SANDY SPRINGS
GEORGIA

CITY COUNCIL AGENDA ITEM

TO: Mayor & City Council **DATE:** February 1, 2012

FROM: John McDonough, City Manager

AGENDA ITEM: Review of proposed Bridge Type and Cost Estimates for CIP Project T-0035, SR 9/Roswell Road Pedestrian and Bicycle Bridge over the Chattahoochee River

MEETING DATE: For Submission onto the February 7, 2012, City Council Work Session Meeting Agenda

BACKGROUND INFORMATION: (*Attach additional pages if necessary*)

See attached:

Memorandum
Presentation

APPROVAL BY CITY MANAGER: JM _____ *APPROVED*

_____ *NOT APPROVED*

PLACED ON AGENDA FOR: 2/7/2012

CITY ATTORNEY APPROVAL REQUIRED: ( ) YES (✓) NO

CITY ATTORNEY APPROVAL: _____

REMARKS:

SANDY SPRINGS
GEORGIA

TO: John McDonough, City Manager

FROM: Kevin J. Walter, P.E., Public Works Director

DATE: January 23, 2012 for City Council Work Session February 7, 2012

ITEM: Review of proposed Bridge Type and Cost Estimates for CIP Project T-0035, SR 9/Roswell Road Pedestrian and Bicycle Bridge over the Chattahoochee River

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Background:

The City Council approved an Intergovernmental Agreement (IGA) between the Cities of Roswell and Sandy Springs on July 13, 2010 to fund the SR 9/Roswell Road Pedestrian and Bicycle Bridge over the Chattahoochee River. The IGA provides a maximum contribution from Sandy Springs of $50,000.00 for Preliminary Engineering and $312,572.50 for Construction for a total match of $362,572.50, representing a 50 percent share with the City of Roswell for the required local match. The total project cost (PE and CST) is $3,705,645.00, which includes federal grant funding. The City of Roswell is acting as the contract manager for the project and selected design consultant Heath and Lineback (H&L) through a competitive bid process. Concept design was initiated May 2011. Two public scoping meetings were conducted in October 2011 in each City to provide an opportunity for early public input on possible bridge alignments and bridge type.

Discussion:

Consultant H&L completed a draft *Project Location and Bridge Type Study* in December 2011. H&L compared constructing the new bridge east or west of the existing two roadway bridges as well as six options for bridge type. Evaluation factors included project location constraints, constructability, and cost. H&L has recommended that the bridge be constructed as an Arch Beam. The bridge could be constructed on either the east or west side of the existing bridges. Public and stakeholder input received to date favors construction on the east side.

Alternatives:

The preliminary cost estimates indicate costs vary based on bridge type option and bridge location. The Consultant requests that the City provide input on preferred Bridge Type.

Recommendation:

The recommendation for Arch Beam construction balances both aesthetics and cost. This option is generally acceptable to the City of Roswell. The estimated total cost for PE and CST for bridge type options examined ranges from $2,878,000 to $3,969,700. The cost for Arch Beam PE and CST for a bridge constructed on the east side of the existing bridges is estimated at $3,362,200.

Attachments:

1. Bridge Type Comparison presentation

2. Bridge Concept Illustrations

SR 9/Roswell Road Chattahoochee Bridge Pedestrian and Bicycle Project CIP Project T-0035

City Council Work Session

February 7, 2012

Project Background

Need and Purpose

- Correct existing deficiencies of lack of dedicated and safe pedestrian and bicycle facilities
- Provide a safe crossing that separates vehicular traffic from non-motorized traffic
- Increase connectivity
- Enhance linkages to trail system and other facilities

Considerations

- Provide gateway treatment
- Create well-proportioned bridge appropriate to natural and historic setting
- Add pedestrian-scale lighting
- Provide aesthetic treatments
- Be sustainable (construction and maintenance) and environmentally sensitive

