



BUILDINGS BULLETIN 2016-012

Technical

Supersedes: None

Related Bulletin: Technical Policy and Procedure Notice #01/02 (TPPN 01/02)

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Purpose: This document clarifies how floor surface area is calculated with respect to section AC 28-101.4.5.

Related Code Section(s): AC 28-101.4.5 BC 202 BC 502.1

Subject(s): Prior code building, Alteration Type 1; Prior code building, New Building application; Prior code building, Floor Surface Area; Alteration Type 1, required to meet New Building Requirements

I. Introduction

For the purposes of determining whether an extension, elevation, renovation, etc. is to be considered a new building and require compliance with the latest version of the Construction Codes, the 2014 New York City Administrative Code (AC) Section 28-101.4.5 states, in part, the following:

§28-101.4.5 Work that increases existing floor surface area of a prior code building by more than 110 percent. Notwithstanding sections 28-101.4.3 and 28-102.4.3 or any other provision of this code that would authorize alterations of prior code buildings in accordance with the 1968 Building Code or prior Codes, where the proposed work at the completion of construction will increase the amount of floor surface area of a prior code building by more than 110%, over the amount of existing floor surface area, such entire building shall be made to comply with the provisions of this code as if it were a new building hereafter erected.

Exceptions: When determining the amount of existing floor surface area for the purposes of section 28-101.4.5, the following shall be excluded from the measured square footage of floor surface area:

1. The square footage of floors removed during the course of the work when such floors are removed together with the supporting beams, joists, decking and slabs on grade.

Floor surface area is defined in section AC 28-101.4.5.2 as follows:

FLOOR SURFACE AREA. Floor surface area is the gross square foot area of all horizontal floor and roof surfaces, including roofs of bulkheads and superstructures, of a building or structure at any level, including cellar, attic and roof.

II. Clarifications

1. Any floor or other horizontal surface, including roofs, that is entirely removed along with its structure shall not be included in the calculation as existing floor surface area. If a floor, horizontal surface, or roof is entirely removed along with its structure and then replaced, it shall be included in the proposed floor surface area. (See Example 1.)
2. For the purposes of calculating floor surface area, all pitched roofs are to have their areas calculated based on their horizontal footprint – as if viewed from directly above – including any with multiple dormers, gables, or chimneys. However, the floor surface area of any roof is limited to the horizontal footprint bounded by exterior walls of the building. (See Example 2.)

Exception: Roofs covering porches or balconies shall be included in floor surface area even if such spaces are not bounded by exterior walls.

3. Floor surface area includes attics. As per BC 202.1, an attic is “the space between the ceiling beams of the top story and the roof rafters.” The floor area of any attic with fixed stairs and/or headroom greater than or equal to five feet is included in floor surface area. If any location within the attic has headroom of greater than or equal to five feet, measured from the bottom of the roof rafters to the top of the floor or the top of the ceiling beams if no floor is laid, the floor area of the entire attic is included in floor surface area. (See Example 3.)
4. Strengthening any structural support, including *sistering* floor joists or other modifications to the floor or roof assembly, whenever the existing structure is to remain and carry load, will be included in existing floor surface area. (See Example 4.)
5. Any enclosed space with headroom greater than five feet located beneath a building shall be included in the calculation of floor surface area whether or not a floor has been laid. (See Example 5.)
6. Balconies and covered porches shall be included in floor surface area calculations. Uncovered porches and decks at or below the first floor shall not be included in floor surface area calculations (See Examples 6 and 7)

III. Calculation of increase in floor surface area

To determine the percentage by which the floor surface area is increasing, the following floor surface areas are required: existing-to-remain and proposed. To obtain the correct percentage of increase use the following formula:

$$\left(\frac{\text{Proposed} - \text{Existing to remain}}{\text{Existing to remain}} \right) \times 100 = \text{Percentage increase in floor surface area}$$

IV. Operational Requirements

When the floor surface area is increased by greater than 110%, the application shall be identified as an “Alteration Type 1 required to meet New Building requirements (28-101.4.5)” in Section 5 and Section 9B of the PW1:

