

MONTEREY BAY CHAPTER ICBO/ ICC

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INSTEAD OF PUTTING THE HAY IN THE BARN, WHY NOT MAKE THE BARN OUT OF HAY ('ER STRAW)?

MAKING SOME SENSE OUT OF HAY BALE CONSTRUCTION may take a bit of convincing for many building officials, building owners, architects, banks and insurance companies. Who came up with this idea anyway, some hay seed?

Actually, building houses of straw has been around for centuries throughout the world. It was easy to gather, tie together and assemble into usable shapes. In Europe, there are standing houses of straw and reeds exceeding 200 years old. In this country, it is a slightly newer idea. Imagine you are a European settler in the middle of Nebraska and you need to build a shelter. There's not much out in the prairies to build from except grass and a very few trees. So, like they say at the hot rod drags, "you run with what you brung".

With the invention of baling machines in the late 1800's, farmers found themselves with ready made building blocks in the middle of their fields. So, they tried stacking up a few to see what would happen, and one thing led to another and so on. They protected the straw with a sort of plaster/whitewash covering to keep them dry and today there are examples of Nebraska style straw bale houses over 100 years old that are still quite viable with the bales in tact.

With today's high materials cost, a need for more efficient housing and a renewed interest in returning to older style building materials., interest in straw bale construction is gaining some momentum. While it may not be the answer for everyone, straw bale construction is considered as sustainable or "green" construction. Additionally, it may provide a certain amount of satisfaction for a growing number of earth conscious people, trying to do their part in preserving our dwindling natural resources.

In California, there is a growing problem in dealing with the burgeoning waste of the rice growing industry. The traditional methods of clearing fields by burning the straw has become an increasing environmental concern. In fact, annually in the United States alone, enough straw is generated from the major grain types to construct between 4 and 5 million, 2000 square foot homes.

Needless to say, the State was interested in an opportunity to not only cease a fair amount of field burning, but to put to use the byproduct material of the growing process, truly the concept behind green building. So the State set about to develop a set of guidelines to help regulate the use of straw for construction purposes.

These regulations are contained in the Health and Safety Code commencing with section 18944.30. The regulation details the existing problem, terminology, de

A VERY SUCESSFUL ABM IN MONTEREY!

Wow, we got through it and by all accounts it was a very successful business meeting. The 41st annual CALBO ABM is now history.

Our educational classes on Wednesday were well received. There was a very large turnout of inspectors and building officials that absorbed the information offered in a variety of seminars. Our own Dave Pasquinelli and friend Jim Hodges wowed them on a great presentation on lateral flow force, while Dick Stubendorff took a stab at explaining about building green.

The Wednesday night strolling buffet at the Monterey Aquarium was as spectacular as expected (and so was the food), although it seemed a little odd munching on salmon and prawns while watching them swim around. It was great to see our beloved Joe Mitchell there.

On Thursday we got down to general business. A fair amount of the meeting time was devoted to updates on code status and comparison of the NFPA and ICC codes. There were also several excellent presentations on building department operation, disabled access and update reports from the CEC, OEC, CSLB and Fire Advisory Committees. Of course our usual cadre of vendors were there with all of their new magic products.

D a r y l Willey, the Building Official of Modesto has taken the reins from Tony Elmo of Temecula (who had a very successful year) as the new CALBO president. Our own Sheila Lee will continue as a director and keep us informed on the activities of state.

A s a l w a y s , CALBO is looking for volunteers to serve on standing committees. So if you are interested, give them a call and get involved.

(Straw bale buildings, cont.)

sign values and installation techniques. The guidelines are not effective in any city of county unless the local government makes an express finding that the use of the guidelines is "reasonably necessary because of local conditions".

Last April, State Senate Bill 332 was approved by the Governor and provided a number of amendments and adjustments to the Chapter. Specifically, the bill:

1. Applies new guidelines to cities and counties that adopted local ordinances under the current guidelines but allows these jurisdictions to make any changes that are reasonably necessary because of local conditions.
2. Applies the guidelines to all types of straw bales, not just rice straw.
3. Adds definitions of "load-bearing", "non-load-bearing" and "plaster".
4. Allows buildings with high load-bearing bale walls to exceed one story in height if a civil engineer or architect substantiates calculations and design.
5. Allows load-bearing bale walls plastered with cement on both sides to carry vertical loads of 800 pounds per linear foot and requires the structure to be designed to withstand overturning and base shear.
6. Provides that bale walls plastered with cement shall be considered capable of resisting in-plane lateral forces of 360 pounds per lineal foot.
7. Deletes specific foundation requirements and instead requires that foundations be designed to accommodate the load created by the bale wall plus superimposed live and dead loads.
8. Requires that supports for bale walls extend at least six inches above adjacent ground and at least one inch above floor surfaces.
9. Allows bale walls to be anchored to supports by more than one method.
10. Requires that bale walls have specified moisture protections and also be protected from other natural elements.
11. States that certain statutes regulating the use of straw bales shall become inoperative upon adoption by the California Building Standards Commission of permanent guidelines.

