

Center for Advanced Surgical Services

Atlanta, GA, USA (2022)

PRODUCT USED:

Maturix[®] Smart Concrete[®] Sensors

CONTRACTOR:

Fly & Form Structures, Inc.

BACKGROUND

Few hospitals in the United States of America (USA) are as active as the Grady Memorial Hospital in Georgia. Labeled as the fifth busiest hospital in the country, it is a critical destination for a number of patients, especially for those in severe conditions. However, it can only attend to so many people without getting overloaded. To better meet the needs of the community, the owners embarked on an ambitious expansion project.

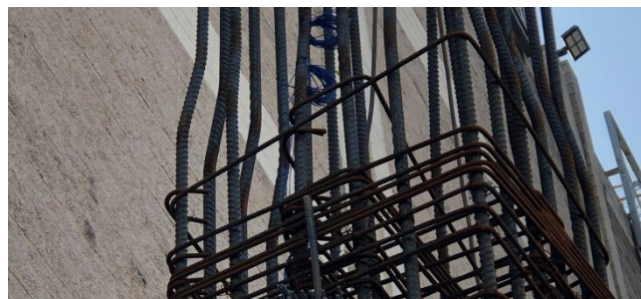
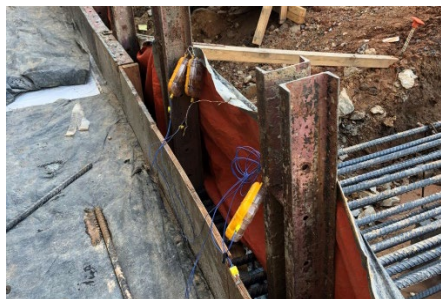
As part of that, they chose Fly & Form Structures, Inc. to manage the concrete works of a new 53,883.76-square meter (580,000-square foot) addition to the hospital. Listed as the Center for Advanced Surgical Services (CASS), this space would contain a dedicated ambulatory surgical area with eight operating rooms. It would also include five endoscopy rooms; a sterile processing department; a post-anesthesia care unit; an ears, nose, and throat department; imaging and gastrointestinal spaces; four radiology rooms; multiple women's services areas; and a cancer care center.

The CASS was one of the most complicated projects Fly & Form Structures, Inc. had worked on as it required complex thermal monitoring and tight project timelines. To add to the project's size and complexity, all the foundations, a third of the CASS' grade beams, a significant number of columns, and several transfer girders were classified as mass concrete elements.

Such an expansion to the hospital would require over 45 pile caps for a suitable foundation with anywhere from up to 16 thermal monitoring locations for each pile cap. With so many mass concrete elements in play, Fly & Form Structures, Inc. would need concrete sensors that could handle a large project within a restrictive schedule.

SOLUTION

Fly & Form Structures, Inc. is a concrete contractor in the southeastern part of the USA who specializes in large multi-story buildings, so this project wasn't outside of their realm of expertise. In the past, they had used a number of different concrete sensors to complete their work, so they knew that with the technology they had used before, they would not be able to keep up with the scope of the CASS expansion.



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This was mainly because those sensors required someone to physically retrieve the sensors' data from the worksite. With the number of concrete elements needing to be monitored in the CASS project, they would have needed two or three more people on the project to gather data and develop reports.

After conducting extensive research, however, Fly & Form Structures, Inc. found new sensors capable of taking on such an extensive project: Kryton's Maturix Smart Concrete Sensors. With these sensors, they'd be able to do all the monitoring they'd need remotely with an easy-to-use device connected to a cloud-based reporting platform.

This monitoring system allowed Fly & Form Structures, Inc. to streamline their project management significantly, helping them monitor over 80 concrete pours with over 500 monitoring locations in a four-month period. With so many data points to cover, however, they knew their reporting would be complex. Luckily, the Maturix[®] platform laid out the information easily, allowing them to understand the temperature differential between all sensors used on each pour.

The interface proved to be a tremendous advantage, giving them the ability to set up alerts so they could respond to any changes in the worksite, such as cooling concrete caused by rain or other issues. They also benefitted from the reporting functionality as multiple people on the worksite had access to real-time data and could easily share PDF reports when necessary. That in turn simplified the communication process with the design team and helped the worksite engineer expedite approvals.

All of which only further proved to Allen Lindsey, the president of Fly & Form Structures, Inc., that he had made the right decision to use Maturix, with him noting the following:

There is no way we could have completed this project without Maturix. With hundreds of monitoring locations, with up to 20 locations in a single pour, and multiple pours in a week, we needed that real-time data sent to us wirelessly rather than trying to physically retrieve it from the jobsite. I've even shown this technology to other guys using different devices, and they couldn't believe how much easier this was. In one case, I was in a meeting with an engineer and was able to log in, do a screen share, and go through the live data together, which immediately addressed his concerns.

With Maturix, Fly & Form Structures, Inc. had successfully managed the production timelines for the first phase of this complex project, reducing labor costs and streamlining project management. Because these sensors and their system are reusable, they'll be able use them for future projects, maintaining this new effective approach for other projects and concrete pours that require thermal control plans.

