



It Takes a Village RETRO-FIT REPORT

To renew and restore

Edition #2, January 14, 2013

IT TAKES A VILLAGE RETRO-FIT REPORT

January 15, 2013

To all residents of Eden Mills:

In March last year we published our first Retro-Fit Report outlining the vision to re-vitalize the heart of the Village of Eden Mills. "It Takes a Village" incorporates many elements, including an energy retro-fit of the Community Hall. We are making real progress. Here's the latest news.

Community Hall CO2 Footprint Soon to be Reduced by 63%!



By mid-February the first major step in making the Eden Mills Community Hall carbon neutral will be completed.

The building's ceiling will at last be insulated and all the windows will be top-of-the-line energy-efficient. These two changes will have reduced the Hall's CO2 emissions by 28%.

The resulting reduction in heat loss will also make it practical to install an air-to-air heat pump later this year, replacing one of our two old propane furnaces and one of our two

inefficient air conditioners. At the same time, a heat recovery system will be installed, recycling heat produced in the building. (A second heat pump can be installed after the wall insulation is complete.)

The heat pump will cool the Hall in the summer and address most of our winter heating requirements except in severe cold conditions when the remaining propane furnace will provide supplementary heating. The heat pump and heat recovery systems will reduce CO2 emissions by about 35%.

These are significant achievements in our quest to reduce our carbon emissions, and to ensure that the energy costs of the Hall's operation are minimized, keeping the Hall doors open for future generations.

As you will read in the narrative below, these important elements in the energy retro-fit of the Hall are a partially revised version of the plans we submitted to the Ontario Trillium Foundation two years ago which included both ceiling and wall insulation as well as new windows. While the extremely high quoted prices have made it financially impossible to insulate the exterior walls at this time, we have been able, almost miraculously, to shift and run with the opportunity to invest in another phase of our plans and upgrade immediately one part of our antiquated and inefficient heating system with the boost of a grant from the Agri-Spirit fund of Farm Credit Canada. That Trillium recognized the validity of our request to re-allocate funds to support this practical revised plan reflects their confidence in our determination to meet our goals and our vision to go carbon neutral!

The warm Eden Mills Community Hall will open its doors again in late February. On Thursday, Feb. 21 at 7:30 pm, guest speaker Tom Rand will address the topic: "Hot Water: Waking the Frog – Climate, Capital and our Heating Planet"



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How did we do it?

Analysis of needs: In 2009 **Enermodal Engineering** and **Richard Lay** donated a full energy audit of the Community Hall to determine what steps would be required to make the Hall as carbon neutral as possible. The audit results indicated that Hall CO₂ emissions could be reduced by more than 70% in total through conservation and equipment upgrades. For details, visit our website: <http://www.goingcarbonneutral.ca/docs2/EdenMillsEnergyAuditReport.pdf>

Funding: Conservation of energy is always recommended as the first step in energy retrofits. Therefore **Eden Mills Going Carbon Neutral** applied for and received a generous grant (\$120,000) from the **Ontario Trillium Foundation** to insulate the ceiling, install energy-efficient windows and insulate the exterior of the Hall. The grant would be supplemented by funds raised from the community and other sources to cover the full projected cost of about \$150,000.

Preparation for action: Last spring many Eden Mills residents attended a meeting at the Hall, organized by the Retrofit working group, to look at the recommended options for the for the insulation project. At the same time, the Guelph architectural firm, **L. Alan Grinham Architects Inc.**, prepared, pro bono, a set of detailed working drawings upon which competing contractors could base their quotes. The value of this extraordinary donation of expert service was more than \$15,000.

Pricing Disappointment: Our application budget to Trillium had included estimates from contractors two years before the working drawings were developed. The two bids responding to our tender were much higher (in fact 100% more!) than the original estimates. We reviewed the situation with the members and Executive of the Community Club as well as the fund-raising team over several, intense meetings. We also undertook detailed negotiations with the low bidder with a view to reducing costs. These negotiations bore no fruit. It was clear that the full insulation plan could not go forward with the grant and donated funds we had at our disposal.

Revised Plan: Therefore, based on the thorough analysis and thoughtful recommendations of the Retro-fit Working Group, the Community Club chose to proceed with the ceiling insulation and the window replacement, postponing the exterior wall insulation for the time being. The company insulating the ceiling would also be the general contractor, coordinating work with window supplier/installer.

Happy Coincidence: Coincidentally, the Community Club was awarded a \$15,000 grant from the Agri-Spirit Fund of Farm Credit Canada to assist in the purchase of an air-to-air heat pump, an application that had been made in anticipation of a better insulated Hall. The Hall is now better insulated, with reduced CO₂ emissions of 28%, making the heat pump installation practical.

