



COLD CLIMATE HOUSING RESEARCH CENTER

CCHRC

Promoting the development and advancement of healthy, durable and economically sound shelter for Alaskans and circumpolar people.

Internet Web Site:
www.cchrc.org

CCHRC QUARTERLY REPORT

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Mt. McKinley Bank Supports Research & Testing Facility

Craig Ingham, President of Mt McKinley Bank presented Jack Hébert, President and CEO of the Cold Climate Housing Research Center (CCHRC) a ten thousand dollar check in support of CCHRC's effort to construct a building research center in Fairbanks.

Mount McKinley's donation is the first major cash contribution made to help match a Rasmuson Foundation half million dollar challenge grant. A critical local capital campaign is in progress. Significant contributions toward this effort have been made from CCHRC's Board of Directors, the Alaska homebuilding industry and in the form of donated or discounted materials by Spenard Builders Supply of Alaska and Johns Manville Corporation among others. The Rasmuson Foundation Grant requires one to one support from local businesses and private sources.

The 501(c)(3) Cold Climate Housing Research Center (CCHRC) was established in 1999 by the Alaska State Home Builder's Association (ASHBA), an industry-based organization, which recognized that little original research on the adequacy of current building practices in Alaska's extreme and varied cold climates had been done. Based upon their extensive experience and expertise in building in Alaska, the industry realized that more energy efficient, affordable, and sustainable structures could be built leading to an improved quality of life for residents and cost savings to businesses. The founding members of the CCHRC also recognized that the infrastructure that supports homes, public buildings and workspace must be addressed as a critical component of an effective approach to better buildings.



To address these issues, the CCHRC is developing a world-class Cold Climate Building and Infrastructure Research Test Facility (RTF) adjacent to the University of Alaska, Fairbanks campus. The project is estimated to cost \$4.1 million to build and equip. To date, \$3.2 million has been committed to the project. An additional \$.9 million is needed to fully fund the facility and make possible a summer 2005 construction start-up.

The project scope includes the construction of a 15,000 square foot facility comprised of two large test bays, office space, classrooms and space for power generation, as well as access roads, wastewater treatment, and water to support the facility. It is intended that the building itself be a research project from foundation strategy to mechanical and lighting systems. Many components of the facility will be instrumented, analyzed and monitored. For example, the Golden Valley Electric Association (GVEA, the local electric cooperative) intends to use the building as a demonstration of electrical efficiency, cogeneration and onsite small-scale power generation.

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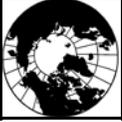
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Current Project List

- *Healthy House Initiative*
- *Regional Housing Authority Consultation*
- *Combustion Air/CO Study*
- *Infrared Thermography Study*
- *Health House VOC Monitoring*
- *Kenai Indoor Air Quality Study*
- *South Central Ventilation Study*
- *Frost Protected Shallow Foundation Study*
- *Smoke Study*
- *Housing Needs Survey*
- *Permafrost Monitoring Study*

Information on all projects available at: www.cchrc.org

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The RAC is appointed by the Board of Directors to advise CCHRC on research projects. Contact a committee member in your area with your input and concerns.

Healthy Homes In Alaska *by John Davies*

The Healthy Homes Project was designed to test weather improving the indoor environmental quality of homes for children with asthma might improve their health. Only children who lived in low-income homes were eligible, and the parent or guardian of the child was required to own the home. Another goal of this project was to increase the capacity of the Low-income Weatherization Program to remove possible respiratory hazards in the homes of low-income people who have children with asthma or other upper respiratory diseases. The Healthy Homes in Alaska project was conducted in two areas of the state. Fairbanks is Alaska's second largest city and is located in the Interior. Hooper Bay is a larger bush community of 1014 residents on the Bering Sea coastline. These communities were selected because they have residents with diagnosed asthma, an involved health provider in the region, and are generally representative of conditions and housing stock throughout the state. The project provided indoor air quality assessment, health screening of affected children, and housing remediation to selected homes. We identified and studied a total of 36 homes: 10 eligible participants in the Fairbanks area, 9 participants in Hooper Bay, and 8 or 9 control homes in Fairbanks and Hooper Bay, respectively. The remediation in the control homes consisted of the standard weatherization items such as improving insulation,

replacing windows and doors, sealing air leaks, as well as providing safety items such as smoke and CO detectors. In the participants houses the weatherization protocol was augmented by items designed to remove possible asthma triggers such as moldy window sills, bedding, or furniture. Some changes in the home were made to prevent the moisture and temperature conditions that lead to the growth of mold such as adding clothes dryers, installing shelving and bed frames to improve air circulation by the walls and floors, and installing quiet bath and kitchen fans to remove moist air from the house. Qualitatively, the clients in the healthy homes reported improved comfort and health as well as reduced energy bills. While the quantitative results of this study were based on a small number of research subjects, and asthma is a disease with multiple causes, there are some interesting suggestive results: (1) It is possible that the homes of children with asthma have higher levels of indoor air pollution than the homes of similar people without asthma; and (2) The remediation may have helped to improve the pulmonary function tests and the IgE levels of asthmatic children, although the numbers were not sufficient to reach statistical significance.

