

By Lorne McClinton

# Raising a roof

Green roofs are beautiful and have long-term benefits

**A**fter all the research and discussions that Brad Skinner and his wife, Leslie Coates, had before they decided to install a green roof on their two-car garage, putting it in was almost anti-climatic. The roofing contractor's workers showed up and installed it in a day. They quickly laid out the squares of the sedum roofing material just like a landscaper lays out sod. Leslie recorded the big day with time-lapse video. You can watch it on their website at [skinnerarchitects.com](http://skinnerarchitects.com).

Green roofs can be built with a number of different technologies, but all are based on the concept of using living plants to protect the waterproof membrane on flat and low-sloped roofs. They're becoming a popular way to build roofs on big industrial, institutional, and corporate buildings, but it's almost unheard of to put one on a private dwelling. No one really seems to know how many have been built across Canada and the U.S. They're so rare that it's very hard to find an architect or a contractor who's installed one.

When Brad and Leslie decided to build their new dream home and architecture offices on the banks of the Thames River in London, Ont., they wanted to use as much environmentally friendly technology as possible. They also had to keep an existing two-car garage on the property for zoning reasons. Leslie had her heart set on installing a green roof on the structure to help it to blend in with the trees in the river valley.

Large photo: Brad Skinner and Leslie Coates love the way their green roof looks.  
Below: Sedum are cacti in disguise so they can survive in the harsh conditions on roofs.







PHOTO: "GREEN ROOF FOR HEALTHY CITIES" WWW.GREENROOFS.ORG AND KOSLOVA ARCHITECTURE

**Above:** Rooftops are extreme environments. Not all plants can survive there. **Below:** Greg Magda says a lot of engineering has to go into every green roof.

Brad was interested, too, but since he also wanted to use his home as a showcase, he wanted the roof to make economic sense as well. He thought there was not much sense installing one if they ended up being so expensive he couldn't sell the concept to his clients. His first quote was for \$30 a square foot. Most of the others were in the \$20 dollar range. He finally chose one that could be installed for about \$15 per square foot.

There are all kinds of practical reasons to want to install a green roof, says Steven Peck, president of Green Roofs for Healthy Cities, an industry lobby group based in Toronto, Ont. They reduce heating bills, cut air conditioning costs by approximately 30%, and since they can last up to three times longer, they might even be cheaper than a traditional membrane roof.

**Public benefits.** Green roofs have many public benefits when installed in urban areas, Peck says. They absorb rain water, which reduces the need to make costly upgrades to cities' sewer systems. A green roof also can help combat the urban "heat island" effect. The impact is so pronounced that the city of Toronto has passed a bylaw that requires contractors to install green roofs on all new construction with floor surfaces greater than 2,000 square meters (21,528 square feet).

"Green roofs have all these positive benefits," Brad Skinner says, "but the biggest reason we love

this roof is because it's so beautiful. Our roof contains 12 or 15 different varieties of sedum. They are amazing; they change color two or three times a year. In the fall, they turn primarily red."

Rooftops are very extreme environments, and not all plants can survive those conditions, says Greg Magda, president of Sedum Master, a company that grows vegetation for green roofs in Princeton, Ont. Sedum are cacti in disguise. They're really hardy; a healthy plant can go four months without water. That's what makes them so very good for the hot conditions typically found on rooftops.

**T**he hardest thing about getting a green roof installed on your home is figuring out where to begin, Skinner says. "Start by finding the handful of companies in your area that are involved in this, and talk to each one of them about their system. Find out if their product is appropriate for your situation. This takes time; it's not like going to a store to shop for appliances where you have multiple models to choose from."

"There's more to installing a green roof than placing vegetation mats on top of a waterproof membrane," Magda says. "Climate zones, wind, zoning bylaws, and specialized applications like water retention all have to be considered. A lot of engineering goes into each one. People won't be going into a Home Depot and buying one anytime soon." ■



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