

Straw bale eco-home going up in Eden Mills

By Rebecca Ring

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A new straw bale house is being built in Eden Mills, the second in the small eco-friendly village. The load bearing walls of the house are made using straw bales, which are enclosed in mesh and then sealed with plaster on the inner and outer walls. The house will be highly energy efficient (using 25 to 40% less heating and cooling energy on average), environmentally sustainable (straw is annually produced in abundance), fire resistant (with an above average fire safety rating), affordable, and easily incorporated into current building practices.

Owners Ruth and Tom Bowes first saw a straw bale home at a show in Everdale and they “fell in love.” Ben Polley of Evolve Builders, then Harvest Homes, built Ontario’s first modular straw bale house for the show and it was designed to function completely off the power grid. The couple approached Polley with the intention of “eco” renovating and adding on to their home of 17 years. Ultimately, they decided to build from scratch to affordably get their dream home.

Ruth Bowes, a realtor for Royal LePage Royal City in Rockwood, began the search for the perfect lot. The couple’s goal is to live in the community where they work and to build with as little environmental impact as possible. They focused their search in Eden Mills largely due to its pledge to become the first carbon neutral community in North America and because it is central to both of their work areas – Acton, Rockwood and Guelph.

They found that special, perfect lot. Then came the arduous task of clearing the area for building while leaving as many trees intact as possible. An arborist hired by Polley advised them throughout the process. Large deciduous trees were conserved around the house to block sun in summer and let it through for warmth in the winter. They even invested more than planned in the septic system to conserve tree coverage by going with a Waterloo Biofilter System, which is highly efficient and requires minimal area. The trees they did cut down are not going to waste. They had them milled on-site and kilned in Cambridge to use in the house. The black cherry will be used for baseboards, windowsills, casings, and treads on the stairs. White pine was used for structural posts and will be used for shelving. Cedar will be used for the deck.

The 1800 sq. ft. “bungalow” style house is designed to make efficient use of space while giving an impression of volume. The main living area is on the ground floor with some extra room upstairs and there is no basement. It will use passive solar power for heat – there are lots of big thermal windows on the south side with overhangs that block sun when it is high in summer and allows sun in when it is low in winter. Ceiling fans and small windows that can open will be installed in the vaulted ceilings, which will draw hot air up and allow it to escape. It will have radiant heating in the floors, an efficient wood burning stove, and a hot-water on-demand system (heats as needed). It is wired to allow solar panels to be added in the future.

The main roof is metal and the roof over the living room and dining area will be a living green roof, made from structurally insulated panels with soil and plants living on it. It will keep the house warmer in winter and cooler in summer, and will be a usable outdoor space. The thermal windows are In-Line fiberglass, which are highly efficient and do not off-gas in the house. The flooring will be bamboo and cork, which are natural, non-toxic and harvested without killing the trees. All of these features, in addition to the incredibly insulating straw bale walls, mean that no air conditioning is necessary and heating costs will be low.

Evolve Builders Group, formerly named Harvest Homes, specializes in building straw bale homes and cabins, but also offers eco-renovations, including grey water systems, living roofs, woodworking and flooring. The eco-contractors have built about 50 straw bale homes in Ontario, Quebec and Central America. Owner Ben Polley offered workshops on eco-building in Nicaragua where North Americans and Europeans paid a tuition to attend, which allowed an equal number of locals to attend at no charge. They learned appropriate and sustainable building methods and built a straw bale building for the local farm co-op office. The idea and knowledge spread and now several straw bale homes have been built in the surrounding area.

Polley says that building a straw bale eco-friendly home does not have to cost more than a conventional home. Evolve builds high-efficiency homes using locally available natural materials wherever possible. Labour costs are equal to conventional contractors. He says that the advantage is having a healthy living environment with minimal environmental impact and energy savings that will recoup much of the cost over the years.

Ruth Bowes describes this as her “dream house” and is a perfect fit for her and Tom’s environmentally aware lifestyle. It will be ready to move into just before Christmas. They invite anyone who wishes to check it out in person or on-line to contact Ruth at rbowes@rlproyalcity.com or (519) 856-9922. The Weather Network filmed its construction last week so it will appear on its upcoming features.