

Ravine House

Fox Point, WI



Team

Owner:

Private Homeowners, Fox Point, WI

Architect:

La Dallman, Milwaukee, WI

Engineer:

Pierce Engineers Inc., Milwaukee, WI

General Contractor:

Ravin Bros. Artisans & Trades Inc.
Brown Deer, WI

Reinforcing Bar Fabricator:

Gerdau Ameristeel, Madison, WI

Total Project Cost:

\$1.4 million

Total Project Size:

4,500 sq ft

Award:

2010 CRSI Design Award Winner—
Residential Building Category

Photography:

La Dallman, Milwaukee, WI

STRUCTURAL FRAMING SYSTEM

which it is located, jutting in several directions to maximize scenery. Achieving its unique appearance and the structural support it demanded required value-engineering the project from wood framing into a conventionally reinforced and post-tensioned concrete design.

The two-story home includes a partial basement and an exterior deck. Basement and foundation walls, footings and slabs on grade were all cast on site with conventionally reinforced concrete. Extending upward from the foundation in an irregular layout, reinforced concrete columns and walls provide the support for the second-floor slab. The walls were sandblasted to add an attractive finish that retained the concrete appearance of the exterior.

UNIQUE DESIGN FEATURES

Both first and second floors of the residence, which is wrapped with expansive windows and steel panels, cantilever in several corners to maximize views. The first floor cantilevers to the south and east over a mildly sloping grade. To achieve this, the slab on grade was thickened to 8 inches and reinforced from the cantilever edge to 7 feet inside the perimeter foundation wall.

Cantilevering to the south and southeast, the second floor consists of a site-cast post-tensioned slab and provides the mechanism by which roof-framing loads and non-stacking exterior walls are transferred to the supporting elements below. A post-tensioned slab was used to transfer these loads while providing a thin 10-inch structural system profile.

REASONS FOR CHOOSING REINFORCED CONCRETE

The initial wooden-frame design was deemed insufficient for both architectural and structural reasons. Conventional reinforced and post-tensioned concrete provided the strength and flexibility necessary to meet the unique desires of the architect and owner. The goal was to provide a rich set of intentional juxtapositions, with progressively cantilevering masses.

As a finishing touch, the dining room's poured-urethane table top was set onto an asymmetric, conventionally reinforced concrete pedestal, which was cast remotely as one monolithic element and delivered to the site. It provides certain strength and stability and reinforces that the home was designed expressly for its environment.

Reinforced concrete was the essential material choice for this beautiful home. The post-tensioned second-floor slab was critical to achieving the desired aesthetic. Sandblasting the walls inside the home provided a unique and attractive touch. Stained concrete floors and the concrete table base are nice additions that blend well with the surrounding interiors.