Elcor Electric installed both the Lutron Quantum Lighting Control System and Embedia Technology System to maximize energy savings during day and night.

Elcor Electric Wires The Windhover Contemplative Center, An Instant Getaway At Stanford University

Windhover Contemplative Center at Stanford University, a design build project wired by Elcor Electric, brings the opportunity for quiet contemplation to the campus. The distinctive rammed-earth and glass structure is part spiritual sanctuary, part art gallery and part contemplative garden. It offers a space for structured meditation and quiet observation of art and nature.

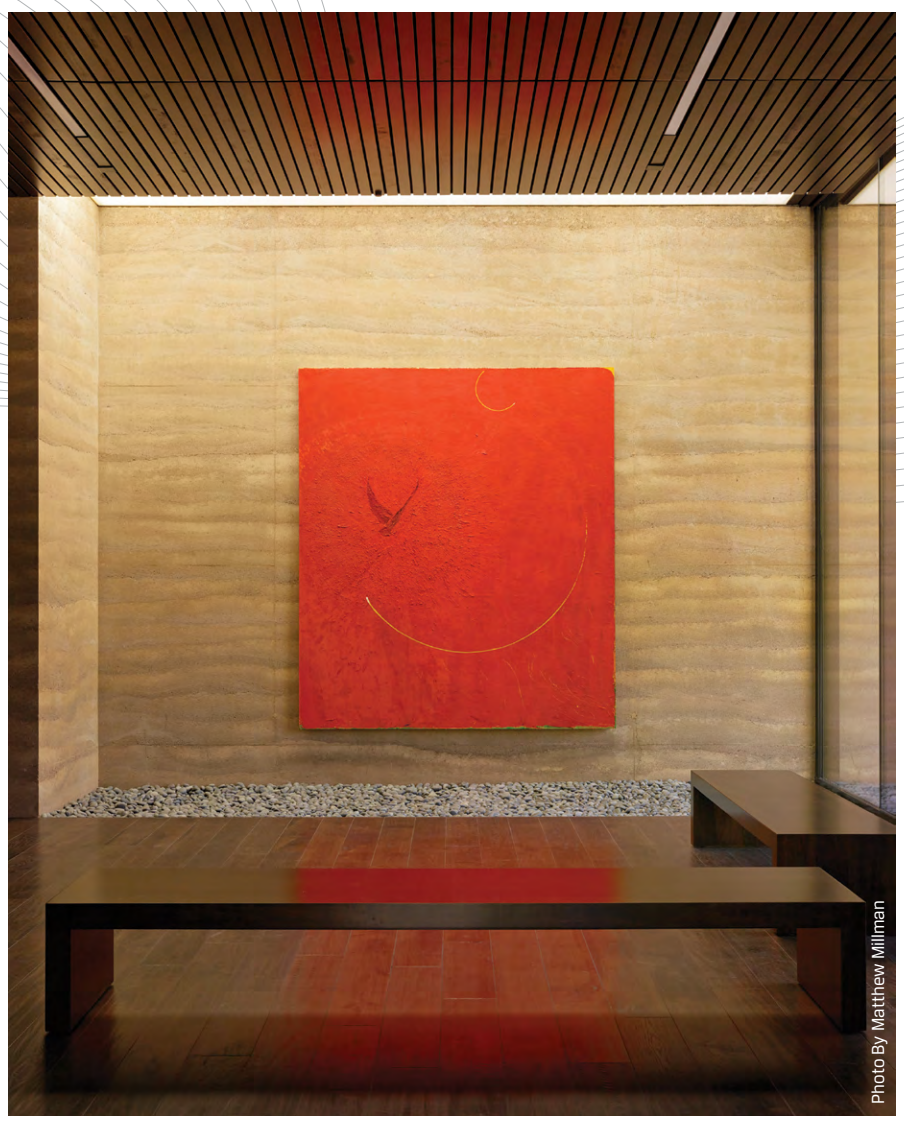
Elcor Electric installed a Lutron Quantum Lighting Control System which is able to raise and lower the shades as well as dim the light fixtures based upon the amount of ambient light.

To light up the building, Elcor needed to maintain the contemplative and aesthetic quality of the facility, while making the wiring and control systems state-of-the-art.

Windhover was designed by Aidlin Darling Design in honor of the work of artist Nathan Oliviera's meditative Windhover series, inspired by kestrels in flight. Oliviera, an internationally known figurative painter, taught art at Stanford University for more than 30 years.

The contemporary-style building, which opened last year, serves as a spiritual retreat for Stanford's students, faculty, and staff. It combines the minimalism of rammed-earth and wood siding walls with the lighter elements of aluminum and glass, and shows the influence of Japanese architecture. The general contractor is SC Builders, Inc.