Vital revised support from Trillium Foundation: Because the Trillium funds had been designated to include exterior wall insulation, we presented a report on our progress and a proposal for the re-allocation of funds by the Trillium Foundation to be used towards the purchase and installation of the heat pump and heat recovery system, supplementing the Agri-Spirit grant.

In addition, we requested that some of the funds be re-allocated to increase the amount assigned to the ceiling insulation and windows. Happily, the reallocation of funds was approved. The Ontario Trillium Foundation agreed that the installation of heat pump and ERV systems matched our vision for an energy retrofitted Hall, and therefore matched the purpose of the original grant.



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Great news! We are finally at work on a beautifully integrated project: Since December 2012, **Way-Mar Inc. of Wallenstein, Ontario** have been at work at the Hall. At the Hall, they began by spraying a first thin layer of Heatlok Soya Polyurethane insulation (R36) against the roof deck to take advantage of the warmer December temperatures. (Little did they know that we would have a January heatwave!)

In preparation for the full spray insulation treatment, they very **carefully prepared the Hall**, covering up floors, walls, stairs, curtains, etc. The insulation work includes the removal of dusty old insulation and the removal of the sloped sections of the wood ceiling in the main hall, as well as the drywall above the stage, in order to have access to the angles and corners of the roof interiors which are not open to the attic.



In the open attic, **wood plank walkways** have been installed across the ceiling rafters to facilitate the work and give us easy attic access in the long term. After the foam insulation process is complete, they will apply a spray-on thermal barrier, a fire retardant, to the entire surface. In some cases, under the sloping wood in the Main Hall and in some of the upstairs rooms and cupboards, new dry wall barriers will serve the same purpose.



In early February, the windows, ordered several weeks ago, will be delivered by Inline Fiberglass Ltd. of Toronto. The **windows are triple glazed** and will replace every window in the building, in total 22. These windows are considered to provide the top thermal performance in the market. The fact that

Way-Mar, the insulation company, will coordinate the work will ensure that there are no energy-wasting gaps, as they will patch and make good surrounds to the windows. The Hall will now be ready for the day when the exterior insulation can be installed.

Next, the Heat-Pump and Heat Recovery Systems:

We are now preparing to seek quotes on prices for the new heat pump, and **energy recovery ventilators** (ERV). Heat will be recovered from washrooms and the kitchen to be re-circulated, as healthy fresh air, in the building. The roof space behind the wall of the upper level Trustees Room, for example, will be able to house an ERV unit.





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Enthusiastic Thanks

This good news story would not have been possible without the commitment, expertise and elbow grease of many, many people.

- Richard Lay and Enermodal Engineering Ltd.
- Lloyd Grinham and L.Alan Grinham Architects Inc.
- Charles Simon, Charles Simon Architect and Planner
- Retrofit Working Group: Charles Fraresso, Richard Lay, Charles Simon, Chris Wilson, Les Zawadzki
- Community Club Executive and Members, especially those who attended so many special and intense fall meetings.
- It Takes a Village Fundraising Team: Bill Allen, Laura Brown, Kit Bresnahan, John Crompton, Doug Jamieson, Tim Laing, Linda Sword

- Ontario Trillium Foundation,
an agency of the Government of Ontario



- AgriSpirit Fund of Farm Credit Canada



- **Michael Barnstijn and Louise MacCallum and Village residents:** *“We’d like to support this vision and help create a sustainable legacy for decades to come.”* Last summer Michael and Louise, generous Eden Mills residents, offered to assist in our community fund-raising by matching Village donations up to \$10,000. By December we had raised more than the matching challenge. Among the donors were the famous pie-makers who contributed to the project organized by Ruth and Tom Bowes and Ruth Barden. Thank you to all who made donations, and huge applause for Michael and Louise!

The letters delivered to every household informing them of the matching grant opportunity were individually addressed in distinctive calligraphy by former Eden Mills store owner **Wendy (Evans) Hardy**. Thanks to Wendy for keeping Eden Mills in her heart! If you need a calligrapher, you know who to call! (519) 780-0796

- **Retro Café:** In its first five months, **Anna Simon and Lee Laing** ran such a busy Sunday afternoon Café at the Hall that they were able to purchase a new stove for the Hall – the first step in the long-term plan to retro-fit the old kitchen! Bravo! (Next date: Sunday,
- **Music at the Hall:** The Hall’s always popular concert series has raised more than \$3000 for the Hall retro-fit so far. Thanks to **Kit Bresnahan, John Crompton and Doug Jamieson and Elizabeth Cunningham** for their artistic contributions!

Future Phases: It is our plan to continue with the next phases of It Takes a Village – the exterior wall insulation, the parking lot landscaping, theatre upgrade, kitchen retro-fit, etc. We will need your help again, but let’s pause for a moment now to appreciate what we have accomplished so far!

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