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Sasco Electric's power play at new Stanford Hospital

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The new Stanford Hospital is currently little more than a giant hole in the ground, but planning for the massive build stretches back years.

Such is the size, scale and complexity of the 824,000-square-foot, 368-patient-room complex in Palo Alto, which is estimated to cost about $2 billion. The expansion will bring the total number of private rooms on the site to 600.

One of these long-term planners is electrical contractor Sasco Electric, which is entering its third year on the job.

"It's taken a lot of teamwork and a very aggressive approach in the pre-construction effort," said Bennie Barker, Sasco's project executive on the new Stanford Hospital.

Stanford started construction last May. It's designed to update the 1950s-era facilities, provide new capacity and meet seismic safety requirements.

Kevin Curran, director of construction for the hospital, said on-site workers are currently driving foundation piles, excavating a tunnel that will run between the old and new building, and installing reinforcing steel.

"It's all prepping for the big moment next summer when we can start steel erection," he said.

VICKI THOMPSON

From left: Clark/McCarthy's Jacob Root, Sasco's Bennie Barker and Kevin Curran, Stanford Hospital's director of construction, at the new Stanford Hospital site.

Stanford Hospital build: A closer look

Contractor: Clark/McCarthy
Architects: Rafael Viñoly Architects in association with Lee, Burkhart, Liu Inc.
Beds: 368 single patient rooms, 600 beds total.
Seismic: Able to withstand an 8.0 earthquake.
Total project: Stanford's build is part of the Stanford University Medical Center renewal project, which also includes the Lucile Packard Children's Hospital expansion, Hoover Pavilion renovation and other work.
Electrical subcontractor: Sasco
Engineer: Mazzetti

Electrical workers were brought in early to install temporary utilities that run the construction operations. When the project gets fully under way, the trade's crews will be among the first to move into the structure. At the peak, up to 200 electricians will be working on the project at once. "They stay on really throughout the entire life of the project, from the start of overhead rough-in, to in-wall pass, to finishes at the end where you're putting on face plates," said Jake Root, senior project manager from Stanford Hospital & Clinics' general contractor Clark/McCarthy, a joint venture of Clark Construction and McCarthy Building Companies.

Electricity is critically important for hospitals, and that's especially true for Stanford — which is the only Level 1 trauma center between San Francisco and San Jose. To ensure there's never a hiccup in power,

engineers and contractors have designed a robust system with multiple redundancies, including five 2-megawatt backup generators.

“The hospital is a shelter-in-place facility (which shelters people from hazards or emergencies),” Barker said. “It has to be the last structure operating after an event.”

Around these parts, that “event” is likely to be the earth shaking. To meet strict seismic requirements set by California’s Office of Statewide Health Planning and Development, Stanford’s new hospital uses seismic isolators that allow the building to shift during an earthquake.

That means electrical fittings, such as conduit and cables, have to be able to flex, providing up to 24 inches of movement, Barker said. Redundant power systems also come into play. And uninterruptible power supplies will allow surgeons enough time -— up to a half hour — to stabilize patients in operating rooms.

“We are really exceeding the minimum because of the owner of this project and way the design works,” said Hamid Matinpour, an associate at engineering firm Mazzetti. “We’re providing four times the power requirements and redundancy, which makes sure the system works beyond the minimum standards governed by OSHPD.”

Sasco is also installing the low-voltage data cabling that will make the hospital one of the most wired buildings in the area.

“There are areas in a hospital that are very similar to wiring a data center,” Barker said. “We also have 21 miles of fiber optic cables.”

Ramson Paulus, senior electrical designer with Mazzetti, said the electrical system will include some innovative touches, such as a centralized lighting and shading system that can control the lighting for all patient rooms from one location.

“It’s a first,” he said. “It’s also compatible with the new LED technology, which will let you control the color. You’ll be able to create different themes that provide a level of comfort that’s unprecedented.”

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