5 Job/Project Types Choose one and provide specified associated information.

- Alteration Type 1 or Alteration Type 1 required to meet New Building requirements (28-101.4.5)** 14, 20, 22
 6A-E, 8B-C, 9-10, 12, 13C-F, 14, 18-20, 22 & PW1A, PD1
- Alteration Type 2** 5A, 6A-D, 8A-B, 9-10, 13C-E, & 14, 20, 22
- Alteration Type 3** 5A, 6B-F, 8C, 9-10, 13C-E, 20, 22
- New Building** 6A-E, 8F-G, 9A, 9C-K, 10, 12 & 13A-E, 14, 18-20, PW1A, PD1
- Sign** 5A, 6B-D, 9A, 9D, 22-23
- Full Demolition** 6B, 8D, 9A & 9C-D, 9K, 13D-E, 14, 21A, 22
- Subdivision** 9A, 9D, 12A-B
- Condominium** **Improved** 17
- Alteration Type 1, OT: "No Work"** 8C, 9-10 & 12, 13C-F, 14, 18-19, 22, PW1A, PD1
- 5A Directive 14 acceptance requested?**
 Yes No

9 Additional Considerations, Limitations or Restrictions

- 9A Review is requested under which building code? 2014 2008 1968 Prior to 1968
- Yes No
- 9B Alteration required to meet New Building requirements (28-101.4.5) *If yes, 13A-B*
- Alteration is a major change to exits
- 9C Façade Alteration
- Change in number of dwelling units
 Change in occupancy / use
 Change is inconsistent with current certificate of occupancy
 Change in number of stories

New Building cannot be selected if any existing building elements are to remain—for example: a part of an old foundation, a portion of a façade that will be incorporated into the construction, etc. If any existing building elements will be retained in-place as part of the construction, the application must be filed as “Alteration Type 1 required to meet New Building Requirements (28-101.4.5).”

When there is a change in scope of work during the course of construction which results in increasing the floor surface area more than 110% as per AC 28-101.4.5.1, the application must be amended to identify the additional scope of work. The applicant shall refile all affected documents and forms in order to identify the project as an “Alteration required to meet New Building requirements.” When such a change in scope of work occurs, all construction activity, except required emergency work, must be suspended until a post-approval amendment is approved for the expanded scope.

V. Examples

EXAMPLE 1 - Exterior Wall Remain:

Figure 1: Existing 1968 Code four-story building with cellar. All the floors above cellar to be removed. Exterior walls to remain.

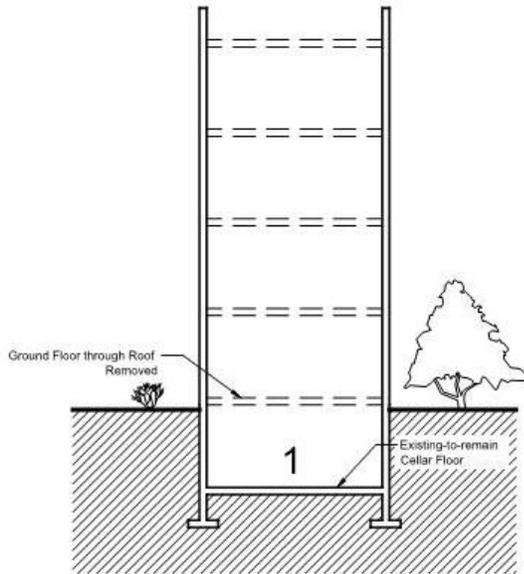


Figure 3: Existing 1968 Code four-story building with cellar. Three of six floors to be removed. Exterior walls to remain.

