

2006 SE Pavement Design and Management Conference

Panama City, Florida

May 7-10, 2006



Florida Department of Transportation

District Seven - Tampa

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District Seven Interstate Improvements under Construction

I-4 from 14th to 50th Street



I-275/I-4 Downtown Interchange

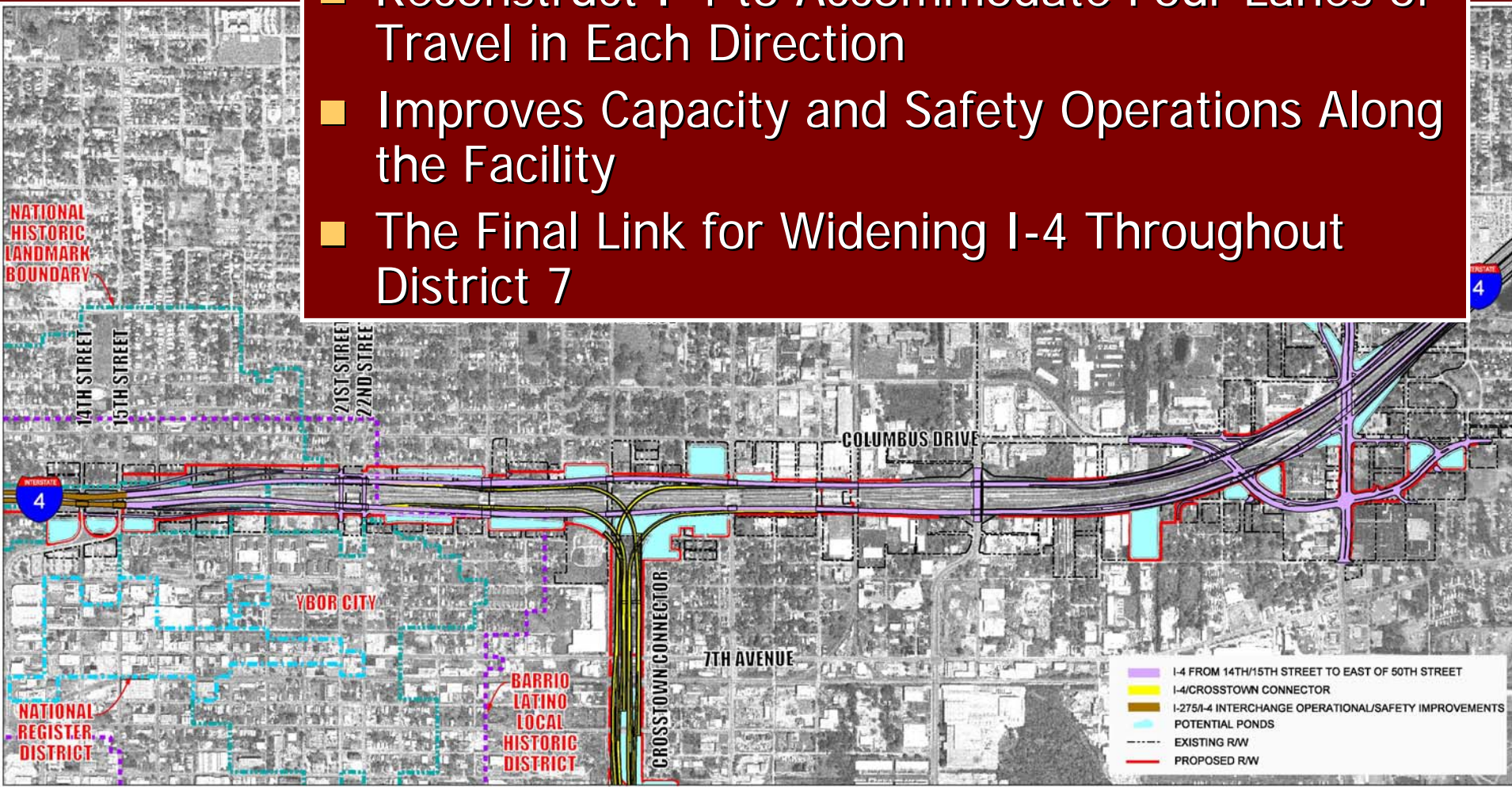


Tampa Airport Interchanges



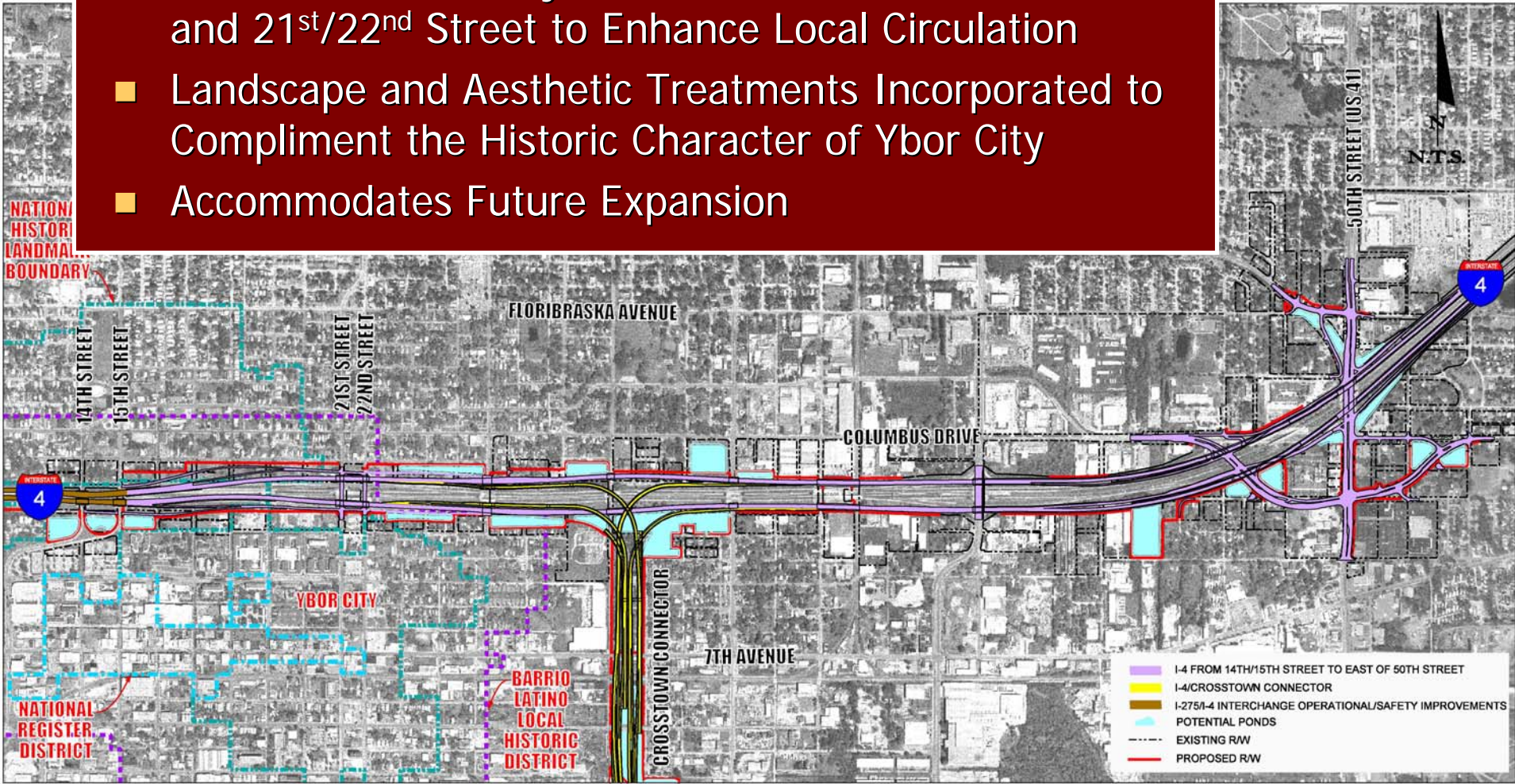
I-4 (SR 400: 14th to 50th Street) Concrete Pavement Reconstruction Tampa, Florida

