

## EXCEED THE BUILDING CODE

*Building codes are for safety, not comfort or aesthetics. Take your reno to a higher level by exceeding the code.*

A few years ago, I helped my brother-in-law build his parents' new home in Huntsville, Ont. We left the heavy construction to the contracting crew, but before the drywall was installed, we ran speaker wire from a hub in the living room through the entire house. Even though his parents didn't own a big stereo, they knew they would one day, and they didn't want a web of wires running across floors, walls and ceilings. It was a minor detail, but not one that the contractor had recommended, mainly because homebuilders and renovators are strictly concerned with the building code, not creature comforts or future plans.

The building code has one mandate: safety. It ensures that all builders—whether they are constructing a new home or working on renovations—adhere to standards for framing, foundation, electrical, plumbing and fire protection. Canada has one national building code, which most provinces modify and turn into provincial codes. Electricity, fire and plumbing have separate codes, but, in every case, safety, not comfort or aesthetics, is the lone driver. “You could build an uncomfortable, butt-ugly house with squeaky floors and wonky drywall, and still meet code,” says Rob Koci, a former contractor and current editor of *Canadian Contractor*, a homebuilding industry magazine. “When it comes to warmth and safety, 65 per cent of builders stick to the code and 35 per cent build above the requirements, if the customer is willing to pay the extra money.”

Of course, running speaker wire through the walls before installing the drywall was a minor upgrade. Changes, such as energy-efficient windows and doors, extra-strong floors and roughed-in plumbing in the basement, all add to the construction costs, but the result is a more efficient and durable home with a higher resale value. There are a lot of small upgrades beyond the building code that you should consider when you're renovating or building a new home.

### Cracking the code

The first step in building beyond code is to forget about the National Building Code book. Bill Crawford, a senior technical advisor with Canada Mortgage and Housing Corp., suggests homeowners stick to what they envision in a renovation or new home, and forget about the intricacies of the code. “I remember testifying as an expert witness on the code a few years back,” says Crawford, “and the judge said to me, ‘You know, my chambers are filled with law books, but I've never read a book filled with such complexities as the building code.’” So, what should you do? Where can homeowners turn? “Call a building official. It's their job to explain the code,” advises Crawford.

So if we're better off forgetting about the code itself, what's the best approach a homeowner can take before undergoing a project? “I always ask my clients to draw up wish lists that include future renovation plans or specific uses for rooms, whether now or in the future,” says Michael Upshall, owner of Probuilt by Michael Upshall, a design and building firm in Toronto. “Let's say you hire me to build a backroom addition. If I know your next reno, maybe five years down the road, will include adding a second storey, then I would suggest beefing up your furnace, ductwork, electrical wiring and plumbing while we have the walls and floors ripped apart. The idea is not to redo work that I renovated the first time I was here.”

Upshall's reasoning fits with the way we're living these days. Canadians would rather renovate their homes than move, so renovations should be geared toward long-term fixes. “If the homeowner is planning on staying in their house for more than 10 years, then I will tell them which code upgrades are worthwhile,” says Frank Cohn, owner of Cohn Construction in Mississauga, Ont., and host of *The Home Improvement Show* on CFRB Radio. “If I'm doing a bathroom renovation, the code tells me I can install tiles onto drywall or backer board, but this will only last five years before it needs to be replaced. So, it's

better to exceed the code and install tiles on wire mesh and concrete—the old-fashioned way—which might add an extra \$2,000 or \$3,000 onto the reno cost, but will last 50 years.”

Building codes are like computers: they can calculate numbers but have no sense of their significance. If you're building an addition and need to rebuild the roof, the code will specify what types of rafters and spans you require, but it doesn't sense that what you really want is a high, open space inside. “It helps to know the homeowner's vision before tackling a project,” says Gordon Deane, president of Deane Design & Build in Port Credit, Ont. “If the homeowner wants a spacious, open living room, I would recommend a mechanical beam, which goes well beyond what the building code specifies but allows you to span greater distances for details such as cathedral ceilings.”

#### Go further

Certain areas of the code should always be exceeded. For example, if you're building an office or storage area, the building code calls for 2x4 interior walls. But if you upgrade the measurement to 2x6 walls, you are able to produce a quieter room—the extra space allows for more soundproofing—and you can turn the office into an additional bedroom, which adds resale value.