Today's modern balers create tight and therefore very strong building blocks. There are a variety of stacking techniques but normally it's a simple running joint brick type lay up, either in infill or structural application. Sometimes mortar is laid between the bales creating a "lattice" type of structure that would remain in place if a bale should fail.

The "stucco" finish on the bales seals out moisture and insects, but must be pervious to prevent moisture from being trapped inside the bales. Bales are also installed on footings to prevent water from being wicked up from the ground. This is important to prevent rot and greatly extends the lifespan of the bales. The whole thing is then held to the ground with variations of vertical pinning devices ranging from wood dowels or rebar to sophisticated anchorage systems.

In addition, straw bale houses are very energy efficient. With an allowable R-value of between 1.8 and 3.0 per inch of thickness, a 23 inch thick bale works out to between R-42.7 and R-70.3.

The houses are plumbed and wired in more traditional fashion and as a bonus straw bales perform very well in a fire. Test demonstrated that a properly sealed bale can withstand upwards of 1850 degrees F for two hours before cracks appeared in the plaster.

While states like Arizona and New Mexico are leading the bandwagon in acceptance and design regulations, California's building officials have been a little more hesitant to accept them into mainstream construction..

Update on California Building Standards Commission Code Adoptions

By: Daniel Kostelec

On Wednesday March 5, 2003 I attended a meeting of the CBSC Coordinating Council in Sacramento. The Coordinating Council is charged under Health and Safety Code Section 18926 (a) to work with the Executive Director of the CBSC in the development of proposals for building standards. The Council is made up of the Executive Director of the CBSC and a representative of the following state departments: Health Services, Housing and Community Development, Industrial Relations, State Fire Marshal, State Energy Resources Conservation and Development Commission and General Services.

The main focus of discussion at the meeting was the progress report provided by each of the agency representatives present regarding their review and comparison of the International Building Code and NFPA 5000. The agency representatives, sitting as the Coordinating Council are required to make a recommendation to the CBSC in June 2003 as to which of the two competing model codes will serve as the basis for the 2004 California Building Code. Each agency indicated that they have begun their reviews. Despite reporting their progress in very general vagaries, all agencies did state that they expect to meet the June deadline for a recommendation to the CBSC. What was definitely not vague in the discussion was which agencies on the Coordinating Council will be the major players in the final determination of which model code will be recommended to CBSC. The two key agencies are the Office of the State Fire Marshal and Housing and Community Development. It is not that the other agencies are not interested in which code is selected. All agencies are reviewing and comparing the impact each code will have on them and their operations. However, it is SFM and HCD who are most effected by the move to a new model code from the now defunct Uniform Building Code. The Office of State-wide Health Planning (OSHPD) and the Department of the State Architect (DSA) pretty much write their own regulations for hospitals, structural standards for schools and disabled access, regardless of the state's base code document. Historically, SFM and HCD have more heavily relied on base model code for the majority of their construction and health and safety standards. Therefore, it will be natural for the agencies least affected to bend to the desire and needs of SFM and HCD.

Which way will SFM and HCD go? Neither agency gave away their hand at Wednesday's meeting. Although, HCD spoke of the importance of housing affordability in the criteria they are using for their comparison. That would lead one to suspect that HCD will favor the IRC, and the IBC for consistency and ease of use with the IRC. The SFM repeatedly spoke of the protection of first responders as an important criteria in their analysis, which would point favorably to the recommendation of the NFPA documents.

Discussion also centered around the possibility that the agencies will not unanimously agree on their recommendation in June. However, Stan Nishimura, the Executive Director, made it clear that that, in fact, is the purpose of the Coordinating Council and he stated that every effort would be made to work out all differences, so that a unanimous recommendation can move forward to the CBSC.

In reality, whether the Coordinating Council's recommendation in June is unanimous or not may not really matter as was illustrated by Mr. Nishimura's response to the following question from the audience. He was asked: "Given the fact that there currently exists a majority of votes on the California Building Standards Commission for adoption of NFPA 5000, if the Coordinating Council's recommendation is to adopt the International Building Code, are there any legal or statutory regulations that would prevent the California Building Standards Commission from rejecting the Coordinating Council's recommendation of the IBC and instead vote to adopt NFPA 5000?" The answer was "no".

MONTEREY BAY CHAPTER – ICBO/ICC

Meeting Minutes of February 2003

CALL TO ORDER

- 1.01 Pledge of Allegiance
- 1.02 Self-Introductions

CHAPTER BUSINESS

2.01 Approval of the Minutes:

1. The minutes of the January 2003 meeting were approved as amended. (1st/Passquinelli; 2nd Proffitt). Motion passed.

2.02 Unfinished Business:

1. Dave Pasquinelli (City of Salinas) reported back on the ICC signing ceremony:
 - ◆ 100 people present
 - ◆ press conference with the National Association of Home Builders (NAHB)
 - ◆ dinner at the Aladdin Hotel, hosted by NAHB
1. Ray Proffitt (City of Hollister) inquired about Habitat for Humanity. Craig Oliver (City of Marina) reported that the Naval Post graduate School sent 30 volunteers. Additional assistance may be needed at another date.
2. Craig Oliver circulated the bylaws. Craig brought up the clarification in bylaws regarding a quorum. Daniel Kostelec (City of Capitola) made motion amending bylaws to read “in attendance and”. (2ND /Stubendorff). Motion approved.
3. Betty Grace will change corporation document.

