

Letters Of Assurance And Due Diligence

Letters of Assurance (LOA) are required before building permits or occupancy permits are granted on buildings described under Section 2.6 of the *British Columbia Building Code (BCBC)* or the equivalent section in the *Vancouver Building Bylaw (VBB)*. These letters are legal documents based on the authority of the *BCBC* and the *VBB*. Uniform mandatory LOA have been incorporated as Schedules into the *BCBC* since December 1992, and the *VBB*, which has incorporated similar LOAs, since 1990.

The professional engineer who signs and seals a LOA is accepting responsibility to meet all requirements identified in that LOA. For example, in signing and sealing a Schedule C-B, *Assurance of Professional Field Review and Compliance*, after completion of the project, a professional engineer is giving his or her assurance, based on their *Field reviews*¹, that the relevant aspects of the project for which they are responsible substantially comply, in all material respects, with the applicable requirements of the *BCBC* or the *VBB* and the plans and supporting documents submitted in support of the application for the building permit (design documents).

However, experience has shown that the use and application of LOA across BC may not be uniform and there can be misunderstandings among *Owners*, the *Authority having jurisdiction*, professional engineers and architects about the responsibilities that flow from the LOA. The Association of Professional Engineers and Geoscientists of British Columbia (APEGBC) has become aware of instances where members have not exercised the appropriate due diligence before putting their signature and seal on the LOA. Examples include projects involving backfilling, welding of structural steel, fire alarm systems and concrete reinforcement.

This Bulletin has been prepared to clarify the roles and responsibilities of professional engineers under the LOA in accordance with the *Engineers and Geoscientists Act*. The LOA were developed after discussions between the City of Vancouver, the Province of British Columbia, the Architectural Institute of British Columbia (AIBC), the APEGBC, and the Building Officials Association of British Columbia.

Intent and References

The collective intent of the LOA is to assure the *Authority having jurisdiction* that:

- The activities of the various *Registered professionals* are coordinated.
- The design documents substantially comply with the *BCBC* or the *VBB*.
- The appropriate *Registered professionals* will undertake, and have undertaken, the necessary *Field reviews* to ascertain that the building as constructed substantially complies in all material respects with the *BCBC* or *VBB* and the design documents.

In addition to the LOA themselves, *Owners* and *Registered professionals* should be thoroughly familiar with the following:

- The appropriate sections of the *BCBC* regarding *Professional Design and Review* including Appendix A.

¹ words or terms in this Bulletin in italics are defined in the *BCBC* or the *VBB*.

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- The appropriate section of the *VBB* regarding *Professional Design and Review* including Appendix A.
- The *Guide to the Letters of Assurance (Guide) in the BCBC 1998* published by the Building Policy Branch of the Province of British Columbia. A copy of the Guide is on the website www.housing.gov.bc.ca/building/guidelo1.html and is included in the *BCBC 1998* Appendix.

The LOA in the *VBB* and the *BCBC* provide a uniform standard across the Province for the design and *Field review* of new construction. The roles and responsibilities of the *Owner*, *Registered professionals* and *Authority having jurisdiction* are clearly defined.

Engineers are advised that the LOA included in the *BCBC* and the *VBB* are deemed necessary before building permits are issued for complex buildings and alterations regulated under Parts 3 and 4 of the *BCBC* and *VBB* and requiring professional design and *Field review*. The LOA are the only acceptable forms for submission. As a rule, no changes in the wording will be considered, except in unusual circumstances. If changes are absolutely necessary to suit an unusual situation, they must be clearly identifiable as a change. The method to be followed for making changes to the LOA is addressed in the Guide. Members who deal with the *Authority having jurisdiction* for building permits on behalf of *Owners* must be conversant with the requirements of the LOA as described in the Guide.

The LOA state clearly and succinctly that the signatories – *Owner*, *Coordinating registered professional* and *Registered professionals* – are giving their assurances to the *Authority having jurisdiction*. Specifically, those assurances include:

Owner – Assures that a *Coordinating registered professional* and/or *Registered professionals* have been retained to undertake certain responsibilities that are explained fully in the LOA.

Coordinating registered professional – Coordinates the design documents and *Field reviews* of all applicable *Registered professionals* for the duration of the project (and, in accordance with the Guide, will coordinate the submission of the LOA of the various *Registered professionals*).