Project Timeline

- **2004** – Bridge Discretionary funds earmarked for SR 9/Roswell Road Bridge to improve pedestrian/bicycle facilities ($2,980,500). Funding requires local match.
- **October 2010** – Intergovernmental Agreement (IGA) completed to provide local match. Cities of Sandy Springs and Roswell agree to pay 50% each of the required match ($725,145) for Engineering and Construction Costs.
- **May 2011** – Heath & Lineback consulting engineers hired to initiate preliminary design and concept.
- **October 2011** – Public scoping meetings conducted to elicit feedback on bridge location and type.
- **December 2011** – Consultant completes draft Project Location and Bridge Type Study.
- **January 25, 2012** – Roswell City Council Work Session
- **February 7, 2012** – City of Sandy Springs Work Session
- **Upcoming (TBD)** – Public Information Open House (PIOH) Meeting

Current Funding Summary

Phase	Federal Share	Sandy Springs	Roswell	Total
Design(PE)	$ 400,000.00	$ 50,000.00	$ 50,000.00	$ 500,000.00
Construction (CST)	$ 2,580,500.00	$ 312,572.50	$ 312,572.50	$ 3,205,645.00
Total	$ 2,980,500.00	**$ 362,572.50**	$ 362,572.50	$ 3,705,645.00

Notes:

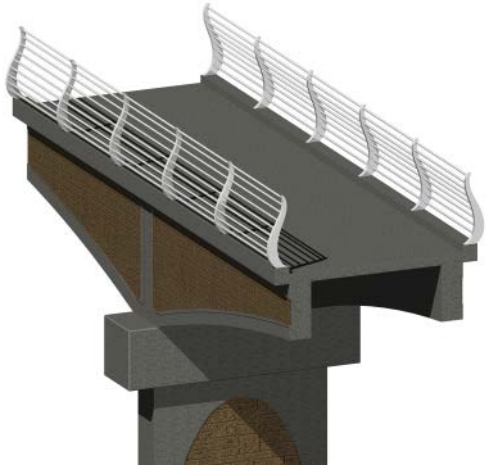
- Right-of-way (ROW) costs are not included.
- 90% of construction cost must be spent on bridge, not approaches.

Bridge Type Options and Findings

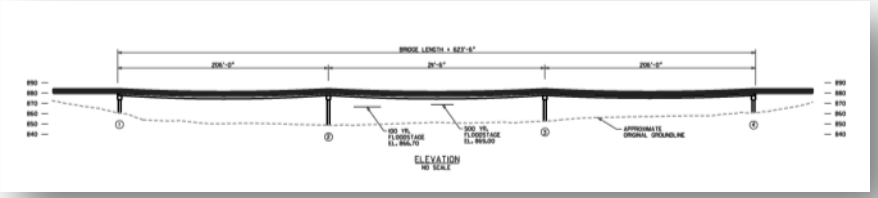
- 6 major bridge structure options reviewed
- Options evaluated for east or west side
  - Public input received to date favors construction on east side
  - East side on south end connects to existing Sandy Springs sidewalk
  - An un-named stream on the east side on the south side of river will require retaining walls and stream treatment, which will increase construction cost

Common bridge elements

- Proposed bridge length is 623’-6” with 12’-wide path
- One or more overlook areas are envisioned to provide seating and viewing
- Railing must be at least 4’-6” high to accommodate bicyclists
- Concrete can be textured with form liners to create brick or stone pattern veneer
- Input has favored a covered canopy treatment on bridge approaches
- New bridge piers will align with existing 1926 and 1970 bridges on spread footings
- Recommended construction in river will require rock jetties and coffer dams



Option 1: Stress Ribbon



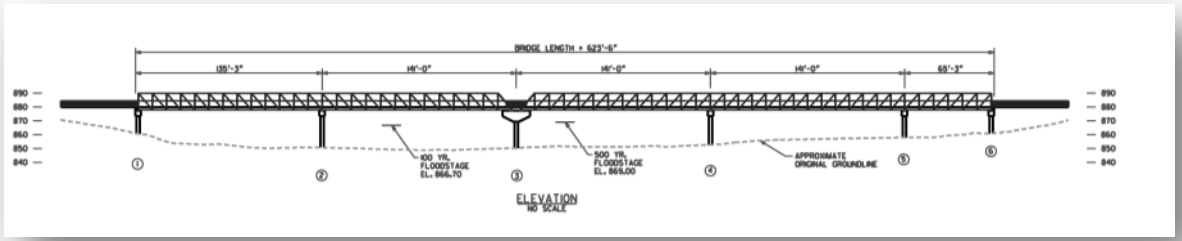
- Considerations
  - Spans 211’-6”
  - Longer design time
  - Average construction time
  - Low maintenance

