Alternative Technology Review Committee
Meeting Minutes – June 10, 2008

In Attendance:
Jennifer Allen – Portland State University/BEST Center (Bio-Economy and Sustainable Technologies)
Aron Faegre – Aron Faegre & Associates, Architect, Engineer and Landscape Architect
Ron Hays – Eagle Creek Natural Buildings, Remodeling Contractor and Natural Builder
Joshua Klyber – Living Walls – Natural Builder and Portland ReCode Member
Dennet Latham – CH2M Hill
Andy Peterson – BDS Plan Review/Permitting Services Supervisor
Hank McDonald - BDS Commercial Inspections Supervisor
Debbie Cleek – BDS Green Building Specialist

Discussion:

The meeting began with the follow up discussion of Air Krete insulation. Debbie had contacted the local Air Krete representative and asked them the questions the group had complied from their meeting in May. In the course of the conversation the Air Krete representative indicated that he would like to come in person to answer the groups questions. It was discussed whether it should be a standard practice to allow representatives come in person to support their applications or not. The group decided that it would be best to review the applications without a representative first, and develop a list of questions. Then a representative could come to a second meeting to answer the questions. However, the group stressed that it would be very important to have the representative be someone who can address the technical aspects of the product, and not just a salesperson.

The group decided that they did not need to meet with the Air Krete representative at this point or discuss the product further, since it had been used only as a test run of the system. After the process is established if Air Krete wanted to make a formal application to get a committee recommendation they could, but they should be given a heads up about the group's concerns with the product. Hank also brought up another issue related to the new code taking effect in July, which requires a certificate of moisture content for any product that will be applied next to wood framing, which he did not believe that Air Krete had.

The group went on to discuss the draft mission statement and the draft application forms, giving input into the language on both. Debbie will make suggested changes, and then send them back to the group to review.

Jennifer had a question about how the committee members will be appointed to give them authority. Andy indicated that the members will need to people from the public that have the right skill set, and interest in the topic. There was discussion about if the Commissioner or Bureau Director will have to appoint members. The City Attorney had indicated that there needs to be a separation between the committee and the City for liability purposes, so additional follow up with him on this topic is necessary. Andy asked the non-City members of the group to decide by the next meeting if they would like to be on the committee, or come with suggestions for other members. It was discussed that the time commitment for committee members would most likely be about a meeting a month – but could change to more or less based on application volume. City staff would

help support the committee by pre-screening the applications, presenting the information to the committee and drafting the committee's recommendations.

Joshua had a question about record keeping for the committee – where would completed recommendations be kept? It was decided that the decisions of the committee should be kept somewhere other than where the appeals information is kept, to show that it is clearly separate from the appeals board. Debbie will work on finding a place on BDS's website where all of the decisions can be viewed and the application materials will be made available. It was decided that there should also be a cheat sheet or other information that will help applicants to fill out their application forms and submit proper information.

The group began the discussion of the 3-Coat Earth Plaster wall system to replace standard sheetrock or gypsum board. Joshua introduced the system by describing the installation process. The system is comprised of a reed mat that is covered with a mixture of clay, sand and straw, and then covered with a second layer of clay plaster with pigment. The environmental benefits of the system is that it allows increased breathability of the walls, creates more thermal mass in the house to keep it warm and cool, and is made of local, natural, non-toxic materials. No formal testing of the system was available, but in Germany the application has been used on several buildings and has essentially been around for centuries. When exposed to heat the clay solidifies and becomes stronger, similar to firing a clay pot. The clay absorbs water and then slowly releases it again as the relative humidity decreases so condensation and mold are not issues.

So far the system has only been used on interior non-fire-rated walls. The group decided that the biggest issue for using the product on exterior walls would be the vapor barrier requirement, because adding a vapor barrier would compromise the breathability of the system. Aron thought this problem could be avoided by using a vent screen product on the exterior of the wall. Ron indicated that he had gotten around the vapor barrier requirement on his own home by using a cellulose, wet-spray insulation product that had water holding capacity. Hank thought that that probably didn't actually meet code, and had been missed by the reviewers. Joshua indicated that some permeability testing of different clay mixtures had been done in Germany and is published in a book.

Aron had questions about how the reed mat is applied to the lateral system. Ron indicated that it is stapled to framing roughly every 3 inches. Joshua indicated that they would probably need to put together some installation guidelines for the system for the committee to review. There was discussion about if the weight of the system would present any structural challenges. It was determined that the system was very similar to lathe and plaster that had not historically presented structural problems.

Joshua asked if the system would need full fire testing to be able to be used in a fire rated wall. He indicated that it would be easy to apply the clay at the same width that is required for gypsum board in fire walls. It was assumed that there would not be issues with the reed mat burning because the plaster would prevent air from getting to it. Hank said that the City is currently reviewing a permit for a house built in the 1800's with lathe and plaster walls and they were determined to have a 70 to 80 minute burn time. Aron also suggested that Joshua could look in old architecture books for information about how lathe responds in a fire, since it is so similar. It was concluded that the system could probably be used in place of gypsum board in exterior fire walls with some

additional information. However for a formal recommendation from the committee Joshua would need to submit an application once the process is in place.

It was determined that at the next meeting the group would conclude the discussion about committee appointments, as well as look at mock-ups of a recommendation report and application instructions. In the meantime Andy would meet with the City Attorney, and Debbie would send around the application form, mission statement and flow chart for final comments on those. The group should plan to meet on July 15th unless the meeting with the City Attorney cannot happen before then.