Registered professionals – Provide design services for their components of the project and the necessary *Field reviews* to assure substantial compliance in all material respects with the *BCBC* or *VBB* (whichever is applicable) and the design documents. The obligation to provide a LOA applies to the following general categories:

- Architectural
- Structural
- Mechanical
- Plumbing
- Fire Suppression
- Electrical
- Geotechnical (Temporary and Permanent)

Typically, other disciplines or specialty engineering services for a particular component of a discipline may be requested by one or more of the *Registered professionals*.

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In instances where specialty engineering services are required and the *Registered professional* providing this service is not a member of the primary design team similar assurances as those proved in the LoA should be obtained by the Primary Registered Professional from the Specialty Engineer. The recommended form for providing such assurances is Schedule S, as identified in Appendix A of this Bulletin. The Schedule S would be submitted by the Speciality Engineer to the engineer having primary responsibility for the discipline for which LOA are provided [the Engineer of Record (EOR)]. The EOR would keep the Schedule S on file to confirm the appropriate design and *Field review* requirements have been met for that component or system which required the involvement of a Speciality Engineer. The terms Speciality Engineer and Engineer of Record are defined in the following APEGBC Guidelines:

- Guidelines for Electrical Engineering Services for Building Projects
- Guidelines for Geotechnical Engineering Services for Building Projects
- Guidelines for Mechanical Engineering Services for Building Projects
- Guidelines for Structural Engineering Services for Building Projects

It will be up to the *Authority having jurisdiction* whether or not they request the submission of a Schedule S or similar documentation. APEGBC recommends that the EOR for the relevant discipline request that a Schedule S be prepared for the EOR's project files when the services of a Specialty Engineer for a component or system of a building is required regardless of whether the *Authority having jurisdiction* requires one to be submitted.

Building Envelope Professional – the VBB also requires a *Building Envelope Professional* to provide schedules D-1 and D-2, which provide assurance that the *Building Envelope Professional* will carry out design review and enhanced *Field reviews* of components and assemblies required by Part 5 of the VBB. For further information please refer to the APEGBC website under Library, Professional Practice Guidelines, *Building Envelope Practice*.

Design and *Field reviews* – Matters of Responsibility

The LOA permits *Registered professionals* to sign as the *Registered professional* and on behalf of the professional services firm by which they are employed or to which they are contracted. While the *Registered professional* signing on behalf of a firm may address civil and contractual liability issues, for the purposes of the *Code of Ethics* of APEGBC, professional engineers and licensees will remain personally and professionally responsible pursuant to the *Engineers and Geoscientists Act* section 22(2)(b).

Field reviews

In the LOA the *Coordinating registered professional* and the *Registered professionals* undertake to notify the *Authority having jurisdiction* in writing as soon as possible if their contract for *Field reviews* is terminated at any time during construction.

It is the preference of APEGBC, AIBC, the Building Policy Branch and the City of Vancouver that the same *Coordinating registered professional* and *Registered professionals* are responsible for the design documents and *Field reviews*. The Guide discusses the potential difficulties encountered when design documents and *Field reviews* are prepared or conducted by different *Registered professionals*.

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Field reviews are the responsibility of the designing *Registered professional* unless circumstances make this impractical. Generally, engineers should not accept an engagement to conduct *Field reviews* for a project designed by another *Registered professional* unless the designing *Registered professional* is incapable of performing the role or it is impractical to do so.

If it is necessary to conduct such *Field reviews* in place of the designing *Registered professional*, the field reviewer should arrange with the designing *Registered professional* that he or she should still be available for reporting/two way communication during construction. In circumstances where a divided responsibility is unavoidable, the Guide discusses the correct procedure for altering the wording of LOA (Schedules B1, B2 and C-B). If an *Authority having jurisdiction* refuses to accept LOA in which the wording has been altered in accordance with the Guide, the *Authority having jurisdiction* should be directed to the intent, as outlined in Section 2.6, of the *BCBC* and the Guide.

Following are examples of instances where the design and *Field reviews* are conducted by different *Registered professionals*:

- If the designing *Registered professional* is available and assumes responsibility for the design, there is no need for the *Field review Registered professional* to review the design or take responsibility for design matters. In this case the designing *Registered professional* must be willing and able to consult with the *Field review Registered professional* as required during construction, and to clarify the design and approve any adjustments or changes, as necessary, during construction.
- If the designing *Registered professional* is unable to consult with the *Field review Registered professional* during construction, the latter must consider whether he/she can provide the necessary assurance for *Field reviews* or whether he/she must review and accept responsibility for the design documents before undertaking the *Field reviews*.
- Where an engineer has provided sealed shop drawings for a certain component of the structure, he/she is responsible for conducting the necessary *Field reviews* and reporting to the *Registered professional* having primary responsibility as the EOR. The EOR is responsible for seeing that all necessary *Field reviews* are carried out and that the necessary confirmation is received to enable him/her to issue the LOA at the conclusion of the project.