Phase	Estimated Cost (in $1,000)
Design	$583
ROW	$240
Construction	$3,390
Total	**$4,213**

Option 2: Pre-fabricated Steel Truss

- Considerations
  - Spans 141’
  - Short design time
  - Short construction time
  - Moderate maintenance

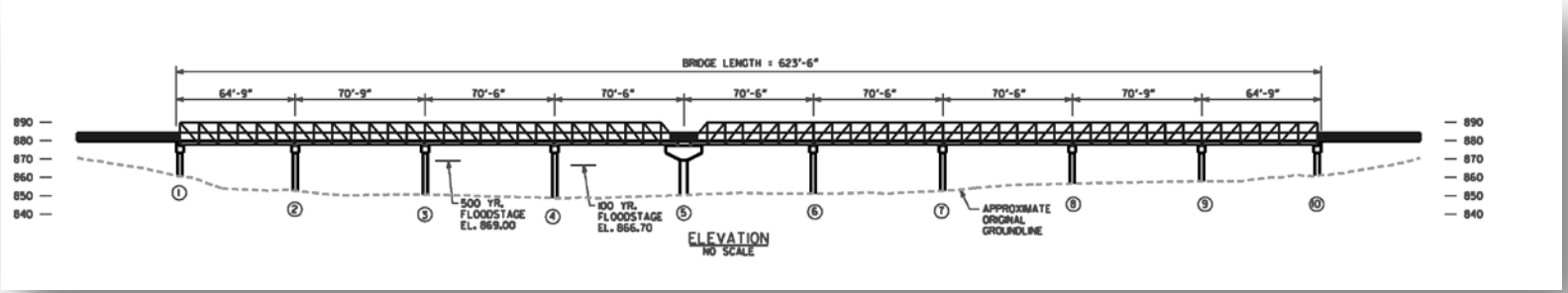
Phase	Estimated Cost (in $1,000)
Design	$500
ROW	$240
Construction	$2,900
Total	**$3,640**



Option 3: Pre-fabricated Steel Truss

- Considerations
  - Spans 70’-6”
  - Short design time
  - Short construction time
  - Moderate maintenance

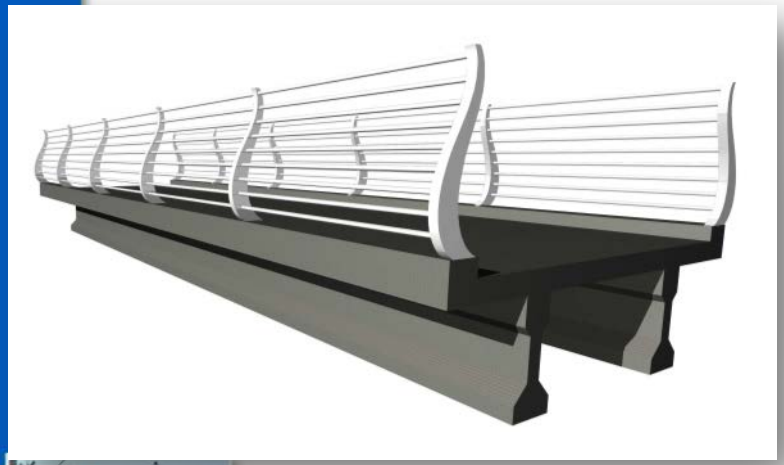
Phase	Estimated Cost (in $1,000)
Design	$500
ROW	$240
Construction	$3,390
Total	**$4,130**

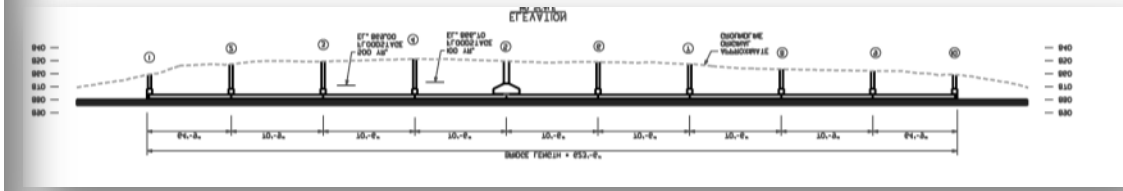


Option 4: AASHTO Girders (Type II)

