City View

Los Angeles, CA

Team

Owner:
Third Street City View, LLC

Architect:
Abramson Teiger Architects

Engineer:
Weidlinger Associates, Inc.

General Contractor:
Del Amo Construction

Reinforcing Bar Fabricator:
Central Reinforcing Corp.

Total Project Cost:
$4.3 million

Total Project Size:
38,750 sq ft

Award:
2012 CRSI Award Winner – Commercial Building Category

Photography:
Jim Bartsch Photographer

STRUCTURAL FRAMING SYSTEM

The two story 3rd Street City View retail center is predominately a cast in place concrete building located on a corner lot along 3rd Street, a business/retail district in Los Angeles, California. The first floor is dedicated to retail space while the second floor and roof level are utilized for parking, accessible by a vehicle ramp located at the rear of the building. The structural gravity framing system is a combination of cast in place reinforced concrete beams, columns, one way slabs, two way slabs with drop panels and reinforced solid grouted CMU block walls. The entire building is supported upon a 24" thick reinforced concrete mat foundation at grade level. The building's lateral resisting system is a combination of reinforced concrete shear walls, CMU block shear walls and a two story, four bay cast in place concrete Special Moment Resisting Frame (SMRF). Minimum required concrete strengths ranged from 3,000 psi to 6000 psi and used 60 ksi reinforcing steel.

Exposed finished concrete is featured along the two highly visible street fronts of the corner lot, while along the two remaining less visible sides of the building a more cost effective CMU block is utilized; up against an existing adjacent building along the west property line and the vehicle ramp walls along the rear of building alley.

UNIQUE STRUCTURAL AND/OR ARCHITECTURAL DESIGN FEATURES

Architecturally, the project glows at night with LED lighting that contrasts the poured in place concrete walls and decks. The sculptural metal facade shielding the parking structure is designed to capture the blue LED lighting at night and plays up the billboard nature of Los Angeles while screening the parking. During the day the color shifts to highlight the orange vertical bands against the concrete.

The architectural design incorporates perimeter concrete fin walls that start at the second floor and extend up to become part of the roof level screen wall and building skin. This concrete fin also establishes the address marquee at the southeast corner of the building. Along the 3rd street face of the building, the columns were set back to allow for the glass storefront to be continuous and uninterrupted.

Structurally, due to restrictions to accommodate minimum parking stall widths, the SMRF column width was limited to 20". Both 6000 psi concrete and 100 ksi reinforcing steel ties were required to satisfy the SMRF column seismic shear design requirements and help reduce rebar congestion. The SMRF column vertical steel used terminators at the roof level to eliminate rebar hooks and thereby reduce rebar congestion. A reinforced concrete mat foundation was utilized due to pour soil conditions and low allowable bearing pressures in the recompacted fill soil.

REASONS FOR CHOOSING REINFORCED CONCRETE

Reinforced concrete was selected to achieve the desired architectural finish appearance of the building. The use of two way reinforced concrete slabs at the 2nd floor and roof level allowed for a cleaner finish appearance and greater headroom clearance than would be achieved using concrete topping over metal deck supported by steel beams. It also eliminated the need for fire proofing if structural steel framing had been used instead. The added concrete mass of the 2nd