

DETERMINATION OF GRADE

PURPOSE

This interpretation provides clarification concerning the requirements for grade to be maintained as it extends away from the exterior wall.

DISCUSSION

The rules provided by the National Building Code-2019 Alberta Edition (NBC(AE)) for the determination of grade along the plane of the building face are very prescriptive. This is necessary since the establishment of grade allows for the determination of building height. Building height is the criteria for the application of many other requirements in the NBC(AE) including:

- a) the classification of the building into Part 9, Part 3 or as a high building;
- b) the type of construction required and the rating of fire separations between storeys; and,
- c) the necessity for fire detection systems, fire suppression systems, etc.

Although the rules for determining grade along the face of the building are comprehensive, the NBC(AE) is less clear concerning the requirements for grade to be maintained as it extends away from the exterior wall.

As the criterion used to establish building height, grade also plays a major role in providing access for fire fighters to a building. Grade around a building which is excessively sloped may produce an exposing building face that impedes fire fighter access to a building in an emergency.

Where a building is required to face a street, excessive slope may hinder or prevent the setting up of firefighting equipment. Article 3.2.5.5. requires access routes to be designed so that they are no closer than 3 m from the building face and Article 3.2.5.6. requires that access routes are to be at least 6 m wide. It is expected the access route would be at or near grade.

Finished ground level that is flat or has minimal slope may not provide effective surface drainage thus creating structural or water penetration problems for the building.

Unless stated otherwise, all Code references in this STANDATA are to Division B of the National Building Code-2019 Alberta Edition

Issue of this STANDATA is authorized by
the Provincial Building Administrator

[Original Signed]
Paul Chang

The logo for the province of Alberta, featuring the word "Alberta" in a stylized, cursive font with a small blue square at the end of the word.

CODE REFERENCES

Sentence 1.4.1.2.(1) of Division A states:

Grade means the lowest of the average levels of finished ground adjoining each exterior wall of a building, except that localized depressions need not be considered in the determination of average levels of finished ground. (See First storey and Note A-1.4.1.2.(1).)

Note A-1.4.1.2.(1)

Grade

Localized depressions that need not be considered in the determination of the elevation of grade include such features as vehicle and pedestrian entrances and other minor depressions that do not affect accessibility for firefighting or evacuation.

Street means any highway, road, boulevard, square or other improved thoroughfare 9 m or more in width, that has been dedicated or deeded for public use and is accessible to fire department vehicles and equipment.

INTERPRETATION

1. Where a building is required to face a street and the exposing building face has a limiting distance greater than 0.6 m, grade is to extend
 - a. not less than 9 m from the exterior face of the wall, or
 - b. to a public thoroughfare, access route or property line, whichever distance is less.

To allow for effective surface drainage, the finished ground level may slope a maximum of

- a. 1 in 8 over the first 2 m, and
 - b. 1 in 10 over the remaining 7 m.
2. Where a building is not required to face a street and the exposing building face has a limiting distance greater than 0.6 m, grade is to extend
 - a. not less than 1.2 m from the exterior face of the wall, or
 - b. to a public thoroughfare, access route, property line or adjacent building, whichever distance is less.

This INTERPRETATION is applicable throughout the province of Alberta.