The architect's goal was to "create a space where art, landscape, and architecture come together to replenish and invigorate the spirit." A long, private garden sheltered from the outside world allows visitors to enter the building in serenity. Fountains in the building and in an adjacent courtyard provide soothing sound, with a still reflecting pool and garden situated to the south. Exterior courtyards allow visitors to view the paintings through the building's long expanses of glass without having to enter the Center.



The building combines the minimalism of rammed earth and wood siding walls, with the lighter elements of aluminum and glass.

Elcor Electric installed an Embedia Technology System to control the metal louvers mounted horizontally below the skylights.

The building's thick rammed-earth walls make typical routing of power through walls unfeasible, requiring that Elcor find alternative ways to run the connections. In the case of Windhover, Elcor wired the building through the floor instead of the walls to avoid the rammed-earth. Power was brought in to the building off the main distribution loop of the campus.

"Our goal was to provide sufficient lighting and power without negatively impacting the aesthetics of the building" said Clint Woodley, project executive for Elcor Electric. "We put a significant amount of effort into concealing and minimizing the electrical features, but still create a utilitarian building in the end."

The need to have natural day-lighting illuminate the art work in the building during the day meant that Elcor had to carefully install and integrate lighting controls to balance natural and artificial light.

The design team utilized a comprehensive daylight study from Loisos + Ubbelohde Associates, Inc., to create an overall strategy for illuminating the space. The model incorporated multiple variables, such as the position of the building, the time of year and the time of the day.

Based on the results of the modeling, an algorithm was produced by the architectural daylighting consultant and integrated by Elcor into the Lutron Quantum Lighting Control System. The Lutron System is able to raise and lower the shades as well as dim the light fixtures based upon the amount of ambient light entering the space at any given time. The system also regulates the exterior lighting installed by Elcor.

Daylight sensors within the Lutron System are programmed to control the lights, based on the amount of natural daylight coming in. "The goal of the project is that the gallery be filled with ambient light," added Woodley. "But there are days when natural light is inadequate, requiring inside lighting at a low level."

The Lutron Quantum Control Hub, located in the main electrical room off the North Gallery, controls the automation.

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Elcor Electric has wired the building through its floors in order to avoid the buildings rammed earth walls.

WINDHOVER CONTEMPLATIVE CENTER STANFORD UNIVERSITY PROJECT TEAM SNAPSHOT:

ARCHITECT:
Aidlin Darling Design;
San Francisco, CA

LANDSCAPE DESIGN:
Andrea Cochran
Landscape Architecture;
San Francisco, CA

GENERAL CONTRACTOR:
SC Builders, Inc.;
Sunnyvale, CA

ELECTRICAL CONTRACTOR:
Elcor Electric, Inc.;
Santa Clara, CA

LIGHTING CONSULTANT:
Auerbach, Glasow & French
Architectural Lighting Design &
Consulting; San Francisco, CA

ARCHITECTURAL DAY LIGHTING CONSULTANT:
Loisos + Ubbelohde
Associates, Inc.; Alameda, CA

Elcor Electric carefully installed and integrated lighting controls to balance natural and artificial light.

Elcor Electric Wires The Windhover Contemplative Center At Stanford University

CONTINUED FROM PAGE 7

The Elcor Electric project team includes Victor Jaquez, project foreman, along with electricians and apprentices from IBEW Local 332.

Elcor installed a separate Embedia Technology System to control the metal louvers mounted horizontally below the skylights. The Embedia System maximizes the use of day-lighting by controlling the amount and direction of sunlight that comes into the galleries throughout the day.

"These two state-of-the-art control systems generate an ideal balance between creating an idyllic tranquil space for students, faculty and staff, and maximized energy savings day and night," said Woodley.

The Windhover Contemplative Center is open daily from 11 a.m. to 11 p.m. to students, faculty, and staff; and open to the public once a week during a docent-led tour on Tuesday. Visit the Windhover Contemplative Center's website for more information (windhover.stanford.edu).

For more information about Elcor Electric and its services, contact Clint Woodley, project executive (cwoodley@elcorelectric.com) or call (408) 986-1320.

WINDHOVER CONTEMPLATIVE CENTER, STANFORD UNIVERSITY

ELECTRICAL TEAM:

ELECTRICAL CONTRACTOR:
Elcor Electric, Inc.; Santa Clara, CA

SCOPE OF WORK:
- Electrical Design Build Engineering
- Electrical Infrastructure
- Lighting
- Lighting Controls
- Fire Alarm

PROJECT MANAGEMENT:
Clinton Woodley, Project Executive
Ryan Woodley, Project Manager
Victor Jaquez, Project Foreman

ELECTRICIANS, TECHNICIANS AND APPRENTICES:
International Brotherhood of Electrical Workers (IBEW) Local 332; San Jose, CA