



building standards

International Conference of Building Officials

January-February 2000 \$5.00

Frank Lloyd Wright

Defining Architecture

Alternative Futures for Building Regulations

Lunar and Terrestrial Building Technology

Cob Construction and Building Codes



Features and Articles

- 12 **Frank Lloyd Wright** *Defining Architecture in the 20th Century*
by D. Michael Hamner, A.I.A. and David Dodgen, ICBO Corporate Vice-President
- 16 **An Alternative Future for Building Regulation**
by David Eisenberg and Bob Fowler, FAIA, P.E., C.B.O.
- 25 **Earthship Building: An Ecocentric Method of Construction** by Jack Ehrhardt
- 28 **Building With Bamboo** by Darrel DeBoer
- 33 **Cob Construction** by Michael G. Smith
- 33 **Cob and the Building Code** by John Fordice
- 37 **Cast Earth: A Revolutionary Building Concept** by Michael Frerking
- 44 **Lunar and Terrestrial Sustainable Building Technology in the New Millennium: An Interview with Architect Nader Khalili** by Madhu Thangavelu
- 48 **The Future of Building Code Development** by Ronald O. Hamburger, S.E.

Departments

- 5 From the Chairman
- 6 Letters to the Editor
- 10 From the Front
- 75 Product Highlights

buildingstandards TODAY

- A-1 ICBO News
- B-1 People
- C-1 Highlights
- D-1 Employment Opportunities
- E-1 Calendar

Staff

Publications Manager: *J. Edward Giles III*
 Senior Editor: *Tara Macdonald*
 Magazine Editor: *Sebastian Kunnappilly*
 Acting Assistant Magazine Editor: *Greg Layne*
 Assistant Editors: *Alberto Herrera, David Jamieson*
 Acting Production Coordinator: *Pamela Loberger*
 Art Department Manager: *Carmel Gieson*
 Computer Graphics Specialists: *Jim Brink, Silbina Lepe, Ann Muirhead*
 Typesetting Manager: *Yolanda Nickoley*
 Typesetting: *Mary Bridges, Mike Tamai*
 Printing Supervisor: *Steve Gillmore*
 Marketing/Advertising Associate: *Dianna Hallmark*
 Marketing Specialist (Seminars/Certification): *Maria Aragon*
 ICBO ES Marketing Specialist: *Sam Parmar*
 Information Specialist/Webmaster: *Tim Kung*
 Automated Products Coordinator: *Larry Lukasik*
 Administrative Assistant: *Peggy Nila*

Editorial And Advertising Committee

Kenneth G. Larsen, C.B.O., Immediate Past Chairman
Dan R. Nickle, C.B.O., Chairman
Ronald L. Nienaber, C.B.O., First Vice-Chairman
Jon S. Traw, P.E., President

To receive more information about becoming an ICBO member, call (800) 423-6587, x3409 or x3301.

Cover and Feature Credit:

Photography Courtesy of The Frank Lloyd Wright Foundation*, Scottsdale, AZ.
 Design by L Squared Industries

Resource Centers

- Austin** 9300 Jollyville Road, Suite 101, Austin, Texas 78759-7455, (512) 794-8700, fax (512) 343-9116.
Manager: Carroll L. Pruitt, AIA.
Staff Engineer: Hamid Naderi, P.E., C.B.O.
- Indianapolis** 7998 Georgetown Road, Suite 900, Indianapolis, Indiana 46268, (317) 879-1677, fax (317) 879-0966.
Manager: Brent Snyder, C.B.O.
Education Coordinator: Michael H. Clemens, C.B.O.
- Kansas City** 2900 N.E. 60th Street, Suite 206, Gladstone, Missouri 64119, (816) 455-3330, fax (816) 454-8887.
Manager: William D. Wall, P.E.
Staff Architect: Jay A. Woodward, AIA.
- Northern California** 6130 Stoneridge Mall Road, Suite 120, Pleasanton, California 94588, (925) 734-3080, fax (925) 463-3295.
Manager: James E. Hodges, P.E.
Staff Engineer: John R. Henry, P.E.
- Seattle** 2122-112th Avenue, N.E., Suite B-300, Bellevue, Washington 98004, (425) 451-9541, fax (425) 637-8939.
Manager: Jerry J. Barbera, P.E.
Staff Engineers: Alan Carr, S.E.; Philip R. Brazil, S.E.; and Craig Stevenson, C.B.O.

Guide to ICBO
 ICBO ES Acceptance Criteria
 Building Valuation Data
 Certification
 ICBO Membership Application
 ICBO Committee Membership Application
 1999-2000 Representatives on ICBO Committees

Reference Section

The International Conference of Building Officials is dedicated to public safety in the built environment worldwide through development and promotion of uniform codes and standards, enhancement of professionalism in code administration, and facilitation of acceptance of innovative building products and systems.

Building Standards™ (ISSN 0270-1197) is published bimonthly by the International Conference of Building Officials, 5360 Workman Mill Road, Whittier, California 90601-2298, (562) 699-0541, fax (562) 699-8031, Fax Information Service (562) 699-4253, www.icbo.org. Copyright © 2000 by the International Conference of Building Officials. Materials may not be reproduced without written permission. Statements of fact and opinion contained herein are the responsibility of the authors and do not necessarily reflect the opinion or agreement of the ICBO Editorial and Advertising Committee, Board of Directors, staff, or membership. The International Conference of Building Officials shall not be responsible for any representations made by advertisers in Building Standards. The International Conference of Building Officials reserves the right to refuse any and all advertising. **Subscription Rates:** \$25.00 per year, \$40.00 for two years, \$55.00 for three years. Back issues: \$8.00. Add \$20.00 per year for postage outside the United States.



Reduce Through Use— Recycled, Renewable and Reused Building Materials for the New Millennium

Designing for a sustainable environment and economy represents a change in attitude and mindset for individuals in today's construction industry. This issue of *Building Standards*™ deals with alternative materials and methods of construction, giving both its authors and the Publications staff of *Building Standards* an exciting opportunity to share information with readers about some of the more popular and environmentally friendly alternative building systems, including cob, bamboo, cast-earth and earthship construction. With the diminishment in quality and quantity of many building materials supplies in the United States and the increasing concern for preserving the ecological balance of the environment, there is much to be said for the unique solutions that building with alternative materials offers the construction industry. It may seem ironic, but due to environmental and economic concerns, wealthy, highly industrialized nations are now taking lessons from the successful building techniques of developing countries and past generations.

The impending millennium presents us with the opportunity to not only step back and reflect on how building construction has changed to ensure safe and affordable housing for our citizens but also to speculate on how it is likely to change in the 21st Century. Sustainable materials and methods of construction offer practical options to conventional methods of building, and *Building Standards* has attempted to present them in such a way that they will be seen by the general public as rational, perhaps even inevitable, alternatives.

A revival in interest and growing public consciousness regarding the use of natural resources paves the path for sustainable living in the new millennium. By meeting the needs of people today without destroying resources that will be needed by future generations, we are ensuring the longevity of our built environment through long-range planning and recognition of the finite character of natural resources.

A handwritten signature in dark ink, appearing to read 'Dan R. Nickle'.

Dan R. Nickle
Chairman