

Highway 60 Precast Prestressed Concrete Bridge Approach Slab

Project Information

Constructed: August-September 2006

Project Location: Highway 60 near Sheldon, Iowa

Project Size: 4,307 sq. ft. (2 approach slabs, ~77 ft long each)



Fabrication

Contractor: IPC Inc., Iowa Falls, IA

Number of Panels: 12 Typical Panels, 4 Skewed Panels

Panel Dimensions: Typical Panels: 14' x 20'

Skewed Panels: 14' x Variable Length (8'-10" to 25'-0")

Panel Thickness: 12"



Construction

Installation Contractor: Dixon Construction, Correctionville, IA

Post-Tensioning Supplier: Dywidag Systems Int'l

Pavement Structure: Aggregate base trimmed to pavement crown

Longitudinal and Transverse Post-Tensioning:

Monostrand tendons, 0.6" Gr. 270 strand at 2 ft on center



Instrumentation

Completed by: Iowa State Univ./Center for Transportation Research and Education

Number of Instrumented Precast Panels: 8

Vibrating Wire Strain Gages: 16

Post-Tensioning Strand Meters: 7

Joint Movement Crack Meters: 8

Monitoring of: post-tensioning tendon stress, slab strain/stress, joint movement, temperature, slab and abutment movement, in-service performance.



Iowa Department
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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 Interstate 10*
- Sikeston, Missouri (2005)
 - Replacement of 1,010 ft of jointed reinforced concrete pavement on Interstate 57*
- Red Dog, Alaska (2002)
 - 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*

Precast
Pavement



www.PrecastPavement.com

Contact Information

Iowa DOT

Ahmad Abu-Hawash, P.E.

(515) 239-1393

Ahmad.Abu-Hawash@dot.iowa.gov



**Iowa Department
of Transportation**

FHWA

Samuel S. Tyson, P.E.

(202) 366-1326

Sam.Tyson@dot.gov



U.S. Department of Transportation
**Federal Highway
Administration**

Transtec

David K. Merritt, P.E.

(512) 451-6233

dmerritt@thetranstecgroup.com



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