Challenges and Successes of a Locally Administered Major Project

September 19 & 20, 2018
Network for Success
Local Programs Workshop

Lesner Bridge Replacement Project

Challenges and Successes of a Locally Administered Major Project

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Local Projects, VDOT Local Assistance Division

September 19 & 20, 2018
Topics of Discussion

Project Details
Panel Discussion
Materials
Takeaways
Project Team

Project Owners

Project Designers

CEI Management

Prime Contractor

LAP Oversight
Bridge Features

1575 ft long twin bridges
10 spans: 9 concrete piers per bridge
Drilled Shaft Foundations
Pre-Cast Segmental Bridge Superstructure

150’ typical span
225’ main span
Bridge Features

Pre-Cast Segmental Bridge Superstructure
Bridge Features

2 lanes per bridge
14’ and 12’ lane widths
8’ and 6’ shoulders
LED Lighting
10’ Multi-use path
Total Project Cost: $115 Million

City of Virginia Beach: $22 Million

State and Federal: $93 Million
Project Delivery

Panel Discussion
Project Priorities

- Ensure quality and durable construction
- Knowledge base on segmental bridge construction
- Reference on bridge design/construction issues
- Federal oversight
- Bridge Type
Project Priorities

- Compliance with the LAP Manual
- Process Reimbursement Requests
- Verify civil rights paperwork is being completed
- Environmental compliance
- Project Audit
- Materials Compliance
Project Priorities

- Minimize Disturbance To Traveling Public
- Concerns of adjacent businesses and residents
- Manage Project Budget
- Construction Project Management
- Quality Final Product
- LAP Reimbursement
- Aesthetics
Panel Discussion

Project Development
- Project Scoping
- Public Involvement
- Design Development
- Budget/Schedule/Estimates

Project Delivery
- Construction Administration
- Materials Management
- Change Management
What was the need for the project?

How did the project location affect scope?

What specific concerns affected final scope?
What was the Public’s Involvement in Project Development?

Was there pushback from the public and how was it addressed?

Which stakeholders were involved during Public Involvement?
What were the competing interests regarding segmental bridge design?

How did the City overcome lack of expertise with Segmental Bridges?

How were Design Waivers and Exceptions handled?
Why was this an LAP Project?

Did you utilize the Value Engineering Process?

Were there issues with the Project Bidding?
Why did you choose to hire a Consultant CEI?

What level of oversight did FHWA and VDOT provide?

Provide Details for your Construction Project Oversight?
How does the City Process Project Change Orders?

What are key issues regarding project Claims process?
What VDOT materials procedures were used for acceptance?

What unique aspects of this project impacted Materials Management?

How was Material Sampling and Testing Performed?
Materials Tracking System
- 4,000 Concrete Samples
- 100 Steel Samples
- 700 Earthwork Samples
- 39 C25 Iterations
- Over 300 Pay Items
<table>
<thead>
<tr>
<th>Class</th>
<th>Date</th>
<th>Mix Design</th>
<th>Location/Intended Use</th>
<th>Load #</th>
<th>Slump</th>
<th>Temp (deg F)</th>
<th>% Air</th>
<th>Cubic</th>
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<tbody>
<tr>
<td>Handrail - WB</td>
<td>12/15/2014</td>
<td>DW40513H</td>
<td>ABUT A / Backwall</td>
<td>1</td>
<td>6</td>
<td>53</td>
<td>6.7</td>
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| Substructure-WB | 12/15/2014 | DW40513H     | ABUT A / Backwall     | 2      | 6.5   | 59          | 7.0   | Yes   | 7-day break = 3370 psi
|              |            |              |                       |        |       |             |       |       | 28-day break AVG. = 4305 psi

A4M 12/23/2015 422MASS.37 Pier 5 / Footing 1 7 67 4.9 No

(Additional columns for Quality Control are not shown in the image.)
Takeaways

✓ Partnerships are important
✓ Use the LAP Manual
✓ Know your limitations
✓ Supplement your resources
✓ Apply Lessons Learned
✓ Technology and Innovation
✓ Follow your contract