Columbia LIGHTING

GAINING GROUND: PARKING GARAGE RECEIVES A MEDICAL MAKEOVER

Doctors, surgeons and scholars have invested so much of their time in medical research and education. This relentless dedication has resulted in events in medicine that have changed the history of the world. Sharing these achievements are the hospital and medical facilities that provide others with the opportunity to experience the growth of medicine and medical technology. One of these facilities started out as an unlikely candidate; a parking garage. This garage, like modern medicine, has been transformed for the use and benefit of its community.

In 1852, nine men in New York City came together to establish Mount Sinai Medical Center (MSMC). At the time, the hospital had a mere 45 beds for its patients. Today, the institution stands as a fixture for medical care and education. Housing up to 1,170 patients, MSMC provides patients with treatment and care from some of the most elite doctors, nurses and medical specialists, as well as aligning itself with a medical and graduate school program that will be the launch pad for the next generation of medical pioneers.

Even though growth has been an intricate part of MSMC's history, care, compassion and concern for its patients, and their well-being has always been its top priority. Because it was important to establish a unit where ambulatory and neighborhood health care programs could be more accessible, Mount Sinai hospital addressed this concern with the creation of the Center for Advanced Medicine (CAM).

The project consisted of turning a former, 8-story parking garage into clinical spaces and offices for various departments, which include Rehabilitation, IMA, Pulmonary, Podiatry, Ophthalmology, Dermatology, Neurology and Radiology. There is additional special equipment for the Rehabilitation, Ophthalmology, Scope Processing, Mammography, X-Ray and Hemo-Dialysis Departments, and an Audiology booth inside. Rounding out the space are numerous areas like examination, treatment and phlebotomy rooms and their associated support spaces (staff lounges, soiled hold, clean utility and conference rooms).

During the early stages and preliminary meetings, Morgan Construction Enterprises, Design/Builder, established that the critical strategy for the completion of CAM was to fast track the project. Even though renovating an existing parking garage structure in lieu of a new, out of the ground building is such a challenge, the MSMC felt the existing steel frame structure satisfied many of their program requirements to enable the Medical School and clinics to function within the existing footprint. This in addition to the expected savings in cost and speedy turnaround made the conversion of the building well worth the difficulties.

Completed in 2008, the 160,000 sq. ft. structure took close to eight months of design meetings and preparation and almost twenty months of construction time. Timelines were established for pre-construction document completion (schematic, design development and construction documents) while tracking the critical path structural reframing elements.

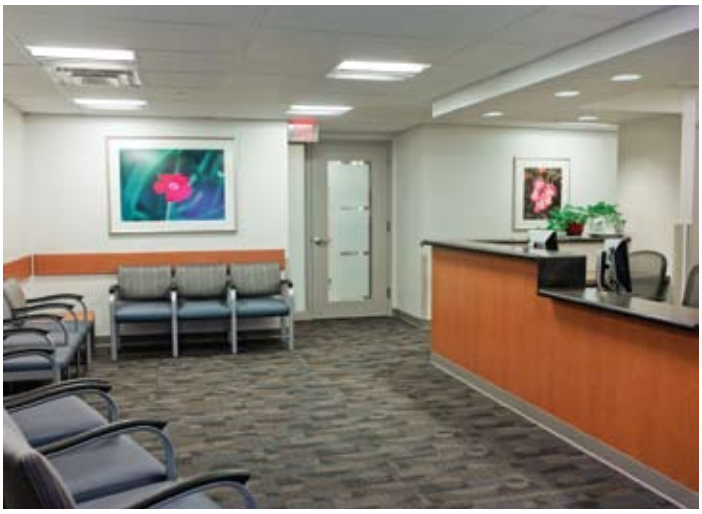
"Perkins Eastman Architects and Severud Structural Engineers accomplished this by establishing the critical criteria for the central core

structural reframing, and working with an elevator subcontractor and mechanical subcontractor to define bay openings," said John Garris, Vice President Operations, Morgan Construction Enterprises, Design/Builder. "This step allowed the structural steel contractor to engineer, fabricate and erect steel for the lead trade (elevator) to start installation."

All of the interiors were completed in sequence for occupancy of clinic schedules and Morgan Construction Enterprises worked with MSMC to define the enabling schedules in conjunction with Department of Health and Department of Building inspection requirements for occupancy. Garris also said that the close proximity near the campus central plant allowed the chilled water and steam supplies to be piped to the building and provide the necessary utilities for the HVAC. "The entire building has a new electrical system with an upgrade to the service feeder," said Garris. "The projected savings of renovating versus new construction was approximately twenty-five percent and shorter time-period for occupancy was obtainable."

