



COLD CLIMATE HOUSING RESEARCH CENTER

**CCHRC**

## Membership Newsletter

October 2010

### **CCHRC to test elementary school's new ground source heat pump**

In August CCHRC partnered with the Fairbanks North Star Borough School District and PDC Engineering to install a ground source heat pump and solar thermal system at Weller Elementary School in Fairbanks. CCHRC will monitor the system in order to evaluate the performance of a ground source heat pump at the site and the effectiveness of recharging ground temperatures in the summer time using solar thermal collectors.

This research will help to determine the viability of ground source heat pumps as an efficient energy source in the North.

Read more in the Fairbanks Daily News-Miner article, "[Elementary school tests heating technology novel to Interior Alaska.](#)"

### **Building addition to expand work on rural housing**

In September the US Department of Commerce Economic Development Administration announced a \$1.9 million grant which will allow CCHRC to build an addition. The Wallace Research Foundation contributed an additional \$100,000 toward making the addition possible.

Named the Sustainable Northern Communities Center, the 7,500-square-foot structure will be an addition to CCHRC's existing 15,000-square-foot Research and Testing Facility. The building addition will

include office, classroom, design, collaborative, and research space. The goal is to enable people to work together to address Alaska's most immediate housing and related infrastructure challenges.

Read more in CCHRC's press release, "[Cold Climate Housing Research Center to Build Addition For Expanding Work on Rural Housing.](#)"

## **New information on exterior insulation retrofits now available**

Our latest Snapshot, [Safe and Effective Exterior Insulation Retrofits: Phase I](#), is the first in a series of reports based on research at CCHRC and is intended to answer the following questions:

- Based on field studies of best- and worst-case scenarios, what distributions of interior-to-exterior insulation prevent significant condensation within retrofitted walls?
- Does a double vapor barrier cause moisture problems in the dry and cold Interior Alaska climate?

In the fall of 2009 we began an experiment in our Mobile Test Laboratory (MTL), a road-worthy trailer with nine 4x8 test wall bays. For this experiment, all nine test walls were built using typical building practices with 2x4 or 2x6 frame construction. Eight of the nine walls were covered with either polystyrene or polyurethane exterior insulation, with the ninth test wall kept as a control, with no exterior insulation.

Early findings from this experiment are now available for download at the link above.

## **Construction begins on new rural housing**

Construction began in October on a prototype home in Quinhagak.

Read more in the Tundra Drums article, "[Energy-efficient home in Quinhagak off the ground.](#)"

Meanwhile, design work has begun on three different designs for the village of Wainwright and CCHRC staff will be meeting with the village of Kaktovik before the end of the year to begin work on a prototype home for the village. CCHRC also partnered with UAF's Chukchi Campus and Northwest Inupiat Housing Authority to secure an award from HUD to design and consult on the construction of a prototype home in the region. CCHRC will also work with the Chukchi Campus of the University of Alaska Fairbanks to launch a "cold climate" construction trades program to build houses better suited to Alaska's extreme climates.

## **Staffing changes mean new faces at CCHRC**

Several of our staff moved on in September. Director of Member Relations Tracy Antonovich moved to Albuquerque with her husband, Thom, Office Manager Kristen Sullivan is running her own business now and Receptionist Michael Berrie is finishing her college degree. We appreciate the time we had with Tracy, Kristen and Michael. They are missed.

CCHRC recently hired Sandee Mayo to fill the position of Lead Administrative Assistant. Sandee is a long-time Fairbanks resident who brings with her years of experience working in the banking industry and as a paralegal and office manager. We couldn't be happier to have her working with us.

Another addition to our staff is our new Receptionist, Amanda Barnes. Amanda is bright, energetic and a great addition to the team.

### Smartest Building in America video wins award

CCHRC won runner-up in the Smartest Building in America Challenge. Administered by Siemens Industry Inc., the contest recognizes the use of Siemens APOGEE or TALON systems to reduce building costs and energy usage. CCHRC uses the APOGEE system to monitor and adjust building conditions in the Research and Testing Facility. CCHRC staff, with help from local artist Craig Buchanan, produced a humorous three-minute video featuring the organization's use of Siemens technology. As Runner-up, CCHRC receives \$15,000 in Siemens' products and services.

View the entries for the [Smartest Building in America Challenge](#).



**Ground source heat pump installation at Weller Elementary School in Fairbanks, AK**