

How We Will Build NEW YORK Hospitals and Healthcare

As the construction industry deals with the backlash of this troubled economy, the question remains: why does hospital and healthcare construction continue to thrive?



A Swell in Current Projects

"Hospitals and healthcare facilities are renovating existing buildings to accommodate the increasing number of out-patient services to provide innovative and cost-effective medical technologies," says Michael S. Zetlin, Founding Partner of Zetlin & De Chiara LLP. According to Zetlin, not only is there continuous work on large hospitals and significant healthcare centers, but investors are looking at new types of healthcare service buildings, including care facilities, free-standing ambulatory-care centers, hospice and home-care centers, medical hotels, and primary and preventive-care centers.

"It's a wonderful thing to be in a market that has the potential to grow in this economic downturn," says Cheryl McKissack, President and Founder of McKissack & McKissack, a New York-based company that recently served as construction manager on a \$232 million project at the Perelman Center for Advanced Medicine. This 360,000-s.f. facility is the largest capital project undertaken in the history of the University of Pennsylvania Health System.

There are landmark construction projects currently underway in New York's healthcare sector. Structure Tone, Inc. is currently working on a 38,000 s.f. renovation of an occupied, fully-oper-



Rendering of the Harlem Hospital

ational tower building at Mount Sinai Medical Center in Manhattan. Stony Brook University Hospital continues a \$170-million reconstruction effort including 154,000 s.f. of new work and 48,000 s.f. of renovations. The Bronx's Jacobi Medical Center is undergoing relocation and interior program changes, new data centers, and the construction of an operating room simulation lab for training purposes. The North Shore/Long Island Jewish Health System opened the \$17 million, 37,000 s.f. Monter Cancer Center at the Center for Advanced Medicine in March 2006, while North Shore University Hospital is opening The Pavilion at Nine Monts this summer, which is a 22-room, \$11-million addition.

Additionally, Harlem Hospital Center is undergoing a major modernization and \$150 million capital construction program. Its redevelopment program includes the phased demolition of five buildings, utility relocations, and coordination of historically significant murals, as well as the reconstruction and renovation of patient pavilions. TDX Construction Corporation, serving as construction manager for the 190,000 s.f. New Patient Pavilion portion of the Harlem Hospital job, notes the originality of this job is due to the hospital's glass curtain-walled building exterior, a system that replicates blown-up depression era art from the 1930s in full color.

Clearly, the healthcare and hospital sector in New York construction is alive. So what is the secret?

Current Trends and Challenges

There are many current trends in healthcare construction. "There is plenty of work but many of the projects are on the smaller side right now, given the economic climate, which is a trend we see not only in New York but also in our projects in Texas, Boston and Connecticut," says Mark Sanborn, Account Executive for Structure Tone. "However, given the fact that hospitals in the northeast are running 40-60 years old, facilities are aging. We are performing



Rendering of the Center of Advanced Medicine at University of Pennsylvania

a lot of infrastructure work and general maintenance - upgrading mechanical, electrical and life safety systems to meet current needs." Other trends include increased lump sum bidding and LEED requirements.

So what are the challenges accompanying these trends, and how are successful companies meeting them?

Technology

The rapid advancement of technology in healthcare is one of the greatest challenges of working in hospital



X-ray room at Beth Israel Deaconess Medical Center Pain Clinic

construction. "Things are changing by the minute," says Bill Goodman, Deputy Project Manager for TDX. "Healthcare equipment changes by the day, so construction companies need to be very flexible to be able to react to the changing technology."

"Every time there is a new system, a new magnet, a new x-ray, we have to adapt to get it built and installed, which requires extensive training or good engineering practices," agrees Louis Della-Peruta, Account Executive/Leader of Healthcare for Plaza Construction.

Given that the more complicated projects can last three years, the change that can happen in medical equipment technology over the course of one building is extraordinary, potentially rendering the originally planned equipment obsolete. "It's a balancing act," says James H. Jones, P.E., President of TDX. "We respond to this challenge through a phased build-out, keeping the fit-out of diagnostic areas at the end of the process in order to encompass the latest changes in technology."

