Section 2.3. Alternative Solutions

2.3.1. Alternative Solutions

(See Note A-2.3.1.)

2.3.1.1. Application

1) For the purposes of Clause 1.2.1.1.(1)(b) of Division A, on written request by the owner of a *building* or an authorized agent of that owner, the *Chief Building Official* shall accept a measure as an alternate solution to an acceptable solution for the building if satisfied that

- a) the measure will achieve at least the level of performance required by Clause 1.2.1.1.(1)(b) of Division A, and
- b) the acceptable solution does not expressly require conformance to a provincial enactment other than the Building By-law.

2.3.1.2. Documentation

1) The *Chief Building Official* may require a person requesting the use of an alternative solution to provide documentation to demonstrate that the proposed alternative solution will achieve at least the level of performance required by Clause 1.2.1.1.(1)(b) of Division A.

- 2) The documentation referred to in Sentence (1) shall include
- a) a Code analysis outlining the analytical methods and rationales used to determine that a proposed alternative solution will achieve at least the level of performance required by Clause 1.2.1.1.(1)(b) of Division A, and
- b) information concerning any special maintenance or operational requirements, including any *building* component commissioning requirements, that are necessary for the alternative solution to achieve compliance with the By-law after the *building* is constructed.

3) The Code analysis referred to in Clause (2)(a) shall identify the applicable objectives, functional statements and acceptable solutions, and any assumptions, limiting or restricting factors, testing procedures, engineering studies or performance parameters that will support a Code compliance assessment.

4) The Code analysis referred to in Clause (2)(a) shall include information about the qualifications, experience and background of the person or persons taking responsibility for the design.

5) The information provided under Sentence (3) shall be in sufficient detail to convey the design intent and to support the validity, accuracy, relevance and precision of the Code analysis.

6) Where more than one person is responsible for the design of a *building* or facility that includes a proposed alternative solution, the person requesting the use of the alternative solution shall identify a single person to co-ordinate the preparation of the design, Code analysis and documentation referred to in this Article.

2.3.1.3 Alternative Solution Expiry

1) The Chief Building Official may rescind a request or application made pursuant to the requirements of this Subsection if in the opinion of the *Chief Building Official*

- a) there has been no substantial progress or activity by the owner of a *building* or an authorized agent of that owner to demonstrate that the level of performance specified by Clause 1.2.1.1.(1)(b) of Division A will be achieved,
- b) the work to install measures describe in the alternative solution although commenced is not continuously and actively carried out thereafter, or
- c) the work to install measures describe in the alternative solution has been substantially discontinued for a period of 6 months.

2.3.2. Additional Requirements for Fire and Life Safety Alternative Solutions

2.3.2.1. Design Criteria

1) Alternative solutions, as described in Article 2.3.1.2., shall be based upon an *acceptable* report sealed by an *acceptable registered professional* and provided to the *Chief Building Official*, which shall include

- a) a thorough description of the *building*,
- b) an analysis of the *building* that identifies all deviations from the requirements of this By-law,
- c) the life safety principles considered in developing the proposed alternative solutions and their rationale, based upon NRC fire research reports and other approved agencies where applicable,
- d) a proposal for alternative solutions,
- e) an evaluation of the proposed alternative solutions based upon generally recognized studies,
- f) evidence of reliable performance of the proposed alternative solutions,
- g) a method of monitoring the design of the proposed alternative solutions, and
- h) a commitment to perform field review of the proposed alternative solutions.

2) The report described in Sentence (1) shall be sufficiently detailed to permit evaluation of the proposed alternative solutions.

3) Upon acceptable of a proposed alternative solution by the *Chief Building Official*, the *registered professional* who has placed their seal on the report shall

- a) submit a letter to the *Chief Building Official*, assuring that the alternative solution, as installed, will perform as represented in the report, and
- b) at the request of the Chief Building Official, submit an acceptable field commissioning and testing report.

