CITY OF VANCOUVER

COUNCIL REPORT

Report Date:	November 6, 2025
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Meeting Date:	December 10, 2025

Submit comments to Council

TO: Standing Committee on City Finance and Services

FROM: General Manager of Development, Buildings and Licensing
General Manager of Planning, Urban Design and Sustainability
General Manager/Fire Chief of Fire Rescue Services

SUBJECT: Report Back - Potential to Update the Vancouver Building By-law to Enable Single Egress Stairs

Recommendations

THAT Council approve, in principle, proposed amendments to the Building By-law regarding Single Exterior Exit Stair and Passageway and Space Efficient Scissor Stairs provisions as set out in this report and generally in accordance with Appendix A;

FURTHER THAT Council instruct the Director of Legal Services to bring forward the necessary by-law amendments for enactment by Council, generally in accordance with Appendix A.

Purpose and Executive Summary

This report seeks Council's approval to amend the Vancouver Building By-law (VBBL) regarding a single exterior exit stair and passageway and space efficient scissor stair design solutions. In February 2025 Council directed Planning, Urban Design and Sustainability (PDS) and Development, Buildings and Licensing (DBL), in partnership with Vancouver Rescue Fire Service (VFRS), to further consult with industry stakeholders and registered professionals following recent updates to the British Columbia Building Code (BCBC) to enable Single Egress Stairs (SES) and review related literature.

Staff conducted a comprehensive review of recent research on SES designs, and facilitated consultation sessions with industry experts, fire services and building officials from other municipalities and relevant government agencies to gather feedback on space efficient egress design solutions.

Staff recommend amendments to the VBBL to include provisions for a single exterior exit stair and passageway typology and to enable a space efficient scissor stair design, providing choice

to developers to improve development viability on smaller sites by allowing various exit designs to improve space efficiency and unit liveability. There was strong stakeholder support for the single exterior stair and passageway and space efficient scissor stair design options during consultation.

Stakeholders did not support the BCBC SES design as a desirable option because of the current requirements. The Canadian Board for Harmonized Construction Codes is currently reviewing SES for consideration in the National Model Building Code. The Province anticipates aligning with subsequent updates and City staff will review and report back to Council when the national code development process is complete.

Council Authority/Previous Decisions

- Motion, Potential to Update the Vancouver Building Bylaw to enable Single Egress Stairs Low & Mid-Rise Buildings to Align with Provincial Changes to the BC Building Code and Deliver Better Quality Housing Options (October 9, 2024). Council motioned staff to explore the potential of enabling SES in low & mid-rise buildings, up to six stories, in the VBBL.
- Report, Potential to Update the Vancouver Building Bylaw to enable Single Egress Stairs (February 26, 2025). Council directed Planning, Urban Design and Sustainability (PDS) and Development, Buildings and Licensing (DBL), in partnership with Vancouver Rescue Fire Service (VFRS), to further consult with industry professionals following recent updates to the BCBC to enable SES and review related literature.
- Section 306 of Vancouver Charter gives Council the authority to regulate the construction of buildings, including structures of every kind. The VBBL is enacted under the same authority.

City Manager's Comments

The City Manager concurs with the foregoing recommendations.

Context and Background

The current provisions of the VBBL requires a building taller than two storeys to include at least two exits per floor. This provides occupants, visitors and first responders multiple egress options in case one route is blocked during an emergency. It also allows firefighters, once arriving on scene, to designate one stair for operations and the other for evacuation.

In 2024 the BC government introduced amendments to the BCBC to enable SES in residential buildings up to six storeys. This change removed the traditional requirement for two paths of egress (exits or stairwells) per floor and added provisions for a SES configuration with one stair.

The BCBC includes a note on jurisdictional discretion, allowing local authorities to opt into the SES provisions based on firefighting capabilities and operational context. VFRS, as well as the BC Professional Fire Fighters Association (BCPFFA) and Fire Chiefs Association of BC (FCABC), did not support the BCBC SES configuration and requirements because the provincial process moved too quickly without sufficient data and stakeholder engagement; and did not take into consideration fire response capacity, the risk of fires in egress pathways, low compliance rates of building upkeep of fire systems in residential buildings as well as the additional municipal fire prevention resources needed to enforce the extra code provisions that

are required to maintain safety in SES buildings; and emerging issues that increase fire risk (i.e. lithium-ion batteries).[1]

The BC Association of Chiefs of Police (BCACP) have urged reconsideration and further consultation on the BCBC SES design[2]. Vancouver Police Department (VPD) concur with the BCACP and oppose single egress stair from a public safety perspective.

In October 2024, Council directed staff to explore SES implementation in Vancouver following the recent updates. Staff went to Council on February 26, 2025, to provide information on the potential adoption of the BCBC SES requirements into the VBBL. Council requested staff further explore the implementation of single egress requirements with the goal of identifying potential SES design solutions suited to Vancouver's context, engaging with industry stakeholders, including registered professionals and municipalities on space efficient egress strategies, and reviewing relevant studies and literature to inform decision-making. Staff were directed to report back to Council with the additional information in Fall 2025, affirming the overarching goal of harmonization between the BCBC and VBBL.

DBL, PDS and VFRS collaborated to assess three potential design solutions to support adoption of SES and space efficient egress in Vancouver. This process was informed by industry stakeholders, relevant research and the City's expert panel on SES. The three solutions include:

- **BCBC single egress stair:** A single stair configuration approved by the province, included in the BCBC. This design includes several active fire safety measures to balance the removal of the second stair.

- **Single exterior exit stair and passageway:** This design is a one stair building style with exterior corridors and stairwell. As a space efficient typology, the single exterior exit stair and passageway potentially enables higher density housing in historically low-density neighbourhoods, including locked-in sites, and encourages more family sized, multi-bedroom units on smaller sites.

- **Space efficient scissor stair:** The scissor stair typology, currently allowed in code, is two fire-separated but interlocking staircases within a single stairwell enclosure. A key improvement to this design for space efficiency recommended in this report waives the minimum distance requirement between the two exit doors on each floor that open into the stairs to further reduce the space required for this egress design. This configuration allows for dual paths of egress while still occupying less floor space.

For detailed provisions and conceptual designs of these egress options see Appendix B. These potential solutions were presented to industry stakeholders for feedback.

Discussion

SES Research

Staff completed a comprehensive review of recent literature studies and relevant research (see appendix C). This review synthesizes a range of technical reports, policy documents, and stakeholder perspectives on the adoption of Single Egress Stair (SES) configurations in multi-

[1] FCABC and BCPFFA. (2024). Joint Letter to Minister Ravi Kahlon re: Meeting on Single Egress Stairway.
[2] BC Association of Chiefs of Police. (2024) Letter to Minister Ravi Kahlon re: Single access Egress Stair Design.

residential buildings up to six storeys in BC. SES designs are promoted for their potential to reduce construction costs, increase usable floor area, enable livable units with multiple exposures and unlock opportunities for small apartment buildings on small sites. However, they have sparked significant debate due to concerns about life safety, fire service operations, and long-term building performance. Key research findings available in Appendix B. The review concluded that while SES designs offer potential benefits for housing affordability and urban density, there is a strong emphasis on maintaining life safety. Any regulatory changes should be based on comprehensive research and inclusive stakeholder engagement to ensure life safety is not compromised.

Consultation

DBL staff, in collaboration with PDS and VFRS, completed consultation on three space efficient egress designs with industry stakeholders and registered professionals, fire departments and building officials from select municipalities, the City of Vancouver's Persons with Disabilities Advisory Committee, the BC government's Building, Governance and Innovation Division at the Ministry of Housing and Municipal Affairs, and the Secretariat for the Canadian Board for Harmonized Constructions Codes (see Appendix D for details). Staff held 18 consultations between July – September 2025 to gather feedback on possible design solution provisions (the BCBC SES requirements, a single exterior exit stair and passageway configuration, and a space efficient iteration of scissor stairs) for adoption in Vancouver.

