Public Information Meeting

Veterans Memorial Bridge
East Orange Avenue/ Silver Beach Avenue over the Halifax River

Today’s Agenda:
Open House - (5:30-7PM)
Presentation- (5:45PM)
Technical Design Team

Volusia County

Jim White, P.E. - Project Manager

Parsons Brinckerhoff, Inc.

Tad Molas, P.E. - Design Project Manager
Adrian Moon - Bridge Aesthetics & Memorial Park Design

Ghyabi & Associates, Inc.

Justin Barton, P.E. - Roadway Project Manager
Rebecca Zawadski, E.I. - Public Involvement Coordinator
Technical Design Team

Avcon, Inc.
McKim & Creed, Inc.
Ardaman & Associates, Inc.
Lotspeich & Associates, Inc.
Ocean Engineering Associates, Inc. (INTERA)
Dredging & Marine Consultants, LLC
Project History

• **Maintenance (Expensive)**
  - $300k-$400k annually

• **Safety (Poor Structure Condition)**
  - Bridge deterioration

• **Functionally Obsolete**
  - Minimum lane/shoulder widths

• **Channel Clearance**
  - USCG standards not met
## Public Involvement History

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternatives Public Workshop</td>
<td>April 2010</td>
</tr>
<tr>
<td>County Council Selected High Level Bridge</td>
<td>January 2011</td>
</tr>
<tr>
<td>Public Hearing</td>
<td>June 2011</td>
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<tr>
<td>Final Project Development Summary Report</td>
<td>October 2011</td>
</tr>
<tr>
<td><strong>Final Design Begins</strong></td>
<td>February 2013</td>
</tr>
<tr>
<td>Project Advisory Committee Meeting # 1</td>
<td>May 2013</td>
</tr>
<tr>
<td>Project Advisory Committee Meeting # 2</td>
<td>June 2013</td>
</tr>
<tr>
<td>Project Advisory Committee Meeting # 3 &amp; Subcommittee Meeting # 1</td>
<td>July 2013</td>
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<tr>
<td>Project Advisory Committee Meeting # 4</td>
<td>August 2013</td>
</tr>
<tr>
<td>Project Advisory Committee Meeting # 5 &amp; Subcommittee Meeting # 2</td>
<td>September 2013</td>
</tr>
<tr>
<td>Project Advisory Committee Meeting # 6 &amp; Subcommittee Meeting # 3</td>
<td>October 2013</td>
</tr>
<tr>
<td>Project Advisory Committee Meeting # 7 &amp; Subcommittee Meeting # 4</td>
<td>November 2013</td>
</tr>
<tr>
<td>Project Advisory Committee Meeting # 8 &amp; Subcommittee Meeting # 5 &amp; 6</td>
<td>January 2013</td>
</tr>
<tr>
<td>Project Advisory Committee Meeting # 9</td>
<td>February 2013</td>
</tr>
<tr>
<td><strong>Public Meeting #1</strong></td>
<td>March 2013</td>
</tr>
<tr>
<td>Project Advisory Committee Meeting # 10</td>
<td>April 2013</td>
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</tbody>
</table>
Project Advisory Committee (PAC)

• Established as a commitment during the PD&E phase
• Comprised of local residents, community and civic stakeholders
• Meet monthly to discuss bridge aesthetic features
• Meetings are open to the public
• Meeting summaries and materials posted on the website
PAC #1: Bridge Types

Option 1: Conventional Concrete Beams

Option 2: Enhanced Concrete Beam

Option 3: Segmental Concrete

Option 4: Concrete Arch
PAC #1: Committee Selection

Thinnest Profile

Option 4: Concrete Arch
PAC #2: Veterans Memorial

- Gateways
- Statuary
- Dedications
- Historical Information
- Flags & Banners
- 5 Military Branches
- Long Lasting Materials
Public Information Meeting
Veterans Memorial Bridge

PAC #3: Arch Bridge Options

Option A: Historic Open Spandrel
Option B: Concentric Wave
Option C: Historic Tied Arch
Option D: Sky Arch
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Veterans Memorial Bridge

PAC #3: Committee Recommendations

Option A: Historic Open Spandrel
Option B: Concentric Wave
Option C: Historic Tied Arch
Option D: Sky Arch
PAC #4: Fishing Piers

- **Materials:**
  Wood, Composite Wood, Concrete

- **Possible Amenities:** Fish Cleaning Station, Rod Holders, Seating, Lighting, Shade Structures, Kayak Launch
PAC #5: Status Update

- Bridge Pier Styles
- Fishing Pier Alignments
- BDR Update
PAC #5: Status Update

