

TO: CHAIR AND MEMBERS
PLANNING AND DEVELOPMENT
COMMITTEE

DATE: 2019 January 10

FROM: DIRECTOR PLANNING AND BUILDING

FILE: 42000 20
Reference: Bylaw Text Amendment

**SUBJECT: PROPOSED ZONING BYLAW TEXT AMENDMENT
CELLAR FLOOR AREA IN R DISTRICTS**

PURPOSE: To propose text amendments to enable construction of cellars in R Residential Districts.

RECOMMENDATION:

1. **THAT** Council be requested to authorize the preparation of a bylaw amending the Burnaby Zoning Bylaw, as outlined in Section 4.0 of this report, for advancement to First Reading on 2019 February 11 and Public Hearing on 2019 February 26.

REPORT

1.0 INTRODUCTION

On 2018 November 26, Council directed staff to pursue amendments to the Burnaby Zoning Bylaw to enable construction of full cellars in single and two family dwellings. This report responds to this direction by proposing text amendments to the floor area regulations for single family homes in the R1, R2, R3, R4, R5, and R9 Residential Districts, as well as to pertinent supplementary regulations found in Section 6 of the bylaw. Cellar construction in two family dwellings is being considered in the current review of secondary suites in two family homes, which will be the subject of a future report. The proposed bylaw amendments are *attached* as Appendix A.

2.0 CITY POLICY FRAMEWORK

The proposed bylaw amendments are supported by the following City-wide policies:

The Social Sustainability Strategy

- Strategic Priority 1 - Meeting Basic Needs
- Strategic Priority 5 - Enhancing Neighbourhoods

The Economic Development Strategy

- G1 Building a Strong, Livable, Healthy Community

The Official Community Plan

- Goal 3: To maintain and improve neighbourhood livability and stability
- Goal: Social Planning - To facilitate the development and ongoing sustainability of a community which enhances the physical, social, psychological and cultural well-being of Burnaby residents

Further to the above, the proposed approach also aligns with the following goals and sub-goals of the Corporate Strategic Plan:

- **A Dynamic Community**
 - Community Development – Manage change by balancing economic development with environmental protection and maintaining a sense of belonging
- **An Inclusive Community**
 - Create a sense of community – Provide opportunities that encourage and welcome all community members and create a sense of belonging

3.0 BACKGROUND

The Burnaby Zoning Bylaw regulates residential floor area through restrictions on density, lot coverage, setbacks, and height, as well as through specific provisions for cellars, basements, and crawl spaces. These regulations vary among R Residential Districts and may differ according to lot size and configuration. The interplay of these regulations, particularly those concerning density, introduces potential trade-offs for property owners with regard to construction of a full cellar. An outline of regulations (from the Burnaby Zoning Bylaw) affecting below grade floor area and definitions for “cellar,” “basement” and “crawl space” are provided in Appendix B, *attached*.

3.1 Density Regulations

The Burnaby Zoning Bylaw regulates density in R Residential Districts by setting a maximum amount of gross floor area (GFA) for each lot. GFA includes all floors above and below ground, as well as any accessory buildings. Crawl spaces, under height areas (such as attic dormers), and garages (up to 452.1 sf in area) are excluded from GFA calculations. Maximum GFA is provided at a ratio of 0.60 FAR, or 60% of the lot area, up to a fixed maximum. On larger lots, the fixed maximum limits floor area to less than 0.60 FAR.

In order to limit the visible bulk of houses, the Burnaby Zoning Bylaw also regulates how much of the permitted GFA can be built as above grade floor area (AGFA). For new construction, AGFA includes the floor area of any storey that is at least halfway above ground, including basements. It excludes cellars, which by definition are at least halfway below ground, and accessory buildings. For single family homes, maximum AGFA is always at least 0.40 FAR, and can be greater than that on smaller lots when an optional semi-fixed maximum of 0.20 FAR + 130 m² (1,399.4 sf) is utilized.