2.3.3. Alternative Solution Review Panel

2.3.3.1. Request for Review by Alternative Solution Review Panel

1) An applicant may apply to the *Chief Building Official* to request the appointment of an alternative review panel to review an alternative solution application.

2) An applicant who requests the appointment of an alternative review panel must pay the fees set out in the Fee Schedule.

3) At the request of the applicant, the *Chief Building Official* may appoint an alternative solution review panel of up to three experts to review the alternative solution application, to hear from the applicant and *City* staff and to advise the applicant and the *Chief Building Official* regarding the proposed solution.

4) A decision of an alternative solution review panel is not binding on the *Chief Building Official*.

BUILDING BY-LAW 2019 – CITY OF VANCOUVER	R
SCHEDULE A	Building Permit No
Forming Part of Sentence 2.2.7.2.(1), Division C of the Building By-law	(for Building Official's use)
CONFIRMATION OF COMMITMENT BY OV AND COORDINATING REGISTERED PROFES	VNER SSIONAL
 Notes: i) This letter must be submitted before issuance of a <i>building permit</i>. ii) This letter is endorsed by: Architectural Institute of B.C. and the Association of Profess Province of British Columbia. iii) In this letter the words in italics have the same meaning as in the Building By-law. 	sional Engineers and Geoscientists of the
Re: Design and <i>Field Review</i> of <i>Construction</i>	Professional's Seal and Sig- nature
Tay The Objet Duilding Official	NER
To: The Chief Building Official	
Re: Name of Project (Print) Address of Project (Print)	<i>Certified Professional's</i> Stamp and Signature (if applicable)
The undersigned has retained professional to coordinate the design work and <i>field reviews</i> of the <i>registered profession</i> . The <i>coordinating registered professional</i> shall coordinate the design work and <i>field revie</i> <i>record</i> required for the <i>project</i> in order to ascertain that the design will substantially com applicable enactments respecting safety and that the <i>construction</i> of the project will substa and other applicable enactments respecting safety, not including the <i>construction</i> safety as	iews of the registered professionals of ply with the Building By-law and other antially comply with the Building By-law
"field reviews" are defined in the Building By-law to mean those reviews of the work	
(a) at a project site of a development to which a <i>building permit</i> relates, and	
(b) where applicable, at fabrication locations where <i>building</i> components are fabri that a <i>registered professional</i> in his or her professional discretion considers necessary stantially complies in all material respects with the plans and supporting documents pr <i>of record</i> for which the <i>building permit</i> is issued.	y to ascertain whether the work sub-
The owner and the coordinating registered professional have read Subsection 2.2.7., owner and the coordinating registered professional each acknowledge their responsite of the date the coordinating registered professional ceases to be retained by the or registered professional ceases to be retained or, if that is not possible, then as soon tered professional acknowledges the responsibility to notify the Chief Building Official record ceases to be retained before the date the registered professional of record ceases sible, then as soon as possible.	bility to notify the Chief Building Official wher before the date the coordinating on as possible. The coordinating regis- of the date a registered professional of
¹ It is the responsibility of the <i>coordinating registered professional</i> to ascertain which <i>registered profes</i> initial each Schedule B prior to submission to the <i>Chief Building Official</i> .	s <i>ionals</i> are required, and to
1 of 2	

Effective November 1, 2019 to December 31, 2023

BUILDING BY-LAW 2019 – CITY OF VANCOUVER

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Building Permit No.____

(for Building Official's use)

Project Address

The owner and the coordinating registered professional understand that where the coordinating registered professional or a registered professional of record ceases to be retained at any time during construction, work on the above project will cease until such time as

- (a) a new coordinating registered professional or registered professional of record, as the case may be, is retained, and
- (b) a new letter in the form set out in Schedule A or in the forms set out in Schedules B, as the case may be, is filed with the *Chief Building Official*.

The undersigned *coordinating registered professional* certifies that he or she is a *registered professional* as defined in the Building By-law, and agrees to coordinate the design work and *field reviews* of the *registered professionals of record* required for the *project* as outlined in the attached Schedules B including coordination and integration of functional testing of fire protection and life safety systems. (See A-2.2.7.3. in Appendix A.)