- 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

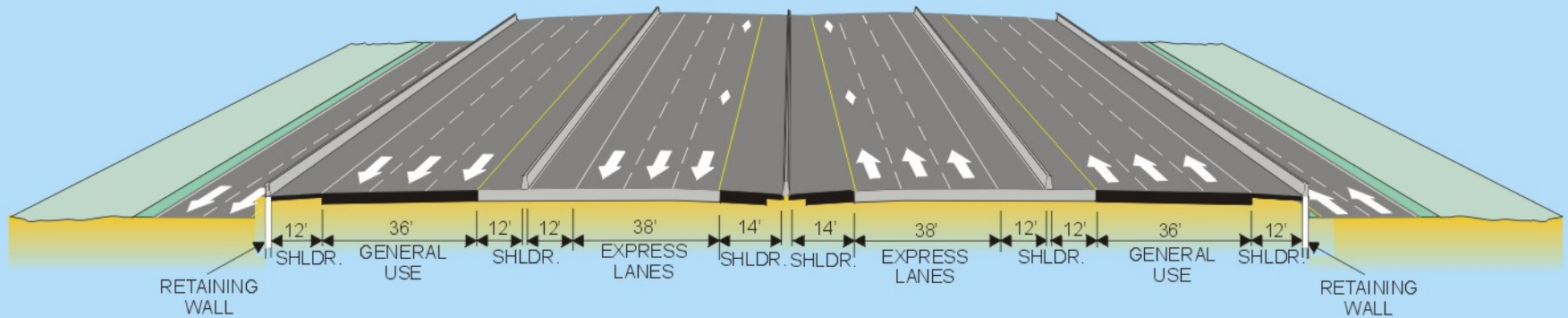


Project Statistics

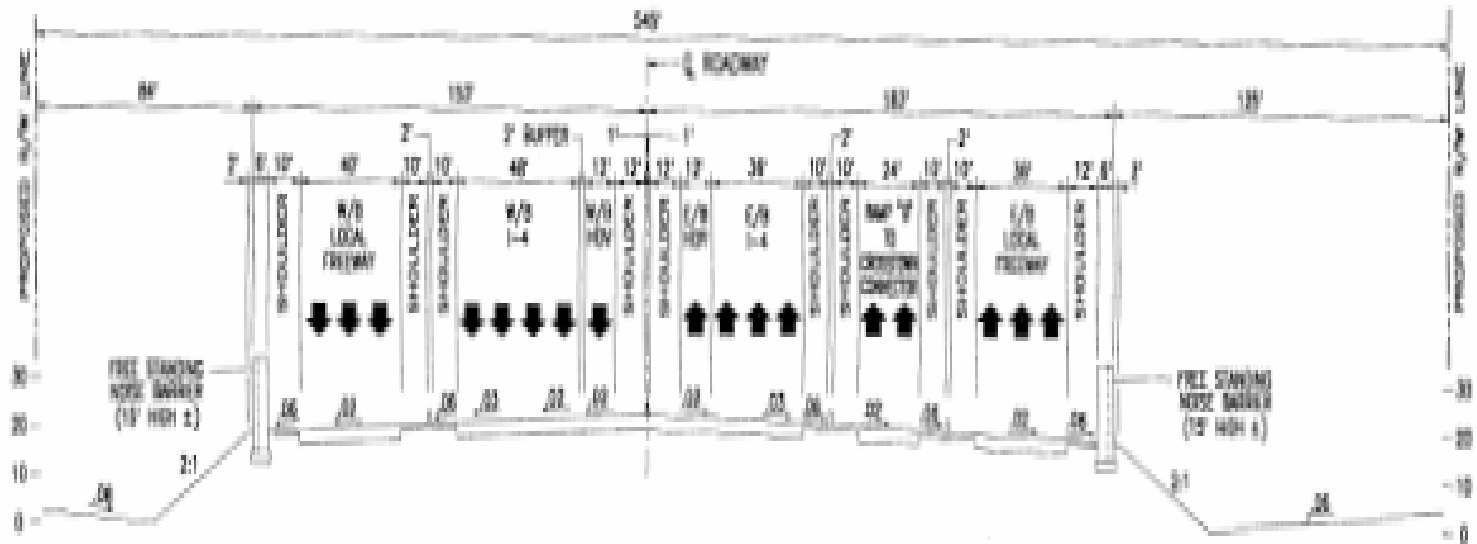
- Project Cost: \$150,000,000
- Length: 1.5 miles
- Embankment: 1.67 million m³
- Area of Concrete: 130,000 m²
- PCC Cost: \$81 / m²
- 2004 AADT: 132,000
- 2025 ADT: Est. 210,000
- % Trucks 16%



