EMERGENCY RESPONSE TO A BRIDGE COLLAPSE: A CASE STUDY
NINE MILE ROAD over I-75

Presentation Outline

- Project Overview
- Owner’s Perspective
- Design/Builder’s Perspective
- Summary and Lessons Learned
- Questions and Answers
NINE MILE ROAD over I-75

- Thursday - July 15, Explosion
- Friday - July 16, Bridge Removal
- Sunday - July 18, I-75 Temp Repairs
- Monday - July 19, I-75 Reopens
### NINE MILE ROAD over I-75

- **Wednesday - July 21**: RFP to ODC's
- **Friday - July 23**: Draft RFQ Published
- **Friday - July 30**: Final RFQ Published
- **Thursday - August 20**: D/B's Shortlisted
- **Wednesday - Sept 2**: RFP to Contractors
- **Wednesday - September 30**: Letting

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

**Bergmann Associates**: Architects // Engineers // Planners

**Toewe**: Walter Toebe Construction Co

**frc&h**: Purdue Road School

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**MARCH 11-13, 2014**
NINE MILE ROAD over I-75
Pre-Bid Communication

- 1 on 1 Confidential Meetings
- Alternative Technical Concepts
- Addenda
NINE MILE ROAD over I-75

Preliminary Engineering

- Constraints
- Addenda
- Cost Estimate
NINE MILE ROAD over I-75

Pre-Bid Focus

- Geometric Constraints = Steel
- Cost a Concern
- Historically Long Steel Lead Times
- Fabricator and D/B Worked Hand-in-Hand
- Competitive Cost
- Unbelievable Schedule
# NINE MILE ROAD over I-75

## Bid Letting

- Bids Opened on September 30, 2009
- Only 5.7% over Engineer’s Estimate

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<tr>
<th>Bid Results</th>
<th>TOEBE</th>
<th>DAN’S EXCAVATING INC.</th>
<th>C. A. HULL CO., INC.</th>
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<td>Construction</td>
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<td>I-75 Lane Rentals</td>
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<td>Bridge Rentals</td>
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<td>Incentive/Utilities</td>
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<td><strong>Total</strong></td>
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NINE MILE ROAD over I-75

Post Letting Communication

2009

JUL

AUG

SEP

OCT

NOV

DEC

“No, it’s not the Parthenon, Billy. It’s Detroit’s Nine Mile bridge ruins.”

MDOT

U.S. Department of Transportation Federal Highway Administration

Bergmann associates

TOEBE

Federal Road Bridge Construction Company

frc&h

100th ANNUAL PURDUE ROAD SCHOOL

A great Indiana Tradition
NINE MILE ROAD over I-75

Project Start Up

- Award on 10/07/2009
- Structure Study Submitted on 10/12/2009
- Steel Design, Load Rating, Shop Dwgs Submitted on 10/16/2009
- Shop Drawings Appv'd on 10/22/2009 and Fabrication Begins Immediately
NINE MILE ROAD over I-75
Substructure Design

- Steel Rebar Now Critical
- Change in Abutment Concept
NINE MILE ROAD over I-75 At-Risk Work

- Proposed Pier Construction
- Future Pier Foundation Piling
- Future Pier Sheet Piling

2009

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<th>JUL</th>
<th>AUG</th>
<th>SEP</th>
<th>OCT</th>
<th>NOV</th>
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MDOT

U.S. Department of Transportation Federal Highway Administration

Bergmann

architects // engineers // planners

TOEBE

Walter Toebe Construction Company

frc&h

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Setting Beams

- Beam Setting on November 17, 2009
- Night Closures of I-75
NINE MILE ROAD over I-75

Superstructure

- Deck Cast in Cold Weather 11/29/09
- Heaters and Insulation Used
NINE MILE ROAD over I-75

Bridge Opens to Traffic!

- December 11, 2009
- Ribbon Cutting Ceremony Held Later
NINE MILE ROAD over I-75

Public Opinion

- Project Positively Received
- Use of Social Media by MDOT

**MDOT Twitter Followers**

- June: 682
- July: 854
- August: 1,031
- September: 1,160
- October: 1,296
- November: 1,454

**MDOT Facebook Fans**

- June: 70
- July: 121
- August: 195
- September: 269
- October: 342
- November: 414
Lessons Learned

- Media Coverage
- Unanticipated Collapse Results in Successful D/B in Michigan
- Allowed Fast Delivery WITH Time to Plan for the Future
- Communication and Positive Attitudes Key
NINE MILE ROAD over I-75

Acknowledgements

Owner:

MDOT

URS

Designers:

Mansell

Associates

Builders:

Bergmann

associates

architects // engineers // planners

TOEBE

Walter Toebbe Construction Company

HIGH STEEL STRUCTURES INC.

An Affiliate of High Industries Inc.

100th ANNUAL PURDUE ROAD SCHOOL
A great Indiana Tradition
NINE MILE ROAD over I-75

Questions?