

ARCHITECTS hanna gabriel wells

The First Net Zero Energy Office Building in San Diego County

Project Overview

Size:
4,471 square feet

Location:
San Diego, CA

Completion Date:
2009

Building type:
Office building

Energy Efficiency:
49% better than 2005 Title 24

Green Rating:
Seeking LEED® Gold

Utility Incentives:
Savings by Design and
Emerging Technologies

Team

Owner/Developer:
ARCHITECTS hanna gabriel wells

Architects
Randy Hanna, Matt Wells, Jim Gabriel,
Joel Manalili, and Kristin Schultz –
ARCHITECTS hanna gabriel wells

Mechanical & Plumbing Engineers:
Ken McClendon, Matt Mantanona and
Omar Varela – McParlane & Associates

Electrical Engineer:
Ron Vengelen – ILA Zammit Engineering

Energy Modeler
Beth Brummit – Brummit Energy Associates

Natural Ventilation Consultant:
Paul Linden – Naturalworks Inc.

LEED Consultant:
Sam Farmer – Drew George & Partners

Annual Savings

Electricity: 30,584 kWh

Gas: 321 therms Water (Indoor Only): 10,300 gallons



Photo by: ARCHITECTS hanna gabriel wells



Photo by: Ted Walton Photography



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"With each new building we design, energy and environmental concerns are becoming more imbedded within the process—we hope to make it an integral part of the design discussion."

— JIM GABRIEL, PRINCIPAL, ARCHITECTS HANNA GABRIEL WELLS




Photo by: Ted Walton Photography

About ARCHITECTS hanna gabriel wells

When the principals of ARCHITECTS hanna gabriel wells decided to relocate their offices in Ocean Beach, they made a commitment to minimize their impact on the environment by targeting net zero energy use. Consistent with this goal, they opted to convert a 1955 auto repair shop into a new state-of-the-art office building, becoming an example within the community for building re-use and environmentally sustainable re-development. The architects worked closely with SDG&E® to maximize energy efficiency, installing photosensor lighting, high efficiency LED task lighting, operable windows and skylights, and a monitoring system that collects data to document the building's ongoing performance. In addition to a solar thermal water-heating system, the office hosts an SDG&E-owned 16 kW photovoltaic system on its roof, which provides renewable energy to the community.

Sustainable Features



- Project was built on a previously developed site, minimizing the environmental impacts of new construction
- No new parking was provided and its close proximity to public transit encourages alternative transportation
- Vegetated space was created, thus reducing the development footprint
-  Roof and light colored paving reduces heat island effect
- No exterior lighting and controlled interior lighting reduce light pollution

Sustainable Sites

Water Efficiency

- Low flow toilets and faucets, and waterless urinals reduce indoor water use by 46%
- Xeriscaping and drip irrigation reduce outdoor water use by 70%




Energy & Atmosphere

-  Onsite 16 kW PV system offsets 104% of the building's energy use
- Energy-efficient technologies such as solar thermal water heating, LED task lighting,  lighting controls tied to photocells, reduce energy load of the building
- Enhanced refrigerant management reduces global warming potential and ozone depletion

Materials & Resources

- Over 90% of original building structure was reused, reducing the burden on the landfill and displacing the need for virgin materials
- Diversion of 80% of construction waste from the landfill

Indoor Environmental Quality

-  Operable windows, fans, skylights and shades provide thermal comfort control for occupants 
-  More than 90% natural lighting increases occupant comfort
- Natural ventilation increases indoor air quality
- Low VOC materials used throughout the building provides a healthy environment

Innovation & Design

- Tours of the building and educational signage throughout the project site educate building occupants and community members on the benefits of sustainable features
- Exemplary performance – Greater than 40% reduction in water use
- Exemplary performance – Greater than 17.5% onsite renewable energy
- Exemplary performance – Greater than 45% better than Title 24



For more information about the Sustainable Communities Program, go to www.sdge.com/sustainable

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