For a complete report on Healthy Homes in Alaska go to Completed Activities on the CCHRC website.

New Board Member Wendy Knight

Wendy Knight is the Development Officer and Planner for the Tagiugmiullu Nunamiullu Housing Authority and has 25 years experience in developing and administering housing projects and social service programs. Her expertise includes development and financing of over four hundred (400) units of affordable single and multi-family housing, including projects and programs targeted to seniors, low income, and special needs populations. Wendy's knowledge extends to rehabilitation projects, grassroots self-help programs, nonprofit development, social services, HUD Section 811 and 202 programs. Wendy served

many years as President of a non-profit housing program, was actively involved with Habitat for Humanity and the Alaska State Housing and Homeless Coalition, has been a loan underwriter, and social service provider. She has degrees in Sociology and History from CSU. She has been in Alaska since the late 1970s, lived in various parts of the state and raised two children here. Wendy has been in Barrow the past two and a half years developing senior housing projects for 5 villages on the north slope and is actively involved in the community.



New Research And Testing Facility

Project Direction



Spring has sprung and the white stuff has been replaced by mud soon to be replaced by dust. Jack and I walked over the Research and Testing Facility (RTF) building site today and are pleased to report that the storm water retention pond has contained all of the runoff from the site. No silt has left the premises.

The land lease agreement between CCHRC and UAF has been signed. We are still looking at different foundation strategies for dealing with the poor soils underlying the building. We have the best engineers in the north country looking at this issue and will have the final foundation engineering report soon. We continue to estimate materials and labor to construct the RTF to LEED Gold standards. We are actively soliciting contributions of materials, equipment, and appliances for the RTF.

We hope to begin phase II of the road building project in early May while the ground is still frozen. The plan is to begin excavation for the building foundation in early June after the ice has gone out of the ground. This will, hopefully, coincide with our receipt of full funding from the various private, state, and federal sources of grant monies. With full funding in hand we will be able to begin construction of the RTF in mid June.

*By Mike Musick
LEED Accredited Professional
RFT Project Director*

CCHRC would like to thank all of the businesses that have contributed so far to the funding of the new Research and Testing Facility.

Message from the President/CEO

Your Cold Climate Housing Research Center is about to take a very large step forward with the Construction of the Cold Climate Building and Infrastructure Research and Testing Facility (RTF). The facility will allow us to expand our activities to develop a number of elements that will become critical to the organization enduring into the future.

A permanent home for our statewide field research will give us a “presence” that is important to industry and other research institutions. Operating out of rented office space does not reflect how serious our commitment is to becoming a world leader in housing research. A dynamic, state of the art, visible example of appropriate building technologies for our challenging environment does. Research bays and labs where products can be developed to address identified needs in the building industry and the infrastructure that supports it, add to that sense of credibility. Equity participation in products developed by CCHRC can also provide an important income stream to supplement or replace federal and state research dollars. Successful research centers always follow good business models and practice. Diversifying income is essential

to CCHRC’s future well being as public dollars become harder to secure. Our plans to establish a product testing lab and certification program (“Certified Alaska Tough”) will be another element toward this self-sufficiency and diversification. We already have partnerships developed with Johns Manville, Dow and DuPont toward this end. Cold weather testing of products in Alaska has an undisputed market appeal for manufacturers worldwide. Our task is to establish our integrity and testing protocols to the highest standards and show them what we can do.

There is a lot of work ahead this year to build the RTF. Fortunately, getting this building constructed is much more in my comfort zone than many of the tasks I’ve been assigned at CCHRC since it’s founding. As we take this big step, I will not forget what I said to many of you when we first shared this vision of Alaskan builders establishing a housing research center. That was a pledge that if I am involved, CCHRC will respond to and find workable solutions to the challenges faced by builders in Alaska. It remains my first priority,

Have a wonderful spring in this truly Great Land. Jack



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COLD CLIMATE HOUSING RESEARCH CENTER

CCHRC Hires New Employee

Casey Schoen joined the office staff the beginning of April in the position of Administrative Assistant. We interviewed five strong candidates, but were attracted to Casey's strong skills along with her youthful enthusiasm. We think she has an excellent opportunity to grow with CCHRC and add to its success. Casey is from New York, but a couple trips to Alaska to visit family influenced her to make Fairbanks her new home this past January. She worked as an Executive Assistant at the Interior Alaska Home Building Association before starting with CCHRC. Casey has an A.A.S. and a Bachelors Degree from the State University of New York at Morrisville and experience in accounting, inventory and purchasing. We are happy to have her on our team and especially for her work in getting this newsletter out to you all!

Up Coming Events

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| May 10 | Board Meeting @ CCHRC Office |
| May 24 | Sustainable Buildings and Materials Fair |
| May 25-27 | Jack Hebert to talk at the Teton Green Building Conference
www.tetongreenbuilding.com |
| June 16
June 16 to 19 | Board Meeting @ Seward ABSN Seward Summer Conference
www.absn.com |
| June | Ground Breaking at New Research Testing Facility |

For more information on up coming events please contact the office.

The CCHRC Quarterly Report is sent to members, funding agencies and to those requesting information about CCHRC. Response to this report is welcome.