Because AGFA is a subset of GFA, a property owner can build less than the maximum permitted AGFA without reducing the overall floor area. For instance, if the maximum permitted AGFA is 2,400 sf and the maximum permitted GFA is 3,000 sf, a property owner could choose to build 2,000 sf above grade (as AGFA) and 1,000 sf below grade (as GFA). In this case, 400 sf that could have been built as AGFA is allocated to the cellar level.

However, most homeowners choose to maximize AGFA given its greater value and livability. In the above example, if the property owner builds 2,400 sf above grade, the footprint of development will be approximately 960 sf to accommodate that amount of floor area on the permitted 2 ½ storeys. The remaining 600 sf of GFA will then be insufficient for a full cellar. Because crawl spaces do not count as floor area, the property owner could build a 600 sf cellar and 360 sf of crawl space.

As such, the ratio between GFA and AGFA affects the choices made by homebuilders. This ratio varies depending on the zoning district and the size of the lot. On lots with a greater proportion of AGFA to GFA, homebuilders can choose whether to maximize AGFA and reserve only enough GFA for a partial cellar and crawl space, or forgo a percentage of AGFA and have enough GFA left to build a full cellar. On other lots, where the proportion of AGFA is smaller, the remaining GFA is generally sufficient for a full cellar. However, construction of an accessory building can also consume GFA that could otherwise be used to construct a full cellar.

In summary, while the construction of a full cellar is permitted on all residential lots, floor area regulations discourage construction of full cellars on some properties. Specifically, on lots with a high proportion of AGFA to GFA, a homebuilder may prefer to maximize AGFA rather than build out a cellar. Alternatively, a property owner may use GFA to build an accessory building instead of a full cellar. The proposed amendments address this issue by revising floor area regulations to facilitate construction of full cellars.

4.0 PROPOSED BYLAW TEXT AMENDMENTS

4.1 Floor Area on Single Family Residential Properties

Issue

R District regulations, particularly those concerning density, introduce potential trade-offs for single family homeowners seeking to build a full cellar. As a result, many property owners build partial cellars and crawl spaces in order to preserve floor area for the main and upper storeys. This practice produces inefficiencies in construction and in some cases prevents establishment of a secondary suite.

Recommended Approach

It is recommended that floor area regulations for single family homes in the R1, R2, R3, R4, R5, and R9 Districts be amended to replace limits on overall GFA with specific limits for cellar and accessory building floor area. Specifically, it is recommended that the maximum permitted floor area of a cellar be equivalent to the floor area of the main storey of a dwelling. In order to limit the amount of additional cellar floor area, and discourage oversized footprints, it is recommended that

the main storey of a home with a cellar have a floor area no greater than the maximum permitted AGFA less 0.15 FAR.

Discussion

The proposed approach specifically allocates floor area to the cellar, in order to facilitate construction of a full cellar. The allocated floor area, which is in addition to the permitted AGFA, is equivalent to the floor area of the main storey. This eliminates the need for below grade crawl spaces.

The proposed approach limits the floor area of the main storey to no greater than the maximum permitted AGFA less 0.15 FAR. Permitted AGFA not utilized on the main storey can be applied to a second storey and, where 2 ½ storeys is permitted, to the half storey above. The intent in limiting the footprint is to control the amount of additional floor area provided by a cellar, particularly on large lots where the overall increase could be substantial. It is noted that on smaller lots, where the AGFA is larger than 0.40 FAR, and footprints often extend to the required setbacks, the proposed amendment would not significantly affect development potential. Homes that are built slab-on grade, with no cellar, would be exempt from the proposed footprint limit.