“A lot of [these decisions] are budget-driven,” says Upshall. “And yet, there is one big mistake homeowners almost always make when they're trying to save money on a renovation: they don't dig out the basement.” The code calls for only a heated crawlspace with a slab floor, so the homeowner skimps by not paying for the excavation and dirt removal. “You don't have to finish it, but you have the space if and when you want a finished basement. Plus, it makes a huge difference if you plan on selling your home because now you have another full floor.”

Speaking of floors, almost everyone agrees that the code is too generous when it comes to the spacing of floor joists. The code calls for 16" on centre, but if you build this way, your china cabinet will rattle with every footstep. You get a stronger, more resistant floor with joists spaced 12" on centre. “This is especially important if you're going to be laying tiles, because any deviation will lead to breakage,” says Upshall. “I do the same thing if there's going to be a heavy load on the floor, such as a kitchen or a living room.”

#### Highly efficient

Windows are another spot worth upgrading beyond code, both in size and energy efficiency. “It's always worth upgrading to triple-pane glass [for increased efficiency],” says Cohn. Size is also important, especially in the basement if you may one day put a bedroom down there. The code now specifies that basement windows must be big enough to act as an escape route, but, typically, basement windows are cheap, small and provide little light. “My basement windows are a joke. They're about 8" tall and 2' wide—barely big enough for a chipmunk to escape through,” says Cohn.

Deane and Upshall recommend upgrading to wooden window frames instead of vinyl. “As far as energy efficiency goes, they perform about the same. But, aesthetically, wood has a much better look, so it's worth paying a bit more,” says Deane.

Energy efficiency is the trump card to play when it comes to code upgrades. But energy efficiency doesn't begin and end with the furnace, windows and doors. “I usually recommend little comforts, such as heated floors,” says Deane.

Another hot spot: insulation. The code calls for fibreglass insulation, but this semi-rigid material doesn't offer the best heat protection, especially when you're joining new work—an addition—onto an existing part of the house. “I suggest upgrading to blown-in spray insulation, especially in places that are hard to

get at, such as attics or around piping and wires,” says Upshall. “It costs about the same, and it does a much better job of sealing gaps around windows and doors.”

The building code may keep the contractor on the straight and narrow, but it provides little in the way of comfort and aesthetics. Most of us prefer to do our own work, but if you’re hiring a contractor, keep in mind that the lowest bids probably won’t be from builders who are up-grading beyond the bare minimum. “It’s a Holmes On Homes world out there, so look carefully at the details,” says Deane. “If one contractor bids \$10,000 more than the others, ask the builder why it’s worth spending that extra cash. It just might save you a lot more in a few years or when you try to sell your home.”

#### CHANGES TO THE CODE

The National Building Code is renewed every 10 years, but provincial codes can change annually. Usually, Ontario makes its changes, then the other provinces follow suit.

This year, there are more than 700 changes to the Ontario Building Code (OBC), including higher energy efficiency and increased insulation for walls and ceilings.

“By 2008, the OBC will require new homes to be constructed with near-full-height basement insulation, and by 2011, all new homes will have to meet energy-efficiency standards that are 25 per cent higher,” says James Douglas, a manager in the building and development branch of Ontario’s Ministry of Municipal Affairs and Housing.

This means you need to think ahead. When planning renovations on your home, make changes with the future code in mind. Not only will you be left with a tighter, more energy-efficient home, but your resale value will likely increase because of your forethought.

#### SMALL UPGRADES

Here are some small changes to consider:

- Before installing drywall, consider future uses and install wiring and cables. This goes for electrical outlets as well. If you’re hoping to build a proper workshop in your basement one day, now is the time to install extra electrical plugs. And if you’re thinking of a gas stove or barbecue, have the gas lines roughed in.
- Have the builder rough-in basement plumbing so that if and when you build that basement bathroom, you don’t need to tear open the walls and run plumbing down there. But be warned: if the rough-in is even an inch off, you will need to break apart the floor and move it.
- Install a backflow preventer in the basement drain, so if there’s a sewer problem or flood, your basement won’t fill up with water.
- If you’re redoing your roof, ensure the contractor installs an ice and water shield under the shingles, and full coverage is best.
- Canadian Home Workshop contributor Art Mulder recommends having your contractor install shut-off valves for every waterline under toilets and sinks. Mulder also wishes his garage was built a little higher so that he could open his minivan’s hatch without having to open the garage door.