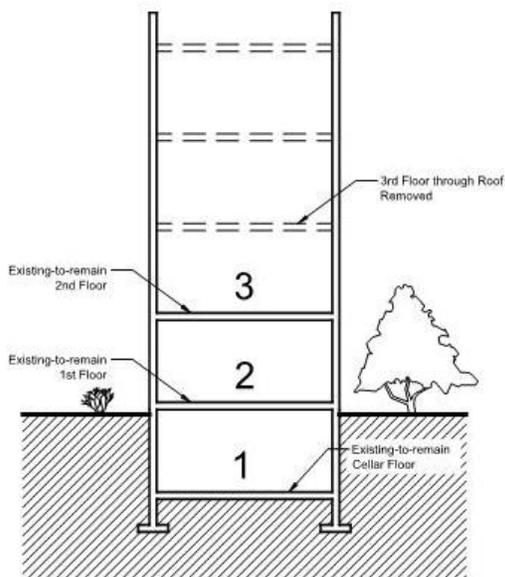


Figure 2: Proposed four-story building with five new floors and one existing floor. 500% increase in Floor Surface Area - is considered an Alt 1 required to meet NB requirements.

Must comply with 2014 Code requirements for New Buildings.

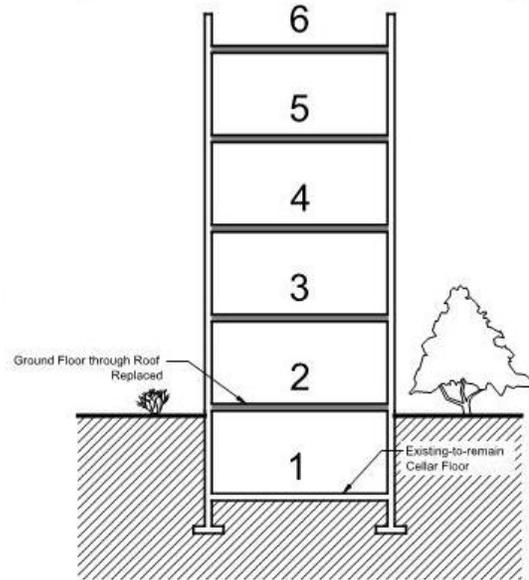
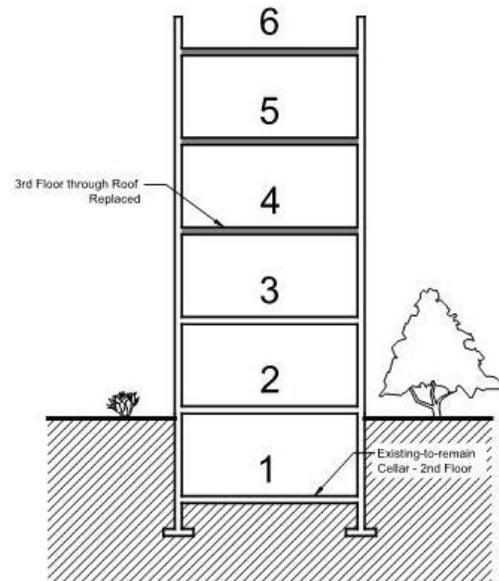


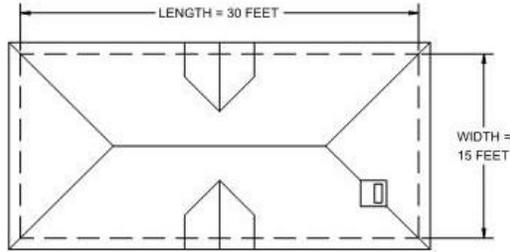
Figure 4: Proposed four-story building with three new floors and three existing floors. 100% increase in Floor Surface Area - is not considered an Alt 1 required to meet NB requirements.

Permitted to comply with Prior Codes per AC 28-101.4.3



EXAMPLE 2 - Roofs:

Figure 5: Floor Surface Area is calculated as if viewed directly from above (Horizontal Footprint). Roofs are to have the horizontal footprint included in Floor Surface Area. Dormers and/or chimneys are included in Floor Surface Area. If the roof covers a building which is 30 feet in length and 15 feet in width, the Floor Surface Area is 450 sq ft.



EXAMPLE 3 - Attic vs Not an Attic:

Figure 6: **Existing** 1938 Code one-story building without cellar. Roof to be removed.

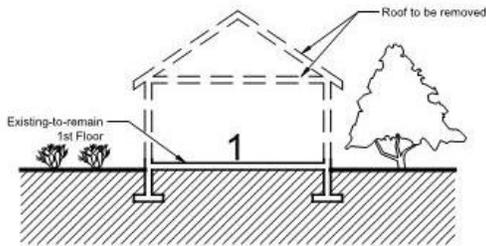


Figure 7: **Proposed** new roof with less than 5 feet of headroom and no fixed stair (no new attic created). 100% increase in floor surface area - is not considered an Alt 1 required to meet NB requirements.