The proposed approach removes the general allocation of GFA from which cellar and accessory building floor area is currently drawn. In doing so, it eliminates both the maximum 0.60 FAR per lot and the fixed maximums that limit GFA to less than 0.60 FAR on larger lots. Under the proposed approach, the following formula would determine maximum GFA:

$$\text{Cellar} + \text{existing AGFA} + \text{existing accessory building floor area}$$

The amount of floor area available on each level is summarized in Table 1 below:

Table 1: Proposed Floor Area for Single Family Homes

Cellar	Main Storey	Upper Storey(s)	Accessory Buildings (includes garages)
Equivalent to main storey floor area	AGFA minus ≥ 0.15 FAR	Remaining AGFA (≥ 0.15 FAR)	Existing regulations: 56 m ² (602.8 sf)

As such, the proposed approach ensures that maximum AGFA, at current levels, and a full cellar can be constructed. In order to achieve these objectives, the proposed approach increases overall GFA from a maximum of 0.60 FAR to a variable number tied to existing AGFA. While these provisions increase below grade floor area, they do not affect the visible density of single family dwellings. Moreover, the increase in overall floor area will be moderate on most properties. On those smaller lots where the percentage increase is greater, the increase in actual square footage would remain modest.

Under the proposed approach, existing single family homeowners that wish to construct a full cellar could do so subject to compliance with all associated zoning regulations and the issuance of a

building permit. Property owners that wish to construct a new home without a cellar would not be subject to the limit on main storey floor area.

It is recommended that the above amendments apply only to the R1, R2, R3, R4, R5, and R9 Residential Districts. The proposed amendments exclude the R10, R11, and R12 Residential Districts, which have been established by neighbourhood-initiated area rezoning processes, and contain provisions specifically designed to regulate density and built form. Application of any floor area changes to these districts would require additional review and extensive consultation with the affected neighbourhoods. The proposed approach also excludes A Agricultural Districts. These districts have simpler density regulations for single family homes, consisting only of GFA limits, which are appropriate to the semi-rural context.

Lastly, given the complexity of floor area regulations, particularly in their application to lots with a variety of constraints (i.e., geometry, size and topography), staff will monitor implementation of the proposed amendments, if adopted, and may advance further text amendments as necessary.

In view of the above, it is proposed that the Zoning Bylaw be amended as follows.

Recommended Bylaw Amendments

THAT Sections 101.4, 102.4, 103.4, 104.4, 105.4, and 109.4 be amended to eliminate the floor area standards found in subsection (2)(a), which limit floor area ratio to 0.60 or a fixed maximum that varies by district.

1. **THAT** Sections 101.4, 102.4, 103.4, 104.4, 105.4, and 109.4 be amended to Permit construction of a cellar with a floor area equivalent to the gross floor area of the storey next above it
2. **THAT** Sections 101.5, 102.5, 103.5, 104.5, 105.5, and 109.5 be amended to require, where a single family home has a cellar, that the floor area of the main storey be no greater than AGFA less 0.15 FAR.
3. **THAT** Section 6.20(7) be added to clarify that attached garages in cellars are included as gross floor area.

4.2 Secondary Suites in Cellars

Issue

By facilitating construction of full cellars, the proposed amendments offer an opportunity to expand the City's inventory of secondary suites.

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Re: Proposed Zoning Bylaw Text Amendment
Cellar Floor Area in R Districts
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Recommended Approach

It is recommended that cellars be required to be constructed to “suite ready” standards provided in the BC Building Code, and comply with other requirements for secondary suites in the Burnaby Zoning Bylaw.

Discussion

By facilitating construction of full cellars in single family homes, the proposed amendments are intended to encourage construction of secondary suites, which are an important source of rental housing. Secondary suites also accommodate family members ageing in place and other multigenerational living arrangements. As such, the proposed amendments require that all cellars meeting the minimum floor area for a secondary suite (32 m², or 345 sf) be constructed according to BC Building Code requirements for secondary suites, and meet all standards for secondary suites elsewhere in the Bylaw, including the required one parking space.

Recommended Bylaw Amendments

4. **THAT** Section 6.9 of the Burnaby Zoning Bylaw be amended to require all cellars in the R1, R2, R3, R4, R5, and R9 Districts that exceed 32 m² (345 sf) to be constructed in accordance with BC Building Code requirements for secondary suites and all other bylaw standards for secondary suites.

5.0 CONCLUSION

The above Zoning Bylaw text amendments are proposed in order to enable construction of full cellars in single family residences while encouraging the provision of secondary suites as a housing option. Should Council adopt the proposed amendments, staff would monitor their implementation and advance further text amendments as necessary, given the complexity of the proposed amendments and the variety of single family development contexts. It is recommended that Council approve the proposed text amendments, as outlined in Section 4.0 of this report, for advancement to First Reading on 2019 February 11 and Public Hearing on 2019 February 26.