**East Pier Layout**
- Underpass over water
- Access from bridge
- Fishing area separate from walking area
- “T-Shape” to reach old channel

**West Pier Layout**
- Access from plaza
- Fishing area reaches to main channel
- Wide area to fish at end
- “L-Shape” under bridge
Bridge Development Report

- 1.0 Executive Summary
- 2.0 Introduction
- 3.0 Project Requirements
- 4.0 Structures Design
- 5.0 Alternatives
- 6.0 Evaluation
Bridge Development Report

- **Costs** (Construction & Maintenance)
- Aesthetics & Memorial Features
- Safety, ADA Compliance & Accessibility
- Constructability & Schedule
- Hydraulics & Environmental

<table>
<thead>
<tr>
<th>Option</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alt. A – Structural Arch</td>
<td>$11,579,812</td>
</tr>
<tr>
<td>Alt. A2 – Faux Arch</td>
<td>$10,893,566</td>
</tr>
<tr>
<td>△ Cost between alternatives</td>
<td>$686,246</td>
</tr>
</tbody>
</table>

Relative Difference (%) in total project cost: Total Project Cost ~$42.1M, 1.6% increase
Utilization of Pre-Cast & Cast-in-place Concrete

**Alternative A**
39% Pre-Cast

- Pre-cast Drop-in Segment
- Pre-cast Arch Segment
- Pre-cast Transverse T-Beams
- Prefabrication from Existing Foundations

**Alternative B**
27% Pre-Cast

- Pre-cast Drop-in Segment
- Pre-cast Transverse T-Beams
- Uniform Cast-in-Place Arch Forms
- CIP Formwork from Existing Foundations

**Alternative C**
21% Pre-Cast

- Pre-Cast Florida U-Beams
- Two Segment Pre-cast Arches
- Fatwork from Existing Foundations
- Cast-in-place Columns
- Cast-in-place Spandrel Wall
Aesthetics Considerations
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Veterans Memorial Bridge

Viewshed Analysis

Alternative A

Viewshed Coverage Ratio: 51

Alternative B

Viewshed Coverage Ratio: 41

Alternative C

Viewshed Coverage Ratio: 64
Veterans Memorial Bridge Replacement

Alternative A Construction Phasing

5. Pour Cast-in-place Spandrel Columns with Pre-cast Archways

6. Place Pre-cast T-Beams

Phase 2
Phase 3

8. Place Pre-cast T-Beams
7. Place Hangar Rods
9. Hoist Pre-cast T-Beams above channel
10. Cast Hanger Columns and PT
### Evaluation Matrix & Ranking

<table>
<thead>
<tr>
<th>Alternative/Metric</th>
<th>Weight</th>
<th>Alt. A - Open Spandrel</th>
<th>Alt. B – Concentric Wave</th>
<th>Alt. C – Closed Spandrel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>20%</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Maintenance</td>
<td>20%</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>20%</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Constructability</td>
<td>15%</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Construction Schedule</td>
<td>10%</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Hydraulics</td>
<td>5%</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>View shed</td>
<td>5%</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Environmental Impacts</td>
<td>5%</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Aggregate Score</strong></td>
<td><strong>100%</strong></td>
<td><strong>1.3 ✚</strong></td>
<td><strong>2.25</strong></td>
<td><strong>2.45</strong></td>
</tr>
</tbody>
</table>
BDR - Bridge Type Recommendation
Public Information Meeting
Veterans Memorial Bridge

PAC #6: Lighting
Roadway & Bridge Lighting Options

Roadstar
UrbanScape
Leonis
Metroscape
Domus
Renaissance

Historic
Environmental
Lower Cost
PAC #6: Lighting
Aesthetic Lighting Options

Option 1: Enhanced Columns
Option 2: Enhanced Columns & Arches
Option 3: Enhanced Columns & Defined Edge
Option 4: Enhanced Columns & Defined Face

Light Color & Temperature Variations
Aesthetic Lighting

Option 4: Enhanced Columns & Defined Face with Amber Lights
PAC #7: Bridge Pier Styles

A- Coquina Texture: (a) at the bottom of the pier or (b) all the way to the top of the pier
B- Pier Panels: (a) flat or (b) pointed
C- Overlook Shape: (a) rectangular (b) circular or (c) triangle
PAC #7: Overlook Shapes
PAC #7: Committee Selection
PAC #8: Memorial Plaza
Options A & B - Split Decision

