
BULLETIN 2008-003-BU

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Building By-law Amendments for Green Homes

The intent of this bulletin is to advise homeowners and contractors as to new Building By-law requirements that will apply to all one and two family building permit applications received on or after September 5, 2008.

Vancouver City Council has committed to the following targets for greenhouse gas (GHG) reductions:

- 1) Reduce community GHG emissions by 33% below current levels by 2020, and
- 2) All new construction in Vancouver must be GHG-neutral by 2030.

As a result two separate green building strategies are under development and implementation, the first for single-family and two-family homes, and the second for larger residential, commercial, and industrial buildings.

On June 26, 2008, City Council approved amendments to the Vancouver Building By-law (By-law #9691) to promote energy efficient design and construction best practices in one and two-family dwellings. The By-law amendments, collectively known as the Green Homes Program, will be enacted on September 5, 2008. The following provides a brief summary of these new requirements:

- Increased insulation for above-grade wood frame exterior walls. The amount of insulation now mandated typically requires the use of 2x6 wall studs rather than 2x4 construction.
- Increased insulation for below-grade basement exterior walls. Insulation is now required over the entire inside face of the foundation wall.
- Concrete floor slabs in basements or in slab-on-grade construction are now required to have insulation on the underside of the floor slab. The current exemption for floors not using a radiant floor heating system has been removed; as a result, concrete floor slabs in basements and in slab-on-grade construction now require insulation on the underside of the slab.
- All windows must now meet a minimum thermal insulation performance level. Windows which have an Energy Star™ rating will meet this requirement.
- 40% of permanent light fixtures in homes must be hard-wired to not accept incandescent or halogen bulbs. In areas of the home where lights are to be left on for long periods, compact fluorescent (CFL) or light-emitting diode (LED) technology is better suited for the task.
- An in-home display unit for electricity consumption must now be installed in the home. This meter will provide instantaneous data on electricity usage, and should be placed in an area where it is easily viewed, such as the front hall or kitchen.
- Insulation must be wrapped around all electrically-powered hot water heaters and on a portion of the piping leading to and from both electric and gas-powered water heaters.
- Insulation is required on the entire hot water piping network, if the network is a constant-recirculation system.
- All gas-fuelled fireplaces are required to use electronic ignition and be direct-vented. Direct-venting eliminates the need for a chimney, instead drawing combustion air and exhausting to the outside through a vent immediately behind the fireplace. This requirement is not intended to apply to gas-fuelled log sets or log igniters.
- All toilets must now be of dual-flush design. These toilets help to minimize the consumption of potable water by allowing the user to select appropriate flushing volumes.

- A heat recovery ventilator (HRV) must be installed in every new home. An HRV provides continuous ventilation while minimizing energy losses by transferring heat from exhaust to incoming air.
- Two 50 mm diameter (2 inch) PVC pipes running from the building's service room to the attic space must be installed. These conduits will allow for the future addition of roof-mounted solar energy generation systems.
- A cable raceway (conduit) from the building's electrical panel to the garage must be installed, leading to an empty outlet box in the garage. This raceway will allow for future installation of an electric vehicle charging system.
- An EnerGuide Rating Service audit must be carried out on all new homes. This audit provides owners and builders with a 3rd-party evaluation of the expected energy efficiency of the home, and the completed ERS report must be submitted to the Chief Building Official prior to final inspection.

The Building By-law amendments can be viewed in the "What's New" section on the Chief Building Official's website, at: <http://vancouver.ca/cbo>. For further information on the Green Homes Program, please refer to the Green Homes website, at: <http://vancouver.ca/greenhomes>.

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