Coordinating Registered Professional	Owner
Coordinating Registered Professional's Name (Print)	Owner's Name (Print)
Address (Print)	Address (Print)
Phone No. and Email address	Name of Agent or Signing Officer if applicable (Print)
	Date
Professional's Seal and Signature	Owner's or Owner's appointed agent's Signature. (If owner is a corporation the signature of a signing officer must be given here. If the signature is that of the agent, a copy of the docu- ment that appoints the agent must be attached.)
	<i>Certified Professional's</i> Stamp and Signature (if applicable)
If the Coordinating Registered Professional is a member of a firm, co	omplete the following.)
am a member of the firm	ame of firm)
and I sign this letter on behalf of the firm.	
	nted agent and by the <i>coordinating registered professional</i> . An s a corporation, the letter must be signed by a signing officer of the sition in the corporation.
The Building By-law defines a <i>registered professional</i> to mean (a) a person who is registered or licensed to practise (b) a person who is registered or licensed to practise Geoscientists Act.	
	2 of 2

BUILDING BY-LAW 2019 – CITY OF VANCOUVER

	SCHEDULE B	Building Permit No (for Building Official's use)
	Forming Part of Subsection 2.2.7., Division C of the Building By-law	
ASSU	ANCE OF PROFESSIONAL DESIC	GN AND
otes:	COMMITMENT FOR FIELD REVIEW	vv
i) This letter must be submitted letter must be submitted by e	prior to the commencement of <i>construction</i> activities ach <i>registered professional of record</i> . chitectural Institute of B.C. and the Association of Proj	
		Professional's Seal
o: The Chief Building Official		and Signature
e:		
Name of Project (Print)		.C.K
		JUEI
Address of Project (Print)		
		7
The undersigned hereby gives assura (Initial those of the items listed below that		
of record. All the disciplines will not neces		
		Certified Professional's Stamp and Signature
	RAL	(if applicable)
		(in applicable)
STRUCTURAL		(in applicable)
STRUCTURAL		(ii appiloable)
STRUCTURAL MECHANICAL PLUMBING		(in applicable)
STRUCTURAL MECHANICAL PLUMBING		(in applicable)
STRUCTURAL MECHANICAL PLUMBING FIRE SUPPRE ELECTRICAL		(in approable)
STRUCTURAL MECHANICAL PLUMBING FIRE SUPPRE ELECTRICAL GEOTECHNIC	SSION SYSTEMS	
STRUCTURAL MECHANICAL PLUMBING FIRE SUPPRE ELECTRICAL GEOTECHNIC	SSION SYSTEMS AL — temporary	
STRUCTURAL MECHANICAL PLUMBING FIRE SUPPRE ELECTRICAL GEOTECHNIC	SSION SYSTEMS AL — temporary	
STRUCTURAL MECHANICAL PLUMBING FIRE SUPPRE ELECTRICAL GEOTECHNIC	SSION SYSTEMS AL — temporary	
STRUCTURAL MECHANICAL PLUMBING FIRE SUPPRE ELECTRICAL GEOTECHNIC GEOTECHNIC	SSION SYSTEMS AL — temporary AL — permanent	
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Components of the plans and support safety except for <i>construction</i> safety a	SSION SYSTEMS AL — temporary AL — permanent ng documents prepared by this <i>registered profe</i> substantially comply with the Building By-law an ispects.	essional in support of the application for ad other applicable enactments respectin
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Components of the plans and support GEOTECHNIC	SSION SYSTEMS AL — temporary AL — permanent ng documents prepared by this <i>registered profe</i> substantially comply with the Building By-law an ispects.	essional in support of the application for ad other applicable enactments respectin eferenced components during
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Components of the plans and support GEOTECHNIC	SSION SYSTEMS AL — temporary AL — permanent ng documents prepared by this <i>registered profe</i> substantially comply with the Building By-law an ispects.	essional in support of the application for id other applicable enactments respectin eferenced components during QUIREMENTS'' below.
Components of the plans and support GEOTECHNIC	SSION SYSTEMS AL — temporary AL — permanent ng documents prepared by this <i>registered profe</i> substantially comply with the Building By-law an ispects.	essional in support of the application for id other applicable enactments respectin eferenced components during