There is a consensus from the industry sessions that space efficient egress can support much needed housing development in lower density areas of Vancouver, providing multiple options to further enable developers to build. Both the SES and single exterior exit stair and passageway solutions garnered support for the benefits it would unlock with housing development opportunities by enabling more rentable/saleable space for comparable, or even a modest reduction, in total building construction costs and improved liveability. That said, most participants gravitated towards the single exterior exit stair and passageway design over the interior SES for fire safety and cost saving benefits. Participants identified concerns with the BCBC SES requirements and proposed changes to optimise the design and reduce its associated costs. Changes to optimize the BC SES would need to be made at the provincial level. There was general agreement that the space efficient scissor stair was a good two-stair alternative. A number of improvements, marked in italics in Appendix B, to the originally proposed options were identified during consultations and incorporated into these recommendations.

Staff engaged with several municipal building department officials to gain insight on their current approach with respect to single exit designs. All municipalities consulted noted they are engaging on SES for their city. Many are reviewing various requirements that could make SES viable (i.e. adding fire escapes, zoning restrictions), and others are exploring the use of the alternative solutions pathway. BC building officials consulted stated that very few SES applications have been received, but a lot of interest has been expressed from developers and prospective applicants. They also noted the wide and significant opposition from their respective fire department to the BCBC SES requirements, and the need for additional fire safety measures and clarity for interpreting the Code, including its explanatory notes. Several building officials stressed the importance of adequate review of new acceptable solutions, encouraging similar technical processes to the National Research Council.

VFRS, with support from DBL, also engaged with various municipal fire departments. All fire departments in BC consulted opposed the BCBC SES design solution. Fire departments expressed concerns with the reliance on active fire safety measures and challenged the assumption that the evacuation of residents would be complete prior to the arrival of fire services (a central premise of the BCBC SES requirements). There is wide cross jurisdictional

interest in space efficient egress solutions to support housing development. Acknowledging this, many fire departments share their priority in participating in the discussion. Fire departments that reviewed Vancouver's potential solutions stated a preference towards the single exterior exit stair and passageway and space efficient scissor stair, if SES were to be implemented. This aligns with VFRS's position.

As a part of the City's consultation, staff engaged with the Secretariat for the Canadian Board for Harmonized Construction Codes (CBHCC) and the BC Ministry of Housing and Municipal Affairs.The CBHCC is responsible for developing the National Model Building and Fire Codes. The Code development process is currently underway for SES by the Board. Changes, if recommended, are expected in the 2030 Code updates. The BC staff consulted were supportive of Vancouver's current space efficient egress solutions to address housing development and affordability priorities. BC staff highlighted the benefit of having multiple options to further create opportunities for developers where restrictions have previously existed.

Design Solutions Costing Study

Staff retained architects and quantity surveyors to design and evaluate the egress options noted in this report, for three different sites in Vancouver (attached in Appendix E). The results indicated that alternate egress designs can offer improvements in floor plate efficiency (and thereby more sellable/rentable space) and liveability on smaller lots, when compared to the current Building By-law provisions. The study also suggests that choosing the optimal egress design will depend on the lot size, the architectural design, and the preferred metric of comparison. For example:

- 33' Lot, C-2 zoning: a single exterior exit stair and passageway solution allowed for an additional bedroom on each level and increased livability through an improved courtyard space with more room for social interaction. The cost of construction was 3% lower and the rentable area was 6% higher than a design using the existing building code. Compared to the BCBC SES, a single exterior stair has comparable costs and floor plate efficiencies.

- 49.5' Lot, R3 zoning: A single exterior exit stair and passageway design allowed for an additional studio unit on each level. The cost of construction was 2% lower and rentable area was 11% higher than a design using the VBBL. Compared to the BCBC SES, the cost savings of the single exterior stair (3%) were offset by a similar decrease in rentable area (2.5%).

- 99' Lot, R3 zoning: a space efficient scissor stair resulted in comparable costs and floor plate efficiencies compared to a design using the current building code but provides developers with additional design flexibility. For this larger lot, the scissor stair is a much more attractive option than the BCBC SES or single exterior stair, as it increased rentable area by 9%, allowing for an additional 10 units, with a 2% lower construction cost for the building.

It should be noted that this design and costing research, the results of which are included in Appendix E, was undertaken with the initial constraints proposed for each egress option. In response to stakeholder feedback, staff modified the criteria for the single exterior exit stair and passageway option to allow more bedrooms on the lower three floors (as rescue from these does not require the ladder truck) which will provide opportunities to optimize designs even more than is summarized here.

Land-use Implications

PDS supports the innovations recommended in this report that will enable more

rentable/liveable space for smaller urban sites and increased liveability in new four- to six-storey buildings. In particular, staff anticipate that the efficient exiting solutions will be particularly advantageous on 33 ft. to 66 ft. frontage sites thereby further facilitating development by helping to minimize the costly process of lot assembly typically required to develop multi-family buildings on smaller sites.

In the Vancouver Plan, four- to six- storey apartment buildings play a significant role for the future of housing solutions in the city. This typology significantly contributes toward the “missing middle”: A building type that is relatively ground-oriented compared to residential towers, while delivering a higher efficiency of land use to accommodate population growth compared to houses, duplexes and townhouses.

The typology is also advantageous in terms of economic viability and sustainability. It can employ wood or heavy-timber framing instead of steel and concrete construction. Present and future innovations in modular construction, using heavy timber and wood framing elements, are also well-suited for this type of building. The smaller scale of needed financing and private investment is relatively more manageable than larger tower-podium projects and may be more resilient to variations of the housing market over time.

Current standard districts that enable four- to six-storey apartments include C-2, RM-4, RM-5, R3-1, R3-2, R3-3. Rezoning policies that also enable these buildings include the Secured Rental Policy and the Transit-Oriented Areas Rezoning Policy (both which enable rezoning to an RR-2, RR-3 or a CD-1 district). In addition, this typology is enabled in the City’s tower-enabled areas, including downtown, creating a range of options including for the infilling of properties that have not developed towers (locked-in lots). Current work on the Villages, under the Vancouver Plan, also anticipates significant new opportunities for this building type, in both residential and mixed-use forms, as a fundamental contributor for new shops, services and housing options within a short walking distance from each other.

Overall, the areas where a significant focus on low-rise apartments is anticipated as part of future growth and change comprise a large portion of the residentially-zoned parcels of the city. As shown in the map in Appendix F, the options recommended in this report for space efficient egress will be widely applicable.

Through the process of this policy development PDS staff have participated in the engagement with industry and are confident that the current provisions in the Zoning and Development By-Law are well-coordinated with the recommended changes to the Vancouver Building By-law.

There are additional opportunities to further enable the innovative building designs, such as open-air stair exit in a courtyard typology, by providing minor adjustments to density and front and rear yard regulations. C-2 districts support this typology by providing an additional 0.05 FSR for exterior circulation. Expanding this provision could result in more proposals for a courtyard typology that is currently atypical amongst development permit applications. The courtyard typology has many advantages in terms of liveability, social connectedness, and sustainability. It allows more dwellings that are naturally cross-ventilated, equipped with dual aspects that enable more bedrooms per unit, and a shared outdoor courtyard that builds a sense of community among residents.

Should Council approve the recommendations in this report, PDS will monitor future development permit applications and report back to Council on any regulatory changes that may be merited to remove barriers to innovative space efficient egress building designs.

Findings and Recommendations

As a result of the research and consultation, staff are recommending the single exterior exit stair

and passageway design and space efficient scissor stair via amendments to Part 3 of the VBBL, details of which are provided in Appendix A. Industry strongly support having multiple design solutions to provide choice and flexibility to developers. The City has the authority through the VBBL to enable single egress requirements for residential buildings up to six storeys.

