Sustainable Building Materials Annotated Bibliography

The following descriptions are selectioned from the "Combined Annotated Bibliography." All were written by Brenda Rigdon.

Brand, Stewart. *How Buildings Learn: What Happens After They're Built*. New York: Penguin Books, 1994.

An examination of the adaptive reuse of existing structures. Guidelines for designing easily adaptable building are discussed.

Brunskill, Ronald William. *Illustrated Handbook of Vernacular Architecture.* London: Faber and Faber, 1978.

A survey of Great Britain's vernacular architecture. Domestic, agricultural, and industrial types are catalogued. The socioeconomic influences on building size, use of materials, and methods of construction provide cultural insight to more than 200 years of building. Sustainability issues include the use of materials at hand, ingenuity of design with a limited palette, and the relationship of fashion and need to form. Particularly interesting are bricklaying methods designed to conserve brick and the selective (and sparing) use of imported materials as needed for structural strength.

Crowther, Richard L. *Ecological Architecture*. Boston: Butterworth Architecture, 1992.

The author is a practicing architect who has applied sustainable design concepts throughout his career. He argues for the necessity of sustainable design, discusses the strategies, and leads the reader through the process. Eleven case studies of his buildings are included; addressed are interior as well as exterior issues and the need for integration of technology and aesthetics. The economics of design choices, at the micro and macro levels, are examined. The book includes a reference section for design issues and suggestions for improving sustainability. While written for architects and architecture students, the information is presented in a format that is accessible to the general reader.

Dell'Isola, Alphonse J., and Stephen J. Kirk. *Life Cycle Costing for Design Professionals.* New York: McGraw-Hill, 1981.

Discusses the theory, history, and application of life cycle costing. Includes step-by-step worksheets for analyzing material, maintenance, labor, and other costs incurred in the construction and operation of buildings. The authors break down the total cost of ownership over time (including construction, operation, and interest expenses) and compare a typical owner's concerns to a typical designer's goals. They discuss how to evaluate methods and materials in the design stage for their long-range cost implications. Included are case studies, selected data, economic tables, and sample scope of work to assist architects in determining and justifying appropriate fees for their analyses. Educational supplements with more extensive cost data and exercises are also available.

Fitch, James Marston. *Historic Preservation: Curatorial Management of the Built World.* Charlottesville: University Press of Virginia, 1990.

Presents economic, aesthetic, and cultural arguments for the preservation and/or adaptive reuse of existing structures. Traces the history of the historic preservation movement in the U.S. Both preservation theory and specific techniques for reconstituting damaged building fabrics are explained. Examples include the Plimouth Plantation and Colonial Williamsburg are used to examine the pros and cons of recreating historic structures. Includes a section on designing additions to historic buildings and retrofitting old buildings with new mechanical/electrical systems.

Barnett, Dianna Lopez, with William D. Browning. *A Primer on Sustainable Building.* Snowmass, Colo.: Rocky Mountain Institute, 1995.

Introduces the concept of sustainable design, reasons for using its principles, and general guidelines for its application. Deals with site development, transportation issues, building configuration, alternative energy systems, water conservation, and building materials. Includes an extensive listing of other publications, non-profit groups, and journals that deal with sustainable design issues. Geared primarily toward home-owners, but principles are applicable to commercial/industrial construction as well.

McHenry, Paul Graham, Jr. *Adobe and Rammed Earth Buildings: Design and Construction*. New York: John Wiley, 1984.

This primer on earth construction includes examples from around the world and selected construction details. The principle of thermal mass as an energy conservation tool is examined. Design issues, applications, and building techniques are included. Directed at homeowners as well as designers.

Rapoport, Amos. *House Form and Culture.* Englewood Cliffs, NJ: Prentice Hall, 1969.

An examination of vernacular architecture and the lessons it holds for working with site and climate. Discusses material selection and site orientation; explores the link between behavior within a space and the form of the space. Intended for readers familiar with historic residential style.