Finally, in carrying out *Field reviews*, engineers may become aware of a deficiency in other aspects of the building that involves the practice of professional engineering. In such instances the engineer must act in a fashion which is consistent with the intent of the APEGBC Bylaw 14(a)(9) under the *Code of Ethics* which states the following:

“report to their association or other appropriate agencies any hazardous, illegal or unethical professional decisions or practices by engineers, geoscientists, or others;”

On this basis, the engineer observing a deficiency in other aspects of the building has a duty to report it to the responsible *Registered professional* and the *Coordinating registered professional*. If those parties do not respond appropriately, then the APEGBC and the *Authority having jurisdiction* must be informed of the deficiency by the observing engineer.

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APEGBC Bylaw 14 (b) (4) – Quality Management - *Field reviews*

Bylaw 14(b) states:

“Members and licensees shall establish quality management processes for their practices which shall include as a minimum;

(4) Field reviews, by members or licensees, of their projects during construction.”

While this bylaw implies that all *Field reviews* are to be undertaken by members or licensees, like the design responsibility of professional engineers and licensees, there are some circumstances where an assisting non-member² or a subordinate member or licensee may be delegated to carry out *Field reviews* under the direct supervision and full responsibility of the Engineer of Record (EOR).

What Can Be Delegated?

Direct supervision of a task that occurs outside the office is, by definition, difficult and care must be taken to ensure that *Field reviews* meet the standard expected of a professional engineer. Such direct supervision would typically take the form of specific instructions on what to observe, check, confirm, test, record and report back to the professional engineer. Where circumstances go beyond this or where engineering decisions/judgements are required, contact must be made with the EOR so that the engineering decisions/judgements are made by the EOR and, further direction/instruction can, at that point, be provided to the non-member or a subordinate member or licensee operating under the direct supervision and responsibility of the EOR.

When an EOR is directing a non-member or a subordinate member or licensee with respect to undertaking *Field review* tasks that are to be carried out under the EOR's direct supervision, the EOR must ensure that such work is carried out in a fashion which meets the definition of “direct supervision”. Section 1(1) of the “*Engineers and Geoscientists Act*” states:

“direct supervision” means the responsibility for the control and conduct of the engineering or geoscience work of a subordinate;”

Meeting the intent of this definition includes having the EOR exercise his or her professional judgement and due diligence in addressing the following matters:

1. Considering all the circumstances surrounding the project and the above context, whether or not it is appropriate to delegate one or more of the *Field reviews* to a non-member or a subordinate member or licensee.
2. Consideration of the level, complexity or critical nature of the *Field review* to be conducted, in order that the EOR can be satisfied with the quality and accuracy of the observations being made by the assisting non-member or a subordinate member or licensee.

² EIT's are not “members” and any *Field reviews* by them must also be directly supervised

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3. Whether or not the assisting non-member or a subordinate member or licensee, that will be carrying out the *Field reviews*, has the appropriate level of training and experience, taking into consideration the complexity of the project at hand.
4. The instruction required to be provided to the assisting non-member or a subordinate member or licensee on the level of effort to be exercised in the *Field review*, the level of detail required when reporting on the *Field review* and the specific aspects of the construction activities, which are to be included in the *Field review*.
5. Subsequent review of the field reports by the EOR and follow up, as required.

Many of these considerations are equally relevant when deciding on the delegation of design work to an assisting non-member or a subordinate member or licensee.

Ethical Considerations

The *Code of Ethics* contains two principles that apply directly to LOA matters:

- Engineers shall conduct themselves with fairness, courtesy and good faith towards clients, colleagues and others;
- Engineers shall uphold the principle of appropriate and adequate compensation for the performance of engineering work.

With these provisions in mind, engineers should require that the scope of an assignment to prepare design documents includes the signing of a LOA and conducting all necessary *Field reviews* if the project proceeds to construction. This means that an engineer should not accept an engagement to provide design documents unless the client accepts that the scope of work includes *Field reviews*.

Similarly, an engineer should not accept an engagement to conduct *Field reviews* of another's design if the designer is available to conduct the *Field reviews*. Engineers who represent *Owners* should recognize that the division of design and *Field review* responsibilities should occur only in unusual circumstances, such as when it is impractical or impossible for the design professional engineer to conduct the *Field reviews*.

