Interstate 66 Precast Prestressed Concrete Pavement

Project Information
Constructed: August-October 2009
Project Location: Westbound I-66, Fairfax, Virginia
Project Scope: Replacement/reconstruction of four main lanes of Interstate 66
Project Length: 1,020 ft (four-lane pavement)

Fabrication
Contractor: Smith-Midland Corp., Midland, VA
Number of panels fabricated: 306
Panel Dimensions: Single-Lane: 12' x 10'
Double-Lane: 27' x 10'
Panel Thickness: 8 3/4”
Pretensioning: 8-0.5” Gr. 270 strands

Construction
Installation Contractor: Lane Construction Corporation, Chantilly, VA
Post-Tensioning Contractor: Freyssinet Inc., Sterling, VA
Construction Timeframe: Night Construction (10:00 pm – 5:00 am)
Pavement Structure: 1”-3” No. 10 stone leveling course over existing base/subbase
Post-Tensioning: Monostrand tendons, 0.6” Gr. 270 strand at 2’-6” on center with two 1” threaded bars replacing the strands at the quarter points.

Diagram
Benefits of Precast Prestressed Concrete Pavement

✓ Expedited Construction
  Faster opening to traffic
  Weekend or nighttime construction

✓ Improved Quality and Performance
  Controlled fabrication conditions
  Proven performance of cast-in-place prestressed concrete pavements

✓ Reduced Slab Thickness
✓ Reduced Cracking and Number of Joints
✓ Ability to Span Voids and Non-ideal Base Layers
  Prestress can be adjusted to account for voids and “soft” underlying base materials

Where else has Precast Prestressed Concrete Pavement been used?

• Georgetown, Texas (2002)
  2,300 ft frontage road pavement along Interstate 35

• El Monte/Los Angeles, California (2004)
  248 ft of mainline pavement on EB Interstate 10

• Red Dog, Alaska (2002)
  Truck apron for 200-ton mining trucks at Red Dog Mine

• Sikeston, Missouri (2005)
  1,010 ft of mainline pavement on NB Interstate 57

• Sheldon, Iowa (2006)
  160 ft precast prestressed bridge approach slab pavement

• Newark, Delaware (2009)
  2,324 lane-ft of pavement on NB Route 896 at US 40

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