I-4 ULTIMATE TYPICAL SECTION (HOV OPTION SHOWN)



Ultimate Typical Section

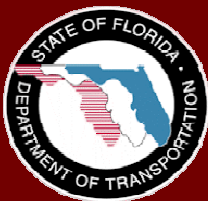


STATION 508+00



Pavement Design

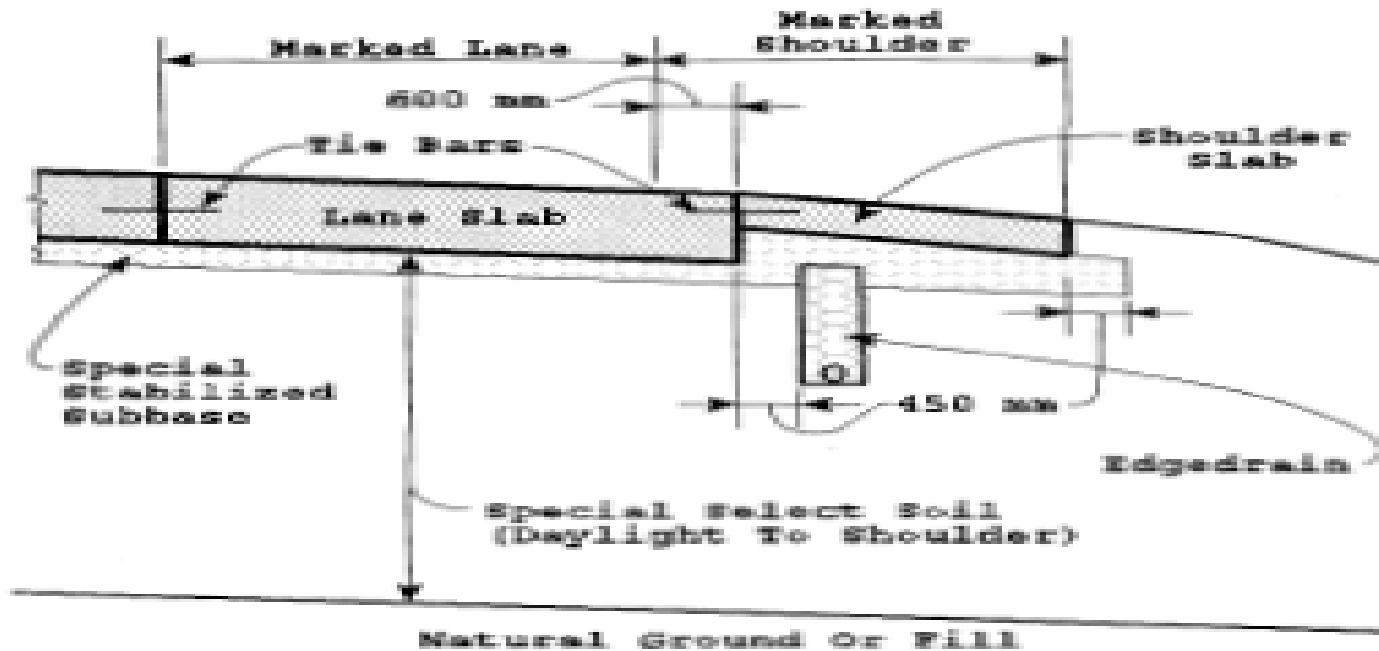
- ESAL's: 42,505,000
- Subgrade: 4' Depth Select A-3 Material
- Stabilized Subbase: Top 6" Select Soil; 3" - 57 Stone mixed in (if we can find it!)
- 330mm PCC
- 35mm Dowel Bars @ 300mm (450mm length)
- 15 mm Tie Bars @ 1M (850mm length)
- 5m Joint Spacing
- Edgedrain Draincrete System (100mm Pipe)



