

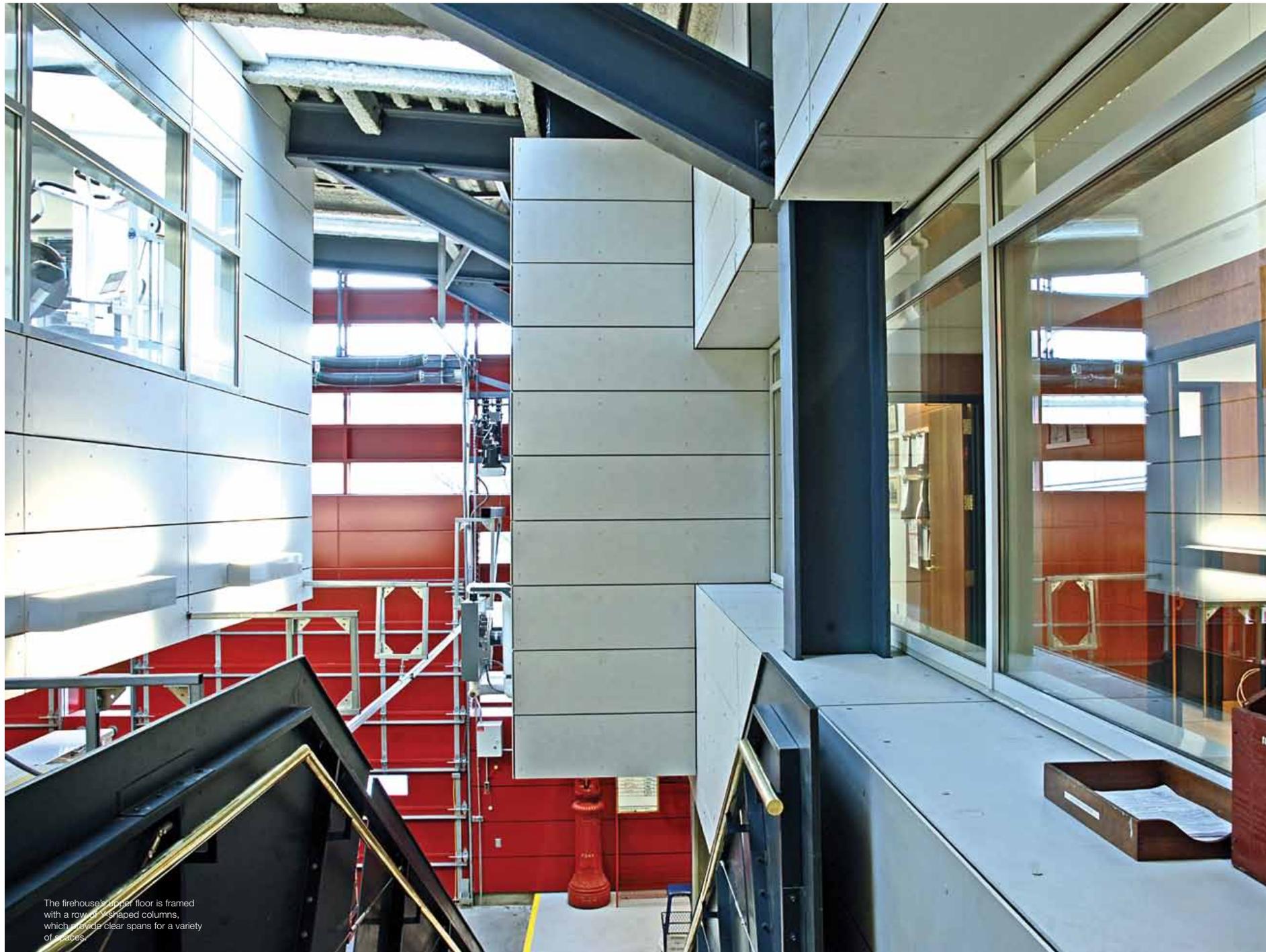
# Rescue Company 3

**Structural steel frames a new home for FDNY's Bronx-based Rescue 3.**

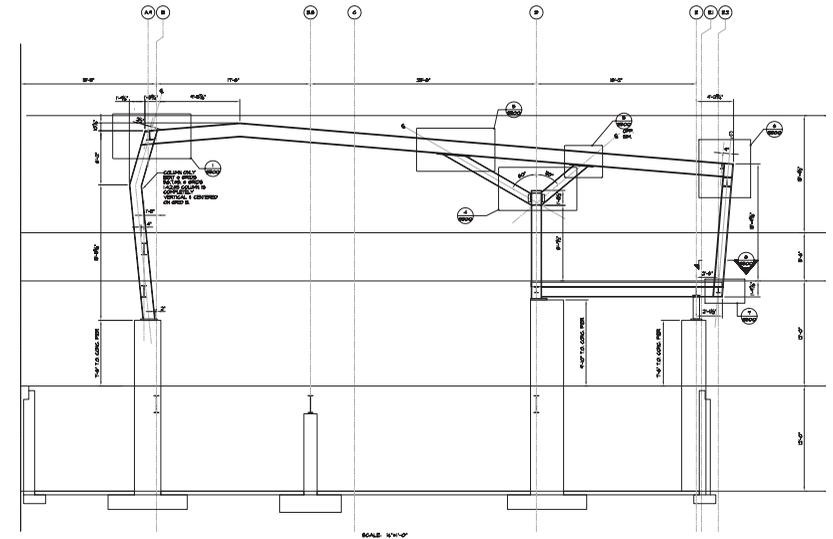
IN 2005, COMMISSIONER DAVID BURNEY AT The New York City Department of Design & Construction responded to the city's call for a higher caliber of architecture by establishing the Design Excellence Program, issuing standing short lists for significant city projects. Among the eight firms selected to compete for the design of Rescue Station 3, Ennead Architects (formerly Polshek Partnership) emerged the winner and embarked on what principal Guy Maxwell classifies as, "A dream job so small you can wrap your arms around it!" The FDNY hadn't built a new rescue company in some time, and most were housed in existing firehouses, which in New York are narrow masonry structures. New York's Bronx-based Rescue Company 3, also known as Big Blue, eagerly anticipated a facility whose architecture would adapt to their needs, rather than the other way around.