Summary

1. The LOA, together with the relevant sections of the *BCBC* and the *VBB* which deal with *Professional Design and Review* and the Guide in the *BCBC*, set out the procedures to be followed when using the LOA. Engineers must thoroughly familiarize themselves with, and abide by, these documents.
2. In cases where it becomes necessary for *Registered professionals* to be replaced during the course of a project, professional engineers must respect the *Code of Ethics* and where practicable communicate with the previous professional engineer (see Practice Bulletin entitled "Contacting the Prior Member" in the July/August 2005 issue of *Innovation*). Engineers are encouraged to decline an assignment to conduct *Field reviews* when the *Registered professional* that carried out the design is available to conduct them.

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3. Like the design responsibility of professional engineers, *Field reviews* may be undertaken by an assisting non-member or a subordinate member or licensee, under the direct supervision and full responsibility of the EOR. However, when delegating *Field review* tasks to subordinates, the EOR must ensure that such work is carried out in a fashion which meets the intent of the definition of “direct supervision” as per Section 1(1) of the *Engineers and Geoscientists Act*. Meeting the intent of this definition includes having the EOR exercising his or her professional judgement and due diligence in addressing the various items identified in the section of Bulletin K entitled “What Can Be Delegated”.

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Appendix A: “Specialty Engineer - Assurance of Professional Design and Field Review”

The 1998 BC Building Code (BCBC) and 1999 Vancouver Building Bylaw (VBB) provides Letters of Assurance (LOA) for the principal members of the design team, referred to as *registered professionals*. Frequently, other engineers are employed to address certain elements of the design and/or *field reviews*, a Specialty Engineer. A *registered professional* must often rely upon the assurance provided by a Specialty Engineer, in providing his/her assurance in the form of Schedule B-1, B-2, or C-B.

Where equivalents are involved, they must be accepted by the *Authority having jurisdiction* as equivalent to the Code. Upon acceptance, they are deemed to comply with the Code and may be referenced as such, without qualification, in the LOA.

If the Specialty Engineer is not a member of the primary design team, and is not responsible for overall compliance with the Building Code requirements, it is not intended that the Specialty Engineers sign a Schedule B-1, B-2 or C-B. It is intended that *registered professionals* responsible for a whole component of the Schedule B-1, such as a sprinkler designer responsible for Fire Suppression (Registered Professional of Record), provide the appropriate Schedules B-1, B-2, and C-B.

This Schedule S LOA provides a suggested format for Specialty Engineers providing services. Schedule S should usually be addressed to the Registered Professional of Record or the *Coordinating registered professional* as deemed appropriate. If the LOA is associated with work having direct municipal involvement, such as equivalents, it may be addressed directly to the *Authority having jurisdiction*. It is important that the Specialty Engineer liaise as necessary with the Registered Professional(s) of Record so that all parties are clear as to the responsibilities the Specialty Engineer assumes and the responsibilities of the Registered Professional of Record. In certain applications (such as many Part 9 buildings) there may be no Registered Professional of Record in which case the LOA could be addressed to the *Owner* or the *Authority having jurisdiction*.

The design documents may be submitted to the *Authority having jurisdiction*, the *Owner*, the *Coordinating registered professional*, the Registered Professional of Record, or other party as appropriate. The Registered Professionals of Record are responsible for coordination of components or designs prepared by the Specialty Engineer with the design prepared by the design team. The *Coordinating registered professional* is responsible for ensuring that the Registered Professionals of Record are aware of the impact of the Specialty Engineer’s services on their scope of services.

The Schedule S LOA is intended to clearly identify to all parties exactly which components, and which elements of their design have been designed and field reviewed by the Specialty Engineer.

The Schedule S LOA may be submitted at any point in a project when the Specialty Engineer’s duties are complete and, in most cases, should be held by the Registered Professional of Record or the *Coordinating registered professional* as deemed appropriate and held in his or her file. In applications where no *field reviews* by the Specialty Engineer are anticipated, then

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the LOA should be issued with the specialty design so that affected parties are aware of the need for *field review* of the specialty design details.

The Specialty Engineer must typically liaise with the Registered Professionals of Record for the purposes of the designs and reviews within the scope of work being provided. This liaison could be minimal where the only interaction is provision of the Schedule S. Alternatively, the interaction could involve the provision of shop drawings, emphasizing important *field review* details, or interactions with other design features. The necessity to liaise is dependent on the service being provided, the specifications, and the roles of the design team. With some projects, an *Owner* or project manager coordinates much of a project.