Single exterior exit stair and passageway

During consultation with industry stakeholders, the single exterior exit stair and passageway design was widely supported in Vancouver where the mild climate makes this more practical. Feedback plus design and costing analysis revealed that this approach could enable increased saleable/rentable area due to improved floor plate efficiency, modest cost savings, and improved liveability and social connectiveness for smaller sites. The Chief Building Official (CBO) and VFRS support the single exterior exit stair and passageway design. This configuration provides a good solution for smoke and cross ventilation. Smoke can dissipate quickly and reduce life threatening impact on evacuees and those sheltering in place. As an outcome of the consultation, this design includes a unit limit of 6 units on floors 1-3 and a limit of 4 units on floors 4-6 to enable more suites where there is a potential to supplement egress options through use of manual ladders. This is supported by PDS in alignment with housing priorities and VFRS in meeting fire safety standards.

Space efficient scissor stair

Through consultation staff heard that the scissor stair design is already widely used in other forms of housing development and a familiar typology. Industry stakeholders strongly support having multiple design options to provide choice and flexibility to developers. Space efficient scissor stair configurations allow for comparable costs and floor plate efficiencies as conventional two stair options for larger sites (such as 100’ frontages) while providing developers with a competitive alternative design approach. From a firefighting standpoint, the space efficient scissor stairs support traditional fire rescue strategies through retaining a two-stair design. This solution has received full support from the CBO and VFRS as a space efficient egress option.

BCBC single egress stair

Industry expressed concerns over several design challenges and a need for Code changes to the BCBC SES provisions to improve viability. The risks associated with SES, particularly in terms of operational limitations, system reliability, and demographic vulnerabilities, necessitate a cautious and evidence-based approach to Code development. Industry expressed reluctance to adopting the BCBC requirements to the VBBL if future amendments are anticipated following the completion of the National Code development process, creating issues of lack of clarity and consistency around the use of SES. Provincial staff consulted anticipate that the BCBC will align with the National Model Code provisions once they are available. Staff plan to review the SES requirements put forward by the CBHCC, in consultation with PDS, VFRS and industry, upon completion of the National Code development process. The CBO, PDS and VFRS support the CBHCC process, reiterating their confidence in the National process for Code development and the outcome of the results for Vancouver in the future.

Alternative solutions

Alternative solutions are an existing process that permit designs demonstrating equal or better performance to VBBL requirements. The proposed VBBL provisions for a single exterior exit stair and passageway would establish a clear benchmark for alternative SES solutions to design from. VFRS support the alternative solution pathway as it includes a mandatory review by the fire department. Vancouver currently has an SES alternative solution in progress similar to the single exterior exit stair and passageway typology. Edmonton has advocated for SES via the

alternative solution pathway, to evaluate each proposal individually and ensure that life safety objectives are maintained. Alternative solutions for SES are of interest to other municipalities and will remain a pathway for SES in Vancouver.

Financial Implications

There are no financial implications associated with this report's recommendations.

Legal Implications

There are no legal implications associated with this report's recommendations.

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APPENDIX A
DRAFT BY-LAW TO AMEND THE VANCOUVER BUILDING BY-LAW

DRAFT

Note: A By-law will be prepared generally in accordance with the provisions listed below, subject to change and refinement prior to posting.

Draft BY-LAW NO. _____
A By-law to amend
Building By-law No. 14343 to enable Space Efficient Egress Options

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

1. This By-law amends the indicated provisions of Building By-law No. 14343.

2. In Division A of Book I, in Article 1.3.3.2., Council:
   (a) renumbers Sentences (2), (3), and (4), as Sentence (3), (4), and (5) respectively; and
   (b) after Sentence (1), adds the following new Sentence
   "**2)** Parts 3, 4, 5 and 6 of Division B apply to *buildings* designed and constructed in accordance with Subsection 3.2.10. of Division B.".

3. In Division A of Book I, in Article 1.3.3.3., Council:
   (a) renumbers Sentences (2), (3), and (4), as Sentence (3), (4), and (5) respectively; and
   (b) after Sentence (1), adds the following new Sentence
   "**2**) Part 9 of Division B does not apply to *buildings* designed and constructed in accordance with Subsection 3.2.10. of Division B.".

4. In Division B of Book I, in Article 3.2.1.2., in Sentence (1) after "Subsection 3.2.2. and Sentences 3.2.5.12.(2) and (3)," Council inserts "and Subsection 3.2.10.,".

5. In Division B of Book I, in Article 3.2.4.1., at the end of the Article, Council adds the following new Sentence
   "**7)** A fire alarm system shall be installed in *buildings* designed and constructed in accordance with Subsection 3.2.10. (See Note A-3.2.10.2.(1) and (2).)".

6. In Division B of Book I, in Article 3.2.5.7., Council strikes out Sentence (2) and substitutes the following:

"**2)** Except for *buildings* constructed of encapsulated mass timber construction in conformance with Article 3.2.2.48., 3.22.57. or 3.2.2.93., and except for *buildings* designed and constructed in accordance with Subsection 3.2.10., *buildings* that are *sprinklered* throughout with a *sprinkler system* conforming to Article 3.2.5.12. or have a standpipe system conforming to Article 3.2.5.8. to 3.2.5.10. are deemed to comply with Sentence (1).".

7. In Division B of Book I, in Section 3.2., after Subsection 3.2.9. Council adds the following new Subsection:

"**3.2.10. Requirements for Residential Buildings with a Single Exterior Exit Stair**

(See Note A-3.2.10.) (See also Note A-3.)

3.2.10.1. Application

1) Except as provided in Sentences (2) to (4), this Subsection applies to *buildings* of only *residential occupancy* that

a) are not more than six *storeys* in *building height*,

b) have a height not more than 18 m measured between the floor of the *first storey* and the uppermost floor level, excluding any floor level within a rooftop *enclosure* that is not considered as a *storey* in calculating *building height* in accordance with Sentence 3.2.1.1.(1),

c) contain not more than

i) six *dwelling units* on each floor from the *first storey* to the third *storey*, and

ii) four *dwelling units* on each floor above the third *storey*,

d) do not exceed an *occupant load* of 24 persons per floor, and

e) have a *travel distance* from

i) any part of the *floor area* to an *exit* not more than 25 m, and

ii) each *dwelling unit* to an *exit* of not more than 6 m.

2) This Subsection does not apply to *floor areas* permitted by Article 3.4.2.1. to be served by one *exit*.

3) This Subsection does not apply to detached houses, semi-detached houses, houses with an *ancillary residential unit*, duplexes, triplexes, townhouses or *row housing*.

4) Residential *buildings* with a single *exit* are not permitted for

a) hotels, motels, dormitories or lodging houses,
b) residential clubs, colleges or schools,
c) monasteries,
d) seniors' residences, or
e) care facilities accepted for residential use pursuant to provincial legislation.

(See Note A-3.2.10.1.(4))

5) This Subsection, in accordance with the application of this Article and in conformance with the provisions of this Subsection and all other applicable provisions of this By-law, may be used as an alternate to the requirements for a second *exit* in Subsection 3.4.2.

3.2.10.2. Building Construction

1) Notwithstanding the permissions in Sentences 3.2.5.12.(2) to (4), a *building* to which this Subsection applies shall be *sprinklered* throughout with an automatic *sprinkler system* designed, constructed, installed and tested in conformance with NFPA 13, "Standard for the Installation of Sprinkler Systems." (See Note A-3.2.10.2.(1) and (2).) (See Sentence 3.2.4.1.(7).)

2) Notwithstanding the permission in Sentence 3.2.5.12.(12), all balconies and decks shall be *sprinklered* in accordance with Sentence (1). (See Note A-3.2.10.2.(1) and (2).)