Edgedrain Draincrete Detail

FIGURE 6.3

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

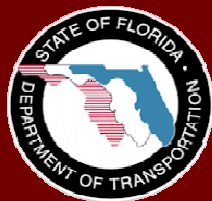


Notes:

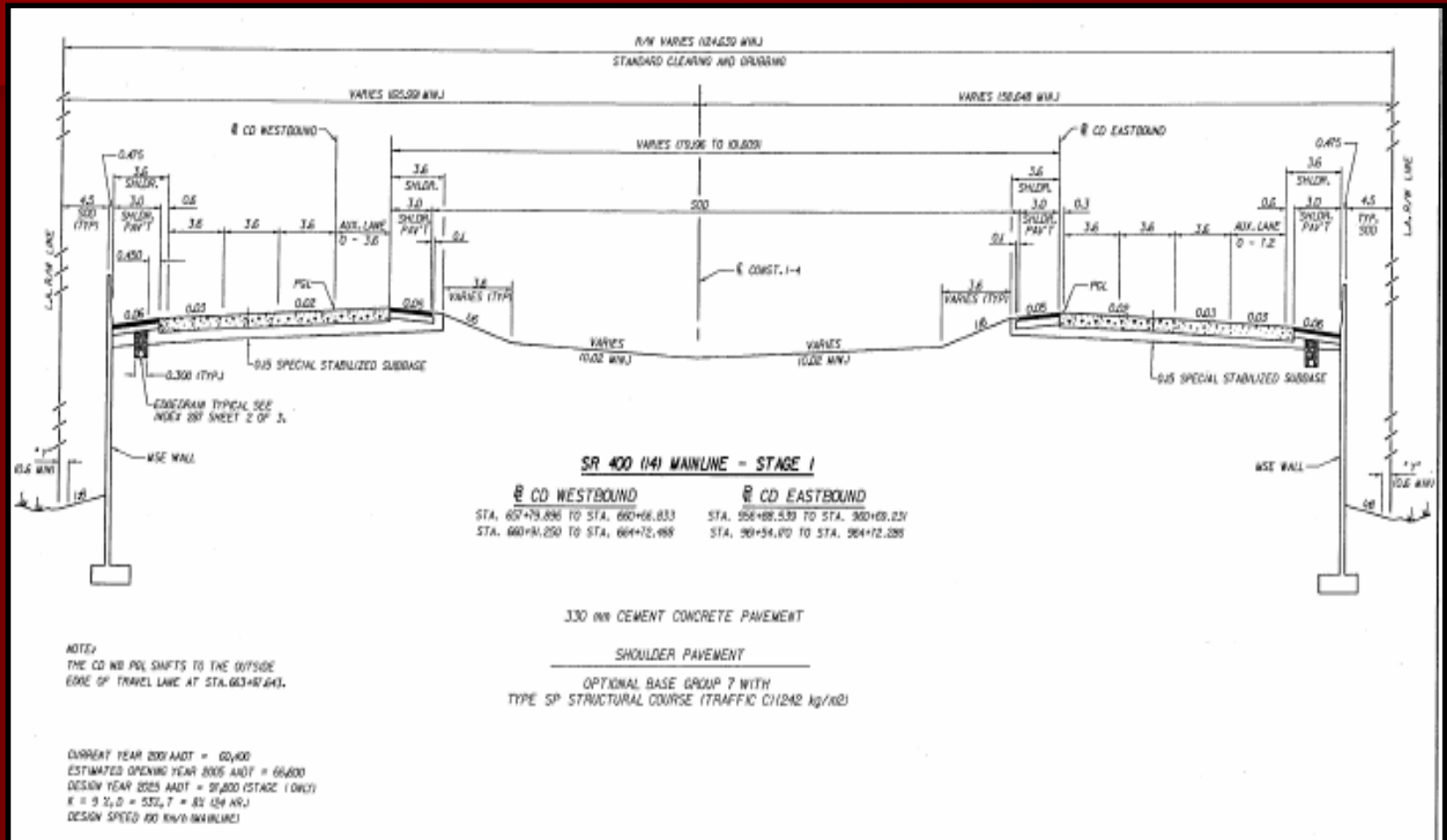
The above illustrations not to scale.

