**HEIGHT, BUILDING.** Once the elevation of the grade plane has been calculated, it is possible to determine the building's height. This height is measured vertically from the grade plane to the average height of the highest roof surface. Examples of this measurement are shown in Figure 202-14.



Height of building is the vertical distance above grade plane measured to:

Average of roof height

Average of highest gable
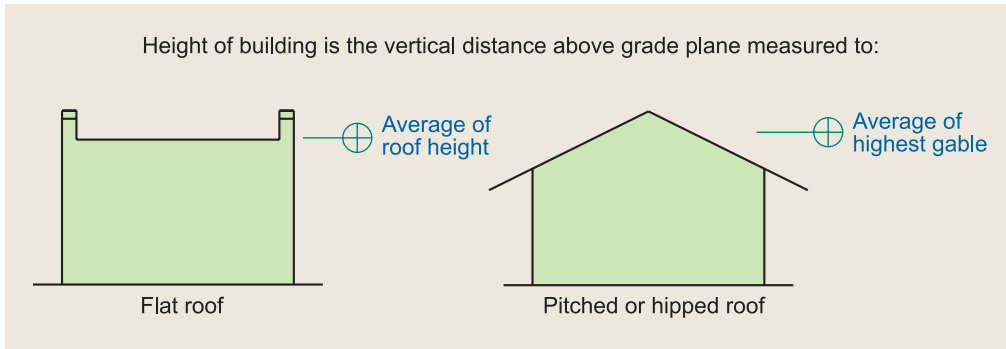
Flat roof

Pitched or hipped roof

Figure 202-14
**Height of building.**

Where the building is stepped or terraced, it is logical that the height is the maximum height of any segment of the building. It may be appropriate under certain circumstances that the number of stories in a building be determined in the same manner. Because of the varying requirements of the code that are related to the number of stories, such as means of egress, type of construction, fire resistance of shaft enclosures, and so on, each case should be judged individually based on the characteristics of the site and construction. In addition to those factors better related to the number of stories, other items to consider are fire department access, location of exterior exit doors, routes of exit travel, and types of separation between segments.

Figure 202-15 illustrates one example in which the height of the building and number of stories are determined for a stepped or terraced building. In the case of a stepped or terraced building, the language *total perimeter* is used to define the situation separating
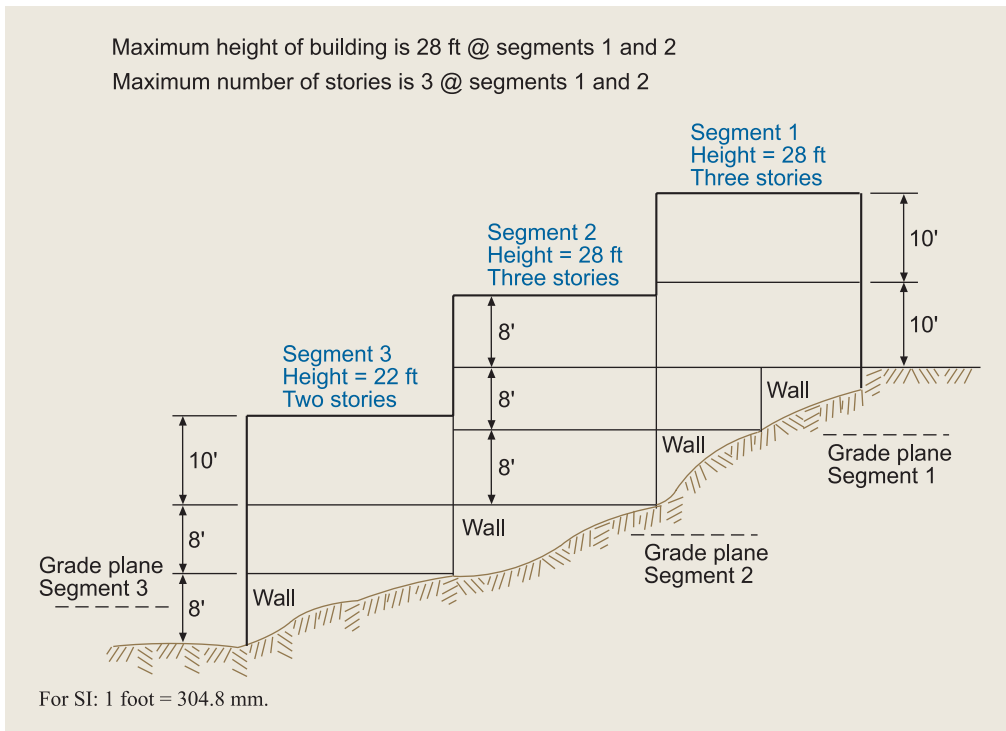


Maximum height of building is 28 ft @ segments 1 and 2
Maximum number of stories is 3 @ segments 1 and 2

Segment 1
Height = 28 ft
Three stories

Segment 2
Height = 28 ft
Three stories

Segment 3
Height = 22 ft
Two stories

10'

10'

8'

8'

8'

10'

8'

Wall

Wall

Wall

Wall

Grade plane
Segment 3

Grade plane
Segment 2

Grade plane
Segment 1

For SI: 1 foot = 304.8 mm.

