Precast Panels
Design, Casting, Placement
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Ames, Iowa

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Overview
• Project
• Plans
• Precasting
• Construction
• Summary
Panels
- 12 inches thick
- Skewed panel at abutment
- 14 ft x 20 ft

Properties
- $f_c = 7,000$ psi (5000 psi required)
- Precast w/ mild reinforcing
- 1 inch diameter PT ducts ~ 2 ft spacing
- 0.6 in diameter strands, 75% of 270 ksi ~ 40 kips/strand

Post-tensioning Layout
End Connection

Blockout Plan

Transverse Keyway
Panel Fit Up Test

- Check PT alignment
- Keyways
Grouting PT and Underslab
Summary

- Reinforcement around pocket
- Longer pocket (longitudinal)
- Keyway issues (Steel Forms)
- Detail between slab joints (neoprene doughnuts)

Summary (Cont.)

- Metal PT ducts
- Provided funds for mockup
- More / early involvement of precasters and post-tensioning industry
- Repair methods in place
Future Work

- Under Traffic
- W/ precast approach slab support
- Pavement Projects