

Sustainable Communities Program

San Ysidro Department of Motor Vehicles Building



“It really didn’t cost more to go green.”

– Rafat Alafranji, Architect and Project Director,
Department of General Services

The California Department of Motor Vehicles (DMV) in San Ysidro opened its state-of-the-art building in October 2006. This is the first California state building in San Diego County to achieve Leadership in Energy and Environmental Design (LEED®) Gold Certification from the U.S. Green Building Council.

The facility was designed to maximize energy conservation in accordance with a California Executive Order directing all state agencies to reduce energy consumption by 20% by the year 2015.

The DMV building is a showcase for innovation in HVAC design. Two highly efficient HVAC technologies have been creatively combined to save energy and provide a healthy, comfortable environment for both employees and customers. Air conditioning for the DMV staff area is provided by an under-floor air distribution system which incorporates floor diffusers for individual air flow and temperature control. The waiting area for DMV customers is served by energy-efficient thermal displacement ventilation.

Visitors walking into this naturally lit building will be pleasantly surprised. Glazed windows and skylights throughout increase natural light. Strategically placed windows, outside views from 90% of the regularly occupied interior spaces and local control of space temperatures, make the San Ysidro DMV a place where employees enjoy coming to work and customers can conduct business in comfort.

Project Overview

Size: 14,656 square feet on a 3.32 acre site

Location: San Ysidro

Completion date: October 2006

Building type: Government

Energy Efficiency:
33.5% better than Title 24

LEED Credits:

- Sustainable Sites - 4 credits
- Water Efficiency - 3 credits
- Energy & Atmosphere - 14 credits
- Materials and Resources - 3 credits
- Indoor Environmental Quality - 13 credits
- Innovation & Design - 5 credits
- Total Received - 42 credits

Sustainable Features

SUSTAINABLE SITES: Storm drains have filters, preventing pollution from entering the waterways. A cool roof reflects the sun’s heat to maximize energy savings and minimize the heat island effect.

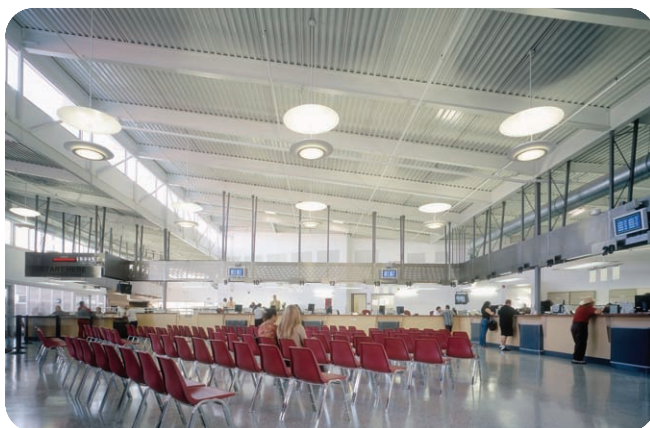
WATER EFFICIENCY: Waterless urinals and motion sensors, on both toilets and low-flow faucets, use 41% less potable water than standard fixtures. Native and adapted plants with medium to low water usage

combined with a high-efficiency irrigation system reduce potable water use for site irrigation by 68%.

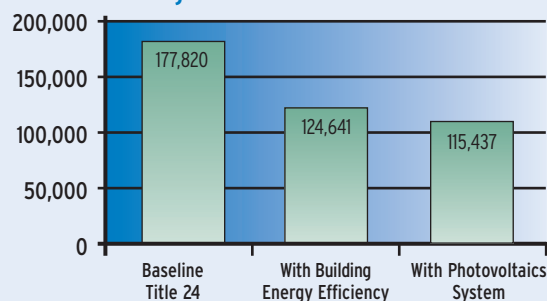
ENERGY & ATMOSPHERE: The specially designed floor and wall registers will supply air to the occupied spaces at moderate temperatures and cool only the occupied zone. Energy efficient fluorescent and high pressure sodium lights were installed throughout the project. Additional energy savings come from motion and photocell sensors. Daylighting is provided by extensive northern windows, skylights and clerestories. Task and

zonal lighting have individual controls. A 5.4 kilowatt photovoltaics system is installed on-site to provide clean, renewable energy serving 7% of the building's electric load. Wind renewable energy credits offset 100% of the building's energy use.

MATERIALS AND RESOURCES: Approximately 58% of the construction waste was prevented from going to the landfill by recycling. Recycled products used in the new building's construction include steel framing, concrete, glazing, and furniture. At least 20% of the building materials were manufactured locally, minimizing energy needed for transportation. Per state mandate, provisions are made for employees to recycle paper, cardboard, aluminum and glass.



Projected Annual Site kWh



INDOOR ENVIRONMENTAL QUALITY: Carbon dioxide monitors ensure adequate ventilation effectiveness. Carpets, paints and adhesives containing low volatile organic compounds were used throughout to improve indoor air quality. Walk-off mats at each major entrance trap dirt particles and pollutants.

INNOVATION & DESIGN: To maintain a high quality of indoor air, the DMV has established a Green Housekeeping Plan and a Pest Management Plan, which exclude the use of toxic chemicals. Signage throughout the building educates customers and employees about LEED and the specific green measures implemented into the DMV site and building.

Lessons Learned

"IT REALLY DIDN'T COST MORE TO GO GREEN": According to Mr. Alafrangi, a comparable non-LEED DMV was built in Sacramento for \$5.2 million while the San Ysidro building cost \$5.4 million. The \$200K increase in cost was primarily attributable to increased labor and material costs in the San Diego region.

LEED GUIDELINES: Use the LEED reference guide. Work diligently, follow the guide to the letter, and LEED certification or higher can easily be achieved. Require at least one person from the General Contractor's team to be a LEED Accredited Professional.

OCCUPANCY COMFORT: Consider and plan for the comfort needs of employees early in the design process to ensure an improved work environment.

Team

Building Owner: State of California, Department of Motor Vehicles
Project Management: Department of General Services
Architect: Roesling Nakamura Terada Architects
Mechanical Engineers: Bender Dean Engineering
Electrical Engineers: BSE Engineering
Utility: SDG&E®

Financial Summary

Construction Cost:
 \$368 per sq. ft.
Owner Incentives:
 \$13,814
Design Team Incentives:
 \$4,202
Annual Savings:
 \$10,462

Resource Summary

Annual Electricity Saved:
 53,179 kWh
Annual Gas Saved:
 1,545 therms
Annual Water Saved:
 105,781 gallons

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

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