3) The *exit* facility shall

a) be comprised of an exterior *exit* passageway that
   i) is constructed of *noncombustible construction*, *encapsulated mass timber construction*, or *heavy timber construction*,
   ii) is separated from the adjacent *floor area* by a *fire separation* having a *fire-resistance rating* not less than that required by the floor assembly, but not less than 45 minutes,
   iii) has not less than 50% of the exterior side open to the outdoors, and
   iv) leads to an exterior *exit* stairway constructed of *non-combustible construction*, *encapsulated mass timber construction*, or *heavy timber construction*,

b) be designed to minimize the impact of inclement weather on the exterior *exit* passageway, and on the treads and landings of the exterior *exit* stair,

c) discharge directly to the exterior of the *building* without passing through a lobby,

d) be designed to limit the probability of storage or the accumulation of material, and

e) have signs posted in conspicuous locations near each landing to indicate that storage is not permitted.

(See Note A-3.2.10.1.(3).)

4) The discharge from the *exit* stair described in Clause (3)(c) shall be located not less than 3 m and not more than 15 m from the closest portion of the access route required for fire department use, measured horizontally from the face of the *building*. (See Note A- 3.2.10.2.(4).)

5) Glazed openings in the *fire separation* referred to in Subclause (3)(a)(ii) are permitted to be protected by sprinklers used for *floor area* coverage provided the sprinklers are located not more than 300 mm horizontally from the openings.

6) A door assembly having a *fire-protection rating* not less than 20 minutes is permitted to be used in the *fire-separation* referred to in Subclause (3)(a)(ii).

3.2.10.3. Deleted.

3.2.10.4. Deleted.

".

8. In Division B of Book I, in Article 3.3.1.3., in Sentence (12) after the word "Except", Council inserts "for *buildings* designed and constructed in accordance with Subsection 3.2.10., and except".

9. In Division B of Book I, in Article 3.4.1.2., Council strikes out Sentence (3).

10. In Division B of Book I, in Article 3.4.2.1., in Sentence (1) after the word "Except", Council inserts "for *buildings* designed and constructed in accordance with Subsection 3.2.10., and except".

11. In Division B of Book I, in Article 3.4.2.3., Council

(a) in Sentence (1), strikes out "Sentence (2)" and substitutes "Sentences (2) and (5)";

(b) at the beginning of Sentence (4), strikes out "The" and substitutes "Except as provided in Sentence (5), the"; and

(c) after Sentence (4), adds the following:

"

5) The minimum distance between *exits* from a *floor area* and exterior discharges from *exit* stairs serving the same *floor area* referred to in Sentences (1) and (4) need not exceed 4.5 m where the *building*

a) is of *residential occupancy* throughout,

b) is not more than six *storeys* in *building height*, and

c) has a *building area* not exceeding 600 m² (see Note 3.4.2.3.(5)).

6) *Exits* within scissor stairs referred to in Sentence (5) shall be constructed with a barrier to continuous air leakage between the stairways which extends from the lowest stair landings to the top of the stairs.

".

12. In Division B of Book I, in Article 3.4.6.18., Council:

(a) in Sentence (1) after "Except as permitted in Sentence (2)" inserts "and as required by Sentence (6),";

(b) in Sentence (2) strikes out "Door" and substitutes "Except as required by Sentence (6), doors";

(c) in Sentence (4) strikes out "Locked" and substitutes "Except as required by Sentence (6), locked"; and

(d) following Sentence (5), inserts the following new Sentence:

"**6)** Where a *building* is designed with a single *exit* stair in accordance with Subsection 3.2.10., if a door is installed between the exterior *exit* stairway and the exterior *exit* passageway, the door shall not have locking devices to prevent entry onto the exterior *exit* passageway.".

13. In Division B of Book I, in Article 3.10.1.1., in Sentence (1), Table 3.10.1.1. Council:

(a) below the rows associated with Sentence 3.2.3.1.(4) inserts the following rows:

"

(7)	[F11-OS1.5] [F13-OS1.2,OS1.5]
	[F13-OP1.2]

";

(b) below the rows associated with Sentence 3.2.9.1.(1) inserts the following rows:

"

3.2.10.1. Application	
(1)	(e) [F10-OS3.7]
3.2.10.2. Building Construction	
(1)	[F02,F04-OS1.2,OS1.3]
	[F02,F04-OP1.2,OP1.3]
(2)	[F03-OS1.2]
	[F03-OP1.2]
	[F03-OP3.1]
(3)	[F02-OS1.2]
	[F02-OP1.2]
	(a) [F05-OS1.5] [F06-OS1.2,OS1.5] [F03-OS1.2]
	(a) [F03,F06-OP1.2]
	(b) [F10-OS3.7]
	(c) [F05,F06,F10,F12-OS1.5]
	(d) [F01,F02-OS1.1,OS1.2]
	(d) [F01,F02-OP1.1,OP1.2]
(4)	[F06-OS1.1] [F12-OS1.2,OS1.5]
	[F12-OP1.2]
(5)	[F06-OS1.1] [F12-OS1.2,OS1.5]
	[F12-OP1.2]
(6)	[F06-OS1.1] [F12-OS1.2,OS1.5]
	[F12-OP1.2]

";

(c) in the header to Article 3.4.6.18., strikes out the word "Crossover"; and

(d) below the rows associated with Sentence 3.4.6.18.(5) inserts the following row:

"

(6)	[F10 – OS3.7]

".

14. In Division B of Book I, in Article 9.1.1.1., after Sentence (2) Council adds the following new Sentence:
"**3)** Part 9 does not apply to *buildings* designed and constructed in accordance with Subsection 3.2.10. (See Sentence 1.3.3.3.(2) of Division A.)".

15. In Division B of Book I, in Article 9.10.1.3., after Sentence (2) Council adds the following new Sentence:

"12) Part 9 does not apply to *buildings* designed and constructed in accordance with Subsection 3.2.10. (See Sentence 1.3.3.3.(2) of Division A and Sentence 9.1.1.1.(3) of Division B.".

16. In Division C of Book I, in Article 2.2.7.1., in Sentence (1) after "Part 3 of Division B" Council inserts "which include *buildings* designed and constructed in accordance with Subsection 3.2.10. of Division B".

17. In Division B to Book I, in the Notes to Part 3, after Note A-3.2.9.1.(1) Council adds the following new notes:

"

A-3.2.10. Fire Protection and Firefighting Assumptions for Residential Buildings with a Single Exterior Exit Stair. The firefighting assumptions discussed in Note A-3 raise circumstances where additional firefighting capabilities and additional building protection measures may be required. The provisions in Subsection 3.2.10. for residential buildings with a single exit were developed with the expectation of a high level of capacity of the local fire department for fire prevention activities, fire suppression activities, the ability of the fire department to assist in egress of occupants in the event of an emergency, as well as a secure water supply for the function of the automatic sprinkler system and the manual fire suppression activities of a responding fire department.

Fire Prevention

Maintenance of fire safety systems is essential for all buildings but becomes increasingly important when redundancies, such as a second and separate exit, are reduced or eliminated. The provisions for residential buildings with single exit stairs were developed with the expectation that fire officials routinely enforce the Fire By-law to ensure that the inspection intervals specified within are carried out, and that follow up inspections resulting from observed non-compliances occur at expedited intervals.

Building owners and managers are required to be actively involved in carrying out the maintenance and upkeep of the building's fire safety systems. Residential buildings with a single exit should not be located in jurisdictions where a high level of fire prevention oversight cannot be maintained.

Fire Suppression

The provisions for residential buildings with single exit stairs were developed with the expectation that a permanent, paid the fire department is available to respond to a fire event twenty-four hours a day, every day. Firefighting personnel are expected to have a high level of training and the fire department is expected to be suitably equipped to provide fire suppression activities appropriate to the buildings and developments in their jurisdiction within tight response times. Residential buildings with a single exit should not be located in jurisdictions where a high level of fire suppression activities cannot be maintained.

