



# Project Overview

## CARBON FRP REPAIR OF UNDERWATER BRIDGE PIERS

**Name:** Bay View Bridge  
**Type:** Bridge Structure  
**Location:** Ft. Lauderdale, FL  
**Completed:** June, 2007

### PROBLEM

Partially submerged bridge piers have a tendency to present severe corrosion problems at the splash zone, where several wet/dry cycles occur daily due to natural ocean tides.

Patching the concrete at this elevation only provided a temporary fix, since concrete and steel deterioration reappeared in the short term. A long term and maintenance free solution was desired.

### SOLUTION

QuakeWrap™ FRP Repair System was selected to provide the desired solution. QuakeWrap FRP carbon fabric was applied from the pier cap elevation to a couple of feet below the low tide water elevation on all the bridge piers.

Special epoxy resins AquaWrap™ was developed that allowed the FRP fabric to completely cure underwater and remain in full contact with the concrete pier surface even when subjected to strong underwater currents.

After retrofit work was completed, the piers were painted to obtain the final architectural finish.



## Technical Highlights

- The Bridge presented severe corrosion in the piers.
- Corrosion was due to natural ocean tide action that generated several daily wet/dry cycles at the pier splash line.
- All piers were retrofitted with QuakeWrap™ FRP carbon fabric.
- Special epoxy resin (AquaWrap™) was developed for underwater FRP fabric applications.

## Credits

Engineering and Materials: QuakeWrap, Inc., Tucson, AZ  
Installation Contractor: Premier Corrosion Protection Services, Tampa, FL



*“The FRP Retrofit Experts”*