Rescue companies handle tasks not commonly associated with a fireman's duties. Maxwell defines their breed as "the firefighters who rescue firefighters." High-angle rope work, water or confined rescue, and search for victims in structural collapse are among their unique capabilities. The tool kit they use is as eclectic as their work, including gear that can "slice and dice anything": Jaws of Life, pneumatic jacks, climbing rigs and all manners of cutting implement. "We focused on giving Rescue 3 a design tailored specifically around what they do," explains Maxwell. "We had to understand, for instance, where to place the equipment to be carried to and from the trucks, their maintenance, and what it would take to restock the trucks with whatever they'd need on call." In addition to spaces to accommodate this tool kit, the 20,000-square-foot stationhouse had to include a kitchen, dining hall, gymnasium, and sleeping quarters on a dauntingly tight site. So Ennead separated the station's "dirty" and "clean" functional spaces—tool storage and vehicles on the ground level, living quarters and gym upstairs—framing it with structural steel to provide the clear span spaces many of these functions required.

Ennead arranged the firemen's implements on the first floor around the company's fire truck—known within the profession as an apparatus. "If a fireman had his drawers, everything would be an arm's distance from the trucks," Maxwell reflects. The specially outfitted vehicles live in a double-height apparatus bay, the station's programmatic



The firehouse's upper floor is framed with a row of H-shaped columns, which provide clear spans for a variety of spaces.



Previous spread: Asim Wiedele/Ennead Architects; top: Jeff Goldberg/Esco; left: Asim Wiedele/Ennead Architects

Robert Silman

**Above** A longitudinal section of the lateral steel frame.  
**Facing top** In addition to tool and vehicle storage, the 20,000-square-foot stationhouse includes dining and living spaces, offices, and a gym on a small site.  
**Facing bottom** Steel framing allowed for the addition of skylights, which let in sunlight while maintaining privacy.

crux. The minimum span that could accommodate these functions was approximately 44 feet, too much for concrete.

Workshops, house watch, and tool storage rooms surround the apparatus rigs, keeping all necessary amenities close at hand. The captain's office, bunkrooms, and communal area were placed upstairs along with a dining area and kitchen. Given the constant come-and-go of the fireman's schedule, off-call time becomes a valuable opportunity for training. A 30-foot-high wall topped by a hatch in the station makes itself useful for rigging and tying-off practice scenarios.

The division of dirty and clean programs called for an architectural expression that became the guiding principal of the structural system. Columns from the basement up to the second floor are cast-in-place concrete since vehicles and equipment could damage the fireproofing and cladding around steel columns. From the second floor up, structural steel was used. "The way we looked at it architecturally, the first floor and basement were hard, but upstairs we wanted a more delicate expression with exposed steel coated with intumescent paint," says Ennead project architect Anthony Guaraldo.

The primary steel framing system consists of a single row of eight Y-shaped columns fabricated from W14x74 wide-flange sections. The Y shapes were assembled onsite with bolted connections. The row runs right of center along the length of the plan, connecting to W18x130 wide flange beams

that frame the shape of a distinctive zinc-clad roof. These beams connect to steel plates imbedded in the concrete piers. All of the stationhouse's floors are framed with wide-flange steel sections in a variety of sizes ranging from W12x53 to W16x40 and topped with concrete poured on metal deck. A single crawler crane lifted the Grade 50 A992 steel members into place, where ironworkers bolted them together with high-strength bolts ranging in size from ¾-inch to 1 ¼-inch diameter.

The exposed steel members in the station's interior are a fitting architectural expression, complementing exterior doors and curtain wall in FDNY's iconic red chrome, a color heralding the storied past of one of New York's most celebrated occupations. Skylights flood the apparatus bay with natural light although, "The team still needs to retreat when they come in and feel like they're in a bunker of sorts," asserts Maxwell. "We gave them privacy and uncompromised security." The robust assembly is tied together visually by its folded zinc roof. "We wanted a big wrapper to give the building an interesting massing and profile," says Maxwell. The overall effect is at once heartening and elegant. With both its physical and symbolic presence, Rescue Company 3 makes a silent promise to passers by that New York is in good hands. ■



**Above left** Workshops and storage rooms surround the apparatus rigs, separate from residential space upstairs.  
**Above right** An exploded axon diagram shows how the firehouse is designed like a toolbox.



**“Upstairs, we wanted a more delicate expression with exposed steel coated with intumescent paint.”**

Anthony Guaraldo, Ennead Architects

Left: Studio Architecture; Top: Aislinn Weiside/Ennead Architects

**RESCUE COMPANY 3**

Location: 1655 Washington Avenue, Bronx, NY  
 Owners: Fire Department of the City of New York, New York, NY:  
**The City of New York Department of Design and Construction, New York, NY:**  
**Rescue Company 3, Bronx, NY**  
 Architect: **Ennead Architects LLP, New York, NY**  
 Structural Engineer: **Robert Silman Associates, New York, NY**  
 Mechanical Engineer: **WSP Flack + Kurtz, New York, NY**  
 Construction Manager: **The LiRo Group, Syosset, NY**  
 Structural Steel Erector: **Piermount Ironworks, Wayne, NJ**  
 Ornamental Metal Erector: **Piermount Ironworks, Wayne, NJ**