The nature of *field review* is very dependent on the service being provided. There are many items which may not require *field review* directly by the Specialty Engineer, such as analysis of relatively standard assemblies for acoustic or fire performance, many structural components contained in Part 9, and other items which an experienced party could readily conduct *field reviews*. Specific concerns or details to be *field reviewed* would have to be conveyed to the party conducting the *field reviews*. Seismic design for service equipment, complicated equivalents, and building envelopes would normally require *field reviews* by the Specialist Engineer. *Field reviews* may be delegated to others provided that the Specialty Engineer has conveyed sufficient information and has confidence in the ability of the field reviewer.

If the *registered professional* providing *field reviews* is not the Specialty Engineer and is also not one of the Registered Professionals of Record, then the *registered professional* providing the *field reviews* should sign and seal the Schedule S with an appropriate annotation. This could be done on page 1 near their name. It can be assumed that the provision of the Schedule C-A or C-B by a Registered Professional of Record would address all *field reviews*, including Specialty Engineering that they have reviewed.

Examples of possible use of this LOA include, but are not be limited by, the following:

- Building Envelope Professionals
- Fire Protection Engineers or other *Registered professionals* responsible for equivalents
- Engineers responsible for truss or other specialty structural components.
- Engineers responsible for window or guard designs
- Engineers responsible for seismic design of mechanical, electrical, or architectural components
- *Registered professionals* responsible for specific aspects of Part 9 projects.
- Spray on fire protection installation
- Protection of emergency services conductors
- Acoustic performance of assemblies
- Firestopping

With some projects, the Specialty Engineer may be only involved in the production of a component and not be involved in *field reviews*. Part 9 projects may contain elements where certain aspects of the preamble above and some aspects of the Schedule S LOA may not apply. The LOA may be modified in such applications by initialling changes such as striking a line through certain sections or annotating sections. The intent is to keep the base wording the same so changes are more readily identified.

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Depending on the scope of service, *field reviews* may be limited to reviewing the manufacturing site of Specialty Engineering items, *field reviews* at the building site, or both. Examples include the assurance of the design of specific structural elements where the Specialty Engineer is taking responsibility for the manufacture of the structural element and *field review* of the building site is being provided by the Registered Professional of Record. Liaising with the Registered Professionals of Record should clarify the extent of *field review* services being provided by the Specialty Engineer.

Schedule S

Building Permit No.*

SPECIALTY ENGINEER ASSURANCE OF PROFESSIONAL DESIGN AND FIELD REVIEW

- Note:
1. This letter is endorsed by: Association of Professional Engineers and Geoscientists of B.C.
 2. The applicable Code is the British Columbia Building Code/Vancouver Building By-law (cross out and initial non-applicable Code), hereinafter referred to as the Code.
 3. In this letter the words in italics have the same meaning as in the Code.

To: _____

Date: _____

Re:

Name of Project (Print)

Address of Project (Print)

This is to advise the undersigned is the Specialty Engineer and *registered professional* retained by _____ to develop specialty design components for the captioned project in accordance with the Code.

The undersigned hereby gives assurance that the design of the _____

[Insert here the area of responsibility, e.g. seismic restraint, fire resistance, acoustic properties, structural capacity] and supporting documents prepared by this *registered professional* in support of the project substantially comply with the Code and other applicable enactments respecting safety except for construction safety aspects.

These components are addressed in the report/drawings prepared by me, or under my direct supervision, which bear my Professional Seal.

With respect to *field reviews*, I note the following:
(initial applicable statement)

___ I have performed *field review(s)* as outlined in Section 2.6 of the Code and the specialty design components substantially comply in all material respects with the Code and the design documents I have prepared, or

___ *Field review(s)* have been performed by _____.

I confirm I have liaised as required with the appropriate *registered professionals* for the purposes of my services.

Schedule S (continued)

Building Permit No.*

Project Address

I hereby give my assurance that I am a *registered professional* as defined in the Code.

Name (Print)

Signed

Date

Address (Print)

Phone

(PROFESSIONAL SEAL)

(If the *registered professional* is a member of a firm, complete the following.)

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 a *registered professional*. The Code defines a *registered professional* to mean:

- (a) a person who is registered or licensed to practise as an architect under the *Architects Act*, or
- (b) a person who is registered or licensed to practise as a professional engineer under the *Engineers and Geoscientists Act*.