

Happy Travels

+ Turner's work on the Miami Intermodal Center's Rental Car Center features challenges unlike any the general contractor has seen before. *By Chris Petersen*

"We are on target — both on schedule and on budget."

> Frank Fernandez, senior project manager

Turner Construction Co. — Miami Intermodal Center

www.tcco.com

Project cost: \$325 million

Location: Miami

Scope: Consolidated rental car center

Employees on-site: 700 (peak)

> **By providing transfers between rail, buses, taxis and cars, Miami Intermodal Center (MIC) — just east of Miami International Airport — will make traveling much easier for thousands of people each day. Before then, however, it has created some challenging situations for general contractor Turner Construction Co. Still, Senior Project Manager Frank Fernandez says the company's expertise has made it more than a match for any challenges presented so far.**

The company is currently working on the 2.3-million-square-foot garage structure that will serve as public parking as well as the airport's combined Rental Car Center.

When completed, the entire 3.4-million-square-foot project will include the MIA Mover, a people-mover system that will link the MIC with the airport and road and highway improvements.

Fernandez explains the Rental Car Center will provide space for up to 6,500 vehicles, and as such, needs to have the capabilities to provide support to fleets of that size. Unlike other rental car facilities that have to provide fueling and cleaning service to the same number of cars, the MIC is handling these tasks a little differently.

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Building information modeling has made the unusual MIC project easier for Turner to coordinate.



country," Fernandez says. The facility will feature three levels of fueling stations, with 42 total throughout the entire structure. That means Turner and the project sponsor, the Florida Department of Transportation, had to be extra cautious in planning the construction.

"One of the challenges we've had on the project was that some of the building codes have never addressed elevated fueling stations, and the local building officials had to determine how to best design and build around the existing building codes," Fernandez says.

To ensure that the fueling stations would not pose a potential hazard, Turner expanded explosion-proof zones normally built around such stations. The building's design also routed electrical and lighting systems away from those areas to prevent explosions.

"We just had to have explosion-proof conduit and explosion-proof fixtures and non-static electrical components," Fernandez explains.

One of the keys to success on this project so far has been the use of building information modeling (BIM) to plan >>>

>> out the utilities. By modeling the systems in real-time on a 3-D model of the building, the company can be sure when it actually begins work, it is doing it the right way. “We’ve been able to use the BIM to help coordinate the electrical, mechanical and plumbing components on the elevated MIC station platform,” Fernandez says.

Planning Ahead

Along with the potential hazards posed by the fueling stations, the sheer size of the project was another challenge Turner works to overcome during construction. Fernandez says the company brought in additional supervisors to ensure that all the work was being performed up to standards.

Although some general contractors would have split up the subcontractor bids on a project of this magnitude, Turner instead required all of its subcontractors to be bonded over \$100,000 to ensure consistent quality throughout the project. Some subcontractors had to team up with larger national contractors to supply the proper level of bonding capacity and manpower. At its peak, more than 700 workers were on site, and recently as many as 500 were on site.

With so many subcontractors working at the same time on the same project, Fernandez says utilizing lean construction principles on the project has been a lifesaver. “One of the lean principles we use on the job is reverse phase scheduling, where we meet with the contractors and review key milestones for the construction activities and work with the contractors in providing accurate durations for the scheduled activities, starting from the key milestone comple-



Turner's use of reverse-phase scheduling with its subcontractors helped it meet a tight schedule.

tion date and working backwards,” Fernandez explains. Turner and the subcontractors have been meeting on a weekly basis to track forecasts.

The combination of strong planning and cooperation with subcontractors has made it possible for Turner to hit its target for completion, according to Fernandez. Work began in May 2007 and is scheduled to be finished at the end of the year. “We are on target – both on schedule and on budget – and look forward to meeting the completion date in the fourth quarter,” Fernandez says.

A Long History

Turner Construction has been in business for more than 100 years, and it has been a constant presence in the southeast Florida construction market for almost as long. “Beginning with the Venetian Hotel in Miami in 1910, Turner built many of the landmarks that South Floridians recognize and that have helped shape the region’s character and landscape,” the company says.

Among the landmarks Turner has contributed to the Miami cityscape are the 13-story Ingraham Building in the city’s downtown, which was built in 1927. The company’s work in southeast Florida also includes the iconic Breakers Hotel in Palm Beach, Fla., built in 1926. The company says projects such as these “stand as examples of Turner’s knowledge and experience.”

More recently, the company has been involved in projects such as the Diaz-Balart Law Center on the campus of Florida International University. Turner provided preconstruction and construction management at-risk services for the 152,000-square-foot project, which consisted of classrooms, lecture halls and mock courtrooms.

The company adds that it has built more than south Florida landmarks in the region. “Turner’s long history in Miami has not only resulted in important landmarks, but also has given Turner the opportunity to have a positive affect on the community,” it says. ☐

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