- Considerations
  - Spans 70’-6”
  - Short design time
  - Average construction time
  - Low maintenance

Phase	Estimated Cost (in $1,000)
Design	$500
ROW	$240
Construction	$2,790
Total	**$3,530**

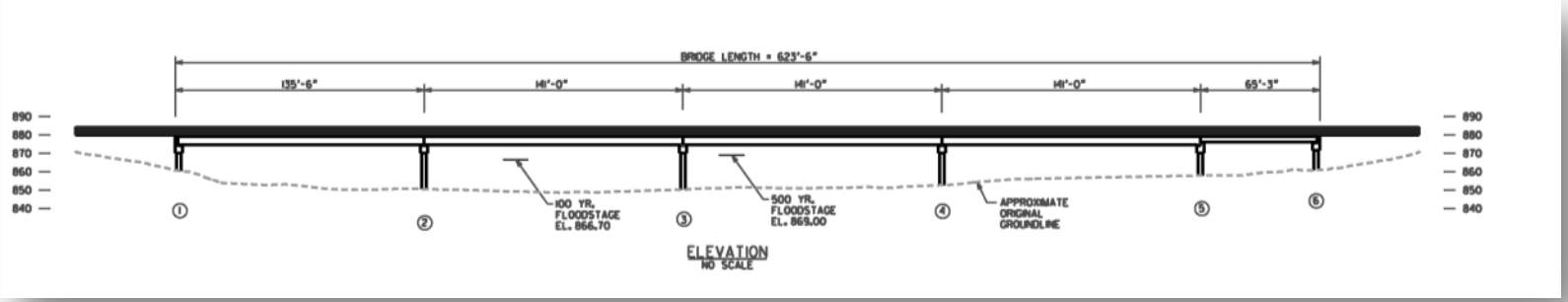




Option 5: AASHTO Girders (54” Bulb Tee)

- Considerations
  - Spans 141’
  - Short design time
  - Short construction time
  - Low maintenance

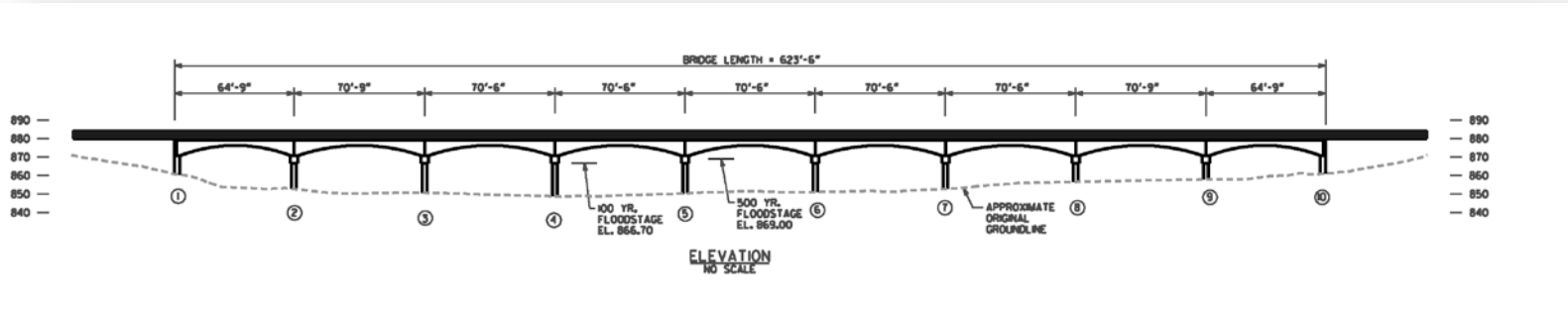
Phase	Estimated Cost (in $1,000)
Design	$500
ROW	$240
Construction	$2,380
Total	**$3,120**



Option 6: Prestressed Arch Beam (Recommended)

