

Alternative Solutions

The purpose of this bulletin is to explain the Capital Regional District's (CRD) requirements and procedures relating to submission for Alternative Solutions.

"This information is provided for convenience only and is not in substitution of applicable City bylaws or Provincial or Federal codes or laws. You must satisfy yourself that any existing or proposed construction or other works complies with such bylaws, codes or other laws."

What is an Alternative Solution?

Article 1.2.1.1., Part 1, Division A of the British Columbia Building Code states that compliance with the code shall be achieved by complying with applicable acceptable solutions in Division B or using alternative solutions that will achieve at least the minimum level of performance required by Division B in the areas defined by the objectives and function statements attributed to the applicable acceptable solutions.

How do you apply for an Alternative Solution?

Applications for alternative solutions shall be submitted to: Chief Building Inspector, CRD Building Inspection, PO Box 1000, 625 Fisgard Street, Victoria, BC V8W 2S6.

Submission of alternative solution preceding the building permit application may not be reviewed immediately and the final response to the submission may be withheld until the building permit application is received for the project.

Fees for Alternative Solutions

In order to recover some of the costs associated with reviewing alternative solutions, a fee of \$92 per hour is charged for the time spent researching and approving each proposed alternative solution in accordance with the current fee schedule.

Submission Requirements

All alternative solutions submitted in the form of reports must be prepared, sealed, signed and dated by a registered professional engineer or architect, licensed to practice in British Columbia, with experience in alternative solutions.

Submissions must include the following:

- One original and two copies of the report complete with all supporting documentation.

The report shall include:

- 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 the code;
 - 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 Code after the building is constructed;
 - the applicable objectives, functional statements and acceptable solutions, and any assumptions, limiting or restricting factors, testing procedures, engineering studies or building performance parameters that will support a Code compliance assessment;
 - information about the qualifications, experience and background of the person or persons taking responsibility for the design; and
 - reduced floor plans, sections, and/or details highlighting and identifying the locations and the scope of the proposed alternative solution.
- An Alternative Solution Submission and Sign Off Form for each proposed alternative solution (see attached sample) signed and sealed by the registered professional responsible for the alternative solution.

Compliance Letter

If the alternative solution(s) is/are accepted, a specific Letter of Compliance signed and sealed by the registered professional responsible must be submitted to the building inspector upon completion of the project and prior to the final inspection by the building inspector.

Engineering Judgments

During design or installation of listed fire assemblies or fire stop systems there may be occasions when specific conditions do not lend themselves to the direct application of a listed assembly or system. In these cases, the designer or installer may propose installing the listed assembly with modifications. This constitutes an alternative solution and requires a demonstration that a particular assembly or detail not strictly conforming to the listing will nevertheless provide the same level of performance. In the context of listed assemblies, these alternative solutions are often called "Engineering Judgments".

Engineering Judgements on fire stop systems for non-rated curtain wall shall be based on the "Best Practice Guide on Fire Stops and Fire Blocks and Their Impact on Sound Transmission" published by NRC dated June 2007.

The following provide general guidance to those preparing Engineering Judgements:

1. All submissions shall be prepared by a knowledgeable registered professional in fire stop systems and is independent of the manufacturer.
2. Engineering Judgement shall include:
 - a. the details of the listed assembly or system and the proposed variations to the listed assembly or system signed and sealed by a registered professional;
 - b. the reason for the variations;

- c. test data or equivalent documentation to demonstrate how the alternative solution provides the same level of performance as the listed assembly or system; and
 - d. detailed instructions on the installation and any special instructions related to long term performance.
3. Engineering Judgments are not substitutes for available listed assemblies or systems. They should not be used to avoid having a new assembly or system to be tested and listed.
4. Engineering Judgements shall be based upon extrapolation from tested systems that are sufficiently similar in nature to the condition under consideration. All aspect of the tested assembly that are germane to its performance must be addressed and reflected in the proposed solution.
5. An Engineering Judgment shall be accepted only for a specified location within the subject building of a project and cannot be transferred to other locations within the same building or any other jobs without an accepted revision or new submission respectively.

Further information

Please call the CRD Building Inspection Department at 250.360.3230.

Sample Alternative Solution Submission & Sign Off Form

Applicant name

XYZ Fire Protection and
Building Code Consultants

Code References

2012 BC Building Code Reference:

To: Capital Regional District
Building Inspection Department

Subject: ABC Plaza
Street Address
Island, BC

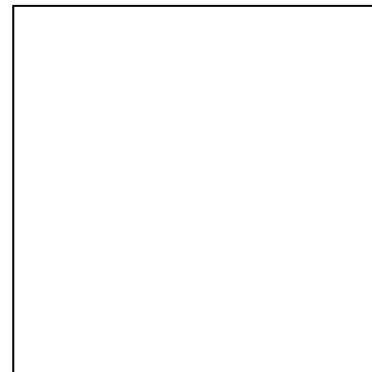
Alternative Solution: To protect an exit from adjacent openings.

Submission: See XYZ Report dated day/month/year

Acceptance of this alternative solution is site specific and is not considered to establish a precedent for acceptance of similar alternative solutions on other projects. Application of these alternative solution concepts to another site will require a review at that time.

Acceptance of this alternative solution is subject to the following:

1. Drawing and Field review of the alternative solution by XYZ.
2. Shop drawing review of the alternative solution by XYZ.
3. A letter from XYZ, upon completion of this project, confirming that the alternative solution has been installed in accordance with this report.



Signed, sealed and dated by Registered Professional responsible for the alternative solution

Accepted: _____

Date: _____

Chief Building Inspector, Capital Regional District Building Inspection Department