Permitted to comply with Prior Codes per AC 28-101.4.3

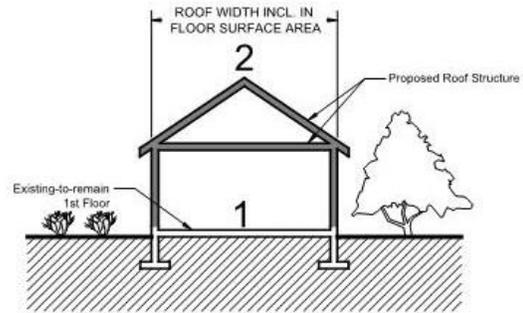
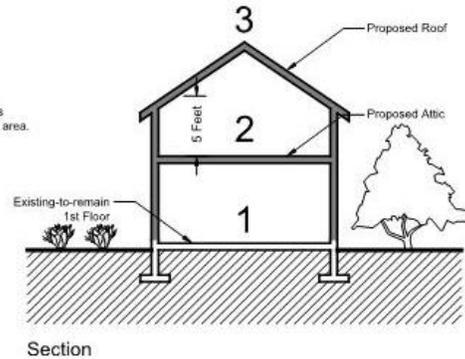
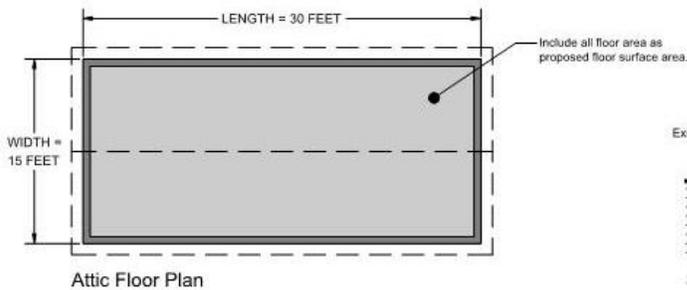


Figure 8: **Proposed** attic with headroom greater than or equal to 5 feet (include all attic floor area) and new roof. 200% increase in floor surface area - is considered an Alt 1 required to meet NB requirements.

Existing-to-remain FSA = 15' x 30' = 450 sq ft.
 Proposed FSA = 3 x (15' x 30') = 1350 sq ft
 Increase in FSA = (1350 sq ft - 450 sq ft) / 450 sq ft = 200%

Must comply with 2014 Code requirements for New Buildings.



EXAMPLE 6 - Horizontal and Vertical Enlargement:

Figure 14: Existing 1968 Code four-story building with roof to be removed

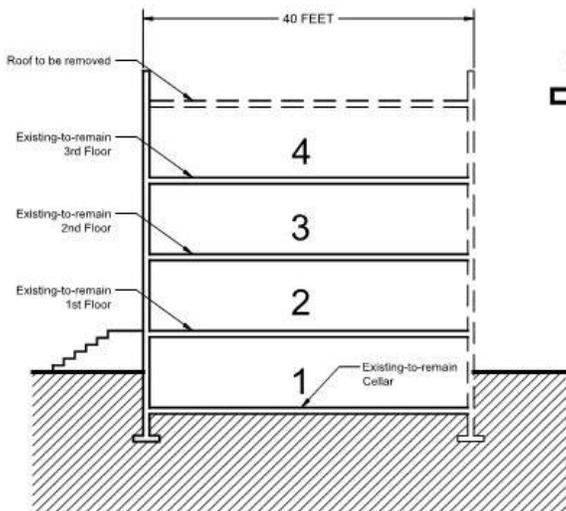


Figure 15: Proposed partial-story addition and 20 foot extension. Floor surface area increase by 116% - is considered an Alt 1 required to meet NB requirements. Assume building width of 20'
 Existing-to-remain FSA = 4 x (40' x 20') = 3200 sq ft
 Proposed FSA = 5 x (60' x 20') + (45' x 20') = 6900 sq ft
 Increase in FSA = (6900 sq ft - 3200 sq ft) / 3200 sq ft = 116%

Must comply with 2014 Code requirements for New Buildings.

