

FDOT Transportation Innovation Initiative: FRP – Design Innovation



Fast
Facts:
Glass
Fiber
Reinforced
Polymer



Project Location: FDOT District Two
Levy County
Cedar Key, Florida

Agency: Florida Department of Transportation

URL: <http://www.fdot.gov/structures/innovation/FRP.shtm>

Project Name: SR 24 over Number Three Channel
Bridge No. 340003
FPID: 426169-1

Project Description: Rehabilitation of three bridges in Cedar Key

Project Purpose & Need: Bridge Inspection Reports identified deterioration, including evidence of corroded steel reinforcement in the



bulkhead cap on bridge 340003. Work activities included removal of the existing bulkhead cap and installation of a new bulkhead cap with GFRP reinforcement.

Overall Budget/Cost Estimate:

\$741,630.00 (Construction Contract)

What was unique about this project?

GFRP reinforcement is used in the bulkhead cap, which is within the splash zone, to reduce future maintenance requirements. Removable blocks, reinforced with varying types of FRP, were cast with the bulkhead cap for monitoring long-term durability.



Describe Traditional Approach:

Traditional approach includes installation of grade 60 steel rebar in a cast-in-place bulkhead cap.

Describe New Approach:

Utilization of GFRP bars in lieu of traditional grade 60 steel rebar in the bulkhead cap, located in the splash zone.

Top Innovations Employed:

Utilization of GFRP bars within the splash zone/marine environment.

Primary Benefits Realized/Expected:

Longer service life of the bulkhead cap.

Project Start Date/Substantial Completion Date:

11/30/2015 – 8/3/2016

Affiliations:

PE Consultant:

Kisinger Campo & Associates Corp.

Construction Contractor:

Pneumatic Concrete Co, Inc.

Construction Engineering Inspection:

JEA Construction Engineering Services

Project Contact:

Engineer of Record:

Patrick Mulhearn, P.E.

Kisinger Campo & Associates Corp.

FDOT Project Manager:

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