



Turner Construction Co. Design-Build w/ Hellmuth, Obata & Kassabaum, Inc.

Abstract Submission
for U.S.G.B.C. Greenbuild 2003

Acting on a memorandum from the San Mateo County Board of Supervisors, Turner Construction Company, in Design-Build cooperation with Hellmuth, Obata + Kassabaum, Inc. brought the County's Mission Statement to fruition.

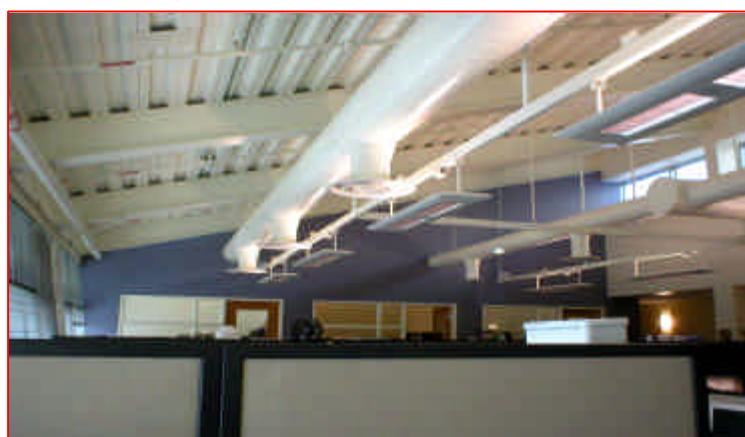


The Design/Build Team was encouraged to "explore as many sustainable design features as practical", and to "integrate these feature into the building design".



The result is a stunning, energy efficient laboratory with sloped shed roofs on two thirds of its roof surface, angled to maximize the potential from the installation of the 1614 photovoltaic panels. Many projects have PV's installed, but this design integrated the Photovoltaic panels as part of the architecture. The PV's were not simply placed on the roof, as is typical, they were integrated to appear as the roof itself. The final design is simple and elegant with the shimmering PV's reflecting the clear blue sky above.

The Team's mission was to incorporate sufficient solar power to cover 20% of the buildings needs. The result greatly exceeded this requirement and now accounts for 80% of the buildings needs as calculated on Peak Load to Peak PV Output.





The design arranged the occupied spaces at the perimeter (under the shed roofs) where the views of the natural local hillsides are maximized. Certain labs where light is undesirable, such as the dark room, & mechanical/storage areas are included under the flat roof created in the center of the building. This central mechanical zone allowed for efficient location of mechanical units, ducts, compressors etc. as runs were minimized.

The Mission to integrate sustainable design led to specifying recycled products such as the Metal Wall Panels and even the CMU was made from recycled aggregate. The entry floor is covered in Bamboo and the carpet is made from recycled fibers & rubber. Operable windows are located in all office areas and are coordinated with the HVAC system for automatic shutdown when windows are opened. A comprehensive indoor air quality program was initiated as well as a construction recycling program which recycled 100% of the excavated soil, drywall debris, concrete and cardboard/wood packing materials. Additional features of this project include natural landscaping to minimize irrigation water and low flow faucets/shower heads and waterless urinals.

This project inspired the San Mateo County Board of Supervisors, and became a model for the County's Sustainable Building Policy which now requires all future County buildings to be designed according to sustainable building standards and obtain LEED Certification.