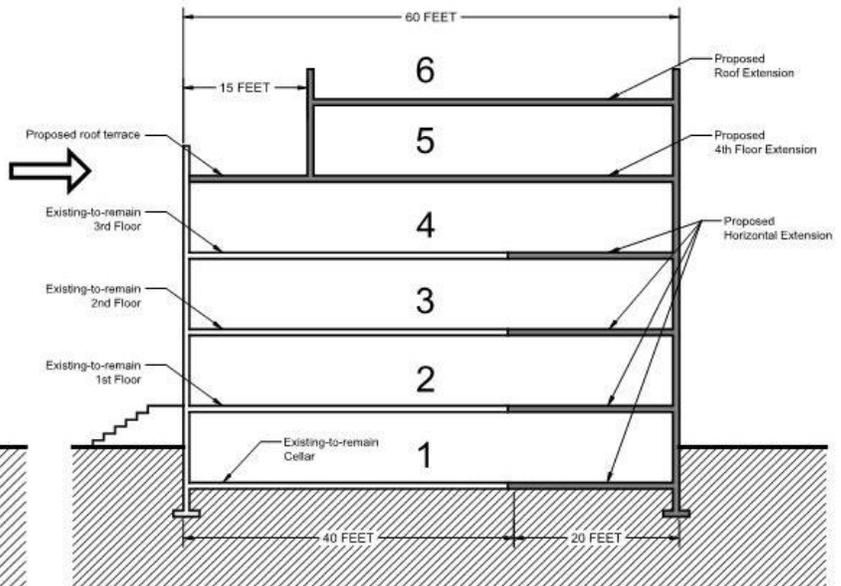
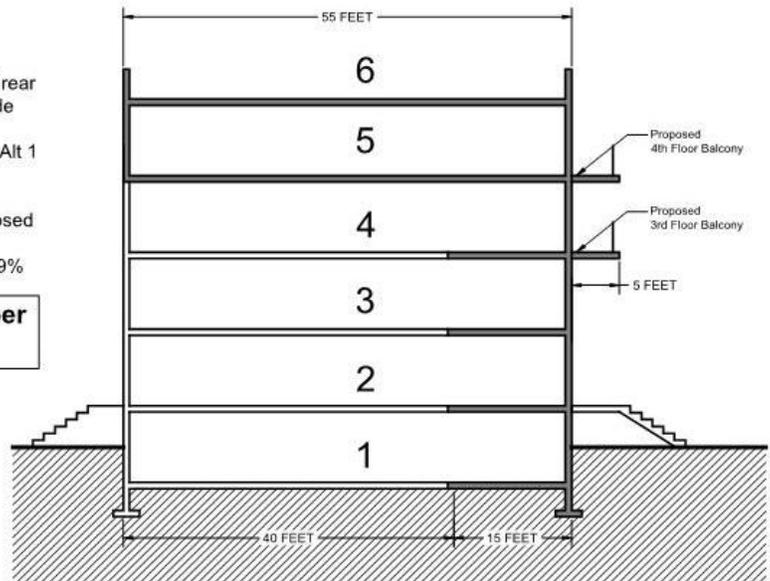


Figure 16: Proposed 1-story addition and 15 foot horizontal rear extension with two balconies half the width of the rear facade (balconies are included in floor surface area calculations). Floor surface area increase of 109% - is not considered an Alt 1 required to meet NB requirements. Assume building width of 20'
 Existing-to-remain FSA = 4 x (40' x 20') = 3200 sq ft. Proposed FSA = 6 x (55' x 20') + 2 x (5' x 10') = 6700 sq ft
 Increase in FSA = (6700 sq ft - 3200 sq ft) / 3200 sq ft = 109%

Permitted to comply with Prior Codes per AC 28-101.4.3



EXAMPLE 7 - Porches and Balconies:

Figure 17: **Existing** two-story building with unenclosed front porch along the entire front facade of the house.