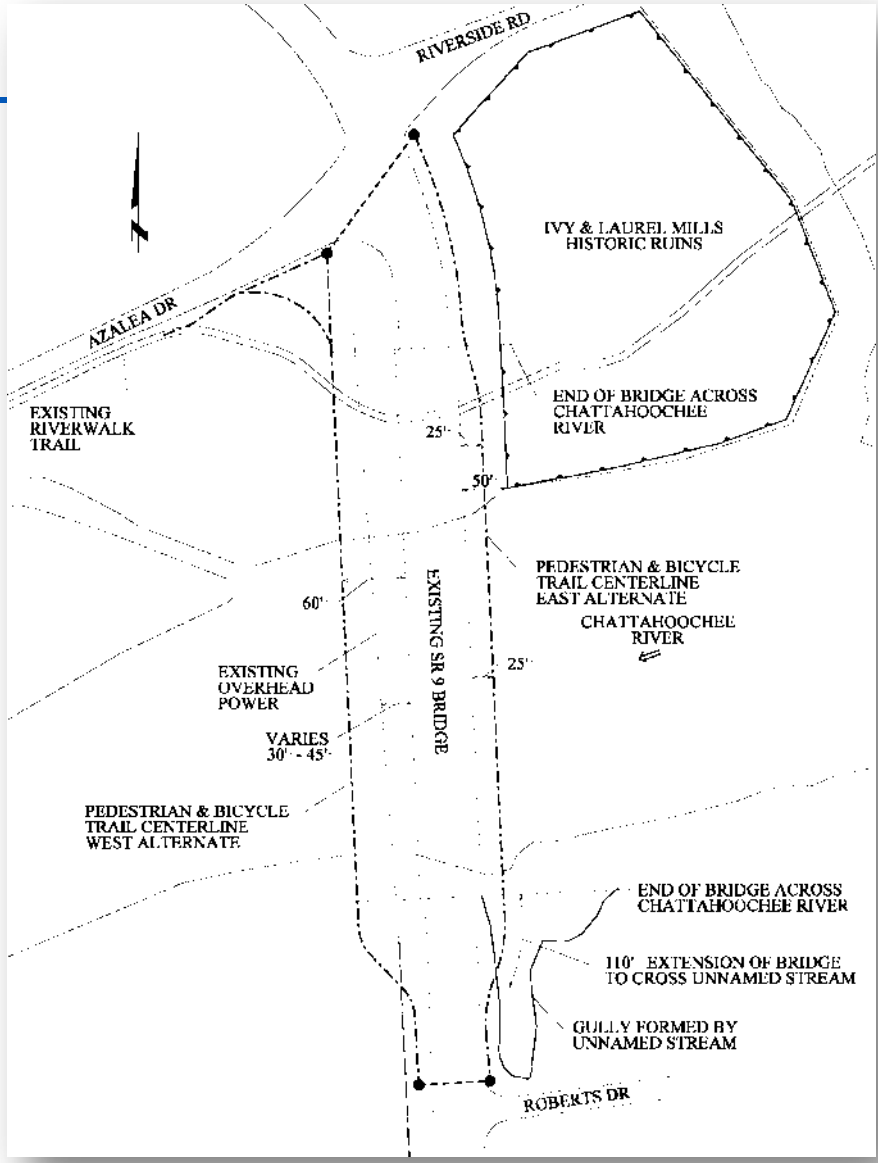
- Considerations
  - Spans 70’-6”
  - Short design time
  - Average construction time
  - Low maintenance
  - Aesthetically replicates existing 1926 arch bridge

	Estimated Cost (in $1,000)	
Phase	East Alignment	West Alignment
Design	$500	$500
ROW	$240	$216
Construction	$2,860	$2,430
Total	**$3,600**	**$3,146**