Egress and Safety of Occupants

The premise of egress in the Building By-law is that occupants of residential buildings receive early notification of a fire event, and occupants are able to respond unassisted in such an event. Early notification however does not guarantee occupant self-evacuation and when redundancies, such as a second and separate exit, are reduced or eliminated, occupant response options are likewise reduced. The provisions for residential buildings with single exit stairs were developed with the expectation that the local fire department has a service level that can coordinate and assist occupants with moving to a safe place in a fire event. Building owners and managers must be actively involved in fire safety planning in conjunction with the local fire department. Residential buildings with a single exit should not be located in jurisdictions where a service level that includes search and rescue by firefighting personnel cannot be maintained.

Water Supply

The Building By-law requires an adequate water supply for firefighting be readily available and of sufficient volume and pressure to enable emergency response personnel to control fire growth so as to enable the safe evacuation of occupants and the conduct of search and rescue operations, prevent the fire from spreading to adjacent buildings, and provide a limited measure of property protection. As for any water-based fire protection systems or suppression activities, the water supply serving the building needs to be dependable over the life of the building through seasonal droughts and other eventualities. The provisions for residential buildings with single exit stairs were developed with the expectation of a

highly dependable water supply would be available during construction and throughout the lifecycle of the building. Redundancies such as secondary or back up water supplies should to be considered to limit the probability that the water supply may become insufficient for an extended or even temporary period.

A-3.2.10.1.(4) Residential Buildings Not Permitted. The residential uses described in Sentence 3.2.10.1.(4) include short term as well as long term accommodations where Subsection 3.2.10. is not permitted to apply. For example, longer-term hotels and rooming houses sometimes referred to as single room occupancy hotels or single room accommodations with or without private bathrooms or kitchens are not permitted to apply Subsection 3.2.10.

A-3.2.10.2.(1) and (2) Automatic Sprinkler Systems. Automatic sprinkler systems serving a building to which Subsection 3.2.10. applies must be sprinklered in accordance with NFPA 13, "Standard for the Installation of Sprinkler Systems," regardless of the permissions for other buildings to follow the NFPA 13R, "Standard for the Installation of Sprinkler Systems in low-Rise Residential Occupancies," or the NFPA 13D, "Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes," standards. All balconies and decks regardless of depth must be sprinklered.
The requirement for sprinklers conforming to NFPA 13, "Standard for the Installation of Sprinkler Systems," means that a fire alarm system described in Subsection 3.2.4. is also required.

A-3.2.10.2.(3) Exit Facility. The single exit facility serving a building to which Subsection 3.2.10. applies shall be of noncombustible construction, EMTC, or heavy timber construction. The requirement applies to the construction of the passageway and the staircase and not to fire separations to the adjacent floor areas.

The design of the exit facility must also consider misuse and proactively deter the storage or collection of materials so as not to obstruct passage and to minimize fuel load. For example, excess landing areas and alcoves in all exits (not limited to residential buildings with single exit stairs) must be carefully designed to deter any activities other than exiting and accessing floor areas as per Sentence 3.4.4.4.(6). Void spaces underneath stairs should be avoided.

Landings must have signage to remind occupants that storage is not permitted in exit facilities.

To minimize accumulation of snow on an exterior exit stairway and exit passageway, a permanently installed canopy may be constructed, and solid construction instead of pickets could be used for guards.

The exterior exit passageway and exterior exit stair is intended to be at least 50% open on its exterior sides in a manner similar to the exterior exit passageway exceptions described in Article 3.4.4.3. The intent of the 50% openness is to provide a substantially open stair and passageway with cross-ventilation capable of ventilating smoke in order to maintain tenable conditions for occupants to shelter or escape until the fire department is able to respond.

A-3.2.10.2.(4) Exit Facility Discharge. Fire department access to buildings to which Subsection 3.2.10. applies must be provided to the principal entrance as well as to access point most directly connected to the exit facility. As such, the exit facility discharge must be located to coordinate with the fire department access route described in Subsection 3.2.5.

Designers should consider locating the exit facility discharge in close proximity to the principal entrance for the benefit of coordinating multiple access points with the fire department access route but also to avoid unintended use of the exit facility for package delivery or other material drop-off. There should be clear distinction between the principal building entrance (likely connecting to a lobby and elevator) and the exit facility discharge so that activities such as deliveries can be intuitively completed in the safe and intended manner. Locating the exit facility discharge in close proximity to the principal building entrance also reduces the potential that an access point is located in an isolated location of the building which could increase building and occupant security concerns.

It is acceptable, for example, for the exit stair facility to include a doorway that adjoins a lobby. Such a door is required to have the appropriate fire-protection rating for the fire separation of the exit stair facility. It is critical, as with all exits, that the exit stair facility and the egress routes connected to it are kept clear of hazards and obstructions. Design of the lobby, for example, must

consider realities, such as the delivery of packages, so that the probability of misuse of the exit stair facility is minimized.

".

18. In Division B to Book I, in the Notes to Part 3, after Note A-3.4.2.3.(1) Council adds the following new note:

"

A-3.4.2.3.(5) Distance Between Exits for Small Residential Buildings. The provision to decrease the minimum distance between exits for small residential buildings to 4.5 m is intended to facilitate construction of buildings with space efficient egress using scissor stairs. The 4.5 m distance takes into consideration the geometry of scissor stairs and floor to floor elevation differences in a typical residential building. See also Note A-3.2.10 for fire protection and firefighting assumptions in the development of this code provision. The intent is all existing code provisions for a building with scissor stairs remain unchanged except for the relaxation of distance between exit doors from a floor area, and their discharge points, for small buildings of residential occupancy only.

".

19. A decision by a court that any part of this By-law is illegal, void, or unenforceable severs that part from this By-law, and is not to affect the balance of this By-law.

20. This By-law is to come into force and take effect upon enactment.

ENACTED by Council this day of , 2025

_____

Mayor

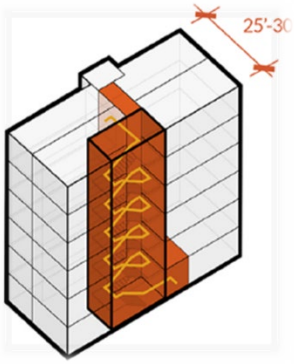
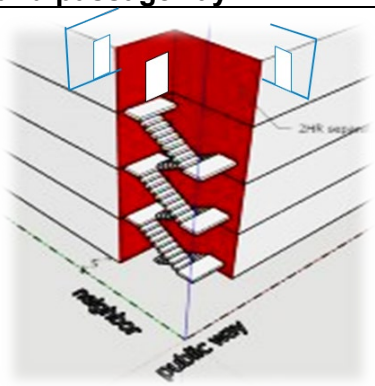
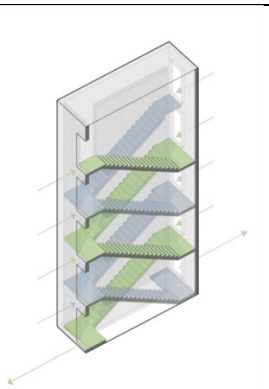
_____

City Clerk

***

APPENDIX B
SUMMARY OF DESIGN SOLUTIONS CONSULTED

Italicized font identifies provisions changed as an outcome of the consultation

BCBC Single Egress Stair	Single exterior exit stair and passageway	Space Efficient Scissor Stair
		
Application • Up to 6 storeys • 24 occupants per floor • 4 suites per floor	Application • Up to 6 storeys • 24 occupants per floor • 4 suites per floor, *except 6 suites on floors 1-3*	Application • Up to 6 storeys • No limit on suites per floor*
Provisions • Design to a higher standard regardless of building size (Part 3 of the Code) • Increased sprinkler design requirements (NFPA 13 + all balconies/decks) • Exit facility to be non-combustible or fire-resistive construction • Stair enclosure to be a 2 h fire separation • Wider stairs (1 100 mm => 1 500 mm). • Dwelling unit doors to be 45 min FPR and have hold open devices • Smoke control systems (fire-rated vestibules or pressurization) • Emergency power and provisions for circuit integrity of smoke control systems	Provisions • Stair and passageway to be non-combustible, *encapsulated mass timber, or heavy timber construction* • Have at least 50% of the exterior side open to the outdoors; *add note for clarification* • Directly exits to adjacent ground level • Stair and passageway separated from the adjacent floor area by a 45 min. fire separation • *20 min doors permitted from dwelling units to exterior passageway* • *Design consideration to minimize the impact of inclement weather*	Provisions • Waive minimum distance requirement between the two exit doors from each floor that opens into the scissor stairs for residential buildings up to 6 storeys • *Limit building area to not more than 600 m2 and expand application to Article 3.2.1.2* • *Add provisions to reduce the potential for smoke movement between stairs and accommodate ordinary building deflection*

Diagrams are not to scale; intended only to illustrate the general concept
*This is a space efficient two stair solution, limited by building size (600m^2) and egress width. Building area means the greatest horizontal area of a building above grade within the outside surface of exterior walls or within the outside surface of exterior walls and the centre line of firewalls.