BUILDING BY-LAW 2019 – CITY	OF VANCOUVER

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SCHEDULE B - continued	Building Permit No (for Building Official's use)
	Project Address
	Dissipling
	Discipline
The undersigned also undertakes to notify the <i>Chief Building Official</i> in writing as for <i>field review</i> is terminated at any time during <i>construction</i> .	soon as possible if the undersigned's contract
I certify that I am a <i>registered professional</i> as defined in the Building By-law.	
	Professional's Seal and Signature
	-0
Registered Professional's Name (Print) Address (Print)	
Address (Print)	
	Certified Professional's
	Stamp and Signature (if applicable)
Phone No. and Email address	(
(If the Registered Professional of Record is a member of a firm, complete the follow	ving.)
I am a member of the firm(Print name of firm)	
and I sign this letter on behalf of the firm.	
Note: The above letter must be signed by registered professional of record, who is	a registered professional.
The Building By-law defines a registered professional to mean	
 (a) a person who is registered or licensed to practise as an architect under (b) a person who is registered or licensed to practise as a professional eng Geoscientists Act. 	r the Architects Act, or gineer under the Engineers and
	CRP's Initials
2 of 4	

BUILDING BY-LAW 2019 – CITY OF VANCOUVER	
SCHEDULE B - continued	Building Permit No (for Building Official's use)
	Project Address
	Discipline
SUMMARY OF DESIGN AND FIELD REVIEW REQUIREN	IENTS
(Initial applicable discipline below and cross out and initial only those items not applicable to the <i>project</i> .)	
ARCHITECTURAL 1.1 Fire sesting assemblies 1.2 Fire separations and their continuity 1.3 Closures, including tightness and operation 1.4 Egress systems, including access to exit within suites and floor areas 1.5 Performance and physical safety features (guardrails, handrails, etc.) 1.6 Structural capacity of architectural components, including anchorage and seismic restrain 1.7 Sound control 1.8 Landscaping, screening and site grading 1.9 Provisions for firefighting access 1.10 Access requirements for persons with disabilities 1.11 Elevating devices 1.12 Functional testing of architecturally related fire emergency systems and devices 1.3 Development Permit and conditions therein 1.4 Interior signage, including acceptable materials, dimensions and locations 1.15 Review of all applicable shop drawings 1.16 Interior and exterior finishes 1.17 Dampproofing and/fashings 1.18 Roofing and flashings 1.29 Wall cladding systems 1.20 Condensation control and cavity ventilation 1.21 E	t VERA Professional's Seal and Signature
STRUCTURAL 2.1 Structural capacity of structural components of the <i>building</i> , including anchorage and sei	smic restraint
 2.1 Structural aspects of <i>deep foundations</i> 2.3 Review of all applicable shop drawings 	
2.4 Structural aspects of unbonded post-tensioned concrete design and <i>construction</i>	Certified Professional's Stamp and Signature (if applicable)
MECHANICAL 3.1 HVAC systems and devices, including high building requirements where applicable 3.2 Fire dampers at required fire separations 3.3 Continuity of fire separations at HVAC penetrations 3.4 Functional testing of mechanically related fire emergency systems and devices 3.5 Maintenance manuals for mechanical systems 3.6 Structural capacity of mechanical components, including anchorage and seismic restrain 3.7 Review of all applicable shop drawings 3.8 Mechanical systems, Part 10 requirements (ASHRAE, NECB, ZEBP, etc)	t
	CRP's Initial
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BUILDING BY-LAW 2019 - CITY OF VANCOUVER