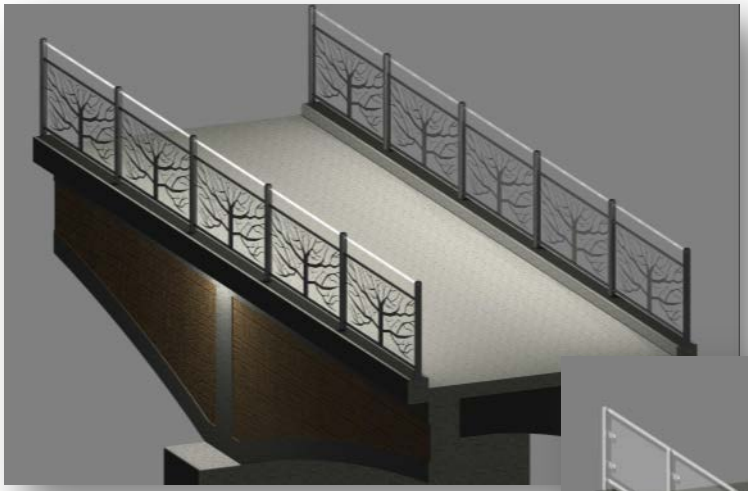
Bridge Location Options

- East Side
  - Better connects to existing and planned facilities in the City of Sandy Springs
  - Would not require a mid-block pedestrian crossing
  - More complicated construction due to unnamed creek
- West Side
  - Located further west to avoid power lines
  - Avoids historic Ivy & Laurel Mill site
  - Less expensive

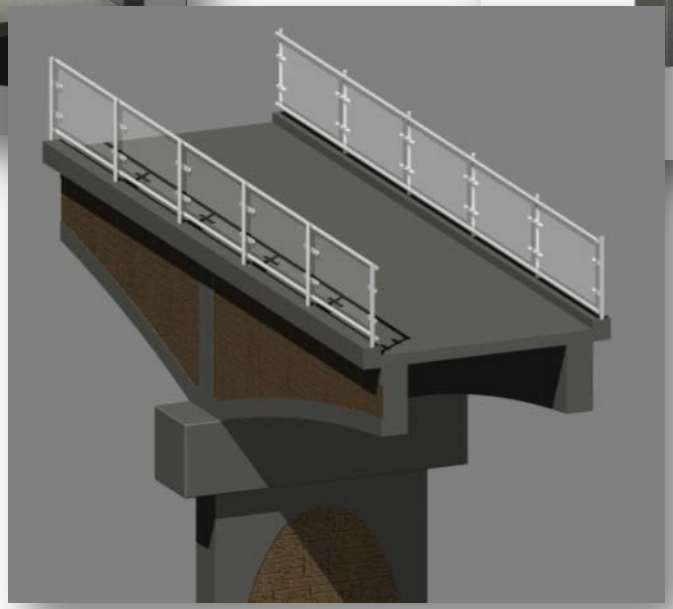


Facades – Railing Options

Decorative



Curved Rail



Glass Panels

Facades – Concrete Treatments

MANUFACTURED STONE TEXTURES


ASHLAR


BILTMORE


CASTLEROCK


CATHEDRAL


CANYON-LEDGE


DRIFTSTONE


FIELDSTONE


HACKETT


OHIO LIMESTONE


RUBBLE


RUSTIC


STACK


WEATHER EDGE


CHEROKEE BLEND


MULTIBLEND

Financial Summary

	East Side Alignment						West Side Alignment
Design Options	**Option 1: Stress Ribbon**	**Option 2: Pre-fabricated Steel Truss**	**Option 3: Pre-fabricated Steel Truss**	**Option 4: AASHTO Girders (Type II)**	**Option 5: AASHTO Girders (54" Bulb Tee)**	**Option 6: Prestressed Arch Beam**	**Option 6: Prestressed Arch Beam**
Design	$583,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000
ROW (no contingency)	$240,000	$240,000	$240,000	$240,000	$240,000	$240,000	$216,000
Construction (includes 10% contingency)	$3,386,680	$2,903,197	$3,385,844	$2,790,744	$2,378,310	$2,862,244	$2,431,780
Total	$4,209,680	$3,643,197	$4,125,844	$3,530,744	$3,118,310	$3,602,244	$3,147,780
Design and Construction Cost Only	$3,969,680	$3,403,197	$3,885,844	$3,290,744	$2,878,310	**$3,362,244**	**$2,931,780**
Budgeted PE and CST	**Difference in Cost / Budgeted**						
PE $500,000	$(83,000)	$0	$0	$0	$0	$0	$0
CST $3,205,645	$(181,035)	$302,448	$(180,199)	$414,901	$827,335	**$343,401**	$773,865
Total $3,705,645	$(264,035)	$302,448	$(180,199)	$414,901	$827,335	**$343,401**	$773,865