APPENDIX C
SES LITERATURE AND RESEARCH

Staff reviewed the following list of SES related studies and literature:

BC Housing. (2024). Single Stair Residential Buildings: BC Housing Building Excellence Research and Education Grant. https://research-library.bchousing.org/Home/ResearchItemDetails/8813

City of Edmonton. (2025). Alternative Solution Guide for Point Access Blocks. https://www.edmonton.ca/business_economy/new-commercial-building#stack104266

Fire Chiefs' Association of British Columbia. (2024). FCABC Background to Position Statement Regarding Single Means of Egress. https://cdn.ymaws.com/cafc.ca/resource/dynamic/forums/20240528_113147_26288.pdf.

Fire Chiefs' Association of British Columbia and British Columbia Professional Fire Fighters Association. (2024). Joint Letter to Minister Ravi Kahlon re: Meeting on Single Egress Stairway. https://cdn.ymaws.com/cafc.ca/resource/resmgr/single_egress_resources/2024.07.24_Follow_up_Letter_.pdf.

Garis, Len. (2024). Evaluating Stakeholder Concerns About Proposed Single Egress Stairs Residential Buildings in Canada, and What the Data Tells Us. University of the Fraser Valley. https://blogs.ufv.ca/cpscjr/files/2024/07/Single-Stair-Egress-Report-v-Final_.pdf.

GHL Consultants Ltd. (2025). Supporting Documentation and Recommendations for Single Exit Stair Building Design. Technical Report. https://cdn.sanity.io/files/2hh9aw1z/production/e1b4227b5f1b84071e3afd06934cd0cd6a186eae.pdf

Heikkila, Robert (2024). Single Egress Stair Building Designs: Policy and Technical Options Report. Jenson Hughes Consulting. https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/construction-industry/building-codes-and-standards/reports/ses_designs_policy_and_tech_options_report_final.pdf

LGA Architectural partners. (2025). Single Stair Alternative solutions Prototypes. https://singlestair.ca/Prototypes.

National Fire Protection Association. (2024). Single Exit Stair Symposium Report. https://www.nfpa.org/en/education-and-research/building-and-life-safety/the-single-exit-stair-debate#download-a-free-report.

Key themes identified in the review include:

- **Technical and Policy Foundations:** The 2024 Jensen Hughes report, commissioned by BC's Ministry of Housing, provides a comprehensive evaluation supporting SES inclusion in the BC Building Code. Drawing on international precedents (U.S.A., U.K., Australia), it argues that SES buildings can meet life safety standards with enhanced fire protection systems. Examples include NFPA 13 sprinkler systems, smoke lobbies, fire-rated vestibules and pressurized corridors. While this report determined that construction cost savings are modest, SES designs offer increased usable floor area (5–10%), potentially enabling more housing on constrained urban lots

- **Position of Fire Chiefs' Association of BC (FCABC) and the BC Professional Fire Fighters Association (BCPFFA):** Both associations strongly oppose SES in buildings over two storeys, citing the loss of egress redundancy and operational challenges. SES designs compromise standard firefighting tactics, increase safety risks during suppression, and rely heavily on fire safety system performance. The National Fire Protection Association (NFPA), the FCABC and BCPFFA contend that BC's accelerated SES adoption bypassed national consensus processes and lacks sufficient empirical data. Further research, pilot projects, and stakeholder engagement is recommended before broader implementation of SES.

- **Empirical Data and Stakeholder Views:** Reports from the University of Fraser Valley (UFV) and the University of British Columbia (UBC) Housing Research Collaborative show that while SES buildings may be feasible under strict conditions, fire safety concerns persist. Sprinkler and smoke alarm failures, and fires affecting egress routes, reinforce the need for multiple safety measures. International data (NYC, Seattle) supports this claim, suggesting potential viability with robust safeguards.

- **Design and Accessibility Considerations:** Reports completed by GHL Consultants and BC Housing support performance-based SES designs incorporating enhanced fire protection, wider stairwells, refuge areas, and accessibility features. These designs can improve unit quality and support urban infill development but must address evacuation challenges for at-risk groups.

- **Regulatory Frameworks and International Context:** The City of Edmonton has published a Point of Access Block Alternative Solution Guide to provide a pathway for SES buildings, emphasizing compensatory safety measures under Alberta's building Code. The NFPA Symposium (2024) highlighted global variations in SES regulations and called for rigorous research to inform future changes. A research initiative has been announced by the Fire Protection Research Foundation to establish a technical basis for future SES Code allowances.

APPENDIX D:
SUMMARY OF CONSULTATION

Purpose of consultation: To gain feedback from stakeholders on the BCBC single egress stair solution and other space efficient egress design solutions (including a single exterior exit stair and passageway, and space efficient scissor stair) for implementation in Vancouver.

Groups consulted

Industry organizations, businesses and groups

- Architectural Institute of British Columbia (AIBC)
- AIR Studio
- Building Official's Association of BC (BOABC)
- Centre for Building in North America
- Canadian Home Builder's Association (CHBA) BC
- Thorson Consulting Certified Professionals (TCCP)
- Lang Wilson Practice in Architecture Culture (LWPAC)
- GHL Consultants Ltd.
- Haeccity Studio Architecture
- Home Builders Association Vancouver (HAVAN)
- International Association of Fire Fighters (IAFF)
- Lanefab Design/Build
- LGA Architectural Partners
- Public Architecture
- SenezCo Fire Science & Engineering
- Shears Adkins Rockmore Architects (SAR+)
- Small Housing BC
- Smallworks Ltd.
- Urban Development Institute (UDI)
- WNDR Architecture + Design Inc.

Governmental bodies

- Building Standards and Safety Branch, Ministry of Housing, BC Government
- Secretariat for the Canadian Board for Harmonized Constructions Codes (CBHCC)
- City of Burnaby
- City of Calgary
- City of Edmonton
- City of Kelowna
- City of Seattle (USA)
- City of Surrey
- City of Vancouver Persons with Disabilities Advisory Committee (PDAC)
- City of Victoria

Summary of feedback from organizations, businesses, industry groups

General themes

- Strong consensus that space efficient designs can unlock housing potential in low density areas of Vancouver by increasing the sellable/leasable area on a given lot, reduce the need for land assembly, and increase the viability of locked-in lots.
- Support for offering multiple acceptable solutions to provide choice and flexibility. This is especially important for where land assembly isn't feasible, and when lots have unique limitations.
- Several implementation challenges were highlighted, including cost-effectiveness for small residential buildings, slow uptake with new designs, and accessibility concerns.

