



merit award
less than \$10M—single-family residence

A Greenwich Playhouse

Greenwich, Connecticut



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juror comments

“Strong, simple roof gesture made possible by steel. Integration of the total site including landscape; clearing, bridges and vistas.”

Located on rolling, wooded land punctuated by rocky outcroppings, and surrounded by orchards and gardens, this “playhouse” in Greenwich, CT replaces an existing guest house with a multi-functional entertainment facility. The owners wanted an easily accessible playhouse that was separate from the main house. They required an entertainment space with media facilities, a hearth with fireplace, and a view of the adjacent rock outcropping. The playhouse includes an area for pool and ping-pong, a crafts area, and a media workshop. The style of the playhouse is compatible with the white stucco and flat roofs of the main house.

In addition, zoning requirements dictated that the new footprint follow that of an existing guesthouse, which was demolished.

The playhouse design was influenced by the Italian Renaissance villa tradition, and the project became associated in the designer’s mind with gardens. The experience of walking from house to playhouse became an important part of the design and is reflected in an elevated walkway, steps, ramp and meandering paths. The walkway was requested by the clients, and connects the playhouse with the second floor of the main house. The playhouse also features a tower with a lookout.

An overhanging steel roof unites the party room with the terrace outside. Its asymmetric form relates the skewed axis of the guesthouse footprint with that of the main house.

Stretching back towards the sky, the roof of the playhouse vaults over its glass walls and seems to keep going. The in-plane shear strength of the metal roof deck was chosen to enable the strength and stiffness of the folded plate geometry of the roof. Mimicking the leaf of a beech tree, the primary roof-framing members spring from the center spine member and cantilever over the glass walls to the roof edge.

Most steel connections are exposed and detailed to be continuous. This is



Photograph courtesy Ed Stanley Engineers, Guilford, CT



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in order to optimize system strength and stiffness while minimizing member sizes. In-plane shear stresses in the metal roof deck were evaluated to verify the required pattern of fasteners necessary to enable folded plate behavior. The roof edges were shored until the metal deck was fastened.

The framing members of the roof and the HSS columns of the glass walls all pierce the weather wall and are exposed at the exterior. This allowed the temperature effects on the framing system's shape due to seasonal temperature fluctuations to be evaluated. Heat tape was used to control condensation on the interior surfaces of the exposed steel during the heating season. Other loads considered are unbalanced roof live loads and eccentric wind loads.

The concealed columns were rolled W10 shapes and the exposed columns in the glass wall were round HSS. The roof beams were rolled W10 shapes with the tapered spine beam cut from a W18.

The \$1.5-million playhouse is 2,793 sq. ft and was completed in 2002. ★

ARCHITECTS

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ENGINEERS

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ENGINEERING SOFTWARE

RISA-3D

GENERAL CONTRACTOR

Artisans, Inc., Rowayton, CT