Option A: Amphitheater

Option B: Trench/Spine
PAC #9: Committee Selection
Option D

Option D: Amphitheater with Spine
## Summary of PAC Recommendations

<table>
<thead>
<tr>
<th>Feature</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bridge Type</strong></td>
<td>Concrete Arch</td>
</tr>
<tr>
<td><strong>Bridge Style</strong></td>
<td>Historic Open Spandrel</td>
</tr>
<tr>
<td><strong>Fishing Pier Material</strong></td>
<td>Wood</td>
</tr>
<tr>
<td><strong>Fishing Pier Layout</strong></td>
<td>T-Shape (East Bank), L-Shape (West Bank)</td>
</tr>
<tr>
<td><strong>Bridge &amp; Plaza Light Poles</strong></td>
<td>Metroscape</td>
</tr>
<tr>
<td><strong>Bridge Lighting Color &amp; Temperature</strong></td>
<td>Amber</td>
</tr>
<tr>
<td><strong>Bridge Lighting Enhancements</strong></td>
<td>Columns with Defined Face Arch</td>
</tr>
<tr>
<td><strong>Bridge Pier Panel Shape</strong></td>
<td>Flat</td>
</tr>
<tr>
<td><strong>Bridge Pier Coquina Texture Location</strong></td>
<td>Bottom Only</td>
</tr>
<tr>
<td><strong>Overlook Shape</strong></td>
<td>Rectangular</td>
</tr>
<tr>
<td><strong>Memorial Plaza Layout</strong></td>
<td>Amphitheater with Spine</td>
</tr>
</tbody>
</table>
| **Veteran Memorial Features**    | 7 Flag Poles at the Back of Center Circle  
5 Angled Plaques at Back of Center Circle  
Field Stones (Arlington Stones)  
Brick Pavers Located Around Center Circle Front  
Eastern Underpass and Western Underpass for Circuitous Memorial Route  
12"x18" Windows at Every Overlook Location  
Gateway Pilasters  
Pier Insignias on All Piers, and Main Channel Piers have Inscription |
Construction Detour

0.3 Miles

Orange Avenue

0.6 Miles

International Speedway Boulevard

0.8 Miles

Silver Beach Avenue
Expressed Public Concerns

• **Bus Routes**
  - During Construction: VOTRAN coordination on-going
  - After Construction: Continue normal routes. Bus Stops on west side will be relocated, but not removed.

• **Charging Stations for Motorized Wheelchairs**
  - Will be provided on ramps across bridge and on underpasses if the design permits
Expressed Public Concerns

• **Bicycle & Pedestrian Accommodations**
  - 8 foot wide sidewalks across the bridge on both the north and south side
  - Bicyclists also have a 5 foot wide shoulder on both sides of the bridge to use

• **Parking**
  - County courthouse parking lot is available for people utilizing the amenities of the bridge

• **Right-of-Way**
  - All work is being done within existing right-of-way. The only property affected is the Daytona Regional Chamber of Commerce.
## Design Schedule

<table>
<thead>
<tr>
<th>Design Phase</th>
<th>Submission Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Design Begins</strong></td>
<td>February 2013</td>
</tr>
<tr>
<td>Phase I Submittal – 30% Civil Plans</td>
<td>August 2013</td>
</tr>
<tr>
<td>Phase II Submittal – 60% Civil Plans &amp; 30% Bridge Plans</td>
<td>February 2014</td>
</tr>
<tr>
<td>Aesthetic Elements Submittal – 30% Plans</td>
<td>April 2014</td>
</tr>
<tr>
<td>Phase II Submittal – 90% All Disciplines</td>
<td>June 2014</td>
</tr>
<tr>
<td>Phase IV Submittal – 100% All Disciplines</td>
<td>August 2014</td>
</tr>
<tr>
<td>Final Plans &amp; Specifications</td>
<td>September 2014</td>
</tr>
<tr>
<td>Production Date</td>
<td>10/30/14</td>
</tr>
<tr>
<td>Construction Begins</td>
<td>Early 2015</td>
</tr>
</tbody>
</table>
Public Information Meeting
Veterans Memorial Bridge

Project Resources

- **County Project Manager:** Jim White 386.736.5967, ext 12511 or Jwhite@Volusia.org
- **Volusia County’s Website:** www.volusia.org/services/public-works/engineering-and-construction
- **Project Website:** www.VeteransMemorialBridge.com
- **Information Center (Kiosk):** Located at the Daytona Regional Chamber of Commerce
- **Facebook:** Tom Staed Veterans Memorial Bridge
- **Twitter:** Veterans Bridge (@VMemorialBridge)
Comment Forms

Please Complete Comment Form and Return Tonight

Or

Mail Completed Form by:

March 25th, 2014

If you would like to be added to the project’s mailing list, please complete a comment form and check the box to be added.
Thank You For Attending!

www.VeteransMemorialBridge.com