Specific feedback on BCBC single egress stair (SES)

- SES may provide opportunities for housing development, improves floor plate efficiency and by limiting the number of units per floor provides more family-sized multi-bedroom units (existing Code is skewed towards smaller units).
- The SES design has seen low uptake so far. Several design challenges include excessive requirements reducing efficiency, fire safety risks, missing seismic standards and livability concerns with street-level discharge.
- A number of participants noted that the National Code development process is underway for SES and would likely have implications on the current design as is in the BCBC. Waiting for the national process was mentioned as a possibility to close the gap on concerns and enabling SES.
- To optimize the design, participants suggested central stair placement, allowing more suites if safety standards are met, optimizing green space, and exploring creative building styles like linked building, flat-style units and triplexes with shared stairs.
- While SES can save more usable space, it likely not cost effective due to the expensive requirements, like wide stairs, pressurization systems, emergency generators, using Part 3 of the BCBC, and reduced affordability for smaller residential buildings and rising insurance costs for rentals and strata.
- Fire safety remains a major concern with SES. Active fire system requirements require ongoing maintenance and have higher risks

Specific feedback on single exterior exit stair and passageway

- Considered a good alternative to the BCBC SES, this design was recognised for its space efficiency, cost-effectiveness and inherent fire safety features. Exterior components of the designs were also noted to be compatible with Vancouver's inclement weather.
- Challenges outlined include standpipe placement, accessibility concerns and ongoing weather-related maintenance.
- Design considerations include glazed guardrails, weather detailing, non-combustible materials and safety features at stair entry/exit. Examples included courtyard-style buildings and corner stairs.
- Stakeholders expressed an interest in an exterior single stair to be used under Part 9 of the VBBL to make developments more space efficient, liveable, and increase design flexibility for large parts of the city currently zoned for low-rise residential development such as R1-1, which exceed the provisions of the BCBC SES.

Specific feedback on space efficient scissor stair

- Space efficient scissor stairs are seen as a competitive alternative to single egress stairs, with increased usable floor space with two stairs, support from fire safety professionals and no restriction on unit per floor/occupancy.
- Challenges of this design include complex seismic design requirements, potential corridor congestion for higher occupancy buildings, constraints on building layout due to stair configuration.
- With respect to design, centre wall construction hardening is important to prevent structuring issues (i.e. ballooning, deflection, cracking), particularly in a seismic zone.
- The space efficient scissor stair design can be cost effective, especially when using a wood frame construction. However, this solution is better suited for buildings over fire storeys due to the additional Code requirements under Part 3.

Summary of feedback from municipal officials, fire departments and other government bodies

Building Officials and Fire departments from consulted municipalities

- Major opposition to the BCBC SES requirements from fire departments. Several building officials expressed interest in improvements to bring their respective fire department on board. Some municipalities noted a desire for additional restrictions (e.g. corner lots, specific neighbourhoods) and a preference towards the National Code Development process for decision-making.
- Interest in SES is high with several inquiries received across multiple cities, but applications received remain low.
- Concerns raised include fire response capacity, interpretation challenges in the BCBC and reliance on active fire safety systems.

Building, Governance, and Innovation Division at BC Ministry of Housing and Municipal Affairs

- BC staff consulted stated that Vancouver will benefit from having multiple options by creating opportunities where restrictions have previously existed and encouraged the City to consider adopting the BCBC alongside its single exterior exit stair and passageway solution to expand the number of options available.
- BC staff consulted were supportive of the other proposed design solutions, noting specifically that the single exterior exit stair and passageway to be a great alternative to the BCBC SES. In their own work, they reviewed similar options but did not have time to implement them. BC staff consulted expressed an interest in reviewing the VBBL proposed solutions for potential alignment or to be included in discussions at the National Code process, pending Council's decision
- The provincial government is participating in the ongoing National Code process and are open to harmonizing design specifications of SES once the CBHCC process is complete.

National Research Council (NRC)/Secretariat for the Canadian Board for Harmonised Construction Codes (CBHCC)

- The CBHCC Secretary provided an update on the progress in the Harmonized Code Development System for the considerations of SES within the 2030 cycle work plan.

- NRC provided an update on the code-related research supporting the SES work planned for the 2030 code cycle.
- The important of conducting a technical review with broad stakeholder engagement for any new, proposed solutions was reiterated.

City of Vancouver Persons with Disabilities Advisory Committee (PDAC)

- Expressed concerns with the lack of accessibility considerations in the development of the two single egress stair options including travel distance to stair entrance and shared stairwell traffic flow.
- The space efficient scissor stairs option was noted to not impose further minimum requirements on a building design. If there are limits on the number of units per floor, it is likely to see a decline in the number of accessible suites built as a part of these projects.

APPENDIX E
ALTERNATIVE EGRESS DESIGN SOLUTIONS COSTING REPORT

Table 1 - Cost Summary for 33’ Lot

		VBBL	BCBC Single Stair	Single Exterior Stair	Scissor Stair
Site Area, sqft		3,886	3,886	3,886	3,886
Floor Space Ratio (FSR)		3.47	3.50	3.34	3.50
Total Gross Area (GFA), sqft		**18,801**	**17,726**	**16,383**	**17,562**
Net Floor Area L1 (NFA), sqft		1,683	2,332	2,271	1,570
L1 Efficiency (%)		57.4%	60.0%	75.3%	60.0%
Net Floor Area L2-6 (NFA), sqft		**11,580**	**13,844**	**11,524**	**11,393**
L2-6 Efficiency (%)		74.5%	78.1%	80.8%	75.6%
Total Net Floor Area (NFA), sqft		**18,779**	**17,788**	**17,272**	**17,833**
Ground (CRU) and other areas NFA (sqft)		1,836	1,775	2,271	1,570
Stair, Elevator, Corridors NFA (sqft)		**5,363**	**4,428**	**3,477**	**4,678**
Residential Units NFA (sqft)		11,580	11,585	11,524	11,585
Courtyard, Roof deck amenity contribution NFA (sqft)		-	-	1,289	378
Total # Housing Units		**15**	**15**	**14**	**15**
Parking Ratio		-	-	-	-
# Stalls		-	-	-	-
Area / Stall, sqft + Circulation*	0 0 2.75	-	-	-	-
Construction Method A:	Ground (CRU) and other areas	Concrete, fitout	Concrete, fitout	Concrete, fitout	Concrete, fitout
Construction Method B:	**Stair, Elevator, Corridors**	Concrete	Concrete	Concrete	Concrete
Construction Method C:	Residential Units (passive standard)	Con-Passiv, full	Con-Passiv, full	Con-Passiv, full	Con-Passiv, full
Below Grade Area		**-**	**-**		**-**
Method A Cost/sf:	Ground (CRU) and other areas	400	400	400	400
Method B Cost/sf:	**Stair, Elevator, Corridors**	**195**	**195**	**195**	**195**
Method C Cost/sf:	Residential Units	450	450	450	450
Below Grade Cost/sf		-	-		-
Method A Cost Total:	Ground (CRU) and other areas	734,400	710,000	908,400	628,000
Method B Cost Total:	**Stair, Elevator, Corridors**	**1,045,785**	**863,460**	**678,015**	**912,210**
Method C Cost Total:	Residential Units (passive standard)	5,211,000	5,213,250	5,185,800	5,213,250
Below Grade Cost		-	-	-	-
Total (Blended) Construction Cost		**6,991,185**	**6,786,710**	**6,772,215**	**6,753,460**