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4.10 Plumbing systems, testing, confirmation FIG Suppression system classification for type of occupancy. 2.10 Suppression system classification of type of occupancy. 2.20 Compatibility and location of electrical supervision, ancillary alarm and control devices. 2.30 Compatibility and location of electrical supervision, ancillary alarm and control devices. 3.40 Calification of the capacity of oil (numicipal) water supply versus system demands and domestic demand, including pumping devices where necessary. 3.50 Calification of welder, quality of welds and material 3.50 Structural capacity of systems and manual for suppression systems. 3.50 Structural capacity of system for fire suppression systems. 3.51 Fire hose standplace	4.8 Review of all applicable shop drawings		
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BUILDING BY-LAW 2019 – CITY OF VANCOUVER

	SCHEDULE C-A	Building Permit No (for Building Official's use)
Form	ing Part of Sentence 2.2.7., Division C of the	
	Building By-law	
ASSURAI PROFE	NCE OF COORDINATION	N OF W
is made, by the Chief Building Official.	Institute of B.C. and the Association o	<i>cupancy permit</i> is issued or a final inspection f Professional Engineers and Geoscientists law.
To: The Chief Building Official		
Re:		Professional's Seal and Signalure
Address of Project (Print)	2.00	
(The coordinating registered professional shall co	mplete the following:)	Certified Professional's Stamp and Signature
Name (Print)		(if applicable)
Address (Print) Phone No. and Email address (Print)		
C.		
I hereby give assurance that		
 as outlined in Subsection 2.2.7., Division C c "CONFIRMATION OF COMMITMENT BY O b) I have coordinated the functional testing of the ply in all material respects with 	of the Building By-law and in the pr WNER AND BY COORDINATING the fire protection and life safety sys Building By-law and other applicab ts submitted in support of the appli	REGISTERED PROFESSIONAL," stems to ascertain that they substantially com- le enactments respecting safety, not including
(If the coordinating registered professional is a men	nber of a firm, complete the followi	ng:)
I am a member of the firm and I sign this letter on behalf of the firm.	(Print name of firm)	
Note: The above letter must be signed by a <i>coordir</i> Building By-law defines a <i>registered professional</i> to		o is also a <i>registered professional</i> . The
 a person who is registered or licensed b) a person who is registered or licensed Geoscientists Act. 		
	1 of 1	

BUILDING BY-LAW 2019 - CITY OF VANCOUVER

			Building Permit No
	S	SCHEDULE C-B	(for Building Official's use)
	Forming F	Part of Subsection 2.2.7., Division C of the Building By-law	
	ASSURANCE OF	PROFESSIONAL FIELD	DREVIEW
Nataa			
Notes: i) ii) iii)	letter must be submitted by each registered p	rofessional of record. Ite of B.C. and the Association of Pro	ction by the <i>Chief Building Official</i> . A separate of the sepa
To: The C	nief Building Official		
	-		Professional's Seal and
Name	of Jurisdiction (Print)		Signature
Re:			141
	of Project (Print)		
Addres	s of Project (Print)		
(Each <i>regi</i>	stered professional shall complete the foll	owina:)	Ourlife of Deefs and and the Observe
(3			Certified Professional's Stamp and Signature
Name	(Print)		(if applicable)
	OF		
Addre	ss (Print)		
Phone	No. and Email address (Print)		
I hereby giv	e assurance that		
By-law FIELD I b) Those c i	REVIEW", and components of project opposite my initials	B, "ASSURANCE OF PROFESS in Schedule B substantially com ilding By-law and other applicable submitted in support of the applic	SIONAL DESIGN AND COMMITMENT FOR ply in all materials respects with e enactments respecting safety, not including
(If the regist	ered professional of record is a member c	of a firm, complete the following:)	
	ber of the firm is letter on behalf of the firm.	(Print name of firm)	
	bove letter must be signed by a <i>registered</i> a <i>registered professional</i> to mean	d professional of record, who is a	registered professional. The Building By-
a) b)	a person who is registered or licensed to a person who is registered or licensed to Geoscientists Act.		
		1 of 1	