

# P.S./I.S. 499 at the Queens College School for Math, Science and Technology

Flushing, NY



## Team

### Owner:

New York School Construction Authority,  
Flushing, NY

### Architect:

Michael Fieldman, Architect, NY

### Engineer:

Robert Silman Associates, NY

### General Contractor:

Gottlieb-Skanska Inc., NY

### Reinforcing Bar Fabricator:

CFS Steel, Bronx, NY

### Total Project Cost:

\$48.6 million

### Total Project Size:

120,000 sq ft

### Photography:

Feldman Architects

## STRUCTURAL FRAMING SYSTEM

The new 650-student primary/intermediate school on the campus of the Queens College School for Math, Science & Technology in Flushing, N.Y., needed to meet a variety of design requirements on a sloping site. It also had to stand up to long-term student use and minimize long-term operational needs, while creating a pleasing appearance. To achieve these goals, the New York School Construction Authority used reinforced concrete to create the building's framing system and cladding.

The fully exposed reinforced concrete interior walls feature a smooth surface, avoiding the need to use furring strips and drywall to complete the interior spaces. Reinforced concrete walls also enclose cast-in-place reinforced concrete stairways, with wide piers separating the flights. The piers are articulated with openings filled with clear glass block.

In the classrooms and corridors, the basic frame system for the exposed reinforced concrete consists of round columns and 16-inch-deep ceiling coffers. The columns were formed with plastic-surfaced form materials to create a smooth surface. The fiberglass ceiling coffer forms provided a matching smooth surface and were laid out symmetrically with the beam/column grid.

## UNIQUE DESIGN FEATURES

In the auditorium, the concrete ceiling system surrounds a lowered ceiling, which was folded and shaped to enhance acoustics. The relationship of the ribbed reinforced concrete ceiling and the white, lowered ceiling structure provides a dramatic contrast that enhances the auditorium's aesthetics.

## REASONS FOR CHOOSING REINFORCED CONCRETE

Exposed reinforced concrete retaining walls, ramps and steps make the transition from the building to higher the playing fields on the sloping site. Concrete crack control in the stair enclosure and retaining walls was achieved with internal crack-inducing devices. Water-stop devices were used at surfaces exposed to the weather. The crack-control devices kept the surfaces of the reinforced concrete free of revealed articulations, presenting continuous, smooth surfaces unbroken by reveals. The devices were located at form-panel butt joints in the formwork. The resulting cracks align closely with the butt-joint line and visually relate to the architectural presentation.

The final touch consisted of lightly cleaning the concrete façade and wall panels and applying a clear sealer/anti-graffiti treatment. The school is the second constructed by NYSCA using a reinforced concrete structural system, which was chosen for its durability, cost savings, inherent fire resistance, speed of construction and ability to blend with other materials to achieve a pleasing architectural appearance.

***Columns throughout the school were formed with plastic-surfaced form materials to create a smooth surface.***

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