



**Barbara Erwine**  
**Sustainable Design Consulting: Teaching: Writing**

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**Professional Experience:**

Barbara is a seasoned sustainable building design consultant, educator, researcher and writer with emphasis on sensory space and passive and energy efficient approaches to resource use in buildings. Her work celebrates the integration of the built environment with the natural world. She is a LEED Accredited Professional with extensive experience facilitating an integrated design process for a wide range of project types and stakeholders, including commercial buildings, urban neighborhoods, and public lands.

**Skills:**

- ❑ Sustainable building/site design consulting and master planning
- ❑ LEED AP – expert consultant/trainer & USGBC reviewer
- ❑ Architectural Daylighting Design Optimization
- ❑ Scale Model & Computer Lighting Simulation
- ❑ Electric Lighting Integration & Daylight Controls
- ❑ Teaching/Lecturing - University Level and Practicing Professionals
- ❑ Post Occupancy Research on Sustainable Design Including Building Energy Monitoring
- ❑ Demand Side Management Research and Program Consulting
- ❑ Total Cost of Ownership (TCO) economic analysis
- ❑ Publications - Research Papers, Trade Periodicals, Technical & Marketing
- ❑ Cohousing Development & Community Facilitation
- ❑ Technical and narrative nonfiction writing
- ❑ Group Facilitation - consensus based meeting facilitation

**Education:**

- ❑ Master of Architecture, University of California at Berkeley
- ❑ BS, Chemistry, Miami University, Oxford, Ohio  
Graduation with honors                      Phi Beta Kappa

**Professional Organizations:**

- Cascadia Green Building Council
- SBSE: Society of Building Science Educators

## **Work History:**

### **University of Washington:**

- ❑ **Lecturer:** Course instructor for multisensory design and environmental controls

### **Independent Consultant: 2011 – present**

**Sustainable design consulting, research, lecturing and technical writing**

### **Paladino & Company: 2004 – 2011**

**Senior Consultant for internationally recognized sustainable design consulting firm**

- ❑ **Generated sustainable design solutions** for commercial, industrial and residential buildings and developed sustainability master plans for corporations and neighborhoods. Researched sustainable design options, developed sustainability indicator sets & facilitated corporate sustainability platforms.

### **Cascadia Conservation Sole Proprietor: 1989 - 2004**

**Daylighting consultant/educator/researcher**

- ❑ **Generated architectural daylighting design solutions** using scale models and computer simulations
- ❑ **Conducted research on daylighting and productivity.** Worked with Heschong/ Mahone Group to research correlation between daylighting and enhanced student test scores.
- ❑ **Taught professional/university level courses** on lighting, passive solar, & environmental design
- ❑ **Wrote articles & chapters** for technical books, periodicals and conferences.

### **University of Washington, Department of Architecture 2001- 2004**

**Lecturer and Lighting Lab Manager:**

- ❑ **Taught lighting and climate responsive design courses;** managed UW Lighting Lab; instructed students on use of monitoring equipment for thermal comfort, lighting, and air quality.

### **Lighting Design Lab, 1990 - 1999**

**Daylighting Specialist**

- ❑ **Managed Daylighting Facility & consulted on over 150 architectural daylighting projects** at the Lighting Design Lab, a regional facility serving architects, building owners and developers. Projects included N. Clackamas High School, Costco Stores, Ashland Food Coop, REI Seattle Flagship Store.
- ❑ **Conducted architectural model studies & computer lighting simulations**
- ❑ **Produced training video on Daylight Models**

### **Puget Ridge Cohousing Development Team (1989-95)**

- ❑ **Member of Development Team & Design Committee Chairperson for 23 unit cohousing project**

### **Seattle City Light, 8/88 - 8/90**

**Building Energy Research Specialist**

- ❑ **Conducted research on building energy use.**
- ❑ **Developed conservation strategies & long term planning goals.**

### **Lawrence Berkeley National Laboratory, (1986-87)**

**Graduate Research Assistant**

- ❑ **Monitored performance of daylight buildings** in the US and England.

