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Feature Story - April 2007

Education Makeover

New Day for Innovative Trenton High School

by Jim Parsons

For nearly a decade, the Daylight Twilight High School in Trenton has helped change lives in economically and racially segregated urban neighborhoods.



But the alternative public high school, spread across nine locations in the city, has long been cramped for space to serve its 1,400 students.

Now, a new \$40 million project that began in September and will finish in spring 2008 is set to consolidate and expand the school's facilities with 100,000 sq ft of space that it will share with other educational organizations. The effort is one of six New Jersey Schools Construction Corp. demonstration projects that state legislators have funded to help communities use schools as magnets for residential and commercial development.

Each year, Daylight Twilight serves as a beacon for students hoping to earn a high school diploma, pursue higher academic and vocational studies, and – perhaps most important – find hope for the future. Bill Tracy, the school's principal and co-founder, says one-third of his students are older adults who never completed high school, who join school-age students making up the rest of the enrollment.

"Before we came along, the Trenton school district graduated only about 30% of its ninth-graders," Tracy says. "We developed a flexible schedule that allows them to return to the classroom while also meeting their child care and job responsibilities. As a result, we now produce nearly 600 graduates a year."

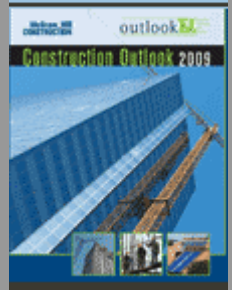
The new project will combine 40,000 sq ft of new construction with 61,000 sq ft of renovated space in a pair of century-old, five-story abandoned buildings and a one-story annex. The complex may also serve as a redevelopment catalyst for the low-income Old Trenton neighborhood.

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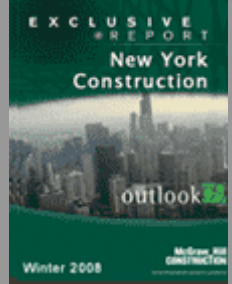
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The completed facility will allow Daylight Twilight to consolidate its growing programs, which are currently scattered at seven leased buildings and two converted elementary schools. The new complex will allow the school to leave the leased facilities, though it will keep operating at the two former elementary schools, which the school district owns.

The new facility will also house space for Mercer County Community College, Trenton Public Library, and YMCA in a bid to create a multifaceted urban community learning center.

Daylight Twilight's portion will have laboratories, classrooms, and facilities to support its signature course offerings, including a CAD/CAM program developed with the College of New Jersey and a new "Dream It, Build It" design and technology curriculum. It also will have an onsite day-care center for students' children.

"This is the first time that a magnet school program will be embedded in a student retrieval program," Tracy says.

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Design Blends the Old and the New

Creating a new home for Daylight Twilight meant challenges and opportunities to work in the historic Old Trenton neighborhood, says Paul Swartz, a senior partner at USA Architects of Somerville, N.J., the project's designer.

"The American Revolution's Battle of Trenton took place nearby, and many of the existing buildings – including the ones for the school – are historically significant," Swartz says. "We had to ensure our design would be sensitive to the surroundings and reflect the school's role as a multifaceted community asset."

The centerpiece of the new school is a three-story infill building with block bearing walls and precast concrete plank, though at the street frontage, it will only have one story separated from the rest of the building by a large interior courtyard. A mixed façade of split- and ground-face block will help blend the disparate styles of the existing buildings with the storefront character of the neighborhood.

Colored metal panels on the new building's rear exterior will also complement the brick and stone of the older buildings.

The new building's 145-ft central corridor will be constructed atop a subsurface service tunnel that will connect all three structures. Other floors will be linked as well, though differences in their elevations will require ramps within the corridors.

"The narrowness of one of the existing buildings precludes it from being double-loaded," says Ben Ashcom, educational programs coordinator for Joseph Jingoli and Son of Lawrenceville, N.J., the project's construction manager, in a reference to the inability to put classrooms on both sides of that building's central corridor.

Melding the new with the old was another design hurdle, Swartz says.

"Linking the building's infrastructure systems was probably the biggest challenge with this part of the project," he adds. "With only 11-ft floor-to-floor heights in the existing buildings, we needed to incorporate a split ventilation system with soffits for air distribution."

The existing buildings were in poor structural condition after years of neglect. While some of the former street-level retail shops in those buildings will be adapted to house the school's culinary arts, cosmetology, and photo lab vocational training programs, most of the interior spaces have been gutted and will be replaced with new walls, floors, ceilings, mechanical systems, and elevators.

Classrooms will occupy the first three floors of the renovation, while Daylight Twilight's faculty and administrators, the college, and community groups will share the fourth and

fifth levels.

In addition, a one-story, 8,000-sq-ft former furniture store connected to one of the office buildings will be converted into a community room and multipurpose learning spaces.

Salvaging the two existing buildings will pay off in helping Daylight Twilight achieve another project goal of achieving Leadership in Energy and Environmental Design certification, though the team has not specified what level it may seek. Other sustainable features include a solar panel system mounted on the roof of the new three-story infill building to help meet some of the heating and cooling needs.

Building up to Reach the Final Exam

The first construction task last summer involved cleaning up minor site contamination. The site had a parking lot between the two existing buildings but previously had housed other structures.

“Residential and commercial structures once occupied the site, so we weren’t surprised to find some underground oil tanks and tainted soil,” Swartz says. “Although the condition wasn’t serious, New Jersey’s site contamination laws are stringent, and we did have to delay the start of construction for a few months until the issue was fully resolved.”

Another detour involving site issues resulted from a requirement to conduct an archeological survey to make sure the parcel did not contain the remains of dozens of Hessian soldiers killed by General George Washington’s cannons during battles of the Revolutionary War. It didn’t, Ashcom says.

“We were worried that an archeological survey could take six months, but they were done in a few days,” he adds.

Last fall, the team began restoring the exteriors of the old buildings and gutting and renovating interiors. Over the winter, it made formwork for the new building’s tunnel and concrete foundations.

Ashcom says the compact urban site has put space at a premium for laying down steel, staging materials, and fitting workers from 80 subcontractors.

“It’ll only get more complicated this summer, when we expect to have as many as 100 workers at the site,” he adds.

Tracy, the principal, says he’s excited to show off his new home – and the innovative programs it houses – next year.

“Our goal is to become a demonstration school for urban school districts up and down the East Coast,” he says. “What we do works, and we’re looking forward to sharing our recruitment, retention, and discipline programs with other educators.”

Key Players

Owner: Trenton Public Schools

Redevelopment Authority: Mercer County Improvement Authority

Development Manager: Trenton Demonstration School Development LLC

Architect: USA Architects, Somerville, N.J.

Construction Manager: Joseph Jingoli and Son, Lawrenceville, N.J.

M-E-P, Environmental Engineer: PMK Group, Cranford, N.J

Structural Engineer: O'Donnell & Naccarato

Historical-Cultural Consultant: Louis Berger Group

Demolition: ECI Group, West Orange, N.J.

Steel: Vincent J. Borrelli Inc., Vineland, N.J.

Masonry: Davis-Giovinazzo Construction, Plymouth Meeting, Pa.

Excavation: Meco Constructors, Bensalem, Pa.

Concrete: Molly Construction, Philadelphia

Electrical: Armour & Sons, Langhorne, Pa.

Mechanical-Plumbing: Falasca Mechanical, Vineland

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