

NEW ORLEANS INTERNATIONAL CONCOURSE D EXPANSION UNDERWAY

Unique design presents interesting challenges | By Margie Church



Preparing Reinforcing Steel for Architectural Columns

The expansion delays for Concourse D at New Orleans International Airport are over, the pilings are in, and the structure is being erected. The project was designed and ready to bid when Hurricane Katrina struck and has sat idle since. Last November, the project was finally re-bid and The McDonnell Group was awarded the contract in December 2009.

The terminal expansion is a seven-sided, elevated structure supported at the apron level by cast-in-place concrete columns. The concourse level rotunda will have six gates constructed with cast-in-place architectural concrete and be connected to the existing concourse via a short connector. The



Pumping Jet Wall Gate Towers

connector will include new restrooms for the rotunda and be designed for future retail opportunities. The structural steel supporting the rotunda roof will converge at numerous angles to build the septagon shape and remain exposed. "Precision" will be the optimum word during the construction phase.

Because of the design's complexity and to avoid costly delays when construction commences, The McDonnell Group is putting the project design through Building Information Modeling (BIM). This is a powerful design tool that could eventually make obsolete the head-scratching, budget-squeezing beast known as change orders. In a nutshell, software such as Tekla Structures and Autodesk Revit interface with BIM to test the design and reveal problematic areas such as unintentional dead-ends or a corner too tight to accommodate ductwork, electrical and/or plumbing requirements. These issues are exposed and addressed before construction begins, the unknown elements are virtually erased, the construction runs smoother, and the client saves money.

An inside view

In most cases, commercial buildings are viewed primarily from the exterior. In an airport terminal, the public sees everything from inside the concourse and judges the project that way. The building features cast-in-place architectural concrete at the jet gateways. Reveal strips will be cast into the concrete to align with the curtain wall mullions and provide a uniformed finished appearance. Additionally, ductwork and steel structural will be visible in some places.

McDonnell Group Project Manager, John Manion said, "The exposed areas



Elevated Concourse Pour

become part of the finish, not just part of the project backbone. I'm really interested to see how the major construction aspects come across in a finished sense."

Elevated Concrete Underway

The elevated deck connecting the expansion to the terminal was poured in August and the rotunda deck was completed in late September. All slab-on-grade work has been completed and pours for the architectural concrete in the rotunda's terminal gates began in August. Ten pours were required for the apron and concourse levels and Manion states that those pours were completed in late October.

The project is slated for a September 2011 completion. Manion anticipates finishing sooner, however, he never underestimates Mother Nature. The project spans two hurricane seasons.

He also said, "Because it's a seven-sided building, there's some challenging work on the steel package. To get the proper angles and fabricate those connections will be more involved and

time consuming than the classic [rectangular] design."

Approximately 30 subcontractors will be on the job at the project's peak. Many of these subs have long-standing relationships with The McDonnell Group but Manion says they aren't afraid to reach out to new craftsmen who bring the necessary skill to the job. Work in the region is tight and competition came from all over the U.S. for the \$16.8 million-dollar contract.

"We're not opposed to forging new relationships with the right subcontractors," Manion said. "We do a thorough check to ensure we hire companies and individuals who will do a quality job. This is a lump sum contract but we don't have the luxury of taking the 'low number' subcontractor."

More than \$200 million dollars is still earmarked for more upgrades and renovations at New Orleans International. You can bet The McDonnell Group will be circling, waiting to be cleared for landing.