Ohio River Bridges – Downtown
Full Service CEI

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Presenter Perspective

• S&ME Staff Professional
• Engineer in Training Level
• Arrived May 2013
• Blessed to be apart of Ohio River Bridges (ORB)
Presentation Preview

• Project Overview
• Oversight Consultant Team
  – Team Structure
• Materials Perspective – S&ME Role
  – Big picture – What we do
• KYTC Maximizing Consultant Benefits
  – Project Examples
Project Overview

- Design-Build
- Traditional Oversight
- Walsh Construction
- $860 Million – Construction Cost
- 3 Sections

Complete Date: Dec. 2016
Project Fun Facts

• 1,250,000 Feet of Cable – 236 Miles
• 120,000+ CY Concrete
• 18 miles of Prestressed Concrete Girders
• 9 acres of MSE Walls
Oversight Consultant Team

- Traditional Oversight
- Pressure off KYTC Resources
- Extensive Certifications and Training
- Based on Roles
  - Project Managers
  - Resident Engineers / Construction Engineers
  - DBE/EEO Compliance Liaison
  - Project Controls Staff
  - Field Inspection Staff
  - Materials Laboratory Staff
Oversight Team Training

• Field Staff
  – ACI Field Level I
  – KYTC Aggregate Sampling
  – KYTC Grading I
  – KYTC Asphalt Field Technician
  – KYTC Structures
  – Erosion and Sediment Control
  – INDOT Certified Tech

• Laboratory
  – Field Certifications
  – KRCMA II
  – KYTC SuperPave Plant
  – KYTC Aggregate Technician
  – KYTC Grading II
  – KYTC Pavement Markings
Oversight Team Training Cont.

• Specialized Work
  – Precast/Prestress Inspection
    • PCI QC Technician Level II
  – Post-Tension
    • PT Level II
    • PT Grout Level II
  – Structural Steel Welding
    • Certified Welding Inspector
S&ME Role

- Operating On-Site Materials Laboratory
  - Dedicated to Project
- Producer Oversight
  - Precast/Prestress Member Inspection
  - Concrete / Asphalt Producers
- Structural Steel Inspection
- Field Density Testing (Nuclear, DCP)
- Assist Field Inspection Staff
- Non-Destructive Engineering / Structure Evaluation
Project Materials Laboratory

Soils, Aggregate, Asphalt Sampling and Testing – KYTC & INDOT Frequency

Concrete Specimen Testing
Project Materials Laboratory Cont.

- Stay Cable Testing
Precast/Prestress Oversight

- Continuous Inspection
  - Prestress Bridge Beams
  - Deck Panels
  - MSE Wall Components
Structural Steel Inspection
Soils / Concrete Field Work
Structure Evaluation
Project Documentation

FileHold

SITE MANAGER

ProjectWise® V8i
(SELECTseries 4)

SharePoint

S&ME
Maximizing Consultant Benefits

- Teamwork
- Familiar Faces
- Resources
- Contract Freedom

= Trust

- Meet Overall Project Goals
  - Quality
  - Cost
  - Time
Project Examples
Example #1: Existing Structure Evaluation

• Bridge, Three Spans: Columns / Caps
• Design-Build Team Submits Plan
• KYTC Needs Information on Structure
• Working Within the Existing Contract
• Resources Used:
  – Core Drilling
  – Ultrasonic Pulse Velocity (UPV)
  – GalvaPulse
Example #2: New Construction Evaluation

- New Pier Construction
- Questions Concrete Uniformity
- Time Sensitive
- Working Within Existing Contract
- Resources Used:
  - Core Drilling
  - Ground Penetrating Radar (GPR)
  - UPV
  - Thermal Imaging
Example #3: Cylinder Capping Questioned

- High Strength Concrete Mix: Cylinder Strength Results in Question
- Un-Bonded vs. Sulfur Bonded vs. Ground Plain
- 500+ Cylinders Molded
- Strength Comparisons at 3, 5, 7, 10, 14, 21, & 28 Days
- Working Within Existing Contract
- Resources Used:
  - People
  - Two Locations
QUESTIONS?

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