

Scheduled to Succeed

Performance Expectations Continue to Rise as Contractors Meet Demands of Fast-Track Projects

By Joanna Masterson

There seems to be no slowing the pace at which owners expect projects to be built. To stay ahead of the competition, contractors must do what they do best: adapt, deliver and repeat.

"We're seeing a pretty substantial eroding of the time duration available to complete a project. We rarely build a job that matches the original schedule," says Dale Scott, senior executive vice president of [SIKON Construction Company, LLC](#), Deerfield Beach, Fla. "You always have critical opening dates that don't change, but the front end takes a little longer. You have to do what you have to do to accomplish that. It's just part of the business."

As the use of technology and collaborative project delivery has evolved, so has the expectation of how efficiently work can be completed. Every time contractors successfully execute a project, it becomes the new benchmark for how they should perform in the future.

"In these economic times, owners are having difficulty getting approval for capital improvement projects. When they are approved, they expect us to manage the money as if it was our own," says Gary Karr, construction division president of [EXCEL Contractors, Inc.](#), Baton Rouge, La. "They expect us to execute every time. It's not unrealistic. We should do that."

Sophisticated scheduling software, creative labor management and offsite prefabrication certainly aid the process, but success ultimately results from strong leadership and teamwork. The following project profiles illustrate owners, designers, engineers, contractors and suppliers buying into the end goal to overcome scheduling challenges and finish on time.

Expanded Scope, Original Deadline

In November 2010, EXCEL Contractors set out to build the first phase of a new polyacrylamide facility across the Mississippi River from its office in Baton Rouge. The original scope of work included fabricating and installing 868 tons of steel, constructing block walls and buildings, and setting 90 pieces of equipment. By the time work on the polymer plant wrapped up in July 2011, EXCEL had installed more than 1,300 tons of steel and set 224 pieces of equipment—with no schedule extensions and zero recordable safety incidents.



As numerous challenges and changes in scope arose throughout the life of the project, EXCEL worked closely with the owner ([SNF Flopam](#)), engineers ([CDI Corporation](#) and [Waldemar S. Nelson and Company](#)), structural steel fabricators and subcontractors to repeatedly re-invent the schedule. The first major hurdle came when SNF requested the priority list of steel fabrication (already under way) be completely reversed. EXCEL responded by instructing Baton Rouge-based Fabricated Steel Products ([FSP](#)) to continue with the first run of priority steel while the detailer completed the new drawings. Once those were completed, FSP was prepared to start fabricating immediately so no time or money was lost in the production cycle.

Just as EXCEL was ready to mobilize onsite, SNF made another game-changing request: cut the agreed upon schedule in half. To accommodate the reduced six-month construction timeline, EXCEL negotiated the use of both of FSP's facilities to expedite steel fabrication. Additionally, EXCEL moved up the concrete masonry contractor's mobilization date by three weeks so it would be onsite to build in areas as they became available.

"We erected some of the process buildings right away so we could work inside or outside depending on the weather. We also installed temporary lighting inside for nighttime work," Karr says. "With additional manpower and workshifts, we did whatever we could to maintain the schedule safely and effectively."

For some of the buildings, one side of a wall would be built, with the structural steel erected and equipment installed before the remaining walls were put in place. Within the buildings, walls and other structures had to be installed in a precise sequence coordinating with various other trades while accounting for unknown delivery dates of owner-supplied equipment arriving from France.

“We know how to negotiate with U.S. suppliers, but when parts are manufactured overseas, we lose control. We had to stay engaged with the client to know when the equipment would actually arrive,” Karr says.

To further complicate matters, rainy weather turned the site (formerly a sugarcane field) into a muddy bog, with entire portions impassable for equipment. EXCEL built some laydown yards and temporary roads to ease congestion and aid steel deliveries, resulting in the erection of more than 100 tons of steel a week. Overall, the project team logged 90,000 manhours with zero Occupational Safety and Health Administration recordables—all while accounting for the installation of 134 extra pieces of equipment within a paper-thin timetable.



“The key to the whole project was the team concept we established with the owner and all of our subcontractors,” Karr says. “Everyone worked off the same page with the same goal. This enabled us to understand various problems and schedule around those problems.”