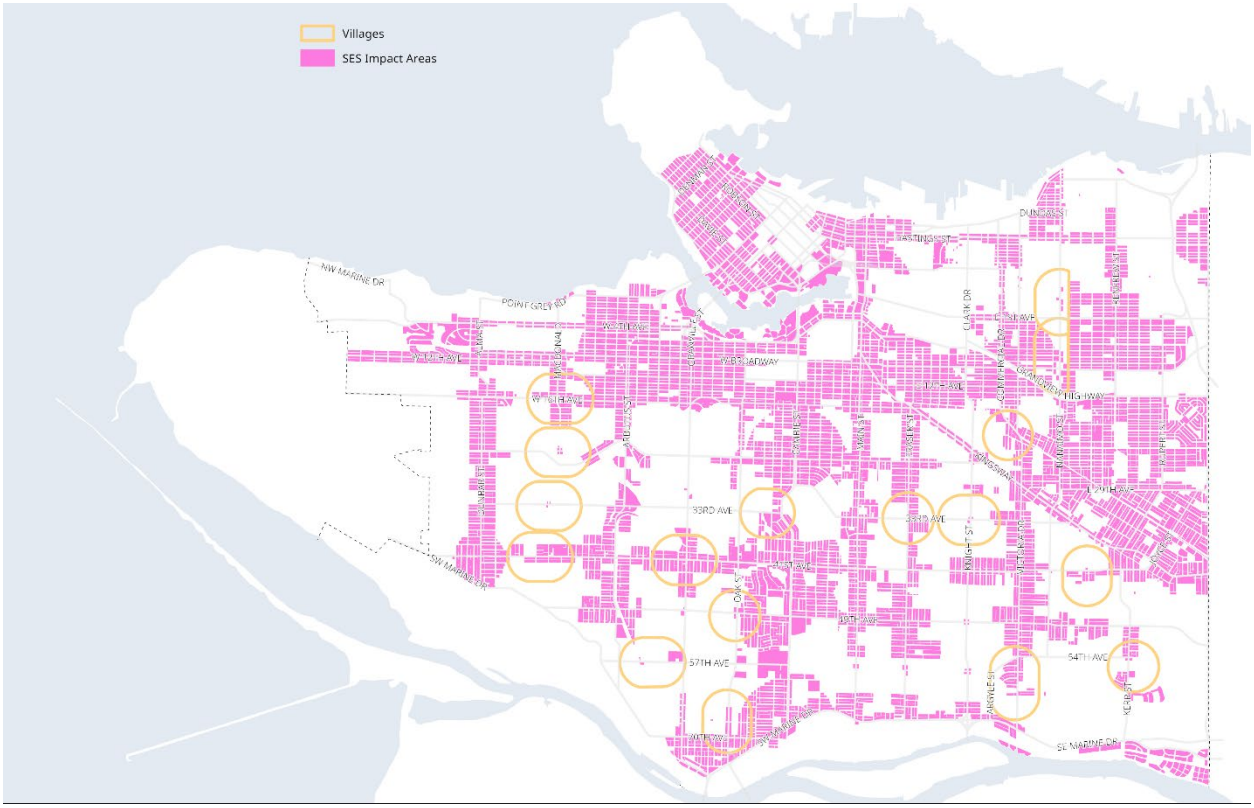
Table 2 – Cost Summary for 49.5' Lot

Estimated Project Cost - Site 1					
		VBBL	BCBC-SES	Exterior S.	Scissor S.
Description	Building	4-storey	4-storey	4-storey	4-storey
	Dwelling	10 units	13 units	13 units	10 units
	Bedrooms	16 BR	20 BR	19 BR	16 BR
	GFA	10,136 sf	10,381 sf	9,984 sf	10,096 sf
	Leasable Residential	6,278 sf	7,151 sf	6,971 sf	6,506 sf
A - Shell		$1,811,400	$1,849,400	$1,922,200	$1,797,100
B - Interiors		$1,260,400	$1,310,300	$1,325,400	$1,254,400
C - Services		$1,432,400	$1,505,700	$1,494,600	$1,459,200
Net Construction Cost		**$4,504,200**	**$4,665,400**	**$4,742,200**	**$4,510,700**
D1 - Stair Egress Architectural/Structural		$440,800	$314,100	$135,100	$442,500
D2 - Stair Egress Mechanical Services		$43,500	$44,000	$0	$53,700
D3 - Stair Electrical Services		$28,300	$31,200	$25,600	$30,300
Egress Stairs/Space Requirements		**$512,600**	**$389,300**	**$160,700**	**$526,500**
Total Construction Cost		**$5,016,800**	**$5,054,700**	**$4,902,900**	**$5,037,200**
General Requirements	10.0%	$501,700	$505,500	$490,300	$503,700
Fees	3.0%	$165,600	$166,800	$161,800	$166,200
Construction Cost (including G/R & Fees)		**$5,684,100**	**$5,727,000**	**$5,555,000**	**$5,707,100**
Design & Pricing Allowance (at Class C)	15.0%	$852,600	$859,100	$833,300	$856,100
Escalation Allowance (Excluded)	0.0%	$0	$0	$0	$0
Construction Cost (including Allowances)		**$6,536,700**	**$6,586,100**	**$6,388,300**	**$6,563,200**
Construction Allowance	5.0%	$326,800	$329,300	$319,400	$328,200
Total Hard Cost		**$6,863,500**	**$6,915,400**	**$6,707,700**	**$6,891,400**
Allowance for Soft Costs (excluding Land)	20.0%	$1,372,700	$1,383,100	$1,341,500	$1,378,300
Total Soft Costs		**$1,372,700**	**$1,383,100**	**$1,341,500**	**$1,378,300**
Overall Project Budget		**$8,236,200**	**$8,298,500**	**$8,049,200**	**$8,269,700**

Table 3 - Cost Summary for 99' Lot

Estimated Project Cost - Site 2					
Description	Building	VBBL 5-storey	BCBC-SES 5-storey	Exterior S. 6-storey	Scissor S. 5-storey
	Dwelling	44 units	35 units	43 units	45 units
	Bedrooms	62 BR	54 BR	60 BR	63 BR
	GFA	33,673 sf	32,540 sf	31,085 sf	33,415 sf
	Leasable Residential	26,805 sf	24,318 sf	25,557 sf	26,525 sf
A - Shell		$5,011,700	$4,848,100	$5,226,600	$4,912,800
B - Interiors		$4,213,600	$4,013,600	$4,052,400	$3,899,400
C - Services		$5,035,800	$4,817,300	$4,748,500	$5,075,600
Net Construction Cost		**$14,261,100**	**$13,679,000**	**$14,027,500**	**$13,887,800**
D1 - Stair Egress Architectural/Structural		$436,100	$883,600	$867,000	$496,700
D2 - Stair Egress Mechanical Services		$101,700	$154,900	$0	$82,500
D3 - Stair Electrical Services		$36,300	$50,600	$44,600	$34,700
Egress Stairs/Space Requirements		**$574,100**	**$1,089,100**	**$911,600**	**$613,900**
Total Construction Cost		**$14,835,200**	**$14,768,100**	**$14,939,100**	**$14,501,700**
General Requirements	10.0%	$1,483,500	$1,476,800	$1,493,900	$1,450,200
Fees	3.0%	$489,600	$487,300	$493,000	$478,600
Construction Cost (including G/R & Fees)		**$16,808,300**	**$16,732,200**	**$16,926,000**	**$16,430,500**
Design & Pricing Allowance (at Class C)	15.0%	$2,521,200	$2,509,800	$2,538,900	$2,464,600
Escalation Allowance (Excluded)	0.0%	$0	$0	$0	$0
Construction Cost (including Allowances)		**$19,329,500**	**$19,242,000**	**$19,464,900**	**$18,895,100**
Construction Allowance	5.0%	$966,500	$962,100	$973,200	$944,800
Total Hard Cost		**$20,296,000**	**$20,204,100**	**$20,438,100**	**$19,839,900**
Allowance for Soft Costs (excluding Land)	20.0%	$4,059,200	$4,040,800	$4,087,600	$3,968,000
Total Soft Costs		**$4,059,200**	**$4,040,800**	**$4,087,600**	**$3,968,000**
Overall Project Budget		**$24,355,200**	**$24,244,900**	**$24,525,700**	**$23,807,900**

APPENDIX F:
MAP OF VILLAGES AND SES IMPACT AREAS



Note - Villages areas denoted in the map are generally indicated in yellow but do not represent a boundary. Actual boundaries will be determined during future Villages planning processes.