Lou Pelletier, Director
PLANNING AND BUILDING

LF:sla

Attachments

cc: City Manager
Director Engineering
Chief Building Inspector
Chief Licence Inspector
City Solicitor
City Clerk

PROPOSED ZONING BYLAW AMENDMENTS

Supplementary Regulations

1. **THAT** Section 6.9(6) be added to the Zoning Bylaw with wording the same or similar to the following:

“In the R1, R2, R3, R4, R5, and R9 Districts, on a lot developed with a single family dwelling a cellar exceeding a floor area of 32 m² (345 sq. ft.) shall meet the requirements of the British Columbia Building Code and all other requirements of this Bylaw for a secondary suite”.

2. **THAT** Section 6.20(7) be added to the Zoning Bylaw with wording the same and similar to the following:

“Notwithstanding Section 6.20(6)(c), in the R1, R2, R3, R4, R5 and R9 Districts on a lot developed with a single family dwelling, a garage or carport located in a cellar shall be included as floor area of the cellar”.

R District Schedules

3. **THAT** Section 101.4(1) (R1 District) be repealed and replaced with wording the same or similar to the following:

“(1) In an R1a District the gross floor area of all floors shall not exceed the floor area ratio of:

- (a) 0.60 for lots having a width of 37 m (121.4 ft.) or more;
- (b) 0.55 for lots having a width of less than 37 m (121.4 ft.) but equal to or more than 35.35 m (116 ft.);
- (c) 0.50 for lots having a width of less than 35.35 m (116 ft.) but equal to or more than 34 m (111.6 ft.)”.

4. **THAT** Section 101.4(4) be added to the Zoning Bylaw with wording the same or similar to the following:

“A cellar constructed in the R1 District shall not have a floor area, including a garage or carport, that exceeds the floor area of the storey next above it.”

5. **THAT** Section 101.5(4) be added after the Section 101.5(3) with wording the same or similar to the following:

“For a single family dwelling, other than one located in an R1a District, the floor area of a first storey located above a cellar shall not exceed the maximum floor area permitted under subsections (1) and (2) less 0.15 of the lot area”.

6. **THAT** Section 102.4(1) (R2 District) be repealed and replaced with wording the same or similar to the following:

“(1) In an R2a District the gross floor area of all floors shall not exceed the floor area ratio of:

- (a) 0.60 for lots having a width of 27.5 m (90.2 ft.) or more;
- (b) 0.55 for lots having a width of less than 27.5 m (90.2 ft.) but equal to or more than 26.5 m (86.9 ft.);
- (c) 0.50 for lots having a width of less than 26.5 m (86.9 ft.) but equal to or more than 25.5 m (83.7 ft.)”.

7. **THAT** Section 102.4(4) be added to the Zoning Bylaw with wording the same or similar to the following:

“A cellar constructed in the R2 District shall not have a floor area, including a garage or carport, that exceeds the floor area of the storey next above it.”

8. **THAT** Section 102.5(4) be added after the Section 102.5(3) with wording the same or similar to the following:

“For a single family dwelling, other than one located in an R2a District, the floor area of a first storey located above a cellar shall not exceed the maximum floor area permitted under subsections (1) and (2) less 0.15 of the lot area”.

9. **THAT** Section 103.4(1) (R3 District) be repealed and replaced with wording the same or similar to the following:

“(1) In an R3a District the gross floor area of all floors shall not exceed the floor area ratio of:

- (a) 0.60 for lots having a width of 22.5 m (73.8 ft.) or more;
- (b) 0.55 for lots having a width of less than 22.5 m (73.8 ft.) but equal to or more than 21.8 m (71.5 ft.);
- (c) 0.50 for lots having a width of less than 21.8 m (71.5 ft.) but equal to or more than 21 m (68.9 ft.)”.

