



IMPROVING TRAFFIC FLOW

Pinellas County, Florida

REPLACEMENT OF OLD BRIDGE

State Road 679 in Pinellas County, Florida connects Isla del Sol with the island of Tierra Verde that is home to Fort DeSoto State Park. The beaches at Fort DeSoto State Park have been recognized as some of the best beaches in the United States. That distinction attracts numerous visitors that often lead to very heavy vehicle congestion. This is compounded by the low level, two-lane draw bridge that connects the two islands and opens two times per hour throughout the day. To mitigate this, the Florida Department of Transportation released a Design Build Bid Project to provide a fixed, high-level bridge to replace the current 60-year-old design along with improved traffic patterns and pedestrian access. **American Bridge Company (AB)** provided the winning Phase I and Phase II combined score and was awarded the US\$56M project.

PROVIDING THE LOWEST IN-PLACE CONCRETE

EFCO began working with AB early in the pre-bidding process on multiple facets of the substructure design to aid in providing the lowest in-place concrete costs for their winning bid. Upon award, the AB and EFCO Teams worked together to put a full substructure formwork package in place to include land-based and water-based footings, columns, and cap forms.

AB chose EFCO's versatile **PLATE GIRDER®** forms for all three elements of the project. With rectangular-shaped, land-based and bullnose-shaped water-based footers, EFCO provided standard and custom **PLATE GIRDER** formwork. The bullnose-shaped, water-based footer design utilized a seal slab system that the **PLATE GIRDER®** formwork was attached to. EFCO provided the formwork solution,

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and McNary Bergeron and Associates designed the seal slab to be connected prior to setting it in the water and minimized the need for specialty divers post-pour to remove the forms from the seal slab.

COLUMNS

With two different sized columns, 12' (3600 mm) x 6' (1800 mm) and 10' (3000 mm) x 6' (1800 mm), up to 43' (13 m) tall in a single lift pour, AB chose the EFCO tieless *PLATE GIRDER* column forms. Due to schedule needs, the 10' (3000 mm) x 6' (1800 mm) land-based columns were poured first, which allowed AB to swap out the 10' (3000 mm) faces with 12' (3600 mm) faces and seamlessly transition to the larger size column pours.

CAPS

The single stem, radial soffit caps, measuring up to 64'-6" (20 m) long x 6' (1800 mm) wide x almost 32' (9.8 m), were also formed using EFCO's *PLATE GIRDER* forms. Due to the large size of the caps, the reinforcing congestion and bar sizes inside the columns, EFCO also needed to design custom cap support solutions that enabled AB personnel flexibility when installing support tubes in the columns.

EFCO is very proud to once again work with American Bridge Company's SR679 Pinellas Bayway Structure E Team. A great group of personnel combined with an outstanding design is going to provide Pinellas County with a beautiful structure for years to come. ♦

Jonathan Yates Project Manager
 Mike Banfield Project Superintendent
 Kevin Glass Sr. Project Engineer
 Diego Laris Project Engineer
 Tim Lindstedt... Structures Superintendent
 Tim Davis, PE.... Precast Seal Slab Specialty Engineer—McNary Bergeron & Associates
 Jim Cannan..... EFCO Sr. Territory Manager
 Frank Bonventre EFCO Sr. Field Service
 Dustin Miller EFCO Engineer



Working with Jim and his team through the project formwork challenges ultimately resulted in a very successful project and forming system. EFCO's ability to work closely with AB's engineering staff and specialty engineers, as well as the project's EOR, all facilitated in the success of the substructure construction, leaving the owner with a high-quality and great looking finished product.

Jonathan Yates
 Project Manager



For the columns, AB chose the EFCO tieless PLATE GIRDER column forms.



The bullnose-shaped, water-based footer design utilized a seal slab system that connected to the formwork prior to being set in the water. This minimized the need for specialty divers post-pour to remove the forms from the seal slab.