

Energy Advisor Briefing Note: R22+ Effective Walls in Existing Single Family Homes

Summary: Will you be applying for a permit to renovate an existing one- or two- family home? This year, permits for all one- and two- family homes will be processed under the new 2014 City of Vancouver Building Bylaw 10908 ([Vancouver's new renovation Bylaw](#)), which requires walls to achieve an effective thermal performance of R22+ or greater.

Issue: The 2014 Vancouver Building Bylaw 10908 (VBBL) requires R22 effective walls for any new or renovated walls. For renovated walls in an existing home, this may be difficult to achieve without insulating to the inside and losing interior volume or insulating to the outside and removing the siding. When applying to renovate your walls, consider the options listed below.

Background:

- In 2013, Council approved a new 2014 City of Vancouver Building Bylaw (VBBL).
- The Vancouver Building Bylaw requires R22+ effective walls for all new and renovated one- or two- family homes.
- These relatively insulated walls help to reduce the transmission of heat energy through the building enclosure and reduce the heating and cooling loads of the building, and the overall building energy consumption.

Options:

1. For significant renovations over \$50,000: If a designer, builder or home owner would prefer not to bring the wall up to R22 effective thermal performance during renovations because of its high cost, a Certified Energy Advisor will do the following when applying for a permit:

1. Calculate the energy use of the existing home using Hot2000 in EnerGuide for Existing Homes mode. Submit documentation of the energy use.
2. Calculate the energy use of the home if the affected wall area is brought up to R22 effective. Submit documentation of the energy use.
3. Propose alternative upgrades and calculate the energy use to show lower energy use for space heating and hot water than the R22 effective case. For example, this can be achieved by upgrading windows and the furnace, installing an air source heat pump, using drain water heat recovery, adding attic insulation, air sealing and so on.
4. State on the permit plans the energy upgrades being undertaken.

2. For smaller renovations \$50,000 or under: If a designer, builder or home owner is applying to improve the walls in their home, such as by putting in insulation where none was present or upgrading the existing insulation, they must hire a Certified Energy Advisor to do the following when applying for the permit:

- A. Calculate the energy use of the existing, pre-renovation home using Hot2000 in EnerGuide for Existing Homes mode. Submit documentation of this energy use.
- B. Propose upgrades and calculate the energy use to show lower energy use for space heating and hot water than the existing case.
- C. State on the permit plans the energy upgrades being undertaken.

For more information, read the VBBL here: <http://vancouver.ca/your-government/vancouver-building-bylaw.aspx>