10. **THAT** Section 103.4(4) be added to the Zoning Bylaw with wording the same or similar to the following:

“A cellar constructed in the R3 District shall not have a floor area, including a garage or carport, that exceeds the floor area of the storey next above it.”

11. **THAT** Section 103.5(4) be added after the Section 103.5(3) with wording the same or similar to the following:

“For a single family dwelling, other than one located in an R3a District, the floor area of a first storey located above a cellar shall not exceed the maximum floor area permitted under subsections (1) and (2) less 0.15 of the lot area”.

- 12. THAT** Section 104.4(1) (R4 District) of the Zoning Bylaw be repealed and replaced with the wording the same or similar to the following:

“(1) the density of development shall not exceed:

- (a) in an R4 District on a lot developed with a two-family dwelling, the lesser of a floor area ratio of 0.60 or 440 m² (4736.1 sq. ft.).
- (b) in an R4a District, a floor area ratio of:
 - i. 0.60 for lots having a width of 27.5 m (90.2 ft.) or more;
 - ii. 0.55 for lots having a width of less than 27.5 m (90.2 ft.) but equal to or more than 26.3 m (86.3 ft.);
 - iii. 0.50 for lots having a width of less than 26.3 m (86.3 ft.) but equal to or more than 25.5 m (83.7 ft.)”.

- 13. THAT** Section 104.4(4) be added to the Zoning Bylaw with wording the same or similar to the following:

“A cellar constructed in the R4 District shall not have a floor area, including a garage or carport, that exceeds the floor area of the storey next above it.”

- 14. THAT** Section 104.5(6) be added after Section 104.5(5) with wording the same or similar to the following:

“For a single family dwelling, other than one located in an R4a District, the floor area of a first storey located above a cellar shall not exceed the maximum floor area permitted under subsections (1) and (2) less 0.15 of the lot area”.

- 15. THAT** Section 105.4(1) (R5 District) of the Zoning Bylaw be repealed and replaced with the wording the same or similar to the following:

“(1) the density of development shall not exceed:

- (a) in an R5 District on a lot developed with a two-family dwelling, the lesser of a floor area ratio of 0.60 or 370 m² (3982.6 sq. ft.).
- (b) in an R5a District, a floor area ratio of:
 - i. 0.60 for lots having a width of 22.5 m (73.8 ft.) or more;
 - ii. 0.55 for lots having a width of less than 22.5 m (73.8 ft.) but equal to or more than 21.8 m (71.5 ft.);
 - iii. 0.50 for lots having a width of less than 21.8 m (71.5 ft.) but equal to or more than 21 m (68.9 ft.)”.

- 16. THAT** Section 105.4(4) be added to the Zoning Bylaw with wording the same or similar to the following:

“A cellar constructed in the R5 District shall not have a floor area, including a garage or carport, that exceeds the floor area of the storey next above it.”

- 17. THAT** Section 105.5(6) be added after Section 105.5(5) with wording the same or similar to the following:

“For a single family dwelling, other than one located in an R5a District, the floor area of a first storey located above a cellar shall not exceed the maximum floor area permitted under subsections (1) and (2) less 0.15 of the lot area”.

- 18. THAT** Section 109.4(1) (R9 District) of the Zoning Bylaw be repealed and replaced with wording the same or similar to the following:

“(1) In an R9a District, the gross floor area of all floors shall not exceed the floor area ratio of 0.60”.

- 19. THAT** Section 109.4(4) be added to the Zoning Bylaw with wording the same or similar to the following:

“A cellar constructed in the R9 District shall not have a floor area, including a garage or carport, that exceeds the floor area of the storey next above it.”

- 20. THAT** Section 109.5(4) be added after the Section 109.5(3) with wording the same or similar to the following:

“For a single family dwelling, other than one located in an R9a District, the floor area of a first storey located above a cellar shall not exceed the maximum floor area permitted under subsections (1) and (2) less 0.15 of the lot area”.