McKissack & McKissack dealt with such technology in its recently completed work for the Roberts Proton Therapy Center at the Abramson Cancer Center at the Hospital of the University of Pennsylvania. Proton therapy is a new way of treating cancer by applying a precise laser-type radiation treatment that

eliminates tissue damage surrounding the cancer site. "With only five proton therapy centers in the country, this was really advanced construction technology for us," says McKissack. "Installation of the equipment and its precision was advanced and complicated, and throughout the process, precision and attention to detail was important. Of course, it helps that the McKissack staff has 30 years of experience in health care, hospitals, ambulatory care facilities, clinics and laboratories," she adds.

Attention to Detail

While coping with the ever-advancing technology in healthcare construction, there is also the complication of multiple regulatory agencies and inspections required to get each one of the hospitals open, including the Department of Buildings, DEP, Department of Health, Office of Mental Health, fire department and additional regulatory agencies.

"Starting from day one, you need to be familiar with the requirements of each agency and be prepared to encompass what's required by all of them," says Bill Goodman, Deputy Project Manager for TDX. "Once a hospital has been substantially and physically completed, it becomes subject to a series of inspections and regulatory reviews." Not the least of these is the infamously detailed JACHO inspection, run by a national governing authority. >>

"At TDX, we succeed by planning carefully beforehand, monitoring throughout execution," says Jones. "By understanding and coordinating all the requirements of the various health-related agencies—city, state and federal—and being able to come up with a plan that doesn't miss a step -- we're ready to deliver the final project; we're past the learning curve."

Safety First

Healthcare construction has changed over the years so that construction companies are now responsible for risk management and interim life safety policies. Each project now has an ICRA (Infection Controls and Risk Assessment) analyzed safety plan, which the team must know inside and out, at the risk of being shut down by safety inspection control officers. Therefore, the installation must be as meticulous as the planning.

"Building in an occupied environment with people in delicate health adds a level of difficulty to any construction process," says Della-Peruta. "We have to control the dust and noise. The vibrations could affect a piece of equipment monitoring someone's progress. We take on the role of monitoring and managing every detail."

Construction as an industry is known for its attention to detail and careful planning, but hospital construction is notorious within the construction industry for being the most detail-oriented. "There is infection control, radiation safety which takes in the nuclear regulatory commission, federal mandates, federal licensing requirements, intricacies of bringing in specialized equipment," Della-Peruta lists. "It's a whole new analysis of an entire process."



Because of its delicacy, the general rule of hospital construction is to always keep safety at the forefront, remaining careful on job sites and adhering to a site-specific safety program. This is particularly true on smaller projects within functioning facilities and in active patient wings. "Structure Tone's solution to these challenges, regardless of project size, is to put together a construction assessment in addition to ICRA, and to develop a detailed logistics plan and project schedule to avoid impacts to day-to-day operations," says Sanborn.

"Our healthcare customers are used to seeing this attention to detail for a new tower or a \$40 million renovation," adds Jerry Guillorn, Vice President for Structure Tone, "but they're not necessarily used to seeing it, as we provide it, for a one-million-dollar surgical renovation." Although perhaps, given the nature of healthcare construction, they should be.

Going Green

With considerations of the challenges as mentioned above, does healthcare construction also need to go green? The healthcare construction industry is considered the fifth largest growing market for green building. Healthcare facilities may soon be expected to meet LEED requirements laid out by the United States Green Building Council. This requirement further constitutes the growth and expansion in the design and implementation of sustainable and green initiatives observed in the healthcare sector. "All designs in a hospital or health care facility are already at their highest level," says Della-Peruta. "The designers and consultants are doing their best, so if it won't do anything to affect the quality of life, the hospital or the patient, they won't do it." >>



above: Center for the Intrepid
left: Interior of Center for the Intrepid



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