



DNA Forensic Biology Laboratory

TOP PROJECTS COMPLETE

\$285 MILLION

Every CSI fan knows how critical DNA forensic testing has become in criminal investigations. Now, the New York City Office of the Chief Medical Examiner, which performs more DNA analyses than any other government laboratory in the country, has a facility fit for the task.

Completed in February, the agency's new 372,000-sq-ft DNA Forensic Biology Laboratory houses eight laboratories, each of which is designed to handle a different component of the criminal investigations process. The \$285 million facility significantly expands testing capacity to the point where DNA analysis could be-

come a routine step in all investigations.

The facility also has specialty laboratories, a crime scene reconstruction unit, a computer center, an emergency medical services station, offices, support spaces, and a two-story underground garage.

Located on the Bellevue Hospital campus at East 26th Street between First Avenue and the Franklin Delano Roosevelt Drive, the steel-framed building replaces an outdated and inadequate 6,300-sq-ft facility.

The project team, led by a joint venture of Providence-based Gilbane Building and TDX Construction of New York as construction manager, started work in January 2002. The team built on a design by New York-based Perkins Eastman Architects, while the Dormitory Authority of the State of New York ran the project as program manager.

Squeezed between Bellevue and a municipal fire-EMS station on the narrow 73-by 338-ft site, the 15-story facility uses a stacked design, locating laboratories at the bottom and offices on the top. Adding to the complex logistics, streets serving the facilities had to remain open during construction despite extensive underground utility work.

To make way for the structure, the team demolished a garage and rerouted utilities traversing the site. It discovered more underground utilities afterwards, requiring construction of a below-grade, pile-supported platform to reroute and lay both new and existing utilities around the building. In early phases, crews also had to dewater the site frequently.

The project team built the foundation without piles, instead driving interlocking



steel sheeting 50 ft deep around the building perimeter. The sheeting and its lateral braces served as the retaining wall during excavation and later formed the foundation walls. The team also installed a nearly 7-ft-thick concrete pressure mat about 25 ft above the bottom of the pit.

The façade features a curtain wall of glazed aluminum and glass as well as pre-cast concrete. The exterior glass reflects nearby Bellevue and uses special glazing to control the entry of light that could potentially degrade material evidence.

The facility's specialized laboratory equipment called for intensive mechanical, electrical, and plumbing designs. About 100 types of DNA sequencing equipment required the installation of individual exhausts, dedicated power, and separate plumbing supplies and waste lines.

Key Players

Owner-Developer: N.Y.C. Office of the Chief Medical Examiner

Program Manager: Dormitory Authority of the State of New York

Architect: Perkins Eastman Architects

Construction Manager Joint Venture: Gilbane Building, TDX Construction

Geotechnical Engineer: Cosentini Associates

Structural Engineer: Severud Associates Consulting Engineers

Civil Engineer: Mueser Rutledge Consulting Engineers

Electrical: Five Star Electric

HVAC: WDF Inc.

Excavation-Foundation: Samson Construction

Curtain Wall Consultant: Gilsanz Murray Steficek

Laboratory Planner: Health, Education, and Research Associates