**EXISTING BURNABY ZONING BYLAW REGULATIONS
FOR BELOW GRADE FLOOR AREA**

Existing regulations that affect below grade floor area are outlined below:

1. *Gross Floor Area (GFA)*

Gross floor area is the area of all floors, measured to the exterior limit of a building. In R Districts, the following are excluded from GFA measurement:

- Garages and carports, up to 42 m² (452 sf)
- Crawl spaces, attics, and other areas with a height of less than 1.2 m (3.9 ft)
- Porches, decks, and balconies that are unenclosed
- Other minor development features

Maximum gross floor area is provided at a ratio of 0.60 FAR, or 60% of the area of the lot, up to a fixed maximum that varies from 590 m² (6,350.9 sf) in the R1 District to only 265 m² (2,852.5 sf) in the R9 District.

The intent of limiting gross floor area is to control both density and bulk.

2. *Above Grade Floor Area (AGFA)*

Above grade floor area is the area of all floors located above grade level, including basements in buildings that were constructed after 1991 December 16. Exclusions from GFA also are excluded from AGFA.

In most R Districts, maximum AGFA for single family dwellings is provided at a ratio of 0.40 FAR or at a semi-fixed maximum of 0.20 FAR + 130 m² (1,399.4 sf), whichever is greater.

The intent of limiting above grade floor area is to control visible bulk.

3. *Lot Coverage and Setbacks*

Lot coverage is the area of the lot, expressed as a percentage, that can be covered by structures. In R Districts, the maximum lot coverage is 40%. In addition, principal buildings must be set back from the front, side, and rear lot lines a minimum distance, which varies between Districts from 6 m (19.7 ft) to 9 m (29.5 ft) for front and rear lot lines and is usually 1.5 m (4.9 ft) for side lot lines. These regulations limit the above grade footprint of the principal building, including the main floor area, and thus indirectly affect the construction of below grade floor area. In most cases, building footprints are well within the boundaries established by lot coverage and setbacks, particularly the front and/or rear setbacks.

4. Height

Height is expressed both as a numerical dimension and as number of storeys. In most R Districts, the maximum height is 9 m (29.5 ft.) for pitched roofs and 7.2 m (24.1 ft.) for flat roofs, and no more than 2 ½ storeys. Basements are considered a storey¹, but cellars and crawl spaces are not. As a result, new construction almost always features a cellar with 2 or more storeys above it, rather than a basement with 1 ½ storeys above. As noted, basements also contribute to AGFA, which further discourages their construction.

Basements and cellars must be a minimum of 2.3 m (7.5 ft.) high, and a cellar can have only half its height above grade. Typical building profiles include a 2.4m (8 ft) high cellar with two storeys above.

5. Basements, Cellars, and Crawl Spaces

Basements are defined as the portion of a building, between two floor levels, that is partly underground and has at least half its height *above* natural grade. As noted above, basements constructed after 1991 December 16 are included in AGFA and considered a storey.

Cellars are defined as the portion of a building, between two floor levels, that is partly or wholly underground and has at least half its height *below* natural grade. Unlike basements, cellars are excluded from AGFA and are not considered a storey. They are, however, included in calculation of GFA. Cellars are not permitted in two storey semi-detached dwellings.

Crawl spaces are defined as a space at or below natural grade with a maximum ceiling height of 1.2 m (3.9 ft.). They are excluded from AGFA and GFA and are not considered a storey. Crawl spaces are measured from the floor slab on the ground surface below, whereas basements and cellars are measured from finished floor level.

The table below summarizes the regulations for basements, cellars, and crawl spaces:

	Basement	Cellar	Crawl Space
Height	Min. 2.3 m (7.5 ft.)	Min. 2.3 m (7.5 ft.)	Max. 1.2 m (3.9 ft.)
Considered a storey	Yes	No	No
Included in GFA	Yes	Yes	No
Included in AGFA	Yes ²	No	No
Permitted in two-storey semi-detached dwelling	Yes	No	Yes
Permitted in duplex or one storey semi-detached dwelling	Yes	Yes	Yes

¹ In homes built after 1991 December 16.

² Except for: homes constructed prior to 1991 December 16; in duplex or one-storey semi-detached dwellings; and in R11 District single family dwellings that are less than 20 ft. in height