### **Varian Associates, 1970 - 1983**

**Marketing Manager (1978-1983); Analytical Chemist & Researcher (1970 - 1978)**

## Selected Publications & Videos:

- ❑ **Creating Sensory Spaces: The Architecture of the Invisible**, New York, Routledge, 2017
- ❑ **Multidimensional Space: The Intersection of Architecture and Engineering in the Realm of the Senses**, Proceedings of the ARRCC/EAAE 2014 International Conference on Architectural Research, University of Hawai'i at Manoa, School of Architecture 2014
- ❑ **Multidimensional Space: Environmental Poetics**, B. Erwine, *Ambiances in Action*, Proceedings of the 2<sup>nd</sup> International Congress on Ambiances, edited by Jean-Paul Thibaud & Daniel Siret, International Ambiances Network, 2012
- ❑ **Safe and Healthy School Environments**, Editors: H. Frumpkin, M. D., R. Geller, M.D., and L. Rubin, M.D., Oxford University Press, Inc., 2006, B. Erwine Chapter on Lighting
- ❑ **Lighting for Learning**, B. Erwine & L. Heschong, *Lighting Design & Application*, May, 2002
- ❑ **Advanced Lighting Guidelines**, 2001 Edition, Technical Editor: C. Eley, B. Erwine co-author for Daylighting Chapter, New Buildings Institute, 2001
- ❑ **The Collaborative for High Performance Schools Best Practices Manual, Volume II, Design, Daylighting Chapter**, B. Erwine and L. Heschong, prepared by Eley Associates, San Francisco, CA, April, 2001
- ❑ **Daylight: Healthy, Wealthy and Wise**, B. Erwine and L. Heschong, *Architectural Lighting*, April/May, 2000
- ❑ **North Clackamas High School: Case Study Evaluation of Daylighting Design Tools**, B. Erwine, *Daylighting '98, International Daylighting Conference Proceedings*, Ottawa, Canada, May 11-13, 1998
- ❑ **Daylight Models**, Lighting Design Lab daylight model training video, B. Erwine writer and instructor, 1998
- ❑ **Daylighting Decisions – Tools for an Informed Approach**, B. Erwine, *Architectural Lighting*, April/May 1998
- ❑ **The Power of the Sun, Integrating Daylight and Electric Light**, B. Erwine, *Architectural Lighting*, April/May 1996
- ❑ **A View to the Future**, B. Erwine, *LD+A*, February 1996
- ❑ **Light-well to Atrium Conversions: A Case Study Investigating the Daylighting Issues**, B. Erwine, J. Littler, C. Hancock, *12th Annual Passive Solar Conference, Conference Proceedings*, 1987
- ❑ **Field Measurement of Light Shelf Performance in a Major Office Installation**, C. Benton, B. Erwine, M. Warren, S. Selkowitz, *11th Annual Passive Solar Conference, Conference Proceedings*, 1986

## Selected Lighting Classes & Lectures:

- ❑ **University of Washington Course Instructor:**
  - Arch 498: Design of Sensory Spaces (2015)**
  - Arch 435: Principles and Practice of Environmental Lighting (2002)**
  - Arch 331/431: Environmental Control Systems: (2001, 2007 & 2015)**
  - Arch 434: Color & Light: co-taught with Prof. Galen Minah, (2001 & 2002)**
  - Arch 498: Measurement and Meaning: (2001 & 2002)**
- ❑ **LightFair International Conference:** Workshop presenter (1999, 2000, 2002, 2004, 2008 & 2010)
- ❑ **Sustainable Building Advisor Certificate Program:** Lighting & Daylighting Instructor (2000-2010)
- ❑ **Greenbuild Presenter (2005):** Getting Real Post Occupancy Research & Evaluation of LEED Buildings
- ❑ **Electric Utility Professional Development Courses (1998-2002)**
- ❑ **Lighting Design Lab classes (1989-1999):** Daylighting Classes, Lighting Theory & Lighting Controls
- ❑ **Northwest Daylighting Forum (1991-1999):** organizer, chair and speaker
- ❑ **Conferences, Invited Speaker:** West Coast Energy Management Congress (2008); APEM Conference Portland (2001); NELPA Conference (1995); Interplan Conference, NYC (1995); Daylighting Design Workshop, Vancouver, BC (1994); Idaho Commercial Design Workshops (1992)
- ❑ **Illuminating Engineering Society of North America (IESNA) Instructor:** Lighting Workshop for Teachers (1995); IESNA ED-100 and ED-150 Daylighting Classes (1994-2002) Seattle and Portland

## **Selected Projects**

### **Happy Hollow Park & Zoo:**

Sustainability design & master planning and LEED consultant for the redevelopment of this popular children's zoo in San Jose, CA. The \$52 M project includes seven new buildings with sustainable design features including green roofs, daylighting, radiant heated/chilled floors, water efficient plumbing fixtures, greywater irrigation, and an innovative stormwater retention system under the walkways. Project completed construction in 2009 and achieved LEED Gold certification.

Project architect: The Portico Group

Sustainability Consultant: Paladino and Company (Barbara Erwine Project Mgr.)

### **Tipton Meeting House:**

Sustainable design and LEED consultant for \$4M environmental learning center and administrative offices for the Sedgwick Reserve (UC Santa Barbara ecological reserve and research center). Design includes daylighting, rainwater harvest from roof, Solar PV, open loop ground source heat pump, efficient fixtures and recycled/locally sourced materials. Project achieved LEED Platinum rating.

Project architect: Thompson Naylor Architects

Sustainability Consultant: Paladino and Company (Barbara Erwine Project Mgr.)

### **ShoWare Events Center:**

Sustainable design and LEED consultant for 6000 seat hockey arena and events center in Kent, WA. Sustainability elements include transportation alternatives to reduce impacts of event attendees, sustainable material selection, demand controlled ventilation to improve indoor air quality, and efficient HVAC system to reuse reject heat from ice-making equipment. Achieved LEED Gold certification

Project architect; LMN Architects

Sustainability Consultant: Paladino and Company (Barbara Erwine, Project Mgr.)

### **City of San Diego (CCDC) Sustainability Plan:**

Sustainable design planning for San Diego City Center (CCDC). Master planning for sustainability indicators and supporting design guidelines.

Sustainability Consultant: Paladino and Company (Brad Pease, Project Mgr., Barbara Erwine, Technical Assist)

### **City of Seattle Post Occupancy Evaluation:**

Post occupancy evaluation of Seattle City Hall and Seattle Justice Center involving calibrated energy model, spot metering, and occupant surveys, analysis of annual water and energy savings and one-time savings from construction waste diversion.

Sustainability Consultant: Paladino and Company (Barbara Erwine, Project Mgr.)