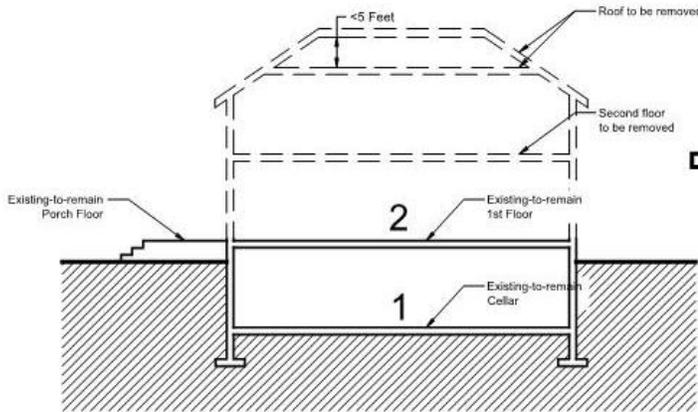


Figure 19: **Existing** two-story building with enclosed porch along the entire front facade of the house.

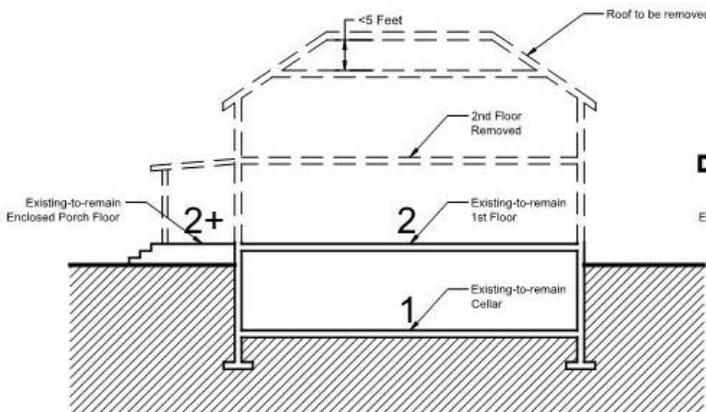


Figure 18: Enclosed porches are included in floor surface area.

Proposed second-story balcony and replacement of second floor and roof structure. Increase to floor surface area is 125% - is considered an Alt 1 required to meet NB requirements.

Assume building width of 25' and depth of 40'

Existing-to-remain FSA = 2 x (40' x 25') = 2000 sq ft

Proposed FSA = 4 x (40' x 25') + 2 x (10' x 25') = 4500 sq ft

Increase in FSA = (4500 sq ft - 2000 sq ft) / 2000 sq ft = 125%

Must comply with 2014 Code requirements for New Buildings.

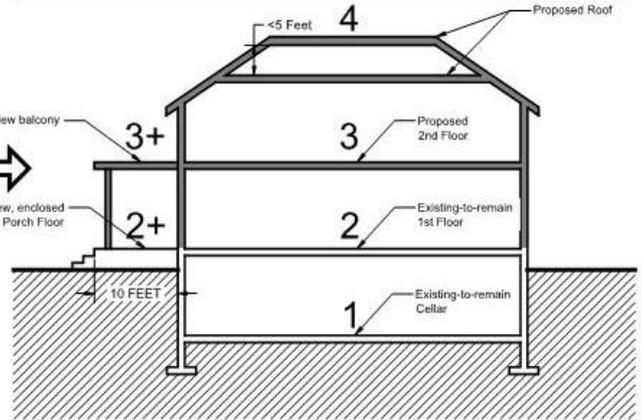


Figure 20: Enclosed porches are included in floor surface area.

Proposed second-story balcony and replacement of second floor and roof structure. Total increase in floor surface area is 100% - is not considered an Alt 1 required to meet NB requirements.

Assume building width of 25' and depth of 40'

Existing-to-remain FSA = 2 x (40' x 25') + (10' x 25') = 2250 sq ft

Proposed FSA = 4 x (40' x 25') + 2 x (10' x 25') = 4500 sq ft

Increase in FSA = (4500 sq ft - 2250 sq ft) / 2250 sq ft = 100%

Permitted to comply with Prior Codes per AC 28-101.4.3

