



City of Vancouver *Planning - By-law Administration Bulletins*

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PASSIVE DESIGN TOOLKITS

*Authority - Director of Planning
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1 Introduction

The City has developed and approved two passive design toolkits detailing ways to reduce energy use and the associated greenhouse gases in new buildings. These toolkits have been developed as a recommended design approach to maximize occupant health and comfort while minimizing energy use by relying less on mechanical and electrical systems. In considering the Passive Design Toolkit staff and applicants will also need to consider applicable zoning and building by-laws, and Council approved guidelines and policies.

The purpose of this bulletin is to provide clarification to staff and applicants on the passive design elements that may be considered. The Director of Planning may exercise discretion in balancing the passive design elements with existing policies and regulations.

2 Passive Design Elements

Passive design is an approach to building design that uses building architecture to minimize energy consumption and improve thermal comfort. Passive design elements can be used to optimize heating, cooling and daylighting. Opportunities to capture sunlight and introduce natural ventilation into the basic design of the building require consideration of the following elements:

- site and orientation;
- building shape and massing;
- landscape;
- space planning;
- buffering spaces;
- window;
- solar shading;
- thermal mass;
- thermal insulation;and
- air and moisture tightness.

3 Discretionary Criteria

The Passive Design Toolkit should be considered along with applicable zoning and building by-laws, guidelines and relevant Council policies. The design of the proposed form as it relates to the overall development and the existing context will also be considered. The Director of Planning may exercise discretion within the limits provided by City Council and notify any effected neighbouring property owners.

4 Submission Requirements

To consider passive design building elements the following materials will be required in addition to standard submission requirements for development applications:

- a written rationale for the passive design building element which addresses the relevant sections of the by-laws, policies, guidelines, and the criteria noted above; and
- drawings illustrating the design, placement, and impact of the passive design elements.

Depending on the technology proposed, the Director of Planning may require additional information or specifications. More detailed information can be found on the listed references.

5 References

- **Passive Design Toolkit Best Practices**, City of Vancouver, November 2008.
- **Passive Design Toolkit Best Practices for Homes**, City of Vancouver, November 2008.
- **Floor Space Exclusion for Additional Wall Thickness to Control Building Envelope Leaks**, Planning By-law Administration Bulletin, Amended December 14, 2004.
- **Shading Devices and Yard Projection**, Planning By-law Administration Bulletin, Effective February 3, 2009.
- **Roof-Mounted Energy Technologies and Green Roof – Discretionary Height Increases**, Planning By-law Administration Bulletin, Effective February 3, 2009.