Figure 202-15
**Terraced building.**

**Cross section**

**West elevation**

Concrete wall

Open

8' 4"

8' 4"

Finish ground elevation

6'

Grade plane

7'

1' 4"

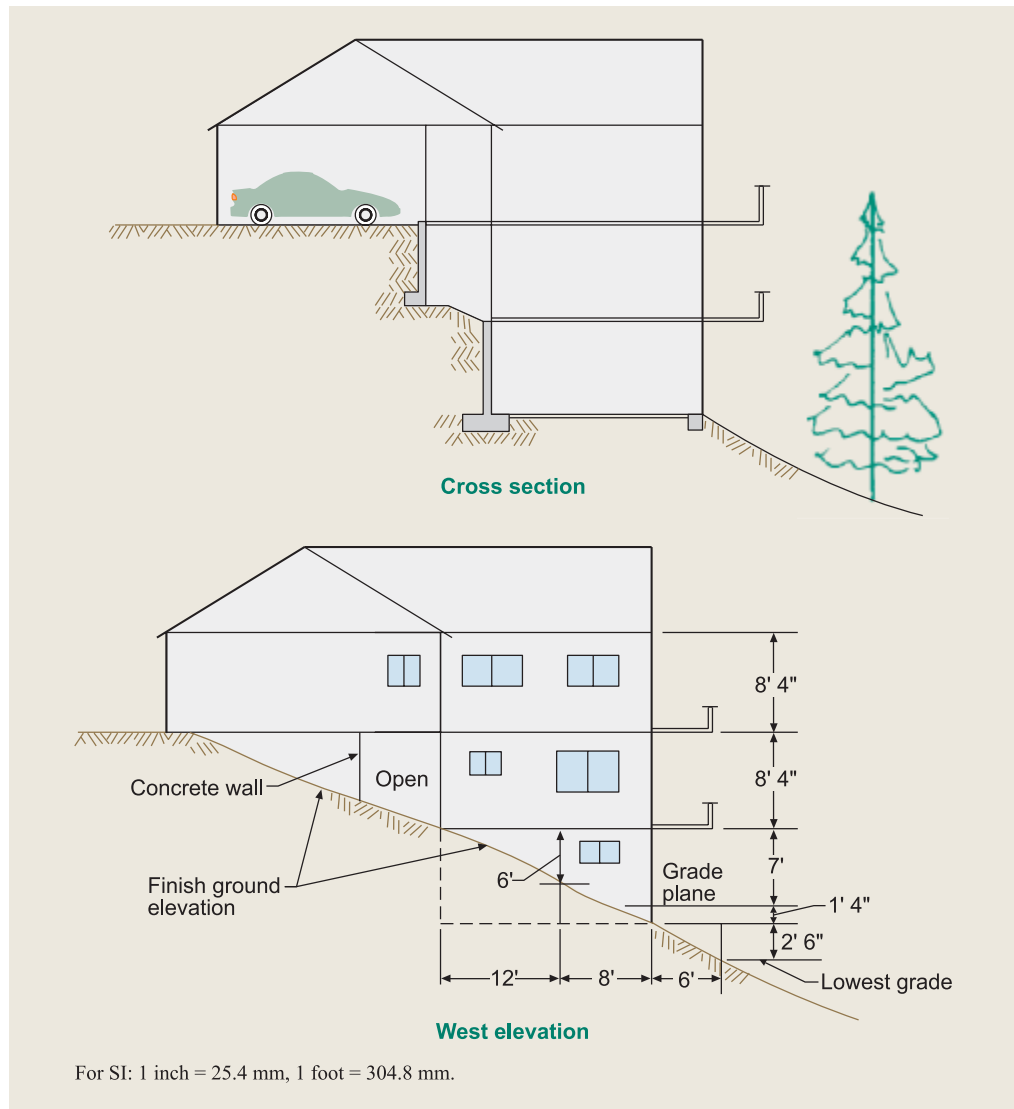2' 6"

Lowest grade

12'      8'      6'

**Figure 202-16**
**Three-story building.**

the first story above grade plane from a basement and is intended to include the entire perimeter of the segment of the building. Therefore, in the cross section of Figure 202-16, the total perimeter of the down-slope segment would be bounded by the retaining wall, the down-slope exterior wall, and the east and west exterior walls. In the case illustrated, the building has three stories above grade plane and no basement for the down-slope segment. The measurement for the maximum height of the building would be based on the maximum height of the down-slope segment.

Similar to an unnecessarily detailed calculation of grade plane, there is seldom a need to precisely calculate the height of a building. Typically, a general determination of building height is adequate to ensure compliance with the code. For example, it is not necessary to go into great detail evaluating the average roof elevation of a built-up roof that has a low degree of slope for drainage purposes. The need for a more exacting determination of roof height is directly related to any uncertainty that may occur in reviewing for code compliance.