Innovative Design and Excellence in Architecture with Steel

Honorable Mention

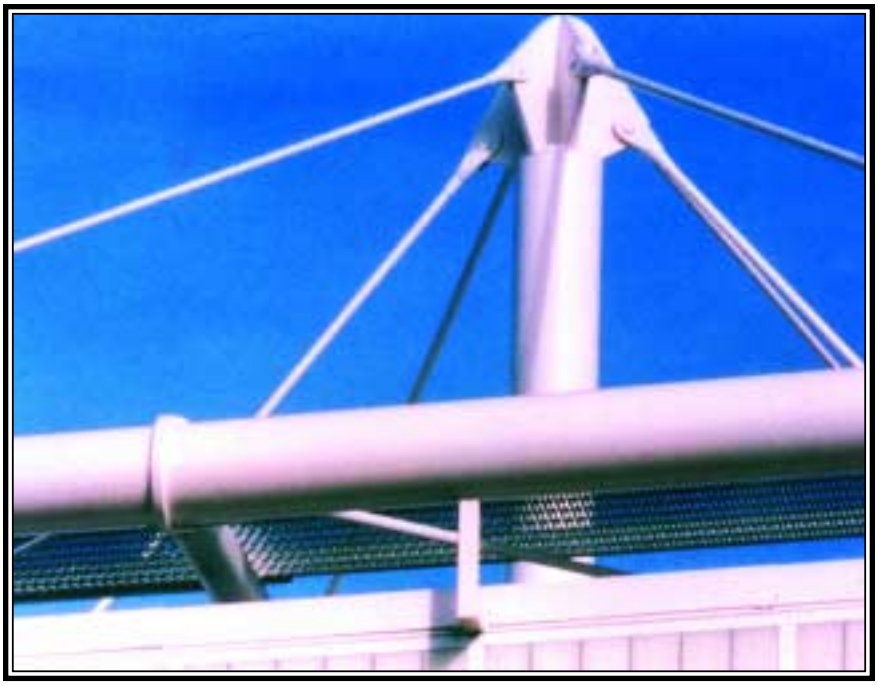
PUENTE Learning Center

In the midst of a once riot-torn neighborhood, the PUENTE Learning Center is a beacon of hope for both teens and adults. The center, a nonprofit, nonsectarian education group run by People United to Enrich the Neighborhood through Education, now serves more than 1,600 students a day, providing basic education, job training, English as a second language, child preparedness and assistance to at-risk high school students.

In designing the center, the goal was to build a 40,000-sq.-ft. educational facility on two acres of land donated by Richard J. Riordan, then a business leader and philanthropist and now mayor of Los Angeles.

Schemes were developed around the theme of an internal courtyard space, but the severe need for parking and the decision not to build underground parking led to a more innova-

tive proposal. The architect's solution was to place classrooms on the second floor, which was considerably larger than the first floor. The smaller first floor then left room below the overhang for parking. In the initial sketches, the second floor was clad with Kalwall, a translucent composite panel consisting of an aluminum grid between two layers of fiberglass-reinforced polymer, and the cantilevered second level was suspended on cables from three-story masts.



After extensive feasibility studies, it was determined that the 32' overhangs could indeed be hung from large masts. In the final design, the overhanging portions of the second floor and the entire roof are suspended from two rows of six 18"-diameter ASTM A500 Gr. B steel

Juror's Comments:

Interesting use of structural steel to solve site and function requirements. Excellent steel details enhance the visual expression.

The use of "external" structure to free up the ground plane while facilitating full-roof daylighting is a strong concept, gracefully executed and artfully detailed.

Project Team

Project: PUENTE Learning Center, Venice, CA

Architect: Stephen Woolley and Associates, Venice, CA

Owner: PUENTE Learning Center, Venice, CA

Structural Engineer: Drew A. Norman & Associates, Los Angeles

General Contractor: Swinerton & Walberg Company, Los Angeles

Steel Fabricator: Junior Steel Company, City of Industry, CA

tube masts via tension rods and clevises in sizes varying with load. Hanger rods supporting the cantilevered portion of the second floor are attached to tendon points along the roof perimeter.

A crucial aspect of the design was the resolution of the forces in the sloping hangers. The roof structure acts as the compression chord of a truss, and the Kalwall roof is supported on hangers from the structural frame, which consists of tubes and wide flange shapes. The panels span 14' between continuous rows of headers that also support rain gutters. No supports penetrate the panels.

The project design is extraordinarily efficient. The use of steel in pure tension, rarely seen in buildings, allows full cross sections to be uniformly stressed, taking maximum advantage of the natural strength of the material. Members are smaller and the framework lighter than in conventional flexural/compression stress systems. More practically, the extensive use of architecturally exposed structural steel provided the desired high-tech appearance at no additional cost.

For a more complete look at the Puente Learning Center, please see MSC *April 1997.*