FDOT Transportation Innovation Initiative:  
**UHPC – Design Innovation**

**Project Location:**  
FDOT District Six  
Westview Miami  
Miami-Dade, Florida

**Agency:**  
Florida Department of Transportation

**URL:**  
http://www.fdot.gov/structures/innovation/UHPC.shtm

**Project Name:**  
SR924/NW 119th St over Rio Vista Canal  
Bridge Nos. 870621  
FPID: 441963-1 (lead 439981-1) T6516

**Project Description:**  
Sonovoid PSB longitudinal joint repairs with UHPC.

**Project Purpose & Need:**  
Reflective cracks in the asphalt overlay, indicating separation of the sonovoid units at the joints between the units. Bridge work activities involved hydro-demolition of longitudinal joints between PSB precast units and filling connections with supplemental tie bars and UHPC.

**Overall Budget/Cost Estimate:**  
$4,166,383 (Construction Contract)  
$138,000 (288 LF. Joint Repair w/ UHPC & Exp. Joints replacement)
What was unique about this project?

Third use of UHPC for existing sonovoid PSB joint repairs in Florida. Only middle 50% of joint repaired with UHPC. Remaining joint length grooved to 1” depth cleaned and sealed with non-shrink grout.

Describe Traditional Approach:

Traditional approach includes using hooked and lacing reinforcing bars within wider concrete closure pours using high early strength concrete.

Describe New Approach:

Exposure of existing reinforcing bars by hydro-demolition, with addition of supplemental tie bars enclosed in a UHPC closure pour.

Top Innovations Employed:

Utilization of UHPC connections for rapid and robust repair of damage longitudinal joint connections.

Primary Benefits Realized/Expected:

More robust and longer service life from UHPC connections. Short closure time for lanes on highway system bridges.

Project Estimated Start Date/Completion Date:

April 2022 – April 2023