2.03 New Business:

1. Daniel Kostelec discussed upcoming Tri-Chapter meeting in June. Same format, Friday, June 6th , in Santa Cruz, Dan will work with West Coast Hotel in Santa Cruz.
2. Doug Rick (City of Pacific Grove) inquired if anyone has appealed the Insurance Services Office (ISO) rating for city Building Departments. ISO will be reducing city or counties' rating by two points due to State not adopting most updated code.

2.04 Treasurer's Report:

1. Betty Grace presented report.

COMMITTEE REPORTS

3.01 Code Change:

None

3.02 Legislation:

1. John Villalpando (City of Monterey) reported on Proposition 46, which provides for Code Enforcement grants. Grants are available to cities and counties to improve their building code enforcement activities.

3.03 Special Inspection:

1. Doug Rick reported that at the February 7th Special Inspection Committee meeting, three companies were de-rated:
 - ◆ D&M Consultants (Terratech)
 - ◆ HP Inspections
 - ◆ Montgomery Watson Harza - non responsive to committee required information

1. Dynamic Consultants, Inc. (DCI) has moved to 1300 Space Park Way, Mountain View, CA

3.04 Membership and Honors:

1. Gwen Wells (Central Coast Builder's Exchange) reported she would send a get well card to Jim Walker.
2. Joe Mitchell (City of Seaside, ret.) and Jim Walker (County of Monterey, ret.) will not be able to attend CALBO Annual Business Meeting luncheon.
3. Gwen made motion to donate \$100.00 to Cancer Society in Janet Praria's name. (2nd/Villalpando). Motion passed.

3.05 IAEI:

1. Mike Stone (City of Salinas) reported that the Electrical Inspector conference meeting is scheduled for April 9th through 12th, the training for Electrical Inspector is scheduled for April 16, 2002 at the Casa Munras in Monterey.

3.06 2003 CALBO ABM:

1. Part of program.

3.07 Education:

None

4.0 OTHER REPORTS

4.01 CALBO:

- ◆ Craig Oliver read the CALBO report by Sheila Lee.
- ◆ Status of PEX piping case, on February 13, 2003. Judge Jarvis approved use to be included in the California Plumbing Code. There is a 45-day appeal period.
- ◆ State Fire Marshall's office selected Lee Braun, also recommended by CALBO, to be on Fire/Life Safety Committee. No decision yet.
- ◆ Building Standard Seismic Ad Hoc advisory group met February 6th. No decision yet.
- ◆ CALBO was invited to the League of California Cities meeting on January 23rd. The League was receptive to CALBO's position. We have support from eight board members.
- ◆ San Jose Mercury had a good article on PEX and outdated codes, ISO rating.

4.02 ICBO/ICC:

None

4.03 Code Discussion:

1. ARC Fault interrupters were discussed.
2. Construction debris recycling was discussed.
3. Ray Proffitt inquired about other jurisdictions' fire sprinkler ordinances. Please send information or fire ordinances to Ray by fax or e-mail.

5.0 PROGRAM

Agenda

March 20, 2003 @ 11: a.m.

Bay Park Hotel, Monterey

10:30 am CALBO Host Committee ABM Meeting

1.0 Call to Order

- 1.01 Pledge of Allegiance
- 1.02 Self- Introductions

2.0 Chapter Business

- 2.01 Approval of Minutes
- 2.03 Unfinished Business
- 2.03 New Business
- 2.04 Treasurers Report

3.0 Committee Reports

- 3.01 Code Change
- 3.02 Legislation
- 3.03 Special Inspection
- 3.04 Membership & Honors
- 3.05 IAEI
- 3.06 2003 CALBO ABM
- 2.07 Education

4.0 Other Reports

- 4.01 CALBO
- 4.02 ICBO / ICC
- 4.03 Code Discussion

Lunch \$15.00

5.0 Program— Chris Johnson, USP Structural Connectors

*MONTEREY BAY CHAPTER ICC
ANNOUNCEMENTS*

Meetings

March 11, 2003 Board of Directors Meeting (Budget)

March 20, 2003..... Chapter Meeting

April 17, 2003Chapter Meeting

May 15, 2003Chapter Meeting

June 6, 2003..... Tri-Chapter Meeting in Santa Cruz

June 19, 2003.....Chapter Meeting

July 17, 2003.....Chapter Meeting



KNOW 'DA LINGO

Below are old words used in architecture and maybe even a little ship building. Do you know what they are?

- 1. Garret**
- 2. Jack Rib**
- 3. Lock Rail**
- 4. Nogging Pieces**
- 5. Patter**
- 6. Puget Sound Pine**

(answers next month)

The **Chapter News** is published and distributed by:

Craig Oliver, Dick Stubendorff and Gwen Wells. If you have an item you wish to contribute and comments about the news letter, please contact us .

(coliver@ci.marina.ca.us)

(rstubendorff@ci.santa-cruz.ca.us)