June 9, 2011

Alternative Technology Advisory Committee

Application No. 7: Lime plaster and industrial hemp fiber bio-composite building material

Attendees: Ed Vranizan, Ron Hayes, Aron Faegre, Terry Whitehill, Ben Howell, Joshua Klyber

The committee met to discuss and advise the applicant on technical issues as they relate to the building code appeal and its process.

Committee Comments:

1. The key building code issues are the durability of the lime/plaster and hemp material and the insulation characteristics of the material. The findings do not address structural design of the wall system. It is assumed that the applicant will provide calculations for lateral load design when submitting for a building permit. Refer to Oregon Residential Building http://www2.iccsafe.org/states/oregon/08_Residential/08Res_Frameset.html

2. The application references material terms common to the European building construction. It is recommended that the applicant translate the text of the application form into American Standard Units. Example: the wall system is referred to as "timber framing", clarify the system intended for use; stud wall or heavy timber construction. Convert metric units to English standard units.

3. Provide a sample diagrammatic wall section of the complete system that the applicant intends to build. The section should be dimensioned to illustrate the material as an insulation and exterior wall system; the section should include the foundation, sill, wall framing, wall thickness, wall height, roof eave, and the interior/exterior finishes.

4. Provide the thermal coefficient for the hemp/plaster material itself. It was not possible from the material to determine the R-value calculation. Reference 2008 ORSC Appendix R - AR 106.3 Insulation; as a basis for calculating the R-Value. Note that conductivity in European units was shown on one sheet and this might be translatable to American Standard Units.

5. Attached is a copy of the application for light clay straw for the applicant's reference. This is a similar application and can be used as an example.