Late Start, No Extensions

On-campus housing isn't a priority for most community colleges, but when the school is located in Key West, Fla., it's tough for students to find an apartment to rent—let alone one they can afford. Acknowledging the need to provide better access to the school, [Florida Keys Community College](#) joined forces with developer [Student Suites](#) and [Hayes Cumming Architects](#), St. Petersburg, Fla., to build a three-story student housing facility.

As budget issues arose, SIKON Construction came on board to manage the project from sitework to finishwork under a \$4.7 million contract. One of the most schedule-critical decisions the contractor made during the value engineering process was to select a precast building.



“When it comes to student housing, if you're not available when school starts, then you've lost an entire year,” Scott says. “We knew they wanted the project done by August 2011, so we looked at how to speed things up with precast. It gave us time to get long-lead items in manufacturing before we started on the job.”

Unfortunately, unanticipated delays in the permitting process meant changing the groundbreaking date from November 2010 to late February 2011. “You would think less work in the marketplace would mean you could get a permit faster, but those departments have downsized too,” Scott says. “It's the same thing with architects; there isn't the same manpower

available as there was three or four years ago. It doesn't create impossible situations, but it does make it more difficult to be done on time.”

Despite the roadblock, SIKON finished the 43,000-square-foot project two weeks ahead of the original schedule—complete with one level of parking, two levels of housing and million-dollar views of the Key West coast. In addition to fabricating building components offsite, SIKON's secrets to success were bringing in subcontractors earlier than usual and maintaining an open path of communication. With strong leadership from the site superintendent, meetings were held continually with the trades to discuss how to speed up progress while working side by side.

“Our subcontractors bought into the schedule; they understood the problem and were willing to work with us to make it happen,” Scott says. “I was very impressed with the way our field team communicated the necessity of getting the job done on time, and how everyone worked together to integrate the schedules so we could stack trades into the building. You can’t do that on every job because people don’t always perform well under pressure.”



SIKON hopes to replicate its success with Student Suites on a 500-bed housing facility at [Wiley College](#) in Marshall, Texas—a \$13 million job the contractor won as a result of its deadline-oriented performance in Key West.

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DBIA Allots 120 Days For Headquarters Build-Out

Upon being selected last December, the project team for the Design-Build Institute of America’s (DBIA) new national headquarters was challenged to complete a 9,598-square-foot interior suite in Washington, D.C., in just 120 days. Naturally, design-build was the delivery method of choice.

The upscale office will give DBIA 40 percent more space to operate—reflecting growth in both the organization and the delivery method overall.

“Owners are seeing the advantage of integrating the team and shortening the delivery process, which is why design-build has gained market share,” says Mark Drury, vice president of business development for [Shapiro & Duncan](#), Rockville, Md.

Shapiro & Duncan won the mechanical and plumbing contract for the DBIA headquarters by teaming up with the Washington, D.C., offices of [DPR Construction](#) and [Envision Design](#), as well as electrical contractor [M.C. Dean](#), Dulles, Va., during the qualification and interview process. The team then worked off the DBIA’s budget to develop a LEED Gold design in sequence with construction. The move-in date for DBIA staff is April 1.

With experience working together on previous projects, the team has been able to focus on efficiency. For its part, Shapiro & Duncan integrates engineering and coordination staff so the mechanical design is worked out alongside the planning department. The 3-D drawings are then used for prefabrication, which Shapiro & Duncan utilizes for about 80 percent of its work. As the drawings progress, assemblies can be put together ahead of time and delivered just in time at each stage of the project.

“This increases quality, reduces waste, reduces labor in the field and reduces the time frame we have to be in the field,” Drury says. “On a fast-track project, the more you get done with fewer people, the easier it is. When you put 50 people in a small space, productivity goes down the tubes, which is why we like to build everything in the shop and then deliver it onsite.”

In addition, Shapiro & Duncan relies on building information modeling to aid prefabrication, coordinate with other trades and eliminate re-work. DPR, which produces the full construction schedule, also is using lean technology and a “pull” scheduling technique to keep the project on track. Specifically, DPR identifies milestones for different portions of the project, as well as all the tasks needed to achieve those milestones, and pulls the team toward them.

“We enjoy working with like-minded companies,” Drury says. “The secret to success is the performance of our team and our people. They know how to get things done.”

— *Joanna Masterson*