

**Yocha Dehe Wintun Nation
Maintenance and Operations Building**

**Leadership in Energy & Environmental Design
(LEED) Case Study**



Project Name	Yocha Dehe Wintun Nation Maintenance and Operations Building
Project Location	19214 Puhkum Rd (County Road 75A), Brooks, California; 50 miles west of Sacramento
Site	The project site is on tribal land, held in trust by the federal government. It is located in the Capay Valley of Yolo County. Other elements of the campus include a community center and office space, school, Tribal Council chambers, and several residences. Surrounding land uses are primarily agricultural in nature, with Cache Creek bordering the campus to the east and State Route 16 bordering the campus to the west.
Yocha Dehe Wintun Nation	Sustainability and responsible stewardship of the earth are a critical part of the identity of the Yocha Dehe Wintun Nation. For thousands of years, the Tribe has tended the land, protected plant and animal species, and preserved environmental balance. As a continuation of this long history, the Tribe actively invests in systems and technologies that contribute to a healthier planet. Sustainability—in the ways the Tribe uses water, land, energy, air and other resources—stems from their Native traditions.
Building Statistics	<ul style="list-style-type: none">• Date of Occupancy: October 2010• Square Feet: 3,785 (total, two stories)• Owner/Developer: Yocha Dehe Wintun Nation• User Group: Tribal Government Operations• Total Calculated Annual Energy Use: 57.6 kBtu/sf/yr• Construction Type: 100% New Construction

Project Overview

The Yocha Dehe Wintun Nation Maintenance and Operations Building serves an important function in the operations of the tribal government. The Tribe's Maintenance and Operations Department, Information Technology (IT) Department, and Environmental Department are housed in the building.

The first (ground) floor consists of offices for the Maintenance and Operations Department, conference room, copy room, kitchen/break room, accessible restrooms, and lobby. Also on this level is a central small courtyard, which is accessible by sliding glass doors, increasing the daylight entering the building, which is landscaped with native plants.

The second floor, which is accessible by an elevator, interior stairway, and exterior stairway, accommodates both the IT Department and the Environmental Department. It benefits from the daylight and natural ventilation provided by many exterior windows and has an outdoor patio overlooking a walnut orchard.

Environmental Commitment

In recent history, the Tribe's commitment to environmental sustainability has been manifested in the following ways:

- New construction and energy-saving retrofits
- Clean energy generation and energy conservation
- Water recycling
- Carpool programs and public transit subsidies
- Organic farming, efficient irrigation and other sustainable agricultural practices
- Recycling
- Sustainable procurement
- Newly established Environmental Department
- Green building priorities



LEED Credits

Sustainable Sites

- The project has implemented erosion and sedimentation control practices to protect the nearby creek
- The building was constructed in a previously developed area
- Bicycle storage and shower/changing facilities are available in close proximity to the building
- The parking lot includes spaces dedicated to low-emitting vehicles and spaces designated as preferred parking for carpools or vanpools
- A reduced number of parking spaces have been provided, taking advantage of other parking in the campus setting
- Over half of the site contains native/adapted vegetation
- Over half of the paved outdoor areas are either shaded or use materials that minimize heat storage during the hot season
- The building's metal roof has a high solar reflective index (SRI) to further reduce summer heat gain and cooling loads

Water Efficiency

- The site includes water-efficient landscaping
- The building's restrooms include water-conserving toilets and a waterless urinal

Energy and Atmosphere

- The project aims to surpass California's Title-24 standards by a percent cost savings of over 75%, targeting all ten LEED points within credit EA 1: Optimize Energy Performance
- An estimated 70% to 100% of energy costs (44,285 kWh) are contributed by a 24.4 kW solar photovoltaic array
- The construction has been intensively "commissioned," which is a review and verification process to ensure that building components and systems are installed and functioning at their highest potential
- The building's energy savings are being measured and verified, and monitoring will continue to ensure long-term performance
- Electrical energy not generated on site will be purchased from a certified renewable energy generator for at least the first few years

Materials and Resources

- Building materials include those with recycled content, rapidly renewable components (bamboo, cork, etc.), and Forest Stewardship Council (FSC)-certified sustainably grown and harvested wood
- The use of vinyl in the building was minimized owing to the impacts of polyvinyl chloride (PVC) to environmental and human health throughout all phases of its life cycle
- In order to minimize long-term maintenance, the use of exterior wood exposed to weathering was avoided. The only exterior wood occurs in the roof soffits, which are not exposed to sun and rain.
- An estimated 96.5% of construction waste was diverted from disposal
- Programs are being established to maximize recycling of glass, metals, paper, cardboard and plastic in building operations

Indoor Environmental Quality

- Construction practices were implemented to minimize air system contamination by dust and moisture, and a “flush out” of outside air cleared the spaces of materials off-gassing
- The building is ventilated to a substantially greater extent than what is required, and both air flow and carbon dioxide levels are monitored
- Smoking is not permitted in the building or within 25 feet of any entry or window opening
- Adhesives, sealants, paints, coatings, composite wood and carpets used in the project meet material emissions/indoor air quality testing standards
- Walk-off mats at entryways and high-efficiency filters in the ventilation system are designed to capture and control pollutants
- Lighting throughout the building is designed to be controlled by each individual or group occupying the workspace
- Each office and workspace includes temperature controls and/or operable windows to suit the preference of each individual or group
- All areas of the building benefit from ample daylight and outdoor views

Innovation and Design

- A green building case study, brochure and website have been developed
- A green cleaning program is being implemented, including a green operations manual, cleaning product recommendations and training for the Tribe's maintenance staff

Project Team

- Owner: Yocha Dehe Wintun Nation
- Architect: James Zanetto, Architect & Planner
- Mechanical Engineer: Meline Engineering
- Plumbing Consultant: Meline Engineering
- Electrical Consultant: M. Neils Engineering, Inc.
- Landscape Architect: MIG, Inc.
- Commissioning Agent: Davis Energy Group
- Civil Engineer: Laugenour & Meikle
- Structural Engineer: Pemberton Engineering
- Interior Design and Color Consultant: ESC Design Group
- General Contractor: Monley Cronin, Inc.
- LEED Certification Consultant: Simon & Associates, Inc.



www.yochadehe.org

For more information, please contact Yocha Dehe Wintun Nation
Environmental Department at 530.796.3400.