Design Efforts

Because of its original purpose as a parking garage, intensive structural redesign was required. "When construction was started, there was nothing left of the garage but a shell, so what was built was a building within a building," said Russ Flaum, senior vice president, Mazzeo Electric Corporation. "Because of the changing elevations on the East and West sides (of the garage) the hospital is really 16 stories (though it appears as eight stories to the naked eye)." Flaum continued, "Because the building is divided into West & East sides, there is a tremendous sense of natural separation within the building with the School of Medicine on the West side and Clinical spaces predominantly on the East side."



As you approached the existing building, most of it is a brick-faced structure that stretches on the street. As you moved in, there was a gigantic, attention grabbing glass window. This plain structure was what Morgan Construction Enterprises had to work with. Architecturally, the primary aesthetic efforts were to continue along the lines of a "soothing environment." This is evident with the design team's use of natural materials like Portuguese and Indiana Limestone, granite, White Oak wood, earth-toned Corian countertops and wooden grain millwork. With the large, front glass window, there was ample room for natural daylight to enter the facility, but being able to appreciate the fine details would require the space to be properly fitted with soft, full-distribution light that is balanced with proper light levels on the work surfaces.

Inside, there is color immediately bursting from within. Your eyes begin to run wild as they absorb the 8-story atrium with stone-clad piers that work beautifully with the nature theme throughout the lobby area. A large part of this attention comes from the inviting image of gold and amber-colored trees clustered together, creating a snapshot of foliage in all its warmth and comfort.

Alive With Light

Providing CAM's glowing ambiance was Columbia Lighting's ZPT (Zero Plenum™ Troffer) fixture, a full distribution luminaire with an aesthetic flair. Because hospitals and offices have flat-screen monitors with textured surfaces that diffuse high angle light, the ZPT fixture was chosen because it directs the light in a controlled manner, eliminating the glare and harshness of its predecessor without compromising the view of the work surface. ZPT controls high-angle light, and gently illuminates the walls, which results in a work atmosphere that balances visual comfort with increased productivity.

Flaum, who has over 35 years industry experience, said he was more than impressed with the clever features and capabilities of the ZPT fixture. "ZPT is unique in that it not only fits flush to the ceiling, but it does not protrude into the ceiling," said Flaum. "The design team faced a number of architectural challenge areas; shallow floors, duct work and floor-to-ceiling height issues of about 8 ft. 2 in. With these types of ceiling restrictions, a drop ceiling tile (a few inches from the concrete ceiling) was put in place and ZPT worked exceptionally well with our situation." A total of 1,200 ZPT fixtures (2' × 2's and 2' × 4's) were installed. There were also Columbia Parawash and Prescolite cross baffle downlights within. Because ZPT is 22 gauge, Columbia re-machined to produce a 20 gauge product to meet NYC building standards.

The fixture's shallow profile and unique telescoping housing make it easy to install in all types of settings including those with restricted room. With a depth of only 1½ in. and needing only 3 in. of plenum space for installation, it fits easily into plenums crowded with ductwork, wiring and pipes. In addition, ZPT allows for below-ceiling access, making maintenance a pleasant experience.

The energy savings ZPT affords, translates into valuable tax deductions. Employing two standard T5 lamps with a power consumption of 60 watts compared to a standard 3-lamp parabolic consuming 85 watts, ZPT exceeds even the most restrictive government codes and promises tax deductions under EPAct2005 of $0.60 per square foot.

Closing Time

As with almost all construction projects in Manhattan, time is of the essence, especially in the design-build mode. Garris said there are always the critical trades that must continue to move forward but must have essential design elements of the finishes and equipment in order for the project to come together at the end. "In this case, it was the users (MSMC), the Architectural Engineers, Perkins Eastman Architects, Atkinson, Koven and Feinberg, and Morgan Construction Enterprises that endlessly worked to keep the basic program moving. We were able to adapt the changes of the specific spaces that enabled the trade contractors to complete their work on schedule. Updating of the working drawings and good communication was the grease that got the job done with excellent results."

Stylish and efficient, CAM clearly provides enhanced quality of care through greater interaction between primary care physicians and specialists. However, this trickles down and translates into an accessible, efficient and state-of-the-art ambulatory for every member of the community. ■

For further information contact Columbia Lighting, 701 Millennium Boulevard, Greenville, SC 29607, phone 864-678-1000 or visit Columbia's website at www.columbialighting.com.