b\)\(1\)](#)