Thickness for the Lane Slab and Shoulder Slab varies. Thickness for the Special Stabilized Subbase is 150 mm.

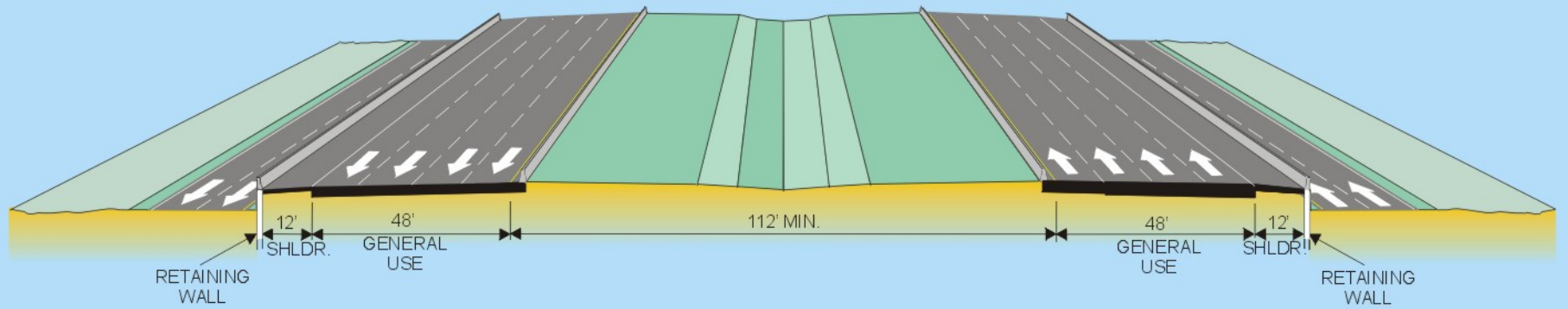
For additional information and details, see Standard Index 305, Embankment Utilization and Standard Index 287, Concrete Pavement Subdrainage.



Interim Typical Section



I-4 INTERIM TYPICAL SECTION



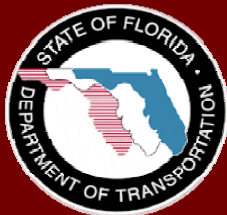
I-4 (SR 400: 14th to 50th Street) Concrete Pavement Reconstruction Tampa, Florida



I-4 Segment 3A/3B



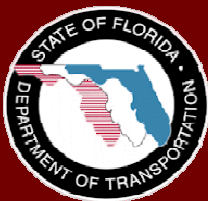
Rendering of Architectural Feature
and Aesthetic Treatments



Decorative Pier Brickwork and Cast Stone at 22nd Street in Ybor City



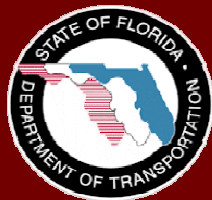
Prepared Subgrade Ready for Mixing



Layout of Dowel Baskets



Layout of Dowel Baskets



Concrete Pavement Test Pull



Concrete Pavement Test Pull



Production Paving



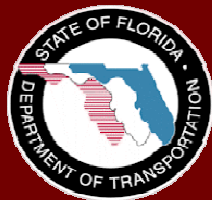
Production Paving



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

Deficiency	Threshold	Remedial Action
Rideability	Ride No. < 3.69	Grind
Spalling in Wheel Path	Any area Exceeding 6" Length	Replace min. 6' slab
Spalling outside Wheel Path	Any area exceeding 1-1/2" W and 12" L	Replace min. 6' slab
Cracking	Width > 1/8"	Replace min. 6' slab
Shattered Slab		Slab Replacement

I-4 Segment 3A/3B

Looking East at Early Reconstruction
of I-4 through Ybor City March 2004



I-4 Segment 3A/3B



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



I-4 Segment 3A/3B

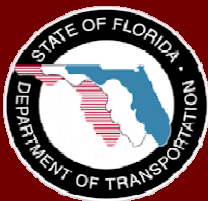


Looking East at New Eastbound I-4
at New Columbus and 50th Street Bridges
In February 2006



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?

