

The School Without Walls

Washington, D.C.



architecture

- the new 68,000 square foot addition blends the 19th century school with a modern design
- damaged bricks were replaced and existing bricks were repointed
- the new addition sports a glass curtain wall façade facing G Street.
- the old section of the school is made up of four large classrooms, one at each corner of the square building
- the new addition of the school provides an additional two large classrooms on each floor.
- an additional fourth floor was added to serve as a library space.

structural

- wood joists are used, and remain in the original portion of the school
- a shallow foundation type is utilized
- existing footings, which support load bearing masonry walls, were to be under-pinned
- strip footings and grade beams were used in the foundation of the addition
- structural steel framing with composite metal deck / lwc topping
- reinforced concrete spread footings at a maximum depth of 49'-0" below grade
- typical floor to floor heights are 15' above grade & 12' below grade
- typical beams range from W10 to W24 in size in the addition
- typical columns range from W10 to W12 sections in the addition
- lateral resistance provided by a combination of concrete shear walls and structural steel braced frames

mechanical

- mechanical system which was used in the school previously was completely removed and replaced
- a four pipe central ventilation unit (100% O.A.) supply air to existing building
- a gas fired ventilation unit (100% O.A.) supply air to new building
- central chilled water system supply chilled water to all four air handling units
- a central hot water heating system consisting of two gas fired boilers will supply heating water to all air handling units
- exhaust fans were installed that were specifically dedicated for science room fume hoods and kiln rooms
- roof mounted and ceiling mounted exhaust fans will be used for ventilation

electrical

- the total connected load of the system is 522.3 kVA and the total demand load of the system is 463.8 kVA
- a 3 phase, 4 wire, 208/120V system supports the school

project team

architect : ehrenkrantz eckstut & kuhn
structural engineer: restl designers
mep engineer: golden engineering
civil engineer: ccjm
geotechnical engineer : thomas l brown associates
general contractor: turner construction

statistics

location: 2130 g street nw, washington, d.c.
levels: 4 stories above, 1 stories below grade
square footage of original school: 32,300 sq ft
size of new addition : 68,000 sq ft
construction dates: june 2008 – august 2009
delivery method: guaranteed maximum price
project phase: completed

Shaun Kreidel structural option

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