FDOT Transportation Innovation Initiative:

UHPC – Design Innovation

Project Location: FDOT District Three
Gadsden County, Florida

Agency: Florida Department of Transportation

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

Project Name: I-10 (SR 8) over CR-268A
Bridge No. 500080
FPID: 445645-1

Project Description: Approach Slab replacement at End Bridge (east side) westbound bridge with precast slab units and full depth longitudinal UHPC joints.

Project Purpose & Need: Replace deteriorated approach slab using accelerated construction techniques and four construction phases to minimize traffic impacts.

Overall Budget/Cost Estimate: $980,000 (Construction)

http://www.fdot.gov/structures/innovation/UHPC.shtm
What was unique about this project? First UHPC for connection for precast approach slabs in Florida.

Describe Traditional Approach: Traditional approach requires cast-in-place concrete.

Describe New Approach: Utilization of short length straight #6 bar lap splices with 6” overlap using UHPC closure pour.

Top Innovations Employed: Utilization of UHPC connections for rapid replacement of damaged/deteriorated Interstate bridge approach slab.

Primary Benefits Realized/Expected: More robust and longer service life from precast deck slabs and UHPC connections. Short closure time for highway bridge lane.

Project Start Date/Substantial Completion Date: Fall 2020 – Spring 2021

Quantities:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Approach Slab 1</th>
<th>SF</th>
<th>Approach Slab 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>0916 460 X</td>
<td>Precast Approach Slab Unit, Project 445465-1-52-01</td>
<td></td>
<td>1375</td>
<td></td>
</tr>
<tr>
<td>0918 349 X</td>
<td>Ultra High Performance Concrete - UHPC, Project 445465-1-52-01</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Affiliations:

PE Consultant: American Consulting Engineers of Florida, LLC.

Construction Contractor: TBA

Construction Engineering Inspection: TBA.

Project Contacts:

Engineer of Record: Leahann Powell, P.E. (American Consulting Engineers of Florida)

FDOT Project Manager: Hunter Hambright

FDOT District 3/HNTB

Hunter.Hambright@dot.state.fl.us

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