2006 SE Pavement Design and Management Conference
Panama City, Florida
May 7-10, 2006

Florida Department of Transportation
District Seven - Tampa

Ronald A. Chin, P.E.
Patrick B. Stanford, P.E.
District Seven Interstate Improvements under Construction

I-4 from 14th to 50th Street

1-275/I-4 Downtown Interchange

Tampa Airport Interchanges
Reconstruct I-4 to Accommodate Four Lanes of Travel in Each Direction

Improves Capacity and Safety Operations Along the Facility

The Final Link for Widening I-4 Throughout District 7
I-4 Segment 3A/3B

- Adds a New Auxiliary Lane Between 14th/15th Street and 21st/22nd Street to Enhance Local Circulation
- Landscape and Aesthetic Treatments Incorporated to Compliment the Historic Character of Ybor City
- Accommodates Future Expansion
Project Data

- Let Date: April 30, 2003
- Construction Start: February 02, 2004
- Contractor: Gilbert Southern Corp.
- CCEI: Parsons Brinkerhoff Construction Services
- Construction Duration: 1450 Days
- Completion: April, 2008
Project Statistics

- **Project Cost:** $150,000,000
- **Length:** 1.5 miles
- **Embankment:** 1.67 million m³
- **Area of Concrete:** 130,000 m²
- **PCC Cost:** $81 / m²
- **2004 AADT:** 132,000
- **2025 ADT:** Est. 210,000
- **% Trucks:** 16%
Pavement Design

- ESAL’s: 42,505,000
- Subgrade: 4’ Depth Select A-3 Material
- Stabilized Subbase: Top 6” Select Soil; 3” - 57 Stone mixed in (if we can find it!)
- 330mm PCC
- 35mm Dowel Bars @ 300mm (450mm length)
- 15 mm Tie Bars @ 1M (850mm length)
- 5m Joint Spacing
- Edgedrain Draincrete System (100mm Pipe)
Edgedrain Draincrete Detail

FIGURE 6.5
PARTIAL DEPTH (TIED) CONCRETE SHOULDER WITH SPECIAL STABILIZED SUBBASE AND SPECIAL SELECT SOIL

Marked Lane

600 mm

Tie Bars

Marked
Shoulder

Shoulder
Slab

Lane Slab

Special Stabilized Subbase

Special Select Soil (Daylight To Shoulder)

450 mm

Edgedrain

Natural Ground Or Fill

Notes:
The above illustrations not to scale.
Thickness for the Lane Slab and Shoulder Slab varies. Thickness for the Special Stabilized Subbase is 150 mm.

For additional information and details, see Standard Index 505, Embankment Utilization and Standard Index 287, Concrete Pavement Subdrainage.
Interim Typical Section
I-4
INTERIM TYPICAL SECTION
I-4 (SR 400: 14th to 50th Street)
Concrete Pavement Reconstruction
Tampa, Florida
I-4 Segment 3A/3B

Rendering of Architectural Feature and Aesthetic Treatments
Decorative Pier Brickwork and Cast Stone at 22nd Street in Ybor City
Prepared Subgrade Ready for Mixing
Layout of Dowel Baskets
Layout of Dowel Baskets
Concrete Pavement Test Pull
Concrete Pavement Test Pull
Production Paving
Production Paving
Completed Eastbound and Asphalt Shoulder Paving
Sawcutting in Florida with Style
Innovative Contracting Methods

Alternative Contracting:

- Early Completion I/D; $10K per day; Max. 250 days
- Bonus: Open Eastbound Roadway $3M and Complete 50th Street $1M
- Guaranteed PCC Pavement (2903-355-133)
  5 Year Guarantee for Rideability, Spalling, Cracking and Shattered Slabs
## Guaranteed PCC Pavement

<table>
<thead>
<tr>
<th>Deficiency</th>
<th>Threshold</th>
<th>Remedial Action</th>
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<tbody>
<tr>
<td>Rideability</td>
<td>Ride No. &lt; 3.69</td>
<td>Grind</td>
</tr>
<tr>
<td>Spalling in Wheel Path</td>
<td>Any area Exceeding 6” Length</td>
<td>Replace min. 6’ slab</td>
</tr>
<tr>
<td>Spalling outside Wheel Path</td>
<td>Any area exceeding 1-1/2” W and 12” L</td>
<td>Replace min. 6’ slab</td>
</tr>
<tr>
<td>Cracking</td>
<td>Width &gt; 1/8”</td>
<td>Replace min. 6’ slab</td>
</tr>
<tr>
<td>Shattered Slab</td>
<td></td>
<td>Slab Replacement</td>
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Looking East at Early Reconstruction of I-4 through Ybor City March 2004
Looking East at I-4 through Ybor City
One Year Later in March 2005
I-4 Segment 3A/3B

Looking East at I-4 at 21st and 22nd Street Interchange in Ybor City
Three Months Later in June 2005
I-4 Segment 3A/3B

Looking East at New Eastbound I-4 and Existing Westbound at 21st and 22nd Bridges
Eight Months Later in February 2006
Looking East at New Eastbound I-4 at New Columbus and 50th Street Bridges In February 2006
Construction Challenges

- Stabilized Subbase (Work Platform) Contractor requested to remove due to #57 Stone availability
- Work site access – Urban setting with mix of Industrial and Residential
- Concrete Production and Delivery
- Reflective Cracking across Moment Slabs and Asphalt Shoulders
Lessons Learned

- Diamond Grinding 350-13 Surface Requirements. Produce, by grinding in accordance with 352, a pavement surface that is true to grade and uniform in appearance with a longitudinal line type texture.
- Base Selection for Shoulders to provide Uniformity and Ease of Construction
- Warranty Monitoring Coordination
Thank You and Welcome to Tampa!

Questions?