Interstate 35 Frontage Road Precast Prestressed Concrete Pavement

Project Information
Constructed: Fall 2001
Project Location: Northbound Interstate 35 frontage road near Georgetown, Texas
Project Length: 2,300 ft (full-width pavement: 36 ft wide, including traffic lanes and integral shoulders)

Fabrication
Contractor: Texas Concrete Company, Victoria, TX
Number of panels fabricated: 339
Panel Dimensions: 36’ x 10’ (full-width panels)
16’ x 10’ and 20’ x 10’ (partial-width panels)
Panel Thickness: 8”
Pretensioning: 6-0.5” Gr. 270 strands

Construction
Installation Contractor: Granite Construction, Austin, Texas
Post-Tensioning Contractor: Dywidag Systems Int’l, Arlington, TX
Pavement Structure: 2” dense graded asphalt base over compacted embankment
Panel Installation Rate: 25 panels/6 hours
Post-Tensioning: Longitudinal: monostrand tendons, 0.6” Gr. 270 strand at 2 ft on center (post-tensioned in 250’, 225’, and 325’ sections)
Transverse (partial-width panels only): 2-0.5” strands per tendon, one tendon per panel

Diagram:
- Armored Expansion Joint
- Traffic Flow
- Stressing Pockets
- Keyed Panel Joints
- Joint Panel
- Base Panels (Multiple)
- Central Stressing Panel(s)
- 10 ft (All Panels)
- 36 ft or 16 ft + 20 ft
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?

- **El Monte/Los Angeles, California (2004)**
  - 248 ft of mainline pavement on Interstate 10
- **Sikeston, Missouri (2005)**
  - Replacement of 1,010 ft of jointed reinforced concrete pavement on Interstate 57
  - Truck apron for 200-ton mining trucks at Red Dog Mine
- **LaGuardia Airport (2002)**
  - 100 ft of taxiway pavement
- **Lambert-St. Louis International Airport (2002)**
  - 25 ft x 25 ft test panel for taxiway pavement
- **Sheldon, Iowa (2006)**
  - 160 ft precast prestressed bridge approach slab pavement

Contact Information

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