



# News Release

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## **FINLEY VALUE ENGINEERING ON MIAMI AIRPORT FACILITY BRIDGE SAVES TIME, MONEY**

TALLAHASSEE, Florida – In a project that illustrates the difference between designing a bridge and designing a bridge for the conditions in which it is being built, Finley Engineering Group (FINLEY) is providing value engineering services, final design and construction engineering services to GLF Construction Corp. for the Miami Intermodal Center (MIC) Terminal Access Roadway Project – Bridge 10A.

Located next to the Miami International Airport, the Miami Intermodal Center is a massive ground transportation center. When completed in 2011, this Florida Department of Transportation (FDOT) project will significantly improve the ability of residents and visitors to move between the major transportation systems of South Florida – including Miami, Palm Beach, Fort Lauderdale, and the Florida Keys. It will also ease traffic around the busy Miami International Airport.

Bridge 10A is a key piece of this \$1.4 billion project because it provides access to the 3.4-million-square-foot Rental Car Center (RCC) that will house all the rental car agencies serving the airport. The 584-foot-bridge was initially designed to be a cast-in-place concrete-on-falsework section combined with a concrete U-beam superstructure. The original design also called for three different superstructure cross-sections, including a curved cast-in-place multi-cell box constructed on falsework. As designed, the construction would have been excessively complicated and labor-intensive considering the abundance of construction activity going on around it.

The value engineering redesign incorporates a five-span, dual-steel box girder superstructure with a variable width and high degree of curvature. By converting the superstructure to steel and using only one superstructure type, the redesign eliminates the need for falsework. This greatly simplifies construction and minimizes the impact on ongoing operations and construction projects at the rental facility.

“The FINLEY redesign for the steel box girders significantly reduces the amount of shoring required,” says Joseph Beard, P.E, Vice President of GLF. “This reduction in shoring opens up the



access to the site, which provides a benefit to all the contractors on the site.”

The redesign includes dual constant-depth steel box girders with a cast-in-place deck. FINLEY accomplished the variable width by using a sub-stringer and intermediate diaphragms that distribute load back into the main girders. The redesign also removes a span and reduces the number of piers. It eliminates large wall piers in favor of slender fluted columns under each box, and increases the size of the square prestressed piles from 18” to 24” to reduce the impact of the footing size on existing utilities. Ultimately, the number of piles decreased from 163 to 60, due to the lighter superstructure, more efficient support placement, and higher capacity foundations. This not only provides a cost savings, but also minimizes the impact on ongoing construction activity at the site.

FINLEY project manager Matthew Adams, P.E., says, “Overall, the redesign saves more than \$500,000 in construction costs, accelerates the schedule, and provides a structure that fits in better with its surroundings.”

The Rental Car Center is the first major structure of the Miami Intermodal Center (MIC) Program under construction with an opening date of spring 2010. Envisioned as a rental car “mall,” the RCC will minimize rental car shuttle traffic at the airport and reduce curbside congestion by an estimated 30%.

Founded in 2004, FINLEY is recognized, nationally and internationally, as a leading engineering and construction consulting firm specializing in complex bridge projects of all kinds.

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